

On the Air

The Next Chapter Begins



For the past three decades, the need to attain the federal one-hour ozone standard has been a major driving force behind APCD's clean-air efforts. We officially reached this milestone in August. What happens next?

"First," says APCD Director Doug Allard, "we have to protect our progress, and continue the efforts that got us here." He points out that this Summer, after a period of dramatic improvement in air quality, some areas in Southern California have recorded especially high smog levels,

including levels representing First Stage Smog Alerts.

He adds, "But there's no question that this is a turning point. As we begin the next chapter in our history, we will be looking more closely at a number of increasingly important issues." He listed some: addressing pollution from large ships traveling along the county's coastline; the need to reduce toxic diesel exhaust emissions; results from studies on the health impacts of fine particles, and new particulate matter standards; and land use patterns that increase

traffic and air pollution.

APCD has been active in these areas. APCD's Innovative Technologies Group Program has cut diesel emissions around the county by funding replacements of many older, high-polluting diesel engines with cleaner engines. APCD's monitoring stations track particulate matter levels against standards (see article page three). Last fall APCD and the Santa Barbara County Association of Governments co-sponsored a conference on land use issues termed *Building Stronger*

Communities. And APCD is centrally involved in cooperative efforts to reduce marine shipping emissions (see *Business Focus*).

The U.S. Environmental Protection Agency has approved APCD's 2001 Clean Air Plan, which shows how the county will continue to attain the federal one-hour ozone standard through the year 2015. APCD's next Clean Air Plan will focus on outlining how the county plans to meet the state ozone and particulate matter standards, which county air continues to violate.

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Our Cars: Can't Live With 'Em...Can't Live Without 'Em

The votes are tallied and the disconnect is clear. We Californians are very concerned about air pollution; it's our Number One environmental concern. We understand that it threatens our health, and we know that vehicle emissions are the main source of air pollution in our regions.

But we must think it's someone else's car that is causing the

problem. Because most of us drive alone in our vehicles to work. And most of us have two or more—up to as many as six or more—licensed vehicles in our households.






This is according to results announced in July of the "Special Survey on Californians and the Environment" performed by the Public Policy Institute of California (PPIC). (see graphic page two)

- When asked to rate "the most important environmental issue facing California today," Californians most often mentioned air pollution (30%), followed by water pollution (10%), growth and sprawl (7%), water supply (7%), "pollution in general" (6%), traffic congestion (4%) and a number of other issues.

- A majority (58%) believe air pollution poses a serious health

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Tom Murphy, APCD Planning and Technology Supervisor notes that the state requires APCD to look at “all feasible measures” of pollution control to achieve these standards. Murphy expects that the county will be considered in attainment of the new federal

eight-hour standard for ozone, although the margin was very close, “this last year, we were only three parts per billion away from not attaining it.”

Says Allard, “Overall, it’s important to recognize that

our air quality, and our ability to stay within standards, are not sure things. They depend on many factors—and any one factor could change at any time. That’s why it’s important to maintain our vigilance, and our commitment to making progress.”

To view exceedances of clean-air standards to date, and ozone levels updated hourly, check out our website at www.sbcapcd.org (go to Our Air Quality for a menu of choices).

Our Cars (continued from page one)

threat to themselves and their families; many (37%) say they or a family member suffers from asthma or other respiratory problems.

