



7. AIR QUALITY ELEMENT

BACKGROUND AND CONTEXT

Air quality is a factor that many people take for granted as they participate in their day-to-day activities. The preservation of the City's air quality plays a significant role in the community's health and overall quality of life. Not only does air quality affect the everyday lives of the residents of Palm Springs, it can also have a profound effect on visitors that come to the City to vacation and participate in the numerous outdoor recreational activities the City provides.

The presence of air pollution in a community reduces visibility, increases the occurrence of respiratory illness and disease, increases absences from work and school, and is detrimental to the natural environment. This element provides policy and action items to ensure that the City is striving, in collaboration with regional agencies, to implement measures to preserve and improve air quality in the Coachella Valley to the greatest extent possible.

RELATIONSHIP TO OTHER PLANS AND PROGRAMS

Regional Air Quality

Because air pollution does not recognize jurisdictional boundaries, air contaminants from one community may adversely impact residents of another. There are several regional agencies that work hand in hand to implement programs that help to maintain an acceptable level of air quality for the region and the City.

Air quality in the City of Palm Springs is greatly affected by contaminant-emitting activities in surrounding communities and the South Coast Air Basin (SoCAB), which includes all of Orange County and the nondesert portions of Los Angeles, San Bernardino, and Riverside counties.

Although Palm Springs is located east of the SoCAB in the Salton Sea Air Basin (SSAB), the transport of ozone and other contaminants from the

Ozone (O₃): Known as smog, ozone is a highly reactive gas that commonly originates from mobile sources such as automobiles and poses a significant threat to human health.

Particulate Matter: A mixture of solid particles and liquid droplets suspended in the air.

PM₁₀: Defined as suspended particulates smaller than 10 micrometers, PM₁₀ is primarily produced by blowsand, construction dust, vehicular exhaust, and other types of combustion and can induce serious respiratory illnesses.

PM_{2.5}: Defined as suspended particulates smaller than 2.5 micrometers, PM_{2.5} is primarily produced from vehicular exhaust. While PM_{2.5} is a component of PM₁₀, CARB and EPA have set separate standards for PM_{2.5} and PM₁₀.

Air Quality Management Plan

The Federal Clean Air Act requires that the AQMP be updated every three years. At the time of adoption of the General Plan, SCAQMD and SCAG were in the process of finalizing the 2007 AQMP, which was an update of the 2003 AQMP.

SoCAB is a major contributor to the City's air pollution problems. To address this regional issue, both the SoCAB and the Riverside County portion of the SSAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD and Southern California Association of Governments (SCAG) are responsible for the development of the regional Air Quality Management Plan (AQMP) and the coordination of efforts to monitor and regulate air pollutant emissions.

The California Air Resources Board (CARB) and Environmental Protection Agency (EPA) establish state and federal ambient air quality standards for *ozone*, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and suspended *particulate matter (PM₁₀ and PM_{2.5})* levels. The intent of the Air Quality Element is to aid the City in meeting ambient air standards set by the EPA and CARB and to protect the health and quality of life of residents of Palm Springs and the rest of the SCAQMD.

Air Quality Management Plan

Following the mandate from the Federal Clean Air Act, SCAQMD and SCAG periodically jointly prepare a comprehensive Air Quality Management Plan (AQMP) for all of Orange County and portions of Riverside County, Los Angeles County, and San Bernardino County, including the Palm Springs area. The AQMP provides strategies for controlling air pollution, attainment and progress information, and maintenance plans with the purpose of achieving state and federal attainment levels. This document serves as a policy guide for decision making related to air quality throughout the SCAQMD and should be consulted as appropriate.

Figure 7-1 Blowsand Areas

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GOALS, POLICIES AND ACTIONS

Although the Air Quality Element is not a state-mandated element of the General Plan, its inclusion in this document emphasizes the importance of this issue to the City of Palm Springs and the City's commitment to ensure that the quality of life for its residents and visitors is preserved to its maximum potential. The following section establishes goals, policies, and action items that address the issues related to air quality.

