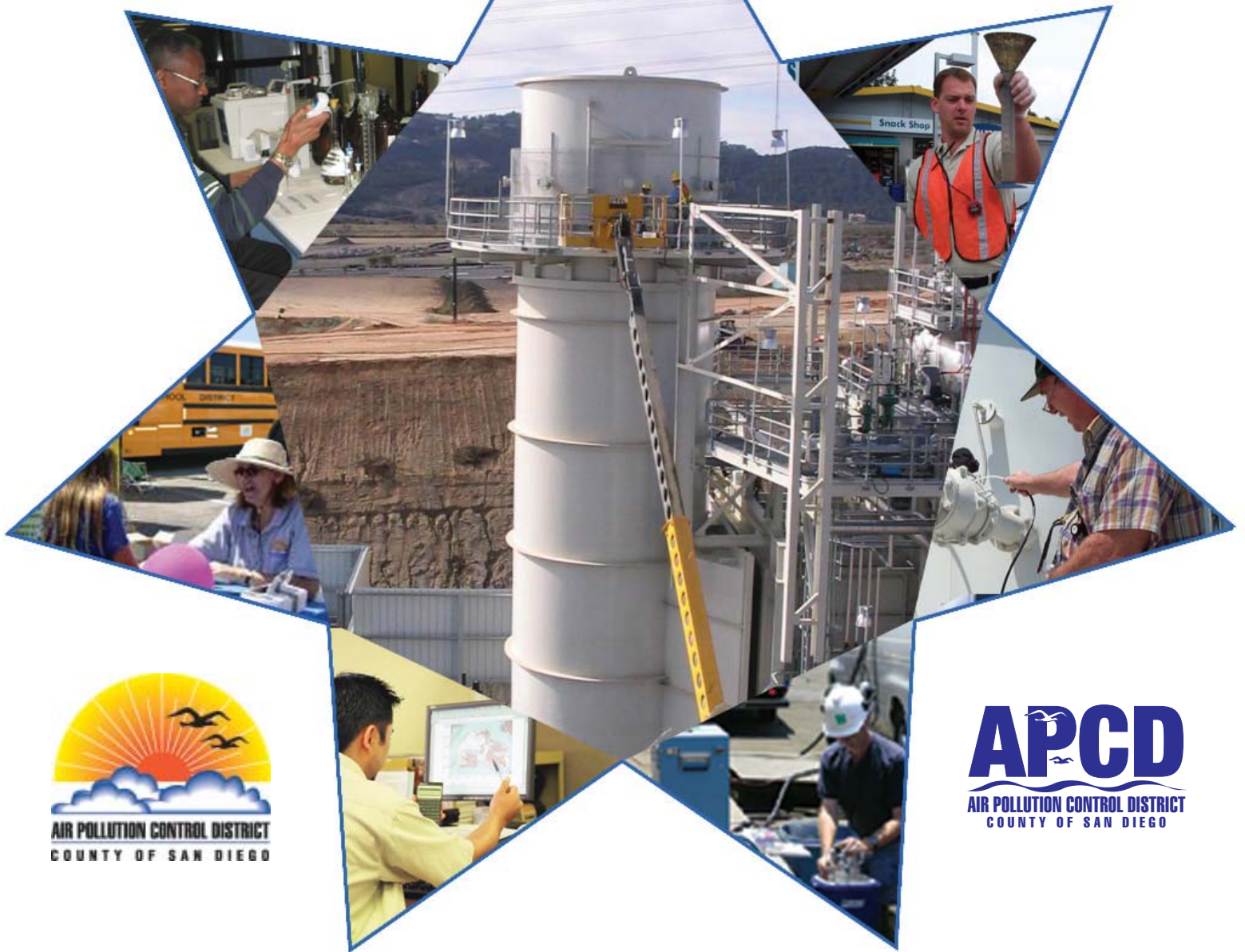


# Air Quality in San Diego County



**1955-2005**

*Celebrating 50 years of air quality progress!*

# 50 Years Working for Clean Air

**1953**

Board of Supervisors appointed committee to consider smog control in the county

**1955**

Board of Supervisors activated the San Diego County Air Pollution Control District

**1956**

Monitoring began at the San Diego Public Library downtown

**1973**

24-hour recorded air quality forecast & open burning info line established

**1975**

San Diego became the first area to require vapor controls on gasoline retailing facilities

**1975**

Air Pollution Control District (APCD) became a separate County department

**1980**

First Smog Check demonstration held in San Diego

**1981**

San Diego attained federal annual nitrogen dioxide standard; in 1992, State NO<sub>2</sub> standard

**1984**

San Diego's Smog Check Awareness Program was modeled throughout State

**1985**

San Diego APCD began monitoring toxic air contaminants in Chula Vista and El Cajon

**1991**

Last Stage I smog alert in San Diego; no Stage 2s since 1979

**1995**

San Diego attained State carbon monoxide standards; in 1998, federal CO standards

**1998**

San Diego APCD was one of the first laboratories certified by the California Air Resources Board to measure PM<sub>2.5</sub>

**2003**

San Diego attained the federal 1-hour ozone (smog) standard

**2003**

APCD issued warnings of unhealthy conditions during firestorms

**2005**

San Diego designated 'attainment' for annual federal PM<sub>2.5</sub> standard





# 1955-2005

## Celebrating 50 years of air quality progress!

On June 7, 1955, the Board of Supervisors activated the San Diego County Air Pollution Control District (APCD) by a 3-2 vote.

In its resolution establishing the air district, the Board found “that the air within the County of San Diego is so polluted with air contaminants, as defined in the California Health & Safety Code, as to be injurious to health, an obstruction to the free use of property, and offensive to the senses of a considerable number of persons, so as to interfere with the comfortable enjoyment of life and/or property.”

Air quality in the region has improved dramatically during the past 50 years. San Diego has been a leader in innovative programs that have significantly lowered pollution levels. A few key examples include:

★ San Diego APCD was the first district to require vapor controls on gasoline service stations. A District engineer was the first to develop the bootless coaxial nozzle for vacuum assist vapor recovery systems.

★ San Diego APCD developed a precedent-setting process for approving emission reductions from mobile sources as mitigation for new large stationary sources. It provides emission reduction credits for replacing older, high-emitting

diesel-fueled engines in heavy-duty trucks and marine vessels with newer, cleaner engines.

★ San Diego APCD was one of the first air districts to require health risk assessments for new and modified sources of toxic air contaminants and the first to adopt a comprehensive rule specifying the health risk criteria for these sources.

★ San Diego APCD was one of the first air districts to adopt a comprehensive rule specifying the health risk criteria for existing sources emitting toxic air contaminants. Facilities which pose significant risk to nearby businesses and residences are required to

reduce emissions to below specified significant risk levels.

★ San Diego APCD was one of the first air districts to adopt a comprehensive rule limiting the emission of landfill gases.

★ San Diego APCD’s laboratory was one of the first certified by the California Air Resources Board (ARB) to measure concentrations of PM<sub>2.5</sub>.

This report details the region’s long-term progress toward clean air and the APCD’s ongoing commitment to protect the County’s nearly 3 million residents from the harmful effects of air pollution and ensure clean air for future generations.



