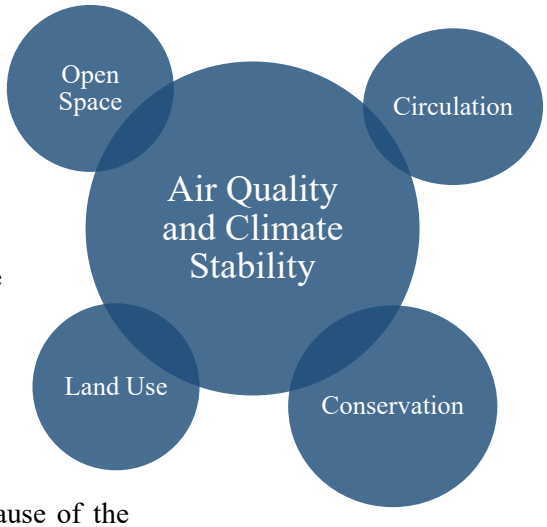
Air Quality & Climate Stability Element

PURPOSE

The intent of the Air Quality and Climate Stability Element is to provide background information on the physical and regulatory environment affecting air quality and greenhouse gas emissions in the City and the region. The Element also identifies goals, policies, and programs that are meant to balance the City's actions regarding land use, circulation, conservation and other civic issues with their potential effects on air quality and greenhouse gas emissions. This Element and local and regional air quality planning efforts are intended to address climate change, greenhouse gas reduction efforts, and ambient air quality standards set forth by the federal Environmental Protection Agency (EPA) and the California Air Resources Board (CARB).

BACKGROUND

The Air Quality and Climate Stability Element is directly related to the Land Use Element in its association with land use types and intensities, and with regard to the proximity of sensitive receptors to sources of pollutants. This Element is also related to the number, length, and timing of traffic trips, which are discussed in greater detail in the Circulation Element, as well as the amount of open space planned for preservation in the Open Space and Conservation Element. The Economic Development Element, which addresses the protection of natural resources important to the local economy, is also related to issues of air quality.



Air Quality

Air quality is a major concern in southern California, largely because of the potentially significant health effects caused by regional and local air pollutants. Concerns regarding air pollution have led to state and federal legislation and regulations mandating regional plans to improve air quality. Federal and state agencies have adopted air quality standards for a variety of pollutants. In 1971, the Environmental Protection Agency (EPA) established the National Ambient Air Quality Standards (NAAQS) for managing criteria pollutants. The California Clean Air Act (CCAA) became effective on January 1, 1989 and mandated health-based air quality standards at the state level.

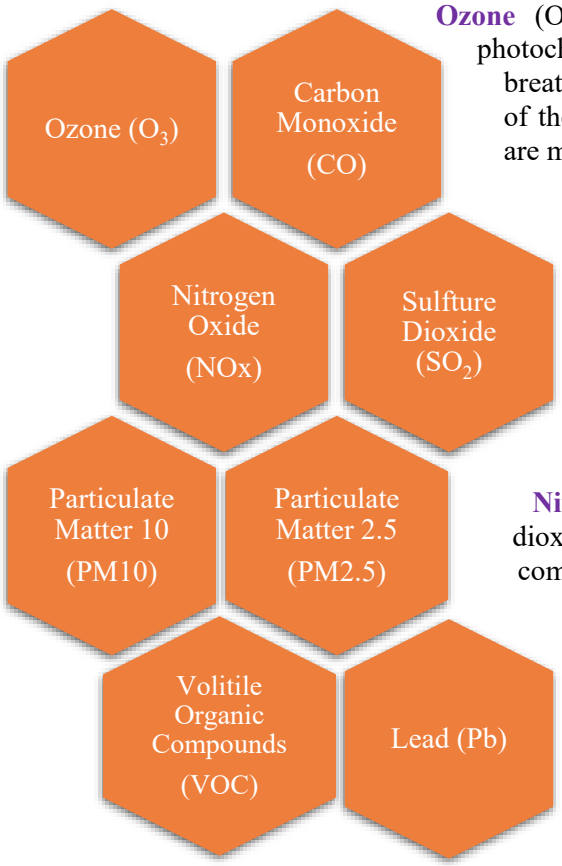
The California Air Resources Board (CARB) is responsible for enforcing state standards, which are generally more stringent than federal standards. One of the ways standards are applied is through State Implementation Plans (SIP), which are prepared to assist regional air quality management districts in meeting the federal and state ambient air quality standards in accordance with the deadlines specified in the Federal Clean Air Act (CAA) and emission reduction targets of the California Clean Air Act.

Regional and local agencies have also assumed some responsibility for assuring that state and federal air quality standards are achieved. The City of Cathedral City is located within the Salton Sea Air Basin (SSAB), a geographic region whose air quality and pollution control actions are regulated and monitored by the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for the development of the regional Air Quality Management Plan, a multi-tier effort to regulate pollutant emissions from a variety of sources.

Cathedral City is also involved in regional management of air quality through various actions taken by the Coachella Valley Association of Governments (CVAG) and the Southern California Association of Governments (SCAG). The City has adopted its own Fugitive Dust Emissions Ordinance to further local control of excessive fugitive dust and other particulate emissions, especially those associated with urban development.

