

A Guide to the

BAY AREA AIR QUALITY MANAGEMENT DISTRICT



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

WWW.BAAQMD.GOV

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Contact Information



General Business
(415) 771-6000

Public Information
(415) 749-4900

Compliance Assistance
(415) 749-4999

Engineering Services
(415) 749-4990

Vehicle Buy Back Program
(888) 690-2274



Websites
www.baaqmd.gov
www.sparetheair.org



Daily Air Quality Forecasts

- Spare the Air Advisories
- Agricultural Burn Days
- Informational Materials

(800) HELP AIR (435-7247)



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



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

WELCOME TO THE AIR DISTRICT

Jack P. Broadbent
Executive Officer
Air Pollution Control Officer



The San Francisco Bay Area is known all over the world for its beauty, diversity, and quality of life. Our region's temperate climate and fresh coastal air are essential elements of its appeal. At the Bay Area Air Quality Management District, it's our mission to protect and preserve the air quality that contributes so integrally to the Bay Area's unique charms.

Though many Bay Area residents may not be familiar with us, or recognize us solely through our *Spare the Air* outreach programs, the fact remains that our actions affect you every time you take a breath.

The purpose of this guidebook is to introduce you to our agency, to explain how our programs and activities have been implemented to systematically reduce local air pollution and protect public health. The guidebook will answer questions about how we are organized, why we were created, what kinds of air pollution are a problem in the Bay Area, what we do about it, what our greatest current challenges are, and, ultimately, how

everyone can play an essential participatory role in the process by which we work to clear the air in the region.

As the Air District's Executive Officer, it's my pleasure to present *A Guide to the Bay Area Air Quality Management District*. We hope it will inspire you to join us in the ongoing good work we can all do together to ensure that there is fresh air to breathe for years to come.

Sincerely,

Jack P. Broadbent
Executive Officer
Air Pollution Control Officer

WHO WE ARE

EXECUTIVE MANAGEMENT STAFF



Brian C. Bunger
District Counsel



Jeff McKay
Deputy Air Pollution Control Officer



Jean Roggenkamp
Deputy Air Pollution Control Officer



Michael Rich
Human Resources Officer



Mary Ann Goodley
Executive Office Manager

DIVISION DIRECTORS



Brian Bateman
Engineering



Jack M. Colbourn
Administration and Incentives



Lisa Fasano
Communications



Henry Hilken
Planning, Rules and Research



Gary Kendall
Technical Services



Kelly Wee
Compliance and Enforcement

The Bay Area Air Quality Management 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, as well as the District Counsel, who manages the legal affairs of the agency.

The Air District consists of over 350 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, five-member Hearing Board serves to adjudicate regulatory compliance issues that may arise between the Air District and local industries, and also hears appeals of permitting decisions made by the Executive Officer.

OUR HISTORY



Since 1955, the Air District has worked to improve air quality in the Bay Area.

The California Legislature created the Air District in 1955 as the first regional air pollution control agency in the country, recognizing that air emissions overflow political boundaries. The nine counties of the San Francisco Bay Area form a regional air basin, sharing common geographical features and weather patterns, and therefore similar air pollution burdens, which cannot be addressed by counties acting on their own.

In the early 1950s, the science of air pollution was energized by the discovery that ground-level ozone was the main chemical in “smog,” a conjunction of “smoke” and “fog” that soon became a household word. Ozone was found to cause breathing problems, damage crops, and corrode buildings. Local agriculture in particular absorbed significant losses, and it was largely the organized efforts of Bay Area farmers that generated the political will to establish the first regional air district.

The first official meeting of the Air District’s Board of Directors was held on November 16, 1955, in San Francisco. Charged with regulating stationary sources of air emissions, the Air District set to work on its first two regulations, which banned open burning at dumps and wrecking yards, and established controls on dust, liquid droplets, and combustion gases from certain industrial sources.

Since then, the agency has used its expertise to clear the skies and diminish air pollution levels throughout the Bay Area. Its actions, along with the concentrated efforts of public and private organizations and concerned individuals, have dramatically improved air quality, despite significant increases in traffic and population. But much remains to be done, as new challenges arise in the Air District’s second half-century of stewardship of the air we breathe.

AIR POLLUTION IN THE BAY AREA

Air is the most precious of resources — all of life depends on it.

The air in our lower atmosphere is a dynamic, constantly shifting mixture of gases, liquid droplets, and small particles. It swirls and eddies around the globe like the water in an ocean, with winds and weather patterns resulting from this movement. Air isn’t as light as it seems, either. A column of air one foot square and extending from sea level to the outer limit of the atmosphere would weigh nearly one ton. And contrary to what one might expect, the air we breathe in the lower atmosphere is not primarily composed of oxygen. Instead, it contains 78 percent nitrogen, 21 percent oxygen, and less than one percent gases like argon and carbon dioxide. Unfortunately, it can also contain substances that are unhealthy for us to inhale.

In the Bay Area, as in the entire state of California, a certain amount of air pollution comes from stationary industrial sources, such as refineries and power plants. But a greater percentage of harmful air emissions come from cars and trucks, construction equipment, and other mobile sources. California has more cars

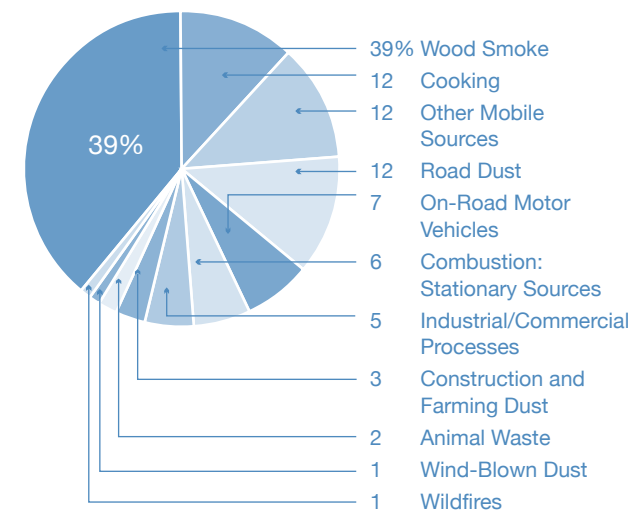
per household (1.8) than any other state, along with a thriving business economy and a continually expanding population. All of these factors contribute to the state’s air quality challenges.

