



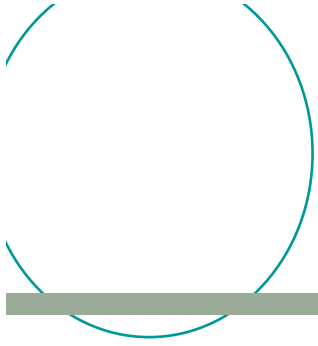
San Joaquin Valley 2007 8-hr Ozone State Implementation Plan

California Air Resources Board
Planning and Technical Support Division
June 14, 2007
Fresno



Overview

- Ozone problem in the San Joaquin Valley
- Proposed attainment plan
- Issues
- Recommended action



The Challenge

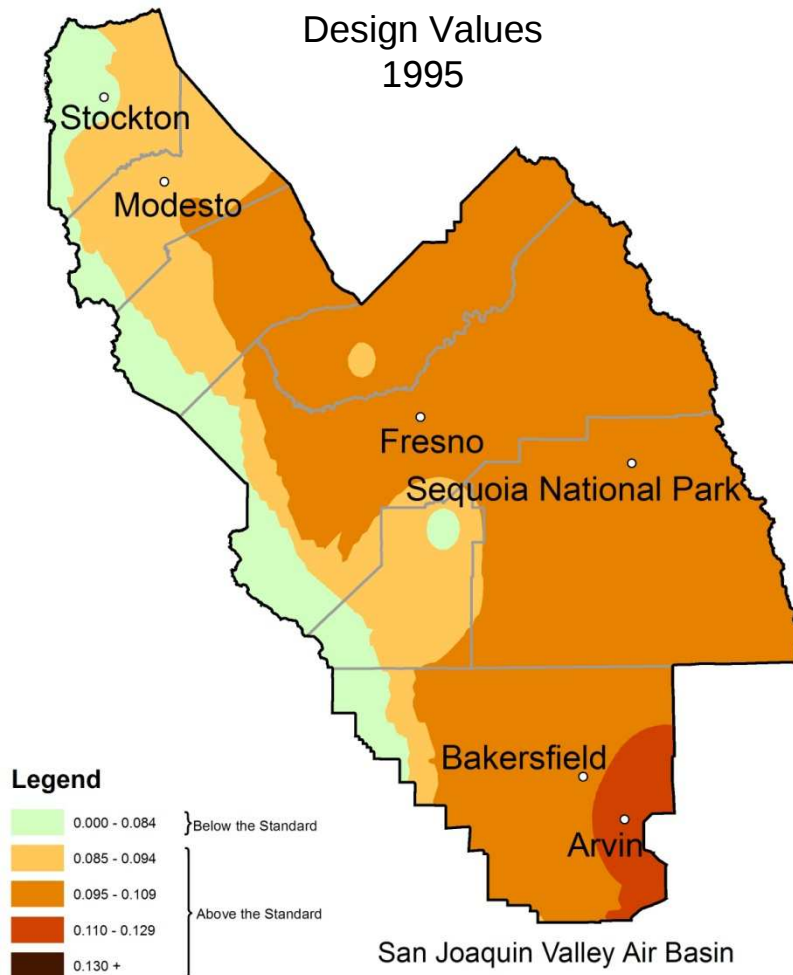
Ozone Health Effects



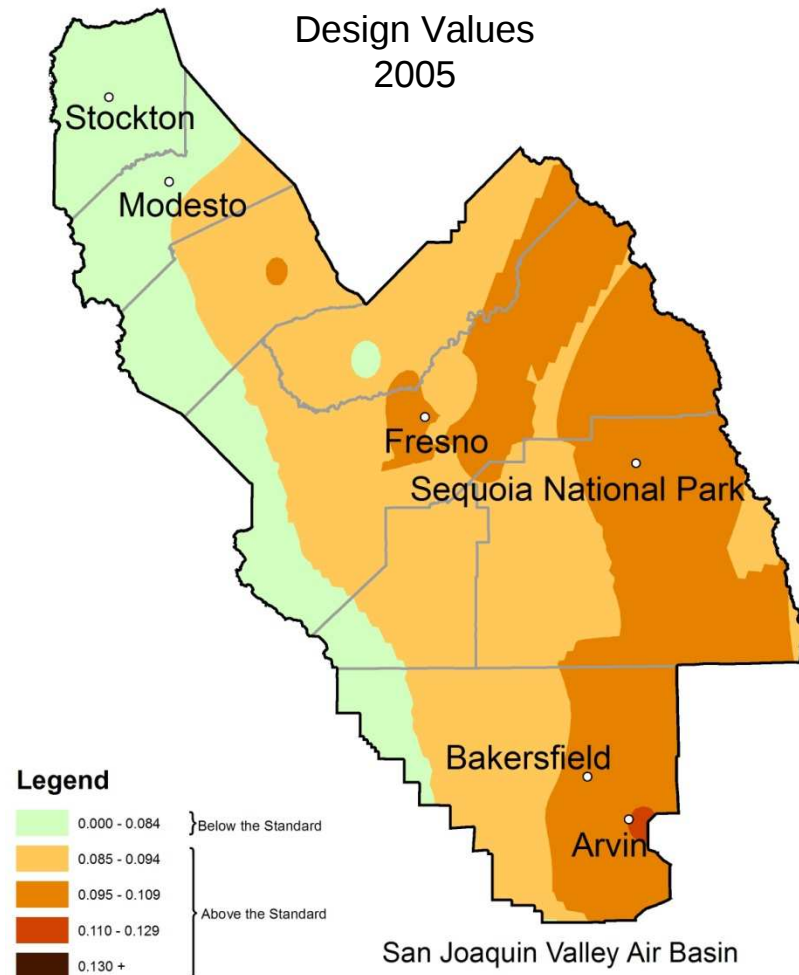
- Inflammation and irritation of lung tissue
- Coughing, chest tightness, and increased asthma symptoms
- Increases in hospital admissions and ER visits
- Increases in premature mortality in elderly people with chronic lung disease and circulatory system diseases
- Compromises immune system

