Air Quality Element

INTRODUCTION

BACKGROUND AND PURPOSE OF THE ELEMENT

California Government Codes Sections 65300 and 65302 mandate that every city and county within the state prepare a General Plan containing the following elements: Land Use, Circulation, Housing, Conservation, Open Space, Noise and Safety. The purpose of General Plans is to provide and guide a community with long-term development plans and goals. The elements may be adopted individually or in various combinations (State of California, Office of Planning and Research, 1990). California Government Codes Section 65302 states that cities or counties may prepare additional elements that may meet the unique needs of the community. Air quality is not always suggested as an individual element, but is often addressed in Conservation, Resource Management, Health and Safety and/or Circulation Elements. However, the addition of air quality elements to California General Plans has been recommended by the Southern California Association of Governments (SCAG), the regional planning agency for six Southern California counties including Ventura, and local air pollution control districts (Ventura County Air Pollution Control District [VCAPCD]) as the most effective process for identifying and integrating local actions into a comprehensive air quality strategy (SCAG, 1990).

Although air quality elements are not required, they are particularly important in California communities where air quality is a dominant issue with respect to its attainment and maintenance of state and federal standards. The main intent of air quality elements is to address the following:

- Problems with maximum air pollution levels that are higher than the national and state clean air standards
- Reduction of the health and economic impacts of air pollution
- Compliance with the requirements of the Ventura County Air Quality Management Plan
- Increase awareness of local responsibility for air quality and the vital role of local government in meeting the emission reduction goals of the air quality management plan
- Coordination of local projects that impact air quality both locally and regionally (SCAG, 1990)

Air Quality Element

As Ventura County grows, attainment, maintenance, and preservation of the clean air standards will be significantly affected by local land use decisions made at the city and county level (VCAPCD, 1991). If land use decisions are made proposing growth, air quality improvement could be compromised. Population growth would initiate greater auto use and, in turn, emissions. Therefore, an important consideration in land use planning decisions will be the reduction of vehicle trips generated by new development.

The contents of this document are intended to provide the City of Ojai with background technical information so as to make informed decisions with respect to adoption of policies and the development of ordinances.

HISTORY

OVERVIEW

The City of Ojai is located within the South Central Coast Air Basin. The Ventura County Air Pollution Control District (VCAPCD) monitors air quality and provides regulatory guidance for the region. This air basin is separated into two distinct areas, northern and southern, because of differing meteorology. The northern half comprises the rural portions of Ventura County and encompasses the entire area of the Los Padres National Forest. The southern half comprises the urbanized portion of the County which is divided into two airsheds: the Ojai Valley Airshed and the Oxnard Plain Airshed. Figure AQE-1 illustrates the County's two airsheds.

Ventura County is a nonattainment area for the federal and state ozone standards and the state standard for fine particulate matter (PM-10) (VCAPCD, 1991). Although air quality has improved in recent years, the County is not close to reaching attainment of federal and state air quality standards. During the years 1987 through 1989, Ventura County exceeded the federal ozone standard an average of 44 days per year, while exceeding the more stringent state ozone standard an average of 125 days per year (VCAPCD, 1991). An analysis of monitoring data for the years 1980 through 1989 indicates that maximum ozone concentrations and the number of days exceeding the standards are declining. Data collected since 1973 shows dramatic decreases in the number of days having ozone concentrations greater than the federal standard. Because of these improvements, population exposure to unhealthful air is decreasing. In addition, lower maximum concentrations occur in the coastal areas with concentrations increasing inland; and coastal areas have fewer days exceeding the standards with the frequency increasing in inland areas (VCAPCD, 1991). Historically, Simi Valley has the worst ozone problem in the County; however, in 1991 and 1992, the highest ozone

concentration was recorded in the Ojai Valley. More details concerning ambient air quality are included in the Technical Appendix.

HISTORICAL PERSPECTIVE

Ventura County Air Quality Management Plans.

The first study of air pollution in Ventura County occurred in 1966 and publicized the serious nature of the air quality problem in the County, citing over 70 adversely smoggy days per year (VCAPCD, 1991). As a result of the study, the Ventura County Air Pollution Control District (VCAPCD) was formed in 1968. The VCAPCD's mission was to regulate sources of air pollution and develop plans for cleaning the air.

In 1979, the VCAPCD prepared an Air Quality Management Plan (AQMP), the first comprehensive air quality planning effort in Ventura County. This document predicted attainment of the federal ozone standard countywide by 1987, which soon became obvious that the prediction was optimistic and attainment by 1987 would not occur.

The 1982 AQMP was a refinement of the 1979 Plan and contained a more accurate emissions inventory and additional emission control measures. This AQMP was the first plan to separate the County into two airsheds, the Ojai Valley Airshed and the Oxnard Plain Airshed. The 1982 Plan was more realistic, recognizing that sufficient emission reductions would not occur to attain the federal ozone standard by 1987.

In early 1985, the VCAPCD began a voluntary comprehensive effort to update and improve the 1982 AQMP. The improvement of the 1982 AQMP was initiated due to a lawsuit filed against the U.S. Environmental Protection Agency (EPA) by the Citizens to Preserve the Ojai. The lawsuit was filed because attainment of the standards did not occur. The lawsuit requested the EPA to disapprove the AQMP, impose a moratorium on the construction of new major sources and modifications of reactive organic gases (ROG), and prepare a Federal Implementation Plan (FIP) to plan attainment of the federal ozone standard in the County (Ventura County, Resource Management Agency, 1979). In March 1989, the Citizens to Preserve the Ojai and the EPA reached a settlement agreement which established a schedule for the development of a federal clean air plan. However, after passage of the federal Clean Air Act Amendments of 1990 on November 15, 1990, EPA requested court relief from development of a FIP for several air districts in California, including Ventura County. Relief was granted by the U.S. District Court on January 9, 1991.

That ruling was appealed by the plaintiffs. In July of 1992, the Ninth Circuit Court of Appeals ordered EPA to develop and implement federal air pollution control plans for various air districts in California. The EPA appealed that ruling to the U.S. Supreme Court. In February of 1993, the U.S. Supreme Court rejected the EPA's appeal. Therefore, the EPA is now required to develop a FIP to bring Ventura County and other California air districts into attainment of the federal ambient air quality standard for ozone.