CRITERIA POLLUTANTS

Federal and state air quality standards established for criteria pollutants are designed to protect the general population and especially that segment of the population that is most susceptible to respiratory distress or infection, including the elderly, children, asthmatics, or those who are weak from disease or illness. The following air pollutants are collectively known as criteria air pollutants and are defined as those pollutants for which established air quality standards have been adopted by federal and state governments:



Ozone (O_3) is a pungent, colorless, toxic gas, and a component of photochemical smog. Exposure to ozone can result in diminished breathing capacity, increased sensitivity to infections, and inflammation of the lung tissue. Children and people with pre-existing lung disease are most susceptible to the effects of ozone.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas and a byproduct of the partial combustion of fossil fuels, most notably from automobiles and other motor vehicles. In high concentrations, carbon monoxide can contribute to the development of heart disease, anemia, and impaired psychological behavior. Individuals that have heart and blood diseases, smokers, babies in utero, and people with chronic hypoxemia are most susceptible to the effects of CO.

Nitrogen Oxide (NO_x) includes Nitric oxide (NO) and Nitrogen dioxide (NO_2), which are the primary oxides of nitrogen and, combined, are known as nitrogen oxides. These oxides are produced at high temperatures during combustion as byproducts of motor vehicles, power plants, and off-road equipment. NOx contributes to the formation of ozone serving as the primary receptor of ultraviolet light and initiating the photochemical reaction. Short-term exposure to nitrogen dioxide can result in airway constriction, diminished lung capacity, and is highly toxic by inhalation. Populations living near roadways are more likely to experience effects of nitrogen oxides due to elevated exposure to motor vehicle exhaust.

Sulfur Dioxide (SO_2) results from the combustion of high-sulfur content fuels, such as coal and petroleum. Sources include motor vehicle fuel combustion, chemical manufacturing plants, and sulfur recovery plants. Sulfur dioxide is a colorless, pungent, extremely irritating gas that can cause airway constriction and severe breathing difficulties in asthmatics. High levels of exposure can cause fluid accumulation in the lungs, damage to lung tissue, and sloughing off of cells lining the respiratory tract.

Particulate Matter (PM_{10} and $PM_{2.5}$) consist of fine suspended particles of ten microns or smaller in diameter, and are the byproducts of road dust, sand, diesel soot, windstorms, and the abrasion of tires and brakes. The elderly, children, and adults with pre-existing respiratory or cardiovascular disease are most susceptible to the effects of PM. Elevated PM_{10} and $PM_{2.5}$ levels are also associated with an increase in mortality rates, respiratory infections, occurrences and severity of asthma attacks, and hospital admissions.

Volatile Organic Compounds (VOC) are also known as Reactive Organic Gas (ROG). This class of pollutants has no state or federal ambient air quality standards and is not classified as criteria pollutants; however, they are regulated because they are responsible for contributing to the formation of ozone.

Lead (Pb) occurs in the atmosphere as particulate matter resulting from the manufacturing of batteries, paint, ink, and ammunition. Exposure to lead can result in anemia, kidney disease, gastrointestinal dysfunction, and neuromuscular and neurological disorders. Babies in utero, infants, and children are especially susceptible to health risks associated with exposure to lead by impacting the central nervous system and cause learning disorders.

AMBIENT AIR QUALITY STANDARDS

Both the federal and California governments have established air quality standards for the criteria pollutants described above. The standards are designed to protect segments of the population that are most susceptible to respiratory distress or infection, including asthmatics, the elderly, children, and those who are weak from disease or illness. In general, state standards are more restrictive than federal standards, particularly with regard to PM_{10} and sulfur dioxide. A comparison of state and federal ambient air quality standards is provided in the following table.

Table AQ-1
State and Federal Ambient Air Quality Standards

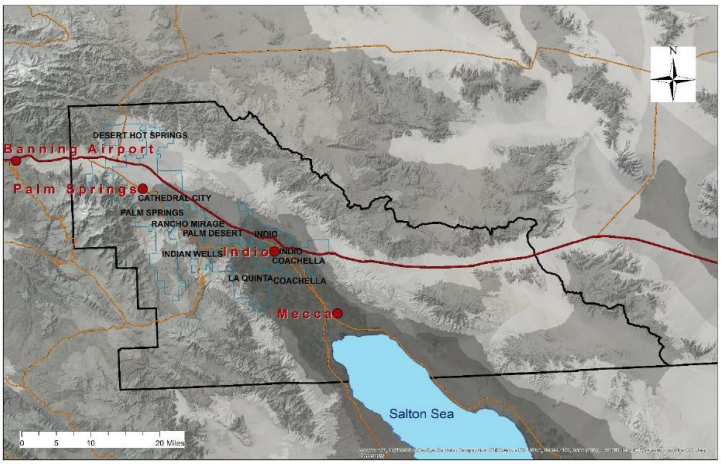
Pollutant	State Standards		National Standards	
	Averaging Time	Concentration	Averaging Time	Concentration
Ozone (O_3)	1-hour 8-hour	0.09 ppm 0.07 ppm	1-hour 8-hour	None 0.070 ppm
Carbon Monoxide (CO)	1-hour 8-hour	20.0 ppm 9.0 ppm	1-hour 8-hour	35.0 ppm 9.0 ppm
Nitrogen Dioxide (NO_2)	1-hour AAM	0.18 ppm 0.030 ppm	1-hour AAM	0.10 ppm 0.053 ppm
Sulfur Dioxide (SO_2)	1-hour 24-hour AAM	0.25 ppm 0.04 ppm None	1-hour 24-hour AAM	0.075 ppm 0.14 ppm 0.03 ppm
Particulate Matter (PM_{10})	24-hour AAM	50 µg/m^3 20 µg/m^3	24-hour AAM	150 µg/m^3 None
Particulate Matter ($PM_{2.5}$)	AAM 24-hour	12 µg/m^3 None	AAM 24-hour	12 µg/m^3 35 µg/m^3
Lead	30 day Avg.	1.5 µg/m^3	3 month Avg.	0.15 µg/m^3
Visibility Reducing Particles	None	None	None	None
Sulfates	24-hour	25µg/m^3	None	None
Hydrogen Sulfide	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board, 1/3/19.
Notes: ppm = parts per million; ppb= parts per billion; µg/ m^3 = micrograms per cubic meter of air; AAM = Annual Arithmetic Mean;

To determine whether existing ambient air quality complies with the standards shown above, the SCAQMD operates and maintains regional air quality monitoring stations throughout its jurisdiction. The City of Cathedral City is located within Source Receptor Area (SRA) 30, which includes monitoring stations in Indio, Palm Springs, and Mecca. These stations monitor contaminant levels and meteorological conditions on a daily basis.

