

Report to the  
**COMMUNITY**  
2015-2016



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



## A message from the Air Pollution Control Officer

It is with great pleasure that I present, on behalf of the Air District's Governing Board, our Annual Report to the Community. Last year our journey towards cleaner air once again showcased the exceptional traits for which Valley residents are well known. With hard work, ingenuity, and the desire and ability to overcome challenges, we had another record setting year for clean air, acquired and invested significant dollars to fund clean air projects, and took bold action to bring common sense improvements to the federal Clean Air Act.

In spite of experiencing strings of triple-digit temperatures and wildfires, the 2015 summer was the cleanest on record for ozone. Furthermore, the Valley continued to show no violations of the federal 1-hour ozone standard for the third year in a row. Air quality monitors now show that the average population exposure to high levels of ozone has been reduced by over 90%. Despite major progress, the Valley faces tremendous challenges and significant additional reductions in emissions are necessary to meet the latest health standards for ozone published by the federal government.

With the return of more normal weather to the Valley during the winter months, particulate matter levels are once again trending downward. A heartfelt thank you goes out to the Valley residents for their continued compliance and cooperation in helping us implement one of our most important public health measures– the Check Before You Burn residential wood burning program. By upgrading to cleaner devices, Valley residents are protecting one another from the harmful effects of wood smoke even on days when wood burning is allowed.

Last year we worked effectively and cooperatively with Valley industry representatives, community activists and civic leaders to advocate for the Valley's fair share of available state and federal funding. These efforts were successful in bringing over \$140 million to the Valley that were invested in projects aimed at reducing air pollution in communities throughout the Valley.

On the legislative front, last year the Air District Governing Board took bold action to modernize the federal Clean Air Act with a proposal that retains the core elements in the Act that serve to protect public health, while streamlining the administrative requirements and ensuring expeditious air quality improvement while considering technological and economic feasibility. This action was taken with recognition that the Act has served us well over the years, but now with over 25 years since the Act was last amended, some fine tuning is needed to correct well-intended provisions that have had unintended consequences.

Looking at the accomplishments of the past year, I want to thank Valley businesses and residents for their investment and sacrifice, and the Air District Governing Board members for their foresight and leadership.

Seyed Sadredin  
Executive Director / Air Pollution Control Officer

## Governing Board



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Page 5  
Record Setting  
Reductions  
in Smog



Page 10  
Modernizing the  
Clean Air Act



Page 19  
Award Winning Vehicle  
Repair Program



Page 13  
Finding Options for  
Ag Waste Disposal



Page 11  
Addressing  
Wildfire  
Emissions



Page 25  
Excellence in  
Government

## Contents

<p><b>Inside Page</b> Message from the Air Pollution Control Officer</p> <p><b>i</b> Governing Board</p> <p><b>1</b> About the District</p> <p><b>1</b> The District's Mission</p> <p><b>1</b> The District's Vision</p> <p><b>2</b> The District's Core Values</p> <p><b>3</b> Ozone Trends</p> <p><b>4</b> PM2.5 Trends</p> <p><b>5</b> Record Setting Reductions in Summertime Smog</p> <p><b>7</b> New Health Risk Assessment Guidelines</p> <p><b>8</b> EPA Corrects NATA Report</p>	<p><b>9</b> New Public Advisory Workgroup (PAW)</p> <p><b>10</b> Modernizing the Clean Air Act</p> <p><b>11</b> Wildfires</p> <p><b>13</b> Finding Options for Ag Waste Disposal</p> <p><b>14</b> Updating the AQI Scale</p> <p><b>15</b> Bringing Cap and Trade Funding to the Valley</p> <p><b>16</b> Public and Private Investment in the Valley</p> <p><b>17</b> Promoting Clean Vehicles</p> <p><b>17</b> Electrifying the Valley</p> <p><b>18</b> Advancing New and Innovative Technologies</p> <p><b>19</b> Tune In, Tune Up</p>	<p><b>20</b> District Receives Federal Funds</p> <p><b>20</b> Ag Tractor Trade-Up Program</p> <p><b>21</b> Assisting Other Districts</p> <p><b>22</b> New Rule for Residential Furnaces</p> <p><b>22</b> Enhanced Role for EJAG</p> <p><b>23</b> WAAQ System</p> <p><b>23</b> New Requirements for eTRIP</p> <p><b>24</b> Healthy Air Living Schools</p> <p><b>25</b> Sharing the STAR Culture</p> <p><b>28</b> Overview of District Operations</p> <p><b>29</b> Streamlining and Efficiency</p> <p><b>31</b> Advocacy at State &amp; Federal Level</p>	<p><b>32</b> Legal Activities</p> <p><b>33</b> Plans, Rules and Regulations</p> <p><b>35</b> Permitting</p> <p><b>37</b> Enforcement</p> <p><b>39</b> Air Monitoring</p> <p><b>42</b> Administration</p> <p><b>43</b> Information Technology Systems</p> <p><b>44</b> Outreach &amp; Communications</p> <p><b>47</b> Sources of Pollution</p> <p><b>49</b> District Gives Back</p> <p><b>50</b> On the Radar</p>
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## ABOUT THE DISTRICT

The San Joaquin Valley Air Pollution Control District is a regional public health 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 portion 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'S MISSION

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. Our Core Values have been designed to ensure that our mission is accomplished through common sense.

### THE DISTRICT'S VISION

The District's vision is healthful air that meets or exceeds air quality standards for all Valley residents. The District is a leader in air pollution control. Valley residents take pride in our collective efforts to continuously improve air quality.

## Core Values

### Protection of Public Health

The District shall continue to strive to protect the health of all Valley residents through efforts to meet health-based, state and federal ambient air quality standards.

### Active and Effective Air Pollution Control Efforts with Minimal Disruption to the Valley's Economic Prosperity

District staff shall work diligently to adopt and fully implement air pollution control measures, provide meaningful incentives for reducing emissions, and develop creative alternatives for achieving emissions reductions.

### Outstanding Customer Service

District staff shall work to provide excellent customer service for stakeholders in activities including: rule and plan development; permitting and emissions inventory functions; compliance activities; financial and grant funding transactions; and responses to public complaints and inquiries.

### Ingenuity and Innovation

The District values ingenuity and innovation in meeting the challenges we face. Examples of this spirit of innovation include developing programs that provide new incentives for emissions reductions, and providing alternate compliance strategies that supplement traditional regulatory efforts and generate more emissions reductions than could otherwise be reasonably obtained.

### Accountability to the Public

The District serves, and is ultimately accountable to, the people of the Valley for the wise and appropriate use of public resources, and for accomplishing the District's mission with integrity and honesty.

### Open and Transparent Public Processes

The District shall continue to provide meaningful opportunities for public input and be responsive to all public inquiries.

### Recognition of the Uniqueness of the San Joaquin Valley

The Valley's meteorology, topography and economy differ significantly from those in other jurisdictions. Although it is valuable to review and evaluate efforts of other agencies, we must consistently look for solutions that fully consider the Valley's unique needs.

### Continuous Improvement

The District works to continually improve its internal operations and processes, and strives to streamline District operations through optimally utilizing information technology and human resources.

### Effective and Efficient Use of Public Funds

The District shall continually strive to efficiently use all resources and to minimize costs associated with District functions.

### Respect for the Opinions and Interests of All Valley Residents

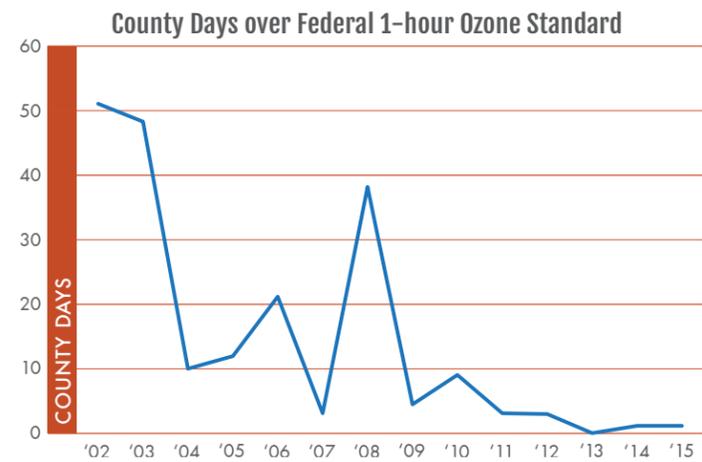
The District shall respect the interests and opinions of all Valley residents and fully consider these opinions, working collaboratively, in carrying out the District's mission.



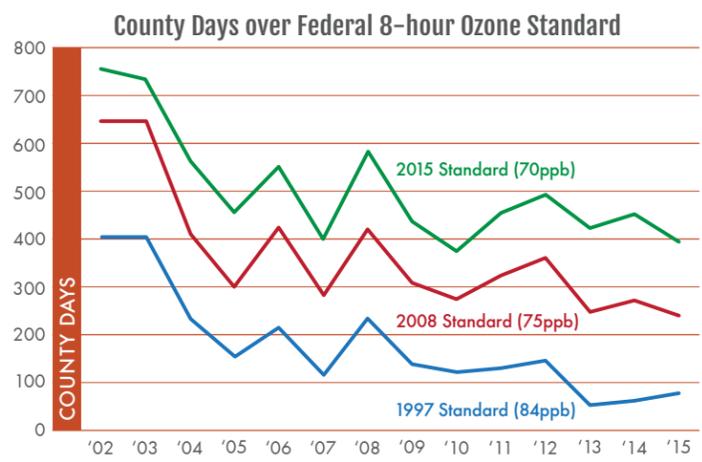
# Ozone Trends



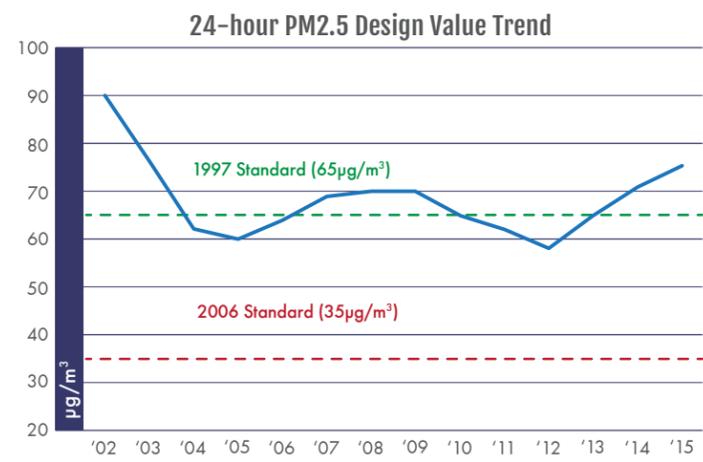
# PM2.5 Trends



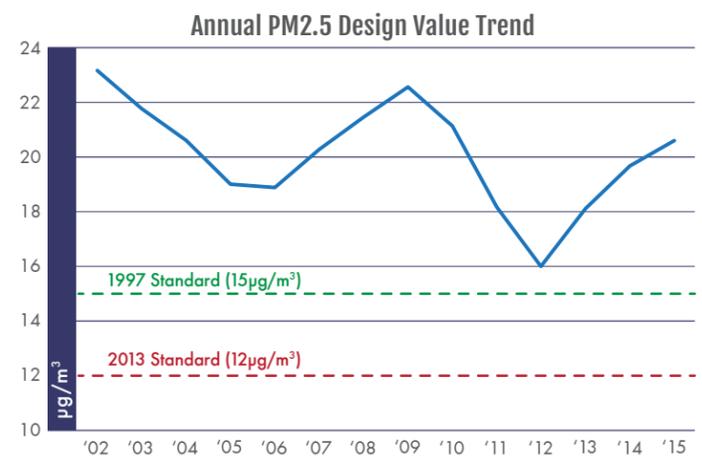
► The District has demonstrated attainment of the federal 1-hour ozone standard, and continues to observe no violations of the standard.



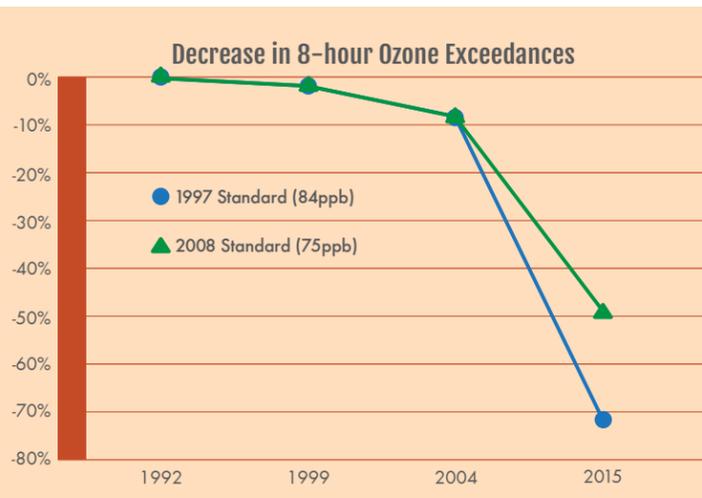
► Days over the 2008 federal 8-hour ozone standard of 75 ppb reached a record low in 2015 thanks to another clean ozone season.



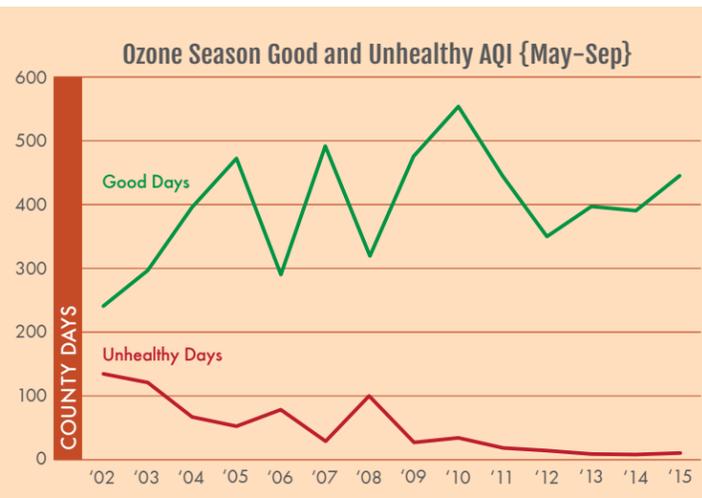
► PM2.5 design value (calculated using a 3-year average) continues to be affected by the extreme weather conditions experienced in 2013 and 2014, including abnormally long periods of winter time stagnation.



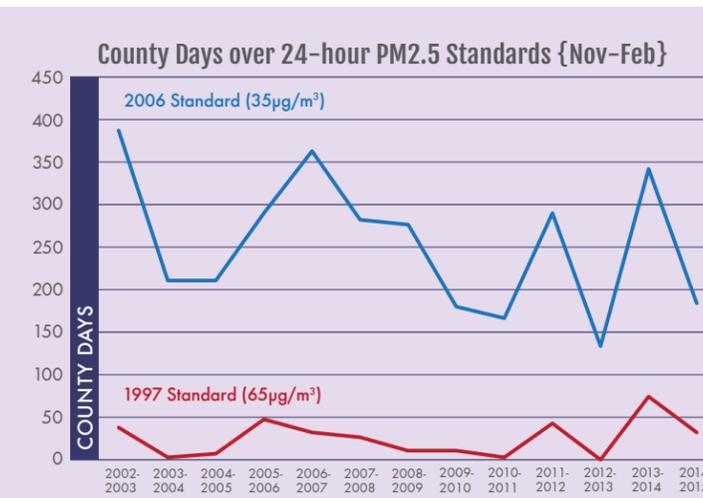
► Annual PM2.5 design value (calculated using a 3-year average) remains high due to extreme weather conditions over the past years, including abnormally long periods of stagnation during the winter seasons.



