Executive Summary

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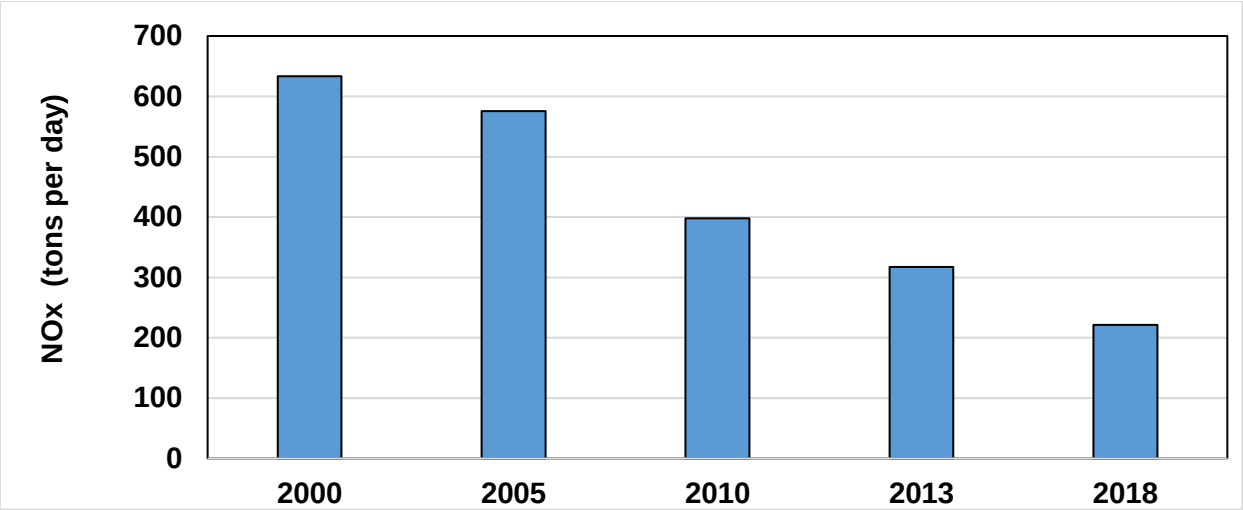
EXECUTIVE SUMMARY

This *2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards* (Plan) utilizes extensive science and research, state of the art air quality modeling, and the best available information in developing a strategy to attain the federal health-based 1997, 2006, and 2012 national ambient air quality standards (standards, or NAAQS) for fine particulate matter (PM2.5) as expeditiously as practicable. The San Joaquin Valley Air Pollution Control District's (District) attainment strategy builds upon comprehensive strategies already in place from previously adopted District attainment plans and measures. The District's multi-faceted approach to reducing emissions in the San Joaquin Valley (Valley) for this Plan consists of a combination of innovative regulatory and non-regulatory measures. This Plan includes aggressive incentive-based control measures that achieve the massive emissions reductions needed to bring the Valley into attainment and will require significant funding estimated at $5 billion. Dollars needed are well in excess of current or prospectively scheduled future appropriations. While the District has been able to generate significant local funding and successfully advocate for additional state and federal funding, the reductions needed to attain the PM2.5 federal standards require a significant increase in public incentive funding from the state that can only be secured through sustained action and commitment by the state.

Despite substantial progress made to improve the air quality in the Valley through the implementation of existing plans and clean air investments by Valley businesses and residents (Figure 1), the Valley continues to face significant challenges in attaining the federal PM2.5 standards. The Valley is at the point of diminishing returns from new regulations on stationary sources. Because emissions from stationary sources have been reduced by 85%, new rules require significant investments and result in minimal emission reductions. Significant additional emissions reductions are needed, particularly with respect to mobile sources under California Air Resources Board (CARB) and U.S. Environmental Protection Agency (EPA) jurisdiction, as these sources make up over 85% of remaining oxides of Nitrogen (NOx) emissions in the Valley. In addition to mobile source measures, this Plan includes a comprehensive suite of fiscally responsible local measures for stationary and area sources, including measures to further reduce emissions from industrial sources, residential wood burning and commercial charbroiling.

