



# **“Mission Possible: Charting the Forecast for Success”**

**Robert F. Sawyer, Ph.D.  
Chair, California Air Resources Board**

**2006 San Joaquin Valley  
Air Quality Symposium**

**6 December 2006**



# Today's Topics

- **Air Quality Challenges**
- **Shared Responsibility**
- **Actions Taken**
- **Future Outlook**



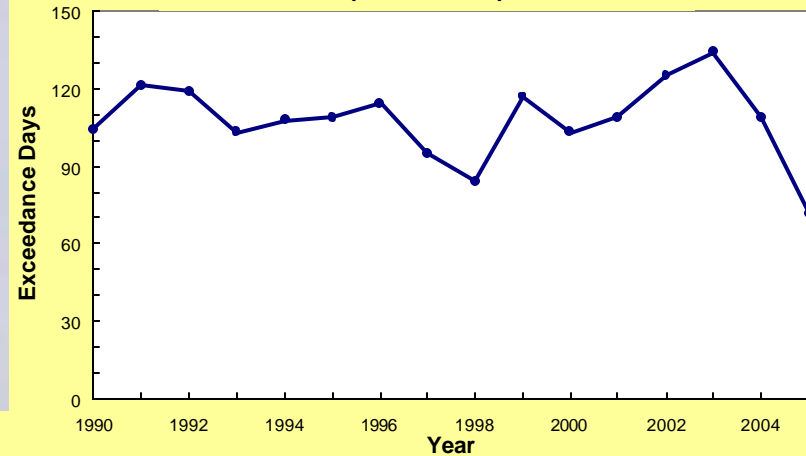
# Air Quality Challenges

- **Greatest regional challenges**
  - San Joaquin Valley
  - South Coast
- **Federal standards**
  - 8-hour ozone standard is more health protective than 1-hour standard
  - New PM<sub>2.5</sub> standards are more stringent than PM<sub>10</sub> standards

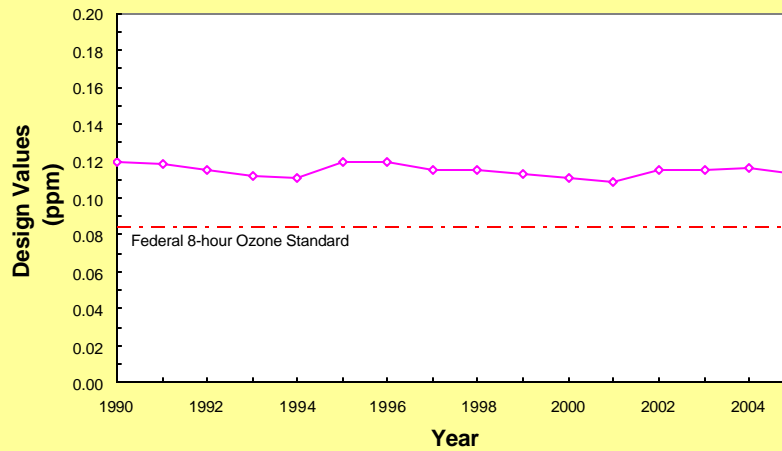


# San Joaquin Valley Air Quality Trends: Ozone

Federal 8-hr Ozone Exceedance Days (1990-2005)



Federal 8-hr Ozone Design Value (1990-2005)

