
2022-2023
REPORT to the COMMUNITY
San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT®

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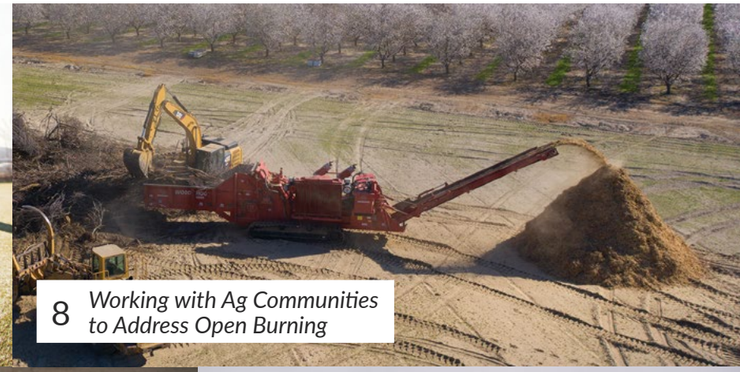

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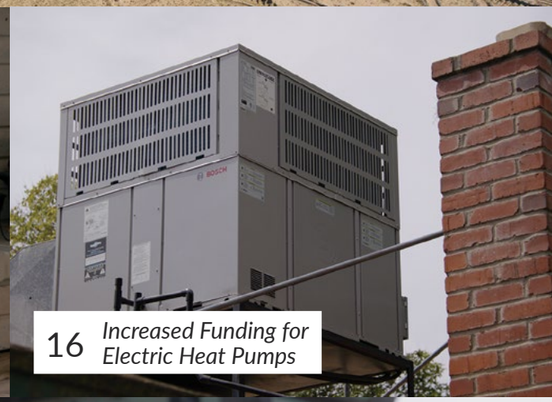

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A message from the

Air Pollution Control Officer

On behalf of the Valley Air District's Governing Board, we are excited to present to Valley residents this year's Report to the Community. Our goal with this report is to provide an easy-to-follow accounting of the Valley's air quality progress, and ongoing efforts to continue improving the Valley's air quality and public health. With our public health mission and core values in mind, we welcome suggestions for improvement and look for new ideas that help us move forward in our collective clean air journey.

This past year, the San Joaquin Valley continued to make tremendous progress in meeting the newest federal health-based air quality targets during the key summer season for ozone and winter season for particulate matter. These continued improvements would not be possible without the ongoing investments made by residents, businesses, agencies, and farmers throughout the Valley on everything from new cleaner vehicles, to the latest generation manufacturing processes, to electric landscaping equipment. Over the past year, we worked even harder alongside Valley businesses and local agencies to modernize processes and fleets throughout the region. We are in the fields with farmers as they implement new alternatives to open burning, deploy cleaner agricultural equipment and research the best science to guide the adoption of even cleaner world-leading practices. While major challenges remain, Valley residents are breathing much cleaner air compared to even just several years ago. Additionally, Valley residents are more engaged than ever about the importance of cleaning the air, and we are excited about expanded partnerships that are uplifting communities by helping us to understand and address air quality concerns in new and creative ways.

While the Valley's air quality progress is clear and undeniable, we still face unmatched air quality challenges that will require additional effort and investment. The ongoing risk of catastrophic wildfires that can undo decades of progress, changing climate conditions, regional growth, limited water supplies, and our position as the major goods movement corridor for the western United States, all make our task more difficult. We also recognize the need to work together to address the significant barriers to the transformational shift necessary to continue reducing emissions from the heavy-duty transportation sector. We are working collaboratively with local, state, and federal partners to ensure that the path forward is clear, science-based and achievable.

Over the coming year, look for us at your various public meetings, at community events Valley-wide, through our grant program outreach, and even on social media. More than ever, we need your ideas as we work together to continue improving the Valley's air quality.

SAMIR SHEIKH
Executive Director, Air Pollution Control Officer

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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 of 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, community-based organizations and the residents of the Valley to reduce emissions to improve air quality.

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 commonsense, feasible measures that are based on sound science.

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.

Nearly 90% of the District's overall 2022-23 budget contained funds specifically for voluntary grants and incentives for Valley residents, businesses, municipalities and others. This significant state and federal funding for voluntary clean air projects would not be possible without the many District partners.

Core Values

PROTECTION OF PUBLIC HEALTH

The District shall continue to strive to protect the health of Valley residents through efforts to meet health-based state and federal ambient air-quality standards, based on science and prioritized where possible using health-risk reduction strategies.

ACTIVE AND EFFECTIVE AIR POLLUTION CONTROL EFFORTS WHILE SEEKING TO IMPROVE THE VALLEY'S ECONOMIC PROSPERITY AND GROW OPPORTUNITIES FOR ALL VALLEY RESIDENTS

District staff shall work diligently to adopt and fully implement cost-effective 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 innovation and ingenuity 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, seeking collaboration with federal, state, and local agencies, agriculture, businesses, community groups and residents in carrying out the District's mission.

ROBUST PUBLIC OUTREACH AND EDUCATION ON VALLEY AIR QUALITY PROGRESS AND CONTINUING AIR QUALITY EFFORTS

As we move forward in achieving our mission, the District shall continue its ongoing efforts to educate the public about air quality, and the significant clean air investments and air quality progress that have been made in the Valley.

Innovative Multifaceted Clean Air Control Strategy

The San Joaquin Valley Air Pollution Control District is a nationally recognized air quality management agency responsible for regulating, permitting, monitoring, and improving air quality in California's San Joaquin Valley region. As a public health agency, the District, with our state and federal partners, works to improve air quality and public health in the region through a comprehensive multi-faceted strategy.

As a part of this approach, the District coordinates with the California Air Resource Board (CARB) to develop air quality plans and strategies to address existing challenges and continue to move the region closer to compliance of federal air quality standards. These plans typically include measures to control emissions from different sources and mitigate the impact of air pollution on public health and the environment. These measures often take the form of air quality regulations limiting emissions from various sources, including industrial facilities, agricultural operations, and other pollution sources. Mobile and other sources are under the responsibility of the state and federal government, while stationary sources fall under the responsibility of the District. District regulations, often innovative and the first of their kind in the nation; aim to reduce the concentration of harmful pollutants in the air while providing the regulated community with flexibility and education to be able to efficiently implement the rules. To ensure goals are being met and regulations are being adhered to, the District issues permits, oversees emissions reporting for industries and businesses that release pollutants into the air, and conducts regular compliance inspections at regulated facilities. Additionally, the District also provides a wide range of clean air grants to residents, public agencies, businesses and other stakeholders. By regulating emissions from multiple sources, the District and CARB ensure that the Valley continues to meet specific requirements and sees overall air quality improvement efforts.

FEDERAL

US EPA
Regulates stationary, area, and mobile sources including interstate transportation

Trains · Ships · Planes

STATE

CARB
Regulates mobile and area sources of air pollution

Cars · Trucks · Buses

LOCAL

Local Air Districts
Regulate stationary and area sources of air pollution

Factories · Refineries · Fireplaces

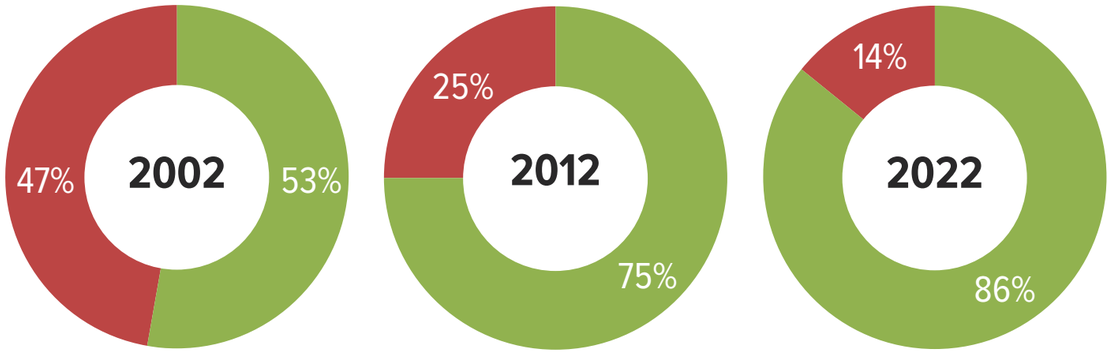
Valley Residents Breathing Healthier Air

A strong indicator of improving air quality conditions for residents across the Valley, is the number of days the air quality standards are met or exceeded across all of the Valley's counties over time. As the following graphic depicts, 20 years ago, the Valley experienced a higher number of days exceeding the health standards, whereas in recent years, even with severe wildfire impacts, the number of days the Valley **meets** the health standards significantly outweighs the number of days it exceeds it. In fact, the year 2022 experienced the second highest number of days meeting the health standards across the Valley's counties, indicating the ongoing positive progress towards improving air quality across the region.

The Valley has also continued progress on the ever-tightening PM2.5 and ozone standards it must tackle to reach attainment of the federal air quality standards. The District and CARB are closely reviewing the air quality data collected in recent years, and have noted that while accounting for wildfires and other types of exceptional events, the Valley is still close to attainment of the annual PM2.5 standard of 15 $\mu g/m^3$ and the 8-hour ozone standard of 84 parts per billion (ppb). As an example of the Valley's recent success in meeting health-based standards, EPA recently made a finding that the Valley now meets the 65 $\mu g/m^3$ PM2.5 standard as of 2021.

Once the Valley attains the 84 ppb ozone standard, this would be the second time in Clean Air Act implementation that an area classified as "extreme nonattainment" would then go on to attain the standard.

DAYS MEETING vs DAYS EXCEEDING THE HEALTH STANDARDS YEAR-ROUND



Cleaner Air Improves Public Health

The District is committed to improving air quality throughout the Valley, which in turn will improve public health. Research shows that poor air quality is linked to a range of detrimental health impacts. Inhalation of pollutants can cause or exacerbate various respiratory conditions, and particulate matter and ozone can irritate the respiratory tract, leading to coughing, wheezing, shortness of breath, and asthma attacks. Prolonged exposure may increase the risk of developing chronic respiratory diseases like bronchitis and chronic obstructive pulmonary disease. In addition, air pollution has been linked to an increased risk of cardiovascular diseases. Particulate matter can enter the bloodstream through the lungs and contribute to a higher risk of heart attacks, strokes, high blood pressure, and other cardiovascular conditions. Emerging research suggests that air pollution may have adverse effects on the central nervous system and lead to neurological issues such as dementia.

Air pollution is a concern regardless of your location, as everyone can be exposed to it. The level and type of exposure depend on various factors such as where you live, the time of day, and the weather conditions. Pollution sources and particularly busy roadways contribute to higher levels of air pollution in surrounding neighborhoods. Industrial processes, agricultural operations and construction add to the Valley's pollution levels. Additionally, our daily activities, including the use of gas-powered yard equipment, consumer products, idling cars and smoke from residential wood-burning fireplaces, all contribute to air pollution and expose us to harmful pollutants.

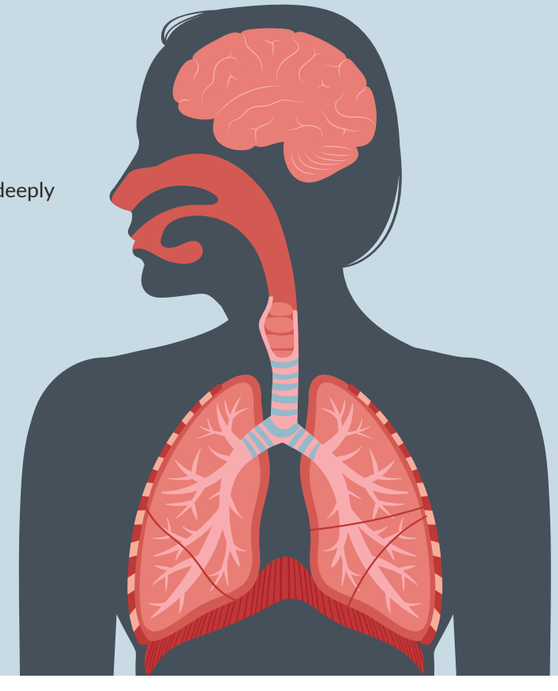
Unfortunately, residents in lower-income communities and communities of color often bear a disproportionate burden of air pollution. Acknowledging this disparity, the District is actively collaborating with local, state, and federal agencies to enhance air quality for all residents in the Valley. These collective efforts aim to further reduce air pollution and minimize exposure specifically in disadvantaged communities within the Valley. By addressing these issues, the goal is to ensure improved air quality and health outcomes for all Valley residents.

Ground-level Ozone pollution can cause:

- Difficulty breathing deeply
- Shortness of breath
- Sore throat
- Wheezing, coughing
- Fatigue

Ozone can make these conditions **worse**:

- Asthma and COPD
- Emphysema



Fine Particle (PM2.5) pollution can cause:

- Shortness of breath
- Wheezing, coughing
- Chest pain
- Fatigue

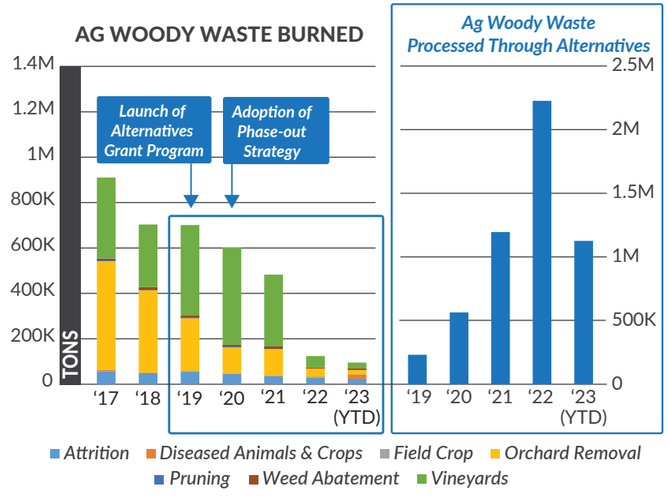
Fine particles can make these conditions **worse**:

- Cardiovascular and heart disease
- Asthma and COPD
- Dementia
- Neurological Disorders

A Pioneering Approach – Working with Ag Communities to Address Open Burning

The San Joaquin Valley is home to the world's most productive farmland, cultivating more than 250 crops. Working with Valley agriculture and CARB, the District has put into place a strategy for addressing the remaining agricultural open burning in the Valley, with a near-complete phase-out of all burning becoming effective on January 1, 2025. The District has a long history of working with the agricultural community to reduce open burning in the Valley, beginning with prohibitions on open burning of the majority of agricultural materials that commenced in 2005, per the requirements of Senate Bill 705 and the District's Rule 4103 (Open Burning). Over the past two decades, the District has worked with the agricultural community to significantly reduce emissions from agricultural burning to date by phasing out the open burning of a variety of field crops, prunings, weeds, orchards, vineyards, surface harvested prunings, and other materials. In the coming year, vineyard and orchard removals will no longer be allowed to be burned in the Valley, and further prohibitions against burning prunings and raisin trays will also take effect. The District continues to work closely with other agencies and the agricultural sector to research and develop clean-air alternatives to open burning, such as biochar, beneficial reuse, composting and other potential new opportunities current being assessed.

