



Annual Report to the Community



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

October 2008





Our Mission

About the District

The San Joaquin Valley Air Pollution Control District is a regional agency responsible for air quality management in the eight counties in the San Joaquin Valley Air Basin: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the Valley Air Basin portions of Kern.

The District works with local, state and federal government agencies, the business community and the residents of the Valley to reduce emissions that create harmful air quality conditions.

The District is governed by a 15-member Board that consists of representatives from the boards of supervisors of all eight counties, five Councilmembers from Valley cities and two governor-appointed public members.

The San Joaquin Valley Air Pollution Control District is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality-management strategies.

Governing Board

Leroy Ornellas
Supervisor, San Joaquin County
CHAIR

Chris Vierra
Councilmember, City of Ceres
VICE CHAIR

Tony Barba
Supervisor, Kings County

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Councilmember, City of Fresno

John G. Telles, M.D.
Appointed by Governor

Raymond A. Watson
Supervisor, Kern County

J. Steven Worthley
Supervisor, Tulare County

Seyed Sadredin
Executive Director/Air Pollution Control Officer

TO: All Valley Residents

FROM: Seyed Sadredin
Executive Director/Air Pollution Control Officer
San Joaquin Valley Air Pollution Control District

RE: REPORT TO THE COMMUNITY

Public accountability is a core value that guides our conduct and the day-to-day activities at your local Air Pollution Control District. The purpose of this report is to provide Valley residents with a detailed account of the District activities in the preceding year. This report also outlines the District's goals, objectives and legal obligations for the same time period. It is our hope that this report provides Valley residents with accurate information for objective assessment of our work and progress towards achieving cleaner air.

In achieving cleaner air, the challenges that we face in the Valley are unmatched by any other region in the nation. Now, more than ever, we need full participation by the public and private sectors, and all Valley residents in our journey to clean air. Towards that end, we hope that this report serves as a stimulus for individuals, businesses and municipalities to make air quality an important consideration in their ongoing decision making. We also look forward to constructive suggestions from everyone.



Seyed Sadredin

The Journey to Cleaner Air

Despite significant progress, the San Joaquin Valley continues to be severely impacted by adverse air quality. Since 1980, when air programs in the Valley began taking shape, we have reduced emissions from stationary sources by 80%, and total emissions have been reduced by nearly 60%. These enormous reductions in emissions have come about as the result of significant investment and sacrifice by Valley businesses. (Please refer to **Contributions from the Valley's Businesses and Residents** section of this report, beginning on page 31, for further details). The number of days and the magnitude by which the Valley exceeds the health-based standards have been reduced dramatically. However, we need to do much more before we have healthier air for all Valley residents. The region's topography and meteorology provide ideal conditions for trapping air pollution for long periods of time, producing harmful pollutants such as ozone and particulate matter. The region also houses the state's major arteries for goods and people movement, thereby attracting a large volume of vehicular traffic. Another compounding factor is the large growth in population. In recent years, the population rate of growth in San Joaquin Valley has been at 65 percent above the state's average.

Given the enormity of these challenges, achieving cleaner air requires continued focus on all sources of emissions and participation by all government sectors, business entities, and individuals throughout the Valley.

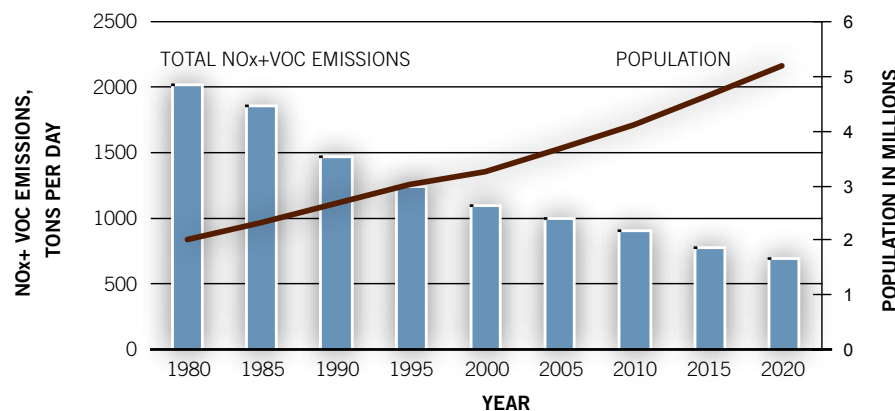
The **San Joaquin Valley Air Pollution Control District (District)** is the local agency in charge of cleaning the air within the eight county region of the San Joaquin Valley

(San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, Kings, and the portions of Kern County). The District has the primary authority in regulating stationary sources of pollution, such as factories, businesses, and industries. Although state and federal laws preempt the District from setting new tailpipe standards for mobile sources of emissions, the District implements indirect source regulations and incentive-based programs to reduce emissions from on-road and off-road sources of air pollution. The primary authority to regulate emissions from mobile sources of air pollution, such as cars and trucks, lies with the state and federal government. In achieving our clean air goals, the District partners with a number of other governmental agencies:

- The **federal government**, primarily through the Environmental Protection Agency (EPA), sets health-based standards for air pollutants. EPA also oversees state and local actions to improve air quality.

Although the Valley's population has doubled in the past 25 years, emissions have been cut in half.

San Joaquin Valley Population Increases and Emissions Decreases



Emissions reflect ARB Almanac (2007) estimates and do not include emissions reductions from planned control measures.

- The **state government**, through the California Air Resources Board (ARB) and the Bureau of Automotive Repair, develops programs to reduce pollution from vehicles and consumer products. The state also oversees the actions of local air districts and city and county agencies.
- **County and city governments** are responsible for land-use planning to address issues such as “urban sprawl” as well as transportation and mass transit planning.

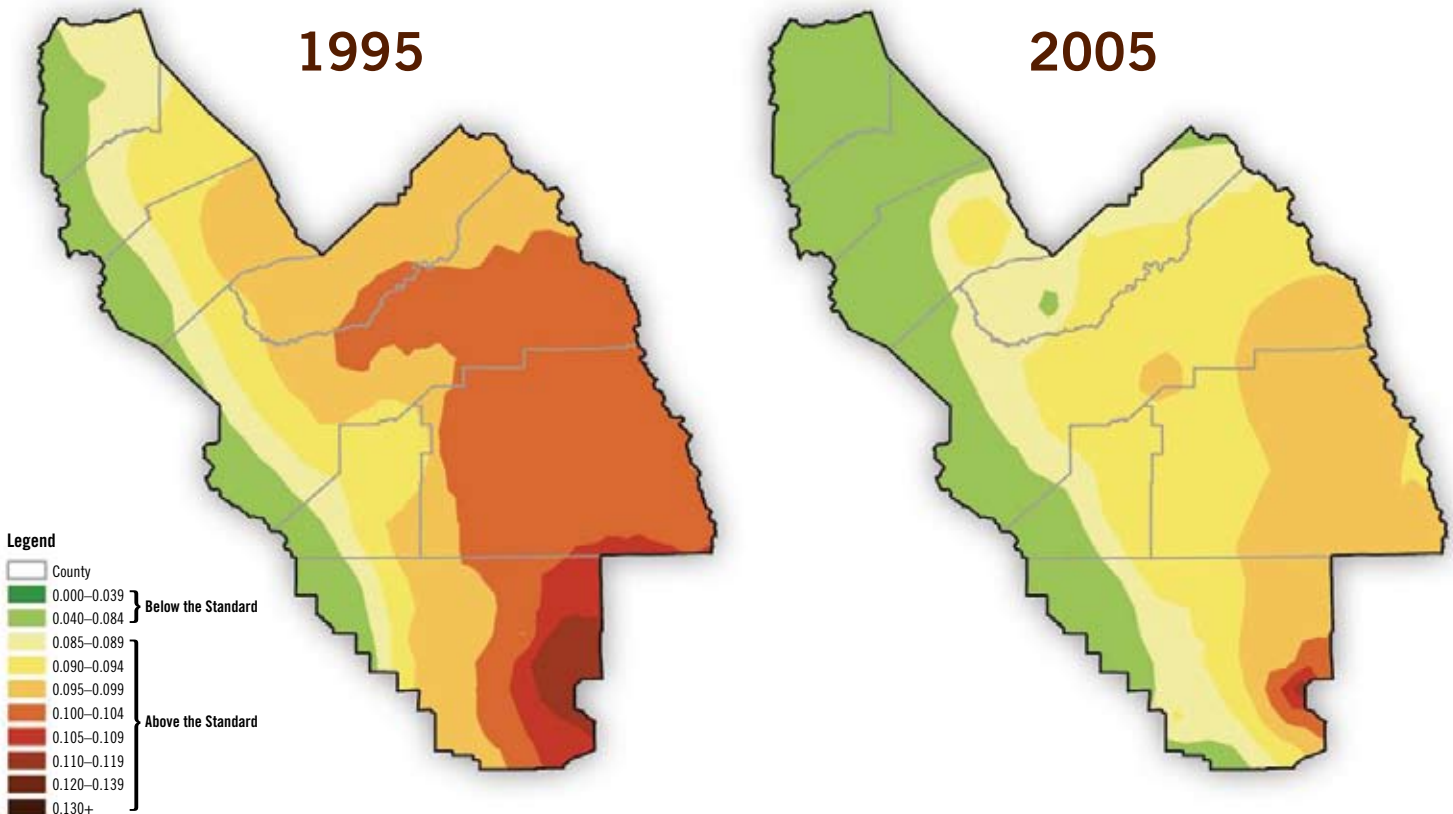
Progress in cleaning our air is often measured in relation to the health-based standards established by the federal government. The state of California also establishes ambient air quality standards that serve as ultimate goals in achieving clean air. Air quality indicators and the Valley’s recent redesignation to federal PM10 attainment are discussed in the **Air Monitoring and Scientific Evaluation** (starting on page 26) portion of this report. Valley industries’ contributions to this journey are discussed starting on page 31.

In a regulatory sense, our journey to cleaner air can be described as follows:

- EPA establishes the health standards.
- EPA identifies the regions that do not meet the new standards.
- EPA establishes deadlines for meeting the new standards and for submitting plans to get there.
- In collaboration with ARB, the District develops air quality plans outlining strategies needed to reduce emissions and meet the new standards.
- ARB forwards the plans for EPA approval after review, approval, and addition of state strategies.
- The District, ARB, and EPA adopt and implement plan commitments.
- The District provides routine updates and progress reports.

8-hour Ozone Air Quality Trends

SAN JOAQUIN VALLEY NATIONAL 8-HR OZONE DESIGN VALUES



Sources of Air Pollution in the San Joaquin Valley

Ozone and particulate matter are the two pollutants that are responsible for the bulk of the Valley's air quality problems.

Ozone is the major component of the Valley's summertime "smog," and it affects human health and vegetation. Ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight.

Particulate matter is any material except pure water that exists in the solid or liquid state in the atmosphere. Particle pollution includes

"inhalable coarse particles," with diameters larger than 2.5 micrometers and smaller than 10 micrometers (PM₁₀), and "fine particles," with diameters that are 2.5 micrometers and smaller (PM_{2.5}).

In the San Joaquin Valley, due to our meteorology, topography, and the chemical composition of the air pollutants, NO_x is the primary culprit in the formation of both ozone and PM_{2.5}. More detailed information on emissions is provided in the *2008 PM_{2.5} Plan*. Please visit the District website www.valleyair.org for more information.

