

4.4 AIR QUALITY

This Section evaluates air quality associated with short-and long-term impacts resulting from buildout of the Proposed General Plan Update. Information in this Section is based primarily on the *CEQA Air Quality Handbook*, prepared by the South Coast Air Quality Management District (SCAQMD), April 1993 (as revised through November 1993), Air Quality Data (SCAQMD 1994 through 1998); and the SCAQMD *Final Air Quality Management Plan* (January 1997).

4.4.1 ENVIRONMENTAL SETTING

SOUTH COAST AIR BASIN

The City of Cypress is located in the South Coast Air Basin (Basin), characterized as having a "Mediterranean" climate (a semi-arid environment with mild winters, warm summers and moderate rainfall). The Basin is a 6,600-square mile area bounded by the Pacific Ocean to the west and south and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Geronio Pass area in Riverside County. Its terrain and geographical location determine the distinctive climate of the Basin, as the Basin is a coastal plain with connecting broad valleys and low hills.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

CLIMATE

Moderate temperatures and comfortable humidities characterize the climate with precipitation limited to a few storms during the winter season (November through April). The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit. However, with a less pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100 degrees in recent years. January is usually the coldest month at all locations while July and August are usually the hottest months of the year. Although the Basin has a semi-arid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by off-shore winds, the ocean effect is dominant. Periods with heavy fog are frequent; and low stratus clouds, occasionally referred to as "high fog" are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation is typically 9 to 14 inches annually in the Basin and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

WIND

One of the most important climatic factors is the direction and intensity of the prevailing winds. With very light average wind speeds (five to seven miles per hour), the Basin has a limited capability to disperse air contaminants horizontally. Typically, the net transport of air on-shore is greater in the summer, while the net off-shore transport is greater in the winter. Whether there is air movement or stagnation during the morning and evening hours (before these dominant patterns take effect) is one of the critical factors in determining the smog situation on any given day.

Cypress's location with respect to these flow patterns and the Pacific Ocean results in relatively good air quality. For the most part, the on-shore winds transport pollutants inland. Since the night drainage winds are less intense, only a limited amount of this pollution is returned to the coastal areas during the summer, leaving a significant amount of pollutants in the inland areas.

SUNLIGHT

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original, or "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources. Because of the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California. However, Cypress and other cities that are moderately close in proximity to the coast are not exempt on those days with early morning easterly winds.

TEMPERATURE INVERSIONS

A temperature inversion is a reversal in the normal decrease of temperature as altitude increases. In most parts of the country, air near ground level is warmer than the air above it. However, Southern California's daily summertime sunshine and high barometric pressure reverse that pattern, creating warmer air at high elevations which trap pollutants by preventing cooler air from rising to the upper atmosphere. The height of the base of the inversion is known as the "mixing height" and controls the volume of air available for the mixing and dispersion of air pollutants.

The interrelationship of air pollutants and climatic factors are most critical on days of greatly reduced atmospheric ventilation. On days such as these, air pollutants accumulate because of the simultaneous occurrence of three unfavorable factors: low inversions, low maximum mixing heights and low wind speeds. Although these conditions may occur throughout the year, the months of July, August, and September generally account for more than 40 percent of these occurrences.

The potential for high contaminant levels varies seasonally for many contaminants. During late spring, summer and early fall, light winds, low mixing heights and sunshine combine to produce conditions favorable for the maximum production of oxidants, mainly ozone. When fairly deep marine layers frequent the Air Basin during spring and summer, sulfate concentrations achieve yearly peak concentrations. When strong surface inversions are formed on winter nights, especially during the hours before sunrise, coupled with near-calm winds, carbon monoxide from automobile exhausts becomes highly concentrated. The highest yearly concentrations of carbon monoxide, oxides of nitrogen and nitrates are measured during November, December and January.

RAINFALL

Winter storms that bring rainfall benefit air quality, since they tend to "scrub" gaseous or particulate pollutants from the air.

AMBIENT AIR QUALITY STANDARDS

AIR QUALITY STANDARDS

Ambient air quality is described in terms of compliance with Federal and State standards. Ambient air quality standards are the levels of air pollutant concentration considered safe to protect the public health and welfare. They are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. National Ambient Air Quality Standards (NAAQS) were established by the United States (U.S.) Environmental Protection Agency (EPA) in 1971 for six air pollutants. States have the option of adding other pollutants, to require more stringent compliance, or to include different exposure periods. California Ambient Air Quality Standards (CAAQS) for these pollutants and NAAQS are included in Table 4.4-1, *Local Air Quality Levels for Source Receptor Area 18*.

