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ANNUAL REPORT



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT



EXECUTIVE STAFF

Jack P. Broadbent
*Executive Officer/
Air Pollution
Control Officer*

Brian C. Bungler
District Counsel

Peter Hess
Jean Roggenkamp **
*Deputy Air Pollution
Control Officers*

DIVISION DIRECTORS

Brian Bateman
Engineering

Gary Kendall
Technical Services

Teresa Lee
*Public Information
and Outreach*

Jeff McKay
Information Systems

Jean Roggenkamp*
Planning

Wayne Tanaka
Administrative Services

Kelly Wee
*Compliance and
Enforcement*

**New position started
November

*Until November

The Bay Area Air Quality Management District (the Air District) is the public agency entrusted with regulating stationary sources of air pollution in the nine Bay Area counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano and southern Sonoma.

Along with the other local air agencies in the state, the Air District reports to the California Air Resources Board (CARB), which oversees its activities and regulates mobile sources of air pollution, such as cars, trucks and buses.

The Board of Directors oversees policies and adopts regulations for the control of air pollution within the district. Before adopting or amending Air District rules, the Board holds public hearings to invite formal input from all interested parties, including affected industries and members of the public. The Board also appoints the Air District's Executive Officer and the District Counsel who manages the legal affairs of the agency.

The Air District Board of Directors is assisted by an Advisory Council that provides input to the Board on air quality matters. The Council is made up of 20 representatives from community, health, environmental and other organizations.

An independent and quasi-judicial five-member Hearing Board serves to adjudicate regulatory compliance issues that may arise between the Air District and local industries.



THE BAY AREA AIR QUALITY MANAGEMENT District is governed by a 22-member Board of Directors composed of locally elected officials from each of the nine Bay Area counties. The number of board members from each county is proportionate to its population.



**2004 BOARD OF DIRECTORS
ALAMEDA COUNTY**

Roberta Cooper
Scott Haggerty, *Chairperson*
Nate Miley
Shelia Young

CONTRA COSTA COUNTY

Mark DeSaulnier
Mark Ross
Erling Horn
Gayle B. Uilkema, *Secretary*

MARIN COUNTY

Harold C. Brown, Jr.

NAPA COUNTY

Brad Wagenknecht

SAN FRANCISCO COUNTY

Chris Daly
Jake McGoldrick
Gavin Newsom

SAN MATEO COUNTY

Jerry Hill
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Vice-Chairperson

SANTA CLARA COUNTY

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Tim Smith
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Letter from the Executive Officer

THE SAN FRANCISCO BAY AREA IS KNOWN ALL OVER THE WORLD FOR ITS beauty, diversity and quality of life. The health implications of air quality within our region are an important part of this overall picture.

That's why I'm especially pleased to report that 2004 was an extraordinary year for air quality in the Bay Area. This was the cleanest year in our nine-county district since we began monitoring air quality here. No excesses of federal air quality standards were recorded for ground-level ozone, and there were only seven excesses of the more stringent state ozone standard.

Thanks to our Board of Directors and our 325 dedicated employees, it was also a year in which the Air District implemented some ground-breaking programs and regulations, such as our rule to monitor emissions from refinery flares. We also are extremely enthusiastic about getting the innovative Community Air Risk Evaluation (CARE) study underway. Over a two- to three-year period, this project will take a hard look at health risks associated with toxic air pollutants, and produce a detailed, localized emissions inventory of air toxics and particulates in the Bay Area.



In addition, we saw favorable legislation signed into law, and provided over \$20 million in grants for programs designed to reduce pollution from cars, trucks and buses through our Transportation Fund for Clean Air.

All of us at the Air District are energized by the knowledge that what we do here makes the region a healthier place to live. Yet we realize that none of the Air District's accomplishments would be possible without community support. We are especially thankful to the record number of people who participated in our Spare the Air program.

There is still much more work to do, however. As we continue our climb towards our goal of clean air every day for the people of the Bay Area, we are convinced that the actions of concerned and committed individuals working with us will make the biggest difference in air quality in this very special region.

Jack P. Broadbent

Jack P. Broadbent

Executive Officer/Air Pollution Control Officer



2004

A milestone year



Clear skies above and fresh pure air to breathe
– that’s been the goal, the mission, the vision
of the Air District since 1955 when it was created
by the California Legislature as the first regional agency
responsible for regulating stationary,
non-vehicular sources of air pollution
on an area-wide basis.

THE NINE-COUNTIES OF THE BAY AREA FORM A REGIONAL AIR BASIN, sharing common meteorological patterns and geographical features, and therefore similar air pollution burdens, which cannot be addressed by the actions of individual cities or counties acting on their own.

Over the years the Air District has labored to clean the skies and reduce air pollution by adopting a comprehensive series of rules and regulations, supporting air-friendly legislation, advancing new technology, and implementing groundbreaking plans, strategies and programs.

These actions – in conjunction with cleaner specifications for automobile engines and gasoline composition required by CARB – have dramatically improved air quality in the Bay Area, despite a marked increase in population and automobile traffic. In recent years the Air District has been the cleanest of the five major urban California air districts. And, in 2004, the Air District recorded no excesses of either the federal one-hour or eight-hour ozone standards. Ozone is the main ingredient in “smog.”

This progress is due to the concentrated efforts of a large number of public and private agencies as well as industry and individuals concerned about air quality in the region.

But the job is not done. This air quality score must be maintained and improved upon as the region grows. There is much more to be accomplished in reducing air toxics, promoting “smart growth” in the region, examining climate change regarding air quality issues, and evaluating indoor contaminants.



District staff keep air monitoring equipment in good working order.