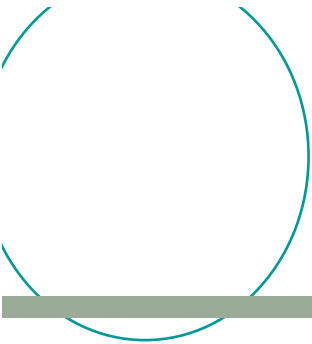
8-hour Ozone Air Quality Trends

Federal
8-hr Ozone
Design Values
1995



Federal
8-hr Ozone
Design Values
2005





Air Quality in Arvin - 2006

- San Joaquin Valley's "design site" for SIP planning
- 30% above standard
 - 23% at Sequoia & Kings Canyon National Park
- 61 days above standard
 - 53 days in Bakersfield
 - 86 days basin wide



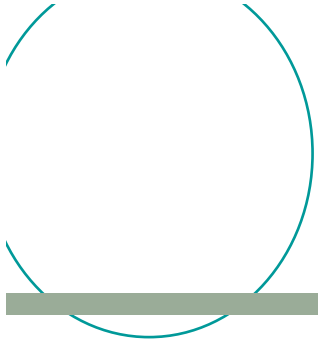
Population-Weighted Ozone Exposure

- 50% reduction 1990 – 2005
- Most progress 2004 – 2005



Nature of Ozone Challenge

- Peak values remain high
- Rate of progress slower downwind of urban areas
- The Valley's geography and weather are very conducive to ozone formation
- The Valley must be the cleanest in the nation per square mile