MAJOR POLLUTANT EMITTERS

Major roadways and rail corridors are the greatest source by far of air pollutants. Motor vehicle and rail traffic pollution causes asthma attacks in children, and may cause a wide range of other effects including: the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases and cardiovascular morbidity. The area most affected, they concluded, was roughly the band within 0.2 to 0.3 miles (300 to 500 meters) of the highway.[1]



Adults living closer to the road—within 300 meters—may risk dementia. In 2017, a Canadian study of Ontario residents found that those who lived close to heavy traffic had a higher risk of dementia, although not for Parkinson's disease or multiple sclerosis. The strongest association were among those who lived closest to the roads (less than 50 meters), who had never moved and who lived in major cities.[2] A study of older men in 2011 also found that long-term exposure to traffic pollution increased their risk of having poor cognition.[3]

SENSITIVE RECEPTORS

Sensitive receptors are those persons or land uses that may be subject to respiratory stress and/or significant adverse impact as a result of exposure to air contaminants. The California Air Resources Board has indicated that the following segments of the population should be considered sensitive receptors: children under 14; seniors over 65; athletes; and people with cardiovascular and chronic respiratory diseases. Sensitive land uses include hospitals, nursing and retirement homes, schools, playgrounds, parks, athletic facilities, and residential and transient lodging facilities.

REGIONAL CLIMATE AND METEOROLOGY

The air quality of a particular locale is a function of the amount of pollutants emitted and dispersed and the climatic, meteorological, and geophysical conditions that reduce or enhance the formation of pollutants. The Coachella Valley is a low-lying desert basin characterized by low annual rainfall and low humidity. The valley is surrounded on the north, west, and south by mountain ranges that physically isolate the region from coastal influences. Temperatures can exceed 120°F in summer months.

The valley is occasionally susceptible to air inversions, in which a layer of stagnant air is trapped near the ground where it is further loaded with pollutants. This process, when combined with chemical aerosols and other pollutants emitted by automobiles, furnaces and other sources, can result in substantial haziness. Heat and bright sunshine can further act on this mix of pollutants to create photochemical smog.

---

1 Health Effects Institute Panel on the Health Effects of Traffic-Related Air Pollution, *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects.* Health Effects Institute: Boston, 2010.

2 Chen H, KJC, Capes R, et al. Living near major roads and the incidence of dementia, Parkinson's disease and multiple sclerosis: a population-based cohort study. *Lancet.* 2017. Published online http://dx.doi.org/10.1016/5014-6736(16)32596-X.

3 Power MC, Weisskopf MG, Alexeeff SE, et al,. Traffic-related air pollution and cognitive function in a cohort of older men. *Environ Health Perspect* 2011;119:682–687. doi:10.1289/ehp.1002767

Wind direction and speed are also important climatological components that affect air quality in the Coachella Valley. The valley is subject to strong and sustained winds. As the desert floor heats up it draws cooler coastal air masses into the valley through the narrow San Gorgonio Pass, generating strong winds that cross the most erosive areas of the valley. Each year, winter rains cause erosion of the adjacent mountains, and water runoff produces and sorts substantial deposits of gravel and sand throughout the major drainage areas in the valley. These materials can become suspended in the air during strong wind events.

Most of the land within Cathedral City's incorporated boundaries is located within the "Active Blowsand Hazard Zone" designated by CVAG in the 1990 "State Implementation Plan for PM_{10} in the Coachella Valley." This zone identifies land that, based on location or soil characteristics, is subject to soil wind erosion, or to potential sand accumulation and/or abrasion.

These winds transport and deposit large quantities of sand and dust on buildings, fabrics, and automobiles, thereby reducing visibility and damaging property. Extensive wind-borne soil can dirty streets, pit windshields and obliterate landscaping. Dust on vegetation can interfere with plant respiration and stunt plant growth. The adverse health effects in humans can be severe and include reduced lung capacity.

REGIONAL POLLUTANTS OF CONCERN

Analysis of the ambient air quality data collected at the Palm Springs, Indio, and Mecca monitoring stations indicates that ozone and PM_{10} are the most prevalent air pollutants in the Coachella Valley. Detailed air quality analysis and monitoring data can be found in the GP DEIR per *§65302.1(c)(1)*.

Ozone Emissions

Under the Federal Clean Air Act, the Coachella Valley portion of the Salton Sea Air Basin (SSAB) is classified as a "severe-15" O_3 non-attainment area for the 8-hour state standard[4], which means that the region must come into compliance with Federal ozone standards by December 31, 2027. With future emission controls, the Coachella Valley will achieve the 2008 8-hour federal O_3 standard by 2024.

SCAQMD studies indicate that most O_3 is transported to the SSAB Basin from the upwind South Coast Air Basin (SCAB). It is difficult to quantify the amount of ozone contributed from SCAB; however, reduced O_3 concentration in the SSAB depends, in part, upon reduced ozone emissions in the South Coast Air Basin.