The Air District continues to be a leader in developing innovative solutions for tough air quality problems.



of the year

SPECIAL INITIATIVES

- Creating the Community Air Risk Evaluation (CARE) program for gathering information about air toxic risks in localized areas and mapping these regions

RULE MAKING

- Implementing a new flare monitoring rule providing for detailed analysis of hydrocarbons vented from refinery process units
- Strengthening three important Air District rules regarding equipment leaks, waste water collection and process vessel depressurization at refineries

AIR MONITORING

- Adding a new air monitoring station in San Francisco's Bayview-Hunters Point area
- Installing an air toxics monitoring station in Mountain View to investigate air quality impacts from a Superfund site
- Completed a three-year dioxin monitoring study with CARB and the U.S. Environmental Protection Agency (EPA)

GRANTS AND INCENTIVES

- Awarding \$24 million in grants to fund 150 projects through the Transportation Fund for Clean Air (TFCA), the Carl Moyer Program, Vehicle Incentive Program and Lower Emission School Bus Program
- Providing rebates to convert 850 woodstoves and fire places to burn natural gas in Santa Clara County

COMPLIANCE AND PERMITS

- Attaining a 97.65% compliance rate based on a total of 7,149 tests conducted at industrial sources in this region
- Completing processing for issuing four Title V original permits, four renewals, and 45 modifications

OPERATIONAL EFFICIENCY

- Completing the cutover to a more efficient District-wide accounting system
- Initiating a roadmap for a multi-year process to modernize the Air District's infrastructure to streamline and consolidate business and operating procedures

- Initiating the phased-in upgrade of software and hardware District-wide

PUBLIC OUTREACH

- Recording the highest ever public participation in the Spare the Air program
- Training 122 teachers to teach the Clean Air Curriculum in classrooms with the potential curriculum exposure of 13,000 students
- Sponsoring 14 community meetings and participating in 60 community events

LEGISLATIVE ACHIEVEMENTS

The Air District supported several air quality-related bills which were passed by the California Legislature and signed into law by Governor Schwarzenegger. Most notable among them were AB 923 and AB 2683—important legislation with far-reaching benefits in the years ahead.

- **AB 923** funds air quality programs through a \$2 motor vehicle registration fee increase (from \$4 to \$6) and imposes a state tire disposal fee. In addition, the bill made changes to the Carl Moyer program which provides grants to reduce diesel engine emissions. This legislation will potentially raise up to \$80 million annually statewide for the next ten years for incentive-based clean air programs.

- **AB2683** ends the rolling 30-year exemption in the Smog Check program. Vehicles will no longer reach an exemption age, but will continue to have smog checks. This legislation has the potential of reducing 13 tons per day of smog-forming emissions by the year 2015. The Air District sponsored this statewide measure which was authored by Assemblywoman Sally Lieber, D-Mountain View.

- **SB 1107** provides \$61 million in new, ongoing Carl Moyer program funding to reduce emissions from diesel engines.

- **AB 2128** redirects smog check program fees into increased vehicle scrappage programs to remove older, more polluting vehicles from operation.

- **AB 471** prohibits incineration on cruise ships within three miles of shore to reduce emissions into the air and water.

Air quality in the Bay Area:

Volcanoes, dust storms and forest fires have been producing air pollution as long as the earth has existed. Yet emissions caused by human civilization and its waste products have long since outpaced natural sources of pollution and have exhausted nature's ability to self-cleanse.



Understanding the problem

IN THE SAN FRANCISCO BAY AREA THERE ARE three main air pollution problems: ozone, particulates and toxic air contaminants. These pollutants are the main ingredients in the pollution haze referred to as “smog.” (The word “smog” was originally coined to describe the combination of smoke and fog prevalent in London more than 300 years ago).

Ozone is a colorless and odorless gas formed by a complex series of photochemical reactions—in the presence of heat and sunlight—between reactive organic compounds (the evaporation of gasoline, paints, solvents) and oxides of nitrogen (a product of combustion).

Ground-level ozone is a respiratory system irritant. It can cause coughing, headaches, and irritation of the eyes, nose and throat. Ozone triggers asthma symptoms, and may aggravate chronic respiratory diseases, such as emphysema and bronchitis. At higher concentrations, it can inflame and damage the lining of the lungs.

Ozone is primarily a problem in the summer, when higher temperatures and longer days provide ideal conditions. Some of the region’s ozone problems are created by emissions from industrial facilities, ranging from large oil refineries and power plants to smaller gas stations and dry cleaners. But nearly 75 percent of ozone-producing pollution in the Bay Area is caused by cars, trucks and buses.

Other contributors to the ozone problem are seemingly mundane everyday activities like painting, using lighter fluid for backyard barbecues, doing yard work with gas-powered lawn and garden equipment, and even using aerosol household products like hair spray and cleaning products.

It is important to note that ozone pollution, or ground-level ozone, is distinct from ozone in the upper atmosphere, or stratospheric ozone, which forms as the result of different processes, and which serves as a protective shield against the sun’s ultra-violet radiation.

Particulates are made up of microscopic pieces of dust, smoke, soot,

metal, allergens and liquid droplets suspended in air. Particulates are commonly divided into two categories: PM10, or particulate matter under 10 microns in size (about 1/7th the diameter of a human hair); and PM2.5, or particulate matter under 2.5 microns in size, also known as “fine particulates.”

These tiny particles can cause minor health problems such as burning eyes and a runny nose, and more serious illnesses such as bronchitis. PM2.5 can penetrate deeply into the lungs when inhaled, and even enter the bloodstream. These fine particulates have been linked to premature deaths in people with chronic heart and lung diseases. Prolonged exposure to certain kinds of particulates, such as those produced by diesel exhaust, is known to cause cancer.

Particle pollution is most problematic in the winter. Temperature inversions commonly occur at night and in the early morning, as colder air sinks downward under a layer of warmer air that acts as a lid, trapping pollutants close to the ground. Seasonal woodburning from woodstoves and fireplaces contribute about 30 percent of the particulates on any given winter night. Motor vehicles, though, are the major source of particle pollution in the Bay Area.

