



AIR QUALITY ELEMENT
HUNTINGTON BEACH

STATUTORY REQUIREMENTS

In addition to the seven mandatory elements, other optional elements may be included in the City's General Plan. The California Government Code Section 65303 states:

The General Plan may include any other elements or address any other subjects which, in the judgment of the legislative body, relate to the physical development of the county or city.

Huntington Beach's Air Quality Element is just such an optional element. Once adopted, this element will have the same legal status as any of the mandatory elements. Additionally, other state requirements pertaining to the mandatory elements, such as internal consistency, also apply to the optional element.

TECHNICAL SYNOPSIS

A. CLIMATIC CONDITIONS

The City is located in the southern portion of the South Coast Air Basin, a 6,600 square mile basin encompassing all of Orange County, most of Los Angeles and Riverside Counties, and the western portion of San Bernardino County.

The topography and climate of southern California combine to make the Basin a high air pollution potential area. The high pressure zone restricts the movement of cooler air resulting in the formation of temperature inversions. When a persistent inversion layer is combined with sunlight and air pollutants, photochemical smog frequently occurs.

The closest weather station recording both temperature and precipitation is located in the Newport Beach Harbor about five miles southeast of the City. The average maximum and minimum temperatures are 67.4° Fahrenheit and 53.9° Fahrenheit, respectively. Precipitation at the Newport Beach Harbor station is recorded to occur primarily between November and April, with an average of 11.09 inches falling annually. The most representative wind monitoring station is located in Costa Mesa, about 4.5 miles southeast of the City. Winds at this location blow from the west about one-third of the year at an annual average speed of 3.3 miles per hour.

B. AIR POLLUTION

Air pollution forms from pollutants emitted from a) natural sources such as oil seeps, vegetation, or windblown dust, b) combustion, as occurs in automobile engines, c) evaporation of organic liquids, such as those used in coating and cleaning processes, or d) abrasion, as occurs between tires and roadways.

Per capita emissions have been reduced substantially in the Basin through 40 years of air quality controls. However, increases in the population over that time have made substantial overall emission reductions more difficult. Many pollution sources, such as automobiles, have been significantly controlled. However, increases in the number of sources, particularly those growing proportionately to population, reduce the potential air quality benefits of new controls.

C. CURRENT AIR QUALITY CONDITIONS

1. Regionally

With regard to current air quality conditions in the South Coast Air Basin, significant progress has been made in reducing ozone concentrations over the past decade. However, the Basin still exceeds the federal ozone standard far more frequently than any other area of the United States. During 1990, the state ozone standard was exceeded least frequently in the coastal areas and most frequently in the area extending from the eastern San Fernando Valley through the San Gabriel Valley into the Riverside-San Bernardino area and the adjacent mountains.

The number of days where the carbon monoxide standards were exceeded decreased substantially between the mid-'70s and the mid-'80s. After the mid-'80s, however, there was an increase in the number of days exceeding the carbon monoxide standard, followed by a decrease in 1990. The observed increase was probably due to increased vehicle miles traveled. In 1990, the carbon monoxide standards were exceeded only in Los Angeles and Orange Counties.

Concentrations of nitrogen dioxide decreased over the period 1976-1989. By 1990, exceedances of the federal standard were limited to one location in Los Angeles County, with the highest concentration four percent greater than the federal standard. In 1990, State PM₁₀ standards were frequently exceeded in all areas. The less stringent federal PM₁₀ standards were also exceeded in many areas. Though sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions in emissions of sulfur oxides are needed to attain compliance with standards for other pollutants (sulfate and PM₁₀).

Based upon National Ambient Air Quality Standards (NAAQS) criteria thresholds, specific geographic areas are classified under the Federal Clean Air Act as either an "attainment" or "non-attainment" area for each pollutant. The County of Orange is classified as a non-attainment area for ozone and carbon monoxide and an attainment area for nitrogen oxides, fine particulate matter, sulfur oxides and lead.

2. Locally

With regard to local air quality conditions, the closest air quality monitoring station operated by the South Coast Air Quality Management District (SCAQMD) is located in Costa Mesa. **Table AQ-1** presents carbon monoxide, ozone, nitrogen dioxide and sulfur dioxide concentrations. **Table AQ-1** indicates that the carbon monoxide standards were exceeded three days, ozone standards were exceeded three days, and nitrogen dioxide and sulfur dioxide standards were not exceeded in 1990.

The Costa Mesa Station did not measure PM₁₀ and total suspended particulates. The nearest station that measured these pollutants is Los Alamitos, located approximately 8 miles northwest of Huntington Beach. These measurements are listed in **Table AQ-2**.