PM_{10} Emissions

Historically, PM_{10} levels in the Coachella Valley have been elevated due to geographic and meteorological conditions, and the generation of fugitive dust emissions from grading and construction activities, agricultural practices, and strong wind. The finer materials, including sand and silt, can be picked up and transported by the wind and are referred to as "blowsand." PM_{10} particles associated with blowsand are of two types: (1) natural PM_{10} produced by direct particle erosion and fragmentation, and (2) secondary PM_{10} whereby sand deposited on roadways is further pulverized by motor vehicles and then re-suspended in the air by those vehicles. The project is located in a PM_{10} non-attainment area for the state and federal PM_{10} standard.[5]

4 "EPA Green Book Designated Non-attainment Areas for All Criteria Pollutants," as of December 2017. Accessed January 2018

5 Ibid.

The SCAQMD developed "Guidelines for Dust Control Plan Review in the Coachella Valley," which is intended to supplement local dust control ordinances. Should the region continue to fall short of federal PM_{10} standards, the U.S. EPA could impose more stringent regulations or sanctions on local jurisdictions.

The City of Cathedral City adopted its own Fugitive Dust Emissions Ordinance, which sets forth requirements for the control of dust during construction and demolition activities, as well as on certain land uses, such as unpaved roads and parking lots. In addition, the City secured grant funding to purchase alternative fuel vehicles and establish of a compressed natural gas (CNG) fueling station to service its vehicle fleet.

CLIMATE STABILITY

Until the 2nd half of the 20th Century, air pollution was been defined as chemical, physical, or biological processes that modify the chemistry and other characteristics of the atmosphere. The primary contributor to air pollution has been and continues to be the burning of fossil fuels in transportation, power and heat generation, and industrial processes. The byproducts from the combustion of fossil fuels can contain a number of air polluting substances. These emissions are responsible for the poor air quality that is evident in industrial centers worldwide.

GREENHOUSE GASES

Components of the atmosphere (carbon dioxide, methane, nitrous oxide and fluorinated gases) that contribute to the greenhouse effect

Some air polluting agents are also greenhouse gases (GHG) such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases (hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride), which are released into the atmosphere through natural processes and human activities. These gases are termed greenhouse gases due to their shared characteristic of trapping heat, and are believed to be responsible for the global average increase in surface temperatures of 0.7-1.5 °F that were observed during the 20th century.[6] The quantity of greenhouse gases in the atmosphere has increased significantly over a relatively short period.

Carbon dioxide is the greenhouse gas that has raised the most concern of atmospheric scientists due to current atmospheric levels, current and projected emission levels, and the highly correlated temperature regression curve that has been observed, predicting a future path of rising carbon dioxide levels. In 2018, carbon dioxide concentrations in the atmosphere were around 408 ppm[7]. Comparatively, prior to the Industrial Revolution, about 250 years ago, CO_2 levels were 278 ppm, and over the past 650,000 years carbon dioxide levels have fluctuated between 180 and 300 ppm, making present-day atmospheric CO_2 levels substantially greater than at any point in the past 650,000 years.[8]

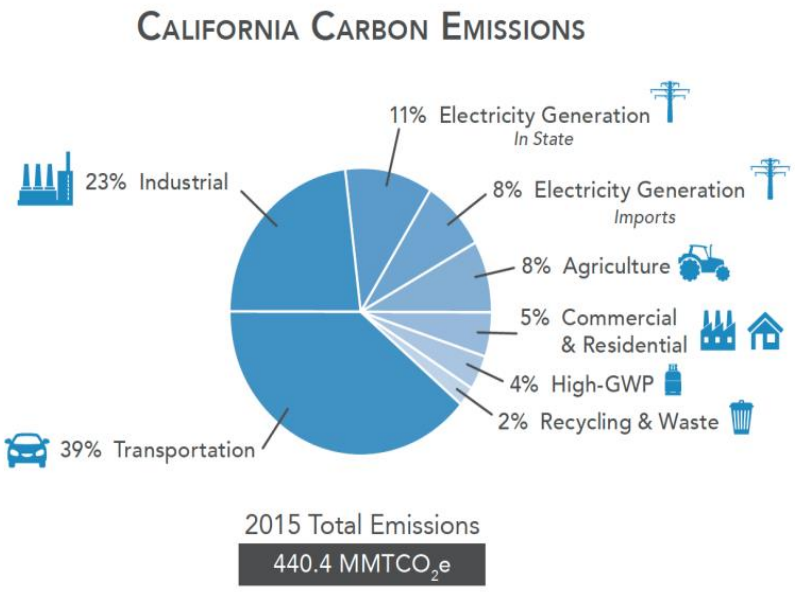
California is the second largest greenhouse gas contributor in the U.S. and the sixteenth largest in the world. In 2004, California produced 492 million metric tons of CO_2 equivalent (MMTCO2e), which was approximately 7% of all U.S. emissions. However, in 2015, California's total emissions were 440.4 $MMTCO_2e$, representing an overall decrease of 10% since peak levels in 2004. During the 2000 to 2015 period, per capita GHG emissions in California continued to drop from a peak in 2001 of 14.0 tons per person to 11.3 tons per person in 2015, a 19% decrease.[9] This decrease may be due to increases in the effectiveness of energy conservation in buildings (Title 24 requirements) and the increased use of renewable energy, including solar generation, hydropower, and wind energy.

6 U.S. Environmental Protection Agency, State of Knowledge.

7 Earth System Research Laboratory, Global Monitoring Division, National Oceanic and Atmospheric Administration. Average CO2 concentration at NOAA Mauna Loa, Hawaii. November 2018.

