

# Executive Summary



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## EXECUTIVE SUMMARY

The San Joaquin Valley Air Pollution Control District's (District) strategy for attaining the federal health-based 1997, 2006, and 2012 PM2.5 national ambient air quality standards (standards, or NAAQS) for PM2.5 builds upon comprehensive strategies already in place from previously adopted District air quality plans and measures. The District's multi-faceted approach to reducing emissions in the San Joaquin Valley (Valley) consists of a combination of innovative regulatory and non-regulatory measures. Building on the existing plans and regulations, this plan utilizes the latest science and best available information to lay out a strategy for demonstrating attainment of the federal standards for fine particulate matter (PM2.5) as expeditiously as possible.

Despite the progress made to improve the Valley's air quality through the implementation of these plans and clean air investments by Valley businesses and residents, the Valley faces significant challenges attaining federal PM2.5 standards. Significant additional emissions reductions will be needed, particularly with respect to mobile sources under California Air Resources Board (CARB) and U.S. Environmental Protection Agency (EPA) jurisdiction that make up over 85% of remaining Valley NOx emissions. In addition to mobile source measures, this plan includes a comprehensive suite of local measures for stationary and area sources, including measures to further reduce emissions from a variety of industrial sources, residential wood burning and commercial charbroiling.

As supported by extensive modeling and a strong scientific foundation, the significant emissions reductions achieved by the District's Plan in the coming years are projected to bring the Valley into attainment of all of the current PM2.5 air quality standards as expeditiously as practicable.

### ***Plan Includes Comprehensive Strategy for Bringing Valley into Attainment and Protecting Public Health***

This Plan demonstrates the District's ongoing efforts to improve air quality in the Valley through a comprehensive strategy that includes:

- Valleywide regulatory measures that build off existing stringent requirements, new potential stationary source measures that includes more stringent NOx and/or PM2.5 requirements to achieve greater emissions reductions from flaring activities, internal combustion engines, boilers/steam generators, glass melting furnaces, and agricultural operations.
- Valleywide incentive-based measures that accelerate the deployment of cleaner vehicles and technologies in a variety of sectors, including residential wood combustion, agricultural internal combustion engines, agricultural equipment, heavy duty trucks, off-road equipment, transit buses, school buses, freight equipment,

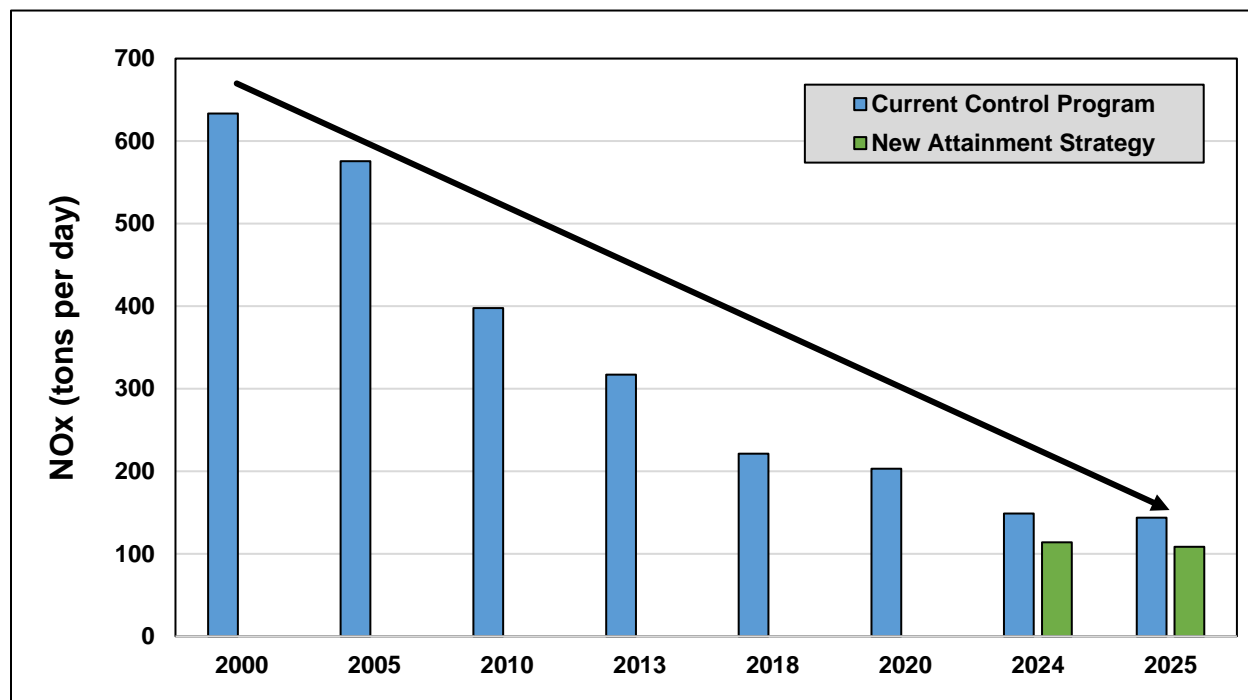
passenger vehicles, locomotives, commercial lawn and garden equipment, and other sources.