TABLE AQ-1
 Selected Air Contaminants and Emission Comparisons

Photochemical Oxidant (O ₃)	Characteristics	Sources	Effects
	<p>The term "photochemical oxidant" can include several different pollutants, but consists primarily of ozone (more than 90 percent) and a group of chemicals called organic peroxy nitrates. Photochemical oxidants are created in the atmosphere rather than emitted directly into the air. Reactive organic gases, including hydrocarbons, and oxides of nitrogen are the emitted contaminants which participate in the reaction. Ozone is a pungent, colorless toxic gas which is produced by the photochemical process. Photochemical oxidant is a characteristic of southern California type smog, and reaches highest concentrations during the summer and early fall.</p>	<p>Photochemical smog is caused by complex atmospheric reactions involving oxides of nitrogen and reactive organic gases with ultraviolet energy from sunlight. Motor vehicles are the major source of oxides of nitrogen and reactive organic gases in the basin.</p>	<p>The common manifestations of oxidants are damage to vegetation and cracking of untreated rubber. Photochemical oxidants in high concentrations can also directly affect the lungs, causing respiratory irritation and possible changes in lung functions.</p>
Carbon Monoxide (CO)	<p>CO is a colorless, odorless, toxic gas produced through the incomplete combustion of fossil fuels. Concentrations are higher in winter when more fuel is burned and weather conditions favor the build-up of directly emitted contaminants.</p>	<p>The use of gasoline powered engines is the major source of this contaminant, with the automobiles being the primary contributor. However, various industrial processes also produce CO emissions through incomplete combustion of fossil fuels.</p>	<p>CO does not irritate the respiratory tract, however, it passes through the lungs directly into the blood stream and, by interfering with the transfer of oxygen, deprives sensitive tissues of oxygen.</p>

TABLE AQ-1 (Cont.)

Selected Air Contaminants and Emission Comparisons

Nitrogen Oxides (NO _x)	Characteristics	Sources	Effects
	<p>It primarily consists of nitric oxides (NO) (a colorless, odorless gas formed from atmospheric nitrogen and oxygen when petroleum combustion takes place under high temperatures and/or pressure) and nitrogen dioxide (NO₂) (a reddish-brown irritating gas formed by the combination of nitric oxide with oxygen).</p>	<p>High combustion temperatures cause nitrogen and oxygen to combine and form nitric oxide. Further reaction produces additional oxides of nitrogen. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Ships, railroads and aircraft are other significant emitters.</p>	<p>Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight, to form nitrogen dioxide and ozone. Nitrogen dioxide, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 210-mile visibility. NO_x is an important air pollutant in the region because it is a primary receptor of ultraviolet light which initiates the reactions producing photochemical smog. It will also react in the air to form nitrate particulates.</p>

TABLE AQ-1 (Cont.)

Selected Air Contaminants and Emission Comparisons

Characteristics	Sources	Effects
<p>Sulfur Dioxide (SO₂)</p> <p>SO₂ is a colorless, pungent, irritating gas formed primarily by the combustion of sulfur-containing fossil fuels. In humid atmospheres some of SO₂ may be changed to sulfur trioxide and sulfuric acid mist, with some of the latter eventually reacting with other materials to produce sulfate particulates.</p>	<p>This contaminant is the natural combustion product of sulfur or sulfur-containing fuels. Fuel combustion is the major source, while chemical plants, sulfur recovery plants, and metal processing are minor contributors.</p>	<p>SO₂ appears able to do still greater harm by injuring lung tissues. Sulfur oxides, in combination with moisture and oxygen, can yellow the leaves of plants, dissolve marble and eat away iron and steel. Sulfur oxides can also react to give sulfates which reduce visibility and cut down the light from the sun.</p>
<p>Particulates (TSP and PM₁₀)</p> <p>Atmospheric particulates are made up of finely divided solids or liquids such as soot, dust, aerosols, fumes and mists. About 90 percent by weight of the emitted particles are larger than 10 microns in diameter, but about 90 percent of the total number of particulates are less than 5 microns in diameter. The aerosols formed in the atmosphere, primarily sulfate and nitrate, are usually smaller than 1 micron. In areas close to major sources, particulate concentrations are generally higher in the winter, when more fuel is burned, and meteorological conditions favor the build-up of directly-emitted contaminants. However, in areas remote from major sources and subject to photochemical smog, particulate concentrations are higher during summer months.</p>	<p>Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photochemical reactions. Natural activities also put particulates into the atmosphere; wind-raised dust and ocean spray are two such sources of particulates.</p>	<p>In the respiratory tract very small particles of certain substances may produce injury by themselves, or may contain absorbed gases that are injurious. Suspended in the air, particulates of aerosol size can both scatter and absorb sunlight, producing haze and reducing visibility. They can also cause a wide range of damage to materials.</p>

TABLE AQ-1 (Cont.)

