

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
ANNUAL REPORT 2006

clean **air**



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Introduction

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 counties that surround San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties.

The Air 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.

The Board oversees policies and adopts regulations for the control of air pollution within the district. The Board also appoints the Air District's Executive Officer/Air Pollution Control Officer, who implements Board policies and gives direction to staff, and the District Counsel, who manages the legal affairs of the agency.

The Air District consists of over 340 dedicated staff members, including engineers, inspectors, planners, scientists, and other professionals.

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

An independent, quasi-judicial, five-member Hearing Board serves to adjudicate regulatory compliance issues that may arise between the Air District and local industries, and hears appeals of permitting decisions made by the Executive Officer.

letter from the executive officer



Jack P. Broadbent

Executive Officer
Air Pollution Control Officer

In 2006, the Air District's field of vision encompassed a broad spectrum of air quality concerns, from the global to the local.

It was a year in which we continued to take seriously our role as one of the leading air quality management agencies in a state that has historically led the nation in the fight against air pollution, a state with the most stringent air quality rules in the country.

Last year, the effects of greenhouse gas emissions on the Earth's climate rose to the forefront of air quality issues facing not only our region and state, but the international community as a whole. Climate change will affect us all. As the fifth largest economy in the world, it is incumbent upon California to use its leadership to reduce greenhouse gas emissions. In the Bay Area, the Air District sought to galvanize local support for addressing climate change, to use our experience to guide regional climate protection initiatives, and to catalyze local action.

On November 10, at the first-ever Bay Area Climate Protection Summit hosted by the Air District in San Francisco, former Vice-President Al Gore and a distinguished panel of speakers presented the facts about climate change to a gathering of Bay Area leaders. This year, the Air District will build on the momentum generated at this Summit by working with our Bay Area partners in government, industry, and local communities to outline climate protection solutions for the near future.

While collaborating with other agencies and organizations to address the international problem of climate change, we will not lose sight of our traditional emphasis on measuring, analyzing, and abating sources of air pollution in the Bay Area's neighborhoods and communities. In 2006, the first phase of our pioneering CARE Program was completed. Like a photograph developing in a darkroom, this program is providing us with a more detailed

EXECUTIVE MANAGEMENT STAFF



Brian C. Bunger
District Counsel



Jean Roggenkamp
Deputy Air Pollution
Control Officer



Peter Hess
Deputy Air Pollution
Control Officer



Michael Rich
Human Resources
Officer



Mary Ann Goodley
Executive
Office Manager

DIVISION DIRECTORS



Brian Bateman
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Jack M. Colbourn
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Henry Hilken
Planning, Rules
and Research



Gary Kendall
Technical
Services



Jeff McKay
Finance, Admin.
& Info. Systems



Kelly Wee
Compliance and
Enforcement

picture of where toxic air pollution impacts sensitive populations in the region. Phase I underscores the importance of controlling sources of particulate matter from diesel exhaust, and has helped us to pinpoint several neighborhoods for increased attention in years to come.

The Air District will continue to develop its core programs, and to address new challenges from within the framework of solutions to its traditional air quality problems. In 2006, for example, greenhouse gas emissions were included as evaluation criteria in our grant program guidelines, and in 2007 we are working to incorporate greenhouse gas emissions into our rule development parameters.

Last year, we stayed ahead of the regulatory curve by amending and updating our first-in-the-nation flare monitoring rule for refineries. And in 2007 our Board will consider an equally unprecedented commercial-cooking

rule to regulate emissions from restaurant charbroilers. As the year progresses, we will begin examining new approaches to curtailing wood smoke, which contributes substantial amounts of harmful particulate matter in the wintertime.

In the ongoing campaign to keep our air clean, we rely on the cooperation of the Bay Area's residents. It is a privilege for each of us to live in this wonderful area, with its temperate climate and appealing vistas. To preserve its unique charm, we all need to make informed clean air choices as we go about our daily activities.

At the Air District, we will continue to apply our full resources to resolve any air quality challenges that may arise in the years to come. On behalf of our dedicated employees, it is my pleasure to present our 2006 Annual Report.

*Before a problem like air pollution can be solved,
it must be measured and analyzed.*



Hiroshi Doi

Senior Air Quality Instrument Specialist

quality

measuring air quality in the bay area

In the Bay Area, as in the state of California as a whole, a certain amount of air pollution comes from stationary industrial sources, such as refineries and power plants. But most harmful air emissions come from cars and trucks, construction equipment, and other mobile sources. California has more cars per person than any other state in the nation, along with a thriving economy and a continually expanding population. All of these factors contribute to the state's air quality problems.

AIR MONITORING

The Air District maintains one of the most comprehensive air quality monitoring networks in the country, consisting of 28 monitoring stations distributed among the nine Bay Area counties to gather data on pollution levels in populated areas and in areas of highest expected concentrations. This network measures concentrations of pollutants for which health-based ambient air quality standards have been set by the federal Environmental Protection Agency (EPA), and by the California Air Resources Board (CARB). These pollutants include ozone, particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide. The Air District's network also measures concentrations of 20 toxic air contaminants.

The District also operates two relocatable air monitoring stations similar to those used by CARB under the Children's Environmental Health Protection Program. These stations are placed in communities of interest for one to two years, in order to compare local air quality measurements with those obtained by the agency's monitoring network.

LABORATORY

The Air District maintains an extensive laboratory with state of the art equipment for testing air quality samples collected from ambient monitors, from source tests, or during accidental releases at permitted facilities. The laboratory also analyses samples submitted by the Enforcement Division for compliance with District regulations. In 2006, the laboratory processed and analyzed 3,989 pollutant samples.

FORECASTING

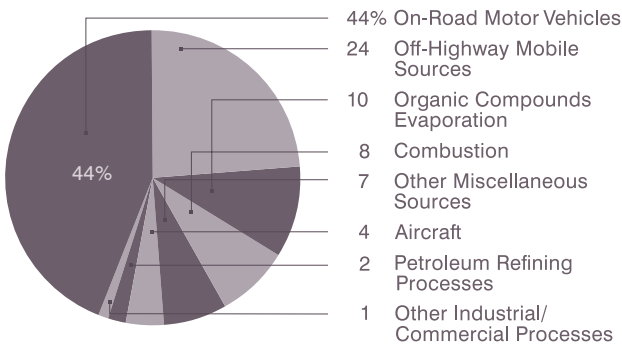
Weather patterns play a fundamental role in determining, on any given day, whether air pollution will disperse or accumulate. Air District meteorologists collect and analyze data from a network of meteorological sensors located throughout the nine Bay Area counties. These data—in combination with air monitoring measurements, computer models, and satellite information from weather services—are used to make daily air quality forecasts for the public.