Toxic Air Contaminants (TACs) are emitted from many sources such as industrial processes, fuels, or even dry cleaners. Many of these substances may cause cancer or other health effects at certain exposure levels. The Air

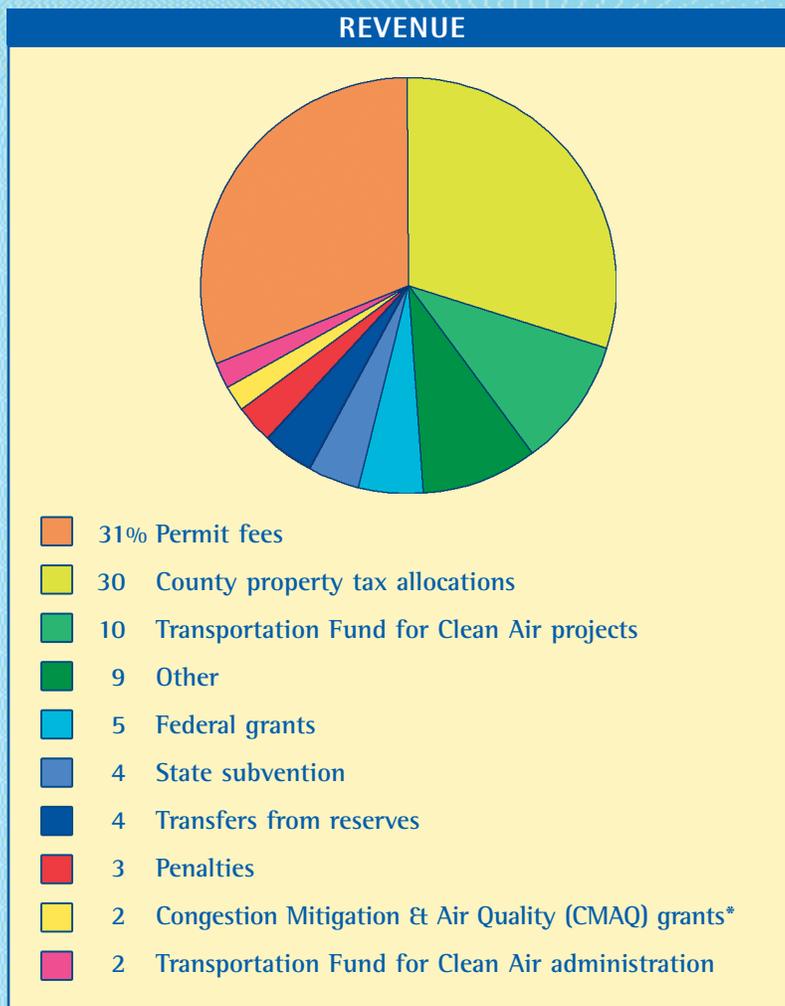
District monitors 20 of these TACs, maintains an inventory of toxic emissions from regulations to reduce toxic emissions. Our engineering staff reviews permit applications for potential impact from approximately 200 TACs, prepares health risk screening assessments, and reduces exposure from many of these sources by requiring effective control technology and limiting operations.



The work of the laboratory includes analyzing pollutant samples, and particulate matter filters and is a crucial link in compliance issues.

Funding our programs

THE AIR DISTRICT'S BUDGET IS BASED ON FUNDING THE OPERATIONS AND PROGRAMS NEEDED TO ATTAIN AND MAINTAIN SPECIFIC CLEAN AIR GOALS.



* federal funding via MTC

Leading the clean air campaign

WHY THE AIR DISTRICT WAS FORMED

In the early 1950s, scientists in the new field of air pollution discovered that ground-level ozone corroded rubber, plastic, concrete and caused eye irritation and breathing difficulties. It eroded buildings and caused cellular damage in animals and plants. The harm ozone inflicted on trees, plants and crops took a heavy financial toll on agriculture. These effects convinced the California Legislature that something had to be done to find solutions. In addition, the overt effects of pollution – burning eyes and throats and difficulty breathing – were becoming more pronounced.

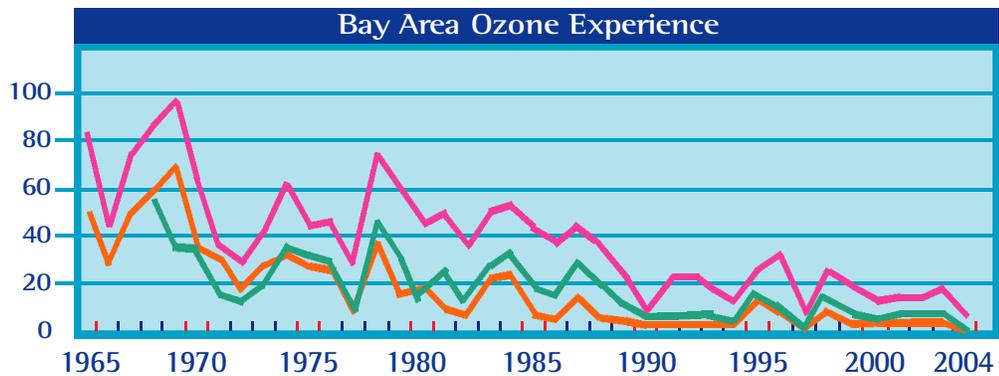
In 1955 the California Legislature formed the Air District, initially named the Bay Area Air Pollution Control District, in recognition of the inability of any one city or county to have a substantial impact on the problem. Air pollution knows no boundaries, and emissions are transported by the movement of air from one community to another, sometimes causing air quality problems far away from their original sources.