- Targeted “hot-spot” strategy that focuses additional regulatory and incentive-based measures for residential wood burning and commercial charbroiling operations in remaining areas of the Valley that requires further regulatory and investment for attainment of the federal PM2.5 standards. Hot-spot areas include Fresno County, Kern County, and other specific areas as necessary for attainment.
- State mobile source strategy that reduces emissions from mobile sources under state and federal jurisdiction, including heavy duty trucks, agricultural equipment, locomotives, and off-road equipment.
- Public outreach and education that encourages and empowers the public to understand air quality issues, take advantage of District tools to stay informed regarding local air quality, take actions to protect themselves when necessary, understand the Valley’s unique air quality challenges, and take actions to reduce emissions and improve the Valley’s air quality.
- Technology advancement and demonstration efforts to accelerate the deployment of innovative clean air technologies as rapidly as possible.
- Call for action by the state and federal governments to do their part in taking responsibility for regulating, and taking actions, to reduce emissions in the Valley. This includes working together to advocate and secure the significant new funding required to achieve the enormous emissions reductions necessary for attainment under this Plan through incentive-based measures.

### ***Plan Builds on Successful Strategies that have Improved the Valley’s Air Quality***

The District’s 2018 PM2.5 Plan builds on numerous plans and measures adopted by the District and CARB to address multiple federal air quality standards. Over 174 tons of NOx emission reductions will be achieved through measures included in existing control strategy already adopted by the District and CARB by the 2025 attainment date. In developing this plan, the District has conducted an extensive evaluation of all sources of emissions for potential strategies to reduce emissions. In addition to reducing direct emissions of PM2.5, this Plan focuses on reducing oxides of nitrogen (NOx) emissions, which is a predominant pollutant not only in the formation of PM2.5 in the Valley, but is also the focus of the District’s ozone reduction strategies. This overlapping significance and emphasis on reducing NOx emissions helps to address both of the Valley’s biggest air quality challenges, PM2.5 and ozone. Along with comprehensive efforts at the local level to reduce emissions, reducing mobile source emissions that are not under the direct authority of the District are critical to attaining the standard, and this Plan includes additional mobile source measures that will provide significant new emissions reductions in the coming years.

## Reduction in Valley NOx and Further Reductions under New Attainment Strategy



The Valley's success in reducing its emissions through decades of clean-air efforts provides the foundation for this Plan. This success provides assurance that similar strategies employed in the future will provide the desired results in helping to improve the Valley's air quality. This Plan includes a comprehensive control strategy that builds on this past success, and identifies opportunities for reducing emissions from all Valley sectors, including the Valley's diverse range of businesses as well as the general public.

The District has a history of success in reducing particulate and ozone-forming emissions through a variety of ground-breaking rules and strategies. These innovative strategies, such as the first-of-their-kind Indirect Source Review and Employer Trip Reduction regulations that address emissions from development and employers, have proven to be highly effective, as evidenced by the steady rate of improvement in the Valley's air quality. The District's incentive program has become an increasingly important and effective strategy for reducing mobile source emissions that the District does not have direct regulatory authority over, with a public and private combined investment of \$2.1 billion reducing over 150,000 tons of emissions since 1992. The District's landmark Conservation Management Practice rule proved critical in assisting the Valley to eliminate exceedances of the federal PM10 standard and reach attainment of the standard in 2005. In addition to reducing emissions from the Valley's various industries and businesses, significant reductions in emissions have also been achieved by the general public, such as through the residential wood burning curtailment efforts that have been critical in helping to reduce PM2.5 concentrations.