Based on this intensive process of measurement and analysis, the Air District has determined that there are three main types of air pollutants that pose a public health concern in the Bay Area:

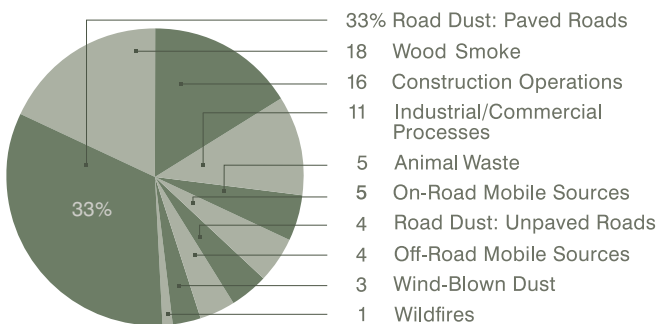
OZONE

Ozone is the main ingredient in the pollution haze commonly called “smog.” Primarily a problem in the summertime, ozone is a colorless gas formed through a complex series of photochemical reactions involving sunlight and heat. It is not emitted directly into the air, but is formed instead from other directly released pollutants: reactive organic compounds and oxides of nitrogen.

SOURCES OF OZONE-FORMING EMISSIONS



SOURCES OF PARTICULATE MATTER



PARTICULATE MATTER (PM₁₀ AND PM_{2.5})

Particulate matter, or PM, consists of microscopically small solid particles or liquid droplets suspended in the air. PM can be emitted directly into the air, or it can be formed from secondary reactions involving gaseous pollutants that combine in the atmosphere. Particulate pollution is primarily a problem in the winter, accumulating when cold, stagnant weather comes to the Bay Area.

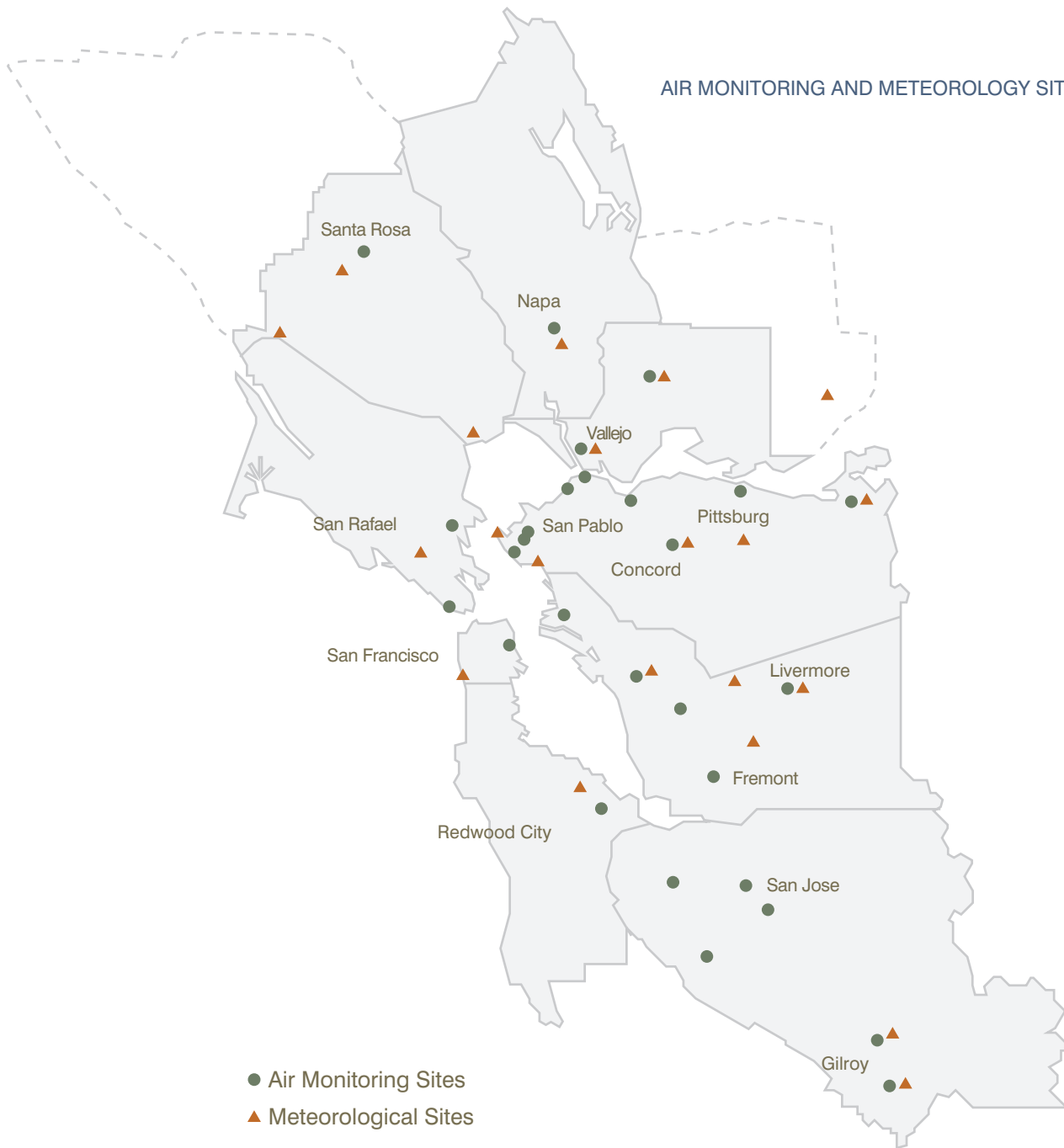
PM is usually broken down further into two size distributions: PM₁₀ and PM_{2.5}. PM₁₀ refers to particles with diameters that are less than or equal to 10 microns in size (a micron is one-millionth of a meter), or about 1/7 the diameter of a human hair. PM_{2.5} are particles with diameters that are less than or equal to 2.5 microns in size.

In the Bay Area, PM_{2.5} is a more serious health concern than PM₁₀, since smaller particles can travel more deeply into our lungs and cause more harmful effects.