There are three major types of air pollutants that constitute a public health concern for the Bay Area: ozone, particulate matter, and toxic air contaminants.

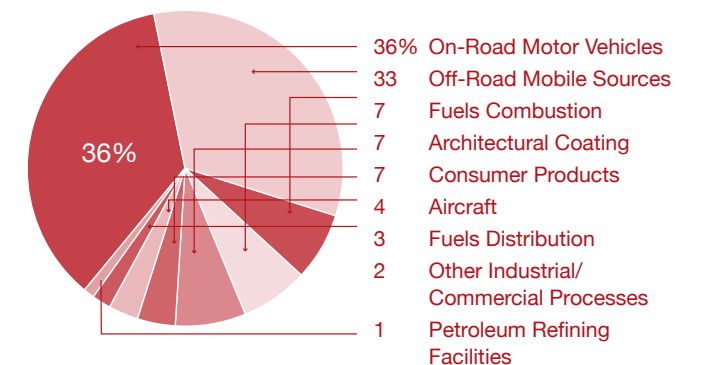
OZONE

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 in significant quantities, but is formed in the presence of sunlight from chemical reactions involving other directly released precursor pollutants: reactive organic compounds and oxides of nitrogen.

BAY AREA SOURCES OF FINE PARTICLES (PM2.5) WINTER

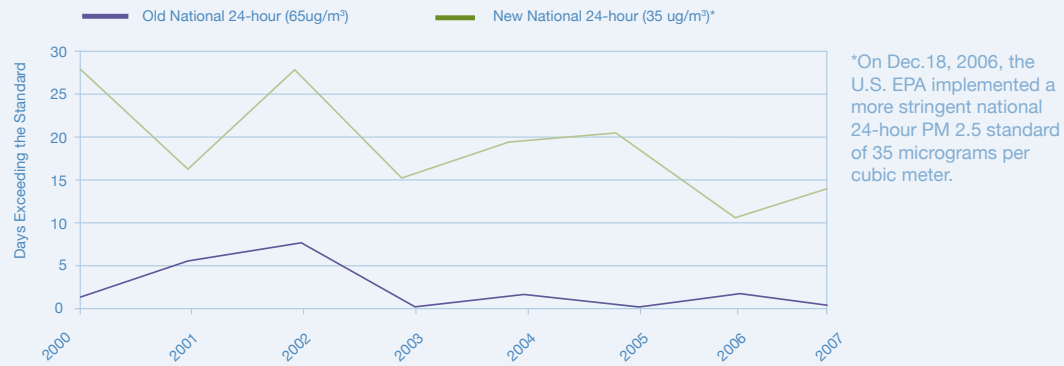


BAY AREA SOURCES OF OZONE-FORMING POLLUTANTS SUMMER

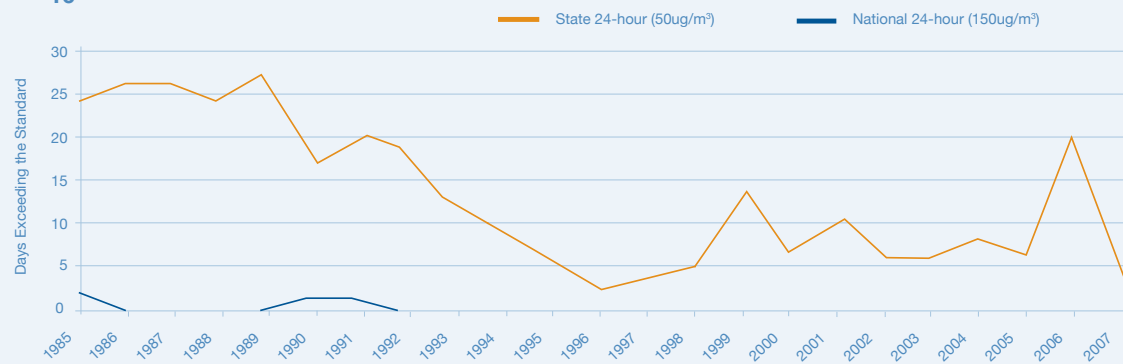


BAY AREA HISTORICAL EXCEEDANCES

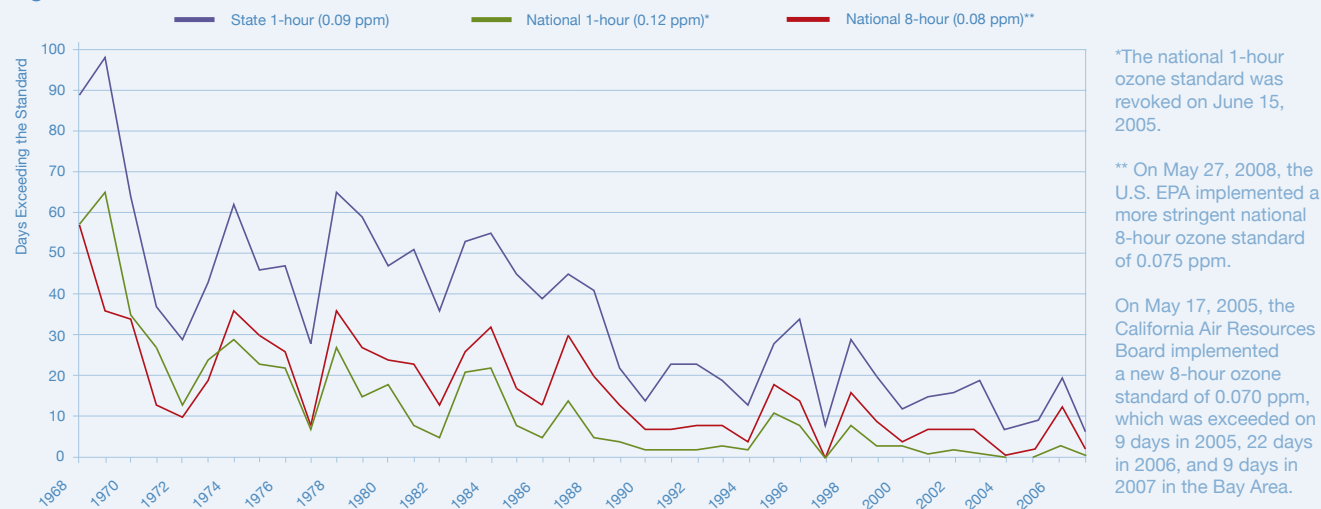
PM_{2.5} PARTICULATE MATTER



PM₁₀ PARTICULATE MATTER



O₃ OZONE



BAY AREA "IN ATTAINMENT" STATUS