The 1987 AQMP provided a more accurate emissions inventory, proposed new control measures for adoption, and proposed use of a new air quality model that more accurately simulated conditions in the County. Although the 1987 AQMP provided for additional emission reductions, attainment of the federal ozone standard was not predicted to occur without further controls. The 1987 AQMP was adopted in July 1988 and has led to the implementation of 25 new control measures since that time.

Shortly after the AQMP was adopted, the California Legislature passed the California Clean Air Act (CCAA). The CCAA required all nonattainment areas in the state to develop new plans to meet federal and state air quality standards at the earliest practicable date. To meet this requirement, VCAPCD prepared the 1991 AQMP, which was adopted by the California Air Resources Board on August 13, 1992. The 1991 AQMP is meant to meet the initial requirements of the CCAA and continue the trend toward clean air.

Despite having put many strict controls into place, sizable reductions in emissions must still occur to meet all clean air standards. The 1991 AQMP proposes a control strategy representing the full implementation of known technology to reduce ozone-forming emissions. This strategy concentrates on concurrent reductions of ROG and nitrogen oxides (NO_x), the two precursors to ozone. Reductions of these pollutants could be via implementation of trip reduction programs. For these programs to be effective, an average commuter ridership of 1.5 by 1999 would be necessary to achieve, as would no net increase in vehicle emissions after 1997.

City of Ojai Planning

The City of Ojai initially prepared a General Plan in 1963. However, a new version was prepared in 1978, adopted in 1979, and amended in 1987, 1988, and 1992. The Land Use and Circulation Elements are scheduled to be updated in 1993. Additional City goals were incorporated in the updated Plan and included recommendations relating to the attainment of state and federal standards and

maintenance of those standards.

> *"A level of air quality which protects the public health, safety and welfare, and meets or surpasses State and Federal primary and secondary standards shall be promoted."*

The City of Ojai's Residential Growth Management Plan (Ojai Municipal Code 10-6.101-10-6.201) and Commercial Growth Management Plan (Ordinance #686) were prepared in 1979 and 1991, respectively, pursuant to the goals discussed in the City's General Plan. The Residential Growth Management Plan limits residential development to 12 single-family and 4 multifamily dwelling units through 1995 and from 1995 into the future, development is more restrictive to 11 single-family and 3 multifamily dwelling units. Affordable housing is exempt from these restrictions.

The Commercial Growth Management Plan is similar in intent to the Residential Growth Management Plan. In order to maintain a balance between residential and commercial uses, the development of commercial uses is required to be the same ratio as residential development. Commercial and office limits are expressed in square footage. Allowable limits are based on the population of Ojai in 1988. Commercial development allowed under this ordinance includes BP-Business Professional Commercial Use Zone, the C-1 Neighborhood Commercial Use Zone and the C-R Commercial Recreation Zone.

In 1982, Ventura County adopted a Clean Air Ordinance as part of their Growth Management Plan for unincorporated areas of the Ojai Valley. The ordinance's goal is to limit residential building permits to a fixed annual maximum. The maximum building permit allowances are 46 single lot and 140 multiple lot permits. This ordinance attempts to limit emissions in the community through regulating growth.

In 1988, transportation control measures and an implementation schedule were adopted by the City of Ojai (Resolution No. 88-32). The City has made substantial progress in implementing most of the transportation control measures indicated in Resolution No. 88-32. Transportation control measures for the City include the following:

- Adopt a Circulation Element

- Traffic flow improvements, including a couplet study, street extensions, intersection improvements, pedestrian improvements and a transportation system management ordinance

- Parking and traffic management ordinances, including additional downtown parking, parking meters, and visitor signage

- Ridesharing measures, including park and ride lot development, preferential parking for vanpools/carpools, and a commuter computer ridesharing program

- Public transit measures, including an annual contribution to South Coast Area Transit (SCAT), improve public transit, shuttle services within the City of Ojai, discretionary development to provide incentives for transit use, contribute to citizens/senior transportation services, and require new development to provide bus stops and other appropriate transit infrastructure

- Bicycle facilities programs, including bikeway plan/implementation, require discretionary development to provide bicycle parking facilities

- Land use strategies program development, including encouragement of infill development, an economically healthy downtown through redevelopment, study mixed-use overlay zoning, and growth management

- Air quality program development, air quality impacts analysis for new projects, revise guidelines for preparation of air quality analysis, implementation of air quality element for incorporation into City's General Plan and consistency with the County General Plan

Growth control affects the status of attainment of federal and state air quality standards. The City initiated these regulations so as to mitigate traffic congestion and to alleviate auto use through the limitation of growth and through commonly used alternative transportation modes such as shuttles, bicycles, pedestrian access, and carpooling and vanpooling.

Recent Events Causing Air Quality Concern in the Ojai Valley Airshed

On July 28, 1991, a train derailment occurred along Highway 101, north of Ventura, along the coastal strip. The train derailment caused the release of hazardous materials which shut down Highway 101 and rerouted traffic to Highways 33 and 150 (Casitas Pass) for several days. The rerouting substantially increased traffic volumes passing through the Ojai area. With the increased traffic volumes, it could be expected that local pollution levels would increase. However, pollutant levels measured at the VCAPCD's monitoring station on Highway 33, approximately 53 meters northeast of the traffic route, indicated normal ozone and oxides of

nitrogen levels. These pollutants are measured at that station and are related to mobile sources, although ozone is a secondary pollutant. Secondary pollutants are those which form in the atmosphere from exposure to sunlight and chemical reactions with other pollutants. The levels of pollutant data collected at this station triggered questions from the public, the media, and the City of Ojai regarding the location of the monitoring station, as well as the adequacy of the number of monitoring sites in the Ojai Valley. The Technical Appendix contains a review of the data and some of the issues related to this event.