*In 1972, San Diego was the first air district to require Phase I and Phase II vapor recovery equipment at service stations such as this Standard station along Pacific Highway. The District continues to be a leader in improving Statewide vapor controls.*



# The Year's Air Quality

The air is cleaner today than it was 50 years ago when it was described as “so polluted...as to interfere with the comfortable enjoyment of life.” The days of smog alerts, when the eyes water and the throat burns, are long gone – the last one occurring 15 years ago.

Except during the firestorms of October 2003, particulate matter levels have also improved. This is in part due to reductions in emissions of ozone precursors, which also contribute to the formation of fine particulates in the air.

This air quality improvement clearly demonstrates that emission control measures and programs to reduce air pollution are working despite San Diego County's continuing growth and expanding motor vehicle usage (*see graphs below*). Nevertheless, continued emission reduction efforts are needed in order to attain the more stringent State ozone and fine particulate standards. Expected

growth in motor vehicle usage, population, and industrial and commercial activities will continue creating challenges in controlling emissions to improve air quality.

## Ozone (Smog)

San Diego County has made great progress in overcoming what historically has been its primary air pollution problem – smog. Ozone is the main component of smog.

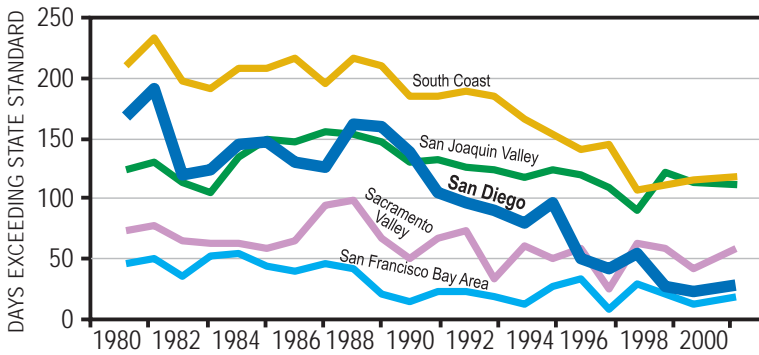
In 2005, San Diego continued to meet the federal one-hour ozone standard, while only exceeding the federal eight-hour standard on five days and the more stringent State one-hour standard on 16 days.

A colorless gas composed of three oxygen atoms, ozone can be good or bad depending on where in the atmosphere it is located. Ozone in the stratosphere (five or more miles above the earth) protects the planet from the sun's harmful ultra-violet radiation; ozone at ground level is unhealthy to breathe.

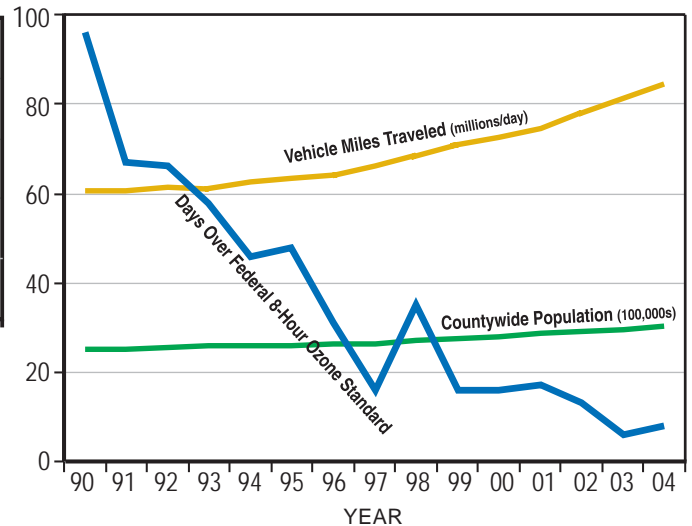
A strong irritant, ozone can restrict airways, resulting in difficulty breathing and forcing the respiratory and cardiovascular systems to work harder in order to provide oxygen. It can inflame and damage the lining of the lungs. Ozone is especially harmful for children whose lungs are still developing, senior citizens whose immune systems are weakening, and those who suffer from asthma or chronic lung or heart disease.

Both the State and federal governments have established clean air standards to protect public health. For more than 20 years, the federal ozone standard was 12 parts ozone per hundred million parts air (pphm) for one hour; however, that standard was revoked on September 2, 2005. The current standard for eight hours was introduced in 1997 after medical studies revealed that longer-term exposures at lower ozone levels caused significant health effects. The federal eight-hour standard is 8 pphm.

## Major Ozone Improvement



During the 1990's, the number of days with unhealthy amounts of ground-level ozone declined in all major air basins in California with San Diego achieving the greatest improvement at 84%. At right, San Diego achieved this improvement despite growth in population and vehicle miles traveled.



California has its own clean air standards in addition to the federal standards. California's one-hour ozone standard of 9 pphm is slightly more health-protective than the federal eight-hour standard. Although the federal eight-hour appears to be more stringent based on its lower level, it has a longer averaging period of eight hours; multi-hour averages are always lower than the highest single hour. A State eight-hour ozone standard (7 pphm) was approved in April 2005 and is expected to become effective in 2006.

The last health advisory for smog occurred in July 1998. A health advisory is issued when ozone levels reach 15 pphm (one-hour average), and people are advised to reduce vigorous outdoor activity.

San Diego has not recorded a Stage I ozone episode (commonly called a smog alert) since 1991 and no Stage II episodes since 1979. A Stage I occurs when ozone levels reach 20 pphm and a Stage II alert is called at 35 pphm.

Ground-level ozone is not directly emitted as a pollutant but

rather is formed in the atmosphere when precursor emissions (oxides of nitrogen and reactive organic gases) react in the presence of sunlight. Nitrogen oxides are produced by on and off-road motor vehicles and fuel-burning industrial equipment. Reactive organic gases are emitted by motor vehicles, solvents, consumer products, and the petroleum industry.

Meteorology and terrain play major roles in ozone formation. As a rule, low wind speeds or stagnant air coupled with warm temperatures and cloudless skies provide for optimum conditions.

Summer, therefore, is generally the peak ozone season. Because of the time required for the complex chemical reactions to take place, peak ozone concentrations often occur downwind of the precursor emissions.

Individual site data shows the greatest number of days exceeding the ozone standards occurs at the Alpine monitoring station. Located about 2,000 feet above sea level, the Alpine site reflects smog levels for the lower mountain slopes that

are downwind of the dense urban areas of San Diego.

Pollutants generated in the populated coastal plain are blown inland by the onshore breeze. These pollutants can become trapped against the mountain slopes by a temperature inversion layer. San Diego's temperature inversion is formed when warm, dry air overlies the cool, moist marine air. Hovering around 2,000 feet above sea level, this inversion doesn't allow pollutants to disperse into the air above the inversion layer, causing ozone levels to increase below the inversion layer.

San Diego's smog problem is further complicated by transported emissions from the South Coast Air Basin (Los Angeles, Orange, and parts of Riverside and San Bernardino Counties). These emissions often increase the ozone measured at San Diego monitoring sites, leading to exceedances of air quality standards (*see graph page 6*).

Pollution is often transported from South Coast when northerly winds move ozone trapped aloft within the inversion layer southward into San Diego County. This transported ozone layer aloft most often impacts the Alpine monitoring site.

Transport can also occur when relatively mild Santa Ana winds blowing toward the southwest transport South Coast's polluted air out over the ocean, and the sea breeze brings the polluted air onshore into San Diego County, impacting the coastal monitoring sites.