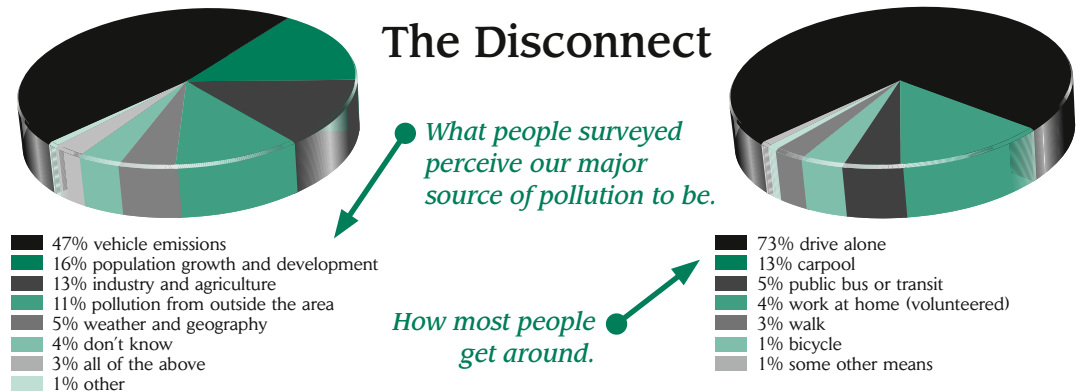
- Many (47%) say vehicles are the primary cause of air pollution in their regions; some list population growth (16%), industrial and agricultural activities (13%) and pollution from outside their areas (11%).

- Most employed Californians (73%) commute to work alone in their vehicles; many fewer carpool (13%), take public transit (5%), walk (3%), or bike (1%).

- Only 4 percent do not have a licensed vehicle in their households. Many have one licensed vehicle (29%), two (38%), three (17%), four (7%), five (2%) or even six or more (3%) vehicles.

Transportation Costs

Vehicle dependence produces additional effects. A July report by the Surface Transportation Policy Project points out that dependence on car travel impacts the family budget. According to the report, called *Transportation Costs and the American Dream: Why a Lack of Transportation Choices Strains the Family Budget and Hinders Homeownership*, areas



with more transportation options may have lower transportation costs than areas with sprawling development that increases dependence on vehicles and reduces availability of other options.

The report notes that in 2001, on average, Americans spent 19.3 percent of the household income on transportation, the second largest expense after housing, and transportation costs were higher for people living in sprawling cities with fewer transportation choices. Of the total spent on transportation, almost 95 percent was spent on owning and operating a car or truck (including fueling, maintenance, insurance and financing). The rest was spent on public transportation (1.6%) and on air and cruise ship travel (3.7%)

In 1999 Americans spent on average \$1,280 per year to

commute to work by private vehicle, and \$765 to commute using public transportation. The working poor who commute to work by private vehicle spend as much as 21 percent of their income to do it, and as families have to buy more cars, they have less money saved to invest in home ownership.

According to numbers cited in a 2003 report by The Worldwatch Institute, the U.S. has a quarter of the estimated 531 million passenger cars in the world. The average car in the U.S. travels 10 percent more a year than a car in the United Kingdom, 50 percent more than a car in Germany, and 200 percent more than a car in Japan.

Positive Trends?

Responses in the PPIC survey provide some rays of sunshine in this disturbing picture. More

than half of Californians (52%) say that when it comes time to replace their current vehicles, they would seriously consider buying or leasing smaller vehicles to reduce fuel use and air pollution. A significant majority (65%) says they would be willing to support tougher air pollution standards on new cars, trucks and SUVs, even if it raises the cost of buying a vehicle. And many Californians (45%) say they would seriously consider regularly commuting via public transportation as a way to reduce fuel use and air pollution.

In addition, more people than ever before are taking the train — at least in this region. During a time when the tourist industry in the state has been struggling, and local businesses have seen some downswings, ridership on the Amtrak Pacific Surfliner trains, which run from San Diego through Santa Barbara to San

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The Fine Particles in Our Air — and in Our Bodies

APCD Board Roundup

Following are the highlights of the June and August Board meetings.

June

- Adopted a resolution to provide up to \$120,905 in matching funds to qualify up to \$241,809 from the Air Resources Board in grant funds for participation in the 2002/2003 fiscal year Carl Moyer Program.
- Adopted and presented a Resolution of Appreciation to Ray McCaffrey for his service as an Air Quality Engineer III.
- Received and filed a report on the approval of the 2001 Clean Air Plan.
- Amended Rule 102, Definitions, and Rule 1301, Part 70 Operating Permits.
- Approved up to \$200,000 in Carl Moyer Program Funds and other Innovative Technologies Group funds for an Off-Road Diesel Repower Program, and executed a grant agreement with Celite Corporation for \$101,825 for repowering two off-road Caterpillar tractor engines with low-emission diesel engines.
- Adopted the APCD budget for FY 2003/2004.
- Received and filed a briefing on the status of Senate Bill 700 regarding its effect on the state-wide agricultural source permit exemption.