The California Air Resource Board (CARB) is required to designate areas of the State as attainment, non-attainment, or unclassified for any State standard. An "attainment" designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A "non-attainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that the data does not support either an attainment or non-attainment status.

State and Federal ambient air quality standards have been established for the following pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), fine particulate matter (PM₁₀) and lead. For some of these pollutants, notably O₃ and PM₁₀, the State standards are more stringent than the Federal standards. The State has also established ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride and particulate matter. The above-mentioned pollutants are generally known as "criteria pollutants."

The U.S. EPA in 1997 announced new ambient air quality standards for O₃ and PM₁₀. The new standards were intended to provide greater protection of public health. EPA proposed to phase out the 1-hour O₃ standard and replace it with an 8-hour standard. With respect to PM₁₀, EPA proposed a new standard for the smaller particles, PM_{2.5}, or particulates less than 2.5 microns in diameter. The new PM_{2.5} standards included an annual standard and a 24-hour standard.¹ Following announcement of the new national standards, the SCAQMD began collecting monitoring data to determine the region's attainment status with respect to the new standards. Industry groups challenged the new standards in court, but as of December 2000, the status of the new standards was uncertain. A ruling from the U.S. Supreme Court on this matter is expected in Spring 2001.

¹ There are two new Federal PM_{2.5} standards: a 24-hour limit set at 65 micrograms per cubic meter (mg/m³) of ambient air and an annual average limit set at 15 mg/m³. The current PM₁₀ standards will be retained. Areas will be considered in attainment for the annual PM_{2.5} standard when the three-year average of the annual arithmetic mean is equal to or less than 15mg/m³. For the new 24-hour standard, attainment will be based on the 98th percentile of PM_{2.5} concentrations for each year, averaged over three years, to help compensate for any high concentrations that may be due to unusual meteorological conditions.

**Table 4.4-1
LOCAL AIR QUALITY LEVELS FOR SOURCE RECEPTOR AREA 17**

Pollutant	California Standard	Federal Primary Standard	Year	Maximum ¹ Concentration	Days (Samples) State/Federal Std. Exceeded
Carbon Monoxide	9.0 ppm for 8 hour	9.0 ppm for 8 hour	1995	7.97	0/0
			1996	7.41	0/0
			1997	5.98	0/0
			1998	5.26	0/0
			1999	5.34	0/0
Ozone	0.09 ppm for 1 hour	0.12 ppm for 1 hour	1995	.133	19/2
			1996	.127	9/1
			1997	.098	1/0
			1998	.140	10/2
			1999	.098	1/0
Nitrogen Dioxide	0.25 ppm for 1 hour	0.053 ppm annual average	1995	.175	0/0
			1996	.144	0/0
			1997	.130	0/0
			1998	.135	0/0
			1999	.117	0/0
Sulfur Dioxide	0.25 ppm for 1 hour	0.14 ppm for 24 hours or 0.03 ppm annual arithmetic mean	1995	.006	0/0
			1996	N/M	N/M
			1997	N/M	N/M
			1998	N/M	N/M
			1999	N/M	N/M
Fine Particulate Matter	50 ug/m ³ for 24 hours	150 ug/m ³ for 24 hours	1995	N/M	N/M
			1996	N/M	N/M
			1997	N/M	N/M
			1998	N/M	N/M
			1999	N/M	N/M
ppm = parts per million ug/m ³ = micrograms per cubic meter N/M = not measured					
NOTES: 1. Maximum concentration is measured over the same period as the California Standard. 2. Sulfur Dioxide measured at the La Habra monitoring station.					
Sources: Data obtained from the South Coast Air Quality Management District, 1994 to 1998.					

ATTAINMENT STATUS

Despite implementing many strict controls, the SCAQMD portion of the Basin still fails to meet the Federal air quality standards for three of the six criteria pollutants: ozone (O₃), carbon monoxide (CO) and fine particulate matter (PM₁₀). Because Federal pollution standards have not been achieved, the Basin portion of the Basin is considered a non-attainment area for Federal standards for these pollutants. For State standards, the Orange County portion of the Basin is designated as non-attainment for O₃ and PM₁₀.²

LOCAL AMBIENT AIR QUALITY

² Proposed Amendment to the Area Designations for State Ambient Air Quality Standards and Proposed Maps of the Area Designations for the State and National Air Quality Standards, prepared by the California Environmental Protection Agency, Air Resources Board, October 1, 1999.