Inland transport occurs when polluted air from South Coast's inland areas moves south along the I-15 corridor.

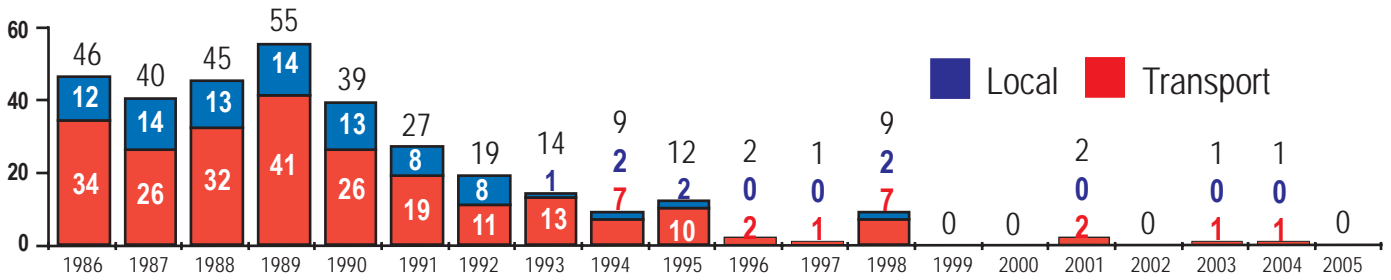


Ozone

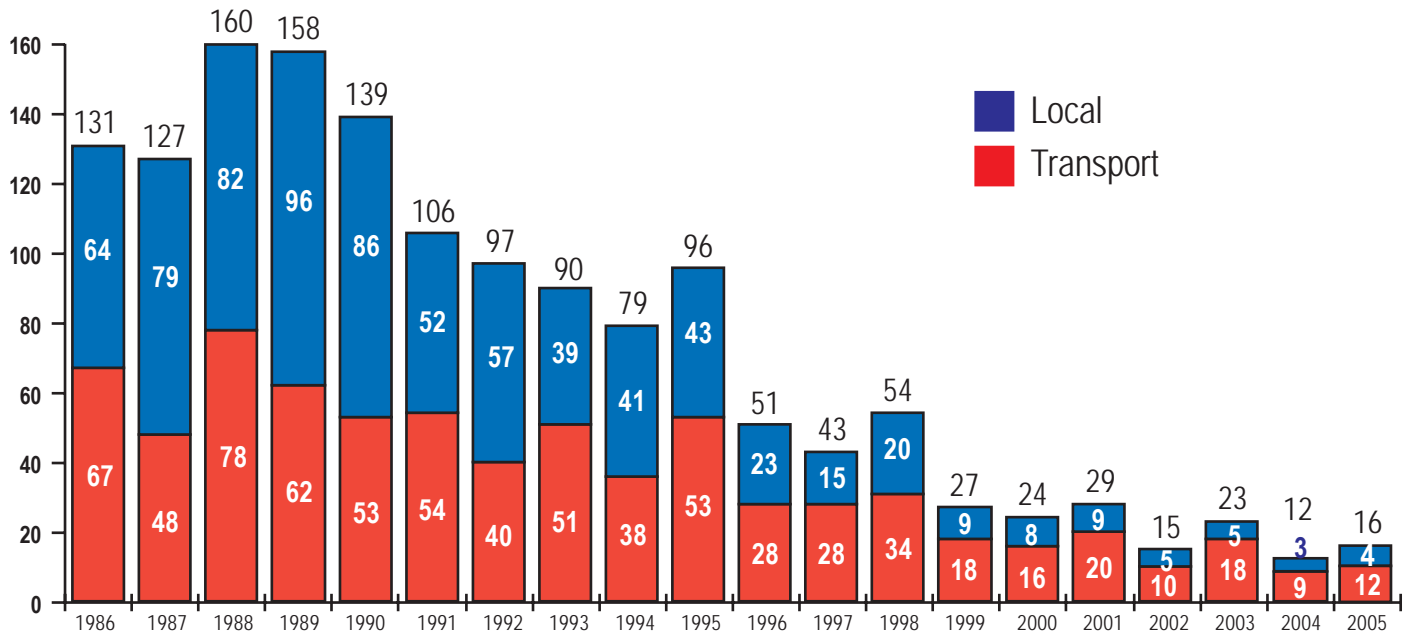
Monitoring Site	Number of Days Exceeding Federal Standard 1-Hour Concentration 12 pphm	Number of Days Exceeding State Standard 1-Hour Concentration 9 pphm	Number of Days Exceeding Federal Standard 8-Hour Concentration 8 pphm	Maximum 1-Hour Concentration (pphm)	Dates of Maximum 1-Hour Concentration
	Chula Vista	0	0	0	9.3
El Cajon	0	0	0	9.2	April 15
Kearny Mesa	0	0	0	8.4	April 15
Del Mar	0	0	0	8.2	Aug. 25
Escondido	0	1	0	9.5	Sept. 3
Alpine	0	13	5	11.3	July 13
Downtown SD*	0 / 0	0 / 0	0 / 0	7.4	May 12 / Aug. 25
Camp Pendleton	0	0	0	9.0	Aug. 25
Otay Mesa	0	2	0	11.2	Oct. 6
Basinwide	0	16	5	11.3	July 13

\*Monitoring station moved: Jan. 1-July 13 at 12th Avenue / July 14-Dec. 31 at Beardsley Street

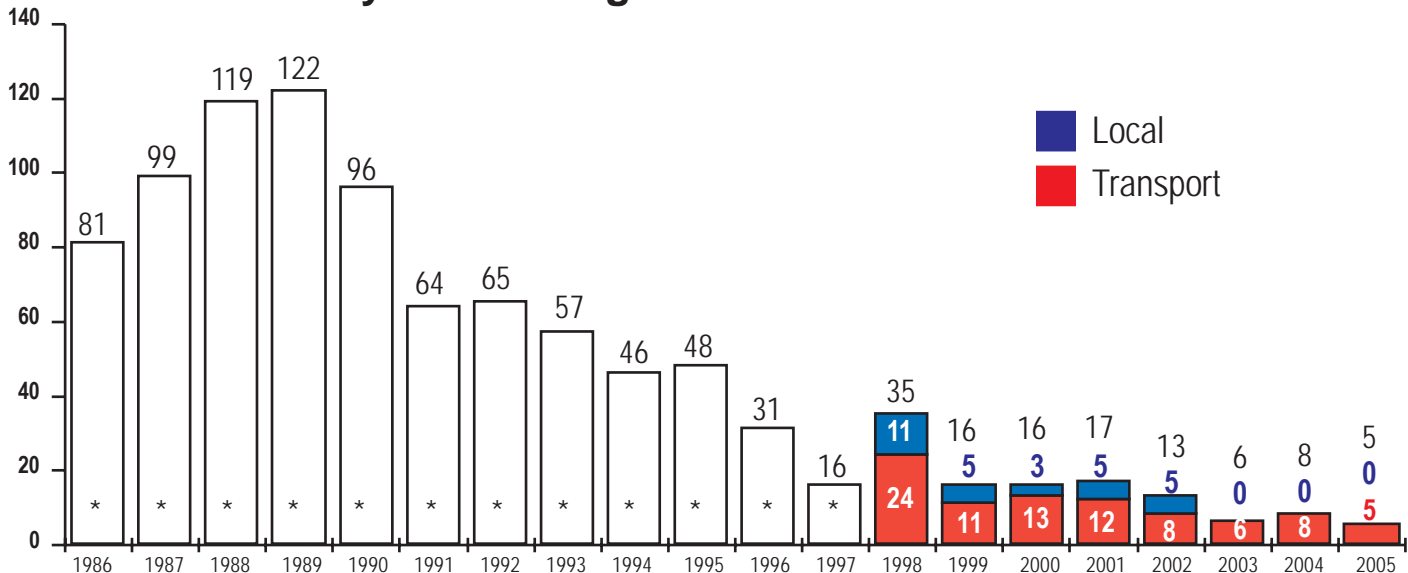
### Number of Days Exceeding Federal 1-Hour Ozone Standard



### Number of Days Exceeding State 1-Hour Ozone Standard



### Number of Days Exceeding Federal 8-Hour Ozone Standard



\*The breakdown between local and transported emissions is not available prior to 1998.

