

6.5 AIR QUALITY

6.5.1 Introduction and Purpose

Clean air is one of the most precious resources fundamental to daily life. The development pattern represented by modern cities and their suburbs has fostered an increasing dependency on the automobile, thus creating one of the major threats to a healthy environment, particularly air quality. In order to meet the challenges of strict environmental laws designed to ensure the nation's cities have clean air, Shasta County must comply with new regulations and thresholds for meeting this objective. Furthermore, performance in meeting this target will be strictly monitored in accordance with specific timetables for implementing air quality programs and policies.

The Air Quality Element recognizes the need for and importance of clean air. It addresses the requirements of Government Code Section 65560(b)4, which calls for the establishment of Open Space Plan policies and programs designed to protect "open space for public health and safety, including, but not limited to ... areas required for the protection and enhancement of air quality." In addition to the Air Quality Element, objectives and policies found in the Community Development, Circulation, Housing, and Energy Elements recognize the common fabric necessary for establishing a permanent commitment to promote and protect clean air.

Two factors figure significantly in developing and implementing programs to achieve clean air goals. The first, public education, is basic to providing citizens with an awareness of the importance of healthy air and ways that it can be managed and protected. Efforts on behalf of government as well as private agencies need to be melded to accomplish this task.

The second factor, regional cooperation, is equally important. Air pollution knows no jurisdictional or political boundaries. Poor land use practices evident in one locality can significantly affect public health and the quality of life in neighboring jurisdictions. Therefore, for Shasta County to succeed in meeting State and Federal air quality mandates, it is important that Shasta County, the cities, and other agencies involved with air quality concerns maintain a program that easily transcends jurisdictional boundaries. In this fashion, the General Plan can play a pivotal role in disseminating information and establishing policies that will aid in the goal of protecting and improving air quality throughout Shasta County.

6.5.2 Findings

Environmental Setting

Shasta County sits at the extreme northern end of the Sacramento Valley. Seven counties form the Northern Sacramento Valley Air Basin (see Figure 1). Surrounded by the Klamath and Coastal Mountains to the northwest and the Cascade Mountains to the northeast and east, coupled with the relatively calm winds and fairly stable atmospheric conditions, the potential for significant air pollution in the Basin is considered high.

Generally, the County experiences moderate to very poor capability to disperse pollutants nearly 80 percent of the time. This is, in large measure, due to the relatively stable atmosphere which acts to suppress vertical air movement. Extremely stable atmospheric conditions referred to as "inversions" act as barriers to pollutants. In valley locations under 1,000 feet elevation such as the Redding Metropolitan area, they create a "lid" under which pollutants are trapped. Dust and other pollutants can be trapped within these inversion layers and will not disperse until atmospheric conditions become more unstable. This situation creates concentrations of pollutants at or near the ground surface which pose significant health risks for plants, animals, and people.

Ozone pollution caused by vehicle and industrial emissions is the major air contamination concern in the summer. A cold-weather inversion layer that traps airborne particles from open-burning practices, fireplaces, and wood stoves is the major problem in winter.

Reactive organic gases (ROG) and oxides of nitrogen (NOx) are important precursor chemicals in forming ozone. According to the Air Resources Board emissions inventory, mobile sources account for 59 percent of ROG and 77 percent of NOx in Shasta County.

The Basin does not meet the State ambient air standards for ozone and particulate matter (PM₁₀). Table AQ-1 lists Federal and State air quality standards for these two pollutants. Shasta County currently is designated as a "Moderate" Non-Attainment area with respect to State standards for both ozone and PM₁₀. The County meets the Federal standards for these two items. Table AQ-2 lists the air quality emission violations for Shasta County during the period 1988 through 1994. It is important to note that the County has not been designated as a Federal non-attainment area even though it has exceeded Federal thresholds in one or more isolated cases. This is due to the fact that violations have averaged less than one violation day per year in any three (3) year period as allowed by the Federal standard.

TABLE AQ-1 APPLICABLE FEDERAL AND STATE AIR QUALITY STANDARDS			
Ozone		Particulate Matter (PM ₁₀) 24-Hour Standard	
State	Federal	State	Federal
.09 ppm	.08 ppm	50 µg/m ³	150 µg/m ³

Notes: New Federal ozone standards require average of fourth highest daily maximum eight-hour concentration in the most recent three (3) year period to be less than 0.08 ppm. PM₁₀ refers to particulate matter 10 microns (µ) or smaller in size. This size is potentially harmful to human health. µg/m³ = micrograms per cubic meter; PM_{2.5} - New annual and 24-hour EPA standard for PM_{2.5}. The primary annual standard is 15 µg/m³. The 24-hour standard will be met when the three-year average of 98th percentile of 24-hour PM_{2.5} concentrations is less than or equal to 65 µg/m³.

Source: Shasta County Air Quality Management District, 1998.

