

More People, More Cars, More Pollution The Land Use–Air Quality Connection

We know the population in our county and our state is growing. But we may not know another fact: *the number of miles we are driving every year is growing even more.*

Between 1970 and 1995, California's population grew by 60 percent, but the total number of miles traveled by cars and trucks per year *increased by more than 100 percent* (from a 1997 California Air Resources Board report).

Why is this happening?

One reason is the way we develop our land, says Detlev Peikert, one of the founders of The Sustainability Project: "We are designing communities where people have to get in their cars and drive to meet their most basic needs—to get a quart of milk. In some cases people have to get in their cars just to cross the street—because we're building roads and intersections that aren't safe to cross on foot."

The Sustainability Project is a Santa Barbara non-profit organization that works to raise community awareness of the issues involved in our use of land and other resources.

He continues: "Here's the irony. When people think of overcrowding, they're often complaining about their experiences driving around



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--Detlev Peikert, founder, The Sustainability Project

town—there's too much traffic, too many cars on the road. But if you try to get people out of their cars by creating mixed-use higher density developments, people are concerned that the result will be overcrowding. The reality is that the use of the single occupant vehicle has a far more negative impact than people walking, riding bicycles, or taking the bus."

In addition to increased traffic, more vehicles on the road mean more air pollution. Land use decisions have a direct impact on transportation choices, which, in turn affect our air, notes Bobbie Bratz, APCD Public Information and Community Programs Supervisor. "For twenty years

now, our Clean Air Plans have identified the land use-air quality connection," says Bratz. "However, in the land use area, we rely on the decision makers and the community to support and implement our recommendations."

Land use measures identified in APCD's 1979 Clean Air Plan were adopted in the County General Plan in 1981. Throughout the 1980s and early 1990s, APCD's Clean Air Plans recommended land use and transportation control measures. In 1993, APCD created a model Air Quality Element "as a way to formalize the land use-air quality connection for local planning agencies," says Bratz. The cities of Carpinteria and Lompoc

incorporated this element in their general plans.

Bratz notes that planning agencies face particular challenges in this area: "When you're making decisions on a project-by-project basis, it's difficult to step back and

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The Land Use-Air Quality Connection (cont'd)

**Sustainability means:
“meeting the needs of
the present generation
without jeopardizing
the ability of future
generations to meet
their needs”**

*--from the United Nations
World Commission on
Environment and
Development*

look at the Big Picture. It’s hard to see the cumulative effect of these projects and how they are part of a pattern that encourages use of the car, and discourages bicycling, walking, or use of public transit.”

The overall impact on air pollution is significant, notes Ron Tan, APCD Air Quality Engineer. “When you look at our emissions inventory, it stares you right in the face: cars and trucks cause more than half of the air pollution,” says Tan.

The California Air Resources Board, which has regulatory authority over pollution from cars and trucks, has implemented several successful statewide programs to reduce vehicle pollution. But even reduced emissions from cars accumulate when more cars drive more miles every year.

And although APCD has no regulatory authority over vehicle pollution, the agency has initiated and funded a number of voluntary projects, such as the Clean Air Express commuter bus service, and other projects promoting transit and bicycle use.

But eventually, it still comes back to land use planning, notes Tan. “In the past, planning processes have not always accounted for the true costs of development. We need for communities and agencies to focus their attention on the costs—economic costs, environmental costs, and public health costs—of certain kinds of development and the effect on our air.”

APCD is responsible for reviewing air quality impacts of new development projects under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements. As appropriate, APCD recommends “mitigation measures,” or steps project developers can take to minimize air pollution impacts. These can range from standard measures to control dust from construction to measures that promote use of alternative transportation (for example, by funding installation of a bus stop or bike racks or production of educational air quality materials).

Quality Specialist Vijaya Jammalamadaka who, with Tan, led the seminar, remarks: “Air quality is a regional problem. We would like to see land use planning agencies make more use of a variety of strategies in their review of projects. We would like to see them include policies in their plans and ordinances to reduce the number of vehicle miles traveled.”

The need to re-focus attention on land use planning is also cited in the long-range Regional Transportation Plan (RTP) that Santa Barbara County Association of Governments (SBCAG) has developed for the area.

“When you’re making decisions on a project-by-project basis, it’s difficult to step back and look at the Big Picture. It’s hard to see the cumulative effect of these projects and how they are part of a pattern that encourages use of the car, and discourages bicycling, walking, or use of public transit.”

APCD’s 1998 Clean Air Plan notes the importance of non-traditional approaches to air pollution control, and the importance of transit and pedestrian oriented planning. In its December 1998 meeting, the APCD Board adopted the 1998 Clean Air Plan, and approved plans for APCD to work with its Community Advisory Council to address impacts of land use decisions on air quality.