Traffic control has been addressed by the City of Ojai. In 1992, the Ojai Downtown Couplet Study was prepared by an independent consultant. The purpose of the study was to address the feasibility of a downtown couplet. The existing east/west routes into and out of the City are limited. This has led to poor traffic operations at some of the intersections along Ojai Avenue. The couplet comprises Ojai Avenue (Route 150) and Matilija Street. Ojai Avenue is assumed to be for eastbound traffic and Matilija Street would serve westbound traffic. The study considered the existing conditions and an improved existing conditions scenario. In addition, the impacts of seven couplet alternatives were analyzed. The results of this study indicated that implementation of a couplet would induce greater traffic volumes on Matilija Street, thus creating potential socioeconomic disruption to commercial land uses in the downtown area. Rather than implementation of a couplet, the study recommended restriping and signalization of the existing route to improve the road conditions.

In terms of air quality, a couplet would likely improve ambient air quality due to a lessening of traffic jams and stop signals which allow for greater carbon monoxide emissions. However, signalization and restriping would provide virtually the same benefits. Further assessment would require air quality modeling to determine actual air quality emissions variances from each proposed scenario.

Health Effects

Clean outdoor air or ambient air is a mixture of gases: approximately 78 percent nitrogen, 21 percent oxygen, less than one percent carbon dioxide, less than one percent argon (an inert gas), traces of other inert gases, and varying amounts of water vapor. About 95 percent of the total air mass is concentrated in a layer about 12 miles high around the earth's surface. Into this finite air mass are poured all of the products of combustion, vaporization, attrition (wearing or grinding down by friction), the air-contaminating activities of civilization as well as the by-products of natural occurrences such as volcanic eruptions, forest fires, and decaying vegetation.

Air Quality Element

Air pollution is part of everyday life for millions of Californians. Thousands of residents of Ventura County are regularly exposed to levels of air pollution that can cause nausea, headaches, eye irritation, and dizziness even in healthy adults. Geography, climate and population are key elements in Ventura's smog problem. The area is surrounded by mountains that trap pollution in stagnant air. Persistent stagnant weather conditions during much of the year not only prevent pollution from dispersing in the atmosphere, but also increase the amount of time pollutant gases are exposed to sunlight, thus prompting the chemical reactions that create smog.

While air pollution affects everyone to a degree, some people are extremely susceptible to severe health damage, particularly the 2.5 million Californians who suffer from heart and lung diseases. Air pollution may be a contributing factor in the 80,000 deaths from these diseases in California each year. In addition to people with heart and lung diseases, children under the age of 14, whose lungs are still developing, and the elderly, whose immune systems have been weakened with age, are especially vulnerable to the damaging effects of smog. It should be noted that Ojai has twice the percentage of persons in the population over 65 years of age than is true for the County of Ventura as a whole.

High smog levels occur more than 100 times a year in Southern California, enough to cause outdoor exercise and sporting events to be canceled or rescheduled to protect the health of school children. The ill and the elderly are also advised to stay indoors during these times. Peak summertime concentrations of ozone, the state's worst pollution problem, are sometimes 3.5 times greater than the standard set by the California Air Resources Board (ARB) to protect human health. During these "smog alerts," even healthy adults are advised to refrain from jogging and other outdoor exercises. Research sponsored by the ARB indicates that endurance athletes may risk more health damage from exposure to smog than others because they breathe more air and draw more pollutants deep into the lungs.

The results of research and many epidemiologic studies lead the National Academy of Sciences and the American Medical Association to believe that air pollution can cause long-term, irreversible damage to lung tissue leading to chronic lung disease. While most diseases have been brought under control during the past 50 years, deaths from emphysema, chronic bronchitis and lung cancer have increased dramatically. Even when the statistics are corrected for smoking habits, there remains a significant correlation between exposure to air pollutants and these crippling lung diseases.

Ozone, nitrogen dioxide, sulfur dioxide, sulfates, carbon monoxide, reactive organic

gases (hydrocarbons), and particulates can affect human health. All of the following effects have been documented at various animal toxicological and human clinical studies and are frequently experienced in Southern California.

- o irritation of mucous membranes
- o increase mucous gland secretions
- o paralysis of the ciliary mechanism that is necessary for the lungs to cleanse their surfaces of intruding dusts and infectious biological materials
- o reduces the immune capacity of cells that prevent inflammation
- o lead to changes in the gas transfer surfaces of the lungs
- o decrease the ability of a body to breath efficiently
- o interference with oxygen delivery to body tissues

Children living in heavily polluted areas exhibit a much greater incidence of lower respiratory disease than do children living in areas with relatively clean air. Air pollution is known to trigger asthmatic attacks in susceptible children, and there is evidence to suggest that some forms of asthma are caused by air pollution. The best available evidence indicates that children are especially vulnerable to tissue damage from air contaminants. Children are possibly the most sensitive group in the population because their lungs are developing. They have more than twice the air exchange volume based on body weight; they have a faster ventilation rate than adults.

After exposure to air pollution, minor symptoms, such as wheezing and sore throats, begin to subside and eventually disappear. This occurrence has been viewed by some as an indication that the effects of exposure to air pollution are reversible and harmless. Recent laboratory studies with animals, however, show that minor responses to air pollution may indicate tissue injury that develops over a lifetime of repeated exposures. These findings may apply to humans as well as animals, as indicated by a reduced ability to breathe normally.

An epidemiological study supported in part by the ARB examined the effects of prolonged exposure to air pollution on individuals who live in the Los Angeles area. Symptoms such as coughing, chest tightness, eye irritation, and the loss of breathing ability were measured in more than 12,000 people who reside in four

cities: Lancaster, a city characterized by low levels of air pollution; Burbank and Long Beach, characterized by intermediate levels of air pollution; and Glendora, where the concentration of air pollutants is high. The inhaling and exhaling capacity of individuals who lived in the smoggiest city, Glendora, was considerably less than expected. One of the most pertinent preliminary findings is that individuals who never smoked but lived in the city of Glendora exhibited a more limited ability to breathe than smokers who lived in the city of Lancaster. This study demonstrates the detrimental effects of prolonged breathing of smog that individuals living in Los Angeles County sometimes experience.