All of the Air District's plans, regulations and programs are based upon the need to protect both the health of the public and the environment. Over the years, as emissions from industrial controls succeeded and knowledge about the causes of pollution increased, the Air District's role was expanded to focus on transportation control measures to reduce vehicular sources of pollution – now the major source of air pollution. Through the Transportation Fund for Clean Air (TFCA) the Air District funds many programs and projects to reduce pollution from vehicular traffic. These include incentives paid to public and transit agencies to use clean fuel vehicles or construct bike lanes.



Attaining federal and state standards:

THE FEDERAL GOVERNMENT AND THE STATE OF California have established separate health-based clean air standards for some of the most common air pollutants, including ozone, PM10 and PM2.5.



- Days Exceeding National 1-Hour Standard (.12 ppm)
- Days Exceeding State Standard (.09 ppm)
- Days Exceeding National 8-Hour Standard (.08 ppm)
- Comparable data not available before 1968.



The planning process

IF AN AIR DISTRICT MEETS OR ATTAINS THESE STANDARDS, THE REGION IS considered *in attainment*. If it does not meet the standards, certain planning requirements and emission reduction measures are implemented to bring the region into attainment status. The Bay Area attains most ambient air quality standards, but more progress is needed to attain all ozone and particle pollution standards. The Bay Area's attainment status for some pollutants is currently under review.

The federal standards are set by the EPA. State standards are set by CARB. In most cases, state standards are stricter than federal requirements. The Air District's mandate is to monitor and control the following pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulates, sulfates, lead and hydrogen sulfide in addition to a comprehensive list of toxic air contaminants.

In 2004, for only the second time since the agency began tracking air quality levels, the Air District recorded no excesses of the federal one-hour and eight-hour ozone standards. The more stringent one-hour California state standard was exceeded on seven days over the same period – the fewest excesses ever recorded.

The EPA requires every state in the nation to submit a *State Implementation Plan*, or *SIP*, enumerating the measures that will be put in place to reduce emissions sufficiently to meet federal air quality standards. In addition, the California Clean Air Act of 1988 requires all local and regional air districts in California to develop strategies to reduce pollution and attain state standards.

In the Bay Area, these strategies are developed in cooperation with the Metropolitan Transit Commission (MTC) and the Association of Bay Area Governments (ABAG) and provide a blueprint for future control measures and programs. During 2004 the Air District continued work on updating ozone attainment strategies – including workshops and community meetings to gain public input on efforts to reduce ozone levels.

Regional air quality plans typically include measures to:

- Reduce stationary source emissions through regulations
- Encourage low emission vehicles through incentive programs
- Encourage transportation alternatives to reduce vehicular emission.

Monitoring and forecasting air quality

THE AIR DISTRICT HAS BEEN MONITORING ambient air quality since 1962, when it established the first regional air monitoring system in the nation. Today that system has grown to be the most comprehensive monitoring network in the country, consisting of 33 monitoring stations operating 24 hours a day, seven days a week.



○ Air Monitoring Sites ▲ Meteorological Sites

AIR DISTRICT METEOROLOGISTS ANALYZE DATA COLLECTED FROM A network of towers located throughout the nine counties. Meteorological data combined with information from air monitoring stations, weather computer models and satellite feeds are used to track air quality trends over time, and to make daily air quality forecasts for the public. In addition, daily controlled burn forecasts are issued to fire officials for planning prescribed burning in their areas.

Air District planners use all of this information for atmospheric modeling in the formulation of air quality improvement strategies.

Community Air Risk Evaluation (CARE)

In July 2004 the Air District embarked on a pioneering project known as the Community Air Risk Evaluation program. This innovative program involves a systematic analysis of stationary and mobile pollution sources in specific areas in the region.

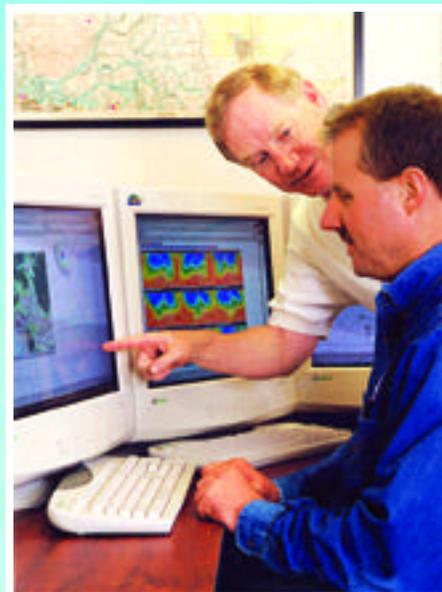
The CARE program will allow the Air District to develop a detailed emissions inventory and create a localized picture of how toxic air pollutants – including carcinogenic diesel exhaust – are distributed.

Based on its findings, the Air District can see whether particular communities or neighborhoods are disproportionately impacted and will be able to mitigate risk more effectively using incentives, grant program funding and regulatory controls.

Special Studies

During 2004 the Air District participated in various national, state and local scientific studies monitoring the region's air quality, including the **Caldecott Tunnel Study** for evaluating mobile source emissions and completed the **California Ambient Dioxin Air Monitoring Program**, a rigorous, three-year study of dioxin levels in the Bay Area.

The Air District continues to participate in the **Central California Ozone Study (CCOS)** which began in 2000 as a comprehensive study involving field monitoring, data analysis, emissions data gathering and atmospheric modeling. This on-going project involves the collaborative work of the EPA, CARB, the Department of Energy, the California Energy Commission, the National Oceanographic and Atmospheric Administration and industry representatives. The CCOS study provides the scientific data used in the development of Air Quality Plans.



Air District meteorologists track and use computer models and other relevant data to provide daily air quality forecasts.

Controlling pollution at the source

SINCE 1972 THE AIR DISTRICT HAS USED A PERMIT system to evaluate and control the installation, use, or modification of any stationary industrial processes or equipment that cause air pollution.

Permits are issued and annually renewed for all equipment that emits air pollutants at both large and small industrial facilities in the region. In 2004, there were five refineries, 3,800 gasoline dispensing facilities, 101 major industrial facilities and another 6,083 small to mid-sized facilities operating under permit in the Bay Area.

