Preview of Upcoming State Implementation Plans

January 21, 2016

California Environmental Protection Agency

Air Resources Board

Overview

- Preview State Implementation Plans coming to Board over the next year
- Highlight diverse air quality challenges SIPs must address
- Describe approaches for attainment

Ensure Public Health Protection

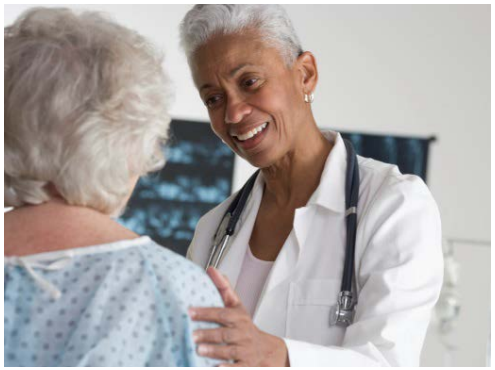
- Clean Air Act sets out requirements for meeting health protective air quality standards
- Standards tightened as science demonstrates impacts at lower levels
- SIP process has been important driver for air quality progress and public health protection
- New SIPs build on this success, but bring new challenges

Driver for Emission Reductions

- Cars are now 99% cleaner
- Diesel PM emissions from trucks now 98% lower
- Nearly all trucks will meet 2010 NOx emission standards by 2023
- Increasing number of ZEVs on the road
- Cleaner fuels, better in-use performance, and myriad other programs

Resulting Air Quality Progress

- Areas progressively coming into attainment
- Today about 20 million Californians breathing healthy air
- Provides significant health benefits
  - Fewer premature deaths, hospital admissions, emergency room visits



Upcoming SIPs

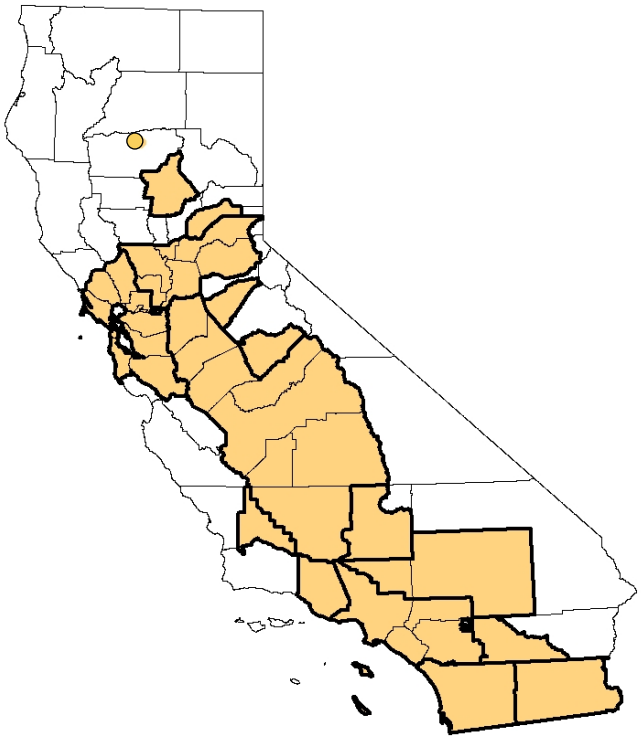
- Address recent more health protective standards
  - 8-Hour ozone standard of 75 ppb
  - Annual PM2.5 standard of 12 µg/m^3
- Represent diverse array of air quality challenges
- Nature and severity of air quality in each region frames needed control strategy

ARB SIP Role

- Research and integration of science
- Responsible for mobile source control strategy
- Lead air quality agency for SIPs
  - Assess conformance with State law and Clean Air Act requirements
  - Submit to U.S. EPA upon Board approval