The SCAQMD operates several air quality monitoring stations within the Basin. Cypress is located within Source Receptor Area (SRA) 17, one of 28 areas under the jurisdiction of the SCAQMD. The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. The ambient air monitoring station within SRA 17 is within the City of Anaheim near Harbor Boulevard. The following air quality information briefly describes the various types of pollutants that are found within source receptor area 17.

Ozone. Ground-level ozone, often referred to as smog, is not emitted directly, but is formed in the atmosphere through complex chemical reactions between NO_x and reactive organic gases (ROG) in the presence of sunlight. The principal sources of NO_x and ROG, often termed ozone precursors, are combustion processes (including motor vehicle engines) and evaporation of solvents, paints and fuels. Motor vehicles are the single largest source of O₃ precursor emissions in the SCAG region. Exposure to O₃ can cause eye irritation, aggravate respiratory diseases and damage lung tissue, as well as damage vegetation and reduce visibility. The entire Basin is designated as a non-attainment area for State and Federal O₃ standards.

Carbon Monoxide. CO is an odorless, colorless toxic gas that is formed by the incomplete combustion of fuels. Motor vehicles are by far the largest source of CO in the Basin. At high concentrations, CO can reduce the oxygen-carrying capacity of the blood and cause headaches, dizziness, unconsciousness, and even death. CO also can aggravate cardiovascular disease. The Orange County portion of the Basin is designated an attainment area for State CO standards and non-attainment for Federal CO standards.

Nitrogen Dioxide. NO₂, often used interchangeably with NO_x, is a reddish-brown gas that can cause breathing difficulties when exposed to in high levels. Peak readings of NO₂ occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations) in the vicinity. The entire Basin is designated as an attainment area for State NO₂ standards and Unclassified/Attainment for Federal standards (redesignated from non-attainment on July 24, 1998).

Fine Particulate Matter. Fine particulate matter (PM₁₀, or particulate matter less than 10 microns in diameter) includes a wide range of solid or liquid particulates, including smoke, dust, aerosols and metallic oxides. There are many sources of PM₁₀ emissions, including combustion, industrial processes, grading and construction, and motor vehicles. Of the PM₁₀ emissions associated with motor vehicle use, some are tailpipe and tire wear emissions, but greater quantities are generated by resuspended road dust. Consequently, improvements in motor vehicle engines and fuels have not reduced PM₁₀ emissions as significantly as they have reduced emissions of other pollutants. Reductions in motor vehicle use are needed to significantly reduce PM₁₀ emissions from resuspended road dust. Research has also shown that wood burning in fireplaces and stoves is a significant source of PM₁₀, particularly during episodes when PM₁₀ levels are at their highest.

Fine particulate matter is of concern because it can bypass the body's natural filtration system more easily than larger particles, and can lodge deeply into the lungs. Health effects of PM₁₀ vary depending on a variety of factors, including the type and size of particle. Elevated PM₁₀ concentrations can also aggravate chronic respiratory illness such as bronchitis and asthma. The SCAB is designated as non-attainment for State and Federal PM₁₀ standards.

Sulfur Dioxide and Lead. Sulfur dioxide (SO₂), often used interchangeably with sulfur oxides (SO_x), and lead (Pb) levels in all areas of the Basin do not exceed Federal or State standards. The Basin is designated as attainment for both State and Federal SO₂ standards. There is no NAAQS for lead.

REGULATORY FRAMEWORK

FEDERAL CLEAN AIR ACT

The 1970 Clean Air Act (CAA) authorized the establishment of the NAAQS, and set deadlines for their attainment. The Federal Clean Air Act Amendments of 1990 made major changes in deadlines for attaining NAAQS and in the actions required of areas of the nation that exceeded these standards.

CALIFORNIA CLEAN AIR ACT

The 1988 California Clean Air Act (CCAA) requires that all air districts in the State endeavor to achieve and maintain CAAQS for O₃, CO, SO₂, and NO₂ by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources. The Act also gives districts new authority to regulate indirect sources. Each district plan is to achieve a five percent annual reduction (averaged over consecutive three-year periods) in district-wide emissions of each non-attainment pollutant or its precursors. Any additional development within the region would impede the “no net” increase prohibition, in that further emissions reductions must be affected from all other airshed sources to accommodate any project development mobile source emissions increase.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)

The SCAQMD has prepared multiple Air Quality Management Plans (AQMPs) to accomplish the five percent annual reduction goal. The most recent AQMP was published in 1997. To accomplish its task, the AQMP relies on a multi-level partnership of governmental agencies at the Federal, State, regional and local level. These agencies, which include EPA, CARB, local governments, Southern California Association of Governments (SCAG) and the SCAQMD, are the cornerstones that implement the AQMP programs.