There are no easy solutions to the air pollution problems in Southern California. At the present time, California requires much more stringent emission standards for vehicles sold in the State than are required by federal law. Yet the tremendous number of automobiles on the road continues to contribute to the contaminants that react in the air to become smog (VCAPCD, AQMP, 1991). Because automobiles contribute so much to smog levels, the VCAPCD has developed strategies to reduce the amount of automobiles on the road, such as reducing automobile use and vehicles miles traveled through such tactics as car pooling and encouraging alternative modes of transportation. In addition, the California Air Resources Board has adopted strategies and regulations for alternate fuel vehicles and has implemented more stringent motor vehicle emission standards. However, the emission forecasts in the 1991 Ventura County Air Quality Management Plan (AQMP) show that, even with continued growth in the county, emissions of both reactive organic compounds and nitrogen oxides will continue to decrease well past 1995. The emission forecasts in the 1991 AQMP were based on more current estimates of population and economic growth in the county, and on new and enhanced emission control tactics. Furthermore, the District is developing the 1994 AQMP to comply with the mandates of the federal Clean Air Act Amendments of 1990, which require that Ventura County attain the federal ozone standard by 2005.

An additional attainment problem could be the proposed Weldon Canyon Landfill. The estimated NOx and ROG emissions will exceed the five pounds per day threshold of significance by over 100 times. Impacts would be equivalent to nearly 3000 new dwelling units in the Ojai Valley Airshed. This proposed landfill would also be potentially inconsistent with a policy contained in Ventura County's Draft Overall Community Goals for the Ojai Area Plan. This policy states, *"Oil development, landfills, and other industrial development shall be controlled and conditions imposed in order to move toward attainment of State and Federally mandated air quality standards."*

Air Quality Element

REGULATORY SETTING

In response to air pollution within the State of California, federal, state, and regional authorities have adopted air pollution reduction measures. At the national level, the U.S. Environmental Protection Agency (EPA) is involved in local air quality planning through the federal Clean Air Act (CAA), as recently amended by the Clean Air Act Amendments of 1990. At the state level, under the provisions of Lewis Air Quality Act of 1976 and more recently the California Clean Air Act of 1988 (CCAA), the ARB is charged with the responsibility of coordinating efforts to attain and maintain ambient air quality standards and to conduct research into the causes of, and solutions to, air pollution problems. At the regional level the VCAPCD addresses air pollution which affects the respective county airsheds through the Ventura County AQMP.

Regulatory Agencies

At the national level, the EPA has the ultimate responsibility for improving air quality throughout the nation. The EPA reviews and approves the State Implementation Plans (SIP) that incorporate air pollution control strategies necessary to meet the requirements of the CAA. In Ventura County, the VCAPCD is responsible for formulating and implementing the AQMPs whose purpose is to set forth a comprehensive program that will lead Ventura County into compliance with federal and state air quality standards. Designated portions of the AQMP, those necessary to comply with federal standards, are submitted by the VCAPCD to the ARB to be incorporated into the SIP along with AQMPs of other air pollution control districts. Because the AQMP is also intended to contain measures to comply with California air quality standards set forth in the CCAA, the AQMP may be broader, in certain respects, than the federal requirements.

At the state level, the ARB was formed in 1967 by the California Legislature to control air contaminant emissions and to improve air quality throughout the state. The ARB has primary statutory authority to establish and enforce standards which limit pollutant emissions from motor vehicles. The ARB also is responsible for assisting the VCAPCD in the development and coordination of their local AQMP. Furthermore, it is the responsibility of the ARB to review the AQMP, and other proposed air quality-related rules and regulations for incorporation into the SIP prior to submission to the EPA.

At the regional level, the SCAG was created in 1965 by the counties of Los Angeles, Ventura, Imperial, Riverside, Orange, and San Bernardino to oversee planning on a regional basis. SCAG's primary responsibility, with respect to air

quality planning, is in the development of transportation, land use, and energy conservation measures. In 1988, the SCAG recommended that cities in six Southern California counties, Los Angeles, Ventura, Riverside, Orange, San Bernardino, and Imperial incorporate air quality elements into their General Plans (SCAG, 1990). To date, the City of Simi Valley is the only jurisdiction within Ventura County to have done so. Additionally, the South Coast Air Quality Management District, which does not have jurisdiction over Ventura County, has made this a mandatory part of its 1991 AQMP. The VCAPCD's AQMP includes recommendations that encourage further air quality planning in the region, but no specific reference to air quality elements. However, the VCAPCD has been working closely with several cities in the County for the last few years to implement this goal. They have held a number of transportation and informational workshops to provide cities with background and implementing tools (VCAPCD, Chuck Thomas, personal communication, 1992).

AIR QUALITY PLANNING PROGRAMS

Federal Planning Programs. Early federal legislative response to air quality concerns consisted of the Air Pollution Control Act of 1955, the Clean Air Act of 1963, the Air Quality Act of 1967, and the Clean Air Act of 1970. The goal of the Clean Air Act of 1970, as stated by Congress in its 1977 amendments, was "to protect and enhance the quality of the nation's air resources."

The most recent Clean Air Act Amendments of 1990 are much broader in scope. The major titles of the 1990 Amendments address nonattainment of air quality standards, mobile sources emissions, air toxics, acid rain, a new federal permit program, enforcement, and the protection of stratospheric ozone. Title I (nonattainment provisions) is directly related to the goals of the air quality element.

The goal of Title I is to attain air quality standards for six criteria pollutants: ozone (O_3), nitrogen oxides (NO_x), sulfur oxides (SO_x), particulates (PM-10 and TSP), carbon monoxide (CO), and lead (Pb). California and National air quality standards are included on Table AQE-1. All nonattainment areas are designated or classified based on the severity of their nonattainment problem. Classifications include extreme, severe, serious, moderate, and marginal and determine the extent of remedial actions. The entire southern portion of Ventura County is in nonattainment for ozone and has been designated as a severe area under both the federal Clean Air Act and the California Clean Air Act.

The actions required to be undertaken under the severe classification the following:

- Attainment is required within 15 years after enactment of the Clean Air Act Amendments of 1990.

- Vehicle miles traveled provisions require identification and adoption of enforceable transportation control strategies and transportation control measures to offset any growth in emissions from increased vehicle miles traveled or numbers of vehicle trips and to attain reduction in motor vehicle emissions. This measure also requires provision of adequate access to downtown, other commercial, and residential areas and should avoid measures that increase emissions and congestion.