MAJOR SOURCES OF AIR POLLUTION

Air pollutants are often divided into two general categories, primary and secondary. Primary pollutants are emitted directly from fuel combustion, which produces hydrocarbons, particulates, oxides of carbon, sulfur, and nitrogen. Pollutants that undergo chemical changes after emission are known as secondary sources and primarily include ozone, chemical aerosols, and nitrogen dioxide. Secondary pollutants typically disperse over large areas and may travel throughout entire regions.

Air pollutants can come from either stationary or mobile sources. Stationary sources can be divided into two major subcategories: point sources and area sources. Point sources consist of one or more emission sources at an identifiable facility and are usually associated with manufacturing and industrial processing plants. Area sources are widely distributed sources of many small emissions, such as natural gas-fueled water heaters in homes and businesses. The most common mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources are a combination of emissions from automobiles, trucks, and other vehicles designed for roadways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment that do not primarily operate on a roadway.

The two air pollutants of primary concern in the City of Palm Springs are ozone and PM₁₀. While levels of these pollutants have continued to decline in recent years, CARB and the EPA have identified the SSAB as a non-attainment area for both pollutants. A nonattainment designation signifies levels of air contaminants that exceed state and national ambient air quality standards.

Ozone

Ozone is a secondary-source pollutant primarily emitted by mobile sources such as automobiles and trucks and is considered a significant threat to

Sources of Air Pollution

Combustion: Primarily from automobile engines; the largest source of air pollution.

Natural sources: Oil seeps, vegetation, and windblown sand.

Evaporation of organic fluids: Used in coating and cleaning processes.

Abrasion: Suspension of materials created primarily between tires and roadways.

Industrial processes and construction: Windblown fumes and particulate matter.

human health. The City of Palm Springs experiences the transport of ozone from Los Angeles, Orange, and San Bernardino Counties, as well as from other jurisdictions within Riverside County. Throughout the SCAQMD, suburban development has and will continue to result in increased vehicle trips, commuting distances, and ozone emissions.

The City has identified focused areas for infill and mixed-use development that provide housing opportunities within walking distance of shopping, entertainment, and employment centers. The integration of office, retail, and residential uses in close proximity to one another can minimize vehicular trips, which can ultimately help to minimize impacts to air quality. However, due to the mobile nature of ozone, it is imperative that, in addition to considering air quality issues during land use planning efforts, the City also participate in multijurisdictional ozone emission reduction efforts.

Suspended Particulate Matter (PM₁₀)

As discussed above, the SSAB is a nonattainment area for both state and federal ambient air quality standards for PM₁₀. PM₁₀ is produced as a result of *blowsand* by both direct particle erosion and secondary effects, such as sand deposits on roads which are ground and resuspended in the air by moving vehicles.

The majority of the City of Palm Springs falls within the Coachella Valley Association of Governments' (CVAG) "Blowsand Hazard Zone." This zone includes land with soils conducive to blowsand, lands in areas of high and gusty winds, and lands that have the potential to cause sand damage to adjacent properties. In addition, CVAG has the most active blowsand areas in the region, as shown on Figure 7-1, *Blowsand Areas*. The Safety Element contains further discussion of blowsand.

To help reach attainment of air quality standards for PM₁₀, the jurisdictions within CVAG, including Palm Springs, ratified a Memorandum of Understanding in 2003 to establish an ongoing, multijurisdictional relationship for the adoption, implementation, and enforcement of *fugitive dust* control measures. In addition, the SCAQMD established additional strategies for the control of PM₁₀ in the Coachella Valley PM₁₀ State Implementation Plan.

Measures to Control Windblown Sand

Generally, physical measures such as hedges, walls, and other barriers are used to protect against the potential effects of wind. Construction sites constantly spray down with water areas that are being graded to reduce dust particulates in the air. Vegetation covers, such as a desert hydroseed mix, can be used to reduce wind erosion of the topsoil.

