

CHAPTER 8.0

AIR QUALITY

8.1 INTRODUCTION

State planning law does not presently require an Air Quality Element within a General Plan, it is considered an optional element. Once adopted, an optional element has the same force and effects and is as legally binding as any mandatory element, as stipulated in Government Code Section 65303, as follows:

"The general plan may include any other elements or address any other subjects which, in the judgement of the legislative body, relate to the physical development of the county or city."

As addressed in further detail in the ensuing discussion, the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) jointly prepared the Air Quality Management Plan (AQMP) in 1989. The AQMP calls upon local governments to achieve an 8% reduction regionwide in emissions from reactive organic gases and oxides of nitrogen. Specifically, local governments are asked to implement appropriate control measures contained in the AQMP to achieve this reduction. Several measures direct local government to adopt an Air Quality Element or its equivalent into its General Plan.

Regulatory Framework

The Federal Clean Air Act, promulgated in 1970 and amended twice thereafter (including the recent 1990 amendment), establishes the framework for modern air pollution control. The Act directs the Environmental Protection Agency (EPA) to establish ambient air standards for six pollutants: Ozone, Carbon Monoxide, Lead, Nitrogen Dioxide, Particulate Matter and Sulphur Dioxide. The standards (NAAQS) are divided into primary and secondary standards; the former are set to protect human health

within an adequate margin of safety and the latter to protect environmental values such as plant and animal life.

Sources of emissions can be divided into two major categories: stationary sources and mobile sources. Stationary sources are made up of industrial, manufacturing, commercial, residential and service land use activities, while mobile sources are made up of on-road and other mobile sources. Of the two major emissions sources, mobile sources are the largest contributor to air quality degradation.

According to the Act, states are required to submit a State Implementation Plan (SIP) for areas that exceed the NAAQS, or nonattainment areas. The SIP, which is reviewed and approved by the EPA, must demonstrate how federal standards will be achieved. Failure to submit a plan or secure approval could lead to denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. In cases where the SIP is submitted but fails to demonstrate achievement of the standards, the EPA is directed to prepare a Federal Implementation Plan.

With the aim of complying with all federal standards by 2007, the SCAQMD and the Southern California Association of Governments (SCAG) jointly prepared the 1989 Air Quality Management Plan (AQMP). The Plan, which is discussed in greater detail in the following paragraphs, calls for the implementation of rules and regulations by the Air Resources Board, the SCAQMD, the EPA and local jurisdictions.

The AQMP calls upon local governments to achieve an 8% reduction regionwide in emissions from reactive organic gases and oxides of nitrogen. Specifically, local governments are asked to implement appropriate control measures contained in the AQMP to achieve this reduction. Several measures direct local government to adopt an Air Quality Element or its equivalent into its General Plan, and to include Growth Management policies.

If all of the applicable control measures are not implemented, the air quality standards cannot be achieved. In this event, the existing moratorium on the location of stationary sources in the basin will be continued and federal funding and other permits may be denied until the standards are met.

In an effort to comply with federal and state regulations, this element has incorporated many of the recommendations of the AQMP.

Air Quality Management Plan

The SCAQMD has responsibility for reducing pollution from stationary sources, and mobile sources, in the 1991 plan, as well as the legal authority to mandate necessary actions leading to improved air quality. The SCAQMD, in conjunction with the region's elected officials, have agreed on measures that are intended to bring the region into conformance with all Federal Clean Air Standards in 20 years. These measures are detailed in the AQMP adopted by SCAG and the SCAQMD in March, 1989.

When the AQMP was adopted, a number of issues and concerns remained regarding its implementation. In order to assure those issues would be addressed, the AQMP called for the formation of two task forces, one to deal with growth management and transportation issues, the other with socio-economic and public health impacts.