To help support the continuing transition away from agricultural open burning, the District has developed the Ag Burn Alternatives Grant Program. This program provides financial incentives to commercial agricultural operations to chip their orchard/vineyard removal material rather than burning. The program provides a suite of options for the disposition of the chipped material, including soil incorporation, land application on grower property or other agricultural property, and other beneficial re-use alternatives such as mulch, composting and land application near roadways for dust suppression. The incentive amounts range from $300 to $1,700 per acre of agricultural material removed. To date, the District has received a strong response and has allocated over $131 million in funding to support alternatives to open ag burning projects on over 196,000 acres in the Valley, representing 5.4 million tons of agricultural material from a wide range of crop types, including but not limited to, almonds, nectarines, olives, plums, citrus, grapes, walnuts and peaches.



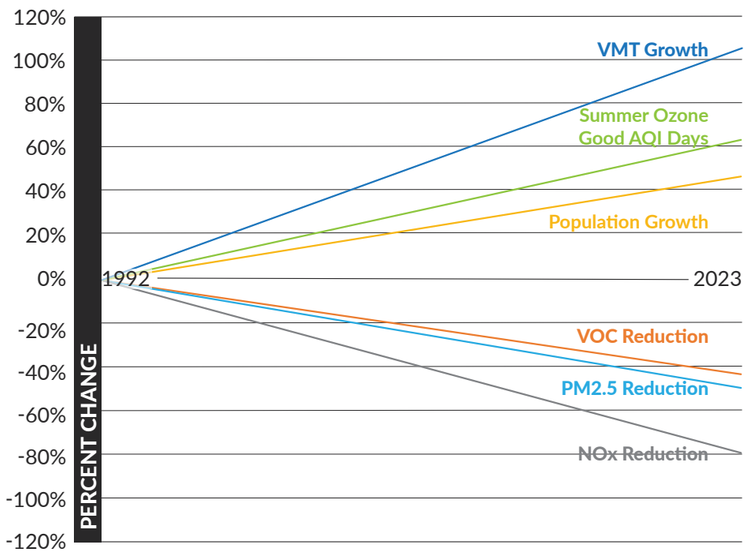
Valley's Air Quality Continues to Improve

Through over 30 years of implementing emissions reduction measures and significant investments by Valley businesses and residents, the region's air pollution levels have declined significantly, and air quality has continued to improve throughout the Valley despite significant increases in population and vehicle miles traveled (VMT).

Highlighting some notable achievements over the past three decades, the Valley has already attained a number of key health-based federal air quality standards, including: NO2, SO2, CO, PM10, 1-hour ozone, and the 24-hour PM2.5 standard of 65 µg/m^3.

The District and CARB continue to work toward achieving ongoing emissions reductions through regulatory and incentive programs. These ongoing combined efforts will assist the Valley in attaining additional federal air quality standards in the coming years.

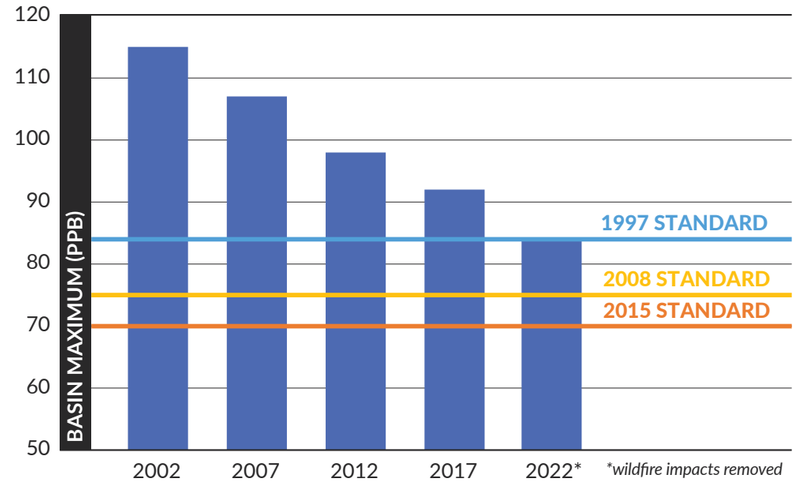
VALLEY AIR QUALITY IMPROVES EVEN WITH DRAMATIC GROWTH



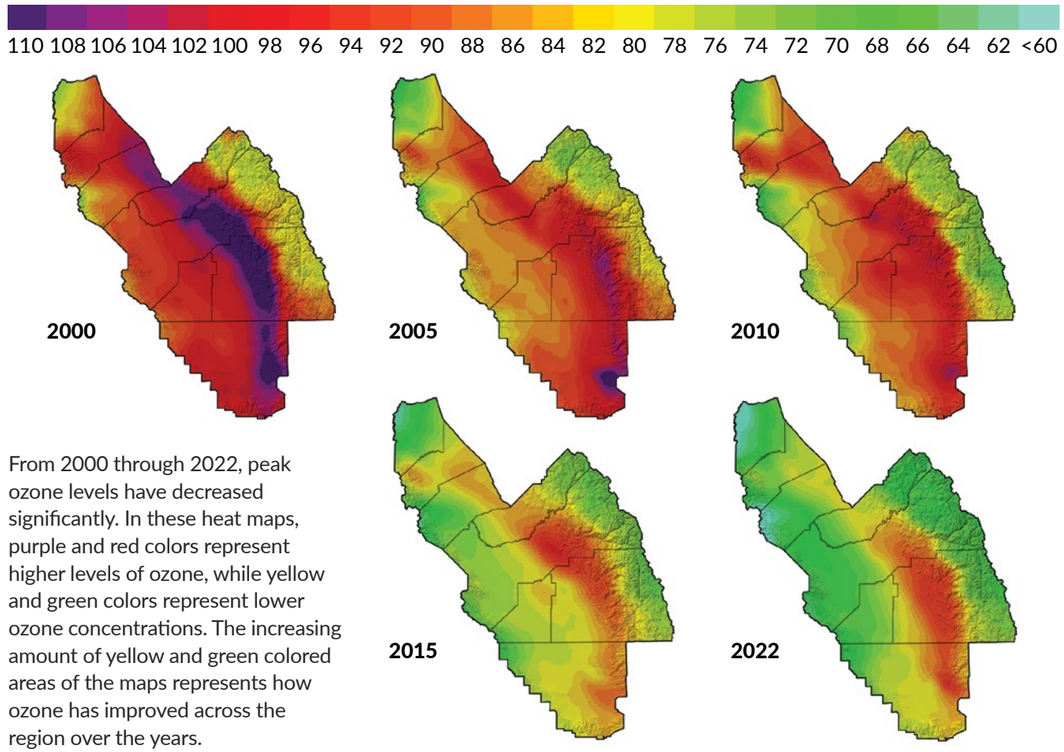
Summertime Ozone Improvements

Significant progress has also been made with respect to ozone concentrations. Excluding wildfire impacts, the Valley is on the verge of attaining the 8-hour standard of 84 ppb, while progressing towards the more stringent standards of 75 ppb and 70 ppb. The following figures depict how far the region has come in reducing peak ozone values, bringing the Valley even closer to attaining the health-based air quality standards.

8-HR OZONE DESIGN VALUE PROGRESS



8-HOUR OZONE DESIGN VALUE (PPB)



From 2000 through 2022, peak ozone levels have decreased significantly. In these heat maps, purple and red colors represent higher levels of ozone, while yellow and green colors represent lower ozone concentrations. The increasing amount of yellow and green colored areas of the maps represents how ozone has improved across the region over the years.

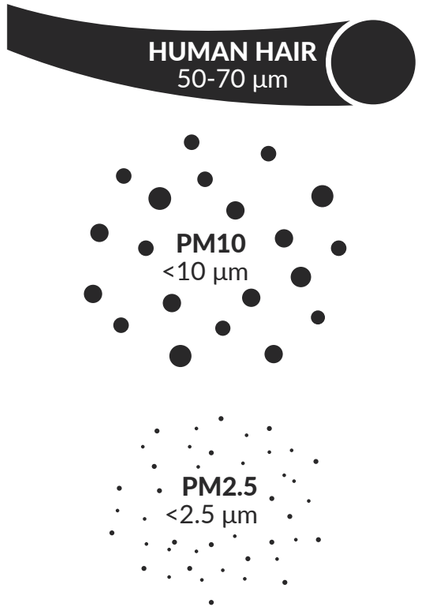
Challenges & Successes in Reducing PM2.5 Levels

The nature and formation of PM2.5 in the San Joaquin Valley is highly complex as it can be composed of any material that has a diameter of 2.5 microns or less. The resulting ambient PM2.5 mixture can include aerosols (fine airborne solid particles and liquid droplets) consisting of components of nitrates, sulfates, organic carbon, black carbon, soil, trace metals, and more.

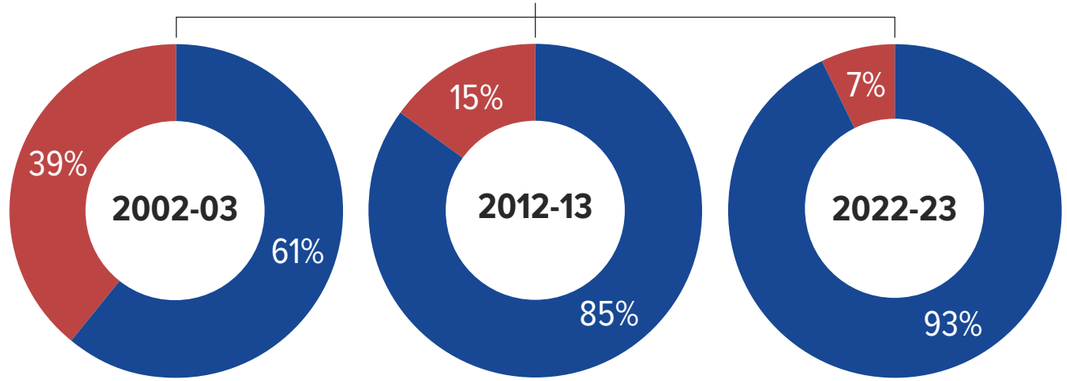
PM2.5 in the Valley is comprised of many types of particles. This complex mixture of particles comes from stationary, mobile, and area-wide sources, as well as naturally occurring emissions. The two components that contribute the greatest to overall PM2.5 in the Valley are organic carbon and ammonium nitrate.

Organic carbon is produced primarily through burning wood, cooking food, and mobile source (cars/trucks) emissions. Ammonium nitrate is formed through reactions between ammonia and NOx emissions, where NOx emissions are produced primarily through fuel combustion from mobile and industrial sources. Through the District's air quality improvement strategies to control emissions from wood burning, industrial sources, comprehensive incentive programs, and state efforts to reduce emissions from cars and trucks, both organic carbon and ammonium nitrate have been reduced substantially over the years, leading to overall reductions in PM2.5 concentrations, and resulting in improved public health. The figure on page 12 illustrates the decrease in these key PM2.5 components in Fresno over the past 20 years.

HOW SMALL IS PM2.5?



DAYS MEETING vs DAYS EXCEEDING the PM2.5 STANDARD DURING WINTER MONTHS



Through the implementation of air quality improvement strategies in the Valley over the past 20 years, concentrations of PM2.5 have decreased significantly across the region, as displayed above. These charts show the reduction in the number of days when air quality was over the PM2.5 standard (red) and an increase in the number of days when air quality is cleaner and below the PM2.5 standard (blue) during the winter months, when PM2.5 pollution is at its highest concentration across the region.

Residential Wood Smoke Reduction Program Wins National Award

The Association of Air Pollution Control Agencies (AAPCA), a national organization focused on assisting state and local air quality agencies with implementation and technical issues with the federal Clean Air Act, recognized the District for groundbreaking technology, innovative practices, and exemplary operations in the field of air pollution control by awarding the District's Residential Wood Smoke Reduction Strategy as a 2022 Best Practices in Air Pollution Control program.

Reducing emissions from wood burning through District Rule 4901 (Wood Burning Fireplaces & Wood Burning Heaters) and the overall Residential Wood Smoke Reduction Strategy are core elements of the District's attainment strategies for federal particulate matter standards. Throughout the years of its implementation, the District has shown great leadership in addressing wood-smoke emissions and its Residential Wood Smoke Reduction Strategy has had a significant impact in improving the Valley's air quality.

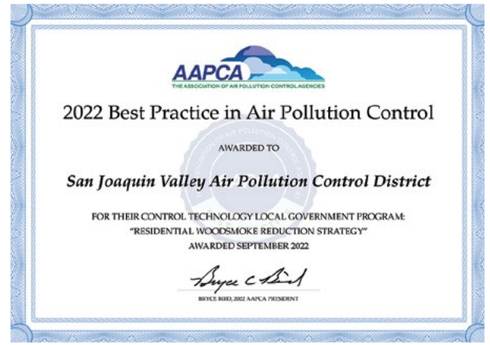
Residential wood-burning emissions are among the most significant direct PM2.5, especially during the winter. Emissions occurring during evening inversions magnify concentrations and exposure to residents in neighborhoods. Moreover, emissions associated with residential wood burning occur during the time of year when the Valley experiences its peak PM2.5 concentrations, when wintertime stagnation traps emissions on the Valley floor. Scientific studies show that prolonged inhalation of wood smoke contributes to a variety of health impacts, including lung disease, pulmonary arterial hypertension, and pulmonary heart disease.

Today, the District has the most comprehensive and effective residential wood-smoke reduction strategy in the nation. The District's regulatory efforts focus on compliance assistance and enforcement, combined with our change-out incentive-based strategy helps improve public health by reducing toxic, wood-smoke emissions in Valley neighborhoods during the peak PM2.5 winter season. Strong enforcement, public education, and outreach are also key elements of this strategy for the Valley.

The District's annual, multimedia outreach campaign has helped the Valley achieve significant PM2.5 reductions since the adoption of Rule 4901 and resulted in an increase in public awareness and participation in District programs. The District's outreach and education continues to focus on the following:

- Increasing awareness on health impacts of wood smoke through messaging within paid advertisements, educational videos, brochures and other outreach opportunities
- Educating the public and the media about the collective benefits of choosing not to burn
- Encouraging residents to upgrade to a clean-burning device through the fireplace and woodstove change-out grant program
- Warning residents when air pollution is expected to deteriorate and providing them with information regarding steps they can take to protect their health

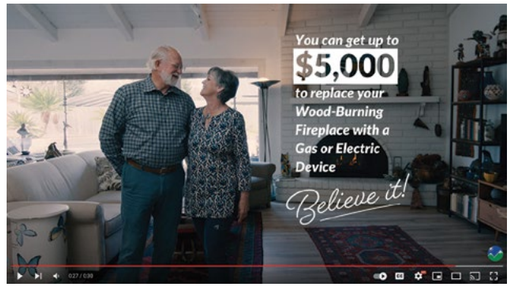
To optimize rule effectiveness and reduce the public health impact of wood smoke, the District dedicates extensive staffing resources to its enforcement program covering all aspects of the rule. On curtailment days, the District conducts surveillance in neighborhoods and responds to complaints from members of the public to ensure compliance with the rule.