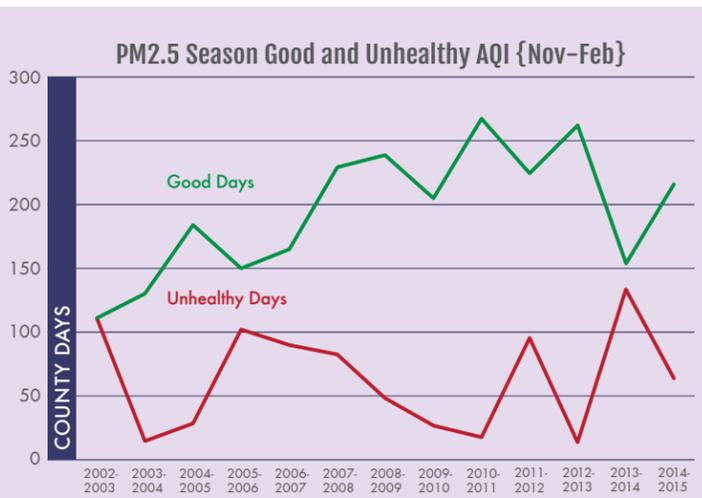
► Since 1992, 48% decrease in days over the 2008 8-hour ozone standard and 71% decrease in days over the 1997 standard.



► Improving ozone concentrations helped continue a low number of Unhealthy AQI County-Days and increase Good days.



► Winter of 2014-15 recorded fewer exceedances of the federal 24-hour PM2.5 standard compared to the previous season when the weather was more extreme and conducive to PM2.5 formation and retention.



► The winter season of 2014-15 experienced more Good days and fewer Unhealthy days than the previous season of 2013-14.

## Valley Continues to Experience Record Setting Reductions in Summertime Smog

Despite strings of triple digit temperatures and multiple wildfires, the Valley had another record setting cleaner summer for ozone. In 2015, the Valley had the lowest number of days exceeding the current federal 75 ppb 8-hour ozone standard, and for the first time in recorded history the Valley had zero unhealthy days in the month of July for ozone. Additionally, the Valley:

- ▶ Achieved the lowest 8-hour ozone design value on record for the Valley, the official metric used to measure progress towards meeting federal ozone standards.
- ▶ Completed the third consecutive year without violating the federal 1-hour ozone standard.
- ▶ Reduced the average number of days a resident experienced ozone levels above the 84 ppb and 75 ppb 8-hour ozone standards by 91% and 73%, respectively, since 2002.

As a part of the positive trend in ozone air quality, the Valley is on track to meet the federal 8-hour ozone standard of 84 ppb ahead of the projected 2023 attainment date included in the 2007 Ozone Plan. Although many challenges still lie ahead, improving progress toward meeting the stricter 8-hour ozone standard of 75 ppb bodes well as the District prepares its attainment plan for this newer federal standard.

With the ongoing improving trend in ozone air quality, the District has also submitted an updated 1-hour ozone clean data finding request to EPA based on data from years 2012-2014, requesting that the District be granted attainment of the federal 1-hour ozone standard. It is anticipated that the EPA will take action on this request later in 2016.

These air quality improvements are the result of more than two decades of implementing numerous air quality plans and strategies, including the adoption of over 600 of the most stringent rules in the nation, and

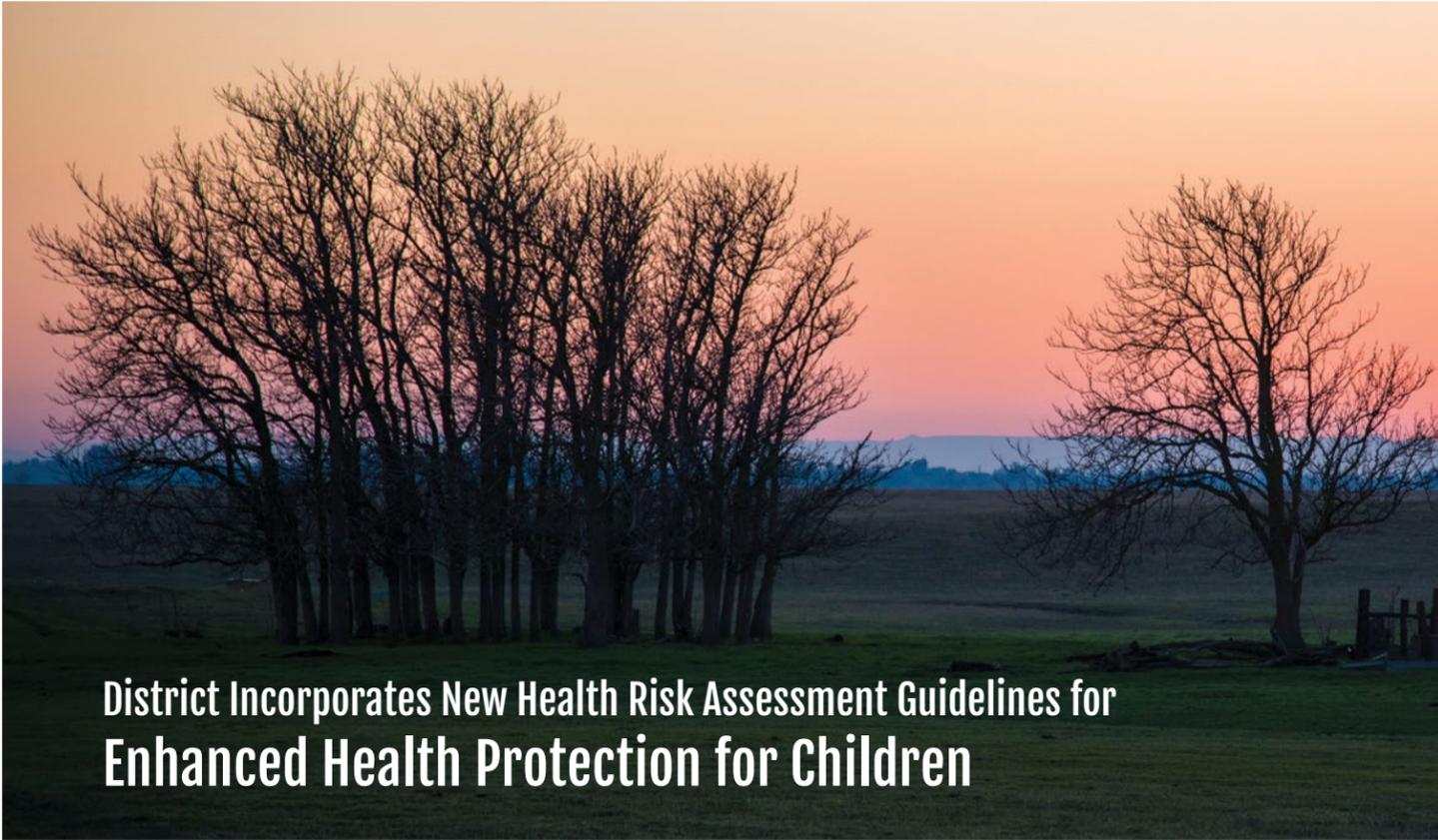
implementation of a voluntary incentive program that has invested over \$1 billion in clean-air projects. These efforts have resulted in over 100,000 tons of emission reductions needed to reach attainment of the health-based national ozone standards. These improvements would not be possible without the commitment from the Valley's stakeholders in doing their part to reduce emissions as much as possible. Recognition of these efforts lends credibility to the effective strategies that have been used and builds a stronger foundation for the additional work that remains in continuing to make progress toward meeting other air quality standards.

### One Step Closer to Federal Sign-off: Valley's Historic Achievement Meeting the Ozone Standard

On February 11, 2016 the California Air Resources Board (ARB) submitted a request to EPA to make the findings necessary to deem the Valley in attainment of the federal 1-hour ozone standard. This follows three years of record breaking clean ozone readings throughout the Valley with no violations of the federal standard.

The ARB request to EPA represents a joint effort with the District staff in consultation with EPA. The District expects a positive ruling on this matter from EPA within a year.

Approval of this request by EPA will remove the federal non-attainment penalties under Clean Air Act Section 185. Lifting the federal mandate for these penalties would return full local control to the Valley for decisions regarding the need, the magnitude and the expenditure of state Department of Motor Vehicle dollars.



## District Incorporates New Health Risk Assessment Guidelines for Enhanced Health Protection for Children

Since 1990, the District’s implementation of its health risk management policies, and the clean air efforts from our Valley’s industry, agriculture, and residents, have reduced toxic air pollution exposure in the Valley by about 90%. As noted in the latest federal EPA’s National Air Toxics Assessment, nearly all of the potential health risk in the Valley is now associated with sources of emissions that are not within the District’s authority to control. In one example specified in EPA’s report, 35% of the risk was attributed to toxic chemicals formed in the atmosphere, 33% to mobile sources (on-road vehicles, off-road equipment, airport and railyard sources), and 31% to other sources (vegetation, fires, transport from other regions, other non-point sources). Only 1% was attributed specifically to industrial sources under District jurisdiction.

In 2015, after an extensive public process, the District adopted further improvements to its risk management policies and procedures by implementing enhanced protective measures for children and the public overall. This guidance provides assistance to the public, stationary sources of pollution, consultants, and District staff in performing and reviewing Health Risk Assessments of permitting actions and CEQA approvals throughout the District.

The District began preparing for these changes in 2013, when the District Governing Board directed District staff to work with the public and industry to establish

new health risk guidance that provided enhanced protections of public, and children in particular, while preventing unreasonable restrictions on permitting actions. As directed by the Board, the revised guidance achieved the following:

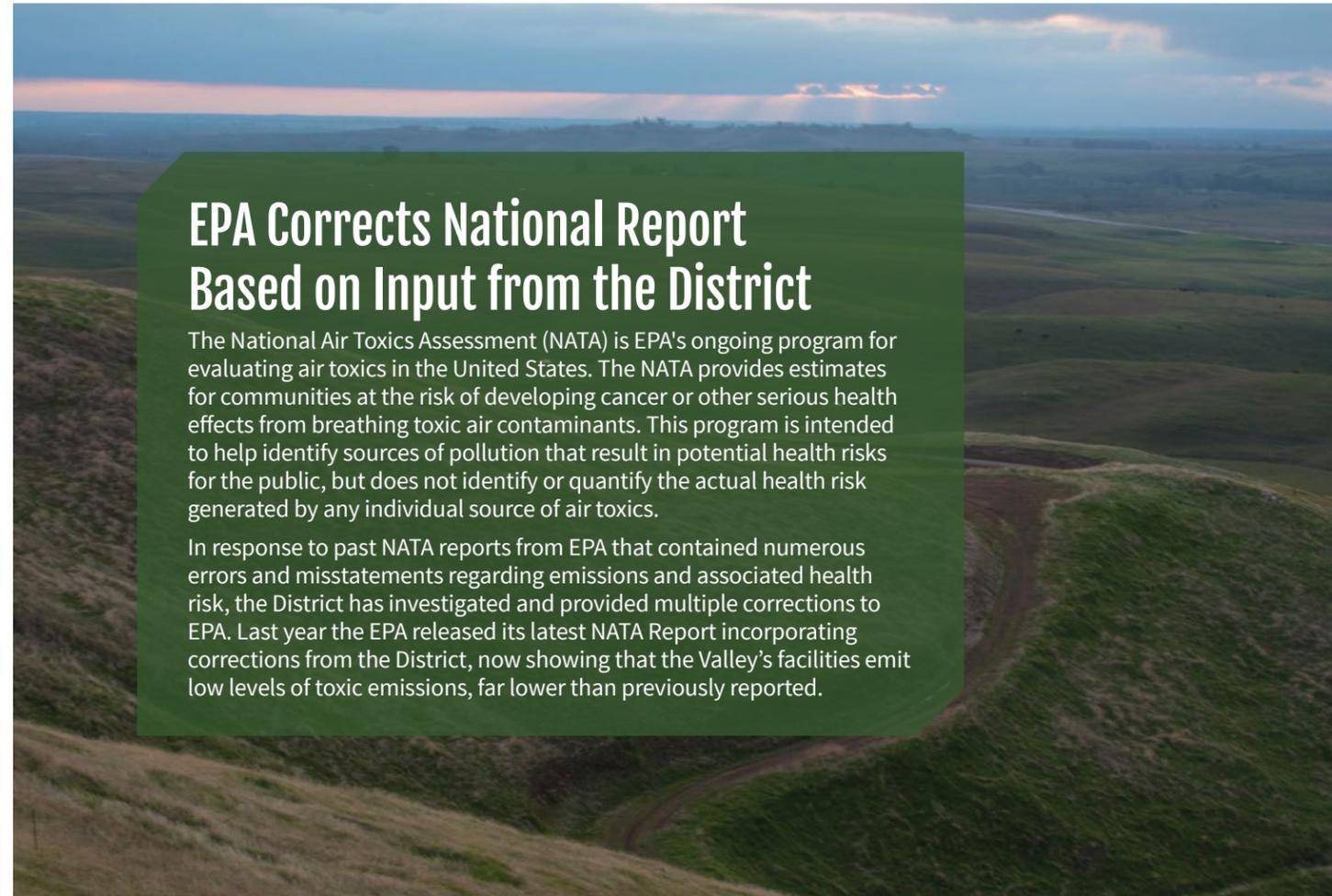
- ▶ Retained and enhanced the public’s right-to-know and health protections provided by the implementation of the AB 2588 Air Toxics “Hot Spots” Information and Assessment Act, by maintaining, without change, the District’s existing public notification and health risk reduction thresholds used in that program;
- ▶ Adjusted permitting risk thresholds to prevent unreasonable restrictions on permitting of stationary sources and California Environmental Quality Act projects, while preventing any relaxations of current health protections;
- ▶ Incorporated all possible streamlining of the health risk assessment process to minimize administrative costs and burden to Valley businesses; and
- ▶ Developed effective outreach tools and processes to communicate with communities and businesses regarding revised procedures and risk estimates.

### Risk Management for Permitted Facilities

The District redesigned its risk evaluation procedures for stationary sources of air pollution requiring permits to fully implement the new risk management guidance, while simultaneously streamlining the evaluation process to ensure that no delay would occur during permit processing. The District has successfully implemented its new health risk assessment processes since July 1, 2015, providing enhanced health protections without undue permitting restrictions or delays.

### AB 2588 Air Toxics “Hot Spots” Information and Assessment Act

The newly adopted risk management guidance has also impacted the implementation of the State’s Air Toxics “Hot Spots” program (AB 2588). Although no facilities in the District are currently considered “high risk” facilities under the AB 2588 Air Toxics “Hot Spots” program, the District has formulated a multi-year plan to reexamine the actual health risk of facilities that are required to comply with the AB 2588 program, using the new District guidelines. This plan will require facilities be phased back into the AB 2588 program for reassessment of their health risk. This reassessment may require more facilities to notify the public of their emissions of toxic air contaminants. The goal of the District’s plan is to ensure that any facility potentially exposing the public to levels above the District significance levels under the District’s new risk management guidelines are identified and the exposure to the public be reduced as quickly as possible.



## EPA Corrects National Report Based on Input from the District

The National Air Toxics Assessment (NATA) is EPA’s ongoing program for evaluating air toxics in the United States. The NATA provides estimates for communities at the risk of developing cancer or other serious health effects from breathing toxic air contaminants. This program is intended to help identify sources of pollution that result in potential health risks for the public, but does not identify or quantify the actual health risk generated by any individual source of air toxics.

In response to past NATA reports from EPA that contained numerous errors and misstatements regarding emissions and associated health risk, the District has investigated and provided multiple corrections to EPA. Last year the EPA released its latest NATA Report incorporating corrections from the District, now showing that the Valley’s facilities emit low levels of toxic emissions, far lower than previously reported.