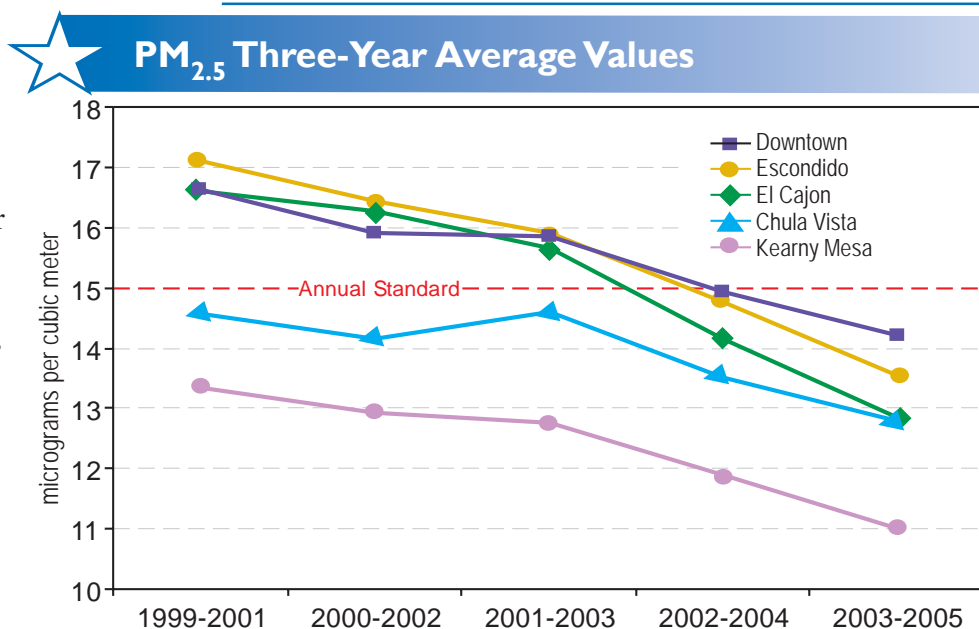
## Particulates

In 2005, the Environmental Protection Agency designated the San Diego Air Basin as an attainment area for fine particulate matter (PM<sub>2.5</sub>). (See page 10.)

Inhalable particulates that are smaller than 10 microns (millionths of a meter) are called PM<sub>10</sub> and those 2.5 microns or smaller are called PM<sub>2.5</sub>. These particulates are made up of a number of components including nitrates and sulfates, organic chemicals, metals, and soil or dust particles.

Some particles are directly emitted into the air. They come from a variety of sources such as cars, trucks, buses, factories, construction sites, tilled fields, unpaved roads, stone crushing, and burning of wood. Other particles may be formed in the air when gases from burning fuels react with sunlight and water vapor. These can result from fuel combustion in motor vehicles, at power plants, and in other industrial processes.

The size of particles is directly linked to their potential for causing health problems. Particles 2.5 to 10 microns tend to collect in the



upper portion of the lungs while those 2.5 microns or less in diameter are so small they can penetrate deeper and damage lung tissue. Exposure to fine particulate can increase the number and severity of asthma attacks and cause or aggravate bronchitis and other lung diseases.

Particulate matter is monitored differently than other pollutants. As air flows through high-volume air sampling equipment, the tiny particles are captured on uncontaminated, pre-weighed filters. After sampling, these filters are

weighed again and the particulate concentrations determined.

There are both annual and daily (24-hour) State and federal standards for PM<sub>10</sub> and PM<sub>2.5</sub>. San Diego meets the federal PM<sub>10</sub> standards but was designated “unclassifiable” before PM<sub>10</sub> monitoring data was available to support an attainment designation. San Diego does not meet the stringent State PM<sub>10</sub> standard, which is not met anywhere in the State except Lake County. San Diego also does not meet the State PM<sub>2.5</sub> standards; however, levels of fine particulate have been declining.

Monitoring Site	PM <sub>10</sub>			PM <sub>2.5</sub>		
	Annual Arithmetic Mean Federal Standard 50 µg/m <sup>3</sup> State Standard 20 µg/m <sup>3</sup>	Maximum 24-Hour Sample Federal Standard 150 µg/m <sup>3</sup> State Standard 50 µg/m <sup>3</sup>	Date of Maximum 24-Hour Sample	Annual Arithmetic Mean Federal Standard 15 µg/m <sup>3</sup> State Standard 12 µg/m <sup>3</sup>	Maximum 24-Hour Sample Federal Standard 65 µg/m <sup>3</sup>	Date of Maximum 24-Hour Sample
Chula Vista	26.5	52	Oct. 7	11.8	34.3	Nov. 6
El Cajon	28.2	48	Dec. 12	11.4	40.9	Oct. 21
Kearny Mesa	22.1	44	Oct. 13	10.2	29.0	Mar. 11
Escondido	23.9	42	Oct. 13	12.3	43.1	Jan. 1
Downtown San Diego*	28.0 / 36.8	76 / 77	Jan. 10 / Sept. 1	11.4 / 15.6	32.3 / 44.1	Jan. 22 / Nov. 15
Otay Mesa**	57.8	155	Oct. 13			

\*Monitoring station moved: Jan. 1-July 13 at 12th Avenue / July 14-Dec. 31 at Beardsley Street

\*\*PM<sub>10</sub> concentrations at the Otay Mesa site are heavily influenced by the site's proximity to the truck border crossing at the U.S.-Mexico port of entry. To better measure concentrations representing the Otay Mesa area as a whole, a parallel monitor was recently established two miles north of the existing monitor, which is not unduly influenced by specific local sources. The data for this second monitor are not yet available.



## Nitrogen Dioxide

The brown haze seen in the San Diego skyline on cold mornings is primarily due to nitrogen dioxide (NO<sub>2</sub>). It is one of the pollutants known generically as oxides of nitrogen, a primary ingredient in the formation of smog.

NO<sub>2</sub> is a by-product of combustion and is emitted from sources such as motor vehicles, ships,

trains, construction equipment, and power plants.

An irritating gas, NO<sub>2</sub> can damage the cells of the respiratory tract and increase susceptibility to infection.

San Diego County has not exceeded the federal annual average NO<sub>2</sub> standard since 1978 nor the State one-hour standard since 1988.

## Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas that forms when the carbon in fuels does not completely burn. Although CO can show up in high concentrations near fires, its primary source is motor vehicle exhaust. The highest concentrations are usually found in areas with congested or high volumes of traffic during cold weather. Cold temperatures make combustion less complete and cause inversions that trap pollutants low to the ground.

CO can adversely affect respiratory and cardiac functions. It can be harmful in both high concentrations for a short period (one hour) and at moderate concentrations over a longer period (eight hours).

Except for one occasion during the firestorms of October 2003, San Diego has not violated the State or federal CO standards since 1990.

### Nitrogen Dioxide

Monitoring Site	Average Annual Federal Standard 0.053 ppm	Maximum 1-Hour Concentration State Standard 0.25 ppm	Date of Maximum 1-Hour Concentration
Chula Vista	0.016	0.071	Nov. 15
El Cajon	0.019	0.079	Nov. 23
Kearny Mesa	0.017	0.076	Oct. 14
Escondido	0.016	0.076	Oct. 13
Alpine	0.011	0.061	Nov. 23
Downtown San Diego*	0.020 / 0.023	0.091 / 0.100	Jan. 13 / Nov. 15
Camp Pendleton	0.012	0.077	Jan. 14
Otay Mesa	0.024	0.109	Sept. 6

### Carbon Monoxide

Monitoring Site	Maximum 1-Hour Concentration Federal Standard 35 ppm State Standard 20 ppm	Date of Maximum 1-Hour Concentration	Maximum 8-Hour Concentration Federal Standard 9 ppm State Standard 9.0 ppm	Date of Maximum 8-Hour Concentration
Chula Vista	2.8	Nov. 23	2.1	Nov. 23
Escondido	5.9	Jan. 20	3.1	Jan. 20
San Diego curbside	5.3	Jan. 19	3.9	Jan. 14
Downtown San Diego*	6.4 / 4.5	April 18 / Dec. 21	4.7 / 3.1	April 16 / Dec. 20
Otay Mesa	7.9	Dec. 6	3.7	Dec. 6

### Sulfur Dioxide

Monitoring Site	Annual Average Federal Standard 0.030 ppm	Maximum 24-Hour Concentration Federal Standard 0.14 ppm State Standard 0.05 ppm	Maximum 3-Hour Concentration Federal Standard 0.5 ppm	Maximum 1-Hour Concentration State Standard 0.25 ppm
Chula Vista	0.003	0.005	0.009	0.016
Downtown San Diego*	0.002 / 0.003	0.006 / 0.009	0.019 / 0.026	0.040 / 0.036
Otay Mesa	0.005	0.013	0.031	0.040

\*Monitoring station moved: Jan. 1-July 13 from 12th Avenue / July 14-Dec. 31 from Beardsley Street

## Sulfur Dioxide

There has never been a violation of the federal or State sulfur dioxide (SO<sub>2</sub>) standards in San Diego County because of low sulfur fuels used in California.

## Lead

San Diego no longer monitors for lead. Historically the use of lead compounds in gasoline was a major source of lead in the atmosphere; however, the use of unleaded gasoline has lowered lead levels well below air quality standards.

Federal standards have not been exceeded since 1980, and State standards have not been exceeded since 1987.



# Air Toxics

An estimated 15,300 tons of toxic air contaminants are emitted annually in San Diego County. Toxic air contaminants, commonly called air toxics, are those pollutants that cause or may cause cancer or other serious health effects or adverse environmental and ecological effects.

Cars and other mobile sources emit about 70% of the County’s air toxics; items such as consumer products and architectural coatings emit 17%; natural sources such as wildfires emit 3%; and the remaining 10% are released from approximately 200 large industrial facilities and 1,600 smaller businesses.

For example, perchloroethylene is emitted from many dry cleaning facilities; and chromium, nickel, and copper can be emitted from plating, painting, and welding operations. Industrial toxic air contaminant emissions have been reduced by about 75% during the past 15 years.

Particulate matter from diesel-fueled engines – both mobile and stationary – are responsible for the majority of the potential airborne cancer risk from toxic air contaminants in California. Accordingly, the California Air Resources Board (ARB) has developed a diesel risk reduction plan to reduce diesel emissions from both new and existing diesel-fueled engines and vehicles. The goal is to reduce diesel particulate emissions and associated health risk 75% by 2010 and 85% by 2020.

In 2005 the District implemented the new Statewide diesel engine Air Toxics Control Measure (ATCM) to control diesel particulate emissions from stationary engines in the county, most of them emergency backup generators and pumps.

The air toxics program is distinct from the District’s efforts to control ambient levels of “criteria pollutants” (i.e., carbon monoxide, nitrogen

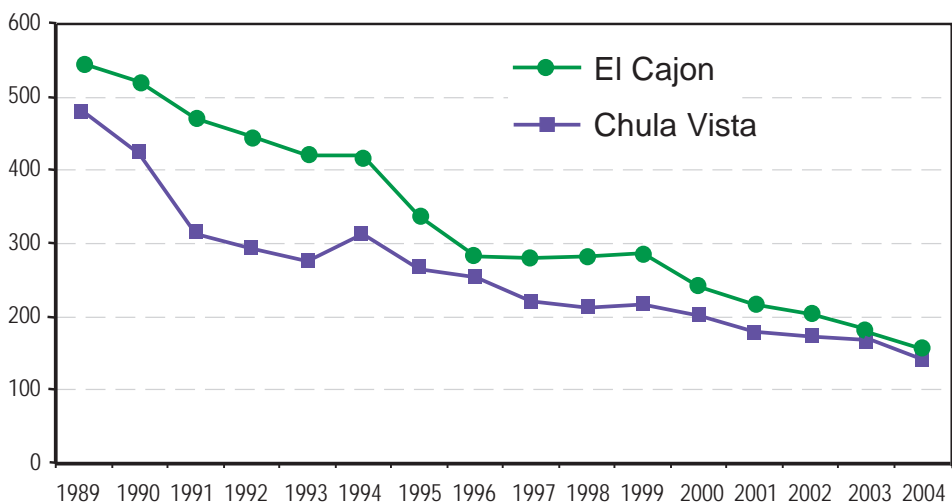
dioxide, ozone, particulate matter, and sulfur dioxide) which have health-based, acceptable levels of exposure. Toxic air contaminants, on the other hand, may produce health effects at extremely low levels and some may accumulate in the body from repeated exposures. There are also a large number of substances that are potentially toxic and, for many, there is limited data on the health effects.

The State ARB lists more than 700 compounds to be assessed under the Air Toxics “Hot Spots” Program. The program’s progress report for San Diego County (entitled the 2004 Air Toxics “Hot Spots” Program Report) is available by contacting the District at (858) 586-2600 or by visiting [www.sdapcd.org](http://www.sdapcd.org).

The District operates ambient air sampling sites for toxic air contaminants in El Cajon and Chula Vista. These two monitoring locations are considered the most appropriate sites for this sampling because they are located nearby and downwind of transportation, industrial, and other air pollutant sources.

Excluding diesel particulates, a 71% reduction in the ambient incremental cancer risk from toxic air contaminants has been measured in Chula Vista and a 70% reduction in El Cajon since 1989 (see graph). The estimated risk was 142 in one million for Chula Vista and 148 in one million for El Cajon in 2004, down from 481 and 545 in one million, respectively in 1989.

