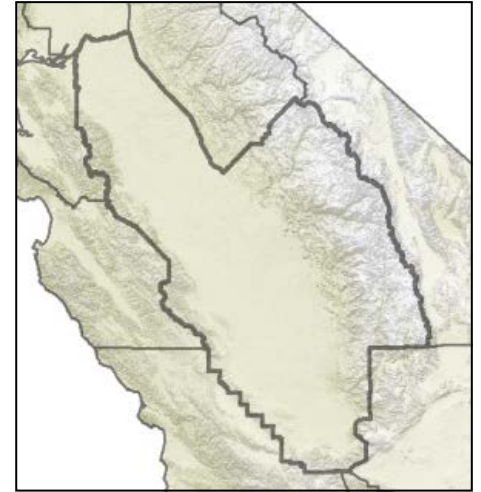


PM_{2.5} SIP FOR THE SAN JOAQUIN VALLEY



October 20, 2016

California Environmental Protection Agency

 **Air Resources Board**

Presentation Outline

- Overview of today's SIP
- Developing the attainment strategy
- New Valley initiatives

Overview of Today's SIP

Path to Attainment

- Address multiple standards
 - 35 $\mu\text{g}/\text{m}^3$ 24-hour
 - 15 $\mu\text{g}/\text{m}^3$ annual
 - 12 $\mu\text{g}/\text{m}^3$ annual
- Build on current progress under Clean Air Act
- Develop integrated attainment strategy
 - Regulations and incentives
 - ARB and District Actions

PM_{2.5} Planning Process

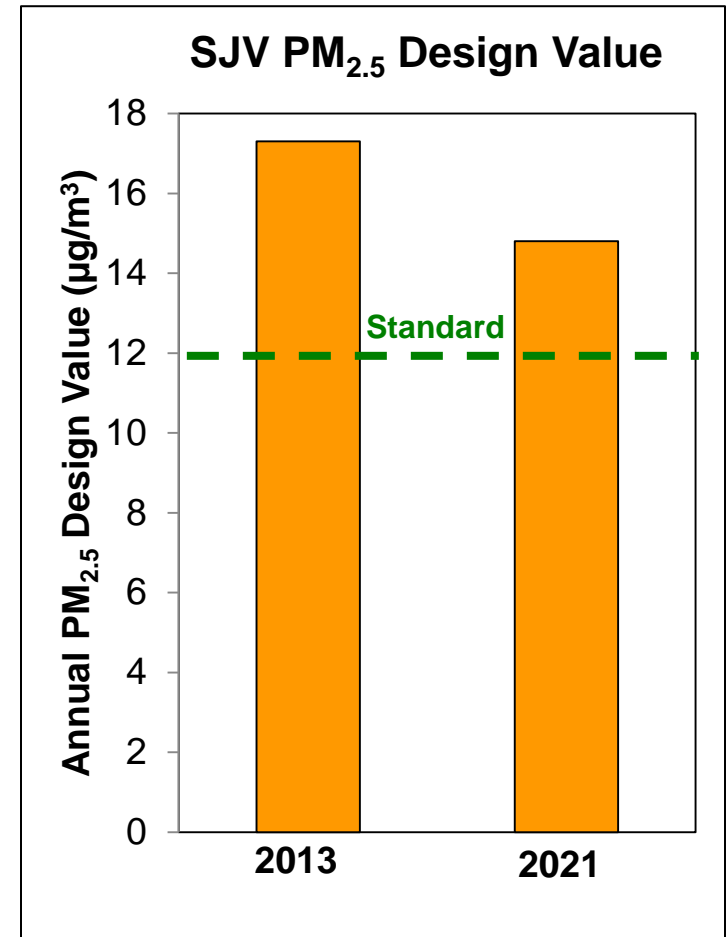
- EPA established more health-protective annual standard of 12 µg/m³
- Clean Air Act requires step-wise planning process
 - Step 1: Prepare Moderate SIP and assess feasibility of attaining by 2021
 - Step 2: If infeasible, prepare Serious SIP demonstrating attainment by 2025
- Today's SIP represents the first step