## District Forms a Public Advisory Workgroup to Guide Clean Air Strategies

As a result of the Valley's stringent and comprehensive air quality management strategy, Valley residents are experiencing significant air quality improvements and reductions in the number of days when the federal air quality standards are exceeded. For over twenty years, the District has implemented attainment plans and several generations of effective emissions control measures for stationary and area sources for multiple federal air quality standards. Similarly, the California Air Resources Board (ARB) has adopted stringent regulations for mobile sources. Together, these efforts represent the nation's toughest air pollution regulations and have greatly contributed to reduced ozone and particulate matter concentrations in the Valley.

Due to the ever-tightening National Ambient Air Quality Standards (NAAQS) adopted by EPA under the Clean Air Act, the District is required to prepare attainment plans to address multiple standards. Currently, the District is operating under six active attainment plans and in the upcoming year, the District will be required to develop three additional attainment plans for the following standards:

- ▶ 2006 PM2.5 Standard (Serious classification)
- ▶ 2008 8-hr Ozone Standard (Extreme classification)
- ▶ 2012 PM2.5 Standard (Moderate classification; Request reclassification to Serious)

The degree of difficulty and the enormity of the challenge faced by the Valley in meeting the new federal ambient air quality standards for ozone and particulate matter are unmatched by any other region in the nation. The new attainment plans will require transformative measures (including zero- and near-zero emission goods

movement) and a comprehensive evaluation of all sources including incentive based emissions reductions in order to attain these stringent standards, leaving "no stone unturned" in the process.

Furthermore, since mobile sources now represent 85% of the NOx emissions in the Valley, the District will need to formally assign emissions reductions responsibilities to the Environmental Protection Agency (EPA) in the upcoming plans to compel the federal government to do its part in bringing the Valley into attainment.

### PUBLIC ENGAGEMENT

The District places a great value on full public participation in the development and adoption of air quality management strategies and therefore intends to provide ample opportunity for meaningful participation by the general public and other stakeholders as the specific details of the attainment plans are formulated. The District has already initiated the public process for the 8-hour ozone plan, including providing updates at public hearings and meetings, and hosting public workshops to seek input from Valley businesses and residents.

To further engage the public at large, the District will continue to hold public workshops and utilize free and paid media to inform the public, enlist participation and build understanding. The District has also established the Public Advisory Workgroup (PAW) to meet on a routine basis during the development of the attainment plans. This group includes members from the District's Citizens Advisory Committee, Environmental Justice Advisory Group, and technical advisors from the EPA and ARB. The PAW will provide for additional public engagement as the District develops these challenging plans.

### National Ambient Air Quality Standards

	Ozone	PM2.5	
<b>Standard</b>	75 ppb	24-hr: 35 µg/m <sup>3</sup> Annual: 15µg/m <sup>3</sup>	24-hr: 35 µg/m <sup>3</sup> Annual: 12µg/m <sup>3</sup>
<b>Date of NAAQS</b>	2008	2006	2012
<b>Designation Date</b>	2012	2009	2015
<b>Classification</b>	Extreme	Serious	Moderate
<b>Next Action</b>	Attainment Plan: July 2016	Attainment Plan: August 2017	Reclassification to "Serious" in October 2016
<b>Attainment Date</b>	July 2032	December 2024 (including 5-year extension)	December 2030 (including 5-year extension)



## Efforts to Modernize the Federal Clean Air Act

Since its adoption, the Clean Air Act has led to significant improvements in air quality and public health benefits throughout the nation. However, after more than 20 years since the last amendments to the Clean Air Act in 1990, our experience shows that many well-intentioned provisions are leading to unintended adverse consequences. The antiquated provisions of the Clean Air Act are now leading to confusion, and the lack of updated Congressional directive has rendered courts as policy makers.

The Clean Air Act Modernization proposal seeks legislative improvements to the federal Clean Air Act. While retaining the core elements in the Act that serve to protect public health, the proposal streamlines the administrative requirements in the Act, and ensures expeditious air quality improvement that considers technological and economic feasibility.

Without these changes the Valley could be hit with costly sanctions including:

- ▶ De facto ban on new and expanding businesses (2:1 offset requirement)
- ▶ Loss of federal highway funds (\$2.5 billion and numerous jobs lost in the San Joaquin Valley)
- ▶ Federal takeover and loss of local control
- ▶ Expensive federal non-attainment penalties

In 2015, the District worked with stakeholders to pursue legislative changes through the District's Clean Air Act Modernization Proposal. In the coming year, the District will build on this effort by working with Congress to develop legislation that incorporates the District's proposal and addresses Clean Air Act implementation issues.

The following is a summary of the District's Clean Air Act Modernization Proposal:

- 1 Eliminate duplicative requirements, confusion, and costly bureaucratic red tape by synchronizing progress milestones when a new standard is published by EPA.
- 2 In establishing deadlines and milestones, require control measures that lead to the most expeditious attainment while considering technological achievability and economic feasibility.
- 3 Allow states to focus efforts on meeting new standards in the most expeditious fashion through deployment of scarce resources in a manner that provides the utmost benefit to public health (e.g. greater weight for NOx reductions).
- 4 Eliminate the requirement for contingency measures in areas classified as "extreme" non-attainment.
- 5 Allow states to take credit for all transportation control measures and strategies and not punish areas that have implemented transportation control measures and strategies that have achieved early reductions in emissions.

# Wildfires

The extreme drought currently being experienced in the San Joaquin Valley and across the western United States has led to a number of conditions that have exacerbated the Valley's air quality challenge. Due to the excessively dry conditions, the buildup of combustible materials, and the mortality of millions of trees from the drought and beetle bark infestation, the region has experienced a number of large wildfires and California has reached an all-time high for fire danger. Air pollution generated from wildfires is enormous and well exceeds total industrial and mobile source emissions in the San Joaquin Valley. These fires overwhelm all control measures resulting in periods of excessively high particulate matter and ozone concentrations.

As a consequence to these conditions, the region experienced an extensive number of wildfires during the 2015 summer that severely impacted the Valley's air quality. Although the Sierra Nevada received light precipitation from thunderstorms that infiltrated the region during July and August 2015, most locations

received less than an inch of rainfall. These storms produced numerous lightning strikes that ignited many wildfires across the Sierra Nevada, most notably the Willow, Cabin, Butte, and Rough fires, which contributed to the California total of over 850,000 acres burned in 2015.

When wildfires occur, the District steps up efforts to protect the public by conducting more field observations of smoke impacts on downwind receptors. When smoke is impacting residents, the District works with public land managers to see if more firefighting resources can be put in place in those areas to minimize smoke, particularly near sensitive receptors. The District works closely with the California Office of Emergency Response and public land managers to deploy portable monitoring equipment in areas being impacted by smoke. This information combined with public land manager data allows for more precise characterization of smoke impacts, more informed decisions, and more accurate and timely information for the public.

In addition, during severe wildfire impact situations, the District strives to provide timely information to Valley residents to minimize wildfire smoke exposure. The District's state of the art Real-time Air Advisory Network (RAAN) serves to inform Valley residents about local air quality conditions. RAAN notifications are particularly important when wildfire plumes enter the Valley and elevate ozone and PM2.5 levels to particularly dangerous levels. During this past wildfire season, these notifications were utilized by schools and the public in order to curtail outdoor activities during high pollution/smoke episodes. Anticipating the public's need for additional information regarding the wildfires, the District created a wildfire information website that serves as a clearinghouse for updated fire and air quality information from various sources.

During the 2015 summer wildfire season, the District issued eight health cautionary statements and press releases advising Valley residents to protect themselves from wildfire smoke. Staff also fielded 178 public calls and responded to 43 media inquiries

regarding wildfire activity this year. Additionally, District staff worked closely with county health officials to communicate potential impacts to the public and actions to be taken to minimize exposure.

Despite significant efforts by the District to minimize public exposure, failure to take effective action to reduce the number and intensity of wildfires will result in significant damage to public health throughout the San Joaquin Valley. In 2015, the District's Governing Board approved a number of actions aimed at reducing wildfire emissions by promoting more effective use of prescribed burning as a means of reducing the number and severity of future wildfires, supporting increased funding for forest management, and working with local, state, and federal land managers to identify gaps in land management and fire suppression policies and develop solutions. In 2016, the District will work with state and federal land managers and other interested parties and will hold public workshops to formulate explicit strategies that advance the above stated goals.

## Working with Farmers to Find Options for Agricultural Waste Disposal

Since 2003, the District has worked with agricultural stakeholders and has instituted a number of effective measures that have resulted in an 80% reduction in the open burning of agricultural waste in the San Joaquin Valley.

Due to the historic drought conditions that the Valley has experienced and the demise of the biomass power industry, Valley farmers are facing significant challenges in disposing agricultural wood waste. Biomass power plants have been one of the primary alternatives to open burning of agricultural waste; however, the biomass plants in the Valley are nearing the end of their long-term contracts with utilities and are finding it hard to compete for new contracts. Despite the ongoing efforts of the District to address this issue through the Biomass Action Plan adopted by the Governing Board in May of 2014, the Valley has lost 6 biomass plants since 2012. This has considerably reduced the available options to dispose of agricultural wood waste, especially for large orchard removals. Failure to provide farmers with economically feasible alternatives to open burning could reverse the major progress that has been made in reducing air pollution in the Valley.

In light of the above, in November of 2015 the Governing Board adopted a series of measures designed to assist farmers in disposing of agricultural wood waste in an economically feasible manner while minimizing air quality impacts. These measures included directing staff to:

- 1 Petition the District's Hearing Board to issue a stipulated order of abatement as an intermediate response to the current lack of feasible alternatives to dispose of agricultural wood waste.
- 2 Send a written request to the California Public Utilities Commission to extend Power Purchase Agreements with existing biomass facilities at current pricing levels similar to what is called for by the Governor's State of Emergency proclamation on the State's tree mortality epidemic for existing forest bioenergy facilities receiving feedstock from high hazard zones.
- 3 Convene a workgroup with agricultural representatives to explore and advance waste disposal techniques as alternatives to open burning and traditional biomass power plants.
- 4 Review the current state of the Valley's biomass power industry and available feasible waste disposal alternatives, and assess the need and feasibility for potential actions by the District to roll back current agricultural open burning restrictions for certain crops until technologically achievable and economically feasible alternatives are available.

## Air Quality Information: Effective and Timely Communication to the Public

In addition to complying with the federal requirement to report the Air Quality Index (AQI) to the public, the District has instituted a more mature and advanced public education program using the District's groundbreaking Real-time Air Advisory Network (RAAN) system which provides Valley schools, parents and the general public with real-time access to hour by hour local air quality conditions. With the recent EPA action to reset the AQI scale, the District will begin a focused public outreach effort to help the public avoid confusion with the new AQI while encouraging the utilization of the District's more health-protective RAAN system. The District will also assess the need for potential changes to the Real-time Outdoor Activity Risk (ROAR) guidelines for ozone.

The formulas used for calculating AQI are tied to the national ambient air quality standards set by EPA for each pollutant. Therefore, as standards change, the calculated AQI changes accordingly. In October 2015, EPA lowered the federal 8-hour ozone standard from 75 parts per billion (ppb) to 70 ppb and in turn changed the AQI scale.

The Governing Board took action to avoid public confusion while achieving maximum public health protection as the District begins to use the new AQI scale. As required by federal law, the District will adopt the new AQI scale before the 2016 ozone season for reporting, forecasting, and analysis. In addition, the District will be conducting a public outreach campaign aimed at achieving a greater public understanding of the AQI, air quality progress to date, and air quality information tools provided by the District that can be used to protect public health. The District will couple this education effort with the Healthy Air Living Schools initiative to further educate individuals about RAAN and the AQI. Finally, District staff will consult health experts and work with schools to gauge anticipated participation under varying RAAN action levels that may potentially be changed by the new AQI scale. District staff will return to the Board with a detailed analysis and specific recommendations.

## Bringing Cap and Trade Funding to the Valley

In May of 2015, the District Governing Board directed staff to implement a multi-faceted action plan to ensure that the Valley is well positioned to take full advantage of and effectively compete for the numerous funding opportunities created under the Cap and Trade Program. Since that time, there has been significant progress on implementing the plan and ensuring that the Valley effectively competes for Cap and Trade funding. The District has provided support and technical assistance to many Valley municipalities to review and provide input on projects, provide letters of support and assist with calculations. To date, \$65 million has been awarded to 94 entities in the Valley, including \$8.8 million to the District. Additionally, as a leader in securing and implementing incentive based grant programs, the District has developed a Cap and Trade resource page ([www.valleyair.org/capandtrade](http://www.valleyair.org/capandtrade)) to provide interested entities with technical assistance, project support and direct advocacy at the state level.

This plan includes the following elements:

- 1 Educate the state legislative and administrative branches of the Valley's tremendous needs, especially in relation to the Valley's many disadvantaged communities.
- 2 Build a new San Joaquin Valley Cap and Trade Coalition comprised of Valley businesses, farmers, community groups, cities, counties, and other local agencies to advocate for the Valley.
- 3 Utilize the District's current incentive program expertise and infrastructure to administer Cap and Trade funded grant programs in the Valley.
- 4 Educate and assist local entities to enhance the Valley's ability to compete for Cap and Trade funding.
- 5 Pursue a block grant approach to establish dedicated Cap and Trade funding for the San Joaquin Valley to be administered by the District.

This action plan includes several key components that are critical to ensuring that a significant portion of Cap and Trade funds are directed to the Valley, particularly given that the Valley is home to 23 out of the top 30 disadvantaged communities in the state. In addition, this plan places significant effort on building a unified Valley coalition and influencing state policy to ensure that the Valley's needs are addressed with this funding now and into the future. With over \$2 billion in Cap and Trade funding identified in the state's 2015-16 budget, the state's Cap and Trade program is expected to provide a significant amount of funding in the coming years primarily targeted at reducing greenhouse gas emissions. If properly allocated and utilized, these funds can also provide co-benefits in reducing the criteria pollutants that are the target of the District's efforts to improve public health by attaining ozone and particulate standards.



**520**  
**TRACTORS**  
were replaced with  
**\$17 MILLION**  
from the District



**111 AG**  
**PUMP ENGINES**  
replaced with  
**\$2,132,884**  
from the District

## Public and Private Investment to Reduce Air Pollution through Voluntary Incentives

In the past 10 years, funding for voluntary incentive grants has increased more than tenfold. This reflects the ongoing commitment of the District, businesses, farmers, and Valley residents in making clean air investments that improve the quality of life for all.

Grant recipients are typically required to provide a significant match. For 2015, more than **\$171.9 MILLION** in District and private funding was invested in clean air projects that reduced more than **5,700 TONS** of emissions in the Valley air basin.



**444 HEAVY**  
**DUTY TRUCKS**  
were replaced  
with **\$18 MILLION**  
from the District



**3,321**  
**STOVES & FIREPLACES**  
were replaced with  
**\$5,374,000**  
from the District



**1,153**  
**CLEAN AIR VEHICLES**  
were funded with  
**\$3,256,587**  
from the District



## Promoting Clean Passenger Vehicles

In May 2014, the District adopted a comprehensive action plan promoting the use of clean passenger-vehicle technology. A central focus in this plan was to increase the adoption of electric and other advanced vehicle technology in the Valley where feasible through the San Joaquin Valley Plug-in Electric Vehicle Readiness Plan while recognizing that a one-size-fits-all approach will not work in the Valley. By providing significant incentives for Valley residents to purchase or lease these clean vehicles, the District is eliminating one of the key barriers toward greater acceptance and adoption of this technology: the up-front cost. The District's Drive Clean! Rebate Program provides Valley residents up to \$3,000 toward the cost of purchasing or leasing plug-in electric vehicles (PEVs), plug-in hybrid vehicles and other alternative fuel vehicles. The District's rebates, coupled with various other state and federal rebates and tax incentives, provide Valley residents with the most beneficial suite of incentives for clean passenger vehicles in the entire state. This program continued to be extremely well-received by the public in 2015 with more than 1,153 rebates issued in the Valley.