The following figure ES-1 displays the significant NO<sub>x</sub> reductions that have been achieved in the region through the Valley's numerous and comprehensive past ozone and PM<sub>2.5</sub> attainment plans, highlighting a 77% reduction in NO<sub>x</sub> from the year 2000 to the expected NO<sub>x</sub> level in 2025. This figure also depicts the additional NO<sub>x</sub> reductions (green bars) that will be achieved by 2024 and 2025 through the implementation of the strategy for this Plan. Through the reductions realized over this time period, the Valley has experienced substantial air quality improvements in both ozone and PM<sub>2.5</sub>, as figures ES-2 through ES-6 display.

In more detail, Figure ES-2 indicates a 20% reduction in the Valley's 8-hour ozone design value from the year 2004 to 2017, with the year 2017 setting a record low value for the Valley. The annual and 24-hour PM<sub>2.5</sub> design values have also decreased by 31% and 36%, respectively, from 2002 to 2017 (Figures ES-3 to ES-4). In addition, Figure ES-5 shows that the Valley's exceedances of the 35 µg/m<sup>3</sup> 24-hour standard has decreased by 61% over the same time period, while winter season Good AQI days among the Valley's counties have increased substantially, while Unhealthy AQI days have decreased (Figure ES-6). These positive trends reflect the efficacy that the implementation of the Valley's current ozone and PM<sub>2.5</sub> attainment plan strategies, providing confidence that the attainment strategy developed for this Plan will be effective and successful as well.