**TABLE AQ-2
SHASTA COUNTY AIR QUALITY EMISSION VIOLATION DAYS 1988-2001**

YEAR	OZONE			PM ₁₀	
	State	Federal		State	Federal
		One Hr.	8 Hr.		
1988	5	0		4	0
1989	0	0		10	0
1990	11	1		3	0
1991	20	0		9	0
1992	10	0		15	0
1993	1	0		2	0
1994	7	0		1	0
1995	1	0		0	0
1996	16	0		0	0
1997	8	0		0	0
1998	40	3	45	13	0
1999	23	0	12	15	0
2000	3	0	1	0	0
2001	1	0	0	6	0

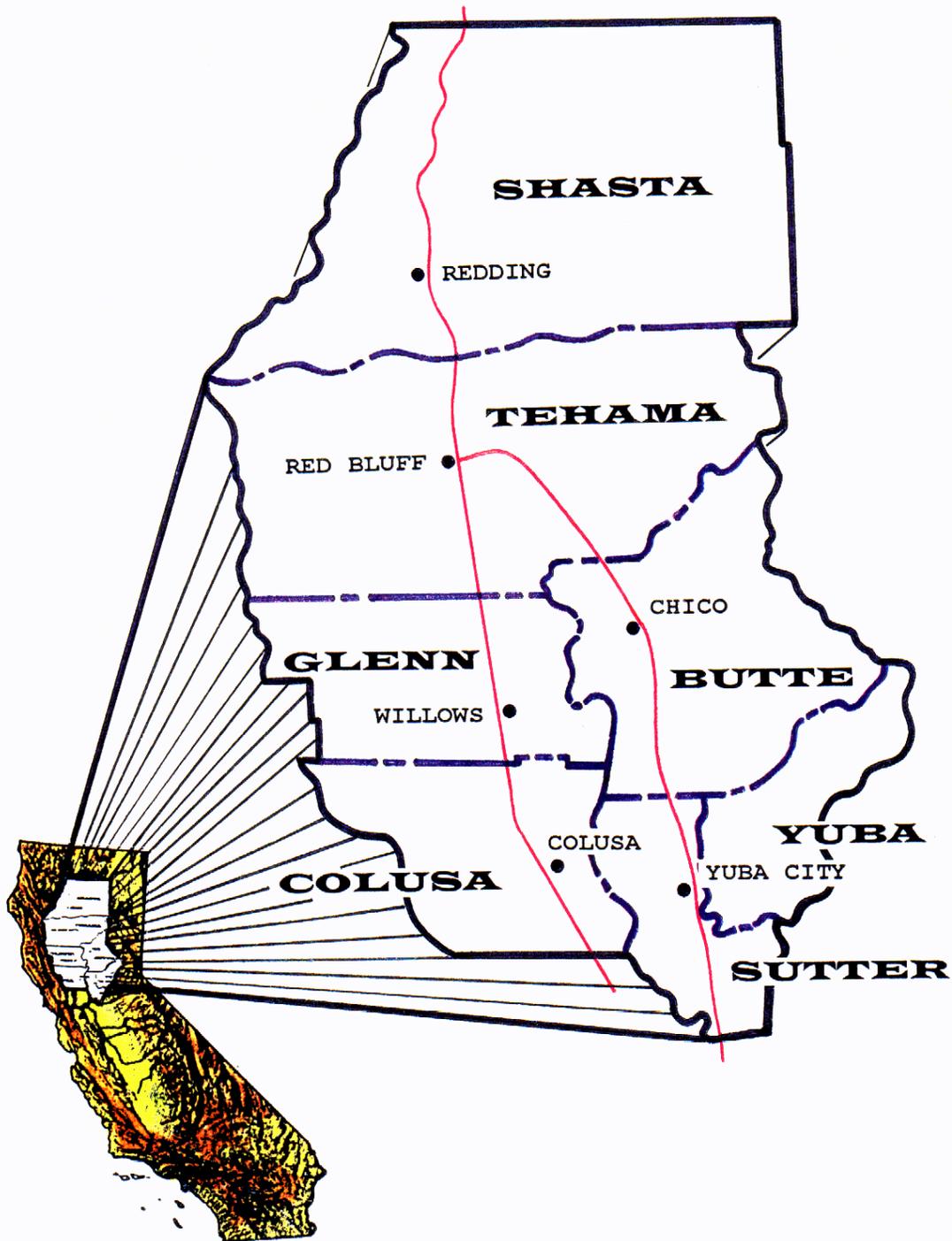
Notes:

Peak recorded levels: **Ozone** - 0.13 ppm (1990); **PM₁₀** - 83.7 µg/m³ (Redding, 1991), 96.6 µg/m³ (Burney, 1989)

Source: 2003 California Almanac of Emergency and Air Quality

FIGURE AQ-1

NORTHERN SACRAMENTO VALLEY AIR BASIN



Land Use, Air Quality, and Transportation Linkage

Understanding the relationships or "linkage" among land use, air quality, and transportation is a challenge for local jurisdictions in educating its citizenry about air quality issues. Explaining the cause-effect relationship of: (1) the land use pattern on transportation systems; (2) the transportation system on the land use pattern; and (3) the effects of these two factors on the area's air quality is fundamental to affecting individual decisions regarding transportation options and the location of housing and businesses.