August

- Adopted a resolution proclaiming September 15 – 21, 2003 National Pollution Prevention Week affirming the APCD's continued commitment to pollution prevention.
- Authorized Director to enter into an agreement to lease North County office space.
- Authorized MOUs with employee associations.

Recent health studies have shown that high levels of fine particles in the air affect our hearts and lungs. Respiratory system effects can include: chronic bronchitis; asthma attacks; symptoms such as coughing and wheezing; decreased lung function; and airway inflammation. Cardiovascular system effects can include: heart attacks; cardiac arrhythmias; changes in heart rate, and heart rate variability; and blood component changes.

Some groups are considered more at risk for health impacts, including people with existing heart or lung disease, children (because they breathe more air per pound, are more likely to be active outdoors, and have lungs that are still developing), and older adults.

Fine particles, also known as particulate matter (PM), can be emitted directly into the air, or formed in the air from gases. Some particles include toxic compounds that can produce cancer and non-cancer health effects. Diesel exhaust particulate, for example, is considered highly toxic, and has been identified as the number one airborne carcinogen in California. Sources



Janice Kettler, APCD Monitoring Specialist weighs particulate sample filters in APCD's monitoring lab to arrive at a determination of the levels of particles less than 10 microns in diameter (PM10). Levels of PM10 are monitored at six stations throughout the county, while levels of particulate matter less than 2.5 microns in diameter (PM2.5) are monitored at stations in Santa Maria and Santa Barbara. Particulate samples are collected over a 24 hour period every 6 days.

of PM in addition to diesel engines include cars and trucks, mineral quarries, agricultural tilling, forest fires, wood-burning stoves and fireplaces, off-road vehicles, power plants and industrial sources, and unpaved roads and construction.

Air quality standards focus on smaller-sized particles, since these are most involved in health effects. The U.S. Environmental Protection Agency and the California Air Resources Board (ARB) have set standards for PM that is less than 10 microns in diameter (PM10), and for PM that is less than 2.5 microns in

diameter (PM2.5). Unlike ozone monitoring data, data on PM levels in our county are not available in real time. Santa Barbara county has exceeded the state PM10 standard repeatedly over the last 10 years. However, our air has not exceeded the federal PM10 standard over the last 10 years.

For more information on fine particles, see www.sbcapcd.org. For more information on health studies and fine particles, see www.epa.gov/airnow/2003conference/.

Our Cars (continued from page two)

Luis Obispo was up 32 percent for July as compared with last year, making July 2003 the second highest month ever for ridership, and with the highest revenue for any month in the history of this train service. "This indicates to me that we're having success persuading people to take the train for a relaxing trip — instead of driving," said Brian Hart, Amtrak Market Manager for the area. He noted that

many factors contributed to the ridership increase, including the Amtrak partnership with the Santa Barbara Car Free project, which is led by APCD. Amtrak is partnering with Metrolink and Santa Barbara Car Free for a fall promotion to encourage car free travel in the region.

For more information on car free travel locally and regionally, see www.santabarbaracarfree.org

and www.trafficsolutions.info. To find out how much car ownership costs you, check out: <http://www.bikesatwork.com/carfree/cost-of-carownership.html>. To view the complete PPIC survey results, see www.ppic.org. For the Surface Transportation Policy Project report, see www.transact.org. For the study on world car production and use, see: www.worldwatch.org/brain/media/pdf/pubs/vs/2003_cars.pdf.