Figure 1 Reduction in Valley NOx Emissions under Existing Strategy



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 as follows:

Regulatory measures that build off existing stringent requirements, including new stationary source measures to further strengthen NOx and/or PM2.5 requirements to achieve greater emissions reductions from flaring activities, internal combustion engines, boilers/steam generators, glass melting furnaces, agricultural operations, and other local sources.

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.

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.

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 investment and regulatory efforts for attainment of the federal PM2.5 standards. Hot-spot areas include Fresno, Madera, and Kern counties for residential wood combustion and the urban areas of Fresno, Madera, and Kern counties for charbroiling.

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.

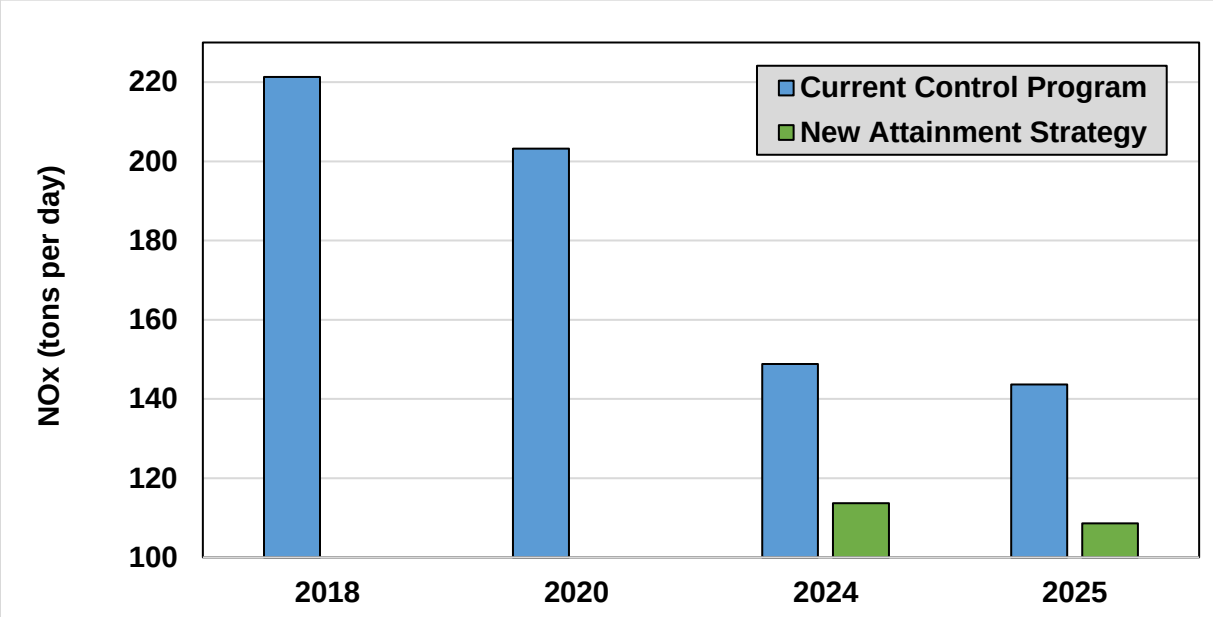
Technology advancement and demonstration efforts to advance technology and accelerate the deployment of innovative clean air technologies that can bring about emission reductions as rapidly as practicable.

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

This Plan builds on numerous existing plans and measures adopted by the District and CARB to address multiple federal air quality standards. In fact, over 174 tons of NOx emissions will be reduced through existing measures included in strategies already adopted by the District and CARB by the 2025 attainment date. In developing this Plan, the District and CARB have conducted an extensive evaluation of sources of emissions for potential strategies to reduce emissions in the Valley. 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. This Plan includes additional mobile source measures that will provide significant new emissions reductions in the coming years. In addition to reducing direct emissions of PM2.5, this Plan focuses on reducing 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.