Nonattainment Area Designations

8-Hour Ozone Standard
75 ppb



Annual PM2.5 Standard
12 µg/m³

Nonattainment

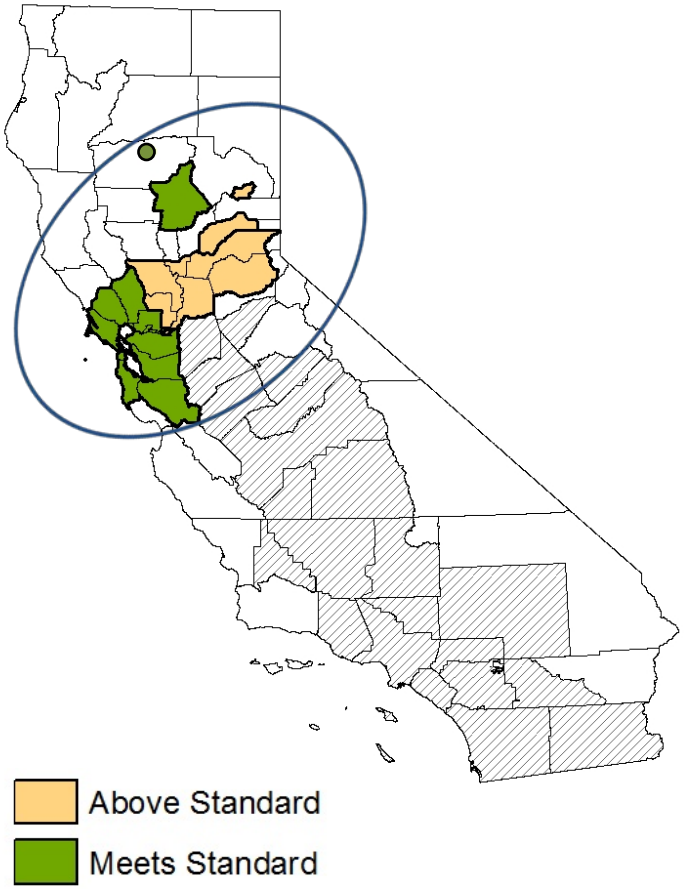
Key Science Challenges

- Areas with unique local sources and impacts
- Drought makes attainment more difficult
- Wildfires cause significant impacts
- Stringent standards require consideration of:
  - Pollution from other areas
  - Background levels

New Planning Opportunities

- Integrating planning efforts to support both air quality and climate goals
- Facilitating comprehensive transformation of mobile and energy sectors
- Pace of reductions driven by attainment deadlines specified in Clean Air Act

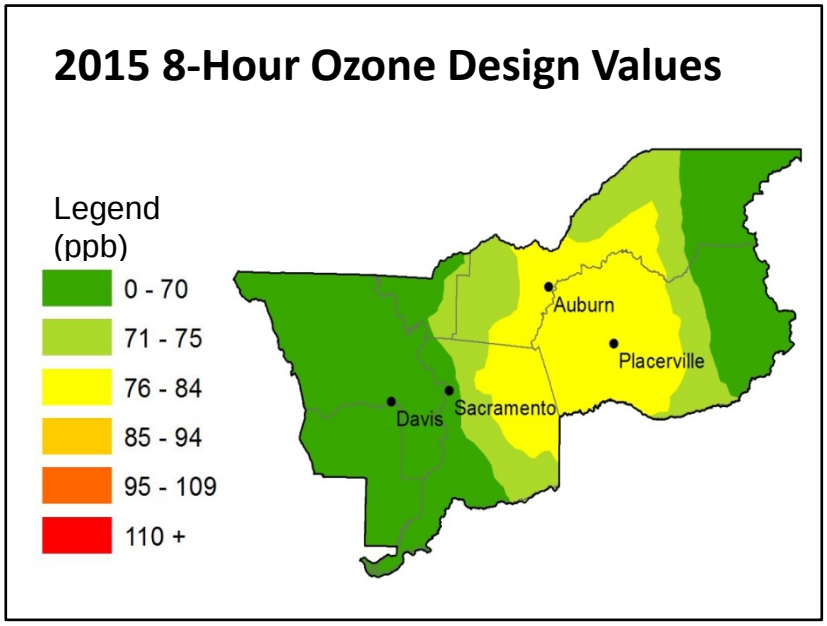
Northern California Nonattainment Areas



- Most areas now meet the ozone standard
- Remaining focus of ozone SIPs is Sacramento region and western Nevada
- Portola only area requiring PM2.5 SIP