TOP 10 SOURCES OF NO_x EMISSIONS SAN JOAQUIN VALLEY

- Heavy Heavy-Duty Diesel Trucks (191.9 tpd)
- Off-Road Equipment (55.7 tpd)
- Farm Equipment (41.7 tpd)
- Trains (20.0 tpd)
- Medium Heavy Duty Diesel Trucks (16.8 tpd)
- Light Duty Passenger Vehicles (14.5 tpd)
- Light Duty Trucks – LDT2 (13.8 tpd)
- Food and Agricultural Processing (11.4 tpd)
- Oil and Gas Production (10.0 tpd)
- Medium Duty Trucks (9.5 tpd)

TOP 10 SOURCES OF VOC EMISSIONS SAN JOAQUIN VALLEY

- Farming Operations (51.9 tpd)
- Oil and Gas Production (26.8 tpd)
- Consumer Products (23.6 tpd)
- Pesticides/Fertilizers (22.4 tpd)
- Light Duty Passenger Vehicles (17.7 tpd)
- Heavy Heavy-Duty Diesel Trucks (15.7 tpd)
- Off-Road Equipment (15.3 tpd)
- Recreational Boats (11.9 tpd)
- Light Duty Trucks – LDT2 (11.1 tpd)
- Food and Agriculture (11.0 tpd)

TOP 10 SOURCES OF Directly Emitted PM_{2.5} SAN JOAQUIN VALLEY

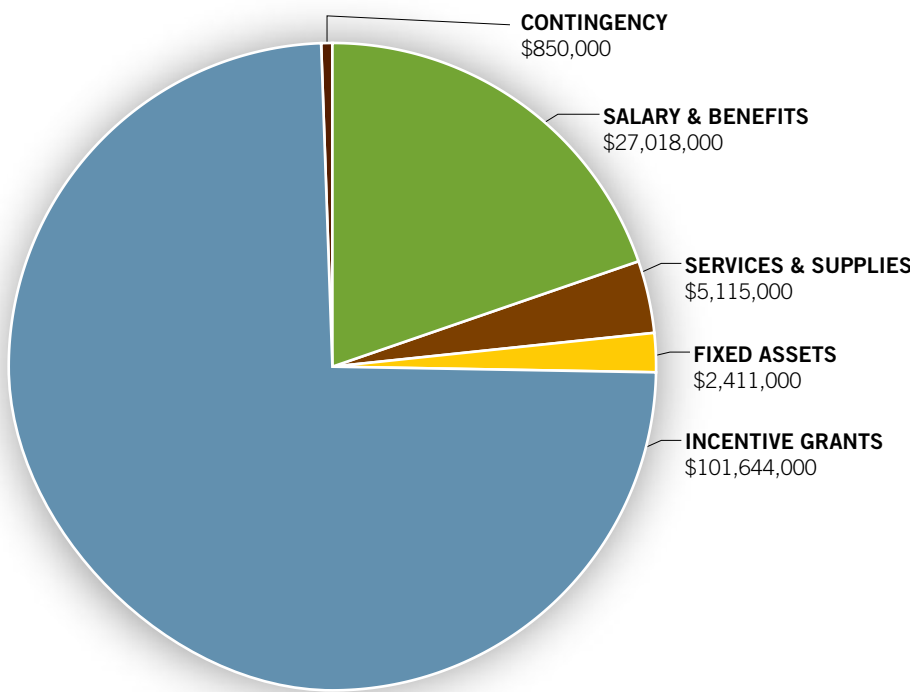
- Managed Burning and Disposal (9.1 tpd)
- Residential Fuel Combustion (8.7 tpd)
- Farming Operations (8.3 tpd)
- Heavy Heavy-Duty Diesel Trucks (7.6 tpd)
- Fugitive Windblown Dust (7.0 tpd)
- Paved Road Dust (5.5 tpd)
- Unpaved Road Dust (3.8 tpd)
- Cooking (2.9 tpd)
- Off-Road Equipment (2.7 tpd)
- Chemical Industrial Processes (2.6 tpd)

Inventory projections for 2010 from the *2008 PM_{2.5} Plan*, accounting for changes in the Waste Disposal category that are in progress.

How does the Air District do its job?

The San Joaquin Valley Air Pollution Control District is a **public health agency whose mission is to improve the health and quality of life for all Valley residents** through efficient, effective, and entrepreneurial air quality-management strategies. Towards that end, the Air District conducts the following functions:

- Maintain and update an **inventory of emissions** from various sources throughout the Valley on an ongoing basis.
- Develop and adopt **air quality plans** outlining strategies needed to reduce emissions.
- Develop, adopt, and implement **rules and regulations** to reduce emissions.
- Administer an efficient and comprehensive **permitting** system for stationary sources of air pollution and offer meaningful business assistance to the regulated community in meeting applicable regulations.
- Maintain an active and effective **enforcement** program to assure real and continued reductions in emissions.
- Administer **voluntary incentive grants** offering financial assistance to businesses and individuals to reduce air pollution.
- Conduct comprehensive **public education and outreach**.
- Collaborate with **state and local agencies**.
- Operate and maintain an extensive **air monitoring** network to measure actual concentrations of various air pollutants throughout the Valley and track the progress in improving the Valley’s air quality.
- Conduct or oversee **scientific research** to better assess air quality impacts from various sources of air pollution and the related impacts on public health.



2008/2009 District Budget

Nearly 75% of the 2008/2009 District Budget is allocated for Voluntary Incentive Grants (see page 16).

The following sections in this report detail District activities in each of the above mentioned areas. In addition, in 2007, the District adopted a “Fast Track” strategy to reach federal standards for 8-hour ozone years ahead of the legal deadline. This document also contains a **Fast Track Progress Report**.

Air Quality Plans

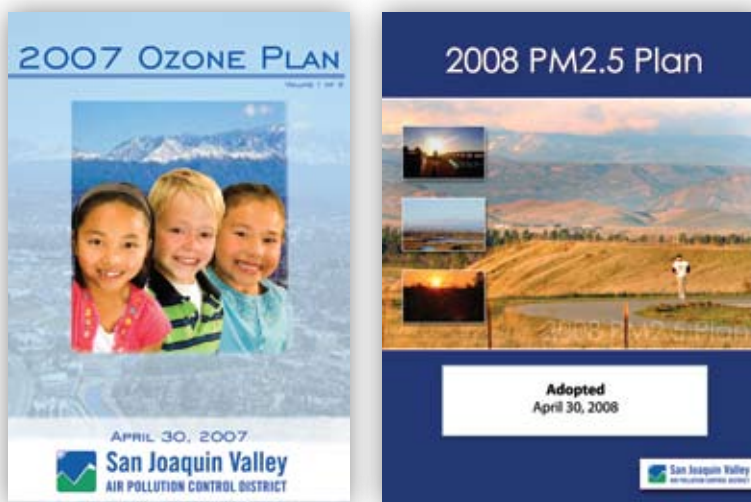
The San Joaquin Valley Air Pollution Control District has written several plans over the years to create new approaches to cleaner air for the Valley. The District's air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control methods have worked, and to show how air pollution will be reduced. The plans also use computer modeling to estimate future levels of pollution and make sure that the Valley will meet air quality goals on time. The District Governing Board approved three major plans in 2007-2008.

The District approved the *2007 Ozone Plan* on April 30, 2007. This plan included an in-depth analysis of all possible control measures and projected that the Valley will achieve the 8-hour ozone standard (as set by EPA in 1997) for all areas of the San Joaquin Valley Air Basin no later than 2023. This plan went above and beyond minimum legal requirements by including a **"Fast Track"** control strategy. Through Fast Track, new strategies produce real reductions (even though they can not be legally counted in the plan at this time) and will clean the air before the deadline. The California Air Resources Board approved the *2007 Ozone Plan* on June 14, 2007.

The District has compiled a series of PM10 Plans, with the first one in 1991. Based on PM10 measurements from 2003-2006, EPA found that the San Joaquin Valley Air Basin had reached the federal PM10 standard. The District's *2007 PM10 Maintenance Plan and Request for Redesignation*, approved on September 21, 2007, assures that the Valley will continue to meet the PM10 standard and requests that EPA formally redesignate, or

label, the Valley to attainment status. On April 25, 2008, EPA stated their intent to approve the PM10 Maintenance Plan.

The District approved the *2008 PM2.5 Plan* on April 30, 2008. Building upon the strategy used in the *2007 Ozone Plan*, the District agreed to additional control measures to reduce directly produced PM2.5. The *2008 PM2.5 Plan* estimates that the San Joaquin Valley Air Basin will reach the PM2.5 standard (as set by EPA in 1997) in 2014. The Governing Board of the California Air Resources Board approved the Plan on May 22, 2008, and the plan has been submitted to EPA.



Covers of two of the major plans the District Governing Board approved in 2007-2008.

Rules and Regulations

The District's rule development process is an open process that provides multiple opportunities for **meaningful input and participation** by the general public and the affected businesses.

Increasingly, the District has taken a leadership role in developing and implementing groundbreaking air strategies. Tough and innovative rules like the District's rules for

Biosolids Operations (Rule 4565)

Adopted on March 15, 2007, this control measure requires operators who manage biosolids, animal manure, and poultry litter materials to reduce VOC emissions using a combination of management practices and emission control systems. The required compliance method varies depending on the size of the operation. The emission reduction

Commitments and Achievements In 2007

COMMITMENT:

Adopt control measures to achieve 3.0 tons per day of NO_x reductions

- ✓ Adopted control measures achieve 6.9 tons per day of NO_x reductions (130 percent above target)

COMMITMENT:

Achieve 8.6 tons per day of VOC reductions from the eight adopted control measures

- ✓ Adopted control measures achieve 16.3 tons per day of VOC reductions (90 percent above target)

Indirect Source Review (ISR), Confined Animal Feeding Operations, residential fireplaces, wine production and storage, and Conservation Management Practices (CMP) have set the benchmark for other regions in the state.

While air quality plans establish targets, during the rule development process the District engages in an exhaustive process to **identify the most effective control technologies that are technologically and economically feasible**. Every rule commitment from the 2007 Ozone Plan has been adopted on time and has either met or exceeded its emissions reduction goal.

The following is a brief summary of the rules adopted during 2007.

commitment was 3.4 tons per day (tpd) of VOC with actual adjusted emissions reduction of 4.0 tpd of VOC, which yields an additional reduction of 0.6 tpd of VOC beyond the plan commitment. This rule affects 29 operators in the Valley at an approximate total annualized cost of \$5.8 million to \$24 million for all facilities.

Open Burning (Rule 4103)

Adopted on May 17, 2007, this control measure impacts a variety of agricultural crops including orchard and tree crops, rice, and specialty crops. The rule prohibits burning the waste from these crops unless there is no other method of disposal. This is the third of four phases of control on this source, and work on the fourth phase will begin this summer. This rule was expected to

reduce 5.2 tpd of combined VOC and NO_x emissions. The actual reductions amounted to 6.4 tpd, achieving 1.2 tpd of additional reductions beyond the Plan commitment. This rule reflects the most stringent source control of any air district in California. The cost of compliance and the number of sources affected by this rule vary widely depending on the particular crop planted each year and the acreage covered. Most growers must also follow a list of best management practices for weed control.

Polystyrene Foam (Rule 4682)

Adopted on September 20, 2007, this rule limits VOC and chlorofluorocarbon (CFC) emissions from the manufacturing and processing of polystyrene foam, and polyethylene and polypropylene products. This third generation of control on this source category applies the best available control technology. There are 12 businesses in the Valley that are subject to this rule with the total annualized cost of \$5.1 million. This control measure will reduce VOC by 0.1 tpd.

Stationary Gas Turbines (Rule 4703)

In the Valley a large number of turbines are used for cogeneration, generating both electrical energy and steam for thermally enhanced oil recovery operations. Adopted on September 20, 2007, this rule amendment requires 19 Valley businesses to install state-of-the-art control on existing turbines. The emission reduction commitment was 0.6 tpd NO_x with adjusted emission reductions of 4.0 tpd NO_x, which yields an additional 3.4 tpd NO_x reductions beyond the Plan's commitment. The annual compliance cost varies from \$12 to \$14.5 million for a new unit and \$17 to \$29.7 million for a retrofitted unit. This rule equals or exceeds the most stringent source control of any air district in California.

Soil Decontamination Operations (Rule 4651)

Adopted on September 20, 2007, this rule reduces VOC emissions from operations in excavation, handling, transportation, decontamination, and disposal of contaminated soil. Contaminated soil is often the result of

spillage or leakage of a VOC-containing liquid. This is the third generation of control on this emission source and it affects four facilities in the Valley. The total annualized costs range from \$265,000 to \$305,000, with total VOC emission reduction of 10.6 tons per year. This rule equals or exceeds the stringency of any other air district in California.

Gasoline Storage and Transfer (Rules 4621, 4622, and 4624)

Adopted on December 20, 2007, this control measure affects facilities that dispense gasoline, including retail gasoline stations, public and private fleet operators, airport fueling operations, and gasoline distributors. This measure had a Plan commitment of 0.9 tpd VOC emissions reduction. The adjusted rule emission reductions are 3.8 tpd, reflecting an additional 2.9 tpd emission reductions beyond the Plan's commitment. The amendments reflect requirements to install the latest vapor control systems on these systems with a cost of approximately \$1.1 million per year.

Solvent Cleaning Portion of Eleven District Rules (Rules 4603, 4604, 4605, 4606, 4607, 4612, 4653, 4661, 4662, 4663, and 4684)

Sources subject to this rule are facilities using solvents in inks and coating materials and for parts cleaning. This includes body shops, printers, can manufacturer's coating facilities, and those using degreasers for parts cleaners. Adopted on September 20, 2007, these rule amendments establish more stringent material VOC limits and controls. The cost of requiring the best available retrofit control technology is approximately \$3.6 million per year. The Plan emissions commitment was 1.3 tpd VOC reduction, the adjusted rule emission reduction is 4.9 tpd VOC, which yields an additional 3.6 tpd of VOC emission reductions.

Permitting

The District has the responsibility for issuing or denying permits, registrations, and plan approvals for over 30,000 non-mobile sources of air contaminants, and for tracking and assessing impacts of these facilities' annual pollutant emissions.