Selected Air Contaminants and Emission Comparisons

	Characteristics	Sources	Effects
<p>Hydrocarbons And Other Organic Gases (THC, CH₄, NMHC, AHC, NHC)</p>	<p>Any of the vast family of compounds consisting of hydrogen and carbon in various combinations are known as hydrocarbons. Fossil fuels are included in this group. Many hydrocarbon compounds are major air pollutants, and those which can be classified as olefins or aromatics are highly photochemically reactive. Atmospheric hydrocarbon concentrations are generally higher in winter because the reactive hydrocarbons react more slowly in the winter and meteorological conditions are more favorable to their accumulating in the atmosphere to higher concentration before producing photochemical oxidants.</p>	<p>Motor vehicles are a major source of anthropogenic hydrocarbons (AHC) in the basin. Other sources include evaporation of organic solvents and petroleum refining and marketing operations. Trees are the principal emitters of biogenic or natural hydrocarbons (NHC) (Chameides, 1988).</p>	<p>Certain hydrocarbons can damage plants by inhibiting growth and causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions which produce photochemical oxidants.</p>

TABLE AQ-2
 Ambient Air Quality Standards

Air Pollutant	Average Sampling Time	CALIFORNIA		FEDERAL		Method
		Concentration	Method	Primary	Secondary	
Oxidant	1 hour	0.10 ppm (200 mgm ⁻³)	Ultraviolet Photometry	-	-	-
Ozone	1 hour	0.9 ppm (180 mgm ⁻³)	Ultraviolet Photometry	0.12 ppm (235 mgm ⁻³)	0.12 ppm (235 mgm ⁻³)	Ethylene Chemiluminescence
Carbon Monoxide	8 hour	9 ppm (10 mgm ⁻³)	Non-dispersive Infrared	9 ppm (10 mgm ⁻³)	9 ppm (10 mgm ⁻³)	Non-dispersive Infrared
	1 hour	20 ppm (23 mgm ⁻³)	Spectroscopy (NDIR)	35 ppm (40 mgm ⁻³)	35 ppm (40 mgm ⁻³)	Spectroscopy (NDIR)
Nitrogen Dioxide	1 hour	0.25 ppm (470 mgm ⁻³)	Gas Phase Chemiluminescence	0.053 ppm (100 mgm ⁻³)	0.053 ppm (100 mgm ⁻³)	Gas Phase Chemiluminescence
Sulfur Dioxide	24 hour	0.053 ppm (131 mgm ⁻³)	Ultraviolet Fluorescence	0.03 ppm (80 mgm ⁻³)	-	Pararosaniline
	3 hour	-	-	0.14 ppm (365 mgm ⁻³)	0.53 ppm (1300 mgm ⁻³)	-
	1 hour	0.25 ppm (655 mgm ⁻³)	-	-	-	-
Total Suspended Particulate (TSP)	Annual Geometric Mean 24 hour	30 mg/m ³	-	-	60 mgm ⁻³	High Volume Sampling
	Annual Geometric Mean 24 hour	50 mgm ⁻³	-	150 mgm ⁻³	150 mgm ⁻³	-
Suspended Particulate Matter (PM ₁₀)	Annual Geometric Mean 24 hour	30 mgm ⁻³	Size segregated inlet high volume sampling	-	150 mgm ⁻³	Ethylene
		50 mgm ⁻³				

TABLE AO-2 (Cont.)

Air Pollutant	Average Sampling Time	CALIFORNIA		FEDERAL		
		Concentration	Method	Primary	Secondary	Method
Ethylene	8 hour 1 hour	0.10 ppm 0.50 ppm	-	-	-	-
Visibility Reducing Particles	8 hour (10 a.m. to 6 p.m. PST)	A sufficient amount of particles to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is <70%.	Measurements in accordance with ARB Method V.	-	-	-
Sulfates	24 hour	25 mgm ⁻³	Turbid imetric Barium sulfate	-	-	-
Lead	30 day Average Calendar Quarter	1.5 mgm ⁻³	High Volume Sampling X-ray Fluorescence	-	1.5 mgm ⁻³	High Volume Sampling Atomic absorption Spectrophotometry
Hydrogen Sulfide	1 hour	0.03 ppm (42 mgm ⁻³)	Cadmium Hydroxide Stractan	-	-	-
Vinyl Chloride (chloroethene)	24 hour	0.010 ppm (26 mgm ⁻³)	Tedlar Bag Collection Gas Chromatography	-	-	-

Source: SCAQMD, 1987, Title 40 CFR Parts 50-8.

D. AIR QUALITY REGULATION

The California Air Resources Board regulates mobile emissions and oversees the activities of County Air Pollution Control Districts (APCDs) and regional Air Quality Management Districts (AQMDs) in California. The SCAQMD is the regional agency empowered to regulate stationary sources in the South Coast Air Basin. The SCAQMD develops and enforces air quality rules and regulations in air quality planning, and operates the regional air quality monitoring network.

