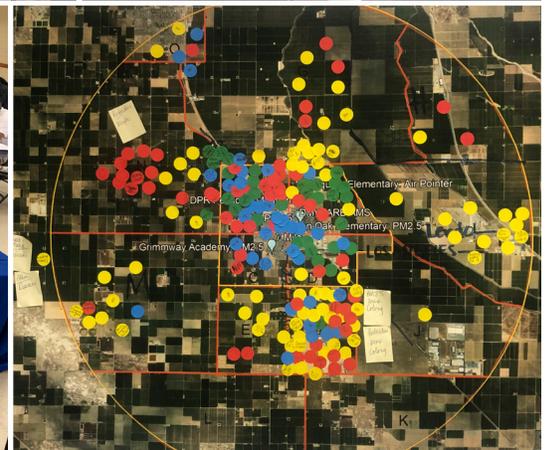


Community Emissions Reduction Program

Shafter

September 19, 2019



EXECUTIVE SUMMARY

The air quality challenges that the communities in the San Joaquin Valley face are unmatched by any other region in the nation. The San Joaquin Valley, due to its unique geography, topography, and meteorology, continues to face daunting challenges in meeting the latest federal health-based air quality standards. Since 1992, the San Joaquin Valley Air Pollution Control District (District) has implemented the most stringent stationary source control program in the nation through nearly 650 rules and regulations to control air pollution in the Valley Air Basin. Additionally, California has led the nation in implementing the most stringent mobile source emission reduction program through a variety of regulatory and incentive-based measures that have reduced emissions from passenger vehicles, heavy duty trucks, off-road equipment, and other mobile sources. Ongoing implementation of clean air strategies to improve the Valley's air quality and attain state and federal air quality standards have included a wide-range of measures, including technology-forcing regulations, strong public education and outreach regarding air quality, and significant incentive investments to deploy clean-air technologies in Valley communities.

As a result of the District's stringent and comprehensive air quality management strategy, along with significant investments made by Valley businesses and residents, PM2.5 and ozone levels are now at historically low levels, and the Valley continues to be in attainment of the PM10 federal air quality standard. Overall, Valley NOx emissions (key precursor to both ozone and PM2.5) have dropped by over 70%, with emissions from stationary sources reduced by 90%, cancer risk from exposure to air pollutants reduced by 90%, population exposure to elevated PM2.5 levels reduced by 85%, and population exposure to elevated ozone levels reduced by 90%.

Despite these regional air quality improvements, significant concern has been expressed by residents of disadvantaged communities and their advocates, and the California legislature, about potential localized impacts of air pollution in disadvantaged communities throughout the state. In answer to that concern, Assembly Bill (AB) 617, signed into law in July 2017, initiated a state-wide effort to monitor and reduce air pollution, and improve public health, in communities that experience disproportionate burdens from exposure to air pollutants through new community-focused and community-driven actions. The community of Shafter was prioritized by the Air District and subsequently selected by the California Air Resources Board (CARB) as one of two first-year communities in the San Joaquin Valley to receive clean air resources newly available under AB 617, based on a technical analysis of several pollution and poverty-related criteria.

AB 617 provides mechanisms and resources to implement community-specific air quality monitoring networks; to develop, implement, and track emission reduction programs; to improve availability of data and other technical information; and to invest substantial funding in the community through voluntary incentive funding measures. Importantly, these measures are guided by advice and knowledge of local community

members, through their input and involvement on Steering Committees for each AB 617-selected community.

Air pollution emission reduction and exposure reduction measures implemented under AB 617 programs will further advance ongoing state and District efforts to reduce regional and community exposure to air pollutants. In the preparation of this Community Emissions Reduction Program, the District has worked closely with CARB, the Community Steering Committee, and the public, including other local agencies, community-based organizations, community members, environmental organizations, regulated industry representatives, and other key stakeholders to develop strategies and an implementation plan to reduce harmful air pollutants in the community of Shafter. The plan developed through this collaborative process employs proven and innovative strategies, and significant resources, to improve community health by reducing exposure to air pollutants in Shafter.

This Community Emission Reduction Program (CERP), prepared in coordination and consultation with the Community Steering Committee, provides a description of the community of Shafter, including geographical boundaries and socioeconomic factors impacting community residents, and a technical analysis that describes the sources of pollution impacting the community, as well as the location of sensitive receptors within the community. In addition, sources of pollution that are of particular concern to community members are highlighted, and possible strategies for reducing pollution impacts from these sources are evaluated. The strategies that were ultimately selected for implementation in the community are outlined, including incentive funding measures, public engagement strategies, enforcement strategies, regulatory strategies, and strategies that will be completed in partnership with other agencies and local organizations. Finally, metrics for tracking emission reductions in annual reporting and at the five-year milestone are discussed in detail.

This draft CERP anticipates investing \$38.2 million in emission reduction incentives for cleaner cars and trucks, and a variety of other clean air projects in the Shafter area. These efforts are projected to achieve approximately 265 tons of PM_{2.5} reductions and 1,718 tons of NO_x reductions as well as significant reductions in air toxics emissions in the community, particularly with respect to diesel particulate matter from mobile sources, the main contributor to community air toxics health risk. Additional regulatory and outreach strategies will provide for further reductions and increased awareness of the community's air quality challenges and the resources available to help the public reduce emissions and avoid exposure to air pollution.

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1. INTRODUCTION

1.1 IMPLEMENTATION OF AB 617 IN SHAFTER

The implementation of Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017) has brought additional clean air resources and strategies to Valley communities that are burdened by socioeconomic disadvantages and air pollution, despite significant emissions reductions that have already been achieved regionally. AB 617 provides mechanisms and resources to adopt expedited schedules for the implementation of advanced control technologies for existing stationary source facilities; increased stringency of reporting requirements for stationary sources; to develop and implement community-specific air quality monitoring networks; to implement, and track localized emission reduction programs; to improve availability of data and other technical information; and to invest substantial funding in the community through voluntary incentive funding measures. Resources available through this legislation have allowed the San Joaquin Valley Air Pollution Control District (District), through a comprehensive public outreach and community engagement process, to expand regional programs for community protection and develop a robust plan for reducing local exposure to fine particulate matter and toxic air contaminants in the AB 617-selected community of Shafter.

Several requirements of AB 617 will serve to reduce air pollution in disadvantaged communities throughout the San Joaquin Valley. AB 617 legislation requires districts that are in nonattainment for one or more air pollutants to adopt expedited schedules by January 2019 for the implementation of Best Available Retrofit Control Technology (BARCT). The District Governing Board adopted this schedule at a public hearing held in December 2018, which set the path forward for the District to research and potentially amend applicable rules. The expedited BARCT implementation schedule is discussed in more detail later in this document. Additionally, AB 617 requires "Stationary Sources" to report their criteria pollutant emissions inventory as well as their air toxics emissions inventory to the State on an annual basis. These emissions inventories will be presented in the Uniform Statewide Reporting System, once developed by California Air Resources Board (CARB). Under AB 617, a Stationary Source is defined as facility meeting any one of the following:

- Required to submit Greenhouse Gas emissions under the CH&SC § 38530 (Mandatory GHG Emissions Reporting),
- A facility that is authorized by a permit issued by a district to emit 250 or more tons per year of any nonattainment pollutant or its precursors, or
- A facility that receives an elevated prioritization score based on cancer or non-cancer health impacts pursuant to Section CH&SC § 44360 (Air Toxics Hot Spots, Chapter 4: Risk Assessment).

The District has worked closely with CARB, regulated entities, and other stakeholders to implement this new reporting requirement in the Valley. Further information on the implementation of the AB 617 stationary source criteria pollutant emissions inventory

reporting requirement is available at: <https://ww2.arb.ca.gov/news/carb-adopts-uniform-statewide-system-reporting-criteria-air-pollution-emissions-data>

The District's initial community identification and prioritization analysis for the first year of AB 617 implementation was based on extensive air quality analysis, numerous health indicators from the state's CalEnviroScreen model (version 3.0), and various other socioeconomic indicators. In developing San Joaquin Valley community recommendations for additional clean air resources and public engagement under AB 617, the District conducted an extensive public engagement process to seek input from Valley residents, businesses, agencies, and other stakeholders through a variety of public workshops and meetings throughout the Valley.

Based on this extensive public engagement effort and the District's comprehensive identification and prioritization analysis, Shafter was recommended by the District Governing Board as a first-year community. Shafter is a small disadvantaged community in Kern County, northwest of Bakersfield, impacted by agricultural operations, heavy duty mobile sources, and oil and gas operations. The Shafter community has a high cumulative air pollution exposure burden, a significant number of sensitive receptors, and includes census designated as disadvantaged communities. After further technical review and public engagement, Shafter was ultimately selected by the CARB Governing Board for the development of a community air monitoring plan and an emissions reduction program designed to reduce pollution impacts in the selected community.

In accordance with the community-driven nature of AB 617 directives, in September 2018, the District Governing Board directed staff to immediately convene a community steering committee under a set of guiding principles. The selected Steering Committee is comprised of residents, businesses, non-governmental organizations, and public agencies, acting in an advisory capacity to the District in the development of community air monitoring plans and community emission reduction programs. To ensure successful implementation of AB 617, residents, businesses, non-profits, agencies, and other stakeholders from all sectors within selected communities must be involved in the development of community-specific plans. Towards that end, the District has worked closely with the Community Steering Committees to develop effective strategies, including engaging with Valley residents, businesses, agencies, and other stakeholders to identify and move forward with clean air investments in AB 617 communities.

The Shafter community air monitoring plan was developed with the advice of the community Steering Committee, and deployed beginning in June, 2019. This community-specific air monitoring network provides an expanded monitoring capacity designed to provide scalable, portable, and rapidly deployable air monitoring equipment to the community. This includes a combination of air monitoring platforms equipped with highly specialized analyzers capable of monitoring a full range of criteria and toxic pollutants. Various monitoring platforms include larger air monitoring trailers, mobile air monitoring vans, and compact air monitoring sensors. Monitoring data from these sensors is made available to members of the public in real-time, and can be found at

the following location <http://community.valleyair.org/selected-communities/shafter/air-monitoring/>. The full community air monitoring plan, with further details on selected monitoring equipment and monitoring locations, is available at: http://community.valleyair.org/media/1306/shafter_camp_v1_2019_july.pdf.

As a culmination of the community-driven actions and engagement called for under AB 617, the District has developed and begun implementation of a Community Emissions Reduction Program, or CERP, in partnership with CARB, residents, affected sources, and local government bodies in the affected community. Steering Committee input and other comments received from the public in the community have provided instrumental information, critical to implementing community-specific measures and addressing community concerns. Strong collaboration between the District, CARB, and community members has resulted in the development of an ambitious plan for reducing localized pollution and associated health impacts in Shafter.

This CERP provides a description of the community of Shafter, including geographical boundaries and socioeconomic factors impacting community residents. A technical analysis describes the sources of pollution impacting the community, as well as the location of sensitive receptors within the community. Sources of pollution that are of particular concern to community members are highlighted, and possible strategies for reducing pollution impacts from these sources are evaluated. The strategies that were ultimately selected for implementation in the community are outlined, including incentive funding measures, public engagement strategies, enforcement strategies, regulatory strategies, and strategies that will be completed in partnership with other agencies and local organizations. Finally, metrics for tracking emission reductions in annual reporting and at the five-year milestone are discussed in detail.

1.2 HEALTH BASED AIR QUALITY OBJECTIVES

Community Emission Reduction Programs implemented under AB 617 are designed to reduce emissions of pollutants that have been shown to have adverse impacts on public health, including fine particulate matter and toxic air contaminants. As specified in CARB's Community Air Protection Program Blueprint, Appendix C (Criteria for Community Emission Reduction Programs), this plan will focus on reducing individual criteria air pollutant and toxic air contaminant emissions to address the impacts of community exposure to multiple pollutants. While each community faces distinct health-based challenges, CARB guidance states that broad health-based air quality objectives provide a consistent foundation for determining the appropriate levels of emissions reductions for CERPs statewide.

The U.S. Environmental Protection Agency (EPA) and the State of California have established ambient air quality standards, which set health-protective levels for the following criteria pollutants: ozone, particulate matter with a diameter of 10 microns or smaller (PM10), particulate matter with a diameter of 2.5 microns or smaller (PM2.5), carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. California also has standards for sulfates, vinyl chloride, and hydrogen sulfide. Due to the implementation of the most stringent control measures in the nation for emissions from stationary

sources, and an effective incentive program to reduce emissions from sources not under the District's regulatory authority, the Valley Air Basin is in attainment for many of these standards. However, due to the region's topography and meteorology, the Valley is classified as Serious nonattainment for the federal PM_{2.5} standards, and Extreme nonattainment for federal ozone standards.

Particulate Matter: Particulate matter is a mixture of solid particles and liquid droplets in the air. PM can be emitted directly into the atmosphere (primary PM), or can form as secondary particulates in the atmosphere through the photochemical reactions of precursors (when precursors are energized by sunlight). Thus, PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. PM₁₀ is particulate matter that is 10 microns or less in diameter, and the PM_{2.5} subset includes smaller particles that are 2.5 microns or less in diameter.

Any particles 10 microns or less are considered respirable, meaning they can be inhaled into the body through the mouth or nose. PM₁₀ can generally pass through the nose and throat and enter the lungs. PM_{2.5} can be inhaled more deeply into the gas exchange tissues of the lungs, where it can be absorbed into the bloodstream and carried to other parts of the body. The potential health impacts of particle pollution are linked to the size of the particles, with the smaller particles having larger impacts. Numerous studies link PM_{2.5} to a variety of health problems, including aggravated asthma, increased respiratory symptoms (irritation of the airways, coughing, difficulty breathing), decreased lung function in children, development of chronic bronchitis, irregular heartbeat, non-fatal heart attacks, increased respiratory and cardiovascular hospitalizations, lung cancer, and premature death. Children, older adults, and individuals with heart or lung diseases are the most likely to be affected by PM_{2.5}.

Many studies have quantified and documented the health benefits of attaining the EPA air quality standards for PM. The Valley Air Basin is in attainment of the federal standards for PM₁₀, but is currently classified as Serious nonattainment for the federal PM_{2.5} standards. The District, in partnership with CARB, recently released the *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards*, which details strategies to move the region towards attainment of the federal PM_{2.5} standards. More information is available at: <http://valleyair.org/pmplans>. This plan is also discussed in further detail in Chapter 3.

Ozone: Ozone is a regional air pollutant that is formed through complex chemical reactions in the atmosphere. In contrast, PM_{2.5} concentrations are the result of both local and regional emissions, and reducing localized emissions of PM_{2.5} can reduce disparities in exposure experienced in communities with high cumulative exposure burdens. CARB Office of Community Air Protection guidance states that, because ozone formation is driven by regional rather than localized source contributions, ozone should be addressed in regional air quality improvement efforts through the State Implementation Plan. Therefore, ozone and related precursors have not been addressed as a part of this CERP development. The District's current plan for

attainment of health-based ozone standards throughout the San Joaquin Valley Air Basin can be found here: http://valleyair.org/Air_Quality_Plans/Ozone_Plans.htm

Toxic air contaminants: Toxic air contaminants (TACs) also contribute to a community's cumulative exposure burden. Exposure to TACs can increase the risk of acute and chronic health impacts as well as cancer. Diesel particulate matter is a large concern in areas with high exposure to diesel engine emissions, such as the community of Shafter. Other toxic air contaminants can contribute to localized health risks, including metals; air toxics related to fossil fuel production, such as benzene and toluene; and compounds associated with combustion, including polycyclic aromatic hydrocarbons and dioxins. The California Office of Environmental Health Hazard Assessment (OEHHA) establishes threshold concentrations for toxic air contaminants at which exposure is not expected to trigger non-cancer health effects. For carcinogens, OEHHA guidance states that there are no safe exposure thresholds. Reducing emissions in the community will be based on identifying technologies and practices that offer the maximum level of toxic air contaminant emissions reductions achievable to address both types of health effects.

With the support of community members, this CERP will build upon regional efforts to improve air quality throughout the Valley Air Basin. The Shafter CERP focuses on reducing emissions of and exposure to PM_{2.5} and toxic air contaminants from localized sources that contribute to cumulative exposure burdens within the community. Pollution reduction strategies, targets, goals, and metrics included in this CERP have been developed in accordance with these health-based air quality objectives and are presented in more detail in Section 4 of this document.

2. COMMUNITY PARTNERSHIPS AND PUBLIC ENGAGEMENT

Meaningful community engagement, significant outreach and a robust public process have guided the development of this Community Emissions Reduction Plan (CERP). Key features of these efforts included hosting a kick-off meeting and conducting initial public outreach; establishing a Community Steering Committee; holding monthly facilitated bilingual meetings; presentations by entities such as the District, local government, CARB and Department of Pesticide Regulation (DPR); providing materials in multiple languages via email, mail and a webpage; and live-streaming and recording of all Community Steering Committee meetings. In addition, numerous interactions between committee members and District staff occurred in one-on-one or small group meetings allowing for in-depth discussions on joint development of the CERP. See the community webpage (<http://community.valleyair.org/selected-communities/shafter>) for more details.

2.1 COMMUNITY KICK-OFF MEETING

In October 2018, District staff conducted multilingual outreach, worked collaboratively with environmental justice organizations, distributed bilingual flyers (Figure 2-1) to local schools and invested approximately \$2,000 in social media advertisements targeted at the Shafter zip codes to encourage attendance at the official kick-off meeting.

Figure 2-1: Bilingual Community Flyers Distributed



The Community Kick-Off Meeting in the Shafter Community was held on Tuesday, October 30, 2018, at Golden Oak Elementary School (Figure 2-2). Approximately 60

people attended the meeting. In addition to information about AB 617, attendees were invited to visit booths, which provided information about monitoring technology and District incentive programs. Spanish interpretation was provided for the meeting. Community members were encouraged to apply to be on the Community Steering Committee at the Kick-off meeting, with additional time provided for individuals to apply via email or mail.

Figure 2-2: Shafter Kick-off Meeting



2.2 COMMUNITY STEERING COMMITTEE

Of the 40 individuals who applied to be on the Community Steering Committee, the final committee consisted of 19 community residents, six individuals representing either an environmental justice organization working in the community or a business within the community, and four ex-officio government officials with some of these members having an alternate. A full roster of membership is available in Table 2-1.

Table 2-1: Shafter Steering Committee Members, and Alternates

SHAFTER COMMUNITY STEERING COMMITTEE			
First Name	Last Name		Alternate
<u>Resident Committee Members</u>			
Ezperanza	Castelan	Resident	
John	Guinn	Resident	
Socorro	Guzman	Resident	
Oscar	Hernandez	Resident	<i>Mark Hanson</i>
Dora	Hernandez - Jara	Resident	
Cameron	Hunter	Resident	
Maria	Jaime	Resident	
Phillip	Jimenez	Resident	
Angelica	Lopez	Resident	
Antonio	Lopez	Resident	
Maria	Marquez	Resident	
Christopher	Marquez	Resident	
Abigail	Marquez	Resident	
Lynnda	Martin	Resident	
David	Piuser	Resident	
Leticia	Sanchez	Resident	
Felipa	Trujillo	Resident	
Fermin	Vargas Machuca	Resident	
Edward	Zacarias	Resident	<i>Mark Hanson</i>
<u>All Others Selected for Steering Committee</u>			
Gustavo	Aguirre Jr.	EJ advocate	
Tom	Frantz	EJ advocate	<i>Ana Rivera</i>
Gabriela	Gonzales	EJ advocate	
Byanka	Santoyo	EJ advocate	
Brad	Tuck	Business in Community	
Ron	Voit	Business in Community	
<u>Government Official Committee Participants</u>			
Michael	Dillenbeck	Government Official	<i>Shawn Beyeler</i>
Sal	Moretti	Government Official	
Scott	Hurlbert	Government Official	<i>Wayne Clausen</i>
Cathy	Prout	Government Official	<i>Wayne Clausen</i>

The Shafter Community Steering Committee met at least once a month, usually on the second Monday of the month at the Shafter Veterans Hall. Steering Committee meetings were initially facilitated by Yankee Communications (Figure 2-3.). With the end of the District's fiscal year in June, the Institute for Local Government was brought on board to facilitate meetings from August onward.

Figure 2-3: Facilitating a Community Steering Committee meeting



Meals were provided, as well as kid’s activities. Real-time English and Spanish interpretation was provided with all members being given headsets and all materials distributed in both languages. Full high quality audio recordings were made at each meeting and posted to the Shafter community website. In addition, Facebook was used to Livestream the meetings for the public to watch while also providing a video archive of the meetings (Figure 2-4).

Figure 2-4: Facebook Live shot of Shafter Steering Committee meeting



See Appendix A for full documentation of meeting dates, agendas, attendance, materials and summaries.

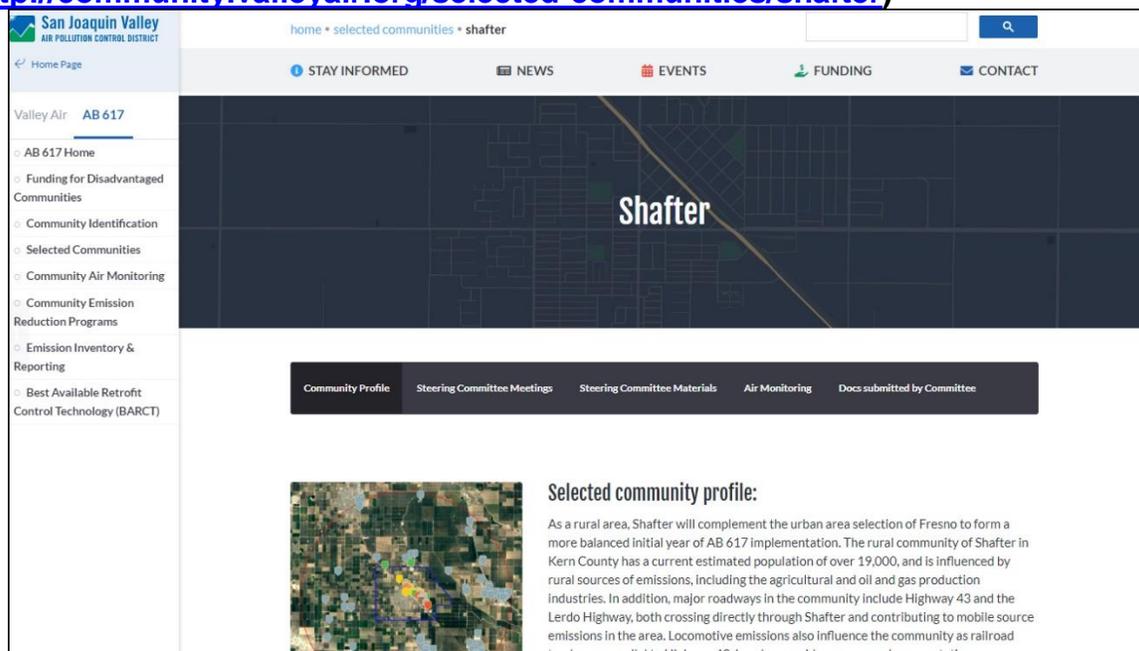
2.3 COMMUNITY STEERING COMMITTEE CHARTER

A Charter was developed for the Shafter Community Steering Committee and a draft was presented to the members at Meeting #1, in December 2018. During Meeting #2, in January 2019, The Committee approved the charter with an amendment to include looking at emissions sources outside the community boundary, within a seven-mile radius of the center of Shafter, for sources that might impact the Shafter community (see maps on following pages). The final Charter can be found in Appendix B, and at <http://community.valleyair.org/selected-communities/shafter/steering-committee-materials/>.

2.4 COMMUNITY WEBPAGE

A community webpage has been created for the Shafter AB 617 community, and is regularly updated with new information (<http://community.valleyair.org/selected-communities/shafter>). The webpage includes information about upcoming meetings, meeting materials (flyers, agendas, presentations, handouts, audio and video links, meeting summaries), interactive maps, community steering committee roster and committee charter, membership process, and the Community Air Monitoring Plan (CAMP) and CERP documents. All documents were made available in English and Spanish. A screenshot of the community webpage is shown in Figure 2-5.

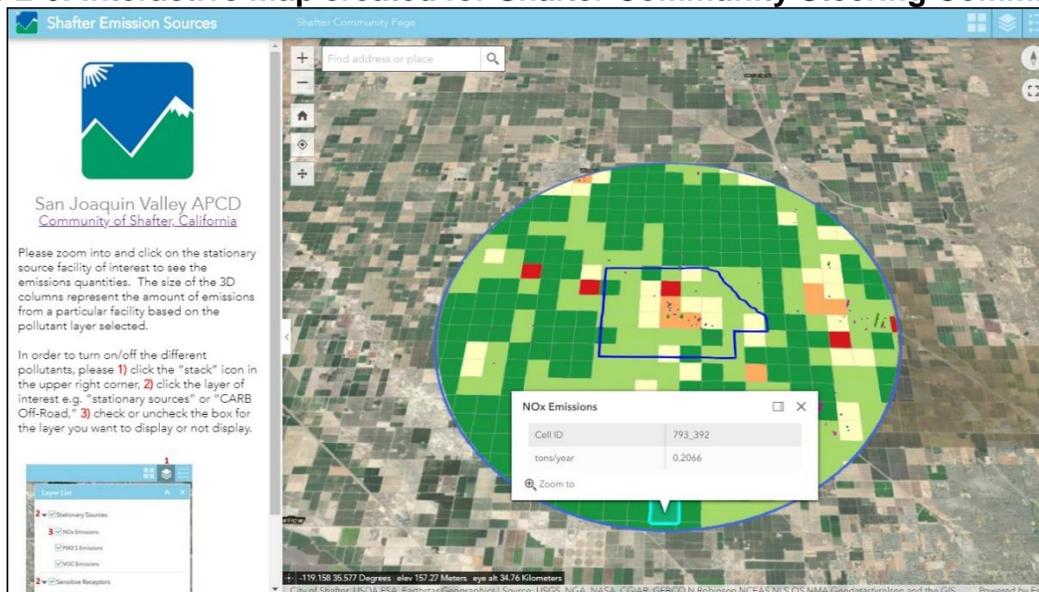
Figure 2-5: Community Webpage for Shafter
(<http://community.valleyair.org/selected-communities/shafter>)



In addition to being a portal for access to meeting materials and documents, the webpage also includes interactive maps that present data about the community (see

<https://sjvapcd.maps.arcgis.com/apps/webappviewer3d/index.html?id=ce2faca8d98544f8bff2628f7d2aa8a3> to see the full range of interactive maps). Figure 2-6 is an example of an interactive map that was created for the Shafter community. These interactive maps provide data on land use, locations of facilities, schools, hospitals, and the air quality concerns identified by the Shafter Steering Committee and members of the public. This information was provided to help inform air quality priorities for the CERP.

Figure 2-6: Interactive map created for Shafter Community Steering Committee



2.5 COMMUNITY PARTNERS

After the Shafter Community Steering Committee identified priorities for their community, partner agencies and organizations were invited to the meetings to provide updates, input and presentations on current and future efforts. CARB staff, the Kern Agricultural Commission and DPR staff attended meetings regularly and provided information to the committee. The City of Shafter also attended regularly and provided an update on the preparation of their Environmental Justice Program for the General Plan.

Figure 2-7: CARB Air Pollution Specialist presenting to the Shafter Community Steering Committee



2.6 ADDITIONAL COMMUNITY ENGAGEMENT

Since late 2018, District staff has worked to engage and educate the public with regard to AB 617 and the efforts being made in the Shafter Community, including inviting public comment at each Steering Committee meeting. Staff has met with community members, environmental justice organizations, industry and other stakeholders to provide assistance and/or prompt responses to concerns raised about the AB 617 process. Staff also attended and often made presentations at local civic organizations, city and county government meetings, the District's Environmental Justice Advisory Group meetings, the District's Citizens Advisory Committee meetings, the District's Governing Board meetings, environmental justice meetings, and industry professional group meetings to promote participation in the development and implementation of the CERP. In addition, staff often discussed AB 617 at media interviews and during outreach events and health fairs. A full list of outreach is available in Appendix A.

Staff will continue to work with the Shafter Community Steering Committee to implement the CERP actions after its adoption in September 2019 by the District Governing Board, and to provide periodic community updates on implementation progress. Community engagement is essential to the success of the CERP as well as the AB 617 program as a whole, and all parties are committed to build and improve upon existing outreach efforts in the coming months and years.

3. UNDERSTANDING THE COMMUNITY

3.1 COMMUNITY PROFILE

The rural community of Shafter, located in the southern end of the Central Valley in Kern County, has a current estimated population of approximately 19,000. The City of Shafter is surrounded by farmlands, including dairies and agricultural fields. This community is impacted by rural sources of emissions, largely outside of the community boundaries, including the agricultural and oil and gas production industries. In addition, major roadways in the community include Highway 43 and Lerdo Highway, both crossing directly through Shafter and contributing to mobile source emissions in the area. Locomotive emissions also influence the community as railroad tracks run parallel to Highway 43. Local area-wide sources such as gas stations, commercial cooking, and consumer products also contribute to the community’s emissions levels.

Figure 3-1 identifies the community, as selected by the California Air Resources Board. Geographically, this community is bounded by Merced Avenue to the north, the Calloway canal and Cherry Ave. to the east, Orange Street to the south, and Scaroni Avenue to the west. This area does not encompass the entire boundaries of the City of Shafter but the core, along with the small community of Smith Corner to the south, as well as the nearby rural areas surrounding the area. The community includes a number of businesses, schools, and residential areas. The Shafter Steering Committee also recommended that the District look beyond the geographic community boundary, at sources out to a 7 mile radius from the center of the City of Shafter for potential impacts to community, as depicted in Figure 3-2.

Figure 3-1: The Community of Shafter, as selected by CARB

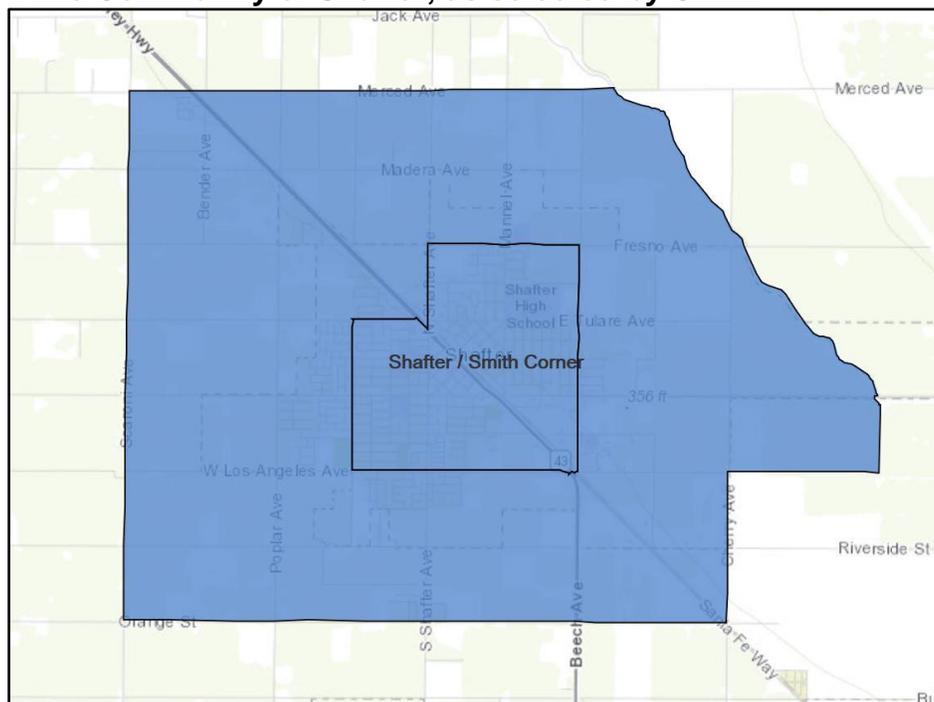
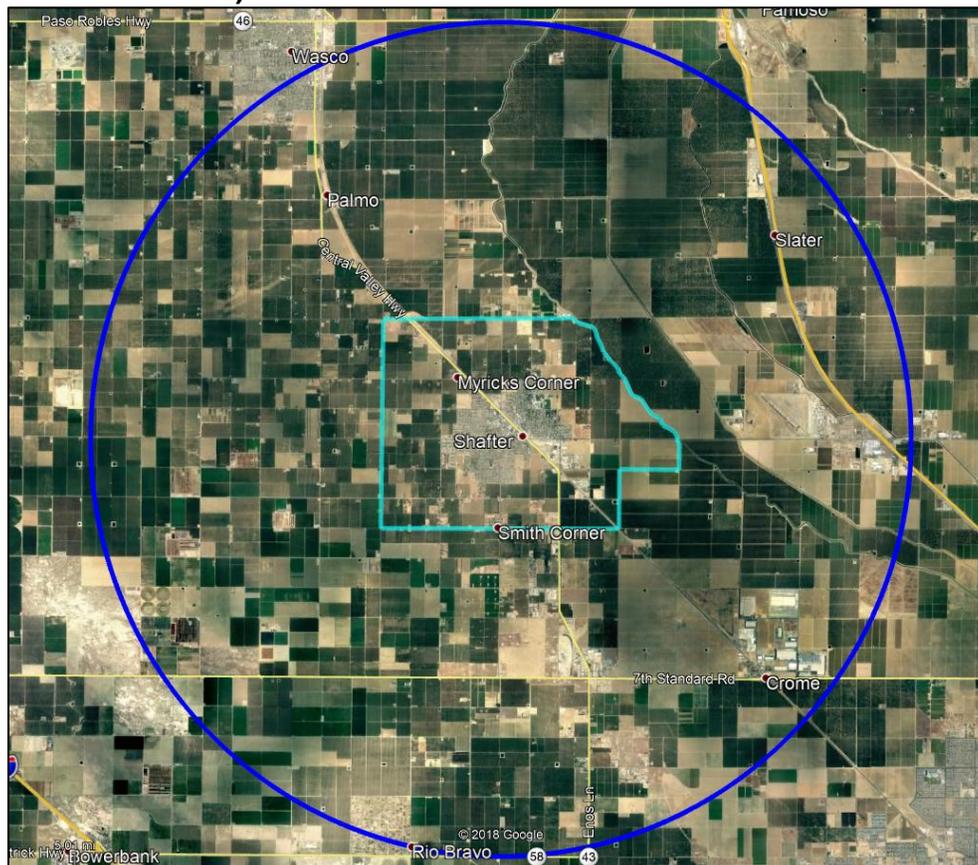


Figure 3-2: Shafter Community Boundary (Light Blue) and 7 Mile Radius (Dark Blue Circle)



Based on a ranking of census tracts statewide, the Shafter community is impacted across a number of health indicators. The following table summarizes the average and highest percentile scores (based on statewide comparison) from CalEnviroScreen among the census tracts located within the community boundaries for a number of key indicators. As this summary indicates, the Shafter community includes high average percentiles among its census tracts for several indicators, with many averages exceeding the 70th percentile throughout California. Specifically, the average Overall CES Score for this community exceeds the 86th percentile for the state, while the average Cardiovascular Disease score exceeds the 85th percentile for the state. The Shafter community also includes census tracts that rank above the 90th percentile among all tracts across the state. Notably, this community includes tracts that rank above the 90th percentile for Poverty and Unemployment, with Unemployment ranking above the 98th percentile.

Sensitive receptors within the area include 8 schools, 8 licensed care facilities, and 3 medical facilities. The community is mostly low income residents, with high levels of unemployment, linguistic isolation, and incidences of cardiovascular disease. This community includes census tracts with health indicators that exceed the 80th percentile

in a number of the listed categories, indicating that this community includes areas impacted by environmental challenges.

Table 3-1 Summary of Health Indicators among Census Tracts in Shafter Community (Source: CalEnviroScreen 3.0)

Health Indicator	Average Percentile of Census Tracts in Community	Highest Percentile of all Census Tracts in Community
Overall CES Score	86.00	90.00
Asthma	52.00	52.00
Cardiovascular Disease	86.00	86.00
Low Birth Weight	54.33	64.00
Poverty	84.33	98.00
Unemployment	75.67	98.00
Population Characteristics	78.00	86.00
Pollution Burden	82.33	84.00
Diesel Particulate Matter	26.67	31.00
Traffic Density	8.33	10.00
Toxics Releases from Facilities	54.67	55.00

Due to the regional nature of air pollution, many of the air quality challenges facing communities in the San Joaquin Valley are due to topographical, geographical, and meteorological factors. Located at the southern end of the San Joaquin Valley, many areas of Kern County experience poor air quality episodes due to temperature inversions, periods of stagnation, and wind patterns that direct pollution from the more northern parts of the Valley to the southern portion of the air basin. Air pollution in the Shafter community is heavily influenced by these regional and geographical factors. Details about the nature and formation of local air pollution and its adverse health impacts on the community of Shafter is summarized in *Appendix G*. District air quality analysis modeling showed that the Shafter community exceeded the 24-hour average PM_{2.5} concentration prioritization factor levels of 12, 35, 55, and 65 $\mu\text{g}/\text{m}^3$ a total of 94, 12, 5, and 2 days, annually, on average, during the 2014-2016 period, respectively. In addition, this community was found to have exceeded the 8-hour average ozone concentration prioritization factor levels of 70, 75, and 84 ppb a total of 35, 17, and 2 days, annually, on average during the 2014-2016 period, respectively.

Due to the factors described above, this CERP includes strategies for emissions reductions that address both urban sources and rural sources of emissions that contribute to the Shafter community's air quality challenges. These strategies focus on measures that will bring additional economic resources to the residents and businesses located in the community, as well as achieving significant local emissions reductions.

3.2 TECHNICAL ASSESSMENT TO UNDERSTAND COMMUNITY POLLUTION IMPACTS

Conducting a technical assessment is a necessary step in community emissions reduction program development. The technical assessment relies on results from a variety of analyses to characterize emissions in the community and inform community emissions reduction program development and implementation. This assessment will provide the baseline from which emissions reductions can be measured.

The source attribution technical approach established by CARB provides a methodology for assessing, identifying, and estimating the relative contribution of sources or categories of sources, including but not limited to mobile, stationary, and area-wide sources, to elevated exposure to air pollution in impacted communities. The District's source attribution analysis is based on the following:

- Assesses the share of mobile, area-wide, and stationary source emissions generated in the community,
- Is based on best available data in order to characterize the contribution of emissions sources in the community, and
- Follows one of CARB's recommended source attribution approaches

Based on the above, the District has implemented CARB's Community Emissions Inventory Approach. The following section discusses the community emissions inventory approach and summarizes emission sources in the community. A detailed community-level inventory and source apportionment are included in Appendix C.

3.2.1 COMMUNITY EMISSIONS INVENTORY APPROACH

A community-level emissions inventory estimates air pollutant emissions from mobile sources (e.g., cars, heavy-duty trucks, locomotives), area-wide sources (e.g., fireplaces, charbroilers, fugitive dust), and stationary sources (e.g., gas stations, auto body shops, manufacturing facilities) within the community.

The community-level inventory consists of the mobile, area-wide, and stationary sources spatially allocated in the community. A community emissions inventory is the compilation of criteria pollutant and air toxics emissions data from air pollution sources that are within the community. The community emissions inventory includes emissions of volatile organic compounds / reactive organic gases (VOC/ROG), oxides of nitrogen (NO_x), particulate matter of 2.5 microns (PM_{2.5}), and toxic air contaminants (e.g. diesel PM).

3.2.2 COMMUNITY EMISSIONS INVENTORY OVERVIEW

Emissions inventories are estimates of the amount and type of pollutants emitted into the atmosphere by industrial facilities, mobile sources, and area-wide sources. Additionally, emission inventories are the foundation for any emission reduction program and provide information on the existing air emissions and related air quality in the community, and support development of emission reduction strategies and future emission targets to improve air quality in the community.

Existing traditional criteria pollutant and air toxics emission inventories (that provide combined coverage of mobile and stationary sources) are generally regional in geographic scale and may not adequately characterize emission impacts at the community-level. Developing community-scale emission inventories for understanding existing baseline emissions and tracking future emission reductions within communities selected for community emission reduction programs and monitoring plans is an important piece of AB 617.

3.2.3 AGENCY COLLABORATIONS

CARB and District staff worked in parallel to develop a comprehensive set of emissions inventory data for the community. The District worked with stationary source facilities in the community to develop the point source emission estimates. CARB staff developed the community-level emission inventory for mobile and area-wide sources. CARB worked with several State and local agencies such as the Department of Transportation (Caltrans), the Department of Motor Vehicles (DMV), the Department of Pesticide Regulation (DPR), and the California Energy Commission (CEC) to assemble activity information necessary to develop the community-level mobile and area-wide source emission estimates. CARB and District staff conducted a thorough review of the community inventory to ensure that the emission estimates reflect the most recent data for stationary sources, and that estimates for mobile and area-wide sources are based on the most recent models and methodologies.

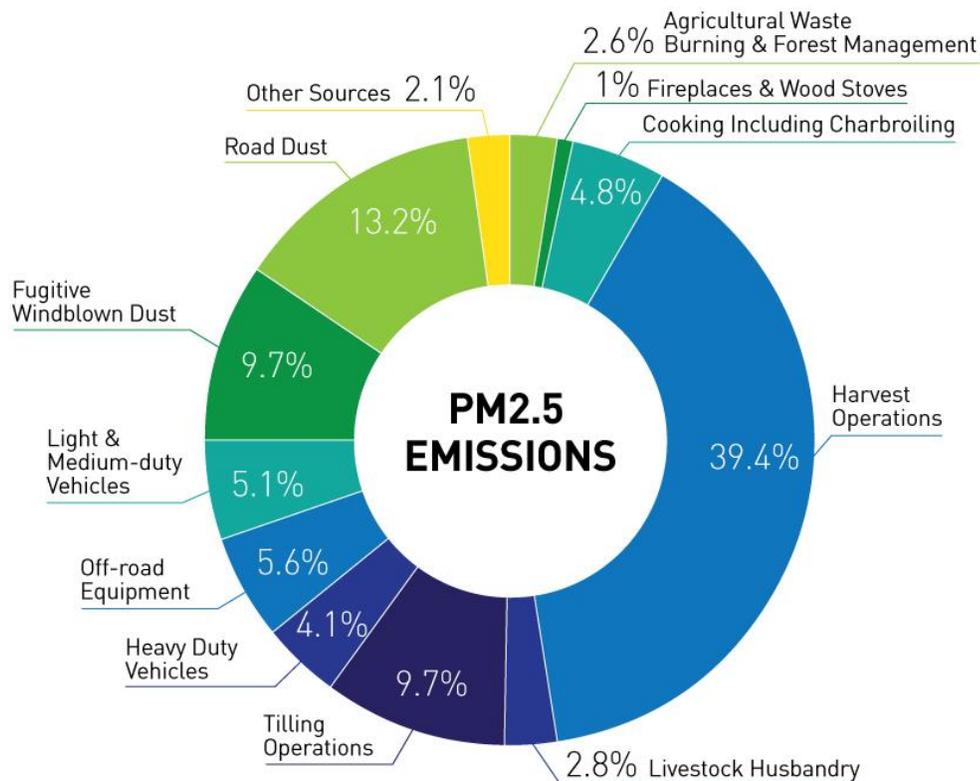
The emissions inventory also includes future forecasted values. The forecasted community-level emissions inventory is based on the growth profiles for stationary sources, mobile, and area-wide source categories provided by CARB. Forecasted emissions include growth and control factors that reflect historical trends, current conditions, and recent economic and demographic forecasts.

3.2.4 COMMUNITY EMISSION INVENTORY SUMMARIES

What types of sources contribute to air pollution in Shafter?

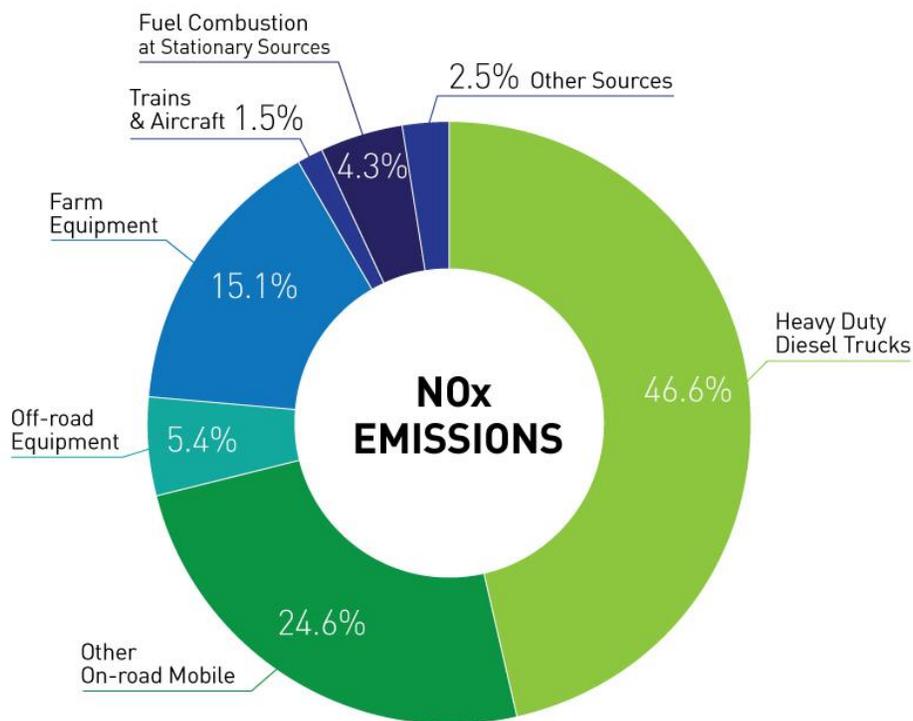
Permitted stationary sources in the area include gasoline dispensing operations, agricultural operations, manufacturers, and distribution centers. Area sources in and around the community include a mix of rural agricultural sources as well as urban sources, including farming operations, fugitive windblown dust, residential fuel combustion, and commercial cooking. Both on-road and off-road mobile sources contribute significant percentages of the emissions inventory. Figures 3-3 and 3-4, below, show what types of sources contribute to air pollutant emissions in the community for both PM_{2.5} and for NO_x.

Figure 3-3: Sources of PM2.5 Pollution in the Community



Currently in Shafter, over 70% of PM2.5 emissions are from sources of dust like harvest operations, road dust, fugitive dust and tilling operations. A large percentage of the PM2.5 emissions inventory is contributed from diesel emissions, such as off-road equipment and heavy duty vehicles. Significant percentages of the PM2.5 inventory also originate from agricultural burning, fireplaces and woodstoves, and cooking.

Figure 3-4: Sources of NOx Pollution in the Community



On road mobile sources currently account for over 70% of NOx emissions in Shafter. Off road mobile sources including trains, aircraft, and farm equipment produce 22% of the NOx emissions in the community.

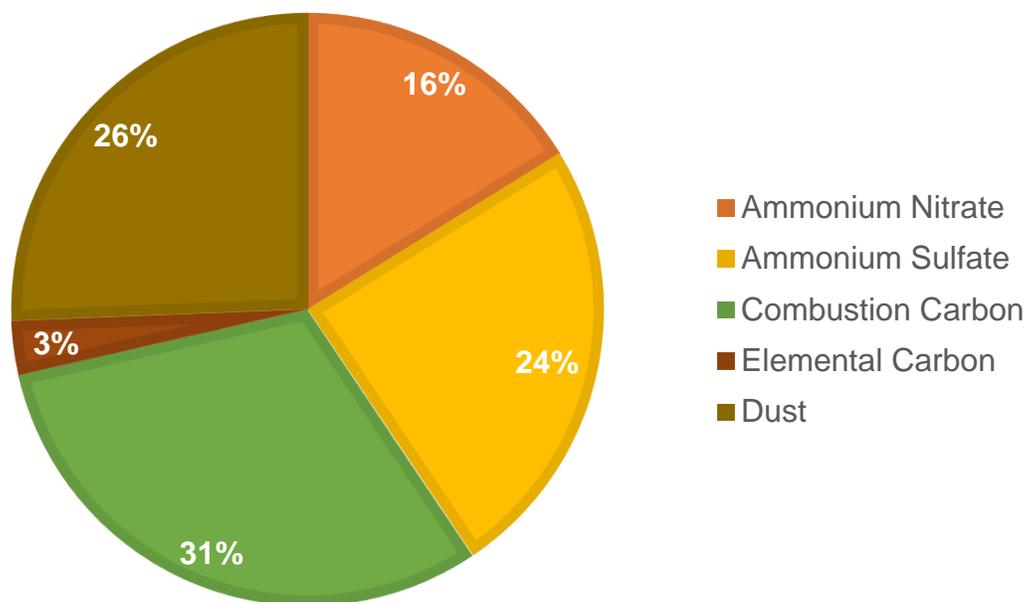
PM2.5 Speciation: What type of PM2.5 is in the ambient air?