Fireplace & Woodstove Change-Out Program Key to Reducing Particulate Matter

Through the Fireplace and Woodstove Change-Out Program, the District offers financial incentives for the change-out of old, high-polluting open-hearth fireplaces or uncertified wood-burning devices with new cleaner natural gas or electric heat pumps. The program has provided resources for thousands of Valley residents to make positive changes in their residential wood-burning practices and is a significant part of the District's overall strategy to reduce the impacts of residential wood burning. Over the life of this program, the District has provided more than $48 million to replace over 26,000 old, wood-burning devices across the Valley with cleaner alternatives.

In September of 2022, the District Governing Board approved enhancements to the District's Fireplace and Woodstove Change-Out Program to offer increased incentives for Valley residents for the replacement of high-polluting, wood-burning devices. In response to increasing prices for new devices and associated labor, and to ensure continued strong participation in this key program, the Board approved increased incentives for the cleanest new devices and added a new funding category for fireplace decommissioning.



"The program from start to finish, finding a fireplace insert to getting it installed, was quite easy. It just pays to do it."

- The Roberts replaced their open hearth fireplace with a natural gas insert through the Fireplace and Woodstove Change-Out Program.

Increased Funding for Electric Heat Pumps

In the last year, the District has worked collaboratively with Valley hearth retailers and HVAC companies to promote electric options for residents willing to swap out their residential wood-burning devices. Through the Fireplace and Woodstove Change-Out Program, residents can now receive up to $5,000 to install an electric heat pump in their home.

An electric heat pump is a device that transfers heat from one area to another using electricity. Unlike traditional combustion-based heating systems, such as wood-burning devices, heat pumps do not rely on burning fossil fuels, making them more environmentally friendly and sustainable.

One of the key advantages of electric heat pumps is their high efficiency. They can produce up to three times more heat energy than the electrical energy they consume, making them an energy-efficient alternative for heating residential spaces. Additionally, heat pumps can also provide cooling functionality during the summer months, acting as both a heating and cooling solution year-round.

By incentivizing the installation of electric heat pumps through the Fireplace and Woodstove Change-Out Program, the District aims to promote the adoption of energy-efficient and environmentally friendly heating solutions. This initiative not only benefits individual residents by providing them with financial assistance but also contributes to the larger goal of reducing particulate matter emissions and improving air quality in the Valley.

"The advantage of a heat pump is that it doesn't burn any fossil fuels to run it, and it is extremely efficient. This is one real simple thing we can do to improve our air quality and our quality of life in this Valley."

- Connie Young is a retired registered nurse who went through the Fireplace and Woodstove Change-Out Program and chose to replace her fireplace with an electric heat pump.

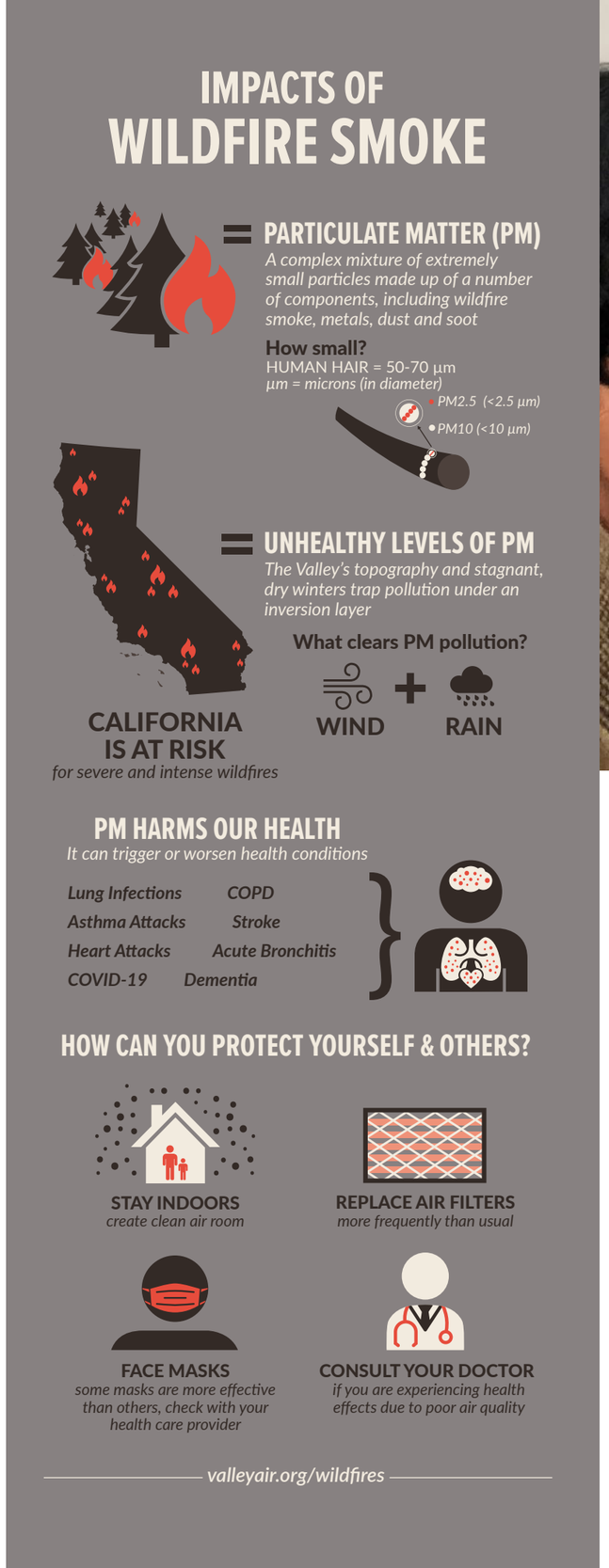
Wildfire Prevention and Response a Priority

When wildfire smoke impacts Valley air quality, the District's top priority is to provide accurate and timely health-protective air quality information to the public. Significant District resources are dedicated to public notification of air quality conditions and steps the public can take to protect their health. The District shares information through air quality advisories, air quality alerts with the National Weather Service, direct communication with Valley schools, coordination with Valley public health officials, local media, social media posts, and responses to public requests. The District also provides online resources including the wildfire page, and air quality information through myRAAN.com and EPA's AirNow.gov.

As a consequence of historic drought conditions and forest mismanagement, California and the western United States have seen an increase in the frequency of large wildfires over the past 10 years. In 2022, more than 7,477 wildfires were recorded in California, with over 330,000 acres burned across the state, a comparatively low number of acres compared to recent years. 2021 was one of the most severe wildfire seasons in California history with more than 2.5 million acres burned across California, second only to the unprecedented and historic 2020 wildfire season when more than 4.3 million acres were burned. Nine of the "Top 20" largest wildfires in California history all occurred during the 2020 and 2021 seasons, highlighting the severity of the recent seasons. These points underscore how extreme and extensive the 2020 and 2021 wildfire seasons were for California.

2022 saw improving drought conditions compared to previous years, which helped to reduce the severity of the wildfire season. However, dry conditions and hot summer temperatures were still contributing factors for the wildfires that adversely impacted air quality in the Valley during the summer and fall of 2022. The wildfire smoke led to very poor air quality and unhealthful conditions across the region at times. As a result, PM10 and PM2.5 concentrations that are typically low during the summer months increased dramatically above their respective health-based air quality standards.

In addition to particulate matter, wildfire emissions include high concentrations of ozone precursors, which can often lead to increased ozone concentrations at the Valley floor, beyond what is normally experienced. During the 2022 summer ozone season, wildfire activity across California directly impacted the Valley's ozone concentrations. The highest ozone concentrations in the Valley for 2022 were recorded in September 2022 when excessive smoke and ozone precursor emissions from wildfires surrounding the Valley were impacting the region's air quality.



Protecting Indoor Health During Smoke Impacts

To help mitigate the effects of wildfire smoke on Valley residents, and in particular the District's most vulnerable populations, the District developed and administered two unique grant programs aimed at providing air filtration options to residents of the Valley's disadvantaged communities.

Air pollution generated from wildfires is enormous and can well exceed the total industrial and mobile source emissions in the San Joaquin Valley, overwhelming all control measures and resulting in periods of excessively high particulate matter and ozone concentrations that cause significant impacts to public health. The District has long supported efforts to reduce the intensity and frequency of wildfires through enhanced forest management measures to reduce fuel buildup in the forests. However, in addition to excessive fuel buildup in the state's wildlands due to decades of fire suppression and widespread drought-driven tree mortality, changing climate conditions, including higher temperatures and drier conditions in recent years, have contributed to extended and more intense wildfire seasons in the western United States. The impacts of climate change across the state have led District staff, public health officials and land managers to prepare for severe wildfire seasons.

The Clean Air Rooms program distributes in-home air filtration units to residents of disadvantaged communities free of charge. Through extensive community engagement efforts across the Valley, the District has heard directly from residents, community health workers, community-based organizations, medical advocates, the District's Governing Board, the District's Environmental Justice Advisory Group, and the District's Citizens Advisory Committee about the importance of providing access to clean air during unhealthy air quality episodes, like smoke impacts from wildfires. The District launched the 2023 Valley-wide Clean Air Rooms program with $2 million in funding and the goal of distributing 10,000 residential filtration devices directly to the most vulnerable populations throughout the Valley, free of charge.

Over the past year, the District also coordinated with local partners to launch the Clean Air Centers program in over 50 locations throughout the Valley. The program provides funding for community facilities to upgrade ventilation systems or purchase portable air purifiers to create a network of clean air centers. This network will provide respite from wildfires and other smoke events to serve disadvantaged communities, neighborhoods among low-income schools, and lands belonging to federally recognized Indian tribes and other California Native Americans. Eligible locations for this new program include schools, community centers, senior centers, sports centers, libraries, and other public or private facilities.

Air Quality Attainment Planning Efforts a Continual Focus

Over the years, the Valley's air quality plans prepared by the District and CARB —known as State Implementation Plans, or SIPs— have been a primary vehicle for improving air quality in the San Joaquin Valley. Each plan builds upon the work of prior plans while establishing the path for continued air quality improvements. After each plan adoption, the District implements plan strategies through regulatory development, outreach, continued research, and incentive programs. Each attainment plan is an additional building block in the effort to improve San Joaquin Valley air quality. The District has implemented and developed numerous attainment plans over the last few decades, including the recently adopted *2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards* and the *2022 Plan for the 2015 8-Hour Ozone Standard*. As the District and CARB adopt the control measures committed to in those plans, there has been measurable progress in ozone and PM2.5 concentrations. Additionally, the District is also in the process of developing a revised plan for the 2012 PM2.5 standard.

EPA recently proposed a more stringent PM2.5 standard. After EPA finalizes the new standard and designates nonattainment areas, the District will need to prepare a SIP to address all Clean Air Act requirements under the new standard. This attainment plan will likely be even more challenging than more recent District attainment plans due to the extensive additional emissions reductions that will likely be required.

Air quality plans can take two to three years to develop, and must satisfy several Clean Air Act and EPA Implementation Rule requirements, including an emissions inventory, control measure analysis, photochemical modeling, emissions reductions milestone demonstrations, transportation conformity, and contingency measures. Of these requirements, one of the most challenging to meet is contingency measures, as interpretation of this requirement has shifted over the years due to litigation. The District is collaborating with EPA, CARB, and other agencies in developing attainment plans, and in addressing contingency measure requirements.

2022 EMISSION REDUCTIONS

	PLAN COMMITMENTS	REDUCTIONS ACHIEVED	PERFORMANCE
NOx	9.48 *tons per day*	18.97 *tons per day*	100% *above target*
VOC	40.46 *tons per day*	47.32 *tons per day*	17% *above target*
SOx	0.83 *tons per day*	4.85 *tons per day*	484% *above target*
PM2.5	7.60 *tons per day*	15.19 *tons per day of PM equivalent*	99.8% *above target including precursors*

Improving Air Quality Through Regulatory Action

The District has demonstrated leadership in developing and implementing groundbreaking regulatory strategies to reduce emissions. For over 30 years, the District has implemented several generations of emissions control measures for stationary and area sources under its regulatory jurisdiction. These control measures represent the nation's toughest air pollution regulations and have greatly contributed to reducing ozone and particulate matter concentrations in the Valley.

Innovative strategies, such as those for development projects, residential wood burning, glass manufacturing, and agricultural burning, have set benchmarks for California and the nation. Despite the significant progress under these regulations, greatly aided by the efforts and financial investments of Valley businesses and residents, the District continues to adopt and modify rules to achieve needed emissions reductions and advance the Valley's progress toward clean air.

In 2022 and 2023, the District made progress in evaluating and adopting regulatory measures per the commitments in the 2018 PM2.5 Plan, 2022 Ozone Plan, and pursuant to other requirements for the following sources of emissions:

PETROLEUM REFINERY FENCELINE AIR MONITORING (RULE 4460) & PETROLEUM REFINERY COMMUNITY AIR MONITORING FEES (RULE 3200)

The District adopted Rule 4460 and Rule 3200 in 2019 in accordance with Assembly Bill (AB) 1647, which implemented new state mandates for fence-line air monitoring at petroleum refineries and air monitoring in nearby communities, including new fees to recover the District's costs associated with the new community air monitoring. District Rule 4460 requires refineries to install, operate, and maintain fence-line air monitoring systems and make data collected by these systems publicly available. District Rule 3200 requires refineries to pay fees to recover the District's cost to purchase, implement, and maintain refinery-related community air monitoring systems. On October 20, 2022, the District amended Rules 4460 and 3200 to remove exemptions and revise the list of pollutants required to be addressed by facilities in their fence-line air monitoring plans, as well as establish new reporting requirements. In addition, the District adopted the Rule 4460 Petroleum Refinery Fence-line Air Monitoring Plan Guidelines to establish guidance for facilities in the development of fence-line air monitoring plans and ensure consistency with respect to implementation of Rule 4460.

WOOD BURNING FIREPLACES AND WOOD BURNING HEATERS (RULE 4901)

The District amended the contingency provisions of Rule 4901 in May 2023 to address previous contingency measure disapprovals from EPA for the 1997, 2006, and 2012 PM2.5 standards. Should EPA approve these changes, and if EPA finds that the Valley missed an attainment date for one of the PM2.5 standards, or triggers another contingency element from the Clean Air Act, progressively more stringent wood burning curtailment levels would take effect, resulting in additional "No Burn Days" throughout the region during the winter season.