Figure ES-2 Downward Trend in Valley 8-hour Ozone Design Value

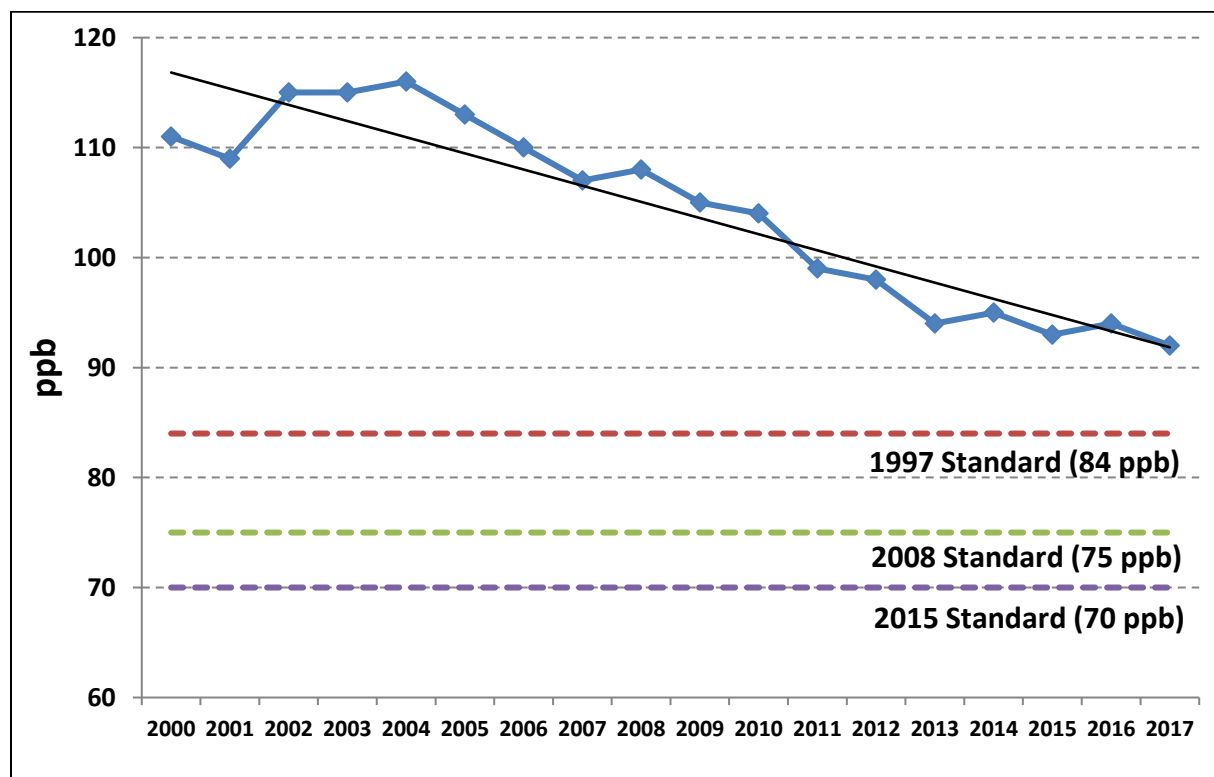


Figure ES-3 Downward Trend