Aggressive Control Programs in Place

- Continued implementation of truck and bus regulation through 2023
- Curtailment programs and replacement of fireplaces and wood stoves
- Over \$400 million public/private investment in tractor replacements
- Will reduce NO_x nearly 40% and PM_{2.5} over 5% by 2021

Moderate Area Attainment Analysis

- Modeling based on latest science and weather conditions associated with drought
- Demonstrates significant progress towards attainment
- Additional reductions still needed
- 2025 is suitable attainment date



Today's Action

- Request Serious classification
- Approve Moderate SIP
 - ✓ Feasibility analysis
 - ✓ Reasonably available control measures
 - ✓ Reasonable further progress
 - ✓ Quantitative milestones
 - ✓ Contingency measures
 - ✓ Transportation conformity budgets

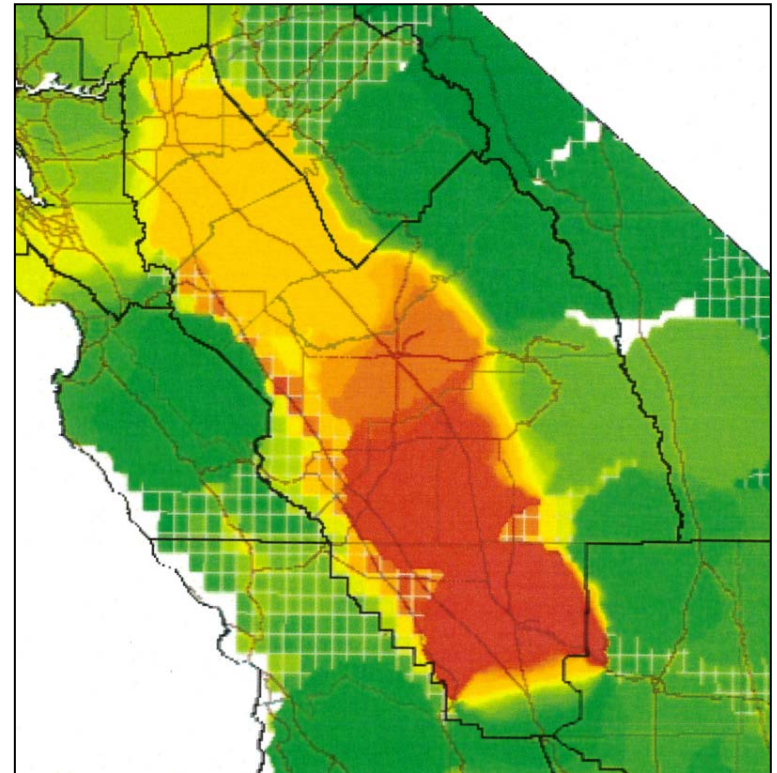
Developing the Attainment Strategy

Need for Integrated Strategy

- Comprehensive strategy for attaining all PM_{2.5} standards
- Address multiple source types
- Consider seasonal variation in contributing sources

