

AIR CURRENTS

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Air District Joins with BART to Offer Free Rides Summer Ozone Season Comes to a Clean End

The summer 2004 smog season came to a close on October 15, marking the end of an historic year, as air pollution levels in the Bay Area were at their lowest since air quality monitoring began in the early 1960s.

This summer, the Air District also entered into a first-ever partnership to offer free BART rides on designated Spare the Air days. And surveys indicated that public awareness of the Spare the Air program continues to expand, as Bay Area residents did their part to preserve air quality on those summer days with the highest pollution potential.

A Clean Year

In 2004, there were no recorded excesses of either of the national health-based ozone standards: the one-hour standard or the eight-hour standard. By

2004 Days over National Ozone Standards

Air District	1-hour	8-hour
Bay Area	0	0
Sacramento	0	21
San Joaquin	9	90
South Coast	27	85

As in recent years, air quality in the Bay Area in 2004 compared favorably with that of other major urban air basins in California.

comparison, the one-hour standard was exceeded on one day in 2003, and the eight-hour standard was exceeded on seven days last year. In 2002, the one-hour

standard was exceeded on two days, and the eight-hour again on seven.

The Bay Area exceeded the more stringent California ozone standard on seven days this year, but this compares to 19 and 16 days in 2003 and 2002, respectively.

The national health-based one-hour standard for ozone was set by the federal government at 120 parts per billion, and the national eight-hour standard was set at 80 parts per billion. The State of California has established its own one-hour ozone standard at 90 parts per billion.

Concentrations higher than these amounts at any air monitoring station are considered to be an exceedance of the standard, and the number of days each year during which any of the monitoring stations in a given air district exceed the standard is considered a significant air quality bellwether.

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Spare the Air Tonight Season Begins: Winter and Wood Burning Add up to Pollution

The Bay Area's winter Spare the Air Tonight season began on November 16 and will run through January 31, 2005.

During this period, based on typical regional weather conditions, the Air District expects to issue seven to ten Spare the Air Tonight advisories. These will be triggered when the daily 10 AM forecast predicts unhealthy levels of particulate pollution for the following 24 hours.

When the Air District issues a Spare the Air Tonight advisory, we ask the

public to refrain from burning wood in their fireplaces and woodstoves, and to drive less.

PM_{2.5}

In the wintertime, cooler temperatures and reduced sunlight limit ozone problems. But seasonal weather conditions—along with increased wood burning, especially around holidays—can lead to high concentrations of particulate matter

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TOLL-FREE NUMBERS

DAILY AIR QUALITY 1-800-HELP-AIR
COMPLAINT LINE 1-800-334-ODOR
SMOKING VEHICLES 1-800-EXHAUST

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Clean Summer

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The Bay Area experienced its worst air quality year on record in 1969, when there were 65 days during which the national one-hour ozone standard was exceeded. Over the past 35 years, a combination of strict controls on industry and consumer products, coupled with increasingly stringent controls on motor vehicles, has led to a steady reduction in air pollution.

New Partnership

During the 2004 ozone season, the Air District entered into a landmark partnership with Bay Area Rapid Transit (BART) and the Metropolitan Transportation Commission (MTC)—the transportation planning, coordinating, and financing agency for the nine-county Bay Area.

Funded by \$2 million in federal transportation grants allocated to the Bay Area, the three agencies instituted a pilot program that offered up to five free weekday morning BART commute rides on Spare the Air days this summer, excluding holidays. As part of the program, BART added several cars to its commuter trains on Spare the Air days, and made free attended bicycle parking available at five stations.

The free rides were offered to reduce automobile pollution on days when air quality was anticipated to be unhealthy and to introduce habitual drivers to commute alternatives.

As it turned out, there were four Spare the Air days over the course of the 2004 summer. Two of these fell during the work week, September 7 and 8, and on these two mornings between the hours of 4 AM and 9 AM free BART rides were offered. On the first day, the number of BART riders increased by 16,000, and on

the second, it increased by 24,000, for a total of 40,000 increased riders.