Pollutant	CO	NO ₂	O ₃	Pb	SO ₂	PM ₁₀	*PM _{2.5}	CO	SO ₂
National Standard	✓	✓		✓	✓	✓	✓	Nitrogen Dioxide	Sulfur Dioxide
State Standard	✓	✓		✓	✓			O ₃	PM ₁₀
								Pb	PM _{2.5}

*The Bay Area is in attainment of the national annual PM_{2.5} standard, but has not been designated for the national 24-hour PM_{2.5} standard.

PARTICULATE MATTER (PM₁₀ AND PM_{2.5})

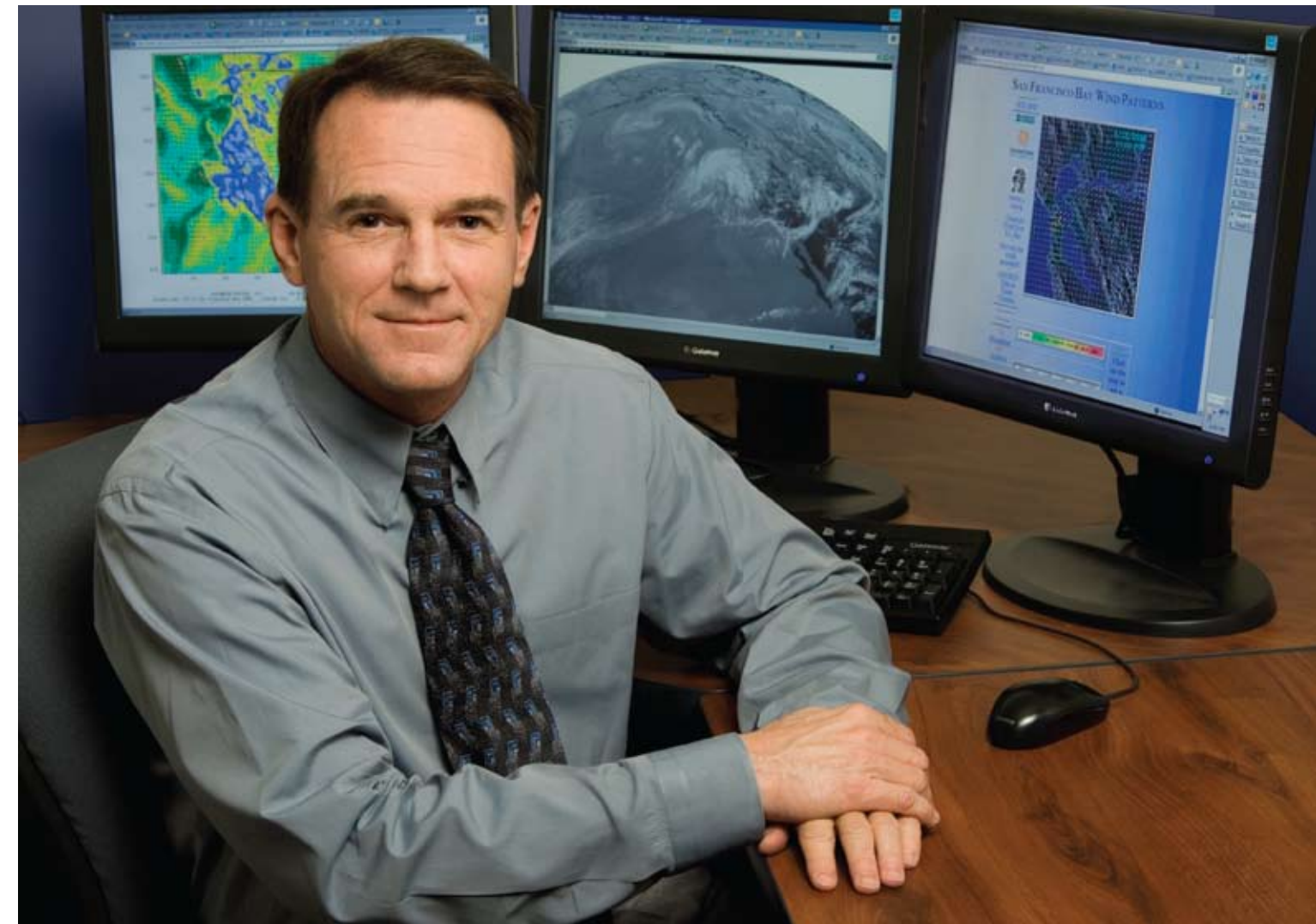
Particulate matter, or PM, consists of microscopically small solid particles or liquid droplets suspended in the air. PM can be emitted directly into the air, or it can be formed from secondary reactions involving gaseous pollutants that combine in the atmosphere. Particulate pollution is primarily a 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} consists of particles with diameters that are less than or equal to 2.5 microns in size.