APCD Board Calendar

Board of Directors

- Supervisor Naomi Schwartz
*First District
Santa Barbara County*
- Supervisor Susan Rose
*Second District
Santa Barbara County*
- Supervisor Gail Marshall
*Third District
Santa Barbara County*
- Supervisor Joni Gray
*Fourth District
Santa Barbara County*
- Supervisor Joe Centeno
*Fifth District
Santa Barbara County*
- Mayor Victoria Pointer
City of Buellton
- Mayor Dick Weinberg
City of Carpinteria
- Councilmember Cynthia Brock
City of Goleta
- Councilmember Carlos Aguilera
City of Guadalupe
- Councilmember DeWayne Holmdahl
City of Lompoc
- Councilmember Gregg Hart
City of Santa Barbara
- Councilmember Marty Mariscal
City of Santa Maria
- Councilmember David Smyser
City of Solvang

All meetings start at 2 p.m. For final meeting agendas, call the APCD Board Clerk, 961-8853.

October 16
Board of Supervisors
Hearing Room
105 East Anapamu Street
Santa Barbara, CA 93101

November 20**
Board of Supervisors
Hearing Room
511 East Lakeside Parkway
Santa Maria, CA 93455

December 18
Board of Supervisors
Hearing Room
105 East Anapamu Street
Santa Barbara, CA 93101

** Will most likely be cancelled: check with APCD Board Clerk Linda Beard, 961-8853, beardl@sbcapcd.org

Community Advisory Council

The APCD Community Advisory Council meets the second Wednesday of every month at the Days Motor Inn in Buellton. The public is welcome. For more information, call Linda Beard, 961-8853.

Safe Routes to School: October 8 is Walk to School Day

Santa Barbara's Safe Routes to School Program focuses on traffic problems associated with access to schools, and works to reduce the number of vehicle accidents and injuries and increase the number of children walking and bicycling to school. Coordinated by the Coalition for Sustainable Transportation (COAST), the program involves efforts of several partners, including APCD, the City of Santa Barbara, the Santa Barbara Bicycle Coalition, the PTA Safety Committee and a range of government and law enforcement agencies.



At a recent meeting, COAST Executive Director Jessica Scheeter detailed some statistics developed by a national pilot Safe Routes to School program in Marin County. A Marin traffic study showed that more than twenty percent of overall traffic during peak school drop-off and pick-up times was associated with parents driving students to school. Classroom mobility surveys performed in the fall, before the Safe Routes to School outreach began, and again in the spring after several months of outreach, showed a drop in the percentage of kids arriving at school as the only passenger in a car from 62 percent to 38 percent. The Marin program also initiated a pedestrian and bicycle safety curriculum for 1st and 4th graders during Physical Education classes.

An initial focus of the Santa Barbara program will be helping schools celebrate Walk to School Day on October 8. Scheeter said that while it's important to encourage walking and bicycling throughout the school year, single-day events can provide a vision of the possibilities of achieving success in this area: "It's amazing what the neighborhood looks like on a Walk to School Day or Bike to School Day. It's quiet, there's so much less traffic that walking and biking are that much easier. And all the kids are arriving at school alert and awake." The program has been focused on South Coast schools in the past, but is now working on a countywide basis.

For more information on local efforts, including forms and checklists for schools that want to develop Safe Routes to School Programs, see www.coast-santabarbara.org. To visit California's Walk to School Headquarters, see www.cawalktoschool.com.



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- World Wide Web**
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On the Air is a bimonthly newsletter published by the Community Programs Section of the Santa Barbara County Air Pollution Control District. For further information on items in this newsletter, or to be added to our subscription list, please call Bobbie Bratz, 961-8890 or Email bratzb@sbcapcd.org.

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Our Vision Clean Air

Reducing Air Pollution from Ships

Marine shipping is responsible for roughly a third of the emissions of nitrogen oxides (NOx) in Santa Barbara County, more than all the on-road NOx emissions from cars, trucks and buses combined, as documented in APCD's 2001 Clean Air Plan. These emissions are projected to represent two-thirds of the NOx inventory by 2015. APCD has been working cooperatively to raise awareness of this problem and develop solutions to reduce both NOx and particulate matter emissions from marine shipping.