Recently APCD held a seminar for county and city planners on how to assess air quality impacts of developments. APCD Air

The 1995 RTP notes that most communities have an existing pattern of development that makes it difficult to use alternative transportation.

The RTP recommends that jurisdictions examine their land use policies and zoning ordinances to ensure that “future transportation problems are reduced through a land use pattern conducive to alternative transportation modes.”

Community involvement is the critical component of making changes, notes Peikert:



Recently 324 new signs marking bike routes were installed in the southern portion of the county, from Ellwood to just west of Carpinteria. The sign installation, a collaborative initiative by Santa Barbara County, the City of Santa Barbara, Santa Barbara County Association of Governments, and the Santa Barbara Bicycle Coalition, was funded by a federal grant. For a copy of the county bike map, call Traffic Solutions at 963-7283.

...Land Use-Air Quality (cont'd)

APCD Board Roundup

Following are the highlights of the December and January Board meetings.

December

- ✓ Executed grant agreements with two farms for repower of agricultural booster pumps with low-emission engines.
- ✓ Approved the 1998 Clean Air Plan.
- ✓ Received and filed APCD's report on its Air Toxics "Hot Spots" program.
- ✓ Authorized APCD Director to pursue an increase in state subvention funds.

January

- ✓ Executed grant agreements with two farms for repowers of agricultural booster pumps with low-emission engines.
- ✓ Adopted amendments to Rule 102, Definitions.
- ✓ Received a briefing on diesel exhaust.
- ✓ Approved grant agreement with Ventura County Air Pollution Control District for repower of the Ventura-Santa Barbara Clean Air Express bus with a compressed natural gas engine, and authorized APCD Director to provide up to \$77,660 for this repower.
- ✓ Approved grant agreement with Santa Barbara Airbus to operate the Clean Air Express Commuter Bus Program.
- ✓ Approved a one-year time extension of APCD's Electric Vehicle Buydown Incentive Program through January 31, 2000.
- ✓ Approved APCD projects to be submitted for funding consideration in the development of the 1999 Federal Transportation Improvement Program.



APCD's Ron Tan (left) and Vijaya Jammalamadaka (right) discuss the land use-air quality connection with Detlev Peikert, a founder of the Santa Barbara-based Sustainability Project.

"We need more people to participate in the planning of their communities. We need to encourage people to start thinking about what constitutes a livable community, and to understand that we may need to start doing some things differently."

"We need to demonstrate for people the link between land use, transportation, and air quality. And we need more examples of good kinds of developments, that support a sustainable community model."

Communities in this county have always been more active in looking at land use issues than in some other parts of the state. Recently there have been several signs of renewed energy in this area, including: successful efforts to support open space along the Carpinteria Bluffs and in Las Positas Park; installation of new bike route signs in the South County; a new housing development for Santa Maria, designed with 700 single-family units, a church, a park, school and greenbelt, all within easy walking distance; the revitalization of Goleta Old

Town; adoption by the City of Santa Barbara of the Bicycle Master Plan; continued focus on bikeways in North County; a successful international conference last fall on bicycle-friendly and pedestrian-friendly community design (the Pro Bike Pro Walk conference); and commitment by SBCAG to prioritize transit and alternative transportation for federal transportation funding.

Said Jammalamadaka: "We're encouraged by the community's efforts to work towards sustainable planning. At APCD we're committed to working collaboratively with all of the other agencies and stakeholders to realize this vision."

For more information, contact Bobbie Bratz at 805.961.8920/BratzB@sbcapcd.org, Ron Tan, Ph.D. at 805.961.8812/TanR@sbcapcd.org or Vijaya Jammalamadaka, AICP at 805.961.8893/JammalamadakaV@sbcapcd.org For more information on the Regional Transportation Plan contact Ann Lawler, SBCAG, at 568-2546 or alawler@sbcag.org.

Resources For Sustainable Planning

- ◆ 1998 Clean Air Plan, Santa Barbara County APCD, available at <http://www.sbcapcd.org>
- ◆ Scope and Content of Air Quality Sections in Environmental Documents Santa Barbara County APCD, 1998 (available by calling 805.961.8893)
- ◆ Santa Barbara's Innovative Building Design Review Committee at: <http://www.silcom.com/~sbcplan/ibdrc.html>
- ◆ The Sustainability Project, Santa Barbara, 805.966.3355
- ◆ The Land Use-Air Quality Linkage: How Land Use and Transportation Affect Air Quality, California Air Resources Board, 1997, available at <http://www.arb.ca.gov/linkage/linkage.htm>. Also on the ARB site, see Transportation-Related Land Use Strategies to Minimize Motor Vehicle Emissions: An Indirect Source Research Study, June 1995, and information on the new planning Urbemis7G software, available at <http://www.arb.ca.gov/urbemis7/urbemis7.htm>
- ◆ Beyond Sprawl: New Patterns of Growth to Fit the New California available at: http://www.bankamerica.com/community/env_p8.html
- ◆ One stop guide for local governments at: <http://www.iclei.org/la21/onestop.htm>.