Shasta County enjoys a reputation of having a major urban center (Redding metropolitan area) surrounded by an abundance of excellent rural living areas. However, the relatively low residential densities found in the County's rural residential and suburban residential designations are major contributors to perpetuating an auto-dependent lifestyle that is at odds with transportation policies and air quality goals.

Pollution from cars and trucks represents 37% of hydrocarbons emissions, 51% of nitrogen oxide emissions, and 57% of carbon monoxide emissions in the Sacramento Valley Air Basin.¹ Pollution from cars and trucks represents 38% of hydrocarbons emissions, 53% of nitrogen oxide emissions and 68% of carbon monoxide emissions in California.² By 2005, California's population may increase 26%, yet car ownership is projected to increase 33%, fuel use 38%, vehicle miles traveled (VMT) 51% and congestion 200%.³ In many instances, local land use and zoning practices perpetuate reliance on the automobile as the primary mode choice. To change the composition in the land use, mobility, and air quality equation to comply with more stringent air quality standards, the County must accomplish reductions in vehicle miles traveled and vehicle trip lengths. A 1990 study comparing travel behaviors in several neighborhoods located in the San Francisco Bay area concluded that for each doubling of density, the average vehicle miles traveled per person each year is reduced by 25% to 30%.⁴

New innovative strategies to reduce travel demand need to be considered. Allowing and encouraging mixed use centers at major arterial intersections or transit stations, increasing residential densities allowed in the Suburban Residential and Urban Residential General Plan designations in areas served by transit, and promoting alternative modes choices for travel are among ways the County can address air quality impacts created by vehicles. Redesigning how employment and living areas are distributed by encouraging more favorable jobs-housing ratios can also assist in reducing air quality impacts created by new development.

Explaining the need for a balance between expectations of traditional lifestyles and the harsh realities of imminent State and Federal penalties for failing to comply with strict air quality regulations, therefore, is a priority for public information programs. Without such an effort, the County may be handicapped in its efforts to meet air quality goals.

Health Effects/Property Damage

Air quality that meets State and Federal standards is important in ensuring the long-term health of the County's citizens. Studies have shown that sustained exposure to high levels of ozone can cause a number of respiratory impacts, including cardiovascular disease. It can lead to significant damage to lung tissue. Children, senior citizens, and those individuals working or enjoying outdoor recreational activities are particularly susceptible to high levels of ozone.

Particulate matter, especially particles less than 10 microns in size, also presents a significant health threat to individuals. Particulate matter often bypasses the body's natural filtering system and penetrates deeper portions of the lung. Known effects of exposure to PM₁₀ are incidences of bronchial disease, coughing, and minor throat irritation. At higher exposures, particulate matter has

been associated with the aggravation of respiratory and cardiac diseases, increased lung infection, and death. Crop damage caused by air pollution is estimated to be \$300 million each year in California and up to \$5 billion nationwide.⁵ Plant damage is often evident in stunted growth or diminished yields. Among the recorded effects of air pollution on plants are flower and foliage discoloration; bloom failure; plant malformation; leaf, needle and fruit drop; and failure of fruit to ripen.

Regulatory Setting

Federal Laws

The Federal Air Quality Act of 1967 was originally adopted to create a national program to control automobile emissions and air pollution from stationary sources at both the local and State levels. In 1970, 1977, and 1990, amendments to the Clean Air Act (CAA) were passed to further define the role of the Federal government in regulating air pollution.

Among the amendments to the Federal CAA were requirements for individual states to develop new regulatory programs and establish time frames within which to attain new air quality standards. Included with these new requirements were tighter emission standards for vehicles and fuels.

Federal law known as Prevention of Significant Deterioration (PSD) applies in all areas of Shasta County and requires that measures be taken to prevent significant deterioration of air quality in regions where Federal air quality standards are being met. Another requirement of the PSD program is to protect air quality in areas such as national parks, wilderness, and recreation areas. In Shasta County, two such areas are subject to the PSD program: Lassen Volcanic National Park and Thousand Lakes Wilderness area.

State Laws

- California Clean Air Act of 1988

California actually started regulating air pollution in 1969 with the passage of the Mulford-Carrel Act. Subsequently, with the passage of the Federal CAA and its related amendments, California passed the California Clean Air Act (CCAA) of 1988. The CCAA established a legal mandate for local jurisdictions to meet State ambient air quality standards by the earliest possible date. It lists emission reduction programs for both stationary and mobile sources, especially automobiles. Ambient air standards are established for Ozone, Carbon Monoxide, Oxides of Nitrogen, Sulfur Dioxide, PM₁₀, and Lead. Shasta County is unclassified for Carbon Monoxide, Sulfur Dioxide, and Lead. The County is classified as a "Moderate" non-attainment ozone area with a goal set for attaining the State ambient air standard for ozone at the earliest practicable date.