8 "Working Group III Contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report, Climate Change 2007: Mitigation of Climate Change," prepared by the Intergovernmental Panel on Climate Change, May 2007.

9 "California Greenhouse Gas Emission Inventory: 2000-2015," California Environmental Protection Agency Air Resources Board, June 6, 2017.



The transportation sector remains the largest source of GHG emissions in the state, accounting for 39% of California's emissions in 2015. Regulations and improved fuel efficiency of the state's vehicle fleet will drive down emissions over time, but population growth, lower fuel prices, improved economic conditions, and higher employment rates are potential factors that may increase fuel use.[10]

There is much debate over what the effects of climate change will be, but there is a general consensus that the levels of emissions need to be reduced in order to minimize GHG emissions and limit the amount of carbon dioxide and other pollutants that are released into the atmosphere.

CLIMATE LEGISLATION

California was the first state to establish regulations that require the reduction of emissions of GHGs from motor vehicles. The Zero Emission Vehicle (ZEV) regulation was first adopted in 1990 as part of the Low Emission Vehicle Program and has been modified over the years. Continuing its leadership role in developing innovative and groundbreaking emission control programs, CARB adopted the Advanced Clean Cars (ACC) program in 2012. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.

On September 24, 2004, the California Air Resources Board adopted a bill that requires all motor vehicles of 2009 vintage or later to reduce their greenhouse gas emissions by about 30% by the year 2016. On June 1, 2005, Governor Arnold Schwarzenegger issued executive order S-3-05, which calls for reduction in GHG emissions to 1990 levels by 2020, and for an 80% reduction below 1990 levels by 2050.

The California Global Warming Solutions Act (AB 32) was adopted by the state legislature in 2006. It sets forth a program to achieve 1990 emission levels by 2020 and requires CARB to proclaim 1990 GHG emissions and develop a Scoping Plan, which sets forth GHG reduction methods. CARB has reported that 1990 GHG emissions totaled 427 million metric tons (MMT) for the state of California; CARB adopted a Climate Change Scoping Plan on December 11, 2008, which was updated in 2017. The Scoping Plan includes a cap and trade program, green building strategies, recycling and waste reduction, and Voluntary Early Actions and Reductions.

10 Ibid.

More recently, Executive Order B-30-15 was issued by Governor Brown on April 29, 2015, establishing a new California goal to reduce greenhouse gas emissions to 40% below 1990 levels by 2030, ensuring the state will continue its efforts to reduce carbon pollution. Most recently, this 40% target was codified through Senate Bill 32 (2016), which adds section 38566 to the Health and Safety Code and requires that CARB ensure statewide GHG emissions meet the 40% reduction target no later than December 31, 2030.

California SB 375 was signed by the Governor in September 2008 and is intended to, at least in part, implement greenhouse gas reduction targets set forth in AB 32 by setting regional "caps" on the GHGs emitted by the transportation sector. The bill encourages regional land use planning to reduce vehicle miles traveled and requires Metropolitan Planning Organizations (MPO) to adopt a sustainable community strategy as part of their Regional Transportation Plans (RTP).

Legislative Leadership on Climate

The California Legislature has shaped the State's climate change program, setting out clear policy objectives over the next decade:

- 40% reduction in GHG emissions by 2030;
- 50% renewable electricity;
- Double energy efficiency savings;
- Support for clean cars;
- Integrate land use, transit, and affordable housing to curb auto trips;
- Prioritize direct reductions;
- Identify air pollution, health, and social benefits of climate policies;
- Slash "super pollutants";
- Protect and manage natural and working lands;
- Invest in disadvantaged communities; and
- Strong support for Cap-and-Trade.

The applicable MPO for the Coachella Valley is the Southern California Association of Governments (SCAG), which adopted its most recent Regional Transportation Plan and sustainable community strategy in April 2016. The current reduction targets from SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) are a 9% reduction by 2020 and a 16% reduction by 2035, as compared to 2005 emissions levels.

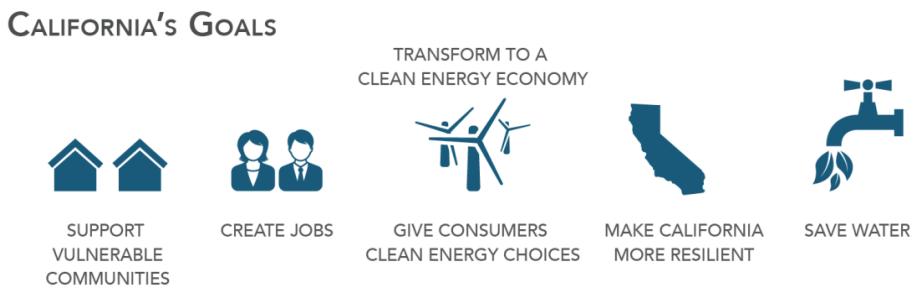
CLIMATE ACTION PLANNING

State Plans

The California Global Warming Act of 2006, also known as AB 32, marked the beginning of an integrated climate change program with the target to reduce statewide emissions to 1990 levels by 2020. Executive Order B-30-15 and SB 32 extended the goals of AB 32 and set a 2030 goal of reducing emissions 40%- from 2020 levels. The CARB's Climate Change Scoping Plan establishes a path to achieve the state's reduction targets by considering and evaluating a mix of strategies that would benefit all Californians. The Plan promotes actions that are intended to be economically viable and technologically feasible that will not only keep the state on track to achieve its 2030 targets, but to stay on track for a low- to zero-carbon economy by involving every part of the state. Currently (2018), the state is on track to achieve its 2020 target.