in Valley Annual PM2.5 Design Value

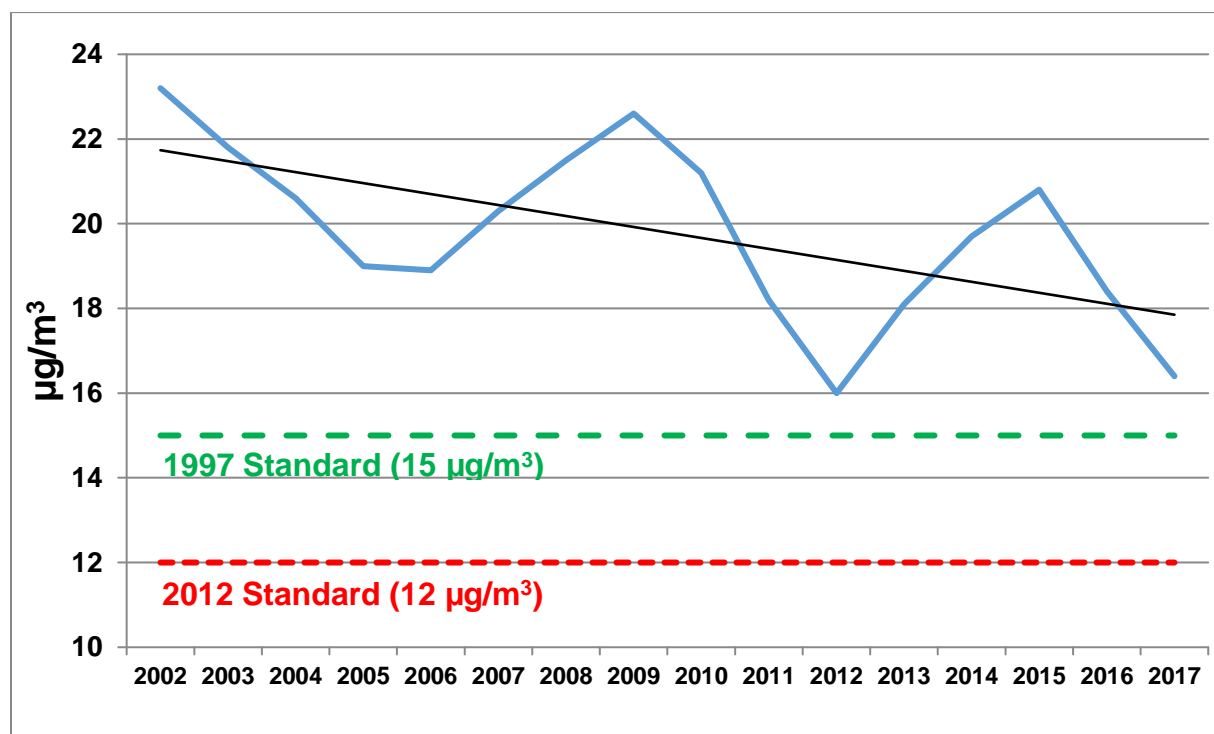


Figure ES-4 Downward Trend in Valley 24-hour PM2.5 Design Value