1997 AQMP. A 1997 AQMP was prepared and adopted by the SCAQMD on November 15, 1996. The 1997 AQMP was adopted by CARB on January 23, 1997. The 1997 Plan contains two tiers of control measures: short- and intermediate-term, and long-term. Short- and intermediate-term measures are scheduled to be adopted between 1997 and the year 2005. These measures rely on known technologies and other actions to be taken by several agencies that currently have the statutory authority to implement the measures. They are designed to satisfy the Federal CAA requirement of Reasonably Available Control Technology (RACT) and the CCAA requirement of Best Available Retrofit Control Technology (BARCT). There are 37 stationary source and 24 mobile source control measures in this group.

The 1997 AQMP continues to include most of the control measures outlined in the previous 1994 Ozone Plan with minor exceptions, but postpones many marginal measures found to be less cost-effective, drops future indirect-source rules that are now deemed infeasible, and focuses the SCAQMD's efforts on approximately ten major emission-reduction rules. The SCAQMD will focus its efforts on seven major rules to reduce volatile organic compounds (VOCs), a key ingredient in smog. The Plan includes new market-based measures giving businesses greater flexibility in meeting emission-reduction requirements, such as intercredit trading and additional credits for mobile source emission reductions.

The 1997 AQMP shows that measures outlined in the 1994 Ozone Plan are sufficient to attain the Federal health standards for the two most difficult ingredients in smog, PM₁₀ and ground level O₃, by the years 2006 and 2010, respectively. The region already has met the three other Federal health standards for Pb, SO₂ and NO₂.

To help reduce PM₁₀ pollution, the 1997 Plan outlines seven control measures for directly emitted particulates, which will reduce emissions from agricultural areas, livestock waste, wood-working operations, construction, and restaurants. The measures will also help control dust from paved and unpaved roads, which accounts for two thirds of the directly-emitted particulates.

The 1997 Plan shows that both emissions and ambient pollution levels have continued their downward path toward healthful levels. The number of Stage I smog episodes for O₃ declined from 41 days in 1990 to just 14 days in 1995. CO also has declined, with the number of days over the standard down from 42 in 1990 to 13 in 1995. The average number of days exceeding the Federal 24-hour PM₁₀ standard also declined between 1990 and 1995 by 9 percent.³

The 1997 AQMP Control Strategies. The 1997 AQMP's off-road mobile source control measures are based on the EPA's proposed Federal Implementation Plan (FIP) for the Basin. The FIP's proposed control measures are based on a combination of stringent emission standards, declining caps on emission levels and emission/user fees.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than are the general population. Sensitive populations (sensitive receptors) who are in proximity to localized sources of toxics and carbon monoxide are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent center, and retirement homes.

The Cypress School District and the Anaheim Union High School District serve the City of Cypress. Within the city boundaries are ten elementary schools, two junior high schools, one high school, one college and several private schools. In addition, there are approximately sixteen pre-kindergarten facilities. Within the cities jurisdiction there are two convalescent homes. These existing sensitive receptors are located throughout the city.

TOXIC AIR CONTAMINANTS (TACs)

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern in Southern California. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset conditions. Health effects of TACs include cancer, birth defects, neurological damage and death.

The SCAQMD implements TAC controls through Federal, State and local programs. Federally, TACs are regulated by EPA under Title III of the CAA. At the State level, the CARB has designated the Federal hazardous air pollutants as TACs, under the authority of AB 1807. The Air Toxic Hot Spots Information and Assessment Act (AB 2588) requires inventories and public notices for facilities that emit TACs. Senate Bill 1731 amended AB 2588 to require facilities with "significant risks" to prepare a risk reduction plan (reflected in SCAQMD Rule 1402). SCAQMD also regulates source-specific TACs.

³ Article entitled "AQMD Sees Progress in Attaining Federal Clean Air Standards," *AQMD Advisor*, Volume 3, Number 7, September 1996.