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.

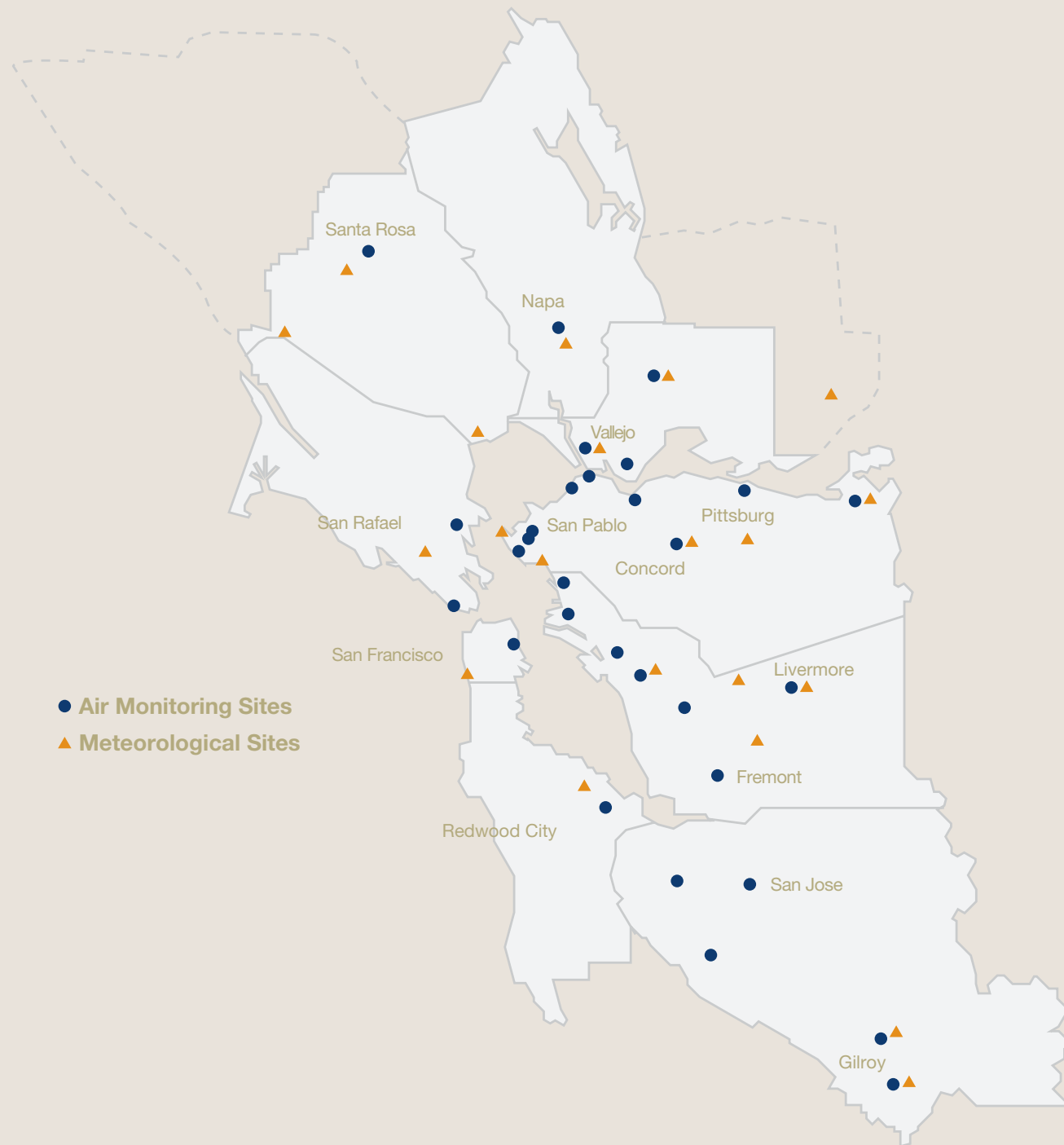
TOXIC AIR CONTAMINANTS (TACS)

Toxic Air Contaminants, or 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 180 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.



Kurt Malone, Senior Air Quality Meteorologist, studies weather patterns that influence air pollution and issues daily air quality forecasts for the benefit of Bay Area residents.

AIR MONITORING AND METEOROLOGY SITES



WHAT WE DO

The Air District has developed its core programs and implemented special initiatives to provide a flexible framework of solutions to air pollution in the Bay Area.

We Measure Air Quality

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

AIR MONITORING

The Air District maintains one of the most comprehensive air quality monitoring networks in the country, consisting of 30 monitoring stations distributed among the nine Bay Area counties. These monitoring stations gather data on pollution levels that is used to determine impacts to the public. This network measures concentrations of pollutants for which health-based ambient air quality standards have been set by the U.S. Environmental Protection Agency, and by the California Air Resources Board, or 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 and various other compounds of interest.

The District's network also includes two portable 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 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 analyzes samples submitted by the Enforcement Division for compliance with District regulations.

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. This information—in combination with air monitoring measurements, computer models, and satellite feeds from weather services—is used to make daily air quality forecasts for the public.

The Air District prohibits open burning throughout the Bay Area, with the exception of a few types of fires (generally for agricultural or natural-resource management purposes) that are allowed on designated "burn" days. The Air District's meteorological staff issues "burn" or "no-burn" decisions for these types of permissible burns every day of the year.

We Make Plans and Develop Clean Air Rules

Air quality planning is an evolving process—the Air District constantly updates and refines its rules to meet the highest clean air standards.

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.

OZONE STRATEGY

The *Bay Area 2005 Ozone Strategy* for achieving the California one-hour ozone standard 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 administering programs to reduce emissions from motor vehicles and other mobile sources.