In response to the requirements of the Federal Clean Air Act Amendments of 1977, the State of California has formulated a State Implementation Plan (SIP). As a means of carrying out the SIP in the South Coast Air Basin, a Regional Air Quality Management Plan (AQMP) was approved by the SCAQMD in March, 1989. The AQMP establishes air pollution control strategies to lead the South Coast Air Basin into compliance with all Federal and California air quality standards. In the meantime, the California Legislature passed the California Clean Air Act (CCAA). The CCAA requires all non-attainment air basins to develop new attainment plans to meet federal and state air quality standards. The SCAQMD approved the 1991 AQMP in June 1992. The 1991 AQMP is based on the 1989 Plan and, in addition, addresses the requirements set forth by the CCAA.

E. CONTRIBUTING FACTORS

There are several air quality factors that need to be addressed by the City in order to help achieve the goals of the AQMP. These elements, which contribute to the quality of the region's ambient air, are discussed below.

1. Transportation

Transportation-related sources produce the largest amount of pollutant emissions in the Basin. Control of mobile pollutant emissions is essential in the effort to attain ambient air quality standards.

a. Regional Mobility and Growth

The Regional Mobility Plan (RMP) is the Federal and State required Regional Transportation Plan for the region. The RMP establishes the policies and actions to address the region's mobility issues. It was developed in coordination with the AQMP and the Growth Management Plan (GMP).

The RMP attempts to recapture and retain the transportation mobility levels of 1984 (observed during the Olympics) and reduce the significant transportation impacts on regional air quality. The region's air quality is largely dependent upon the number of vehicle trips and their lengths. The RMP estimates that vehicle miles traveled in the region will increase 68 percent and the average length (in miles) of a vehicle trip will increase 19 percent from 1985-2010 without implementation of the regional plans. The trip characteristics (i.e., number and length) for the region are strongly driven by the number of jobs located within a region in relation to the number of housing units supporting them, in addition to the configuration of local land uses.

The GMP, prepared by SCAG, promotes a concept of balancing job growth and housing production within various subregions of southern California as a means of addressing both air quality and transportation issues. It is through land use planning, that a balance between jobs and housing may benefit the Southern California region as whole through traffic congestion reduction and improved air quality. According to SCAG, a subregion with a Job/Housing Ratio (JHR) of 1.27 jobs per dwelling unit is considered balanced. Achieving this balance will ultimately improve the transportation network, and reduce miles traveled, commute time, and pollution emissions.

The City of Huntington Beach is located in SCAG's Northwest Orange subregion, which in 1984, had a JHR of 1.34. The Job¹/Housing² ratio for Huntington Beach in 1992 is estimated at 0.82. According to SCAG, Huntington Beach would be encouraged to increase the number of housing units to better balance the surrounding subregional "job-richness." However, Huntington Beach can have economic development and fulfill the intent of the GMP by providing jobs that match the income levels of its local community, thereby reducing vehicle miles traveled.

Essentially, if Huntington Beach plans to further imbalance the subregion by increasing its jobs, the City must demonstrate that a proportionally equivalent number of vehicle miles traveled will be reduced regionally in order to comply with the SCAQMD regulations, State and Federal laws, and to be consistent with regional plans (i.e., AQMP, RMP, GMP).

b. Demand Management

The City of Huntington Beach is both an origin and a destination for many vehicle trips in the Basin. Vehicular emissions, or non-stationary sources, account for approximately 99 percent of all emissions in Huntington Beach. Therefore, managing the demand of vehicular transportation is critical to controlling regional air quality.

Vehicle commuters need encouragement to change their mode of travel, principally away from single occupant auto use, to change their travel time-of-day, or to eliminate trips altogether in order to reduce overall vehicle emissions. In addition to trip length reductions resulting from the job/housing balance strategies contained in the GMP, the City of Huntington Beach needs to develop Transportation Demand Management (TDM) strategies that reduce vehicle trips through:

- Individual Trip Reductions - measures that reduce home-based trips through alternate work weeks and flex-times, telecommunications, and non-work trip reductions.
- Vehicle Trip Reductions - measures that replace single occupant trips by transit and ridesharing modes. This tactic includes parking management, employer ridesharing, vanpools and auto use restrictions.
- Peak Period Modification - measures that seek to reduce demand at peak periods so as not to exceed system capacity. These include flex-times and user fees.

¹ Employment estimates are based on data from the following sources: California State Employment Development Department, 1991 California Manufacturer's Register, 1982 and 1987 U.S. Census Business activity reports, and Economics Research Associates.

² Housing unit count is based on dwelling unit counts provided by the City of Huntington Beach Redevelopment Agency and by the October 1992 land use survey completed by Envicom Corporation.

Managing the demand for transportation can collectively lessen daily trips and miles traveled, particularly during peak periods. TDM strategies coupled with implementation measures of the AQMP can maintain healthy regional air quality levels despite economic growth in the region.

c. Regulation XV

Of particular importance is SCAQMD's Regulation XV, which deals with employer-sponsored trip reduction methods. Recently revised, the regulation now calls for all businesses with 100 or more employees to submit a transportation plan to SCAQMD, stating how the business intends to reduce vehicle trips to the work place and increase vehicle occupancy rates. As of July 7, 1996, the City of Huntington Beach had 23 businesses that are subject to this regulation.