- Offset requirements such that the ratio of total emission reductions of volatile organic compounds (VOCs), or reactive organic gases (ROGs), to total increased emissions of such air pollutant shall be at least 1.3 to 1, except that if the state plan requires all existing major sources in the nonattainment area to use best available control technology for the control of VOCs, the ratio shall be at least 1.2 to 1.

In general, under Title I, the attainment date for a nonattainment area is the most expeditious date attainment can be achieved, but no later than five years from the date the area was designated nonattainment. The EPA may extend the period for compliance up to 10 years. Separate compliance timetables pertain to ozone attainment and include three years for marginal areas, six years for moderate areas, nine years for serious areas, 15 years for severe areas, and 20 years for extreme areas. These timetable adjustments are dependent upon the administrators discretion based on the following issues: the number of accedences of the national primary ambient air quality standard for ozone in the area, the level of pollution transport between the area and other affected areas, including both intrastate and interstate transport, and the mix of sources and air pollutants in the area.

Title I also requires each nonattainment area to submit a comprehensive inventory of actual emissions as part of the State Implementation Plans (SIP). Areas must achieve a 15 percent reduction from their 1990 actual emissions inventory within six years. Thereafter, each area must achieve a three percent annual reduction.

State Planning Programs

The CCAA was signed into law on September 30, 1988 and took effect on January 1, 1989. The CCAA established a legal mandate to achieve health-based state air quality standards at the earliest practicable date. Through its many requirements, the CCAA serves as the centerpiece of the local air pollution control

district's attainment planning efforts since it is generally more stringent than the federal CAA.

The CCAA was recently amended on September 26, 1992 by the California Legislature. The primary purpose of these amendments was to eliminate differences between the CAA and the CCAA. For example, the nonattainment area designation schemes, the timing of the planning cycle, and the emission reductions required were addressed in this legislation. The ARB is currently in the process of updating CCAA implementation guidance for the air pollution control districts.

Based on pollutant levels, the CCAA divides nonattainment areas into four categories--moderate, serious, severe, and extreme--to which progressively more stringent requirements apply. The Ventura County portion of the South Central Coast Air Basin has been classified as a severe nonattainment area for ozone. Ventura County is also not in attainment for PM-10. However, it is in attainment for nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and CO.

Severe nonattainment areas are required to meet the most stringent requirements of the CCAA and are required to revise their AQMP to include specified emissions reduction strategies to meet milestones in implementing emission controls and achieving more healthful air quality. The new control requirements include the following:

- A permitting program designed to mitigate all emission increases from new or modified permitted source
- The application of best available retrofit control technology (BARCT) for existing sources
- Provisions to develop area and indirect source control programs
- Transportation control measures to substantially reduce the rate of increase in passenger vehicle trips and miles traveled per trip
- Transportation control measures to achieve an average commuter ridership of 1.5 persons per vehicle by 1999, and no net increase in motor vehicle emissions after 1997
- Measures to achieve the use of a significant number of low-emission vehicles by operators of motor vehicle fleets

- Reducing population exposure to unhealthful levels of air pollution according to a prescribed schedule

- Submission of an AQMP to the ARB by July 1, 1991 and triennial updates thereafter

The CCAA also includes the following additional requirements that can significantly affect the selection of strategies to reduce pollutant emissions:

(1) reducing regional emissions for each nonattainment pollutant by five percent or more per year

(2) achieving an average commuter ridership of 1.5 persons per vehicle by 1999

(3) achieving no net increase in mobile source emissions after 1997

(4) achieving a substantial decrease in the growth of vehicle miles traveled and vehicle trips

(5) instituting public education programs

(6) reducing population exposure to severe nonattainment pollutants according to a prescribed schedule

(7) ranking control measures by cost effectiveness and implementation priority

According to the CCAA, air quality management districts must design their AQMP to achieve a reduction in emissions of five percent or more per year (or 15 percent or more in a three-year period) for pollutants causing severe nonattainment. However, an air basin may achieve a reduction of less than five percent per year if it can be demonstrated that either of the following applies:

- The alternative emissions reduction strategy is equal to, or more effective than, the five percent per year control approach in improving air quality

- That despite the inclusion of every feasible measure, and an expeditious adoption schedule, the air basin is unable to achieve the five percent per year reduction in emissions

For emission reduction accounting purposes, the ARB has established a seven-year initial reporting period from January 1, 1988 to December 31, 1994. The reporting

intervals after this initial period occur every three years (i.e., 1997, 2000, etc.).

Regional Planning Programs

The Ventura County 1991 AQMP will meet the initial planning requirements of the CCAA and continue the trend toward clean air. The 1991 AQMP proposes a control strategy representing the full implementation of known technology to reduce ozone-forming emissions and is designed to achieve a reduction in district-wide emissions of five percent or more per year for each nonattainment pollutant, averaged every consecutive three-year period. A full five percent per year reduction in emissions from all sources would equal zero emissions in 20 years. This strategy concentrates on concurrent reductions of ROG and NOx, the two precursors to ozone.

Local Air Quality Planning Programs

Air quality planning has been performed in the Ojai Valley for a number of years. The City of Ojai initiated the Residential Growth Management Plan in 1979 and the Commercial Growth Management Plan in 1988 in order to comply with the federal Clean Air Act of 1977. Although, the Commercial Growth Management Plan was initiated in 1988, it was not adopted until 1991. By instituting the growth management plans, building permits were issued with less frequency and population levels have remained at manageable levels.

In 1982, Ventura County adopted a Clean Air Ordinance as part of their Growth Management Plan for unincorporated areas of the Ojai Valley. The ordinance's goal was to limit residential building permits to a fixed annual maximum. The maximum building permit allotments are 46 single lot and 140 multiple lot permits. This ordinance attempts to limit emissions in the community through regulating growth.

In 1988, the City instituted transportation control measures and an implementation schedule into their General Plan. These measures are included in the Introduction of this Element and were incorporated into the General Plan to meet attainment of state and federal air quality requirements.