PM2.5 in Shafter comprised of many species that contribute to the total PM2.5 concentration measured by air monitors, as summarized in Table 3-2 below. This complex mixture is attributable to stationary, mobile, and area-wide sources described above, as well as naturally occurring emissions. Although the list of species contributing to PM2.5 in Shafter is lengthy, it can be grouped into larger representative categories. The following is a brief description of how each of these larger species categories are formed and emitted into the atmosphere. The following figures show the speciation of PM2.5 in Shafter, based on modeling data.

Table 3-2: Summaries of PM2.5 Species

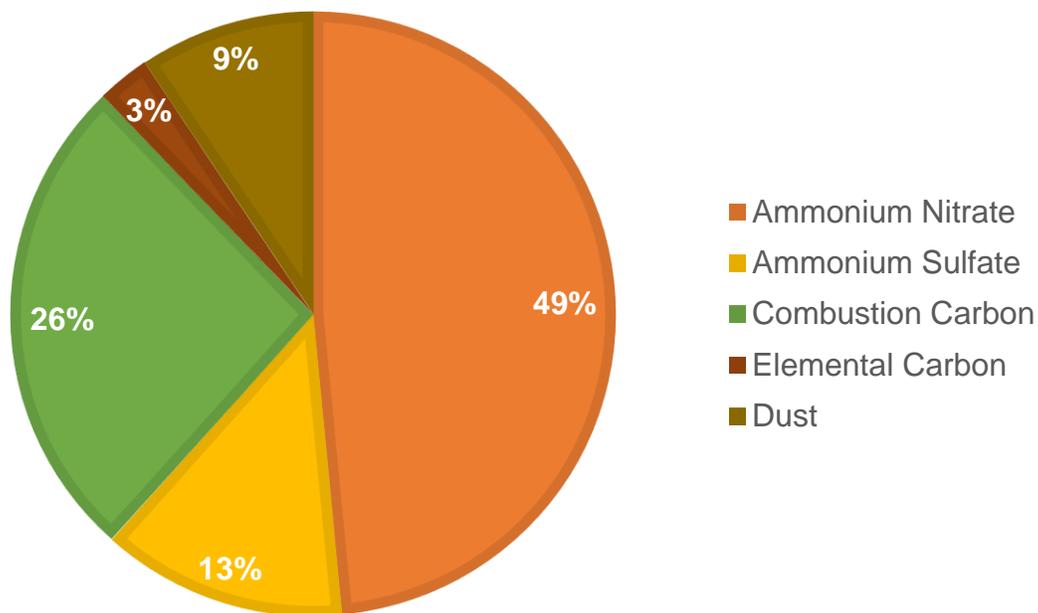
PM2.5 Species	Description
Organic carbon	Directly emitted, primarily from combustion sources (e.g. residential wood combustion). Also, smaller amounts attached to geologic material and road dusts. May also be emitted directly by natural/biogenic sources.
Elemental carbon	Also called soot or black carbon; formed during incomplete combustion of fuels (e.g. diesel engines).
Geologic material	Road dust and soil dust that are entrained in the air from activity, such as soil disturbance or airflow from traffic.
Trace metals	Identified as components from soil emissions or found in other particulates having been emitted in connection with combustion from engine wear, brake wear, and similar processes. Can also be emitted from fireworks.
Secondary organic aerosol	Secondary particulates formed from photochemical reactions of organic carbon.
Ammonium nitrate	Reaction of ammonia and nitric acid, where the nitric acid is formed from nitrogen oxide emissions, creating nitric acid in photochemical processes or nighttime reactions with ozone.
Ammonium sulfate	Reaction of ammonia and sulfuric acid, where the sulfuric acid is formed primarily from sulfur oxide emissions in photochemical processes, with smaller amounts forming from direct emissions of sulfur.
Combined water	A water molecule attached to one of the above molecules. Combined water is not included when measuring mass of PM2.5 for regulatory purposes, and is therefore excluded from the following charts.

Figure 3-5: Species Contribution to Annual Average PM2.5 Concentrations in the Community



Ammonium nitrate, ammonium sulfate, combustion carbon, and dust all are significant species of PM2.5 emissions on an average day in Shafter. Although dust emissions comprise over 70% of the PM2.5 emissions inventory, dust accounts for only 26% of the PM2.5 concentration in the ambient air, on average throughout the year.

Figure 3-6: Species Contribution to Peak Day PM2.5 Concentrations in the Community



As shown in the figure above, peak PM2.5 emission days in the community see a large increase in ammonium nitrate, which is created from the chemical reaction of NOx and ammonia, largely from fuel combustion during multiday stagnation events. However, ammonium nitrate is generally regarded as having relatively low toxicity compared to other PM2.5 species like combustion carbon.

How will the community inventory change in the future?

The tables and graphs below summarize the total Shafter community-level emissions inventories for years 2017, 2024, and 2029: These graphs show the proportion of PM2.5, NOx, and VOC emissions that originate from stationary, area, and mobile sources of emissions. The projected inventories show how the Shafter community-level inventory is expected to change into the future in years 2024 and 2029.

Figure 3-7: Year 2017, Shafter Emissions Inventories

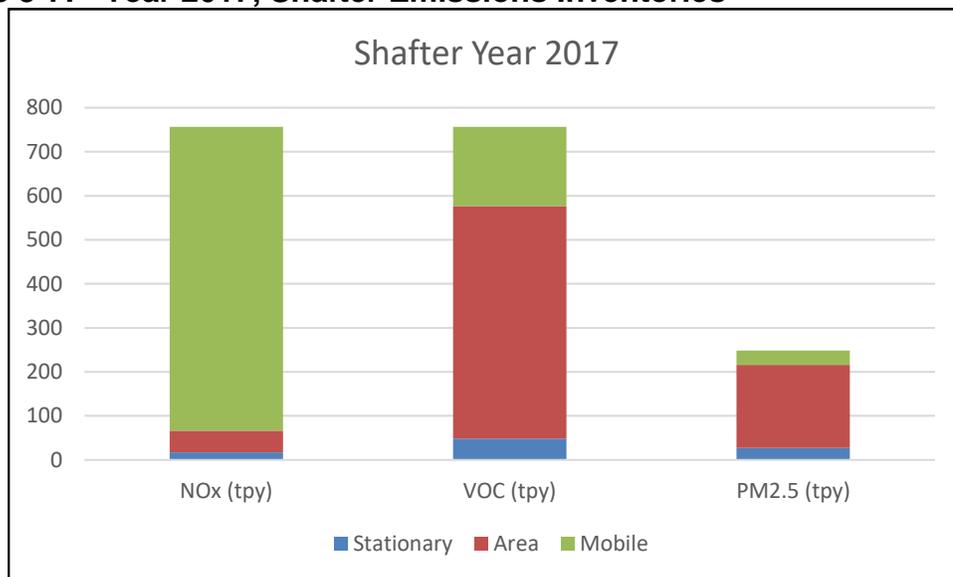


Table 3-3: 2017 Shafter Emissions Inventory

Source Categories	NOx (tpy)	VOC (tpy)	PM2.5 (tpy)
Stationary	16.91	48.19	27.41
Area	49.70	527.98	188.48
Mobile	689.76	180.59	32.49

Figure 3-8: Year 2024, Shafter Projected Emissions Inventories

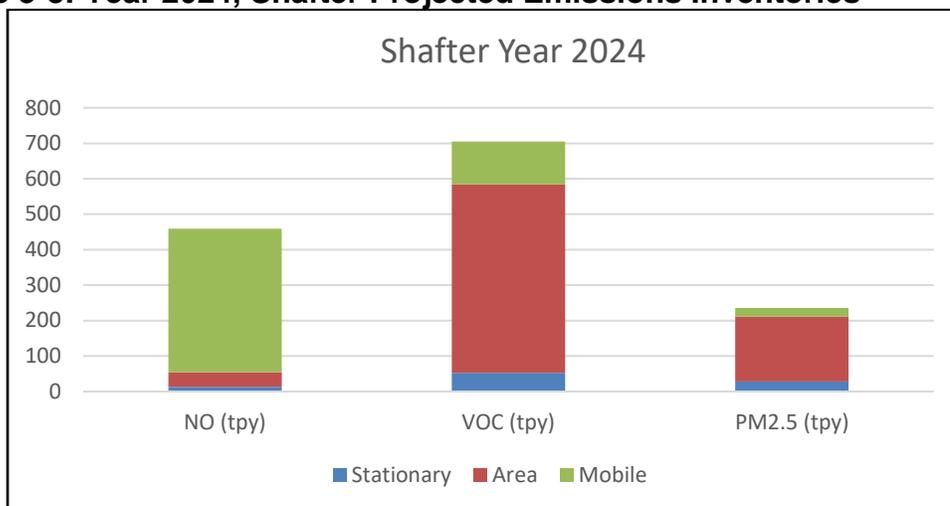


Table 3-4: 2024 Shafter Emissions Inventory

Source Categories	NOx (tpy)	VOC (tpy)	PM2.5 (tpy)
Stationary	13.08	52.18	27.96
Area	41.58	531.57	183.72
Mobile	404.79	120.93	23.63

Figure 3-9: Year 2029, Shafter Projected Emissions Inventories

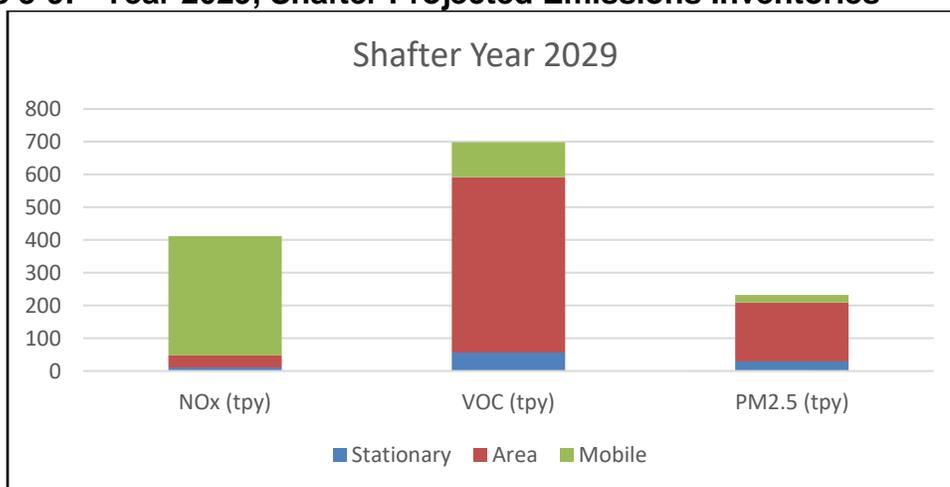


Table 3-5: 2029 Shafter Emissions Inventory

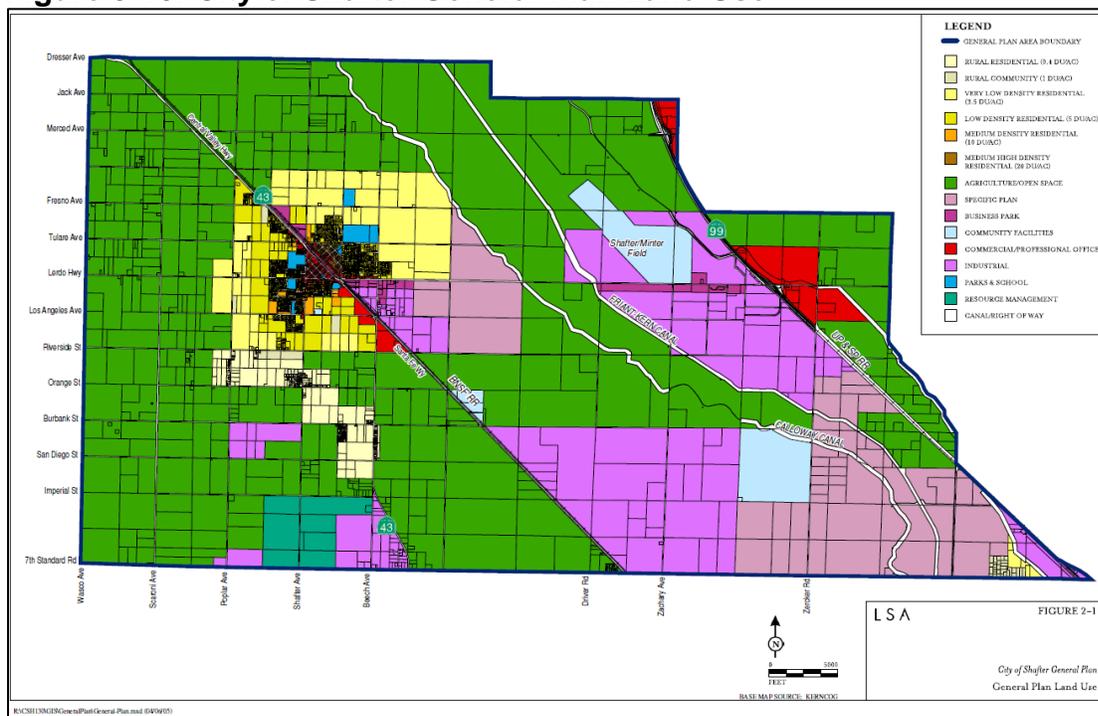
Source Categories	NOx (tpy)	VOC (tpy)	PM2.5 (tpy)
Stationary	11.11	56.36	28.82
Area	36.65	535.41	180.06
Mobile	363.80	106.72	22.90

For further information about the emissions inventory for Shafter, including detailed tables showing the stationary source emissions inventory, projected emissions inventory for District permitted facilities, mobile source inventory, and area-wide sources inventory, please refer to Appendix C.

3.2.5 SENSITIVE RECEPTORS AND LAND USE

As illustrated in the City of Shafter General Plan Land Use map, below, the City of Shafter is surrounded by areas zoned for agricultural use, with industrial zones located to the west and southwest of the community. The town’s commercial center is surrounded by medium and low density housing. Primary heavy duty truck routes are on Hwy 99, Hwy 43, and Lerdo Hwy. There is also a train route primarily used for freight movement that runs parallel to Hwy 43, with a railyard and distribution centers located at the southern portion of the city limits, as well as a train route that runs parallel to Hwy 99.

Figure 3-10: City of Shafter General Plan Land Use



The location of sensitive receptors is important to assess the impacts of emissions on public health. Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential dwelling unit(s). The locations of residential centers are shown in yellow, orange, and brown in the City of Shafter Land Use map. Figure 3-11, below, shows the locations of schools, adult and child care facilities, and medical facilities within the community. Sensitive receptors within the Shafter community are located in proximity to agricultural operations, heavy duty mobile sources, and industrial sources, including oil and gas operations. Figures 3-12 and 3-13 illustrate where PM2.5 and diesel particulate emissions are spatially allocated within the community.

Figure 3-11: Sensitive Receptor Locations in Shafter

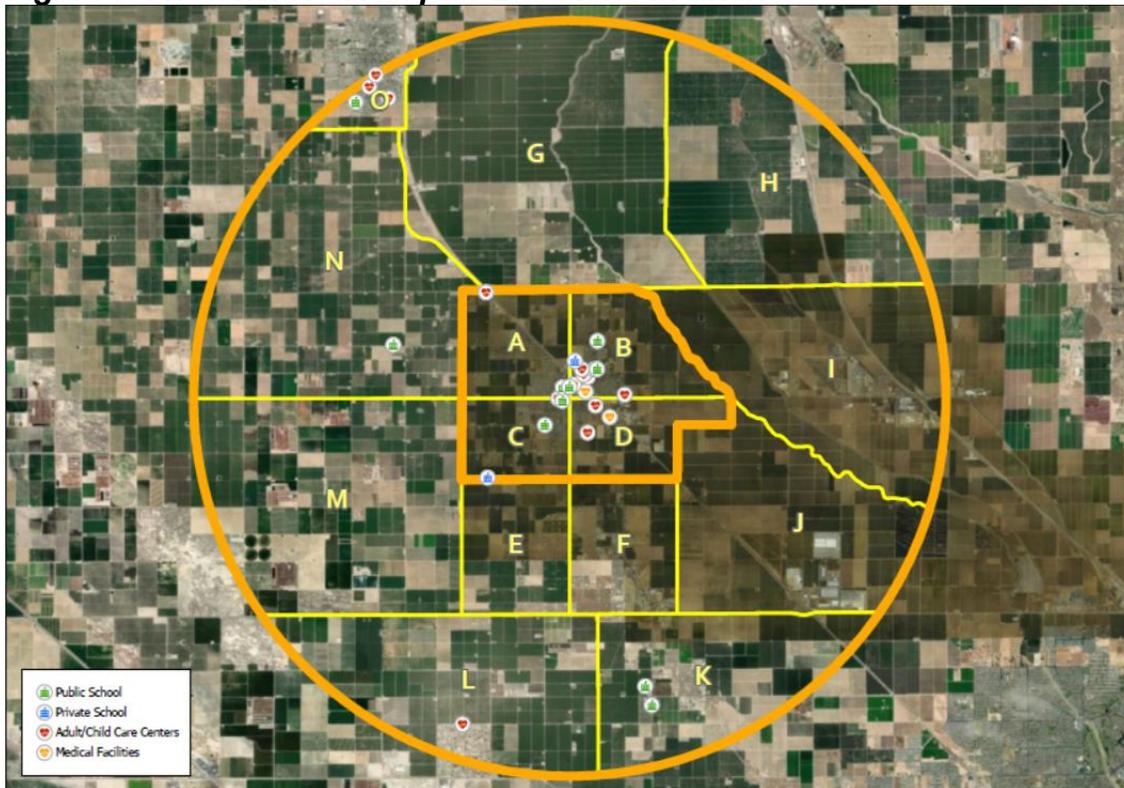


Figure 3-12: Spatial Distribution of Diesel Particulate Matter Emissions in the Community

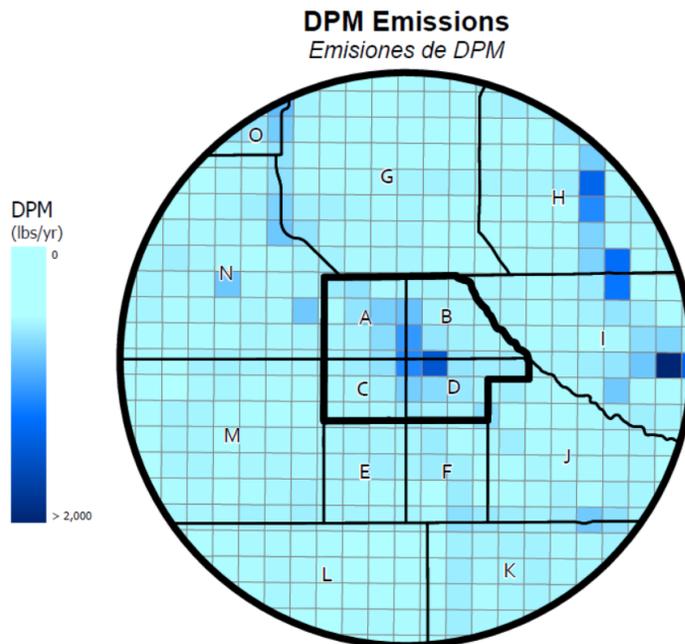
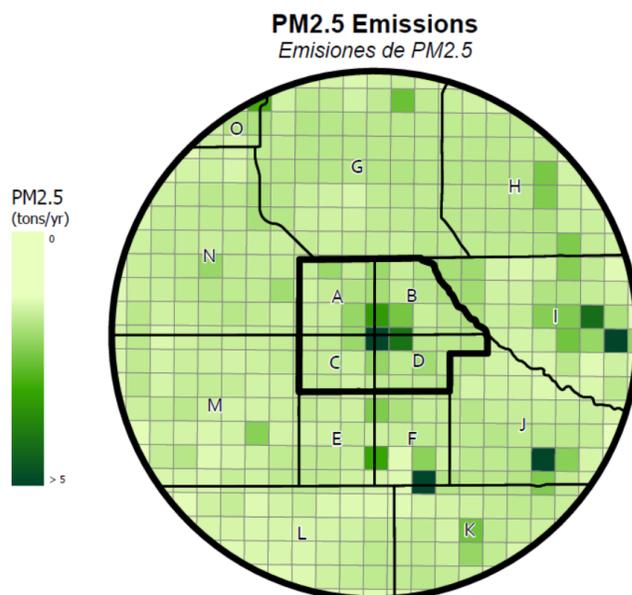


Figure 3-13: Spatial Distribution of PM2.5 Emissions in the Community

[Where can I get more information about the sources of air pollution in Shafter?](#)

To provide detailed community-level data to the Steering Committee and the general public, District staff have created an interactive mapping tool that shows the emissions inventory for stationary sources, area sources, and both on-road and off-road mobile emissions. Examples of the emissions data available through this mapping tool are shown in the figures below. Please visit the District website to zoom in and explore the community:

<https://sjvapcd.maps.arcgis.com/apps/webappviewer3d/index.html?id=ce2faca8d98544f8bff2628f7d2aa8a3>

Figure 3-14: District mapping tool showing stationary source locations in and around the community

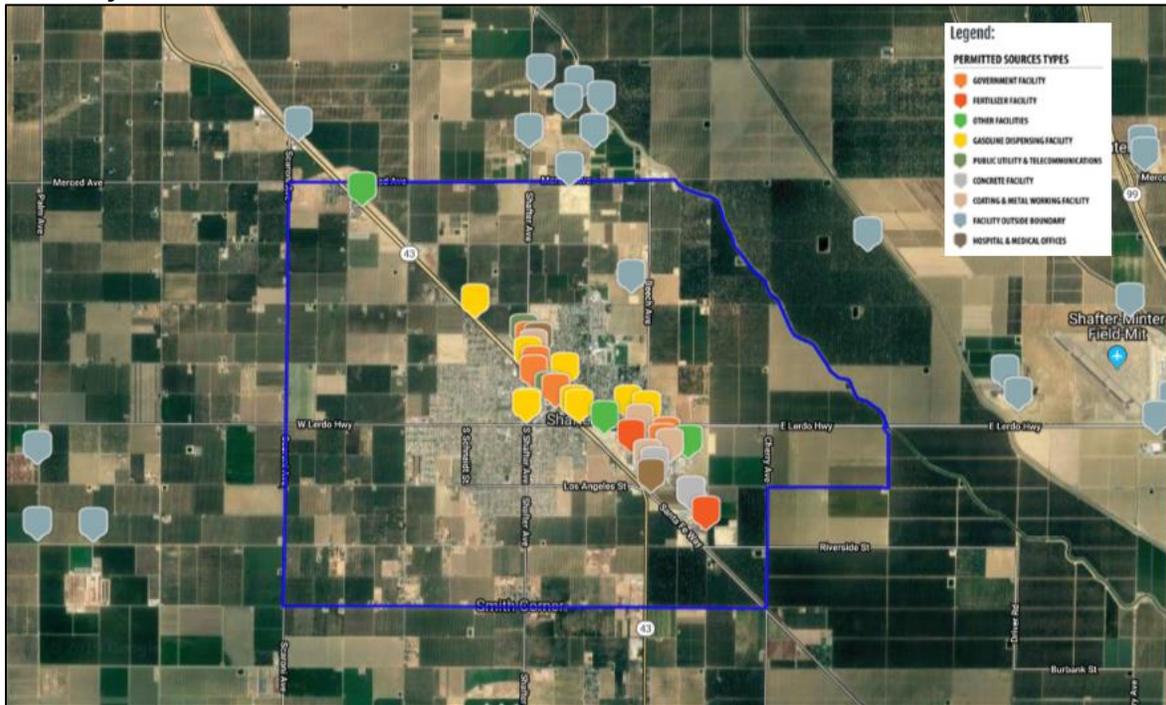
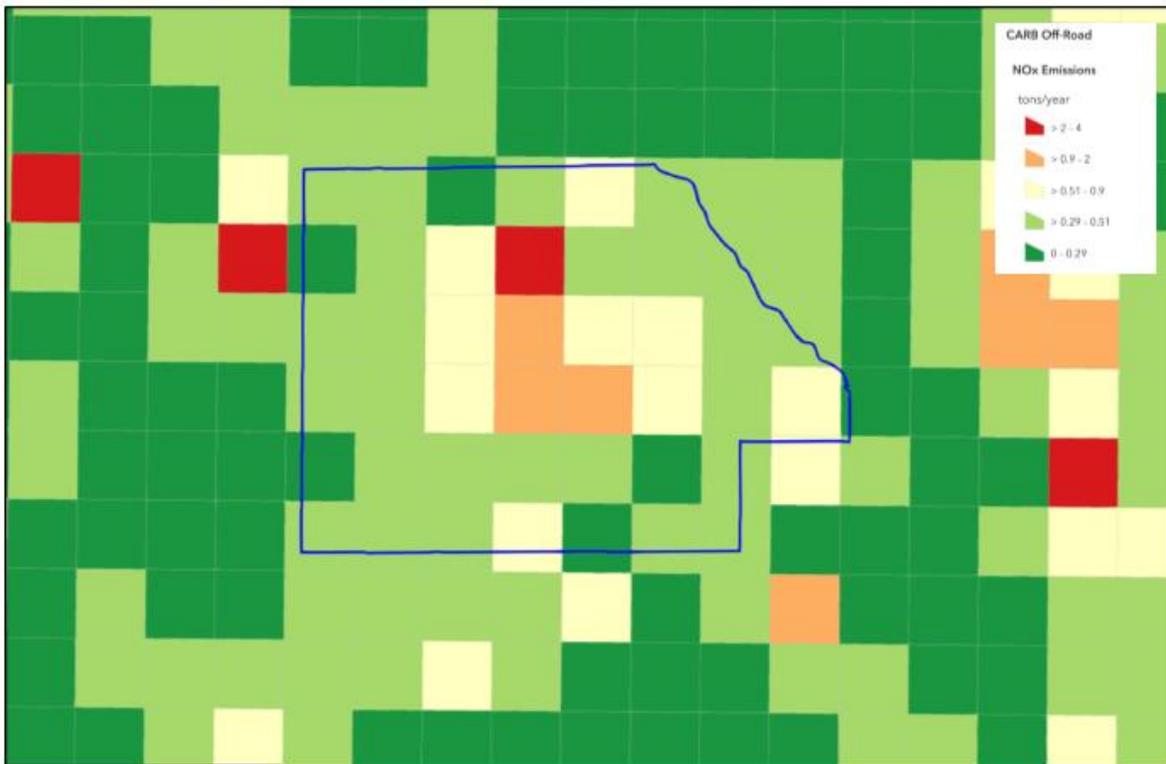


Figure 3-15: District mapping tool showing off-road mobile source emissions in and around the community



3.3 EXISTING AIR QUALITY PROGRAMS

District Plans for Attainment of Health-Based Air Quality Standards

The U.S. Environmental Protection Agency (EPA) periodically reviews and establishes health-based national air quality standards (also referred to as NAAQS) for ozone, particulates, and other criteria air pollutants guided by the Clean Air Act. For more than two decades, the District and CARB have adopted numerous attainment plans to reduce ozone, particulate matter, and precursor emissions. The District's multifaceted approach to reducing emissions in the San Joaquin Valley consists of a combination of innovative regulatory and non-regulatory measures in order to reach attainment of EPA's increasingly stringent health-based NAAQS.

The District's plans include emissions inventories that identify sources of air pollutants, evaluations for feasibility of implementing potential opportunities to reduce emissions, sophisticated computer modeling to estimate future levels of pollution, and a strategy for how air pollution will be further reduced. Partnering with CARB, mobile source regulations have provided regional reductions in PM and NO_x critical for attainment. District plans include innovative alternative strategies for accelerating attainment through non-regulatory measures such as incentive programs; technology advancement programs; the District's legislative platform; community outreach and education programs; and additional strategies such as energy efficiency, eco-driving, green purchasing and contracting, supporting urban heat island mitigation efforts, and encouraging cleaner methods of generating electrical energy and mechanical power.

Measures implemented for these Valley-wide strategies also apply to the AB 617 community of Shafter and have resulted in tremendous emissions reductions being achieved, to the benefit of the health of all Valley residents. Most recently, after an extensive 3-year public process, the District, in coordination with CARB and EPA, adopted the *2018 PM_{2.5} Plan*. This historic plan builds on decades of air quality improvement efforts and establishes a comprehensive strategy for continuing to improve the Valley's air quality and meet the latest federal PM_{2.5} standards. Further information on the comprehensive rules, regulations, and other programs that have been developed as a part of the District's attainment planning process are detailed in the District's plans for attainment of state and federal air quality standards, with links provided to each attainment plan below:

PM_{2.5} Attainment Plans

- [2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards](#)
The District adopted the *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards* on November 15, 2018. This plan addresses the EPA federal 1997 annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³; the 2006 24-hour PM_{2.5} standard of 35 µg/m³; and the 2012 annual PM_{2.5} standard of 12 µg/m³.
- [2016 Moderate Area Plan for the 2012 PM_{2.5} Standard](#)
The District adopted the *2016 Moderate Area Plan for the 2012 PM_{2.5} Standard* on September 15, 2016. This plan addresses the EPA federal annual PM_{2.5}

standard of 12 $\mu\text{g}/\text{m}^3$, established in 2012. This plan includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment.

- [2015 Plan for the 1997 PM2.5 Standard](#)
The District adopted the *2015 Plan for the 1997 PM2.5 Standard* on April 16, 2015. This plan addresses EPA's annual PM2.5 standard of 15 $\mu\text{g}/\text{m}^3$ and 24-hour PM2.5 standard of 65 $\mu\text{g}/\text{m}^3$, established in 1997.
- [2012 PM2.5 Plan](#)
The District adopted the *2012 PM2.5 Plan* in December, 2012. This plan addresses EPA's 24-hour PM2.5 standard of 35 $\mu\text{g}/\text{m}^3$, which was established by EPA in 2006.
- [2008 PM2.5 Plan](#)
The District adopted the *2008 PM2.5 Plan* in April, 2008. This plan addresses EPA's annual PM2.5 standard of 15 $\mu\text{g}/\text{m}^3$, which was established by EPA in 1997.

PM10 Attainment Plans

- [2007 PM10 Maintenance Plan](#)
The District adopted the *2007 PM10 Maintenance Plan* in September, 2007, to assure the San Joaquin Valley's continued attainment of EPA's PM10 standard. EPA designated the Valley as an attainment/maintenance area for PM10.

Ozone Attainment Plans

- [2016 Plan for the 2008 8-Hour Ozone Standard](#)
The District adopted the *2016 Plan for the 2008 8-Hour Ozone Standard* in June 2016. This plan satisfies Clean Air Act requirements and ensures expeditious attainment of the 75 parts per billion 8-hour ozone standard.
- [2014 RACT SIP](#)
The District adopted the *Reasonably Available Control Technology (RACT) Demonstration for the 8-Hour Ozone State Implementation Plan* in June, 2014.
- [2013 Plan for the Revoked 1-Hour Ozone Standard](#)
The District adopted the *2013 Plan for the Revoked 1-Hour Ozone Standard* in September, 2013.
- [2009 RACT SIP](#)
The District adopted the *Reasonably Available Control Technology (RACT) Demonstration for Ozone State Implementation Plans (SIP)* in April, 2009.
- [2007 Ozone Plan](#)
The District adopted the *2007 Ozone Plan* in April 2007. This plan addresses

EPA's 8-hour ozone standard of 84 parts per billion (ppb), which was established by EPA in 1997.

As a result of the District's stringent and comprehensive air quality management strategy along with significant investments made by Valley businesses and residents, PM2.5 and ozone levels are now at historically low levels, and the Valley continues to be in attainment of the PM10 NAAQS. Emissions from stationary sources have been reduced by 85%, cancer risk from exposure to air pollutants has been reduced by 95%, population exposure to elevated PM2.5 levels have been reduced by 85%, and population exposure to elevated ozone levels have been reduced by 90%. This success in reducing emissions Valley-wide provides assurance that targeted strategies will provide the desired results in helping to improve the air quality in AB 617 selected communities.

Regulatory Measures

The District has implemented a comprehensive regulatory control strategy for decades. Since 1992, the District has adopted nearly 650 rules to implement this aggressive control strategy. Many current rules are fourth or fifth generation, meaning that they have been revised and emissions limits have been lowered several times, as new emission control technology has become available and cost effective. Building on decades of developing and implementing active and effective air pollution control strategies, District rules implement the most stringent measures, best available control measures, and best available retrofit control technologies feasible to require in the San Joaquin Valley. The District's stringent and innovative rules have set benchmarks for other air agencies throughout California and the nation. Regulations implemented by the District have reduced emissions from stationary sources by over 80% to date and will continue to achieve significant emissions reductions in the coming years.

District rules reduce emissions of criteria air pollutants and toxic air contaminants from sources in and around the community. Emission sources in and around the community of Shafter that are regulated by the District include residential wood burning, open burning, construction activities, automotive body repair and paint shops, restaurants, engines, boilers, oil and gas production facilities, confined animal feed operations such as dairies, agricultural crop production operations, concrete batch plants, concrete products, cotton ginning, crude oil and natural gas production, drywall manufacturing, fabricated metal products, fire protection, gasoline dispensing operations, government buildings, metal fabrication, skilled nursing care facilities, soil and groundwater remediation, and telecommunications facilities. District rules that reduce emissions from local sources in the community of Shafter are outlined in the following table:

Table 3-2: District Rules Reducing Emissions from Shafter Pollution Sources

Rule #	Rule Description
4101	Visible Emissions
4102	Nuisance
4103	Open Burning
4201	Particulate Matter Concentration
4203	Particulate Matter Emissions from Incineration of Combustible Refuse

Rule #	Rule Description
4301	Fuel Burning Equipment
4302	Incinerator Burning
4305	Boilers, Steam Generators, And Process Heaters - Phase 2
4306	Boilers, Steam Generators, and Process Heaters - Phase 3
4307	Boilers, Steam Generators, and Process Heaters - 2.0 MMBtu/hr TO 5.0 MMBtu/hr
4307	Boilers, Steam Generators, and Process Heaters – 0.075 MMBtu/hr TO Less than 2.0 MMBtu/hr
4309	Dryers, Dehydrators, and Ovens
4320	Advanced Emission Reduction Options For Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr
4354	Glass Melting Furnaces
4455	Components At Petroleum Refineries, Gas Liquids Processing Facilities, And Chemical Plants
4550	Conservation Management Practices
4570	Confined Animal Facilities
4601	Architectural Coatings
4602	Motor Vehicle Assembly Coatings
4603	Surface Coating Of Metal Parts And Products, Plastic Parts And Products, And Pleasure Crafts
4612	Motor Vehicle And Mobile Equipment Coating Operations
4621	Gasoline Transfer Into Stationary Storage Containers, Delivery Vessels, And Bulk Plants
4622	Gasoline Transfer Into Motor Vehicle Fuel Tanks
4623	Storage Of Organic Liquids
4702	Internal Combustion Engines
4801	Sulfur Compounds
4901	Wood Burning Fireplaces and Wood Burning Heaters
4902	Residential Water Heaters
8011	General Requirements
8021	Construction, Demolition Excavation, Extraction, and Other Earthmoving Activities
8031	Bulk Materials
8041	Carryout and Trackout
8051	Open Areas
8061	Paved and Unpaved Roads
8071	Unpaved Vehicle/Equipment Traffic Areas
8081	Agricultural Sources
9310	School Bus Fleets
9410	Employer Based Trip Reduction
9510	Indirect Source Review

While California and the federal government have direct authority to regulate tailpipe emissions from mobile sources, the District has also adopted innovative regulations such as the Indirect Source Review (discussed in more detail later in this section) and Employer-based Trip Reduction rules to reduce emissions from mobile sources within the District's limited jurisdiction over these sources. A complete listing of the District's current rules and regulations is available at the following link:

<http://www.valleyair.org/rules/1ruleslist.htm>

For the recently adopted *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards* 2018 PM_{2.5} Plan, the District performed an exhaustive evaluation of all potential

additional opportunities for reducing emissions and committed to amend several rules to achieve expeditious attainment of the health-based federal PM_{2.5} air quality standards (see Section IV). This comprehensive analysis also demonstrated that the District's rules and regulations are at least as stringent, or more stringent, than all other rules in the nation. As a part of this plan, CARB committed to several measures to reduce emissions from mobile sources. Furthermore, in accordance with AB 617 requirements, the District adopted an expedited schedule in December, 2018, for performing further determination of best available retrofit control technology to ensure that applicable sources are utilizing the cleanest technologies feasible (see Section IV).

District New and Modified Stationary Source Review

Beyond District rules that apply to specific categories of stationary sources, District Rule 2201 (New and Modified Stationary Sources Review) applies to all new stationary sources and all modifications to existing stationary sources that are subject to District permit requirements. District Rule 2201, and the associated permitting process, ensure that new or modified stationary sources of air pollution are subject to the most effective emissions controls feasible for implementation; that emissions from the project do not create a public health risk (including a modeled analysis of cancer risks resulting from the project and possible health hazard risks resulting from both acute and chronic exposure to emissions for nearby residences and worksites); and that the project does not increase the potential for a violation of State or National Ambient Air Quality Standards. More information about the District's rigorous permitting process is available at <http://www.valleyair.org/busind/pto/ptoprocess.htm>, and is also summarized below. Under Rule 2201, new facilities or facilities modifying equipment must obtain an Authority to Construct (ATC) permit prior to construction, and are subject to stringent requirements, including:

- Best Available Control Technology (BACT)
- Risk Management Review (RMR)
- Toxic Best Available Control Technology (T-BACT)
- Ambient Air Quality Analysis (AAQA)

Best Available Control Technology (BACT): For each emissions unit (specific piece of equipment) that has the potential to emit over the 2 lb/day BACT threshold, the District requires the use of the best available air pollution control technology commonly used to control emissions from similar type of equipment. The District also conducts an analysis to determine if, based on specific criteria, cleaner technologies that are not commonly used for these type of equipment could be used to further reduce emissions from the proposed equipment. This very stringent requirement ensures that the most effective air pollution control technique is utilized resulting in reduced public exposure to air pollutants and toxic air contaminants.

As a part of the District's BACT Policy (publicly available at <https://www.valleyair.org/busind/pto/bact/bactidx.htm>), District staff maintain a BACT Clearinghouse, updated and published quarterly, that includes available control technologies and methods that meet one of the following conditions:

- A. The control technologies or methods have been achieved in practice for an emissions unit and class of source; or
- B. Are contained in any State Implementation Plan approved by the EPA for an emissions unit category and class of source; or
- C. Are any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found to be technologically feasible for such class or category of sources or for a specific source.

AB 617 legislation requires that CARB develop and maintain a state-wide Technology Clearinghouse for BACT and T-BACT. Once available, District staff will review the Technology Clearinghouse as an additional resource when updating the District's BACT Clearinghouse.

Risk Management Reviews: The District conducts Risk Management Reviews to ensure that the public exposure to toxic air contaminants from projects required to obtain an ATC is less than significant. Very complex computer models and the most conservative assumptions are used to assess the project's maximum impact on resident's health. Projects resulting in estimated significant health risk for the public are not approved.

Toxic Best Available Control Technology (T-BACT): When T-BACT is triggered under a Risk Management Review analysis, the District conducts a T-BACT analysis to ensure the most stringent control technique is utilized resulting in reduced public exposure to toxic air contaminants. T-BACT is required for units emitting air toxic emissions that result in a cancer risk of greater than one-in-a-million, and projects that would pose significant impacts to nearby residences or businesses. Projects resulting in estimated significant health risk for the public are not approved.

Ambient Air Quality Analysis (AAQA): The U.S. Environmental Protection Agency (EPA) and CARB have established National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), respectively, for numerous pollutants. Under Rule 2201, the District conducts AAQAs to ensure that project related emissions would not cause or make worse a violation of the State or National ambient air quality standard. This analysis ensures that the public exposure to certain criteria air pollutants is less than the maximum allowed concentration in outdoor air without harm to public.

AB 2588 (Air Toxics Hot Spots Information and Assessment Act)

The District's implementation of [AB 2588](#), California's Air Toxics "Hot Spots" Information and Assessment Act, has resulted in dramatic reductions in emissions of air toxics from existing sources in the San Joaquin Valley. Under this right-to-know law, the District has worked with 5,700 Valley facilities to quantify emissions of air toxics, determine the health risk caused by those emissions, report emissions and any significant risks through written public reports and neighborhood public meetings, and take steps to reduce such risks. As a result of these efforts, and the subsequent reductions in air

toxics, since 2007 there have been no Valley facilities that pose a significant risk to any Valley resident under the “Hot Spots” program. A detailed discussion of AB 2588 and facility risk reduction audits conducted to date in the community is included in Section IV.

Implementation of State Airborne Toxic Control Measures

The District’s integrated air toxics program incorporates Airborne Toxic Control Measure (ATCM) regulations promulgated by CARB. State-issued ATCMs are designed to reduce toxic air emissions from various types or categories of equipment by imposing prescribed air pollution control measures. Implementing ATCMs result in reductions of toxics exposure from targeted type or category that could cause significant risks at a regional level. These ATCMs are implemented primarily through the District’s permitting process. Examples of emissions sources that have drastically reduced toxic air contaminant emissions in the San Joaquin Valley because of such rules and regulations include dry cleaners, chrome platers, gas stations, and diesel internal combustion engines.

Implementation of Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPS) and Maximum Achievable Control Technology (MACT) Standards

The District’s integrated air toxics program fulfills federal mandates under Title III of the federal Clean Air Act, which requires specific types of sources of air toxic emissions to directly reduce emissions through NESHAPS and MACT standards. These standards apply to a variety of source categories, ranging from diesel internal combustion engines to chrome platers, and from refineries to power plants.

Implementation of Federal New Source Performance Standards (NSPS)

The District also fulfills federal mandates under Title I of the federal Clean Air Act, which requires specific types of new, modified, and reconstructed facilities subject to NSPS to directly reduce emissions of criteria air pollutants. These standards apply to a variety of source categories, ranging from hot mix asphalt facilities to sewage treatment plants, and from landfills to boilers.

District Indirect Source Requirements

District Rule 9510 is the only rule of its kind in the State of California and throughout the nation which applies to new residential and commercial development projects. The District’s rule is recognized as the benchmark, or best available control, for regulating these indirect sources of emissions, such as from construction equipment and mobile sources associated with new developments. This rule requires mitigation of the growth in emissions from mobile and area sources associated with construction and operation of new development projects in the Valley.

District Air Quality Assistance and Guidance to Public Agencies

The District provides assistance and guidance to other public agencies, including cities and counties in the San Joaquin Valley, to help them assess, minimize, and mitigate air quality impacts of projects undergoing their land-use approval processes, over which

the District has no statutory authority. For instance, the District provides comments under the California Environmental Quality Act (CEQA) to public agencies on hundreds of proposed projects each year, designed to minimize air quality impacts. In addition, the District maintains and makes available an extensive suite of guidance documents and tools for assessing and mitigating air quality impacts, including criteria and air toxic emissions, from stationary source projects and other development projects.

Mobile Source Regulations

Mobile source emissions make up over 85% of the Valley's NO_x emissions, the primary driver in the formation of particulate and ozone pollution, and therefore reductions in mobile source emissions have become an ever-increasingly important part of the Valley's attainment strategy of federal air quality standards. Additionally, mobile sources comprise, by far, the largest contributors to ambient air toxics health risk. States and the federal government, unlike the District, have the authority to directly regulate tailpipe emissions from mobile sources. CARB has adopted tough regulations for heavy-duty trucks, off-road equipment, and other mobile sources. Additionally, the District has adopted innovative regulations such as the Indirect Source Review and Employer-based Trip Reduction rules to reduce emissions from mobile sources within the District's limited jurisdiction over these sources. Local air districts do not have the authority to implement regulations requiring ultra-low tailpipe emissions standards on mobile sources.

With authority to regulate mobile source emissions, CARB has adopted and amended a number of regulations aimed at reducing exposure to diesel PM and NO_x from fuel sources, freight transport sources like heavy-duty diesel trucks, transportation sources like passenger cars and buses, and off-road sources like large construction equipment. Phased implementation of these regulations will produce emission reduction benefits in the coming years as the regulated fleets are retrofitted, and as older and dirtier fleet units are replaced with newer and cleaner models at an accelerated pace. CARB's ongoing comprehensive measures to reduce emissions from mobile sources throughout the state are detailed in Chapter 4 in the "Statewide Strategies" section.

District Incentive-Based Emission Reduction Programs

The District has increasingly relied on its advocacy efforts to secure state and federal funding sources, and locally-generated funding to implement incentive programs that have become a crucial component of the District's overall strategy for achieving the emissions reductions necessary to bring the Valley into attainment and to protect public health. These programs provide an effective way to accelerate emissions reductions and encourage technology advancement, particularly from mobile sources, a sector not directly under the District's regulatory jurisdiction. Given that over 85% of the NO_x 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 the regulatory emissions reductions.

The District operates one of the largest and most well-respected voluntary incentive programs in California. Since the District's inception in 1992, considerable funding has

been invested into thousands of clean-air projects throughout the Valley. The District's incentive programs offer Valley businesses and residents the opportunity to replace their older, higher polluting equipment with newer, cleaner models. These incentive programs include options for replacing older diesel powered trucks, ag engines, tractors, locomotives, and construction equipment as well as options for replacing wood burning devices, lawn equipment and passenger vehicles. These projects have achieved significant emissions reductions with corresponding air quality and health benefits. The incentive programs listed below have been implemented in Shafter as of September 1, 2019, achieving almost 6,000 tons of combined PM, NOx, and VOC emissions reductions in the community.