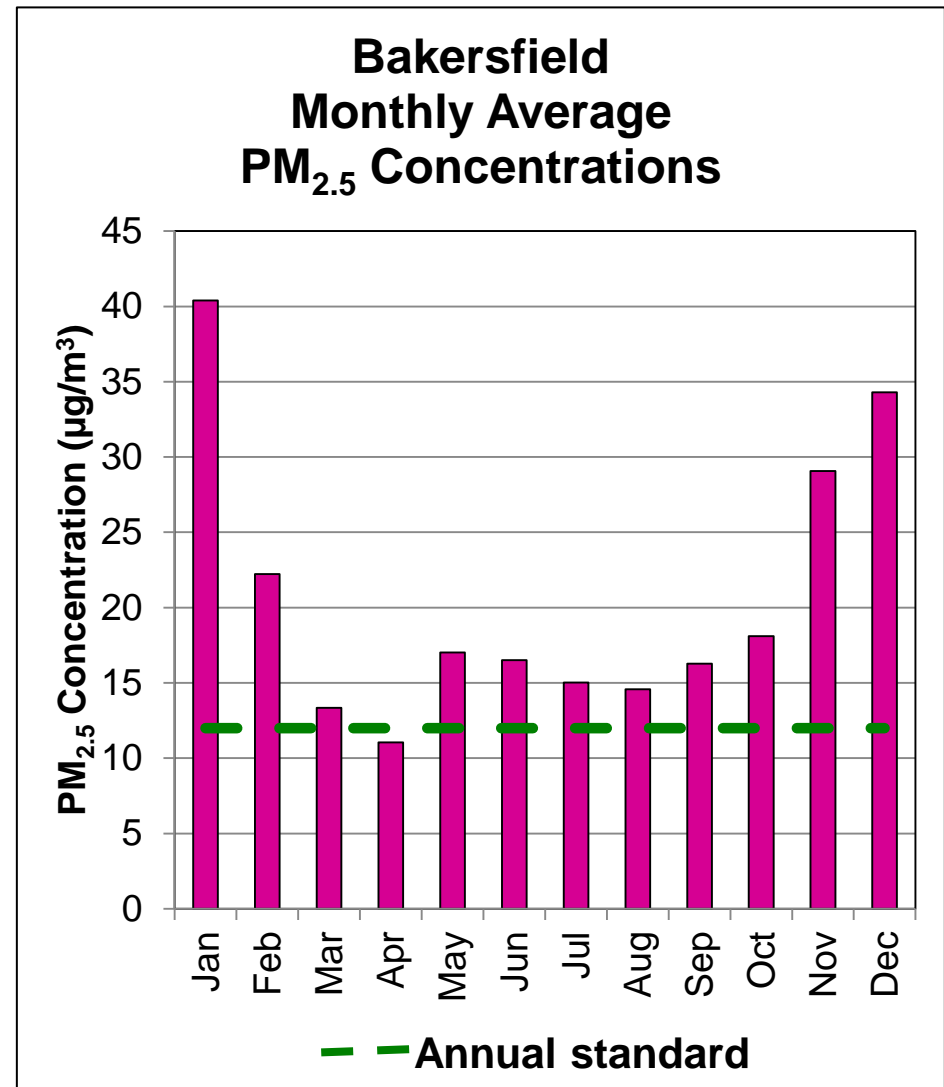
The Valley's PM_{2.5} Challenge

- Topography and weather conducive to formation and accumulation of PM_{2.5}
- Highest levels measured in central and southern Valley