Growth Management and Transportation

The Growth Management and Transportation Task Force was therefore convened in June 1989 to provide recommendations that would foster implementation of the 1989 AQMP as well as recommend revisions to be incorporated into the 1991 Plan. (As mentioned previously, the California Clean Air Act requires adoption of the next plan by June 1991.) The Task Force, comprised of elected officials from City and County governments, representatives of transportation agencies, public and private

sector organizations and other public agencies, have met on a monthly basis to grapple with these issues. The following are highlights of the Task Force accomplishments:

- o Growth Management Plan (GMP) Implementation - The Task Force recommended that subregional Vehicle Miles Traveled (VMT) and congestion reduction targets be developed so that local governments have flexibility in how they achieve VMT reductions equivalent to those attributed to job/housing balance. The Task Force further recommended market incentive measures as primary means of implementing VMT/congestion reductions or job/housing balance.
- o Regional Mobility Plan - An institutional framework for inter-county regional transit to address the institutional hindrances to RMP Transit Element implementation was proposed by the Task Force. The Task Force proposed that funds generated through pricing mechanisms as a result of Propositions 111 and 118 could be invested in transit programs. The Task Force also recommended the completion of the emerging High Occupancy Vehicle (HOV) network should continue to receive high priority for RMP implementation, and that parking pricing strategies and other AQMP measures which encourage modified travel behavior needed to support transit objectives should be implemented uniformly within the subregions.
- o Market Incentives - The Task Force recommended that market incentive programs be utilized as primary mechanisms for implementing transportation demand management (TDM) measures in the AQMP. A joint SCAG/SCAQMD Public Outreach and Educational Program has been developed to facilitate local government participation in AQMP implementation. The Task Force

has also made recommendations regarding the development of AQMP Conformity Guidelines and Air Quality Element Guidelines. In addition, several recommendations have been made regarding plan implementation funding.

The Three-Tiered Approach

The AQMP sets forth a three-tiered approach to address the region's air quality problems. Starting with measures that rely upon existing technology in Tier One and graduating up to undeveloped technologies in Tiers Two and Three. Tier One primarily involves implementation of the Traffic Demand Management and Traffic Systems Management measures contained in the Regional Mobility Plan: carpooling, ridesharing, intersection improvements, transit, telecommunications, signal coordination, etc. Tiers Two and Three involve stricter controls of emissions from stationary sources, such as oil refineries, as well as stricter controls on small businesses (drycleaning) and domestic air pollutants (barbecues, gas-fueled lawn mowers, etc.).

For Tier One, covering the first five years (1989-1994), the following order of compliance is proposed:

1. All governmental agencies are to adopt regulations requiring employers and contractors to implement Tier One programs within the first year.
2. All cities and counties should adopt a Growth Management and Air Quality Element into their General Plans within the first year and a half. Through these Elements, action programs will be developed to further implement these measures.

3. Local Zoning, Business License, and Trip Reduction Ordinances are to be adopted to expand these measures to new and existing developments in the second and third year.
4. Intergovernmental Agreements should be developed as necessary to further implement certain measures.

Annual performance surveys will be prepared by SCAG. By the end of the fourth year, a cumulative review of local governments' performance will be prepared.

In the past, compliance with SCAG's plans has been entirely voluntary on the part of jurisdictions. However, since many of the SCAG proposals have been written into the full Air Quality Management Plan adopted by the SCAQMD, which has extensive enforcement powers, voluntary implementation of the measures may be the only means of forestalling mandatory compliance.

Regulation XV - Commuter Program

Regulation XV represents the SCAQMD's first step in implementing the Air Quality Management Plan. Also known as the "Commuter Program", Regulation XV requires that employers of more than 100 persons at any given work site develop a plan to require employees to reduce vehicle miles traveled to work. Depending upon the location site of the employer, Regulation XV sets forth three attainable target average vehicle riderships (AVR's) ranging from 1.3 to 1.75 people per vehicle.

All mandated employers must submit plans to include:

- o the current AVR
- o proposed measures to increase AVR
- o specific incentives that will be offered to employees
- o the name of a trained transportation coordinator who will be responsible for the implementation and ongoing success of an employer's Trip Reduction Plan.

Air Quality

The air quality in Orange County, and specifically Fountain Valley results from a unique combination of factors: air flow patterns and emission sources, both local and those located throughout the region. These factors result in some of the worst air quality in the nation.