Table 3-3: Grant Funding Invested in Shafter through September 1, 2019

Shafter Grant Funding: Incentive Program	Units	Sum of Grant Amount	Total Tons PM, NOx, VOC Emissions Reduced
Burn Cleaner Wood Stove Change Out New Device	329	\$418,350.00	75.27
Heavy-Duty Ag Burn Alternative Voucher	6	\$216,654	117.7
Heavy-Duty Ag Engine Alt Fuel to Electric	10	\$255,691.34	257.80
Heavy-Duty Ag Engine Diesel to Alt Fuel	3	\$45,000.00	46.58
Heavy-Duty Ag Engine Diesel to Diesel	181	\$2,545,659.00	1,464.33
Heavy-Duty Ag Engine Diesel to Electric	97	\$2,771,816.68	860.25
Heavy-Duty Ag Engine New Electric	16	\$167,000.54	31.28
Heavy-Duty Ag Engine Pearl Combined Fuel Types	6	\$85,000.00	274.95
Heavy-Duty Ag-UTV Vehicle Replacement	52	\$653,108.31	0.00
Heavy-Duty Off-Road Ag Vehicle Replacement	131	\$6,394,585.54	1,047.44
Heavy-Duty Off-Road Engine Repower	46	\$3,337,452.88	971.08
Heavy-Duty Off-Road Low-Dust Harvester Replacement	3	\$120,479.58	101.54
Heavy-Duty On-Road DERA Vehicle Replacement	2	\$53,462.26	0.00
Heavy-Duty On-Road Engine Repower	5	\$132,676.00	81.58
Heavy-Duty On-Road Engine Retrofit	1	\$20,000.00	2.48
Heavy-Duty On-Road Prop 1B TRU Infrastructure	1	\$48,000.00	1.30
Heavy-Duty On-Road Prop 1B Vehicle Replacement	60	\$3,090,000.00	382.74
Heavy-Duty On-Road Trade-Up	2	\$100,000.00	3.09
Heavy-Duty On-Road Truck Replacement	2	\$150,000.00	3.07
Heavy-Duty On-Road TVP Engine Retrofit	12	\$120,000.00	0.92
Heavy-Duty On-Road TVP Vehicle Replacement	50	\$2,257,965.46	146.30
Heavy-Duty On-Road VIP Vehicle Replacement	1	\$45,000.00	
Heavy-Duty School Bus Alt Fuel Tank Replacement	1	\$16,531.88	0.00
Heavy-Duty School Bus Engine Retrofit	18	\$343,862.07	0.00
Heavy-Duty School Bus Vehicle Replacement	17	\$2,770,323.76	5.65
Lawn & Garden Commercial Demonstration Project	3	\$3,476.79	0.00
Lawn & Garden Residential New Purchase	3	\$125.00	0.00

Shafter Grant Funding: Incentive Program	Units	Sum of Grant Amount	Total Tons PM, NOx, VOC Emissions Reduced
Lawn & Garden Residential Replacement	93	\$22,075.00	0.00
Light-Duty Charge Up EV Charger-Private	6	\$54,000.00	0.00
Light-Duty Drive Clean EV Vehicle Rebate	194	\$491,700.33	2.9294
Light-Duty EFMP Replacement	18	\$139,000.00	
Light-Duty TITU Repairs	264	\$152,343.25	
Light-Duty Van Pool Voucher	175	\$104,550.00	0.71
Public Benefit Alternative Fuel New Vehicle	43	\$753,292.23	0.00
Remove II Alternate Fuel Training	1	\$1,390.00	
Remove II Light and Medium Duty EV Purchase	3	\$7,500.00	0.04
Special Projects Energy Efficiency Block Grant	3	\$219,206.36	0.00
Total	1,858	\$28,107,278.26	5,879.03

District Technology Advancement Efforts

The District Governing Board approved creation of the Technology Advancement Program in March, 2010, to accelerate development of technologies that can help reduce emissions in the Valley. Meeting EPA's increasingly stringent ozone and PM2.5 air quality standards requires significant advancements in low-emissions technologies from mobile and stationary sources. The Technology Advancement Program provides a strategic and comprehensive means to identify, solicit, and support technology advancement opportunities. Ongoing refinement of the program's technology focus areas targets efforts to achieve the greatest impact on the Valley's attainment and other health-based goals. This program has resulted in the development and deployment of electric feed mixers for dairy operations, clean fuel technologies for trucks, and solar-electric truck refrigeration units.

The current Technology Advancement Program focus is on supporting technology projects that provide alternatives to the open burning of forestry and agricultural woody waste materials. Advancing the deployment of technologies that provide alternatives to the open burning of agricultural material will reduce the impacts of agricultural burning and associated pollution on the community members of Shafter.

Public Air Quality Education and Outreach

Providing accurate and up to date air quality information to Valley residents is a top priority for the District, especially when circumstances such as wildfires overwhelm all clean air measures and lead to high pollution concentrations. Under these circumstances, the best course of action is to provide notifications to Valley residents so that sensitive individuals, in particular, can take precautions to minimize exposure. The District has expended significant resources on public notification and risk prevention measures, such as the Real-Time Air Advisory Network (RAAN) and Real-Time Outdoor Activity Risk (ROAR) Guidelines. The following are some additional examples of District outreach programs designed to help Valley residents understand air quality and what they can do to reduce their own impacts:

- Real-Time Air Quality Display (READ)
- Web-based Archived Air Quality System (WAAQS)
- Healthy Air Living
- Healthy Air Living Schools
- Healthy Air Living Partners
- Check Before You Burn
- Air Alerts

The above programs are available to community members, and have helped residents and school administrators take health protective action during poor air quality episodes.

4. STRATEGIES TO REDUCE THE CUMULATIVE EXPOSURE BURDEN IN SHAFTER

COMMUNITY-IDENTIFIED AIR QUALITY PRIORITIES

Throughout the AB 617 process, Community Steering Committee members and public participants have participated in a variety of facilitated exercises to identify and rank their top source categories of concern. Meeting materials and exercise worksheets were also sent to committee members and posted on the District's community page <http://community.valleyair.org> to allow additional opportunity to participate in identifying sources of concern. Some top source categories of concern in Shafter include:

Top Community Sources of Concern



Heavy Duty Trucks and Locomotives



Older/High Polluting Cars



Agricultural Sources



Oil and Gas Operations



Residential Wood Burning



Fugitive Dust



Urban Sources

To provide additional information about existing control programs for community members not familiar with ongoing air pollution control efforts, District staff prepared an informational document titled, "*Existing Control of Air Pollution Sources of Concern,*" (included for reference as Appendix D), and gave several presentations about existing District control programs. Additionally, the District held "World Café" style meetings, where Steering Committee members and the public could have conversations and question and answer sessions with staff from various agencies. These informative meetings served to build capacity to assist in developing new emission reduction measures for implementation in the community.

In partnership with the Community Steering Committee, community members, and other agencies, District staff have developed a suite of targeted measures to reduce emissions from community-identified sources of concern. In addition to the emission reductions achieved through expedited implementation of BARCT in community facilities, the adoption or amendment of rules that further reduce PM_{2.5} and toxics in the Valley, and enhanced enforcement in the community, these local measures provide accelerated emissions reductions in the community.

AB 617 legislation requires that community emission reduction programs identify cost-effective measures to achieve emission reduction targets in the community. During Steering Committee discussions to review potential strategies for implementation in the community, Committee members consistently supported and prioritized measures that would reduce emissions from residential sources of emissions while also providing tangible benefits to residents in the community. To that end, in addition to measures to reduce emissions from stationary, area, and mobile sources that are large contributors to the community emissions inventory, many of the measures supported by the Steering Committee and proposed for implementation in the Shafter CERP include targeted incentive programs and interagency partnerships that provide co-benefits in the community, in addition to air quality improvements. The measures captured in this chapter encompass a range of strategies to reduce community level exposure burden, including regulatory, enforcement, outreach and education, and voluntary incentive-based programs, as well as partnerships with other agencies to address issues outside of the District's direct jurisdiction.

It should be noted that the identified funding amounts for each measure are designed assuming that future-year state budget appropriations and funding allocations are similar to those approved by the legislature and CARB for current use in the AB 617 program, and are available in future District budget appropriations.

Incentive program guidelines also generally contain strict requirements that include specific project types and funding amounts. To maximize emission reductions in the AB 617-selected community of Shafter, the CERP includes measures that also leverage existing District incentive funding allocations, above and beyond funding amounts available through AB 617-related funding allocations.

Some of the incentive measures included in the CERP are proposed to operate under existing authority and approved program guidelines, while other measures will require the development of new program guidelines and associated approval by the District Governing Board and CARB. As the CARB Blueprint states, CARB and the District will continue developing regulatory and incentive actions through separate public processes. Subsequent implementation of proposed CERP measures will be conditional on the successful completion of applicable public processes, necessary financing approvals, technical feasibility analyses, economic competitiveness, safety, and environmental reviews.

The District will continue to work with the Steering Committee to receive community input as program guidelines are developed and projects are implemented within the community. As experience is gained in implementing the measures contained in the CERP, it may become evident that certain measures are more successful than others in reducing emissions and/or exposure, and are more popular with the community. Committee input on these considerations, and discussions about funding availability and cost-effectiveness of projects, may lead to adjustments to strategy goals and/or funding amounts to achieve overall emission reduction targets of the CERP.

The sections that follow provide detailed information about emission and exposure reduction strategies developed for each source category of concern to the community.

HEAVY DUTY MOBILE SOURCES

HEAVY DUTY MOBILE SOURCES IN SHAFTER

There are a variety of heavy-duty mobile sources operating in and around the City of Shafter. These can range from on-road trucks, school and transit buses, off-road equipment including agricultural and construction equipment, line-haul, short-haul and switcher locomotives. This equipment is primarily powered by diesel engines and depending on the specific category, is regulated by one or more statewide regulation.

Emissions from this source category include oxides of nitrogen (NOx) and combustion PM from the internal combustion engines. Mobile sources account for more than 85% of the NOx inventory throughout the Valley. In the Shafter community, 345 tons per year of NOx and 9 tons per year of PM2.5 are attributed to on-road heavy-duty equipment. In addition, 140 tons per year of NOx and 8 tons of PM2.5 are attributed to off-road heavy-duty equipment referenced in this measure.

Figure 4-1: Examples of Heavy Duty Mobile Sources



COMMUNITY CONCERNS AND COMMENTS

During committee discussions regarding heavy-duty mobile sources, a majority of the committee ranked this source as a high priority to address, with suggestions ranging from providing “mandatory incentives” to focusing exclusively on electrification of these sources, including mandating clean trucks and replacing locomotives with cleaner units and rerouting trucks around certain areas of the community.

CURRENT CONTROL PROGRAMS

The District does not have regulatory authority of emissions from mobile sources, including heavy-duty vehicles and equipment, locomotives, school and transit buses. Diesel powered on-road heavy-duty vehicles are subject to statewide ARB Truck and Bus Regulation which requires all equipment to get progressively cleaner over time. Off-road heavy-duty equipment is similarly controlled through the ARB Off-Road Regulation, which requires all fleets to be upgraded to newer, cleaner technologies over time. However, at this time, there are no regulatory requirements in place at the state or federal level controlling emissions from locomotives or heavy-duty agricultural

equipment including tractors, harvesting equipment and other heavy-duty equipment used in agriculture.

Due to the large amount of pollution that can be attributed to mobile sources, the District has implemented a broad suite of voluntary incentive programs, targeted at reducing emissions from heavy-duty engines operating throughout the Valley.

Heavy-Duty Trucks/Buses:

The District currently offers a variety of programs targeted at replacing or upgrading older, high-polluting trucks and buses with cleaner technology.

- The Heavy Duty Truck Replacement Program <http://valleyair.org/grants/truck-replacement.htm>
This program provides incentives for the replacement of existing heavy-duty diesel trucks with new, zero or near-zero-emission technology.
- The District is currently developing a Heavy-Duty Truck Repair Pilot Program to provide financial assistance to small fleet truck owners and operators to provide durable repairs for broken emissions components or systems in summer 2019.
- The District is currently developing new program for Heavy-Duty Alternative Fuel Infrastructure which will provide local businesses and agencies incentive funding to install alternative fueling infrastructure (electric, natural gas, hydrogen, etc.) to support the increased deployment of heavy-duty advanced clean technology vehicles.
- Electric School Bus Incentive Program - <http://valleyair.org/grants/electric-school-bus.htm>
This program is operated by the District and provides incentives for the replacement of existing older, higher-polluting school buses with new, electric school buses.
- Volkswagen Mitigation Trust – <http://vwbusmoney.valleyair.org/>
The VW Mitigation Trust has \$130 million in funds to replace older, high-polluting transit, school, and shuttle buses with new battery-electric or fuel-cell buses. Replacing an older bus with a zero-emission bus eliminates particulate matter and other pollutants that impact children and residents riding the buses, as well as residents throughout California communities. This statewide program is being administered by the District.

Locomotives:

Freight locomotives are regulated by the U.S. EPA. The current regulation requires that all locomotives purchased in or after 2015 be at least a Tier 4 emission level. Older, lower Tier engines, which comprise the majority of Class 1 fleets, are still permitted to run. Additionally, CARB is planning actions to address freight locomotive emissions

within the State. More details can be found in the 2019 March CARB Board Meeting Informational Update: <https://www.arb.ca.gov/board/books/2019/032119/19-3-2pres.pdf>

The District offers two incentive programs for locomotive fleets interested in transitioning to newer, clean technology, including:

- Heavy-Duty Program – <http://valleyair.org/grants/locomotive.htm>. Locomotive replacements can be funded as an eligible project category under the District’s utilizing funding provided to support AB 617. These projects are administered according to Carl Moyer Program guidelines and are subject to additional requirements contained within the approved AB 617 Community Air Protection Guidelines. This program is operated by the District.
- Proposition 1B - <http://valleyair.org/grants/locomotives-prop1b.htm>
This program incentivizes the reduction of emissions and health risks associated with freight movement along California’s trade corridors via upgrading to cleaner technologies or installation of emissions capture and control systems.

Agricultural Equipment:

The District offers the following programs targeted at replacing or repowering agricultural equipment in the Valley:

- Heavy-Duty Program Agricultural Tractors - <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>
Agricultural tractor replacements can be funded as an eligible project category utilizing funding provided to support AB 617. These projects are administered according to the Carl Moyer Program guidelines and are subject to additional requirements contained within the approved AB 617 Community Air Protection Guidelines. This program is operated by the District.
- FARMER Ag Truck Replacement Program - <http://valleyair.org/grants/documents/FARMER/guidelines.pdf>
This program provides incentive funds for the replacement of heavy-duty diesel agricultural trucks. Eligible agricultural trucks must be in current compliance with the State of California’s On-Road Truck and Bus Regulation. These projects are administered according to the FARMER Program guidelines and this program is operated by the District.
- Low-Dust Nut Harvester Incentive Program - <http://valleyair.org/grants/low-dust-nut-harvester.htm>
This program provides incentives for the replacement of older, conventional harvesters or sweepers with new, low-dust technology equipment. This incentive program helps to reduce dust emissions during harvest time, and can also be packaged with the District’s Tractor Replacement funding to upgrade tractors used to pull harvesting equipment.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to the priority that community members placed on reducing emissions from this source category and the large amount of emissions, including PM2.5 and toxic air contaminants that originate from heavy duty mobile sources in and around the community, the following strategies have been developed for implementation in the Shafter community.

The following are proposed measures that are within the Air District's statutory jurisdiction to implement:

HD.1: INCENTIVE PROGRAM FOR HEAVY DUTY TRUCKS REPLACEMENT WITH ZERO AND NEAR ZERO EMISSION TECHNOLOGY

Overview: The goal of this strategy is to reduce emissions from heavy duty diesel trucks operating in the Shafter community. The District currently offers incentives up to \$200,000 for the replacement of an in use diesel truck with cleaner technology, including battery electric, hybrid and near zero emission trucks. Heavy duty diesel trucks are currently subject to the state on-road truck and bus regulation which will require fleet turnover to 2010 emission standard compliant engines. Advances in engine technology have resulted in cleaner engines or battery electric units in some applications. By reducing or eliminating emissions from heavy duty trucks significant PM2.5 diesel particulate matter, and NOx emissions reductions can be achieved.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2024

Description of Proposed Actions: This strategy would provide enhanced outreach and access to incentive funding under the District's truck replacement incentive program for zero and near-zero emissions clean truck technologies that operate within the community. This strategy would rely on the Board-approved methodology and funding levels currently available in the District's truck replacement incentive program. This measure would replace 40 older, heavy duty diesel trucks operating in Shafter with zero or near zero emission technology at an expected cost of \$4,000,000. This strategy is estimated to reduce 0.36 tons of PM2.5 consisting of diesel particulate emissions, as well as 131 tons of NOx emissions.

HD.2: INCENTIVE PROGRAM FOR THE DEPLOYMENT OF CLEAN YARD TRUCKS, TRANSPORT REFRIGERATION UNITS, AND RELATED INFRASTRUCTURE

Overview: The goal of this strategy is to provide incentives to reduce emissions from diesel powered yard trucks and transport refrigeration units operating at warehouses, distribution centers or other facilities within the community by replacing them with a zero

emission technology. Yard trucks are used in moving trailers and containers short distances around freight terminals, port facilities or warehouses. Transport refrigeration units powered by diesel engines are designed to refrigerate or heat perishable goods that are transported in various containers. These types of equipment are in near constant operation at impacted facilities, therefore local communities and equipment operators can be exposed to PM_{2.5} emissions (consisting of diesel particulate matter, a toxic air contaminant) and NO_x emissions. Battery powered, zero emission units are currently available for both of these applications.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2020-2024

Description of Proposed Actions: This strategy would provide incentive funding for operators to replace their diesel powered yard trucks or transport refrigeration units with zero emission technology. This strategy would rely on existing Board-approved methodology and established funding levels. The goal of this measure is to deploy 10 new zero emission yard trucks or transportation refrigeration units along with the associated infrastructure at a cost of \$1,500,000. Emission reductions associated with this measure would achieve an estimated 0.03 tons of PM_{2.5} consisting of diesel particulate matter, and 1.8 tons of NO_x.

HD.3: ENHANCED ENFORCEMENT OF THE STATEWIDE ANTI-IDLING REGULATION

Overview: The goal of this strategy is to limit the potential for localized PM_{2.5} and toxic air quality impacts associated with the failure to comply with the state's heavy duty anti-idling regulation. Historically, the District has partnered with CARB to conduct anti-idling enforcement throughout Valley communities.

The state's anti-idling Airborne Toxic Control Measure limits nonessential (or unnecessary) vehicle idling to specific time limits. It is applicable to all diesel-fueled commercial motor vehicles with a gross vehicular weight rating (GVWR) of greater than 10,000 pounds. The diesel exhaust from excessive idling has the potential to impose significant adverse health and environmental impacts. Therefore, efforts to ensure compliance of the anti-idling regulation, especially near sensitive receptors, is important to limiting the potential for localized impacts within the community.

Implementing Agency: SJVAPCD

Type of Action: Enforcement

Implementation: 2020-2024

Description of Proposed Actions: The District will partner with CARB to conduct additional targeted anti-idling enforcement efforts in Shafter community and 7-mile buffer area at least once per quarter for the next 5 years. The District and CARB will work with the Community Steering Committee to identify heavy-duty vehicle idling “hot spots,” especially those near schools, to aid in focusing the enforcement efforts.

HD.4: INCENTIVE PROGRAM FOR REPLACING OLDER DIESEL SCHOOL BUSES WITH ZERO OR NEAR ZERO EMISSION SCHOOL BUSES

Overview: To provide increased outreach and access to incentive funding for the replacement of older, high polluting school buses with new zero or near-zero-emission school buses operating within and surrounding Shafter.

Replacing older school buses is important to reduce children’s exposure to diesel emissions including NOx and PM2.5 and these pollutants negatively impact human health, especially for sensitive populations such as children. New, zero-emission battery electric and near-zero emission natural gas powered school buses are significantly cleaner than older diesel buses.

Emissions from school buses are regulated by the CARB Statewide Truck and Bus Regulation that requires transition to cleaner technology over time. These requirements are generally phased in by model year.

<https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

The District administers the following incentive programs targeted at reducing emissions from existing school bus fleets with the Valley:

- Electric School Bus Incentive Program – <http://valleyair.org/grants/electric-school-bus.htm>. This program is operated by the District and provides incentives for the replacement of existing older, higher-polluting school buses with new, electric school buses.
- Volkswagen Mitigation Trust – <http://vwbusmoney.valleyair.org/>
The VW Mitigation Trust has \$130 million in funds to replace older, high-polluting transit, school, and shuttle buses with new battery-electric or fuel-cell buses. Replacing an older bus with a zero-emission bus eliminates particulate matter and other pollutants that impact children and residents riding the buses, as well as residents throughout California communities. This statewide program is being administered by the District.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2024

Description of Proposed Actions: The goal of this action is to replace up to ten (10) school buses, operated by Richland School District and/or Kern High School District with zero-emission battery-electric school buses that operate within the community, utilizing Board-approved methodology. The proposed funding amount of \$4,000,000 would cover up to 100% of the cost of replacing up to ten (10) diesel school buses with electric buses at \$400,000 each. Estimated emissions reductions associated with this measure include 0.33 tons of PM_{2.5} consisting of diesel particulate matter, and 3.25 tons of NO_x.

HD.5: PROVIDE INCENTIVES TO PURCHASE TWO ELECTRIC DIAL-A-RIDE TRANSIT VEHICLES

Overview: To provide incentive funding for the purchase of two electric vehicles for Dial-a-Ride service within and surrounding the City of Shafter.

Replacing older transit buses and dial-a-ride vehicles is important to reduce the public's exposure to diesel emissions including NO_x and PM_{2.5} and these pollutants negatively impact human health, especially for sensitive populations such as children and elderly. New, zero-emission battery electric and near-zero emission natural gas powered transit vehicles are significantly cleaner than older diesel vehicles. Emissions from transit vehicles are controlled by the CARB Statewide Truck and Bus Regulation that requires transition to cleaner technology over time. Generally phased in by model year.

<https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

In addition to the proposed action, the District is administering \$130 million in funding on behalf of the State of California to replace diesel school and transit buses throughout California with all-electric zero-emission buses. This program will be launching in the fall, 2019. <http://vwbusmoney.valleyair.org/>. [This funding could be used by transit agencies operating in the community to replace additional transit buses.](#)

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2020-2021

Description of Proposed Actions: The goal of this action is to provide up to \$400,000 for the purchase of two electric vehicles to be utilized in dial-a-ride service within and surrounding the City of Shafter utilizing Board-approved methodology, where applicable. The proposed funding amount of \$400,000 would cover up to 100% of the cost of replacing up to two diesel transit vehicles with electric vehicles at \$200,000 each.

HD.7: INCENTIVE PROGRAM FOR REPLACING OLDER DIESEL RAILCAR MOVERS AND SWITCHER LOCOMOTIVES WITH NEW CLEAN-ENGINE TECHNOLOGY

Overview: To provide incentive funding for the replacement of older, high polluting railcar movers and/or switcher locomotives with new clean-technology railcar movers and/or switcher locomotives operating within and surrounding Shafter.

Replacing older railcar movers and/or switcher locomotives is important to reduce the public's exposure to diesel emissions including NOx and PM2.5 and these pollutants negatively impact human health, especially for sensitive populations such as children and elderly. New, clean-technology railcar movers and/or switcher locomotives are significantly cleaner than older uncontrolled diesel railcar movers and/or switcher locomotives.

The District offers two incentive programs for locomotive fleets interested in transitioning to newer, clean technology, including:

- Heavy-Duty Program – <http://valleyair.org/grants/locomotive.htm>. Locomotive replacements, including switcher locomotives and railcar movers can be funded as an eligible project category under the District's utilizing funding provided to support AB 617. These projects are administered according to Carl Moyer Program guidelines and are subject to additional requirements contained within the approved AB 617 Community Air Protection Guidelines. This program is operated by the District.
- Proposition 1B - <http://valleyair.org/grants/locomotives-prop1b.htm>
This program incentivizes the reduction of emissions and health risks associated with freight movement along California's trade corridors via upgrading to cleaner technologies or installation of emissions capture and control systems.
- To date, The District has administered nearly \$66 million to fund the replacement of old, high-polluting locomotive engines with new, tier 4 and CARB verified locomotive engines.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2024

Description of Proposed Actions: The goal of this action is to replace up to three (3) older, high-polluting railcar movers and/or switcher locomotives operating within and surrounding the community utilizing Board-approved methodology, where applicable. The proposed funding amount of \$4,100,000 would cover up to 95% of the cost of replacing up to three (3) diesel railcar movers and/or switcher locomotives at \$1,340,875 each. Estimated emissions reductions associated with this measure include 1.5 tons of PM2.5 consisting of diesel particulate matter, and 57 tons of NOx.

HD.8: SUPPORT PLANNING AND DEVELOPMENT OF CLEAN VEHICLE FUELING INFRASTRUCTURE

Overview: To provide support for planning and development of fueling infrastructure for zero and near-zero emission vehicles to support broader deployment of clean vehicles operating throughout the community.

Replacing older heavy-duty vehicles, including trucks, school and transit buses is a prevalent strategy throughout this plan. Reducing emissions from heavy-duty vehicles is an important measure to reduce the public's exposure to vehicle emissions including NOx and PM2.5. These pollutants negatively impact human health, especially for sensitive populations such as children and the elderly. These new zero and near zero-emission vehicle deployments rely on available and accessible fueling infrastructure to ensure successful deployment and use.

The District is currently developing a new program for Heavy-Duty Alternative Fuel Infrastructure which will provide local businesses and agencies incentive funding to install alternative fueling infrastructure (electric, natural gas, hydrogen, etc.) to support the increased deployment of heavy-duty advanced clean technology vehicles.

Implementing Agency: SJVAPCD

Type of Action: Advocacy/Incentives

Implementation: 2020

Description of Proposed Actions: The goal of this action is to work closely with businesses, public agencies and fueling providers to support and incentivize the development of clean-vehicle fueling infrastructure in the area of the community utilizing Board-approved methodology. In this action, the District proposes to prioritize incentive funding to support the development and construction of new natural gas fueling infrastructure within the community. This includes increased outreach to businesses and public agencies operating vehicles within the community as well as prioritized funding for projects that serve vehicles operating in the community. Depending on the size, throughput and configuration of the fueling infrastructure, the proposed funding amount of up to \$1,000,000 would incentivize the development of one new natural gas fueling station.

The following are additional suggested measures not within the Air District's jurisdiction to directly implement:

HD.9: HEAVY DUTY TRUCK REROUTING

Overview: Some Steering Committee members have suggested that heavy duty trucks be rerouted off of Lerdo Highway near Golden Oak Elementary school to reduce emissions exposure at the school.

Jurisdictional Issues: It should be noted that the District has no authority over how agencies allow land under their jurisdiction to be used. These so-called “land-use” decisions, such as truck rerouting, are historically the responsibility, under state law, of cities and counties, or, in some cases, state and federal agencies responsible for transportation corridors, state and federal parks, and other properties. AB 617 does not provide the District with new land-use regulatory authority, so land-use authority remains with cities, counties, and state and federal land-use agencies, as discussed in CARB’s Blueprint (see “Who Has the Authority to Implement Actions?”, page 26 of the Blueprint). However, the District has made available to the responsible agencies the various land-use strategies that have been presented by the Committee for potential inclusion into the CERP for responsible agency’s input and response in the Shafter Community Emissions Reduction Program.

Implementing Agency: City, County, Caltrans

Type of Action: Partnership

Timing: Unknown

Description of Proposed Actions: The District will work with the City, County, Caltrans, and all other appropriate land-use and transportation agencies to communicate this Steering Committee suggestion and receive agency feedback and response about this measure for potential inclusion in the CERP. The City of Shafter has responded that, as part of its Environmental Justice General Plan Element, which is currently being prepared, the City will review truck travel patterns within the Shafter area and will work toward a system of truck routes that facilitates efficient goods movement while minimizing proximity of truck travel to sensitive receptors.

The City has also responded that funding should be provided for traffic control improvements to reduce emissions from vehicles idling at stop signs along heavily travelled routes. The District will be providing funding for road improvement projects and projects that reduce vehicle miles traveled in the community, as outlined in Measure RD.2.

OLDER/HIGH POLLUTING PASSENGER CARS

OLDER/HIGH POLLUTING PASSENGER CARS IN SHAFTER COMMUNITY

Mobile source emissions account for over 85% of the overall NO_x inventory in the San Joaquin Valley. With no regulatory authority over these sources, the District has relied on voluntary incentive programs to transition older, higher emitting vehicles to newer, cleaner and more fuel efficient models. With limited public transportation options available to residents driving is more prevalent in the Valley than in other areas of the state. Vehicles registered in the Valley are typically older and have higher mileage than statewide averages.

Emissions from light duty vehicles in Shafter total 80.22 tons per year (tpy) of NO_x, 94.75 tpy of VOC, and 7.57 tpy PM_{2.5}. These total emissions contribute 10.8% of the NO_x inventory, 25.7% of the VOC inventory, and 3.4% of the PM_{2.5} inventory.

Figure 4-2: The District's Drive Clean in the San Joaquin Repair and Replacement program helps Valley residents purchase new or used clean-air vehicles



COMMUNITY CONCERNS AND COMMENTS

Community Steering Committee comments regarding passenger vehicles included increased outreach and incentives for low income residents, providing the full cost of an electric vehicle, modifying program guidelines, increasing charging infrastructure in the community, and questions about the effectiveness of existing programs for low-income individuals. As detailed below, to address these concerns District staff have developed new programs, specifically for Shafter community members, to provide increased incentive funding for clean-air vehicles, to bring car share programs to the community, and to incentivize the purchase of electric vehicles by the primary local ride share service.

CURRENT CONTROL PROGRAMS

The District does not have regulatory authority of emissions from mobiles sources, however, due to the large amount of pollution that originates from passenger vehicles

the District has implemented a suite of programs to reduce pollution from mobile sources. These programs include the following measures:

- Tune In Tune Up vehicle repair program which provides incentive funds to repair high emitting vehicles.
<http://valleyair.org/drivecleaninthesanjoaquin/repair/>
- Vehicle replacement program which provides funding to replace older, high emitting vehicles with newer, cleaner and more fuel efficient models.
<https://www.valleyair.org/drivecleaninthesanjoaquin/replace/>
- The vehicle rebate program provides rebates for the purchase or lease of a new clean air vehicle including battery electric, fuel cell, plug in hybrid, zero emission motorcycles, and advanced technology natural gas vehicles.
<https://www.valleyair.org/drivecleaninthesanjoaquin/rebate/>
- Incentives are available for publically accessible charging infrastructure through the District's Charge Up! Program <http://valleyair.org/grants/chargeup.htm>
- The District's Healthy Air Living school program promotes no idling while picking up children at school and provides no idling signs to schools to encourage drivers to turn off their engines.
- District Indirect Source Rule (9510) accounts for mobile source emissions from construction and new development projects and ensures that emissions from these activities are mitigated.
- District Employer based Trip Reduction Rule (9410) requires large employers to implement measures to encourage employees to take alternative transportation to work in order to reduce single occupancy vehicle trips.
- CARB mobile source strategy calls for increasing the deployment of plug in hybrid, battery electric, and fuel cell vehicles in order to attain federal ozone standards, reducing greenhouse gas emissions, minimizing health risks, reducing petroleum usage and increasing energy efficiency.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to the high priority that community members placed on reducing criteria pollutant and toxic air contaminant emissions that originate from passenger vehicles operating in and around the community, District staff and the Steering Committee have developed targeted strategies for implementation in the Shafter community and the surrounding 7-mile radius. As further detailed below, measures developed include additional incentive funding intended to increase the deployment of electric vehicles through the replacement of gas powered vehicles currently in use; launching an electric vehicle car sharing program; providing additional charging infrastructure throughout the community;

providing for electric vehicle maintenance training to increase available repair facilities and job skills; and repairing high polluting passenger vehicles.

The following are proposed measures that are within the Air District's statutory jurisdiction to implement:

C.1: INCENTIVE PROGRAM TO HOST LOCAL TUNE IN TUNE UP EVENTS TO REDUCE EMISSIONS FROM OLDER, HIGH POLLUTING CARS

Overview: The goal of this strategy is to reduce emissions of high emitting passenger vehicles that may be in need of repair. Reducing emissions from passenger vehicles is important due to their contribution to the formation of ozone in the Valley. Through the District's Tune In Tune Up Program, financial incentives up to \$850 are available for emissions related repairs of high emitting vehicles. Through the program weekend testing events are held to determine if vehicles are in need of emissions related repairs. Approved participants are provided vouchers which can be utilized for the necessary smog tests, diagnostic work and emissions related repairs at participating STAR certified smog shops.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2020

Description of Proposed Actions: This strategy would provide funding for a Tune In Tune Up event in the community of Shafter and funding for vehicle repairs. This measure would provide up to \$850 in vehicle emissions related repairs. The overall cost of this measure is \$400,000 which would provide funding for the event related expenses as well as 500 vehicle repairs. This measure is expected to achieve 4.6 tons of NOx.

C.2: INCENTIVE PROGRAM FOR THE REPLACEMENT OF PASSENGER VEHICLES WITH BATTERY ELECTRIC OR PLUG IN HYBRID VEHICLES

Overview: The goal of this strategy is to reduce emissions associated with passenger vehicles operating in the Shafter community. The District's Drive Clean in the San Joaquin Replacement program provides incentives up to \$9,500 to low to moderate income residents of disadvantaged communities to replace their older, high polluting vehicle with a newer, cleaner, model. Emission reductions from passenger vehicles provide benefits to area residents as well as assist in reducing ozone formation in the Valley.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2020

Description of Proposed Actions: This strategy would provide increased levels of incentive funding to Shafter residents to replace their older vehicles with battery electric or plug in hybrid vehicles. This measure would provide \$6,000,000 for the replacement of up to 300-vehicles. In addition, through this measure the District would work with a local partner to deploy 20 battery electric vehicles with a range of at least 150 miles and associated charging infrastructure for residents who would like to ‘check out’ battery electric vehicles to ensure that a battery electric vehicle would meet their needs. This measure would use existing Board-approved criteria, with an enhanced incentive amount for community residents. This measure is expected to achieve 0.08 tons of PM2.5, and 2.88 tons of NOx emissions reductions.

C.3: INCENTIVE PROGRAM FOR INSTALLATION OF ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Overview: The goal of this strategy is to provide Level 2 electric vehicle charging infrastructure necessary to support the deployment of battery electric and plug in hybrid vehicles. The District’s Charge Up program currently provides \$5,000 for a Level 2 Single Port, \$6,000 for a Level 2 Dual Port, and \$25,000 for a Level 3/DC Fast Charger with a cap of \$50,000 per applicant and/or site. Having the appropriate charging infrastructure available for Shafter residents will encourage the growth of zero emission passenger vehicles in the community.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2021

Description of Proposed Actions: This strategy would provide incentive funding to private and public entities to provide publically accessible charging infrastructure in the Shafter community. This strategy would utilize the existing Charge Up program guidelines and funding amounts. This goal of this measure is to install up to 78 electric vehicle chargers, including Level 2 and Level 3 chargers, in Shafter at an expected cost of up to \$850,000. There are no direct emission reductions associated with this measure, however, this measure supports the emission reductions associated with electric vehicle deployment.

C.4: INCENTIVE PROGRAM FOR EDUCATIONAL TRAINING FOR ELECTRIC VEHICLE MECHANICS

Overview: The goal of this strategy is to provide incentive funding to develop and advance the education of personnel on the mechanics, safe operation and maintenance of alternative fuel vehicles and infrastructure. The District currently offers an alternative

fuel mechanic training incentive program that would be utilized for this measure. With a deployment of electric vehicles in the Shafter community it will be necessary to have qualified, trained personnel available to provide service as needed to these vehicles.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019

Description of Proposed Actions: This strategy would utilize existing Board approved program criteria to provide up to \$30,000 for 2 alternative fuel mechanic training course provided by an appropriate entity. Additional outreach will be conducted to identify projects that would provide a benefit to the Shafter community. There are no direct emission reductions associated with this measure, however, this measure supports the emission reductions associated with electric vehicle deployment.

C.5: INCENTIVE PROGRAM FOR THE LAUNCH OF A CAR SHARING PROGRAM IN THE SHAFTER COMMUNITY

Overview: The goal of this strategy is to reduce emission from passenger vehicles by launching an electric car sharing program in the Shafter community. These types of programs offer access to electric vehicles for a defined period of time at a minimal cost to the user. In addition these programs may allow for a resident to reduce or eliminate use of a gas powered vehicle resulting in a reduction of ozone forming emissions. These emission reductions provide benefit to community residents by reducing NOx and VOC emissions that would otherwise occur.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2020-2021

Description of Proposed Actions: This strategy would provide funding for a partnering car share provider to launch a program in the Shafter community. The District would leverage experience with existing ride share programs operating in the Valley in order to expand to the Shafter area. This measure would provide \$500,000 in funding for the electric vehicles, related infrastructure and subsidies to help minimize the initial cost to the end user. The emission reductions associated with this measure would be calculated at a later time.

AGRICULTURAL OPERATIONS

AGRICULTURAL OPERATIONS IN SHAFTER

The San Joaquin Valley's natural environment supports one of the most productive agricultural regions in the country; the Sierra Nevada provides the necessary water for growing the abundance of crops, and a temperate climate provides a long growing season. The community of Shafter is surrounded by agricultural operations including dairies, orchards, and other farming operations. These activities generate emissions from the use of diesel-fired internal combustion engines used to power agricultural pumps for irrigation, open burning, trucks, tractors, dairy operations, dust from orchards, vineyards, and row crops, and other agricultural activities.

Agricultural source categories include fuel combustion, industrial processes, farming processes, and pesticides/fertilizers. Particulate matter (PM) emissions are caused by harvesting operations, tilling operations, livestock husbandry, and from fugitive dust. Emissions also include volatile organic compounds (VOCs) from animal husbandry, pesticides, and fertilizers; as well as oxides of nitrogen (NOx) and combustion PM from farm equipment. In the Shafter community, 136 tons per year (tpy) of NOx, 784 tpy of VOCs, and 122 tpy of PM2.5 are attributed to agricultural emissions. Agricultural emissions account for 18.4% of the total NOx inventory, 70% of the total VOC inventory, and 55% of the total PM2.5 inventory in Shafter.

COMMUNITY CONCERNS AND COMMENTS

Community members expressed concerns regarding the adverse health effects resulting from emissions generated at dairies and farming operations in the area. Priority areas of concern expressed by Steering Committee members during meeting discussions and feedback exercises include dairy operations, dust generated from orchards and land farming, and pesticide applications.

CURRENT CONTROL PROGRAMS

Current District rules regulating open burning, internal combustion engines, dairy operations, and dust from orchards, vineyards, and row crops are as follows:

- 4101 Visible Emissions
- 4103 Open Burning
- 4550 Conservation Management Practices
- 4570 Confined Animal Facilities
- 4702 Internal Combustion Engines

Additionally, a variety of incentive programs are available for alternatives to open burning, the replacement of agricultural tractors, trucks, pumps, and nut harvesters or sweepers, as further detailed below. Incentive funding is also available for dairy digesters and non-digester manure management practices.

Open Burning

Through Rule 4103, the District no longer allows the burning of field crops (with the exception of a certain percentage of rice), prunings (with the exception of pome fruit

prunings, and a limited amount of surface harvested pruning acreage), and orchard removals (with the exception of small acreage removals, vineyard removals, pome fruit removals, and citrus removals). A limited amount of additional burning is allowed for disease prevention, noxious weeds, ditch banks and canals, ponding and levee banks, and diseased beehives, provided rule requirements are met and meteorological conditions are appropriate.

Rule 4103 also contains requirements for collecting, sorting, drying, and igniting agricultural materials; the timing, monitoring, and maintenance of burns; and specific requirements for field crop burning, ditch bank and levee maintenance, contraband materials, Russian thistle (tumbleweeds), and diseased materials. Additionally, the rule details a set of conditions that must be met for a burn permit to be issued.

The District uses a comprehensive Smoke Management System (SMS) to manage the Valley's remaining open burning of agricultural crops and materials. On a daily basis, the District analyzes projected local meteorology, the air quality conditions, the atmospheric holding capacity, the amount of burning already approved in a given area, and the potential impacts on downwind populations. Through the results of this daily analysis, the District uses the SMS to manage 97 Valley burn zones and allocates daily burning allowances if appropriate. This approach ensures the District limits the distribution of air pollutant emissions from open burning temporally and spatially, providing flexibility of burn days for growers while minimizing the impact on the public.

Properly managed burning allocations under the SMS ensures that air quality impacts, health impacts, and public nuisance from open burning of agricultural materials are minimized to the fullest extent feasible.

Furthermore, the District's *Alternative to Open Ag Burning Incentive Pilot Program* provides incentives for chipping or shredding agricultural material, with the materials being required to be used for soil incorporation or land application on agricultural land. To date, a total of \$1,644,320 has been offered to fund these projects which has resulted in approximately 200 tons of NOx, 241 tons of VOC, and 337 tons of PM emission reductions.

Dust from Orchards, Vineyards, and Row Crops

The District requires that growers implement conservation management practices to reduce air pollution from agricultural operations. Growers must submit a conservation management plan to the District for approval, as required by District Rule 4550 - *Conservation Management Practices*. Within this plan, farmers detail specific measures they will be implementing to reduce dust emissions from their facility. District staff regularly conducts site inspections of Valley farms to ensure compliance with rule requirements.

The District has worked closely with representatives from the agricultural community to evaluate new harvesting equipment and practices that can effectively reduce dust from harvest activities. Based on the significant dust emission reductions that low-dust

harvesting equipment can provide, the District is offering funding for the replacement of older, conventional nut harvesters or sweepers with new, low-dust technology equipment for use in nut harvesting operations. This incentive funding can also be packaged with the Ag Tractor Replacement Program funding to upgrade the tractor used to pull harvesting equipment.

Agricultural Tractors

Agricultural tractors are not controlled by regulation. However, the District's *Ag Tractor Replacement Program* provides incentive funds for the replacement of in-use, off-road mobile equipment that are engaged in agricultural operations as defined by CARB. Funds are provided on a first-come, first-served basis. Eligible tractor/equipment includes but is not limited to wheel loaders, balers, combines, graders or tractors.

Agricultural Pump Replacement Program

This program provides incentives for engine replacement (repower) of engines/motors used to power agricultural irrigation pumps. The Agricultural Pump Incentive Program provides monetary incentives for the replacement of Tier 3 internal combustion engines (IC engines) to Tier 4f IC engines and Tier 3 or Tier 4f IC engines to electric motors. Funds are provided on a first-come, first-served basis. District Rule 4702 – *Internal Combustion Engines* limits the emissions of NO_x, CO, VOC, and SO_x from IC engines.

Agricultural Trucks

Agricultural trucks are controlled by the California Air Resources Board Statewide Truck and Bus Regulation that requires transition to cleaner technology over time. This regulatory transition is generally phased in by model year.

The Funding Agricultural Replacement Measures (FARMER) Ag Truck Replacement Program provides incentive funds for the replacement of heavy-duty diesel agricultural trucks. Eligible agricultural trucks must be in current compliance with the State of California's On-Road Truck and Bus Regulation under the following compliance options:

- Agricultural Vehicle Extension
- Low-Use Exemption
- Specialty Agricultural Vehicle Extension
- Model Year Schedule and the truck must operate as an "agricultural vehicle" as defined in the truck and bus regulation.

Dairy Operations

Dairy Operations in the San Joaquin Valley are subject to District Rules 4570 – *Confined Animal Facilities*, Rule 4550 – *Conservation Management Practices* and Rule 4101 – *Visible Emissions*.

The purpose of Rule 4570 is to limit VOC emissions from Confined Animal Facilities (CAFs). This rule applies to facilities where animals are corralled, penned, or otherwise caused to remain in restricted areas and primarily fed by a means other than grazing for at least 45 days in any twelve-month period. In addition to limiting VOC emissions, Rule 4570 also includes measures that limit ammonia (NH₃) emissions from these operations. The purpose of Rule 4550 is to limit fugitive dust emissions from agricultural operations.

Dairy operations are subject to stringent enforcement provisions, including ongoing mitigation measures and annual inspections. Dairy operations must demonstrate continued compliance with additional visible emissions requirements as described in Rule 4101.

Dairy Digesters

California Department of Food Agriculture (CDFA) Dairy Digester Research and Development Program (DDRDP) provides financial assistance for the installation of dairy digesters in California. CDFA receives funding from California Climate Investments for methane emissions reductions from dairy and livestock operations. Current DDRDP projects are expected to reduce greenhouse gas emissions by an estimated 12.9 million metric tons of CO₂e. These projects also reduce emissions of VOCs and ammonia.

Alternative Manure Management Program (AMMP)

California Department of Food and Agriculture (CDFA) Alternative Manure Management Program (AMMP) provides financial assistance for the implementation of non-digester manure management practices. Currently, eligible practices for funding through AMMP include: pasture-based based management; solid separation or conversion from flush to scrape in conjunction with some form of drying or composting of collected manure. Pesticide application control and monitoring

Pesticides

The Department of Pesticide Regulation (DPR) regulates pesticides under a comprehensive program that encompasses enforcement of pesticide use in agricultural and urban environments. DPR oversees a multi-tiered enforcement infrastructure and is vested by the EPA with primary responsibility to enforce federal pesticide laws in California. DPR directs and oversees County Agricultural Commissioner enforcement of pesticide and environmental laws and regulations locally, including enforcement for the Department of Consumer Affairs' Structural Pest Control Board. DPR requires farmers to notify the department before they apply any form of pesticide. Additionally, agricultural operators are subject to strict rules that limit overspray and drift from the approved site of application, and may be subject to fines for violations. Schools near a pesticide application must be notified by DPR to allow the school to take precautions to prevent exposure.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

The above control programs will continue to achieve emission reductions throughout the Valley, including in agricultural areas surrounding the community of Shafter. Based on concerns and priorities expressed by the Steering Committee and other community members, the following strategies were developed to reduce emissions from agricultural operations in and around the community of Shafter. These strategies are a combination of targeted outreach, new incentive programs, and partnerships with other agencies to reduce emissions and exposure to emissions in the AB 617-selected community.

The following are proposed measures that are within the Air District's statutory jurisdiction to implement:

A.2: INCENTIVE PROGRAM FOR REPLACING CONVENTIONAL NUT HARVESTING EQUIPMENT WITH LOW-DUST HARVESTING EQUIPMENT

Overview: To provide increased outreach and access to incentive funding for the replacement of conventional nut harvesting equipment operating on ag land surrounding Shafter with new, low-dust nut harvesting equipment. Replacing older diesel agricultural equipment, including nut harvesting equipment, is important to reduce the public's exposure to diesel emissions including NOx and PM2.5 and these pollutants negatively impact human health, especially for sensitive populations such as children.

There has been significant investment made in the San Joaquin Valley to develop low-dust nut harvesting technologies and to understand the potential benefits on particulate matter (PM) emissions from the use of these new technologies. The results from studies conducted in the Valley show that, when compared to traditional harvesting equipment, low-dust harvest technology is successful in reducing PM emissions in Valley nut harvesting operations, without affecting crop yield, while providing potential labor and energy savings.

The District does not have regulatory authority of emissions from mobile sources, including heavy-duty agricultural equipment. There are no regulatory requirements in place at the state or federal level controlling emissions from heavy-duty agricultural equipment including nut harvesting equipment and other heavy-duty equipment used in agriculture.

However, due to the large amount of pollution that can be attributed to mobile sources, the District has implemented a broad suite of voluntary incentive programs, targeted at reducing emissions from heavy-duty engines operating throughout the Valley, including agricultural equipment.

The District has implemented the following pilot incentive program to deploy and further evaluate low-dust nut harvesting equipment throughout the Valley:

Low-Dust Nut Harvester Incentive Program - <http://valleyair.org/grants/low-dust-nut-harvester.htm>. This pilot program provides incentives for the replacement of older, conventional harvesters or sweepers with new, low-dust technology equipment. This incentive funding can also be packaged with our Tractor Replacement Program funding to upgrade your tractor used to pull harvesting equipment.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Timing: Implementation to begin immediately upon adoption of CERP and updated District incentive spending plan.

Description of Proposed Actions: The goal of this action is to replace up to 25 pieces of conventional nut harvesting equipment operating in and around the community with new, low-dust harvesting equipment utilizing existing Board-approved criteria. The proposed funding amount of \$2,500,000 would cover up to 75% of the cost of replacing up to 25 pieces of agricultural equipment at an average incentive of \$100,000 each. Estimated emissions reductions associated with this measure include 90 tons of PM2.5 and 42.5 tons of NOx.

A.3: INCENTIVE PROGRAM FOR DEPLOYING ON-FIELD ALTERNATIVES TO THE OPEN BURNING OF AGRICULTURAL MATERIALS

Overview: The goal of this strategy is to limit the potential for localized PM2.5 impacts associated with open agricultural burning by providing enhanced access to funding for the District's Alternative to Agricultural Open Burning Incentive Program for growers within Shafter and the surrounding areas.

The San Joaquin Valley, in adherence with applicable state laws instituted under SB705 (2003 Florez), has the toughest restrictions on agricultural burning in the state. District regulations no longer allow the burning of all field crops (with the exception of rice), almost all prunings, and almost all orchard removals. The District also operates a comprehensive Smoke Management System which only allows the limited amount of burning that is still permissible to take place on days with favorable meteorology and in amounts that will not cause a significant impact on air quality.

Until 2014, the restrictions imposed by the District resulted in an 80% reduction in the open burning of agricultural waste. The exceptional drought conditions that the Valley recently experienced and the demise of the biomass power industry has resulted in an increase in the open burning of wood waste and threatens the District's ability to continue to maintain broad restrictions on open burning of agricultural waste into the future.