Technical Foundation



Air Quality Health Studies

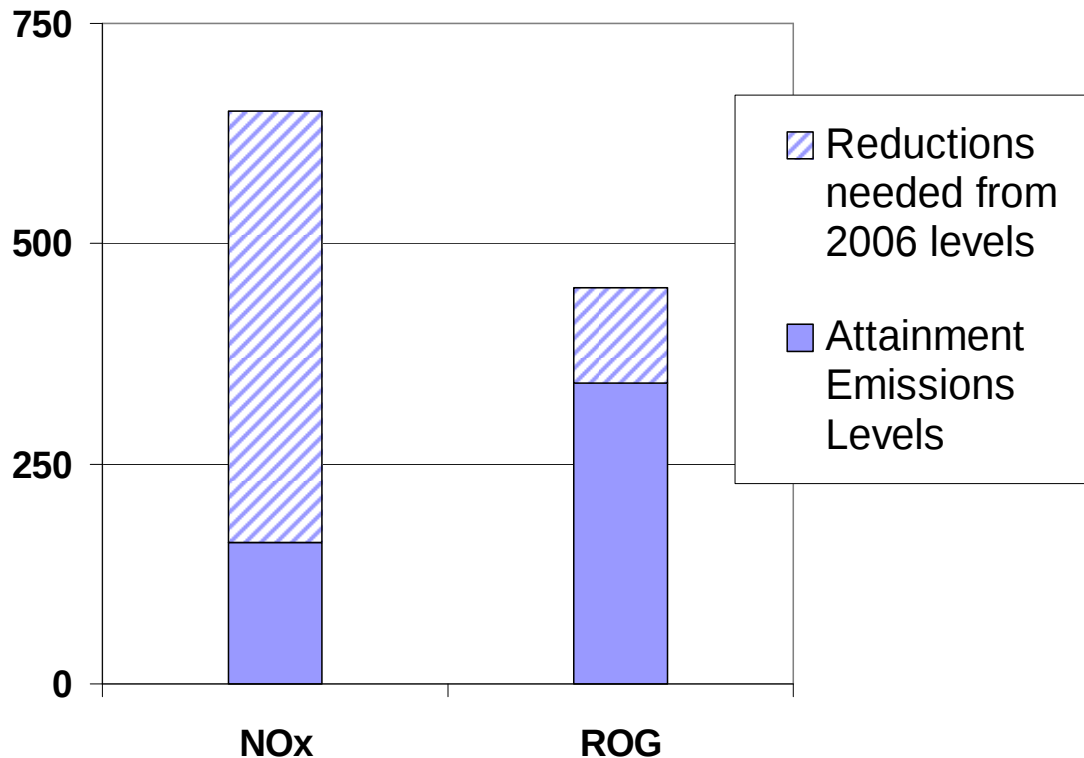
- Fresno Asthmatic Children's Environment Study (FACES)
- CSU Fullerton study - Up to \$3 Billion health impact of PM2.5 and ozone



Valley Specific Air Quality Studies

- Central California Ozone Study
- California Regional Particulate Air Quality Study
- \$50 Million over 15 years
- Studies provided
 - modeling tools
 - emissions inventory
 - air monitoring data

Ozone Attainment Emission Targets



- NOx reduction is critical for attainment
- ROG reduction is important for early progress