In addition, in 1989, Ventura County adopted a five-pound threshold for the Ojai Valley Airshed for assessing whether a proposed development project would have a significant adverse impact on air quality, pursuant to the California Environmental Quality Act. This restriction was implemented to comply with the CCAA's ozone standards. Tables AQE-2 and AQE-3 illustrate the development allowances which

would exceed the five pound per day emissions threshold.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

As was stated in the Introduction, the air quality element is often incorporated into other elements of a General Plan instead of standing as a separate document. In addition, there is often overlap between policies that are included in the Circulation, Land Use, and Housing Elements. This section includes all of the measures contained in other elements that overlap and are consistent with air quality policies contained in Section 10.

Land Use Element

Residential, industrial, and commercial infilling of vacant areas in the City, in conformity with the surrounding character of development

Man-Made Environment Section of Land Use Element

(The following recommendations relate specifically to air quality)

Continued enforcement of air pollution control district rules and regulations to the 'fullest extent possible'

Maintaining effective mobile vehicle exhaust controls and reducing mobile vehicle usage in the region through an integrated plan of transportation and land use controls

A development moratorium for unincorporated areas is also needed.

Rezoning of Ojai Valley lands should be initiated to substantially reduce development potential within the valley.

Other incentives included in the Man-Made Environment Section of the Land Use Element are the following:

Development of a ridesharing program

Preferential parking for high occupancy auto use

Increased transit services for work trips

Construction of off-street bicycle routes and on-street bicycle lanes

Speed enforcement

Staggered work hours

Improved communication

Transportation Section of the Land Use Element

Shared ride programs to include:

Promotion of the ride sharing advantages

Employer vanpools

Special parking privileges for high occupancy vehicles

Preferential parking including:

Long-term and short-term parking areas

Parking restrictions to induce carpooling

Improve transit service to increase work-related trips

Bicycle route construction to encourage a mode shift from auto to bicycle use

Staggered work hours to reduce peak hour congestion

Improved signal timing using computer models

Removal of on-street parking to allow more lanes

Circulation Element

To the maximum extent feasible, the City shall require a level of service "C" on all roadways within the community, recognizing that Ojai Avenue will have less than desired levels of service.

The City shall coordinate with the County in the monitoring and review of development in the region and request that the County deny projects inconsistent with the above policy.

The City shall support public mass transit

The City shall give priority to development that provides for increased transit patronage, consistent with other general plan goals

All development in the City shall be linked by appropriate pedestrian circulation that is sensitive to the unique environmental characteristics of the community

Housing Element

To develop housing plans and programs which are consistent with the existing location and capacity of the local infrastructure network.

To maintain consistency with the provisions of the AQMP.

Conservation Element

General

Identify, locate, and evaluate the status of the City's natural and cultural resources as they relate to natural and human needs.

Identify and evaluate those entities currently responsible for the management of the City's resources as an initial step in the development of a total "conservation system."

Geologic Resources Section of the Conservation Element

Separate agriculture and urban uses so that efficient agricultural practice (crop dusting, fertilization, mechanical harvesting) can be accomplished without danger or nuisance to residential areas and without adverse effects on sensitive crops

Air Quality Section of the Conservation Element

Respect the Ventura County Air Quality Management Program (AQMP) by incorporating the procedures, requirements, and standards of the AQMP into

City policy

The City will monitor and control growth and development that can inhibit air quality goals

The City shall support any regional effort to improve air quality throughout Ventura County and the State of California

Scenic Views/Aesthetics

The City shall not support any activity associated with the degradation of the natural scenic character of the Ojai Valley and shall actively pursue the preservation of vistas and natural beauty of Ojai whenever possible.

The City shall recognize local and regional efforts and programs regarding preservation of natural and scenic resources and shall utilize all available techniques to preserve these resources in the Ojai Valley.

Safety Element/Hazardous Material and Waste

The City shall coordinate with Ventura County to periodically establish days to collect household hazardous waste within the City of Ojai

Recreation Element

The City shall support and accommodate, where appropriate, the recreation related tourist industry in Ojai as consistent with environmental and quality of life standards in Ojai to the extent that tourism does not compromise other General Plan goals.

GENERAL DEFINITIONS

Definitions of Air Quality Terms

Precursor: A primary criteria pollutant which has the ability to react with other pollutants to form another pollutant. Examples of precursors include, oxides of nitrogen (NO_x), reactive organic gases (ROG)s, fine particulate matter (PM-10), and oxides of sulfur (SO_x).

Secondary Pollutant: A pollutant that is not directly emitted from a specific source, but is formed from reactions with other chemicals and influence of heat,

specifically solar radiation. Ozone is an example of a secondary pollutant. Its precursors are NO_x, ROGs, and PM-10.

Air Quality Management Plan: A planning document prepared to direct a region into meeting state and federal air quality standards. In areas that are not in attainment for specific types of pollutants, an air quality management plan (AQMP) contains control measures to direct the region towards meeting attainment goals.

Nonattainment: The status assigned to a region by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) for a region that does not meet the emissions standards assigned for each criteria pollutant. Criteria pollutants for which standards are set include carbon monoxide (CO), nitrogen dioxide (NO_2), PM-10, sulfur dioxide (SO_2), lead (Pb), and ozone. A region having a nonattainment status indicates that its air quality is not healthful for its population. Nonattainment status is further defined by degree of nonattainment. Under the federal government designations, nonattainment degrees include marginal, moderate, serious, severe, and extreme. Under the state designations, nonattainment degrees include moderate, serious, and severe. These definitions apply to each criteria pollutant listed in the paragraph above.

Air Quality Standards: Both California and the federal government have set air quality standards for ozone, CO, NO_2, SO_2, PM-10, and Pb. The California standards are more stringent than the federal standards, and in the case of PM-10 and SO_2, far more stringent. California has also set standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride (South Coast Air Quality Management District, 1991). The standards are based on human exposure to these pollutants. The negative health effects resulting from exposure determine the level of allowable regional emissions.