## Electrifying the San Joaquin Valley

To support the growing number of clean plug-in electric vehicles (PEVs) and plug-in hybrid electric vehicles (PHEVs) in the San Joaquin Valley, the District launched its Charge Up! Program on June 1, 2015 to fund the purchase and installation of publicly accessible electric vehicle chargers. The program offers Valley businesses and public agencies up to \$6,000 for a Level 2 charger and up to \$25,000 for a Level 3/DC Fast Charger. The goal of this program is to further strengthen the Valley's electric vehicle charging network to ensure the technology's sustainability in the region and ease "range anxiety" that concern many existing and potential electric vehicle owners. Through the program, the District strives to build a robust charging network throughout the San Joaquin Valley which will support the Governor's goal of 1.5 million electric vehicles in California by 2025. To date, the District has awarded more than \$1.4 million in incentives for the installation of 140 Level 2 and Level 3 electric vehicle chargers. In addition to this, the District is currently developing new ways to leverage its Charge Up! Program by working with several different Valley entities to take advantage of current funding opportunities with the California Energy Commission and the California Air Resources Board to further meet the electric vehicle goals in California.

## Work to Advance New and Innovative Technologies to Reduce Air Pollution

Despite major reductions in emissions and accompanying improvements in air quality, the Valley continues to face difficult challenges in meeting federal air quality standards. It is virtually impossible for the Valley to attain the new standards for ozone and particulates without significant advancements in low-emission technologies for mobile and stationary sources.

A critical part of the District's Technology Advancement Program (TAP) has been coordinating technology advancement efforts with other federal, state and local agencies. In the past year, the District has worked closely with the following groups:

- ▶ Clean Air Technology Initiative, a collaborative workgroup formed with EPA Region 9, the state Air Resources Board, South Coast Air Quality Management District and other agencies
- ▶ California/Federal Dairy Digester Working Group, a partnership of state, federal and local agencies that has the common goal of identifying and removing barriers to the wide adoption of dairy digester systems in California
- ▶ California Department of Food and Agriculture research and development program for dairy digester technologies

Since inception, TAP has opened four rounds of funding and received over 137 proposals for clean-technology projects. The District has committed to funding 22 of these projects totaling \$8.3 million.

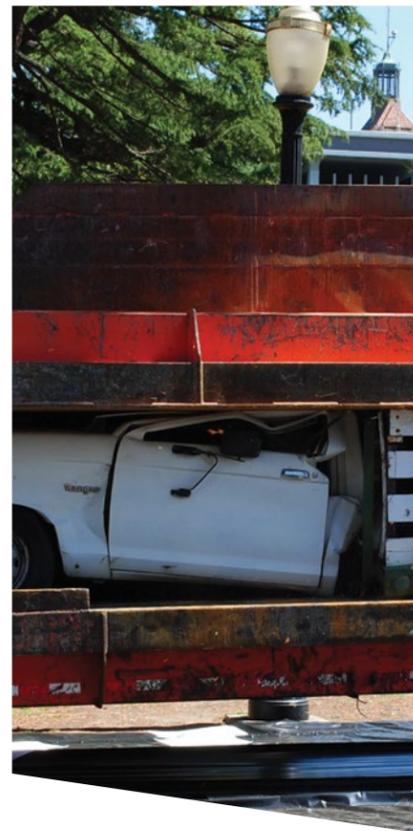
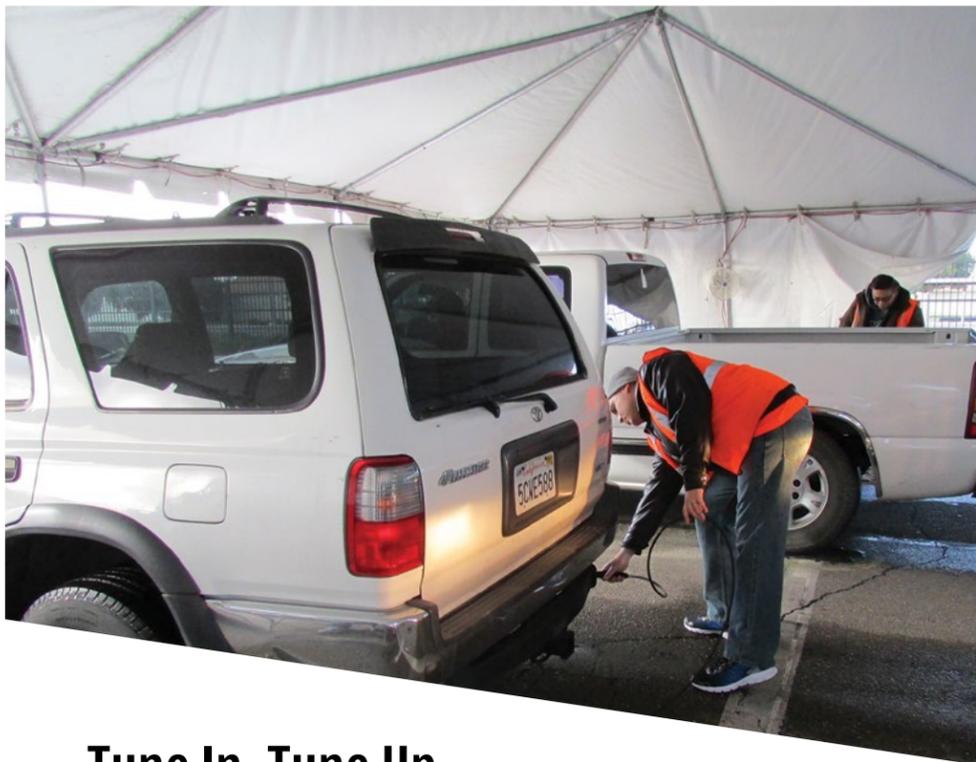
Funding provided through TAP has allowed innovative companies to put into operation new demonstration projects. Philip Verwey Farms, a dairy in Hanford installed an innovative electric feed mixing station that will conserve 90,000 gallons of diesel fuel per year and prevent 22 tons of NOx and 2.2 tons of particulate emissions annually. Transportation Power, Inc. successfully demonstrated an all-electric yard truck at the IKEA distribution center in Lebec. By operating one electric truck, IKEA will save 4,800 gallons of diesel fuel as well as reducing 1.3 tons of NOx and 0.04 tons of particulate emissions each year. IKEA is considering replacing all five of their yard trucks at this distribution center with electric models. The Greenstation also successfully completed the demonstration of ten cordless electric leaf-blowers with sufficient power and battery capacity to meet the needs of a commercial landscaping company. Units were demonstrated in



a variety of locations and applications including large installations such as CSU Fresno and Kings Canyon Unified School District, as well as professional crews doing service for residential customers.

In addition, the District implemented the Restaurant Charbroiler Technology Partnership (RCTP), a new component of TAP, to provide funding for particulate emission control technology demonstration projects for under-fired charbroilers at Valley restaurants. This program will provide a platform to demonstrate the effectiveness and feasibility of the control systems in real world operations. Through RCTP, The Habit Grill in Stockton successfully installed a Molitron wet scrubber/filtration system that significantly reduces visible smoke produced from their under-fired charbroiler. This system is expected to be operated and maintained for at least two years and will be continually evaluated and reported to the District. Assessing the feasibility of these types of equipment in real world operation will be a crucial step in evaluating options to reduce emissions from under-fired charbroilers.

District staff will continue to search for opportunities to support projects that build the air-quality technology research and demonstration capacity of colleges and universities in the Valley, improving the ability of local institutions to engage in future clean technology projects that are specifically suited to the Valley's needs.



## Tune In, Tune Up

The District continued the implementation of the award-winning Tune In, Tune Up program by providing an additional \$4 million in vehicle repair funding as well as \$2.4 million in funding for vehicle replacement projects designed for residents in low income disadvantaged communities. The Tune In, Tune Up program hosted 24 weekend events throughout the San Joaquin Valley designed to identify and repair or replace high emitting vehicles.

The Tune In, Tune Up program is operated in partnership with Valley Clean Air Now, which has a long history of successfully implementing this program and excels at reaching residents in disadvantaged communities who otherwise may not be able to afford costly vehicle repairs. Reaching this key demographic is essential as the emission reductions are most needed in low-income communities, which are historically home to the greatest percentage of high-emitting vehicles.

At a Tune In, Tune Up event participating vehicles are tested to determine the likelihood of that vehicle failing the required biennial smog test. Owners of vehicles that fail this initial screening are provided a voucher that is redeemable at participating smog shops for up to \$650 in emissions-related repairs plus the cost of smog checks and diagnostic time. Once the vehicle is repaired, a confirmatory smog test is conducted which can then be used for the vehicle re-registration purposes. In 2015, over 4,000 vehicles were repaired through the Tune In Tune Up program.

Based on the success of the District's pilot vehicle replacement program completed in 2014, ARB provided the District \$2.4 million in funding to implement the Enhanced Fleet Modernization Program (EFMP) and the EFMP Plus Up (Plus Up) programs. Depending on income levels and residential status in a disadvantaged community, incentives for these programs range from \$2,500 - \$9,500 depending on the type of vehicle purchased. The Plus Up portion of the program is designed to complement the EFMP Program and provide higher incentives for residents of disadvantaged communities to purchase advanced technology vehicles including hybrids, plug in hybrids, and battery electric. In 2015, over 250 high polluting vehicles were replaced with newer, cleaner, and more fuel efficient models.

### 2015 EVENT SCHEDULE:

- 1/24 Merced
- 1/31 Bakersfield
- 2/7 Porterville
- 2/21 Stockton
- 3/7 Lemoore
- 3/28 Chowchilla
- 4/11 Fresno
- 4/25 Turlock
- 5/9 Bakersfield
- 5/30 Stockton
- 6/13 Tulare
- 6/27 Merced
- 7/11 Coalinga
- 7/25 Fresno
- 8/1 Chowchilla
- 8/15 Bakersfield
- 8/29 Fresno
- 9/12 Los Banos
- 9/26 Tulare
- 10/3 Stockton
- 10/17 Lemoore
- 10/31 Fresno
- 11/14 Turlock
- 12/5 Bakersfield

## District Receives Federal Funds for Reducing Air Pollution

In September 2015, the U.S. Environmental Protection Agency (EPA) awarded the District a total of \$4,967,216. The District had submitted four proposals to the EPA in response to the national and highly competitive Targeted Air Shed Grant Request for Proposals and had been awarded funding for two: Agricultural Tractor Replacement and Wood Burning Device Change Out. The inclusion of this funding in the Federal budget is the result of sustained District advocacy at the Federal level to highlight the issues faced in the Valley, resulting in \$10,000,000 included in the Federal budget for the Targeted Air Shed Grant program. The District's four proposals were scored numbers 1, 2, 4 and 5 out of all projects submitted nationally and these awards represent half of the available funding for the entire country.

### AGRICULTURAL TRACTOR REPLACEMENT PROGRAM

To administer this grant, staff will utilize the District's existing Agricultural Tractor Replacement Program Guidelines. The program has successfully obligated over \$80 million to replace more than 2,200 Valley-based agricultural tractors with new, cleaner tractors. It operates as a partnership with Valley farmers and tractor dealerships to replace old high polluting tractors with new low-emission tractors. The \$2,483,608 EPA award will help fund the replacement of approximately 187 agricultural tractors. Combined with a required District match of approximately \$4,718,851, this will provide 45% of the total cost of each new agricultural tractor and each applicant will provide the remaining 55%.

### BURN CLEANER PROGRAM

To administer this grant, staff will utilize the District's existing Burn Cleaner Program Guidelines. The program has successfully obligated over \$9 million to install more than 8,100 clean burning devices in homes throughout the Valley. It operates as a partnership with Valley residents and hearth retailers to install new clean burning heating devices. The \$2,483,608 award, combined with the District match of \$2,483,608 brings the applicants' cost share to about 53% of the new device, depending on the device purchased. Through this funding, 2,484 old wood burning devices will be replaced in the Valley with new clean devices.

## Ag Tractor Trade-Up

Many of the small farms in the San Joaquin Valley use old tractors with uncontrolled diesel engines. These engines can emit up to ten times the amount of emissions compared to a new 2016 model. Due to the small acreage and high costs of these tractors, many small farmers cannot justify purchasing a new tractor. The District recognized this opportunity and started to conceptualize a program for smaller farmers to trade in their current tractor for a newer tiered tractor with fewer emissions. The District would identify small farmers with uncontrolled diesel engines and match them with applicants with a Tier 1 tractor going through the Ag Tractor Replacement Program. When an applicant is awarded a grant for a new Tier 4 tractor, their old Tier 1 tractor would be given to a small farmer instead of being destroyed. The small farmer would then be required to destroy their uncontrolled tractor. This would ensure additional emission reductions for the program and help the small farmer at no cost.

This concept became a reality in September of 2013 when the District successfully implemented the first Ag Tractor

Trade-Up project in the State of California with the help of Will Scott, Jr., president of the Fresno-based African-American Farmers of California organization and operator of Scott Family Farms. With only 16 acres to farm and a portion of it being used for training the next generation of small crop farmers, Mr. Scott did not have the capital available to invest thousands of dollars in a new, cleaner tractor. Even with the District's existing replacement program, a farmer such as Mr. Scott would still have a considerable out-of-pocket expense. The Trade-Up concept allowed Mr. Scott to permanently retire his uncontrolled tractor and receive a newer tractor at no cost.

In 2015, the California Air Resources Board recognized that the trade-up concept is a viable option for the small farmers in the Valley. Through a competitive process, the District has submitted a proposal for \$500,000 in funding from ARB to turn this concept into a pilot program. If successful, this pilot program can be scaled up to a three or four million dollar program implemented by the District.



## District Provides Assistance to Other Californian Air Districts

In recent years, the District has been seen as a leader in air quality management among the other air quality districts in California. That has led to the District being asked to provide assistance and support to other districts. One example is the assistance the District is providing to the Ventura County APCD in evaluating applications for power plants to be located in Ventura County. Due to the San Joaquin Valley Air District's extensive experience and expertise in evaluating applications for power plants, the District was able to offer their assistance to the Ventura County APCD. The District entered into its first Memorandum of Understanding (MOU) with the Ventura County APCD in August 2014 to provide services in evaluating a power plant permit application, with Ventura County reimbursing the District for expenditures associated with the analysis. Based on the positive experience associated with this initial cooperative effort, the Ventura APCD has asked the District to extend these services to evaluate an additional application. In November 2015, the existing MOU was extended to complete the evaluation of the first power plant and to evaluate a second power plant application expected in 2016.

In addition, the District frequently finds itself assisting other agencies with their emissions reduction incentive grant programs. The District is consistently praised throughout the state for administering highly efficient

and effective incentive programs. Because of this, the District has been approached by several neighboring air districts and the California Air Resources Board to assist in administering those agencies' incentive programs or even to receive allocation of those agencies' incentive funds for expenditure in the Valley. The District has assisted the following air districts with the administration of their Carl Moyer Program funds:

- ▶ Great Basin Unified Air Pollution Control District
- ▶ Antelope Valley Air Quality Management District
- ▶ Eastern Kern Air Pollution Control District
- ▶ Mojave Desert Air Quality Management District
- ▶ Tuolumne County Air Pollution Control District

In addition, because of the success of the District's administration of the Lower Emission School Bus Program, the California Air Resources Board requested the District to administer the statewide school bus retrofit program for 34 air districts throughout the state. In 2015, the District retrofitted 31 school buses, replaced 5 CNG tanks in the Valley and contracted an additional 16 school buses to be retrofitted and 25 CNG tanks to be replaced for more than \$2 million statewide. ARB has asked the District to continue running this program on their behalf through at least 2016.

## New Rule Requires Cleaner Residential Furnaces

Rule 4905, initially adopted on October 20, 2005, is the District's point of sale rule that reduces oxides of nitrogen (NOx) emissions from natural gas-fired, fan-type residential central furnaces (residential units) with a rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr) and less than 65,000 Btu/hr cooling capacity for combination heating and cooling units.