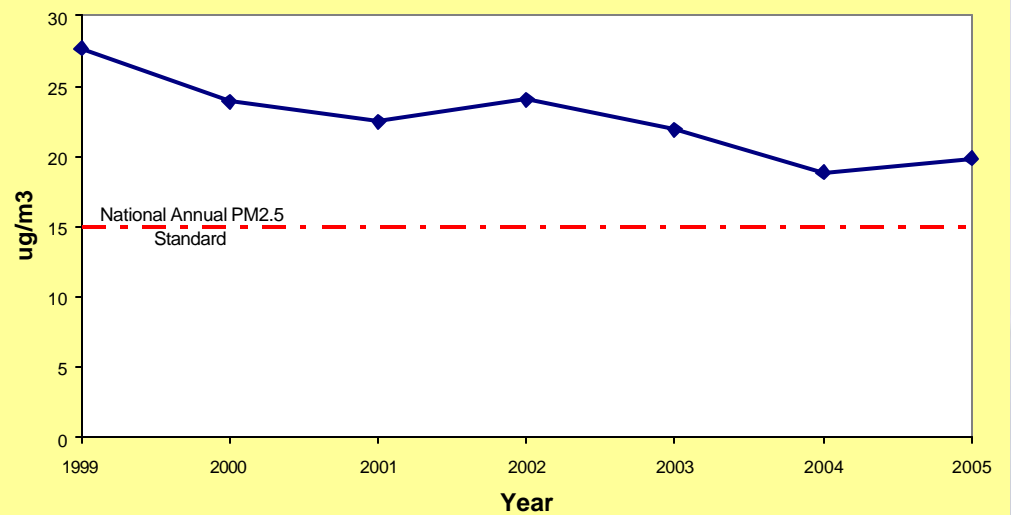


Reduced  
Population  
Exposure



# San Joaquin Valley Air Quality Trends: PM<sub>2.5</sub>

PM<sub>2.5</sub> Maximum Annual Average  
(1999-2005)



# San Joaquin Valley Health Benefits

- **1,400 fewer premature deaths**
- **1,200 fewer hospitalizations**
- **200,000 fewer missed workdays**
- **880,000 fewer school absences**



# 2007-2008 SIPS

- **State Implementation Plans designed to meet air quality standards**
- **Scientific foundation is critical**
- **New information incorporated over time**
- **SIP process provides opportunity for public input**





## Achieving Clean Air is Increasingly Complex

- **Ozone and PM2.5 have common precursors but different deadlines**
- **Ozone deadline can be extended**
- **PM2.5 deadline is 2015**
- **Mobile source NO<sub>x</sub> reductions key**
- **ROG reductions also beneficial**





## Next Topic

- **Air Quality Challenges**
- **Shared Responsibility**
- **Actions Taken**
- **Future Outlook**





Responsibility  
is Shared

- **Air Resources Board**
- **Local Air Districts**
- **U.S. Environmental Protection Agency**
- **Transportation Planning Agencies**
- **Community Partnerships**





## ARB Role

- **Public health**
- **State pollution control authority**
  - mobile sources
  - fuels
  - consumer products
- **Regional SIP oversight, technical support, and statewide control strategy**
- **Board approval of State and local plan elements**



## Air District Role

- **Public health**
- **Local pollution control authority**
  - Stationary sources
  - Area-wide sources
- **Approval of regional SIP**



## Other Agency & Partner Roles

- **U.S. EPA**
  - National emissions standards
  - Approves SIPs
- **Transportation agencies**
  - Develop transportation control measures
- **California Partnership for the San Joaquin Valley**



Next topic

- **Air Quality Challenges**
- **Shared Responsibility**
- **Actions Taken**
- **Future Outlook**





## Actions Taken

- **Emission standards set foundation for future reductions**
- **Heavy-duty trucks**
- **Construction equipment**
- **Passenger cars**
- **Stationary and area-wide sources**