LEAK DETECTION AND REPAIR (RULES 4401, 4409, 4455, 4623, 4624)

The purpose of these rules is to limit Volatile Organic Compound (VOC) emissions from oil and natural gas production, processing facilities, and associated wells and storage tanks. Following the evaluations conducted under the District's expedited review of Best Available Retrofit Control Technology (BARCT) required by AB 617, the District conducted a public process to evaluate potential rule amendments to ensure these rules met BARCT requirements and satisfied Reasonably Available Control Technology (RACT) per the EPA. CARB also conducted a public process to amend their California Oil and Gas Regulations (COGR) to ensure that they are meeting Reasonably Available Control Technology (RACT) requirements. The District worked closely with EPA and CARB to ensure potential amendments were aligned. The District Board adopted the amendments in June 2023, which lowered leak limits for a variety of components in oil and gas operations, and reduced required repair timeframes after a leak is detected, both reducing VOC emissions in the Valley, which is a key precursor to the formation of ozone concentrations.

UPCOMING RULE DEVELOPMENT PROJECTS

The District has also initiated the rule development and public process for several major regulatory development projects that have been ongoing in 2022 and 2023. The District invites the public to be involved with these rulemaking projects by signing up for notifications on the District's website at ww2.valleyair.org/about/sign-up.

CRUDE OIL PRODUCTION SUMPS (RULE 4402)

District Rule 4402 limits VOC emissions from crude oil production sumps located at facilities that produce crude oil. Rule 4402 prohibits first stage sumps, and requires second and third stage sumps to have a flexible floating cover, rigid floating cover, or fixed roof cover, or to be replaced with a fixed roof tank that complies with the provisions of District Rule 4623 (Storage of Organic Liquids). Following the evaluations conducted under the District's expedited review of BARCT required by AB 617, the District started a rule making process in 2022 for the storage and handling of produced water in sumps and ponds. The rule development process will evaluate opportunities for a potentially more stringent definition of clean produced water to determine the maximum degree of VOC reductions achievable while taking into account environmental, energy and economic impacts by each category of source.

CONSERVATION MANAGEMENT PRACTICES (RULE 4550)

Rule 4550 was the first rule of its kind in the nation to reduce fugitive particulate emissions from agricultural operations through the required reduction in the number of passes through a field by agricultural equipment and through the implementation of other Conservation Management Practices (CMPs). Rule 4550 established a menu-based approach of control techniques (which have since been duplicated by other agencies) to accommodate the wide variability of agricultural industries found in the San Joaquin Valley. Per commitments in the 2018 PM2.5 Plan, the District is currently undergoing a rule evaluation process to evaluate CMP requirements for fallowed land, and identify opportunities to promote the selection of conservation tillage as a CMP.

OPEN AREAS (RULE 8051)

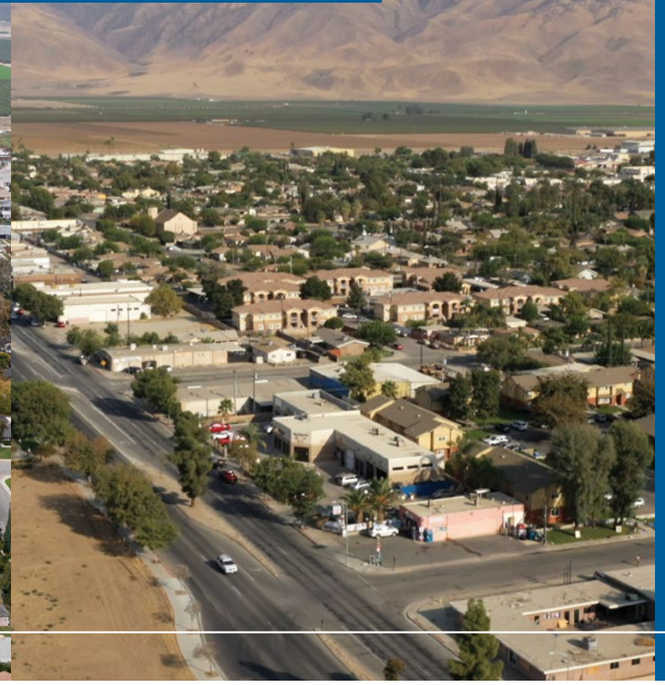
The purpose of this rule is to limit fugitive dust emissions from activities occurring on open land in urban and rural areas (non-agricultural land) through the application of dust control measures. The District has been developing amendments to Rule 8051 to develop a contingency measure that would expand the applicability to rural areas should EPA determine that the Valley triggered a contingency element for any of the PM2.5 standards. This rule amendment will be submitted to EPA as a part of the overall contingency package to address the federal PM2.5 standard requirements.

RECENT AND UPCOMING STATIONARY SOURCE REGULATIONS

MEASURE	STATUS
Rule 4460 (Petroleum Refinery Fence-line Air Monitoring)	*Adopted by Board October 2022*
Rule 3200 (Petroleum Refinery Community Air Monitoring Fees)	*Adopted by Board October 2022*
Rules 4401, 4409, 4455, 4623, and 4624 (Leak Detection and Repair)	*Adopted by Board June 2023*
Rule 4402 (Crude Oil Production Sumps)	*Rule development ongoing*
Rule 4450 (Conservation Management Practices)	*Rule development ongoing*
Rule 8051 (Open Areas)	*Rule development ongoing*

Working Together with Valley Communities

A priority of the District is to work with local communities to ensure equitable access to District programs, incentives and healthier air. Through public meetings, multilingual engagement, partnerships with schools and community-based organizations (CBOs), and other grassroots efforts, the District works to give all Valley residents a voice in our clean air journey.



BUILDING PARTNERSHIPS TO CLEAN THE AIR

The District kicked off a new Valley-wide Clean Air Rooms Program to provide CARB-certified, high-efficiency residential air filtration units to Valley residents. Eligible first-time applicants residing within the boundaries of the San Joaquin Valley, specifically those in disadvantaged and low-income communities, had the opportunity to participate and receive a free portable air filtration unit for their homes. The District coordinated outreach in small and large communities across the Valley, educating residents on ways to find air quality information and encouraging them to apply for the District's Clean Air Rooms program to assist in purifying indoor air spaces during periods of poor air quality. The air purifiers distributed through the program are HEPA-rated and can reduce indoor particulate matter by over 90% in well-sealed environments. District staff worked closely with community advocates and CBO's (such as Familias en Acción, Building Healthy Communities, Valley Improvement Project, Leadership Counsel, Catholic Charities, Environmental Justice Coalition for Water, and others) to register residents in under-resourced communities.

INTERAGENCY COLLABORATION TO ADDRESS COMMUNITY CONCERNS

As part of the District's commitment to address impacts from oil wells in the south Valley, the District is working closely with the Arvin/Lamont Community Steering Committee (CSC), California Geologic Energy Management Division (CalGEM), and CARB. CalGEM underwent a statewide prioritization process for the plugging and abandoning of orphaned oil wells and due to the advocacy and input by Valley stakeholders, orphaned wells in the south Valley were prioritized for proper abandonment. Additionally, CalGEM and CARB coordinated with the District on a statewide taskforce focused on oil and gas operations near under-resourced communities, which included performing inspections of oil and gas wells and working with oil and gas operators to quickly make repairs when leaking equipment was discovered. Throughout this process, CalGEM, CARB, and the District regularly engaged with local communities to solicit feedback, hear concerns, and answer questions, highlighting the importance of meaningful interagency collaboration.

TRUCK REROUTE STUDY LOOKS TO UNDERSTAND MOBILE SOURCE EMISSIONS

Given that over 85% of criteria pollutants and the majority of toxics emissions in the South Central Fresno region come from mobile sources, including on-road, heavy-duty diesel trucks, the highest priority concern outlined by the community throughout the Community Air Protection Program process was a need to evaluate the impacts of heavy-duty trucks in South Central Fresno. In April 2022, the Fresno City Council approved a study to assess heavy-duty truck routes and associated health impacts on nearby residents in the South Central Fresno AB 617 community. The study now enters its second year in partnership with the community reisdents, the District, UC Merced health researchers, and other study partners to assess truck routes and associated health impacts to the community.

COMMUNITY IMPROVEMENT PROJECTS FOCUS ON REDUCING DUST

The Shafter community identified and supported opportunities to reduce dust from paved and unpaved roads and worked closely with the District, City of Shafter and Kern County to prioritize two road paving and sidewalk improvement projects within Shafter. These projects, one along State Route 43 in the City of Shafter and the other in the unincorporated community of La Colonia Mexicana will significantly reduce road dust emissions and reduce exposure to residents while facilitating safe, alternate modes of transportation with the construction of dedicated bicycle lanes and new sidewalks.

"The safety that this can bring to our community will be valued so much now and in the future."
- Lynnda Martin, Shafter Committe Member

Community Air Monitoring

In order to meet the defined objectives, each community air monitoring network was designed to measure the local impacts of a number of pollutants of concern through high-grade air monitoring technology. Through a number of consensus-building exercises, the District worked with each Community Steering Committee (CSC) to develop community monitoring networks that are scalable, portable, provide real-time data, capture sources that may be impacting the community within the geographic boundary, and rapidly react to unanticipated pollution impacts. For more information visit ***community.valleyair.org/community-air-monitoring****.*

EQUIPMENT IS COLLECTIVELY MONITORING:
PM2.5, Ozone, Black Carbon, Carbon Monoxide, Nitrogen Dioxide, Nitrogen Oxide, Volatile Organic Compounds, Sulfur Dioxide, Toxics & Meteorology

FIXED STAND-ALONE MONITORS

SEMI-MOBILE COMPACT MULTI-POLLUTANT SYSTEMS

MOBILE AIR MONITORING

SEMI-MOBILE TRAILERS

State Community Air Protection (CAP) funds are distributed to Air Districts to be used as emission reduction incentives in disadvantaged communities.

$266,038,113
TOTAL FUNDING EXPENDED TO DATE

6,256 TONS
TOTAL NOX REDUCTIONS

599 TONS
TOTAL PM2.5 REDUCTIONS

135 TONS
FUGITIVE PM REDUCTIONS

797 TONS
TOTAL VOC REDUCTIONS

EXAMPLES OF FUNDING TO DATE

93
NEW ELECTRIC SCHOOL BUSES

974
OFF-ROAD DIESEL VEHICLES REPLACED WITH CLEANER TECHNOLOGIES

584
GAS LAWNMOWERS REPLACED WITH ELECTRIC MOWERS

110
WOOD-BURNING DEVICES REPLACED WITH CLEANER UNITS

1,455
RESIDENTIAL AIR PURIFIERS

ADDRESSING COMMUNITY CONCERNS

The District has entered its third year of working with the Arvin/Lamont AB 617 community. Their Community Emissions Reduction Program (CERP) contains 31 clean air measures and was unanimously supported by the CSC and subsequently adopted by the District Governing Board. The CERP received unanimous approval from CARB at their October 2022 Board hearing, at which the two community co-leads were able to present and testify in support of CARB's approval of the community-developed document. Since CERP adoption, the Arvin/Lamont CSC has met to prioritize CERP measures, identify subcommittee needs, and develop outreach plans to better communicate the new clean air opportunities available through AB 617. This work led to the establishment of a multi-agency Pesticides Subcommittee in coordination with the California Department of Pesticide Regulation (DPR), CARB, Office of Environmental Health Hazard Assessment (OEHHA), and the Kern County Agricultural Commissioner. The subcommittee meets bimonthly to tackle the interagency commitments in the CERP.

MEETING WITH COMMUNITIES IN-PERSON

Since April 2022, the District has held at least one in-person meeting with each Valley-based CSC. For each meeting, community partners, engaged residents, and community co-hosts worked together with the District and third-party facilitation team to design interactive in-person meetings, each centered on soliciting meaningful community input on CSC priority measures and goals. In April 2023, the Stockton CSC hosted its second ever in-person community meeting, despite its inception in March 2020. With more than 40 community participants, including residents, local businesses, community-based organizations, and partner agencies, the event fostered interactive and engaging exercises on air quality education and community outreach for both CSC and public members. Participants were invited to tour the District's air monitoring van, which performs mobile air monitoring throughout the San Joaquin Valley. For inclusivity, the District arranged for American Sign Language interpretation, children's activities, and dinner catered by three local food entrepreneurs from Stockton Community Kitchen. Moving forward, the District is working with the CSCs to incorporate more of these important in-person opportunities in the AB 617 implementation efforts across the Valley.

Community Emissions Reduction Program Strategies

Types of emission reduction strategies already being implemented in the District's AB 617 Communities

TRUCK REROUTING STUDY
Studying the potential for rerouting trucks to reduce exposure to residents in the nearby community

ELECTRIC VEHICLE CHARGERS
Building out infrastructure for EV charging within communities

FIREPLACE CHANGE OUT
Replacing residential wood burning devices with natural gas or electric to reduce wintertime PM2.5

RESIDENTIAL & COMMERCIAL LAWN AND GARDEN
Helping professionals and homeowners acquire emission free yard-care equipment

SCHOOL & RESIDENTIAL AIR FILTRATION
Reducing the impact of air pollution on the public through residential and school filtration devices

VEGETATIVE BARRIERS & URBAN GREENING
Beautifying communities and mitigating the impacts of local pollution with trees

ELECTRIC SCHOOL BUSES
Replacing existing high-polluting school buses with new, electric school buses

RAILCAR MOVERS & SWITCHERS
Helping short line railroads in the Valley replace high polluting diesel switchers with cleaner equipment

TRUCK REPLACEMENT
Replacing high-polluting diesel trucks with zero and near-zero technology

TRACTOR REPLACEMENT
Helping farmers reduce tractor emissions by replacing old rigs with cleaner equipment

LOW DUST NUT HARVESTERS
Significantly reducing harvest dust by replacing old harvesters with new low dust technology

ALTERNATIVES TO AG BURN
Helping farmers employ alternatives like chipping and shredding instead of open burning of agriculture material