2007–2008 Statistics

- 4,032 Authority to Construct permits issued
 - 1,405 new Permits to Operate issued
 - 630 new Title V permits issued to 3 facilities
 - 363 Title V permit modifications
 - 572 Conservation Management Practices plans issued
 - 686 Emission Reduction Credit certificates issued or transferred
 - 892 toxic air contaminant risk-management reviews performed
 - 4,500 annual emissions inventory surveys processed
 - 2,471 California Environmental Quality Act review requests processed
 - 708 CEQA comment letters and 42 CEQA documents prepared
 - 191 Indirect Source Review applications processed
-

Authorities to Construct and Permits to Operate

Permitting of stationary sources of air pollution provides a number of benefits to the public and to regulated sources: it provides an opportunity for the project proponent, the District, and the interested public to provide input and to assess a project's compliance with federal, state, and local air requirements prior to beginning construction; it provides a mechanism to consolidate and simplify the applicable air regulations in one brief document; and it provides guidance to both the applicant and the District that can be used on an ongoing basis to assure that the equipment or process is operating in

compliance with those rules. Because of the severity of our air quality problems, permits are required in the San Joaquin Valley for very small sources of emissions; as little as two pounds of emissions per day can trigger permitting requirements. This means that most facilities that emit air contaminants, from gas stations and body shops, to refineries and power plants, must obtain permits from the District.

The permitting process involves two steps. The first step requires the applicant to apply for and receive an Authority to Construct (ATC) permit. This process can be fairly lengthy and is very important. Construction of new or modified facilities or equipment may not legally proceed until an ATC is issued by the District. The requirements that must be met to obtain a permit in the Valley are among the strictest in the nation, requiring the best available air pollution control equipment and mitigation of emissions increases. The second step, issuing the Permit to Operate, occurs after the applicant has properly installed the equipment allowed by the Authority to Construct.

Permits are required for gas stations and refineries, and for many other sources of air contaminants.

Federally Mandated Operating Permits (Title V)

The District has issued Title V permits to over 200 facilities known as "major sources" of air pollution. Title V permits are required of major sources by federal law, and are designed to expand public and federal EPA participation in the permitting process for the largest emitters of air contaminants in the District.

Conservation Management Practices Plans

The District is responsible for regulating and updating over 6,000 Conservation Management Practices (CMP) plans designed to decrease air pollution emissions from agricultural operations on farms, dairies, and other confined animal operations.

Emission Reduction Banking

The District is responsible for administering the District's Emission Reduction Credit (ERC) bank. The purpose of this bank is to allow facilities who make voluntary reductions in emissions to store emission reduction credits for later use as mitigation, or "offsets," of emissions increases. Facilities proposing increases in emissions may have to "offset" their emission increase by purchasing ERCs from facilities that have previously reduced their emissions.

Air Toxics Program

The District performs a number of tasks aimed at reducing the quantity of, and risk associated with, hazardous (or toxic) air contaminants. The District implements state and federal air toxic control regulations, maintains an inventory of toxic emissions from virtually every Valley source, and assures that those emissions, and any proposed increase in those emissions, do not cause a significant risk to the residents of the San Joaquin Valley. The District also publishes an annual report summarizing and informing the public of the year's integrated air toxics activities each April.

Emissions Inventory

The District maintains an annual inventory of emissions from stationary sources. Every year, permit services gathers emissions and process data from facilities and other information sources, calculates each facility's emissions, and reports the emissions to the California Air Resources Board. This inventory then acts as a cornerstone of our efforts to identify sources of air pollution that can be further controlled.

California Environmental Quality Act (CEQA)

The District's CEQA group analyzes District actions and project developers' proposals for compliance with CEQA. This is a state law that requires projects' environmental impacts be analyzed and publicly disclosed, and that any significant impacts be mitigated to the extent feasible.

Indirect Source Review (ISR)

Indirect sources of air pollution are those that cause air emissions or attract sources of air emissions, rather than directly emitting pollution. For instance, new residential housing developments and shopping centers attract many cars which emit air contaminants. Our ISR group analyzes applications that assess the potential emissions created by a development project, quantifies mitigations proposed by the applicant, and may assess a development mitigation fee if insufficient mitigation is proposed by the applicant. An annual report of ISR activity, and the emissions reductions generated by the program, is published by the District in late spring or early summer of each year.

Small Business Assistance

The District operates an effective Small Business Assistance (SBA) program to provide assistance to businesses that lack the resources or expertise needed to efficiently obtain air permits. District SBA engineers, who can be contacted by calling a District SBA hotline telephone number (559-230-5888), give expert advice on technology options, application processes, and any other air issues.

Permits are required for gas stations and refineries, and for many other sources of air contaminants.



Enforcement

The District inspects sources of air pollution, including all sources permitted by the District. When sources are found in violation, citations and monetary fines are levied.

2007–2008 Statistics

- 30,844 permit units inspected
- 2,678 public complaints investigated
- 2,508 open burn sites inspected
- 3,649 incentive funding units (trucks, engines) inspected
- 727 asbestos projects reviewed and inspected



The District inspects sources of air pollution. When sources are found in violation, citations and monetary fines are levied.

Inspections

Field staff conducts many types of activities each year, including detailed inspections of existing sources, new sources, incentive inspections, open burning, and all public complaints. The District trains staff to thoroughly inspect complex sources to make sure air pollution is below acceptable levels. Field staff inspects many facilities, including petroleum refineries, oil production, gas stations, dry cleaners, power plants, manufacturing plants, concrete batch plants, chemical plants, dairies, farms, and asphalt plants.

Technology

To conduct effective inspections, inspectors utilize specialized equipment to measure air pollution that would be otherwise invisible. The District is a certified tester for smoke stack emissions. Other devices measure for gas leaks and toxic compounds in wood scheduled to be burned. For visible emissions like dust and soot, field staff is certified to read their concentrations.

Staff Training

The District has an effective training program to insure staff is adequately trained to conduct

thorough inspections. New and existing staff attend several ARB classes that cover a wide range of topics, including how to read smoke, enforcement techniques, and industry-specific courses. In addition, there are monthly in-house training sessions where staff is instructed on upcoming new/modified rules, new forms, and inspection techniques.

Compliance Assistance Training

The District's Compliance Assistance Training educates regulated sources and individuals to prevent non-compliance. Compliance assistance training is provided through classes, bulletins, and in one-on-one meetings.

Legal Action

When violations do occur, tickets are issued and submitted to specialists to review, and if deemed appropriate, assess a monetary fine. When cases can't be settled by specialists, they are referred to District Counsel. In fiscal year 2007–2008:

- 3,016 tickets issued
- 154 cases transferred to legal counsel
- \$3,800,000 in settlements collected

Administrative Variances

On rare occasions, a source may emit air pollution in excess of the law for a limited time. If strict conditions are met, an independent hearing board (non-district employees) can grant temporary relief from rules. The excess emissions associated with these situations are a very small fraction of the overall District emission inventory. In fiscal year 2007–2008, 99 variance petitions were heard at 44 hearings. Compliance staff coordinated these hearings, including handling public noticing, providing hearing board members with petitions/support information, and giving testimony.

Fast Track Progress Report

In June 2007, the District adopted the “Fast Track” strategy, a non-regulatory approach to complement the District’s State Implementation Plan and accelerate attainment of the ozone standard. Fast Track has three principal components:

- (1) Acquiring additional incentive funding;
- (2) Ensuring that ARB and EPA adopt effective and expedited regulations; and
- (3) Developing Fast Track emission reduction measures, which currently include Healthy Air Living, Green Fleets, Truck Replacement/Retrofit/Repower, Short Sea Shipping, High Speed Rail, Green Contracting, Alternative Energy, Energy Conservation, Heat Island Mitigation, Episodic/Regional Controls, and Inland Ports.

The District meets monthly with the **Fast Track Task Force**, whose members represent a broad spectrum of business, agricultural, governmental, and environmental organizations, to develop and implement emission reduction measures. Even though the Fast Track concept is only one year old, the Task Force has successfully completed many activities that will help reduce emissions in the San Joaquin Valley.

The dual path to attainment is being developed as an open public process, with a monthly meeting to implement the path to expedited attainment.



Acquiring Additional Incentive Funding

Proposition 1B

The Proposition 1B: *Goods Movement Emission Reduction Plan* is a partnership between the ARB and local agencies (including air districts, ports, and transportation agencies) to reduce air pollution emissions and health risk from freight movement along California’s four primary highway trade corridors. The proposition will distribute \$1 billion to these four corridors over a four-year timeframe. As originally presented, the *Goods Movement Emission Reduction Plan* was directed at the ports and associated road systems. Members of the Task Force worked successfully to have ARB include the San Joaquin Valley within the scope of the plan, thereby making the Valley eligible for Proposition 1B funds. In February 2008, the ARB allocated \$250 million to the Central Valley corridor, which includes Sacramento. More information on Proposition 1B can be found at www.arb.ca.gov/gmbond.

Community Clean Air Fund

The *2007 Ozone Plan* presented the concept of a Community Clean Air Fund to allow for the receipt and expenditure of voluntary donations to fund projects that improve the Valley’s air quality. On March 20, 2008, the District Governing Board approved the creation of the *Community Clean Air Fund* and approved partnering with the Fresno Regional Foundation as a non-profit tax exempt entity to accept donations to the Fund.

Dual Path/Fast Track Task Force Members

Les Clark

Independent Oil Producers Agency

Manuel Cunha

Nisei Farmer’s League

Jim Ganduglia

Ganduglia Trucking/ California Trucking Association

Kevin Hamilton

Community Medical Center’s Asthma Program

Roger Isom

California Cotton Ginners and Growers Associations

Mark Keppler

Maddy Institute – CSU Fresno

David Lighthall

Central Valley Health Policy Institute – CSU Fresno

Sarah Sharpe

Fresno Metro Ministry

Ron Silva

Westar Transport/California Trucking Association

Katie Stevens

Maddy Institute – CSU Fresno

Feleena Sutton

Operation Clean Air

Kim Thompson

Fresno-Madera Medical Society

Peter Weber

Regional Jobs Initiative/ Governor’s Partnership for the San Joaquin Valley

Legislative Advocacy for Increased Incentive Funding

During 2007, the District worked with state and federal legislators and agency staff to secure incentive funding from a variety of sources. The District will continue to investigate other possible ways to generate funds, such as supporting or sponsoring legislation that would provide funding to mitigate emissions associated with trucks passing through the Valley.

Enhancing Effective and Expedited Regulations by ARB and EPA

ARB In-use Off-Road Vehicle Regulation

On July 26, 2007, ARB adopted a regulation to reduce particulate matter and NOx emissions from in-use (existing) off-road heavy-duty diesel vehicles that are used in construction, mining and industrial operations in California. District staff and Fast Track Task Force members provided written and oral comments to support the emission reductions that this regulation would achieve, successfully convincing ARB to allow the San Joaquin Valley and the South Coast Air Quality Management District to establish an optional program to reduce NOx emissions beyond what is required by the regulation. More information can be found at www.arb.ca.gov/msprog/ordiesel/ordiesel.htm.

Short sea shipping involves the movement of containerized cargo by ocean-going ships or barges instead of trucks. If implemented in California, it would greatly reduce the emissions and congestion associated with truck and rail movement of goods through the Valley between Southern and Northern California.



ARB In-Use Heavy-Duty Diesel Truck Regulation

ARB staff is developing a regulation to reduce particulate matter and other emissions from in-use heavy-duty diesel vehicles, and plans to present the proposed regulation to ARB's Board in December 2008. District staff and Fast Track Task Force members have been working with ARB to ensure that this regulation is developed responsibly and have also worked to have ARB staff include a multi-tier truck replacement program as part of the regulation. More information on the heavy-duty truck rule development can be found at www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

Greenhouse Gas Emissions Standards for Vehicles

ARB is continuing their effort to establish and enforce emission standards for greenhouse gas emissions from new motor vehicles. These measures provide a great potential for co-benefits in reducing pollutants that also result in the formation of ozone and particulate matter. In May 2007, the District provided written and verbal comments supporting the ARB's efforts, and on November 11, 2007, the District filed a lawsuit against the federal government to allow California to enforce stricter tailpipe emission standards for greenhouse gas emissions.

EPA Locomotive Engine and Marine Compression-Ignition Engine Rule

The District provided written comments to EPA encouraging EPA's development of more stringent NOx emission standards for locomotives. EPA adopted tighter emission standards on March 14, 2008; however, they did delay implementation of their rule from the dates proposed in their draft rule.

Fast Track Emission Reduction Measures

This section highlights major activities conducted to date for developing key Fast Track emission reduction measures.