In addition, for the second year in a row, the Air District partnered with the Wheels bus system of the Livermore-Amador Valley Transit Authority to offer free commutes on Spare the Air days. Ridership on this transit system increased by 9 percent on Spare the Air days this summer.



As part of this summer's historic partnership, seven BART cars traveling on the Pittsburg/Bay Point and Dublin/Pleasanton lines were covered in an eye-catching Spare the Air wrap.

Awareness Up

Two surveys conducted in September showed that public awareness of the Spare the Air program continued to increase in the Bay Area in 2004.

Out of 5 million drivers in the Bay Area, about 360,000, or 7.2 percent, reduced their trips in some way on Spare the Air days this summer. This number is up from the 3 to 5 percent of respondents who reduced driving in the last few years. Of these 360,000 residents, 37 percent (133,200 residents) linked or combined trips, and 30 percent (108,000 residents) eliminated driving on Spare the Air days altogether.

In addition, 13 percent of the residents questioned who might normally use gas-powered lawn equipment chose not to on Spare the Air days, and 4.2 percent avoided using polluting household products like hairsprays or cleaners.

Overall, the surveys showed that 82 percent of Bay Area residents have heard of the Spare the Air program, and 78 percent have a favorable impression.

By the end of the summer, there were 24,000 registrants in the AirAlert e-mail notification system, which gives 24-hour advance notice of Spare the Air days. This number was up 50 percent from the previous year. In addition, 575 schools now receive Spare the Air notices through AirAlert, an 18 percent increase over last year.

Over 2,200 companies are signed up in the Spare the Air employer program, providing notification to over one million employees. And 100 Bay Area cities and all 9 counties are registered members of the Spare the Air campaign.

The Air District initiated the Spare the Air program in 1991. From the beginning, the program's goal has been to protect public health, by letting residents know when poor air quality is expected. The program also asks them to reduce polluting activities on these days and warns residents to limit their own exposure to unhealthy air.

Every summer, Spare the Air days are announced when ozone concentrations approach the national eight-hour standard. These Spare the Air advisories are issued through the media, the employer notification network, CALTrans message signs, AirAlert e-mails, the Air District's 1 (800) HELP AIR phone line, and the www.sparetheair.org website.

—Aaron Richardson

Winter

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(PM). Peak periods usually occur during evenings, nights, and the following mornings.

The pollutant of greatest concern in the winter is particulate matter 2.5 microns or smaller, or PM_{2.5}. PM_{2.5} includes microscopic particles that can be trapped in the lungs for years, causing respiratory problems, aggravating pre-existing conditions, and leading to serious health issues—including increased mortality for people with cardiopulmonary disease.

The primary sources of PM_{2.5} in the Bay Area are residential wood smoke and motor vehicle traffic.

Air Quality Standards

The Clean Air Act, last amended in 1990, requires the EPA to set *National Ambient Air Quality Standards* for pollutants considered harmful to public health and the environment. Accordingly, the EPA Office of Air Quality Planning and Standards has set the national standards for six principal pollutants—known as “criteria pollutants”—including particulate matter.

In years past, the Bay Area has met the national standard for particulate matter 10

Cities and Counties that have Adopted a Wood Smoke Ordinance

CITIES

Benicia	Livermore
Berkeley	Los Altos
Campbell	Los Gatos
Clayton	Menlo Park
Dublin	Milpitas
Fairfield	Moraga
Foster City	Morgan Hill
Fremont	Mountain View
Hayward	Palo Alto
Lafayette	Petaluma
	San Francisco

COUNTIES

San Leandro
San Jose
Santa Clara
Santa Rosa
Saratoga
Sebastopol
South San Francisco
Sunnyvale
Union City
Windsor

COUNTIES

Alameda
Contra Costa
Marin
San Francisco
San Mateo
Santa Clara

microns and smaller (PM₁₀). But within the last few years the EPA has added a stricter 24-hour standard for the subset of PM₁₀ known as “fine particulates” or PM_{2.5}. (Although the Bay Area is currently in attainment of the national PM_{2.5} standard, it remains out of attainment of the stricter California standards for both PM₁₀ and PM_{2.5}.)