These figures include the major industrial facilities issued operating permits under the federally mandated Title V program. This program, also known as the Major Facility Review, requires comprehensive tracking of all federal, state and local air quality requirements for Title V permit holders. A total of 45 permit revisions to Title V facilities were processed in 2004 and 4 original and 4 renewal Title V permits were issued.

In 2004, the Air District made great strides in its ongoing efforts to streamline the permit process. Permits currently take only 35 working days to process – the shortest permit review period in the state – and the Air District maintains a no-backlog status in all categories.

Controlling Toxic Air Contaminants

The Air District has included an air toxics health risk screening as part of its permit process since 1987. In that same year, the Legislature passed AB2588 – the Air Toxics “Hot Spots” Information and Assessment Act that required air districts to inventory sources of air toxics emitted from industrial processes and then to prepare health risk assessments showing any impacts to residents in areas near or downwind of known emitters. Facilities above certain thresholds were required to notify their communities of the health risks. In 1991, the Air District was the first district in the state to complete the process and to begin an aggressive air toxics reduction program. At that time, there were 30 facilities on the list required to notify their neighbors. Today there are no facilities on the list. In 2004, 404 health risk assessments were performed for 368 facilities.

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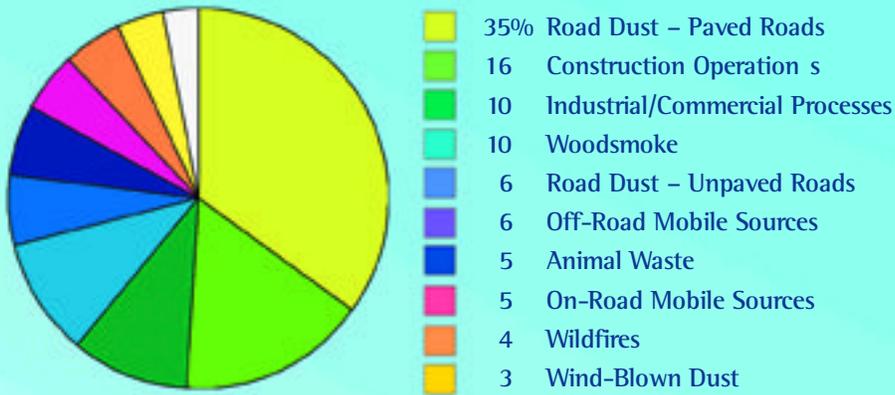
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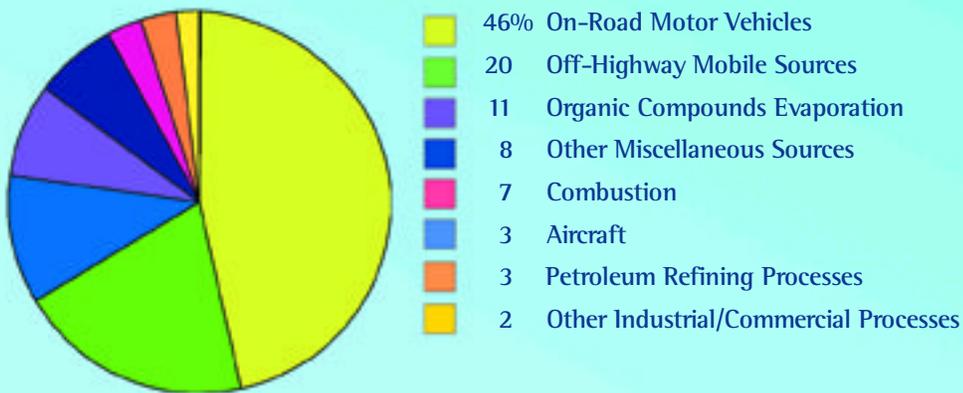
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SOURCES OF PARTICULATE MATTER



SOURCES OF SMOG-FORMING EMISSIONS



Assuring compliance

Compliance and Enforcement

The Air District's comprehensive compliance program oversees enforcement of regulations and permit conditions and provides effective deterrence for non-compliance. Some 105 staff members, including 75 field inspectors and supervisors, conduct inspections of air pollution sources, verify compliance, investigate breakdowns, document violations, and respond to accidental releases of air contaminants and citizen complaints about air pollution.

Air District inspectors respond to emergency situations and citizen complaints. When a call is made to the Air District's toll-free complaint line **1-800-334-ODOR**, an inspector is dispatched to the site as soon as possible. In 2004, the complaint program was enhanced to include among other things, the implementation of multi-lingual translation capability. **There were 2,600 complaints called in to this line in 2004.**

Testing at the Source

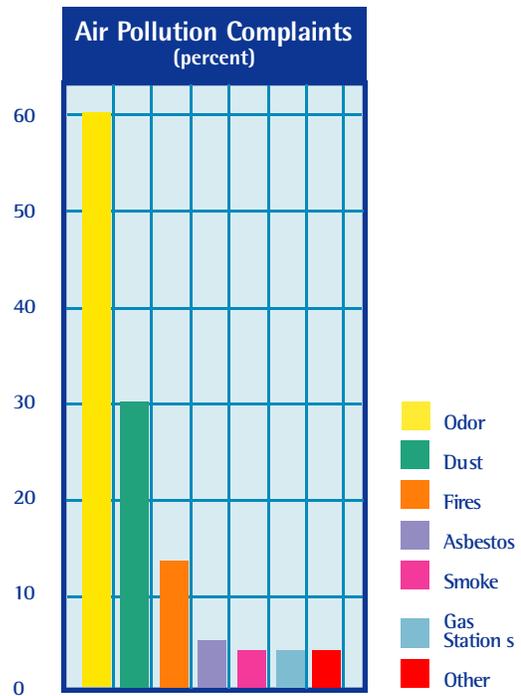
Source Test engineers and technicians monitor emissions at stationary sources, sometimes by climbing tall stacks. They collect samples for on-site analysis using instrumentation in five specially outfitted vans. This allows them to immediately determine if emissions are in compliance with facility permit requirements. Vapor recovery equipment at gas stations and bulk transfer facilities also are evaluated to reduce hydrocarbon emissions.