The California Air Resources Board (CARB) is the primary air quality agency in the State. It has responsibility for developing and implementing motor vehicle pollution control programs and has oversight authority over California's air pollution control program. Among its responsibilities, the CARB prepares and disseminates information to local agencies in addition to coordinating responsibilities and regulations among the State's various air pollution control districts. Additionally, the CARB works directly with the Environmental Protection Agency (EPA) in coordinating overlapping Federal and State programs regulating air pollution. The CCAA requires local air districts to prepare plans to bring their areas into compliance with State air quality standards.

- Air Toxics "Hot Spots" Act

In 1990, the Air Toxics "Hot Spots" Information and Assessment Act was passed. This law sets a schedule for firms to submit emission inventories which quantify and characterize toxic air emissions. These toxic air inventories are reviewed by the air district and prioritized based on the proximity of the facility to possible receptors, the toxic nature of its emissions, and other factors. Facilities ranked as high priority according to an Air Resources Board protocol are required to perform a "health risk assessment." If the risk assessment indicates the presence or potential for a health threat, the facility is subject to immediate corrective action. This program is ongoing in that affected firms are required to submit updated emission inventories every four years.

- Motor Vehicle Registration Surcharge Funding Program

In 1993, the California Legislature amended the California Health and Safety Code, Division 26, Part 5, Chapter 7, Section 44220 et seq. through passage of Assembly Bill 2766. AB 2766 provides for the imposition of motor vehicle registration fees by air quality management districts to be used "... to reduce air pollution from motor vehicles and for related planning, monitoring, enforcement, and technical studies necessary for the implementation of the CCAA ..."

In 1993, the Shasta County Department of Resource Management (SCDRM) initiated the County's first agreement with the Shasta County Air Quality Management District (AQMD) under this program. The County received approximately \$50,000 to complete a series of tasks aimed at improving the County's air quality. It is expected that this program will be renewed annually and will focus on key issues that link air quality, land use, and circulation. This program can also serve as a catalyst in coordinating local efforts in meeting State and Federal air quality regulations.

Shasta County

- Air Quality Management District

The AQMD is designated by law to adopt and enforce regulations to achieve and maintain ambient air quality standards for ozone (O₃), carbon monoxide (CO), particulate matter (PM₁₀), and certain toxic air pollutants emitted by industrial and manufacturing sources.

Among its responsibilities is the development and administration of the County's Air Quality Attainment Plan (AQAP). The AQMD adopted an AQAP in September 1991 that is designed to work towards achieving the State ozone standard at the earliest practical date. The AQAP addresses air pollution controls for stationary, indirect, and area sources. Indirect sources are development projects which attract motor vehicle traffic. Area sources are small but numerous generators of air contaminants such as, but not limited to, consumer products and residential space heating.

The County's AQAP was updated in 1994, 1998, 2001, and 2004. The County could risk the possibility of being reclassified as a "serious" non-attainment area instead of the current "moderate" classification if adequate progress is not made in achieving the State ambient air standard for ozone.

- Regional Transportation Planning Agency

The Shasta County Regional Transportation Planning Agency (RTPA) is the entity responsible for areawide (Shasta County) transportation planning. This responsibility includes development and adoption of regional transportation goals, objectives, and policies which provide direction for transportation planning.

Each year, the RTPA must allocate funds from the Local Transportation Fund and State Transit Assistance Fund. The RTPA administers its transportation planning responsibilities in a manner that assures full compliance with the laws and guidelines prepared by the RTPA, Caltrans, and the Federal Department of Transportation (includes associated air quality concerns).

The Regional Transportation Plan's (RTP) overall goal is "... to provide for a safe, balanced, coordinated, and cost effective transportation system that conserves energy, preserves air quality, serves the needs of the local metropolitan area and region, and is consistent with and helps implement local agencies' General Plans."⁶ Among findings listed in its "Significant Needs Summary" are "Programs to reverse the deterioration of air quality in Shasta County to be further developed and implemented before the County becomes a Federal non-attainment area."⁷

The RTPA also functions as the Metropolitan Planning Organization. In this capacity, the RTPA coordinates the receipt and dissemination of Federal and State highway improvement funds for the County and its incorporated cities. It also addresses the performance of transportation plans relative to their contributions to improving air quality. Assessments are required periodically to determine if State and Federal air quality requirements are being met in a timely fashion.

Mitigation Measures and Implementation Program

Traditional air quality management strategies have focused on: (1) controlling new and existing stationary sources in the industrial and manufacturing sectors, and (2) reducing motor vehicles emissions. While these attempts have been considered effective, increases in the number of emission sources, particularly mobile sources, have nearly offset the modest gains realized. Hence, air quality in the County has not witnessed any significant improvements.