## Incremental Cancer Risk



Note: The risk values presented on this graph do not include risk from diesel particulates. Diesel particulates cannot be directly measured, however, risk is currently estimated to be an additional 420 per million.



# Attainment Status

Both the State and federal governments have established clean air standards that designate the maximum amount of a “criteria” air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. These pollutants are called “criteria” air pollutants because they are regulated by developing health-based criteria (science-based guidelines) that are then used as guidelines for setting permissible levels (clean air standards).

An area is designated in attainment for a pollutant when it is in compliance with the clean air standards. This table shows the San Diego Air Basin’s federal and State criteria air pollutant designations.

## San Diego’s Air Quality Designations

	Federal Designation	State Designation
Ozone (one-hour)	Attainment	Nonattainment
Ozone (eight-hour)	Nonattainment	(effective in 2006)
Carbon Monoxide	Attainment	Attainment
PM 10	Unclassifiable	Nonattainment
PM 2.5	Attainment	Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(no federal standard)	Attainment
Hydrogen Sulfide	(no federal standard)	Unclassified
Visibility	(no federal standard)	Unclassified

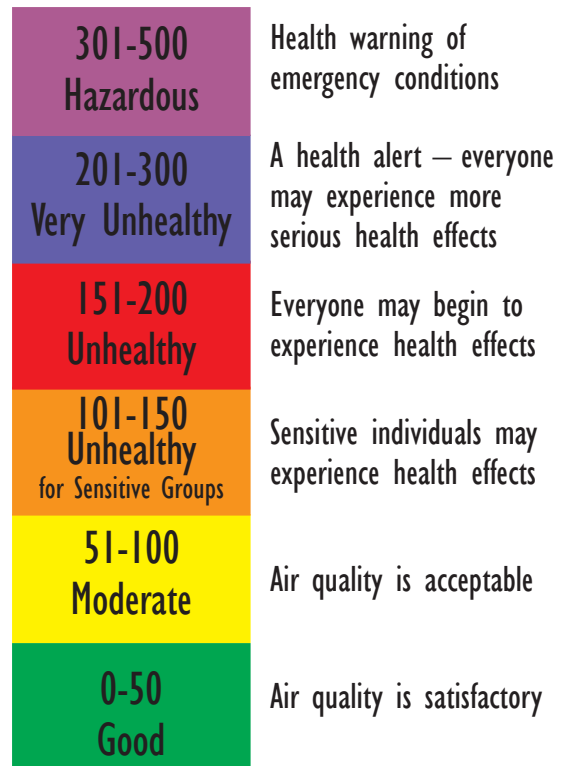
# Air Quality Index

The Air Quality Index (AQI) was established to help the public understand what local air quality means to health.

One way of conveying air pollution information is to report the concentrations of each pollutant. However, different pollutants affect health at different concentrations. The AQI avoids this problem by relating similar degrees of health effects to a uniform scale based on pollutant concentrations.

An AQI value for an area is calculated for each of the major pollutants. The highest of the values for the individual pollutants becomes the AQI value for that day. Since San Diego is in attainment for all but ozone and particulates, the AQI will be for either ozone or particulates, depending on which is forecast to be higher for that day. Ozone is the predominant pollutant of concern during the summer months while PM<sub>2.5</sub> results in greater AQI readings during the fall and winter months.

The AQI is a national index, so the values and colors used to show local air quality and the associated level of health concern will be the same everywhere you go in the U.S.



# Monitoring Network

The San Diego Air Pollution Control District regulates sources of air pollution throughout all 4,225 square miles of San Diego County. However, since the county’s population and most pollution sources are concentrated in the western portion of the county, the District conducts its air sampling at ten monitoring stations in the western region.

The public can check pollutant levels currently being recorded at these stations on the District’s web site at [www.sdapcd.org](http://www.sdapcd.org) (on the air quality page under hourly pollution data).

The web site also contains a daily air quality forecast and a report by monitoring station of the previous day’s high using the Air Quality Index. This information is also available on the District’s 24-hour message line at (858) 586-2800.



■ Air Monitoring Stations in San Diego County

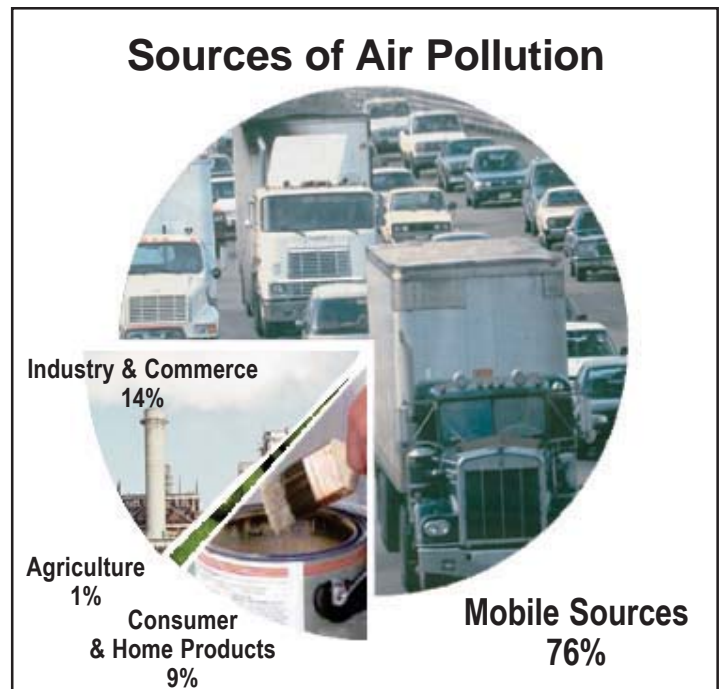
# Pollution Sources

The biggest source of air pollution in San Diego County comes from vehicles and moving equipment powered by an engine – cars, trucks, buses, ships, trains, planes, and construction, farm, and other machinery. Called mobile sources, these produce more than three-quarters of the smog-forming emissions, emit toxic air contaminants, and contribute significantly to particulate matter levels.

Some pollutants, such as particulate matter and toxic air contaminants, can be emitted directly from a vehicle’s tailpipe. Others, such as ozone, form in the atmosphere by means of a chemical reaction. Commonly called smog, ozone is formed when precursor emissions – volatile organic compounds (VOCs) and oxides of nitrogen (NOx) – react in the presence of sunlight. Both VOCs and NOx are emitted by motor vehicles.

Mobile sources are primarily regulated by State government. California was the first State in the country to recognize the impact of vehicle emissions on air quality. The California Air Resources Board (ARB) is responsible for developing Statewide programs and strategies to reduce vehicle emissions. The State also administers the Smog Check program through the Bureau of Automotive Repair.

While Statewide vehicle control programs are the most widely known, local industrial pollution control programs have significantly reduced emissions from stationary sources, resulting in industry being responsible for less than 15% of smog-forming emissions.



# Highlights of 2005

## PM<sub>2.5</sub> Attainment

In 2005, the federal Environmental Protection Agency (EPA) designated San Diego County as an attainment area for its new annual standard for fine particulates (PM<sub>2.5</sub>). San Diego was already designated as attainment for the federal 24-hour PM<sub>2.5</sub> standard.