The following summarizes the current (2017) Climate Change Scoping Plan targets:

- 1990 levels by 2020;
- Reduce emission by 40% from1990 levels by 2030;
- Advance towards reducing emissions by 80% from 1990 levels by 2050.



Regional Plans

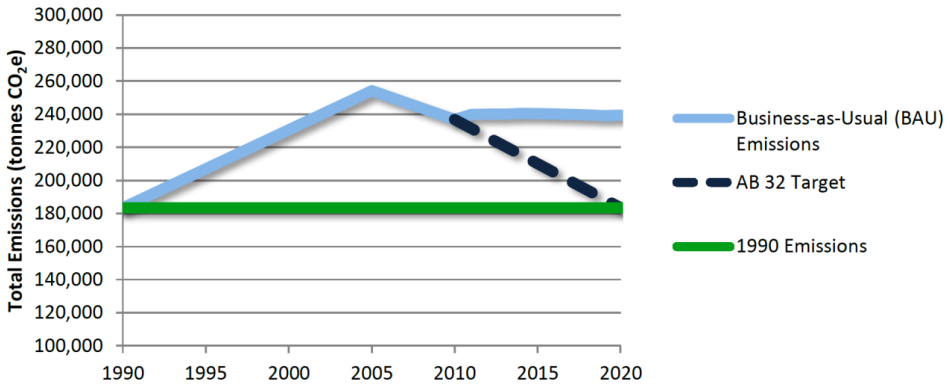
As previously mentioned, the transportation sector remains the largest source of GHG emissions in the state, accounting for 39% of California's emissions in 2015. The purpose of SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is to provide a framework for integrating land use and transportation planning that promotes sustainable communities which reduces overall greenhouse gas emissions. The current reduction targets from SCAG's RTP/SCS are 9% reduction by 2020 and a 16% reduction by 2035, as compared to 2005 emissions levels.

Local Plans

While no directives have been issued on AB 32 implementation for local governments at this time, there has been much participation in the realm of emissions measuring and reduction efforts on the local level across California. In response to AB 32 and CARB's Climate Change Scoping Plan, the City of Cathedral City completed its first Climate Action Plan in May 2013 in an effort to address climate change at the local level by reducing greenhouse gas emissions within its own operations and within the overall community. The Climate Action Plan provides a framework for the development and implementation of policies and programs that will reduce the City's emissions and is tracked via the City's Greenhouse Gas Inventory. In addition to the Climate Action Plan, the City prepared an Energy Action Plan (2013) to identify opportunities for cost savings through energy efficiency and actions necessary to meet the City's future energy needs, consistent with the energy policies set forth by the State of California.

Based on the City's Greenhouse Gas Inventory (2013), if Cathedral City were to continue with "Business-as-Usual," its carbon footprint would expand slightly as a result of population growth and increasing use of energy for comfort and convenience. With growth predicted to exceed 19% between 2010 and 2020, and to achieve the AB 32 target by 2020, Cathedral City would have to cut GHG emissions by 23.4%, or 55,909 tonnes. The projection for City emissions to 2020 is as follows:

Chart AQ-1
Projected GHG Emission Scenarios

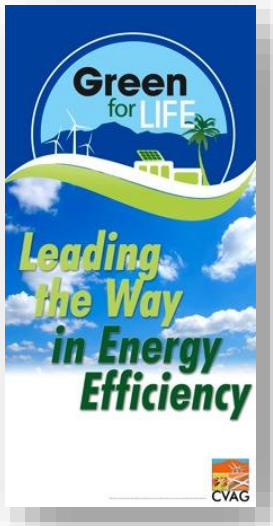


Green for Life Program

The City participated in the Green for Life Initiative of the Coachella Valley Association of Governments (CVAG). It is a regional approach to achieving energy reductions, and includes: 1) a Green Building Program, 2) Climate Action Plan, 3) Energy Action Plan, 4) a benchmarking policy, energy management software installation and training, and a commissioning and retro-commissioning policy. An important component of the Green For Life Program is benchmarking and utility management, which includes a facilities inventory and thorough review of existing energy benchmarking policies.

Disadvantaged Communities

Disadvantaged communities, as defined in SB 1000, are areas identified by the California Environmental Protection Agency (CalEPA) pursuant to Section 39711 of the Health and Safety Code, or an area that is a "low-income area" (defined below) that is disproportionately affected by air and other environmental pollution, climate change and other hazards that can lead to negative health effects, exposure, or environmental degradation. SB 1000 further defines "low-income areas" as areas with household incomes at or below 80 percent of the statewide median income or with household incomes at or below the threshold designated as low-income by the Department of Housing and Community Development's list of state income limits adopted pursuant to Section 50093.



CalEnviroScreen 3.0 is a science-based tool created by CalEPA and the Office of Environmental Health (OEHHA) to identify communities in California that are most affected by sources of pollution, and that are often especially vulnerable to pollution's effects. In addition to socio-economic standing, the screen evaluates data on air and water quality, as well as exposure to pesticide, hazardous materials and waste. The most recent CalEnviroScreen update (June 2018) shows that there are no disadvantaged communities within the City of Cathedral City. Nearly all of the City's census tracts have scores ranging between 15% and 35%.

The census tracts with the highest scores (45-50%) are located: 1) in the Cove, and 2) north of Ramon Road and west of the Whitewater River. These census tracts are also identified as areas of concern in the Public Health Alliance of Southern California's (PHASoCal) Healthy Places Index (HPI) mapping database described in the Healthy and Sustainable Community Element. Still, none of the census tracts in Cathedral City are designated as disadvantaged communities by CalEPA. Nonetheless, the City remains dedicated to a healthy and safe environment for all of its residents.