The District committed in its 2008 PM2.5 Plan to lower the NOx emissions limitation for residential units subject to Rule 4905. The District then further committed in the 2012 PM2.5 Plan and 2013 Plan for the Revoked 1-hour Ozone Standard to evaluate the potential of including commercial units within the applicability of Rule 4905. In 2010, the District determined that advanced low NOx technology for residential furnaces was still in the early stages of development and was not yet commercially available. The District partnered with the South Coast Air Quality Management District and provided \$50,000 to fund a \$1.5 million technology assessment project to



develop and test low-NOx furnace technologies that could meet more stringent NOx limits. The assessment project was completed in early 2014 and resulted in the successful development and testing of compliant units.

Rule 4905 was amended on January 22, 2015. Amendments lowered the allowed NOx emission rates by 65% for new units sold in the Valley and expanded the applicability of the rule to include commercial units and units installed in manufactured homes. Rule amendments will result in approximately 2.10 tons per day of NOx emission reductions upon full turnover of existing units by 2036.

## Enhanced Role for Environmental Justice Advisory Group

Since its inception 8 years ago, the District's Environmental Justice Advisory Group (EJAG) has held over 60 meetings. In that time, membership and meeting attendance have steadily increased. In 2015, the EJAG assisted the District in disseminating information to a multitude of Valley communities to share details on a variety of District programs, including Tune In Tune Up, Check Before You Burn, Burn Cleaner, Prop 1B Truck Grant program, and others. The EJAG has also provided annual recommendations to the District on the allocation of grant funds through specific programs to environmental justice communities. These recommendations have all been universally approved by the District's Governing Board as part of the District annual spending plan. Most recently, a letter was crafted and sent to Governor Brown with several recommendations to ensure Cap and Trade funding be directed toward Valley EJ communities.

The unique perspectives and viewpoints that EJAG members bring to District policy discussions provide great value in the District's continuing efforts to

maintain an active and effective Environmental Justice Strategy. To raise their stature, the EJAG now reports directly to the Governing Board instead of reporting through the CAC. This change enables the EJAG to more effectively bring needed resources to assist Valley businesses, farmers, municipalities and residents in reducing air pollution and improving quality of life throughout the Valley. Additionally, the EJAG will be able to assist the District and other stakeholders in advocating for the Valley's fair share of Cap and Trade funding. Through the passage of Senate Bill 535, a portion of the Cap and Trade funds must go to projects that benefit the state's most disadvantaged communities. The District's EJAG members can offer a unique and effective voice in advocating for these disadvantaged communities in the Valley.

To learn more about the District's environmental justice strategy or find a list of meeting dates, agendas and minutes, visit [http://www.valleyair.org/Programs/EnvironmentalJustice/Environmental\\_Justice\\_idx.htm](http://www.valleyair.org/Programs/EnvironmentalJustice/Environmental_Justice_idx.htm).

## Neighborhood by Neighborhood Air Quality Information

To complement its comprehensive real-time air monitoring system, the District created a Web-based Archived Air Quality (WAAQ) System. This new online tool allows users to compare historical air quality data from the last two decades using information specific to their neighborhood. Each neighborhood is broken up into 4 km x 4 km grid cells, resulting in over 3,600 neighborhoods in the Valley.

Created as an interactive online tool, the WAAQ System provides a number of charts that display historical air quality information and allows users to select which statistics they would like to view. The following neighborhood-level statistics are available to the end user:

- ▶ Days over federal standards for ozone and PM2.5
- ▶ Number of Good AQI days
- ▶ Number of Unhealthy AQI days
- ▶ Neighborhood air quality compared to county and Valley air basin

The launch followed months of beta testing where the District considered all constructive comments and recommendations in an effort to improve the new online tool. The official release coincided with the August 19 Back-to-School Air Quality Press Conference

which highlighted Air Alerts, the Healthy Air Living Schools program, the Real-time Air Advisory Network (RAAN), and the new residential historical air quality data tool.

In the continued effort to provide efficient air quality data, the WAAQ System has been developed to be mobile first. The system responds and adjusts to any resolution and is hardware agnostic giving it the ability to reach a variety of audiences. Following its release, the system reached over 2,000 users and logged in over 4,600 page views in the span of just a few months.

In the next phase of this project, the District plans to develop a neighborhood by neighborhood level RAAN system, where the residents will be able to receive hourly air quality updates specific for their neighborhood of interest. This new tool is expected to be released by the end of 2016.



## Participation grows for Healthy Air Living Schools

In 2015, District officials phased out the long-running air quality flag program as Valley students, teachers, parents and school administrators gained a better understanding of air quality issues from use of the more health-protective Real-time Air Advisory Network (RAAN). The Central California Asthma Collaborative (CCAC) continued working with the District for the third year in-a-row to enroll schools and train administrators, teachers and students on:

- ▶ Using the RAAN system
- ▶ Understanding the health risks associated with air pollution
- ▶ Following the Real-time Outdoor Activity Risk (ROAR) Guidelines
- ▶ Conducting an anti-idling campaign, and
- ▶ Launching the Clean Air Champions Pilot Project.

Using RAAN provides students with more health protection from air pollution than the Flag Program as teachers and administrators are able to receive hourly air quality information directly from local air monitoring stations, rather than relying on a daily air quality forecast. Additionally, using the accompanying ROAR Guidelines gives schools a reference to determine actions and plan outdoor activities based upon current air quality conditions.

The anti-idling campaign includes “No-Idling” signs in both English and Spanish, posted in school parking lots

to discourage parents from idling their vehicles while waiting to pick up children from school. This major component of health protection for students greatly reduces onsite vehicle emissions during the most critical time of day for ozone formation.

The newest component of Healthy Air Living Schools is the Clean Air Champions Pilot Project, which provided participating classrooms with \$250 mini grants to create their own projects and activities around air quality, environment and health. Such projects included leadership clubs to support clean-air activities, student-made brochures and banners to inform peers and parents about ways to improve air quality, research projects on local air quality and asthma statistics, weeklong “Bike-to-School” events with alternative routes and maps for parents and students, indoor air quality classroom assessments to decrease asthma triggers, school gardens to teach children how plants help clean the air, and other activities that raise awareness about our environment and air quality.

The District’s 2015 goal of 60 Clean Air Champion projects was exceeded as 70 classrooms took the challenge.

Healthy Air Living Schools enrollment also went beyond the District’s goal of 635 new schools Valley-wide, with a total 707 RAAN focused schools added to the hundreds of Valley schools already participating in the original flag program.

## New Requirements for Facilities Subject to eTRIP

The final stages of the District’s innovative eTRIP rule (**Employer Based Trip Reduction**, Rule 9410) recently took effect. The eTRIP rule is designed to reduce single occupancy vehicle work commutes at the Valley’s larger employers. Due to the diversity of employers covered by the eTRIP Rule, the rule was built with a flexible, menu-based approach. Under the rule, employers must select and implement workplace measures that make it easier for their employees to choose ridesharing and alternative transportation options. Through an employer’s eTRIP, or Employer Trip Reduction Implementation Plan, a list of measures is chosen, with each contributing to a workplace where it is easier for employees to reduce their dependence on single-occupancy vehicles. Each eTRIP measure has a point value, and employer eTRIP’s must reach specified point targets for each strategy over a phased-in schedule. The District spent considerable resources working with employers to develop an online portal to streamline the plan submittal and plan update processes.

The last implemented phase requires employers to conduct periodic employee surveys to determine commute modes used each day of the survey period, which is typically a regular work week. These surveys are used for informational purposes to help the employer and the District assess how successful the eTRIP is in facilitating alternative transportation and ridesharing. A summary of the survey is required to be compiled and submitted to the District on an annual basis. Ensuring rule compliance continues to be paramount in the District’s ongoing mission to protect public health and improve the Valley’s air. To date, the District has made significant efforts to assist employers with rule requirements by providing compliance assistance and outreach to the affected worksites in the form of Compliance Assistance Bulletins, email listserv blasts and one-on-one assistance. Towards that end, the District is investing resources this next year to provide businesses with additional support and advice while pursuing necessary enforcement actions to ensure compliance.

# Sharing the STAR Culture

## Service, Teamwork, Attitude and Respect



### Sharing the District's Experience

The District's STAR work culture has enabled the District to excel in the fields of customer service, continuous improvement and employee satisfaction. At the request of Valley elected officials and other stakeholders, the District has developed materials that can be shared with other agencies that may wish to implement a similar work culture.

### Bringing the best private sector business practices into government

There are government agencies that implement effective business practices seen primarily in the private sector that lead to efficiency, productivity, innovation, and exceptional customer service on an ongoing basis. The San Joaquin Valley Air Pollution Control District has long been committed to establishing and maintaining a work culture that values and rewards efficiency, productivity, competition, innovation, and exceptional customer service as the bottom line.

## EXCELLENCE in Government

- ▶ Outstanding customer service
- ▶ Great productivity and efficiency
- ▶ Doing more with less – Reducing cost and eliminating waste
- ▶ Innovation and creativity
- ▶ Entrepreneurial with competitive spirit – Be the first and the best
- ▶ Motivated and engaged employees

Excellence in government is accomplished through a management philosophy that places a greater focus and emphasis on attitude and positive behavior while setting high expectations and striving for excellence in quality of work and productivity. Achieving and maintaining a work culture like this requires day-to-day attention and ongoing commitment and effort from all levels within the organization.

Successful implementation requires that the following beliefs, convictions and commitments be ingrained in the organization's DNA:

- ▶ Unshakable belief at all levels of leadership that employee welfare and well-being is essential to an agency's achievement of excellence
- ▶ Embrace change and have the entrepreneurial and risk-taking spirit to seek change
- ▶ Make delivery of great customer service to internal and external customers the top priority for the organization
- ▶ Always strive to be the best and the first in everything in which the agency endeavors
- ▶ Place a higher value on positive attitude and initiative over technical expertise in hiring and promotional decisions.

Once the organization has transformed to a point of complete acceptance of the above beliefs, convictions and commitments; success demands daily follow-through with a myriad of actions to build, strengthen and maintain the culture and monitor results.

- ▶ Work constantly through actions and words to demonstrate to employees that you value their welfare and well-being
- ▶ Communicate expectations clearly and routinely
- ▶ Use employee recognition to reward good behavior and to communicate expectations
- ▶ Build an environment where employees take pride in working for the agency
- ▶ Create a safe environment for employees to offer suggestions for change/improvement
- ▶ Follow through with addressing the employee suggestions in a timely manner
- ▶ Train employees and provide the necessary tools to meet and exceed expectations
- ▶ Hold employees accountable
- ▶ Infuse constant energy to keep it fresh
- ▶ Make it an intrinsic part of each employee's job
- ▶ Create an environment where employees are not put in silos and see themselves working for the agency as a whole – not for an individual department or division
- ▶ Provide freedom and encouragement to constructively critique the work of others
- ▶ Serve as a role model

We stand ready to share our experience, answer your questions and learn from you.

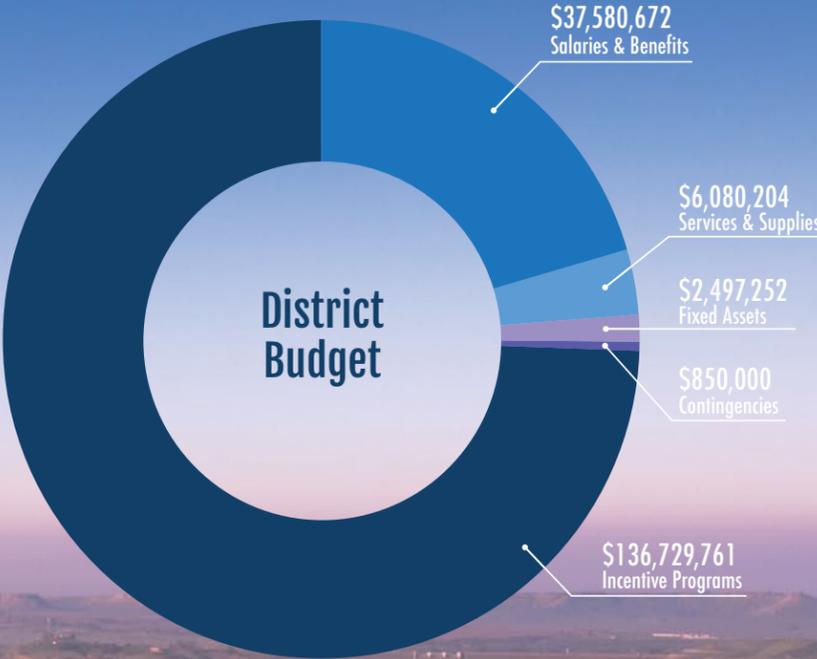


# Overview of the District's Operations

Codified in the District's Core Values, accountability is one of the most important aspects of all of the District's operations, goals and strategies. The District is accountable to the public for every dollar spent and every regulation adopted. It is accountable for demonstrating quantifiable progress toward clean air, and it is accountable for conducting day-to-day business in the most effective, efficient and innovative ways possible.

The District's track record demonstrates these values. It is given the highest marks by auditors and other agencies. It consistently sets a high bar for air quality improvements that other air management agencies emulate. It also sets the gold standard for customer service.

In that spirit, the District offers you the following operational information about how it is cleaning the air, saving money and implementing continuous improvement in all of its undertakings, continuing the tradition of excellence that the Valley's stakeholders have come to expect.





## Streamlining and Efficiency

### New Technology Improves Monitoring Network

In 2015, the District completed a project to replace the data management for the San Joaquin Valley's air quality monitoring network with a new system that will bring numerous streamlining and performance benefits. These benefits will include the automatic validation of air monitoring data, automatic application of quality control flags, and the ability to monitor the health parameters of instruments throughout the network allowing for staff to be more proactive in conducting maintenance tasks before failures occur.

### Fiber Optic and Associated Upgrades to the Network Infrastructure

The District upgraded the Fresno Office backbone to fiber, upgraded the routers, switches, and firewalls to handle the additional bandwidth capacity as well as updated the District's server infrastructure to new windows platform & database. Additional changes and upgrades were implemented: developing and updating a virtual machine automated backup and recovery system for faster recovery; reorganization of the active directory database for better organization, and others, were implemented. As a result of these changes, the District's network is more reliable and public access to and from the District's network is much faster and efficient.

### Rule 4901 Web Registration and Billing Support

The District provided the public an easy-to-use online website to register their certified wood burning devices. The District also created an integrated web portal for the residential wood burning hearth professionals to complete the registration process for the public by reporting inspections and certifying these devices via the web portal. The creation of this web portal expedited the registration process, eliminated much of the associated paper work, reduced costs and provided better and faster service to the public.

### Overhaul of Key District Business Applications

The District is in the process of revamping some of its major business applications to align these applications with the latest business processes and rules. The Grant Management System (GMS) and the Indirect Source Review data system, each developed several years ago, are being revamped to be more comprehensive, and user friendly—all of which will help the District serve the public more efficiently.

### District Works to Make Prescribed Burning Approval Process Easier

In 2015, the District's air quality forecasting and compliance staff worked with the California Air Resources Board (ARB) to create the ability to issue weather forecasts and approvals for prescribed burn projects in the same system where smoke management plans for burn projects are submitted and approved. Combining these processes into one centralized system simplifies the process for the District and land managers to submit plans and approvals to each other for proposed prescribed burn projects. Additionally, it streamlines the resources needed to organize and retain the necessary information to operate the prescribed burn program.

### PASPort System

With an ongoing commitment to great customer service and continuous efficiency improvements, the District has continued to develop additional features of the PASPort system, an online program for regulated facilities that provides quick, easy, "around the clock" access to their permit information and related documents. Through the PASPort system, authorized users can view and access a facility's permits, applications, related correspondence, and permit-related invoices. Users can also submit electronic copies of permit applications, emission source test reports, as well as breakdown/deviation reports 24 hours per day and 7 days per week without the need to contact the District's office staff. The industry response to the PASPort system has been overwhelmingly positive, with more than 650 facilities participating.