TOXIC AIR CONTAMINANTS (TACS)

Toxic Air Contaminants (TACs) are a category of pollutants that can potentially cause serious health effects, such as cancer, in relatively small concentrations. The state of California has classified more than 240 TACs, which are emitted by mobile sources such as cars and trucks, large industrial plants such as refineries and power plants, and smaller facilities like gas stations and dry cleaners. PM from diesel exhaust is listed as a TAC by the state of California.

AIR MONITORING AND METEOROLOGY SITES



planning and developing clean air rules

AIR QUALITY STANDARDS

The Air District's regulations and programs are formally guided by a set of federal and state air quality standards that establish health-based concentration limits for specific pollutants, including ozone and particulate matter.

When an air district meets these standards, its region is considered to be in attainment for a given pollutant category. If it does not meet these standards, the air district is required to outline measures designed to reduce emissions and bring its region into attainment. In 2006, there were two significant changes to these air quality standards. In the summer of 2006, the state of California's eight-hour standard for ozone became effective. And in the fall of 2006, the U.S. EPA lowered the national 24-hour average PM_{2.5} standard from 65 to 35 micrograms per cubic meter.

OZONE STRATEGY

In January of 2006, the Air District's Board of Directors adopted the *Bay Area 2005 Ozone Strategy* for achieving the California one-hour ozone standard. This document offers measures for reducing ozone-forming emissions from industry, commercial processes, motor vehicles, and other transportation sources. The Air District implements the *Ozone Strategy* by adopting rules for stationary sources and implementing programs to reduce emissions from motor vehicles and other mobile sources.

PM IMPLEMENTATION SCHEDULE

Throughout 2006, the Air District worked to develop measures outlined in the *2005 PM Implementation Schedule*. Adopted at the end of 2005, this document was required by California Senate Bill 656 to expedite attainment of the state and national PM₁₀ and PM_{2.5} standards. In 2006, Air District staff began work on a new rule limiting emissions from commercial charbroiling, and on amendments to existing rules reducing emissions from stationary internal combustion engines.

RULE DEVELOPMENT

Rule development is an ongoing project. The Air District is constantly strengthening and

refining its rules and regulations to improve air quality. Public participation is an integral element of this process: rule development begins with public meetings, continues with public workshops, and culminates when the rule is presented for adoption at one of the Board of Director's regularly scheduled meetings, which is open for public comment. A current list of the Air District's rules and regulations is available at www.baaqmd.gov.

2006 RULEMAKING ACTIVITY

APRIL 5

Regulation 12: Miscellaneous Standards of Performance,
Rule 12: Flares at Petroleum Refineries (Amended)

JUNE 7

Regulation 3: Fees (Amended)

JULY 19

Regulation 2: Permits,
Rule 10: Large Confined Animal Facilities (Adopted)
Regulation 1: General Provisions and Definitions (Amended)
Regulation 2: Permits,
Rule 1: General Requirements (Amended)

OCTOBER 18

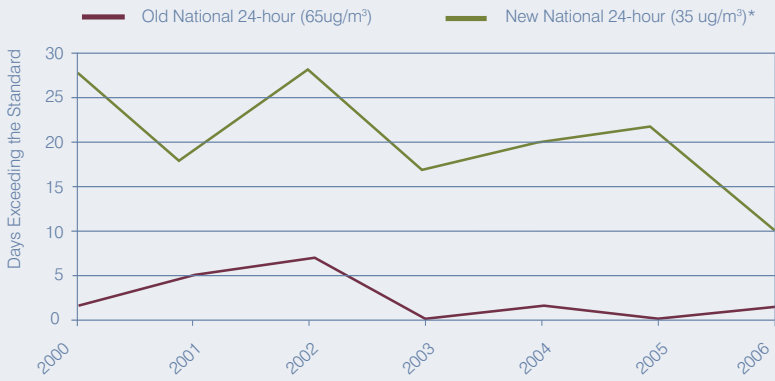
Regulation 8: Organic Compounds,
Rule 5: Storage of Organic Liquids (Amended)

DECEMBER 6

Regulation 9: Inorganic Gaseous Pollutants,
Rule 9: Nitrogen Oxides from Stationary Gas Turbines (Amended)

BAY AREA HISTORICAL EXCEEDANCES

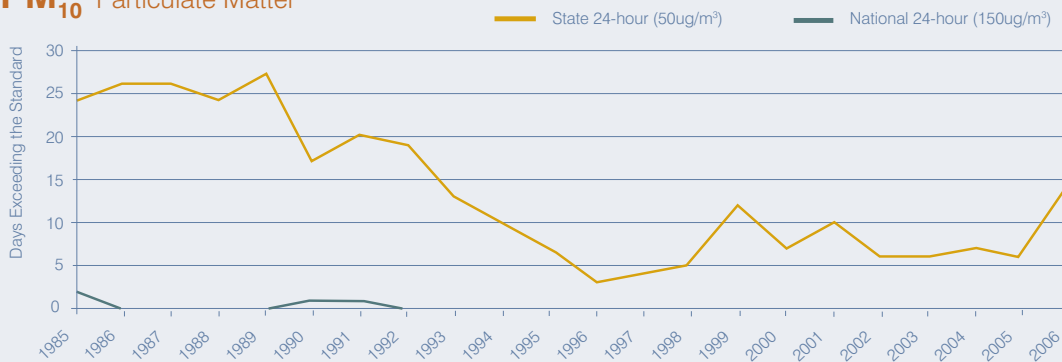
PM_{2.5} Particulate Matter



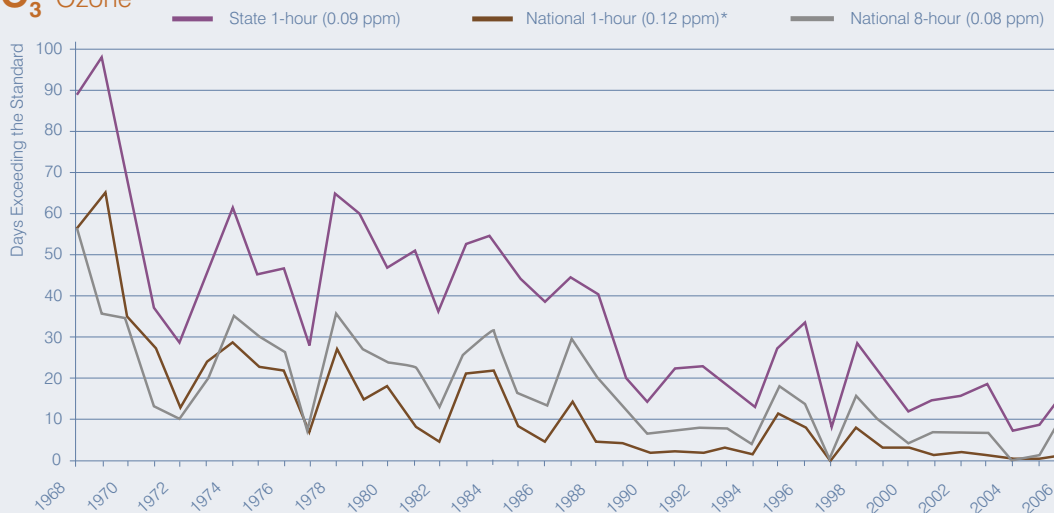
*On Dec. 18, 2006, the U.S. EPA lowered the national 24-hour PM 2.5 standard to 35 micrograms per cubic meter.