Glossary of Acronyms

APCD	Air Pollution Control District
AQMP	Air Quality Management Plan
ARB	California Environmental Quality Act
CO	Carbon Monoxide
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
HOV	High Occupancy Vehicle
NO	Nitrogen Oxide
NO_2	Nitrogen Dioxide
No_x	Nitrogen Oxides

PM-10	Fine particulate matter less than 10 microns in diameter
ROG	Reactive Organic Gases
SCAG	Southern California Association of Governments
SO_2	Sulfur Dioxide
TCM	Transportation Control Measures
TDM	Transportation Demand Management
TSP	Total Suspended Particulates
VCAPCD	Ventura County Air Pollution Control District
VCTC	Ventura County Transportation Commission

Air Quality Element

ISSUES AND NEEDS

OVERVIEW

Ozone is a major problem in the southern portion of Ventura County due to growth and development. Growth contributes to greater automobile and stationary emissions which degrade air quality and facilitate accedences of state and federal air quality standards. In Ventura County, accedence of the state and federal ozone standard is considered to be caused by the large quantity of automobiles entering and leaving the County. Mobile emissions are most attributable to commuting to and from work sites located in neighboring counties, i.e., Los Angeles and Santa Barbara. Other factors contributing to ozone nonattainment include generation of electricity (the Ormond Beach Generating Station), offshore oil drilling operations, and other various stationary sources.

PM-10 is considered a problem as exemplified by its state nonattainment status. However, the VCAPCD has implemented several control measures which have reduced PM-10 emissions. It is expected that attainment of PM-10 will occur in the near future.

Another issue of more recent concern is the location of the air monitoring station in the Ojai Valley. As was discussed earlier, the train derailment of July 1991 required the rerouting of traffic through the Ojai Valley for five days. Greater traffic usually causes greater ozone levels in the atmosphere; however, in the Ojai Valley, ozone levels were elevated but were not at significant levels. According to VCAPCD, the meteorological conditions were not conducive to the formation of ozone. This explanation was disputed by the media and the public. Therefore, AeroVironment was asked to conduct a site and systems audit and analyze the data. This discussion is contained in the Technical Appendix. The results of our analysis concluded, that although the monitoring site location is not perfect, it meets all of the EPA's requirements for the site location. In addition, all of the equipment was and is in satisfactory working order. Our conclusion for the health and air quality complaints made by the public is that CO emissions were likely the cause of discomfort, not ozone. CO emissions are high when traffic slows down. Since CO levels are thought to be well within the standards in this area, it is not monitored at any monitoring station.

Air Quality Element

GOALS, OBJECTIVES, POLICIES, AND IMPLEMENTING PROGRAMS

INTRODUCTION

The air quality element defines objectives for future air quality. Goals, objectives, policies, and implementing programs contained in this Element are intended to improve local and regional air quality by reducing harmful emissions from both stationary and mobile sources. New goals and policies are intended to reduce pollutant emissions, along with those measures previously contained in the General Plan. This section is divided into differing sources of air pollution, i.e., attainment, transportation, etc. The sources are further broken down into goals, objectives, policies, and implementing programs.

SUMMARY OF GOALS

1. A level of air quality which protects the public health, safety, and welfare and meets or surpasses State and Federal primary and secondary standards

2. Eliminate excessive vehicle trips and reduce vehicle miles traveled

3. Traffic flow throughout the City limits is without periods of congestion

4. Encourage the use of clean fuel, electric, and zero emission vehicles (ZEVs)

5. Reduce the length of work trips, expand the supply of affordable housing, and create an urban form that efficiently uses urban infrastructure and services, such as mixed use development

6. Utilize the discretionary review process as an opportunity to minimize adverse air quality impacts associated with proposed developments

7. Reduce energy consumption and promote energy efficiency programs

8. Citizen awareness and participation in efforts to reduce air pollution

9. Encourage transportation modes that minimize the use of single passenger motor vehicles and the associated air emissions

Attainment Provisions

1. A level of air quality which protects the public health, safety, and welfare and

meets or surpasses State and Federal primary and secondary standards.

2. Reduce ozone and PM-10 emissions by at least five percent per year, averaged every third year period.

3. The City shall implement the policies and implementing strategies contained in this Element intent upon reducing emissions from source categories.

Implementing Strategies

1. Comply with the goals and objectives contained in this plan

Transportation

Trip Reduction

1. Eliminate excessive vehicle trips and reduce vehicle miles traveled

2. Achieve an average commuter ridership of 1.5 persons per vehicle by 1999, and no net increase in motor vehicle emissions after 1997

3. The City shall encourage vehicle trip reduction and other transportation demand management programs (TDM)

4. The City shall strive to balance jobs and housing so that commuter trip lengths are minimized, and to actively encourage participation in multinodal transportation by providing safe, convenient transit stops, promoting park-and-ride facilities and telecommuting centers

5. The City shall deny discretionary projects that do not mitigate their peak hour trips on Highway 33 at the Edison Curve through Casitas Springs, except for affordable housing projects

6. The City shall promote transit improvements that will foster increased ridership

Implementing Strategies

1. Encourage discretionary development to provide bicycle parking facilities and secured lockers as a percentage of auto parking spaces in new nonresidential development

2. Encourage shower facilities in new nonresidential development for persons bicycling or walking to work.

3. Encourage pedestrian walkways and bicycle lanes to connect each building in new nonresidential development with the local system of pedestrian/bicycle paths

4. Provide a bicycle route system connecting to other local or regional bicycle routes

5. Encourage special event organizers to provide electric or clean fuel shuttle services to the event location

6. Encourage designation of on-site parking areas that can be used as park-and-ride lots for area commuters

7. Encourage transit improvements such as bus pullouts, bus pads, and bus shelters for applicable new residential and nonresidential development

8. Encourage existing and new commercial and industrial development to support the use of the Ojai Trolley or other shuttle services to transit facilities (i.e., park-and-ride lot)

9. Encourage employers or new developers to contribute to a lunchtime or all day electric or clean fuel shuttle service that provides access to activity centers

10. Encourage a video conferencing facility in new office developments

11. Encourage new commercial retail and service centers to provide delivery services to residents and office complexes in the vicinity

12. Encourage new office developments to provide on-site child care facilities and ground-level outdoor play areas, or contribute to development of an off-site child care facility within walking distance

13. Reduce parking space requirements when studies demonstrate increase in ride sharing and an increase in the use of alternative modes of transportation

14. Encourage employers to provide incentives (financial, time off, etc.) for employee use of alternative methods of transportation from single occupancy vehicle use