Initially in 2004, EPA designated San Diego as nonattainment for the annual standard, which would have resulted in significant expense for the District and for affected business activities. The District recognized, however, that EPA had not used the most recent air quality data in its analysis, and that air quality in San Diego was near attainment and continuing to improve.

The District expedited validation of air quality data for 2004 that

demonstrated San Diego County met the annual federal PM<sub>2.5</sub> standard.

EPA created the new standards targeting particles 2.5 microns or less in 1997 based on medical studies showing the tiny particles could lodge deeply into the lungs.

Areas are considered in attainment for the annual PM<sub>2.5</sub> standard when the three-year average of the annual arithmetic mean is equal to or less than 15 micrograms per cubic meter.

## Diesel PM Outreach

The District conducted a comprehensive outreach effort to inform permit holders about the new Statewide diesel engine Air Toxic Control Measure (ATCM) requiring that emissions of diesel

exhaust particulates, a toxic air contaminant, be reduced from stationary diesel engines. More than 1700 stationary engines in San Diego County were affected.

The District held informational meetings attended by hundreds of operators, conducted one-on-one sessions with individuals and groups, issued compliance advisories, and developed a streamlined, web-based procedure for operators to provide required information electronically. The District used this information to update permits without requiring formal permit modification procedures.

By using this comprehensive outreach and innovative permit updating approach, the District achieved a high rate of compliance and facilitated permit updating at a substantially reduced cost.

## Reducing PM

As required by State Senate Bill 656, the District completed its report on “Measures to Reduce Particulate Matter in San Diego County”.

This legislation required air districts to evaluate a Statewide list that identified the most readily available, feasible, and cost-effective particulate matter emission control measures and select the most promising measures for local implementation.

A majority of the measures are already being implemented in San Diego; however, measures addressing residential wood combustion and fugitive dust sources were selected for further study.



Particulate matter is monitored by capturing the tiny particles on filters and the concentration determined by their weight.

## New Look

The District designed a new logo to complement its existing logo in an



effort to increase APCD's branding identification with the public.

The new logo will be displayed on vanpools and shuttle services the District supports cooperatively with the San Diego Association of Governments (SANDAG) and the Metropolitan Transit Service (MTS).

## Binational Project

An innovative project to improve air quality along the U.S.-Mexico border, the San Diego/Tijuana Clean Diesel Demonstration Project was launched in 2005 to reduce heavy-duty diesel truck exhaust in the border region.

Using grant funds provided by the U.S. Environmental Protection Agency, the project provides for retrofitting up to 40 Mexico-based trucks operating in the border region with diesel particulate emission controls. These devices are not required by U.S. or California regulation and, therefore, the resulting emission reductions would otherwise not be achieved.



*Retrofitting Mexico-based trucks that go back and forth across the border with a diesel oxidation catalyst (pictured above) cuts their emissions, thus helping to improve our air quality.*

This project is improving the health and quality of life for San Diegans by reducing toxic diesel emissions in the region from Mexico-domiciled trucks that can legally operate in San Diego but over which the District has no regulatory authority.

## Carl Moyer Program

More than \$2 million was allocated to 15 projects that will reduce oxides of nitrogen (NOx) emissions by nearly 2,000 tons and particulate matter by 75 tons, funded by the Carl Moyer Program, a heavy-duty engine emission reduction incentive program.

In addition to transit and shuttle buses, these projects included the

repowering with cleaner engines of a cruise vessel, fishing boats, tug boats, lumber lifts, wheel dozers, rock trucks, and wheel scrapers.

## Other Highlights

- Began operation of relocated downtown air quality monitor on grounds of Perkins Elementary School in Barrio Logan.
- Offered seven industry-specific training classes this year to help customers understand and comply with District rules.
- Began data collection from new PM<sub>10</sub> monitor at Donovan State Prison to obtain more accurate Otay Mesa particulate data.
- Implemented a streamlined process to update portable diesel engine registrations to comply with new emissions control measure.
- Provided vans equipped with customized workstations and the technologies needed for wireless access to up-to-date information sources for all 23 District inspectors.
- Exchanged nearly 400 high-polluting gasoline lawnmowers for clean, rechargeable electric mowers at the Mowing Down Pollution event.



*After 30 years at its Chesapeake Drive location, the District moved to 10124 Old Grove Road in late 2005. Located in Scripps Ranch, the 36,091-square-foot building is about six miles north of the former Kearny Mesa location.*

# About the District

The San Diego Air Pollution Control District (APCD) is a government agency that regulates sources of air pollution within San Diego County. The District's regulating authority comes from State and federal law.

The San Diego County Board of Supervisors sits as the Air Pollution Control Board. The Board adopts clean air plans and local rules, appoints the District's director, and allocates funding for District operations. This funding comes from the State and federal governments, permit fees charged to local businesses and industries, and vehicle registration fees.

The District is organized into five main areas, each playing a key role in protecting the public from the adverse impacts of polluted air.

## Air Resources & Strategy Development

Air Resources & Strategy Development (ARSD) prepares long-term regional plans to reduce unhealthful pollution levels. As required by the 1988 California Clean Air Act, ARSD is responsible for the District's Regional Air Quality Strategy, which outlines specific plans to attain State air quality standards, and for the continued production of triennial reports on air quality progress and emission reduction programs.

In addition, ARSD maintains San Diego's portion of the State Implementation Plan, a collection of the regulations used by the State to reduce air pollution to levels prescribed by the federal government.



*A District mechanical engineer records engine operating data in support of a source test.*

## Engineering

The Engineering Division evaluates and issues air quality permits to ensure proposed new or modified commercial and industrial equipment and operations comply with air pollution control laws. Permits are necessary to ensure that polluting operations are controlled to the maximum degree technically and economically feasible and that such operations do not interfere



## ★ Our Mission

*To protect the public from the harmful effects of air pollution, achieve and maintain air quality standards, foster community involvement, and develop and implement cost-effective programs meeting State and federal mandates, considering environmental and economic impacts.*

with the attainment and maintenance of healthy air quality.

Engineering also develops local air quality rules and regulations, prepares stationary source emission inventories, implements air toxic emissions inventory and control programs, and evaluates special projects that may impact air quality.

## Monitoring & Technical Services

The Monitoring & Technical Services Division maintains ten monitoring stations that continuously record pollution levels in the San Diego Air Basin. Daily air quality readings and next-day forecasts are recorded on a 24-hour phone



*Chemists in the District's Monitoring Division use specially-equipped vans to sample emissions from industrial sources to make sure they do not exceed the limits specified on their air quality permits.*

## ★ Customer Service Commitment

*Our Customer Service commitment is to know our customers, what they want and expect, and make meeting those expectations a top priority throughout the organization.*

*We will accomplish this in partnership with our customers and in a continuous process improvement environment. We will maintain a customer-friendly attitude in providing high-quality technical service in a responsive and efficient manner.*

message line at (858) 586-2800 and on the District's web site at [www.sdapcd.org](http://www.sdapcd.org). Agricultural burn permit holders can also find out whether air quality conditions permit or prohibit open burning.

Monitoring also conducts and witnesses field testing of stationary sources of air pollution, conducts laboratory analysis for air contaminants, prepares regular and special air quality reports, and is responsible for all air quality modeling.

## Compliance

The District's Compliance Division ensures that regulated sources operate in compliance with



*District Compliance inspectors make sure vapor recovery systems are working both at the pump and at the underground storage tank.*

permit conditions and all applicable regulations. Field staff conduct more than 10,000 inspections a year of both permitted and non-permitted sources of air contaminants.