Figure 2 Reduction in Valley NOx Emissions and Further NOx Reductions under New Attainment Strategy



The District has a history of success in reducing particulate and ozone-forming emissions through a variety of ground-breaking rules and strategies. 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. These innovative strategies, such as the first-of-their-kind Indirect Source Review and Employer Trip Reduction regulations that reduce the growth in NOx and PM emissions from mobile and area sources associated with construction and operation of new development projects and reduce passenger vehicle miles traveled (and associated emissions) from workers employed by large employers in the Valley, have proven to be highly effective, as evidenced by the steady rate of improvement in the Valley's air quality. The District's highly successful and acclaimed incentive program has become an increasingly important and effective strategy for reducing mobile source emissions with a public and private combined investment of $2.2 billion reducing over 145,000 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 attain the standard in 2005. In addition to reducing emissions from Valley businesses, significant emissions have been reduced by the general public, such as through the residential wood burning curtailment efforts that have been critical in helping to reduce PM2.5 concentrations.

Plan Strategies Reduce Ozone and PM2.5 Concentrations in the Valley

Figures 1 and 2 above display the significant NOx reductions that have been achieved in the region through the Valley's numerous and comprehensive past ozone and PM2.5 attainment plans, highlighting a 77% reduction in NOx from the year 2000 to the expected NOx level in 2025. Figure 2 also depicts the additional NOx 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 PM2.5, as demonstrated in Figures 3 through 7 below.

In more detail, Figure 3 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 PM2.5 design values have also decreased by 31% and 36%, respectively, from 2002 to 2017 (Figures 4 and 5). In addition, the Valley's exceedances of the 35 µg/m^3 24-hour standard has decreased by 61% over the same time period (Figure 6), while winter season Good air quality index (AQI) days among the Valley's counties have increased substantially, while Unhealthy AQI days have decreased (Figure 7). These positive trends reflect the efficacy of the implementation of the Valley's current ozone and PM2.5 attainment plan strategies, providing confidence that the attainment strategy developed for this Plan will be effective and successful as well.