15. The City should implement flexible work schedules, e.g., four-day work week, to reduce employee generated trips especially at peak hour, and encourage other employers to do so

Traffic Flow Improvement

1. Traffic flow throughout the City limits is without periods of congestion

2. Traffic flow throughout the City shall be maintained at an LOS of at least C

3. The City shall pursue traffic flow improvements to enhance traffic flow on City streets via signal improvements, and operational/intersection improvements, as this is the most cost effective means of reducing congestion, conserving energy, and improving air quality

Implementing Strategies

1. Investigate implementation of ATSAC (Automated Traffic Surveillance and Control) or similar interconnected traffic signal control systems or appropriate noninterconnected synchronization methods on all local streets where traffic volume and delay time is significant

Clean Fuels in Fleet Vehicles

1. Encourage the use of clean fuel, electric, and zero emission vehicles (ZEVs)

2. The City shall require a 30 percent use of light-duty and 50 percent use of heavy duty (trucks) alternative fueled vehicles in public and private business by model year 1998 to comply with the provisions contained in the federal Clean Air Act Amendments of 1990

3. The City shall encourage the use of alternative fueled vehicles via provision of cash incentives to individuals, agencies, and/or corporations who volunteer to participate in the program

4. The City shall support legislation providing tax incentives for the use and ownership of alternative fueled vehicles.

5. The City shall participate in demonstration projects whereby alternative fueled vehicles are used for the City's fleet vehicles

Implementing Strategies

1. The City should encourage the use of low emission vehicles (LEV) for transport to schools and shopping centers.

2. The City should encourage LEV shuttle service for lunchtime errands for nonresidential business centers.

3. The City should consider an ordinance that would encourage the provision of local delivery service with use of LEV by commercial/retail facilities within the City to housing areas. Delivery service would be from dry cleaners, carryout food centers, grocery stores, pharmacies, video rental, etc.

4. The City shall study ways to increase bike usage throughout the City in conjunction with the update of the Circulation Element.

Growth Management

1. Reduction in the length of work trips, expansion in the supply of affordable housing, and creation of an urban form that efficiently uses urban infrastructure and services, such as mixed use development

2. Limit residential development to 12 single-family and 4 multifamily residential dwelling units through 1995 in the City, and from 1995 into the future, development is more restrictive to 11 single-family and 3 multifamily dwelling units. Development of commercial uses (BP-Business Professional Commercial Use Zone, the C-1 Neighborhood Commercial Use Zone, and the C-R Commercial Recreation Zone) is required to be correlated with residential development pursuant to the Commercial Growth Management Ordinance

3. Achieve better job/housing balance in the different areas of the Valley by encouraging growth in local employment opportunities

4. To the extent possible, achieve a balance, of the type of jobs with the price of housing.

5. Encourage employment development through support of labor force retraining programs and other economic development measures.

Implementing Strategies

1. The City's existing growth management plans (residential and commercial) have been prepared to be consistent with one another so as to encourage a jobs/housing balance

Particulate and Building Emissions

1. Utilize the discretionary review process as an opportunity to minimize adverse air quality impacts associated with proposed construction projects

2. Construction related emission thresholds should be limited to 2.5 tons of PM-10 per three-month period.

3. To the extent possible, the City shall enforce the following at construction sites to reduce fugitive dust emissions:

    - require trucks hauling soil, dirt, sand, or other emissive materials to cover their loads

    - require grading to occur only when wind conditions do not exceed 30 miles per hour

    - enclose, cover, water when necessary, or apply approved soil binders, according to manufacturers specifications, to exposed stock piles, i.e., gravel, sand, dirt

    - require the installation of truck wheel washers and other types of barriers at construction sites to prevent the transport of soil onto public rights-of-way

    - encourage developers to maintain the natural topography to the extent possible to eliminate the need for extensive land clearing, blasting, ground excavation, grading, and cut and fill operations

4. Fugitive dust from agricultural areas shall be minimized through vegetative cover, windbreaks, and improved tillage practices

5. The use of building materials and methods that minimize the emission of reactive organic gases and particulates shall be encouraged

6. The City shall encourage reduction in particulate emissions from paved and unpaved roads, parking lots, and road and building construction.

Implementing Schedule

1. All development proposals should be regulated via mitigation monitoring programs whereby fugitive dust measures are implemented. The City should request that the City and County of Ventura adopt the five pound/day threshold of significance for air quality impacts for that part of their jurisdiction in the Ojai Valley Airshed.

Energy Conservation

1. Reduce energy consumption and promote energy efficiency programs

2. Reduce energy consumption by 20 percent to meet California Title 24 requirements

3. Local government facilities and equipment that use energy shall incorporate the most energy-efficient design consistent with a reasonable rate of return and the recognition of the environmental benefits from energy conservation

4. Encourage the incorporation of energy conservation features in the design of all new construction and the installation of conservation devices in existing developments

5. Encourage energy audits of existing structures, identifying levels of existing energy use and potential conservation measures

6. Promote the use of passive design concepts which make use of the natural climate to increase energy efficiency

7. Encourage that new construction not preclude the use of solar energy systems by uses and buildings on adjacent properties and consider enactment of a comprehensive solar access ordinance

Implementing Strategies

1. Whenever practical, implement planning and building regulations to take advantage of solar heating and natural cooling

2. The City should look into implementing building ordinances which would require residential and commercial buildings to be weatherized according to a California Public Utilities Commission 1987 survey. In addition, new residential and commercial buildings should meet the conservation standards set by the California Energy Commission.

Education

1. Citizen awareness and participation in efforts to reduce air pollution

2. The City shall post APCD newsletters on a monthly basis in City Hall to illustrate to the public the regions progress

3. The City shall provide information as made available from the APCD at City Hall regarding the air pollution problem in the region

Implementing Strategies

1. The City should make available current information on air quality nonattainment status, pollutant accedences, County programs, etc.

2. The City should request the Ventura County APCD to set up workshops, at least annually, at a convenient public place (e.g., City Hall) to review the County Air Pollution Management Plan goals, policies, objective programs, rulemaking and status of attainment

3. Encourage transportation modes that minimize the use of single passenger motor vehicles and the associated air emissions