# Foundation for Future Emission Reductions

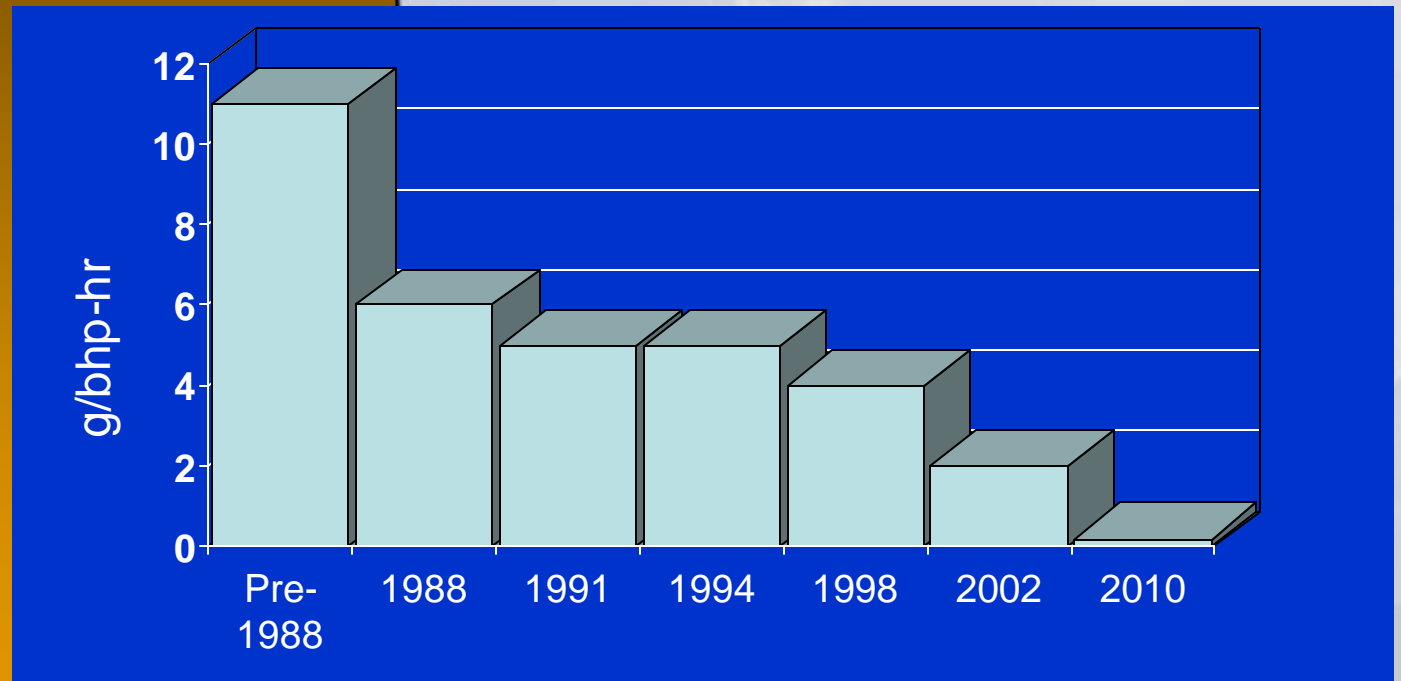
- **Many measures currently reducing emissions**
- **Some reduce emissions at an accelerated rate through time**
- **Some already adopted but implemented in future years**





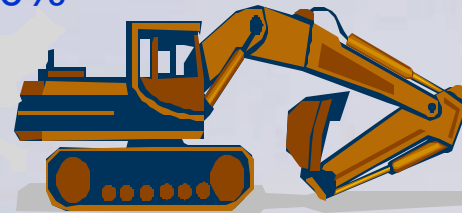
# Cleaner Heavy-Duty Trucks

**NOx Standards for New Trucks**



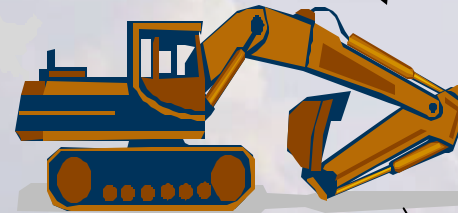
# Cleaner Construction Equipment

100%



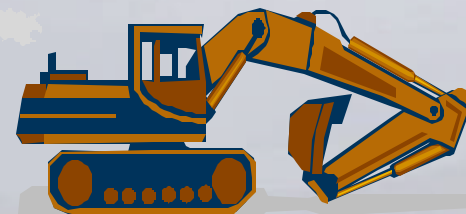
Uncontrolled

15-20%



2008-2012 stds.

