

Introduction

This Air Quality Element addresses local issues and programs related to the improvement of air quality within La Habra Heights. The goals and policies of the Element meet the underlying goals and requirements of the 1991 regional Air Quality Management Plan (AQMP) prepared by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG), which apply to local governments. The Element identifies those actions the residents and City government can take to improve local and regional air quality. While the City does not have the authority to regulate air quality in the local or regional area, local action is required to demonstrate conformity to the adopted regional Air Quality Management Plan.

The Air Quality Element is not a state-mandated element, but it is recommended by the 1991 Air Quality Management Plan for the South Coast Air Basin, the area in which La Habra Heights is situated. Our goal is to contribute to efforts to attain state and federal clean air standards.

Issues & Policies

The policies included in this section of the Air Quality Element indicate how the City can participate in efforts to improve regional air quality.

Issue –Vehicle Emissions

While it appears impractical to use public transit and other alternative forms of transit within the City of La Habra Heights, the following policies can reduce the dependency on private automobiles and inappropriate use of vehicles within the City.

Air Quality Element Policy 1. Encourage participation in transportation Management Associations/Organizations.

Air Quality Element Policy 2. Encourage walking and bicycling.

Air Quality Element Policy 3. Encourage telecommuting, teleconferencing, and home office usage.

Air Quality Element Policy 4. Limit commercial activities at residences including the number of non-resident employees commuting to and working at home businesses within the City of La Habra Heights.

Air Quality Element Policy 5. Limit heavy equipment being driven to and stored at residences overnight.

Air Quality Element Policy 6. Encourage and support the installation of high speed data transmission capability within the City to reduce the need for individual automobile trips for tasks which can be accomplished through Internet and similar electronic means.

Air Quality Element Policy 7. The City should consider using those commercially available vehicles, which produce the least air pollution when it is economically feasible to do so.

Air Quality Element Policy 8. Require trucks and other vehicles operating within the City to maintain emissions control equipment so as to improve air quality.

Issue – Stationary Emissions

Reducing energy consumption also reduces the emissions associated with creating that energy.

Air Quality Element Policy 9. Support the use of energy-efficient equipment and design in City facilities and infrastructure.

Air Quality Element Policy 10. Encourage incorporation of energy conservation features in new developments and in the renovation of existing development.

Air Quality Element Policy 11. Support solar and similar emission-free energy sources in new construction.

Air Quality Element Policy 12. Support public participation in recycling programs to reduce

emissions associated with new materials manufacture and waste disposal.

Air Quality Element Policy 13. Support use of drought-resistant vegetation in City landscaping areas and in both new development as well as existing development to reduce the energy needed to pump water.

Air Quality Element 14. Oil producing equipment must employ best available control technology (BACT) to reduce air emissions.

Issue - Particulate Emissions

Particulate emissions come from tires, diesel engine exhaust, windblown dust and ash, exposed soils, certain chemical processes including removing and transporting oil, and excavation. Such emissions also come from demolition and construction activities. The City of La Habra Heights can help control particulate emissions by regulating activities that create these pollutants, notably dust emissions.

Air Quality Element Policy 15. Require feasible fugitive dust reduction techniques to be utilized during construction activities such as regularly watering down the construction area.

Air Quality Element Policy 16. Support the use of efficient equipment procedures in cleaning streets and parking areas.

Air Quality Element Policy 17. Support new construction and remodeling design that minimizes grading and maintains the natural topography to the maximum extent feasible.

Issue - Building and Design Standards to Reduce Operational Emissions

Paints, wall finishes, and other materials used in building construction generate particulate matter and toxic emissions both at the time of construction and throughout the lifetime of the buildings. The City will reduce potential air pollution emissions and impacts through siting and building design standards.

Air Quality Element Policy 18. Support the use of low-polluting construction materials and coatings.

Air Quality Element Policy 19. Discourage significant increases in non-resident commuter traffic through La Habra Heights to limit air pollution in the City.

Air Quality Element Policy 20. Assess the air pollution impacts of all projects uniformly.

Air Quality Element Policy 21. Encourage public education regarding building materials, toxic materials and their management in residences and other structures.

Issue - Intergovernmental Cooperation

Air quality is a regional issue that the City of La Habra Heights cannot address alone. The following policies underscore the City's commitment to regional efforts to improve air quality.

Air Quality Element Policy 22. Participate in the SCAQMD rule development process on regulations, which impact the City of La Habra Heights to ensure that City concerns are resolved early in the process.

Air Quality Element Policy 23. Support state and federal legislation that results in improved air quality in the South Coast Air Basin.

Air Quality Element Policy 24. Participate with neighboring cities in efforts to improve regional and sub-regional transit.