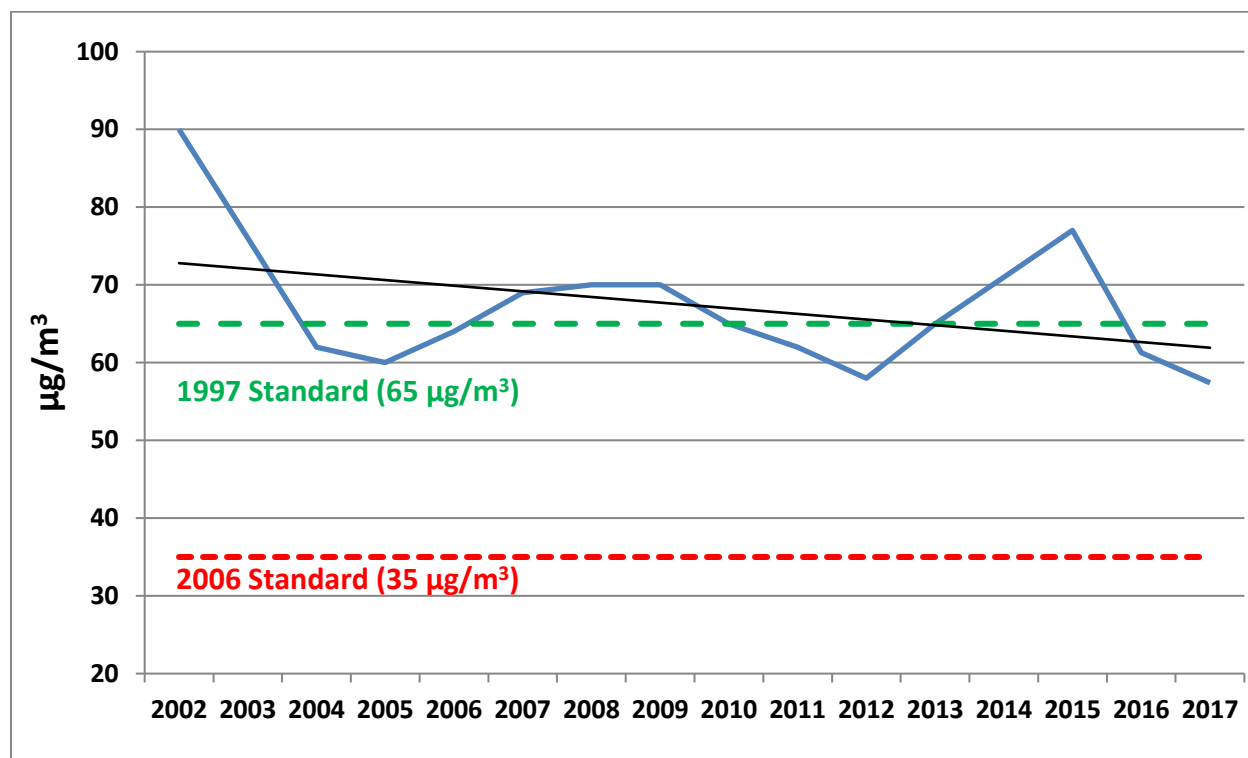
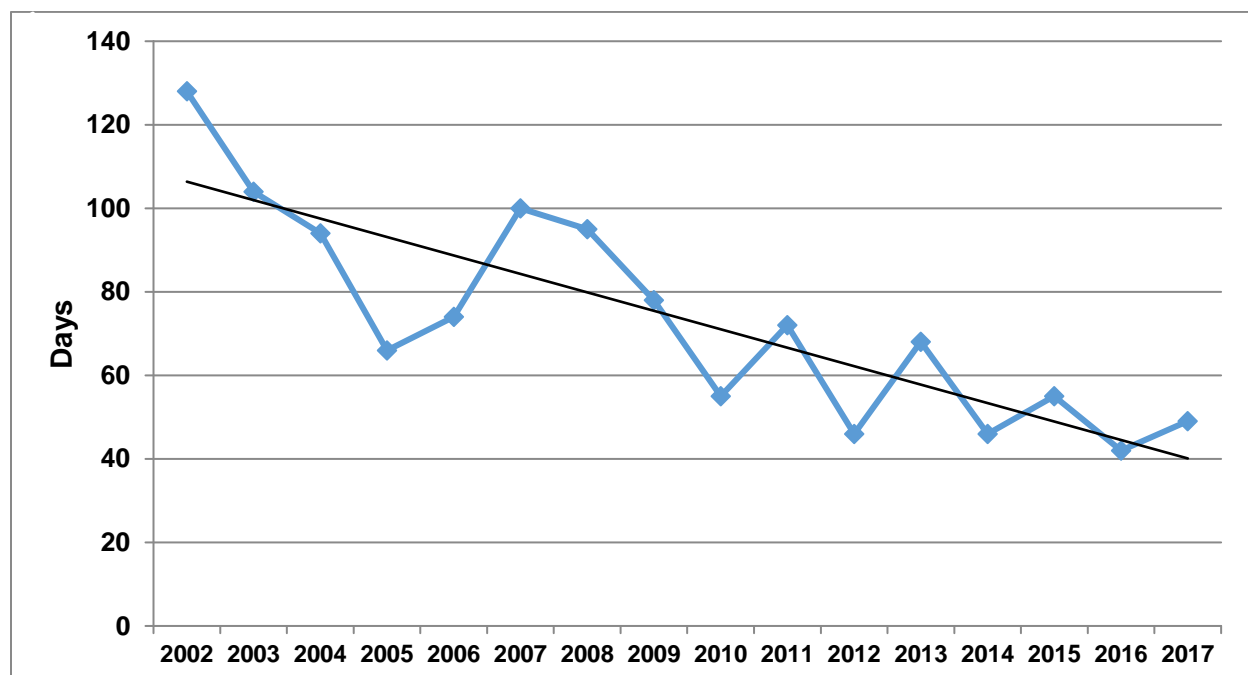
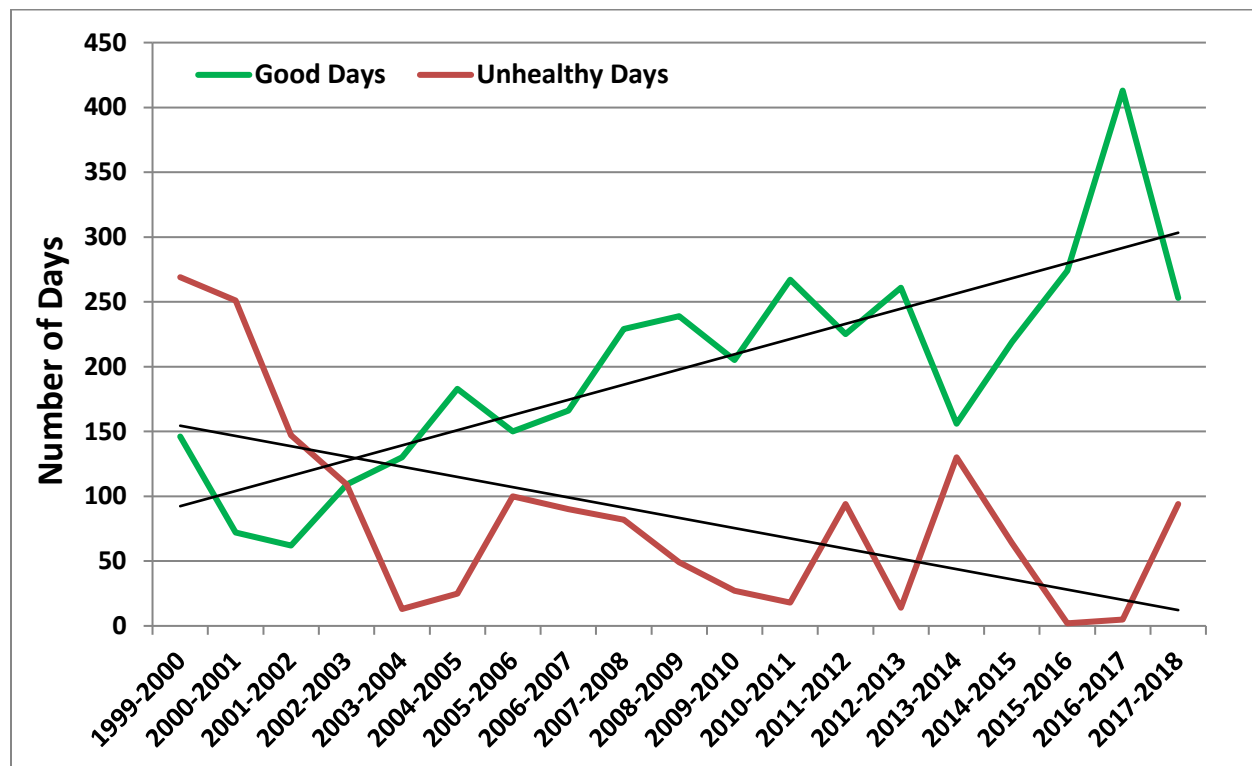