While modeling conducted for the District's new PM2.5 Plan indicates that reducing emissions from the open burning of agricultural materials does not significantly impact the Valley's peak urban PM2.5 locations that drive the Valley's federal attainment mandates, the District is committed to implementing strategies to reduce localized PM2.5 community impacts. In January of 2019, the District commenced one such strategy, a pilot incentive program to help fund the implementation of on-field practices, such as soil incorporation, that may provide alternatives to open burning of agricultural material from orchard and vineyard removals that otherwise may not have any feasible alternatives to open burning available. The purpose of the program was to support the District's ongoing effort to phase out agricultural open burning and demonstrate the feasibility of utilizing chipped agricultural material for soil incorporation or as a surface application as alternatives to burning. The cost of these practices can be prohibitive and questions remain regarding the ability to adapt these practices across all agricultural applications, but where feasible analysis shows that on-field soil

incorporation of woody biomass has the potential to result in significant emission reductions when compared to open burning of agricultural material. To date, the District's program has been well subscribed, with applications received totaling over \$3 million in funding Valley-wide.

This strategy is consistent with Community Steering Committee recommendations to implement strategies focusing on reducing emissions from agricultural open burning in the Shafter area.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2020-2024

Description of Proposed Actions: This strategy would provide enhanced access to District's Alternative to Agricultural Open Burning Incentive Program for growers within Shafter and the surrounding area by providing access to \$1,000,000 in dedicated funding, utilizing existing Board-approved criteria. This strategy would fund up to 2,000 acres of alternative practices and help achieve the ongoing emissions reductions associated with the phase-out of agricultural open burning.

A.4: PROMOTE IMPLEMENTATION OF CONSERVATION TILLAGE PRACTICES

Overview: The goal of this strategy is to further reduce the potential for localized fugitive particulate matter (PM) emissions associated with on-field agricultural practices.

Adopted in 2004, the District's landmark Conservation Management Practices (CMP) rule was the first of its kind in the nation to reduce fugitive PM emissions from agricultural operations through the reduction in passes of agricultural equipment and implementation of other conservation practices. The rule utilizes a menu approach of control techniques, such as alternate and conservation tillage, precision farming, and dust mitigation associated with unpaved roads and vehicle/equipment traffic areas. The District conducts regular inspections of agricultural facilities with CMP Plans to verify compliance with selected mitigation measures and recordkeeping requirements.

Implementing Agency: SJVAPCD

Type of Action: Outreach and Education

Implementation: 2020

Description of Proposed Actions: District staff will work with local agricultural groups to conduct focused outreach to promote more widespread implementation of conservation tillage practices such as cover cropping, no till, low till, strip till, and precision agriculture within the Shafter community and 7-mile buffer area.

A.5: INCENTIVE PROGRAM FOR REPLACING OLDER DIESEL OR NATURAL GAS-FIRED AGRICULTURAL IRRIGATION PUMP ENGINES WITH ELECTRIC MOTORS

Overview: This measure will provide increased outreach and access to incentive funding for the replacement of older, high polluting diesel or natural gas-fired agricultural irrigation pump engines operating within and surrounding Shafter with new electric motors through the District's existing Heavy-Duty Engine Incentive Program. Replacing older agricultural irrigation pump engines is important to reduce the public's exposure to harmful emissions including NOx and PM2.5 and these pollutants negatively impact human health, especially for sensitive populations such as children. Electric motors eliminate harmful emissions from engines used in agricultural irrigation pumps.

Agricultural irrigation pumps are regulated by the San Joaquin Valley Air Pollution Control District rules that required a transition to cleaner technology over time. These replacements are generally phased in by tier level:

https://www.valleyair.org/rules/curnrules/R4702_Clean.pdf

To encourage the transition from conventionally fueled irrigation pump engines to electric motors, the District has implemented a broad suite of voluntary incentive programs, targeted at reducing emissions from heavy-duty engines operating throughout the Valley, including agricultural equipment. The District offers the following program targeted at replacing diesel irrigation pump engine throughout the Valley.

- Heavy-Duty Program Agricultural Irrigation Pump Engines - <http://valleyair.org/grants/agpump.htm> Agricultural irrigation pump engine replacements can be funded as an eligible project category utilizing funding provided to support AB 617, but will require approval to fund natural gas engines. These projects are administered according to the Carl Moyer Program guidelines and are subject to additional requirements contained within the approved AB 617 Community Air Protection Guidelines. This program is operated by the District.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Timing: Implementation to begin immediately upon adoption of CERP and updated District incentive spending plan.

Description of Proposed Actions: The goal of this action is to replace up to 10 diesel or natural gas-fired agricultural irrigation pump engines operating in and around the community with new electric motors, including capital funding for equipment and line extension, utilizing existing Board-approved criteria. The proposed funding amount of \$230,000 would cover up to approximately 60% of the cost of replacing up to 10 existing

irrigation pump engines at an average incentive of \$23,000 each. Estimated emissions reductions associated with this measure include 4 tons of PM2.5 and 90 tons of NOx.

A.6: INCENTIVE PROGRAM FOR REPLACING OLDER DIESEL AGRICULTURAL EQUIPMENT WITH CLEANEST AVAILABLE EQUIPMENT

Overview: This measure will provide increased outreach and access to incentive funding for the replacement of older, high polluting ag equipment (e.g. tractors) operating within and surrounding Shafter with new, cleaner equipment through the District's existing Heavy-Duty Engine Incentive Program. Replacing older diesel agricultural equipment (tractors) is important to reduce the public's exposure to diesel emissions including NOx and PM2.5 and these pollutants negatively impact human health, especially for sensitive populations such as children. New, agricultural equipment, outfitted with the cleanest available technology reduces emissions from NOx and PM2.5 by more than 90 over the existing technology.

The District does not have regulatory authority of emissions from mobile sources, including heavy-duty agricultural equipment. There are no regulatory requirements in place at the state or federal level controlling emissions from heavy-duty agricultural equipment including tractors, harvesting equipment and other heavy-duty equipment used in agriculture. However, due to the large amount of pollution that can be attributed to mobile sources, the District has implemented a broad suite of voluntary incentive programs, targeted at reducing emissions from heavy-duty engines operating throughout the Valley, including agricultural equipment.

The District offers a program targeted at replacing or repowering agricultural equipment in the Valley, called Heavy-Duty Program Agricultural Tractors – see more information at <http://valleyair.org/grants/documents/tractor/Guidelines.pdf>.

Under this program, agricultural tractor replacements can be funded as an eligible project category utilizing funding provided to support AB 617. These projects are administered according to the Carl Moyer Program guidelines and are subject to additional requirements contained within the approved AB 617 Community Air Protection Guidelines. This program is operated by the District.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Timing: Implementation to begin immediately upon adoption of CERP and updated District incentive spending plan.

Description of Proposed Actions: The goal of this action is to replace up to 100 pieces of agricultural equipment operating in and around the community with new, cleanest available technology, utilizing existing Board approved program criteria. The proposed funding amount of \$5,000,000 would cover up to 60% of the cost of replacing up to 100 pieces of agricultural equipment at an average incentive of \$50,000 each. Estimated

emissions reductions associated with this measure include 60 tons of PM_{2.5} consisting of diesel particulate matter and 750 tons of NO_x.

A.9: ALTERNATIVE MANURE MANAGEMENT PRACTICES AT DAIRIES

Overview: The management and storage of manure at dairies can result in emissions of various pollutants. Particulate matter (PM) is emitted from dried manure on the surface of corrals as a result of the impact of the hooves of the cattle and any equipment used in the corrals. Dried manure barns and manure storage areas also results in particulate PM emissions. The equipment used to manage the manure also results in direct emissions of PM. Volatile Organic Compounds (VOCs) are emitted from manure as a result of the decomposition of the organic matter in the manure. Ammonia (NH₃) emissions from manure are the result of the microbial decomposition of nitrogenous compounds in manure.

Various manure management practices can be used to reduce emissions of air pollutants from manure. Examples of these practices include increased flushing frequency to reduce emissions of VOC and ammonia and separation of urine and feces to reduce ammonia emissions. The majority of the VOCs emitted from fresh cow manure, such as alcohols and Volatile Fatty Acids (VFAs), are highly soluble in water. Ammonia is also soluble in water. Therefore, with increase flushing, a large portion of these compounds will dissolve in the flush water and will not be emitted. The primary nitrogenous compound in dairy manure is urea. Whenever urea comes in contact with the enzyme urease, which is excreted in animal feces, the urea will hydrolyze rapidly to form ammonia and this ammonia will be emitted soon after. It may be possible to manage manure in a way in which contact between the urine and feces is reduced, thereby reducing ammonia emissions.

Implementing Agency: SJVAPCD, CDFA, NRCS, local partners

Type of Action: Incentives

Implementation: 2020

Description of Proposed Actions: The District will work with stakeholders and organizations, such as the California Department of Food and Agriculture (CDFA), Natural Resources Conservation Service (NRCS) and the California Dairy Quality Assurance Program (CDQAP), to examine the potential and feasibility of various alternative manure management practices to reduce emissions and to promote these practices at dairies near the community of Shafter.

The following are additional suggested measures not within the Air District's statutory jurisdiction to implement:

A.10: REDUCING EXPOSURE TO PESTICIDES IN THE COMMUNITY

Overview: Several specific measures were suggested by Committee members regarding reducing community exposure to pesticides, including banning untarped applications of 1,3-D, reducing the 1,3-D township cap, implementing a notification system to alert residents prior to pesticide applications, banning aerial application of pesticides, and establishing buffer zones where pesticide application is banned near sensitive receptor locations.

Jurisdictional Issue: Under state law, the District has no regulatory authority over pesticides in their pesticidal use. Some advocates have pointed out that a 1996 court case (*Harbor Fumigation Inc v. County of San Diego Air Pollution Control District*) clarified that air districts do have jurisdiction over emissions of pesticides released into the air after their pesticidal use:

“...although APCD cannot regulate how a pesticide is used within the Facility (and thus does not run afoul of DPR's jurisdiction over pesticide use), once the use of a pesticide is completed and its waste gas emitted into the ambient air from the Facility, then APCD's regulatory jurisdiction ... begins.”

The District agrees, and has, for decades, regulated facilities that perform fumigation where the pesticide is applied in a room or fumigation chamber, and then released into the air from that chamber. The District does require air pollution control equipment or techniques to reduce pesticide emissions in such situations. Air Districts are allowed to do so by state law because the emissions of pesticides are occurring after their pesticidal use is completed. However, the District does not have jurisdiction in the case of open air application, such as on-field pesticide application, because all potential control of emissions in such situations is also a regulation of the pesticide in its pesticidal use. For instance, pesticide reformulation and limiting pesticide use (whether by amount or by location) is regulating a pesticide in its pesticidal use, and the state's position is that the District is prohibited by state law from doing so.

Implementing Agency: DPR, CARB

Type of Action: Partnership

Timing: Unknown

Description of Proposed Actions: The District has forwarded all pesticide-related emission reduction strategy suggestions to DPR and CARB, and has received a commitment from DPR to implement specific measures to reduce community exposure to pesticides, as follows:

“DPR’s Current and Ongoing Commitments for Pesticide-Related Activities in the Shafter Area

Monitoring

• *Current Monitoring*

- o The California Department of Pesticide Regulation (DPR) is committed to continue operation of the pesticide air monitoring network sampling location in the community of Shafter past the conclusion of the CARB-DPR 2-year limited term monitoring collaboration.*
- Monitoring Expansion*
 - o DPR is committed to explore options to expand the pesticide air monitoring activities in the Shafter area. However, unlike the California Air Resources Board (CARB) or the San Joaquin Valley Air Pollution Control District (Air District), AB 617 funding has not been made available to DPR. Depending on the funding made available to DPR, DPR is committed to lead or participate in additional pesticide air monitoring activities. If no funding is made available, DPR is committed to participating in any pesticide air monitoring activities as a consultant to ensure the quality of the collected air samples.*

Pesticide Notification System

- DPR is committed to explore options for a pesticide application notification system in the Shafter area.*
- DPR will work with the Kern County Agricultural Commissioner's (CAC) Office, CARB, and the Air District to identify feasible options for the development and implementation of a suitable pesticide application notification system.*
- DPR will review previous pilot notification programs and explore new feasible options that could potentially provide the Shafter community with a suitable notification system.*
- Depending on the funding available to DPR for this effort, DPR will work with CARB, Air District, and CACs to define the scope and implementation of any possible notification system.*

Emission Reductions

- DPR is committed to developing regulations to reduce exposures to 1,3-D in ambient air.*
- DPR is currently working through the legal Pesticide Toxic Air Contaminant (TAC) process with its partner agencies including Office of Environmental Health Hazards Assessment (OEHHA), CARB, Air Districts, and CACs during the development of the regulations.*
- DPR will work with the Air District to set aside agenda time during a fall Shafter Steering Committee meeting to discuss the possible mitigation options as well as to detail the regulatory process in further detail to the committee and community members*

Additional Resources

- DPR will work with local partners to identify and promote use of alternative agricultural practices in the Shafter area.*
- DPR promotes the adoption and implementation of effective integrated pest management (IPM) systems and practices that reduce risks from pesticide use to human health and the environment in agricultural and non-agricultural settings. To aid in this effort, DPR makes Pest Management Alliance Grants available on a yearly basis in an effort to support the development of methods or practices to reduce pesticide*

associated risk. DPR is committed to promote and encourage Shafter groups to apply for the Pest Management Alliance Grants.”

Additionally, to support DPR’s commitment to develop a pilot pesticide application notification system, the District will commit up to \$125,000 (not to exceed 50% of cost) to fund the implementation of a pilot notification system in Shafter. CARB is expected to fund another \$250,000 towards the cost of this program.

INDUSTRIAL SOURCES

INDUSTRIAL SOURCES IN SHAFTER

There are a variety of industrial sources located in and around the City of Shafter. These sources range from smaller operations like gasoline dispensing operations (GDOs) and auto body coating operations, to larger operations like oil and gas operations which includes equipment like internal combustion (IC) engines, boilers/steam generators, flares, and many others.

Criteria pollutant emissions from this source category include NO_x, SO_x, PM₁₀/PM_{2.5}, CO, and VOC, and toxic air contaminants (TACs) like benzene, toluene, xylene, and hydrogen sulfide. Within the 7-mile radius of interest around the Shafter community, 16.91 tons per year (tpy) of NO_x, 48.19 tpy of VOCs, and 27.41 tpy of PM_{2.5} are attributed to stationary sources.

COMMUNITY CONCERNS AND COMMENTS

During committee discussions regarding industrial sources, committee members identified oil and gas operations, including flares, as a sources to address, with suggestions ranging from providing “incentives” to replace older, higher polluting equipment or to install advanced controls, to requiring the installation of low-NO_x flare technology, and to not allowing new oil wells within 2,500 feet of residents, schools and all environmental sensitive locations in the community.

CURRENT CONTROL PROGRAMS

For more than 25 years, the District has implemented several generations of emissions control regulations 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. Stringent and innovative rules, such as those for indirect source review, residential wood burning, glass manufacturing, and agricultural burning, have set benchmarks for California and the nation. While there has been significant progress in reducing air pollution with these regulations, which have been greatly aided by the pollution reduction efforts and financial investments of Valley businesses and residents, the District continues to adopt and modify rules to achieve ongoing emissions reductions and advance our progress toward clean air.

Gasoline Dispensing Operations (GDOs):

Gasoline dispensing operations in the San Joaquin Valley are subject to District Rule 4621 – *Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants* and Rule 4622 – *Gasoline Transfer into Motor Vehicle Fuel Tanks*.

The purpose of Rule 4621 is to limit VOC emissions from stationary storage containers, delivery vessels, and bulk plants. This rule applies to gasoline storage containers with capacities greater than 250 gallons and has requirements to install CARB certified Phase I vapor control systems. The purpose of Rule 4622 is to limit emissions of gasoline vapors from the transfer of gasoline into motor vehicle fuel tanks. This rule

applies to any gasoline storage and dispensing operation or mobile fueler from which gasoline is transferred into motor vehicle fuel tanks. This rule also requires the installation of CARB certified Phase II vapor control systems. GDOs are subject to stringent enforcement provisions, including ongoing monitoring of equipment and annual inspections.

Auto Body Coating Operations:

Auto body coating operations in the San Joaquin Valley are subject to District Rule 4612 – *Motor Vehicle and Mobile Equipment Coating Operations* and Rule 4101 – *Visible Emissions*.

The purpose of Rule 4612 is to limit VOC emissions from coatings of motor vehicles, mobile equipment, and associated parts and components, and associated organic solvent cleaning, storage, and disposal. This rule applies to any person who supplies, sells, offers for sale, manufacturers, or distributes any automotive coating for use within the District, as well as any person who uses, applies, or solicits the use or application of any automotive coating within the District. This rule requires the sale and use of low VOC coatings and solvents, in addition to stringent requirements for the application of these coatings. Auto body coating operations are subject to stringent enforcement provisions, including ongoing recordkeeping of coatings/solvents used and annual inspections. Auto body coating operations must demonstrate continued compliance with additional visible emissions requirements as described in Rule 4101.

Oil and Gas Operations:

Oil and gas operations in the San Joaquin Valley are subject to District Rule 2260 – *Registration Requirements for Equipment Subject to California's Oil and Gas Regulation*, Rule 4311 – *Flares*, Rule 4401 – *Steam-Enhanced Crude Oil Production Wells*, Rule 4402 – *Crude Oil Production Sumps*, Rule 4404 – *Heavy Oil Test Station - Kern County*, Rule 4407 – *In-Situ Combustion Well Vents*, Rule 4408 – *Glycol Dehydration Systems*, Rule 4409 – *Components at Light Crude Oil Production Facilities, Natural Gas Processing Facilities, and Natural Gas Processing Facilities*, Rule 4453 – *Refinery Vacuum Producing Devices or Systems*, Rule 4454 – *Refinery Process Unit Turnaround*, Rule 4455 – *Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants*, Rule 4623 – *Storage of Organic Liquids*, Rule 4624 – *Transfer of Organic Liquid*; and depending on the equipment used by the oil and gas operation, units like boilers/steam generators would be subject to District Rule 4306/4320 – *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr* and IC engines would be subject to Rule 4702 – *Internal Combustion Engines*.

The purpose of Rule 2260 is to provide a registration process that satisfies the requirements of California's Oil and Gas Regulation, which limits methane emissions and leaks from equipment used in the oil and gas industry. The purpose of Rule 4311 is to establish flaring requirements and reduce VOC, NOx, and SOx emissions from operations involving the use of flares. The purpose of Rule 4401 is to limit VOC emissions from steam-enhanced crude oil production wells and related piping. The

purpose of Rule 4402 is to limit VOC emissions from sumps used to store crude oil and produced water in crude oil production operations. The purpose of Rule 4404 is to limit VOC emissions from the operation of heavy oil test stations, i.e. a tank setting used to measure and collect crude oil from individual wells. The purpose of Rule 4407 is to limit VOC emissions from in-situ combustion wells and related piping. This process is largely no longer in use by oil production companies in the District. The purpose of Rule 4408 is to limit VOC emissions from glycol dehydration system; a process in water vapor is removed from produced gas. The purpose of Rule 4409 is to limit VOC emissions from leaking components at light crude oil production facilities, natural gas production facilities, and natural gas processing facilities. The purpose of Rule 4453 is to limit VOC emissions from refinery vacuum producing devices or systems by requiring that gasses from these systems be collected and controlled. The purpose of Rule 4454 is to limit VOC emissions resulting from the purging, repair, cleaning, or otherwise opening or releasing pressure from a refinery vessel during a process unit turnaround, i.e. taking equipment out of service for maintenance. The purpose of Rule 4455 is to limit VOC emissions from leaking components at petroleum refineries, gas liquids process facilities, and chemical plants. The purpose of Rule 4623 is to limit VOC emissions the storage of organic liquids, including crude oil. The purpose of Rule 4624 is to limit VOC emissions the transfer of organic liquids. Oil and gas facilities are subject to stringent enforcement provisions, including inspection and maintenance (I&M) programs, periodic source testing requirements, and annual inspections. These operations are also subject to stringent emission control and leak detection and repair requirements.

The purpose of Rule 4306/4320 is to limit emissions of NO_x, CO, oxides of sulfur (SO₂), and PM₁₀ from boilers, steam generators, and process heaters. This rule applies to any gaseous fuel or liquid fuel fired boiler, steam generator, or process heater with a total rated heat input greater than 5 million Btu per hour. The purpose of Rule 4702 is to limit the emissions of NO_x, CO, VOC, and SO_x from internal combustion engines. This rule applies to any internal combustion engine rated at 25 brake horsepower or greater. Both these rules have very stringent emission limits, periodic monitoring, and source testing requirements.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to the priority that community members placed on reducing PM_{2.5} and toxic air contaminant emissions that originate from industrial sources in and around the community, the following strategies have been developed for implementation in the Shafter community and the surrounding 7-mile radius.

The following are proposed measures that are within the Air District's statutory jurisdiction to implement:

IS.1: AMEND RULE 4311 (FLARES) TO REQUIRE ULTRA-LOW NO_x CONTROLS WHERE TECHNOLOGICALLY AND ECONOMICALLY FEASIBLE

Overview: The goal of this strategy is to reduce NO_x emissions from flares. District Rule 4311 (Flares) already contains stringent requirements for flares. However, despite

achieving significant emissions reductions through decades of implementing the most stringent stationary and mobile regulatory control program in the nation, NOx emissions in the Valley must be reduced by an additional 90% in order to attain the latest federal ozone and PM2.5 standards that now encroach on natural background levels. Towards this end, the District will be modifying several rules identified in the *2018 PM2.5 Plan*, including District Rule 4311 (Flares).

Implementing Agency: SJVAPCD

Type of Action: Regulatory

Implementation: 2021

Description of Proposed Actions: This strategy would adopt new requirements to District Rule 4311 for the application of ultra-low NOx flare emissions limitations for existing and new flaring activities to the extent that such controls are technologically achievable and economically feasible. The District has already begun the public rule development process and has an anticipated adoption date in 2020. There is an estimated emissions reduction of 1.5 tons of NOx per year (flares do not produce significant PM2.5 emissions).

IS.2: EVALUATE FEASIBILITY OF FUNDING FURTHER EMISSIONS REDUCTIONS FROM OIL AND GAS PRODUCTION OPERATIONS

Overview: The goal of this strategy is to reduce NOx and PM2.5 emissions from Oil and Gas Production Operations. Oil and gas production operations are already subject to stringent requirements from multiple District rules and regulations. During the rule development process the District conducts when amending existing rules or adopting new rules; there are times where advanced control technologies are identified that could potentially achieve additional emissions reductions, but those technologies are identified as not cost-effective at the time of rule adoption. While the District's current regulations are some of the most stringent regulations in the nation and have achieved significant emissions reductions, for the first time, state incentive grant dollars are being made available to achieve further reductions in emissions from stationary sources that would not otherwise be feasible without this financial assistance. This type of financial assistance would only be available to facilities that are proposing to reduce emissions beyond the requirements of state, federal, and air district regulations.

Implementing Agency: SJVAPCD

Type of Action: Incentive

Implementation: 2021

Description of Proposed Actions: This strategy would evaluate the feasibility of creating an incentive program for oil and gas production operations to fund the installation of

technologies that further reduce emissions. The District will work with oil and gas production operations in the Shafter area to identify potential emission reduction opportunities, such as electrifying pump jacks that are currently operating with internal combustion engines. The District will identify available grant funding to assist implementation and will quantify emissions reductions as reduction opportunities are finalized.

IS.3: ENHANCED STATIONARY SOURCE INSPECTION FREQUENCY

Overview: The goal of this strategy is to limit the potential for localized air quality impacts at permitted facilities associated with the failure to comply with emission standards established by District permit, rule, or regulation.

The District conducts inspections and investigations of both permitted sources to determine compliance with a multitude of health-protective local, state, and federal air quality regulations targeting both criteria and toxic pollutants. These include (1) District rules and permit requirements; (2) statewide Airborne Toxic Control Measures; (3) statewide greenhouse gas regulations; and (4) federal New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants, and Maximum Available Control Technology standards. The District closely monitors such sources and strictly enforces applicable requirements. Compliance evaluations are unannounced whenever possible and involve both a physical inspection of the facility and a review of operating and monitoring records. When a violation of a District permit, rule, or regulation is identified, the District takes an appropriate level of enforcement action.

During the review of the enforcement history for the Shafter community and 7-mile buffer area, the District determined that 15 enforcement actions were issued to facilities (not including gas stations) for violations resulting in excess emissions. These violations occurred at 7 permitted facilities in the area. The District has also issued 7 enforcement actions to gas stations for violations resulting in excess emissions. These violations occurred at 7 gas stations in the area. Consistent with recommendation from Community Steering Committee members, the District believes that more frequent inspections for these 14 facilities would be prudent to limit the potential for air quality impacts associated with failure to comply with emission standards established by District permit, rule, or regulation.

Implementing Agency: SJVAPCD

Type of Action: Enforcement

Implementation: 2020

Description of Proposed Actions: The District will increase the frequency of inspection at each facility within the Shafter community or 7-mile buffer area that has had an emission violation over the past three (3) years. These facilities will be inspected at

least twice per calendar year for the next five (5) years or until the facility has 4 consecutive inspections without an emission violation, whichever occurs first.

IS.4: PILOT TRAINING PROGRAM FOR CONDUCTING SELF-INSPECTIONS AT GAS STATIONS

Overview: The goal of this strategy is to limit the potential for air quality impacts associated with vapor recovery defects at gasoline dispensing stations in the Shafter Community and 7-mile buffer zone.

Gasoline dispensing stations are sources of volatile organic compound (VOC) and toxic emissions such as benzene. Accordingly, District rules require state-certified vapor recovery systems be installed, operated, and maintained in order to achieve at least 95% control of gasoline vapors. District staff inspects gasoline vapor recovery systems on a routine basis to detect equipment defects, such as torn hoses and damaged nozzles, and missing or non-certified parts, to ensure compliance with applicable state and local requirements. Furthermore, District staff routinely witnesses third-party source testing of gasoline vapor recovery systems to verify compliance with applicable leak standards and backpressure requirements. In addition, frequent and thorough self-inspections of vapor recovery systems by the facility operator aids in the identification and timely repair of vapor recovery system defects in the interim between District inspections and reduces the potential for localized impacts from excess emissions associated with equipment defects.

Implementing Agency: SJVAPCD

Type of Action: Compliance Assistance

Implementation: 2020

Description of Proposed Actions: The District will develop a new pilot training program to instruct gas station operators in conducting thorough self-inspections of the vapor recovery systems to aid in the identification and timely repair of vapor recovery system defects. Once developed, the District will provide hands-on training to each of the 15 gas stations in the Shafter Community and 7-mile buffer zone. This training will cover important inspection points such as nozzles, hoses, breakaways, vacuum motors (as applicable), components associated with storage tanks, and vapor recovery system pressure/vacuum vents. By receiving this training, operators will be better equipped to identify and expeditiously repair any system defects resulting in excess VOC and toxic emissions.

IS.5: PROVIDE INCENTIVES TO INSTALL ADVANCED CONTROL TECHNOLOGY

Overview: The goal of this strategy is to reduce NOx and PM2.5 emissions from stationary source operations through the installation of advanced controls. During the rule development process the District conducts when amending existing rules or

adopting new rules; there are times where advanced control technologies are identified that could potentially achieve additional emissions reductions, but those technologies are identified as not cost-effective at the time of rule adoption. While the District's current regulations are some of the most stringent regulations in the nation and have achieved significant emissions reductions, for the first time, state incentive grant dollars are being made available to achieve further reductions in emissions from stationary sources that would not otherwise be feasible without this financial assistance. This type of financial assistance would only be available to facilities that are proposing to reduce emissions beyond the requirements of state, federal, and air district regulations.

Implementing Agency: SJVAPCD

Type of Action: Incentive, Outreach

Implementation: 2020-2024

Description of Proposed Actions: This strategy would provide incentives for stationary sources within the Shafter community to install advanced control technology, beyond existing controls, that would not otherwise be economically feasible to install. The state is currently developing funding guidance for such projects. The District will identify types of facilities and controls not otherwise identified in the CERP and will work with partners to implement these advanced controls. The District will also identify available grant funding to assist implementation, the number and types of projects to be funded, and will quantify emissions reductions as reduction opportunities are finalized.

RESIDENTIAL BURNING

BACKGROUND

The wood burning fireplaces and wood burning heaters source category includes emissions from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices. This source category contributes 2.29 tons per year of PM_{2.5} towards area sources of emissions in the community of Shafter, contributing 1.2% of the total PM_{2.5} inventory in Shafter. During winter, one of the largest sources of particulate pollution is residential wood burning.

Given the significant localized health impacts associated with residential wood smoke, reducing emissions from residential wood burning is a priority for the community of Shafter. Many scientific studies have found that prolonged inhalation of wood smoke contributes to adverse impacts on human health, especially among children, elderly, and people with certain medical conditions, and individuals who are sensitive to the impacts of air pollution. A number of environmental justice communities experience a disproportionately high level of directly emitted PM_{2.5} emissions from residential wood burning.

COMMUNITY CONCERNS AND COMMENTS

The community of Shafter has provided recommendations to implement enhanced financial incentives for residents to replace existing wood burning devices and pellet stoves with natural gas or electric technologies.

CURRENT CONTROL PROGRAMS

The District's comprehensive strategy to reduce emissions from residential wood burning includes implementation of stringent curtailment requirements through Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters), strong outreach and education to establish the necessary public support, and deployment of financial incentives to transition away from wood burning to cleaner alternatives. This approach combines regulatory and incentive based strategies is designed to improve the public health by reducing toxic wood smoke emissions in Valley neighborhoods during the peak PM_{2.5} winter season (November through February).

The District has continually enhanced the strategy since adopting the first regulation in 1993. Today, the District has the toughest and most effective residential wood burning strategy in the nation as it reduces emissions when and where most needed, such as during multi-day periods of stagnation and in the evening hours, and in neighborhoods where residents live and play.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to the high priority that the Steering Committee and members of the public placed on reducing PM_{2.5} and toxic air contaminant emissions that originate from residential burning in and around the community, targeted measures have been developed to reduce emissions from this source category. Building upon the effective implementation of the District's wood burning emission reduction strategy, the District commits to

provide enhanced incentives to replace wood burning devices, increased efforts to educate public about harmful impacts of wood smoke, enhanced enforcement of wood burning curtailments, focused outreach to reduce illegal activity, and enhanced enforcement to reduce illegal burning of residential waste.

The following are proposed measures that are within the Air District's statutory jurisdiction to implement:

RB.1: INCENTIVE PROGRAM FOR THE REPLACEMENT OF EXISTING WOOD BURNING DEVICES AND PELLET STOVES WITH NATURAL GAS OR ELECTRIC TECHNOLOGIES

Overview: The goal of this strategy is to reduce the impact of PM2.5 pollution associated with residential wood burning. During the winter months, one of the largest sources of particulate pollution comes from residential wood burning. Emissions are the result of incomplete combustion and are emitted into Valley neighborhoods where residents live and play. Multiple scientific studies show that prolonged inhalation of wood smoke has adverse impacts on human health. Inhalation of wood smoke contribute to lung disease, and pulmonary arterial hypertension, which can eventually lead to heart failure. Through the District's Burn Cleaner program, incentives are currently offered to encourage Valley residents to switch to cleaner burning options. The program offers up to \$3,000 depending on the income of the resident and the type of device they are purchasing.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2024

Description of Proposed Actions: This strategy would provide enhanced financial incentives to replace existing wood burning devices and pellet stoves with natural gas or electric technologies utilizing existing Board-approved methodology. Incentives available to Shafter residents would include \$3,000 for natural gas devices and \$4,000 for an eligible electric heating device. The goal of this measure is to replace 200 wood burning devices in Shafter with natural gas or electric alternatives at an expected cost of \$600,000. The emission reductions associated with this measure are expected to total 98 tons of PM2.5.

RB.2: EDUCATE PUBLIC ABOUT HARMFUL IMPACTS OF RESIDENTIAL WOOD BURNING

Overview: The goal of this strategy is to conduct outreach in the community to educate residents about the health impacts of wood burning and the importance of reducing it. Wood burning education is important because airborne particles produced by wood

smoke (such as PM_{2.5}) negatively impact human health, especially sensitive populations such as children or seniors who may live in homes that burn wood for heating, cooking, or recreation. This strategy's focus includes providing information about programs available to support the transition to natural gas and electric devices as well as the Check Before You Burn program and Rule 4901.

Implementing Agency: SJVAPCD

Type of Action: Outreach

Implementation: 2020-2024

Description of Proposed Actions: This strategy would create a series of four (4) public workshops to educate Shafter residents about wood burning topics and to address questions and concerns interactively and accessibly within a forum setting. Workshops would take place in locations commonly available to the public such as libraries, schools, and community, health, or recreation centers. Wood burning infographics and educational materials would also be circulated to at least six (6) community spaces throughout Shafter and the surrounding community with the goal of continuing to spread awareness and increasing applications for incentive funds supporting the transition to natural gas and electric devices.

RB.3: ENHANCED ENFORCEMENT OF WOOD-BURNING CURTAILMENTS UNDER DISTRICT RULE 4901

Overview: The goal of this strategy is to limit the potential for localized PM_{2.5} impacts associated with the failure to comply with mandatory episodic wood burning curtailments under District Rule 4901. Currently, to optimize rule effectiveness and reduce the public health impact of wood smoke, the District dedicates extensive staffing resources to operate a robust Rule 4901 enforcement program covering all aspects of the rule. The District's strategy focuses on both compliance assistance and enforcement activities. On all curtailment days, the District dedicates significant staffing resources to conducting surveillance in neighborhoods and responding to complaints from members of the public to ensure compliance with the rule. The District treats fireplace surveillance and complaint response as the highest priority enforcement activity. On each curtailment day, a substantial number of the District's inspection staff are assigned to perform surveillance with a focus on areas where non-compliance with the rule has been historically high and/or where public complaints regarding burning have been common. Notwithstanding this focus, the District works to ensure that surveillance is conducted regularly in all areas subject to regulatory curtailments. In addition to the surveillance and complaint response conducted during normal business hours, the District also conducts surveillance and complaint response on weekends, holidays, and during nighttime hours.

Implementing Agency: SJVAPCD

Type of Action: Enforcement

Implementation: 2019-2024

Description of Proposed Actions: Upon implementation of this strategy, District staff will allocate additional resources toward the enforcement of District Rule 4901 episodic curtailment requirements in the Shafter community. Specifically, District staff will conduct at least four (4) hours of surveillance within the Shafter community on each declared curtailment day for the next five (5) winter seasons to enhance the enforcement of District Rule 4901. The District will work with the Community Steering Committee to focus surveillance efforts in areas where wood burning is more prevalent.

RB.4: REDUCE ILLEGAL BURNING THROUGH RESIDENTIAL OPEN BURNING EDUCATION

Overview: The goal of this strategy is to reduce illegal burning of residential waste through outreach and education. It is important for residents to understand both the unlawfulness of burning garbage and its negative health impacts on all. Smoke from burning trash, yard waste, or burn barrels may contain air toxics among other pollutants that are especially harmful to human health. Education is critical to effectively reducing this dangerous practice.

Implementing Agency: SJVAPCD

Type of Action: Outreach

Implementation: 2020-2021

Description of Proposed Actions: This strategy would establish a series of four (4) public workshops to educate Shafter residents about the illegality and health impacts of burning waste, and to address questions and concerns interactively and accessibly within a forum setting. Workshops would take place in locations commonly available to the public such as libraries, schools, and community, health, or recreation centers. This strategy would also invest funds into geo-targeted outdoor ads in areas with frequent violations, including two (2) billboards, two (2) pieces of street furniture (such as bus shelters or kiosks), and one (1) bus routed through relevant locations. Additionally, two (2) postcard mailers would be sent to county residents in rural areas.

RB.5: ENHANCED ENFORCEMENT TO REDUCE ILLEGAL BURNING OF RESIDENTIAL WASTE

Overview: The goal of this strategy is to limit the potential for localized PM2.5 and toxic impacts associated with the illegal open burning of residential waste.

Pursuant to District rules and state law, the burning of residential waste is illegal in the San Joaquin Valley. Recognizing both the potential for localized exposure and regional

air quality impacts associated with the burning of residential waste, the District promptly responds to all complaints regarding illegal burning, conducts regular area surveillance for the purpose of enforcing open burn prohibitions, and works closely with local fire agencies to encourage interdepartmental cooperation and cross-reporting of incidents.

Implementing Agency: SJVAPCD

Type of Action: Enforcement

Implementation: 2020-2024

Description of Proposed Actions: Building on the District's existing surveillance and complaint response efforts, the District will conduct additional targeted surveillance efforts in the Shafter community and 7-mile buffer zone at least once per quarter for the next five (5) years. The District will work with the Community Steering Committee to focus surveillance efforts in areas where illegal residential open burning has historically occurred.

SOLAR DEPLOYMENT IN THE COMMUNITY

BACKGROUND

The State of California has aggressively pursued renewable energy. It is the policy of the state that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045.

The State has also directed state agencies to undertake various studies to identify and assess:

- Barriers to, and opportunities for, solar photovoltaic energy generation.
- Barriers to, and opportunities for, access to other renewable energy by low-income customers.
- Barriers to contracting opportunities for local small businesses in disadvantaged communities.

As an outcome of the state's aggressive renewable and zero-carbon electricity requirements and the state's desire to make renewable power more accessible to low-income and disadvantaged communities a number of programs have been developed to make solar photovoltaic systems more accessible in the City of Shafter. More recently, the state has initiated efforts to encourage and incentivize the installation of electric and near-zero emission appliances in an effort to further decarbonize the state's residential power use.

COMMUNITY CONCERNS AND COMMENTS

The Shafter steering committee has identified residential solar photovoltaic coupled with electric/clean appliance installation as a strategy to reduce emissions from home-based natural gas usage and reduce the cost of energy in the community.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Based on community interest in residential solar PV systems the District will be partnering with other entities with solar and zero/near-zero appliance funding programs to assist the community in accessing those programs. As further detailed below, these programs include the following:

- DAC-Single Family Solar Homes (DAC-SASH)
- Solar on Multifamily Affordable Housing (SOMAH)
- DAC-Green Tariff (DAC-GT)
- Community Solar Green Tariff (CSGT)
- Building Initiative for Low Emissions Development (BUILD)
- Technology and Equipment for Clean Heating (TECH)

The following is a suggested measure not within the Air District’s jurisdiction to directly implement:

SD.1: INCENTIVE PROGRAM FOR INSTALLING SOLAR IN THE COMMUNITY

Overview: The goal of this strategy is to increase the amount of solar photovoltaic (PV) systems, and zero and near-zero emission appliances, installed in the community by connecting community members with programs that provide financial incentives for the installation of solar photovoltaic (PV) systems and zero and near-zero emission appliances. A variety of programs are available to provide incentives for the installation of zero and near-zero emission appliances, PV systems, or for preferred rates for green energy in the community.

Jurisdictional Issues: It should be noted that oversight of energy usage, including implementation of community energy efficiency programs, and solar and zero and near-zero emission appliance incentives, is the jurisdiction of the California Public Utilities Commission, the public utilities, cities, and counties. AB 617 does not provide the District with new regulatory authority over energy programs, as discussed in CARB’s Blueprint (see “Who Has the Authority to Implement Actions?”, page 26 of the Blueprint). However, the District will make available to the responsible agencies the below strategy, as suggested by the Committee for potential inclusion into the CERP, for input and response in the Shafter Community Emissions Reduction Program.

Implementing Entities: California Public Utilities Commission, Pacific Gas and Electric Company, GRID Alternatives, SOMAH Nonprofit Administrative Partnership (SNAP)

Type of Action: Partnership

Implementation: 2019-2024

Description of Proposed Actions: Description of Proposed Actions: The District will commit up to \$1.5 million in District funding to incentivize the installation of residential solar and zero and near-zero emission appliances, in the City of Shafter, by committing a 10% match to state funding for residential solar and zero and near-zero emission appliances in the Community. The total state and District funding under this proposal would total \$15 million for residential solar and zero and near-zero emission appliances in Shafter, with District funding leveraging new PUC/CARB funding programs for solar and zero and near-zero emission appliance installations. The District will help to coordinate meetings with, and actively advocate for funding from, entities that offer incentives for solar photovoltaic (PV) installation and other green energy programs that have the potential to reduce utility rates in the community. The following is a summary of state programs that can benefit the community:

DAC-Single Family Solar Homes (DAC-SASH) program provides assistance in the form of up-front financial incentives for the installation of rooftop solar generating systems for income-qualified owners of single family homes in

disadvantaged communities. The program is administered by GRID Alternatives and has an annual budget of \$10 million from 2019 through 2030.

Solar on Multifamily Affordable Housing (SOMAH) program provides financial incentives for installing solar photovoltaic (PV) energy systems on multifamily affordable housing in disadvantaged communities (DAC). The program has \$100 million annually and has a goal of installing 300 megawatts of generating capacity by 2030. The program is administered by the SOMAH Nonprofit Administrative Partnership (SNAP).

DAC-Green Tariff (DAC-GT) program procures 100 percent renewable energy on behalf of customers while providing them a 20 percent discount on their otherwise applicable utility rate. The 20 percent discount can be applied as a discount to CARE rates. The DAC-GT program will begin in 2020 and will be run through the utility company (Pacific Gas and Electric).

Community Solar Green Tariff (CSGT) is similar to the DAC-GT program in that it procures 100 percent renewable energy on behalf of the customers while providing a 20 percent rate reductions. However, under this program the projects providing the solar energy must be sited within a top 25 percent DAC and the subscribers must reside within a top 25 percent DAC and live within 5 miles of the solar project. The program is approved to serve up to 41 megawatts of power and serve 6,800 customers. In order to enroll in the program communities must contact their utility (Pacific Gas and Electric).

Building Initiative for Low Emissions Development (BUILD) is designed to prescribe low-carbon construction of new housing, including making it easier for builders to build full electric homes.

Technology and Equipment for Clean Heating (TECH) initiative will incentivize the deployment of low-emissions space and water heating technologies, including zero and near-zero emission appliances, which are in an early stage of market development in new and existing residential buildings.

COMMERCIAL COOKING

COMMERCIAL COOKING OPERATIONS IN SHAFTER

Commercial cooking represents emissions from the various methods of cooking at restaurants. This includes charbroiling, deep-fat frying, and other cooking such as clamshell or flat griddles. The emissions are from the cooking process exclusively, such as from fat drippings hitting hot radiant surfaces in a charbroiler, and excludes emissions from the heat sources. In the Valley, the primary pollutant of concern from commercial cooking is PM_{2.5}, but there are also emissions of VOCs and toxics. In this category, 76% of the PM_{2.5} comes from charbroiling, which is divided between chain-driven charbroilers and underfired charbroilers. Between these two categories, underfired charbroiling represents 89% of PM_{2.5} emitted.

Commercial cooking emissions that originate in and around the community of Shafter include 1.73 tons per year (tpy) of VOCs, and 10.69 tpy of PM_{2.5}. The commercial cooking category represents 5% of the total PM_{2.5} emitted in the community and 2% of the formaldehyde. VOC and Benzene emission from this category represent 0.2% of the inventory.

COMMUNITY CONCERNS AND COMMENTS

Commenters from the Community Steering Committee called for more information to be gathered on this category, and expressed a desire for mandatory/regulatory requirements.

CURRENT CONTROL PROGRAMS

In 2002, the District adopted Rule 4692 (Commercial Charbroiling) requiring emission controls on the most used chain-driven charbroilers in the valley, reducing emissions from those devices by 84%. In 2009, the District amended the rule requiring controls on additional chain-driven charbroilers, further reducing the remaining emissions from chain-driven charbroiling by 25%. These stringent controls have reduced the impact of chain-driven charbroilers to only 11% of commercial charbroiling emissions.

The remaining 89% of commercial charbroiling emissions are from underfired charbroilers. The dilution of emissions from this types of charbroilers resulting from the hood and ventilation systems make the types of controls that work for chain-driven units inappropriate for underfired units. To identify potential technologies that could work, and demonstrate them in actual Valley restaurants the District has developed the Restaurant Charbroiler Technology Partnership. Information learned from this program, as well as information from other installations of control equipment throughout the state and country was considered in the District's *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards*. That analysis led to a commitment to amend Rule 4692 to achieve additional emission reductions from commercial underfired charbroilers. In addition to the regulatory commitment, the District committed to expanding its incentive program fund the installation of controls for commercial underfired charbroilers within urban boundaries in hot-spot areas of Fresno, Kern, and Madera counties, with a future year regulatory requirements to encourage participation by Valley businesses.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

A combination of incentive funding, with enhanced outreach, backed up with a future date regulatory requirement will seek to install emissions control equipment to reduce PM2.5 emissions from restaurants using underfired charbroilers.

The following is a proposed measure that is within the Air District's statutory jurisdiction to implement:

CC.1: INCENTIVE PROGRAM FOR INSTALLING ADVANCED EMISSIONS CONTROL EQUIPMENT ON UNDERFIRED CHARBROILERS

Overview: The goal of this strategy is reduce PM2.5 emissions from underfired charbroilers. The District has been very successful in reducing emissions from commercial charbroiling by requiring controls on chain-driven charbroilers. Unfortunately, the same types of controls won't work for underfired units, and other more expensive technologies must be employed to achieve similar results. These new technologies have not been widely achieved in practice, and many remaining questions regarding their technological feasibility must still be addressed. The District's Restaurant Charbroiler Technology Partnership program has had some success installing equipment to reduce PM2.5 emissions from underfired charbroilers, and helped identify some technologies that are very promising to address this source category.

Implementing Agency: SJVAPCD

Type of Action: Incentives (with regulatory backstop)

Implementation: 2020-2024

Description of Proposed Actions: This strategy would provide funding for the installation of control equipment at one Shafter restaurant to reduce particulate emission from underfired charbroilers, and to provide enhanced outreach and education to local restaurants regarding health impacts and availability of funding for installation of controls. Proposed funding amounts of \$150,000 would cover up to 100% of the cost of installing emissions control equipment. Estimated emissions reductions associated with this measure include 0.73 tons of PM2.5.

LAND USE AND EMISSIONS EXPOSURE

BACKGROUND

Land use is the characterization of land based on what can be built on it and what the land can be used for. It is important to note that local air districts do not have authority over land use. Land use decisions are directly under the authority of Land use Agencies. Land use agencies (e.g. City and County government agencies) have jurisdiction over land use, and as such develop land use plans and make decisions about how they grow and expand. Land use agencies typically have principal responsibility for approving development projects within their jurisdictions for a variety of land use types such as residential (single or multi-family, etc.), commercial (fast food, shopping center, retail, etc.), and industrial (warehouse distribution centers, glass manufacturing, etc.). For information about current land use in Shafter, please refer to Chapter 3, Understanding the Community.

The design of development projects in a community significantly influences how people travel. Land use strategies may result in reduction of number of trips by designing development to be more suitable for walking, bicycling, and transit. These land use strategies are typically outlined as measures and goals within a City or County general plan, which is the primary “long range” planning document used to locate future development and provides the framework within which decisions on how to grow, provide public services and facilities, and protect and enhance the environment, are made. Land use agencies’ decisions are critical in contributing to the improvement in air quality within a community and should be geared towards promoting strategies aimed at reducing VMT by increasing community walkability, implementing commute alternatives and cleaner transit fleets.

The District takes an advisory role working with cities and counties and engages them to use their land use and transportation planning authority to help achieve air quality goals by incorporating as many air quality policies and measures as possible into their general plans, community plans, and specific plans, and to ensure that development occurs in ways that minimize air quality impacts.

COMMUNITY CONCERNS AND COMMENTS

Community concerns expressed during Steering Committee meetings have included concerns about proximity of sensitive receptors, including schools and residences, to pesticide spraying, dust impacts of agricultural operations on the community, impacts of mobile sources on community members, and proximity of oil and gas operations to the community.

Suggestions made by community members during Steering Committee meetings relating to land use changes included implementing mandatory set-backs for new oil and gas wells, and rerouting heavy duty trucks off of Lerdo Highway in the area near Golden Oaks Elementary. It was also suggested that the City install well-separated bike lanes to increase active transportation and decrease VMTs.

The City of Shafter was an active participant in the CERP development process, including having two representative members as a part of the Community Steering Committee, and presenting to the Committee about the development of the City's Environmental Justice element of the General Plan, and opportunities for Steering Committee and public involvement in planning processes. Kern County also had two representative members as a part of the Community Steering Committee, regularly attended committee meetings, and met with District staff to discuss potential CERP strategies and ongoing coordination throughout the CERP implementation process.