Short Sea Shipping

Short sea shipping involves the movement of containerized cargo by ocean-going ships or barges instead of trucks. If implemented in California, it would greatly reduce the emissions and congestion associated with truck and rail movement of goods through the Valley between Southern and Northern California. On January 28, 2008, the District collaborated with Operation Clean Air to host a business conference to discuss the potential of short sea shipping on the Pacific Coast and the effects it would have on traffic congestion and air quality throughout the state of California. The conference successfully identified the economic and environmental viability of short sea shipping.

Truck Replacement/Retrofit/Repower

District staff and Task Force members are currently working to use Proposition 1B funds to establish the most effective program to reduce emissions from heavy-duty diesel trucks driven in the Valley. This measure is also affected by the ARB in-use truck regulation under development. See above and see www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

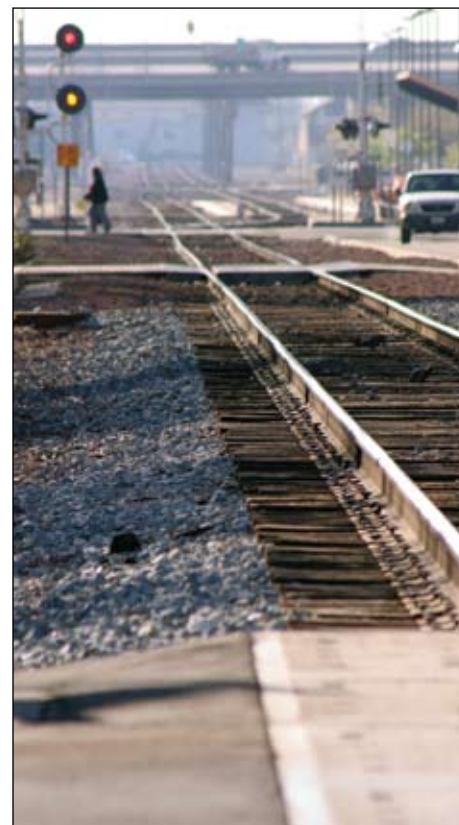
High Speed Rail

The planned 700 mile long California High-Speed Rail route would travel from San Diego to Sacramento and has the potential to dramatically reduce passenger car trips through the Valley, including commute trips, thereby reducing emissions and improving air quality. Task Force members have participated in high-speed rail public meetings and hearings, which to-date have primarily focused on determining the best routes for the rail lines. A complete Environmental Impact Report and other information can be found at www.cahighspeedrail.ca.gov.

Upcoming Fast Track Measures

Measures that are planned for 2008-2009 include the following:

- **GREEN FLEETS:** Encourage or require government agencies and private businesses to upgrade existing fleets with low-emission vehicles. District does not currently have the authority to mandate the use of green fleets by private businesses.
- **GREEN CONTRACTING:** Encourage or require government agencies and private businesses to give preference to contractors/vendors who use low-emission processes and equipment. District does not currently have the authority to mandate green contracting.
- **ALTERNATIVE ENERGY:** Utilize lower-emitting sources of energy such as electric, solar, and hydrogen fuel cells, to slow the growth of NOx emissions in the Valley.
- **ENERGY CONSERVATION:** Encourage or require government agencies, businesses, and residents to employ measures to reduce energy consumption in the San Joaquin Valley.
- **HEAT ISLAND MITIGATION:** Adopt methods and practices, such as urban landscaping and highly-reflective roofing, to reduce the surface temperatures in urban centers and reduce the need for peak electricity generation. Additional benefits include cost savings, reduction of greenhouse gases, and aesthetic improvements.
- **EPISODIC/REGIONAL CONTROLS:** Incentive and regulatory-based measures designed to reduce ozone concentrations at hot-spot locations during the worst days of the ozone season.
- **INLAND PORTS:** Provide linkages between ports and other modes of transportation, such as by train, for the delivery of goods. Increase use of cargo containers and truck/rail combinations.



The District provided written comments to EPA encouraging EPA's development of more stringent NOx emission standards for locomotives.

Voluntary Incentive Grants

Incentive funding helps achieve emissions reductions earlier than or beyond legal requirements. There are several sources of funding used for the incentives. During the 2007 calendar year, incentives were funded with:

- ARB NO_x and PM Emission Reduction Credit Program Funds
- Back-up Generator and Peaker Plant Mitigation Funds
- Carl Moyer Program Funds
- California Energy Commission Funds
- Developer Mitigation Contract Funds
- Dept. of Motor Vehicle (DMV) Surcharges
- Lower Emission School Bus Program Funds
- San Joaquin Valley Emergency Clean Air Attainment Program Funds

Over its history, the District has awarded over \$190 million in incentives. This has resulted in over 59,000 tons of lifetime emission reductions, at an average cost-effectiveness of approximately \$2,800 per ton. In 2007, the District executed over 320 agreements for over \$35.7 million. During their project lives, these projects are expected to reduce over 6,742 tons of NO_x, PM, and VOC emissions.

The District funds the following types of projects:

- Diesel agriculture irrigation pump replacement
- On-road and off-road vehicle engine replacement, engine retrofit and vehicle replacement
- New clean vehicle purchases
- Locomotive replacements
- Vanpools
- E-mobility equipment
- Bicycle path construction
- Transit pass subsidies
- Many other cost-effective projects

Enforcement Activities

The District uses all reasonable means to ensure that the reductions predicted are achieved. In many cases, if the actual usage is below the predicted usage, the District will recalculate the project to determine if the project still meets the District's cost-effective caps at the reduced usage. If the project does not meet these caps, then the District may extend the contract length to ensure predicted reductions are achieved, or require repayment of funds. In cases where the equipment or vehicle has been sold, the District will ask that the new owner take over the contract in order to guarantee that the reductions will be achieved.

In 2007, there were nine cases where the reduced usage changed the incentive amount and the contract could not be extended, nor could a person be found to take over the contract. The District sent out nine letters



Billboard promoting available grants to truckers.

Incentive Funding Commitments and Achievements in 2007

COMMITMENT:

Develop a voluntary car crushing program

- ✓ The District operates a car crushing program that goes beyond ARB's Voluntary Accelerated Vehicle Retirement regulation requirements.

COMMITMENT:

Lobby for Proposition 1B funds

- ✓ Substantial Proposition 1B funds have been committed to the Central Valley trade corridor.

COMMITMENT:

Administer Carl Moyer Program Funds

- ✓ The District has been administering Carl Moyer Program funds, plus a Multidistrict Carl Moyer Program Voucher Program, which increased the amount available to the District for incentives by \$500,000 and the emission reductions achieved by approximately 35 tons.

COMMITMENT:

Administer the Lower-Emission School Bus Program for the San Joaquin Valley

- ✓ The District Administered Lower-Emission School Bus Program for the San Joaquin Valley and partnered with several other air districts to operate their Lower-Emission School Bus Program, which will increase the anticipated funds administered by the District by over \$1 million.

COMMITMENT:

Apply for various EPA grants

- ✓ The District successfully submitted an EPA grant, which is expected to increase the funds available to the District for incentives by \$300,000.

COMMITMENT:

Develop a Community Clean Air Fund that would enable the public to partner with the District

- ✓ The District is in the process of contracting with Fresno Regional Foundation to set up the fund.

COMMITMENT:

Complete three state audits

- ✓ The audits concluded that the program is robust and one of the best incentive programs in California.

requesting funds. One case was settled by the grantee submitting annual reports. One case was sent to the District's legal department for follow-up. Three cases resulted in the applicant returning funds to the District. No action was taken on four cases because the applicant was unavailable.

Future Funding

Several funding sources were one-time sources of funding, or sources of funding that are no longer awarded. Most of the previously awarded funds from these funding sources were depleted in 2007 or will be depleted in 2008.

Currently, the District receives approximately \$40 million per year of funding from the DMV surcharge fees, Carl Moyer Program, and

ISR/DMC funds. However, unless reauthorized by the California Legislature, the DMV fees authorized under AB 923 will cease in January 1, 2015.

Furthermore, unless re-authorized by the California Legislature the funds from the Carl Moyer Program will cease in 2015. Finally, the ISR/DMC fees are based on development in the District and since the construction industry development fluctuates, these fees also fluctuate. A new source of funding, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, was approved by voters as Proposition 1B on November 7, 2006. The Air Resources Board allocated the first \$250 million in February 2008 for Goods Movement-related emission reduction projects. Of this amount, the District was allocated approximately \$45 million to be spent on heavy duty truck emission reduction projects – the highest allocation of any air district. In addition, the District was allocated approximately \$40 million to be spent on school bus emission reduction projects.

Considering that several of the funding sources sunset in 2015, and the remaining funding sources do not provide a guaranteed amount, the District has developed several ideas for amending the program.

Through the Clean Green Yard Machine program, vouchers for electric lawn mowers were issued to retire 866 gas lawn mowers in the first half of 2008.



Through the Burn Cleaner program, vouchers for gas-fueled fireplaces were issued from February through April 2008 for the removal of 244 wood burning devices.



In 2007–2008, the District launched its most extensive public outreach effort, Healthy Air Living.



Public Outreach

As air quality continues to be a key issue for Valley residents, the District's comprehensive multi-lingual (English, Spanish, Punjabi and Hmong) outreach serves to educate Valley residents and stakeholders on the activities of the District and to enable residents to take a proactive role in improving air quality. Every Valley resident must take a level of ownership and make personal decisions to address the challenges presented by new federal mandates and health study information.

July 2007–July 2008 Statistics

- Media calls: 727
- Public calls: 2,755
- Presentations/events: 120
- News releases: 53

The District's outreach program includes community incentive programs. Through the Clean Green Yard Machine program, vouchers for electric lawn mowers were issued to retire 866 gas lawn mowers in the first half of 2008. Through the Burn Cleaner program, vouchers for gas-fueled fireplaces were issued from February through April 2008 for the removal of 244 wood burning devices.

Healthy Air Living Initiative

In 2007–2008, the District launched its most extensive public outreach effort, Healthy Air Living. The District hosted three inaugural summit conferences in late March 2008, when hundreds of Valley residents learned that their every day actions can play an instrumental part in cleaning the Valley's air. Healthy Air Living week was held July 7–13, 2008.

This enhanced public outreach initiative emphasizes:

- Making air quality a priority in all business and individual decisions
- Reducing vehicle miles traveled by the public
- Reducing emissions from high emitting equipment and processes
- Reducing emissions through energy efficiency and use of cleaner fuels and/or equipment

The following highlights some of the accomplishments in the first year of the Healthy Air Living Initiative:

- Held a series of three Healthy Air Living summits in Bakersfield, Fresno and Modesto attended by more than 500 individuals. Speakers from Valley businesses, organizations and municipalities highlighted their innovative and entrepreneurial air-friendly activities.
- Received proclamations of support from 42 cities and all eight Valley counties declaring Healthy Air Living Week. Most proclamations also included pledges to engage in air friendly behaviors.
- Received 4,600 personal pledges by Valley residents to engage in air friendly behaviors and enter to win a Toyota Prius. In addition to the car, Toyota dealers also provided \$50,000 in advertisements to promote Healthy Air Living week and the drawing.
- Received pledges from 149 businesses with commitments to engage in air friendly behaviors.

- Developed and distributed more than 1,000 Healthy Air Living tool kits, including detailed resource books on Alternative Transportation and Telecommuting.
- Developed and implemented a multi-lingual media and advertising campaign utilizing TV, radio, billboards, and newspaper articles; and a comprehensive public-relations campaign, which included extensive free media.
- Selected 18 individuals, businesses, faith-based organizations and municipalities for *Clean Air Champion Awards* for 2008.
- Held dozens of meetings with businesses, faith-based organizations, and municipalities throughout the Valley presenting Healthy Air Living to a wide range of stakeholders at a number of public gatherings.
- Distributed 6,000 informational packets by mail and telephone or face-to-face contact with 850 facilities and 800 former Spare The Air partners.
- Leveraged District funds to bring in sponsors including: Toyota, local COGS, mass transit

agencies, commuter assistance organizations, Operation Clean Air (OCA), Valley Clean Air Now (CAN), local bicycle shops, and additional retail partners.

- Developed new online tools including www.healthyairliving.com, a MySpace page, and a Facebook page. Recorded 50,370 hits on the website since its launch and through Healthy Air Living Week.
- Met with newspaper editorial boards and TV and radio station management throughout the Valley.
- Published 24 full-page newspaper ads throughout the Valley.
- Posted 31 Environmental Justice bilingual posters.
- Produced \$362,000 in TV and radio advertisement through the Valley.
- Conducted 27 media interviews.
- Issued 6 press releases.
- Posted billboards with Healthy Air Living messages throughout the Valley.

Billboards promoted Healthy Air Living messages throughout the Valley.

A multi-lingual media and advertising campaign utilized TV, radio, billboards, and newspaper articles, and a comprehensive public-relations campaign included extensive free media.