In 2004 a total of 7,149 source tests were conducted in the Bay Area and 168 violations were found, for a compliance rate of 97.65%. Of these source tests, 328 were performed at the five Bay Area refineries .

The Laboratory

The Technical Services Division also operates and maintains a state-of-the-art laboratory that provides analysis and evaluation of pollutant samples to support Air District programs and rule enforcement. Samples are routinely collected by staff inspectors and source test engineers and brought to the lab for analysis. **In 2004 the laboratory processed and analyzed 3,644 pollutant samples .**

Mobile air quality monitoring is also conducted in response to accidental pollution releases at refineries and other facilities and the samples are brought to the laboratory for analysis.



. . . these high rates of compliance
demonstrate that vigilant testing
and continuous emissions monitoring
are effective incentives

to comply with our
regulations.

*- Air District Executive Officer
Jack P. Broadbent*



*Our team of air quality inspectors works to ensure that
air quality regulations are enforced.*

WHEN MOTOR VEHICLE EMISSIONS SURPASSED industrial emissions as the major cause of air pollution, the 1988 California Clean Air Act gave local air districts the authority to initiate strategies to minimize pollution from mobile sources through what are termed Transportation Control Measures (TCMs). The Air District works with MTC, transit districts, cities and counties and others to implement TCMs.

The Transportation Fund for Clean Air

To help pay for these new transportation control measures, the California Legislature enacted Assembly Bill 434 in 1991 authorizing the Air District to receive a vehicle surcharge on all motor vehicles registered in the Bay Area. To receive and allocate these funds, the Air District set up the TFCA.

In 2004, the surcharge was increased from \$4 to \$6 per vehicle and currently generates approximately **\$20 million** per year for projects that reduce motor vehicle pollution region-wide. By law, 40 percent of the funding goes directly to the nine Bay Area County Congestion Management Agencies. The Air District uses the remaining 60 percent of the funds to make awards to public agency projects through a competitive bid process, using a set of Board-adopted criteria.



Grant programs



Using TFCA funds, the Air District sponsors a wide range of programs and outreach, including purchasing clean air vehicles, providing shuttle and feeder bus service to train stations, encouraging ride-sharing, building bike paths, and many more.

Some of the Air District's most significant TFCA-funded programs include:

- The **Vehicle Buy-Back** program pays owners of 1985 and older motor vehicles \$650 to voluntarily “retire” one of these older vehicles and crush. Since older vehicles have older technology and emission controls, they tend to pollute much more than newer cars.

I've been sailing on San Francisco Bay most of my life, so I'm keenly aware of the benefits of retrofitting or changing out dirty diesel marine engines .

– Brian C. Bunger, District Counsel

In the nine years since this program began, the Air District has spent a total of \$18.5 million to scrap 23,865 vehicles . This figure includes \$3.5 million spent in 2004 to scrap 4,573 vehicles . Emission reductions for this program are estimated to be 586 tons .

- **The Vehicle Incentive Program (VIP)** provides incentives to public agencies to purchase low emission alternative fuel vehicles with a gross weight of 10,000 pounds or less. Public agencies also may apply for a VIP grant on behalf of non-public entities, subject to detailed criteria.

- **The Lower Emission School Bus Program** provides financial incentives to school districts to replace older school buses. Replacing older buses reduces the exposure of school children to harmful emissions of particulate matter, and reduces oxides of nitrogen and non-methane hydrocarbons that contribute to smog.

- The Air District recently developed a voluntary program for the **retrofit of heavy-duty diesel engines** operated by Bay Area government fleets. Heavy-duty diesel engines are a significant source of particulates linked to lung cancer and respiratory illnesses.

- In partnership with MTC, the Air District is making incentive funds available to both public and private **solid waste collection vehicle fleets** for installing control technology to reduce emissions.