Pollutants

Six major air pollutants are monitored by the AQMD: sulfur dioxide (SO₂), lead, ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO) and fine particulate matter (PM₁₀). With stringent controls imposed upon industry and leaded gasoline during the last ten years, sulfur dioxide and lead levels have been reduced to safe levels. However, the remaining four air pollutants still exceed safe levels.

The City of Fountain Valley is located within SCAQMD's Source Receptor Area 18, the designated monitoring station for Area 18 is Costa Mesa. The Costa Mesa Station does not measure particulate, lead, and sulphate emissions, these measurements are made at the Los Alamitos Station, Station 17. Measurements from both stations indicate that ozone is the air pollutant of primary concern in the area. Particulate samples taken over the last three years exceeded the State particulate standard 34% of the time. The State standard for carbon monoxide was not exceeded in the last three years, and the nitrogen dioxide standard was exceeded only once. See Table 8-1.

The most severe air pollution problem occurs adjacent to the San Diego Freeway (I-405). These areas along the freeway are subjected to high concentrations of carbon monoxide pollution. Typically, the most serious air pollution episodes occur in the late night or early morning hours when the winds have shifted and are blowing inland pollution back towards the ocean through the City. In these cases, high pollution levels can be expected to be evenly distributed throughout the City.

In addition, the South Coast Air Quality Management District (SCAQMD) identified two potential "toxic hot spots" within the City: Newport Adhesive and Composites at 17390 Mt. Cliffwood Circle and the Orange County Sanitation District Plant No. 1 at 10844 Ellis Avenue.

These facilities may pose a health risk and must submit a risk assessment to determine what, if any health risks exist to surrounding communities.

Goal

- 8.1 Air quality which meets the standards set by the State and Federal governments.

Policies

- 8.1.1 Coordinate with other jurisdictions in Orange County and the surrounding area to establish parallel air quality plans and implementation programs.
- 8.1.2 Achieve conformance with mandated pollution reduction plans, congestion management plans, and transportation demand management plans.
- 8.1.3 Promote the use of bus, rail, high occupancy vehicles and other forms of transit or telecommuting within the region in order to further reduce pollutants.
- 8.1.4 Cooperate with other jurisdictions in the South Coast Air Basin to reduce the number of vehicle trips, reduce vehicle miles traveled, and reduce traffic congestion.
- 8.1.5 Reduce polluting emissions through reduced energy consumption.

TABLE 8-1

Measured Air Quality Levels
Costa Mesa Air Quality Monitoring
Station

Pollutant	California Standard	National Standard	Year	Maximum Level	Days State Std. Exceeded
Ozone	0.10 ppm for 1 hr.	0.12 ppm for 1 hr.	1987	0.16	23
			1988	0.15	15
			1989	0.11*	2*
CO	20 ppm for 1 hr.	35 ppm for 1 hr.	1987	12	0
			1988	16	0
			1989	16*	0*
Particulates ¹	50 ug/m3 for 24 hrs.	150 ug/m3 for 24 hrs.	1987	163	21/59
			1988	132	15/57
			1989	138	21/55
NO ₂	0.25 ppm for 1 hr.	0.05 ppm annual avg.	1987	0.19	0
			1988	0.26	1
			1989	0.22*	0*

(1) The particulate standard for California was changed in 1984 to include only matter with an aerodynamic diameter of 10 micrometers or less (PM₁₀). Particulate levels were not monitored at the Costa Mesa Station. PM₁₀ levels for Area 17 are monitored at the Los Alamitos Station. Therefore, the particulate concentrations shown were taken at the Los Alamitos Station. Exceedances are shown as the number of samples exceeding the State standard per the number of samples taken.

* Less than 12 full months of data. May not be representative.

8.2 JOBS/HOUSING BALANCE

The jobs-housing balance has become a major planning and public policy issue in recent years within the region. The issue of jobs-housing balance has been incorporated into the SCAQMD's AQMP as part of a comprehensive effort to manage traffic congestion and air pollution. The concept of jobs-housing balance refers to the distribution of employment relative to the distribution of workers within a given geographical area. A community is considered "balanced" when these distributions are approximately equal. The concept implicitly assumes that workers will choose to work as close to their home as possible (or that workers choose homes as close to their job as possible). If a given area has a much greater concentration of employment than resident workers, workers must be attracted from other areas, leading to longer commutes. Similarly, if residents greatly outnumber job opportunities, they must seek jobs in more distant areas.