CURRENT AND NEXT STEPS

Air pollution and climate change are two of the most pressing issues facing industrialized societies and the entire planet. The City has taken significant steps to address air quality and climate change issues, including adopting GHG inventories, energy action plans, climate action plans, and green building programs. This updated General Plan also includes a comprehensive *Active Transportation/Neighborhood Electric Vehicle (AT/NEV) Plan* (see Appendix ? of the General Plan).

SUSTAINABILITY

The practice of analyzing the impacts of decisions, policies, strategies and development projects on the Environment, the Economy and Social Equity

Some of the actions being taken to address these issues include limiting the pollution exposure near high-volume roadways and minimize and preclude traffic pollution. This is being accomplished through more stringent federal and state emissions standards for cars, trucks, and buses, state regulations for zero emission vehicle (SB 375, SB 743), regional and local policies that reduce driving, the California's Sustainable Freight Transport Initiative, and community and government-led efforts to increase alternative transportation modes including public transit, low-speed electric vehicles (LSEVs), biking, and walking.

Important City programs include the aforementioned Climate Action Plan, Energy Action Plan and Green for Life program. These and other local and regional efforts are making a difference in reducing the emission of air pollutants and GHGs, while providing new opportunities for economic development and urban revitalization. These plans are living documents that will be regularly updated to ensure they remain relevant to the needs of the community.

GOALS, POLICIES, AND PROGRAMS

Goal 1: Preservation and enhancement of local and regional air quality to assure the long-term protection of the community's health and welfare.

Policy 1 : The City shall be proactive in regulating local pollutant emitters and shall cooperate with Coachella Valley Association of Governments and the South Coast Air Quality Management District to assure compliance with air quality standards.

Policy 2 : The City shall fully implement dust control ordinances, and coordinate and cooperate with local, regional, and federal efforts to monitor, manage, and reduce the levels of major pollutants affecting the City and region, with particular emphasis on PM_{10} emissions.

Program 2.A : On an on-going basis, the City shall continue to cooperate and participate in efforts to monitor and control PM_{10} emissions from construction and other sources, and all other air pollutants of regional concern. The City shall coordinate with CVAG and the SCAQMD to provide all reporting data for SCAQMD annual report.
Responsible Agency: Building, Public Works, Planning, CVAG, SCAQMD
Schedule: Continuous and On-going

Program 2.B : The City shall maintain records of historic and current regional and local air quality trends and make them available to the public. Access to data may be made available via an Internet link, printed material, or other means.
Responsible Agency: Public Works, Planning, CVAG, SCAQMD
Schedule: On-going

Policy 3: City land use planning efforts shall assure that sensitive receptors are separated from polluting point sources, to the greatest extent practicable.

Program 3.A: The General Plan Land Use Map and Element shall be developed and maintained to identify and locate air pollution point sources, such as manufacturing operations and highways, at an appropriate distance from sensitive receptors, including hospitals, schools, hotels/motels, and residential neighborhoods.
Responsible Agency: Planning, CVAG, SCAQMD
Schedule: On-going

Program 3.B: Buffer zones between sensitive receptors and potential air pollutant emitters shall be incorporated into new and proposed residential developments and other developments, to the greatest extent feasible.
Responsible Agency: Planning
Schedule: On-going

Program 3.C: Health Risk Evaluation. Prior to project approval, the City or project applicant shall evaluate health risks when proposed developments would result in new sensitive receptors near existing sources of substantial toxic air contaminants (TACs) or the development of sources of substantial toxic air contaminants near existing sensitive receptors. Evaluation would be based on consideration of the California Air Resource's Board Air Quality and Land Use Handbook: A Community Health Perspective distance recommendation between sources and receptors. If the project would not meet the distance recommendations between sources and receptors, the City shall require the applicant to ensure that TAC impacts would be below the carcinogenic threshold (i.e., probability of contracting cancer for the Maximally Exposed Individual would be less than 10 in

one million) and below the non-carcinogenic threshold (i.e., result in a Hazard Index less than 1 for the Maximally Exposed Individual). In addition, several measures to reduce potential risk from commercial or industrial land uses that would be considered include:

- Proposed commercial or industrial land uses that have the potential to emit toxic air contaminants (such as loading docks for diesel delivery trucks) would be located as far away as possible from existing and proposed sensitive receptors.
- Signs would be posted at all loading docks and truck loading areas which indicate that diesel-powered delivery trucks must be shut off when not in use for longer than 5 minutes on the premises in order to reduce idling emissions.
- Proposed commercial and industrial land uses that have the potential to host diesel trucks would incorporate idle reduction strategies that reduce the main propulsion engine idling time through alternative technologies such as, IdleAire, electrification of truck parking, and alternative energy sources for transport refrigeration units to allow diesel engines to be completely turned off.

Responsible Agency: Planning
Schedule: Continuous and On-going

Policy 4: Development proposals brought before the City shall be reviewed for their potential to adversely impact local and regional air quality, and shall be required to mitigate any significant impacts.