Blowsand: Blowsand, also called windblown sand or fugitive dust, can have a significant impact on health and quality of life of area residents by reducing visibility and air quality. The presence of blowsand and the resulting fine particulate matter in the air can cause several health problems, including respiratory discomfort, eye infections, and skin disorders. In addition, blowsand can result in economic costs for the City and its residents, including: road cleanup expenses and repairs related to the sandblasting of cars, buildings, plants, and infrastructure.

Fugitive Dust: Small airborne particulate matter that is the result of the accumulation of small quantities of matter from various non-point sources, most notably blowsand and construction dust.

GOAL AQ1

Improve regional air quality to protect the health of the community.

Policies

- AQ1.1 Work to attain ozone, nitrogen dioxide, carbon monoxide, lead, particulate matter, and sulfate standards as enforced by SCAQMD.
- AQ1.2 Identify and implement regional mechanisms that reduce air emissions and improve regional air quality as outlined in the Coachella Valley Association of Governments' Memorandum of Understanding and SCAQMD's Air Quality Management Plan.
- AQ1.3 Continue to incorporate, where appropriate, provisions of the SCAQMD Air Quality Management Plan into the City's Zoning Ordinance.
- AQ1.4 Incorporate the provisions of the SCAQMD Air Quality Management Plan into project review procedures.
- AQ1.5 Support measures for improving air quality in the South Coast and Salton Sea Air Basins, while opposing measures that may result in transferring air pollution via "credits" to the Inland Empire.
- AQ1.6 Support measures that improve air quality in the Los Angeles air basin, while opposing measures that transfer air pollution via "credits" to the Inland Empire.
- AQ1.7 Participate in meetings between the Coachella Valley Association of Governments and SCAQMD to discuss and implement regional actions to reduce local air emissions. A comprehensive range of options should be considered including, but not limited to, the following:
- Supplement existing public transit opportunities with additional routes and/or frequency to facilitate intercity travel.
 - Provide local subsidies or other incentives to encourage the use of public transit.
 - Implement a subregional transportation-demand management program.
 - Restrict the development of uses that degrade the air quality.

- Work with the SCAQMD to focus on the reduction of trip length and total vehicle miles traveled rather than the jobs/housing balance ratio, which can still result in significant trip lengths.

AQ1.8 Support and implement the provisions of the Coachella Valley Dust Control Ordinance, Handbook, and Memorandum of Understanding

Actions

AQ1.1 Require the preparation of detailed geotechnical analyses for new construction and significant alterations to structures located in areas subject to slope failure, rockfalls, or landslides. Reports should include measures to prevent the movement of soil that creates negative impacts on the City's and region's air quality.

AQ1.2 Monitor implementation of air quality ordinances and programs. Provide annual reports to the Coachella Valley Association of Governments, SCAQMD, California Air Resources Board, and other interested agencies.

AQ1.3 Develop incentives that encourage local businesses to incorporate emissions reduction measures that go beyond those required or recommended by SCAQMD, SSAB, and the City. Such incentives might include permit streamlining, priority processing, or fee reductions.

AQ1.4 Support the efforts of the SCAQMD to develop quality educational program to increase community awareness about the importance of air quality and the methods that can be implemented to improve air quality in the region.

GOAL AQ2

Control suspended particulate matter emissions from human activity or from erosion of soil by wind.