Figure ES-5 Decrease in Days Valley Exceeded 2006 Federal 24-hour PM2.5 Standard ( $35 \mu\text{g}/\text{m}^3$ )



**Figure ES-6 Increase in Good Air Quality Index (AQI) Days and Decrease in Unhealthy AQI Days during the Winter Season among All Valley Counties**



### ***Plan Addresses Multiple Federal Standards***

This Plan addresses multiple PM2.5 standards. Preparing a single Plan instead of three separate Plans allows for development of a more robust and health-protective Plan that incorporates stronger control measures on a more expeditious timeframe than may otherwise be required. Furthermore, a focused public process provides greater opportunity for public engagement and participation in the PM2.5 attainment planning process. This plan addresses the following standards:

#### ***1997 PM2.5 Standard (24-hour 65 $\mu\text{g}/\text{m}^3$ and Annual 15 $\mu\text{g}/\text{m}^3$ )***

- Plan focus on annual standard – San Joaquin Valley has already attained 24-hour portion of the standard, based on monitoring data from the three year period from 2014 to 2016
- Attainment deadline December 31, 2015
- Serious area 5% Plan with attainment deadline of December 31, 2020

#### ***2006 24-hour PM2.5 standard of 35 $\mu\text{g}/\text{m}^3$***

- Serious area Plan with attainment deadline of December 31, 2024 with 5-year extension request

**2012 annual PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>:**

- Attainment deadline under “Serious” classification of December 31, 2025
- This Plan would be submitted three years ahead of 2022 federal submission deadline

***Plan Integrates Multi-Faceted Approach through Implementation of Valleywide and Targeted Hot-Spot Strategies***

This Plan integrates a comprehensive strategy that contains new potential stationary source measures that will be applied Valleywide and measures focused on reducing emissions in areas with the most difficult attainment challenges. Through the implementation of this comprehensive strategy, the Valley will experience progressive air quality improvements as the region attains the federal PM<sub>2.5</sub> standards as expeditiously as practicable.

Under the federal Clean Air Act, the entire Valley is designated as not meeting the standard if any area in the Valley is not able to meet the standard. In developing the control strategies for past attainment plans, the District has used the traditional approach of quantifying reductions needed in areas with the most difficulty in meeting the standards, and then imposing broad controls throughout the Valley. After decades of imposing tough measures throughout the region, and given the significant additional emissions reductions necessary to meet the federal PM<sub>2.5</sub> standards, in addition to imposing stringent new measures across all sources throughout the Valley, a targeted approach that focuses additional measures and limited resources in remaining “hot-spot” areas is necessary to meet the federal standards.

Therefore, this plan not only includes a comprehensive suite of regulatory and incentive-based measures for both stationary and mobile sources, but also includes a targeted hot-spot strategy that focuses new residential wood burning and commercial under-fired charbroiling emission reduction measures in Fresno County, Kern County, and other locations as necessary to demonstrate attainment of the standards.

***Plan Prepared with Extensive Public Input***

This Plan was prepared over the course of three years through an extensive public process that provided numerous opportunities for the general public and interested stakeholders to offer suggestions and comments for improving and strengthening the plan. The District has worked closely with these various stakeholders, including its partner agencies CARB, EPA, advocacy groups, and affected industry representatives to share information regarding the plan, and to receive comments and suggestions.

To ensure that the public has had the opportunity for meaningful participation in the development of this Plan, the District has provided multiple opportunities for the public to learn more about the air quality challenges facing the Valley and to provide the District with comments or suggestions. The District has presented regular updates on the Plan at public meetings, including meetings of the District Governing Board, Citizens

Advisory Committee (CAC), and Environmental Justice Advisory Group (EJAG) to provide opportunities for the public to ask questions or request additional information.

Additionally, the District reconvened the Public Advisory Workgroup (PAW) formed under direction from the District's Governing Board, with appointments made by the Executive Director/Air Pollution Control Officer. The PAW committee consists of representatives from regulated entities (industry, farms, dairy families and municipalities), community advocates, and advisors from EPA and CARB. The District hosted five PAW meetings to discuss specific aspects of the integrated Plan and strategies to attain the multiple PM2.5 standards. All PAW meetings are open to the public.

The District and CARB also hosted ten public workshops, each of which could be attended in-person in any one of the District's three regional offices (Fresno, Modesto, and Bakersfield) or online via webcast. In addition to meetings and workshops outlining the District's perspective and approach for developing this plan, the District collaborated with CARB to hold several public workshops that provided information about the scientific foundation of the plan, and provided additional opportunities for the public to ask questions and provide input. The District met with interested stakeholders throughout the plan development process to address specific questions and comments, and solicit further suggestions for control strategies.