Diesel exhaust is a growing concern in the Basin area and throughout California. The CARB in 1998 identified diesel engine particulate matter as a TAC. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Many of these toxic compounds adhere to the particles, and because diesel particles are very small, they penetrate deeply into the lungs. Diesel engine particulate matter has been identified as a human carcinogen. Mobile sources (including trucks, buses, automobiles, trains, ships and farm equipment) are by far the largest source of diesel emissions. Studies show that diesel particulate matter concentrations are much higher near heavily traveled highways and intersections. The cancer risk from exposure to diesel exhaust may be much higher than the risk associated with any other toxic air pollutant routinely measures in the region.⁴

Prior to the listing of diesel exhaust as a TAC, California had already adopted various regulations that would reduce diesel emissions. These regulations include new standards for diesel fuel, emission standards for new diesel trucks, buses, autos, and utility equipment, and inspection and maintenance requirements for health duty vehicles. Following the listing of diesel engine particulate matter as a TAC, ARB is currently evaluating what additional regulatory action is needed to reduce public exposure. ARB does not plan on banning diesel fuel or engines. ARB may consider additional requirements for diesel fuel and engines, however, as well as other measures to reduce public exposure.

Other air quality issues of concern in the SCAB include nuisance impacts of odors and dust. Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. Similarly, nuisance dust may be generated by a variety of sources including quarries, agriculture, grading and construction. Odors rarely have direct health impacts, but they can be unpleasant and can lead to anger and concern over possible health effects among the public. Each year, the SCAQMD receives thousands of citizen complaints about objectionable odors. Dust emissions can contribute to increased ambient concentrations of PM₁₀, particularly when dust settles on roadways where it can be pulverized and re-suspended by traffic. Dust emissions also contribute to reduced visibility and soiling of exposed surfaces.

4.4.2 STANDARDS OF SIGNIFICANCE

SIGNIFICANCE CRITERIA

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts which are identified. The criteria, or standards, used to determine the significance of impacts may vary depending on the nature of the project. Air quality impacts resulting from the implementation of the proposed General Plan Update could be considered significant if they cause any of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; and/or

⁴ BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans, Bay Area Air Quality Management District, Revised December 1999, page 6.

- Create objectionable odors affecting a substantial number of people (refer to Section 7.0, *Effects Found Not To Be Significant*).

Based on these standards, the effects of the proposed Update have been categorized as either a “less than significant” or a “potentially significant impact.” Mitigation measures are recommended for a potentially significant impact. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

4.4.3 IMPACTS AND MITIGATION MEASURES

CONSTRUCTION EMISSIONS

- **CITYWIDE CONSTRUCTION ACTIVITY UNDER THE PROPOSED GENERAL PLAN UPDATE MAY RESULT IN A CUMULATIVELY CONSIDERABLE INCREASE OF CRITERIA POLLUTANTS, AND THUS MAY VIOLATE AIR QUALITY STANDARDS.**

Level of Significance Before Policies/Mitigation: Potentially Significant Impact.

Impact Analysis: Short-term impacts to air quality would occur during the grading and construction activities required to buildout the General Plan (primarily construction associated with new development or redevelopment and related infrastructure). These temporary impacts would include:

- Particulate (fugitive dust) emissions from demolition, clearing and grading activities;
- Off-site air pollutant emissions at the power plant serving the construction site, while temporary power lines are needed to operate construction equipment and provide lighting;
- Exhaust emissions and potential odors from construction equipment used on the construction site as well as the vehicles used to transport materials to and from the site;
- Exhaust emissions from the motor vehicles of the construction crew; and
- Potential release of asbestos from building demolition.

The SCAQMD *CEQA Air Quality Handbook* establishes thresholds for pollutant emissions generated during construction. Each construction project that would occur with General Plan buildout would be required to implement control measures during construction activities in order to reduce the amount of emissions to below the significance thresholds, when possible. As previously stated, the SCAB (Orange County portion) is designated non-attainment for O₃ (State and Federal standards), CO (Federal standard only), and PM₁₀ (State and Federal standards). Any increase in these pollutants would create a significant and unavoidable air quality impact.

The proposed General Plan Update includes Air Quality, Land Use and Growth Management Elements. The intent of the Air Quality Element is to implement measures to allow the South Coast Air Basin to attain federal and state air quality standards. The intent of the Land Use Element is to establish policy direction for land use decisions within the City for such issues as land use compatibility. Relevant goals and policies within these elements address such construction-related impacts as disruption, regulatory compliance with appropriate air resource agencies, odor/dust control and hazardous emissions.

Policies in Proposed General Plan Update: The Air Quality and Land Use Elements include the following policies.

- AQ-1.7 Cooperate and participate in regional air quality management plans, programs and enforcement measures.
- AQ-3.1 Adopt incentives, regulation, and/or procedures to minimize particulate emissions from unpaved roads, agricultural uses and building construction.
- LU-2.4 Mitigate traffic congestion and unacceptable levels of noise, odors, dust and light and glare which affect residential areas and sensitive receptors, where feasible.
- LU-2.8 Ensure adequate monitoring of those uses that utilize hazardous materials to avoid industrial accidents, chemical spills, fires and explosions.