Policies

- AQ2.1 Require those projects meeting specialized criteria as identified in the Zoning Ordinance to submit a Fugitive Dust Control Plan prior to the issuance of grading or building permits.
- AQ2.2 Encourage the use of landscaping, vegetation, and other natural materials to trap particulate matter or control other pollutants. Establish windbreaks immediately downwind of large open spaces. Tree species used for windbreaks should be drought tolerant.
- AQ2.3 Reduce the transport of blowsand adjacent to paved roadways and residential areas through the use of chemically stabilizing soil surfaces or snow fence windbreaks. Chemical stabilizing measures should only be used in areas where they will not impact endangered habitats or species.
- AQ2.4 Continue to remove blowsand from City streets and relocate it downwind on a regular and postevent basis as part of routine street-cleaning programs.
- AQ2.5 Prohibit the use of off-road vehicles in blowsand areas.
- AQ2.6 Prohibit the transport of earth/soil through the City when wind gusts exceed 25 miles per hour per the City's PM₁₀ Ordinance.
- AQ2.7 Require the planting of vegetative ground covers as soon as possible on construction sites.
- AQ2.8 Consider adding provisions to the City's Municipal Code to phase out the use of gas-powered lawn mowers and replace them with electric mowers and to prohibit the use of leaf blowers.
- AQ2.9 Phase mass grading in a way that minimizes, to the greatest extent possible, the exposure of large expanses of graded areas to wind that causes blowing sand.
- AQ2.10 Encourage that landscape plans submitted with new development take into consideration drought tolerance and pollen generation through the selection of appropriate plantings.

Valley Fever

Valley fever is another name for the infection coccidioidomycosis. It is called valley fever because the organism that causes it is commonly found in the soil of the southwestern United States, Mexico, and parts of Central and South America.

Valley fever is spread through the air. If soil containing the valley fever fungus is disturbed by construction, natural disasters, or wind, the fungus spores get into the air. People can breathe in the spores and contract the disease; it is not spread from person to person. Construction workers, farm workers, or others who spend time working in dirt and blowing dust are most likely to get valley fever. People who are caught in dust storms and those who bike or four-wheel in dusty areas are also at higher risk of contracting valley fever.

Actions

- AQ2.1 Distribute the SCAQMD air quality management manual to provide information to the community on effective and appropriate dust-control activities for construction sites with an emphasis on minimizing PM₁₀ emissions.
- AQ2.2 Investigate and establish standards for dust-generating activities such as concrete recycling and rock crushing.

SENSITIVE RECEPTORS

Sensitive Receptor: People or segments of the population more susceptible to health problems associated with pollution emission

There is a strong correlation between health risk and the proximity of the source of air contaminants. *Sensitive receptors* located close to sources of air pollution have an increased risk of experiencing health problems, such as respiratory illness and disease (particularly in children), cancer, and low birth weight. The following uses are typically occupied by sensitive receptors and are considered sensitive land uses:

- ◆ Residences
- ◆ Schools, playgrounds, and childcare centers
- ◆ Hospitals
- ◆ Rehabilitation centers
- ◆ Convalescent centers and long-term health care facilities
- ◆ Retirement homes

The location and placement of sensitive land uses are not regulated by regional, state, or federal agencies. Rather, they are the purview of the local jurisdiction. Thus, the City must take care in the siting of these uses. The following table from CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* is a useful summary of CARB's recommended siting criteria for sensitive land uses. This report, published by CARB in 2005, is intended to assist local jurisdictions in their efforts to minimize the impact of high concentrations of air pollution on sensitive receptors. This handbook provides valuable siting information and criteria for sensitive land uses as well as useful background information to help planners better understand the impact of air pollution.

**Table 7-1
CARB Recommendations for Siting New Sensitive Land Uses**

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicle per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Source: California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.

GOAL AQ3

Protect people and land uses that are sensitive to air contaminants from sources of air pollution to the greatest extent possible.

Policies

- AQ3.1 Discourage the development of land uses and the application of land use practices that contribute significantly to the degradation of air quality.
- AQ3.2 Carefully consider the placement of sensitive land uses (schools, residences, daycare, medical uses, etc.) in proximity to sources of air contaminants that pose significant health risks.

Actions

- AQ3.1 Consider incorporation of siting recommendations for sensitive land uses from CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* into the City's Zoning Ordinance as appropriate.