Feasible Strategies for Improving Air Quality

A number of elements can provide a platform from which the need to protect local air quality can be addressed. Included among these concepts are:

- Compact Development
- Residential Density
- Employment Density
- Clustered/Mixed Use Centers
- Infill Development
- Alternative Transportation Modes/Innovative Street Designs

Compact development can be achieved by a variety of means. Increasing residential density where infrastructure can be provided and integrating non-residential uses (i.e., commercial, office, industrial, etc.) through innovative site designs are several ways by which communities can make more efficient use of land and subsequently realize significant air quality benefits.

Residential density plays a key role in influencing impacts on air quality. The location of neighborhoods and numbers of dwelling units per acre relative to shopping, employment centers, and transit facilities is a critical element to realizing any air quality goals. The balance of these ingredients determines such factors as the use of automobiles, the length of trips to conduct daily activities, and the role walking and biking can play in the overall air quality strategy.

Employment density is tied to locational criteria and transportation corridors that can distribute employees, goods, and services in an efficient fashion. Policies and programs aimed at maximizing land use, particularly at key industrial and commercial locations can, among other benefits, promote air quality goals.

Clustered/Mixed use development centers reflect a new thinking in how land uses are arranged in the urban setting. Traditional ideologies of separating land uses need to give way to acceptance of benefits to be realized by systematically integrating various land uses guided by innovative performance and design criteria. Numerous examples of high quality developments throughout the country have proven this is an accepted practice that yields significant air quality benefits.

Infill development is closely associated with the previous discussions regarding mixed use, compact development, and residential densities. Vacant, under-utilized parcels within cities and rural community/town centers are prime candidates for complementing the goals of reducing traffic congestion and for contributing to efforts for improving air quality. Coupled with the potential for increasing residential densities along key transit corridors, this approach can prove valuable in implementing air quality policies.

Alternative transportation modes, coupled with support for new and innovative road and street designs can significantly aid the goal of improved air quality. This can be accomplished through a better understanding of how integrated circulation systems can provide a higher priority for accommodating pedestrian needs. This is a vital part of the overall transportation planning process.

Mobile/Indirect Source Review

The County's AQAP contains a blend of strategies that have been specifically designed to address air pollution problems created by stationary and mobile sources. Strategies for mobile sources include parking management, carpooling, road and traffic flow improvements, increased use of transit, bicycle/ pedestrian accessibility, and park and ride facilities. The success of these programs is closely linked to increasing efficient use of vehicles and finding desirable alternatives to use of the automobile.

Commuter travel produces one-quarter of the County's total transportation emissions. The objective of a Commuter Reduction Program is to reduce commuter vehicle miles traveled. Commuter reduction programs practiced in larger metropolitan areas involve developing more "air quality friendly" benefits with a favorable "jobs-housing" balance. Where people work relative to where they live significantly influences air quality.

For example, "cold start" emissions, resulting from vehicles that have not been driven for at least one hour, produce one-half of the total emissions from a vehicle trip two miles or shorter in length. Therefore, if the County and other local jurisdictions can succeed in reducing the number of vehicle miles traveled, particularly short trips to employment centers and shopping areas, it can make significant strides toward controlling exhaust emissions.

Indirect source review programs involve development projects which generate or indirectly attract sources creating mobile air emissions. Examples of such facilities are shopping centers, office complexes, and public employment centers. The objective of this measure is to reduce indirect sources of emissions from new or modified development projects by reducing the pollution volume or altering the critical time when emissions are released and have the most impact on air quality.

Finally, an important part of implementing the County's AQAP is development of public education/information programs describing air quality benefits associated with multi-modal transportation options. Through the combined efforts of the Air Quality Management District and the Community Education Section of the Department of Resource Management, a number of successful pilot programs have been initiated. Other programs are anticipated to respond to the need to persuade citizens to consider alternative methods of transportation that provide significant air quality benefits.

Land Use Impact Analysis Program

As part of an integrated effort to systematically tabulate discretionary permit applications, the Shasta County Planning Division has developed a Land Use Impact Analysis Program (LUIAP). Important among its features, the LUIAP strengthens the current permit processing system with an improved method to address environmental issues required by the California Environmental Quality Act (CEQA).

CEQA requires that public agencies take effective action in addressing potentially significant environmental impacts associated with a "project." Significant effects have been defined to include situations where a project "violates any ambient air quality standard, contributes substantially to an existing or projected air quality violation or exposes sensitive receptors to substantial pollutant concentrations."⁸ To prevent significant avoidable damage to the environment, CEQA requires changes in projects through use of alternatives or mitigation measures when a governmental agency finds the change to be feasible.

The lead agency must prepare or cause to be prepared an Environmental Impact Report (EIR) analyzing significant effects and suggesting feasible means, if any, of mitigating or avoiding them if it finds that there is substantial evidence that a project may produce potentially significant adverse environmental impacts.

Although significant impacts might occur as a result of a project, in some cases the project proponent can modify the project to eliminate all significant impacts or reduce them to a point where clearly no significant effect on the environment would occur. In those instances, the lead agency can satisfy its CEQA obligation by filing a "mitigated negative declaration."