1988 SCAG Plan

Based on the 1988 SCAG Plan, most of the employment growth between now and 2010 is projected to occur in the highly urbanized areas while most of the increase in housing construction is projected to take place in the urbanizing regions of Riverside, San Bernardino, and southeast Orange County. This increasing job-housing imbalance can only intensify existing problems and further impact patterns of mobility and air quality, the distribution of tax revenues, the character of communities, productivity and socio-psychological well being of workers, and the general quality of life in the region. Hence, the issue of jobs-housing balance is of extreme importance.

SCAG recognizes that in terms of the ratio of total employment to total population, Orange County as a whole is forecast to become relatively balanced. However, it is quite likely

that this county will continue to have an imbalance in terms of actual residents and actual employees, resulting in continued high levels of commute both in and out of the County.

Ideally, a jobs-housing balance is to be reached by the year 2010 at the sub-regional level in Southern California. SCAG has outlined 24 sub-regions and jobs-housing ratios for 1984 and 2010. These current and projected ratios are summarized in Table 8-2 which notes a jobs-housing balance of 1.44 for the Northwest Orange County sub-region within which Fountain Valley is located.

TABLE 8-2

Jobs-Housing Balance for Selected Subregions

	1984	2110
Central Los Angeles	1.85	1.83
Santa Monica Bay	1.46	1.52
Northwest Orange County	1.34	1.44
Southeast Orange County	1.45	1.40
Long Beach/Downey	1.21	1.26
San Fernando Valley	1.28	1.26
Oxnard-Ventura	1.22	1.22

Source: Southern California Association of Governments, "Description of Methodology and Analysis of the Approved GMA-4 Modified Jobs-Housing Balance Forecast", July 13, 1988.

As of 1984, the City had a jobs-housing ratio of 1.04 and by 2010 is projected to have a ratio of 1.2 jobs per housing unit. This ratio is nearly ideal based on SCAG criteria. In summary, the City will have sufficient housing to accommodate the needs generated by jobs in Fountain Valley.

To further ensure that the jobs-housing distribution is attained, SCAG has proposed four alternative strategies:

- o Mitigation Strategy - Imposing on developers of public and private projects impact mitigation measures if proposals contribute to jobs-housing imbalance beyond allowable thresholds and allocation.

- o Regulatory Strategy - Setting limits on developments leading to jobs-housing imbalance.
- o Investment Strategy - Targeting or withholding of public financing to bring about targeted jobs-housing balance.
- o Market Adjustment Strategy - Facilitating housing, labor and transportation market trends leading to better jobs-housing balance.

Many of the actions suggested by SCAG suggest a combination of mitigation, regulation, market place modification, and investment incentive elements. Thus, for example, infrastructure funding is a public investment which also works as a market adjustment. Imposing exactions, besides affecting a development's financial package could also call for local or regional regulations to put in place a system for management and strategic investment of funds collected through exactions. Therefore, the difference between mitigation, market adjustment, regulatory and investment measures are a matter of relative emphasis.

SCAQMD

The SCAQMD realizes that the jobs-housing balance issue is controversial and not accepted by many of the local agencies. Since the focus of jobs-housing ratio is the reduction of VMT and associated emissions reductions, it is the VMT equivalent to the jobs-housing balance ratios that is the important indicator of GMP goal achievement, rather than the attainment of specific housing or job targets. SCAQMD is currently in the process of revising the AQMP and incorporating a goal of vehicle miles reduction as opposed to a goal of a jobs-housing ratio.

Goal

- 8.2 Maintain or improve the balance between jobs and housing in order to create a more efficient urban form, reduce vehicle miles traveled (VMT), and reduce traffic congestion.

Policies

- 8.2.1 Coordinate with surrounding jurisdictions to develop mutually acceptable approaches to improve and maintain a jobs/housing balance.
- 8.2.2 Promote the opportunities for human resource development.