### Service to Lead Agencies in the CEQA Process

When serving as a commenting agency as part of the California Environmental Quality Act (CEQA) process, the District provides comments on approximately 1500 environmental documents every year. The District is in the process of developing a web-based tool designed to streamline the District's commenting process under CEQA while improving the quality of comments provided for such projects. In fact, the new system will enable project proponents to better incorporate project design elements and mitigation measures into their projects, along with other CEQA requirements, leading to overall better projects with minimized impacts on air quality. The District has received overwhelming support from land use agencies in this effort and plans on releasing a first version of this web-based tool in 2016.

### Improved Permit to Operate Issuance Process

The District has developed internal procedures to streamline the issuance of certain revised Permits to Operate (PTOs). This effort eliminates unnecessary administrative steps when issuing PTOs for minor changes to permitted equipment. This effort allows District staff to expedite the issuance of PTOs under specific circumstances thus resulting in facilities receiving their revised PTOs in a shorter amount of time.

Additionally, the process of mailing thousands of permits every year was also improved by eliminating the need for staff to print facility specific envelopes and by adding a new cover letter to assist facilities in complying with their new permits.

### Streamlined Implementation of New Risk Assessment Requirements

The District has developed new streamlined tools to implement District's revised health risk policies that enhance health protection of Valley residents. These tools allow District staff, facilities, and consultants to fully implement the revised risk guidelines, while streamlining the health risk assessment process and avoiding permitting delays.

### Human Resources Management Program

The District created a Human Resources Management Program that transcends the capabilities of the previous software. The District continued work this past year to refine the program and by working internally, the District has saved more than a quarter of a million dollars over the course of the program's development. The new program has maximized efficiency by reducing labor hours, streamlining processes, automating reports and offering multi-user capability. The enhanced Human Resources Management Program capabilities allow the District to meet evolving state and federal rules and governmental reporting needs. Interaction with AdminDirect, the District's Benefit program, and the newly implemented payroll system allows Personnel to maximize efficiencies and in streamlining processes and offering greater service to District employees.

### Improved Payroll Processing

In response to new requirements under the Affordable Care Act, the District transferred payroll processing to a new vendor. The switch occurred ahead of its target date and all processes and technical changes were handled successfully by syncing the new system with existing District resources. The new CompuPay payroll administration system has provided opportunities for increased staff efficiency and data integrity through system customization and automation. The system also provides an enhanced employee portal with resources, options, and reporting that weren't available previously, providing better services to employees and saving the district cost and payroll processing time.



## Valley Advocacy at State and Federal Levels

In 2015, District has continued to advocate on Valley air quality and resource issues at both the state and federal level.

At the state level, this past year, the District advocated for Cap and Trade funding to come to the Valley. In particular, the District advocated for policies that would be beneficial to the Valley including priority funding for disadvantaged communities, funding to maintain a viable biomass industry to provide an outlet for agricultural waste, and for policies to better allow applicants to apply for funding through multiple state agencies.

At the federal level, the District continued to advocate, through congress and EPA, for legislative and policy changes to address outdated provisions of the Clean Air Act. Additionally, the District successfully advocated for increases in funding for the Diesel Emission Reduction Account (DERA) and the Targeted Air Shed program that will target limited federal incentive funding to areas with the biggest air quality challenges.

In the coming year, the District will continue to advocate on air quality issues that impact the Valley. Some of the priority issues include:

- .....
- FEDERAL ▶** Seek common sense improvements to the Federal Clean Air Act
- .....
- FEDERAL ▶** Support the Commonsense Legislative Exceptional Events Reform (CLEER) Act that will bring more certainty and streamline the EPA exceptional events approval process
- .....
- STATE ▶** Advocate for an increase in state subvention funding to help offset the impacts of inflation and increased responsibilities
- .....
- STATE ▶** Seek revenue from the Cap and Trade program
- .....
- STATE/FEDERAL ▶** Ensure that greenhouse gas emissions reduction programs are not at the expense of criteria pollutant programs
- .....
- STATE/FEDERAL ▶** Ensure that disadvantaged communities are not “redlined” and that local control over resources to assist these communities is maintained
- .....
- STATE/FEDERAL ▶** Seek adequate funding from state/federal government for the installation and operation of air quality monitoring instruments
- .....
- STATE/FEDERAL ▶** Support efforts that provide for cost-effective alternatives to agricultural burning
- .....
- STATE/FEDERAL ▶** Seek state and federal funding for technology advancement projects
- .....
- STATE/FEDERAL ▶** Support for adequate resources/policies to reduce the air quality impact of wildfires
- .....



## Legal Activities

Consistent with the District’s STAR work culture, the District’s Legal Department strives to provide timely, thoughtful and accurate legal support to the District on a wide variety of legal issues. The Legal Department supports the District in a variety of ways, including pursuing civil actions against alleged violators of District rules and regulations, and defending the District’s rules, policies or attainment plans against legal challenges in state and federal courts. The following are highlights of some of the matters handled for the District:

### District Achieved Trial Victory in Dust Control Enforcement Action

The District prevailed on all issues at trial in an action against Burlington Homes, a Bakersfield developer for alleged dust control violations, resulting in the maximum amount of civil penalties recoverable under Health & Safety Code Section 42402(b).

### The District Joins Forces with EPA On Several Large Enforcement Actions

The District and EPA have worked together to bring over \$600,000 in supplemental environmental project (“SEP”) funding to go towards the District’s Burn Cleaner Incentive Program, with a preference for low income residents. This funding is derived from three nationwide enforcement actions for alleged Clean Air Act violations against three separate companies as part of consent decree settlement packages.

### District Prevails In CEQA Challenge To Crude Oil By Rail Project

This action involves the Bakersfield Crude Terminal in Taft which receives crude oil from incoming railcars and transfers it into an outbound pipeline for delivery to various oil refineries in California. The District issued permits to the facility in September 2014 for 4 small sump tanks and an oil-water separator designed to protect the environment from oily-water runoff during a storm event. For CEQA purposes, these permits were processed as ministerial approvals, and did not cause the facility’s emissions to exceed significance thresholds. Several environmental groups filed a petition in Kern County Superior Court, claiming that the District’s approval

of the permits should have been “discretionary” for CEQA purposes, triggering an obligation to conduct full environmental review. Following a January 18, 2016 hearing on the merits, the court ruled in the District’s favor on all issues.

### Districts’ Authority to Adopt Alternative Fee Programs to Section 185 Penalties Upheld

The District helped EPA defend a federal court challenge to EPA’s approval of District Rule 3170, which the District adopted to implement section 185 of the Clean Air Act, requiring the District to collect “nonattainment penalty fees” from major stationary sources of pollution in the Valley until the now-revoked 1-hour ozone standard is attained. The District, with EPA’s approval, adopted a method of collecting section 185 penalties that actually resulted in emissions reductions and rewarded major stationary sources for implementing the strictest pollution controls well before the attainment deadline, a result not otherwise provided for by the Clean Air Act. The Ninth Circuit Court of Appeal upheld the District’s alternative method of imposing nonattainment penalties as an allowable method for a revoked ozone standard under the Clean Air Act.

### District Prevails In Federal Court Challenge to Minor Ag Source Permitting Exemption

On June 23, 2015, the Ninth Circuit Court of Appeal denied a challenge by environmental groups, and held that the District had authority under both state and federal law to establish “minor” agricultural sources from the District’s permitting and offset requirements under the District’s New Source Review rule.

# Plans, Rules & Regulations



## AIR QUALITY PLANS

The U.S. Environmental Protection Agency (EPA) periodically reviews and establishes health-based national air quality standards (also referred to as NAAQS) for ozone, particulates, and other criteria air pollutants guided by the Clean Air Act. The District has adopted several air quality attainment plans over the years that identify measures needed in the Valley to attain EPA's increasingly stringent NAAQS. Leaving no stone unturned, the District has implemented these plans and adopted over 600 rules and rule amendments that have resulted in significant emissions reductions.

The District's plans include emissions inventories that identify sources of air pollutants, evaluations for feasibility of implementing potential opportunities to reduce emissions, computer modeling to estimate future levels of pollution, and a strategy for how air pollution will be further reduced. District plans also include innovative alternative strategies for accelerating attainment through non-regulatory measures such as incentive programs; technology advancement programs; the District's legislative platform; community outreach and education programs; and additional strategies such as energy efficiency, eco-driving, green purchasing and contracting, and encouraging cleaner methods of generating electrical energy and mechanical power.

Due to the promulgation of new national air quality standards by EPA and overlapping requirements, the District is in the process of writing multiple plans to address federal ozone and PM2.5 standards. The District adopted its most recent plan, the 2015 Plan for the 1997 PM2.5 Standard, on April 16, 2015. In 2016, the District will prepare and adopt an attainment plan to address the 2008 8-hour ozone standard of 75 parts per billion and will adopt a plan or request reclassification to "serious" to address Clean Air Act Subpart 1 and Subpart 4 requirements for the 2012 annual PM2.5 standard of 12 µg/m3.

Meeting EPA's increasingly stringent ambient air quality standards will require the development and implementation of transformative zero/near-zero emissions technology over the coming decades. While a daunting task, we are committed to developing and deploying the needed transformative measures as expeditiously as possible. The District continues to work with the federal EPA and California Air Resources Board to ensure that the most stringent measures are in place in the Valley.

## RULES & REGULATIONS

The District continues its leadership in developing groundbreaking regulatory strategies to reduce emissions. Though innovative rules such as indirect source review, residential fireplaces, glass manufacturing and agricultural burning have set benchmarks for California and the nation.

### Natural Gas-Fired, Fan-Type Central Furnaces (Rule 4905)

Amended in January 2015, Rule 4905 is the District's point of sale rule for natural gas-fired, fan-type, central furnaces. The new rule lowers the allowed NOx emission rates by 65% for new units sold in the San Joaquin Valley and extends the applicability of Rule 4905 to commercial units and units installed in manufactured homes. These amendments will result in approximately 2.10 tons per day of NOx emission reductions upon full turnover of existing units by 2036. Amendments are based on the results of a technology development and assessment effort of new emissions control technologies for furnaces (funded in partnership by San Joaquin Valley APCD, South Coast AQMD and Southern California Gas Co.).

## 2015 Emission Reductions

	PLAN COMMITMENTS	REDUCTIONS ACHIEVED	GOAL
<b>NOx</b>	9.48 tons per day	16.36 tons per day	73% above target
<b>VOC</b>	40.46 tons per day	46.72 tons per day	15% above target
<b>SOx</b>	0.83 tons per day	4.79 tons per day	477% above target
<b>PM2.5</b>	6.70 tons per day	15.42 tons per day of PM equivalent	Exceeding reductions by 130% through PM precursors

# Permitting



## Working With Business

The District works cooperatively with Valley businesses and assists them in complying with the Valley's air pollution regulations, which are some of the most stringent in the nation. To date, the District issues and administers permits, registrations, and plans for more than 38,000 stationary sources of air contaminants in the Valley.

## Authorities to Construct & Permits to Operate

Stationary sources of air pollution, from dry cleaners and auto body shops to power plants and oil refineries, must obtain air permits from the District before constructing or operating. The permitting process involves two major steps:

- 1 The applicant must first apply for an Authority to Construct (ATC) permit. The application review process is an important opportunity for all interested parties – the project proponent, the District, and the interested public – to assess a project's compliance with federal, state, and local air pollution regulations prior to beginning construction. The requirements that must be met to obtain an air permit in the Valley are among the strictest in the nation, requiring the best available air pollution control equipment as well as mitigation of emission increases.
- 2 Once the source has properly installed the equipment authorized under the ATC permit and successfully completed and initial compliance inspection as well as any required emissions testing, when applicable, a Permit to Operate is issued.

## Federally Mandated Operating Permits (Title V)

As of 2015, the District has issued Title V permits to more than 250 facilities considered to be "major sources" of air pollution. Federal law requires major sources to obtain Title V permits, which are designed to expand public and EPA participation in the permitting process for the largest emitters of air contaminants.

## Conservation Management Practices (CMP) Plans

The District is responsible for enforcing and updating more than 6,000 CMP plans designed to reduce air pollution emissions from agricultural operations.

## Air Toxics Program

The District performs a number of tasks aimed at reducing the risks of toxic air pollution. The District implements state and federal air toxic control regulations, maintains an inventory of toxic air contaminant emissions from Valley sources, and assures that those emissions, and any proposed air toxics emission increases from new or modified sources, do not cause a significant risk to the residents of the Valley. Every year, the District publishes an extensive report of the air toxics program, and makes this report available to the public on the District's website.

## Emissions Inventory

Each year, the District collects emissions and process data from more than 6,000 facilities and other information sources, calculates each facility's annual emissions, and reports the emissions to the California Air Resources Board. This emissions inventory then acts as a cornerstone of the District's efforts to reduce air pollution through attainment plans and emission control strategies.

## Regional Greenhouse Gas Emissions Inventories

District staff has developed protocols and processes for preparing inventories of GHG emissions from local government operations and communities throughout the Valley's counties. These inventories are very important to cities and counties as they develop planning documents and climate change action plans. The District also offers a consistent, high quality, and low-cost emission inventory preparation service to agencies in need.

## California Environmental Quality Act (CEQA)

CEQA is a state law that requires projects' environmental impacts to be assessed and disclosed to the public, and that significant impacts be mitigated to a less than significant level when feasible. District staff carefully reviews land developers' project proposals, new stationary source permits, and attainment plans and rules, for compliance with CEQA requirements. Consistent with its commitment to continuous improvement and exceptional customer service, the District has implemented enhancements to its public notification system and to allow members of the public to automatically receive CEQA project-specific information upon request. The District is currently developing web-based tools to assist land use agencies and developers with implementing CEQA requirements.

## Indirect Source Review (ISR)

Indirect sources are buildings or facilities, such as new residential housing or shopping center developments, that attract mobile sources of emissions but may not directly emit air pollution. The District's ISR staff analyzes project applications to assess the potential indirect emissions created by a development project, quantifies the mitigation proposed by the applicant, and may assess a development mitigation fee if insufficient mitigation measures are proposed by the applicant. Each year, the District publishes a report of ISR activity, and the emissions reductions generated by the program, and makes this annual report available to the public on our website.

## Small Business Assistance (SBA)

Exceptional customer service is one of the District's core values; it is engrained in our work culture. A great example of this is the District's SBA program, whose mission is to provide dedicated assistance to Valley businesses who lack the resources or expertise needed to efficiently obtain air permits or otherwise comply with District requirements. Our SBA staff provides expert advice on technology options, application processes, cost efficient methods to comply with District requirements, as well as many other air quality issues. Interested parties can contact the District SBA staff through hotline telephone numbers in the Northern, Central, and Southern regions of the Valley.

### PERMITS by the Numbers 2015

<b>3,342</b>	Authority to Construct permits issued
<b>63</b>	New Permits to Operate issued
<b>357</b>	Permit-Exempt Equipment Registrations issued
<b>52</b>	New Title V permits issued to <b>6</b> facilities
<b>1,273</b>	Title V permit renewals issued to <b>22</b> facilities
<b>1,430</b>	Title V permit modifications
<b>352</b>	Conservation Management Practices plans issued
<b>372</b>	Emission Reduction Credit certificates issued or transferred
<b>704</b>	Toxic air contaminant risk-management reviews performed
<b>5,710</b>	Annual emissions inventory statements and surveys processed
<b>1,784</b>	California Environmental Quality Act (CEQA) review requests processed
<b>529</b>	CEQA comment letters sent
<b>63</b>	CEQA documents prepared
<b>198</b>	Indirect Source Review applications approved
<b>371</b>	Facilities subject to the Employer Trip Reduction Implementation Plans Rule
<b>302</b>	Employer Trip Reduction Implementation Plans (eTRIP)

# Enforcement



Compliance with federal, state and local air quality rules and regulations is ensured by operating a robust inspection program along with a full range of educational and compliance assistance activities.