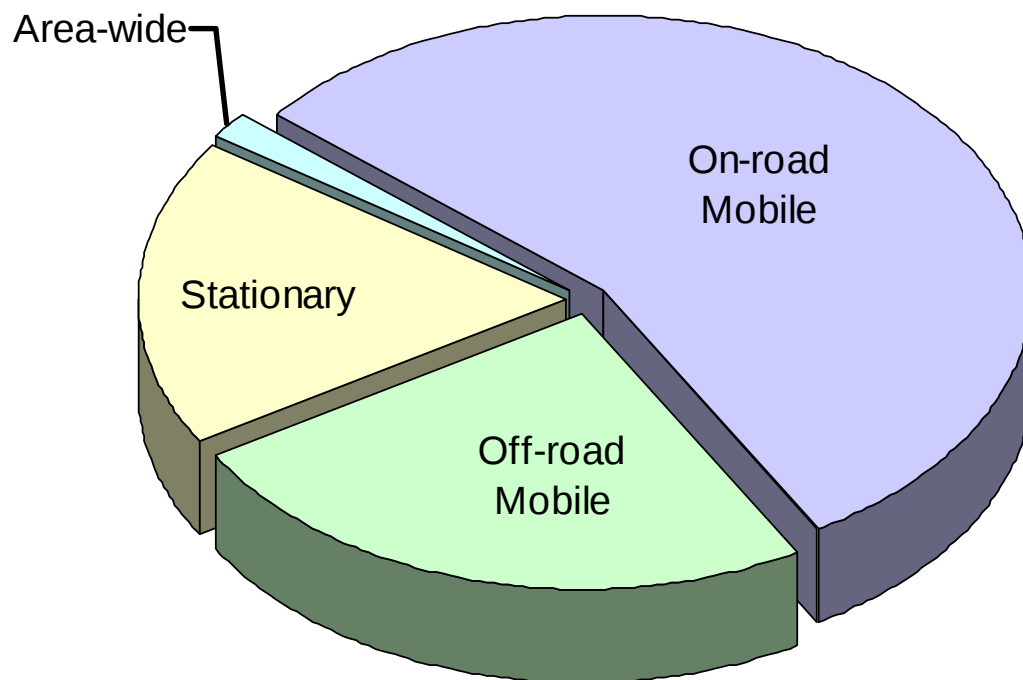


Emission Reductions Achieved by Plan

- 75% NO_x reductions needed
 - 48% reduction by 2014
 - 60% reduction by 2020
 - 75% reduction by 2023
- 25% ROG reduction needed
 - Achieved by 2014

NOx Emissions Inventory

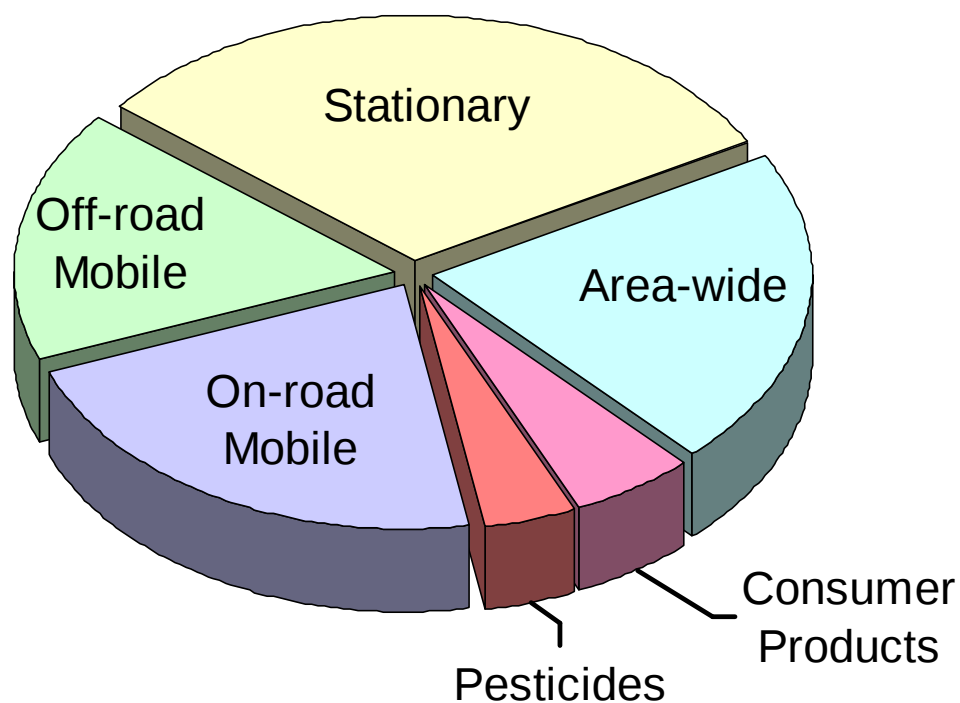
2006 Baseline – 650 tpd



Target: 160 tpd

ROG Emissions Inventory

2006 Baseline – 450 tpd



Target: 342 tpd



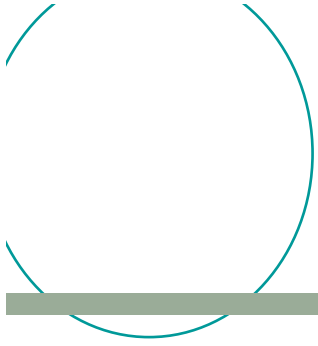
New Technology is Needed to Attain the Standard