Collaboration with State and Local Agencies

State Control Measures¹

Attainment of the federal ozone and PM_{2.5} standards in the San Joaquin Valley is a formidable public health challenge. On September 27, 2007, ARB approved a strengthened State Strategy. When combined with local efforts, these measures are expected to result in approximately a 90 percent improvement in air quality over the next ten years relative to the federal air quality standard. The 2007 State Strategy sets out a suite of emission control measures, to be developed over the next several years, which would reduce PM_{2.5} and ozone levels throughout the State. The summaries below identify recent and ongoing efforts to meet the State's commitments for sources of air pollution that remain under their jurisdiction.

Cleaner In-Use Off-Road Equipment

On July 26, 2007, the Air Resources Board (ARB) adopted a regulation to reduce diesel particulate matter and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. More information is available via the diesel vehicle information hot line at (866) 6-DIESEL or (866) 634-3735. See also: www.arb.ca.gov/msprog/ordiesel/ordiesel.htm.

Modifications to Reformulated Gasoline Program

At the June 14, 2007, Board meeting, the Board approved amendments to the CaRFG3 regulations with modifications proposed by staff. The modifications will be made available

for public review and comment for a 15-day period in a Notice of Public Availability of Modified Text. See also: www.arb.ca.gov/fuels/gasoline/gasoline.htm.

Department of Pesticide Regulation 2008 Fumigation Regulation

Regulations to reduce emissions of VOCs from fumigant pesticides went into effect January 2008. Products affected are those containing methyl bromide, 1-3 dichloropropene, chloropicrin, metam sodium, potassium N-methyldithiocarbamate (also called metam-potassium), dazomet, and sodium tetrathiocarbonate. More information is available at: www.cdpr.ca.gov/docs/emon/vocs/vocproj/reg_fumigant.htm.

Auxiliary Ship Engine Cold Ironing and Other Clean Technology

At the December 6, 2007 public hearing, the Board adopted a regulation for reducing emissions from diesel auxiliary engines on ocean-going vessels while at-berth at a California port. The new regulation will require certain fleet operators of container, passenger and refrigerated cargo ships ("reefers") to turn off their auxiliary engines — which power lighting, ventilation, pumps and other onboard equipment — while a ship is docked for most of its stay in port. The rule will affect almost 95 percent of the ship visits in these three categories. Once docked, operators would then be expected to receive their electricity from shore-based sources or meet percentage reductions through other means. The regulation was approved with

¹Information in this section was provided by staff of the Air Resources Board.

modifications that were suggested by staff at the Board hearing. See also: www.arb.ca.gov/ports/shorepower/shorepower.htm.

Clean Up Existing Commercial Harbor Craft

At the public hearing on November 15, 2007, the Board approved the adoption of staff's proposed regulations for reducing diesel emissions from commercial harbor craft. The regulation was approved with modifications that were suggested by staff at the Board hearing. See also: www.arb.ca.gov/ports/marinevess/harborcraft.htm.

Port Truck Modernization

At the December 6-7, 2007 public hearing, the Board approved regulations aimed at cleaning up emissions from the aging fleet of dirty diesel trucks that hauls goods around the clock to and from ports and rail yards throughout the state. Phase one of the regulation requires all pre-1994 drayage truck engines be retired or replaced with 1994 and newer engines by the end of 2009. In addition, trucks with 1994-2003 engines will need to be either replaced or retrofitted to achieve an 85 percent reduction in diesel particulate matter by the same deadline. The second phase of the regulation requires all drayage trucks to meet 2007 emissions standards by the end of 2013. More information is available at: www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm.

Enhanced Vapor Recovery for Above Ground Storage Tanks

At the June 21, 2007 public meeting, the Board approved the gasoline vapor recovery certification procedure and three new test procedures for above ground storage tanks (ASTs), several modifications to clarify the regulations. The regulations establish vapor recovery performance standards and specifications that provide more effective controls to reduce hydrocarbon emissions and save gasoline from ASTs. New and major modifications of existing ASTs will be required to have EVR systems and components installed by January 1, 2009. Existing ASTs will be required to retrofit or

replace current equipment with EVR systems and components by January 1, 2013. See also: www.arb.ca.gov/vapor/ast/ast.htm.

Cleaner In-Use Heavy-Duty Trucks

ARB staff is developing a regulation to reduce diesel particulate matter and NOx emissions from in-use heavy-duty diesel powered vehicles operating in California. A proposed regulation is planned to be presented to the Board in mid-2008. The proposed regulation would apply to diesel shuttle buses and vehicles greater than 14,000 pounds gross vehicle weight rating and does not include pickups. See: www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

Cleaner In-Use Agricultural Equipment

ARB committed to developing a control measure to reduce emissions from In-Use Agricultural Equipment and to bring this measure to the Board by the end of 2009. The goal of a proposed measure would be to accelerate fleet turnover to equipment with engines meeting cleaner NOx and PM standards. ARB staff has been working with agricultural stakeholders to improve the emissions inventory for agricultural off-road equipment and are in the initial stages of regulatory development. The future regulations would include strategies for exhaust control technology and the accelerated replacement of 25 or greater horsepower mobile equipment used in agricultural operations. See also: www.arb.ca.gov/ag/agtractor/agtractor.htm.

Accelerated Introduction of Cleaner Line Haul Locomotives

On March 14, 2008, U.S. EPA finalized a rule that will reduce emissions from diesel locomotives. Beginning in 2015, the Tier 4 emission standards will reduce NOx and PM emissions from newly-built locomotive engines by up to 90 percent beyond current uncontrolled emission levels. Locomotive remanufacture standards between 2008-2013 (locomotives are typically remanufactured every 7-10 years) would reduce Tier 0-3 locomotive emissions by up to 50 percent on average. However, the federal rulemaking

would only reduce NO_x emissions from Tier 0 locomotive engines by about 20 percent, as those engines are rebuilt.

ARB staff believes there are opportunities to make progress toward the State Implementation Plan (SIP) commitment and provide the emission reductions earlier than would otherwise be required by the U.S. EPA locomotive rulemaking. ARB staff is currently exploring strategies and actions, including financial incentives and voluntary agreements, to introduce the cleanest locomotives into California service. See also: www.arb.ca.gov/msprog/offroad/loco/loco.htm or www.epa.gov/otaq/locomotv.htm.

Cleaner Main Ship Engines and Fuel

ARB staff is developing regulations which would reduce emissions from the use of main propulsion diesel engines and auxiliary boilers on ocean-going vessels within 24 nautical miles of California's shoreline. This regulation would reduce emissions of particulate matter (PM), diesel PM, nitrogen oxides, and sulfur oxides air pollutants by limiting the sulfur content of fuels used in main propulsion engines and auxiliary boilers as well as through other operational requirements. See: www.arb.ca.gov/ports/marinevess/marinevess.htm.

Consumer Products

ARB staff is currently developing amendments to California's consumer product regulations that would tighten standards or require product reformulation for consumer products categories. At the June and November Board meetings in 2008, ARB staff will propose amendments to California's consumer product regulations for Board consideration. Both of these proposals will make progress toward fulfilling the State's SIP commitment to reduce emissions from the use of consumer products. See also: www.arb.ca.gov/consprod/consprod.htm.

State Incentive Program Funding

Incentive programs have worked hand-in-hand with in-use regulations, providing added emissions benefits. The following section describes several State funded incentive

programs which effectively reduce emissions in the San Joaquin Valley. Many of the programs are administered by the District, in concert with local funding streams, in order to more accurately address local needs.

Carl Moyer Program

California is currently investing up to \$11 million per year to clean up older, higher-emitting sources in the San Joaquin Valley through the Carl Moyer Memorial Air Quality Standards Attainment Program. The Carl Moyer Program provides incentive grants for cleaner-than-required engines, equipment and other sources of pollution providing early or extra emission reductions. More information is available at: www.arb.ca.gov/msprog/moyer/moyer.htm.

Goods Movement Emission Reduction Program

At the February 28, 2008 Board meeting, the Board approved guidelines to implement a voter-approved \$1 billion incentive program to reduce diesel emissions and health impacts from freight movement along California's four priority trade corridors. The Guidelines lay out the requirements for funding eligible projects proposed by local agencies and by equipment owners, consistent with implementing legislation. The Board established funding targets for each corridor and each source sector, and approved up to \$25 million in early grants for specific emission reduction projects proposed by local air districts. The Board approved a funding target of \$250,000,000 for the Central Valley trade corridor. See: www.arb.ca.gov/bonds/gmbond/gmbond.htm.

**EPA Actions
in 2007**

Lower-Emission School Bus Program

The Legislature has appropriated voter-approved Proposition 1B bond monies to support the Lower-Emission School Bus Program. The Lower-Emission School Bus Program provides incentive grants to reduce school children's exposure to harmful pollutants through new bus purchases and through the installation of retrofit technologies on existing buses. ARB staff is developing updates to the proposed Lower-Emission School Bus Program guidelines for Board consideration at the March 27, 2008, Board hearing in Sacramento. See also: www.arb.ca.gov/bonds/schoolbus/schoolbus.htm.

Smog Check Breathe Easier Campaign

The Breathe Easier campaign was introduced to educate Californians about the negative effects of vehicle-produced air pollution and increase participation in the Bureau of Automotive Repair's (BAR) Consumer Assistance Program, which pays for up to \$500 in smog related repairs for qualified vehicles or pays motorists \$1,000 to permanently retire their high polluting vehicles. More information is available at: www.smogcheck.ca.gov.

Local Agencies and Motor Vehicle Control Measures

Approved Transportation Control Measures

Air Quality Conformity Determinations prepared by Metropolitan Planning Organizations (MPOs) ensure that local transportation plans, projects, and programs do not impede progress towards reducing air pollution. Timely

Implementation Documentation (TID), also prepared by the MPOs during the conformity determination process, updates, lists, and tracks the current status of transportation control measures (TCM) identified in applicable SIPs. The TID tables from the 2007 Air Quality Conformity Determinations are available on the District's website: www.valleyair.org. These TID tables provide the most recent available update to prior transportation Reasonably Available Control Measures (RACM); in most cases, the most current update is January or February 2007.

2007 Status Report for the Congestion Mitigation and Air Quality (CMAQ) Improvement Program

In the *2007 Ozone Plan*, the SJV MPOs committed to develop a standardized process across the Valley for distributing twenty percent of the Congestion Mitigation and Air Quality (CMAQ) funds, beginning in fiscal year 2011, to projects that meet a minimum cost-effectiveness. This policy focuses on achieving the most cost-effective emission reductions, while maintaining flexibility to meet local needs. All eight of the Valley MPOs adopted the CMAQ policy through Policy Board Resolutions from May through September 2007. The policy is scheduled to be implemented in fiscal year 2011 because the current federally approved 2007 Federal Transportation Improvement Programs (FTIPs) have committed CMAQ funds through fiscal year 2009 and, in some cases, have made regional commitments through fiscal year 2010.

EPA ACTION:

Proposed rule to control emissions from non-road small engines i.e., lawn and garden equipment

IMPLICATIONS FOR THE VALLEY:

ARB granted federal waiver on California's Small Off-road Engine Emission standards (SORE) as being more stringent than the federal standard

EPA ACTION:

EPA rule lowers standard for sulfur content in fuel, which will reduce emissions from locomotives, marine vessels and land-based nonroad engines

IMPLICATIONS FOR THE VALLEY:

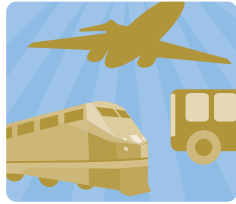
Reductions started June 1, 2007

EPA ACTION:

EPA issued guidance for manufacturers to gain approval for SCR technology certification

IMPLICATIONS FOR THE VALLEY:

Holds potential to reduce NOx from light and heavy-duty vehicles in the future



San Joaquin Valley **BLUEPRINT**

San Joaquin Valley Regional Blueprint Project

The San Joaquin Valley Regional Blueprint Planning Process is an innovative, eight county planning exercise that will provide for sustainable growth in the Valley to 2050. The eight regional Metropolitan Planning Organizations, the Great Valley Center and the District have formed a first of its kind partnership to coordinate and collaborate on planning for the future. The goal of the San Joaquin Valley Regional Blueprint is to develop a vision for the Valley that is created and supported by its residents. The Blueprint is being prepared over a two-year period from 2006 - 2008. Public workshops are being held on a regular basis to engage the public on topics of regional vision, goals, evaluation of alternative planning scenarios, and program and policy development. Once complete, the San Joaquin Valley Regional Blueprint Planning Process will include policy and program tools to encourage local governments, business, and agriculture to implement the vision. The District is an active participant and a sponsor of the Blueprint Process. Additional information about the Blueprint Process, including county specific updates, can be found at www.valleyblueprint.org.