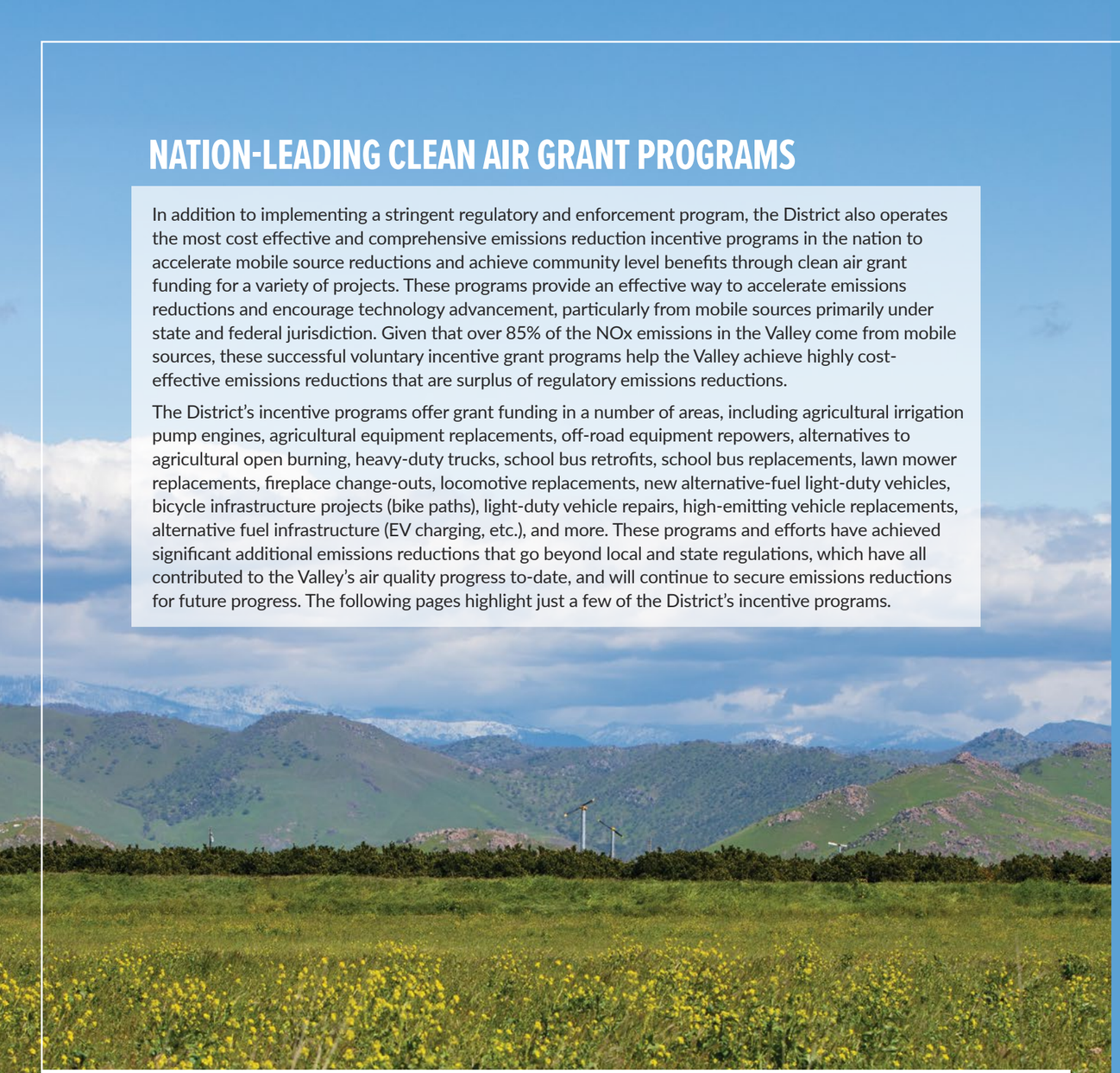
Adopted Measures in each AB 617 Community

SOUTH CENTRAL FRESNO	SHAFTER	STOCKTON	ARVIN/LAMONT
Selected in 2018	Selected in 2018	Selected in 2019	Selected in 2021
46 adopted measures	51 adopted measures	31 adopted measures	31 adopted measures
TARGET EMISSIONS REDUCTIONS			
1,662 tons of NOx	1,718 tons of NOx	698 tons of NOx	420 tons of NOx
278 tons of PM2.5	265 tons of PM2.5	66 tons of PM2.5	136 tons of PM.5

NATION-LEADING CLEAN AIR GRANT PROGRAMS

In addition to implementing a stringent regulatory and enforcement program, the District also operates the most cost effective and comprehensive emissions reduction incentive programs in the nation to accelerate mobile source reductions and achieve community level benefits through clean air grant funding for a variety of projects. These programs provide an effective way to accelerate emissions reductions and encourage technology advancement, particularly from mobile sources primarily under state and federal jurisdiction. Given that over 85% of the NOx emissions in the Valley come from mobile sources, these successful voluntary incentive grant programs help the Valley achieve highly cost-effective emissions reductions that are surplus of regulatory emissions reductions.

The District's incentive programs offer grant funding in a number of areas, including agricultural irrigation pump engines, agricultural equipment replacements, off-road equipment repowers, alternatives to agricultural open burning, heavy-duty trucks, school bus retrofits, school bus replacements, lawn mower replacements, fireplace change-outs, locomotive replacements, new alternative-fuel light-duty vehicles, bicycle infrastructure projects (bike paths), light-duty vehicle repairs, high-emitting vehicle replacements, alternative fuel infrastructure (EV charging, etc.), and more. These programs and efforts have achieved significant additional emissions reductions that go beyond local and state regulations, which have all contributed to the Valley's air quality progress to-date, and will continue to secure emissions reductions for future progress. The following pages highlight just a few of the District's incentive programs.



STATE AUDITS CONFIRM EFFECTIVE AND EFFICIENT INCENTIVE PROGRAM ADMINISTRATION

As part of the State's oversight responsibilities, CARB recently conducted a comprehensive review of the state incentive programs implemented by the District. The CARB program review was supplemented by a fiscal compliance audit of the same programs conducted by the California Department of Finance (DOF) Office of State Audits and Evaluations during the same time frame. This review was the largest air district-focused incentive program review conducted by CARB to date, spanning 11 fiscal years, nine distinct incentive programs and represents almost 13,500 individual incentive projects, totaling more than $623 million in funding. The CARB program review concluded, *"The nine District incentive programs reviewed are achieving their emissions reduction and program objectives in an effective and efficient manner."* CARB identified no findings in their program review. Likewise, the DOF fiscal compliance audit resulted in no findings and concluded that DOF had obtained reasonable assurance that "the incentive programs' revenues, expenditures, and resulting balances were in compliance with applicable grant agreements, guidelines, and statutes."

Over $907 Million in Clean Air Investments

$289 Million in District Funding Matched with $618 Million in Applicant Funding

HIGHLIGHTS OF THE YEAR

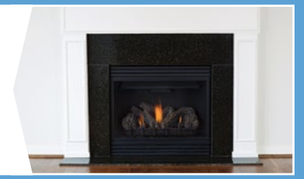
$59,870,093
AG BURN ALTERNATIVES
1,282 PROJECTS

$126,910,066
AG EQUIPMENT REPLACEMENTS
1,431 UNITS

$12,863,915
HEAVY DUTY & AG TRUCKS
153 TRUCKS

$7,992,000
ZERO-EMISSION AG UTVS
592 UTVs

$7,264,397
CLEAN BURNING DEVICES
2,343 DEVICES



$5,329,909
PUBLIC BENEFIT PROJECTS
288 FLEET VEHICLES

$3,622,000
CHARGE UP! EV INFRASTRUCTURE
125 CHARGERS

$16,627,000
DRIVE CLEAN IN SJV REBATES
5,746 VEHICLES

$732,940
ZERO-EMISSION LAWN EQUIPMENT
2,254 PIECES

$2,594,097
LOCOMOTIVE ENGINES
2 TRAINS

$3,171,382
ELECTRIC DAIRY FEED MIXERS
1 OPERATION

$7,242,974
VW MITIGATION TRUST TRANSIT, SHUTTLE & SCHOOL BUS FUND
31 BUSES

EMISSION REDUCTIONS

FINE PARTICULATE MATTER	NITROGEN OXIDES	VOLATILE ORGANIC COMPOUNDS
⬇ 9,104 TONS	⬇ 12,027 TONS	⬇ 7,878 TONS

Helping Residents Switch to Electric Lawn Care Equipment

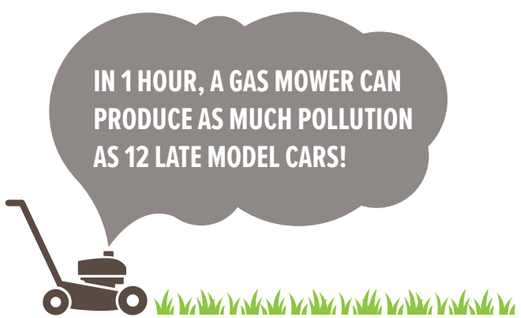
"I had an old one that was only gas-powered, so this program helped me replace it with an electric one. I no longer have to go buy gasoline, and besides saving money, it is more efficient, which helps with the air quality."

- *Alma Renteria, a resident in the South Central Fresno AB 617 Community, replaced her gas mower for an electric one and received a rebate that covered 100% of the cost of her new electric lawn mower.*

The District is making lawn care maintenance a bit easier on resident's pocketbooks by offering up to $50 back just for purchasing electric lawn care equipment. Simply save the receipt and fill out the easy online rebate application. Residents can also receive up to $250 back on the purchase of an electric lawn mower when crushing an old gas-powered lawn mower.

Additionally, residents in the AB 617 communities of South Central Fresno, Shafter and Stockton are eligible for additional incentive dollars on upgrading lawn-care equipment.

Gas-powered yard care equipment presents a significant source of localized air pollution in Valley neighborhoods. These small engines contain no emission controls and pollute substantially more than newer passenger vehicles.



OPTION 1: REPLACING OLD LAWN MOWER

Purchasing a new electric lawn mower and destroying an old gas powered mower at participating dismantler.

Purchase Price	Rebate Amount
$200 or Less	Up to $100
$201 to $350	$150
$350 or more	$250

**Applicant will be responsible for a minimum of 50% of the purchase price for mowers priced $200 or less. Limit one rebate per address for every two consecutive years.*

OPTION 2: SIMPLY PURCHASING

Purchasing new lawn care equipment and not destroying old equipment

Eligible Equipment	Purchase Price	Rebate Amount
Lawn Mower, Edger, Trimmer, Chainsaw and Pole Saw	$100 or Less	Up to $25
	More than $100	$50

**Blowers are not eligible. Applicants are responsible for a minimum of 50% of the purchase price. Limit one rebate per equipment type per address for every one year.*

Supporting Commercial Landscapers Transition to Zero-Emission Equipment

The District recently launched the new Zero-Emission Landscaping Equipment grant program to assist landscape maintenance professionals in replacing their existing gas or diesel-powered equipment with new electric zero-emission alternatives. This program is supported through over $6 million in state Carl Moyer Program funding from CARB to replace existing commercial-grade lawn and garden equipment with zero-emission equipment in the Valley. The program is open to commercial landscape maintenance professionals, school districts, cities, counties, special districts and other businesses and commercial entities willing to replace gas-powered equipment with zero-emission electric options.

Small businesses and public agencies may be eligible for up to 100% off the cost of new equipment. Large businesses may be eligible for up to 85% off the cost of new equipment, with a 15% minimum cost-share requirement. Participants can receive incentives of up to $15,000 for the purchase of various pieces of equipment, including ride-on mowers, walk-behind mowers, edgers, string trimmers, hedge trimmers, chainsaws, pole saws, and brush cutters. There is no cap on the total funding a participant can receive.

Gas-powered yard care equipment poses a significant source of localized air pollution in Valley neighborhoods, as these small engines lack emission controls and emit substantially more pollutants than newer passenger vehicles. To put it into perspective, one gas mower produces emissions equivalent to driving a car from Los Angeles to Las Vegas. This grant program assists landscape maintenance professionals with transitioning to electric landscape equipment prior to state-wide regulations requiring manufacturers to meet zero-emission engine standards beginning in 2024.

Helping Low-Income Residents Purchase Cleaner Cars

The District has pioneered passenger vehicle repair and replacement programs for over a decade, focused on disadvantaged communities and serving as a model for other programs throughout the state. The District's Drive Clean in the San Joaquin Program helps Valley residents reduce emissions from their vehicles through vehicle repairs (Tune In Tune Up), replacement of older, high-emitting vehicles with newer, cleaner models and rebates on the purchase or lease of new clean air vehicles.

The District's success in effectively reaching low-income residents has been recognized and highlighted by UCLA's Luskin Center for Innovation as a model for other agencies implementing similar programs. A 2021 report released by the Luskin Center highlights the District's effectiveness in reaching low-income disadvantaged communities throughout the Valley stating that "the efforts of the SJVAPCD appear largely focused on reaching low-income communities and communities of color through a variety of outreach approaches while still attaining emission reductions." The report states that the District program has seen participation from 95% of disadvantaged communities within the District compared to 72% and 68% respectively for the South Coast and Bay Area Districts.

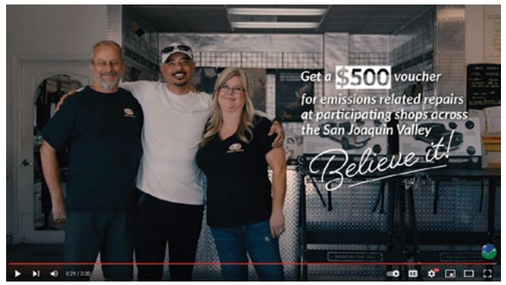
Since 2015, the District has advocated for and received over $87 million in state Enhanced Fleet Modernization Program and Clean Cars for All funding to implement the Drive Clean in the San Joaquin vehicle replacement program. These two separate funding sources are combined to provide incentive options, which range from $7,000 to $12,000, and are determined by the participant's income level, disadvantaged community residential status, and the type of replacement vehicle selected for purchase. The highest incentive levels offered under the program are provided to applicants with the lowest income (less than or equal to 300% of the federal poverty level) that reside in a disadvantaged community and choose the cleanest available vehicle (plug-in hybrid or battery electric). Where eligible, participants in the vehicle replacement program may stack other available state or local utility rebates in order to maximize the funding available for their vehicle replacement purchase. To date, the District has replaced over 4,600 high-polluting vehicles with newer, cleaner and more fuel-efficient models.

Assisting Residents with Vehicle Repairs Throughout the Valley

The District's Tune In Tune Up Vehicle Repair program is empowering Valley residents with an opportunity to effectively reduce emissions from their passenger vehicles, primarily through vehicle repairs. The program's success in serving low-income residents is evident by the high participation from disadvantaged communities. The Tune In Tune Up Repair program assists vehicle owners failing initial smog screenings. It provides them with a voucher worth up to $850 in emissions-related repairs, necessary smog checks, and diagnostics. Vehicle owners can easily participate in the program by contacting Valley Clean Air Now, the District program partner, directly in order to schedule appointments with participating smog shops and have their vehicle emissions tested. Alternatively, owners can attend one of our many weekend events, scheduled throughout the Valley. Regardless of how an owner participates, vehicles that fail the emission test are issued vouchers for emissions related repairs.

"Tens of thousands of residents of disadvantaged communities have benefited from the proceedings of this program. Thanks to this program, vehicle emissions in the San Joaquin Valley are decreasing. Tune in Tune Up is a model of balancing efficiency and equity," stated in California's Fourth Climate Change Assessment, San Joaquin Valley Region Report.

In the last year, 14,001 repairs were done through the direct participation method, while 2,625 individuals were able to get repairs completed through attending one of the many weekend events.



"With so many people around having financial difficulties, this really benefits the community."