As the majority of community member suggestions relate to land use issues for which the District does not have regulatory authority, the District's approach is to provide support to develop fueling infrastructure for zero and near-zero-emission vehicles, provide incentives for alternative modes of transportation, and support the land use planning process through the California Environmental Quality Act (CEQA). The District is supportive of measures and policies the land use agency can implement toward making the communities more transit-, bicycle-, and pedestrian-friendly, avoid land use conflicts that lead to toxics and nuisance problems, and minimizing the need to and/or mitigate air quality impacts of individual development proposals.

CURRENT CONTROL PROGRAMS

The District has implemented the following rules and programs to reduce emissions from mobile sources and to encourage implementation of measures promoting alternative mode of transportation and increasing walkability within the community.

- District Rule 9410 "Employer Based Trip Reduction" requires large employers to implement measures to encourage employees to take alternative transportation to work through the establishment of an Employer Trip Reduction Implementation Plan (eTRIP). An eTRIP is a set of measures that encourages employees to use alternative transportation and ridesharing for their morning and evening commutes. Each measure contributes to a workplace where it is easier for employees to choose to use ridesharing or alternative transportation. Through this rule, single-occupancy vehicle trips are reduced, thus reducing emissions of oxides of nitrogen (NOx), volatile organic compounds (VOC) and particulate matter (PM).
- District Rule 9510 "Indirect Source Review" (ISR) accounts for mobile source emissions from construction and new development projects and ensures that emissions from these activities are mitigated through on site activities or through payment of mitigation fees. The ISR rule reduces NOx and PM10 emissions from mobile and area sources associated with construction and operation of new development projects in the Valley. The ISR rule applies to developers of new residential, commercial and industrial projects and to transportation and transit projects whose emissions will exceed certain thresholds contained in the rule. The ISR rule encourages clean air designs to be incorporated into the development project, or, if insufficient emissions reductions can be achieved through clean air project design features, by paying a fee that will be used to fund off-site emissions reduction projects.

- The District provides incentives up to \$50,000 per project for electric vehicle charging infrastructure through the Charge Up Program.
<http://valleyair.org/grants/chargeup.htm>
- The District is developing new program for Heavy-Duty Alternative Fuel Infrastructure which will provide local businesses and agencies incentive funding to install alternative fueling infrastructure (electric, natural gas, hydrogen, etc.) to support the increased deployment of heavy-duty advanced clean technology vehicles.
- The District serves as a Commenting Agency under CEQA in providing technical expertise in characterizing project related impacts on air quality when reviewing projects of various land uses (i.e., residential, commercial, and industrial). CEQA is a state statute that requires state and local agencies to identify the significant environmental impacts of their discretionary decisions and to require the avoidance or mitigation of those impacts, if feasible. Typically, the Lead Agency, such as the local city or county, will submit to the District a request for air quality related comments for a specific project. The District then assesses the project's potential impact on air quality and prepares a letter (commenting letter) that identifies the project, its impact on air quality, recommended feasible mitigation measures to be incorporated, and District rules and regulations that may apply. The commenting letter is then provided to the Lead Agency.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Several strategies have been identified under this Land Use and Transportation section that span from advocating issues, providing incentives, collaborating with the local land use agency, i.e. City and County, to providing input through the land use process.

The following are proposed measures that are within the Air District's statutory jurisdiction to implement:

LU.1: PROVIDE ASSISTANCE DURING THE CALIFORNIA ENVIRONMENTAL QUALITY ACT PROCESS

Overview: The purpose of this strategy is to provide assistance during the California Environmental Quality Act (CEQA) process with guidance to land use agencies, project proponents, and the public on how the project may impact air quality in the San Joaquin Valley, and information on how air pollution impacts can be reduced.

CEQA is a state statute that requires public agencies such as state and local agencies to identify the significant potential environmental impacts of a proposed project and to avoid or mitigate such impacts, if feasible. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project". A project is an activity undertaken by a public agency or a private activity which must receive some discretionary approval (meaning that the agency has the authority to deny the requested

permit or approval) from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

Land use decisions are critical to improving air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence transportation needs while motor vehicle emissions are the largest source of air pollution in the San Joaquin Valley. It is important to note that local air districts do not have authority over land use. Land use decisions are directly under the authority of Land use Agencies. The design of development projects in a community significantly influences how people travel. Land use agencies (e.g. City and County government agencies) have jurisdiction over land use, and as such develop land use plans and make decisions about how they grow and expand. Even though the District does not have land use authority, however, as a public agency the District takes an active role in the intergovernmental review process under CEQA. Providing District assistance during the CEQA process allows land use agencies and project proponents to enhance project design by identifying feasible mitigation measures in the early stages of the planning process for a better overall project with minimized impact on air quality.

In carrying out its duties under CEQA, the District may act as a Lead Agency, a Responsible Agency, or a Trustee/“Commenting” Agency. The role the District under CEQA is dependent upon the extent of the District’s discretionary approval power over the project. The District is typically not the Lead Agency for proposed new projects because project approval is generally required by other public agencies with broader authority, such as land use agencies. A Lead Agency is the public agency with the broadest authority for approving or carrying out the project and therefore has the principal responsibility for carrying out or approving a project subject to CEQA. Lead Agencies are responsible for complying with CEQA by ensuring that all potential environmental impacts of proposed projects are adequately assessed, and environmental damage is avoided or minimized where feasible.

The District is more often a Responsible Agency or a “Trustee Agency” (more commonly known as a “Commenting Agency”). A Responsible Agency is a public agency, other than the Lead Agency, that has responsibility for carrying out or approving a project subject to CEQA. While a Lead Agency must consider all of the potential impacts of a project, a Responsible Agency may only consider those aspects that are within the agency’s area of expertise or which are required to be carried out or approved by the agency. A “Commenting Agency”, is an agency that has “jurisdiction by law” over a particular natural resource but does not have discretionary approval power over the project. In this role, the District is advising Land use Agencies and provides technical expertise in characterizing project related impacts on air quality when reviewing projects of various land uses (i.e., residential, commercial, and industrial). In addition to reviewing a project’s impact on air quality, the District may review and comment on other sections of the environmental document that relate to air quality impacts, for example traffic and health risks. As such, when serving as a Commenting Agency, the District may provide the Lead Agency with comments on the adequacy of

the air quality analysis, identify District rules, which apply to the project, and recommend potential mitigation measures for the Lead Agency's consideration.

The air quality considerations that warrant particular attention during early consultation between Lead Agencies and project proponents include consistency with applicable District rules and permit requirements and incorporation of all feasible measures to reduce a project's impact on air quality. As such, addressing issues in relation to land use and project design while a proposed project is still in the planning stages provides project proponents opportunities to incorporate project design features to minimize project's impacts on air quality.

Implementing Agency: SJVAPCD, City, County

Type of Action: Land use

Implementation: 2019

Description of Proposed Actions: The District will work with the City and County on active CEQA coordination with the land use agencies and project proponents for proposed projects within the Shafter Community and surrounding area. This strategy will result in enhancing project designs in the early stages of the planning process for a better overall project with minimized impact on air quality and early identification of feasible mitigation measures.

LU.2: SUPPORT PROJECTS THAT REDUCE VEHICLE MILES TRAVELED

Overview: The purpose of this strategy is to reduce vehicle miles traveled (VMT) in the community through measures that promote active transport and increase the walkability of community neighborhoods.

Mobile source emissions make up over 85% of the Valley's NO_x emissions, the primary driver in the formation of ozone and particulate matter pollution, and therefore reductions in mobile source emissions have become an ever-increasingly critical part of the Valley's attainment strategy of federal air quality standards.

It is important to note that mobile source "tailpipe" emissions are within the responsibility and jurisdiction of the California Air Resources Board, and local air districts do not have the authority to adopt and implement regulations requiring ultra-low tailpipe emissions standards on mobile sources. The State and the federal government, unlike the District, have the authority to directly regulate tailpipe emissions from mobile sources. New state and federal regulations coupled with a robust incentive-based emission reduction strategy are necessary to reduce emission reductions and community residents' exposure to air pollutants. The California Air Resources Board has adopted tough regulations for heavy-duty trucks, off-road equipment, and other mobile sources.

In the meantime, the District has been innovative in creating rules to reduce air quality

impacts from these sources. In particular, the District has adopted regulations such as the Indirect Source Review and Employer based Trip Reduction rules to reduce emissions from mobile sources within the District's limited jurisdiction over these sources.

The District Rule 9510 "Indirect Source Review" (ISR) is the only rule of its kind in the State of California and throughout the nation, which applies to new development projects. The District's rule is recognized as a benchmark, or best available control, for regulating indirect source emissions with the purpose of reducing the growth in emissions from mobile and area sources associated with construction and operation of new development project in the Valley. The District encourages emissions to be reduced through project design elements resulting in air quality benefits. The District Rule 9410 "Employer Based Trip Reduction" requires larger employers to establish trip reduction programs. These programs are designed to encourage employees to reduce single-occupancy vehicle trips, thus reducing emissions associated with work commutes.

Land use decisions are critical in contributing to the improvement in air quality within a community and should be geared towards promoting strategies aimed at increased walkability, commute alternatives and cleaner transit fleets. Examples of such measures are listed below:

- Bicycle infrastructure
- Infrastructure to support alternative modes of transportation (electrical vehicles, near-zero emissions vehicles, etc.)
- Satellite offices/telecommuting centers to reduce the length of employee commute trips or eliminate such trip
- Implement measures promoting the use of fuels that are less polluting than gasoline or diesel, for example:
 - Replacing diesel fleet with alternative fuel engine technology and infrastructure
 - Retrofitting existing equipment to reduce emissions using methods such as particulate filters, oxidation catalysts, or other approved technologies
 - Repowering/Retrofitting heavy-duty diesel fleet with cleaner diesel engine technology and/or diesel particulate filter after-treatment technology
 - Replacing diesel fleet vehicles with cleaner fueled low emission vehicles (i.e. school buses, buses, on- and off- road heavy duty vehicles, lighter duty trucks and passenger vehicles).

Implementing Agency: SJVAPCD, City, County

Type of Action: Partnership

Implementation: 2019-2024

Description of Proposed Actions: Provide District support for projects that reduce VMT, including advocacy for competitive project proposals and potential match funding support to eligible projects, as appropriate, through existing District programs (i.e. bicycle path infrastructure, electric vehicle charging infrastructure, vanpooling and ridesharing). Under this strategy, the District plans to work with City of Shafter to obtain feedback on opportunities for community members to be involved in land use planning processes. City of Shafter has committed to notify community members about upcoming meetings that address the development of the Environmental Justice element of the City's General Plan.

In addition, as part of its Environmental Justice General Plan Element, the City is considering the following strategies to reduce the amount of vehicular travel within the Shafter area and reduce vehicle miles travelled, thereby reducing air pollutant emissions in the Shafter area:

1. Work to enhance community connectivity between residential uses, shopping, health care, employment, and community services via transit and non-motorized means of travel and maintain efficient land use patterns that reduce the number of miles residents, workers, and visitors need to travel between various activities within Shafter.
2. Plan for and maintain a system of pedestrian and bicycle facilities that connects residents to schools, places of work, parks and recreational facilities, shopping and restaurants, health care facilities, transit, and places of worship (see measure LU.4 for more information).
3. Establish standards and implement a system to evaluate new development and transportation projects in relation to the vehicle miles travelled (and mobile source emissions) they will generate and provide for appropriate mitigation measures to be applied to projects having significant vehicle miles travelled impacts.
4. Work with the San Joaquin Valley Air Pollution Control District to provide funding for (1) paving of roadway shoulders to provide for bicycle lanes and (2) increasing the frequency of street sweeping and improved maintenance of designated bikeways, including patching and/or sweeping of paved shoulders where gravel, glass or other debris has accumulated, and trimming of foliage where it encroaches into the paved shoulder (see measures RD.1 and RD.2 for more information).

LU.3: SETBACKS FOR NEW OIL WELL DRILLING

Overview: Some Steering Committee members suggested that no new oil wells be drilled within 2,500 feet of residents, schools and all environmental sensitive locations.

Jurisdictional Issues: It should be noted that the District has no authority over how agencies allow land under their jurisdiction to be used. These so-called “land-use” decisions are historically the responsibility, under state law, of cities and counties, or, in some cases, state and federal agencies responsible for transportation corridors, state and federal parks, and other properties. AB 617 does not provide the District with new land-use regulatory authority, so land-use authority remains with cities, counties, and state and federal land-use agencies, as discussed in CARB’s Blueprint (see “Who Has the Authority to Implement Actions?” page 26 of the Blueprint). However, the District has made available to the responsible agencies the various land-use strategies that have been presented by the Committee for potential inclusion into the CERP for responsible agency’s input and response in the Shafter Community Emissions Reduction Program.

Implementing Agency: City, County, and the California Division of Oil, Gas, and Geothermal Resources (DOGGR)

Type of Action: Partnership

Timing: Unknown

Description of Proposed Actions: The District will work with the City, County, and DOGGR to communicate this Steering Committee suggestion and receive agency feedback and response about this measure for potential inclusion in the CERP. The City of Shafter has responded as follows:

“Kern County has adopted an ordinance establishing setback requirements for oil facilities from sensitive uses (Chapter 19.98 of the Kern County Zoning Ordinance). The Environmental Impact Report (EIR) prepared by the County for that ordinance evaluated health risks for sensitive uses from oil production facilities. Based on the Health Risk Assessment prepared for that EIR, Kern County also adopted mitigation measures that will be implemented to avoid potential significant impacts from oil production facilities on sensitive uses.

The City of Shafter Zoning Ordinance also establishes setback requirements for oil facilities from sensitive uses (Shafter Municipal Code Title 17, Chapter 9). The City will review the EIR and health studies prepared by the County for its oil and gas production ordinance and consider standards for preparation of health risk assessments to avoid creation of significant impacts from oil production facilities on sensitive uses.”

LU.4: REDUCE EMISSIONS ASSOCIATED WITH THE CONSTRUCTION OF THE HIGH SPEED RAIL WITHIN THE 7-MILE RADIUS AROUND THE COMMUNITY OF SHAFTER

Overview: The goal of this strategy is to reduce emissions from High Speed Rail (HSR) construction equipment operating within the 7-mile radius to reduce the impact of

pollution on area residents. While the Air District has already negotiated as a part of the CEQA commenting process a commitment by California High Speed Rail (HSR) Authority to completely mitigate their construction emissions on a regional basis, their construction project will still generate local air pollution impacts, largely due to the use of heavy-duty diesel equipment. To minimize these impacts, the Committee suggests that the HSR Authority use only Tier 4 engines in this heavy-duty equipment.

Jurisdictional Issues: Under state and federal law, air districts are prohibited from regulating emissions from mobile sources, and therefore cannot directly require operations to use specific types of engines in their mobile sources, such as trucks and construction equipment. CARB and the federal EPA retain jurisdiction for these sources. The District has addressed this jurisdictional issue in a number of ways, including requiring mitigation of a significant portion of construction and operational emissions that occurs due to development projects (such as the HSR project) through our Indirect Source Review (ISR) Rule, the only rule of its kind in the state. Beyond this rule, we request through our CEQA commenting responsibility under state law that developers look for additional mitigation, beyond that required by rules and laws, and offer the District's "Voluntary Emission Reduction Agreement" (VERA) program as a mechanism to do so. HSR has complied with our ISR rule, and has further contractually agreed through a VERA to fully mitigate the emissions associated with the construction of the HSR project in the San Joaquin Valley. However, beyond these comprehensive regional mitigations, local impacts caused by diesel particulate emissions remain associated with the use of diesel powered equipment, and state and federal regulations do not require the HSR to use Tier 4 engines to reduce those impacts. The HSR Authority is the only public agency that can require that Tier 4 engines be used.

Implementing Agency: District, CARB, California High Speed Rail Authority

Type of Action: Partnership

Implementation: 2019

Description of Proposed Actions: The District will work with CARB and California High Speed Rail Authority to communicate community concerns and receive feedback on appropriate processes to address suggestion that HSR construction within the 7-mile radius use Tier 4 engines in all off-road construction equipment.

LU.5: FUNDING FOR BIKE PATH CONSTRUCTION

Overview: The goal of this strategy is to reduce the impact of pollution from motor vehicles by encouraging bicycle use and reducing vehicle miles travelled in and around the City of Shafter by expanding the network of bicycle paths.

Reducing emissions from motor vehicles through the implementation of alternate modes of transportation, including bicycling, is important to reduce the public's exposure to vehicle emissions including NOx and PM2.5. These pollutants negatively impact human

health, especially for sensitive populations such as children. State and Federal requirements control emissions from passenger vehicles. The Valley Air District does not have jurisdiction over these sources. However, due to the large amount of air pollution that originates from passenger vehicles in the Valley, including public fleet vehicles, the District has implemented a suite of programs to reduce pollution from public fleets, including rebates for new zero and near-zero-emission vehicles, vehicle repair and replacement programs, and bicycle path construction.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2022

Description of Proposed Actions: This strategy would provide incentive funding for the development and construction of Class 1, Class 2 and Class 3 bicycle paths, lane striping and routes. The proposed funding level of this measure is \$1,000,000 and funding amounts would be consistent with established District guidelines from the District's REMOVE and Public Benefit Grants Programs. Projects proposed under this measure must be consistent with the Approved 2005 City of Shafter General Plan and Bicycle Plan or any related planning efforts.

ROAD DUST AND REDUCTIONS IN VEHICLE MILES TRAVELED

ROAD DUST FROM VEHICULAR TRAVEL IN SHAFTER

In the Shafter community and the surrounding 7-mile radius, there are 659 miles of roads, including 109 miles of major roads, and 550 miles of minor roads. Sources of emissions from roads include deposits of vehicle exhaust and industrial exhaust, particles from tire and brake wear, dust from paved roads and potholes, and dust from construction, open areas, and other earthmoving activities.

Approximately 18% of all PM_{2.5} emissions in the community are from road dust, as illustrated in the below table:

Emissions Source	PM _{2.5} Emissions (tons/year)	% of Total PM _{2.5} Emissions	PM ₁₀ Emissions (tons/year)	% of Total PM ₁₀ Emissions
Paved Road Dust	21.13	13.2%	140.86	13.0%
Unpaved Road Dust	7.96	5.0%	79.65	7.4%

COMMUNITY CONCERNS AND COMMENTS

The Community Steering Committee expressed an interest in evaluating air quality impacts and feasibility of increasing frequency of street sweeping along freeways and streets. Community members also wanted to identify opportunities to reduce dust from paved and unpaved roads in the community through road paving improvements. Specific interest was expressed in improvements in road paving, structure, and infrastructure in communities within the 7 mile zone, including Smith's Corner, Cherokee Strip, Mexican Colony, Labor Camps along Route 43, etc. Bike lanes and sidewalks with trees were also discussed during community meetings.

CURRENT CONTROL PROGRAMS

Regulation VIII (Fugitive PM₁₀ Prohibition) / Dust Control Plan (DCP)

The District's Regulation VIII series (Fugitive PM₁₀ Prohibitions) was adopted in November 2001, and subsequently amended in 2004. This rule series contains a comprehensive suite of rules designed to reduce fugitive PM₁₀ emissions from a range of sources including:

- Specified outdoor fugitive dust sources.
- Construction or demolition related disturbances of soil, including land clearing, grubbing, scraping, excavation, extraction, land leveling, grading, cut and fill operations, travel on the site, travel access roads to and from the site, and demolition activities.
- Outside storage and handling of any unpackaged material, which emits or has the potential to emit dust when stored or handled.
- Prevention and cleanup of mud and dirt whenever it is deposited (carryout and trackout) onto public paved roads.

- Open area 0.5 acres or more within urban areas, or 3.0 acres or more within rural areas that contains at least 1,000 square feet of disturbed surface area.
- Any paved, unpaved, or modified public or private road, street highway, freeway, alley way, access drive, access easement, or driveway.
- Unpaved vehicle/equipment areas, including parking, fueling, service, shipping, receiving, and transfer areas.
- “Off-field” agricultural sources including, but not limited to, unpaved roads, unpaved vehicle/equipment traffic areas, and bulk materials.

The Regulation VIII rules are implemented via the District’s Dust Control Plan (DCP) program: https://www.valleyair.org/busind/comply/PM10/compliance_PM10.htm

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to the high priority that the Steering Committee placed on reducing dust in the community, specific measures have been developed to further reduce PM emissions in the Shafter area. In addition to strategies discussed elsewhere, these strategies include the following measures to reduce dust from both paved and unpaved roads. The District is proposing to partner with other agencies to improve road paving efforts in the community and, if found to be effective in reducing particulate emissions, increase street sweeping efforts.

The following suggested measures are not within the Air District’s jurisdiction to directly implement:

RD.1: STREET SWEEPING

Overview: The goal of this strategy is to identify opportunities to reduce dust from paved and unpaved roads in the community through increased frequency of street sweeping. Increased street sweeping on roads and highways can help to reduce paved road dust and associated emissions that may impact public health. The City of Shafter coordinates street sweeping within the city boundaries. Areas of the AB 617-selected community not within the city boundaries are maintained by the County of Kern, which does not operate any street sweepers in the area.

Figure 4-3 below shows the community boundary (red outline), and the city limits of Shafter (pale yellow). See Figure 4-4 for the current street sweeping schedule in the City of Shafter.

Figure 4-3: City Limits of Shafter

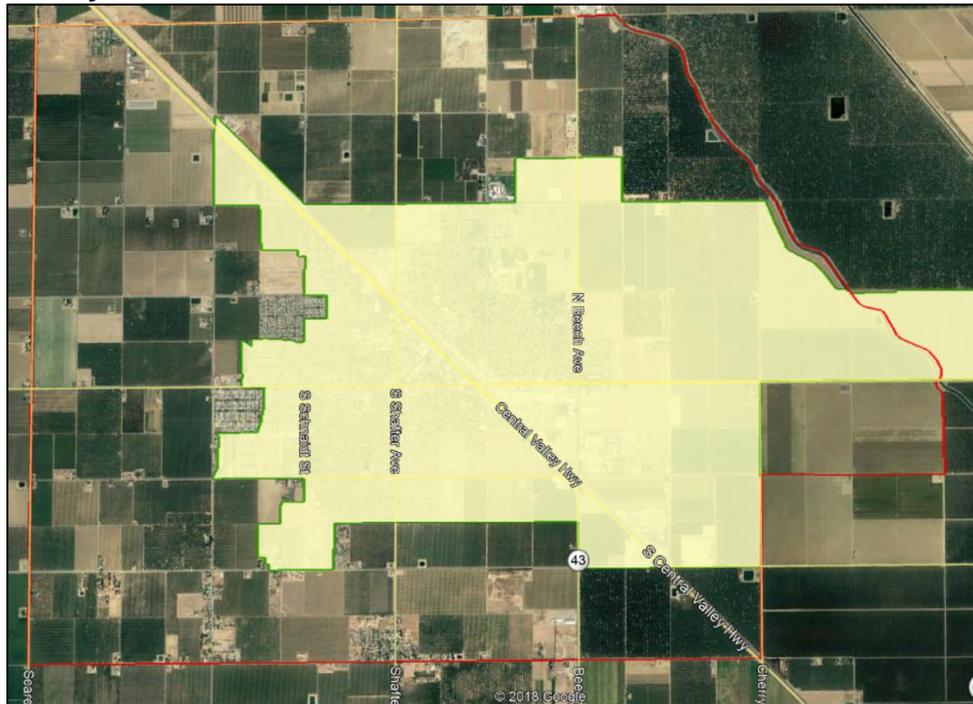
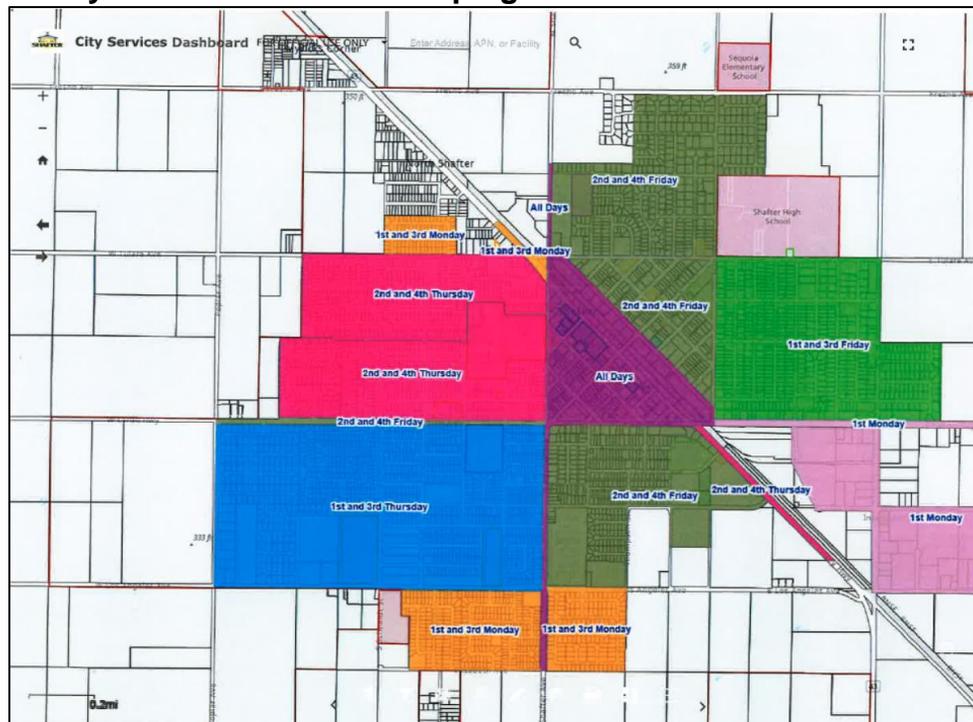


Figure 4-4: City of Shafter Street Sweeping Schedule



Jurisdictional Issues: It should be noted that the District has no authority over how agencies allow land under their jurisdiction to be used. These so-called “land-use” decisions, such as whether and how often to require street sweeping, are historically the

responsibility, under state law, of cities and counties, or, in some cases, state and federal agencies responsible for transportation corridors, state and federal parks, and other properties. AB 617 does not provide the District with new land-use regulatory authority, so land-use authority remains with cities, counties, and state and federal land-use agencies, as discussed in CARB's Blueprint (see "Who Has the Authority to Implement Actions?", page 26 of the Blueprint). However, the District has made available to the responsible agencies the various land-use strategies that have been presented by the Committee for potential inclusion into the CERP for responsible agency's input and response in the Shafter Community Emissions Reduction Program.

Implementing Agency: SJVAPCD, City and County

Type of Action: Partnership

Implementation: 2020

Description of Proposed Actions:

The District, through partnerships with other entities (including City of Shafter, Kern County, and Kern Council of Governments), will work to identify opportunities to expand and improve street sweeping efforts in the community.

RD.2: ROAD AND SIDEWALK IMPROVEMENTS

Overview: The goal of this strategy is to identify opportunities to reduce dust from paved and unpaved roads in the community through road paving improvements, as well as reduce motor vehicle emissions by improving the walkability of the community through sidewalk improvement and construction. Road and sidewalk improvement projects are often combined for efficiency and cost reasons, and so are included together in this measure.

The District currently regulates fugitive dust emissions from a range of sources with a series of rules known as Regulation VIII. Rule 8061 (Paved and Unpaved Roads) establishes standards for the construction of new and modified paved roads in accordance with published guidelines by the American Association of State Highway and Transportation Officials for road construction and applies to any paved, unpaved, or modified public or private road, street highway, freeway, alley way, access drive, access easement, or driveway. Rule 8061 also establishes thresholds that when exceeded require that roads are treated to reduce visible dust emissions.

In addition, the District has actively encouraged sidewalk construction through commenting on development projects in our CEQA role as the regional air quality agency, and through public benefit grant funding. Our efforts in this area are based on the well-established link between community walkability/active transportation improvements and decreased vehicle traffic, which leads to decreased emissions associated with vehicle traffic.

Dust from unpaved roads is the source of 7% of the PM10 emissions from area-wide sources in the community, and mobile source emissions comprise the main source of NOx emissions in the community. Through partnerships with other entities (including City of Shafter, Kern County, and Kern Council of Governments) to identify opportunities, such as Congestion Mitigation and Air Quality funding, the District will work to support road improvement efforts in the community where most needed to reduce health impacts, and will provide up to a total of \$2.775 million in match grant funding to leverage available local, state, and federal funding. These efforts include paving shoulders, shoulder stabilization, paving or stabilizing unpaved roads, traffic mitigation measures, installing sidewalks, and curbing.

Implementing Agency: SJVAPCD, Cities, Counties

Type of Action: Incentive, Partnership

Timing: Immediately begin development of match funding criteria and project solicitation processes, and begin identifying opportunities for agency coordination

Description of Proposed Actions: The District will work with city and county partners to provide up to \$2.775 million in match funding to leverage available local, state, and federal funding sources for road and sidewalk improvement projects in the community. The District will partner with the City of Shafter and Kern County to notify them as other grant funding opportunities for road paving, road resurfacing, and sidewalk improvements become available. The District will provide support to the City and County in paving grant applications through letters of support and technical support, as requested.

LAWN AND GARDEN EQUIPMENT

LAWN AND GARDEN EQUIPMENT IN SHAFTER

Small off-road engines (SORE) which are typically utilized in gas powered lawn and garden equipment emit oil-based particulates, PM_{2.5}, NO_x, and a mixture of hydrocarbons, which combine with other gases to form ozone, carbon monoxide and other toxic air contaminants. This equipment can also cause a significant amount of fugitive dust and can increase fugitive emissions including PM, toxic air contaminants, and ultrafine particles resulting in negative health impacts for the user.

According to a 2003 study by the California Air Resources Board, there are over 11.4 million pieces of residential lawn and garden equipment operating throughout the state. In the Shafter community the emissions from this sector total 2.23 tons per year (tpy) of NO_x, 13.27 tpy of VOC and 0.28 tpy of PM_{2.5}. These total emissions contribute 0.3% of the NO_x inventory, 3.6% of the VOC inventory, and 0.1% of the PM_{2.5} inventory.

Figure 4-5: Electric yard equipment helps to reduce emissions near homes and places of business



COMMUNITY CONCERNS AND COMMENTS

Community Steering Committee comments regarding Lawn and Garden included better outreach to inform community members of available incentives and increased incentives for the equipment as well as providing free electric lawn mowers for low income residents.

CURRENT CONTROL PROGRAMS

CARB has a SORE program, which includes lawn and garden equipment. In 2020, CARB will consider new standards for small engines to help California meet its goal of reducing smog-forming pollutant emissions from mobile sources by 80 percent in 2031.

<https://ww2.arb.ca.gov/our-work/programs/small-off-road-engines-sore>

In addition, the District offers incentives to help reduce emissions from gas-powered lawn and garden equipment. The Clean Green Yard Machines (CGYM) program provides funding for the following options:

- The residential CGYM provides rebates for the replacement of an old gas-powered mower with a new electric mower and for the purchase of eligible new electric lawn and garden electric equipment without replacements. To

date, this program has replaced over 6,700 lawn mowers with over \$1.5 million in funding.

<http://www.valleyair.org/grants/cgym.htm>

- The Commercial CGYM launched in May 2019 and provides funding for the replacement of eligible old gas-powered lawn and garden equipment with battery-powered options for public agencies, private entities, and businesses/
<http://valleyair.org/grants/cgym-commercial.htm>

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

In order to achieve additional emission reductions from the Lawn and Garden category the District will provide enhanced outreach and access to Shafter residents or businesses who would like to participate in our available incentive programs. For the residential program, the District proposes to cover the full cost of an electric lawn mower purchase when replacing an existing gas powered mower.

LG.1: INCENTIVE PROGRAM FOR THE REPLACEMENT OF RESIDENTIAL LAWN AND GARDEN EQUIPMENT

Overview: The goal of this strategy is to reduce NOx and PM2.5 emissions from residential lawn and garden equipment by replacing existing gas powered units with battery powered zero emission models. Utilizing electric lawn care equipment can provide residents with immediate economic, environmental, and health benefits. The District's Clean Green Yard Machines program provides incentive funding for the replacement of existing gas powered lawn mower with a new electric model. These incentives range from \$100-250 depending on the cost of the new mower. In addition, the District offers incentives up to \$50 for the purchase of a new electric lawn mower, edger, trimmer, chainsaw or polesaw without requiring an old piece of equipment to be turned in.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2024

Description of Proposed Actions: This strategy will provide Shafter residents with increased incentives for the replacement of residential lawn care equipment utilizing existing District Board-approved criteria, with an increased incentive amount for residents within the community. This measure will increase outreach and access to incentive funding while providing rebates up to 100% of the equipment cost of a new electric lawn mower when replacing an existing gas powered model. Residents who do not have an existing piece of equipment to retire would be eligible for incentives up to \$50 for the purchase of a new piece of eligible equipment. The goal is to replace 280 gas powered units at an expected cost of \$100,000. Estimated emissions reductions associated with this measure include 0.07 tons of PM2.5 consisting of diesel particulate matter and 0.1 tons of NOx.

LG.2: INCENTIVE PROGRAM FOR THE REPLACEMENT OF COMMERCIAL LAWN AND GARDEN EQUIPMENT

Overview: The goal of this strategy is to reduce NOx and PM2.5 emissions from commercial landscaping operations by replacing existing gas powered equipment with battery powered zero emission models. Advancing clean technology in the area of commercial lawn care can provide meaningful health benefits to San Joaquin Valley residents who are directly impacted and exposed on a daily basis to air pollution generated from lawn care equipment. Emissions from commercial lawn care providers occurs in the Shafter community, directly impacted equipment operators and community residents. The District currently offers a commercial lawn and garden equipment replacement program and provides incentives for the replacement of gas powered equipment with battery operated zero emission technology. These incentives range from \$200-\$15,000 depending on the equipment type and cost of the new units. In addition, the program provides incentive funds for additional batteries and chargers to ensure that the equipment is capable of operating for a full day of work.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2024

Description of Proposed Actions: This strategy will provide commercial lawn care providers operating in Shafter with enhanced outreach and access to available incentives offered by the District, utilizing Board-approved criteria. The goal of this measure is to replace 30 pieces of commercial grade gas powered lawn and garden equipment at an expected cost of \$40,000. Emission reductions associated with this measure will be calculated at a later time.

PUBLIC FLEETS

PUBLIC FLEETS IN SHAFTER

Public agencies, including the City of Shafter and Kern County as well as transit organizations operate a variety of public fleet vehicles within the City of Shafter. These include a wide variety of light-duty vehicles used for municipal purposes including police vehicles, municipal work vehicles, city and county staff vehicles, etc. These vehicles are typically fueled by conventional gasoline or diesel engines. Emissions from this source category include oxides of nitrogen (NO_x) and combustion PM from the internal combustion engines. Mobile sources account for more than 85% of the NO_x inventory throughout the Valley.

Figure 4-6: Examples of public fleet vehicles



COMMUNITY CONCERNS AND COMMENTS

The community comments regarding this source category centered on providing “mandatory incentives” to replace public fleet vehicles with the City of Shafter and restrict those vehicles to electric-only options. Of the community members that prioritized this measure, one member assigned it a low priority, two members assigned it a medium priority and two members assigned it a high priority.

CURRENT CONTROL PROGRAMS

State and Federal requirements control emissions from passenger vehicles. The Valley Air District does not have jurisdiction over these sources. However, due to the large amount of air pollution that originates from passenger vehicles in the Valley, the District has implemented a suite of programs to reduce pollution from public fleets:

- The District operates the Public Benefit Grants Program. The purpose of this program is to fund the purchase of new electric, plug-in hybrid, or alternative fuel vehicles for public agencies to promote clean air alternative-fuel technologies and the use of low-or zero-emission vehicles in public fleets. This program is currently open and accepting applications on a first-come-first-served basis.
- Employer Based Trip Reduction (District Rule 9410) requires large employers to implement measures to encourage employees to take alternative transportation to work through the establishment of an Employer Trip Reduction Implementation Plan (eTRIP).

- An eTRIP is a set of measures that encourages employees to use alternative transportation and ridesharing for their morning and evening commutes.
- Each measure contributes to a workplace where it is easier for employees to choose to use ridesharing or alternative transportation.
- Through this rule, single-occupancy vehicle trips are reduced, thus reducing emissions of oxides of nitrogen (NO_x), volatile organic compounds (VOC) and particulate matter (PM).

STRATEGY DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to community members' interest in reducing emissions of criteria pollutants and toxic air contaminants that originate from mobile sources operating in and around the community of Shafter, the following strategy was developed to reduce emissions associated with the operation of public fleet vehicles.

PF.1 INCENTIVE PROGRAM FOR REPLACING OLDER PUBLIC FLEET VEHICLES WITH NEW, CLEAN-VEHICLE TECHNOLOGY

Overview: To provide increased outreach and access to incentive funding for the replacement of older, higher polluting public fleet vehicles operating within and surrounding Shafter with new clean vehicle technology.

Replacing older public fleet vehicles is important to reduce the public's exposure to vehicle emissions including NO_x and PM_{2.5}. These pollutants negatively impact human health, especially for sensitive populations such as children. These are new clean vehicle technologies, including plug-in hybrid, battery electric and natural gas that are significantly cleaner than conventionally-powered gasoline and diesel vehicles.

State and Federal requirements control emissions from passenger vehicles. The Valley Air District does not have jurisdiction over these sources. However, due to the large amount of air pollution that originates from passenger vehicles in the Valley, including public fleet vehicles, the District has implemented a suite of programs to reduce pollution from public fleets:

- The Public Benefit Grants Program - <http://valleyair.org/grants/publicbenefit.htm>. This program is operated by the District. The purpose of this program is to fund the purchase of new electric, plug-in hybrid, or alternative fuel vehicles for public agencies to promote clean air alternative-fuel technologies and the use of low-or zero-emission vehicles in public fleets. This program is currently open and accepting applications on a first-come-first-served basis.
- Employer Based Trip Reduction (District Rule 9410) requires large employers to implement measures to encourage employees to take alternative transportation to work through the establishment of an Employer Trip Reduction Implementation Plan (eTRIP).

- An eTRIP is a set of measures that encourages employees to use alternative transportation and ridesharing for their morning and evening commutes.
- Each measure contributes to a workplace where it is easier for employees to choose to use ridesharing or alternative transportation.
- Through this rule, single-occupancy vehicle trips are reduced, thus reducing emissions of oxides of nitrogen (NO_x), volatile organic compounds (VOC) and particulate matter (PM).

Implementing Agency: SJVAPCD

Type of Action: Incentives

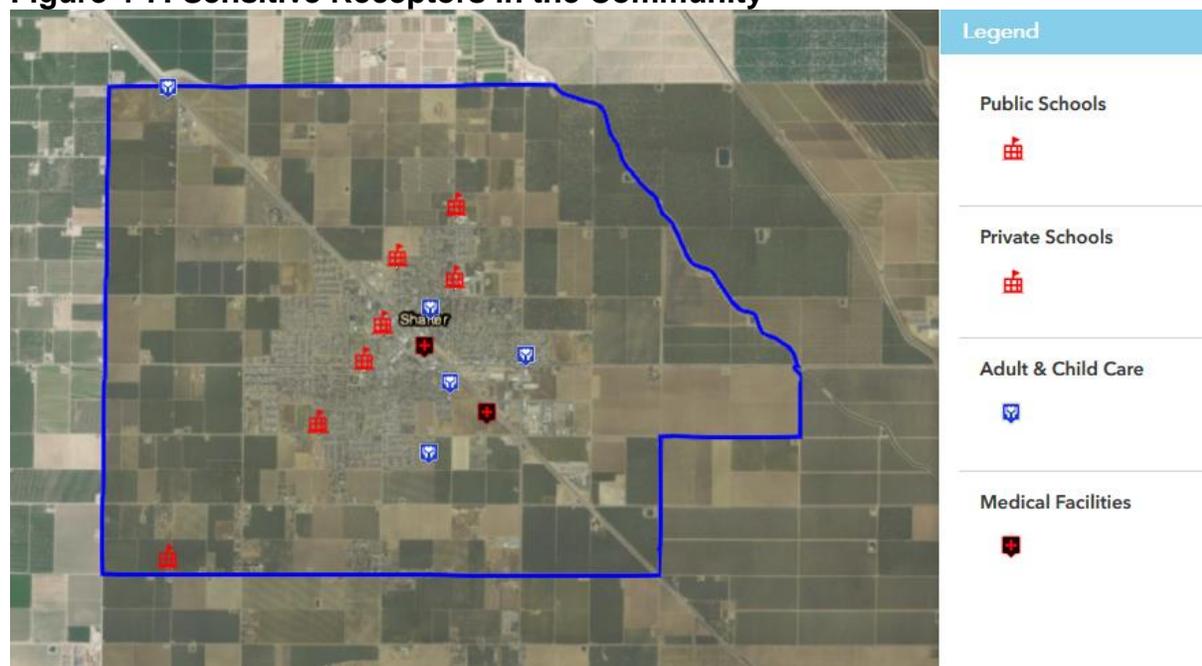
Implementation: 2019-2021

Description of Proposed Actions: The goal of this action is to work closely with public agencies, including City of Shafter and Kern County, to replace vehicles through the District's Public Benefit Grants Program. This includes increased outreach to public agencies operating vehicles within the community as well as prioritized funding for projects in the community. Depending on the types and cost of vehicles replaced, the proposed funding amount of \$100,000 would cover the replacement of up to 5 vehicles at an incentive of \$20,000 each.

EXPOSURE REDUCTION FOR SENSITIVE RECEPTORS

Proximity to emission sources can pose health risks for community members, particularly for sensitive groups such as children, the elderly, and those with cardiovascular diseases. Sensitive receptors located in Shafter include schools, daycare facilities, and medical facilities, as shown in the map below. The CARB Blueprint contains suggestions of several measures that can be implemented to reduce exposure to emissions at areas where these sensitive receptors may be particularly vulnerable to exposure, referred as proximity-based goals.

Figure 4-7: Sensitive Receptors in the Community



In discussions about possible exposure reduction measures to implement in the AB 617-selected community, the Shafter Steering Committee placed a high priority on measures that would protect the health of children, including installing advanced filtration systems at schools. Other measures prioritized by the Steering Committee included reducing idling near sensitive receptors, and increasing community member knowledge about actions individuals can take to protect their health.

The Steering Committee also suggested planting trees in the community; mandating setbacks for new oil wells, implementing a buffer zone of one-mile around the community of Shafter where pesticide spraying is prohibited; creating a notification system to alert residents when pesticide spraying is planned near the community; installing vegetative barriers at dairies and along train routes; and rerouting trucks off of main thoroughfares. The District has engaged with local government agencies, CARB, and appropriate state agencies that have the authority to implement these strategies.

Reducing exposure for sensitive receptors will be accomplished through the implementation of the following measures related to schools, indoor air quality, urban greening, and vegetative barriers.

EXPOSURE REDUCTION STRATEGIES FOR SCHOOLS

SCHOOLS IN THE SHAFTER COMMUNITY

Children within the Shafter community boundary are served by six public schools, two private schools, and one public charter school. Nearly half of all schools in Shafter are part of Richland Union Elementary School District, making it the larger of the two public districts in Shafter. Although partnering with RUESD is key to reducing exposure of the greatest number of children to unhealthy air, it is feasible to engage all nine schools within the boundary in clean-air efforts. All children are considered sensitive receptors with respect to air pollution, so prioritizing their protection from unhealthy air during their developing years is critical.

COMMUNITY CONCERNS AND COMMENTS

A primary concern expressed by Steering Committee members is that outdoor air should be improved before focusing on indoor air quality. While improving outdoor air is the District's most crucial goal, simultaneously improving indoor air quality can reduce overall exposure more immediately, which is especially important for sensitive groups like children. The Committee also expressed concern about pesticide use near schools. Although the District lacks the regulatory authority to require agriculture companies to provide notification before spraying or to maintain distance from schools, it can work with parents and residents to communicate these concerns and seek action from the appropriate regulatory agencies.

CURRENT CONTROL PROGRAMS

The Healthy Air Living (HAL) Schools program empowers participating schools to make informed decisions about outdoor activities based on real-time air quality conditions. School staff sign up for automated notifications when air quality becomes harmful using the Real-time Air Advisory Network (RAAN) tool, and receive health-protective recommendations for the modification or cancellation of outdoor activities accordingly through the Real-time Outdoor Activity Risk (ROAR) guidelines. The program includes access to resources like anti-idling signs, air quality widgets for school websites, bilingual informational materials, and bilingual educational speakers for students, parents, and staff.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Strategies developed to reduce the exposure of children within the community require a twofold approach: increasing enrollment of schools in the HAL School program protects children from exposure to unhealthy outdoor air through the widespread adoption of RAAN and ROAR; further, establishing a new pilot program that offers incentive funds to install advanced air filtration systems in community schools reduces exposure to potentially unhealthy indoor air.

SC.1: INCENTIVE PROGRAM TO INSTALL ADVANCED AIR FILTRATION SYSTEMS IN COMMUNITY SCHOOLS

Overview: The goal of this strategy is to reduce the impact of air pollution on children at schools and daycare facilities. Air filtration reduces the concentration of particulate contaminants from indoor air and is an important component of a school's Heating Ventilation and Air Conditioning (HVAC) system. Reducing airborne particles (such as PM 2.5) is important because particulate matter negatively impacts human health, especially that of sensitive populations such as children. Older HVAC systems and basic air filtration used in some schools only remove a small fraction of particles in the air that are smaller than 0.3 microns (μm). More efficient HVAC air filters and standalone air cleaners are important for creating healthier air in school classrooms.

Implementing Agency: SJVAPCD

Type of Action: Incentives

Implementation: 2019-2024

Description of Proposed Actions: This strategy would provide up to \$250,000 in incentive funding for schools and daycares in Shafter to install advanced air filtration systems utilizing existing Community Air Protection Program guidelines. Proposed funding amounts would provide ten (10) schools with funding to retrofit schools with advanced HVAC filtration systems, consistent with state Community Air Protection Incentives 2019 Guidelines. Schools with older HVAC systems may receive up to 100% of the cost of approved standalone air cleaner units with HEPA rated filters and a Clean Air Delivery Rate (CADR) appropriate for the classroom size. Schools that receive high-efficiency HVAC filters may also receive up to 100% of the cost of one (1) set of replacement HVAC filters, and schools that receive standalone air ventilation units may also receive up to 100% of the cost of one (1) set of replacement HEPA filters per unit.

SC.2: REDUCE CHILDREN'S EXPOSURE THROUGH INCREASED ENROLLMENT IN THE HEALTHY AIR LIVING SCHOOLS PROGRAM

Overview: The goal of this strategy is to reduce children's exposure to unhealthy air by increasing the enrollment of schools in the Healthy Air Living (HAL) Schools program. Children are considered sensitive receptors with respect to air pollution because their lungs are developing, they breathe disproportionately more air than adults, and they tend to spend more time exercising outdoors. The Healthy Air Living Schools program asks participating schools to actively monitor local air quality using the Real-time Air Advisory Network (RAAN) and to modify outdoor activities accordingly. This strategy enrolls more schools in the program, effectively reducing the short- and long-term exposure of an increased number of children to harmful air.

Implementing Agency: SJVAPCD

Type of Action: Outreach

Implementation: 2019-2024

Description of Proposed Actions: This strategy would seek to enroll both Shafter school districts in the Healthy Air Living Schools program. Participating schools and districts would assign one or more designees to receive automated RAAN notifications when local air conditions become harmful, and would modify, relocate, or cancel outdoor activities such as recess, physical education, practices, and sporting events in accordance with the health-protective Real-time Outdoor Activity Risk (ROAR) guidelines. SJVAPCD representatives would meet with teams of key staff (such as administrators, coaches, nurses, science teachers) from both school districts within the boundary to ensure understanding of and adherence to the program. SJVAPCD representatives would also attend at least four (4) school community events such as health fairs or parent nights to educate the community about air quality and the HAL Schools program. Related air quality educational materials would be distributed to each district's Family Services department, community liaison office, or similar for circulation to the public.