2. Land Use

Huntington Beach's land use pattern, like much of Southern California, tends to separate jobs from housing, thereby encouraging dependency on vehicular travel. However, the GMP, as well as the County's Growth Management Legislation (Measure M), calls for local agencies to balance their land uses in a regional context to ensure the GMP's objectives.

The City of Huntington Beach has a generally balanced land use pattern; each residential use is located within three miles of a commercial land use. However, on a human scale, the community's land use pattern generally isolates uses and creates a heavy dependence upon the automobile. For example, commercial services are located sufficiently far away from residential neighborhoods so that a vehicle is still necessary to make a small shopping trip convenient. Second, adjacent commercial parcels commonly have physical barriers that create unnecessary trips by limiting pedestrian and vehicular access.

The City in its land use planning has a responsibility to maintain a jobs/housing balance and improve its spatial mix of land uses. Appropriate land use planning will provide for a potential reduction in trip lengths and quantities and thus reduce air pollution emissions.

3. Stationary Sources

Stationary sources, such as auto body shops, dry cleaners, oil production facilities, heavy manufacturers, a sewage treatment plant, and an Edison Generating Plant release significant quantities of pollutants into Huntington Beach's air.

a. Stationary Emitters

In Huntington Beach, Southern California Edison and Cal Resources were ranked as number 14 and 19 respectively on the SCAQMD's 1989 high emitters list for oxides of nitrogen. Cal Resources was ranked eighth on SCAQMD's 1989 worst emitters of reactive hydrocarbons list.

Emissions from stationary sources are also created indirectly when electricity is generated. If the Basin is to increasingly rely upon electricity as a less-polluting source of energy, there is a need for additional conservation efforts City-wide.

b. Particulates

Particulates and other emissions generated during grading and construction activities, and from oil extraction are considered to be significant stationary sources of air pollutants. The development of Huntington Beach's 427 vacant acres will also contribute emissions.

ISSUES

1. The City's traffic flow does not fully utilize the existing road system and is subject to unnecessary traffic delays. (*AQ 1.7.1*)
2. Vehicular trips are projected to increase by 40 percent from 1985-2010 without implementation of the AQMP and RMP. This increase will significantly affect the region's air quality. (*AQ 1.1.1, AQ 1.1.2, AQ 1.1.3, AQ 1.1.4, and AQ 1.1.5*)
3. Vehicle miles traveled in the region are projected to increase 68 percent and the average length (in miles) of a vehicle trip is expected to increase 19 percent from 1985-2010 without implementation of the AQMP and RMP. (*AQ 1.5.1, AQ 1.5.2, AQ 1.5.3, and AQ 1.5.4*)
4. The City has a dispersed land use pattern which separates jobs from housing, discourages pedestrian activity and increases dependency on vehicular travel. (*AQ 1.5.1, AQ 1.5.2, AQ 1.5.3, and AQ 1.5.4*)
5. Local construction, oil extraction, the use of unpaved roads and agricultural operations release a significant amount of particulate emissions within the City. (*AQ 1.8.1 and AQ 1.8.2*)
6. A future reliance on electricity as a less-polluting source of energy has placed a demand on the community for greater energy conservation efforts. (*AQ 1.10.1, AQ 1.10.2, and AQ 1.10.3*)

GOALS, OBJECTIVES, AND POLICIES

The following section presents the goals, objectives, and policies for Air Quality in the City of Huntington Beach. At the end of each policy is a listed "I" and number in parentheses which refers to a corresponding implementation programs. Responsible implementing agencies, implementation schedule, and possible funding sources are indicated on the Air Quality Implementation Matrix.

Goal

AQ 1

Improve regional air quality by a) decreasing reliance on single occupancy vehicular trips, b) increasing efficiency of transit, c) shortening vehicle trips through a more efficient jobs-housing balance and a more efficient land use pattern, and d) increasing energy efficiency.

Vehicle Work Trips

Objective

AQ 1.1

Reduce private sector and local governmental employee vehicle work trips by 30 percent by 2010 as required by the South Coast Air Quality Management District.