The Air District will use the national PM_{2.5} standard—which equates to 151 on the Air Quality Index (AQI)—as the trigger for Spare the Air Tonight advisories this winter.

The AQI is a system that translates pollution concentrations into easy-to-understand categories that tell you how healthy the air is to breathe. For more information about the AQI, please see our website at www.sparetheair.org.

Bay Area residents should note that PM_{2.5} differs from ozone in that both the national 1-hour and national 8-hour ozone standards equate to 100 on the AQI scale. Thus, the PM_{2.5} concentration that will trigger a Spare the Air Tonight advisory this winter occurs at a higher AQI category level (“Unhealthy”) than the ozone concentration that triggers a Spare the Air advisory in the summertime (“Unhealthy for Sensitive Groups”).

Weather

Just as it does in the summer, weather plays a big role in wintertime air pollution. But unlike summer smog that peaks in the late afternoon, wintertime pollution is highest at night and in the early morning hours. On winter evenings, air close to the cold ground cools beneath a layer of warmer air, forming a shallow inversion. When there is no wind or rainy weather to dissipate pollutants, they can become trapped under this inversion layer and accumulate to unhealthy concentrations.

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Tips for a Clean Winter

Here are some things everyone can do to reduce pollution from wood smoke this winter:

- Switch to a gas fireplace—the least polluting alternative to burning wood.
- If you must burn wood, use only wood stoves approved and certified by the U.S. EPA. A typical older, non-EPA-certified woodstove (pre-1988 models) emits 60 grams of particulate matter (PM) in an hour, while a certified model emits up to 90 percent less, easily meeting the federal standards for woodstoves of 7.5 grams of PM per hour. Gas stoves generate a negligible amount of pollution.
- If you must burn wood, burn only dry, seasoned wood, and start with a small fire using softwoods such as pine and fir. Add hardwood logs only after the fire is going. *Never burn garbage, glossy paper, or wood that has been chemically treated or painted! This will release toxic chemicals into the air.*
- And finally, please comply with “Spare the Air Tonight” wintertime advisories from the Air District. Do not burn wood on these nights when pollution levels are expected to exceed federal health standards.

Air District Honors 2004 Clean Air Champions

The 2004 Clean Air Champions were honored at a public presentation on July 21 in the Air District's boardroom. The Air District—along with the American Lung Association, RIDES for Bay Area Commuters, and the U.S. EPA—recognized the five Bay Area winners for their exceptional efforts in promoting clean air.

About the Winners

Oakland resident **James Callahan** is an environmental scientist whose volunteer efforts at Bay Area museums help educate the public about air pollution and climate change issues.

As a volunteer, James helped develop the environmental science program at Chabot Space and Science Center, making clean air an important theme at Chabot. On his own time, James developed interactive demonstrations of air quality topics, and with other volunteers and scientists developed a website dealing with climate change issues (www.climatechangeeducation.com). He also popularized an easy particulate matter sampler that uses inexpensive, recycled materials.

James has personally adopted a clean air lifestyle. Instead of driving alone, he uses casual carpool or mass transit. Errands and visits are made on his bike, and he is a staunch energy conservationist. In addition, James helps plan Earth Day events throughout Alameda County.

San Franciscan **John Holtzclaw** has dedicated years to publicizing the link between clean air, smart growth, and transportation choices. John gave up his car long ago, and has been involved in clean air issues for over 30 years.

A longtime volunteer at the Sierra Club, he was recognized as a Clean Air Champion for his many years of dedicated efforts to educate the public about the air quality impacts of transportation choices. He has compiled numerous studies and highly regarded research to validate changes in air quality policy. He has also devoted countless hours as founder, chair, and board member of many air quality

organizations in the Bay Area, including service on the Air District's Advisory Council.