VEGETATIVE BARRIERS IN SHAFTER

BACKGROUND

Vegetative barriers, also known as windbreaks, are composed of one or more rows of trees or shrubs that may be planted in specific areas of concern in order to improve air quality in the immediate area by intercepting airborne particles, dust, chemicals, and odors. Pollutants directly emitted from cars, trucks, and other motor vehicles are found in higher concentrations near major roads. In addition, stationary sources such as industrial facilities, factories, and agricultural operations can also contribute air pollutants to their surrounding areas. While various emission control techniques and programs exist to reduce these pollutants from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the uptake of gaseous pollutants. Examples of vegetative barriers include trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In addition to air quality benefits, vegetative barriers can improve aesthetics, increase property values, reduce heat, control surface water runoff, and reduce noise pollution.¹

Characteristics of a vegetative barrier that should be considered include the porosity/density of the vegetative barrier, the characteristics of the vegetation during different seasons, leaf surface characteristics, vegetation air emissions (e.g. biogenic VOCs), and the resistance of the vegetative barrier to air pollution. Other considerations include: soil characteristics, availability of water, control of water runoff, maintenance of the vegetative barrier, use of native and non-invasive species, and roadway safety. Vegetative barriers may also be used with solid barriers to increase mitigation.⁶ Research is ongoing as to the effectiveness of vegetative barriers in reducing exposure to pollutants, but a recent study has found that vegetative barrier installations may reduce downwind exposure to carbon monoxide and fine particulate matter by at least 23%.²

The US EPA has produced a fact sheet with further information on vegetative barriers, available here: https://19january2017snapshot.epa.gov/sites/production/files/2016-08/documents/recommendations_for_constructing_roadside_vegetation_barriers_to_improve_near-road_air_quality.pdf

¹ Baldauf, R. (2016). Recommendations for Constructing Roadside Vegetation Barriers to Improve Near-Road Air Quality. *National Risk Management Laboratory Office of Research and Development, Air Pollution Prevention and Control Division: Washington, DC, USA.*

² Lin, M. Y., Hagler, G., Baldauf, R., Isakov, V., Lin, H. Y., & Khlystov, A. (2016). The effects of vegetation barriers on near-road ultrafine particle number and carbon monoxide concentrations. *Science of the Total Environment*, 553, 372-379.

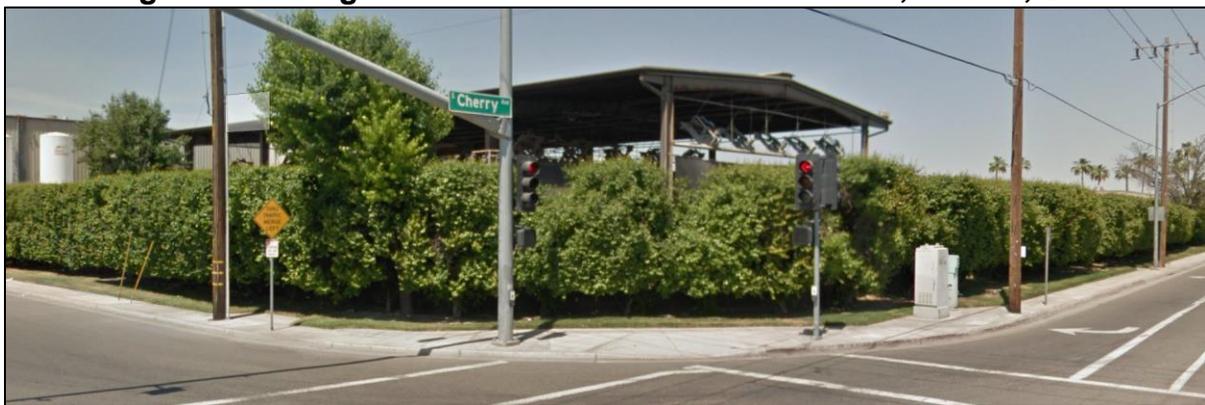
Figure 4-8: Vegetative Barrier w/ Solid Barrier on Highway 198, Visalia, CA*



Figure 4-9: Vegetative Tree Barrier between main road and railroad tracks on Highway 43, Shafter, CA*



Figure 4-10: Vegetative Barrier around Foster Farms, Fresno, CA*



**Latest Google Map Information*

COMMUNITY CONCERNS AND COMMENTS

The Shafter steering committee has identified Vegetative Barriers as a priority for air pollutant mitigation. Committee members have requested more information and

resources on vegetative barriers and their development. Members have also asked to require incentives for any vegetative barrier projects. Community members expressed interest in planting vegetative barriers on the perimeter of agricultural operations to reduce dust, and between local rail routes and residential areas.

CURRENT PROGRAMS

The Valley Air District, City of Shafter, Kern County, California Department of Transportation (Caltrans), and other local partners have promoted the use of vegetative barriers for reducing exposure to air pollutants, mitigating the urban heat island effect, and improving aesthetics.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Based on community interest in installing vegetative barriers, the following measure was developed for implementation as a part of the Shafter CERP.

The following is a suggested measure not within the Air District's jurisdiction to directly implement:

VB.1: INCENTIVE PROGRAM FOR THE INSTALLATION OF VEGETATIVE BARRIERS AROUND/NEAR SOURCES OF CONCERN

Overview: The purpose of this strategy is to provide incentives for the installation of vegetative barriers around/near sources of concern to reduce particulate matter, odor, and other emissions, as feasible. Based on community interest in vegetative barriers, the District will be partnering with other agencies to funnel available grant funding to the community to support the installation of vegetative barriers at/near industrial facilities and along major transportation and goods movement corridors. The District will also work with the National Resources Conservation Service (NRCS) to evaluate the feasibility of installing vegetative barriers near agricultural farms and identify potential additional funding sources.

Jurisdictional Issues: It should be noted that the District has no authority over how agencies allow land under their jurisdiction to be used. These so-called "land-use" decisions, such as whether to allow or require vegetative barriers in specific locations, are historically the responsibility, under state law, of cities and counties, or, in some cases, state and federal agencies responsible for transportation corridors, state and federal parks, and other properties. AB 617 does not provide the District with new land-use regulatory authority, so land-use authority remains with cities, counties, and state and federal land-use agencies, as discussed in CARB's Blueprint (see "Who Has the Authority to Implement Actions?", page 26 of the Blueprint). However, the District has made available to the responsible agencies the various land-use strategies that have been presented by the Committee for potential inclusion into the CERP for responsible agency's input and response in the Shafter Community Emissions Reduction Program.

Implementing Agency: SJVAPCD, Caltrans, NRCS, other local partners

Type of Action: Partnership, Incentives

Implementation: 2020-2024

Description of Proposed Actions: The District will work closely with the community, city, California Department of Transportation, Natural Resource Conservation Service and others to investigate and identify areas suitable for installation of vegetative barriers. Type and location of projects will be developed with the input of Steering Committee, and funded as funding sources are identified.

INDOOR AIR QUALITY

BACKGROUND

Weatherization measures, such as installing weather-stripping and caulking around windows and doors, can reduce the amount of outdoor air infiltrating into a home and decrease energy costs associated with heating and cooling.

However, weatherization has the possibility to have negative impacts on indoor air quality if not accompanied by additional energy upgrades for appliances. Tightening building openings may also have the unintended consequence of allowing contaminants that would otherwise be leaked out of under-weatherized homes to build up to unhealthy levels, including carbon monoxide (CO) from combustion gases and VOCs from consumer products. To address these concerns, a 2010 study was conducted on 514 homes to evaluate the indoor air quality impacts of weatherization performed through the U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP). Results from the study conclude that, when coupled with other energy efficient upgrades, exposure to CO was reduced³.

Recent programs promoting and incentivizing weatherization have recognized the need to couple residential energy efficiency upgrades with new, efficient appliances. These programs allow the District to work with local partners to bring these residential-level incentives to the community that mitigate exposure to air pollution.

COMMUNITY CONCERNS AND COMMENTS

Community commenters have noted that these weatherization programs already exist. While the District acknowledges that this funding is not new, the District is committed to establish a new focus on improving indoor air quality by partnering with local agencies to increase access and outreach about the following measures.

CURRENT CONTROL PROGRAMS

The District does not fund or regulate weatherization or energy efficiency of homes.

STRATEGY DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Based on the priority placed on reducing exposure to air pollution for sensitive receptors, the following indoor air quality improvement strategy was developed for implementation as a part of the Shafter CERP.

The following is a suggested measure not within the Air District's jurisdiction to directly implement:

IAQ.1: INCENTIVE PROGRAM FOR WEATHERIZATION AND ENERGY EFFICIENCY

Overview: The goal of this strategy is to reduce the impact of and exposure to air pollution on residents within their homes. Weatherization of a home, which can include

³ <https://www.epa.gov/indoor-air-quality-iaq/protocols-home-energy-upgrades>

actions to improve seals around doors and windows, increase insulation, and improve air filtration systems, can reduce penetration of outside pollutants into the home and decrease the overall energy demand for residents. Coupled with solar, the decreased energy demands can mean a lot to the community of Shafter, including lower energy bills for low-income households and decreased emissions from natural gas. Without proper weatherization, older homes waste energy, making heating/cooling units work harder to keep your home at a constant temperature, resulting in increased utility costs and emissions.

Jurisdictional Issues: It should be noted that the District has no authority to require residents to insulate or weatherize their homes. However, the District has made available to the responsible agencies the various land-use strategies that have been presented by the Committee for potential inclusion into the CERP for responsible agency's input and response in the Shafter Community Emissions Reduction Program.

Implementing Agencies: Community Action Partnership of Kern (CAPK) in partnership with the California Community Services Department (CSD) and the District

Type of Action: Partnership/Incentives

Implementation: 2019

Description of Proposed Actions: The California Community Services Department (CSD) empowers and funds local organization partners to provide weatherization and energy service assistance to low-income communities. CAPK, the local partner serving the community of Shafter, provides energy assistance through CSD's programs to more than 1,000 low-income households in Kern County each year. The District will work with CAPK to help increase awareness and access for low-income community members to state funding for weatherization programs, including exploring the opportunity for funding air filters for residential use.

The District and CAPK will coordinate a meeting in Shafter where residents can learn about available funding for weatherization services and fill out the appropriate forms and applications. Proposed funding amounts could cover up to 100% of the cost of the following weatherization actions:

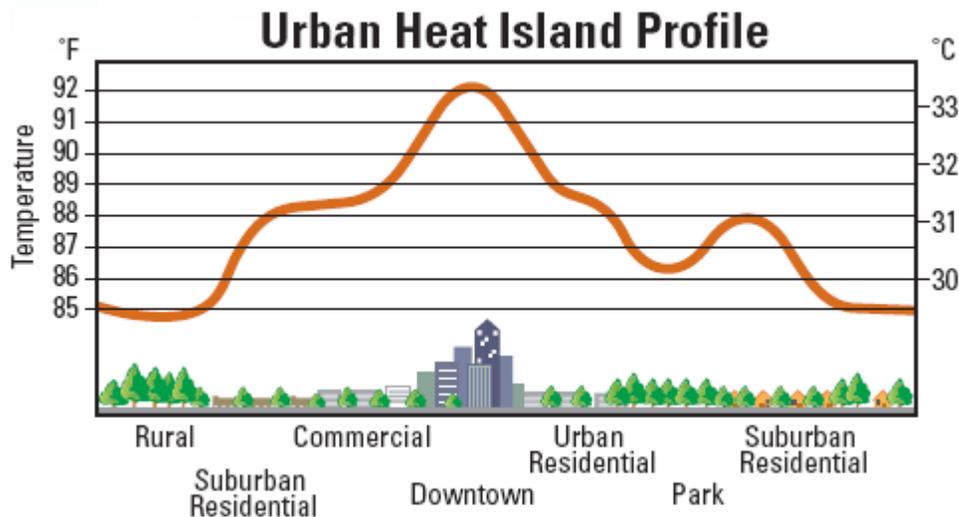
- Test, repair, or replace refrigerator, water heater, heating/cooling systems, and gas cooking appliances.
- Insulation of walls, ceilings, floors, and attics.
- Weather-stripping, caulking all doors and windows.
- Water heater blankets.
- Carbon monoxide detectors.
- Set-back thermostat.
- Duct testing of heating/cooling systems.

URBAN GREENING

BENEFITS OF URBAN GREENING

Urban greening is one way to help improve air quality and public health in addition to enhancing the overall beautification of the community with drought resistant low maintenance greenery. Trees and vegetation help reduce the impacts of heat islands by increasing the amount of shade and cooling the air by evapotranspiration (McPherson, 1994). Careful placement and choice of vegetation will maximize its cooling benefits. Shade provided by trees and other vegetation prevents sunlight from reaching heat-absorbing surfaces such as sidewalks and parking lots, cooling the area by 1 to 9 degrees Fahrenheit. Air quality also benefits from a decrease in energy usage. The less energy used, the fewer power plants running and emitting ozone precursors.⁴ The total net lifetime savings when considering energy, ozone, and PM reduced from vegetation were valued at \$210/tree.

Figure 4-11: The Urban Heat Island Effect illustrated (Source: EPA, 1992)



COMMUNITY CONCERNS AND COMMENTS

The Steering Committee expressed an interest in opportunities for increased urban greening and forestry in the community of Shafter as a strategy to reduce exposure from emissions that occur along local transportation corridors.

CURRENT PROGRAMS

The District Fast Track Action Plan identified Heat Island Mitigation as measure to be implemented with the goal to increase urban forest canopy shading and increase the albedo of structures and pavement. This guidance includes a model resolution and policy statement for use by businesses, government, and organizations who desire to commit to heat island mitigation strategies.

⁴ <http://www.epa.gov/heatisland/resources/pdf/BasicsCompendium.pdf>

Due to the benefits of urban greening, there are several programs available to support urban greening in communities. Below are the ongoing efforts to promote Urban Greening by other agencies, as well as programs committed to be implemented in future State and/or Valley-wide programs.

- **California Natural Resources Agency Urban Greening Grant Program:** Consistent with AB 32, the Urban Greening Program will fund projects that reduce greenhouse gases. This program includes urban heat island mitigation projects and energy conservation efforts related to shade tree projects.
- **CalFire:** Through the California Climate Investments (CCI) Urban & Community Forestry Grant Program, CALFIRE works to optimize the benefits of trees and related vegetation through multiple-objective projects as specified in the California Urban Forestry Act of 1978
- **Active Transportation Program (ATP): California Department of Transportation (CALTRANS):** Urban forestry, such as trees and other vegetation, are significant components of several eligible projects under the ATP, including parks, trails, and safe-routes-to-schools.
- **California ReLeaf Grants:** California ReLeaf seeks and provides pass-through grants to ReLeaf Network Members and other community groups interested in planting and caring for trees in California and offers grant programs through the Social Equity Grant Program and California Arbor Week Grant.
- **California Urban Forests Council (CAUFC):** As a coalition, CAUFC is dedicated to the expansion and perpetuation of sustainable urban and community forests to enhance the quality of life for all Californians.
- **San Joaquin Green (formerly Tree Fresno):** Tree Fresno has received multiple grants from CalFire to support urban tree planting efforts at parks and campuses throughout the San Joaquin Valley.

Non-profit organizations such as One Tree Planted, River Partners, the San Joaquin River Conservancy, the Tree Foundation of Kern, Tree Lodi, and others provide the public the ability to donate to support tree planting and also advocate for the allocation of state and federal funding towards tree planting or replanting in forest, river, and/or urban areas in California.

STRATEGY DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to the community's interest in increased urban greening, the District will be providing match funding and working with other agency partners to bring increased funding for urban greening to the AB 617 selected communities, as described in the following measure.

The following is a suggested measure not within the Air District’s jurisdiction to directly implement:

UG.1: INCREASED URBAN GREENING AND FORESTRY TO IMPROVE AIR QUALITY

Overview: The goal of this strategy is to improve air quality in the community of Shafter through urban greening and forestry programs. This measure is supported by scientific studies that have shown urban trees and forestry can help with the removal of air pollutants and reduced emissions of volatile organic compounds (VOC’s). The effects of urban trees on fine particulate matter (PM2.5) was modeled for ten U.S cities, with total annual PM2.5 removal varying from 5.2 tons in Syracuse to 71.1 tons in Atlanta. Overall air quality improvements attributed to urban trees ranged between 0.05% in San Francisco to 0.24% in Atlanta (Nowak, Hirabayashi, Bodine, Hoehn, 2013). Studies to assess the effects of urban trees on air quality have found that urban vegetation can contribute to temperature reduction, removal of air pollutants, reductions in emission of VOCs, and building energy conservation (United States Department of Agriculture Forest Service, 2002).

The District has long been supportive of the public benefits provided from planting of trees and vegetation. The District’s Fast Track Action Plan, adopted by the Governing Board to reduce ozone pollution in the Valley, identified the strategic use of tree and vegetation planting as a potential measure to reduce ozone. There has also been significant efforts at the federal, state, and local levels to promote and increase urban greening and forestry through funding opportunities, programs, and projects.

Jurisdictional Issues: It should be noted that the District has no authority over how agencies allow land under their jurisdiction to be used. These so-called “land-use” decisions, such as whether to allow or require accelerated urban greening efforts, are historically the responsibility, under state law, of cities and counties, or, in some cases, state and federal agencies responsible for transportation corridors, state and federal parks, and other properties. AB 617 does not provide the District with new land-use regulatory authority, so land-use authority remains with cities, counties, and state and federal land-use agencies, as discussed in CARB’s Blueprint (see “Who Has the Authority to Implement Actions?”, page 26 of the Blueprint). However, the District has made available to the responsible agencies the various land-use strategies that have been presented by the Committee for potential inclusion into the CERP for responsible agency’s input and response in the Shafter Community Emissions Reduction Program, and in some cases, such as with this measure, the District has committed funding to help encourage other agencies’ actions.

Implementing Agency: City and County, SJVAPCD

Type of Action: Partnership, Incentives

Implementation: 2019-2024

Description of Proposed Actions: The goal of this measure is to identify and support efforts to increased urban greening and forestry to improve air quality and overall quality of life for residents in the community of Shafter. This measure would involve efforts to partner, collaborate, and engage with other agencies to fulfil the need for increased urban greening and forestry in the community. To this end, the District is committing up to \$50,000 in 20% match funding towards a total of up to \$250,000 in funding from other agencies and tree planting advocates, including, but not necessarily limited to those noted above. In addition, the District is committing \$5000 to a study by San Joaquin Green (formerly Tree Fresno) and Tree Foundation of Kern to identify planting locations, maintenance needs, and irrigation plans.

REDUCING AUTOMOBILE IDLING NEAR SENSITIVE RECEPTORS

MOBILE EMISSIONS IN SHAFTER

Even if a vehicle does not move, it still emits pollution if the engine is left on. Idling engines emit volatile organic compounds (VOCs) when running, which react with heat from sunlight to form the gaseous pollutant ozone. They may also emit particulate matter (PM), oxides of nitrogen (NOx) and air toxics like benzene, formaldehyde, and acetaldehyde, all of which can be especially harmful to the health of sensitive populations. Children and seniors are considered sensitive receptors with respect to air pollution and are more likely to suffer adverse health impacts from nearby vehicles idling than healthy adults. Targeting anti-idling outreach to areas commonly serving these sensitive individuals is an important way of reducing exposure.

In Shafter, mobile emissions from on-road vehicles (including light, medium, and heavy duty vehicles) are the most significant source of NOx and air toxics annually. In 2017 alone, vehicles produced 527.98 tons of NOx (about 71%). Idling contributes to this figure but is a largely preventable practice.

COMMUNITY CONCERNS AND COMMENTS

In addition to the idling of heavy duty trucks addressed by Strategy HD.3, Steering Committee members expressed concerns about the impacts of emissions from idling automobiles in and around the community. A primary concern expressed by Steering Committee members is that too few drivers pay attention to anti-idling signage when posted. Because the District lacks the authority to enforce anti-idling signs through fines or similar means, widespread community education about the health impacts of a largely preventable practice like idling is especially crucial.

CURRENT CONTROL PROGRAMS

Although the ability to regulate mobile sources of emissions lies with State and Federal authorities, the District has implemented many measures to reduce vehicle emissions. These measures include grant programs to provide incentive funds to the public for the purchase of cleaner vehicles (Drive Clean in the San Joaquin), requiring construction and development projects to mitigate emissions produced during the course of construction (Indirect Source Rule), and requiring large employers to encourage their employees to choose alternative transportation to work through the establishment of an Employer Trip Reduction Implementation Plan (eTRIP). However, the preventable problem of idling is best addressed by the Healthy Air Living Schools program. Participating schools receive sets of free bilingual anti-idling signs to post near parent drop-off and pick-up areas, along with educational materials, presentations, and speakers able to address the impacts of idling.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

Due to the interest of community members in reducing emissions of criteria pollutants and toxic air contaminants originating from idling vehicles, the following strategy was

developed for inclusion in the CERP. This idle-reduction outreach strategy expands on previous programs by offering anti-idling signage and informational materials to a wider variety of locations that serve sensitive populations in addition to expanding distribution to schools.

IR.1: AUTOMOBILE IDLE-REDUCTION OUTREACH TO REDUCE THE EXPOSURE OF SENSITIVE RECEPTORS TO VEHICLE EMISSIONS

Overview: The goal of this strategy is to reduce the exposure of sensitive individuals to automobile emissions at locations serving children, seniors, and those with medical conditions. Engines left idling may emit air toxics like benzene, formaldehyde, and acetaldehyde, which can be especially harmful to the health of sensitive populations. Elevated levels of air toxics and other pollutants can be prevented by encouraging drivers to turn off their engines when parked. It is important to target anti-idling messaging to areas commonly serving sensitive individuals to reduce health impacts on the most vulnerable populations.

Implementing Agency: SJVAPCD

Type of Action: Outreach and Exposure Reduction

Implementation: 2019-2024

Description of Proposed Actions: This strategy would provide and distribute ten (10) sets of bilingual English and Spanish idle-reduction street signs to be installed in locations that commonly serve sensitive groups throughout the community boundary. Sites may include the parking lots of schools, child care facilities, libraries, senior centers, parks, nursing homes, medical centers, and pediatric offices. When possible, educational materials or infographics would be provided to each location to explain the importance of reducing idling and its impacts on health and air quality. SJVAPCD representatives would also develop and deliver four (4) presentations about the impacts of vehicle exhaust and related District resources such as incentive funding for cleaner vehicles and school programs that deliver free idle-reduction signs to schools throughout the Valley. Note that idling of heavy duty trucks is proposed to be reduced by Strategy HD.3.

COMMUNITY OUTREACH STRATEGIES

COMMUNITY CONCERNS AND COMMENTS

Members of the Steering Committee acknowledged the District's ongoing air quality outreach and education efforts, but expressed concern about effectiveness given perceived public indifference. Efficacy may be improved by increasing the volume and types of outreach, focusing it to a truly localized level, and partnering with key local organizations able to engage the community.

CURRENT CONTROL PROGRAMS

The District's Outreach and Communications team conducts air quality outreach throughout all eight counties of the San Joaquin Valley. The District coordinates events, delivers presentations, responds to the media 24/7, manages social networks, pilots outreach campaigns like the Healthy Air Living (HAL) Schools and Check Before You Burn (CBYB) programs, and connects with the public in multiple languages across any medium. In addition to offering media interviews, taking public calls, partnering with local institutions, and accepting speaking engagements, the District conducts paid advertising and informational campaigns regularly to spread air quality awareness across television, radio, billboards, social media, digital networks, and other venues. Through the development of innovative tools like RAAN and the Valley Air App, over 8,000 registered users receive automated notifications when the air quality at any location they choose to follow becomes unhealthy, allowing them to make informed decisions about their outdoor activities to limit their own exposure.

STRATEGIES DEVELOPED FOR IMPLEMENTATION IN COMMUNITY

The Community Air Quality Outreach Strategy goes beyond current outreach efforts to provide community-specific information about local conditions and measures the public can take to protect themselves during episodes of poor air quality through new social media campaigns and workshops hosted in partnership with local civic and community organizations.

The *Sharing Clean Air Efforts and How Communities Can Get Involved Strategy* further increases awareness of community air quality improvement programs and available incentives by hosting workshops and symposiums with community partners.

O.1: OUTREACH TO INCREASE COMMUNITY AWARENESS AND KNOWLEDGE OF AIR QUALITY

Overview: The goal of this strategy is to provide additional information to the community about real-time air quality conditions and measures the public can take to protect themselves during episodes of poor air quality. An understanding of what conditions constitute poor air quality, the relative seriousness of a given episode, and any potential health impacts is necessary for the public to make informed decisions about how and when to limit their exposure. It is critical for the public to have widespread knowledge of tools available to inform them of real-time conditions, assist with the interpretation of such conditions, and to describe what actions may be taken to protect themselves.

Implementing Agency: SJVAPCD

Type of Action: Outreach

Implementation: 2019-2024

Description of Proposed Actions: This strategy would increase community awareness of available tools to keep informed of real-time changes in air quality through social media campaigns and a series of partner workshops. Social media campaigns would be launched on three platforms: Facebook, Twitter, and Instagram. A partnership with local civic and community organizations would be established to host workshops at locations commonly available to the public such as libraries, schools, and community, health, or recreation centers. Both the social media outreach and live workshops would promote real-time tools such as myRAAN, the Valley Air App, the Real-time Outdoor Activity Risk (ROAR) Guidelines, the wildfire page of the District's website, as well as information about general air quality education, wildfire smoke impacts, health effects, and similar topics. This strategy would aim to increase myRAAN registrations, Valley Air App downloads, and social media followers among members of the community.

Annual Goals for these actions in Shafter include:

- Attend/host 4 community meetings to share information
- 1 community targeted social media campaign
- Circulation of infographics to at least 3 community spaces

O.2: OUTREACH TO SHARE CLEAN AIR EFFORTS AND HOW COMMUNITIES CAN GET INVOLVED

Overview: The goal of this strategy is to increase public awareness of air quality improvement programs currently available through the SJVAPCD. Increased education may lead to more widespread understanding of the air quality challenges faced by both the community and the San Joaquin Valley at large, and greater adoption of the District's resources, incentive funding, and community engagement. Education is important to empower the public to protect themselves from exposure when possible, to make greater use of District resources and programs, and to encourage community members to adopt practices in their daily lives that help further reduce emissions.

Implementing Agency: SJVAPCD

Type of Action: Outreach

Implementation: 2019-2024

Description of Proposed Actions: This strategy would increase awareness of available programs by establishing a series of outreach events within Shafter. These workshops would be hosted in locations commonly available to the public such as libraries,

schools, and community, health, or recreation centers. Topics may rotate to include a wide range of District programs such as Clean Green Yard Machines, Burn Cleaner, Drive Clean in the San Joaquin, Healthy Air Living Schools, and similar topics. This strategy would also create an annual youth symposium to educate and encourage high school students to share air quality information with their peers, helping to sustain community awareness through future generations.

Annual Goals for these actions in Shafter include:

- Attend/host 4 community meetings to share information
- 1 community targeted social media campaign

0.3 JOINT ADVOCACY FOR CONTINUED/ADDITIONAL FUNDING TO SUPPORT AIR QUALITY IMPROVEMENT MEASURES

Overview: Continued state funding is key to continued progress addressing community level air pollution and completing the work necessary to engage with the community, monitor emissions, and implement community emission reduction strategies. Over the past three years, the state has provided significant funding for incentive programs to reduce emissions and for completing the work necessary to develop community based emission reduction plans. This funding has largely been from the Greenhouse Gas Reduction Fund that is funded by the Cap and Trade Program. In each of the last two state budgets, the state has allocated \$245 million for emission reduction incentives, \$50 million for local air district implementation of AB 617, and \$10 million for technical assistance grants for community based organizations.

Going forward, there is concern that this funding might be reduced as the Greenhouse Gas Reduction Fund faces additional competition from other non-air quality related state programs. There is no other known funding source to replace this funding if it is lost. To ensure that the goals of the AB 617 legislation are met, CARB, the District, and local communities and other interested parties, must work together to advocate for continued/additional state funding to support the implementation of health protective local measures that reduce community exposure to criteria pollutants and toxic air contaminants.

Implementing Agency: CARB, SJVAPCD, Local Community Groups

Type of Action: Outreach and Advocacy

Implementation: Ongoing

Description of Proposed Actions: CARB and the Air District will work with Steering Committee and other interested parties to advocate for additional and continuing funding from the state to implement AB 617 and to fund emission reduction efforts in disadvantaged communities.

ADDITIONAL REGULATORY MEASURES TO REDUCE EMISSIONS IN THE COMMUNITY

Due to the nonattainment status of the Valley Air Basin for the criteria pollutants of fine particulate matter and ozone, the District requires that permitted facilities implement the most stringent control measures feasible for implementation to control criteria pollutants and associated precursor emissions. Beyond the regulations and stringent permitting requirements that are already implemented Valley-wide, the following sections detail enhanced regulatory strategies that will be implemented in the AB 617-selected community.

BARCT EXPEDITED SCHEDULE

In addition to community monitoring and emission reduction program requirements, AB 617 requires that air districts located in non-attainment areas perform a Best Available Retrofit Control Technology (BARCT) analysis for all categories of units at facilities subject to the state Cap-and-Trade program. In accordance with AB 617 requirements, the District adopted an expedited schedule for performing further determination of BARCT requirements in December, 2018.

The District utilized an extensive evaluation process to make an initial determination of whether the rules that apply to Cap-and-Trade facilities meet all state BARCT requirements, as mandated by AB 617. While District rules are expected to meet BARCT due to the District's ongoing extensive regulatory evaluations, the proposed BARCT implementation schedule includes commitments to establish updated BARCT determinations for District rules as required under AB 617. The proposed schedule was prepared through a public process, which included two public workshops. In addition to the BARCT implementation schedule, the District will be proceeding with amending a number of District rules included as commitments in the new *2018 PM2.5 Plan*, as discussed earlier in the CERP, that are also subject to the AB 617 BARCT implementation requirement.

In conjunction with District rules applicable to stationary source equipment, under the District's New Source Review permitting regulation, new facilities or facilities modifying equipment that emit air pollutants greater than 2 pounds per day (lb/day), are subject to stringent emissions control requirements. For each piece of equipment that has the potential to emit over the 2 lb/day threshold, the District requires the use of the best available air pollution control technology (BACT) used to control emissions from similar types of equipment. As part of this BACT analysis, the District determines if cleaner technologies that are not generally used for the equipment being analyzed could be used to further reduce emissions from the proposed equipment. This very stringent requirement ensures that the most effective air pollution control technique is utilized, resulting in the least amount of air pollution possible.

In addition to these stringent requirements on new sources of air pollution, rules adopted in the San Joaquin Valley are regularly analyzed for compliance with the state's BARCT requirements.

Best Available Retrofit Control Technology (BARCT)

Existing stationary sources in non-attainment areas such as the San Joaquin Valley have been subject to BARCT requirements since the 1980s, although some nonattainment areas with market-based criteria pollutant reduction programs were not required to apply BARCT to facilities complying with those market-based programs. Although AB 617 does not specifically define BARCT, California Health and Safety Code (CH&SC) Section 40406 defines BARCT as follows:

Best Available Retrofit Control Technology (BARCT) is an air emission limit that applies to existing sources and is the maximum degree of reduction achievable, taking into account environmental, energy and economic impacts by each class or category of source.

Unlike other regions in the state, the District has not relied on market-based systems to achieve regional emissions reductions needed for attainment. Such market-based systems allow sources of pollution to avoid installing BARCT-level controls if regional emissions are reduced at an established rate. This potential path to avoiding installing the best air pollution controls in other air districts was a significant portion of the genesis of this BARCT requirement of AB 617.

In contrast, businesses in the San Joaquin Valley have always had to comply with BARCT in accordance to the implementation schedules established in District rules. When developing attainment plans or amending prohibitory rules, the District evaluates all applicable sources of emissions for potential strategies to reduce emissions. These evaluations include an exhaustive search of air quality regulations throughout the nation, review of existing emission control technologies, and analysis of advanced emission control technologies that may soon be available, to identify potential technologically and economically feasible emission reduction measures. Through these processes, the District demonstrates on an ongoing basis that District rules meet state and federal emission control requirements, including BARCT and Most Stringent Measures, which exceeds BARCT requirements. Therefore, given the District's ongoing and extensive work to identify and apply most stringent measures necessary to attain the ever-tightening federal health-based standards under the Clean Air Act, it is anticipated that most if not all District rules satisfy BARCT requirements.

The District recognizes that emission control technologies are continually evolving, and therefore robust and ongoing analysis is necessary to demonstrate that the District's rules continue to meet BARCT and other requirements on an ongoing basis. Furthermore, in the context of the 2016 Ozone attainment plan, the recently adopted PM2.5 attainment plan, and upcoming plans, future rule development actions will be required and, in this process, rules that have recently been determined to meet BARCT during this AB 617 analysis may be subject to further analysis to ensure they continue to meet BARCT requirements. Additionally, in those instances where the District is made aware of new technology, further case specific and rule specific BARCT determinations may be conducted.

Affected Rules Included in the District's Expedited BARCT Implementation Schedule

As captured in Section 40920.6 of the Health and Safety Code, AB 617 identifies specific requirements for the District to meet when establishing the expedited BARCT implementation schedule. AB 617 requires the schedule to apply to each industrial source that, as of January 1, 2017, was subject to a specified market-based compliance mechanism and give highest priority to those permitted units that have not modified emissions-related permit conditions for the greatest period of time.

Based on information provided by CARB, as of January 1, 2017, 109 facilities within the District were identified as being subject to the state Cap-and-Trade program, a market-based compliance mechanism adopted by the state board pursuant to subdivision (c) of Section 38562, and therefore AB 617 BARCT requirements. Evaluating the 109 affected facilities, the District identified that approximately 4,500 active permit units are within the scope of this BARCT analysis. From the 4,500 active permit units, the District determined that 32 District rules that apply to specific source categories of equipment were subject to the BARCT analysis required under AB 617.

District staff performed analysis of 32 affected rules and determined that:

- 5 rules were superseded by a more stringent rule known to meet BARCT or by a rule subject to further BARCT analysis,
- 5 rules were determined to meet Most Stringent Measures (MSM) for NO_x, the only relevant pollutant for these affected rules and therefore meet BARCT, and
- 6 rules were specifically determined to meet BARCT through an extensive rule and source category evaluation that compared our rule requirements with federal and state air quality regulations and with regulations of other air districts in California.
- While the remaining 16 rules likely already meet BARCT due to the District's ongoing extensive regulatory evaluations and enhancements, the proposed BARCT implementation schedule includes commitments to establish updated BARCT determinations for these rules.

Prioritization Criteria for Expedited BARCT Analysis Schedule

Section 40920.6(c)(3) of the Health and Safety Code requires Districts to give highest priority to conduct the BARCT analysis to those rules affecting permitted units that have not modified emissions-related permit conditions for the greatest period of time. To assist in further prioritization, the District also considered local public health, clean air benefits to the surrounding community, and regional air quality and attainment benefits by prioritizing units that emit NO_x and are located within communities selected for action under AB 617. In addition, while cost-effectiveness of controls can't be fully analyzed until each rule is addressed during the development of a BARCT rule, the District also prioritized rules with the greatest number of potentially affected units, which, when coupled to the law's requirement of prioritizing based on the length of time since the units were last modified, provides some consideration of the most likely controls to be cost-effective.

Public Process

As a part of the public process associated with establishing this schedule, the District conducted a public scoping meeting on June 14, 2018, to solicit input from stakeholders regarding the District's proposed methodology to address the AB 617 requirement to adopt an expedited BARCT analysis schedule by the end of 2018.

In addition, the District held a public workshop on November 1, 2018, to solicit input from the stakeholders regarding the District's proposed expedited BARCT Rule implementation schedule. No comments were received from stakeholders after this workshop.

Expedited BARCT Implementation Schedule

Through this public process and in accordance with AB 617 requirements, the District has adopted the following expedited BARCT implementation schedule:

Table 4-1: Expedited BARCT Implementation Schedule

Rule	Title	BARCT Determination Status	BARCT Determination Schedule	BARCT Rulemaking Schedule (if necessary)
4454	Refinery Process Unit Turnaround	Scheduled	2019	2020
4641	Cutback, Slow Cure, And Emulsified Asphalt, Paving And Maintenance Operations	Scheduled	2019	2020
4104	Reduction of Animal Matter	Scheduled	2019	2020
4409	Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities	Scheduled	2019	2020
4455	Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants	Scheduled	2019	2020
4702	Internal Combustion Engines (VOC only)	Scheduled (in conjunction with PM2.5 Plan commitment)	2020	2020
4623	Storage of Organic Liquids	Scheduled	2020	2021
4694	Wine Fermentation and Storage Tanks	Scheduled	2020	2021
4624	Transfer of Organic Liquid	Scheduled	2020	2021
4603	Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts	Scheduled	2020	2021
4601	Architectural Coatings	Scheduled	2020	2021
4401	Steam-Enhanced Crude Oil Production Wells	Scheduled	2021	2022

4566	Organic Material Composting Operations	Scheduled	2021	2022
4625	Wastewater Separators	Scheduled	2021	2022
4621	Gasoline Transfer Into Stationary Storage Containers, Delivery Vessels, and Bulk Plant	Scheduled	2021	2022
4402	Crude Oil Production Sumps	Scheduled	2021	2022
4351	Boilers, Steam Generators, and Process Heaters - Phase 1	Rule superseded by more stringent rules, District Rules 4305, 4306, and 4320	---	---
4405	Oxides of Nitrogen Emissions from Existing Steam Generators Used in Thermally Enhanced Oil Recovery - Central and Western Kern County Fields	Rule superseded by more stringent rules, District Rules 4305, 4306, and 4320	---	---
4406	Sulfur Compounds from Oil-Field Steam Generators - Kern County	Rule superseded by more stringent rules, District Rules 4305, 4306, and 4320	---	---
4305	Boilers, Steam Generators, and Process Heaters - Phase 2	Rule superseded by District Rules 4306 and 4320, more stringent rules	---	---
4701	Internal Combustion Engines - Phase 1	Rule superseded by District Rule 4702, a more stringent rule	---	---
4309	Dryers, Dehydrators, and Ovens	Rule determined to meet BARCT	---	---
4703	Stationary Gas Turbines	Rule determined to meet BARCT	---	---
4306	Boilers, Steam Generators, and Process Heaters - Phase 3	Rule determined to meet BARCT	---	---
4307	Boilers, Steam Generators, and Process Heaters - 2.0 MMBtu/hr to 5.0 MMBtu/hr	Rule determined to meet BARCT	---	---
4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr	Rule determined to meet BARCT	---	---

4311	Flares	Rule determined to meet BARCT	---	---
4354	Glass Melting Furnaces	Rule determined to meet BARCT	---	---
4408	Glycol Dehydration Systems	Rule determined to meet BARCT	---	---
4453	Refinery Vacuum Producing Devices or Systems	Rule determined to meet BARCT	---	---
4612	Motor Vehicle and Mobile Equipment Coating Operations	Rule determined to meet BARCT	---	---
4622	Gasoline Transfer into Motor Vehicle Fuel Tanks	Rule determined to meet BARCT	---	---

Upcoming 2018 PM2.5 Plan Rule Amendment Efforts

In addition to the BARCT implementation schedule above, the District will be proceeding with amending eight District rules to pursue additional emission reduction opportunities beyond BARCT, included as commitments in the new *2018 PM2.5 Plan* recently adopted by CARB into the State Implementation Plan:

Emissions reductions achieved through the implementation of more stringent limits potentially required through these rule amendments will further contribute to reduced exposure to air pollution in the community. Community Steering Committee members, members of the AB 617-selected community, and the general public are encouraged to be involved in the upcoming rulemaking process for these rules.

Table 4-2: Scheduled District Rule Amendments to Reduce PM2.5

Rule	Title	BARCT Status	PM2.5 Plan Rulemaking Schedule
4901	Wood Burning Fireplaces and Wood Burning Heaters	No units subject to AB 617 BARCT analysis. Rule amended in June, 2019.	2019 (Completed)
4311	Flares	Rule meets or exceeds BARCT	2020
4306 and 4320	Boilers, Steam Generators, and Process Heaters - Phase 3 and Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr	Rule meets or exceeds BARCT	2020
4702	Internal Combustion Engines	Rule meets or exceeds BARCT for NOx, updated AB 617 BARCT determination scheduled for VOCs	2020
4692	Commercial Charbroiling	No units subject to AB 617 BARCT analysis	2020

Rule	Title	BARCT Status	PM2.5 Plan Rulemaking Schedule
4352	Solid Fuel-Fired Boilers, Steam Generators and Process Heaters	No units subject to AB 617 BARCT analysis	2021
4354	Glass Melting Furnaces	Rule meets or exceeds BARCT	2021

Further information on the District's expedited BARCT schedule and rule analyses can be found in the staff report presented to the Governing Board in December, 2018: http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2018/December/final/13.pdf

PERMITTING: BACT AND T-BACT DETERMINATIONS

CARB is developing a Technology Clearinghouse of best available control technologies (BACT) and best available control technologies for toxic air contaminants (T-BACT) determinations for air districts throughout California. The District will use this Technology Clearinghouse as an additional resource for BACT Determinations, and will reference this information when developing BACT and T-BACT technology determinations for any new or modified source permitting processes in the community. More information about the District's stringent new and modified source review process is available in Chapter 3.

FACILITY RISK REDUCTION AUDITS UNDER AB 2588 (AIR TOXICS HOT SPOTS INFORMATION AND ASSESSMENT ACT)

Risk Reduction Audit Plan Facilities within the District

Based on the current facility status, as of September 9, 2019, there are no District permitted facilities subject to a Risk Reduction Audit Plan.

Background

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) was enacted in September 1987. Under this act, stationary sources are required to report the types and quantities of certain toxic substances their facilities routinely release into the air. The goals of the Air Toxics "Hot Spots" Act are:

- to identify Valley facilities that release toxic air contaminants as a result of their day to day operations,
- to collect and quantify emission data from equipment located at permitted facilities,
- to identify facilities causing localized health impacts on nearby residents,
- to determine facility-wide health risks resulting from the emission of toxic air contaminants,
- to notify nearby residents and businesses of significant risk facilities in their vicinity, and
- to require that significant risk facilities reduce their risks below the level of significance in accordance with the provisions of the "Emissions Inventory Criteria and Guidelines Report" adopted by the Air Resources Board.

District's Implementation of AB 2588

The District's implementation of AB 2588, California's *Air Toxics "Hot Spots" Information and Assessment Act*, has resulted in major reductions in emissions of air toxics from existing sources in the San Joaquin Valley. Under this right-to-know law, the District has worked with Valley facilities to quantify emissions of air toxics, determine the health risk caused by those emissions, report emissions and any significant risks through written public reports and neighborhood public meetings, and take steps to reduce such risks. As a result of this effort, and the resulting emissions reductions, no Valley facility currently poses a significant risk under this program.

The District's integrated air toxics program fulfills the state AB 2588 Hot Spots mandates, aimed at quantifying and assessing localized health risk, notifying affected residents, and reducing risk from facilities with high risk caused by air toxic emissions. In addition, the District's integrated air toxics program incorporates Airborne Toxic Control Measure (ATCM) regulations promulgated by the Air Resources Board, requiring prescribed control measures for various source categories that cause significant risks at a regional level. Furthermore, the District's integrated program fulfills federal mandates under Title III of the federal Clean Air Act, requiring Maximum Available Control Technology (MACT) for sources of air toxics.

In addition to the state and federal mandates, the District's integrated air toxics program also implements the more stringent local permitting and California Environmental Quality Act (CEQA) requirements, specifically to ensure installation of Best Available Control Technology (BACT) for air toxics and that new permits or modifications to existing facilities will not result in a significant increase in health risk to the public.

The District has spent the last two decades implementing a wide variety of methods to reduce toxic air contaminant emissions in the San Joaquin Valley. Based on the latest California Toxics Inventory, only 14% of all air toxics in the San Joaquin Valley are now emitted from stationary sources of pollution under the direct control and regulation of the District, while 52% comes from mobile sources such as cars and trucks, and the remaining 34% is emitted from area-wide sources like road dust, paints, solvents, and other consumer products. Mobile and area-wide sources of emissions are generally under the regulatory authority of the State of California and the federal government.

The District's integrated approach to addressing and reducing risks from toxic air contaminants has taken three main paths:

- Reducing air toxic emissions from existing stationary sources of emissions;
- Preventing the creation of new or modified stationary sources of significant risk; and
- Finding creative and cooperative methods of reducing risk from emissions sources that the District does not typically regulate.

In 2015, the District began implementing the state Office of Environmental Health Hazard Assessment's (OEHHA's) revised Guidance on Preparation of Health Risk Assessments that was adopted by OEHHA in early March 2015. Following OEHHA revised guidelines, the District began a health risk reassessment of all facilities located in the San Joaquin Valley. The health risk reassessment follows the phased processing schedule outlined in AB 2588, which was originally implemented in the late 80's and early 90's. AB 2588 subjected three major categories (or phases) of facilities to the regulation based upon their level of annual emissions. Reassessment of facilities subject to the AB2588 Hot Spots regulation is a multi-year process with that has started in 2016, following the phases identified below:

- Phase I Facilities (≥ 25 tons emissions per year)
- Phase II Facilities ($10 \leq$ tons emissions per year < 25)
- Phase III Facilities (< 10 tons emissions per year)
- Phase IV Facilities (Industry-wide and agricultural facilities)

Prioritizing Facility Health Risks

Based on the emissions inventory, the District is prioritizing each facility's health risk using complex computerized database and modeling programs. A "prioritization" is a conservative health risk assessment screening analysis, resulting in a facility prioritization score used to determine if a more refined health risk assessment is necessary. As part of this process, very conservative assumptions are utilized, with many safety factors built in to determine the worst-case health risk to possible receptors. The purpose of those safety factors is to ensure that the most sensitive receptors (children, elderly, pregnant women and people with weakened immune systems) are protected. Facilities ranked as high priority are required to perform health risk assessments.

The District prioritizes and ranks the health risk posed by the facility as "low", "intermediate", or "high" priority, based on the following:

- Low Priority: Prioritization Score ≤ 1
Facility Exempt from further AB 2588 requirements
- Intermediate Priority: $1 <$ Prioritization Score ≤ 10
Facility required to provide Update Summary every four years
- High Priority: Prioritization Score > 10
Facility required to perform a refined Health Risk Assessment

Health Risk Assessment Process

When a facility's prioritization score exceeds 10, the facility is classified as "High Priority" and a Health Risk Assessment (HRA) is required for the facility, and such facility is required to submit an HRA for District approval. The District and State Office of Environmental Health Hazard Assessment (OEHHA) are required by the Air Toxics

"Hot Spots" Act to review each HRA. Risk calculation involves a great deal of uncertainty. The uncertainty arises from lack of data in many areas necessitating the use of assumptions. As part of this process, again, very conservative assumptions are utilized, with many safety factors built in to determine the worst-case risk to possible receptors. The purpose of those safety factors is to ensure that the most sensitive receptors (children, elderly, pregnant women and people with weakened immune systems) are protected. The assumptions used are designed to be health protective in order to avoid underestimating the risk to the public. Therefore, while the actual risk may be much less than the calculated risk, it is very unlikely to be higher than calculated.

Upon approval of facility HRA, the District determines the facility's health risk status, which is classified as a low risk, intermediate risk, high risk, or risk reduction required, based on the following HRA scores:

- Low Risk: HRA cancer risk ≤ 1 in a million, and
HRA total hazard index of < 0.1
(Facility Exempt from further AB 2588 requirements)
- Intermediate Risk: $1 \leq$ HRA cancer risk < 10 in a million, or
 $0.1 \leq$ HRA total hazard index ≤ 1.0
(Facility required to provide update summary on a quadrennial basis)
- High Risk: HRA cancer risk ≥ 10 in a million, or
HRA total hazard index of > 1.0
(Public Notice)
- Risk Reduction Required: HRA cancer risk ≥ 100 in a million cancer, or
HRA total hazard index of > 5.0
(Public Notice and Risk Reduction Audit Plan)

Facilities that pose health risks above District action levels are required to submit plans to reduce their risk. The Risk Reduction Audit Plan (RRAP) trigger level for cancer risk is 100 cases per million exposed persons, based on the maximum exposure beyond facility boundaries at a residence or business. The action level (Risk Reduction Audit Plan) for non-cancer risk is a hazard index of 5 at any point beyond the facility boundary where a person could reasonably experience exposure to such a risk.