Figure 3 Downward Trend in Valley 8-hour Ozone Design Value

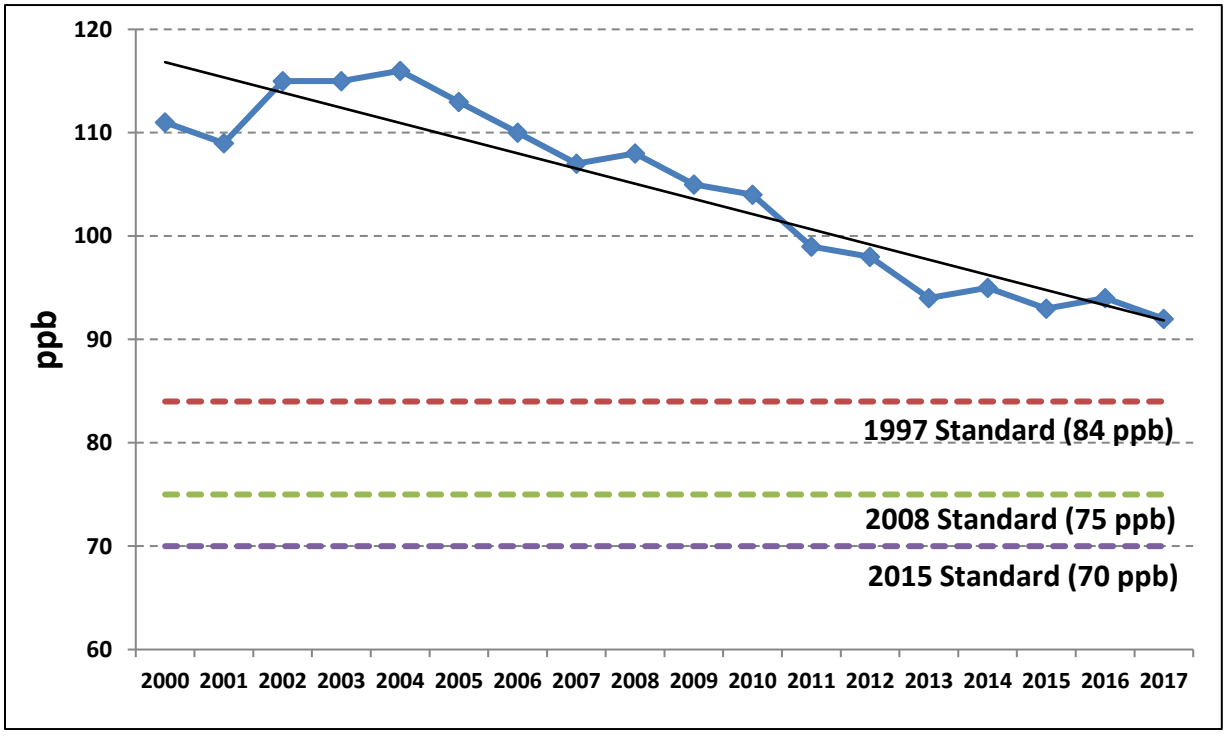


Figure 4 Downward Trend in Valley Annual PM2.5 Design Value

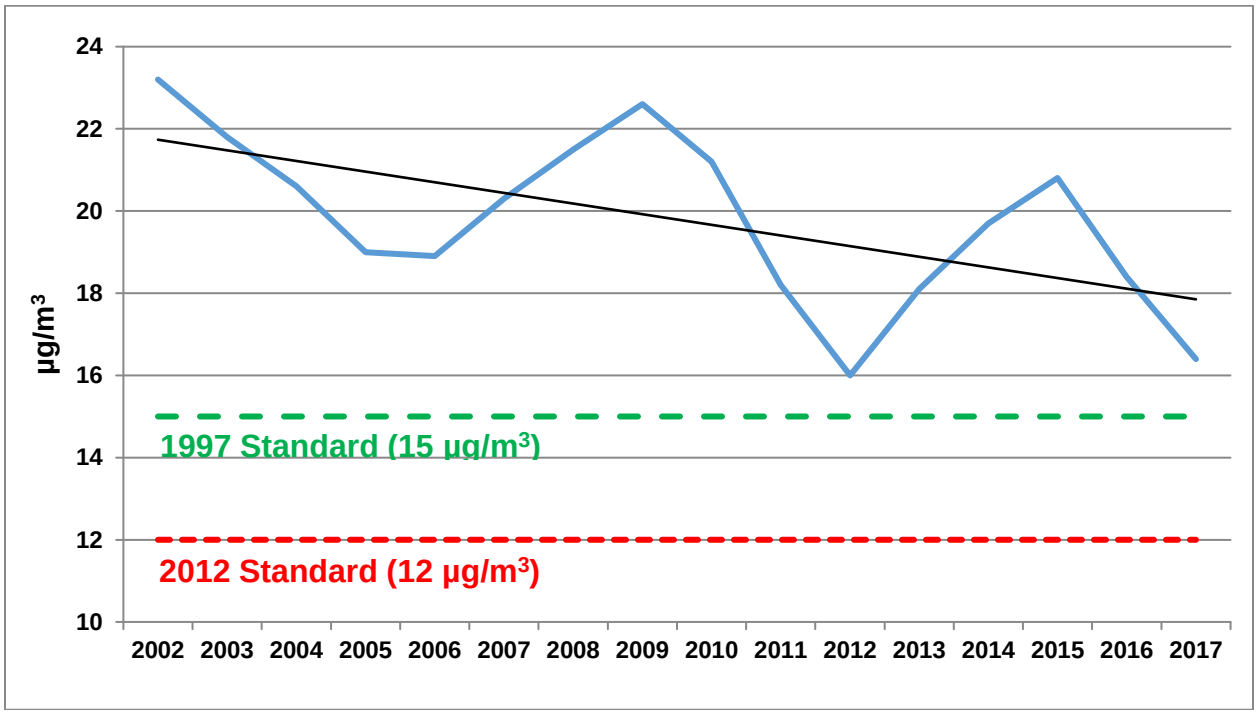