Air quality planning is a work in progress—the Air District constantly updates and refines its rules to meet the most protective clean air standards.

PM₁₀ Particulate Matter



O₃ Ozone



*The national 1-hour ozone standard was revoked on June 15, 2005.

On May 17, 2005, the California Air Resources Board implemented a new 8-hour ozone standard of 0.070 ppm, which was exceeded on 22 days in 2006 in the Bay Area.

Bay Area "In Attainment" Status

POLLUTANT	CO	NO ₂	O ₃	Pb	SO ₂	PM ₁₀	PM _{2.5}
NATIONAL STANDARD	✓	✓		✓	✓	✓	✓
STATE STANDARD	✓	✓		✓	✓		

CO	Carbon Monoxide	SO₂	Sulfur Dioxide
NO₂	Nitrogen Dioxide	PM₁₀	Particulate Matter
O₃	Ozone	PM_{2.5}	Particulate Matter
Pb	Lead		

spotlight on: climate protection

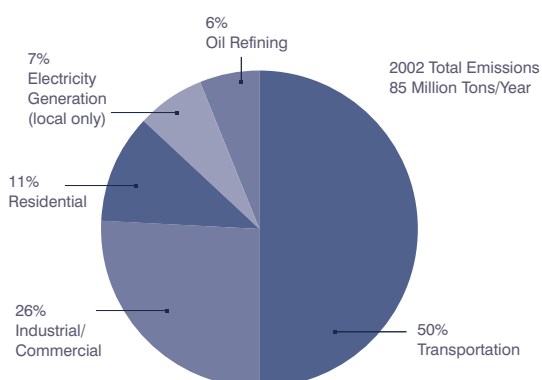
Across the nation, and right here in the Bay Area, public awareness about the consequences of climate change has reached an all-time high. There is now a solid scientific consensus that recent changes in the Earth's weather patterns and surface and ocean temperatures have been primarily caused by a buildup of greenhouse gases, most of which are generated by the combustion of fossil fuels for heat, electricity, and transportation.

In 2006, the Air District played a prominent role in guiding climate protection activities in the Bay Area. On November 10, 2006, the agency hosted the region's first-ever Bay Area Climate Protection Summit in San Francisco. Former Vice-President Al Gore, the keynote speaker, shared a galvanizing multimedia presentation on the effects of global climate change. Additional speakers included Air District Board Chairperson Gayle B. Uilkema, the District's Executive Officer Jack P. Broadbent, and other prominent Bay Area leaders. About 500 individuals attended, including elected officials, government agency representatives, business executives, community leaders, and high school and college students active in climate protection.

This diverse group of local leaders contributed a melting pot of ideas and solutions by attending network discussion sessions at the conclusion of the featured speeches. The Air District plans to follow up by providing support and resources to participating organizations for implementing these climate protection solutions. At the Summit, the Air District also announced the creation of a pioneering \$3 million Climate Protection Grant Program. A call for projects for climate protection activities in the Bay Area is expected to begin in the fall of 2007.

In 2006, the agency completed the Bay Area Greenhouse Gas Emission Inventory, which was presented at the Climate Protection Summit, and funded a comprehensive study to evaluate greenhouse-gas emission-control technologies for stationary sources.

BAY AREA GREENHOUSE GAS EMISSION INVENTORY



The Air District has been working to integrate climate protection into its traditional programs for reducing air pollution in the Bay Area. In 2006, for the first time, the agency incorporated greenhouse gas emissions as a criterion in evaluating its TFCA grant applications. And in 2007, the District's regulatory program will consider incorporating emission reductions of greenhouse gases, where feasible.

Awareness and action are the keys to climate protection.

As part of its commitment to climate protection, the Air District is evaluating its own carbon footprint. Last year, the agency completed an internal source inventory of greenhouse gas emissions and is implementing policies to lessen its energy usage and fuel consumption. Promoting energy-efficiency, both within and outside its walls, offers a way for the District to lead local climate protection efforts by example.

The Air District's Climate Protection Program emphasizes collaboration with ongoing climate change abatement efforts at the local and state level, as well as the extension of public education and outreach resources and technical assistance to cities and counties. As part of this effort, the District is helping Bay Area schools develop strategies to

lessen their climate change impact, and is working to educate local students about climate protection.

On September 27, 2006, Governor Schwarzenegger signed a landmark bill (AB 32) to create a comprehensive statewide program to reduce greenhouse gas emissions. And just as the state of California has spearheaded the nation's climate protection efforts, the Air District continues to lead the way in the Bay Area. By spreading awareness of the global climate change problem, spurring action among community, government, and industry leaders, and incorporating greenhouse gas reductions into its regular programs and everyday activities, the Air District has positioned itself at the vanguard of climate protection activities in the region.



Bay Area Greenhouse Gas Emission Inventory

7%
Electricity
Generation
(local only)

6%
Oil Ref

Transportation 2002 Total Emission
Million Tons/Year

Ana Sandoval

Principal Environmental Planner

protect



K. R. Bhagavan
Air Quality Engineer

controlling sources and ensuring compliance

PERMITS

The Air District evaluates and issues permits to operators of new and modified equipment and processes that cause air pollution. The permit ensures that the operator will comply with federal, state, and local air pollution laws, including Best Available Control Technology, Toxics, Offsets, Prevention of Significant Deterioration, and the California Environmental Quality Act.