Mitigation Measures: No mitigation measures beyond the policies identified in the proposed General Plan Update or SCAQMD regulations are available to reduce this impact to a less than significant level.

Level of Significance after Policies/Mitigation: Significant and Unavoidable Impact.

VEHICLE MILES TRAVELED AND STATIONARY SOURCE EMISSIONS

- **BUILDOUT UNDER THE PROPOSED GENERAL PLAN UPDATE MAY RESULT IN AN OVERALL INCREASE IN MOBILE AND STATIONARY SOURCE EMISSIONS WITHIN THE CITY WHICH MAY EXCEED SCAQMD AIR QUALITY STANDARDS.**

Level of Significance Before Policies/Mitigation: Potentially Significant Impact.

Impact Analysis: Upon buildout, the proposed General Plan Update would permit a maximum of 1,230 additional dwelling units and 3,058,225 additional square feet of non-residential uses beyond existing conditions to be constructed throughout the City. Ultimately, the proposed General Plan Update would result in a total of 17,415 residential units and 22,604,000 square feet of non-residential uses.

Projected population increases in the City would result in a corresponding increase in the number of automobiles and vehicular pollutants. The primary method of reducing pollutants that result either directly or indirectly from vehicular exhaust (including ozone), is to reduce both the number of vehicular trips and the miles traveled each day by local workers and residents. A large fraction of the remaining stationary pollutants (from electricity and gas consumption) can be reduced through energy conservation. In order to minimize the number of vehicle miles traveled (VMT), land uses could encourage the location of jobs, housing, and shopping areas in such a way as to minimize extra automobile trips. Reductions in vehicular trips as well as vehicular miles can be accomplished over time through the application of wise, long-range planning of land uses that provide comprehensive support for residents and workers, such as shopping and employment.

Mobile Sources. Table 4.4-2 *Mobile Source Emissions*, cites the amount of mobile source emissions expected at buildout under the proposed General Plan Update. Mobile source emissions are the major source of air pollution in the City of Cypress. At the source level (a single vehicle), mobile source emissions are expected to decrease during the next 20 years due to technological improvements to engine emission systems, alternative fuels and propulsion systems such as electric. Additionally, transportation demand management would play an increasingly important role. However, with implementation of appropriate policies and technological improvements during the next 20 years, mobile source emissions are still anticipated to increase, mainly due to the increase in population.

**Table 4.4-2
MOBILE SOURCE AIR EMISSIONS**

Pollutant	Mobile Source Emissions (lbs/day) Before Mitigation	Mobile Source Emissions (lbs/day) After Mitigation	SCAQMD Threshold (lbs/day)	Threshold Exceeded
Carbon Monoxide (CO)	37,338	36,668	550	Yes
Reactive Organic Compounds (ROG)	4,475	4,415	55	Yes
Nitrogen Oxides (NOx)	10,929	10,734	55	Yes
Fine Particulate Matter (PM10)	5,475	5,376	150	Yes

Stationary Sources. Table 4.4-3 *Stationary Source Emissions*, cites the amount of stationary source emissions that are anticipated to result from the increased development under the proposed General Plan Update. Stationary source emissions would be generated due to an increased demand for electrical energy, which is generated from power plants utilizing fossil fuels. Electric power generating plants are distributed throughout the SCAB, and their emissions contribute to the total regional pollutant burden. The primary use of natural gas by the land uses throughout the City would be for combustion to produce space heating, water heating and other miscellaneous heating or air conditioning.

**Table 4.4-3
STATIONARY SOURCE AIR EMISSIONS**

Pollutant	Stationary Source Emissions (lbs/day) Before Mitigation	Stationary Source Emissions (lbs/day) After Mitigation	SCAQMD Threshold (lbs/day)	Threshold Exceeded
Carbon Monoxide (CO)	26,000+	26,000+	550	Yes
Reactive Organic Compounds (ROG)	29,000 +	29,000 +	55	Yes
Nitrogen Oxides (NOx)	2,752	2,498	55	Yes
Fine Particulate Matter (PM10)	3,468	3,467	150	Yes

Air quality impacts would be regional and not confined to the Cypress city limits. The destination of motor vehicles, which are the primary contributors to air pollution, vary widely and cross many jurisdictional boundaries. Further site-specific development proposals would be evaluated for potential air emissions once development details have been designed and are available. Individual projects may not result in significant air quality emissions, although Citywide buildout under the proposed General Plan Update would result in a significant cumulative air quality impact as explained below.