The District's review of completeness of the facility's RRAP includes a substantive analysis of the emission reduction measures included in the plan, and the ability of those measures to achieve emission reduction goals as quickly as feasible. If the District determines that the RRAP does not meet those requirements, the District shall remand the audit and plan to the facility specifying the deficiencies identified by the District. A facility operator shall submit a RRAP addressing the deficiencies identified

by the District within 90 days of receipt of a deficiency notice. An updated prioritization and/or health risk assessment shall be determined based on the approved RRAP.

AB 617 Community Facility Lists with Associated AB 2588 Designations

Assembly Bill 617 requires the California Air Resources Board (CARB) and air districts to develop and implement emissions reporting for disadvantaged communities. With the establishment of the selected community boundaries, the District has put into effect a plan to expedite and streamline the AB 2588 reassessments for facilities located within the selected community of Shafter.

Community-Based AB 2588 Reassessments

Based on previous AB 2588 analyses and on the on-going District's integrated air toxics program, no Valley facilities have been determined to pose significant risk. Therefore, no existing facility(s) have or have been required to prepare a Risk Reduction Audit Plan. However, as mentioned above, the District is currently in the process of reassessing Valley facilities under AB 2588, which includes those in the City of Shafter and the 7-mile radius surrounding Shafter.

Please refer to Appendix E for further details about the District's Health Risk Assessment Process, and a table identifying the AB 2588 reassessment status of each facility within the community as of September 9, 2019.

ENFORCEMENT STRATEGIES

To support strategies developed in partnership with community members, District staff have developed several enforcement strategies that will enhance the District's robust existing enforcement program in the AB 617-selected community. Information about new enforcement measures that apply to a specific source category of concern to the community have been included in the strategy discussion for that source of concern. These enforcement measures include increased stationary source inspection frequency, increased surveillance to reduce residential burning, and free training programs for gasoline dispensing facility operators. Further details about all enforcement measures that will apply to Shafter are provided in the CERP Enforcement Plan in Chapter 5.

STATEWIDE STRATEGIES

This section provided by the California Air Resources Board to describe state actions that will apply throughout California

Overview of California Air Resources Board's Statewide Actions

Community-scale air pollution exposure is caused by many factors, including the cumulative impacts from multiple pollution sources. Effective solutions require multiple strategies at both the statewide and local level to deliver new emissions reductions directly within these communities.

The California Air Resources Board (CARB) has adopted a number of comprehensive air quality and climate plans over the last several years that lay out new emissions reduction strategies. These plans include the State Strategy for the State Implementation Plan,⁵ the California Sustainable Freight Action Plan,⁶ California's 2017 Climate Change Scoping Plan,⁷ and the Short-Lived Climate Pollutants Reduction Strategy,⁸ along with a suite of incentive programs. The Community Air Protection Blueprint⁹ further identified additional actions to reduce the air pollution burden in heavily impacted communities throughout the State. Together, these plans provide a foundation for the new actions identified as part of this community emissions reduction program.

This section illustrates CARB's statewide role in the community emissions reduction program, by broadly describing the regulatory, enforcement, and incentive-based actions CARB has taken to reduce emissions statewide. It also highlights specific

⁵ California Air Resources Board, *Revised Proposed 2016 State Strategy for the State Implementation Plan*, March 7, 2017, available at: www.arb.ca.gov/planning/sip/sip.htm.

⁶ California Department of Transportation, *California Sustainable Freight Action Plan*, July 2016, available at: http://www.dot.ca.gov/hq/tpp/offices/ogm/cs_freight_action_plan/theplan.html.

⁷ California Air Resources Board, *California's 2017 Climate Change Scoping Plan*, November 2017, available at: www.arb.ca.gov/cc/scopingplan/scopingplan.htm.

⁸ California Air Resources Board, *Short-Lived Climate Pollutant Reduction Strategy*, March 2017, available at: www.arb.ca.gov/cc/shortlived/shortlived.htm.

⁹ California Air Resources Board, *Final Community Air Protection Blueprint for Selecting Communities, Preparing Community Emissions Reduction Programs, Identifying Statewide Strategies, and Conducting Community Air Monitoring*, October, 2018, available at: <https://ww2.arb.ca.gov/our-work/programs/Community-Air-Protection-Program>.

foundational CARB actions that address areas of concern identified by the Shafter community.

REGULATORY PROGRAMS

Federal, State, and local air quality agencies all work together to reduce emissions. At the federal level, the U.S. Environmental Protection Agency (U.S. EPA) has primary authority to control emissions from certain mobile sources, including sources that are all or partly under federal jurisdiction (e.g., some farm and construction equipment, aircraft, marine vessels, locomotives), which it shares in some cases with air districts and CARB. The U.S. EPA also establishes ambient air quality standards for some air pollutants.

At the State level, CARB is responsible for controlling emissions from mobile sources and consumer products (except where federal law preempts CARB's authority), controlling toxic emissions from mobile and stationary sources, controlling greenhouse gases from mobile and stationary sources, developing fuel specifications, and coordinating State-level air quality planning strategies with other agencies.

Regionally, air districts are primarily responsible for controlling emissions from stationary and indirect sources (with the exception of consumer products in most cases) through rules and permitting programs within their regions.

CARB regulatory programs are designed to reduce emissions to protect public health, achieve air quality standards, reduce greenhouse gas emissions, and reduce exposure to toxic air contaminants. CARB establishes regulatory requirements for cleaner technologies (both zero and near-zero emissions) and their deployment into the fleet, for cleaner fuels, and to ensure in-use performance. CARB's regulatory programs are broad – impacting stationary sources, mobile sources, and multiple points within product supply chains from manufacturers to distributors, retailers, and end-users. CARB's regulations affect cars, trucks, ships, off-road equipment, consumer products, fuels, and stationary sources.

One important and relevant regulatory authority of CARB's is to adopt measures to reduce emissions of toxic air contaminants from mobile and non-mobile sources, known as Airborne Toxic Control Measures (ATCM).¹⁰ These regulatory measures include process requirements, emissions limits, or technology requirements. Additionally, CARB implements the Statewide Air Toxics "Hot Spots" Program¹¹ to address the health risk from toxic air contaminants at individual facilities across the State. The Air Toxics "Hot Spots" Program includes several components to collect emissions data, identify

¹⁰ California Health and Safety Code § 39650 et seq.

¹¹ Assembly Bill 2588, Air Toxics "Hot Spots" Information and Assessment Act, Connelly, Statutes of 1987, California Health and Safety Code § 44300 et seq.

facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks, and reduce those significant risks to acceptable levels.

Under the Air Toxics “Hot Spots” Program, air districts are required to set a threshold for facilities that pose a significant health risk and prioritize facilities for health risk assessments. Air districts also establish a risk value above which facilities must conduct a risk reduction audit and emissions reduction plan. Facilities must develop these health risk assessments, risk reduction audits, and emission reduction plans. CARB provides technical guidance to support smaller businesses conducting health risk assessments and developing emissions reduction plans.

Additionally, CARB has pursued enforceable agreements with industry that result in voluntary but enforceable adoption of the cleanest technologies or practices and provide assurance that emissions reductions will be realized. CARB’s agreement with the Union Pacific Railroad Company and BNSF Railway Company to accelerate introduction of cleaner locomotives in the South Coast Air Basin is an example of an enforceable agreement.

For more information on CARB’s Air Toxics “Hot Spots” Program, visit: <https://www.arb.ca.gov/ab2588/ab2588.htm>. For more detailed information on CARB’s statewide emissions reduction strategies, see Appendix C of the Community Air Protection Blueprint at: <https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program>.

ENFORCEMENT PROGRAMS

To achieve the reductions associated with rules and regulations, regulated entities must comply with requirements and technology must function as expected. CARB’s goal, set out in more detail in statute and in its Enforcement Policy, is to achieve comprehensive compliance with every regulation the CARB Governing Board has adopted, and the Enforcement Program finds violations, investigates cases, and resolves cases through either the administrative settlement process, or litigation. CARB’s enforcement efforts encompass a broad spectrum of programs, including certification requirements for vehicles, engines, aftermarket parts, consumer products, and fuels; in-use fleet requirements focused on diesel mobile sources; and greenhouse gas standards for stationary sources.

CARB settlement of enforcement cases can also fund Supplemental Environmental Projects, which are not otherwise required by law or regulation but benefit air quality by reducing emissions, reducing exposure to air pollution, or preventing future air quality violations.¹² Examples of Supplemental Environmental Projects include installation of

¹² California Air Resources Board, Supplemental Environmental Project (SEP) Policy (Oct. 4, 2017) available at <https://ww2.arb.ca.gov/resources/fact-sheets/supplemental-environmental-projects>

air filtration systems in schools, increasing services to children with asthma, and school bus and diesel emissions reduction projects.

One critical and relevant enforcement program is CARB's continued effort to streamline the Truck and Bus Regulation enforcement process.¹³ This work is closely linked to implementation of Senate Bill 1,¹⁴ which ties truck registration in California to compliance with the Truck and Bus Regulation. Once fully implemented, CARB's Enforcement Program will identify potential violators through Department of Motor Vehicles' registrations, notify potential violators, give violators an opportunity to prove compliance, and finally place registration holds on all trucks that do not comply with the regulation. This process is expected to significantly improve the compliance rate with the Truck and Bus Regulation and improve air quality along trucking corridors in California.

For more detailed information on CARB's Enforcement Programs, visit:

<https://www.arb.ca.gov/enf/enf.htm>.

INCENTIVE PROGRAMS

CARB operates incentive programs that reduce the costs of developing, purchasing, or operating cleaner technologies. The programs help ensure cleaner cars, trucks, equipment, and facilities are operating in our neighborhoods by driving the development of new, cleaner technologies, and by accelerating their sale and adoption. Specifically, they accelerate the introduction of advanced technology vehicles and equipment, accelerate the turnover of older and higher emitting vehicles and equipment, and increase access to clean vehicles and transportation in disadvantaged communities and lower-income households.

Examples of CARB incentive programs include the Carl Moyer Memorial Air Quality Standards Attainment Program¹⁵ (the Community Air Protection Incentives¹⁶ are implemented by the air district through this program), Proposition 1B: Goods Movement Emission Reduction Program,¹⁷ Funding Agricultural Replacement Measures for

¹³ For more information on the Truck and Bus Regulation, visit:

<http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>.

¹⁴ California Vehicle Code § 4000.15(a).

¹⁵ For more information on the Carl Moyer Memorial Air Quality Standards Attainment Program, visit:

<https://www.arb.ca.gov/msprog/moyer/moyer.htm>.

¹⁶ For more information on the Community Air Protection Incentives, visit:

<https://www.arb.ca.gov/msprog/cap/capfunds.htm>

¹⁷ For more information on the Proposition 1B: Goods Movement Emission Reduction Program, visit:

<https://www.arb.ca.gov/bonds/gmbond/gmbond.htm>.

Emission Reductions Program,¹⁸ and Low Carbon Transportation Investments and Air Quality Improvement Program (which includes the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project).¹⁹ While CARB is responsible for program oversight, some of these programs are implemented as a partnership with local air districts.

For more information on air pollution incentives, grants, and credit programs, visit: <https://www.arb.ca.gov/ba/fininfo.htm>.

CARB ACTIONS RELATED TO THE SHAFTER COMMUNITY

This section highlights CARB actions that specifically relate to the Shafter community. This list should not be interpreted as comprehensive or exhaustive, but rather illustrative of some of the major statewide strategies driving emissions reductions in conjunction with those local level strategies identified in this community emissions reduction program. The full list of CARB foundational strategies can be found in Appendix D and Appendix F of the Community Air Protection Blueprint.²⁰

Reducing Emissions from Dairy and Other Livestock – As part of the Short-Lived Climate Pollutant Reduction Strategy, CARB, several lead State agencies, and other stakeholders will encourage and support near-term actions by dairies to reduce manure methane emissions through financial incentives, collaboration to overcome barriers, development of policies to encourage renewable natural gas production where appropriate as a pollution control strategy, and other market support. Enteric fermentation from all livestock is also responsible for methane emissions. CARB, along with other lead State agencies, will continue to support and monitor research and explore voluntary, incentive-based approaches to reduce enteric fermentation emissions from dairy and non-dairy livestock sectors until cost-effective and scientifically-proven methods to reducing these emissions are available and regulatory actions can be evaluated. For more information on the strategy, visit: <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>.

Reducing Emissions from Organic Waste in Landfills – The California Department of Resources Recycling and Recovery has consulted with CARB to develop regulations for organic waste currently landfilled to reduce the level of the statewide disposal of

¹⁸ For more information on the Funding Agricultural Replacement Measures for Emission Reductions Program, visit: <https://ww2.arb.ca.gov/our-work/programs/farmer-program>.

¹⁹ For more information on the Low Carbon Transportation Investments and Air Quality Improvement Program, visit: <https://ww2.arb.ca.gov/our-work/programs/low-carbon-transportation-investments-and-air-quality-improvement-program>.

²⁰ California Air Resources Board, *Final Community Air Protection Blueprint for Selecting Communities, Preparing Community Emissions Reduction Programs, Identifying Statewide Strategies, and Conducting Community Air Monitoring*, October, 2018, available at: <https://ww2.arb.ca.gov/our-work/programs/Community-Air-Protection-Program>.

organic waste by 50 percent of 2014 levels by 2020 and 75 percent of 2014 levels by 2025. These regulations will take effect on or after January 1, 2022. The California Department of Resources Recycling and Recovery, with assistance from CARB, will continue to build on its partnerships with local governments, industry, nonprofits, local air districts, and water boards to support regional planning efforts and identify ways to increase recovery of organics and to safely and effectively develop necessary organics recycling capacity. For more information on the strategy, visit: <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>.

Cross-Agency Engagement and Integration of Pesticide Application Information –

The Department of Pesticide Regulation has committed to help inform, educate, and assist the community steering committee by presenting and answering questions at community steering committee meetings. CARB is also working directly with the Department of Pesticide Regulation to integrate pesticide information in the online Resource Center. For more information on the online Resource Center, visit: <https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program>.

Reducing Emissions from Oil and Gas Systems – The Short-Lived Climate Pollutant Reduction Strategy establishes a goal of reducing fugitive methane emissions from oil and gas by 40 percent below current levels in 2025 and a minimum 45 percent in 2030, and from all other sources by 40 percent in 2030. In addition to California's comprehensive and stringent emerging framework to reduce methane emissions from oil and gas systems, in 2017 CARB adopted and is now implementing, with the help of the local air districts, a regulation that will reduce fugitive methane emissions by about 44 percent by 2021 from the oil and gas production, processing, and storage sector. This regulation is also estimated to reduce volatile organic compounds emissions from oil and gas operations statewide by over 3,600 tons per year, and to reduce toxic air contaminant emissions (such as benzene, toluene, ethyl-benzene, and xylenes) by over 100 tons per year statewide from oil and gas operations. For more information on the Short-Lived Climate Pollutant Reduction Strategy, visit: <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>. For more information on the Oil and Gas Methane Regulation, visit: <https://ww2.arb.ca.gov/resources/fact-sheets/oil-and-gas-methane-regulation>.

Advanced Clean Trucks Regulation – CARB is working through a public process to develop and consider proposals for new approaches and strategies that may transition to zero emission technology those truck fleets that operate in urban centers, have stop and go driving cycles, and are centrally maintained and fueled. *District note: CARB reports that by 2024, this measure is estimated to reduce 0.002 tons per year of PM_{2.5}, 0.1 tons per year of NO_x, and 0.0003 tons per year of diesel PM. By 2029, this measure is estimated to reduce 0.05 tons per year of PM_{2.5}, 1.8 tons per year of NO_x, and 0.01 tons per year of diesel PM.*

For more information on the proposed regulation, visit: <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-truck>.

Heavy-Duty Vehicle Inspection and Maintenance – When emissions control systems are not operating correctly, in-use emissions can increase. CARB’s current inspection programs include the roadside Heavy-Duty Vehicle Inspection Program and the fleet Periodic Smoke Inspection Program. These regulations require heavy-duty vehicles operating in California to be inspected for excessive smoke and tampering.

In July 2018, CARB approved amendments to the Heavy-Duty Vehicle Inspection Program and the Periodic Smoke Inspection Program to reduce the smoke opacity limits to levels more appropriate for today’s modern engine technology. CARB is now exploring the development of a more comprehensive heavy-duty inspection and maintenance program which would help ensure all vehicle emissions control systems are adequately maintained throughout the vehicles’ operating lives. *District note: CARB reports that by 2024, this measure is estimated to reduce 0.5 tons per year of PM2.5 (diesel PM) and 32.4 tons per year of NOx. By 2029, this measure is estimated to reduce 0.6 tons per year of PM2.5 (diesel PM) and 39.5 tons per year of NOx in the Shafter community.*

For more information on existing heavy-duty maintenance programs, visit: <https://www.arb.ca.gov/enf/hdvip/hdvip.htm>. For more information on the development of a comprehensive heavy-duty inspection and maintenance program, visit: <https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program>.

Heavy-Duty On-Road and Off-Road Engine In-Use Testing – This strategy will involve real world screening of heavy-duty trucks and off-road engines operating in selected communities to target heavy-duty in-use compliance testing. Engines that are found to be emitting above expected levels will be brought into CARB’s in-use compliance program. Engines found to be in noncompliance will be recalled and emission mitigation projects could include, deployment of zero emission technology in selected environmental justice communities.

Drayage Truck Regulation Amendments– CARB’s Truck and Bus Regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. CARB’s Drayage Truck Regulation currently requires all drayage trucks to meet or exceed 2007 federal engine standards. Additionally, over the next several years, CARB will be working through a public process to consider amendments to the Drayage Truck Regulation that may transition the drayage fleet to zero emission operations. For more information on the regulation, visit: <https://arb.ca.gov/msprog/onroad/porttruck/porttruck.htm>.

Transport Refrigeration Unit Regulations – Transport refrigeration units congregate at distribution centers and other facilities, resulting in the potential for health risks to those that live and work nearby. CARB is working through a public process to consider new requirements to transition the transport refrigeration units fleet to zero emission operations by requiring both zero-emission technology and supporting infrastructure. For more information on this new regulation, visit:

<https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/new-transport-refrigeration-unit-regulation>

Real Emissions Assessment Logging System – As part of an on-board diagnostic regulation, a new emissions tracking program for excess smog-related and greenhouse gas emissions (Real Emissions Assessment Logging) will provide CARB with the ability to monitor emissions performance of all vehicles, including medium- and heavy-duty vehicles, allowing regulators to recognize and correct problems faster. For more information on the regulation and the emissions tracking program, visit: <https://ww2.arb.ca.gov/news/carb-gets-real-further-cut-pollution-diesel-and-gas-vehicles>.

Freight Handbook – CARB is developing a handbook that identifies best practices for the siting, design, construction, and operation of freight facilities to minimize community exposure to air pollution. The handbook is intended to serve as a tool for local governments and community advocates to use in local land use planning and permitting decisions. The handbook will contain recommendations that local governments and freight facility developers, builders, and operators should integrate zero emission operations and technologies, and incorporate supporting infrastructure into project design. When implemented, the recommendations should lead to improved regulatory review processes, increased operational efficiencies, and reduced costs to business. For more information on the handbook, visit: <https://www.arb.ca.gov/gmp/sfti/sfti.htm>.

Truck and Bus Local Idling Pilot Study – The California Air Resources Board, in partnership with the Steering Committee and the Air District, will conduct a pilot study to assess local idling impacts from trucks and buses. The Steering Committee and Air District will advocate for “Clean Idle” trucks and buses to idle no more than 5 minutes when in Shafter.

Cargo Handling Equipment Amendment – This strategy will amend the existing Cargo Handling Equipment regulation. This regulation applies to mobile equipment such as yard trucks, rubber-tired gantry cranes, container handlers, and forklifts that operate at ports or intermodal rail yards. The strategy will propose an implementation schedule for new equipment and infrastructure requirements, with a focus on the transition to zero emission operation, and may include provisions for efficiency improvements. For more information on the strategy, visit: <https://ww2.arb.ca.gov/our-work/programs/cargo-handling-equipment>

Advanced Clean Cars 2 – CARB would consider expanded California-specific standards for new light-duty vehicles, impacting 2026 and later model year vehicles, to increase the number of new zero emission and plug-in hybrid electric vehicles sold in California and increase the stringency of fleet-wide emission standards for greenhouse gases and criteria pollutants. *District note: CARB reports that by 2029, this measure is estimated to reduce 0.007 tons per year of PM2.5 and 0.373 tons per year of NOx in the Shafter community.*

Evaluation and Potential Development of Regulation to Reduce Idling for All Rail Yard Sources – This strategy will require operators to limit idling of all combustion powered vehicles and mobile equipment operating at rail yards and other locations, as well as reducing emissions from stationary locomotive operations (e.g., maintenance, testing). The scope will include both freight and passenger rail activities, in and around intermodal, classification, and maintenance rail yards, at seaports, at warehouses, on sidings, at passenger rail stations, and at maintenance and service locations. Locomotives with zero emission capability could be exempt, if operators show that zero emission operation is maximized. For more information on the strategy, visit: <https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california>

Evaluation and Potential Development of Regulation to Reduce Emissions for Locomotives Not Preempted Under the Clean Air Act – This strategy will require the retrofit, repower, remanufacture, or replacement of freight and passenger locomotives not preempted under the Clean Air Act, beginning in 2025. Locomotives in operation beyond their useful life are typically operated by Class 3 freight railroads, industrial facilities, and passenger railroads, as well as a smaller number run by Class I railroads that can readily transfer those units to other states. Although the activity levels on these locomotives are lower than interstate line-haul and passenger locomotives, locomotives past their useful lives are the oldest and highest emitting (per unit of work performed) in the State. Prioritizing the earliest implementation in communities with high cumulative exposure burdens will be considered as part of this strategy. For more information on the strategy, visit: <https://ww2.arb.ca.gov/our-work/programs/reducing-rail-emissions-california>

Small Off-Road Engines – In 2020, CARB will consider new standards for small off-road engines (SORE), which are spark-ignition engines rated at or below 19 kilowatts and used primarily for lawn, garden, and other outdoor power equipment. *District note: CARB reports that by 2024, this measure is estimated to reduce 0.3 tons per year of NOx. By 2029, this measure is estimated to reduce 0.6 tons per year of NOx in the Shafter community.*

For more information on the strategy, visit: <https://ww2.arb.ca.gov/our-work/programs/small-off-road-engines-sore>

Commercial Cooking Suggested Control Measure – This strategy consists of a two-phase process to evaluate California’s current emission reduction requirements for commercial cooking operations that prepare food for human consumption, and if necessary, make improvements to achieve additional reductions in particulate matter 10 microns or less in diameter (PM10), particulate matter 2.5 microns or less in diameter (PM2.5) and volatile organic compound emissions that contribute to ozone formation. For more information on the strategy, visit: [Blueprint Appendix F](#) – pages F-8 & F-9.

Conduct Periodic Supplemental Environmental Projects Outreach – Supplemental Environmental Projects allows penalties collected from settlements to be used for projects that provide air quality benefits within communities throughout the State. This strategy commits CARB to conducting outreach to impacted communities so CARB staff can identify where funds from Supplemental Environmental Projects can best be applied, and working to match Supplemental Environmental Projects with available settlements that have a common nexus. CARB staff will conduct periodic meetings throughout the State. CARB staff will utilize the ideas received from community members to determine what needs can be met through Supplemental Environmental Projects, and work to put those projects in place. For more information on these measures, visit: [Blueprint Appendix F](#) – page F-24.

EMISSION REDUCTION TARGETS

The CARB Community Air Protection Blueprint contains guidance for calculating emission reduction targets in the community. To estimate the emissions reductions expected for each proposed measure, the District first established specific, numerical goals for the deployment or implementation of technology and control techniques that can deliver emissions reductions. Estimated emission reductions for each strategy that will achieve quantifiable reductions are summarized in the table below.

Table 4-3 Estimated Emission Reductions for District Measures						Total Reductions in 2024		Total Reductions in 2029	
						PM2.5	NOx	PM2.5	NOx
Measure #	Measure Description	# of Units	Unit Life	Funding Amount	Timeframe	PM2.5	NOx	PM2.5	NOx
Heavy Duty Mobile Sources									
HD.1	Provide Enhanced Incentive Funding for Heavy Duty Truck Replacement with Zero and Near-Zero Emission Technology	40	5	\$4,000,000	2019-2024	0.07	26.2	Reductions occur before 2029	
HD.2	Deployment of Zero Emission Yard Trucks and Truck Refrigeration Units (TRUs)	10	5	\$1,500,000	2020-2024	0.01	0.36		
HD.4	Incentive Program for Replacing Older Diesel School Buses with Zero or Near-Zero Emission Technology	10	10	\$4,000,000	2019-2024	0.03	0.33	0.03	0.33
HD.5	Incentive Program for Transit Bus Replacement (for Dial-a-Ride)	2	3	\$400,000	2020-2021	0.21	0.21		
HD.7	Incentives for Replacing Older Diesel Railcar Movers and Switchers with New Clean-Engine Technology	3	15	\$4,100,000	2019-2024	0.10	3.80	0.10	3.80
Older/High Polluting Passenger Cars									
C.1	Host Tune-In Tune-Up Events within Community	500	1	\$400,000	2020	Reductions occur before 2024			
C.2	Incentive Program for the Replacement of Passenger Vehicles with Battery Electric or Plug-in Hybrid Vehicles	267	10	\$6,000,000	2020	0.01	0.29	0.01	0.29
Agricultural Operations									
A.2	Provide Incentives for Low-Dust Nut Harvesters	25	5	\$2,500,000	2019	18.00	8.50	Reductions occur before 2029	
A.5	Provide Incentives to Replace Diesel and Natural Gas Agricultural Pump Engines with Electric Motors	10	10	\$230,000	2019-2024	0.40	9.00	0.40	9.00
A.6	Provide Incentives to Replace Diesel Ag Equipment (tractors) with Cleanest Available Equipment	100	10	\$5,000,000	2019-2024	6.00	75.0	6.00	75.0
Residential Wood Burning									
RB.1	Provide Enhanced Incentives to Replace Wood Burning Devices	200	20	\$600,000	2019-2024	4.90	0.00	4.90	0.00
Land Use /Urban Sources									

Table 4-3 Estimated Emission Reductions for District Measures

Measure #	Measure Description	# of Units	Unit Life	Funding Amount	Timeframe	Total Reductions in 2024		Total Reductions in 2029	
						PM2.5	NOx	PM2.5	NOx
CC.1	Incentives to reduce PM from commercial underfired charbroilers	1	10	\$150,000	2020-2024	0.73	0.00	0.73	0.00
LG.1	Provide Enhanced Incentives for Replacement of Residential Lawn and Garden Equipment (Free for Shafter Residents)	280	10	\$100,000	2019-2024	0.01	0.01	0.01	0.01
Subtotal: District Measures						30.47	123.7	12.18	88.43

CARB provided the following information regarding 2024 and 2029 emissions reductions for each proposed statewide measure regulation/amendment (see tables below). CARB calculated these emission reductions by applying the 2024 and 2029 statewide benefits to the community-scale baseline forecasted inventories for 2024 and 2029. These emissions represent the estimated reductions of each pollutant within the years 2024 and 2029, with the implementation of the proposed statewide measures.

Table 4-4: Baseline Emissions (tpy) for Proposed State Measures

CARB Statewide Measures	Baseline Emissions (tons per year)							
	PM _{2.5}		DPM		NO _x		VOC	
	2024	2029	2024	2029	2024	2029	2024	2029
Advanced Clean Car 2		0.5		0.01		23.3		41.9
Advanced Clean Truck	5.5	5.5	1.7	1.6	251.5	246.6		
Heavy-Duty Inspection and Maintenance	1.4	1.4	1.4	1.4	227.7	233.2		
Small Off-Road Engine Amendment					2.7	2.7	11.7	12.1

Table 4-5: Estimated Emission Reductions in Community (tpy) for Proposed State Measures

CARB State-wide Measures	Emission Reductions (tons per year)							
	PM _{2.5}		DPM		NO _x		VOC	
	2024	2029	2024	2029	2024	2029	2024	2029
Advanced Clean Car 2		0.007		0.000		0.373		0.1
Advanced Clean Truck	0.002	0.05	0.0003	0.01	0.1	1.8		
Heavy-Duty Inspection and Maintenance	0.5	0.6	0.5	0.6	32.4	39.5		
Small Off-Road Engine Amendment					0.3	0.6	3.3	5.3

Table 4-6: Estimated Emission Reductions in Community (tpy) for Proposed State Measures

CARB State-wide Measures	Reduction Percentage (%)							
	PM _{2.5}		DPM		NO _x		VOC	
	2024	2029	2024	2029	2024	2029	2024	2029
Advanced Clean Car 2		1.34%		1.34%		1.60%		0.33%
Advanced Clean Truck	0.04%	0.88%	0.02%	0.59%	0.03%	0.74%		
Heavy-Duty Inspection and Maintenance	37.33%	42.29%	37.33%	42.29%	14.21%	16.92%		
Small Off-Road Engine Amendment					9.72%	21.89%	28.13%	43.84%

5. ENFORCEMENT PLAN

5.1 INTRODUCTION

Enforcement of air quality rules and regulations by the San Joaquin Valley Air Pollution Control District (District) and the California Air Resources Board (CARB) is critical to continuing air quality progress and achieving the air quality goals contained in the Valley's State Implementation Plans. Compliance with federal, state, and local air quality rules and regulations is ensured by operating robust inspection programs along with a full range of educational and compliance assistance programs.

This Enforcement Plan describes the stationary and mobile source enforcement history for the Shafter community and surrounding areas. In addition, the plan describes the overall enforcement programs operated by the District and CARB. Based on the analysis of the enforcement history and input from the Community Steering Committee, the Community Emissions Reduction Plan (CERP) includes focused enforcement measures to enhance enforcement and compliance assistance activities within the community in support of the emission reduction commitments in the CERP.

5.2 OVERVIEW OF SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT ENFORCEMENT PROGRAM

The District's mission is to improve the health and quality of life for all Valley residents through efficient, effective, and entrepreneurial air quality management strategies. The District's Enforcement Department seeks to aid in achieving this mission through fair, consistent, and comprehensive enforcement utilizing a full suite of enforcement and compliance assistance related activities to ensure compliance with District, state and federal rules and regulations. The program objectives for the Enforcement Department are set forth in federal and state law and the District's air quality attainment plans. In order to meet these program objectives, District staff perform inspections at approximately 9,200 permitted facilities and at approximately 5,600 agricultural operations, responds to approximately 3,000 public complaints, and verifies emissions reductions at thousands of locations where emission reduction incentive projects have been implemented.

The major functions of the District's Enforcement Department are as follows:

Inspections of Stationary Sources

The District performs thousands of comprehensive on-site inspections each year to ensure compliance with District requirements. These compliance evaluations are unannounced whenever possible and play a key part to meeting clean air requirements. The frequency of regular inspections depends on the type of facility. When considering limited resources, priority is given to federal Title V (Major) sources, facilities that emit non-attainment criteria or toxic pollutants, facilities with equipment that is more susceptible to upsets, compliance history of operation, etc. Under this scenario, a chrome plating facility will be inspected more frequently than a back-up, emergency generator which only operates a few hours per year.

Compliance inspections are conducted by well-trained District air quality inspectors. Inspections include a physical inspection of the facility and equipment, a review of operating and monitoring records, and the use of advanced detection equipment, where appropriate, to determine compliance with permitted emission limits. During the inspection, District staff ensures that the equipment is permitted appropriately, and that the facility is operating in compliance with all permit requirements and applicable local, state, and federal regulations. If the facility is determined to be in non-compliance, the inspector issues the facility an enforcement action that requires prompt correction of the issue and generally results in the imposition of a civil penalty.

Complaint Investigations

The District receives thousands of complaints each year 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 nuisances. Along these same lines, the District added the ability to easily submit complaints, including video and photographs, online and through mobile smartphone applications. District staff are required to keep the reporting party apprised of the investigation findings until it has been completed. The District provides a bilingual (Spanish-English) telephone complaint line and also has the capability to utilize multilingual translation services, in the field or over the telephone, to ensure that all communities and groups within the Valley are properly served.

Emissions Testing

District inspectors oversee hundreds of third-party emissions tests conducted at stationary sources each year for the purpose of measuring air pollutants and ensuring compliance with established standards. District staff have three main tasks when overseeing source tests at stationary source sites. First they review the source test protocol, submitted by the third party source testing contractor. District staff reviews the protocol to ensure the proper testing will be conducted and that the source test contractor has the proper equipment and certifications to conduct the test. The second task is to witness the test to ensure the source test contractor follows the correct test procedures. Lastly, District staff reviews the source test results to ensure the data is properly reported and to act promptly on any compliance issues related to the testing.

In addition, the District utilizes its monitoring van and portable exhaust gas analyzers to assess the emissions from internal combustion engines, boilers, and other combustion devices to ensure they are operating according to specifications and complying with all permitted and/or rule emission limits.

Gasoline Station Permitting, Inspecting and Testing Program

Gasoline stations, in aggregate, are one of the largest potential sources of volatile organic compounds in the Valley. A comprehensive and effective permitting, inspection and testing program is important to ensure the vapor recovery systems operate as designed and the Valley realizes the emission reductions anticipated in Rule 4621 (Gasoline Transfer Into Stationary Storage Containers, Delivery Vessels and Bulk Plants) and Rule 4622 (Gasoline Transfer into Motor Vehicle Fuel Tanks).

District staff continues to inspect gasoline station vapor recovery systems on a routine basis looking for torn hoses, damaged nozzles, and missing parts. However, during recent years there have been many changes in vapor recovery technology and state laws such that the simple visual inspections are no longer sufficient. More emphasis is now being placed on performance tests that evaluate gasoline station equipment effectiveness. As a result, the District implemented a gasoline dispensing tester certification and training program to ensure qualified third party contractors are available for operators of this equipment.

Agricultural and Prescribed Burning

Agricultural burning in the San Joaquin Valley is closely regulated by the District. Legislation is phasing out such activity, but it is still allowed for a few crop types where there are no economically or technologically feasible alternatives to burning available. In accordance with state law, on a daily basis District staff determines when, how much, and where burning can occur.

District staff utilizes a sophisticated Smoke Management System (SMS) to determine the burn status. Air quality and meteorological conditions determine if burning is allowed. The SMS divides the Valley into over 100 zones. Each zone is analyzed and given a burn status and permissible burn acreage allocation. The goal of the SMS is to protect the public and prevent violations of air quality standards.

In order for a farmer to burn, they must first receive a District permit and must receive approval to burn each day they wish to do so. Field staff monitors burning to ensure only authorized materials are burned and that best management practices are followed to minimize smoke impacts to the public.

Prescribed burning by land management agencies is another activity regulated by the District. In accordance with state requirements, the District reviews burn plans, provides burn authorizations, and monitors the fires. District staff also has an ongoing dialogue with Land Management Agencies (LMAs) and other air districts to improve communication and cooperation among all parties when planning fires and while the fires are burning.

State leaders and agencies are recognizing the need for decisive actions to restore California's forested lands to resiliency. As a result, there was a need to develop potential changes to the District's policies and procedures to facilitate a more effective use of prescribed burning. Based on this direction, and in collaboration with local LMAs, over the last several years the District has employed more flexible policies to facilitate the use of prescribed burning as a tool to reduce fuel more rapidly. Examples of these efforts include identifying ways to facilitate the more effective use of prescribed burning and other practices as means to reduce the number and severity of future wildfires, supporting federal and state legislation to increase funding for land and forest management, developing a targeted public education campaign regarding wildfires, and working with state and federal land managers to formulate new strategies to reduce fuel-buildup and address wildfire emissions.

Wood Burning Heaters and Fireplaces

Further reducing residential wood smoke emissions is a high priority under the District's 2018 PM2.5 Plan given the significant localized health impacts associated with residential wood smoke. Scientific studies show that prolonged inhalation of wood smoke contributes to lung disease, pulmonary arterial hypertension, and pulmonary heart disease, which can eventually lead to heart failure. District Rule 4901 is designed to improve public health by reducing toxic wood smoke emissions in Valley neighborhoods during the peak PM2.5 winter season (November through February).

Since 2004, the District has had a robust enforcement program for designated wood burning curtailment days to ensure the District is achieving the expected emission reductions as a result of the requirements of the rule. This includes having a significant portion of field staff mandatorily assigned to conduct proactive surveillance in counties with declared wood burning curtailments. The District also conducts surveillance in counties with curtailments on days that District offices are closed and performs periodic night-time surveillance throughout the Check Before You Burn season.

In the District's ongoing efforts to utilize the latest forms of technology to improve efficiency and effectiveness, the District tested several technologies for nighttime fireplace and wood burning heater enforcement. The District purchased ultra-low light cameras, which has the greatest capacity to capture non-compliance through photographic and video evidence. The use of the cameras are able to clearly document smoke coming from chimneys in extremely low-light conditions in a way that previous technologies used and tested were unable to match.

Compliance Assistance

The District believes in working closely with businesses and residents to assist in achieving compliance with air pollution rules and regulations. The Compliance Assistance program has emphasized an educational approach to help Valley residents and businesses comply with a variety of air pollution regulations. Businesses and individuals throughout the Valley are provided with:

- **Individualized Assistance:** Personal, one-on-one help is provided to thousands of businesses and individuals to ensure they understand the District's requirements.
- **Compliance Assistance Bulletins:** Actively evaluate upcoming rule compliance dates and develop educational materials that are sent to affected groups including, but not limited to, realtors, building departments, contractors, industrial and commercial facilities, farmers, and residents.
- **Compliance Schools:** Training classes provide information on the topics of open burning, gasoline vapor recovery and wood burning fireplaces and wood burning heaters.
- **Gasoline Station Tester Training:** Ongoing training for contractors is provided for those wishing to perform vapor recovery tests within the District. District rules require testers be certified to ensure there is a qualified pool of contractors from which stakeholders can choose to perform their equipment's testing.
- **Asbestos Training:** Comprehensive assistance on asbestos regulations is provided to the public, building industry, building departments, fire departments, and realtors. Staff continues to spend considerable time providing one-on-one assistance, in addition to group trainings, to the regulated community. The District has also developed online tools and resources to educate the public on asbestos notification requirements in the Valley.
- **Residential Wood Burning Heater Professional Training:** Training requirements for qualified individuals (those people having either a certification from the Fireplace Investigation Research and Education, Chimney Safety Institute of America, or the National Fireplace Institute or has documentation demonstrating they are qualified to perform inspections, maintenance and cleaning activities on wood burning heaters) who may be hired to perform inspections of wood burning heaters and pellet stoves to ensure they can be operated in a compliant manner prior for individuals who voluntarily request to register their wood burning heaters and pellet stoves.
- **Regulation VIII (Fugitive Dust) Education:** Staff organizes and conducts classroom training for all groups required to submit dust control plans for construction activities and provides ongoing training and outreach as needed and as requested.
- **Prescribed Burning Outreach:** The District meets periodically with the land managers of the USDA Forest Service, National Park Service, US Fish and Wildlife Service, Bureau of Land Management, California Department of Forestry and Fire Protection, and Southern California Edison Company in order to minimize impacts of smoke from prescribed burns and wildfires. Compliance staff participate on the

daily calls during fire season to keep abreast of wildfire and prescribed burn activities throughout the area.

- **Access to District Policies:** District policies are available on the internet for stakeholders to review, comment on, and use to assist them with complying with District requirements. The internet is updated regularly with new or modified policies to ensure availability of current information.

Emission Reduction Incentive Program Inspections

To ensure that the emission reduction projects funded by the District's incentive programs are real and permanent, the District monitors the pre-contract and post-contract performance of grant recipients. Thousands of field inspections are conducted to verify that equipment is appropriately controlled or replaced and that it is adequately maintained and verification that older equipment has been properly disposed of.

Incentive projects requiring compliance inspections include the replacement of older trucks with new less polluting ones, school bus replacements, agricultural pump engine replacements, emissions controls on trucks, and other related control strategies. Each funded project requires a minimum of two initial inspections and several types of projects require ongoing inspections to assure emission reductions are realized for the life of the project.

5.3 SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT ENFORCEMENT HISTORY IN SHAFTER COMMUNITY

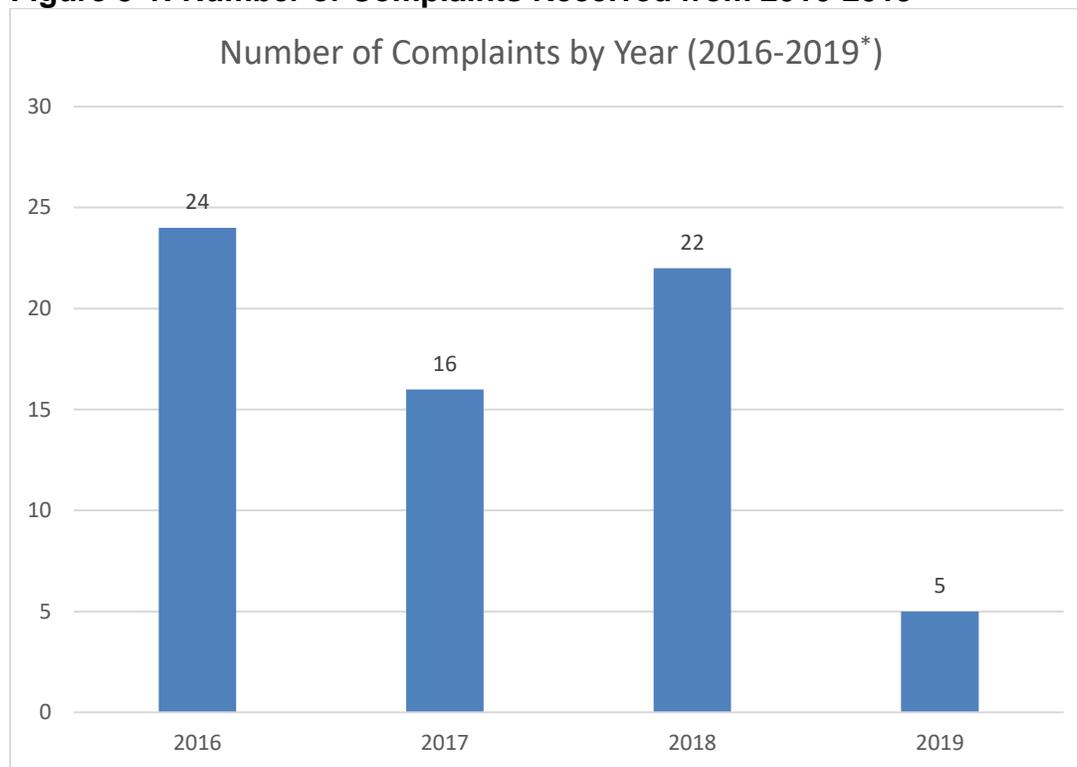
The District's enforcement presence within the Shafter community is comprised of many different facets including, but not limited to, performing facility inspections, investigating complaints from the public, investigating breakdowns, and overseeing third-party emissions testing at facilities. Since 2016, the District has conducted inspections of 1,234 equipment units during 332 inspections at permitted facilities within the Shafter Community and surrounding 7-mile buffer area, has received and responded to 67 air quality complaints from the public, and has issued 111 enforcement actions associated with violations of air pollution rules and regulations. A listing of the facilities, inspections, complaints, and enforcement actions can be found in Appendix F.

5.3.1 RESPONSE TO PUBLIC AIR POLLUTION COMPLAINTS

The public plays an important role in protecting public health by reporting local air quality issues that they observe in their communities. Often these complaints serve as the first warning of an air pollution compliance issue that needs to be addressed. The District places the highest priority of responding to complaints from the public and responds to each and every complaint received. In addition, the District operates an "on-call" program to ensure that complaints received outside of normal business hours can be appropriately addressed since air pollution related issues are not bound by normal business hours. The process of responding to a complaint can be unique for each complaint received depending on factors such as whether the issue is currently in progress, whether the issue is a recurring/ongoing issue, the type of source, the time of

day, and the number of complaints received about the issue. Figure 5-1 shows the number of complaints received by the District each year since 2016.

Figure 5-1: Number of Complaints Received from 2016-2019



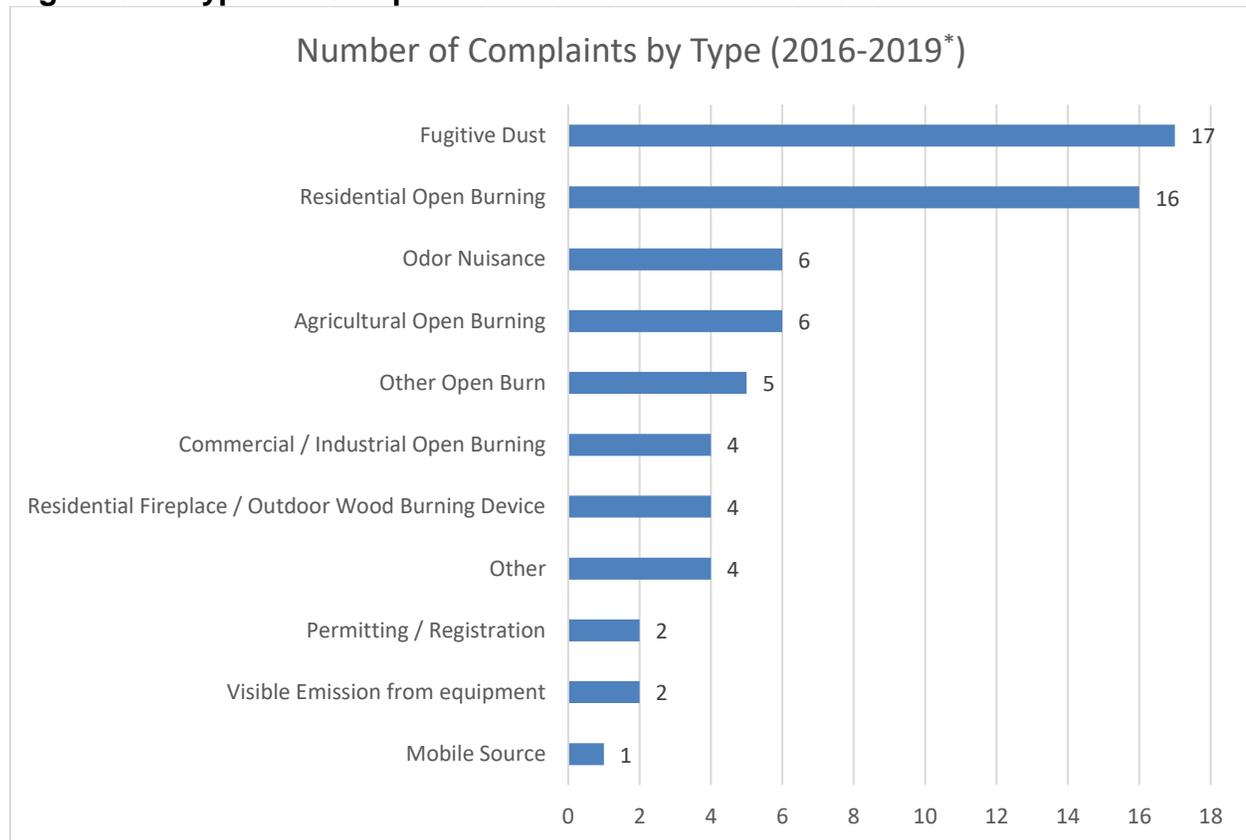
* 2019 data is through April 30, 2019

Based on the resulting complaint investigations, the District confirmed a violation of District rules or regulations and took enforcement action in 13 of the complaints, determined that the issue did not constitute a violation of any federal, state, or local air quality rule in 37 of the complaints, referred 1 complaint to the proper agency with jurisdiction over the issue, and was unable to confirm whether or not a violation occurred in the 16 remaining complaints (at times, the issues associated with public complaints can be transient in nature and the information provided by the reporting party may lack sufficient information to track down and confirm the issue). Of the 13 enforcement actions taken as the result of public complaints, 10 were for illegal burning (4 residential, 2 commercial/industrial, 1 agricultural, and 4 other), 2 were administrative violations for failing to have District approved operating plans, and 1 was for violating Volatile Organic Compounds (VOC) content limits for spray equipment cleaning solvents at a metal parts coating operation.