San Joaquin Valley Blueprint's 2007 Achievements

SUPPORT FOR BLUEPRINT GROWS

- Senate Bill 375 offers a path to providing incentive funding for development that follows "Blueprint" principles.
- The Blueprint Project was awarded a second year continuing grant for \$1,950,000 from the California Regional Blueprint Planning Program (funded by the California Business, Housing, and Transportation Agency through the California Department of Transportation).
- The Governing Board granted the Blueprint \$250,000 in a second year grant (requiring one-to-one matching funds).
- Assembly Bill 2870 would create the California Blueprint Implementation Commission.

MULTI-GROUP COORDINATION INCREASES

- Coordination between the Partnership for the San Joaquin Valley and the Blueprint Project began. Members now share seats on each other's committees, the two websites now link to one another, media outreach is being coordinated, and reports and updates are delivered at each other's committee meetings.
- The Professional Planner's Review Panel was assembled. The Panel involves local planners in the Blueprint Process, and provides expert review and input on the scenario development process and evaluates the scenarios as they are produced.
- The Blueprint Regional Advisory Committee was formed to involve community leaders in the Blueprint Process and provide regional oversight and input. The seventy-five members were identified as being leaders from a wide range of interest groups. They were selected to the committee after being nominated and approved by the SJV Regional Planning Agencies' Policy Council.

PUBLIC OUTREACH BLOSSOMS

- All eight counties have conducted extensive public outreach involving hundreds of meetings. Visioning sessions have been held Valley-wide to categorize and prioritize Valley residents' concerns and desired outcomes from the Blueprint planning process. All eight counties have developed base case scenarios, and are actively preparing alternative growth scenario input for the final regional Blueprint plan. Air quality is consistently identified as a top concern by the residents during the visioning meetings, as well as in surveys.
- *Our Valley, Our Choice* book was published, which highlights the Blueprint Process. It is widely available at booksellers in the Valley.
- KVIE Public Television produced a four-part series highlighting the Valley, with one show dedicated to the quality of life and the need for Blueprint-like innovative reforms in planning to address the tremendous growth coming to the region. The programs are estimated to reach 900,000 homes in the Valley, and will be used in Valley classrooms as well.
- The Blueprint Model Steering Committee hosted the Environmental Resource Areas Workshop to engage key staff from federal, state, regional, local and tribal governments in the Blueprint Process. Resource specialists who are responsible for reviewing and commenting on transportation and land use plans were given this forum to provide their input into the Blueprint planning process during its earliest stages of development.
- The Blueprint Media Committee compiled a report detailing all media coverage received by the Blueprint Project in 2007. There were 55 media reports varying from newspapers, television, newsletters, press releases, radio, and survey polls.
- The Blueprint e-newsletter was published quarterly, with a circulation of 12,400.

Air Monitoring and Scientific Evaluation

This section of the *Annual Report* presents an overview of the current state of the San Joaquin Valley's air quality in 2007 for particulate matter 10 microns or less in diameter (PM10), particulate matter 2.5 microns or less in diameter (PM2.5), 1-hour ozone, and 8-hour ozone.

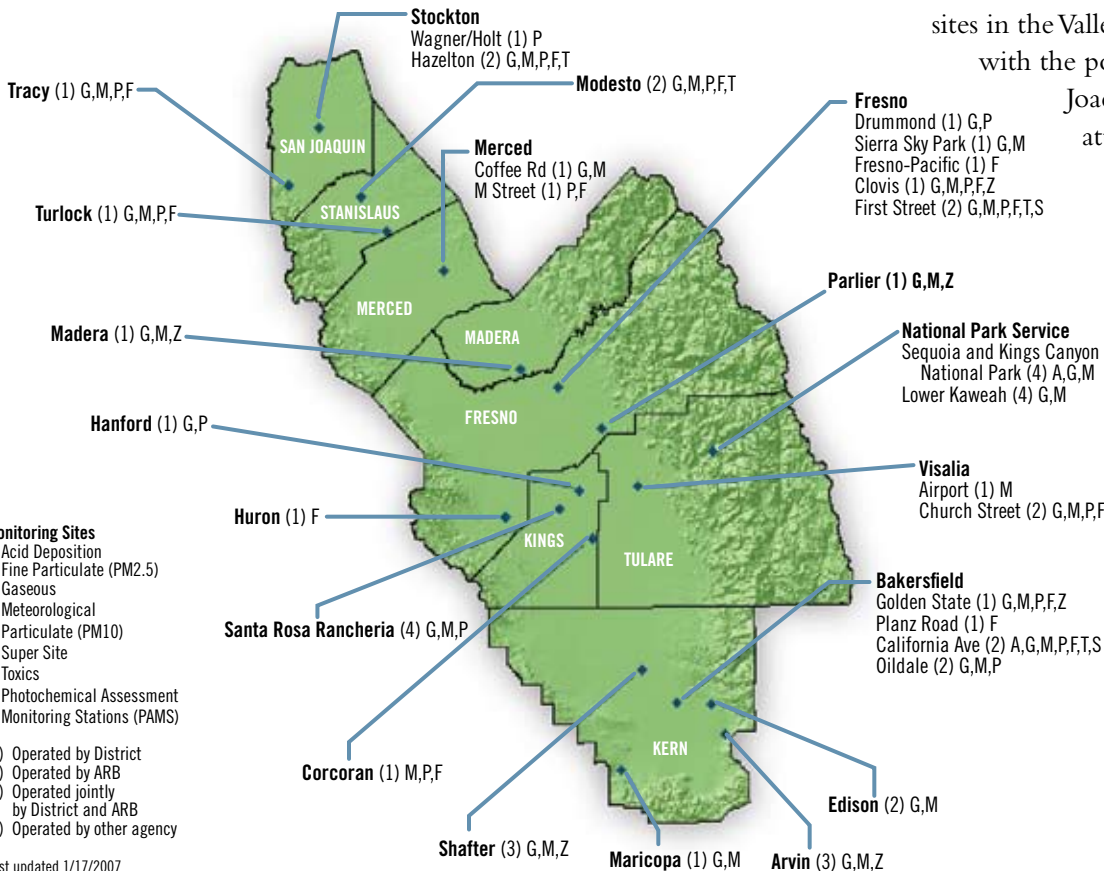
The District, ARB, the U.S. National Park Service, and the Santa Rosa Rancheria in Lemoore operate an extensive air monitoring network (shown below) to measure progress toward attainment of the National Ambient Air Quality Standards (NAAQS).

Air quality monitoring networks are designed to monitor areas with:

- High population densities,
- Areas with high pollutant concentrations,
- Areas impacted by major pollutant sources, and
- Areas representative of background concentrations.

Some monitors are operated specifically for use in determining attainment status, while others are operated for other purposes, such as for generating daily air quality forecasts.

In total, the District utilizes ozone and PM data from over 60 monitors operated at 29 sites in the Valley. All monitors must comply with the pollutant standard for the San Joaquin Valley to be considered as attainment for that standard.



Locations of Valley Air Quality Monitors

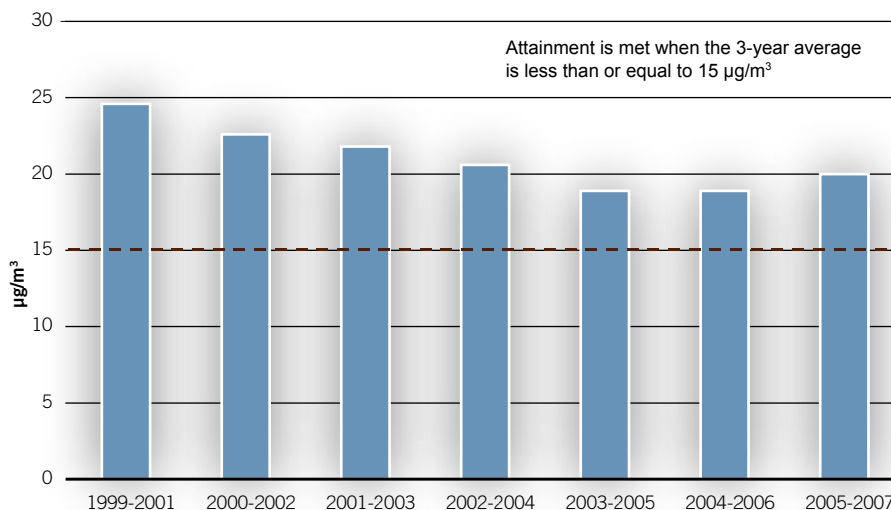
The District, ARB, the U.S. National Park Service, and the Santa Rosa Rancheria in Lemoore operate an extensive air monitoring network to measure progress toward attainment of the National Ambient Air Quality Standards (NAAQS).

PM2.5

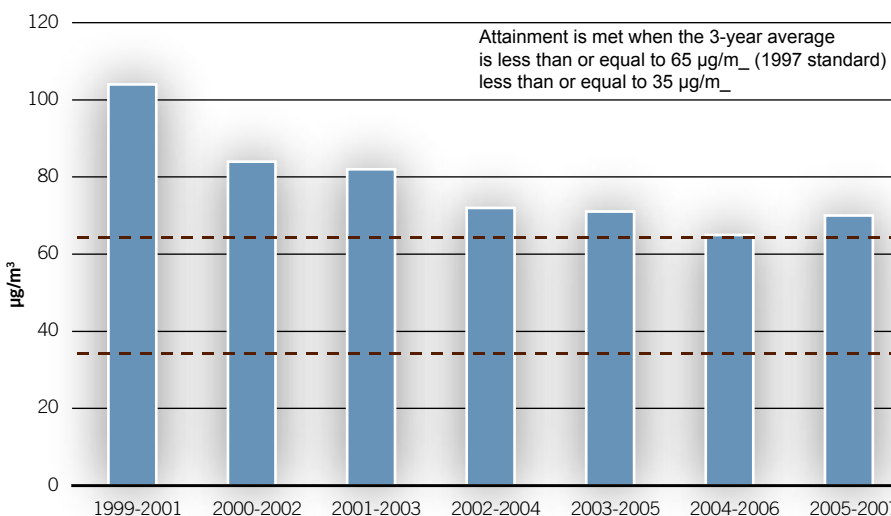
PM is measured and expressed as the mass of particles contained in a cubic meter of air (micrograms per cubic meter, or $\mu\text{g}/\text{m}^3$). The data collected from the District's and ARB's network of filter-based PM2.5 monitors are used to calculate attainment status for the 24-hour and annual PM2.5 standards, as outlined in EPA guidance and regulations.

Air quality meets the 1997 24-hour PM2.5 NAAQS when the 3-year average of the 98th percentile PM2.5 values are less than or equal to $65 \mu\text{g}/\text{m}^3$ at each monitoring site and the 3-year average of the annual mean PM2.5 concentration is less than or equal to $15.0 \mu\text{g}/\text{m}^3$. When the PM2.5 standard was first monitored in 1999, the Valley's annual PM2.5 levels were 80% above the standard. Now, the Valley's highest annual PM2.5 levels are only 30% above the standard. The Valley's 24-hour averages have also improved significantly in recent years, although there is some year-to-year variation. The 2008 PM2.5 Plan assures expeditious attainment of the 1997 PM2.5 NAAQS, with attainment by 2014 and continual PM2.5 progress throughout the Valley. In October 2006, EPA strengthened the 24-hour NAAQS for PM2.5 to $35 \mu\text{g}/\text{m}^3$, with the annual mean PM2.5 NAAQS remaining the same at $15.0 \mu\text{g}/\text{m}^3$. The District is already taking steps toward achieving the levels of the 2006 standard in the Valley.