## Inspections

The District routinely conducts detailed inspections and audits equipment at new and existing facilities to ensure compliance with applicable rules and regulations. Source categories include petroleum and chemical refining, oil production, gasoline dispensing, dry cleaning, power plants, manufacturing and agriculture. Other emission-producing activities are inspected, such as asbestos demolitions and renovations, construction, residential wood burning, agricultural burning, hazard-reduction burning and idling diesel trucks.

## Air Pollution Complaints

The District responds to more than 3,000 air pollution complaints from the public each year. These complaints are often the initial indicator of air quality issues in a community. As such, the District places the highest priority on responding to complaints and operates an on-call program to ensure timely response to complaints, even during non-business hours.

## Source Testing and Monitoring

The District monitors emissions from facilities using a variety of methods including vans outfitted with specialized monitoring equipment, hand-held portable emissions analyzers and leak detectors, and staff certified to read visible emissions. When non-compliance is suspected, an immediate test can often lead to timely corrective action. In addition to compliance and enforcement work, the District also performs testing and monitoring in support of permitting, rule development, planning, emission inventory and technology advancement efforts.

## Compliance Assistance and Education

The District provides a full range of educational and compliance assistance activities to proactively aid facilities and individuals in complying with air quality rules and regulations. This assistance and education is provided through training classes, certification programs, bulletins, email blasts, workshops and one-on-one meetings.

## Conservation Management Practices Plans

The District is responsible for regulating and updating more than 6,000 CMP plans designed to decrease air pollution emissions from agricultural operations.

## Enforcement Actions

When violations of rules and regulations are discovered, the District delivers an appropriate level of enforcement action to ensure an expeditious return to compliance, and assesses monetary penalties to deter future violations. Disputed cases are generally handled in-house and settled through a mutual settlement process. On the rare occasion that a case cannot be settled, the case may be transferred to District Counsel for more formal action. In 2015, the District processed more than 2,600 issued notices, transferred 101 cases to District Counsel, and collected more than \$3.3 million in settlements.

## Hearing Boards

The Hearing Boards are quasi-judicial panels that act independently of the District. They are authorized by state law to provide temporary relief from District rules and regulations if strict conditions prescribed under the California Health and Safety Code are met. Any excess emissions associated with the temporary relief granted by the Hearing Boards represent only a very small fraction of the Valley's total emission inventory and cannot, by law, be likely to interfere with the attainment and maintenance of health-based air quality standards or cause a public nuisance. In 2015, 115 variance petitions were heard at 62 hearings.

## COMPLIANCE by the Numbers 2015

<b>35,010</b>	Units inspected
<b>3,187</b>	Public complaints investigated
<b>1,706</b>	Open burn sites inspected
<b>3,123</b>	Incentive funding units (i.e. trucks, engines) inspected
<b>1,367</b>	Asbestos projects reviewed and inspected



# Air Monitoring

The District operates an extensive network of air quality monitors to support its mission of improving air quality and protecting public health. Using air quality readings from its real-time monitors, the District generates a daily Air Quality Index (AQI) forecast for each Valley county and hourly Real-time Air Advisory Network (RAAN) notices for schools and Valley residents. The District also rigorously analyzes collected air quality data to help chart the future path to ozone and PM2.5 attainment.

Leveraging recent advancements in technology, the District will continue to expand the use of automated monitoring equipment and remote connection systems for remote diagnostics and monitoring equipment repairs. These advancements will increase efficiency and reduce travel to distant monitoring stations. The District has completed its replacement of the air quality data management system with a more sophisticated program capable of automating the data review and validation process. This will streamline quality control processes tremendously over the next year.

Monitoring equipment used to measure VOCs during the summer ozone season was recently updated to allow for remote control and connectivity to the equipment at the District's office. This has greatly reduced required travel time to prepare the equipment needed for this special monitoring to occur during the summer months.

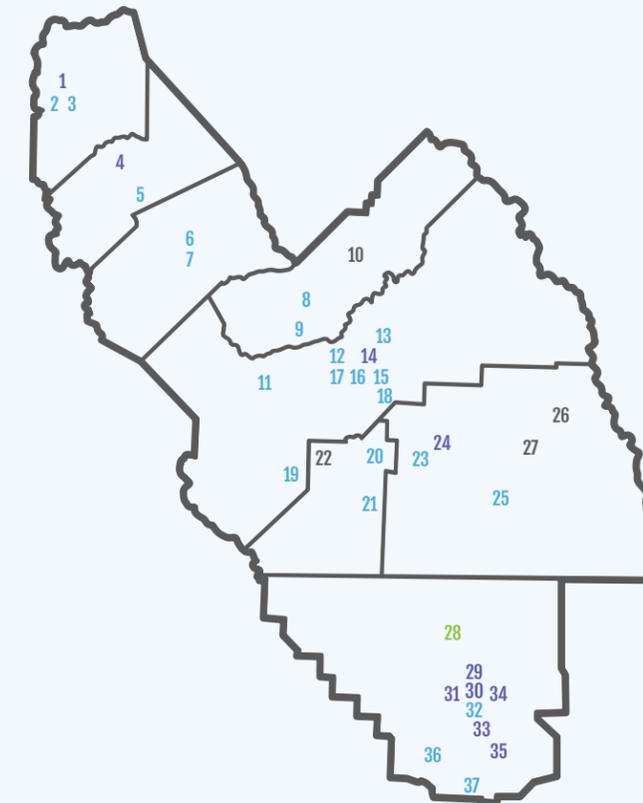
The District is also in the process of establishing two near-roadway air monitoring stations in response to new federal mandates to measure nitrogen dioxide emissions. These stations will be located in Fresno and Bakersfield. The Fresno site was completed in 2015, and the Bakersfield site is planned to be online by the end of 2016.

## AirVision

In 2015, the District completed a project to transition its air quality data management system to a new software product called AirVision that will bring numerous benefits to the current lengthy process of validating and ensuring quality control of the data being collected in the air monitoring network. This new system will bring improvements to the District's processes in the following areas:

- Replacement of the outdated Data Management System (DMS) to allow for automation of quality assurance/quality control (QA/QC) data analysis using data validation protocols with suspect data warnings. Significant time is currently spent manually performing QA/QC data analysis as the existing DMS does not include the capability to automate portions of the process. The new DMS will allow the removal of manual strip chart recorders, which will eliminate maintenance and manual QA/QC data analysis needs for the data recorded by the strip chart recorders.
- Replacement of the Data Acquisition System (DAS) and remote control setup at stations with a new system which will allow for increased control and automation of station tasks (QC checks, calibrations, etc.) and will allow for the ability to monitor the health parameters of instruments throughout the network, allowing for staff to be more proactive in maintenance tasks before a serious failure occurs.
- Allow for a quicker acquisition of air monitoring data from the latest hour throughout the network, allowing the District to provide data to the public in an even faster manner through RAAN.

## Air Monitoring Sites in Operation



SAN JOAQUIN COUNTY	KINGS COUNTY
1 Stockton-Hazelton: G,M,P,F,T	20 Hanford: G, F,M,P
2 Tracy-Airport: G,M,P,F	21 Corcoran: F,M,P
3 Manteca: P,F,M	Other?: Tachi Yokut Tribe
STANISLAUS COUNTY	22 Santa Rosa Rancheria: G,M,P
4 Modesto-14th St: G,M,P,F	TULARE COUNTY
5 Turlock: G,M,P,F	23 Visalia Airport: M
MERCED COUNTY	24 Visalia-Church St: G,F,M,P
6 Merced-M St: P,F	25 Porterville: G,F,M
7 Merced-Coffee: G,F,M	Other?:
MADERA COUNTY	26 Lower Kaweah: A,G,M
8 Madera City: G,P,F,M	27 Ash Mountain: A,G,M,F
9 Madera-Pump Yard: G,M	KERN COUNTY
Other?: Chukchansi Indians	28 Shafter: G,M
10 Picayune Rancheria: G,F,P,M	29 Oildale: G,M,P
FRESNO COUNTY	30 Bakersf-Golden/M St: F,P,M
11 Tranquillity: G,F,M	31 Bakersf-Calif Ave: A,G,M,P,F,T
12 Fresno-Sky Park: G,M	32 Bakersf-Muni: G,M
13 Clovis: G,M,P,F	33 Bakersfield-Airport (Planz): F
14 Fresno-Garland: G,M,P,F,T,N,L	34 Edison: G,M
15 Fresno-Pacific: F	35 Arvin-Di-Giorgio: G,M
16 Fresno-Drummond: G,P,M	36 Maricopa: G,M
17 Fresno-Foundry Park Ave: G,M	37 Lebec: F,M
18 Parlier: G, M	MONITORING DESIGNATIONS
19 Huron: F, M	A Acid Deposition
MONITORING OPERATION	F Fine Particulate (PM2.5)
■ Sites operated by the District	G Gaseous
■ Sites operated by the District & CARB	M Meteorological
■ Sites operated by CARB	P Particulate (PM10)
■ Sites operated by other agencies:	N National Core
1-Tribal, 2-National Park Service	T Toxins
	L Lead



- The AirVision DAS accepts a digital signal from the analyzers in the network, as opposed to only analog with the previous system, which will improve the accuracy of the data being reported to the public and the EPA from the District's air monitoring network.

#### Modeling Center

To assist in the preparation of attainment plans for ever-tightening federal standards, the District recently established the state of the art Air Quality Modeling Center. The expanded capabilities of the modeling center will provide extensive computer resources that will allow the District to conduct complex air quality modeling currently being performed exclusively by the State Air Resources Board. These models are critical to understanding the Valley's complex air quality and evaluating potential strategies as the District prepares numerous attainment plans in the coming years. Through working closely with ARB modeling staff, these efforts will be critical as the District and Valley stakeholders prepares to make decisions on the appropriate control strategy to attain the federal air quality standards.

In the context of the District's air quality plans, modeling is necessary to provide estimates for the quantities of emission reductions necessary to attain the federal air quality standards. These models are also highly

valuable for estimating the contribution of ozone and PM precursor emissions from outside the District. Additionally, through continuing to build the new center, the District will also be able to explore various emission reduction scenarios through simulating the air quality response to a number of control strategies.

The District will also be utilizing the modeling center to continue to develop and launch a new online resource for Valley residents that provides air quality information on a neighborhood by neighborhood level. The District recently released the Web-based Archived Air Quality (WAAQ) System, which now provides the public access to historical air quality information on a neighborhood by neighborhood level. The Air Quality Modeling Center will now be used to develop the analytical tools and algorithms needed to provide real time air quality information to Valley residents on a neighborhood by neighborhood level basis.



## Administration

#### Human Resources

The District performs the full range of human resource support activities including recruitment, classification and pay, records management, legal compliance, labor relations, training and management/supervisory support. The District is responsible for minimizing risk through employee benefits, workers' compensation and wellness programs. In addition, the District administers and interprets human resources-related laws, rules and regulations in order to properly manage and direct its work force.

#### Administrative Services

The District is responsible for a full range of fiscal and grant administration functions and general services-related functions. These include preparing the budget; responsibility for accounting and auditing all revenues and expenditures; preparing financial statements and related reports, and management of incentives and other grants, including state and federal reporting.

The District is also responsible for the development, implementation and ongoing administration of a variety of incentive grant programs.

General services functions of the District include facilities management, fleet maintenance, purchasing and risk management.

### District Earns National Award for Excellence in Financial Reporting

Once again, the District was awarded the Government Finance Officers' Association of the United States and Canada (GFOA) Certificate of Achievement for Excellence in Financial Reporting for its Comprehensive Annual Financial Report (CAFR).

GFOA is an internationally recognized organization that offers guidance and support to local and state government budget and finance professionals throughout the United States and Canada. In June, GFOA presented the District with the "Certificate of Achievement for Excellence in Financial Reporting," the GFOA's highest form of recognition in governmental accounting and financial reporting, for its fiscal year 2014-15 CAFR.

Receiving this award represents a significant recognition by an expert independent authority of the District's commitment to meeting the highest principles of governmental reporting and transparency to the public, and excellence in exercising fiduciary responsibilities.



## Information Technology Systems

The District strives to stay on the forefront of the information technology curve in order to provide the public the best possible efficiency and customer service. In 2015, the District undertook many initiatives to improve and update the District's existing technologies, and to introduce new technologies to the public and other stakeholders. The District made improvements to its web applications including the critical Real-time Air Advisory Network (RAAN) which informs the public about local air quality, the online Permit Administration System Portal (PASPort) that provides information and other features to permitted facilities, and the new Rule 4901 portal that allows members of the public to register their clean wood burning devices.

### Real-time Air Advisory Network (RAAN)

The District updated the server infrastructure supporting RAAN, the District's real-time air quality information tool, to provide significantly faster response time when the public accesses the RAAN website. In addition, new technologies were introduced that provide faster charting as well as user-friendly enhancements that provide additional information when hovering over the chart's hourly data points.

### On-line Permit Administration System Portal (PASPort)

The District added new functions to the online permit information portal, PASPort that provides valley businesses the ability to view information related to their permits. Now, in addition to allowing personnel from regulated facilities to examine their current and historical permits and related information, the portal provides invoice information and a facility-driven management tool which allows the PASPort administrator or point-person to manage facility staff access to the portal. Upcoming changes include the ability for facility personnel to pay invoices and submit permitting applications via the portal. These enhancements continue to grow PASPort's usefulness to permit holders, through improved access to District records and processes that are important to Valley businesses.

### New Smart Phones for Inspectors

The District provided its field inspectors a major technology improvement by replacing several pieces of existing equipment including turn-by-turn navigation units, cameras, tablet wireless air cards and cell phones with a single smart phone device. This action resulted in better public service and streamlined inspector communications, as well as a significant cost savings.

### IT Staff Training

As technology continually and rapidly changes, the need to keep current the knowledge of our technology staff grows as rapidly. To meet this challenge, the District developed a comprehensive training track and curriculum with the objectives to keep staff's technical knowledge up to date.



## Outreach & Communications

The District's Outreach and Communications Department works diligently with the media, public, and local businesses to strategize, educate, and form lasting relationships so that the District can provide valuable air quality and health information to the public.

### New Events

2015 proved to be very challenging with the severe drought and the harsh effects from the Rough Fire. While much of the smoke from the fire moved outside the Valley, the District did work collaboratively with local schools and health professionals to educate the public on the impact of wildfires and promote the District's Real-Time Air Advisory Network (RAAN). The one-of-its-kind RAAN system continues to be the premiere air quality advisory tool in the state.

In early spring, the District jointly sponsored The Transboundary Ozone Pollution Conference with NASA's Air Quality Applied Science Team. Esteemed researchers from more than a dozen universities and organizations from the U.S. and China convened to discuss transboundary ozone and its health and policy implication on the west coast, specifically, the Valley. With tough more stringent new federal air quality standards fast approaching, the District must leave no stone unturned when assessing developing strategies to reach attainment goals.

This year the District was able to deliver a state-of-the art web tool for exploring historical air quality information on a neighborhood-by-neighborhood basis. It's known as the WAAQ (web-based archived air quality) System. This advantageous tool allows anyone to compare air quality information over the past two decades in any Valley neighborhood.

### Air Alerts

This program seeks to minimize ozone levels when conditions materialize that are conducive to ozone formation: high temperatures, sunny skies, stagnant air flow and increased emissions. Air Alert incidents are called when circumstances may lead to ozone formation that can result in exceeding health-based ozone standards. In 2015, the District issued two Air Alerts which helped the Valley enjoy another historically clean summer.