2006 BAY AREA PERMITTED FACILITIES

Refineries	5
Gasoline-Dispensing Stations	2,463
Major Industrial Facilities Excluding Refineries	85
Smaller Industrial Facilities	6,497
Total	9,050

2006 NEW PERMIT APPLICATIONS RECEIVED

Major Facility Review (Title V) Permits	90
Gasoline-Dispensing Facilities	380
Other Facilities	1,109
Total	1,579

TOXICS PROGRAM

The Air District's Toxics Program integrates federal and state laws and regulations concerning toxic air pollution into the Air District's permit program. As part of the permit process, the Air District performs toxic health risk screening analyses for all new projects in the region that require air quality permits and emit toxic air contaminants in quantities greater than *de minimis* levels. The Air District also inventories existing commercial and industrial sources of toxic air pollution. Facilities that emit significant

2006 HEALTH RISK SCREENING ANALYSES

Commercial/Industrial	302
Gasoline-Dispensing Facilities	66
Number of Facilities:	368
Number of Analyses:	393

Stopping pollution at the source takes a coordinated effort.

quantities of toxic compounds are required to prepare health risk assessments estimating each facility's impact on local residents and offsite workers.

COMPLIANCE AND ENFORCEMENT

The Air District's Compliance and Enforcement program helps companies comply with air quality rules by providing a full range of education and technical compliance assistance, and enforces air quality rules when non-compliance is discovered.

Some 106 District staff members—including 78 field inspectors, supervisors, and managers—conduct inspections of air pollution sources, verify compliance, investigate breakdowns, document violations,

respond to accidental releases of air contaminants, and investigate the public's complaints about air pollution.

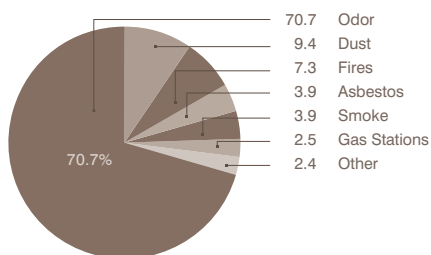
SOURCE TEST

The Air District monitors emissions from facilities with stationary pollution sources. The District's Source Test staff collect samples that can usually be analyzed on-site with instrumentation in specially outfitted vans. An immediate determination can typically be made as to whether or not emissions are in compliance with Air District regulations and permit conditions. The Air District also conducts source tests in support of its Rule Development and Emission Inventory efforts.

2006 COMPLIANCE INSPECTIONS

Source Inspections	7,364
Air Pollution Complaints	3,641
Gasoline-Dispensing Facility Inspections	1,436
Asbestos Inspections	1,374
Reportable Compliance Activities	612
Total	14,427

AIR POLLUTION COMPLAINT CATEGORIES



2006 VIOLATIONS AND PENALTIES

Air Quality Violations	819
Civil Penalties	\$3,685,420

2006 SOURCE TESTS CONDUCTED

Refinery Source Tests	420
Compliance Rate	99 %
Title V Facility Source Tests	735
Compliance Rate	96 %
Gasoline Cargo Tank Source Tests	461
Compliance Rate	95 %
Gasoline-Dispensing Facility Source Tests	6,943
Compliance Rate	98 %
Other Miscellaneous Source Tests	212
Compliance Rate	96 %
Total Source Tests	8,351
Total Violations	212
Compliance Rate	97 %

providing incentives and encouraging clean air choices

Although the Air District has authority to regulate stationary sources of air emissions in the Bay Area, cars, trucks, and other mobile sources actually contribute most of the air pollution in the region. To reduce pollution from motor vehicles, the Air District offers a variety of grants and incentives, and encourages individual clean air choices through its public outreach campaigns.

GRANT AND INCENTIVE PROGRAMS

TRANSPORTATION FUND FOR CLEAN AIR

Assembly Bill (AB) 434 authorized the Air District to levy a \$4 surcharge on all motor vehicles registered in the Bay Area, in order to mitigate the impact of vehicular emissions. The Air District allocates these revenues through the Transportation Fund for Clean Air (TFCA).

TFCA revenues are distributed through two channels. Forty percent of the TFCA revenues are allocated directly to the region's nine county congestion management agencies for disbursement to eligible projects, as the TFCA County Program Manager Fund. The Air District distributes most of the remaining 60 percent, known as the TFCA Regional Fund, to eligible projects and programs that reduce motor vehicle emissions. In 2006, the reduction of greenhouse gases was included for the first time as a criterion in the evaluation of TFCA Regional Fund grant applications.

A portion of the TFCA Regional Fund revenues is used to fund several mobile-source emission-reduction programs directly administered by the Air District. Air District programs that are funded by TFCA revenues include the following:

THE VEHICLE BUY BACK PROGRAM

The Vehicle Buy Back (VBB) Program pays owners \$650 to turn in a model year 1985 or older light-duty vehicle for scrapping. Older vehicles have outdated emission controls and tend to pollute more than newer cars. Three contractors currently implement the VBB Program at more than twenty authorized locations throughout the Bay Area.

THE VEHICLE INCENTIVE PROGRAM

The Vehicle Incentive Program provides incentives to public agencies to defray the cost of purchasing light-duty (gross weight of 10,000 pounds or less) alternative-fuel vehicles.

THE MOBILE SOURCE INCENTIVE FUND

AB 923, enacted in 2004, authorized local air districts to increase their motor vehicle registration surcharge up to an additional \$2 per vehicle. AB 923 stipulates that air districts may use the revenues generated by the additional \$2 surcharge for any of the four programs listed below:

- *Projects eligible for grants under the Carl Moyer Program;*
- *New purchase of clean school buses;*
- *Accelerated vehicle retirement or repair program; and*
- *Projects to reduce emissions from previously unregulated agricultural sources.*

On December 21, 2004, the Air District Board of Directors approved a resolution to increase the surcharge on vehicles registered within the Air District boundaries from \$4 to \$6 per vehicle. The Department of Motor Vehicles began to collect the increased surcharge in May 2005. The revenues from the additional \$2 surcharge are deposited in, and administered via, the Air District's Mobile Source Incentive Fund.

THE CARL MOYER PROGRAM

The Carl Moyer Program is a state-funded incentive program originally created by the California Legislature to reduce emissions from heavy-duty engines. Managed locally by the Air District, the Carl Moyer Program provides grants primarily for installing new, cleaner engines or emission-control devices in heavy-duty equipment, such as trucks and buses, marine vessels, construction equipment, locomotives, and agricultural irrigation pumps. Heavy-duty diesel engines are major sources of oxides of nitrogen (NOx), reactive organic gases (ROG), and particulate matter (PM).