Once we have

- Cleanest cars, trucks, and off-road equipment
- Cleanest locomotives
- Benefits of local control measures

We would still need

- Next generation of emission control technologies



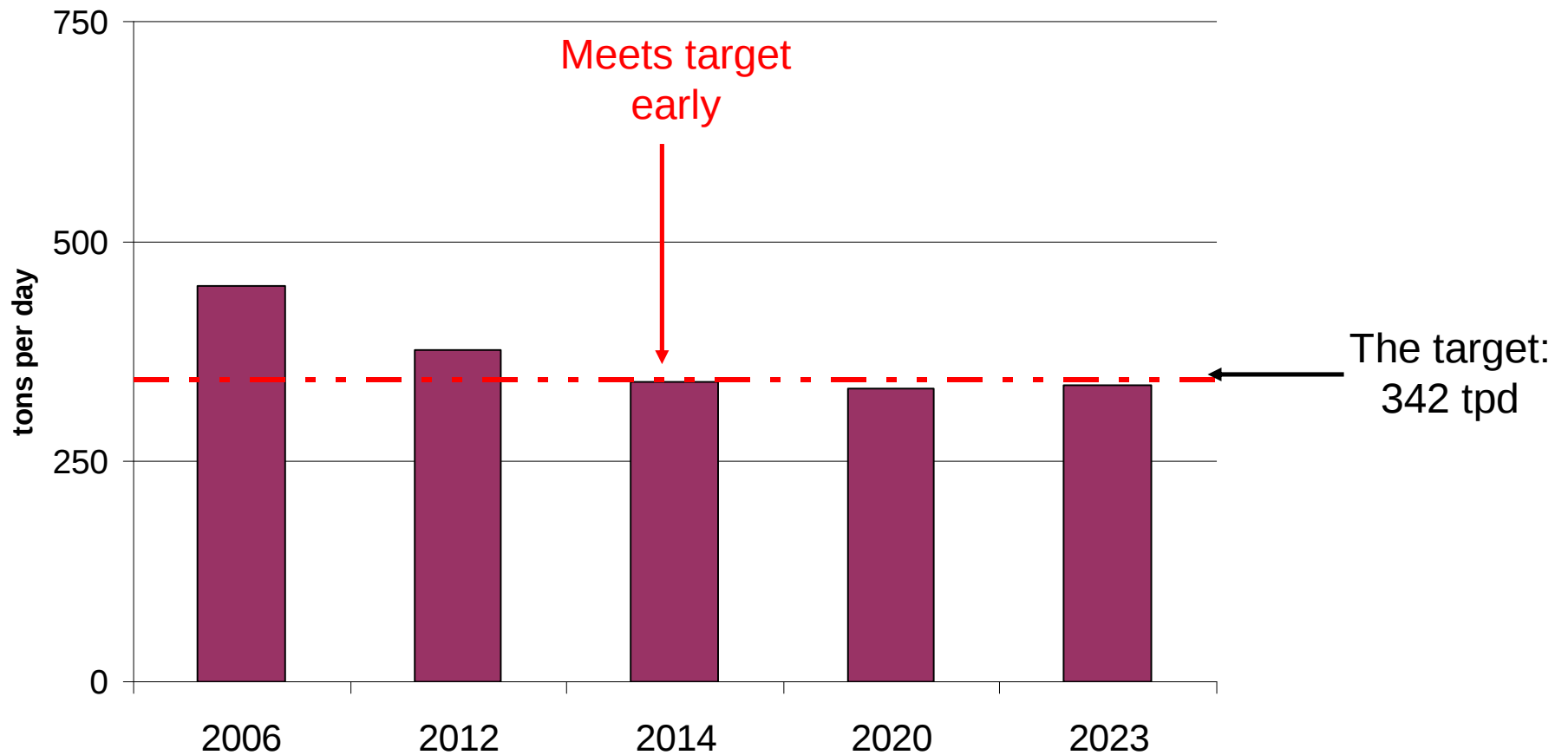
Ozone Control Strategy



SIP Strategy Overview

- Proposed State Strategy
 - 477 tpd (ROG + NO_x)
- Local SIP Elements
 - 46 tpd (ROG + NO_x)
- Advanced Technology
 - 80 tpd (NO_x only)
- District Accelerated Actions