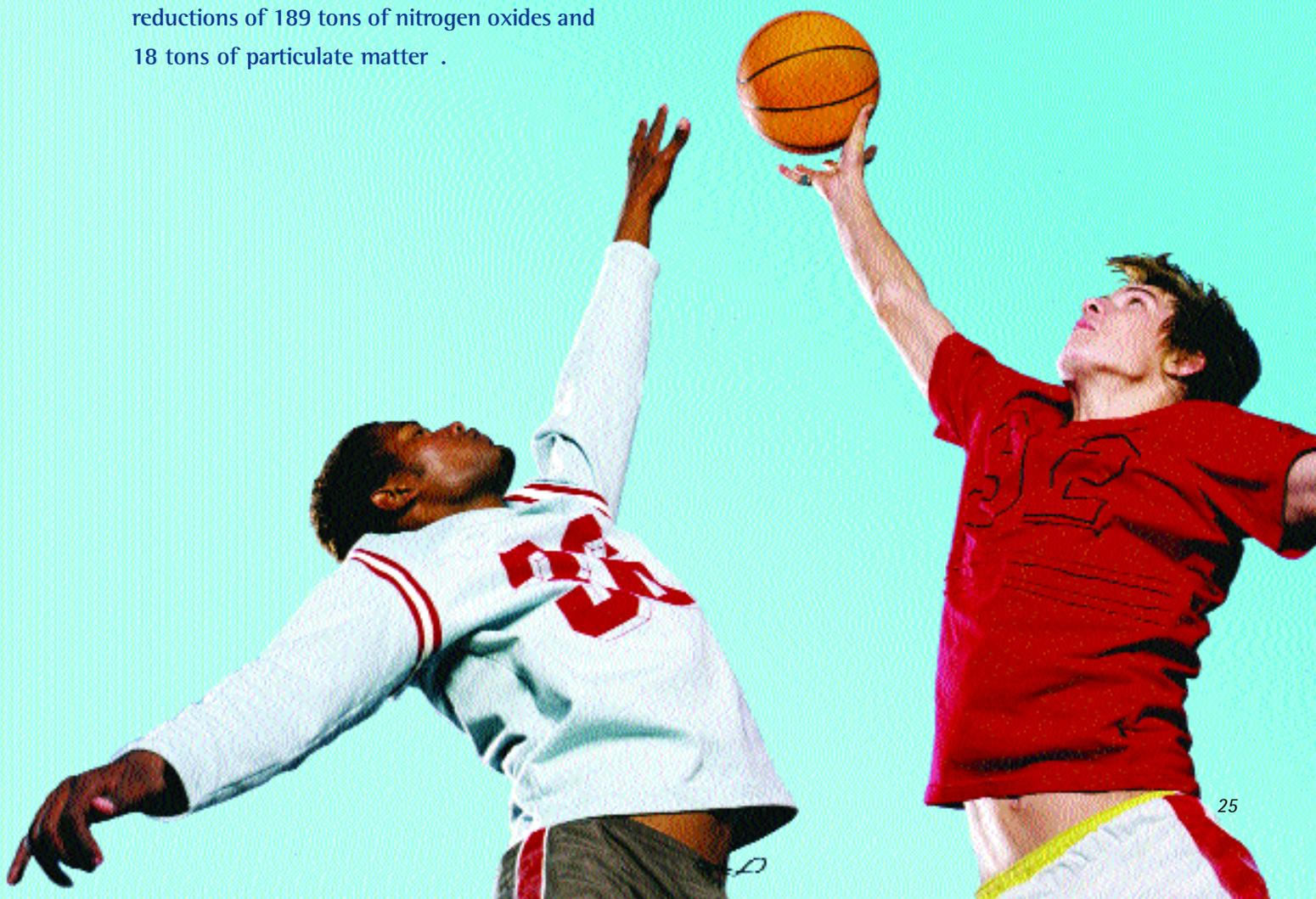
The Carl Moyer Program

The Carl Moyer program – named for a pioneering researcher in diesel particulates – is a state-funded program created by the California Legislature in 1998 and managed locally by the Air District. It provides grants to cover the purchase of lower-emission heavy-duty engines or pollution abatement devices for trucks, transit buses, marine vessels, construction equipment, trains and other engines. The state legislature approved additional funding for future Carl Moyer Program grants in 2004.

In 2004, after evaluating 86 grant applications, the Air District awarded \$3.25 million in Carl Moyer Grants to 16 projects:

- San Francisco Municipal Railway (MUNI) was awarded \$500,000 to assist with the retrofit of up to 375 MUNI diesel buses.
- Other projects funded include the retrofitting of a tugboat's engines and the replacement of existing engines on 6 marine vessels, 17 off-road vehicles and one agricultural water pump.

Once completed these 16 projects will result in annual emission reductions of 189 tons of nitrogen oxides and 18 tons of particulate matter .



Promoting clean air choices:

DELIVERING THE CLEAN AIR MESSAGE TO THE MANY DIVERSE COMMUNITIES AND POPULATIONS IN THE BAY AREA IS ESSENTIAL.

The Air District promotes clean air choices through a variety of methods such as advertising and public relations campaigns as well as public meetings and events. In 2004 the Air District held 14 community meetings on air quality topics and participated in 60 fairs and community sponsored events.

Spare the Air

The Spare the Air Program has been one of the Air District's most effective and widely recognized outreach campaigns since its inception in 1991. During the summer months when ground-level ozone becomes a pollution problem, the Air District issues Spare the Air advisories for days on which federal health-based ozone standards are forecast to be exceeded. On these Spare the Air days, the Air District urges residents to cut back on activities that cause pollution.

These Spare the Air advisories are posted on the www.sparetheair.org Web site along with the daily forecasts, which are also recorded on the 1 (800) HELP AIR forecast phone line, announced in local newspapers and broadcast on local TV and radio stations. Residents can also sign up for automatic e-mail AirAlerts, providing advance notice the day before Spare the Air days.

At the end of the 2004 summer:

- 24,000 residents had signed up for automatic e-mail AirAlerts, an increase of 50 percent from the previous year.
- 575 schools were receiving AirAlert e-mails, an 18 percent increase over the previous year.
- 2,225 businesses took part in an Employer Spare the Air program and received free tools to help them educate over one million employees about pollution prevention.

Also in the summer of 2004 the Air District teamed up for the first time with MTC and Bay Area Rapid Transit (BART) to offer free morning



Public outreach

commutes on BART for the first five weekday Spare the Air days. In response, **BART reported ridership increased by 40,000 on the Spare the Air days of September 7 and 8.**

Surveys in 2004 indicated that over 82 percent of Bay Area residents are aware of the Spare the Air program, and 78 percent have a favorable impression. Public recognition and participation has been growing year by year.

Spare the Air Tonight

The Spare the Air Tonight program operates in the winter when particulate pollution from woodstoves and fireplaces is a major health concern. Just like tobacco smoke, woodsmoke contains particulates and other toxic air pollutants that can cause lung and heart disease.

The Air District's woodsmoke public awareness campaign includes Spare the Air Tonight advisories when winter air quality reaches unhealthy levels. In addition, tips for reducing pollution from wood burning are disseminated to the public in a variety of ways, including printed materials and on the Web site: www.sparetheair.org.