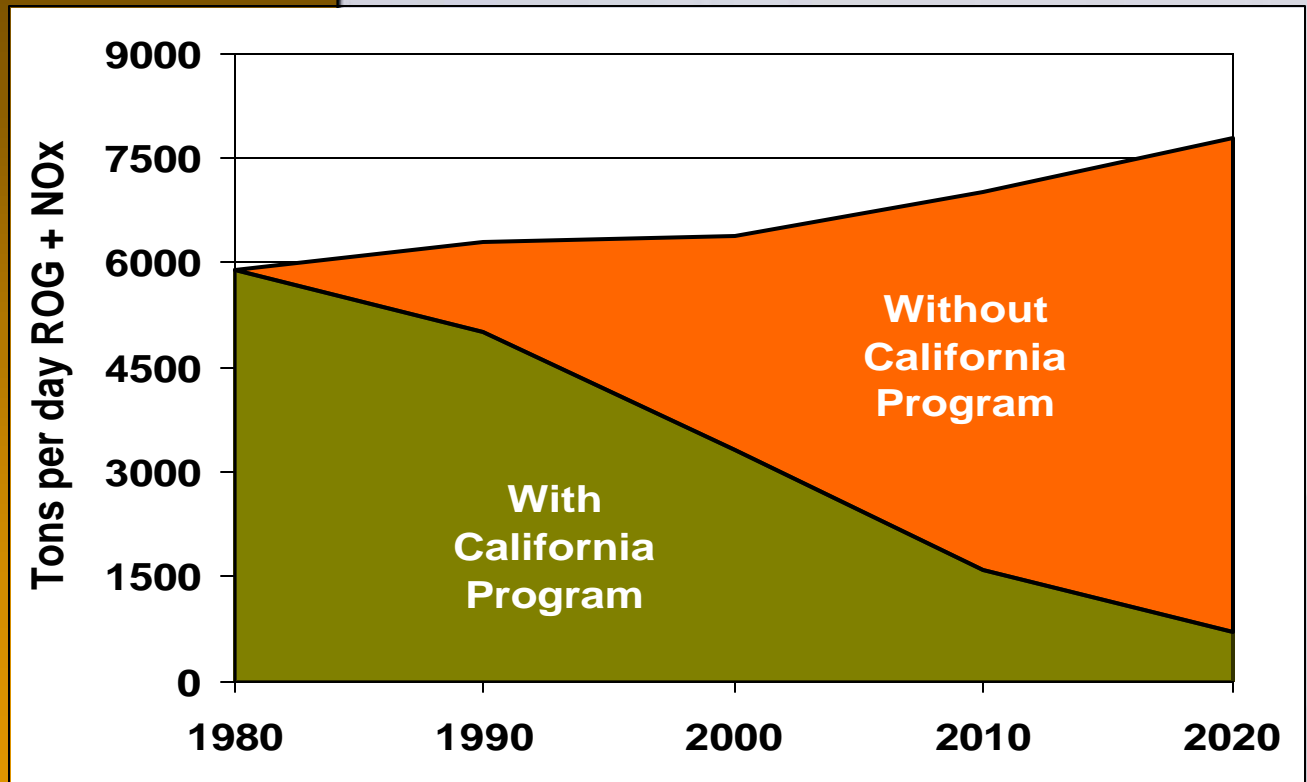
2%



2015 stds.



# Cleaner On-Road Motor Vehicles



# Cleaner Stationary and Area-wide Sources

- **Industrial/Commercial**
  - Combustion controls
  - Emission limits
- **Agricultural**
  - Dairy
  - Ag Pumps
- **Residential**
  - Fireplaces
- **Regional Growth**
  - Indirect Source Review



# Final topic

- **Air Quality Challenges**
- **Shared Responsibility**
- **Actions Taken**
- **Future Outlook**





## Future Outlook

- **SIP implementation will accelerate reductions**
- **ARB staff develops new strategies for Board consideration**
- **The State Board recognizes the Valley's needs**



# SIP Timeline

- **ARB staff is developing statewide strategy**
  - Fall 2006 through Spring 2007
  - Public forums and workshops
  - Identifies reductions regionally
- **Final strategy for ARB Board Consideration**
  - Spring 2007
- **ARB Considers approval of Regional SIPs**
  - ARB Hearing in Fresno
  - Spring 2007



# Statewide Strategy Guiding Principles

- Cleaner Engines
- Cleaner Fuels
- Cleaner In-use Vehicles
  - Smog Check
  - Heavy-Duty Inspection
- Clean-up Existing Fleet
  - Fleet Rules
  - Repowers, Retrofits
- Incentives
  - Help reduce costs





# Near-Term Outlook: PM2.5

- **PM2.5 attainment in the San Joaquin Valley is within reach by 2015**
- **Effective technologies exist**
  - New engines are much cleaner
- **New concepts focus on replacement, retrofit, tighter standards**
  - Regulatory approach
  - Incentives will continue to play a role



# Timelines and Local Decisions: Ozone

- **Large mobile source NO<sub>x</sub> reductions needed**
- **Cleaner engines coming, but fleet turnover takes time**
- **Local decision on final attainment date**



# Costs and Benefits of Attainment

- **Rapid fleet turnover means significant cost to local businesses**
- **Health benefit far exceeds cost**
  - Quality of life
  - Typically \$3 benefit for \$1 spent



In conclusion:

**“While achieving our public health goals will be challenging, working together we can succeed in cleaning the air in the San Joaquin Valley”**