Working with industry, this division helps businesses by sending informational advisories to all those affected when new requirements are established, providing formal training, and giving individual assistance.

District inspectors also respond to about 500 public complaints a year on air quality matters such as dust from a grading operation or odors from an automotive paint shop. Citizens can report any suspected air quality violations by calling (858) 586-2650 or by visiting the District's web site at [www.sdapcd.org](http://www.sdapcd.org).

## Administrative Support

The Administrative Support Division prepares and administers the District budget, performs business and accounting tasks, and provides permit system support. It also provides employee training, facility management, and information technology coordination and handles public educational and outreach efforts on reducing air pollution.



*The Compliance Division ensures that regulated sources and their control equipment, such as this gasoline bulk tank seal, comply with all applicable regulations.*

In addition, the Administrative Support Division administers funds that are used to reduce regional mobile source emissions including heavy-duty diesel and school buses, and coordinates an electric lawnmower incentive program.



*The District manages nearly 12,000 active air quality permits whose files must be maintained on a continuing basis, keeping accurate up-to-date information on ownership, addresses, and equipment.*

# San Diego County Air Pollution Control Board

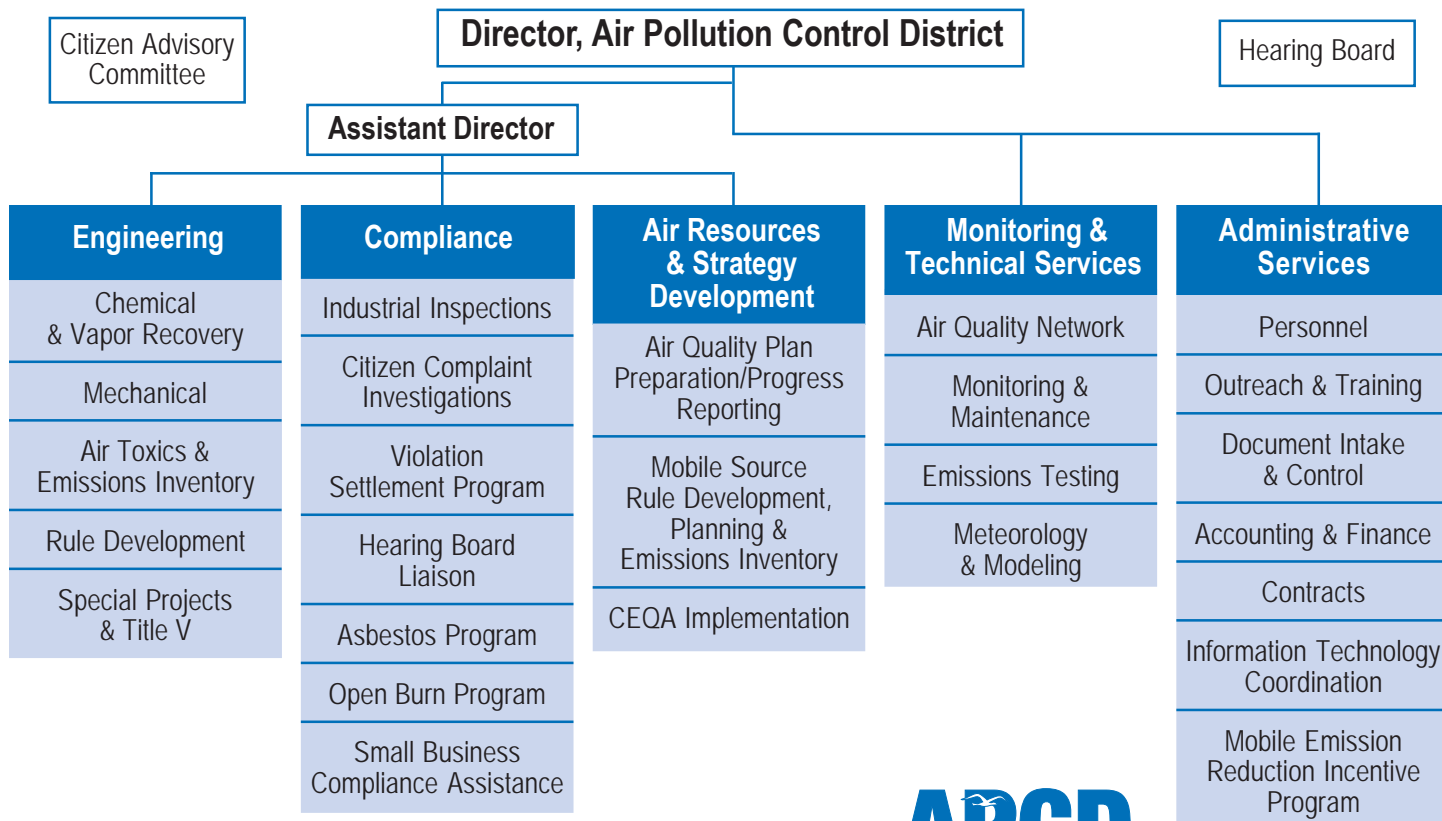
District 1  
**Greg Cox**

District 2  
**Dianne Jacob**

District 3  
**Pam Slater-Price**

District 4  
**Ron Roberts**

District 5  
**Bill Horn**



## Ten Ways to Clear the Air

- 1) Reduce your driving.
- 2) Keep your car in good running condition and the tires properly inflated.
- 3) Don't top off your gas tank.
- 4) Support the smog check program.
- 5) Call 1-800-28-SMOKE to report vehicles with excessive tailpipe emissions.
- 6) Around the home, avoid using aerosol spray products.
- 7) Use water-based paints and solvents. Keep lids closed and use brushes or rollers rather than sprayers.
- 8) Start barbecue briquettes with an electric probe or use a propane barbecue.
- 9) Use energy-efficient lighting. Raise your air conditioner's thermostat and lower your heater's.
- 10) Use a push or electric lawn mower.

Permit & General Information .....	(858) 586-2600
Air Quality Forecast Message .....	(858) 586-2800
Burn Forecast for Open Burning .....	(858) 586-2800
Citizen/Odor Complaints .....	(858) 586-2650
Community Outreach .....	(858) 586-2707
Small Business Assistance (with air quality rules) .	(858) 586-2656
Smoking Vehicle Hotline .....	(800) 28-SMOKE

## Other Helpful Phone Numbers

Air Resources Board .....	(916) 322-2990
American Lung Association .....	(619) 297-3901
ARB Motor Vehicle Hotline .....	(800) 242-4450
Asthma & Allergy Foundation .....	(800) 7ASTHMA
Caltrans General Information .....	(619) 688-6670
Clerk of the Board .....	(619) 531-5600
Environmental Protection Agency .....	(415) 947-8000
Freon Recovery (EPA) .....	(800) 296-1996
Hazardous Materials Information .....	(619) 338-2231
Recycling (non hazardous waste) .....	(877) 713-2784
Smog Check Test Only Stations .....	(800) 952-5210
South Coast Air Quality Management District .....	(909) 396-2000
Stratospheric Ozone Hotline .....	(800) 296-1996
Transit/Trolley/Carpool/Coaster Information .....	(800) COMMUTE
Weather .....	(619) 297-2107