Program 4.A: The City shall conduct an Initial Study and, where appropriate, require a detailed air quality analysis for all proposals that have the potential to adversely affect local or regional air quality.
Responsible Agency: Planning
Schedule: On-going

Program 4.B: Projects that may generate significant levels of air pollution shall be required to conduct detailed impact analyses and incorporate mitigation measures into their designs using the most advanced technological methods practicable. All proposed mitigation measures shall be reviewed and approved by the City prior to the issuance of grading or demolition permits.
Responsible Agency: Planning, Public Works
Schedule: On-going

Program 4.C: The City shall continue to enforce a Fugitive Dust Emissions Ordinance to reduce and control local PM_{10} emissions. All dust control mitigation plans prepared by contractors, developers, and other responsible parties shall be reviewed and approved by the City prior to the issuance of grading or demolition permits.
Responsible Agency: Building, Public Works, Planning
Schedule: On-going

Program 4.D: Provide consistent and effective code enforcement of construction and grading activities and off-road vehicle use to assure that the impacts of blowing sand and fugitive dust emissions are avoided or minimized.
Responsible Agency: Code Enforcement Department; Police Department
Schedule: On-going

Policy 5: The City shall encourage and promote the use of clean alternative energy sources for transportation, heating and cooling, lighting and other power needs.

Program 5.A: Where cost-effective, vehicles that use alternative fuel sources, such as compressed natural gas and electricity, shall be purchased and maintained for use in the City's vehicle fleet.
Responsible Agency: City Manager's Office
Schedule: On-going

Program 5.B: Site plans shall incorporate energy-efficient design elements, including appropriate site orientation, possibility for incorporation of active and/or passive solar design, and the use of shade and windbreak trees, to reduce fuel consumption for heating and cooling.
Responsible Agency: Planning, Public Works
Schedule: On-going

Program 5.C: The City shall support and promote the use of roof-top solar electric systems in new and existing development, and shall review the City Zoning Ordinance to ensure that City regulations do not create an undue burden on those who wish to install solar electric systems.
Responsible Agency: Planning, Building
Schedule: On-going

Program 5.D: To encourage the use of alternative energy sources, installation of electric vehicle charging stations shall be encouraged in all new development and in major retrofits.
Responsible Agency: Planning, Public Works
Schedule: On-going

Policy 6 : The City shall encourage and support the development of facilities and projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle and LSEV paths and lanes, and community-wide multi-use trails.

Program 6.A: The General Plan Circulation and Mobility Element shall encourage the incorporation of appropriate alternatives to motor vehicles in the transportation network, and shall be periodically reviewed and updated to assure the future expanded use of such alternatives.
Responsible Agency: Planning, Public Works
Schedule: On-going

Program 6.B: The City shall pursue land use patterns and mechanisms, including Mixed-Use development and a balance of employment and housing opportunities that encourage pedestrian and other non-motorized transportation and minimize vehicle miles traveled.
Responsible Agency: Economic Development, Planning
Schedule: On-going

Program 6.C: The City Active Transportation/NEV Plan shall be funded and implemented to the maximum extent practicable in order to make safe and convenient alternative modes of travel the norm in the City
Responsible Agency: Planning, Public Works
Schedule: On-going

Program 6D: The City shall draft new or modify existing ordinances that implement the Active Transportation Plan and that otherwise facilitate the use of LSEVs on City streets and other appropriate portions of the transportation network to the greatest extent practicable.
Responsible Agency: Planning, Public Works
Schedule: 2020

Policy 7: The City shall promote the expanded availability of mass transit services, coordinating with Sunline Transit Authority to link residential, commercial and resort businesses, and employment centers with the City's residential neighborhoods and nearby communities.

Program 7.A: Coordinate with CVAG, SCAG, Sunline Transit Agency and other public and private service providers to improve, expand, and optimize cost-effective regional mass transportation services.
Responsible Agency: Planning, Public Works, Sunline Transit Authority
Schedule: On-going

Program 7.B: Promote and support the development of ridesharing, carpooling, flexible work scheduling, telecommuting, and Park and Ride programs among public and private employers to decrease existing and future traffic levels in the Coachella Valley.
Responsible Agency: Planning, Public Works, Sunline Transit Authority, Major Employers
Schedule: On-going

Program 7.C: The City shall consider adopting a Transportation Demand Management (TDM) Ordinance that applies to new or change-of-use non-residential developments employing 100 or more persons, and which requires the project proponent to demonstrate how the development will reduce the number of project-generated vehicle trips.
Responsible Agency: Planning, Public Works
Schedule: On-going

Policy 8: The City shall continue to implement effective street sweeping and post-windstorm cleanup programs to reduce the cumulative impacts of blowsand and nuisance dust resulting from construction activities, natural processes, and other sources.

Policy 9: The City shall promote public educational programs that describe the causes of air pollution, encourage the use of alternative energy sources, and recommend methods for reducing the impacts of blowsand.

Program 9.A: Prepare and distribute to developers, contractors, consultants and others an air quality management manual that describes effective and appropriate methods of controlling and reducing development-related air pollutants, particularly PM_{10} emissions.
Responsible Agency: Building, Public Works
Schedule: On-going

Policy 10: The City shall continue to implement and update policies, regulations, and action plans that promote climate stability and greenhouse gas emission reductions, including but not limited to the Climate Action Plan, Energy Action Plan, Greenhouse Gas Inventory and Green for Life program.

Program 10.A: Update the City's Climate Action Plan, Greenhouse Gas Inventory, Energy Action Plan and Green for Life program materials to include current trends in technology, climate regulations, and to track the City's efforts to reduce overall greenhouse gas emissions.
Responsible Agency: Planning
Schedule: Every 3-5 years

Program 10.B: Projects that require CEQA analysis shall be required to conduct detailed impact analyses and incorporate mitigation measures into their designs using the City's current Climate Action Plan prescribed reduction measures for achieving greenhouse gas emission reduction targets. All proposed mitigation measures shall be reviewed and approved by the City prior to the issuance of grading or demolition permits.
Responsible Agency: Building, Public Works, Planning
Schedule: On-going