A three member team from Mill Valley—**Cynthia Witwicki**, her daughter, **Kelly Witwicki Faddegon**, and Kelly's best friend, **Colleen Zak**—were selected for their efforts to significantly reduce the number of children arriving at school alone in cars, thereby decreasing air pollution and helping to propel the Safe Routes to School Program in Marin County into the national and international spotlight.

Cynthia has been a volunteer team leader for Safe Routes to School for four years, and in that time, has worked in three different schools, helped bring two

additional schools into the program, and initiated a carpool-matching program for the entire Mill Valley School District.

Kelly and Colleen, both heading into eighth grade at Mill Valley Middle School, not only participate in the program by riding their bikes to school every day, come rain or shine, but also by being tireless cheerleaders for Safe Routes to School. Every Wednesday they stand outside their school with banners cheering on students who bike or walk to class. They have also established a student team to run contests and encourage more walking and biking among students, and in September 2003 they presented their program at a conference in England as part of the U.S. delegation.

—Luna Salaver



2004 Clean Air Champions. Back row, left to right: James Callahan, John Holtzclaw. Front row, left to right: Colleen Zak, Kelly Witwicki Faddegon, Cynthia Witwicki.

Winter

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Wood Burning

On an average winter day, about 30 percent of all Bay Area particulate pollution comes from wood smoke. On some nights in certain areas, this number can increase to as much as 90 percent. Wood burning also generates carbon monoxide, and toxic air pollutants such as benzene and dioxin.

"One of the worst kinds of air pollution is created by burning wood," according to Air District CEO Jack Broadbent. "There is abundant health and scientific data on the dangers of exposure to the tiny particles in wood smoke, so once again this winter we will be asking the public to break the wood burning habit, especially during a Spare the Air Tonight advisory."

Health Effects

Wood smoke is made up of a complex mixture of gases and fine particles produced when wood burns. The biggest health threat from wood smoke comes from PM_{2.5}.

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New Partners for Smart Growth Conference

The Local Government Commission and Penn State University are convening a conference to promote more livable communities. The *4th Annual New Partners for Smart Growth: Building Safe, Healthy and Livable Communities* conference will be held in Miami Beach, Florida, January 27–29, 2005.

This national, multi-disciplinary event will build on the previous successes of the *New Partners for Smart Growth* conferences held in San Diego in 2002, New Orleans in 2003, and Portland in 2004. The conference will emphasize a multi-disciplinary approach to implementing smart growth principles to help build safer, healthier, more transit-oriented, and pedestrian-friendly communities across the nation. The conference will draw a broad audience of local elected officials, city and county staff, developers, planners, transportation professionals and traffic engineers, public health professionals, advocates for seniors and youth, bicycle and pedestrian advocates, labor representatives, and others. The program will feature cutting-edge smart growth issues, the latest research, implementation tools and strategies, successful case studies, new partners, new projects, and new policies.

The Air District is a co-sponsor of the conference, as is the Association of Bay Area Governments (ABAG). This conference will be a valuable complement to the Smart Growth Strategy/Regional Livability Footprint project that the regional agencies and the Bay Area Alliance for Sustainable Communities have been pursuing in recent years. The Air District is interested in smart growth because the location, intensity, and design of development directly influence how we travel between our homes, jobs, stores, schools, and other destinations. Long distance commutes and auto-dependent development mean more air pollutant emissions from motor vehicles. By encouraging more infill, compact, and transit-oriented development; transit, walking, and cycling become more attractive choices for many of our daily trips, and air pollutant emissions will be reduced.

For the most up-to-date program and registration information on the conference, visit the conference website at <http://www.newpartners.org>. For more information on the Smart Growth Strategy/Regional Livability Footprint project, visit ABAG's website at <http://www.abag.ca.gov/planning/smartgrowth/>.