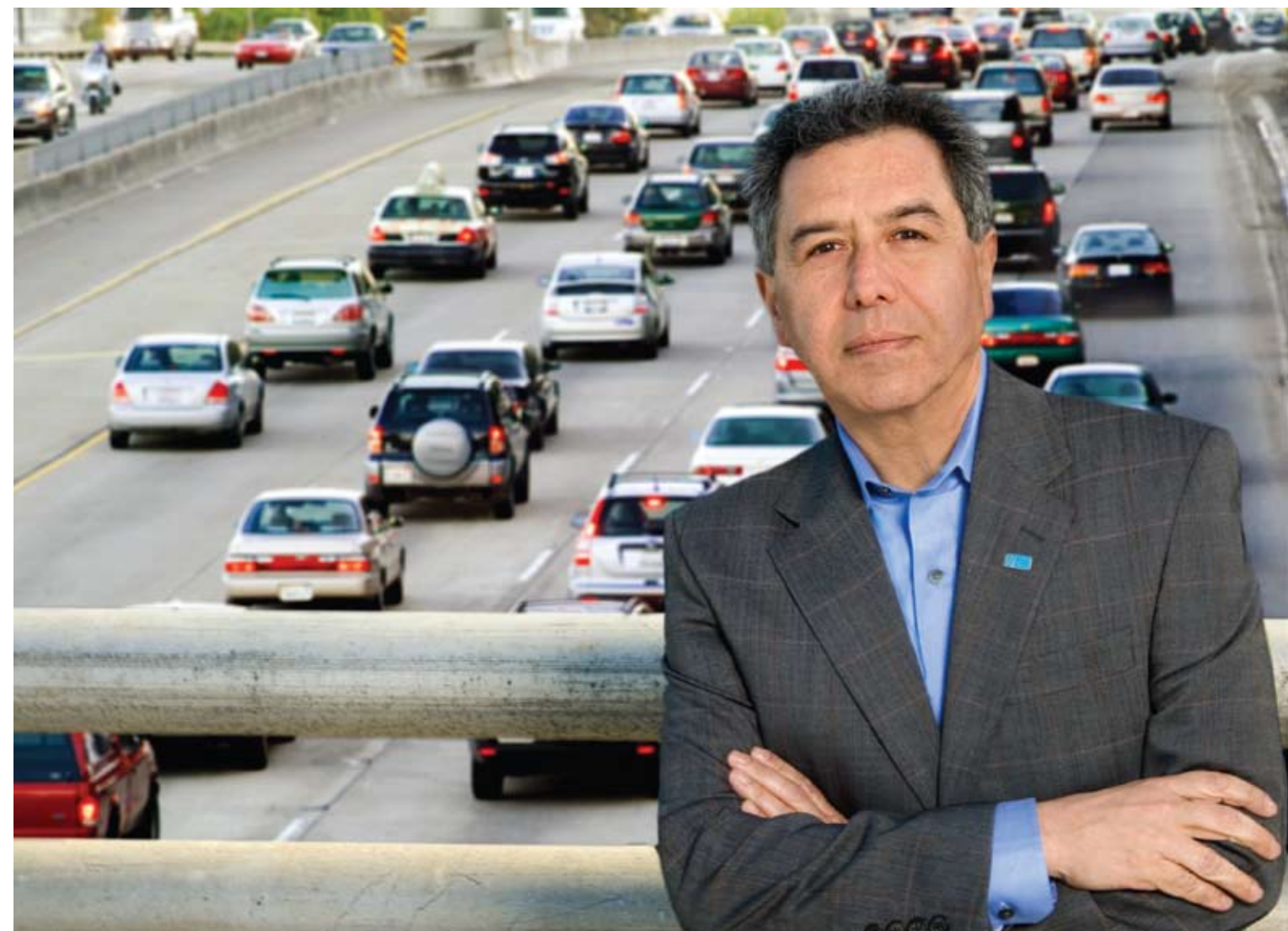
PM IMPLEMENTATION SCHEDULE

The 2005 *PM Implementation Schedule* was required by Senate Bill 656 to expedite attainment of the state and national PM₁₀ and PM_{2.5} standards. To fulfill the terms of this *PM Implementation Schedule*, the Air District has adopted a new rule limiting emissions from commercial charbroiling, has adopted amendments to an existing rule reducing emissions from stationary internal combustion engines, and is developing a new rule regulating the use of wood-burning stoves and fireplaces in the Bay Area.

RULE DEVELOPMENT

Rule development is an ongoing process. The Air District constantly strengthens and refines its rules and regulations to improve air quality. Public participation is an integral element of this process: rule development begins with extensive outreach to affected industries and interested members of the public, 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.



Amir Fanai, Principal Air Quality Engineer, specializes in the assessment of air pollution from motor vehicles, and maintains an inventory of Bay Area emissions that is integral to the Air District's plans and programs.



Brenda Cabral, Supervising Air Quality Engineer, ensures that air quality permits for Bay Area facilities contain comprehensive measures for safeguarding public health.

We Control Sources and Ensure Compliance

Reducing pollution at the source takes a coordinated effort.

PERMITS

The Air District evaluates permit applications for new and modified equipment and processes that cause air pollution. The permit evaluation ensures that the owner/operator can comply with federal, state, and local air pollution requirements, including Best Available Control Technology, Toxics New Source Review, Offsets, Prevention of Significant Deterioration, and prohibitory rules that apply to various types of equipment.

TOXICS PROGRAM

The Air District's Toxics Program integrates federal and state laws and regulations concerning toxic air pollutants into the Air District's permit program. As part of the permit process, the Air District performs 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 pollutants. Facilities that emit significant quantities of toxic air contaminants are required to prepare health risk assessments estimating the facility's health risks on local residents and offsite workers. A facility that is determined to pose an unacceptable health risk must implement measures to reduce risks to acceptable levels.