Figure 5 Downward Trend in Valley 24-hour PM2.5 Design Value

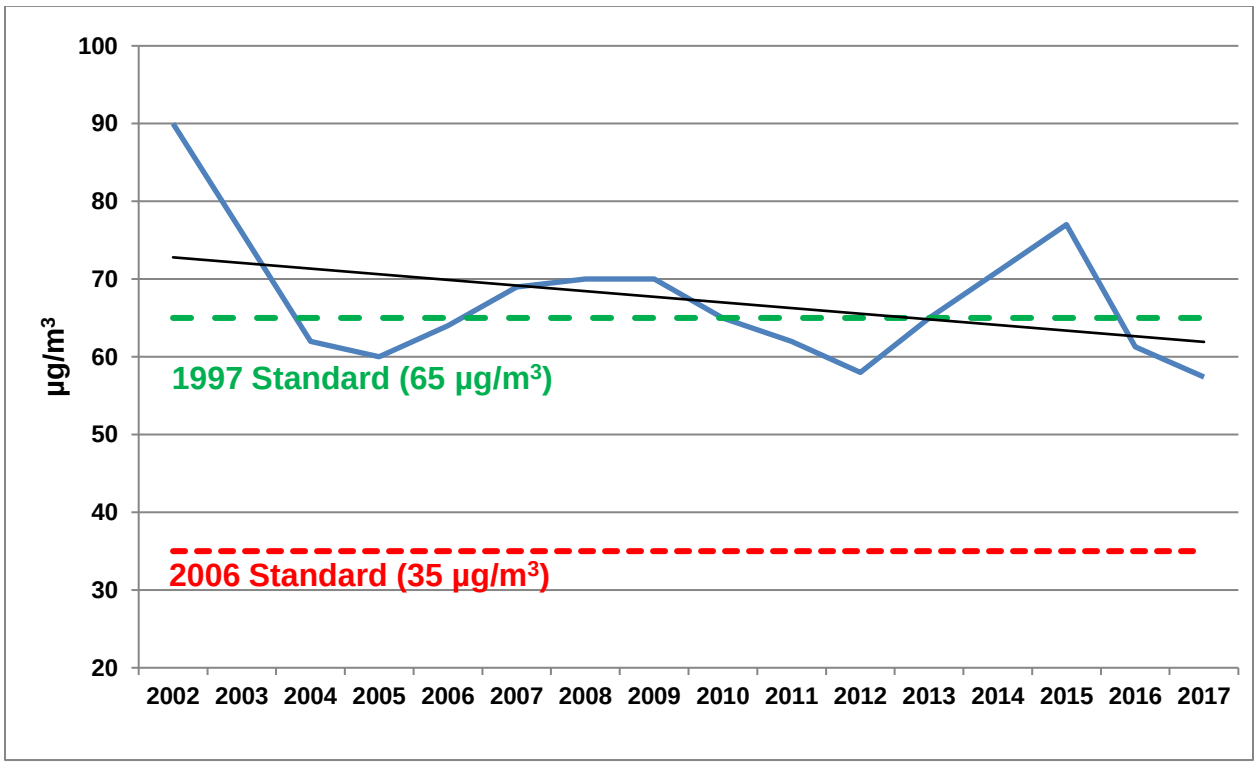


Figure 6 Decrease in Days Valley Exceeded 2006 Federal 24-hour PM2.5 Standard (35 µg/m^3)