Therefore, the LUIAP provides an opportunity to apply appropriate development conditions/mitigation measures including those which address potentially significant air quality impacts. It recognizes the correlation between land use and air quality and provides a comprehensive approach to assess these impacts.

Computer Modeling

A key feature of the revised environmental review process will be the SCDRM's use of the latest computer modeling strategies recommended by the AQMD. The SCDRM will use the County's CARB-approved URBEMIS computer model (or other recommended model) to evaluate potential air quality impacts. The URBEMIS model utilizes a computer program for quantifying emissions resulting from increased automobile traffic from new or modified land uses. The program evaluates the number of vehicle trips generated, vehicle miles traveled for each type of trip taken, and the associated air emissions. Output generated by the model will aid the County in preparing appropriate development conditions/mitigation measures addressing significant air quality impacts.

Included with this approach will be assessments for the following items:

- Potential air quality emissions exceeding Level "A" or Level "B" thresholds as established by the AQMD.
- The effectiveness of proposed emission offsets.
- PM₁₀ emissions from wood heating devices exceeding adopted AQMD thresholds.
- Potential emissions of toxic or hazardous air pollutants.
- Emission Thresholds and Mitigation Measures.

The AQMD has adopted air quality thresholds that will be used in conjunction with the Planning Division's use of the URBEMIS model. These thresholds are consistent with the New Source Review Rule 2:1 adopted by the Air Pollution Control Board in 1993 as required by the CCAA. The thresholds are listed in the following table.

TABLE AQ-4 AQMD AIR QUALITY EMISSION THRESHOLDS		
LEVEL "A" THRESHOLDS		
OXIDES OF NITROGEN (NO _x)	REACTIVE ORGANIC GASES (ROG)	INHALABLE PARTICULATE MATTER (PM ₁₀)
25 lbs. per day	25 lbs. per day	80 lbs. per day
LEVEL "B" THRESHOLDS		
137 lbs. per day	137 lbs. per day	137 lbs. per day
<p>Note: These thresholds will be applied during Shasta County Planning Division's CEQA review process.</p> <p>Source: Shasta County AQMD</p>		

In addition to these thresholds, the SCDRM will use a uniform method for applying mitigation measures which address air quality impacts. These mitigation measures are described as Standard Mitigation Measures (SMM) and Best Available Mitigation Measures (BAMM). Application of appropriate SMM and BAMM will be decided during the Shasta County Planning Division's (SCPD) environmental review process, prior to scheduling a project for public hearing.

As a part of this program, the County will also work toward establishing equity in resolving significant air quality impacts created by cumulative emissions. Part of this effort will be aimed at reducing the potential for larger projects to shoulder a disproportionate share of the burden for cumulative air quality impacts. The approach will attempt to balance or distribute the responsibility for mitigating cumulative impacts created by all projects and thus forestall the County's designation of a "Moderate" or "Serious" non-attainment status for Federal ozone standards.

The prescribed list of SMM will be applied to each discretionary application as part of an effort to reduce cumulative air quality impacts. Included as part of the initial project review process will be a requirement of all applicants to supply the SCPD with information that will aid in determining estimated emission totals.

This information will also be incorporated as part of an ongoing permit tracking system. This will augment the SCPD's monitoring program for assessing cumulative land use air quality impacts throughout the South Central Region as well as other areas of the County.

Also featured as part of this process will be use of the Shasta County Travel Demand Model (TDM). The TDM is managed by the City of Redding Public Works Department and is an important tool in congestion management/air quality analysis. The TDM is used in determining impacts created by projects that have a potential for generating 1500 vehicles per day (vpd) or more. The 1500 vpd threshold is also important for air quality analyses as this level has been identified as a critical benchmark for establishing and identifying a significance level for CEQA air quality review purposes.

The sequence for applying SMM and BMM is outlined below:

1. Apply SMM to all projects based on potential air quality impacts. This effort will help contribute to reducing cumulative impacts.
2. Apply SMM and appropriate BMM when a project exceeds Level "A" thresholds. The BMM will be applied to any project which exceeds Level "A" thresholds. The appropriate type and number of BMM applied to a project will be based on the unique characteristics of the project. BMM will be selected from a list of measures kept updated by the SCPD and the AQMD.
3. Apply SMM, BMM, and special BMM (when project exceeds Level "B" thresholds) based on their emission reduction potential to lower project emissions below Level "B" thresholds. The AQMD will advise the SCPD of the efficiency of proposed emission measures as part of the effort to reduce project emissions below Level "B" thresholds.
4. If application of the above procedures results in reducing project emissions below Level "B" thresholds, the project can proceed with an environmental determination of a Mitigated Negative Declaration assuming other project impacts do not require more extensive environmental review.
5. If project emissions cannot be reduced to below Level "B" thresholds, emission offsets will be required. The SCPD may seek the assistance of the AQMD regarding other efforts and measures that could be used to reduce unmitigated emissions exceeding the 137 lbs. per day. If, after applying the emissions offsets, the project emissions still exceed the Level "B" threshold, an EIR will be required before the project can be considered for action by the reviewing authority.