- *Kelly Owens was able to repair his vehicle using the Tune In Tune Up Program and successfully passed his smog test.*

The FARMER Program is one of the most cost effective and timely ways in which the state can achieve collective air quality and climate goals and lessen adverse health impacts. Realizing the vision of a more equitable and healthy future requires follow through with targeted and strategic investments that benefit all Valley residents.

Partnering with Valley Agriculture to Upgrade to Clean Technology

Last year the District received $118,800,000 of the available statewide allotment of Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program funds to replace agricultural equipment in the Valley. The program was authorized in 2017 by the state legislature to reduce criteria pollutants, air toxics, and greenhouse gas emissions from the agricultural industry, including funding for cleaner agricultural harvesting equipment, heavy-duty trucks, agricultural pump engines, tractors and other equipment used in agricultural operations. The District worked closely with CARB to develop the FARMER Program guidelines, which builds upon more than 25 years of collaboration and innovation between the Valley agricultural community, the District and CARB, in addressing emissions from agricultural sources in the Valley. To date, the District has offered $432,129,600 in FARMER funding to growers in the Valley to replace nearly 7,000 older, high-polluting pieces of agricultural equipment with new, cleaner units. This investment, matched with investments from Valley growers have resulted in the reduction of 185,000 metric tons of carbon dioxide equivalent and 22,210 tons of harmful air pollutants such as particulate matter and nitrous oxide. Reducing these pollutants expedites the delivery of cleaner air in the San Joaquin Valley where residents experience some of the highest adult and childhood asthma rates.

"I went through the tractor replacement program and it is a simple process. The District will help you do your paperwork... this tractor costs $94,000 and all I had to pay was $20,000... I'm living proof."

- *Ivan Hurd is a third generation ag and livestock farmer who was able to replace his older diesel tractor.*

As part of the District's ongoing efforts to partner with Valley agriculture to deploy the cleanest, sustainable technologies, increased incentive levels are now available for smaller farmers in several key District grant programs. Namely, the Agriculture Tractor Replacement Program added two new incentive tiers for smaller farming operations. Operations of 100 acres or less in size can now receive up to 80% off the cost of equipment, and operations between 101 and 500 acres in size can now receive up to 70% off the cost of equipment. Similarly, smaller farmers will also receive an increased incentive under the District's Alternatives to Agricultural Burning Program.

SPOTLIGHT: CLEAN AG EQUIPMENT SHOWCASE
This past year the District, Natural Resources Conservation Service (USDA-NRCS) and local agricultural leaders hosted a Clean Agricultural Equipment Showcase demonstrating the air quality benefits of programs designed to replace older, high-polluting equipment. Event participants had the opportunity to visit different stations and learn about new technology funded through the state's (FARMER) Program.

Low-Dust Nut Harvester Replacement Incentives

Studies, conducted in partnership with the District, USDA-NRCS, and agricultural stakeholders and overseen by the San Joaquin Valleywide Air Pollution Study Agency have demonstrated that low-dust harvesting technology can be effective at reducing localized PM emissions associated with nut harvesting activities. Studies indicate that low-dust harvesting technology can reduce localized PM emissions by more than 40%, and in some cases up to nearly 80%. Using this research, the District launched the only-of-its-kind Low-Dust Nut Harvester Grant Program to provide matching grants for growers willing to upgrade their older equipment with new lower-dust technologies.

Last year, the District accepted and appropriated $10,000,000 from the EPA for low-dust nut harvesters under EPA's highly competitive national Targeted Air Shed Grant Program. The funding for nut harvesters is helping to fund the replacement of approximately 120 pieces of nut-harvesting equipment with new, low-dust harvesting pieces of equipment. The total project is expected to result in the reduction of approximately 910 tons of PM2.5.

SPOTLIGHT: TRUCKING EVENT SHOWCASES CUTTING EDGE TECHNOLOGY

The District partnered with CARB and CALSTART for Fresno's first ever Zero-Emission Truck and Off-Road Showcase and Ride & Drive event.

Bringing Cleaner Trucks to the Valley

Reducing emissions from mobile sources is key to the San Joaquin Valley meeting federal ambient air quality standards. Heavy-duty trucks, like the ones targeted under this funding, are the single largest source of NOx and diesel PM in the Valley, and are essential in ensuring that consumer goods are moved throughout the state and nation. Emissions from heavy-duty vehicles are primarily under the regulatory jurisdiction of state and federal government, and voluntary incentive programs are critical to transitioning fleets to the next generation of cleaner technologies and achieving emission reductions needed to meet air quality standards.

Over the last 10 years, the District's successful truck incentive programs have repowered, retrofitted, or replaced over 4,100 heavy-duty trucks with cleaner alternatives. Currently, the District's Truck Replacement program is focused on providing funding for the purchase of zero- and near-zero emission equipment in order to accelerate the deployment of the cleanest technology throughout the Valley. Diesel-powered yard trucks as well as Class 4 – 8 trucks are eligible for replacement through the program and can receive up to $410,000 in funding. Incentives are based on a number of factors including fleet size, cost effectiveness of the project, and the cost of the new equipment. The District also provides funding for the expansion of heavy-duty charging infrastructure through the Clean Vehicle Fueling Infrastructure Program.

The District's Truck Replacement Program is funded through a number of local, state and federal sources and includes $12.9 million specifically designated from the state budget for trucks operating in severe or extreme non-attainment areas.

"We got a $50,000 grant... It was an easy process to start... We were happy to be a part of a clean air effort to try to help the Valley as much as we can."

- *Mandhir Singh, small truck business operator replaced his truck with cleaner technology for his business at Advanced Trucking, LLC.*

Bold and Transformative Effort Serves as Model for the World

The District partnered with Frito-Lay, a division of PepsiCo, to implement the Frito-Lay Zero and Near-Zero Emission Freight Facility Project in Modesto, Ca. The project kicked off in 2019 and was funded with over $15 million from the California Climate Investments initiative, in conjunction with the California Air Resources Board, and over $15 million in match funding. This transformative effort is a showcase for sustainable manufacturing, warehousing, and distribution technologies. The Frito-Lay Modesto site is one of the largest Frito-Lay Manufacturing facilities in the United States at 500,000 square feet, sitting on 80 acres and employing more than 1,100 Valley residents. The project aimed to completely replace all diesel-powered freight equipment within the Frito-Lay facility and was accomplished via the use of zero- and near-zero technologies and renewable fuels. As of early 2023, the project has integrated commercially available and pre-commercial, zero-emission and near-zero emission fleet technologies, including heavy-duty vehicles from Volvo, Tesla, Peterbilt and others. In addition to fleet assets, on-site renewable energy generation (solar photovoltaic) and energy storage systems were installed to better serve the energy needs of one of Frito-Lay's largest facilities and warehouses. While a model for the nation, the District is proud to have this project right here in the Valley and continues to focus on these types of public/private partnerships that bring about new technologies to reduce emissions.

VW Mitigation Trust Continues to Bring Emission Reduction Funds to the Valley

The Volkswagen Environmental Mitigation Trust is a nationwide program that provided $423 million for California to fully mitigate the excess nitrogen oxides (NOx) emissions caused by VW's use of illegal emissions testing defeat devices in VW diesel vehicles. California's funding supports advanced technology vehicle and equipment deployments and accelerates the zero emission transformation of heavy duty fleets. More than 50 percent of the total project funds are expected to benefit disadvantaged or low-income communities.

The Zero-Emission Transit, School, and Shuttle Bus program launched a second round of funding last year to replace older, high-polluting transit, school, and shuttle buses with new battery-electric or fuel-cell buses. California first launched this program in 2019, which provides funding to bus owners in two installments of $65 million each. This second installment provides up to $480,000 for a new zero-emission bus and funding is still available for shuttle and transit buses for both public and private entities. The program is oversubscribed for school bus replacements and is no longer accepting new applications. Through the VW Mitigation Trust over 160 zero-emission school buses are being deployed in California, with over 30 school buses deployed in the Valley.

Valley Welcomes Cleaner Locomotives

The Locomotive Program provides incentive funds for the replacement of old high-polluting locomotives and switchers with the latest clean technology, including zero-emission battery-electric switchers and railcar movers, multi-engine switchers, electric-hybrid locomotives and the cleanest available Tier 4 units. Multi-engine switchers are typically powered by two or three small off-road engines, while electric hybrids use a small diesel engine to charge batteries that provide the locomotive power. This year, the District funded the replacement of two older, high-polluting units with the latest zero-emission technology. The District provided funding to replace an uncontrolled 1963 diesel locomotive with the cleanest diesel-powered locomotive technology available in the world (Tier 4) for the A.L. Gilbert Company in Keyes and assisted Ardent Mills Holding to replace an uncontrolled 1954 diesel locomotive with a new, zero-emission battery-electric railcar mover in Stockton.

Children Breathe Cleaner Air in All-Electric School Buses

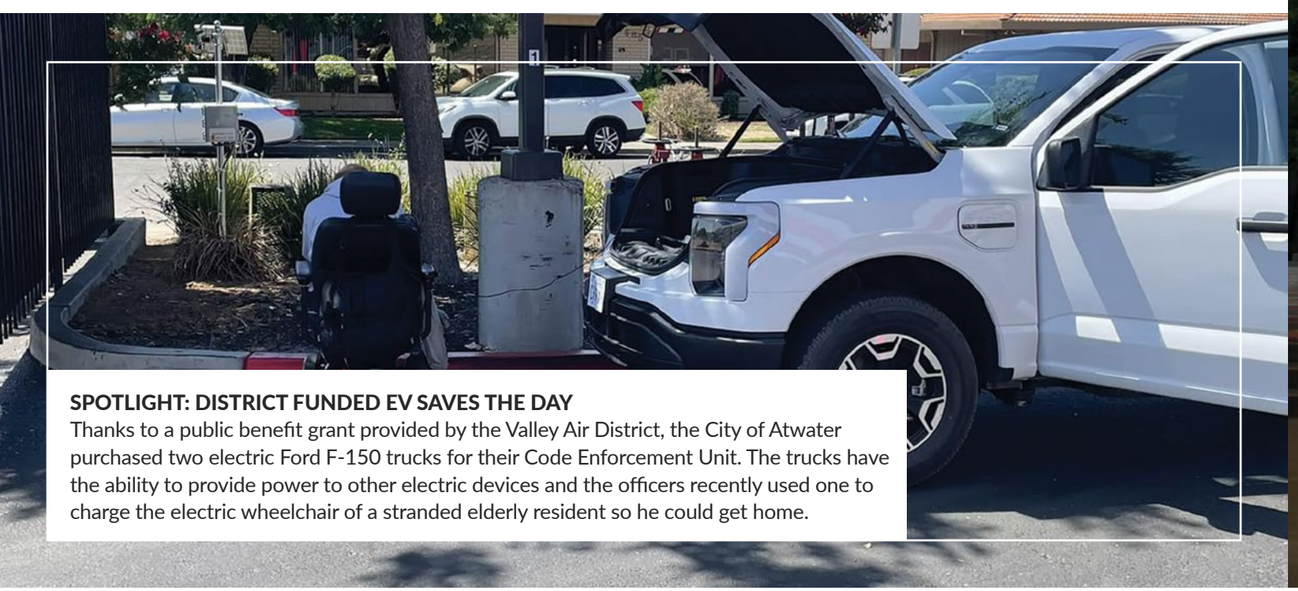
The Zero-Emission School Bus Replacement Incentive Program provides monetary incentives for the replacement of existing diesel school buses that transport public school children to and from school with zero-emission school buses in disadvantaged or low-income communities within the District boundaries. Eligible applicants are public school districts, Joint Power Authorities (JPA), and privately-owned school buses that are contracted with a public school to transport public school children. The District's Electric School Bus Program is separate from the VW Mitigation Trust state program and applications are currently being taken.

District Transitioning to Zero-Emission Fleet

The District strives to serve as an example to other businesses and government agencies by considering environmental impacts in procurement and operational functions to assure that sustainability is appropriately integrated into all District operations. With the rapid rise in electric vehicles and charging infrastructure in recent years, new opportunities have become available to take advantage of zero-emission vehicles. In addition to the air pollution benefits from transitioning to zero emission vehicles, there are also overall cost reductions based on reduced fuel and maintenance costs. The District operates a fleet of over 100 vehicles that are used across its operations, including enforcement, grant administration, air monitoring, outreach and communications, and other functions. Beginning in 2001, the District began incorporating hybrid vehicles into its vehicle fleet and more recently have integrated plug-in hybrid and zero-emission electric vehicles.

As a part of the transition, the District purchased electric vehicles to assess their effectiveness when conducting District business. The District's assessment found no negative impacts to the staff's ability to continue to perform their job duties and the electric vehicles have demonstrated a lower total cost of operation due to lower fuel and maintenance costs compared to traditional gasoline vehicles.

Based on the successful implementation of the electric vehicle pilot project, the District has now transitioned 37 vehicles to electric and has established a goal to transition to a 100% zero emission fleet by the 2025/26 fiscal year. In preparation for increasing the number of electric fleet vehicles, the District has installed 36 electric vehicle chargers across the three District offices (8 in Modesto, 20 in Fresno, and 8 in Bakersfield). The District will share its experience in implementing this innovative model strategy with other Valley public agencies to support fleet transitions throughout the Valley.



SPOTLIGHT: DISTRICT FUNDED EV SAVES THE DAY

Thanks to a public benefit grant provided by the Valley Air District, the City of Atwater purchased two electric Ford F-150 trucks for their Code Enforcement Unit. The trucks have the ability to provide power to other electric devices and the officers recently used one to charge the electric wheelchair of a stranded elderly resident so he could get home.

Success at Bringing State and Federal Funding to the Valley

The District's recent legislative activities have continued to be extremely productive. At the state level, the District advocated for continued funding for a number of programs that are key to improving air quality in the Valley, meeting obligations in our federal clean air plans, and improving public health in disadvantaged communities. The District was successful in having a number of our priorities included in the Enacted 2023-24 Budget:

- $75 million statewide for the FARMER program (agricultural equipment)
- $234 million statewide for AB 617 Community Air Protection incentive funds
- $250 million for a suite of transportation equity projects, including programs to replace older, high-polluting vehicles with electric or hybrid electric vehicles

While the Enacted budget includes significant funding for Valley projects, the District continues to advocate for increased funding to support sustainable agriculture (electric yard trucks, electric ATVs, electric forklifts, etc.), increased FARMER funding, increased funding for low carbon clean vehicle and equipment technologies, and funding for alternatives to ag burning.

At the federal level, the District built upon past success in securing funding through nationwide competitive programs, including $18.6 million for the Targeted Air Shed program to replace nut harvesters with low-dust harvesters and to change out open hearth fireplaces or non-certified, wood-burning devices with new electric heat pumps or gas devices.