### OC by the Numbers 2015

220 Media Calls

1,744 Public Calls

32 News Releases

70 Presentation/  
Outreach Events



### Check Before You Burn

District Rule 4901 and the associated Check Before You Burn program has been extremely successful in helping to reduce fine-particulate matter (PM2.5) caused by wood smoke during the winter months. This year marked the 13th season and with the continued support of Valley residents, the District has seen dramatic improvement in our winter time air quality. This year, under the revised program, Valley residents that invested in cleaner, certified wood burning devices were able to have additional burn days if they registered their devices with the District.

### Burn Cleaner

The Burn Cleaner wood stove change-out program is a complementary program to the Check Before You Burn Program as it encourages Valley residents to replace dirty residential wood burning devices with cleaner devices such as a US EPA Phase II Certified wood burning device or a gas device. This ever growing program is vital to helping clean up our winter time air.

### Press Releases, Interviews and Media Appearances

Effectively and accurately representing the District's position, the OC staff has attended many off-site events throughout the air basin ranging from radio, TV, and webcasts. Press releases, interviews, and media appearances have also been done in Spanish to ensure the District is reaching a broader audience.

### "Blue Sky, Brown Sky...It's up to You!"

This free air-quality curriculum has been highly requested by parents and schools and has been revered as an advantageous tool for children of grade school ages. Because of the popularity of this program the District conducted a user survey and is currently working on revamping this already popular activity kit to incorporate recommendations from the survey.

### Healthy Air Living Schools

This valley-wide program provides tools for educators to protect their students' from the harmful effects of air pollution. The goal of the program is to utilize RAAN to notify schools when air quality is not conducive to outdoor activity, and to educate their staff, students and even parents about maintaining and improving the health of Valley students. With the help from Central California Asthma Collaborative (CCAC) the District plans to enroll 100% of the schools in the San Joaquin Valley in the Healthy Air Living Schools program.

### Healthy Air Living Kids Calendar

The 2015 Kids Calendar was such a success that the District quickly exhausted its supply of 20,000 copies. Circulated throughout the Valley to health care organizations, businesses, schools, and individuals, the kids calendar continues to set the standard for engaging the Valley's children in an ongoing discussion on how they can contribute to Healthy Air Living.

**IMPACTS OF WOOD BURNING**

**PARTICULATE MATTER (PM)**  
A complex mixture of extremely small particles made up of a number of components, including smoke, metals, dust, organic chemicals and soot.

**How small?**  
HUMAN HAIR = 50-70 µm (µm = microns in diameter)  
PM2.5 (<2.5µm)  
PM10 (<10µm)

Burning wood, manufactured logs, wood pellets or any solid fuel

**17 TONS of PM daily**  
The Valley's topography and stagnant, dry winters traps pollution under the inversion layer.

**WOOD BURNING IN THE VALLEY**  
is the single largest source of PM in the winter.

**What clears PM pollution?**  
WIND + RAIN

**PM HARMS OUR HEALTH**  
Lung Infections, Acute Bronchitis, Asthma Attacks, Heart Attacks

Found Outdoors & Indoors

**HOW CAN YOU PROTECT YOURSELF & OTHERS?**

**CHECK BEFORE YOU BURN**  
1800 SMOG INFO

NO BURNING FOR ALL OR NO BURNING UNLESS REGISTERED OR NO RESTRICTIONS, BURNING DISCOURAGED

**Switch to a CLEANER DEVICE**  
Take advantage of the Valley Air District's Burn Cleaner Incentive program and upgrade to any of the following cleaner, certified devices.

Gas Stove/Insert OR Certified Pellet Stove/Insert OR Certified Wood Stove/Insert

www.valleyair.org

**Healthy Air Living Schools**

Each RAAN widget is individual to a specific station that the selected school is assigned to.

date and time when the data was last updated

station name

pollutant levels and level descriptions

link to valleyair.org

6/24/2015 10:57:05 AM

**RAAN**

**Clovis**

**Ozone**

**LEVEL 1**

Good - No restrictions

**Fine Particulate Matter**

**LEVEL 2**

Moderate - Sensitive individuals should consider reducing prolonged and/or vigorous outdoor activities.

www.valleyair.org

The District has developed a new tool to make it easier for schools and teachers to access RAAN information. Valley educators can now utilize the District's widget (web application) to deliver local air quality information right to their school's website.

[www.valleyair.org/RAAN/widget](http://www.valleyair.org/RAAN/widget)

**WE the PEOPLE** pledge to **Drive an Electric Car**

Alexander Sherriffs, M.D.  
Board Member

San Joaquin Valley AIR POLLUTION CONTROL DISTRICT

**HEALTHY AIR LIVING.COM**

**2016 Healthy Air Living Kids Calendar**

**CALL for ENTRIES!**

Students must submit artwork by Oct. 3, 2016!

[www.valleyair.org/kidscalendar](http://www.valleyair.org/kidscalendar)



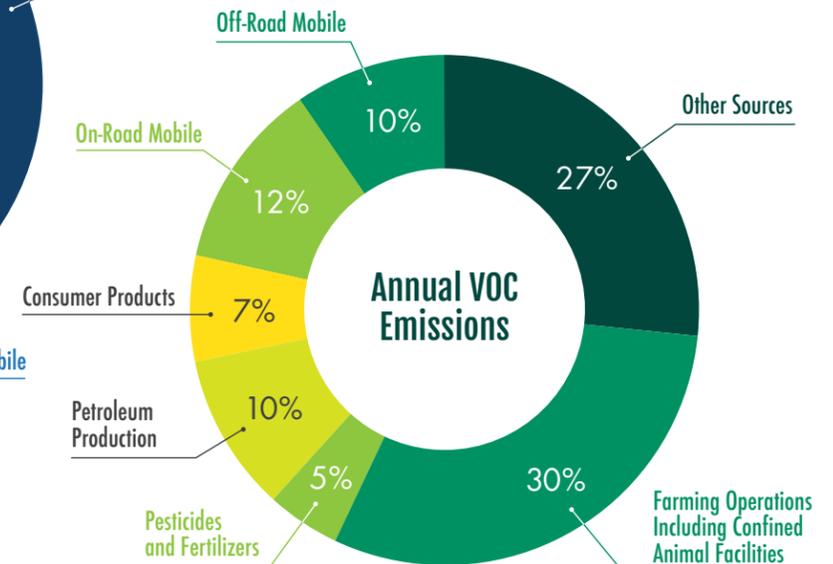
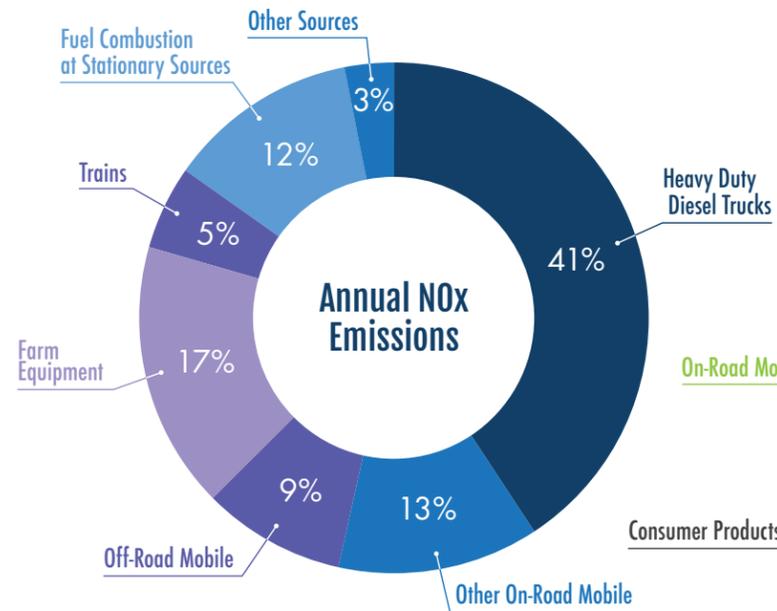
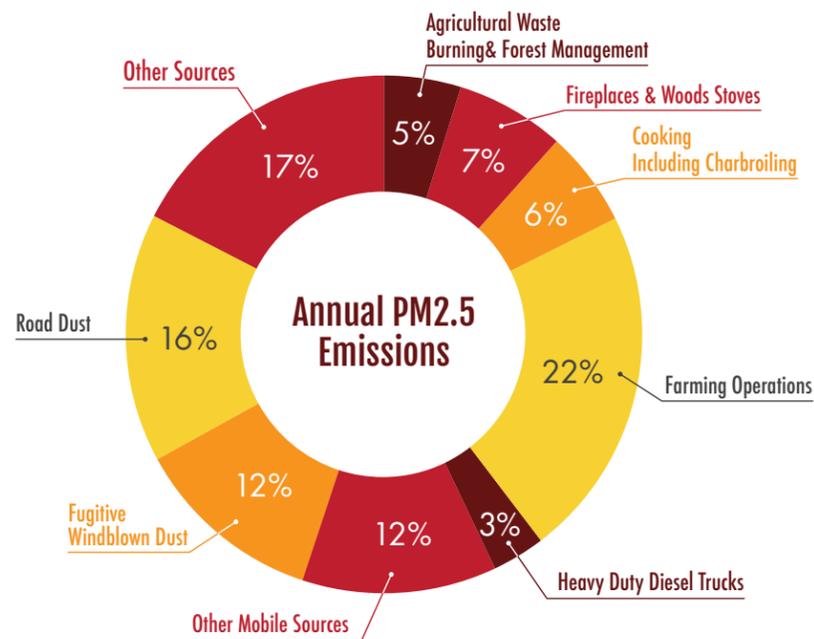
## Sources of Pollution

Despite major improvements in air quality, the Valley still faces significant challenges in meeting the federal, health-based, 8-hour ozone and particulate matter standards. These challenges are the result of the Valley's unique geography, topography and climate, which create ideal conditions for forming and trapping air pollution.

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 photochemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Particulate matter (PM) consists of tiny particles of solids or liquids (except pure water) that are

suspended in the atmosphere. Particulate matter includes PM2.5 (particles less than 2.5 micrometers in diameter) and PM10 (particles less than 10 micrometers in diameter). PM can be emitted directly (primary PM, such as dust or soot), and can form in the atmosphere through photochemical reactions or gaseous precursors (secondary PM). Much of the Valley's ambient PM10 and PM2.5 is secondary PM, formed in atmospheric reactions of NOx.

In the San Joaquin Valley, due to our climate and the chemical composition of air pollutants, NOx is the primary culprit in the formation of both ozone and PM2.5. More detailed information on emissions is provided in the District's air quality plans, available at [www.valleyair.org](http://www.valleyair.org).





## District Gives Back

In 2015, District employees helped the community by improving air quality and protecting public health. In their time off, they provided assistance to multiple Valley organizations during District-sanctioned projects. What began as a request to see the District become involved in charitable events has turned into a five year tradition of staff joyfully giving their own time, money and even blood to support community service projects.

### Northern Region

For four years in a row, a group of District staffers have given up a Saturday in June, to help build homes as volunteers for Habitat for Humanity, allowing low-income families to become homeowners. In 2015, a small group of employees from the District's Modesto office gathered their friends to do it again and help make dreams come true for future homeowners. The goal was to assemble the frame for one home, but our District staff members incorporated their extraordinary work ethic and completed frames for three homes that day.

In addition, the Modesto office team assembled 48 "Comfort Kits" to assist the Emergency Response Team of the Stanislaus County Child Protective Services. These kits contained clothing, toys, bottles, pacifiers, blankets, and other necessities for the workers who are called to remove children from dangerous situations at very short notice, often with only the clothes they are wearing at the time.

### Central Region

Central District staff had the pleasure of serving and volunteering in several capacities for Community Food Bank of Central California, one of several Central District sanctioned charities for 2015. District staff held food and fund drive events where they collected over 500 pounds of food and donated over \$300 ensuring that over 42 families were fed for a week. In addition, staff helped to prepare and distribute food to needy families in Chowchilla. Finally, in November, staff and their family members were able to volunteer at Community Food Bank and assembled over 20 pallets or 1200 holiday meal boxes for families in need in under 2 hours.

District staff in Fresno also held several blood drives in 2015, contributing more than 67 pints of blood and saving the lives of 201 people.

### Southern Region

District staff made donations of money and time to two charitable organizations in 2015. District employees raised over \$130 for the Bakersfield Ronald McDonald House, best known for providing a place to stay for families of children undergoing medical treatment. Additionally, District staff prepared a breakfast and helped set up a children's carnival for the residents.

In addition, District staff donated over \$220 for Honor Flight Kern County to help send World War II, Korea, and Vietnam war veterans to Washington D.C. to see the memorials built in their honor for their service to our country. These trips are at no cost to the veteran and are funded solely from donations from the community. Staff participated in welcome home event for these veterans attended by several hundred enthusiastic supporters.

## On the Radar

With the toughest air regulations in the nation and significant public/private investment in incentive-based strategies, the San Joaquin Valley continues to lead other regions in reducing air pollution. Despite significant improvements in air quality, we cannot rest on our laurels and must continue to leave no stone unturned as we work to meet the ever-tightening federal air quality standards. This year we are at a critical juncture as we begin the process to design and promulgate new air quality attainment plans that require transformative measures. Meeting the federal standards for particulate matter and ozone requires a virtual elimination of all emissions from fossil fuel combustion.

Consistent with our core values, we will continue to work with all Valley stakeholders, including the general public and business representatives to craft effective measures that are rooted in sound science. Our core values and environmental justice also compel us to do the best we can to ensure that regulatory efforts to reduce air pollution will not bring about economic devastation, especially in the Valley's already disadvantaged communities. Key areas of focus for the coming year include:

### New Air Quality Plans

Robust public engagement is already underway to develop new attainment plans for ozone and particulate matter. As it currently stands, the plan for the 75 ppb 8-hour ozone standard is due to the EPA by July 2016 and the plan for the 35 µg/m<sup>3</sup> 24-hour particulate matter standard is due to EPA by August 2017. The District will review all existing regulations for potential enhancements and will explore new opportunities for reducing pollution from all sectors.

### Assigning Pollution Reduction Responsibilities to the Federal Government

After decades of reducing air pollution with local and state measures, over 80% of the pollution in the San Joaquin Valley now comes from sources under federal jurisdiction. Attaining the federal standards is not possible without significant reductions in emissions from these source categories. Although

the federal EPA has shown resistance in the past, in the coming attainment plans the District will strive to include legally binding federal assignments.

### Technology Advancement Program

Meeting the ever-tightening federal standards requires development and commercialization of new air pollution control technologies. The District will continue to search for opportunities through its Technology Advancement Program by funding projects that advance new and innovative technologies that can be adopted throughout the Valley.

### Bringing Cap and Trade Funding to the Valley

In collaboration with Valley stakeholders, the District will continue to work to ensure that the Valley receives its fair share of funding given the disproportionate number of disadvantaged communities in the San Joaquin Valley. These efforts will include advocacy with the legislature and state agencies and working with the Valley's many municipalities and community organizations to build capacity to compete for and effectively spend the dollars available.

### Continued Efforts to Modernize the Clean Air Act

In the coming year, the District's will continue to work with Congress and the Executive branch to advance legislative and/or administrative changes that eliminate confusion, and enhance economic and technological feasibility while strengthening the health protective core of the Clean Air Act.

### Expanding the Real-time Air Advisory Network (RAAN) to be a Neighborhood by Neighborhood System

The District's RAAN program provides real-time air quality information to schools and the general public along with a set of guidelines that can be followed to curtail outdoor activities when high pollution levels are experienced. Currently the system utilizes data from 36 monitors located throughout the Valley. This year the system will be enhanced to provide real-time air quality data on a neighborhood by neighborhood basis.



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT

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209 557 6400      Northern Region Office  
661 392 5500      Southern Region Office

[www.valleyair.org](http://www.valleyair.org) | [www.healthyairliving.com](http://www.healthyairliving.com)



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