Annual PM2.5 Levels Three-Year Averages



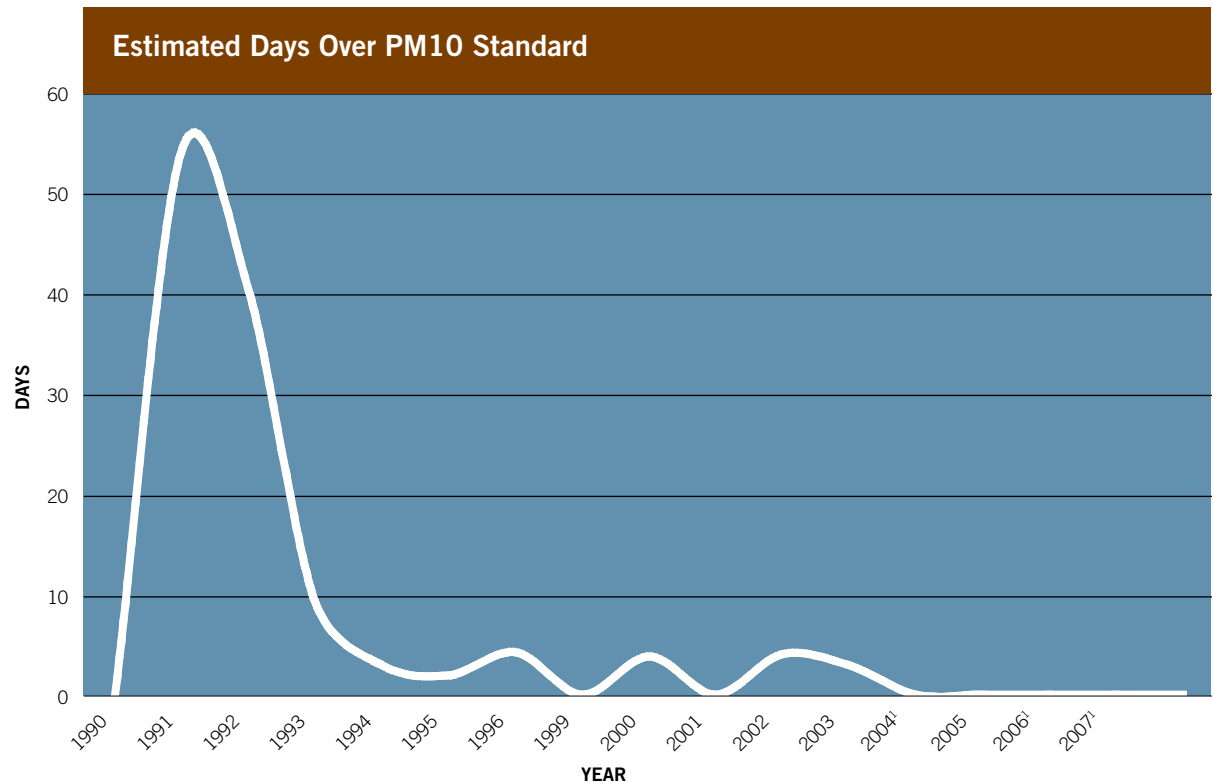
24-hour PM2.5 Levels 3-year Average 98th Percentile Values



When the PM2.5 standard was first monitored in 1999, the Valley's annual PM2.5 levels were 80% above the standard. Now, the Valley's highest annual PM2.5 levels are only 30% above the standard.

Wildfire Smoke during Summer 2008

In June and July 2008, smoke from the catastrophic wildfires in Northern and Central California significantly impacted concentrations of ozone and particulate matter in the San Joaquin Valley. The effects were so pervasive that the historically "clean" monitoring site at Shafter registered its first-ever exceedance of the revoked federal 1-hour ozone standard, and north Valley monitors had unprecedented ozone concentrations. District staff is currently investigating which ozone and PM episodes would be considered exceptional events as defined by federal policy. Exceedances caused by Exceptional Events are not considered violations of the federal air quality standards.



The Valley has reached attainment of the federal PM10 standard.

PM10

EPA redesignated the San Joaquin Valley to attainment of the PM10 standard on September 25, 2008. The Valley qualified for redesignation because no monitoring sites have measured PM10 violations since 2003. In September 2007, the District Governing Board adopted the *2007 PM10 Maintenance Plan and Request for Redesignation*, which included meteorological analysis, a contingency plan, and modeling. This plan demonstrated continued attainment through 2020 and was necessary to allow EPA to officially redesignate the San Joaquin Valley to attainment of the PM10 standards.

A site meets the PM10 NAAQS when the expected number of exceedance days per year is less than or equal to one. The Valley met the PM10 NAAQS for the 2003–2005, 2004–2006, and 2005–2007 periods.

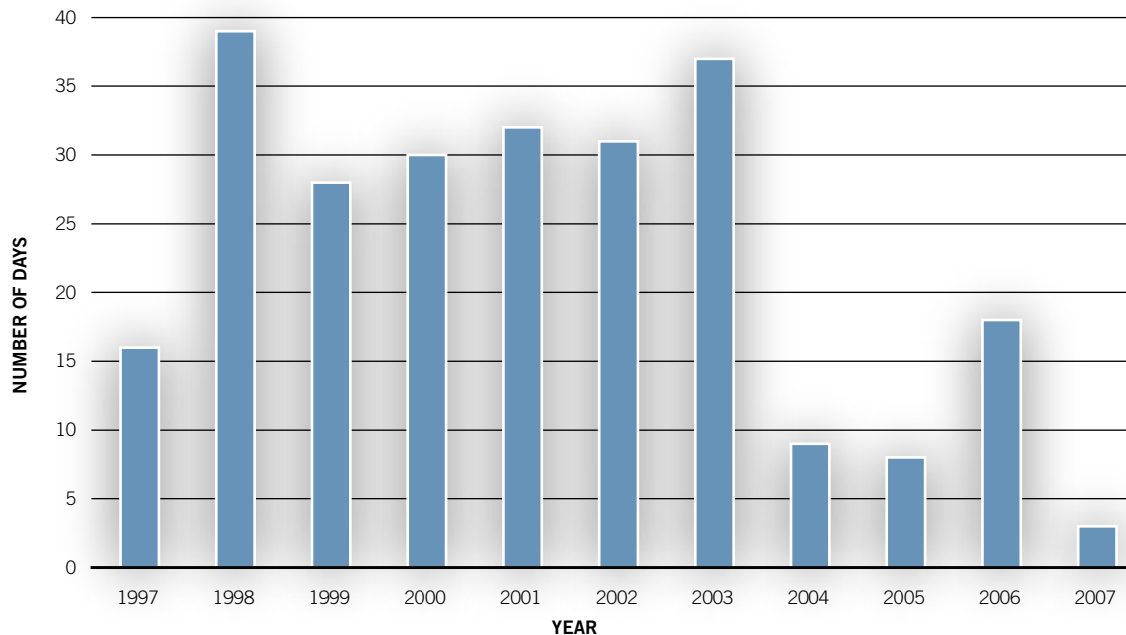
Five exceedances occurred in the San Joaquin Valley between 2003 and 2007, all of which were subject to EPA's Natural and Exceptional Event Policies. For each event, the District compiled extensive documentation of the events, posted the documents for public review, and submitted the documents to ARB for transmittal to EPA. Exceedances due to natural or exceptional events do not constitute violations of the PM10 standard.

Fireworks

During Independence Day celebrations on the 4th of July every year, fireworks are widely used in the Valley. Unfortunately, fireworks can affect air quality.

PM2.5 concentrations increased significantly during the evening of July 4, 2007 and remained very high into the early morning of July 5, 2007. Monitors measured noticeable increases in PM2.5 concentrations throughout the Valley, except in Tracy, where there is a fireworks ban in place. PM2.5 concentrations exceeded the PM2.5 NAAQS in Bakersfield and Fresno. Speciated PM2.5 monitors detected a dramatic increase in the chemical compounds associated with fireworks emissions. Although a combination of several factors

1-hour Ozone Exceedance Days



1-hour Ozone

Even though the 1-hour ozone standard was revoked on June 15, 2005, the Valley has experienced an overall improvement in 1-hour ozone since 1997. The number of days over the standard has decreased by an order of magnitude, from 37 days in 2003 to 3 days in 2007, making 2007 the Valley's cleanest ozone season on record. Seventeen out of 21 of the Valley's air monitoring sites are in attainment of the 1-hour ozone NAAQS. The goal is to have no days exceeding the standard.

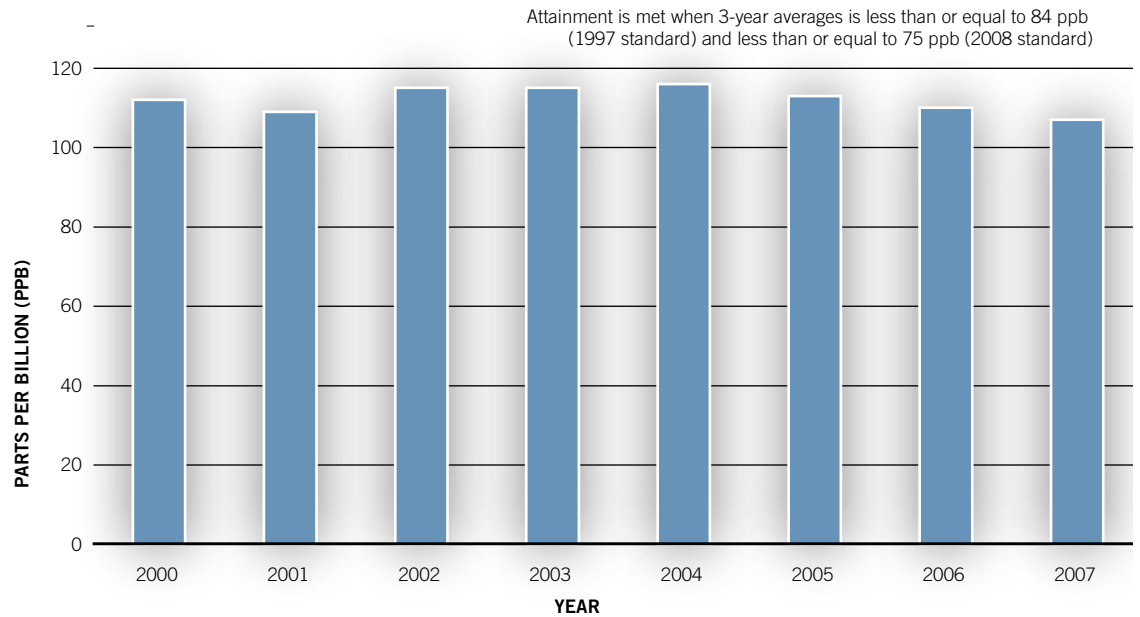


contributed to the total PM_{2.5} concentrations, the District concludes that the exceedance would not have occurred in the absence of fireworks emissions.

EPA's Exceptional Events Policy allows states to flag exceedances caused by fireworks displays so that the data do not factor into a region's attainment status. The District compiled and held review on documentation on the July 4-5, 2007 exceedances. However, in the interest of protecting public health, fireworks are also listed as a feasibility study in the *2008 PM_{2.5} Plan*. This study will generate an emissions inventory for fireworks and consider options to minimize emissions of PM and PM precursors from fireworks.

8-hour Ozone Levels

Three-year Average 4th Highest



Between 1992 and 2007, the number of days over the 8-hour ozone standard declined

8-hour Ozone

Several of the Valley's air monitoring sites are very close to meeting the attainment target for the 8-hour ozone NAAQS. The NAAQS for 8-hour ozone is attained when the computed 3-year average of the annual fourth-highest daily maximum 8-hour average concentration is less than or equal to 84 ppb (parts per billion). Every site in the Valley has shown improvement in 8-hour ozone levels, as compared to 2000. Between 1992 and 2007, the number of days over the standard declined 45%, and for annual peak measurements, concentrations in excess of the standard have been reduced by over 20%. The design value is

resistant to change, though the design value for 2007 was a record low of 107 from the prior year's value of 110.

On March 12, 2008, EPA tightened the 8-hour ozone standard to an even more health protective 75 ppb. Even attainment of the 1997 standard presents a great challenge, requiring an additional 75% reduction in NO_x emissions beyond the significant reductions that have already been achieved. The *2007 Ozone Plan* will assure expeditious attainment of the 1997 standard and will be instrumental in attainment of the new standard. The District is working to expedite attainment through Fast Track strategies.

Contributions from the Valley's Businesses and Residents

The Valley's businesses and residents have made important contributions to air quality improvement. Whether a business is coming under regulation for the first time or has undergone several generations of retrofit rules, the reductions achieved represent a significant investment in finances and energy. This section highlights just some of the sectors that have contributed to the Valley's air quality progress.

Oil and gas production

Perhaps no industry in the San Joaquin Valley has invested in more air pollution control than the oil and gas production industry. Between 1980 and 2005, this industry reduced their VOC emissions by over 580 tons per day (96%), and reduced their NOx emissions by over 130 tons per day (93%). Included below are a few examples of the oil and gas production industry's efforts.

In the oil fields of the southern San Joaquin Valley, hundreds of steam generators (a type of industrial boiler) are used to produce steam, which is pumped into underground oil reservoirs to soften the thick, viscous crude oil. This process of heating the crude oil underground makes it possible to pump the oil to the surface, and is called thermally enhanced oil recovery. Before the early 1980s, oil production companies used some of the crude oil they produced as fuel for their steam generators, thus emitting large amounts of SOx (oxides of sulfur). In response to local air

pollution regulations in the early 1980s, the oil production companies spent millions of dollars to install sulfur scrubbers to reduce SOx from the exhaust of the steam generators. This single control program brought Kern County into attainment of federal standards for sulfur dioxide. Over time, the Valley's oil producers have shifted away from burning crude oil to natural gas, which has inherently lower NOx, SOx, and particulate matter emissions. Continuing through the last two decades, oil production steam generators have undergone three generations of combustion controls to reduce their NOx emissions and will need to add exhaust gas controls such as selective catalytic reduction (SCR) to comply with upcoming District rules that represent the nation's most stringent limits for NOx.