APCD Board Calendar

Air Pollution Control District Board

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 Tom Urbanske

Fifth District

Santa Barbara County

Councilmember Russ Hicks

City of Buellton

Councilmember Dick Weinberg

City of Carpinteria

Mayor Sam Arca

City of Guadalupe

Councilmember DeWayne Holmdahl

City of Lompoc

Councilmember Elinor Langer

City of Santa Barbara

Councilmember Larry Lavagnino

City of Santa Maria

Councilmember Ed Andrisek

City of Solvang

*All meetings start at 2 p.m.
For final meeting agendas,
call the APCD Board Clerk,
568-2247.*

February 18, 1999

Board of Supervisors
Hearing Room
105 East Anapamu Street
Santa Barbara

March 18, 1999

Solvang Municipal Center
Solvang Board Room
1644 Oak Street
Solvang

April 15, 1999

Board of Supervisors
Hearing Room
105 East Anapamu Street
Santa Barbara

May 20, 1999

Lompoc City Council
Chambers
100 Civic Center Plaza
Lompoc

Community Advisory Council

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

Permit & Compliance Summary

| | NOV | DEC |
|--|-----|-----|
| ATC Applications Received | 4 | 8 |
| ATC Permits Issued | 7 | 2 |
| PTO Applications Received | 9 | 7 |
| PTO Permits Issued | 2 | 6 |
| Exemption Requests | 3 | 0 |
| Exemptions Determined | 2 | 0 |
| Inspections Made | 128 | 72 |
| Notices of Violation Issued | 11 | 26 |
| Administrative Infractions (subset of above) | 5 | 4 |
| Complaints Received | 15 | 8 |

On the Net • www.sbcapcd.org

❖ APCD's 1998 Clean Air Plan

The final plan adopted by the APCD Board in December of 1998, which shows how we will continue to improve the air quality in our county, and meet the deadline to attain the federal one-hour ozone standard.

❖ APCD's Air Toxics "Hot Spots" Program Annual Report

The report that was issued and approved in December 1998. The report and web pages describe the APCD program, and provide questions and answers on air toxics.

❖ Learning About Air Pollution

Web pages with links for students, teachers, and parents.



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Air Pollution Control District

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On the Air is a bimonthly newsletter published by the Community Assistance 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, 961-8920.

Our Vision: Clean Air



Businesses Honored for Reducing Waste

Five county businesses recently received 1998 Waste Reduction Awards Program (WRAP) awards, as part of a program administered by California Integrated Waste Management Board.

As generators of more than half the state's waste, businesses play a major role in helping local governments cut the amount of garbage going to landfills. The WRAP award recognizes companies that develop creative and aggressive programs to reduce the amount of waste sent to landfills.

The five local companies that received 1998 WRAP Awards are listed below.

ABC-CLIO (Santa Barbara) was recognized for its progressive recycling program.

Art from Scrap (Santa Barbara), a program of the Community Environmental Council, was recognized for its

programs promoting recycling by businesses, and for its own recycling activities.

Hendry Telephone Products (Goleta), was recognized for progressive programs recycling wood pallets. The company, a 1997 Green Award winner, estimates it saves \$319,000 to \$599,000 per year by using recyclable pallets.

Marian Residence (Santa Maria), was recognized for its recycling and conservation programs.

McGhan Medical Manufacturing (Santa Barbara) was recognized for its progressive recycling programs, and for programs encouraging bicycling and carpooling.

The Buellton Senior Center and the Ark Gallery in Solvang received awards under a different program, the annual Waste Reduction Recognition Program sponsored by the cities

of Buellton and Solvang and the Buellton Chamber of Commerce. Honorable mentions were awarded to Pea Soup Anderson's Restaurant, New West Catering, Ace Hardware, and Santa Ynez Valley Real Estate.

The Buellton Senior Center was recognized for its involvement in recycling, reuse, waste exchange, and energy and water conserving projects since 1993. The Ark Gallery was recognized for its efforts in recycling, reuse and energy conservation since 1974.



James Keenan, President of Hendry Telephone Products, Green Award winner, and winner of a 1998 WRAP award (see article). Hendry estimates it saves \$319,000 to \$599,000 in shipping and material costs per year by using recyclable corrugated pallets. The pallets weigh 10-12 pounds each and cost less than wood pallets that weigh 100 pounds each.