Policies

AQ 1.1.1

Encourage alternate work schedules (such as 9 day-80 hour work period and 4 day-40 hour work period) for all public and private sector businesses with 100 or more employees whose work day begins between 6 a.m. and 10 a.m. (I-AQ 1 and I-AQ 2)

AQ 1.1.2

Require all businesses and multiple tenant centers with 100 or more employees to participate in a Transit Management Association or Organization. (I-AQ 2)

AQ 1.1.3

Support regional, state and federal legislation that encourages the following:

- a. non-work trip reductions;

- b. financial institutions and their regulators to identify and offer services through telecommunications;
- c. educational institutions to offer home study courses;
- d. tax incentives for establishing work centers in housing-rich areas; and
- e. the use of alternative fueled vehicles. (I-AQ 3)

AQ 1.1.4

Encourage funding, research, implementation, and evaluation of telecommuting and teleconferencing activities. (I-AQ 3)

AQ 1.1.5

Encourage all new commercial, industrial, and residential structures to accommodate appropriate trip reducing activities such as alternative work schedules, on-site day-care facilities, on-site automated teller machines, "mail-in" applications, or telecommuting and/or teleconferencing facilities as technology becomes available. (I-AQ 1 and I-AQ 2)

Transit Trips

Objective

AQ 1.2

Increase the proportion of vehicle work trips made by transit from 5.1 percent in 1984 to 19.3 percent in 2010, and increase the proportion of nonwork trips made by transit from 1.4 percent in 1984 to 3.8 percent in 2010, as required by South Coast Air Quality Management District.

Policies

AQ 1.2.1

Work with OCTD to expand the local transit service area and provide more frequent service to the City of Huntington Beach, particularly express service to Long Beach, downtown Los Angeles, Irvine Business Center (IBC), and Irvine Spectrum areas. (I-AQ 4)

AQ 1.2.2

Require developers of employment centers with 100 or more employees and major activity centers to include transit amenities and transit access as an integrated part of their projects. (I-AQ 1 and I-AQ 4)

AQ 1.2.3

Encourage property owners in existing employment and activity centers (such as the Pier, Downtown, Huntington Beach Mall) to include transit amenities at their sites when these projects apply for additional planning permits or services. *(I-AQ 1 and I-AQ 4)*

AQ 1.2.4

Encourage major commercial and industrial development projects located along transit routes to include integrated transit access points in the project design. *(I-AQ 1)*

AQ 1.2.5

Encourage senior citizen service providers to provide shuttle services. *(I-AQ 1 and I-AQ 4)*

Carpool and Vanpool Trips

Objective

AQ 1.3

Increase the number of carpools with 3 or more persons by 30 percent above 1984 levels, and decrease other work-related trips by 5 percent due to the formation of vanpools by 1995, and divert 32 percent of single occupant automobile trips to carpool of 2 or more persons by 2000 as required by the South Coast Air Quality Management District.

Policies

AQ 1.3.1

Support the passage of vanpool tax credit legislation, including granting tax exempt status for compensation received for specific ridesharing programs, allowing tax deductions for employees who rideshare, and special tax credits for electric vanpools and clean-fuel vans. *(I-AQ 3)*

AQ 1.3.2

Require that employment centers with 100 or more employees increase the availability and the "attractiveness" of parking spaces for vans and carpools. *(I-AQ 1)*

AQ 1.3.3

Encourage those firms that offer alternative schedule work weeks to also offer additional work schedule incentives to employees who carpool. *(I-AQ 2)*

AQ 1.3.4

Encourage the provision of carpool parking facilities by business and other uses that have underutilized parking facilities and are located near the San Diego Freeway. *(I-AQ 1 and I-AQ 4)*

Truck Trips

Objective

AQ 1.4

Reduce the number of truck trips during daily peak travel periods.

Policy

AQ 1.4.1

Determine the feasibility of adopting an ordinance that limits truck traffic during peak travel hours. *(I-AQ 3)*

Vehicle Trip Distances

Objective

AQ 1.5

Reduce the number and shorten the distance of vehicle trips through sound land use planning, and improve the City's current 0.89 jobs/housing ratio.

Policies

AQ 1.5.1

Encourage residential and commercial growth to occur in and around existing activity centers and transportation corridors in accordance with the Land Use Plan Map (Figure LU-1). *(I-LU 1 and I-LU 4)*

AQ 1.5.2

Continue to encourage job growth by maintaining the supply of commercial and industrial designated land in accordance with the Land Use Map (Figure LU-1). *(I-LU 1 and I-LU 4)*

AQ 1.5.3

Encourage commercial-residential mixed use development in accordance with the Land Use Plan Map (Figure LU-1). *(I-LU 1 and I-LU 4)*

AQ 1.5.4

Encourage day-care facilities to be located at work sites with 100 or more employees. *(LU 10.1.2 and I-AQ 1)*

Bicycle/Walking Trips

Objective

AQ 1.6

Divert 2 percent of all trips of three miles or less to bicycle trips and 20 percent of all auto trips of 1/2 mile or less to walking trips.

Policies

AQ 1.6.1

Investigate the feasibility of providing new Class II bike lanes to encourage commuter bicycle trips. (*I-AQ 4 and I-CE 1*)

AQ 1.6.2

Continue to improve existing Class II bike lanes for safer bicycle travel. (*I-AQ 5*)

AQ 1.6.3

Encourage all new residential developments to incorporate pedestrian paths that link the projects with adjacent developments and transit access points. (*I-AQ 1*)

AQ 1.6.4

Encourage commercial developments to provide facilities for employees and patrons who bicycle to the sites. (*I-AQ 1*)

Vehicle Emissions

Objective

AQ 1.7

Reduce vehicle emissions through traffic flow improvements, and use of alternate fuel consuming vehicles.