Woodsmoke Programs

In 1998 the Air District developed a model woodsmoke ordinance for cities and counties to use as a guidance document for regulating fireplace and wood stove pollution from residences. **In 2004, five cities adopted some version of the ordinance, bringing the total to 32 cities and six counties in the greater Bay Area.**

**. . . we are convinced that the actions
of concerned and committed individuals
working with us will make the biggest difference
in air quality in this very special region.**

– Jack Broadbent, Executive Officer

In 2004 a pilot project was significantly expanded to offer all residents within Santa Clara County rebates for replacing old wood stoves or fireplaces with new natural gas-burning appliances. Approximately 850 conversions have been made so far.

Lawn Mower Buy Back Program

A total of 1,588 gasoline-powered lawn mowers were exchanged for electric mowers during the Air District's 2004 lawn mower buy back campaign.



Smoking Vehicle Program: 1-800-EXHAUST – 800exhaust.org

The 1-800-EXHAUST Program to report Smoking Vehicles began in 1992 as a way to decrease the number of vehicles spewing visible tailpipe exhaust on the region's roads and highways.

Anyone who spots a smoking vehicle can report the incident by phone or online. The program notifies vehicle owners that their vehicle was spotted emitting excessive exhaust and encourages them to have their vehicles checked and tuned or repaired, if necessary. A car, truck or bus emitting visible exhaust for more than 10 seconds may be cited and fined by local or state law enforcement.

In 2004 a total of 32,244 smoking vehicles were reported to 1-800-EXHAUST or to www.800exhaust.org.

Youth Outreach

Educating future generations about the causes and effects of air pollution is vital if continued progress is to be made in cleaning up the air. In 2004 the Air District presented 100 Smogzilla theatri-

cal performances in 63 elementary schools entertaining and educating approximately 35,000 students. Another 13,000 pupils were exposed to information about the importance of clean air thanks to six educational workshops that trained 122 classroom teachers in the Clean Air Challenge Curriculum.

Community Outreach Program

In 2001 the Air District's board adopted a community outreach policy underscoring its commitment to fair enforcement and increased public participation without regard to age, culture, ethnicity, gender, race, socioeconomic status or geographic location.

As part of this program, the Air District sponsored seven meetings in 2004 to answer questions, share information and provide a forum for residents to voice community concerns on air quality issues.

Clean Air Champions

Each year the Air District honors a few outstanding citizens who demonstrate a consistent and inspirational personal commitment toward improving air quality. The winners in 2004 were:

Cynthia Witwicki, her daughter **Kelly Witwicki**, and Kelly's friend **Colleen Zak** who helped promote the successful Safe Routes to School Program in Marin County, and significantly reduced the number of children arriving at Mill Valley Middle School alone in cars.

John Holtzclaw, a San Francisco resident and Sierra Club volunteer who has dedicated much of his life to educating and engaging the public about the impact of transportation choices on air quality, and has served as founder, chair or board member on many air quality organizations, including the Air District's Advisory Council.

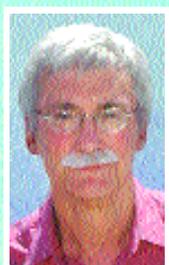
James Callahan, an Oakland resident and environmental scientist who helped develop the environmental science program at Chabot Space and Science Center, and has created educational Web sites, among his other accomplishments.



Cynthia Witwicki



Kelly Witwicki



John Holtzclaw



Colleen Zak



James Callahan

Focusing on the future:

OVER THE PAST FEW DECADES, THE AIR DISTRICT has made great strides in reducing pollution in the region, but there is obviously still work to be done.

Scientists have only recently begun to see evidence regarding the role of airborne particulates in climate change. The need to reduce particle pollution becomes more acute as new information comes to light.

Future plans call for redoubling Air District efforts to address other troubling problems such as greenhouse gas emissions, asthma triggers and indoor air quality.

Present and future challenges involve reducing particle pollution from diesel engines. These engines last for 30 to 40 years, and waiting that long to replace these fleets is not an air-friendly option. While there are some regulations coming into force for the retrofitting of diesel trucks and buses, more headway needs to be made. Also, other pollution sources – such as engines on marine vessels, locomotives or aircraft – need to be examined to develop more methods to reduce their emissions.

Every year automobiles are cleaner because California leads the nation in emissions regulations and the car manufacturers have followed the demands of the state's 20 million car buyers. Ever cleaner automobiles lie in the future. Right now,



The work ahead



it looks as if hybrids offer the most practical solution until new technologies are further developed and available.

Yet, just as rapidly as technology and civilization move forward, complications seem to emerge. Population growth is straining the region's infrastructure and the miles vehicles travel continue to go up as people move further from their place of work to find affordable housing.

Working with communities to promote housing construction near transportation hubs through smart growth initiatives may be one way to keep the progress being made on automobile emissions from eroding over time. Continuing investigation of new technologies and energy sources such as fuel cells and solar power could lead to improvements in air quality and fuel independence.

One thing is clear: despite all the stringent regulations and proactive programs in place, government agencies like the Air District and our partners cannot make a lasting impact unless the public not only cooperates but also actively participates in efforts to reduce pollution. A healthy environment for everyone in the Bay Area demands that the quest for cleaner air continue.

Living in the Bay Area is about
quality of life – to me that means
being outdoors in the clean air
as much as possible.

– Jean Roggenkamp, Deputy Executive Officer



B A Y A R E A	939 Ellis Street
A I R Q U A L I T Y	San Francisco, CA 94105
M A N A G E M E N T	www.baaqmd.gov
D I S T R I C T	www.sparetheair.org

Air Pollution Complaints 1-800-334-ODOR (6367)

Report Smoking Vehicles 1-800-EXHAUST (394-2878)
www.800exhaust.org

Daily Air Quality Forecasts 1-800-HelpAir (435-7247)
Spare the Air Advisories
Agricultural Burn Days
Informational Materials

General Business 415-771-6000

Public Information 415-749-4900

Compliance Assistance 415-749-4999

Permit Services 415-749-4990

Library 415-749-5088