Billion Dollar Settlement with Diesel Engine Manufacturers

On October 22, the U.S. Environmental Protection Agency (USEPA) and Justice Department announced a one-billion dollar settlement with the diesel engine industry for clean-air violations. The settlement, the largest in Clean Air Act enforcement history, included \$83.4 million in a civil penalty.

The settlement resolved charges that seven manufacturers of heavy-duty diesel engines installed devices on their engines that allowed the engines to meet USEPA emission standards in tests, but defeated emission controls in actual highway driving. These devices are prohibited under the Clean Air Act. USEPA

estimates these engines emitted more than 1.3 million tons of excess nitrogen oxides (NOx) in 1998 alone, the equivalent of putting an additional 65 million cars on the road. The 1.3 million tons represents six percent of all NOx emissions from cars, trucks and industrial sources in 1998. USEPA

(Continued on back)

Reminder for APCD Permit Holders

Air Toxics and Annual Reports Due March 1

Your annual report is required to comply with your facility's APCD Permit to Operate. Instructions are on the annual report form and/or in your permit.

For more information, contact the Business Assistance Line at 961-8868.

Making Diesel Engines Cleaner

Emission-reducing Turbopacs will be fitted on diesel engines on five MarBorg Industries waste trucks, as part of a contract recently announced by MarBorg and Turbodyne Technologies, Inc., the Carpinteria-based company profiled in this newsletter last year.

Turbodyne's Turbopac is a high-speed electric compressor that increases intake airflow for large heavy-duty diesel engines, such as those used by buses and trucks. By maintaining an optimal fuel-to-air ratio, the device reduces emissions and improves vehicle performance and fuel economy. In April 1998, the U.S. Environmental Protection Agency certified the Turbopac 2500 product for use in the Urban Bus Retrofit Program.

MarBorg Industries won a Green Award in 1996 for its

efforts helping the community recycle. The Green Award, sponsored by the APCD, Traffic Solutions, the Community Environmental Council, and Santa Barbara County Solid Waste and Utilities, recognizes companies and organizations for voluntary activities that result in cleaner air or water, less waste, less traffic, conservation of energy and natural resources, or reduced use of hazardous materials.

Mario Borgatello, MarBorg President, described the Turbopac: "It increases power, improves driveability, and reduces the creation of harmful pollutants and emissions. As we work for a clean environment, we are complemented by Turbodyne's solution that enables the diesel-powered engines in our trucks to burn much cleaner, complying with recent rulings. In addition,

my drivers love the power increase, and I have been recommending Turbodyne to other waste management companies."

The contract with Turbodyne was signed after two MarBorg trucks successfully used the Turbopac units as part of a pilot program. Contract implementation is pending an executive order from California Air Resources Board. Although the contract's primary focus is to reduce particulate matter (emissions) and black smoke from the truck engines, the contract also provides for a new pilot program for reducing emissions of nitrogen oxides (NOx) from these engines as well.

Settlement (cont'd)

reports that if the companies' use of these devices had not been detected and eliminated, more than 20 million tons of excess NOx would have been emitted by the year 2005.

In Santa Barbara County we estimate that roughly one-fourth of our on-road NOx emissions come from heavy-duty diesel engines. That equates to more than 2,000 tons of NOx per year. Since these assumptions were made prior to the

announcement about the defeat device, we know that our emission inventory will increase in this area once actual data are available.

Emission reductions resulting from APCD's Innovative Technology Group programs are likely not affected by this new information. Clean-diesel engines used to replace higher-emission engines in farm booster pumps and most of the marine vessels are mechanically

controlled, and do not use the software systems that were targeted by the federal lawsuit. Emissions from some electronically-controlled diesel engines in use in APCD's marine repower program have been independently tested and found to be below the manufacturer's claims. (And in fact, USEPA has no applicable emission standards for diesel marine engines.)

EV Incentive Extended

In January the APCD Board approved extension of the electric vehicle (EV) incentive through January 31, 2000. Individuals or fleet operators can receive \$5,000 towards the purchase or lease price of a new EV to be operated in Santa Barbara County.

The following EVs are currently qualified under the program: General Motors (GM) EV-1, Honda EV Plus, GM S-10 EV pickup, Toyota RAV4-EV, Solectria Force sedan, and Ford Ranger EV pickup.

For more information, call Gary Hoffman at 961-8918.

The Year 2000 Problem: Help for Businesses

Santa Barbara's group:
<http://www.sby2k.org>

President's Council on Year 2000 Conversion: <http://www.y2k.gov>

EPA's Year 2000 website:
<http://www.epa.gov/year2000>

U.S. Small Business Administration:
<http://www.sba.gov/y2k>

National Institute of Standards and Technology: <http://www.nist.gov/y2k>

Manufacturing Extension Partnership:
<http://www.mep.nist.gov/index4.html>