The Valley's oil producers, who operate over 40,000 producing oil wells, have also undertaken vast efforts to reduce VOC emissions emitted as vapors from their wells, storage tanks, and other oil production equipment. Starting in the late-1970s, oil producers have installed hundreds of vapor recovery systems on their oil wells that receive oil from thermally-enhanced oil production operations, as well as on their storage tanks. Oil production companies have also dedicated significant capital resources to replace their sumps (which were essentially crude oil



Between 1980 and 2005, the oil and gas industry reduced their VOC emissions by over 580 tons per day (96%), and reduced their NOx emissions by over 130 tons per day (93%). Included below are a few examples of the oil and gas production industry's efforts.

“ponds”) and heavy oil test stations with highly controlled storage tanks. Continuing today and into the future, oil producers inspect millions of components such as flanges and valves on their pipelines and wells to find and repair VOC leaks. These relatively simple but extensive controls have required hundreds of millions of dollars in investments, but have contributed significantly to the Valley’s air quality progress in spite of the Valley’s booming population.

Refineries

The San Joaquin Valley’s oil refining industry is small compared to the refineries in the Bay Area and Los Angeles, but it has been subject to several generations of increasingly stringent stationary source regulations over the past few decades. These rules affected boilers, heaters, storage tanks, and refinery piping components that have the potential to leak VOC emissions. The Valley’s refineries also are subject to significant state regulations for producing cleaner fuels for motor vehicles.

Heaters and boilers are essential to the crude oil refining process, and are significant sources of NO_x. The Valley’s refiners have reduced their NO_x by over 70% between 1980 and 2005, in part due to shutdowns of refining facilities and equipment, but also due to the application of combustion controls. In the early 1980s, combustion equipment with burners less than 35 million Btu/hr that fired on natural gas were exempt from permits and control requirements. District Rule 4305 was adopted in 1993 to set NO_x emission standards for larger units. To comply with Rule 4305 and the more stringent Rule 4306 (adopted in 2003), the refineries spent millions of dollars on new burners or new heaters and maintenance. Today, virtually all combustion devices are subject to control, and the new controls represent a significant cost to the refining industry. New rules, which will be considered in the near future, will require even more expensive controls, but the associated emission reductions will be small when compared to earlier regulations. Refiners also have to comply with a number of federal regulations for sulfur recovery units and wastewater disposal.

Starting in the late 1970s, refiners began to control the release of VOC vapors from storage tanks holding light oil. Then in the late 1980s, tanks holding heavy oil were required to be permitted, and in 2001, became subject to emission control requirements. These regulations established considerably more control, testing, inspection, and monitoring requirements that have resulted in considerable costs to the companies. In the early 1980s, Kern County APCD rules required many fugitive components, such as valves, flanges, threaded connections, compressors, pumps, and oil water separators, to be gas-tight. Refiners were required to monitor for leaks and fix any leaks promptly. In 2005, the District adopted Rule 4455, which established broader and more stringent inspection and repair requirements for refinery fugitive emissions.

Gasoline Marketing

Gasoline stations have the only type of stationary source control equipment that is operated by the general public. California’s gasoline marketing industry has been installing basic emission controls since the early 1970s, and ARB started to certify vapor recovery systems in 1975. Since that time, gasoline station operators have had to upgrade both their vapor recovery systems, as well as the tank systems for water quality regulations.

The first major upgrade occurred around 1997, when many facilities had to replace their underground tanks with double-walled tanks due to leaking. In 2001, ARB adopted Enhanced Vapor Recovery (EVR), which increased the control requirements from 90% overall to 98% for Phase I and 95% for Phase II vapor controls. Phase I controls the delivery of gasoline to the station, and Phase II controls the dispensing of gasoline into vehicle fuel tanks. All stations must already be in compliance with Phase I requirements, and all stations must comply with new Phase II requirements by April 1, 2009. There are about 1,500 stations subject to this, and all stations will need, at minimum, new nozzles and hoses, as well as pressure management equipment. Additionally, most stations will have to install In-Station Diagnostics, which monitors system parameters to alert the station when problems arise.

Agriculture

For almost a century, the Valley's agricultural community has employed sound conservation management practices to safeguard the natural resources of the land. Over the past decade, a series of stringent regulatory changes has added more oversight to agricultural operations and set new emission control goals. The production agriculture industry has responded with significant investments in new emission control programs, and considerable changes to their longstanding practices. Included below are three noteworthy examples.

For many years, smoke impacts from the open burning of agricultural waste was managed through a system of county-wide burn/no burn days. In 2004, the District established a Smoke Management System (SMS), a more refined method of authorizing or prohibiting individual burns, based on modeled smoke impacts. With SMS still in place, open burning of agricultural materials has been progressively phased down since 2005. The latest phase resulted in a 55% reduction (over 5,000 acres) in the burning of orchard removal materials. The main alternatives to burning are to grind the waste materials into smaller pieces, and then reincorporate material into the soil, or send it to biomass-fueled cogeneration plants.

Soil conservation techniques that were historically employed to prevent erosion, became mandatory air quality controls in 2004 under the District's Conservation Management Practices (CMP) rule to control PM emissions. These additional practices, covering over 6,000 farms and over 3 million acres of farmland removed over 35 tons per day of PM10 from the Valley's air.

With the help of grants from the Valley Air District and the US Department of Agriculture, the Valley's

agricultural community has replaced literally thousands of old, high-emitting diesel irrigation engines with cleaner, more efficient engines and electric motors. Many of early replacement engines will again be replaced when the cleanest generation of engines is available after 2010. The effort to replace agricultural engines will cost upwards of \$20 million dollars per year, and will reduce NOx emissions by over 14 tons per day.

Dairies

As a major part of the Valley's agricultural economic engine, dairies have also recently become subject to new air regulations. Dairy operators have responded to the air quality challenge by implementing Conservation Management Practices and Confined Animal Facilities (CAF) control measures, with each facility selecting the best practices for their operation.

CMPs reduce fugitive dust emissions from cow housing, overall handling, feed handling, and unpaved roads. Each dairy implements at least one CMP for each CMP category applicable to their operation. For dairies, the CMP categories include corral/manure handling, management and feeding, unpaved roads, and unpaved vehicle/equipment traffic areas. CMP Plans are submitted to the District

Dairy operators have responded to the air quality challenge by implementing Conservation Management Practices and Confined Animal Facilities (CAF) control measures, with each facility selecting the best practices for their operation.



for approval. The goal of the CMP program was to reduce emissions by 33.8 tons/day from all agricultural sources subject to the rule. Collectively, with the mitigation measures implemented on cropland and other Confined Animal Facilities, CMPs were able to achieve 35.3 tons/day of PM10 reductions, surpassing the amount of reductions needed.

Dairies also select 19 CAF measures to reduce VOC emissions from their operations. The goal under the CAF program was to reduce 15.8 tons per day of VOCs, but CAF program has surpassed that goal to achieve about 21 tons per day of VOC reductions.

Food Processing and Manufacturing

Food processors and manufacturers rely on large boilers, steam generators and process heaters to provide heat, steam, and power for their operations. In the last decade, new burner designs, equipment manufacturing techniques and advanced control systems have created cleaner, more efficient options for these industries. Emission standards developed only a decade ago are now considered outdated, as operators are asked to install increasingly sophisticated and costly controls on their equipment. While many installed state-of-the-art, ultra-low NOx burners to meet District emission limits, some operators went a step further to install multi-million dollar SCR systems. The last two control projects reduced NOx emissions by 1,700 tons per year at an annual cost of over \$35 million.

Electrical Generation

Deregulation of the electric utility industry, coupled with California's growing energy demands, created a power crisis in 2000. Industry responded to the crisis by fielding new power plants using modern gas turbines to supplement the existing generators. Stationary gas turbines, which are similar to jet engines, can be operated around-the-clock, making them significant sources of NOx emissions. To reduce emissions from the new and existing turbines, gas turbines must have advanced low-NOx burners and expensive exhaust gas controls, such as SCR. Although the industry is growing to keep

up with demand, gas turbines enable utility companies to generate electricity as efficiently as possible, and the sophisticated and expensive air pollution controls are helping to stem growth in the Valley's NOx emissions. A recent amendment to Rule 4703 (Stationary Gas Turbines) required controls that reduce the NOx emissions from smaller, existing turbines by 567 tons of NOx per year at a cost of over \$20 million per year.

Solvent Cleaning and Coatings

VOC-containing solvents are used to clean parts and surfaces in a wide range of Valley industries, including body shops, automotive repair shops, painting, printing and coating operations, manufacturing, oil and gas production, and oil refining. Recent changes to the District's solvent cleaning rules have required extensive equipment upgrades in cleaning systems, and reformulation of many cleaning solutions. The ubiquitous parts cleaners that used petroleum-based solvents in the past have been replaced with water-and-detergent-based cleaners, resulting in reductions in VOC emissions of almost 95%. The District adopted a new set of VOC content limits in 2007 for parts cleaning and surface cleaning. The compliance cost estimate for the newest set of VOC limits extends up to \$4 million per year.

Coatings, including paints, are used in numerous industries in the Valley including metal products manufacturing, wood products manufacturing, fabric and film coatings, glass products manufacturing, automobile refinishing, and architectural coatings. The District has nine rules regulating the VOC content of coatings, and establishing emission control requirements and associated clean-up requirements. VOC emissions from coatings can be reduced by way of add-on control devices, process changes, and material changes. Since the establishment of the District in 1991, the nine coatings rules have been amended numerous times to achieve greater VOC emissions reductions. These amendments to the coatings requirements represent millions of dollars in industry compliance costs for reformulated materials and control equipment. In spite of the dramatic growth in the use

of coatings due to industrial and population growth, VOC emissions have dropped nearly 40% since 1980.

Commercial and Residential Development

Rule 9510 (Indirect Source Review), or ISR, was adopted in December 2005 to reduce growth in emissions resulting from new land development in the San Joaquin Valley. The District was the first regulatory agency in the country to bring the issue of pollution spurred by growth under a regulatory umbrella, and the rule has withstood all court challenges. Developers of projects subject to Rule 9510 can reduce emissions by incorporating air-friendly design changes into their proposals. For example, construction of new developments generates emissions, but cleaner construction equipment can reduce emissions. Traditional development projects increase air pollution by prompting more vehicle trips, more landscape maintenance, and more fuel combustion, but air-friendly features such as residential solar power generation, mixed-use design principles, bike lanes, and high-efficiency housing design can dramatically reduce emissions generated indirectly by residential development. Cleaner truck fleets can reduce emissions at new distribution centers. Under ISR, if a developer does not achieve a target level of emission reductions at the new development through on-site measures, then the developer pays a mitigation fee to the District. The District uses these fees to help fund a variety of off-site projects, including projects that re-power diesel equipment with cleaner engines.

During fiscal year 2007–2008, the District received 194 Air Impact Assessments and collected over \$5 million in mitigation fees. The combined on-site and off-site emission reductions achieved through ISR so far total 2,078 tons of NO_x and 1,087 tons of PM₁₀.

Residential Fireplaces and Wood Stoves

District Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters) has significantly reduced particulate matter concentrations,

especially since the rule was last amended in 2003. While the original, 1993 version of the rule included a voluntary no-burn program, the 2003 amendment introduced mandatory wood burning prohibitions when air quality is forecast to be unhealthy for everyone between the beginning of November and the end of February. The 2003 amendment also contained limits on the number of wood burning devices that can be installed in new residential developments as well as a change-out requirement to retire non-EPA-certified devices prior to the sale or transfer of property.

When the Valley reached PM₁₀ attainment ahead of schedule, it was clear that Rule 4901 had been successful in raising awareness, changing attitudes and behaviors regarding wood burning, and achieving cost effective air quality improvements. Research by the Central Valley Health Policy Institute of California State University, Fresno affirmed that Rule 4901 wood burning curtailments have also been effective in lowering PM_{2.5} concentrations. Through Rule 4901, Valley residents have played an important role in improving Valley air quality.

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Construction of new developments generates emissions, but cleaner construction equipment can reduce emissions.



The Challenge Continues

This Annual Report to the Community has highlighted the achievements and continuing challenges that face air quality management in the San Joaquin Valley. Although air quality in the Valley has improved significantly, there's still much work to be done to meet the health-based air pollution standards. Meeting the 8-hour ozone and the PM2.5 standards will require stringent regulations as well as collaboration with industry leaders, private citizens, and other governmental agencies. The District will expand efforts to educate members of the public on the importance that individual actions can play in the quest for clean air, endowing all residents with environmental values that will pay dividends in the future.

The Valley faces many air quality challenges and opportunities. The District has approached these challenges using innovative rules and incentives, conducting public outreach and communication, and forging strong and effective partnerships with local, state and federal agencies. Building upon the momentum for change, we can all look forward to a future of improved health and quality of life for all Valley residents.





San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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