Policies

AQ 1.7.1

Continue to implement the Growth Management Area No. 6 Traffic Signal Management Program and the Fuel Efficient Traffic Signal Management Program to synchronize Edinger Avenue, Warner Avenue, Adams Avenue, Bolsa Avenue, Golden West Street, Bolsa Chica Street, Brookhurst Street, and Magnolia Street. (*I-AQ 5*)

AQ 1.7.2

Synchronize all other traffic signals, when such technology becomes economically feasible. (*I-AQ 5*)

AQ 1.7.3

Support tax incentive legislation for the use and ownership of alternatively fueled vehicles. (*I-AQ 3*)

AQ 1.7.4

Support legislation that provides for research, development, and utilization of alternatively fueled vehicles for private passenger use. (*I-AQ 3*)

AQ 1.7.5

Encourage the provision of dedicated parking spaces with electrical outlets for electrical vehicles, when such technology becomes economically feasible. (*I-AQ 1*)

AQ 1.7.6

Convert city-owned vehicles to alternative fuels as it becomes economically and technically feasible. (*I-AQ 5*)

Particulate Emissions

Objective

AQ 1.8

Reduce particulate emissions from paved and unpaved roads, parking lots, and road and building construction by 50 percent by 2000 as required by Southern California Air Quality Management District.

Policies

AQ 1.8.1

Continue to enforce construction site guidelines that require truck operators to minimize particulate emission. (*I-AQ 1*)

AQ 1.8.2

Require installation of temporary construction facilities (such as wheel washers) and implementation of construction practices that minimize dirt and soil transfer onto public roadways. (*I-AQ 1*)

AQ 1.8.3

Encourage developers to maintain the natural topography, to the maximum extent possible, and limit the amount of land clearing, blasting, grading, and ground excavation operations needed for development. (I-AQ 1)

AQ 1.8.4

Work closely with utility and industrial companies, which operate such facilities as oil production facilities and electrical generation and transmission facilities, to review and assess facility impacts to the City of Huntington Beach and its residents and visitors. (I-AQ 1, I-AQ 4)

Sensitive Receptors

Objectives

AQ 1.9

Minimize sensitive uses (residential, hospitals, schools, etc.) exposure to toxic emissions.

Policies

AQ 1.9.1

Assure that sufficient buffer areas exist between a sensitive use and a potential toxic emission source. (I-AQ 1)

AQ 1.9.2

Require design features, operating procedures, preventative maintenance, operator training, and emergency response planning to prevent the release of toxic pollutants for applicable uses in all business parks, industrial parks, and industrial designated areas. (I-AQ 1)

Energy Conservation

Objective

AQ 1.10

Reduce the amount of energy consumed by commercial uses by 15 percent by 2000 and 30 percent by 2010. Reduce the amount of energy consumed by residential use by 4.5 percent by 1994 and 30 percent by 2010 as required by Southern California Air Quality Management District.

Policies

AQ 1.10.1

Continue to require the utilization and installation of energy conservation features in all new construction. (I-AQ 1)

AQ 1.10.2

Encourage the retrofitting of energy conservation devices in existing developments. (I-AQ 1)

AQ 1.10.3

Encourage energy use audits, and identify conservation measures, for all existing commercial and industrial structures. (I-AQ 4)

Interagency Coordination

Objective

AQ 1.11

Improve air quality in the South Coast Air Basin through inter-agency coordination.

Policy

AQ 1.11.1

Coordinate with SCAQMD, SCAG and other local, state, and national agencies in efforts to plan and implement clean air strategies for the South Coast Air Basin. (I-AQ 4 and I-LU 20)

Refuse Reduction

Objective

AQ 1.12

Utilizing source reduction, recycling, and other appropriate measures, reduce the amount of solid waste disposed in landfills by 50 percent by 2000 as required by Southern California Air Quality Management District.

Policy

AQ 1.12.1

Implement the City of Huntington Beach's Source Reduction and Recycling Element. (I-AQ 3)

IMPLEMENTATION PROGRAMS

I-AQ 1

Development Review

Through the development review process:

a. encourage (or require for businesses that meet the employee threshold):