Air Quality Plan

Characteristics of Air Quality

The City is located within the South Coast Air Basin. The basin's climate is semi-arid and characterized by moist, mild winters and hot, dry summers accompanied by sea breezes. Wind patterns vary seasonally; westerly winds predominate in the summer months and northeasterly winds in the winter months. Local Southern California weather is affected by winter storms moving along the Pacific Coast, warm tropical air masses, and hot dry Santa Ana winds caused by high-pressure systems in the Great Basin.

The dominant daily wind pattern consists of a daytime sea breeze blowing inland from the ocean followed by a nighttime land breeze blowing from the inland areas toward the coast. The climate in La Habra Heights is consistent with the region's temperate weather patterns. The daily temperatures may range from 40 to 90 degrees F. with an average annual temperature of 64.4 degrees F. Annual precipitation averages approximately 15 to 18 inches per year with most of this precipitation occurring during the winter months.

Air pollutants within the basin are transported and dispersed by meteorological processes. Meteorological factors important to the transport of air pollution within the South Coast Air Basin include wind speed, wind direction, and the presence of atmospheric temperature inversions. Wind conditions control both the local and regional trajectory of emissions. The problem of a long transport distance from many pollution sources in summer is compounded by temperature inversions that exacerbate the pollution problem.

In summer, the air within the high-pressure center over the ocean sinks and warms. Near the ocean's surface, air temperatures drop due to the proximity of the cooler water. This forms a shallow, well-mixed layer of marine air approximately 1,000 feet deep capped by a massive layer of warm air. Pollutants emitted near

the ground remain trapped within that shallow layer. As each pollution source adds its contribution to that layer, the air arriving at the eastern portion of the Los Angeles metropolitan area may become highly polluted with visibility-degrading aerosols and with unhealthful, invisible gaseous pollutants. This condition will continue and become more concentrated until either the inversion breaks or surface winds increase to disperse the pollutants horizontally.

Criteria Pollutants

The South Coast Air Quality Management District (SCAQMD) has established quantitative thresholds for short-term (construction) emissions and long-term (operational) emissions for criteria pollutants. These criteria pollutants, and the daily thresholds of significance (for the entire basin), include the following:

Sulfur Dioxide (SO_x) is nearly colorless gas that irritates the lungs and damages materials and vegetation. The daily emissions threshold for SO_x is 150 lbs.

Carbon Monoxide (CO), a colorless, odorless toxic gas that interferes with the transfer of oxygen to the brain, is produced by the incomplete combustion of carbon-containing fuels emitted as vehicle exhaust. The daily emissions threshold for CO is 550 lbs.

Nitrogen Dioxide (NO_x) is a yellowish-brown gas, which, at high levels, can cause breathing difficulties. NO_x is formed when nitric oxide (a pollutant from burning processes) combines with oxygen. The daily emissions threshold for NO_x is 55 lbs.

PM₁₀ refers to particulate matter less than 10 microns in diameter. PM₁₀ causes a greater health risk than larger-sized particulates, since fine particles can more easily cause irritation. The daily emissions threshold for PM₁₀ is 150 lbs.

Source of Potential Air Quality Impacts

The air quality impacts associated with the General

Plan's implementation include short-term (construction-related) and long-term (operational) emissions. As indicated previously, short-term emissions will occur during the construction phases of future development. These short-term emissions will be related to the following activities:

Demolition Activities. The demolition of existing structures will generate particulate emissions.

Grading Activities. On-site grading following demolition will result in fugitive dust emissions. The SCAQMD estimates that, in general, 110 pounds of dust per acre can be generated daily by grading activities. This amount can be reduced by as much as 50% with regular watering and other mitigation.

Construction Equipment Emissions. Equipment used in the construction phases will also generate emissions. This equipment, consisting of graders, bulldozers, cranes, trucks, etc., is generally diesel-powered, resulting in high NOx and particulate emissions.

Mobile Emissions. Vehicle trips associated with deliveries and workers traveling to and from the work site will also result in mobile emissions.

Stationary Emissions. The oil and gas producing facilities located within the City are additional sources of stationary emissions.

A number of variables must be considered when evaluating short-term construction-related emissions, including the number and types of construction equipment, the size of the development, and the duration of the construction period.

Sensitive Receptors

Sensitive receptors refer to land uses and/or activities that are especially sensitive to poor air quality. Sensitive receptors typically include homes, schools, playgrounds, hospitals, convalescent homes, and other facilities where children or the elderly may congregate. These population groups are generally more sensitive to poor air quality. The General Plan does not involve any land use changes that would place sensitive receptors in areas subject to high pollutant concentrations from either mobile or stationary sources. Sensitive receptors in the City are depicted in Exhibit 7-1.

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