COMPLIANCE AND ENFORCEMENT

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

Compliance and Enforcement staff members 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.

We Provide Incentives

Air quality is the result of everyday choices.

The Air District is authorized to regulate stationary sources of air emissions in the Bay Area, but mobile sources—such as cars, trucks, trains, and construction equipment—actually contribute most of the air pollution in the region.

To reduce pollution from these mobile sources, the Air District provides a variety of grants and incentives to public agencies and owners of heavy-duty vehicles.

TRANSPORTATION FUND FOR CLEAN AIR

Assembly Bill 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, or 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 the remaining 60 percent, known as the TFCA Regional Fund, to eligible projects and programs that reduce motor vehicle emissions.

A portion of the TFCA Regional Fund revenues is distributed to project sponsors on a competitive basis, and a portion is used to fund several mobile-source emission-reduction programs directly administered by the Air District, such as the Vehicle Buy Back Program.

THE VEHICLE BUY BACK PROGRAM

The VBB Program pays owners \$650 to turn in a model year 1987 or older light-duty vehicle for scrapping. Older vehicles have outdated emission controls and tend to pollute more than newer cars. Three contractors implement the VBB Program at more than 20 authorized locations throughout the Bay Area.

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 air school buses;
- Accelerated vehicle retirement or repair program; and
- Projects to reduce emissions from previously unregulated agricultural sources.

The revenues from the additional \$2 surcharge are deposited in, and administered via, the Air District's Mobile Source Incentive Fund, or MSIF.



Stacey Pon, Air Quality Case Settlement Specialist II, negotiates the collection of penalties from facilities that have violated clean air regulations.

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, reactive organic gases, and particulate matter.

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. The primary goal of this program is to reduce the exposure of schoolchildren to harmful diesel emissions.

We Encourage Clean Air Choices

The Air District encourages individual clean air choices through its public outreach campaigns.

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 its public relations campaigns.

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.

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.

SMOKING VEHICLE PROGRAM

The Air District’s 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.

We Work with Local Communities

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

Each of the Bay Area’s nine counties is made up of smaller communities and neighborhoods 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 organizes and facilitates meetings that provide an opportunity for local residents to share and receive information about air quality-related topics. Through these meetings the District provides information and seeks input on pending regulations, clean air plans and strategies, or other issues of interest to a particular community.

COMMUNITY INITIATIVES

The Air District supports and encourages community-based initiatives that reduce air pollution and model new modes of behavior that will help meet the challenges identified by local communities. Initiatives include efforts to reduce traffic at schools and reduce greenhouse gas emissions.

COMMUNITY RESOURCE TEAMS

The Air District collaborates with community-based resource teams comprising members from business, government, and non-profit organizations that work on projects to improve air quality on the local level.

YOUTH OUTREACH

An important component of the Air District’s comprehensive community outreach effort is the youth outreach program. Youth outreach efforts include the promotion of an educational curriculum focused on criteria pollutants and science-based lesson plans on climate change.

GOODS MOVEMENT AND LOCAL PLANNING

The environmental impact of goods movement activities on communities near ports and railroad stations remains a central concern. Although the federal and state governments regulate mobile sources, the largest community sources of diesel PM and other TACs, the Air District has worked closely with the California Air Resources Board, the Metropolitan Transportation Commission, the Port of Oakland, and other stakeholders to reduce air quality impacts from goods movement in the Bay Area.

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.

MEETING 21ST CENTURY CHALLENGES

When it comes to air quality, the future is now.

Air in the Bay Area is substantially cleaner than it was 50 years ago, when the Air District was first created to address emissions in the region. This progress is due in large part to the Air District's controls on open burning and industrial sources, as well as state requirements for cleaner automobiles and fuels.

But managing air quality in the region requires constant effort and vigilance, as the agency keeps pace with an ever-increasing population and traffic base, and the continual evolution of industrial technologies. The District must also work to meet health-protective air quality standards that are periodically strengthened by the state and federal governments.

In years to come, the agency will continue to pursue emission reductions through its traditional programs, while developing and expanding newer initiatives to address such issues as climate change and the effects of particulate matter and diesel exhaust in our communities.

CLIMATE CHANGE

We live in an era in which climate change is widely recognized as one of the world's most critical environmental challenges. Since 2005, when the Air District's Board of Directors adopted a resolution establishing the agency's Climate Protection Program, the Air District has played a leadership role in guiding climate change policy in the Bay Area.

The Air District has partnered with various organizations, such as ICLEI, Sustainable Silicon Valley, and PG&E, to assist local governments with their climate protection activities. The District has also hosted workshops for local governments and prepared a region-wide Source Inventory of Bay Area Greenhouse Gas Emissions.

The Air District recognizes the importance of influencing public behavior regarding greenhouse gas emissions. The District has initiated a climate protection curriculum for 4th and 5th graders, and climate change messages have been integrated into the *Spare the Air* Program and other outreach campaigns.

The Air District itself has become a carbon neutral agency, by adopting climate-friendly business practices, quantifying the greenhouse gas emissions associated with its operations and purchasing renewable energy certificates in order to offset its annual emissions.

In 2007, the Air District awarded \$3 million in grants through its Climate Protection Grant Program to fund 53 local projects that will significantly reduce the Bay Area's carbon footprint. This \$3 million represents the largest single source of funding available for climate protection projects in the Bay Area, and makes the Air District a top funder of climate protection activities in the country. Grant recipients included local governments and non-profit organizations in all nine Bay Area counties.

The Air District has commissioned two technical studies to evaluate opportunities to reduce greenhouse gas emissions at regulated stationary sources, and is examining ways to incorporate greenhouse gas reductions and energy efficiency into its rulemaking.