"These are huge, huge ships," said Kathy Patton, Manager of APCD's Technology and Environmental Assessment Division, in a presentation to the California Air Resources Board (ARB) in April of this year. "It's like having power plants traveling right off your coast."

Patton explained that although Santa Barbara County does not have a port, the county has 130 miles of coastline. Given the location of the Channel Islands, the ships are often traveling just ten to fifteen miles off shore, and the emissions can significantly impact onshore air quality (although some will be dispersed before reaching shore). Some ships, termed "frequent fliers," traverse the county's coastline more often than others; about ten percent of the ships are responsible for almost half the NOx emissions. A full ninety percent of the ships are foreign flagged.

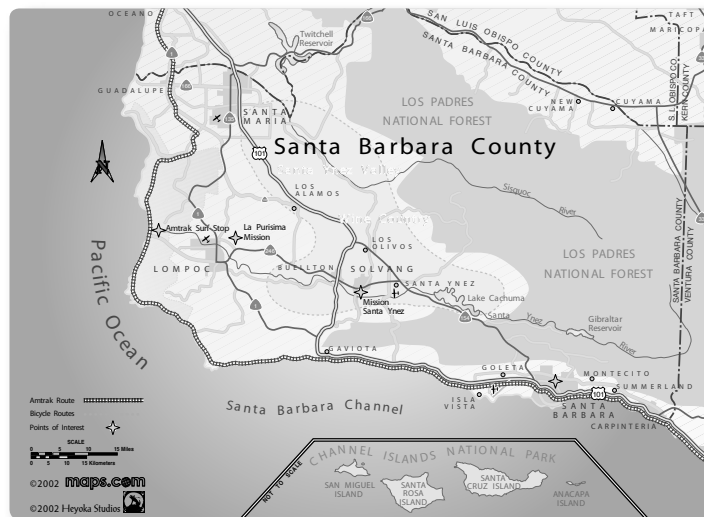
APCD is involved with ARB in the Maritime Air Quality Technical Working Group (Maritime Working Group), which includes participants from other California air districts, the USEPA, the U.S. Department of Transportation's Maritime Administration (MARAD), environmental organizations, port authorities, ship owner/operators, large engine manufacturers, and emission-control technology companies. The group is developing a fund with an initial target of \$1

In a May letter to California air districts, APCD Director Doug Allard made the case for participation in the fund: "This source of pollution is one of the largest unregulated sources of NOx and particulate matter in California, affecting all coastal air districts and, via longer range transport, inland areas as well." While controlling ship emissions is a challenging task, "emission-control technologies are available that can cost-effectively reduce emissions by 10% to 40% or more."

possible retrofit technologies and emission testing needs." Taricco says four shipping companies have expressed interest in participating in a demonstration program, including the emissions testing element: "Once completed, the demonstration will provide important information on what can be done to reduce emissions from an in-use ship and help us better understand the emission impacts from ships traveling in California waters."

Taricco describes the state agency's approach as three-pronged; pushing for cleaner new engine standards, encouraging the use of cleaner fuels, and control strategies for the in-use fleet. "Considering the complexity of the international shipping industry, there likely won't be one silver bullet," she notes, "there will be a variety of steps that we will need to take to get the emission reductions from the commercial marine sector that we need to meet our air quality goals in California. We are optimistic that through the Maritime Working Group we will be able to work together to identify the best way to achieve our goals." ARB is also encouraging the USEPA and the International Maritime Organization to implement cleaner emissions standards for ship engines.

APCD has been working to raise awareness of the issue nationally and internationally as well, and submitted comments on the



Santa Barbara County has 130 miles of coastline and, given the location of the Channel Islands, ships are often traveling only ten to fifteen miles off shore.

million to support demonstration projects to implement and test retrofit emission-reduction strategies and technologies on vessels that operate in California. The Port of Los Angeles has allocated \$250,000 to contribute to the fund, and the Bay Area Air Quality Management District's Board agreed to contribute up to \$285,000.