With stringent planning requirements and shortened attainment timeframes under the Clean Air Act for PM2.5, additional NOx reductions from federal mobile sources will be vital for the Valley to meet its attainment goals. To ensure that the Valley can meet its air quality goals, the District is pursuing a number of time-sensitive opportunities for achieving significant additional emissions reductions from mobile sources, including commenting on new national heavy-duty clean truck standards, and advocating for increased federal resources through infrastructure and "climate smart" funding packages.

New Climate Initiatives Provide Clean Air Opportunities

The California Global Warming Solutions Act of 2006 (AB 32) established a comprehensive, multi-year program to reduce Green House Gas (GHG) emissions in California. As the first program of its kind in the country, AB 32 established an overall goal of restoring statewide GHGs to 1990 levels by the year 2020. In 2016, the State adopted SB 32, which builds upon AB 32, and requires the reduction of GHG to 40 percent below 1990 levels by 2030. In implementing these new mandates, the State has established new requirements for mobile sources of emissions, renewable fuels and energy standards, and a Cap and Trade program that establishes declining GHG caps and a public market for the purchase of carbon emission allotments.

Following the passage of AB 32, the District adopted climate change positions that recognized the potential impacts that changing climate conditions could have on local air quality, encouraged the State to adopt measures that reduce both criteria pollutant and greenhouse gas emissions, encouraged the State to prioritize criteria pollutant reductions when considering tradeoffs between greenhouse gas reductions and criteria pollutant reductions, and provided support to local agencies. These positions have guided the District's interactions with the State during the development of GHG reduction programs that substantially intersect with the District's mission to reduce air pollutant emissions and improve air quality and public health in the San Joaquin Valley.

Consistent with the Governing Board's adopted policies, the District has long supported greenhouse gas reduction measures that provide co-benefits in reducing criteria and toxic pollutants to assist in meeting air quality public health goals. This is particularly important given that the San Joaquin Valley is home to 7 out of 10 of the state's most disadvantaged communities disproportionately impacted by socio-economic and environmental factors. Through strong collaboration with state agencies and residents, businesses, public agencies, community-based organizations, and other stakeholders, the San Joaquin Valley has served as a center of innovation for many of the state's recent transformative clean-air, low-carbon strategies. These strategies provide strong potential for further investment under the new state and federal initiatives.

The state and federal governments are currently working on a number of new climate initiatives. The District has been working to ensure that the Valley is well-positioned to respond to opportunities under these new initiatives in support of the District's public health mission. The following highlights some of the major climate/air quality-related initiatives currently in development and implementation for the San Joaquin Valley:

STATE BUDGET

The enacted 2022-23 State Budget included significant funding for air quality and climate investments, which have continued to support the District's key programs. Although the funding in the 2023-24 State Budget is less than previous years, the District continues to advocate for the needed funding in the Valley to support its key air quality and incentive-based programs.

NEW STATE MOBILE SOURCE STRATEGY

In September 2022, CARB adopted its new State SIP Strategy, which outlines its planned regulations and emission reductions goals for the state over the coming years. These anticipated emissions reductions will assist the Valley greatly in meeting the federal air quality standards for criteria air pollutants, assist in addressing climate change issues, and continue the significant progress that has already been made. This strategy will build upon the current Mobile Source Strategy that includes measures to reduce air pollution from a variety of mobile sources, including passenger vehicles, heavy duty trucks, off-road equipment, cargo handling equipment, and other sources.

CARB SCOPING PLAN UPDATE

In December 2022, CARB adopted its 2022 Scoping Plan, aimed at addressing various state climate goals, including achieving carbon neutrality and reducing anthropogenic greenhouse gas emissions to 85% below 1990 levels by 2045.

USDA CLIMATE SMART INITIATIVE & FARM BILL INVESTMENTS

USDA is currently developing a new Climate Smart Forestry and Agriculture Initiative that will include funding for a variety of investments in sustainable agriculture. There are early indications that the 2023 Farm Bill might include a new title to address climate change. The District will continue to monitor the development of the Farm Bill and look for funding opportunities to reduce greenhouse gas emissions from agricultural operations in the Valley.

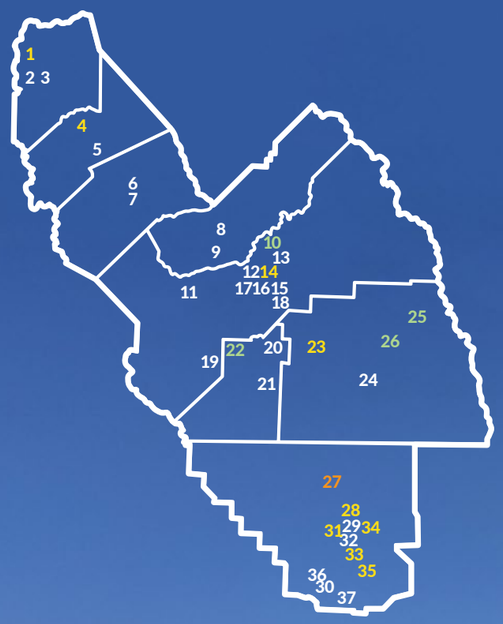
FEDERAL INFRASTRUCTURE INVESTMENTS & FEDERAL BUDGET

The District continues to advocate for our priorities through the Federal Budget process. In recent years, this has resulted in increased funding through EPA's Targeted Airshed Program and Diesel Emissions Reduction Act (DERA). Additionally, the District is advocating for continued authorizations for programs that benefit air quality in the upcoming Farm Bill.

The District has taken a lead in tracking the rollout of the Inflation Reduction Act which involves the rollout of programs at nearly every federal agency. The District in making efforts to ensure that Valley entities are taking full advantage of funding opportunities. This involves informing Valley entities of opportunities, partnering with others where it make sense, and applying directly when it is appropriate. Examples of successes to date include working with the Fresno and Bakersfield Metropolitan Statistical Areas (MSAs) to obtain $1 million Climate Pollution Reduction Planning Grants. This planning activity will allow the regions to compete for $4.5 billion in climate pollution reduction implementation grants. The District is also working with the State of California on their planning efforts to ensure the rest of the San Joaquin Valley can benefit from the program as well.

Monitoring Data & Science Guide Air Quality Strategies

The District operates an extensive network of air quality monitors to support its mission of improving air quality and protecting public health under the federal Clean Air Act. 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 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.



SAN JOAQUIN COUNTY
- **1** *Stockton-University Park: G,P, F, M,T*
- **2** *Tracy-Airport: G,M,P,F*
- **3** *Manteca: P,F,M*

STANISLAUS COUNTY
- **4** *Modesto-14th St: G,M,P,F*
- **5** *Turlock: G,M,P,F*

MERCED COUNTY
- **6** *Merced-M St: P,F*
- **7** *Merced-Coffee: G,F,M*

MADERA COUNTY
- **8** *Madera City: G,P,F,M*
- **9** *Madera-Pump Yard: G,M*

FRESNO COUNTY
- **Other**[1]: *Monache Tribe/Foothill Yokut Indians*
- **10** *Table Mountain: G,F,P,M*
- **11** *Tranquility: G,F,M*
- **12** *Fresno-Sky Park: G,M*
- **13** *Clovis: G,M,P,F*
- **14** *Fresno-Garland: G,M,P,F,T,N,L*
- **15** *Fresno-Pacific: F*
- **16** *Fresno-Drummond: G,P,M*
- **17** *Fresno-Foundry Park Ave: G,M*
- **18** *Parlier: G, M*
- **19** *Huron: F, M*

KINGS COUNTY
- **20** *Hanford: G, F,M,P*
- **21** *Corcoran: F,M,P*
- **Other**[1]: *Tachi Yokut Tribe*
- **22** *Santa Rosa Rancheria: G,M,P*

TULARE COUNTY
- **23** *Visalia-W.Ashlan Ave: G,P, F,M*
- **24** *Porterville: G,F,M*
- **Other**[2]
- **25** *Lower Kaweah: A,G,M*
- **26** *Ash Mountain: A,G,M,F*

KERN COUNTY
- **27** *Shafter: G,M*
- **28** *Oildale: G,M,P*
- **29** *Bakersf-Golden/M St: F,P*
- **30** *Bakersf-Westwind: G, M*
- **31** *Bakersf-Calif Ave: A,G,M,P,F,T*
- **32** *Bakersf-Muni: G,M*
- **33** *Bakersf-Airport (Planz): F*
- **34** *Edison: G,M*
- **35** *Arvin-Di-Giorgio: G,M*
- **36** *Maricopa: G,M*
- **37** *Lebec: F,M*

MONITORING OPERATION
- *Sites operated by the District*
- *Sites operated by the District & CARB*
- *Sites operated by CARB*
- *Sites operated by other agencies: 1-Tribal, 2-National Park Service*

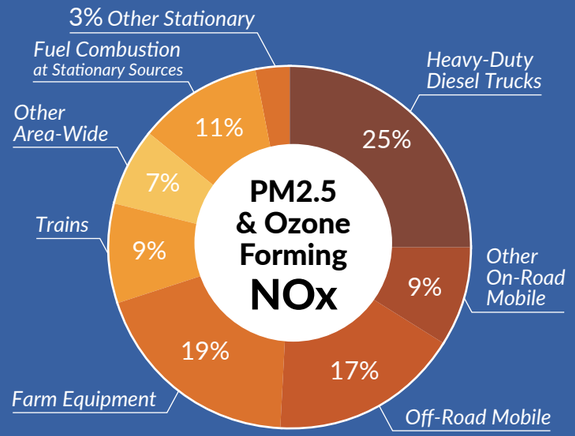
MONITORING DESIGNATIONS
- **A** *Acid Deposition*
- **F** *Fine Particulate (PM2.5)*
- **G** *Gaseous*
- **M** *Meteorological*
- **P** *Particulate (PM10)*
- **N** *National Core*
- **T** *Toxins*
- **L** *Lead*

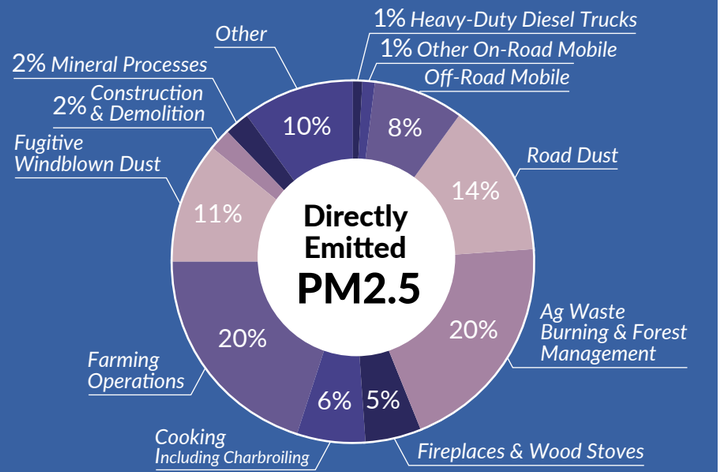
Sources of Emissions

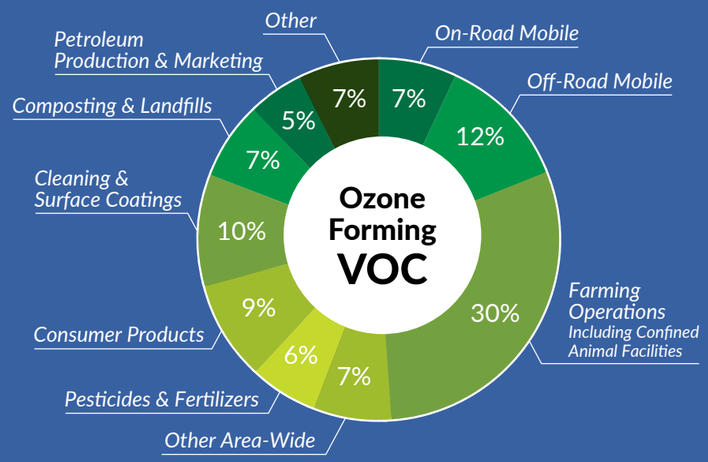
Each year, the District collects emissions and process data from more than 6,000 facilities and other information sources, calculates each facility's annual emissions, and reports the emissions to the California Air Resources Board. This emissions inventory is used to calculate total Valley emissions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

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 has been a primary focus for the District and CARB to address both Ozone and PM2.5 in the Valley.







INSIDE THE DISTRICT

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. The District is often given the highest marks by auditors and other agencies, and consistently sets a high bar for air quality improvements that other air management agencies emulate. The District also sets the gold standard for customer service.

In addition to the sections presented earlier in this report regarding air quality improvement strategies, air quality trends and voluntary incentive grants, 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.

ADMINISTRATION

The District ensures that all fiscal and general service related functions are accomplished with full transparency and accountability. The fiscal functions include preparation and control of the District's budget; responsibility for accounting and auditing all District revenues and expenditures; preparation of financial statements and related reports; and financial management of incentives and grants, including state and federal grant reporting. The general service functions include responsibility for facilities management, fleet management, purchasing, and risk management. The District has fully implemented the option to receive online electronic funds via e-checks, debit and credit cards. The online portal allows permitted facilities to view their current outstanding invoices, submit a payment, and receive their payment confirmation instantly. Many of the District's processes, such as application submissions, payment requests, contract execution, and billing adjustments, were converted to electronic processing, eliminating the need for paper submission and handling.

HUMAN RESOURCES

The District performs the full range of human resource support activities, including the recruitment, classification and pay, records management, labor relations, training, and management/supervisory support. The District is responsible for minimizing risk through employee benefits, workers' compensation and employee 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.

The District does not discriminate on the basis of race, color, national origin, ethnic group identification, ancestry, religion, age, sex, sexual orientation, gender identity, gender expression, genetic information, medical condition, or mental or physical disability, or any other attribute or belief protected by law. For more information, visit valleyair.org.

LEGAL

The in-house District counsel office supports the District's compliance efforts to enforce District rules and regulations to help maintain healthy air quality for our Valley. Under state law, violations of a District rule by a business or individual resident can incur significant civil monetary penalties, and even criminal punishment. If the penalties for a violation are not settled through the informal mutual settlement process, the case will be transferred from the Compliance Department to District counsel, which will make a last attempt to resolve the matter without the need for court intervention. If the penalties for violating a District rule cannot be settled informally, District counsel will file a civil suit in court to seek the full measure of civil penalties. The public is encouraged to respond to communications from District counsel. Most violations can be resolved informally for less than if the case were to go to court. In some cases, installment payments of the penalty can be arranged. District counsel also intervenes on behalf of the District where necessary to defend the District's rules, policies and attainment plans against legal challenges in state and federal courts, and to ensure that the District's unique circumstances are taken into account when courts reach decisions that impact the Valley's air pollution control strategies.

INFORMATION TECHNOLOGY SERVICES

As the frequency and severity of cybersecurity threats have increased significantly, the District has instituted numerous security policies and protocols. This includes additional security measures for air monitoring sites to protect both the District's systems and the public's data. As part of its Continuity of Operations Policy, the District identified the need to establish multi-site redundancy between District offices, which consist of maintaining District data in geographically dispersed areas to reduce or potentially eliminate system downtime and failures. The District is upgrading the operating system for its Windows workstation platform and the Microsoft office productivity suite, which provides numerous new beneficial features to improve staff productivity.