The Air District collaborates with regional agency partners—the Association of Bay Area Governments, the Bay Conservation and Development Commission, and the Metropolitan Transportation Commission—through the Joint Policy Committee to implement a Bay Area Regional Agency Climate Protection Program. The District also collaborates with the California Air Pollution Control Officers Association and the California Air Resources Board and other state agencies to implement California's groundbreaking climate change legislation, AB 32.

In order to recoup the costs of the agency's Climate Protection Program related to stationary sources, the Air District charges a comprehensive annual fee to businesses based on the amount of greenhouse gases they emit. These fees are levied as part of the District's permit program.

PARTICULATE MATTER

A conclusive body of scientific evidence associates exposure to fine particulate matter, or PM_{2.5}, with a variety of serious public health effects, from restricted lung development and elevated asthma rates in children to increased overall mortality rates.

The Air District has historically implemented a number of regulations and programs to reduce PM emissions. These include rules limiting open burning of agricultural and non-agricultural waste, controlling dust from earth-moving and construction/demolition operations, limiting emissions from various combustion sources such as cement kilns and furnaces, and otherwise reducing PM from activities that generate dust or smoke.

Growing awareness of the hazards of PM_{2.5} has led the Air District to explore further pollution reduction strategies, many of which are delineated in the agency's *2005 PM Implementation Schedule*. This schedule was developed in response to Senate Bill 656, adopted in 2003, which required that all air districts in California evaluate additional control measures for reducing PM emissions and schedule them for consideration.

To implement this schedule, the agency has passed a series of rules designed to reduce PM emissions from

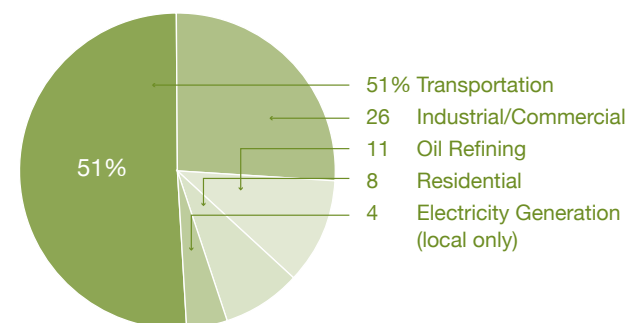
industrial and commercial sources. In the fall of 2007, the agency's Board of Directors approved a groundbreaking regulation that reduces PM emissions from chain-driven and under-fired commercial charbroilers at the largest, highest-emitting restaurants. The Board also strengthened the regulation controlling emissions from stationary internal combustion engines. These two rules are reducing PM by nearly 2 tons per day.

In the winter, the major source of PM in the Bay Area is residential wood burning. An estimated 1.2 million households with fireplaces and woodstoves in the region produce about one-third of the overall fine particulate pollution. Since 1991, the Air District has issued *Spare the Air Tonight* advisories on winter nights when air quality is forecast to reach unhealthy levels. These advisories warn Bay Area residents and encourage them to refrain from burning wood in their fireplaces and woodstoves.

The agency has offered various financial incentives to encourage residents to replace fireplaces and non-EPA-certified woodstoves with cleaner-burning technology. Rebates were offered throughout Santa Clara County from 2004 to 2007, converting a total of 2,033 stoves and fireplaces and eliminating 17 tons per year of PM. In 2007, the program went district-wide with the Cleaner Burning Technology Incentives Program, allocating \$500,000 in the nine Bay Area counties for incentives to replace old fireplaces and non-EPA-certified woodstoves.

The Air District is also proposing a wood smoke regulation that, among other stipulations, would limit the use of wood-burning devices on nights designated as *Spare the Air* nights. The proposed rule would also limit black, smoky emissions from wood-burning devices and would require that only cleaner-burning technology be sold in new construction. An extensive series of public workshops was held in the fall of 2007 and in the late spring of 2008 to discuss this proposed regulation. This rule is expected to go before the agency's Board for adoption in the summer of 2008.

BAY AREA SOURCES OF GREENHOUSE GAS EMISSIONS



PM from diesel exhaust—which has been designated a toxic air contaminant by the California Air Resources Board—is a significant health concern throughout the Bay Area. Reducing emissions in communities impacted most by diesel engine pollution is one of the Air District’s foremost priorities, and is being addressed through a number of programs.

The Air District administers a number of grant programs that target diesel PM reduction. Through the Carl Moyer Program, the District offers grants to eligible applicants to replace or retrofit heavy-duty engines, or purchase new, cleaner vehicles or equipment. The Lower Emission School Bus Program provides funding to help reduce the exposure of schoolchildren to diesel PM.

High diesel PM concentrations are associated with heavily travelled roadways, ports, and rail yards. California voters approved Proposition 1B in 2006, also known as the Goods Movement Bond. This means that, between 2008 and 2011, the Air District will be receiving \$140 million to allocate for projects that reduce emissions from mobile sources in communities affected by diesel exhaust.

The Air District also works with residents, environmental groups, truck and terminal operators, and the marine industry to reduce emissions of diesel PM by minimizing truck idling and queuing at Bay Area ports. Air District inspectors monitor truck activities at the Port of Oakland on a regular basis and respond to complaints about idling diesel trucks.

CARE PROGRAM

The Air District’s pioneering Community Air Risk Evaluation, or CARE, program was created to analyze the impact of toxic air pollutants on local Bay Area communities and to focus pollution reduction measures where they are most needed. This three-phase program was undertaken to help the Air District 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 more than 180 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, completed in 2006, the Air District used emissions models and engineering calculations to develop a preliminary emissions inventory of TACs in the Bay Area, and compiled demographic and health-statistics data to help identify locations with populations that are especially sensitive to TACs.