Cumulative air pollution impacts from implementation of the proposed General Plan Update are considered significant because they would generate emissions of O₃ (made up by ROG and NOx) and PM₁₀ within an area designated as non-attainment for these pollutants. Policies proposed in the General Plan Update would reduce the significance of such impacts; however, the impacts would remain significant on a cumulative level even after mitigation.

The proposed Air Quality, Land Use, Circulation, Growth Management and Conservation and Open Space Elements include goals and policies intended to minimize mobile and stationary source impacts. Goals and policies within the Air Quality Element encourage pedestrian traffic, alternate forms of transportation, incentive programs and regulatory compliance. The Land Use Element includes goals and policies that are

aimed at reducing the amount of vehicular traffic and ensuring the compatible placement of land uses. The Circulation Element goals and policies to reduce trip time requirements and establish alternative transportation methods and systems. The Growth Management Element includes goals and policies aimed at reducing traffic congestion and ensuring the provision of adequate transportation facilities. The Conservation and Open Space Element includes goals and policies to reduce mobile source impacts by providing for alternative transportation. The Conservation and Open Space Element also intends to reduce stationary source emissions by encouraging high efficiency building designs and conservation practices.

Policies in Proposed General Plan Update: The Air Quality, Land Use, Circulation, Growth Management and Conservation and Open Space Elements include the following policies:

MOBILE EMISSION REDUCTION

- AQ-1.5 Encourage the design of commercial areas that foster pedestrian circulation.
- AQ-1.6 Create the maximum possible opportunities for bicycles as an alternative transportation mode and recreational use.
- AQ-2.1 Utilize incentives, regulations and/or Transportation Demand Management (TDM) programs in cooperation with other jurisdictions in the South Coast Air Basin to eliminate vehicle trips which would otherwise be made.
- AQ-2.2 Utilize incentives, regulations and/or Transportation Demand Management in cooperation with other jurisdictions in the South Coast Air Basin to reduce miles traveled for auto trips which still need to be made.
- AQ-2.3 Promote and establish modified work schedules which reduce peak period auto travel.
- AQ-2.6 Encourage non-motorized transportation through the provision of bicycle and pedestrian pathways.
- AQ-2.7 Encourage employer rideshare and transit incentives programs by local businesses.
- AQ-2.8 Manage parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed.
- AQ-2.9 Encourage businesses to alter truck delivery routes and local delivery schedules during peak hours, or switch to off-peak delivery hours.
- AQ-2.10 Implement Citywide traffic flow improvements outlined in the Circulation Element.
- AQ-2.11 Promote state and federal legislation which would improve vehicle/transportation technology and cleaner fuels.
- AQ-2.13 Integrate air quality planning with the land use and transportation process.
- LU-1.5 Encourage the development of neighborhood-serving commercial uses in areas of Cypress presently underserved by such areas.
- LU-2.7 Encourage the provision of pedestrian linkages between adjacent commercial uses and commercial and residential uses to encourage pedestrian activity and reduce vehicle trips.

- LU-6.4 Encourage the development of multi-family residential both adjacent to and above ground floor commercial/retail as a means of stimulating pedestrian activity on the corridor and providing market support for commercial uses.
- LU-10.2 Encourage the use of alternative modes of transportation through continued implementation of the Cypress Business Park Trip Reduction Ordinance.
- CIR-1.3 Encourage development which contributes to a balanced land use, which in turn serves to reduce overall trip lengths (i.e., jobs/housing balance, locate retail in closer proximity to resident/patrons).
- CIR-2.1 Encourage development and improvements in public transportation, bicycles, ridesharing, and pedestrians, to support the land use plans and related transportation needs.
- CIR-2.2 Give high priority to the establishment of a high-quality public transit system that minimizes dependency on the automobile.
- CIR-2.3 Ensure that effective Transportation demand Management (TDM) measures and programs are being implemented.
- CIR-2.4 Encourage development and site design which facilitates implementation of high quality, desirable bicycle routes which meet or exceed established standards.
- GM-1.4 Promote traffic reduction strategies through Transportation Demand Management (TDM) measures adopted by City ordinance.
- COSR-8.3 Reinforce a sense of form and positive civic image by preserving older trees where possible, by requiring integrated landscaping plans within areas of newer development, and by providing bicycle trails that link cultural, educational, civic and recreational uses.