- private and public sector employers to offer employees an altered work schedule;
 - the inclusion of onsite daycare facilities, automated teller machines, and other employee ancillary uses;
 - the installation of telecommuting facilities in all new developments;
 - businesses that have evening or weekend peak usage and are located near the San Diego Freeway to provide park-n-ride facilities;
 - installation of transit directories at new employment centers and major activity centers, and at existing employment centers when these projects apply for additional planning permits or services;
 - installation of “bus turnouts” and transit access points at new commercial and industrial developments along existing and planned transit routes;
 - carpool and vanpool parking spaces to be located near building entrances;
 - new residential projects to be linked to adjacent commercial areas and transit access points via pedestrian access ways;
 - the provision of lighted bicycle storage areas and amenities (such as showers, lockers, etc.) in new commercial developments;
- existing residential units and developments to install energy conservation features when these residential units and developments apply for additional planning permits or services;
 - the installation of electrical outlets at parking spaces designated for electrical vehicles;
 - the implementation of construction activity management techniques to be used when it can be objectively determined that they are needed. Such techniques may be used as follows:
 - extending the construction period in areas where impacts to noise sensitive uses, such as hospitals, schools, and residential uses, are not present;
 - reducing the number of equipment pieces being used simultaneously;
 - increasing the distance between emission sources;
 - reducing the number of hours of construction during peak traffic times (8:00 AM and 5:00 PM) or changing hours of construction to off-peak traffic times;
 - suspending major grading operations during first and second stage smog alerts;
 - using low-sulfur fuel;
 - using existing power sources (i.e., use temporary power poles) and avoiding on-site power generation;
 - suspending all grading operations when wind speeds exceed 25 miles per hour;

- implementing a trip reduction plan for construction employees on large scale projects;
 - implementing or contributing to an urban tree planting program to offset the loss of existing trees at a construction site on large scale projects;
 - developing a traffic plan to minimize traffic flow interference from construction activities on large scale projects.
 - installing energy conservation features in new developments;
 - spreading soil binders on unpaved construction roads and parking areas on large scale projects;
 - covering truck loads containing soil, dirt, sand or other emissive materials;
 - installing wheel washers and other barriers to prevent transporting of soil onto public rights-of-way;
 - limiting speed on all unpaved road surfaces of 15 miles per hour or less;
 - buffering sensitive uses from potential toxic sources; and
 - requiring business parks and industrial parks submit hazardous material plans for approval.
- b. establish standards for the appropriate number and location of parking spaces designated for vans and carpools.
- c. review any proposed new utility facilities, relocations, or expansions or existing facilities for compliance with applicable development standards for potential impacts.

I-AQ 2
Business Licenses

Through the business license process:

- a. require, as appropriate, single employers and multiple tenant center employers with 100 or more employees to join Transit Management Association and Transit Management Organizations; and
- b. encourage employers to offer Mondays and Fridays off in lieu of mid-week days for those employees who work 4/40 work periods or 9/80 work periods.

I-AQ 3
Ordinances/Resolutions

The City shall:

- a. consider adopting a resolution that lends the City's support for regional and state air quality improvement measures;
- b. implement solid waste management and recycling measures through the Source Reduction Recycling Element's programs;
- c. conduct a study to determine the appropriateness of adopting a truck travel ordinance. If determined appropriate, adopt such ordinance; and
- d. consider adopting incentive programs for private employers to utilize appropriate trip reduction strategies such as telecommuting and teleconferencing.

I-AQ 4
Interagency Coordination

- a. Coordinate with OCTD to implement route extensions, new routes, transit directories, and increased headways and bus frequencies.
- b. Coordinate with Southern California Edison Company to require and audit energy usage at existing and new developments.

- c. Work with regional and state agencies to develop and implement clean air policies and programs.
- d. Coordinate with Caltrans to provide park-n-ride facility information to local property owners.
- e. Coordinate with developers of senior housing projects and with senior service providers to establish shuttle or other type of transportation services for their residents and clients.

I-AQ 5

Operational Programs

- a. Continue to implement traffic synchronization programs toward traffic flow improvements.
- b. Continue to seek signal synchronization grants.
- c. Establish fee programs to fund the synchronization.
- d. Implement and enforce construction site guidelines through on-site inspection procedures.
- e. Continue to repair potholes, acquire right-of-way, and stripe bike lanes.
- f. Establish a program to convert city-owned vehicles to alternative fuels.

No.	Name	ADMINISTRATION													SCHEDULE							
		Community Development Department	Community Services Department	Economic Development Department	Fire Department	Library Services Department	Police Department	Public Works	Planning Commission	City Council	School Districts	County of Orange	Other	General Funds		Assessment Districts	Development Fees	Redevelopment Tax Increment Revenue	Grants	Other Approved Fees	State Funds	Federal Funds
PROGRAM		CITY OF HUNTINGTON BEACH													CITY OF HUNTINGTON BEACH		SCHEDULE					
PROGRAM		RESPONSIBLE AGENCY													FUNDING SOURCE		SCHEDULE					
AQ-1	Development Review	•						•	•					•								Ongoing *
AQ-2	Business Licenses	•												•	•							Ongoing *
AQ-3	Ordinances / Resolutions	•						•	•					•								Ongoing *
AQ-4	Interagency Coordination	•						•	•			•	•	•								Ongoing *
AQ-5	Operational Programs	•					•							•			•	•	•	•		Ongoing *

* As funding permits