Figure 5-2 below details the complaints received by type since 2016. Complaints concerning fugitive dust and residential burning (open burning and fireplace) make up over 50% of the complaints in the community. Of the 17 fugitive dust complaints received, it was determined in 13 of the instances that the operation was complying with the District's Regulation VIII fugitive dust and public nuisance, or was exempt from

visible dust requirements. The District issued an enforcement action in one of the cases for failing to operate under a District-approved Dust Control Plan.

Figure 5-2: Types of Complaints Received from 2016-2019



* 2019 data is through April 30, 2019

The District received and responded to 20 complaints regarding residential open burning and residential fireplace/outdoor wood burning devices. The District took enforcement action in 4 of these cases, determined that 7 others did not constitute a violation (permissible fireplace burn day or small outdoor cooking fire), and was unable to confirm 9 of the complaints. In addition to the number of complaints received in these categories, members of the Community Steering Committee have prioritized both of these issues. The District has included specific enhanced enforcement and outreach/education measures as part of the CERP to reduce the potential for localized air quality impacts associated with failure to comply with District rules pertaining to residential open burning and residential fireplace/outdoor wood burning devices.

The District received 6 odor complaints during this period and determined that none of the complaints resulted in a violation. Under state law, odors are regulated under public nuisance requirements. To become a violation, an odor must cause “injury, detriment, nuisance, or annoyance” to a considerable number of people or the public. Each of the odor complaints were separate instances from a single party; and therefore, did not rise to the level of a public nuisance under state law.

The District received 6 complaints regarding agricultural open burning. In 5 of the instances, the District confirmed that the burn in question was properly conducted under a District authorization for the day in question. The 6th complaint resulted in an enforcement action for burning permissible agricultural materials without prior District authorization.

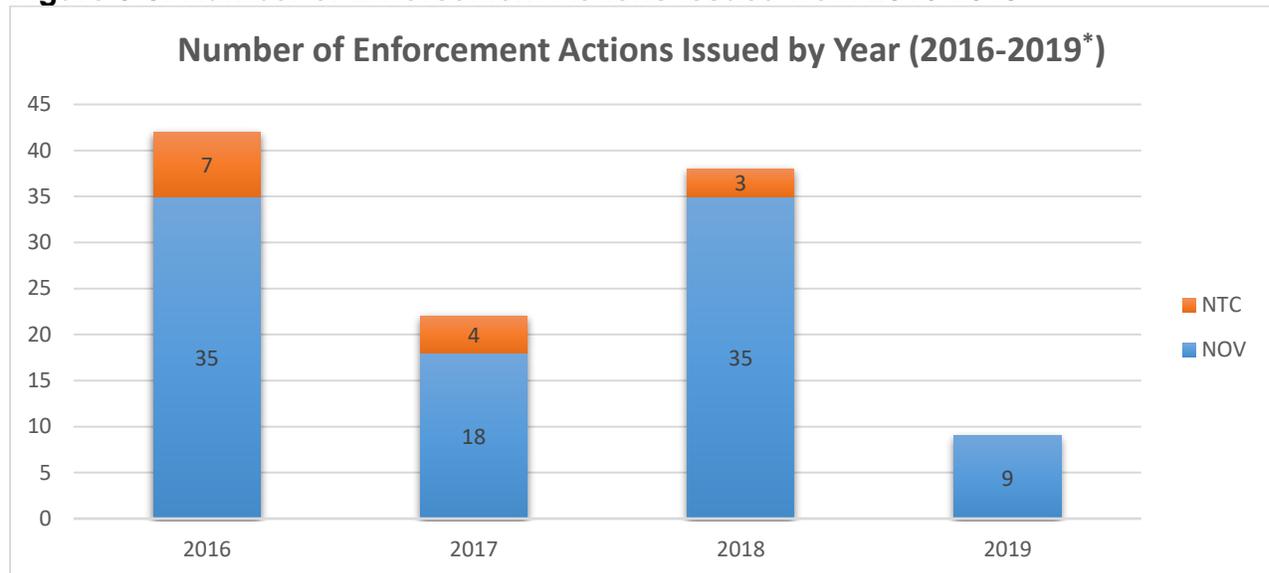
The District received 9 complaints associated with commercial/industrial open burning or other open burning. Five of these complaints resulted in enforcement actions for illegal open burning, 1 was a spontaneous combustion fire, and in 3 cases the District was either unable to locate the burn or the responsible party for the burn. Most of these cases involved the illegal dumping and burning of trash and rubbish. The enhanced enforcement and outreach/education CERP measures for residential open burning will aid in compliance with the rules pertaining to illegal open outdoor burning.

5.3.2 DISTRICT ENFORCEMENT ACTIONS

Federal and state law, along with local rules, require the enforcement of air quality rules and regulations. The District takes formal enforcement action for all violations of applicable federal, state, and local rules and regulations within its jurisdiction. In addition, the District enforces conditional permit requirements, Hearing Board orders, and at times seeks delegation to enforce statewide mobile source and greenhouse gas measures. Generally a Notice of Violation (NOV), which normally results in a civil penalty, is issued to document a violation. Under the limited circumstances specified in District Rule 1180, a Notice to Comply (NTC) may be issued for first-time, minor violations. An NTC does not carry a monetary penalty but does require quick resolution of the minor violation. Should a party not correct the violation within the timeframe established by the NTC, an NOV will be issued.

Over the past 3 years, the District has issued 97 NOVs and 14 NTCs in the Shafter Community and surrounding 7-mile buffer area. Figure 5-3 shows the annual breakdown of NOVs and NTCs since 2016.

Figure 5-3: Number of Enforcement Actions Issued from 2016-2019

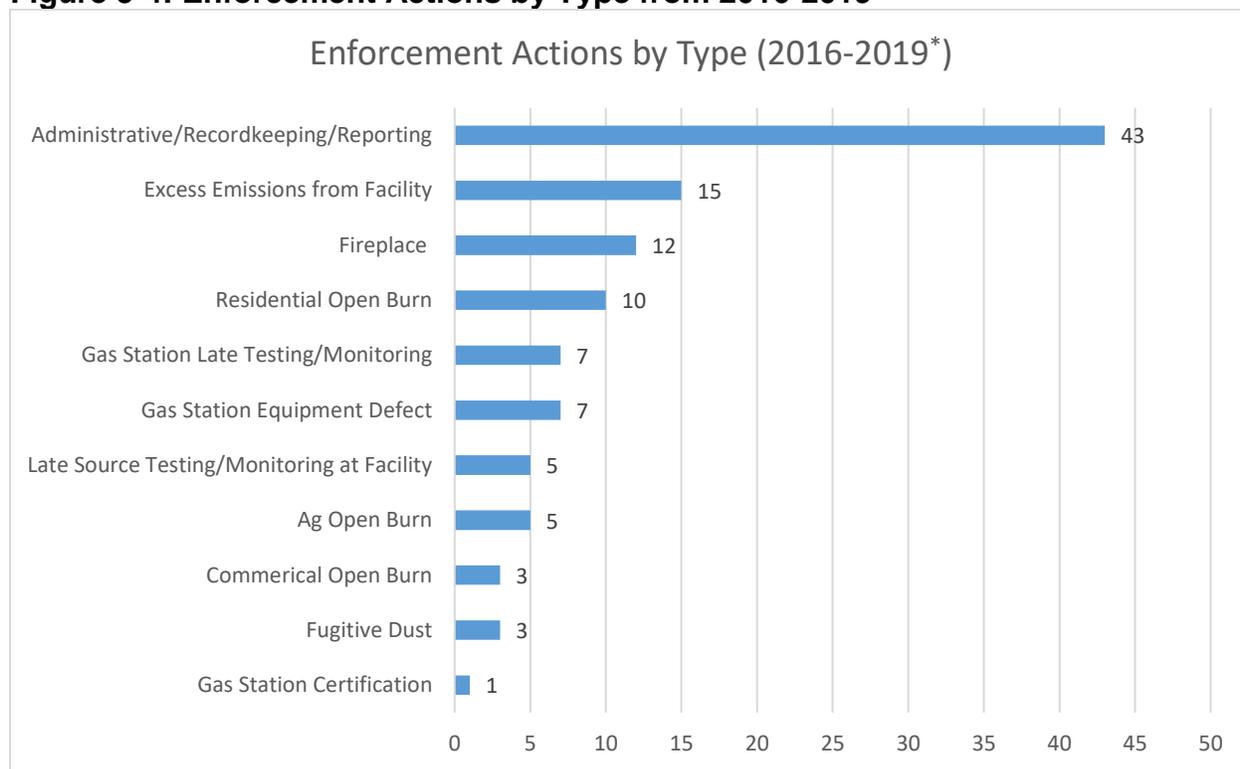


* 2019 data is through April 30, 2019

Figure 5-4 shows the enforcement actions categorized by type. Since 2016, 43 of the 111 enforcement actions resulted from violations of administrative requirements such as recordkeeping, late report submittal, operating with a suspended permit, or operating without a permit. The District has issued 15 enforcement actions for violations resulting in excess emissions from facilities (not including gas stations). These violations occurred at 7 permitted facilities in the area. The District has also issued 7 enforcement actions to gas stations for violations resulting in excess emissions. These violations occurred at 7 gas stations in the area. Consistent with recommendation from Community Steering Committee members, the District believes that more frequent inspections for these 14 facilities would be prudent to limit the potential for air quality impacts associated with failure to comply with emission standards established by District permit, rule, or regulation. The District has included a specific enhanced enforcement measures as part of the CERP to increase the frequency of inspection to at least twice per calendar year for the next five years or until the facility has 4 consecutive inspections without an emission violation, whichever occurs first.

In addition, the District believes a new pilot training program for conducting self-inspections of equipment at gas stations may help to limit the potential for air quality impacts associated with vapor recovery defects at gasoline dispensing operations. Accordingly, the District has included a compliance assistance CERP measure to develop a new training program to instruct gas station operators on conducting thorough self-inspections to aid in the identifications and timely repair of system defects. The District will provide the hands on training to each gas station operator in the community.

Figure 5-4: Enforcement Actions by Type from 2016-2019



* 2019 data is through April 30, 201

A review of the data also shows that the District has issued 12 enforcement actions for fireplace/outdoor wood burning heater violations and 10 violations for residential open burning violations. This further demonstrates the need to include the aforementioned enforcement and outreach/education CERP measures.

5.4 CALIFORNIA AIR RESOURCES BOARD PROGRAM OVERVIEW AND ENFORCEMENT HISTORY IN SHAFTER COMMUNITY

Section 5.4 provided by the California Air Resources Board

The California Air Resources Board (CARB or the Board) enforcement programs cover the vehicles we drive, the diesel engines that power our economy, consumer products that we purchase, and greenhouse gas (GHG) emissions from our industries and activities. The goal of CARB enforcement programs is to achieve comprehensive compliance in every regulation the Board adopts. Through enforcement, we work to bring responsible parties into compliance and in doing so achieve a level playing field across industry so that no company can benefit from non-compliance at the expense of another; and to deter industry from future violations. We take compliance seriously because the success of our programs, and public health protection, depends on it.

CARB applies enforcement programs professionally in accordance with our enforcement policy, which we updated in 2017. We use data and inspections to identify potential non-compliance, and then investigate each case. Once a violation is identified, we notify the responsible party and evaluate what happened. We work with the party to achieve compliance and measure the relevant facts and circumstances of each case, relative to eight factors set in law and described in our enforcement policy, to determine an appropriate penalty. The case is settled when the responsible party has achieved compliance and paid an appropriate penalty. If the case cannot be settled, we work with CARB legal staff to refer the case to California's Attorney General for litigation.

Field inspectors are a critical component of the diesel enforcement program. The inspectors work across the state to inspect trucks and other equipment for compliance with CARB's diesel regulations, such as the Heavy-Duty Diesel Vehicle Inspection Program, Drayage Truck, Statewide Truck and Bus, Smart Way, and Transport Refrigeration Unit. Field inspectors also conduct inspections for compliance with In-Use Off-Road and School Bus Idling regulations. CARB inspectors examine heavy-duty vehicles and equipment at numerous locations throughout California, such as at California Highway Patrol scale facilities, warehouses, fleet yards, construction sites, random roadside locations, truck stops, rest areas, ports, and rail yards.

In addition, CARB has a Supplemental Environmental Project (SEP) Policy that allows community-based projects to be funded from a portion, up to 50 percent, of the penalties received during settlement of enforcement actions. SEPs can improve public health, reduce pollution, increase environmental compliance, and bring public awareness to neighborhoods most burdened by environmental harm.

5.4.1 CALIFORNIA AIR RESOURCES BOARD THREE YEAR ENFORCEMENT HISTORY

Heavy-Duty Vehicle Inspection Program: The Heavy-Duty Vehicle Inspection Program (HDVIP) requires heavy-duty trucks and buses to be inspected for excessive smoke and tampering, and engine certification label compliance. Any heavy-duty vehicle (HDV) traveling in California, including vehicles registered in other states and foreign countries, may be tested. Tests are performed by CARB inspection teams at border crossings, CHP weigh stations, fleet facilities, and randomly selected roadside locations. Owners of trucks and buses found in violation are subject to minimum penalties starting at \$300 per violation.

Idling: Idling and opacity inspections are performed to ensure a HDV is compliant with emission standards and is not violating CARB's Idling regulation. Idling for more than five minutes is prohibited unless the HDV is certified clean idle and more than 100 feet away from a school or restricted area (exceptions apply). Vehicle owners and drivers that are found to be in violation are subject to minimum penalties starting at \$300 per violation and up to \$1000 per day.

Off-Road Construction Equipment (off-road regulation): Construction equipment is a major contributor to air pollution, especially when large construction projects are adjacent to neighborhoods. To address this source of air pollution, CARB adopted the nation's first regulation aimed at cleaning up 'off-road' construction equipment such as bulldozers, graders, and backhoes. The off-road regulation requires off-road fleets to meet fleet average emission standards and be equipped with Best Available Control Technology (BACT) (a few specific exceptions apply).

Smart Way: The Tractor-Trailer Greenhouse Gas Regulation requires 53-foot or longer dry van or refrigerated van trailers and the tractors that pull them on California highways to use certain equipment that the U.S. Environmental Protection Agency Smart Way program has verified or designated to meet their efficiency standards.

Transport Refrigeration Unit: Transport Refrigeration Units (TRU) are refrigeration systems powered by diesel internal combustion engines designed to refrigerate or heat perishable products that are transported in various containers, including semi-trailers, truck vans, shipping containers, and rail cars. Since diesel particulate matter has been identified as a toxic air contaminant, CARB adopted an Airborne Toxic Control Measure (ATCM) for TRUs and TRU generator sets. CARB staff inspect TRUs to ensure that the units are meeting labeling and in-use performance standards identified in the TRU regulation.

Drayage: The Drayage Truck Regulation is part of CARB's ongoing efforts to reduce PM and NOx emissions from diesel-fueled engines and improve air quality associated with goods movement. HDVs that carry goods to or from a port or intermodal facility are required to be equipped with a 2007 or newer model year engine. This requirement becomes stricter in 2023, when Drayage trucks are required to be equipped with a 2010 or newer model year engine, because Drayage trucks will be required to meet the standards of the Truck and Bus Regulation.

Statewide Truck and Bus: The Statewide Truck and Bus Regulation (STB) requires diesel trucks with a Gross Vehicle Weight Rating (GVWR) greater than 14,000 pounds that operate in California to install diesel particulate filters or replace older engines with cleaner engine technology on a schedule based on the model year of the engine and GVWR.

Over the last three years, CARB has conducted 1,056²¹ inspections on HDVs within the 7-mile radius of the selected AB617 Shafter community. These inspections occurred across five of twelve CARB HDV enforcement programs. Figure 5-5 represents a year-by-year breakdown of enforcement action for CARB HDV programs in the community between 2016 and 2018.

²¹ Number is preliminary and may change as data is reviewed.

Figure 5-5.

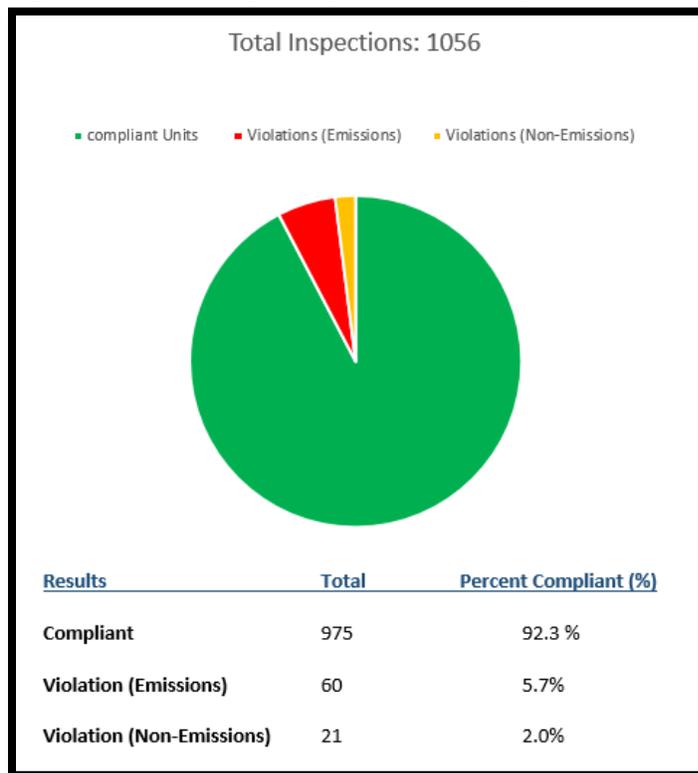
Enforcement History of Heavy-Duty Diesel Vehicles in Shafter

	Program	2016		Violations		2017		Violations		2018		Violations	
		Inspections	Compliant Units	Emission	Non-Emission	Inspections	Compliant Units	Emission	Non-Emission	Inspections	Compliant Units	Emission	Non-Emission
Heavy Duty Vehicle Inspection Program	Diesel Exhaust Fluid	0	0	0	0	0	0	0	0	0	0	0	0
	Emission Control Label	1	0	0	1	0	0	0	0	0	0	0	0
	Smoke Opacity	0	0	0	0	0	0	0	0	0	0	0	0
	Tampering	0	0	0	0	0	0	0	0	0	0	0	0
	Idling	61	53	8	0	159	157	2	0	247	240	7	0
	Off-Road	0	0	0	0	0	0	0	0	0	0	0	0
	Public Agency and Utility	0	0	0	0	0	0	0	0	0	0	0	0
	Smart Way	0	0	0	0	28	28	0	0	68	68	0	0
	Solid Waste Collection	0	0	0	0	0	0	0	0	0	0	0	0
	Transport Refrigeration Unit	7	1	3	3	18	13	3	2	40	19	6	15
	Drayage	0	0	0	0	0	0	0	0	0	0	0	0
	Truck and Bus	67	53	14	0	165	152	13	0	195	191	4	0
	Total	136	107	25	4	370	350	18	2	550	518	17	15

***Inspections per year are program based and some occur concurrently**

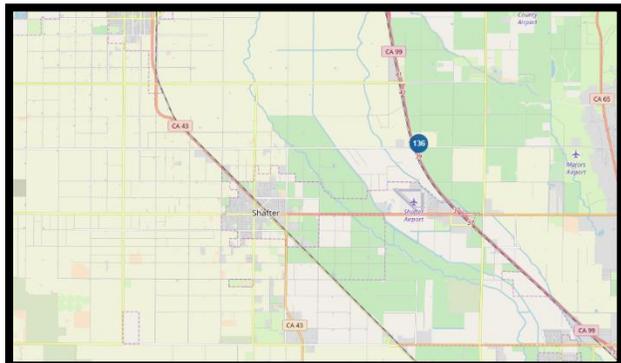
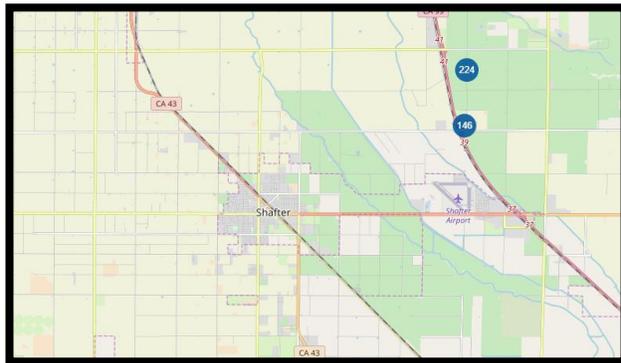
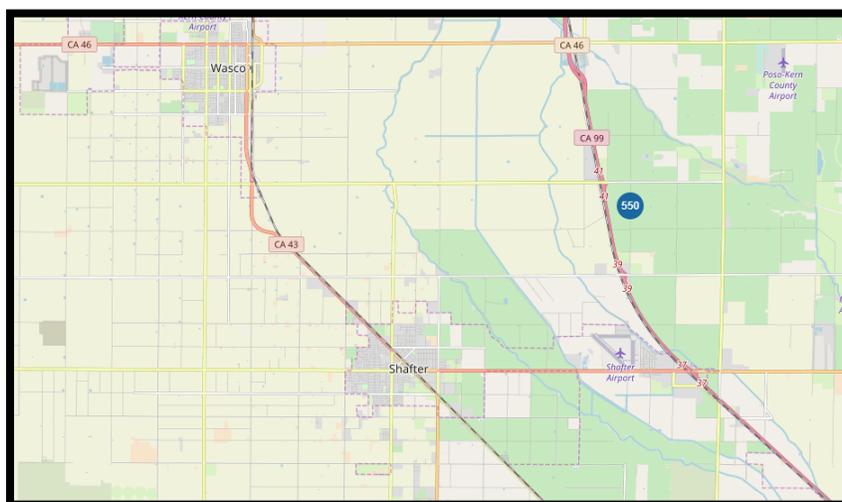
Preliminary analysis of HDV program inspections suggests that the overall compliance rate within the Shafter community is high. As seen in Figure 5-6, from 2016-2018, 92.3 percent of HDV program inspections showed compliance. However, not all HDV programs have more than a 90 percent compliance rate when averaged over a three-year period. Idling and Smart Way inspections show a greater than 90 percent compliance rate while Emission Control Label, TRU, and Truck and Bus Inspections show lower rates of compliance. During this period, 81 citations were issued to HDVs within the community. Further breakdown of the citations data indicates that 60 citations were issued for emission violations and 21 citations were issued for non-emission violations. The difference between emission and non-emission citations is that emission violations further contribute to air pollution while non-emissions violations do not. An example of a non-emission violation would be a truck not complying with labeling requirements. CARB is working to compile information on the resolution of violations issued in Shafter and will provide this data to the community steering committee as it becomes available.

Figure 5-6: Heavy-Duty Vehicle Inspections 2016-2018



CARB will work closely with the community steering committee to better determine areas of non-compliance within the community boundary. The high compliance rate observed in the 3-year history may demonstrate the need for more targeted inspections to identify compliance issues.

The inspection history includes several program inspections that were conducted around and in the community of Shafter. The maps featured in Figure 5-7 below are to aid in the visualization of the program inspection locations. The points on the maps indicate the approximate location and number of inspections in the above-mentioned mobile program areas in the Shafter community. The goal of the maps is to visually display the location of program inspections to help determine gaps in CARB enforcement activity and where enhanced enforcement is necessary to deter potential violators within the community.

Figure 5-7.**2016 Heavy-Duty Vehicle Program Inspections****2017 Heavy-Duty Vehicle Program Inspections****2018 Heavy-Duty Vehicle Program Inspections**

The data presented in Figure 5- 7 reflects CARB past Enforcement efforts. In the past, CARB staff would target areas with large concentrations of Heavy-Duty Diesel Vehicles, such as truck stops. Moving forward, CARB is looking to partner with the District and the community to identify new locations to perform mobile source inspections within the Shafter community.

5.4.2 CONSUMER PRODUCTS PROGRAM DESCRIPTIONS

Composite Wood Products – CARB’s Airborne Toxic Control Measure (ATCM) to control formaldehyde emissions from composite wood specifically focuses on three products: hardwood plywood, particleboard, and medium density fiberboard. Investigators in the Composite Wood Products program purchase samples of regulated products from outlets all over California. They inspect products and packaging for compliance with labeling requirements and send selected products to the laboratory for testing.

Consumer Products - Consumer Products are chemically formulated products used by household and institutional consumers. Some examples are: detergents, cleaning compounds; polishes, floor finishes; cosmetics and personal care products; home, lawn, and garden products; disinfectants and sanitizers; aerosol paints and automotive specialty products. Consumer Products do NOT include: other paint products, furniture coatings, or architectural coatings. Investigators in the Consumer Products program purchase samples of regulated consumer products from outlets all over California. They inspect product containers for compliance with registration and dating requirements and send selected products to the laboratory for testing.

CARB adopts regulatory requirements for chemically formulated consumer products, fuel containers, and indoor air cleaning products. Our Consumer Products Regulatory Program is an important part of our overall effort to reduce the amount of volatile organic compounds (VOC), toxic air contaminants (TAC), and greenhouse gases (GHG) that are emitted from the use of chemically formulated consumer products. "Consumer product" means a chemically formulated product used by household and institutional consumers, including, but not limited to, detergents, cleaning compounds; polishes and floor finishes; cosmetics and personal care products; home, lawn, and garden products; disinfectants and sanitizers; aerosol paints and automotive specialty products; but does not include other paint products, furniture coatings, or architectural coatings.

In the past three years CARB staff have not conducted inspections on consumer products within the selected AB617 Shafter community and cannot accurately assess compliance with the regulation.

5.4.3 SUMMARY OF COMPLAINTS RECEIVED AND COMPLAINT RESOLUTION

CARB's previous complaint management system for complaints related to heavy-duty diesel vehicles lacked the ability to track complaints by specific location. However, CARB staff have begun to work/track all complaints through the California Environmental Protection Agency Complaint Reporting system. This will allow CARB staff to better track complaints by community and to see the resolution of the complaint. Furthermore, this process will enhance CARB's complaint response by encouraging better complaint referrals (e.g. referring complaints to the proper agency and/or identifying complaints that may require multiple agencies to be involved in their resolution).

5.5 LEVERAGING COMMUNITY INVOLVEMENT IN ENFORCING RULES TO REDUCE AIR POLLUTION

Members of the community play an important role in protecting public health by reporting air quality issues that they observe to both the District and CARB. The District and CARB value input from the public who reside and work in the community. The complaint process aids both agencies in identifying issues within the communities and ensuring timely resolution. Filing a complaint is easy. The following is the contact information for the District and CARB.

San Joaquin Valley Air Pollution Control District
Stationary Sources - Smoke, Dust, Odors or Other Contaminants
Phone: 1-800-926-5550
Valley Air Smart Phone App
Online: <https://www.valleyair.org/busind/comply/onlinecomplaint.htm>

California Air Resources Board
Automobiles, Trucks, Off-road Equipment, or Other Vehicles
Phone: 1-800-END-SMOG
Online: <https://calepa.ca.gov/enforcement/complaints/>

An effective complaint should contain as much information and as many details as possible as this helps the inspector in responding to the issue and conducting the investigation. The following information is helpful when filing a complaint:

- Time, date, and location of possible violation; including name of facility if known
- Type of air quality concern. Describe what you see, smell, and feel.
 - See: smoke, fire, dust falling ash, etc.
 - Smell: rotten eggs, gasoline, oil, sweet, sour, smoke, etc.
 - Feel: burning eyes, throat/nose irritation, breathing problem, headache, etc.

- Is the issue still occurring? If not, when did it occur? Is it recurring? If so when?
 - Time of day
 - Day of week
- Your name and contact information – anonymous complaints can be filed but contact information often helpful in fine tuning the investigation.

To better leverage community involvement, the District and CARB will also assign a dedicated team to work with the Community Steering Committee to follow-up on community concerns, and to conduct community-level compliance assistance, outreach, and education related to compliance and enforcement of local and state rules and regulations. As part of this partnership, the District and CARB will track and report back to the Community Steering Committee on the ongoing enforcement activities within the community to monitor progress in meeting community enforcement measures and to look for innovative strategies to enforcement practices with the goal of increased compliance with air pollution rules and regulations within the community.

5.6 ENFORCEMENT STRATEGIES

5.6.1 DISTRICT ENFORCEMENT STRATEGIES

The District has used the assessment of the three (3) year compliance history in the Shafter community and comments shared by the Community Steering Committee to develop the list of enforcement strategies below which aim to reduce the potential for localized air quality impacts within the Shafter community.

1. **Enhanced enforcement of District Rule 4901 (*Wood Burning Fireplace and Wood Burning Heaters*) mandatory wood burning curtailments:**

To limit the potential for localized PM_{2.5} impacts associated with the failure to comply with mandatory episodic wood burning curtailments, District staff will conduct at least four (4) hours of surveillance within the Shafter community on each declared curtailment day for the next five (5) winter seasons to enhance the enforcement of District Rule 4901. The District will work with the Community Steering Committee to focus surveillance efforts in areas where wood burning is more prevalent.

2. **Enhanced enforcement of District Rule 4103 (*Open Burning*) to reduce the illegal open burning of residential waste:**

To limit the potential for localized PM_{2.5} and toxic impacts associated with the illegal open burning of residential waste, District staff will conduct targeted surveillance efforts within the Shafter community. Building on the District's existing surveillance and complaint response efforts, the District will conduct additional targeted surveillance efforts in Shafter and the surrounding areas at least once per quarter for the next 5 years. The District will work with the Community Steering Committee to focus surveillance efforts in areas where illegal residential open burning has historically occurred.

3. Enhanced inspection frequency of permitted sources:

To limit the potential for localized air quality impacts associated with the failure to comply with emissions standards established by District permit, rule, or regulation, the District will increase the frequency of inspection at each facility that has had an emission violation over the past three (3) years. These facilities will be inspected at least twice per calendar year for the next five (5) years or until the facility has 4 consecutive inspections without an emission violation, whichever occurs first.

4. Pilot training program for conducting self-inspections at gas stations:

To limit the potential for air quality impacts associated with vapor recovery defects at gasoline dispensing stations, the District will develop a pilot training program to instruct gas station operators on conducting thorough self-inspections of the vapor recovery systems at their stations to aid in the identification and timely repair of vapor recovery system defects. The District will provide this hands-on training to each gas station operator in the community.

5. Enhanced enforcement of the state's heavy-duty vehicle anti-idling regulation:

To limit the potential for localized PM_{2.5} and toxic air quality impacts associated with failure to comply with the state's heavy-duty vehicle anti-idling regulation, the District will partner with CARB to conduct additional targeted anti-idling enforcement efforts in Shafter and the surrounding areas at least once per quarter for the next 5 years. The District and CARB will work with the Community Steering Committee to identify heavy-duty vehicle idling "hot spots," especially those near schools, to aid in focusing the enforcement efforts.

6. Report back to the Community Steering Committee on Enforcement Activities:

The District will track and provide an annual report to the Community Steering Committee to summarize the District enforcement efforts within the community and to monitor progress in implementing community enforcement measures and meeting enforcement goals.

7. Coordinate with other agencies

The District will seek opportunities to coordinate with other agencies within the Shafter community to address multimedia compliance issues as they arise.

8. Update enforcement strategies as appropriate

The District committed to evaluating the results of ongoing compliance activities within the Shafter community and moving forward will work with the Community Steering Committee to update measures as appropriate.

5.6.2 CARB ENFORCEMENT STRATEGIES

Section 5.6.2 provided by the California Air Resources Board

CARB acknowledges that the high compliance rates identified in the enforcement history may not necessarily reflect compliance across the community. In cases where enhanced enforcement activities uncover non-compliance issues, CARB's goal will be to achieve the same or higher compliance rates as observed in the three-year history. CARB staff will also work closely with the community steering committee, the Air District, and other agencies (e.g. City of Shafter) to address gaps in the enforcement of mobile sources and seek opportunities to close these gaps.

To support achieving these goals, CARB is committed to enhancing enforcement activities within Shafter by utilizing the following tools:

- An assessment of the enforcement history data
- Targeting areas that may require additional enforcement with guidance from the community steering committee

CARB will utilize current regulations and enforcement programs across all sources CARB regulates to target areas of non-compliance within the Shafter community. Listed below are CARB's enforcement strategies to help improve air quality in the Shafter community:

1. Increase the frequency of compliance inspections with guidance from the community steering committee:

CARB will collaborate with the Shafter community steering committee to actively enhance enforcement activities. This will be done through a combination of improved complaint reporting, more focused inspections, and report-back meetings to update the community steering committee on both the status of inspections and to obtain additional areas of mobile source concern. CARB will work with the steering committee to meet annually in order to prioritize enforcement strategies and identify possible locations where non-compliant vehicles are present. CARB will additionally report to the community the number of inspections performed, mapped locations of the enforcement, and the number of citations and/or Notices of Violations issued.

As of July 2019, the community steering committee has guided CARB staff to focus enforcement efforts in the following areas:

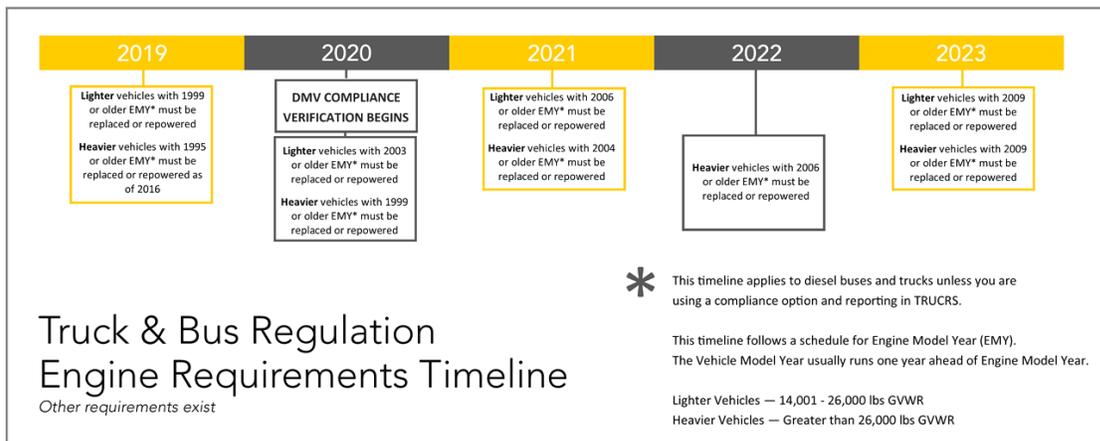
- a) Idling HDV near schools and residential areas

2. Achieve Compliance with the Truck and Bus Regulation via Senate Bill 1:

In April 2017, the Governor signed Senate Bill 1 (SB 1) into law which included a provision that, beginning in 2020, a vehicle must demonstrate compliance with the STB regulation before it can be registered with the Department of Motor Vehicles (DMV).

Beginning in 2020, the DMV, in conjunction with data provided by CARB, will deny vehicle registration to non-compliant HDVs based on the model year of the HDV.

Figure 5-8: Truck and Bus Regulation Engine Requirements Timeline



3. Provide Annual Report of Enforcement Activities

CARB’s enforcement division will provide an annual report to the CSC to update and summarize CARB’s enforcement activities within the community.

4. Coordinate with other agencies

CARB will seek opportunities to coordinate with other agencies with enforcement authority in Shafter. One such opportunity could be CARB staff working with the City of Shafter to provide truck idling signage in areas where community members observe trucks idling.

5. Enhance CARB’s Data Management Practices

CARB is committed to enhancing the quality of enforcement data for the Shafter community. Moving forward, CARB will maintain the location of enforcement activity and received complaints to provide the community steering committee with the most accurate data available. CARB has recently completed a visualization tool that makes CARB enforcement data more transparent and available. The tool can be accessed online by visiting <https://webmaps.arb.ca.gov/edvs/>.

6. Provide in-person community specific training

CARB will develop and implement a new program that will be offered to the Shafter community. Information will cover topics like the fundamentals of enforcement, how the enforcement process works, instructions on filing a thorough complaint, and what to expect from the enforcement process after filing a complaint. Through this program, community members will be able to better support CARB or air district enforcement processes. CARB may also develop online trainings in the future.

7. Update enforcement strategies as applicable

CARB staff are committed to updating enforcement strategies as requested by the community steering committee, if said strategies are enforceable by CARB staff or if CARB can reasonably accommodate the request (e.g., additional enforcement training for idling vehicles).

6. METRICS TO TRACK PROGRESS

6.1 METRICS TO TRACK PROGRESS IN ANNUAL REPORTS

Identifying metrics to track progress is critical for both the public and implementing agencies to understand whether the CERP is achieving health-based air quality objectives. AB 617 requires that the community emissions reduction program result in emissions reductions, which can be demonstrated based on monitoring or other data. Per CARB guidance, community emissions reduction programs must identify and describe how progress on achieving emission reductions for specific categories of sources will be tracked on an annual basis, and track emissions for any pollutant that has an identified emissions reduction target.

For annual reporting, the District will report on the emission reductions achieved and progress towards meeting individual emissions reduction targets for each pollutant.

For each incentive-based emission reduction measure, the District will include information about dollar amounts invested and number of projects implemented in the community.

For proximity-based goals, the District will report on the following factors:

- Number of schools registered for the District's HAL Schools Program
- Number of schools with advanced filtration systems installed, and number of classrooms with room filtration units installed at each school
- Number of educational events held related to health-protective measures for the public
- Number of facilities that have installed vegetative barriers as a result of District outreach and partnership programs
- Footage of vegetative barrier installed along roads or train routes as a result of District outreach and partnership programs

For compliance goals, the following metrics will be reported on annually:

- Inspections conducted including type, date, and location.
- Notices of violations issued including date, recipient, and regulation cited
- Number of complaints received by type and their resolution
- Percentage of notices of violations/notices to comply that have been resolved

The District will report annually on the status of rules and regulations adopted that impact the community of Shafter. For strategies in partnership with other agencies, the District will report on the number of interactions with city and county governments to address local exposure to air pollution. In addition to the measures committed to be implemented as a part of the CERP, the District will continue to implement existing incentive programs and will report on incentive projects deployed in and around the community, and associated emissions reductions. Finally, annual reports will include metrics to track additional co-benefits, such as trainings, outreach, workforce development, or technical capacity-building, including the number of public meetings held in the community and number of people in attendance.

6.2 METRICS FOR FIVE-YEAR MILESTONE EVALUATION

Strategies implemented as a part of this CERP are designed to improve air quality in the community of Shafter. The five-year milestone evaluation is intended, per CARB guidance, to illustrate community scale emissions reductions and air quality trends that may not be evident on an annual reporting basis. To this end, the five year milestone report submitted to CARB for Shafter will include a comprehensive report of air quality monitoring data obtained in the community throughout the term of the CERP, as well as a complete accounting of all projects, emissions reductions, and associated co-benefits implemented as a result of AB 617 program implementation in the community of Shafter.

Table 6-1: Metrics Associated with Incentive Measures in Chapter 4
 (note: best estimates, will vary based on program demand and other factors)

Measure #	Measure Description	Type of Unit	Total # Units	Units Implemented Per Year				
				2020	2021	2022	2023	2024
Heavy Duty Mobile Sources								
HD.1	Provide Enhanced Incentive Funding for Heavy Duty Truck Replacement with Zero and Near-Zero Emission Technology	Trucks	40	5	10	10	10	5
HD.2	Deployment of Zero Emission Yard Trucks and Truck Refrigeration Units (TRUs)	Yard Trucks or TRUs	10	0	4	4	2	0
HD.4	Incentive Program for Replacing Older Diesel School Buses with Zero or Near-Zero Emission Technology	School Buses	10	0	4	4	2	0
HD.5	Incentive Program for Transit Bus Replacement (for Dial-a-Ride)	Electric Transit Vehicles	2	0	0	1	1	0
HD.7	Incentives for Replacing Older Diesel Railcar Movers and Switchers with New Clean-Engine Technology	Switcher Locomotives	3	1	1	1	0	0
HD. 8	Support Planning and Development of Clean Fueling Infrastructure: Alternative Fuel Fueling Station	Alternative Fueling Station	1		1			
Older/High Polluting Passenger Cars								
C.1	Host Tune-In Tune-Up Events within Community	Vehicle Repairs	500	250	250	0	0	0
C.2	Incentive Program for the Replacement of Passenger Vehicles with Battery Electric or Plug-in Hybrid Vehicles	Clean-air Vehicles	267	0	70	70	70	57

Measure #	Measure Description	Type of Unit	Total # Units	Units Implemented Per Year				
				2020	2021	2022	2023	2024
C.3	Incentive Program for Installation of EV Charging Infrastructure	EV Chargers	78	7	30	30	11	
C.4	Increased Educational Training for EV Mechanics	Training Events	2		1	1		
C.5	Incentive Program for Launch of Car Share Program	Car Share Program	1		1			
Agricultural Operations								
A.2	Provide Incentives for Low-Dust Nut Harvesters	Harvesters	25	5	10	10		
A.3	Provide Incentives for Alternatives to Agricultural Burning (chipping/soil incorporation)	Acres	2000	400	400	400	400	400
A.4	Promote Implementation of Conservation Tillage Practices	acres	TBD					
A.5	Provide Incentives to Replace Diesel and Natural Gas Agricultural Pump Engines with Electric Motors	Engines	10	5	5			
A.6	Provide Incentives to Replace Diesel Ag Equipment (tractors) with Cleanest Available Equipment	Tractors	100	20	20	20	20	20
Industrial Sources								
IS.2	Evaluate feasibility of funding further emissions reductions from oil and gas production operations	TBD	TBD					
IS.5	Provide Incentives to Install Advanced Control Technology	TBD	TBD					
Residential Burning								
RB.1	Provide Enhanced Incentives to Replace Wood Burning Devices	Devices	200	50	50	50	50	
Land Use /Urban Sources								
CC.1	Incentives to reduce PM from commercial underfired charbroilers	Control Systems	1		1			
LG.1	Provide Enhanced Incentives for Replacement of Residential Lawn and Garden Equipment (Free for Shafter Residents)	Lawn & Garden Units	280	100	100	80		

Measure #	Measure Description	Type of Unit	Total # Units	Units Implemented Per Year				
				2020	2021	2022	2023	2024
LG.2	Provide Enhanced Outreach and Access to Incentives for Replacement of Commercial Lawn and Garden Equipment	Lawn & Garden Units	30	5	10	15		
PF.1	Enhance Outreach and Access to Incentive Funding for Public Fleet Vehicles	Vehicles	5	5				
Exposure Reduction Measures								
SC.1	Air Filtration Systems in Community Schools	Filtration Systems	10	2	4	4		
UG.1	Increased urban greening and forestry in the community	Trees Planted	1000	200	200	200	200	200

Table 6-2: Metrics Associated with Non-incentive Measures in Chapter 4

Measure #	Measure Description	Type of Metric	Total # of Units	2019	2020	2021	2022	2023	2024
HD.3	Enhanced Enforcement of Statewide Anti-Idling Regulation	Enforcement efforts (at least 1 per quarter)	20		4	4	4	4	4
HD.9	Heavy Duty Truck Rerouting	Traffic routing evaluation by City as part of General Plan EJ Element	1		1				
A.9	Support dairy farms near Shafter in implementing Alternative Manure Management Strategies	Meetings with CDFA, NRCS, CDAQP, and follow-up with seven local dairies (for annual metrics-7 in 2022)	7				7		
IS.1	Flares-Amend Rule 4311	Amendment of Rule 4311	1		1				
IS.2	Evaluate feasibility of funding further emissions reductions from oil and gas production operations	Incentive program guideline developed				X			
IS.3	Enhanced Inspection Frequency (2 inspections per calendar for 5 years or until 4 consecutive inspections with no violation)	Enforcement plan implemented		X	X	X	X	X	X
IS.4	Pilot Training Program for Conducting Self-Inspections at Gas Stations	Gas station self-inspection trainings (split between two years)	15		7	8			
IS.5	Provide Incentives to Install Advanced Control Technology	Incentive program guideline developed				X			

Measure #	Measure Description	Type of Metric	Total # of Units	2019	2020	2021	2022	2023	2024
RB.2	Educate Public About Harmful Impacts of Wood Burning	Public workshops, plus circulation of educational materials to 6 community spaces	4		1	1	1	1	
RB.3	Enhanced Enforcement of Wood Burning Curtailments	Hours enforcement per curtailment day	4	4	4	4	4	4	
RB.4	Outreach to Reduce Illegal Activity	Public workshops, plus outdoor aands and 2 poster mailers	4		1	1	1	1	
RB.5	Enhanced Enforcement to Reduce Illegal Burning of Residential Waste	Targeted enforcement efforts (at least 1 per quarter for 5 years)	20		4	4	4	4	4
SD.1	Seek incentives for local businesses and homeowners to install solar power and energy storage	Work with existing state programs to bring funding to Shafter	\$15,000,000						
LU.1	New Construction: Provide assistance during the CEQA process	Meetings with City and County to discuss ongoing CEQA coordination		X					
LU.2	Land Use/Sustainable Development: Implement Projects that Reduce VMT	Meetings with City of Shafter to discuss District support of projects that reduce VMTs, plus ongoing support as needed.		X					
LU.4	Construction Emissions: High Speed Rail Construction	Meetings with CARB and HSRA to communicate community concerns		X					
LU.5	Funding for Bike Lanes	\$1,000,000 to support bicycle lane infrastructure in Shafter	\$1,000,000						
RD.1	Road Dust: Evaluate increasing frequency of street sweeping	Meetings with City of Shafter and Kern County to discuss opportunities for increased street sweeping		X					
RD.2	Road Dust: Road paving and sidewalk installations	\$2,775,000 to support sidewalk installations and road paving efforts	\$2,775,000						
SC.2	HAL Schools: Increase Participation	School Districts enrolled in HAL	2	X					
VB.1	Provide Incentives for Installation of Vegetative Barriers Around/Near Sources Of Concern	Community Steering Committee meetings to discuss vegetative barrier installations in and around Shafter, hosted with City of Shafter and Kern County			X	X	X		
IAQ.1	Mitigate indoor exposure to air pollution through weatherization and enhanced energy efficiency	Educational meeting hosted with CAPK	1		X				

Measure #	Measure Description	Type of Metric	Total # of Units	2019	2020	2021	2022	2023	2024
UG.1	Increased urban greening and forestry in the community	One study completed by San Joaquin Green (2020); 1000 trees planted community goal (implement plan)	1		X				
IR.1	Idling-Reduction Strategy: Protect Sensitive Receptors	Sets of bilingual idle reduction signs, plus 4 presentations	10		5	5			
O.1	Outreach: Community Air Quality Outreach Strategy	Community meetings to share information , plus 1 community targeted social media campaign • Circulation of infographics to at least 3 community spaces	24		4	4	4	4	4
O.2	Outreach: Sharing Clean Air Efforts and How Communities Can Get Involved	Annual Goals for these actions in Shafter include: • Attend/host 4 community meetings to share information • 1 community targeted social media campaign	24		4	4	4	4	4
O.3	Joint Advocacy for Continued/Additional Funding to Support Air Quality Improvement Measures	Community Steering Committee meetings to discuss ongoing advocacy for continued state funding		X	X	X	X	X	

7. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) PROJECT REVIEW

According to Section 15061 (b)(3) of the California Environmental Quality Act (CEQA) Guidelines, a project is exempt from CEQA if, “the activity is covered by the common sense rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.” Since the Project will result in an air quality benefit to the community, the Project is not expected to result in a significant impact under CEQA. As such, the common sense exemption applies.

In addition, this Project is an action taken by a regulatory agency, the San Joaquin Valley Air District, as authorized by state law for the protection and betterment of air quality in the San Joaquin Valley. CEQA Guidelines §15308 provides a categorical exemption for “actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environmental degradation are not included in this exemption.” No construction activities or relaxation of standards are included in this project. As such, for this additional reason, the District finds that the project is exempt from CEQA.

Pursuant to Section 15062 of the CEQA Guidelines, the District will file a Notice of Exemption upon Governing Board approval of the Project.