6.5.3 Objectives and Policies

The following section provides both reason and direction for statements which will influence actions and decisions involving land use, air quality, and transportation. As a result of this element, these activities will be guided by an awareness of concerns for impacts on air quality. This will provide opportunities by which new development can become a part of the County and, in so doing, contribute to the enhancement of its air quality.

The list of objectives and policies is not all-inclusive. The issues and concerns associated with air quality are far too broad and, in many cases, too complex. However, the following objectives and policies build upon the information presented not only in this element but in the other documents previously cited in addition to other air quality studies and programs.

The objectives have been arranged by subject matter. Within this framework, a series of policies are presented to achieve realization of the objective. Additional policies may be needed from time to time to respond to the growth dynamics in the County and to address changing requirements of laws affecting air quality. However, the framework presented here provides a useful strategy for evaluating land use changes and their associated impacts on air quality.

PUBLIC HEALTH

Objective

AQ-1 To protect and improve the County's air quality in accordance with Federal and State clean air laws in order to: (1) safeguard human health, and (2) minimize crop, plant, and property damage.

Policies

AQ-1a The County shall require builders/developers to limit fireplace installations in new development to low-emitting fireplaces conforming to a maximum emission limit of 7.5 grams per hour of total particulate matter by being equipped with a EPA-certified insert or by being individually certified to meet the above emission standard.

AQ-1b The County will encourage the development of local programs to minimize emissions from residential wood burning.

AQ-1c The County will work with the AQMD to develop standards to minimize exposure of the public to toxic air pollutant emissions and noxious odors from industrial, manufacturing, and processing facilities.

AQ-1d The County shall require residential development projects and projects categorized as sensitive receptors to be located an adequate distance from existing and potential sources of toxic emissions such as freeways, major arterial, industrial sites, and hazardous material locations.

AQ-1e The County shall require new air pollution point sources such as, but not limited to, industrial, manufacturing, and processing facilities to be located an adequate distance from residential areas and other sensitive receptors.

REGULATORY ACKNOWLEDGMENT/ENVIRONMENTAL ASSESSMENT

Objective

AQ-2 To meet the requirements of the: (1) Federal Clean Air Act, and (2) the California Clean Air Act as soon as feasible.

Policies

AQ-2a The County will cooperate with the AQMD, the California Air Resources Board, and the Regional Transportation Planning Agency in implementing programs designed to comply with provisions of Federal and State Clean Air Acts and the County's Air Quality Attainment Plan.

AQ-2b The County will work to accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the unincorporated portions of Shasta County.

AQ-2c Land use decisions, where feasible, should contribute to the improvement of air quality. New projects shall be required to reduce their respective air quality impacts to below levels of significance, or proceed as indicated in Policy AQ-2e.

- AQ-2d Shasta County shall ensure that air quality impacts identified during CEQA review are: (1) consistently and fairly mitigated, and (2) mitigation measures are feasible.
- AQ-2e Shasta County will cooperate with the AQMD in assuring that new projects with stationary sources of emissions of non-attainment pollutants or their precursors that exceed 25 tons per year shall provide appropriate emission offsets. A comparable program which offsets indirect emissions of these pollutants exceeding 25 tons per year from development projects shall also be utilized to mitigate air pollution impacts. An Environmental Impact Report will be required for all projects that have unmitigated emissions of non-attainment pollutants exceeding 25 tons per year.
- AQ-2f Shasta County shall require appropriate Standard Mitigation Measures and Best Available Mitigation Measures on all discretionary land use applications as recommended by the AQMD in order to mitigate both direct and indirect emissions of non-attainment pollutants.
- AQ-2g Significance thresholds as proposed by the AQMD for emissions shall be utilized when appropriate for: (1) Reactive Organic Gases (ROG) and Oxides of Nitrogen (NO_x), both of which are precursors of ozone, and (2) inhalable particulate matter (PM₁₀) in determining mitigation of air quality impacts.
- AQ-2h Shasta County shall evaluate AQMD data annually to determine if the air quality impacts of development projects that may be insignificant by themselves are cumulatively significant.
- AQ-2i The County, in cooperation with the Cities of Redding, Anderson, and Shasta Lake and the AQMD, should develop an air quality impact analysis program to annually monitor and report the cumulative emissions from all new discretionary permits. This process will aid decision-makers in implementing effective and equitable mitigation measures.
- AQ-2j The County shall work toward measures to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

LAND USE/TRANSPORTATION/AIR QUALITY

Objective

- AQ-3 To integrate air quality, land use, housing, transportation, and energy planning efforts to achieve the most efficient use of public resources and to create a healthier and more livable environment through reductions in air pollution contaminants.

Policies

- AQ-3a The County shall consider potential air quality impacts when planning the land uses and transportation systems needed to accommodate expected growth.
- AQ-3b The County shall work towards creating a land use pattern that encourages people to walk, bicycle, or use public transit for a significant number of their daily trips.
- AQ-3c The County shall encourage projects proposing pedestrian- or transit-oriented designs at suitable locations.