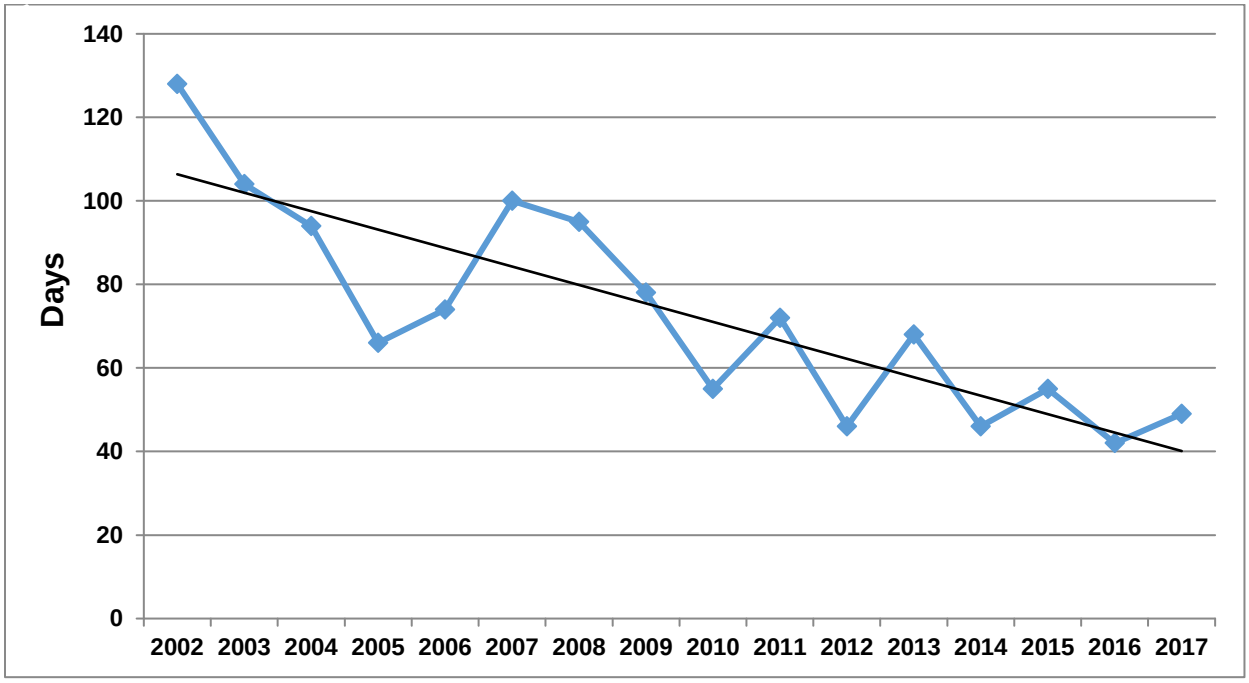
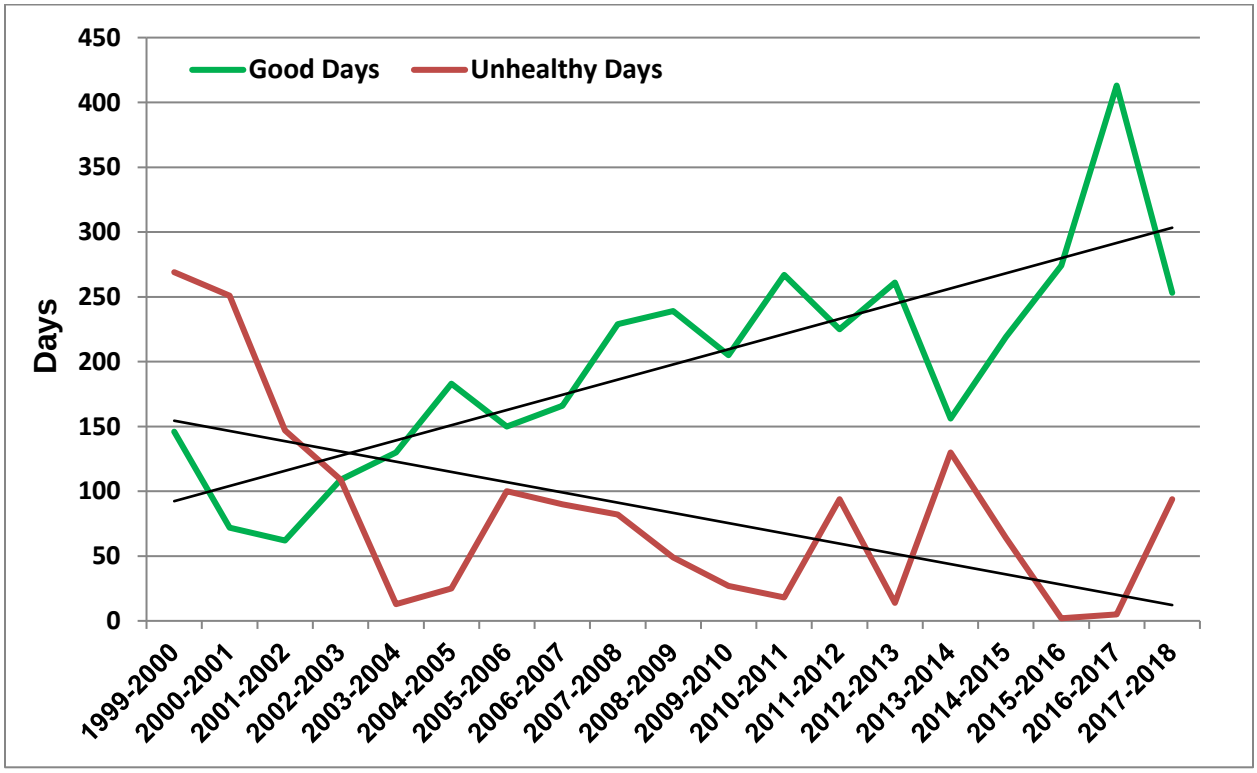