THE LOWER-EMISSION SCHOOL BUS PROGRAM

The Lower-Emission School Bus Program provides financial incentives for school districts to replace or retrofit older diesel-fueled school buses. Contractors that provide transportation services to public school districts are eligible only for retrofit incentives. The goal of this program is to reduce the exposure of schoolchildren to harmful diesel emissions.



Alison Kirk

Environmental Planner II

clean



CLEAN AIR CHOICES

Everyday activities—such as driving, painting, mowing the lawn, burning wood in the fireplace, and even using aerosol hairsprays and deodorants—add substantial amounts of pollution to the air we breathe. Many of these activities fall outside the Air District’s regulatory jurisdiction. Instead, to encourage Bay Area residents to “spare the air,” the Air District promotes individual clean air choices through voluntary public relations campaigns.

TFCA REGIONAL FUND GRANTS – FY 2006/2007

Total Funds Awarded	\$15.4 million
Number of Projects/Programs Awarded Grants	54
Estimated Lifetime Emissions Reduction for the Projects Funded (tons)	
Reactive Organic Gases (ROG)	201
Oxides of Nitrogen (NO _x)	517
Particulate Matter (PM ₁₀)	106
Total	823
Carbon Dioxide (CO ₂) - a Greenhouse Gas (tons)	100,800

TFCA COUNTY PROGRAM MANAGER FUND GRANTS – FY 2006/2007

Total Funds Awarded	\$7.6 million
Number of Projects Awarded Grants	62

VEHICLE BUY BACK PROGRAM

Number of Vehicles Scrapped in 2006	5,500
Number of Vehicles Scrapped Since Program Inception (June 1996 to end of 2006)	33,632
Estimated Emissions Reduction Since Inception (tons):	
ROG	3,128
NO _x	1,658
PM ₁₀	21
Total	4,807

VEHICLE INCENTIVE PROGRAM – 2006

Total Funds Awarded	\$598,200
Number of Grants Awarded	35
Estimated Emissions Reduction (ozone precursors and PM ₁₀) (tons)	3.44

MOBILE SOURCE INCENTIVE FUND – 2006

Total Funds Awarded	\$13.2 million
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CARL MOYER PROGRAM – 2006

Total Funds Awarded	\$2.5 million
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LOWER-EMISSION SCHOOL BUS PROGRAM – 2006

Total Funds Awarded for New School Buses	\$1.4 million
Number of New School Buses Funded	10
Total Funds Awarded for Bus Retrofits	\$1.2 million
Number of Retrofits Funded	150

SPARE THE AIR

The *Spare the Air* Program educates the public about air pollution and promotes long-term behavior changes that improve air quality. During the summer months, the Air District issues *Spare the Air* advisories on days when ozone pollution is forecast to be high. On these *Spare the Air* days, the Air District urges residents to cut back on any activities that cause pollution. People sensitive to pollution, such as children and the elderly, are cautioned to limit outdoor exposure.

Spare the Air advisories and daily air quality forecasts are posted on the www.sparetheair.org website, recorded on the 1 (800) HELP AIR telephone line, announced in local newspapers, and broadcast on local TV and radio stations. Bay Area residents can also sign up on the website to be notified by automatic e-mail AirAlerts.

In 2006, there were 11 *Spare the Air* days. In addition, the *Spare the Air* Program featured six full days of free rides on most Bay Area transit providers.

SPARE THE AIR TONIGHT

The *Spare the Air Tonight* program runs during the winter, when particulate matter from woodstoves and fireplaces becomes a major health concern. The Air District issues *Spare the Air Tonight* advisories when air quality is expected to reach unhealthy levels, and asks residents to forego wood burning on these evenings.

Air quality is the result of everyday choices.



Luna Salaver
Senior Public Information Officer

choice

In 2006, the Air District lowered the threshold for calling *Spare the Air Tonight* advisories to reflect the U.S. EPA's new PM_{2.5} standard. There were 12 *Spare the Air Tonight* episodes in 2006.

SMOKING VEHICLE PROGRAM

The Smoking Vehicle Program was implemented to decrease the number of vehicles spewing visible tailpipe exhaust on the region's roads and highways. Residents can report license plates of smoking vehicles by phone to 1-800-EXHAUST or online at www.800exhaust.org. Owners will be notified that their vehicle may be operating illegally and encouraged to have it checked and repaired.

In 2006, there were 22,930 vehicles reported to the Smoking Vehicle Program. Surveys indicate that repairs prompted by smoking vehicle letters reduced pollutant emissions by almost 132 tons per day.

SPARE THE AIR PROGRAM

2006 Spare the Air Days	11
AirAlert Registrations (at end of 2006)	49,000
Employers Registered	2,000
Schools Registered	500
Free Commute Days	6
Vehicle Miles Reduced	3.5 million
Trips Eliminated	528,279
Reduced Emissions	32 tons

working with our communities

Each of the Bay Area's nine counties is made up of smaller neighborhoods and communities with unique air quality concerns. It is the Air District's job to adopt rules and policies that are fair and equitable to all residents of the Bay Area, and to ensure that community-level air pollution problems are not eclipsed by larger-scale policy issues.

COMMUNITY OUTREACH

As part of our community outreach program, the Air District facilitates meetings that provide an opportunity for local residents to share and receive information about air quality-related



Dr. Phil Martien
Senior Advanced Projects Advisor

quality

topics. The Air District might schedule these meetings to ask for input on proposed regulations, clean air plans and strategies, or other issues of interest to a particular community.

In 2006, the Air District held 13 community meetings on air quality topics and participated in 93 fairs and community-sponsored events.

COMMUNITY RESOURCE TEAMS

The Air District also sponsors special community-based “resource teams” comprising representatives from the public and private sectors. These operate at a grass-roots level to increase awareness of air quality problems and to engender potential solutions in the communities they serve.

In 2006, there were a total of 46 community resource team meetings. A variety of activities were undertaken, such as organizing transit information fairs and workshops, engaging in traffic reduction efforts at local schools, and promoting car-free tourism in several Bay Area cities.

The Air District reaches out to economically disadvantaged Bay Area communities through its two Environmental Justice (EJ) Resource Teams. In 2006, there were nine EJ resource team meetings, in which the Contra Costa and East Palo Alto EJ Resource Teams planned activities including an air quality data-gathering initiative involving a stationary monitoring project, a community rail yard tour, and an effort to increase public participation in a truck routing project.