- AQ-3d The County shall work to preserve and enhance existing neighborhood and commercial districts having transit-oriented and pedestrian-oriented designs.
- AQ-3e The County shall encourage the development of pedestrian-oriented shopping areas within walking distance of residential neighborhoods.
- AQ-3f Existing town centers and rural community centers should be recognized among the primary pedestrian-oriented commercial and service centers as major contributors in promoting air quality goals in the unincorporated portions of the County.
- AQ-3g The County will encourage mixed use developments at appropriate locations that provide commercial services such as day care centers, restaurants, banks and stores near employment centers.
- AQ-3h The County will encourage higher residential densities in areas served by the full range of urban services.
- AQ-3i The County will encourage infill of vacant parcels in town centers and rural community centers through promotion of such concepts as mixed land use and planned developments particularly where they have the potential to contribute to reducing significant adverse air quality impacts and not adversely affect existing development.
- AQ-3j The County will encourage infill and redevelopment projects within urban and suburban areas that will improve the effectiveness of the transit system and not adversely affect existing development.

TRANSIT

Objective

- AQ-4 To reduce traffic congestion, vehicle trips, vehicle miles traveled, and increase average vehicle ridership through more efficient use of infrastructure and support for trip reduction programs.

Policies

- AQ-4a All County proposals and programs for transportation improvement projects to be included in regional transportation plans shall be consistent with the air quality objectives and policies of the General Plan.
- AQ-4b The County's development standards shall require the paving of roads as a part of new development permits to the extent necessary to meet access and air quality objectives. These requirements shall be designed to help mitigate potentially significant adverse air quality impacts created by particulate emissions on both an individual and cumulative basis.
- AQ-4c The County will encourage and publicize the use of public transit; ridesharing and van pooling; shortened and combined motor vehicle trips for work, shopping and services; use of bicycles; "pedestrian friendly" design criteria and walking.
- AQ-4d The County will work with local transit providers and Caltrans to plan park and ride lots at suitable locations servicing long distance and local commuters.

- AQ-4e The County should work toward development of plans for multi-modal transfer sites that incorporate auto parking areas, bike parking, transit, pedestrian and bicycle paths, and park and ride pick-up points.
- AQ-4f The County shall consult as appropriate with transit providers to determine potentially significant project impacts on long-range transit plans to ensure that impacts are adequately mitigated.
- AQ-4g The County will work with Caltrans and the Regional Transportation Planning Agency to minimize the air quality, mobility, and social impacts of large scale transportation projects on existing neighborhoods and communities.

COORDINATION/COOPERATION

Objective

- AQ-5 To coordinate the County's air quality program with regional programs as well as those of other local agencies.

Policies

- AQ-5a Shasta County will work together with its incorporated cities plus other affected agencies to coordinate air quality programs and implementation measures to address mutual air quality and transportation related issues of local and/or regional significance.
- AQ-5b The SCDRM will consult with the AQMD, where appropriate, when conducting CEQA reviews for all discretionary development applications.

SITE DESIGN

Objective

- AQ-6 To promote site designs that encourage walking, cycling, and transit use.

Policies

- AQ-6a The County shall encourage project sites designed to increase the convenience, safety, and comfort of people using transit, walking, or cycling.
- AQ-6b The County shall review all subdivision street and lot designs, commercial site plans and multi-family site plans to identify design changes that can improve access by transit, bicycle, or walking.

PUBLIC EDUCATION

Objective

- AQ-7 To educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality.

Policy

AQ-7a The County shall work to improve the public's understanding of the interrelationships between land use, transportation, and air quality.

ENERGY

Objective

AQ-8 To reduce emissions related to energy consumption and area sources.

Policies

AQ-8a The County will encourage new development projects to reduce air quality impacts from area sources and energy consumption requirements for heating and cooling.

AQ-8b The County will encourage use of energy conservation features and low-emission equipment for all new residential and commercial development.

Revised edition of the Air Quality Element, GPA 3-95, approved by Board of Supervisors May 9, 1995, by Resolution 95-90

Footnotes:

1. California Air Resources Board, The 2003 California Almanac of Emissions and Air Quality, 2000 data.
2. California Energy Commission, "Land Use and Transportation Planning Opportunities, Energy Aware Guide, January, 1993.
3. loc. cit.
4. Parker, p. 7.
5. Bay Area Air Quality Management District, 1993 Air Quality Handbook San Francisco, 1993, p. 14.
6. Shasta County Regional Transportation Agency, Regional Transportation Plan for Shasta County, Redding, Ca., December 1993, p. 1-1.
7. loc. cit.
8. Michael H. Remy, Tina A. Thomas, James G. Moose and William Yeates, Guide to California Environmental Quality Act, 7th ed., Solano Press Books, Point Arena, Ca., 1993, p. 724.