Phase II of the CARE program, which continued through 2007, built on the accomplishments of Phase I to refine the preliminary TAC inventory and apply air quality models to estimate TAC concentrations. A number of refinements and updates to the emissions estimates were introduced, and the estimates were updated from year 2000 to year 2005. The Air District participated with the California Air Resources Board and the Port of Oakland in conducting a health risk assessment, or HRA, for the West Oakland Community. As part of the HRA, the Air District developed an inventory of diesel PM emissions from truck-related businesses and construction in West Oakland and co-hosted a series of community meetings.

In Phase III of the CARE Program, modeling will be performed 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 TAC.

Information gained at each phase of the program is being used to help direct the Air District’s toxic mitigation strategies. For example, it is helping the Air District identify priorities for TAC reductions in the form of new or modified regulations, and it is assisting in focusing grants and incentives in areas with high TAC emissions and sensitive populations.



Horatio “Ollie” Hernando, Air Quality Instrument Specialist, works “behind the scenes” to ensure that the Air District’s information technology infrastructure runs smoothly and efficiently.

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

WORKING TOGETHER

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.

WORKING WITH YOU

Preserving and maintaining air quality is essentially a group effort.

To do our job effectively, we rely heavily on the input and support of the many residents of the Bay Area. We cannot continue to make progress unless individual members of the public actively participate in our efforts to fight pollution.

Here are some ways you can get involved in the clean air process:

MAKE AN AIR QUALITY COMPLAINT

- 1 (800) 334-ODOR (6367)
- 1 (800) EXHAUST (394-2878)

CONTACT US WITH YOUR GENERAL AIR QUALITY CONCERNS

- sparetheair@baaqmd.gov
- (415) 749-4900

KEEP UP WITH OUR LATEST RULE-MAKING ACTIONS AND COMMUNITY INITIATIVES

- www.baaqmd.gov/calendar/
- www.baaqmd.gov/pln/ruledev/regulatory_calendar.htm
- www.baaqmd.gov/pln/ruledev/regulatory_public_hearings.htm
- www.baaqmd.gov/brd/brddirectors/agendas_minutes.htm

GET INFORMATION ABOUT OUR GRANT AND INCENTIVES PROGRAMS

- (415) 749-4994
- grants@baaqmd.gov

GET INFORMATION ABOUT OUR VEHICLE BUY BACK PROGRAM

- 1 (888) 690-2274

GET COMPLIANCE OR PERMIT INFORMATION, FOR BUSINESSES

- Compliance : (415) 749-4999
- Permits: (415) 749-4990
- Open Burning: (415) 749-4600

JOIN A LOCAL AIR QUALITY RESOURCE TEAM

- (415) 749-4900
- www.sparetheair.org/community/resourceteams.htm

JOIN THE SPARE THE AIR EMPLOYER PROGRAM

- (415) 749-4900
- www.sparetheair.org/employers/

REQUEST A SPEAKER OR OUTREACH BOOTH AT A SCHOOL, COMMUNITY, OR BUSINESS EVENT.

- (415) 749-4900



Jocelyn “Joy” Orpia, Radio Telephone Operator, takes air quality complaints and maintains open communication lines between the Air District and concerned Bay Area residents.

GET CURRENT AIR QUALITY INFORMATION

- 1 (800) HELP AIR (435-7247)
- www.sparetheair.org

SIGN UP FOR E-MAIL NOTIFICATIONS

- AirAlerts
- <http://airalert.sparetheair.org/>

What’s New at baaqmd.gov

New Regulations

Board Meeting Agendas

- www.baaqmd.gov (see E-Mail Sign-Ups section)

JOIN US – EMPLOYMENT AND INTERNSHIPS

- (415) 749-4980
- www.baaqmd.gov/hro/employment_ops/index.htm
- www.baaqmd.gov/hro/employment_ops/index.htm#intern

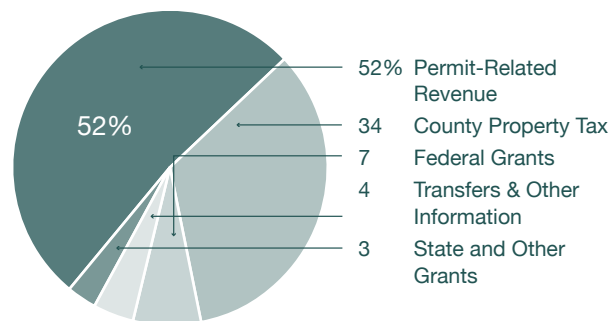
FUNDING CLEAN AIR



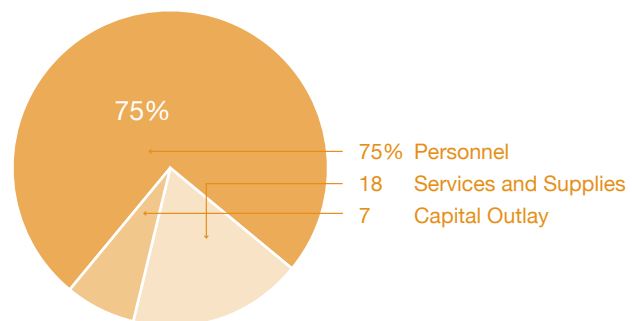
Marina Smotkin, Principal Accountant, keeps expenses in line and funding on track for the Air District's multifaceted programs.

The Air District's budget funds the programs and operations necessary for achieving its clean air goals.

REVENUE



EXPENDITURES



Executive Management Staff

Jack P. Broadbent
Executive Officer / Air Pollution Control Officer

Brian C. Bunger
District Counsel

Jeff McKay
Jean Roggenkamp
Deputy Air Pollution Control Officers

Michael Rich
Human Resources Officer

Mary Ann Goodley
Executive Office Manager

Division Directors

Brian Bateman
Engineering

Jack M. Colbourn
Administration and Incentives

Lisa Fasano
Communications

Henry Hilken
Planning, Rules and Research

Gary Kendall
Technical Services

Kelly Wee
Compliance and Enforcement

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