—Suzanne Bourguignon

What You Can Do

The good news is that you can still enjoy a fire in your home without endangering the health of your family and neighbors by replacing your old fireplace or woodstove with a gas model. A traditional wood-burning fireplace emits almost one *half-pound* of particulate pollution in an evening. In contrast, a gas fireplace eliminates more than 99 percent of this pollution and is six to nine times more energy-efficient.

We also recommend that you limit wood smoke pollution by refraining from burning wood altogether on days when *Spare the Air Tonight* advisories are announced by the Air District. To learn when a *Spare the Air Tonight* advisory is issued, call our 1-800-HELP AIR air quality forecast phone line, or visit our website at www.sparetheair.org, where you can also sign up to be notified by our e-mail AirAlerts.

Residents can also ask their local governments to adopt the Air District's model wood smoke ordinance, which has been implemented in 31 cities and 6 counties in the Bay Area since it was drafted in 1998 (see table on page 3). The ordinance does not ban wood burning, but instead seeks to reduce future air pollution from homes by requiring the installation of gas fireplaces, pellet stoves, or EPA-certified wood stoves in new housing or in any remodeling that involves fireplaces in existing homes.

The ordinance gives local communities better control over the quality of life of their residents, contributes to cleaner air, and reduces health costs. It also assists local air districts in attaining and maintaining the federal and state air quality standards in a reasonable, cost-effective manner.

Thanks to public participation in voluntary programs aimed at reducing air pollution, the Bay Area enjoyed the cleanest air in 35 years this past summer. If we all do our part, there's no reason we can't make this a clean winter as well.

—Emily Hopkins

Winter

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These microscopic particles can irritate your eyes and be inhaled deep into your respiratory system, where they can cause illnesses such as bronchitis.

Fine particles also can aggravate chronic heart and lung diseases—and have even been linked to premature deaths in people with these conditions.

If you have heart or lung disease—such as congestive heart failure, angina, chronic obstructive pulmonary disease, emphysema or asthma—you may experi-

ence health effects earlier and at lower concentrations than others. In that case you should limit your exposure to outdoor air at even lower AQI levels.

Older adults are more likely to be affected by smoke, possibly because they are more likely to have heart or lung diseases than younger people.

Children are also more susceptible to smoke for several reasons: their respiratory systems are still developing; they breathe more air (and air pollution) per pound of body weight than adults; and they're more likely to be active outdoors.



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2005 EPA National Air Quality Conference

“Quality of Air Means Quality of Life”

February 13–16, 2005

San Francisco

EPA's 2005 National Air Quality Conference is a must for federal, state, and local air pollution agencies, metropolitan planning agencies, environmental organizations, and industry.

This annual meeting will provide a unique opportunity for attendees to learn the latest information about air quality mapping and forecasting, the Air Quality Index (AQI) and health, and innovative air quality outreach programs. Come share your experiences and learn about more effective ways to ensure that the public has timely and accurate air quality information to make choices about how to protect their health.

This year's conference will feature an expanded air quality monitoring section, which will include presentations and discussion on implementation of the National Monitoring Strategy.

Topics to be addressed may include:

- The latest implementation schedule
- EPA's trace gas analyzer laboratory and field study
- Enhanced data management and reporting to AIRNow
- Development of potential new equivalency criteria for Class III PM_{2.5} continuous monitors
- Other projects to support state, local, and tribal monitoring agencies

Sunday afternoon will feature several optional short courses, with the general conference program set to begin on Monday morning and continuing through Wednesday afternoon. Several sessions will present concurrent tracks for outreach, forecasting, and monitoring activities. The conference also will include exhibits and an expanded poster session. Sponsorship opportunities are available.

Additional information on the conference, agenda, registration, and hotel accommodations is available on EPA's web page at <http://www.epa.gov/airnow>

We look forward to seeing you in San Francisco in February!