STATIONARY SOURCE EMISSION REDUCTION

- AQ-4.1 Promote energy conservation in all sectors of the City including residential, commercial, and industrial.
- AQ-4.3 Adopt incentives and regulations to reduce emissions from swimming pool heaters and residential and commercial water heaters.
- COSR-3.1 Encourage innovative site planning and building designs that minimize energy consumption by taking advantage of sun/shade patterns, prevailing winds, landscaping and building materials.
- COSR-3.2 Encourage new development and existing structures to install energy saving features.

Mitigation Measures: No mitigation measures beyond the policies identified in the proposed General Plan Update and SCAQMD regulations are available to reduce this impact to a less than significant level.

Level of Significance After Policies/Mitigation: Significant and Unavoidable Impact.

CONSISTENCY WITH REGIONAL PLANS

- BUILDOUT OF THE PROPOSED GENERAL PLAN UPDATE MAY CONFLICT OR OBSTRUCT IMPLEMENTATION OF THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENT'S REGIONAL COMPREHENSIVE PLAN GUIDELINES (RCP) AND THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S AIR QUALITY MANAGEMENT PLAN (AQMP).

Level of Significance Before Policies/Mitigation: Potentially Significant Impact.

Impact Analysis: The SCAG and SCAQMD actively pursue procedural and structural methods of minimizing air pollutant emissions. Although air quality is not SCAG's primary focus, SCAG publishes a document titled Regional Comprehensive Plan and Guide (RCP) which sets forth criteria for lowering regional pollutant emissions. The RCP is based on information that is provided by County transportation commissions, Caltrans, the Metropolitan Water District, the California Energy Commission, the Bureau of Land Management of the Department of Interior, South Coast Air Quality Management District and other parties both public and private. Information in the RCP related to air quality is found within the Growth Management, Regional Mobility, Air Quality and Energy chapters.

The proposed General Plan Update is consistent with the portions of the RCP that cite the necessity to facilitate programs that reduce vehicular miles traveled (VMT) and vehicular emissions. The RCP cites, "SCAG shall encourage existing or proposed local jurisdictions programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle mile traveled, and create opportunities for residents to walk and bike." The proposed General Plan Update is consistent with this as shown in the above impact. The proposed General Plan Update is also consistent with the RCP policies that cite the necessity to develop or redevelop areas in a manner that discourages additional vehicular traffic.

Different from SCAG, the SCAQMD's sole interest is the preservation and improvement of air resources in the South Coast Air Basin. The SCAQMD publishes a document entitled the Air Quality Management Plan (AQMP) which specifies various criteria for air quality management within the South Coast Air Basin (including the City of Cypress). Issues and requirements within the AQMP are similar to those found in the RCP (the RCP incorporates much of the AQMP in its text). Both documents place heavy reliance on local implementation measures, such as land use decisions and local employment transportation programs. The implementation process stresses the freedom of cities to choose attainment measures that best suit local conditions. Land use strategies contained in the RCP help achieve a jobs/housing balance.

Based on the fact that the City is actively pursuing and implementing programs that reduce air pollutant emissions, the proposed General Plan Update is consistent with the RCP and AQMP, and thus, constitutes a less than significant impact.

Goals and policies within the Air Quality Element encourage cooperation with the South Coast Air Quality Management District and Southern California Association of Governments. The Circulation Element encourages cooperation with County and regional agencies through participation in various transportation programs. Based on the fact that air quality is closely related to transportation, implementation of these policies would set the foundation for emission reduction.

Policies in Proposed General Plan Update: The Air Quality and Circulation Elements include the following policies:

- AQ-1.1 Cooperate with the South Coast Air Quality Management District and the Southern California Association of Governments in their effort to implement provisions of the region's Air Quality Management Plan (AQMP), as amended.

- AQ-1.8 Implement the required components of the Congestion Management Plan (CMP), and continue to work with Orange County on an annual updates to the CMP.
- C-1.2 Participate in transportation planning efforts which involve other governmental agencies, mandated programs, and regulations in order to minimize environmental impacts related to transportation.

Mitigation Measures: No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

Level of Significance After Policies/Mitigation: Less Than Significant Impact.

4.4.4 UNAVOIDABLE SIGNIFICANT IMPACTS

Development under the proposed General Plan Update would create unavoidable significant impacts related to construction, mobile sources and stationary sources. These impacts are primarily based on the premise that the City and pollutant sources within are widely dispersed and numerous. Although measures related to construction and stationary sources would be implemented on a project-by-project basis, and vehicular emission reducing programs would be implemented Citywide, it is anticipated that these impacts would remain unavoidable and significant.