ROG Emissions with 2007 Ozone Plan Strategy

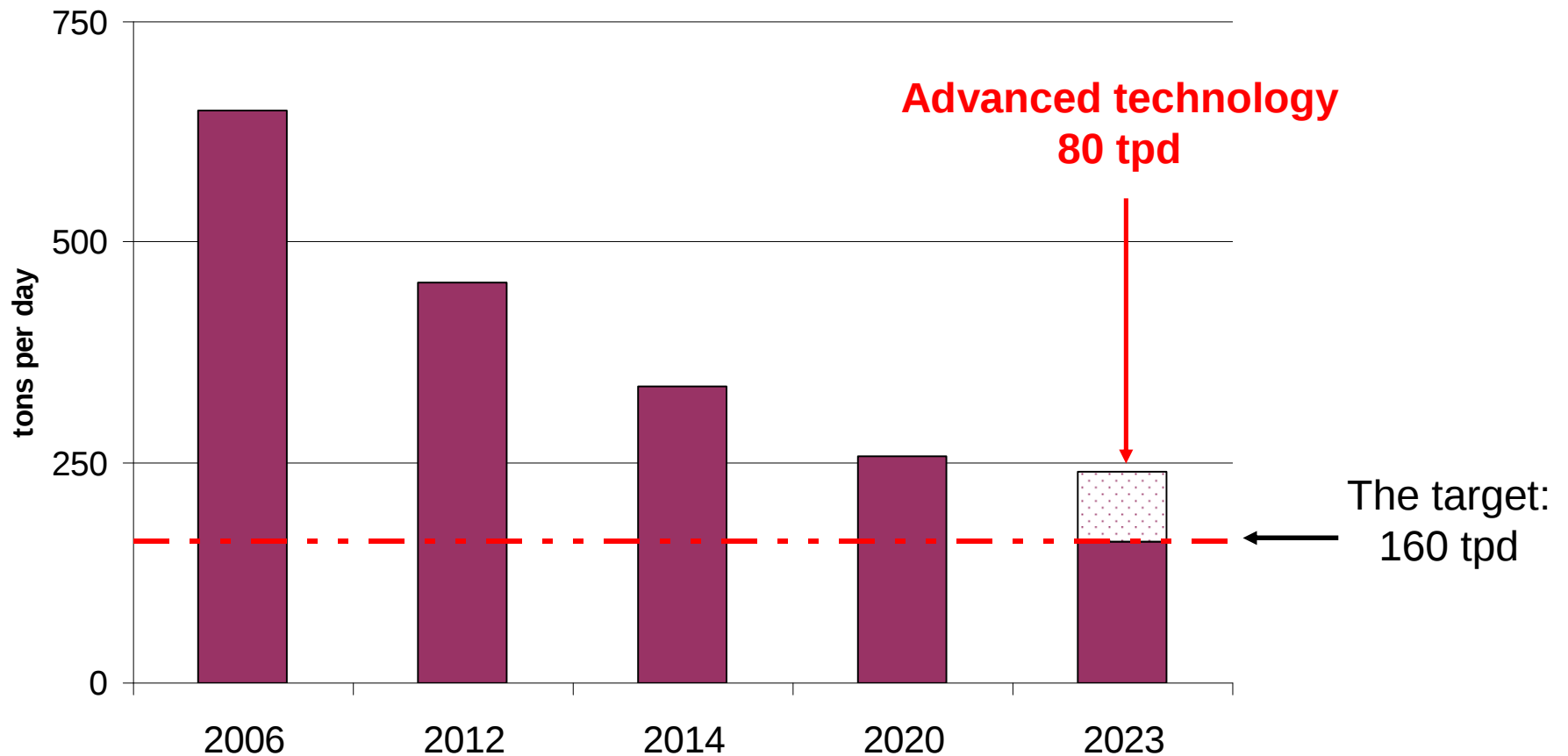




California's Proposed Statewide ROG Control Strategy

- Existing State and federal regulations
 - Provide 66 tpd
- Proposed new measures
 - Provide 25 tpd

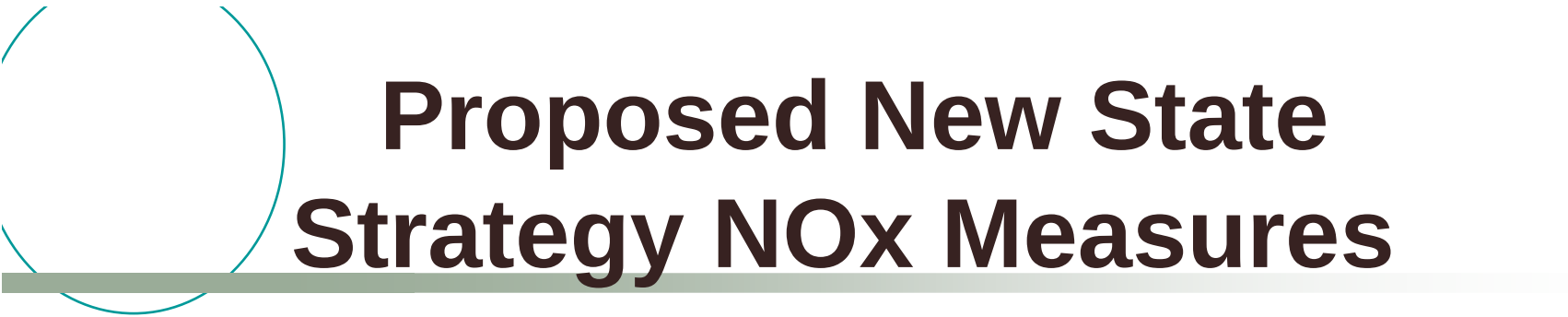
NOx Emissions with 2007 Ozone Plan Strategy





California's Mobile Source NO_x Control Strategy

- Existing State and federal regulations
 - Provide 340 tpd NO_x
- Proposed new measures
 - Provide 46 tpd NO_x
- New technologies for mobile sources
 - 80 tpd NO_x needed



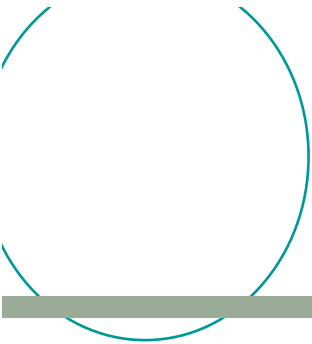
Proposed New State Strategy NOx Measures

- Clean-up of existing diesel fleets
 - Construction equipment
 - Diesel trucks
 - Agricultural equipment
- Smog Check program improvements
- Expanded passenger vehicle retirement
- Clean-up locomotives



Local Plan Elements

- Commits to new local measures
- Advanced technologies for last increment of NO_x
- Identifies important local policy initiatives



New Local Commitments

- New rule development commitments
- Incentive-based emission reductions
- Emission reductions by 2023
 - 47 tpd ROG
 - 9 tpd NOx



New Local Measures

Measure	Measure
Composting Biosolids	Adhesives
Solvents	Gas turbines
Soil Decontamination	Polystyrene Foam
Gasoline storage & transfer	Aviation fuel storage
Large boilers	Medium boilers
Glass melting	Graphic arts
Residential water heaters	Composting green waste
Flares	Brandy & wine aging
Architectural coatings	Confined animal feeding operations
Open burning	Trip reduction program