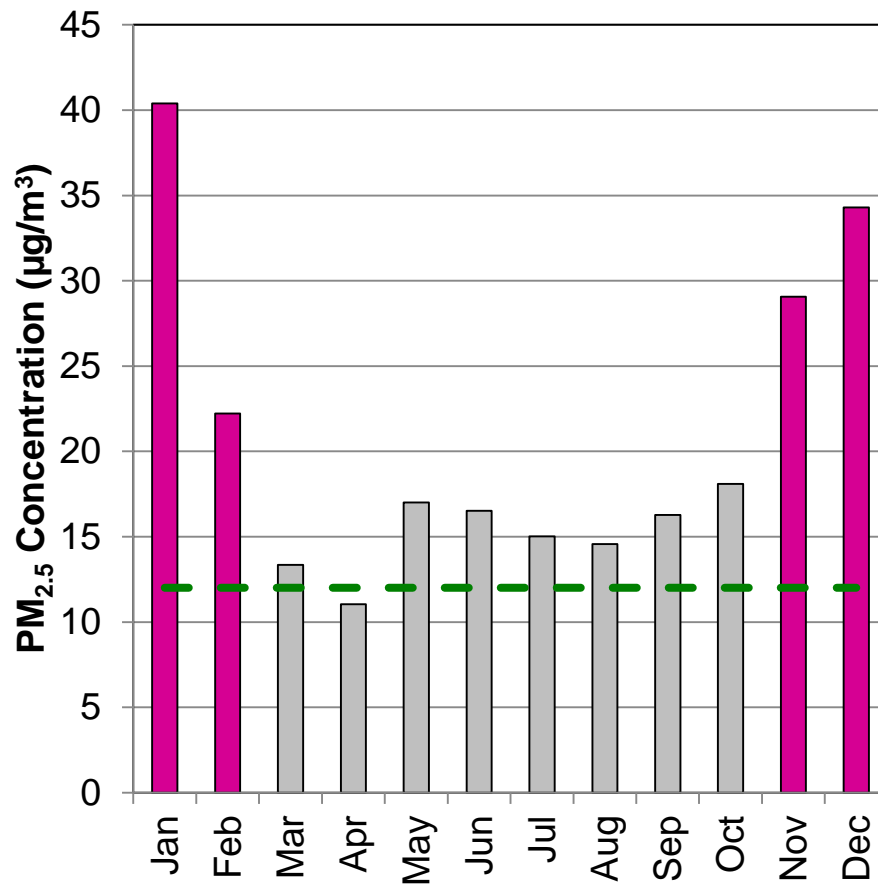
Need to Address PM_{2.5} Year-Round

- Highest levels during winter months
- Summer and fall also above annual standard
- Sources vary by season
- Requires year-round control strategy

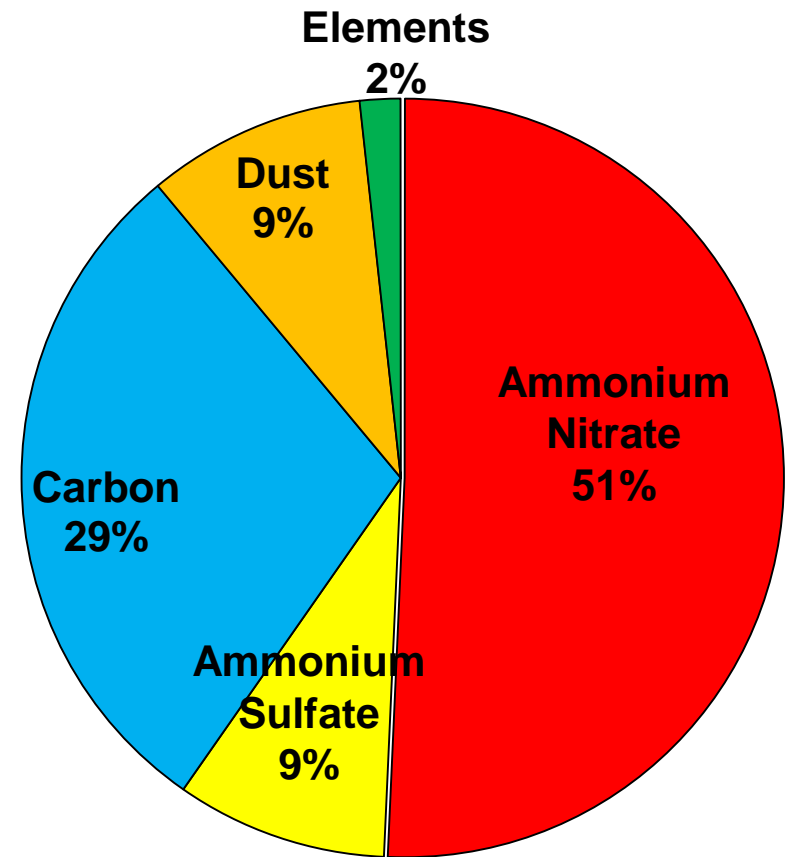


Winter Composition

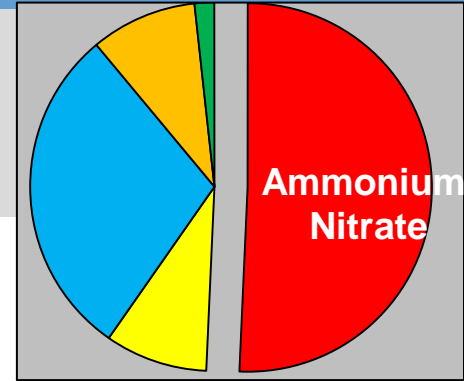
**Bakersfield
Monthly Average
PM_{2.5} Concentrations**