Sacramento Region Ozone

- Transport of urban emissions leads to highest levels in foothill region
- Mobile sources account for 90% of NOx emissions
- Ongoing mobile source reductions provide for attainment
- Attainment required by 2026

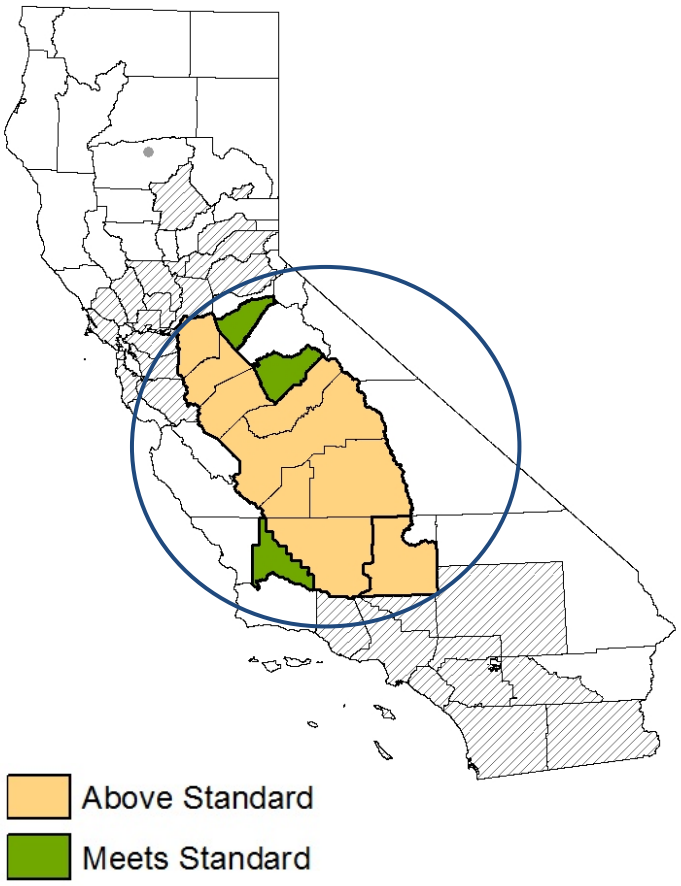


Based on preliminary 2015 data

Portola PM2.5

- Small isolated valley in Plumas County
- Residents rely on woodstoves for home heating
- Attainment strategy focused on woodstoves change out
- Approximately $3 million in federal funding available