Peggy Taricco, Manager of the Technical Analysis Section within the ARB's Stationary Source Division, remarks, "The demonstration project initiative is coming together. Over the last year, working with the Maritime Working Group, we've developed a cooperative working relationship with the industry and have had informative discussions on

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South Coast AQMD Suspends Funds to Dry Cleaners Switching to GreenEarth® Process

In April, the South Coast Air Quality Management District (SCAQMD), the air district in the greater Los Angeles area, announced a suspension in grant funds to dry cleaners switching from perchloroethylene (PERC) cleaning to processes using the silicon-based solvent decamethylpentasiloxane (D5), also referred to as GreenEarth®.

The SCAQMD notice of the suspension of funds for D5 stated:

“Recent preliminary information regarding a 2-year animal study of silicon-based dry cleaning materials has raised some questions about the potential health effects of this chemical.

While this data is preliminary and needs to be thoroughly evaluated by health professionals, the AQMD is taking a precautionary approach and is suspending funding for any grant applications for this chemical received after April 4, 2003. Funding for applications received prior to this date will be honored. Funding may be restored at a future date, pending review by health experts.”

SCAQMD continues to provide funds to dry cleaners switching from PERC cleaning to water-based cleaning, or to processes using carbon dioxide or a petroleum-based solvent.

For more information on the SCAQMD grants program, which

is only available to dry cleaners operating in the counties that are part of the region covered by SCAQMD (not including Santa Barbara County), see www.aqmd.gov/business/drycleaninggrants.htm.

The SCAQMD action came after the Office of Prevention, Pesticides, and Toxic Substances (OPPTS) within the U.S. Environmental Protection Agency received results of a Dow Corning study of D5. In response to a request from California’s Office of Environmental Health Hazard Assessment (OEHHA), Dr. Oscar Hernandez of the OPPTS Risk Assessment Division, issued the following statement: “At this time, the results of this study

indicate there is a potential carcinogenic hazard associated with D5.”

Currently, Santa Barbara County dry cleaners using PERC or hydrocarbon solvents are required to have a permit with APCD. Dry cleaners using D5 or other substances are not required to have an APCD permit at this time.

For more information, contact John Garnett at APCD at 961-8835 or garnettj@sbcapcd.org. To download an EPA factsheet, see: www.epa.gov/dfe/pubs/garnett/d5fs.htm. For more information on the recent studies, contact Dr. James Collins at OEHHA at jcollins@oehha.ca.gov or 510-622-3146.

Air Pollution from Ships (continued from front)

draft USEPA rule addressing ship emissions. In June, Allard and APCD Planning and Technology Supervisor Tom Murphy presented a paper on marine shipping emissions to the annual conference of the national Air & Waste Management Association, held in San Diego this year. The paper, co-authored with Patton and former APCD Engineer Ray McCaffrey, details the magnitude of shipping emissions and presents a range of near-term and long-term strategies.

The paper and the presentation were highlighted in the

conference publication circulated to attendees, and to association members from around the U.S. and the world. The paper was also distributed to European Union (EU) officials coordinating a September workshop on low-emission shipping for EU members.

Murphy remarks, “One of the most important issues with regard to marine shipping emissions is that they’re largely uncontrolled. When we forecast our emission inventories out to 2015, we apply both growth and control factors. With the

shipping emissions, there isn’t a control factor at this point.”

He adds, “With some emission-reduction strategies, you can end up reducing one pollutant but increasing another. We will work to make sure we aren’t causing any pollutant tradeoffs, and we’ll be keeping an eye on greenhouse gas emissions as well.”

He sums up: “First, we have to implement demonstration projects to prove the viability and cost-effectiveness of an approach. But that’s just the beginning. We also have to find

ways to make this catch on to the entire industry. That will be the key to getting the kinds of reductions we need to see in the near term, as we also push for cleaner new engine standards and fuel regulations to improve the long-term picture.”

For more information and links, and to download a copy of APCD’s paper on marine shipping emissions, see www.sbcapcd.org.