GOODS MOVEMENT AND LOCAL PLANNING

In 2006, the environmental impacts of goods movement activities on communities near ports and railroad stations remained a central concern. Although mobile sources—the largest community sources of diesel PM and other toxic air contaminants—are regulated by the federal and State government, the Air District has worked closely with the California Air Resources Board (CARB), the Metropolitan Transportation Commission (MTC), the Port of Oakland, and other stakeholders to reduce air quality impacts from goods movement in the Bay Area.

In 2006, the Air District worked with CARB and two railroads to implement the 2005 statewide Railroad Memorandum of Understanding. The Air District also assumes an advisory role on air quality issues related to land-use development, housing, and transportation, and reviews and comments on local general plans and environmental documents.

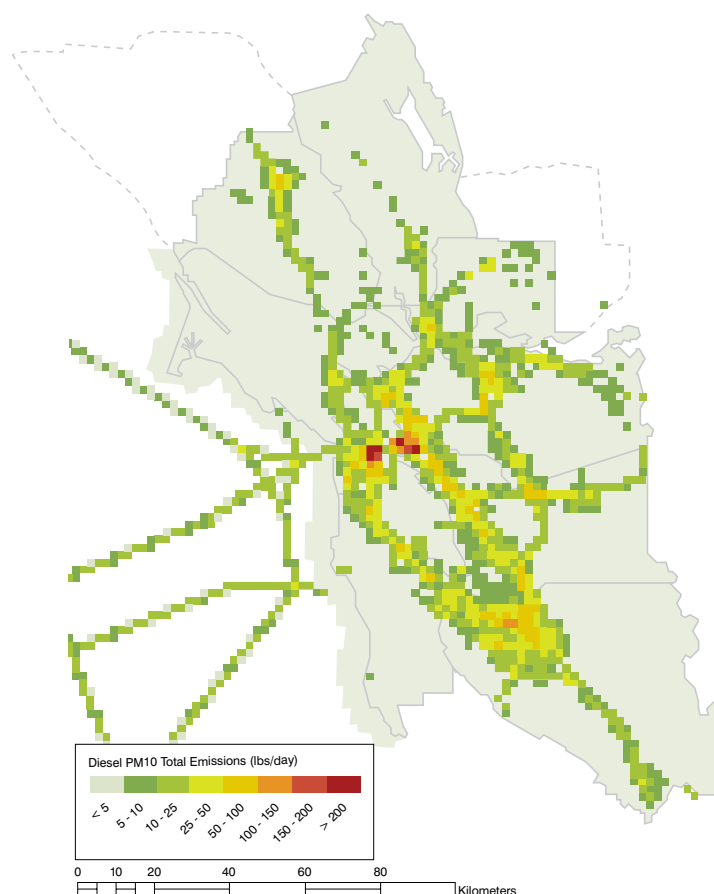
CLEAN DIESEL BUS PROGRAM

In 2003, the Air District began collaborating with MTC and the Bay Area’s transit system operators to fund an unprecedented diesel cleanup program. Through the Clean Diesel Bus Program, over 1,400 diesel buses from 13 Bay Area transit districts have been retrofitted with diesel exhaust filters. Upon completion of the project, these high-tech emission-control filters combined will annually capture more than 50 tons of harmful particulate matter and 436 tons of oxides of nitrogen that otherwise would be emitted into the region’s air.

The Air District is dedicated to improving air quality for all Bay Area residents.

spotlight on: CARE program

In 2006, the Air District completed Phase I of its pioneering Community Air Risk Evaluation (CARE) program. Initiated in 2004, this complex and innovative project was undertaken to analyze the impact of toxic air pollutants on local Bay Area communities. This three-phase program will enable the Air District to assess whether certain neighborhoods are particularly affected by toxic air pollution, in order to intervene more effectively through grant program funding, regulatory controls, and other means.



The state of California has identified over 240 compounds as toxic air contaminants, or TACs, including particulate matter, or PM, from diesel engine exhaust; benzene, a constituent of gasoline as well as a product of incomplete combustion; and 1-3 butadiene and formaldehyde, also products of incomplete combustion. These compounds pose cancer risks; chronic, non-cancer risks, such as diseases of the lungs, liver, and kidneys; and acute risks, such as eye and respiratory irritations.

In Phase I of the CARE Program, the Air District used emissions models and engineering calculations to develop a preliminary emissions inventory of TACs, and compiled demographic and health-statistics data to help identify locations with populations that are especially sensitive to TACs. To support the Bay Area TAC inventory, the Air District undertook several additional studies to refine the local inventory of TACs, and particularly of diesel PM, which has no singular chemical footprint, but is made up of a variety of compounds. Major sources

**EMISSION DENSITY PLOT OF DIESEL PARTICULATE EMISSIONS
IN THE BAY AREA**

of diesel PM include on-road and off-road heavy-duty diesel trucks and construction equipment. In the Bay Area, diesel PM accounts for about 80 percent of the potential cancer risk from toxic air emissions. Phase I revealed that the highest diesel PM emissions occur in the urban areas of eastern San Francisco, western Alameda, and northwestern Santa Clara Counties.

One of the major accomplishments of Phase I of the CARE Program was the development of a plotted grid of TAC emissions, two kilometers square, overlaying the nine Bay Area counties. This gridded inventory included emissions from individual facilities, on-road mobile sources, and off-road mobile and other distributed sources. Emissions of each toxic compound were weighted by their respective toxicity.

Additional maps were weighted by total population, or by sensitive populations—defined as children under 18 years of age, seniors over 64, or low-income families below 185 percent of the U.S. poverty level—many of whom live in core urban communities of the Bay Area. These populations were mapped in the same two-square-kilometer grids used for the TAC emissions.

Information gained at each phase of the program will be used to help direct the Air District's toxic mitigation strategies. For example, it will help the Air District identify priorities for TAC reductions in the form of

new or modified regulations, and it will assist in focusing grants and incentives in areas with high TAC emissions and sensitive populations.

Phase II of the CARE program will build on work in Phase I to refine the preliminary TAC inventory, apply air quality models to estimate TAC concentrations, and collect supplemental measurements of TAC concentrations. Phase II will also include a project by the Air District, CARB, and the Port of Oakland to conduct a health risk assessment (HRA) for the West Oakland community. In Phase III, HRAs may be prepared for other communities using the tools developed in the West Oakland study and more detailed exposure analyses will be conducted to estimate actual population exposures to TACs.