Figure 7 Increase in Good Air Quality Index (AQI) Days and Decrease in Unhealthy AQI Days during the Winter Season among All Valley Counties



Plan Addresses Multiple Federal Standards

This Plan addresses multiple federal PM2.5 standards. Preparing a single plan instead of three separate plans allows for the 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 µg/m³ and Annual 15 µg/m³)

- 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 of December 31, 2015
- Serious area 5% Plan with attainment deadline of December 31, 2020

2006 24-hour PM2.5 standard of 35 µg/m³

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

2012 annual PM2.5 standard of 12 µg/m³:

- 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 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 air quality improvements as the region attains the federal PM2.5 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. Given the significant additional emissions reductions necessary to attain the federal PM2.5 standards, in addition to imposing stringent new measures throughout the Valley, a targeted approach that focuses additional measures and limited resources in remaining "hot-spot" nonattainment areas is needed. Given the innovative nature of this approach, the District has been working with EPA, CARB, and other stakeholders to ensure that the District's strategy is consistent with all applicable regulations.

This Plan not only includes a comprehensive suite of regulatory and incentive-based measures for both stationary and mobile sources to be implemented Valleywide, but also includes a targeted hot-spot strategy that focuses new residential wood burning and commercial underfired charbroiling emission reduction measures in Fresno, Madera, and Kern counties.

Plan Prepared with Extensive Public Input

This Plan was prepared over the course of three years through an extensive public process to provide numerous opportunities for the general public and interested stakeholders to learn about air quality challenges and to offer suggestions and comments to the District for improving and strengthening the Plan. The District has worked closely with 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. The District 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 Plan and strategies to attain the multiple PM2.5 standards. All PAW meetings were open to the public.

The District and CARB also hosted ten public workshops, each of which could be attended in-person 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. Comments received throughout the public process of plan development are incorporated into the plan as appropriate.

Plan Demonstrates Attainment of Federal Standards

This Plan satisfies applicable Clean Air Act requirements and demonstrates attainment for the 1997, 2006, and 2012 PM2.5 standards as expeditiously as practicable. The Valley will attain the 1997 PM2.5 standard by December 31, 2020. The Valley will attain the 2006 PM2.5 standard by December 31, 2024. The Valley will attain the 2012 PM2.5 standard by December 31, 2025.

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