VEHICULAR EMISSIONS

The Circulation Element contains additional policies that have a positive effect on air quality. In particular, the Circulation Element contains a policy encouraging the development of satellite parking areas outside of Downtown that provide shuttle service between the two areas, which can help to reduce vehicular trips and emissions.

Transportation is California's largest source of carbon dioxide, with passenger vehicles and light duty trucks creating more than 30 percent of total climate change emissions. The California Air Resources Board is required to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks.

The "greenhouse effect" allows the earth to remain warm and sustain life. Greenhouse gases (examples include carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons) trap the sun's heat in the atmosphere, like a blanket, and help determine our climate. The amount of greenhouse gases in the atmosphere is being drastically altered by human activity.

The onset of the industrial revolution and the increased consumption of fossil fuels (wood, coal, gasoline, etc.) have substantially increased atmospheric levels of greenhouse gases. As atmospheric concentrations of greenhouse gases rise, so do temperatures. Over time this rise in temperatures results in climate change.

The California Air Resources Board is required to adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles. These regulations, along with the measures implemented by the City, are instrumental in minimizing the vehicular emissions that are generated each year.

At the time of writing this General Plan update, there are no criteria or standards for limits on greenhouse gas emissions (GHG). The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of GHG that cause global warming in order to reduce emissions of such gases. Senate Bill 97 (Dutton, CEQA, greenhouse gas emissions) would require the State Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of greenhouse gas emissions or the effects of GHG emissions as required by CEQA. The Resources Agency would be required to certify and adopt those guidelines by January 1, 2010. Until such guidelines are adopted, the City of Palm Springs will continue to seek ways of reducing GHG emissions through pursuit and implementation of General Plan goals, policies, and actions that seek to minimize the City's contribution to GHG emissions. Policies and actions can be found in the Air Quality Element, the Circulation Element, the Land Use Element, and the Community Design Element.

GOAL AQ4

Reduce vehicular emissions.

Policies

- AQ4.1 Encourage the use of mass transit, carpooling, and other transportation options, including alternative-fuel vehicles and bicycles, to reduce vehicular trips.
- AQ4.2 Coordinate with regional service providers to improve regional transportation services.
- AQ4.3 Establish a shuttle service linking the airport, attractions, convention center, major resort activities, and the Downtown area.
- AQ4.4 Encourage walking or bicycling for short-distance trips through the creation of pedestrian-friendly sidewalks and street crossings and efficient and safe bikeways.
- AQ4.5 Integrate land use and transportation planning to the greatest extent possible.
- AQ4.6 Encourage the development of mixed-use and multi-use projects.
- AQ4.7 Study, and implement if feasible, the development of a combined shuttle program from the airport to major hotels in Palm Springs.
- AQ4.8 Consider the development of “cell phone” parking lots at the airport. These lots would provide short-term parking (less than 30 minutes) that allows passengers to call their rides when they are ready to be picked up. This approach can minimize the drive-through traffic (and subsequently vehicular emissions) generated by circling the airport loop until passengers are available for pickup.

Actions

- AQ4.1 Consider incorporation of air quality standards and requirements into the Zoning Ordinance. Establish transportation system and demand-management programs that require employers to utilize appropriate techniques, such as alternative work hours, telecommuting options, and carpooling programs, to reduce the number of vehicular trips and trips during peak hours.
- AQ4.2 Coordinate with the SunLine Transit Agency to study and initiate local transit improvements.

- AQ4.3 Encourage the use of hybrid, low, or zero emissions vehicles in the City's vehicular fleet. Existing vehicles should be replaced by "clean" or alternative-fuel vehicles as they are normally retired.
- AQ4.4 Develop a program to encourage the use of alternative-fuel vehicles. This program could include incentives such as priority/free parking or tax breaks.
- AQ4.5 Create an incentives program to encourage developers to incorporate bike paths, sidewalks, and pedestrian access points beyond those required.