Local Strategy to Accelerate Attainment

- Goal is early attainment
- Recognizes limits on local regulatory authority
- Increased incentive funding
 - Outlines “spending plan”
 - Secure additional funds



Important Local Initiatives

- Green Contracting
- Heat-island mitigation
- Conservation/alternative energy
- Enhanced Indirect Source Review
- Episodic/regionally focused measures
- Regulatory flexibility
- Smart growth & land use



Other SIP Requirements

- ✓ Reasonable Further Progress (RFP)
- ✓ Contingency measures
- ✓ Transportation conformity budgets
- ✓ Reasonably available control technology/measures
- ✓ Public participation & notification



Issues



Issue:

Extreme Classification

- Delays attainment to 2023
- Reduces urgency of local cleanup
- Reduces pressure on ARB and U.S. EPA to cleanup mobile sources



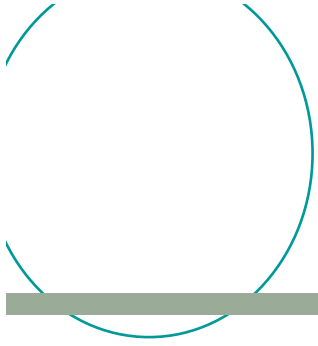
Issue: “Alternative” Strategy

- Rely on high-efficiency NOx retrofit technology
- Use operational controls to spur clean-up of dirty vehicles and equipment



Issue: Nature of Plan

- Enforceability of measures to accelerate attainment
- Stronger measures for local sources
- More specificity for incentive approaches



Recommendations



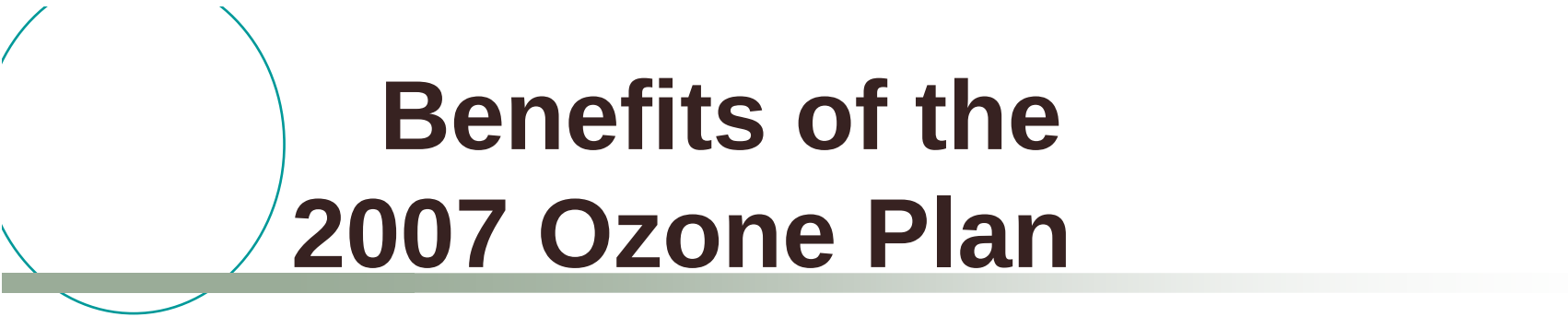
Include Minor Updates

- Pesticide emission inventory
- Progress & contingency measure demonstration
- Transportation conformity budgets
 - Madera County
 - San Joaquin County



ARB Staff Recommendations

- Approve reclassification
- Approve the local plan elements
 - Attainment demonstration
 - Local measure commitments
 - Other elements
- Submit to U.S. EPA
 - Following Board action on the proposed 2007 State Strategy



Benefits of the 2007 Ozone Plan

With Near-term measures

- 64% of needed reductions achieved by 2014
- Cleaner air valleywide

As technology develops

- Full attainment valleywide