**Bakersfield
Average Winter PM_{2.5} Composition**

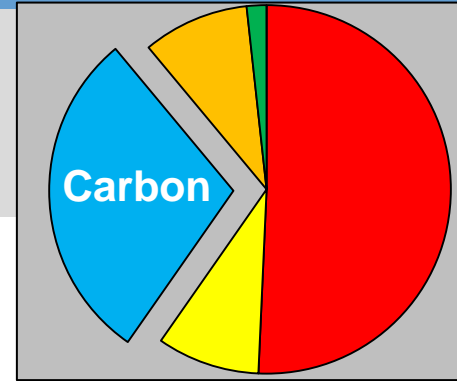


Ammonium Nitrate Strategies



- NOx controls most effective in reducing ammonium nitrate
- Implementation of key actions in Mobile Source Strategy:
 - Low NOx truck engine standard
 - More stringent national locomotive standards
 - Low-emission diesel fuel requirement
 - Incentive programs to accelerate pace of cleaner technologies

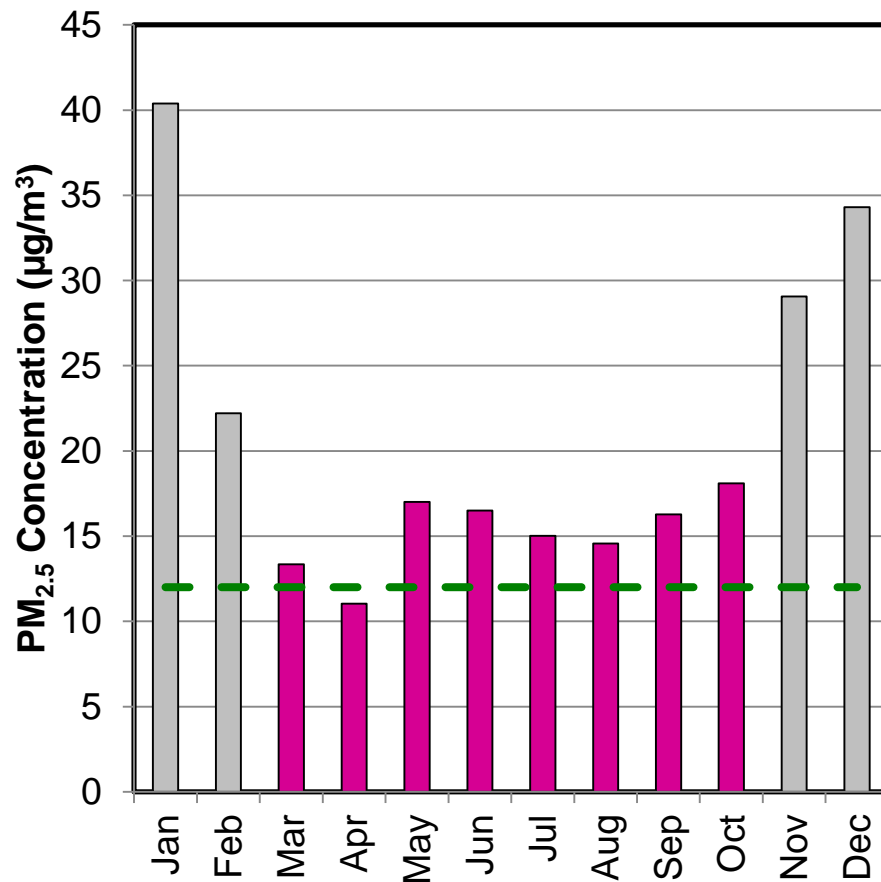
Combustion Particle Strategies



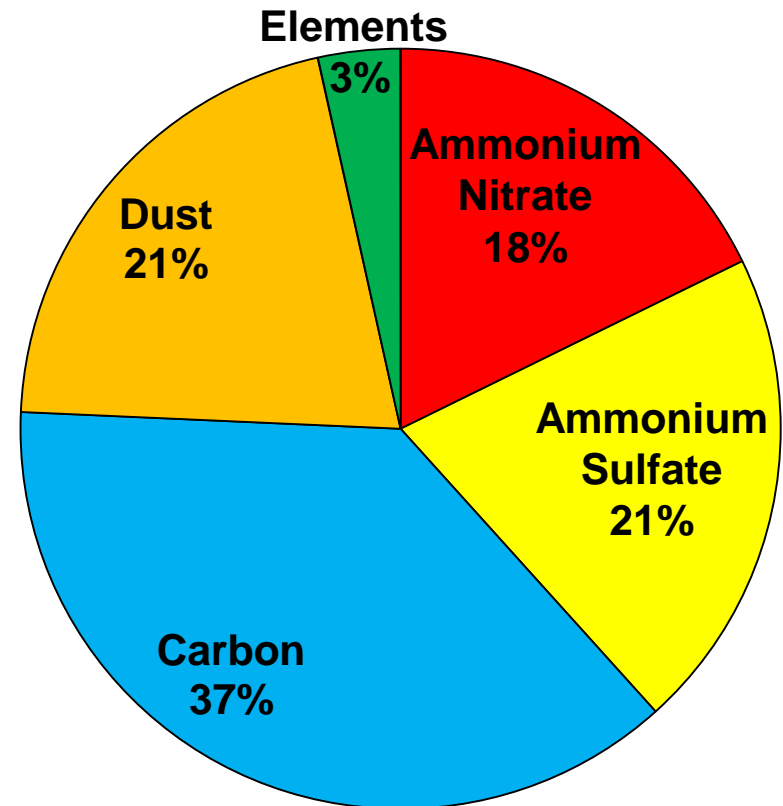
- Directly emitted particles most effective components to control
- Continued replacement of wood-burning devices and outreach in disadvantaged communities
- Demonstration of commercial charbroiling control technologies
- Programs for diesel engine replacement

Summer/Fall Composition

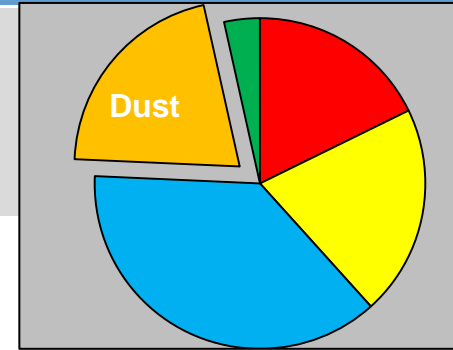
**Bakersfield
Monthly Average
PM_{2.5} Concentration**



**Bakersfield
Summer/Fall Composition**

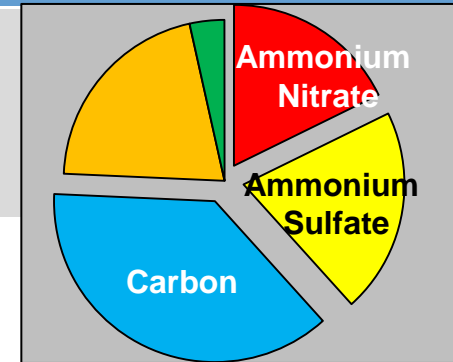


Fugitive Dust Strategies



- More fallow fields and drier soils in recent years increasing dust fraction
- Evaluate opportunities to reduce dust from:
 - Agricultural operations
 - Paved and unpaved roads
 - Construction/demolition
 - Open areas

Other Summer/Fall Strategies



- NOx and combustion particle strategies provide benefits year round
- Continued implementation of smoke management program
- Reducing SOx more challenging due to large number of small sources
- Biogenic emissions also contributor in summer months

New Valley Initiatives

Transformative Climate Communities

- Neighborhood-level planning focused on disadvantaged communities
- \$70 million proposed for Fresno
 - Regional transportation development
 - Downtown revitalization
 - Mixed-use development
 - Urban green spaces

Biomass Utilization Action Plan

- Develop strategies for cleaner, more efficient uses of biomass for bioenergy and renewable fuels
- Biomass summit will be held in Valley in Spring 2017
- Comprehensive stakeholder planning process underway

Renewable Natural Gas

- Pilot projects providing opportunities to develop biomethane resources
- Can help support residential heating needs of rural, disadvantaged communities
- Offers multiple environmental benefits
 - Replaces fossil fuel use
 - Reduces GHG emissions
 - Supports organic waste reduction goals

Achieving Healthful Air

- Requires integrated strategy addressing all PM_{2.5} standards
- ARB rule making and incentives to accelerate clean technology deployment
- District actions and partnership on incentive programs

Recommendations

- Continue development of comprehensive attainment strategy for SIPs due next fall
- Approve Moderate PM_{2.5} SIP and ARB Staff Report
- Request Serious classification
- Direct staff to submit to EPA