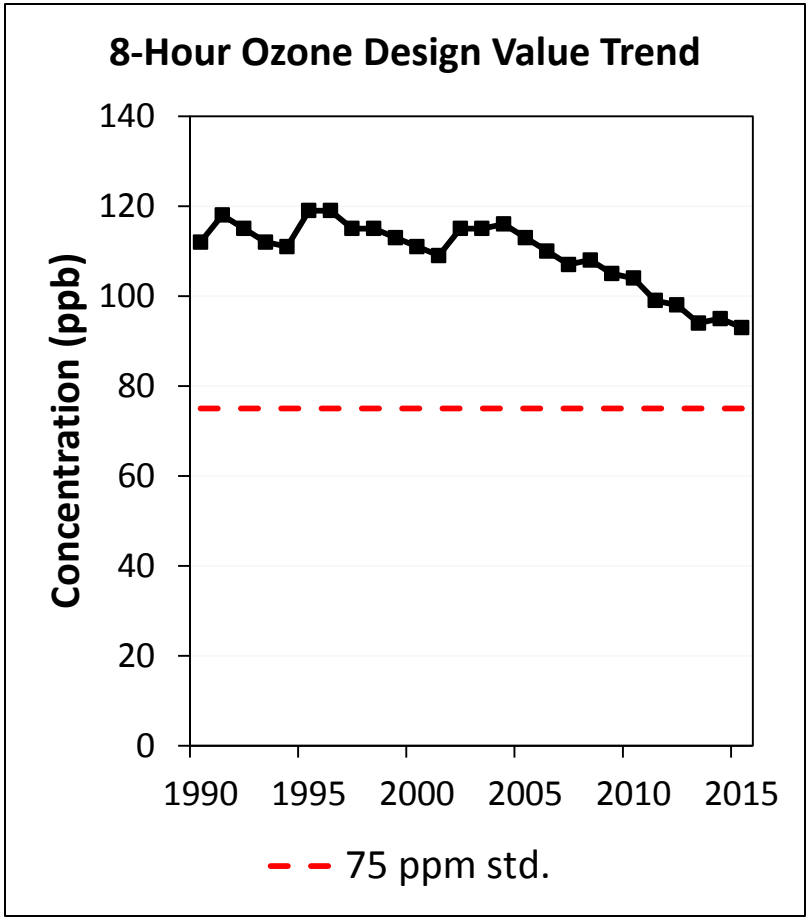
Central California Nonattainment Areas



- Most rural areas now meet ozone standard
- Focus is San Joaquin Valley ozone and PM2.5
- Valley emission reductions will provide for attainment in eastern Kern

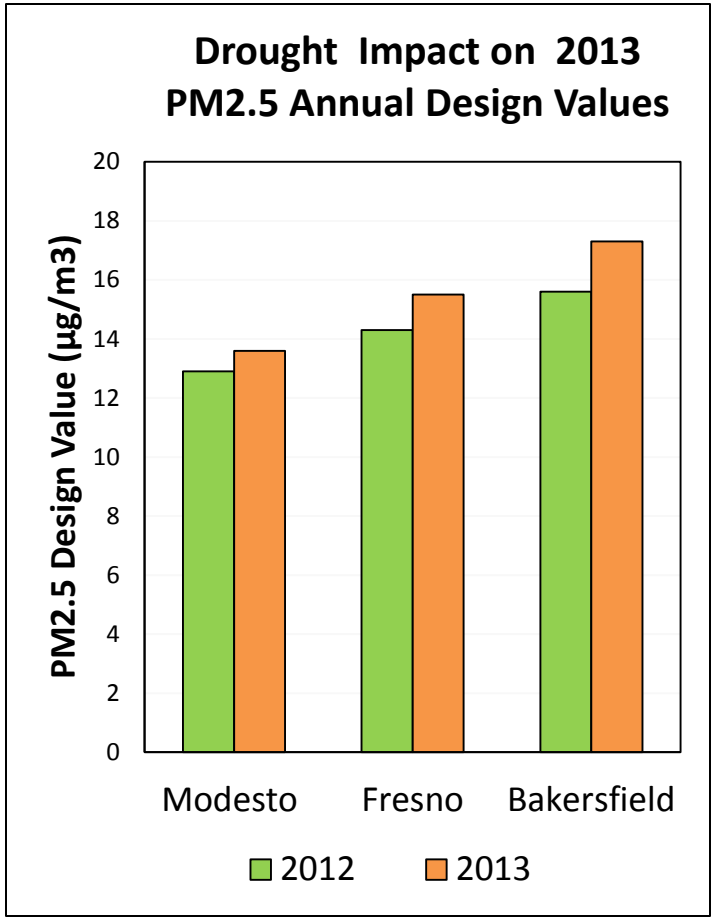
San Joaquin Valley Ozone Progress

- Majority of ozone locally generated
- Ozone responding to accelerated NOx reductions
- Current programs will provide a further 50% NOx reduction for attainment by 2031
- New mobile source strategy will accelerate progress



San Joaquin Valley
Defining the PM2.5 Challenge

- Severity of PM2.5 drives control strategy
- Drought makes PM2.5 attainment more difficult
- Valley topography and weather conducive to PM2.5 formation and accumulation



San Joaquin Valley PM2.5 Planning Process

- Clean Air Act sets step-wise process for PM2.5 SIPs
  - Initial assessment on feasibility of 2021 attainment
  - Subsequent SIP for 2025 attainment demonstration
- Planning for reductions necessary under drought conditions
- Main contributors to PM2.5 include mobile sources, wood burning, cooking, and dust producing activities

San Joaquin Valley Framework for PM2.5 Attainment

- Need to accelerate NOx reductions to address earlier PM2.5 attainment dates
- Requires strategic use of incentives
- Additional local district controls:
  - Wood burning
  - Commercial cooking
  - Dust producing activities