Throughout the process, the Air District will be assisted by a CARE Task Force—comprising 14 members with a wide variety of expertise in community advocacy, public health, medicine, emissions characterization, and industrial operations—which meets regularly to provide guidance and help shape the complex program parameters.

Upon completion of Phase I, the Air District issued a summary report with findings and policy recommendations. This report, including emission and population weighted maps, can be viewed online at www.baaqmd.gov.

The Air District's CARE Program assesses where toxic air pollution impacts neighborhoods throughout the Bay Area.

meeting future challenges

Managing air quality in the Bay Area presents a constantly shifting set of challenges, as the Air District keeps pace with an ever-increasing population and traffic base, as well as the continued evolution of industrial technologies.

Our air is substantially cleaner than it was 50 years ago, when the Air District was first created to address emissions in the region. And in 2006, continuing a recent trend, the Bay Area had the best air quality record of all of California's major urban air basins.

But the Air District's ongoing mission to improve air quality and protect public health requires constant effort and vigilance. In the next few years, the agency will continue to pursue emission reductions through its core programs, while adopting new approaches to contend with such issues as climate change and diesel exhaust in our communities.

The potential effects of climate change, in particular, would starkly impact air quality in the region. Warmer temperatures will cause an increase in harmful air emissions, as more fuel evaporates, engines work harder, and greater electrical demand for cooling results in increased pollution from power plants.

The Air District will continue to guide regional climate protection efforts in the future, by working on the Bay Area-wide greenhouse gas emission inventory, funding the study of greenhouse gas emission-control technologies, and implementing the pioneering Climate Protection Grant Program. And in 2007, the agency will consider incorporating any feasible emission reductions of greenhouse gases into its rule development program.

The task of reducing emissions from diesel exhaust and other toxic air pollutants remains an overriding concern for local communities. In 2007, the Air District's comprehensive CARE Program has entered its second of three phases, which will include refinements to the local emissions inventory of toxic air contaminants and modeling of local concentrations. As the CARE planning process moves forward, the Air District will continue to identify sensitive neighborhoods and refine and implement mitigation strategies for reducing the impacts of toxics and diesel PM on affected communities.

The Air District's rule development process in 2007 will consider revisions to a rule governing stationary internal combustion engines. The agency will also propose two rules based on the 2005 Ozone Strategy: amendments to regulations governing natural gas-fired water heaters, and to rules governing industrial, institutional, and commercial boilers, steam generators, and process heaters. And later in the year, the Air District expects to develop rules to reduce organic-compound emissions from graphic arts printing operations, from gasoline bulk terminals and bulk plants, from automotive-refinishing operations, from wood-coating operations, and from polyester resin operations.

As part of its effort to reduce air pollution and greenhouse gas emissions, the Air District will continue to promote new and emerging



Pamalet Mackey

Senior Air Quality Inspector

Controlling air pollution requires flexibility and foresight.

“green” technologies, such as plug-in hybrid and fuel-cell vehicles. The District has currently incorporated into its fleet 27 hybrid automobiles, and 25 compressed natural gas (CNG) vehicles. New strategies for “cold-ironing,” or providing plug-in power to reduce emissions from docked ships at local ports are also being explored.

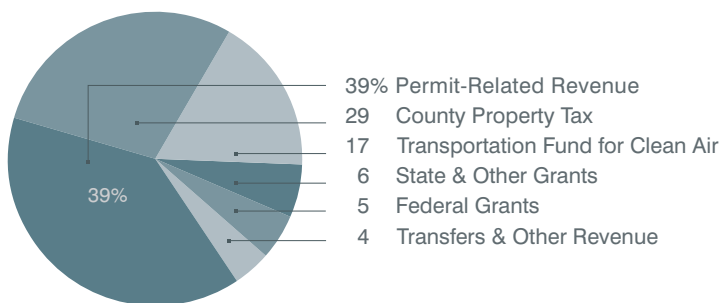
The Air District cannot make continued air quality progress unless individual members of the public actively participate in efforts to fight pollution. There are a number of things that Bay Area residents can do to improve air quality. Most of these clean air choices take little effort, such as using public transportation, buying the cleanest available vehicle, or conserving energy by purchasing “green” appliances that use less power.

Everyone who lives in the Bay Area has a stake in preserving our quality of life. In the future, as the popular slogan goes, the Air District will continue to “think globally and act locally,” expanding our climate protection activities and refining our efforts to address air pollution in local communities of the Bay Area. But we need your assistance as well. Air quality is a cooperative effort, and we must all work together, now and in the future, to preserve the clarity of our beautiful Bay Area skies.

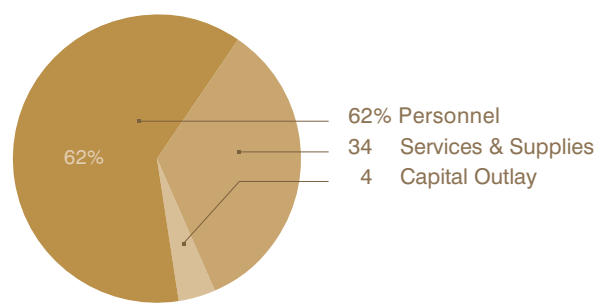
funding clean air

The Air District's budget funds the operations and programs needed to attain and maintain its clean air goals.

REVENUE



EXPENDITURES



2006 LEGISLATIVE ACHIEVEMENTS

Air quality was an important topic during the 2006 legislative year. The Air District formally supported 11 bills and co-sponsored one bill: AB 1870 (Lieber). This bill requires a visible check for smoke during smog check inspections, to ensure that vehicles with smoking exhaust do not pass. Governor Schwarzenegger signed the bill into law September 29.

The following five bills supported by the Air District were passed by the Legislature:

- AB 32 (Nunez and Pavley), which creates a comprehensive statewide program to reduce greenhouse gas emissions;
- AB 2264 (Pavley), which establishes fuel economy standards for new state vehicle purchases;
- AB 2276 (Pavley), which establishes a California Air Resources Board regulatory program for ozone-producing indoor air purifiers;
- AB 2600 (Lieu), which extends current HOV lane usage by natural gas vehicles; and
- SB 225 (Soto), which changes the cost-effectiveness formula for the Carl Moyer grant program.

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improving air quality

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Compliance Assistance	(415) 749-4999
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Air Pollution Complaints	(800) 334-ODOR (6367)

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