Every year the District processes thousands of public records requests. These requests range from simple requests to very complex requests that involve several departments and require extensive file review to collect the information requested. In the past, the District utilized internally developed software with built-in workflows to process these requests and there was significant time spent on updates and maintenance. Recently, the District has deployed an alternative, third-party software to streamline the process. This has improved workflows, enhanced assignment tracking and reduced the time necessary to support the program. The District is using a scaled multi-year software development and implementation approach to improve the legacy business software applications to newer technologies.

The District also established a centralized software deployment for systems and workstation management that allows staff to manage all the user workstations from a central place. This includes deployment of software, operating systems and security patches to ensure staff workstations are up-to-date with the software and are secure from vulnerabilities.

The District upgraded its over 20-year-old analog phone system to an advanced IP-based phone system, which uses internet protocols to transmit voice data. This significantly reduces the cost of long-distance and international calls, as well as eliminates the need for expensive hardware and maintenance costs associated with traditional phone systems. The District upgraded its data center server system with the new VM (Virtual Machines), which offered several benefits, including increased scalability, better performance, and simplified management. The District continues to look for more efficient and effective ways to support our customers and our staff.

DISTRICT EARNS NATIONAL AWARD FOR FINANCIAL EXCELLENCE

Once again, the Government Financial Officers Association, which represents over 20,000 public finance officials throughout the United States and Canada, has awarded the District the "Certificate of Achievement for Excellence in Financial Reporting," its highest form of recognition in governmental accounting and financial reporting for the latest Annual Comprehensive Financial Report (Fiscal Year 2020-21). 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.

Permitting

*Working with Valley businesses and assisting them in complying with some of the most stringent air pollution regulations in the nation. To date, the District administers more than **41,000** annual permits and registrations for more than **14,700** facilities in the Valley.*

PERMITTING BY THE NUMBERS	
2050	*Authority to Construct permits issued*
53	*Permit-Exempt Equipment Registrations issued*
4	*New Title V permits issued to 1 facility*
1,819	*Title V permit renewals issued to 34 facilities*
87	*Title V permit modification projects finalized*
492	*Conservation Management Practices plans issued*
153	*Emission Reduction Credit certificates issued or transferred*
720	*Toxic air contaminant risk-management reviews performed*
6,086	*Annual emissions inventory statements and surveys processed*
1,545	*California Environmental Quality Act (CEQA) review requests processed*
660	*CEQA comment letters sent*
215	*CEQA documents prepared*
348	*Indirect Source Review applications approved*
290	*Employer trip reduction plans submitted*

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. To obtain an air permit in the Valley, the District requires the best available air pollution control equipment as well as mitigation of emission increases.
2. Once the District determines that the applicant has properly installed the equipment and is operating in compliance with the conditions on the ATC, a Permit to Operate is issued.

FEDERALLY MANDATED OPERATING PERMITS (TITLE V)

As of 2021, there are 251 facilities in the District that are subject to Title V permits. 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 updating approximately 6,000 CMP plans designed to reduce air pollution emissions from on-field agricultural operations.

EMISSIONS INVENTORY

Each year, the District processes emissions data from more than 6,100 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.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA is the 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, proposed permits for stationary sources of pollution, and attainment plans and rules, for compliance with CEQA requirements.

INDIRECT SOURCE REVIEW (ISR)

The District's ISR Rule (Rule 9510) is the only rule of its kind in the State of California and throughout the nation, and applies to new residential and non-residential development projects. The purpose of Rule 9510 is to reduce growth in both NOx and PM10 emissions from mobile and area sources associated with construction and operation of new development projects in the Valley, by encouraging clean air designs to be incorporated into the development project, or, if sufficient emission reductions cannot be designed into the project, by paying a mitigation fee that will be used to fund off-site emissions reduction projects. One hundred percent of the mitigation fees received by the District are used to fund emission-reduction projects on behalf of project developers.

EMPLOYER BASED TRIP REDUCTION (ETRIP)

The purpose of the District's eTrip Rule (Rule 9410) is to reduce vehicle miles traveled from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, VOC and PM10. Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTrip Plan) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. An eTrip Plan is a set of measures an employer chooses that will encourage employees at the worksite to use alternative transportation and ridesharing for their commutes. Employers have the flexibility to choose the options that work best for their worksites and their employees.

SMALL BUSINESS ASSISTANCE (SBA)

Exceptional customer service is more than just a core value of the District; it is ingrained in our work culture. A great example of this is the District's SBA team, 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 directly through dedicated hotline telephone numbers: Central Region (559) 230-5888, Northern Region (209) 557-6446, and Southern Region (661) 392-5665.

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. To date, the District has performed over ***14,700*** *inspections at permitted facilities, including approximately* ***6,100*** *agricultural operations.*

COMPLIANCE BY THE NUMBERS	
35,215	*Units Inspected*
2,767	*Public complaints investigated*
510	*Open burn sites inspected*
8,868	*Incentive funding units (i.e. trucks, engines) inspected*
1,887	*Asbestos projects reviewed & inspected*

The District works in collaboration with CARB, EPA, and other, local, state, and federal agencies, including participating in state and federal joint enforcement initiatives with EPA, CalEPA, and CARB, using these initiatives as opportunities to share our expertise in enforcing stationary source regulations. Through the District's enforcement program, inspectors conduct detailed on-site review of permitted equipment, including associated required records to ensure that operators are fully in compliance with all applicable local, state, and federal requirements included on operating permits. The District's enforcement staff also conduct inspections to ensure compliance with agricultural burning restrictions, residential wood-burning restrictions, and other applicable regulations.

EDUCATION, TRAINING & COMPLIANCE ASSISTANCE

The District's enforcement program emphasizes compliance assistance as an integral component of its educational approach to help Valley residents and businesses comply with a variety of air pollution regulations. Residents and businesses throughout the Valley are provided with numerous resources, individualized assistance, training opportunities, workshops and meetings, and outreach efforts. These resources include training provided to facility owners and operators during the course of inspections, developing and distributing Compliance Assistance Bulletins following Rule amendments, and offering recurring certification courses for key programs to support compliance.

COMPLAINT RESPONSE

On an annual basis, the District receives thousands of complaints for which timely responses and investigations of alleged sources of non-compliance are top priorities. Inspectors are on-call 24 hours per day and use automated voicemail and computer systems to facilitate the timely response to complaints in order to abate potential public impacts. Along these same lines, the District added the ability to easily submit complaints in English or Spanish online, including video and photographs, via the District's website and through the District's mobile smartphone application. The District provides a bilingual (Spanish-English) telephone complaint line and also has the capability to utilize translation services to ensure that all communities and groups within the Valley are properly served.

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.

SOURCE TESTING & 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, and emission inventory and technology advancement efforts.

ENFORCEMENT OF LOCAL, STATE & FEDERAL REQUIREMENTS

Despite a robust compliance assistance and education program, the District also takes enforcement actions to address non-compliance with rules or regulations. Following an enforcement action, the District's top priority is to work with entities or persons responsible for the violation to ensure their prompt return to compliance, and ongoing education to prevent future violations. In many instances, these efforts result in entities returning to compliance on the same day a violation is discovered, enhancing their comprehension of the District's rules and regulations. 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 2022, the District processed more than 3,100 issued notices, transferred 389 cases to District Counsel.

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 2022, 49 variance petitions were heard at 23 hearings.

Outreach & Communications

The District is responsible for engaging and educating San Joaquin Valley residents, businesses, schools, media partners and other public agencies and local organizations about District programs, air quality inequities and disparities, significant clean air investments, and air quality progress that has been made in the Valley.

OC BY THE NUMBERS	
98	*Media calls*
1,334	*Public calls*
36	*News Releases*
997	*Social Media Posts*
112	*Presentations/Outreach Events*

COMMUNITY OUTREACH AND EDUCATION

Through innovation and creativity, the District manages a comprehensive public education and outreach strategy that is aimed at garnering support from Valley partners to execute the District's clean air mission. District staff are committed to developing and continuously improving this strategy, drawing upon experience, industry best practices, expert consulting services, and regular analysis of campaign reach and community feedback.

PRESS RELEASES AND MEDIA EVENTS

In order to cultivate strong relationships with reporters, news directors, and media partners, the District staff actively engages in effective communication practices. This involves issuing numerous press releases annually, which serve as concise and easily understandable sources of complex air quality information. Media outlets in the Valley often rely on District press releases as the primary source for key air quality stories. Additionally, the District promptly notifies news outlets through press releases and air quality alerts when the Valley encounters adverse or exceptional air quality conditions. By working collaboratively with media outlets, the District ensures that accurate information reaches the public, furthering our mission of promoting air quality awareness and education in the community.

COMMUNITY PRESENTATIONS AND EVENTS

Throughout the past year, the District outreach team delivered informational presentations, educational materials, and actively engaged with residents across the Valley at public events. Community activities have proven to be exceptional platforms for effectively communicating key District messages while fostering community awareness and understanding.

To request a speaker, presenter, or an educational booth, please reach out via email at public.education@valleyair.org.

WORKING WITH VALLEY PUBLIC HEALTH OFFICERS

The District has established enduring partnerships with the San Joaquin Valley's eight county health departments to address air quality concerns effectively. In instances of exceptionally poor air quality, the District proactively engages with county health officers to promote a consistent message and provide them with valuable information and resources to help address public concerns.

Health departments are trusted messengers and often collaborate with the District to share our messages. With California experiencing extreme rain and snowpack, the Valley has seen an increase in vegetation. This has raised concerns regarding upcoming wildfire seasons; therefore, we collaborate with county health officers to amplify our message and foster a unified approach in addressing public concerns.

Together, we are committed to safeguarding the well-being of Valley residents and cultivating a shared understanding of protecting and maintaining air quality by reducing health disparities and inequities, regardless of where residents live, learn, work, or play.

SOCIAL MEDIA

The District uses a variety of social media platforms to organically reach Valley residents. Staff actively manages accounts on Facebook, Twitter, Instagram and NextDoor where they work to inform and engage the public. Paid media ads are also utilized on various social platforms to target select audiences as needed for specific media campaigns.

The District also maintains an informational video library on its "Healthy Air Living" YouTube channel. Videos include a variety of different commercials, grant program promos, educational videos and meeting recordings for AB617. The District's commercials are directed and produced in-house and are often used as paid media for TV, cable, and digital channels in English and Spanish.

CONNECTING THE PUBLIC TO CLEAN AIR FUNDING

The District offers a range of voluntary incentive programs that specifically target the reduction of harmful emissions throughout the Valley. These innovative grant programs serve as an avenue for Valley residents, businesses, public agencies, and other organizations to make impactful investments in improving the region's air quality.

It is essential to understand that improving air quality is a shared responsibility, and each individual's involvement and commitment make a significant difference.

HEALTHY AIR LIVING KIDS' CALENDAR

This past year, the District's Governing Board proudly acknowledged the exceptional artistic talents of 14 students from across the San Joaquin Valley, whose captivating artwork was prominently featured in the 2023 Valley Air District's Healthy Air Living Kids' Calendar. This bilingual, full-color wall calendar serves as a powerful educational tool, combining clean-air messages with captivating drawings. These messages aim to inspire and enlighten the public about adopting healthy air practices and making behavior and lifestyle changes to actively reduce and improve air pollution across the Valley. By actively involving youth and showcasing their artwork, we amplify their voices, ensuring that the concerns and perspectives of future generations are heard and valued.

The calendars are provided free of charge and are distributed while supplies last, to schools, community groups, healthcare facilities, churches, civic organizations, non-profits and individuals.

HEALTHY AIR LIVING SCHOOLS

Youth and school outreach is a top priority for the District. The District's youth and school outreach efforts are collectively referred to as Healthy Air Living Schools and helps educators make informed decisions when determining the level of outdoor activities for students. This effort currently focuses on protecting students during episodes of poor air quality, engaging teachers and students through the K-6 kids kit and classroom presentations, and urging action by students and parents to reduce air pollution. To help ensure continued progress and minimize school site vehicle idling pollution, the District has partnered with hundreds of Valley schools and supplied bilingual No Idling signs and other resources that remind parents to turn off their engine when picking up or dropping off students. Healthy Air Living Schools also includes training school staff and making parents aware of the District's Real-time Air Advisory Network (RAAN), which displays hourly air quality data and corresponding outdoor activity recommendations to protect student health.

The District employs a variety of strategies to connect with parents and this past year staff conducted in-person outreach to several Valley schools in underserved communities. Staff passed out a variety of educational materials regarding vehicle idling, the impacts of wildfires and how to apply for grant funding, to parents in vehicles dropping off their children at schools. This in-person interaction allowed staff to have one-on-one personal conversations about air quality with concerned parents.

The District's S.T.A.R. Program Shines

The District is committed to establishing and maintaining a workforce that provides not only high-quality technical work, but also exceptional customer service. Our customers include the public, the regulated community, other agencies, and fellow employees. The principles of STAR create an atmosphere in which providing exceptional service, demonstrating effective teamwork, maintaining a positive attitude, and showing respect to others is a key part of every employee's job. To foster a culture of excellence, the District believes in continuous improvement and embraces change. Toward that end, the District empowers and encourages employees to take initiative by offering solutions and volunteering to participate in implementing desired changes.

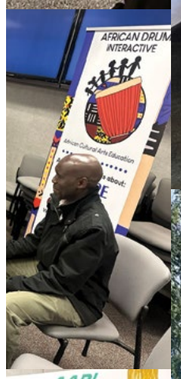
SERVICE - We strive to provide excellent service in our relations with all our internal and external customers.

TEAMWORK - We work for the District as a team and not just for a program, department, or region.

ATTITUDE - We strive to be pleasant in our relations with coworkers, subordinates, superiors and all our customers.

RESPECT - We respect the opinions and interest of all Valley residents, and fully consider their opinions in our efforts to carry out the District's mission. We always speak positively and respectfully about our fellow District employees, the organization, and those we serve. We serve the public with integrity, honesty, and full accountability and take pride in our effective and efficient use of resources.

The District is committed to fostering, cultivating and preserving a culture of diversity, equity, and inclusion. As part of the District's STAR work culture, these principles are promoted in the workplace and externally with those that we serve to help ensure that we do our best to provide the best service possible with integrity and accountability.



District Gives Back

District employees across the regions used their time off to provide assistance to multiple Valley organizations during District-sanctioned community service projects. In the southern region District staff collected food for the Golden Empire Chapter of Gleaners Food Bank. Over 100 items were donated to help feed food insecure individuals in the South Valley. In the central region, the District hosted two blood drives in conjunction with the Central California Blood Center with over 50 staff members donating blood. In the northern region, staff donated 12 boxes of non-perishable food items to the St. Joseph's of Modesto Food Pantry to assist them in creating 350 holiday food baskets.

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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