Southern California Nonattainment Areas

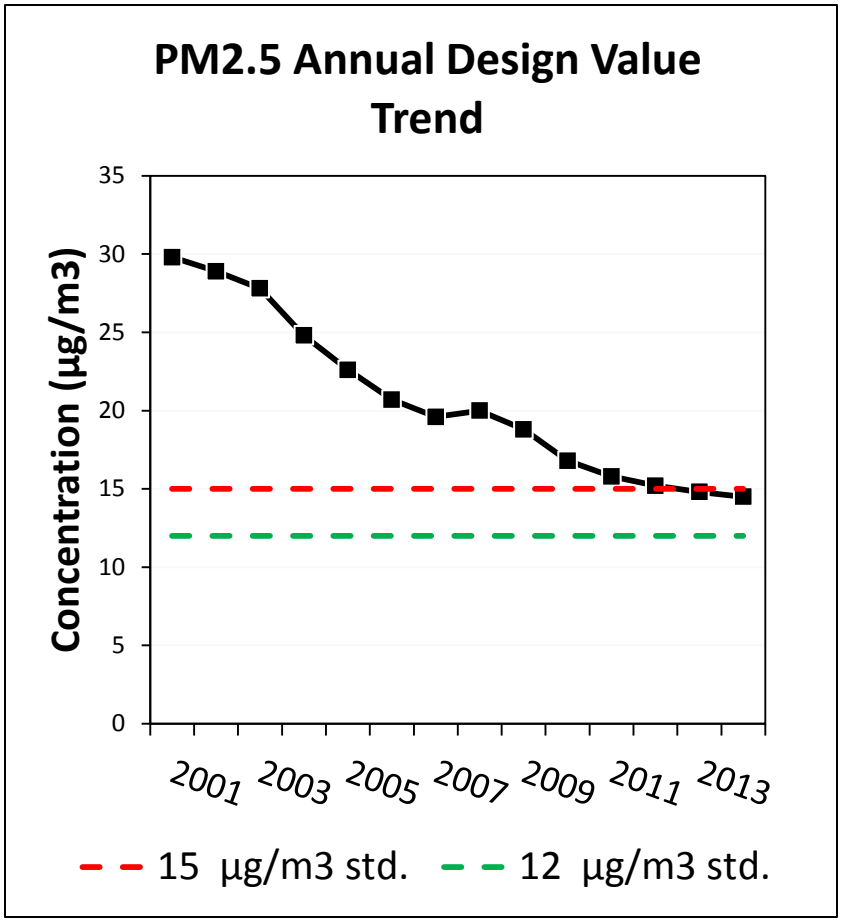
- Focus is South Coast ozone and PM2.5
- San Diego County nearing attainment
- South Coast reductions provide for ozone attainment in remaining downwind areas
- Unique issues in Imperial County:
  - Cross-border pollutant transport
  - Salton Sea

South Coast Air Basin Ozone Challenge

- Coastal region already below standard
- Modeling indicates 80% reduction in NOx needed to meet standard in remaining areas by 2031
- New mobile source strategy designed to provide reductions needed from mobile sector
- Similar scale of reductions needed from industrial sources

South Coast Air Basin PM2.5 Progress

- PM2.5 levels decreasing steadily
- Drought has slowed progress
- Attainment strategy will rely on mobile source strategy plus targeted local controls



San Diego County Ozone

- Coastal region meets standard
- Transport of urban emissions leads to highest levels in rural eastern County
- Mobile sources account for over 90% of NOx emissions
- Ongoing mobile source controls provide for attainment
- Attainment required by 2017

Imperial County

- Ozone impacted by transport from multiple upwind areas
- PM2.5 impacted by cross-border international transport
- PM10 issues include:
  - Windblown dust
  - Addressing Salton Sea

Air Quality Concerns in Salton Sea Region

- Water drawdown in 2018 will expose lakebed playa
- Actions needed to prevent windblown dust impacts
- Salton Sea Task Force established
- ARB role:
  - Guidance on air quality monitoring network
  - Technical expertise on dust mitigation

Salton Sea Monitoring Network

Next Steps

- Consider fifteen SIPs over next year
- Finalize commitment for mobile source strategy
- Area designation recommendations for recently revised ozone standard
- Strategies will provide foundation for meeting recently revised ozone standard