

Our Air Quality and Who is Sac Metro Air District

Vision: Clean, carbon free air for all

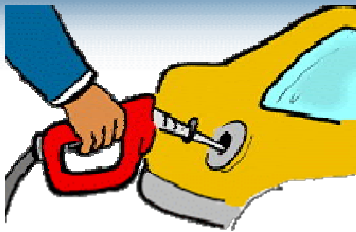
Community Air Protection Program
South Sacramento-Florin Steering Committee
December 11, 2018

What is Air Quality?

- How clean is the air that we breathe ?
- Air pollution impacts air quality
 - Air pollution comes from many different type of sources: mobile sources, power plants, manufacturing and commercial facilities, and residential homes
 - Poor air quality is harmful to human health and the environment
- One metric: Air Quality Index
 - For ozone and particulate matter
 - Based on monitored and forecasted data

Air Quality Index - Particulate Matter	
301 – 500	Hazardous
201 – 300	Very Unhealthy
151 – 200	Unhealthy
101 – 150	Unhealthy for Sensitive Groups
51 – 100	Moderate
0 – 50	Good

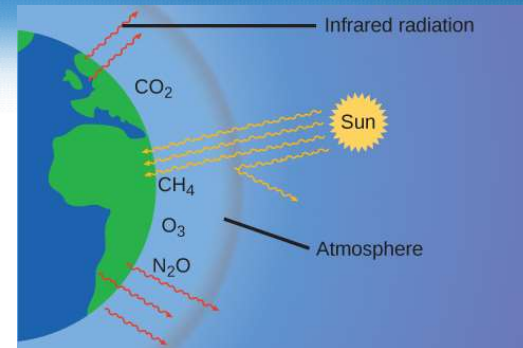
Different Types of Air Pollution



Air Toxics
(Diesel particles, Benzene, Chromium, Asbestos)



Particulates (PM)
(NO_x, NO_x, VOC, Ammonia)



Greenhouse Gases
(Carbon Dioxide, Methane)



Ozone (O₃)
(VOC + NO_x)

Health Effects of Air Pollution

- Air pollution is harmful
 - Lung disease, toxic effects, heart attacks
- Children and elderly are most susceptible
 - Short-term and long-term affects
 - Asthma
 - Shortens life expectancy
- Air pollution effects our economy and quality of life



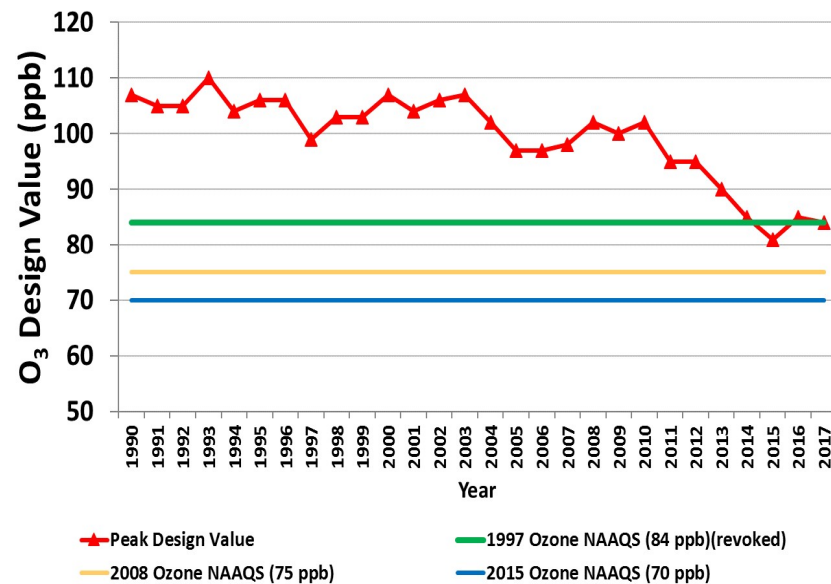
Regulatory Authority

- Environmental Protection Agency – Federal
 - Planes, trains, automobiles
 - Health-based air quality standards
- California Air Resources Board – State
 - Vehicles, consumer products, air toxic control measures
 - Health-based (state) air quality standards
- Air Districts – Local
 - Permit and inspect stationary sources, respond to complaints, Check Before You Burn program, Spare The Air

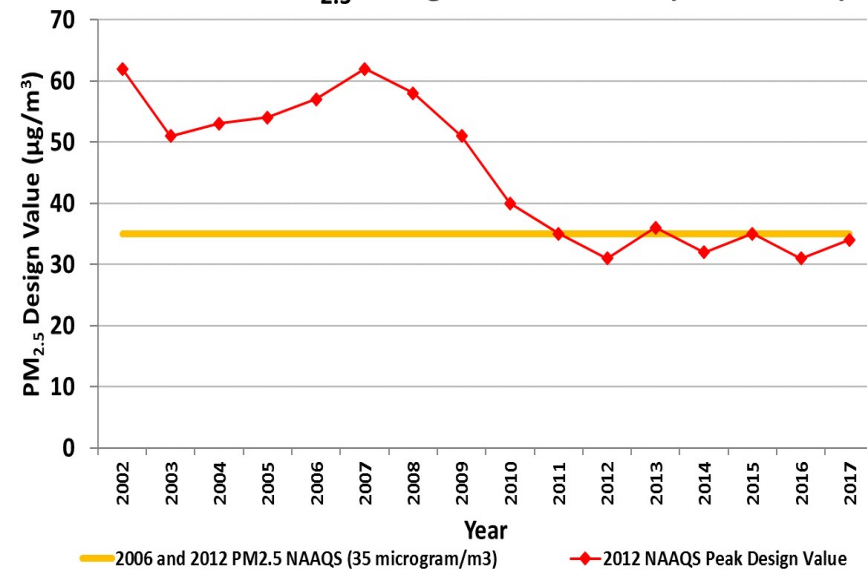


Sacramento Region Air Quality Improvements

8-hour O₃ Design Value: SFNA (1990-2017)



24-hour PM_{2.5} Design Value: SFNA (2002-2017)



Regional Geographical Challenges

- The Sacramento valley is like a bowl

- During the summer, strong inversions clamp a “lid” on the bowl, trapping pollution and building up ground-level ozone
- During the winter, low pressure systems move in creating a similar effect, trapping particulate matter at ground-level

NOX + VOC + Sunlight = Ozone



+



=



Emissions + Low Wind = High Particulate levels



What Causes Our Air Pollution Problem?

VOC Emissions



Area Source – 26%



On Road Mobile – 31%



Off-Road/Other Mobile – 23%



Stationary Source – 20%

NOx Emissions



Area Source – 3%



On Road Mobile – 60%



Off-Road/Other Mobile – 29%



Stationary Source – 8%

What Causes Our Air Pollution Problem?

PM2.5 Emissions



Area Source – 76%



On Road Mobile – 9%



Off-Road/Other Mobile – 4%



Stationary Source – 11%

Air Monitoring and Planning

- Air monitoring

- Maintains the air monitoring stations
- Monitors the air quality data (QA/QC)
- Analyzes the data

- Planning

- Evaluates progress towards meeting federal and state health standards
- Calculates and updates Sacramento's emission inventory
- Develops air quality plans to meet health standards
- Adopts/amend rules to control emissions from sources

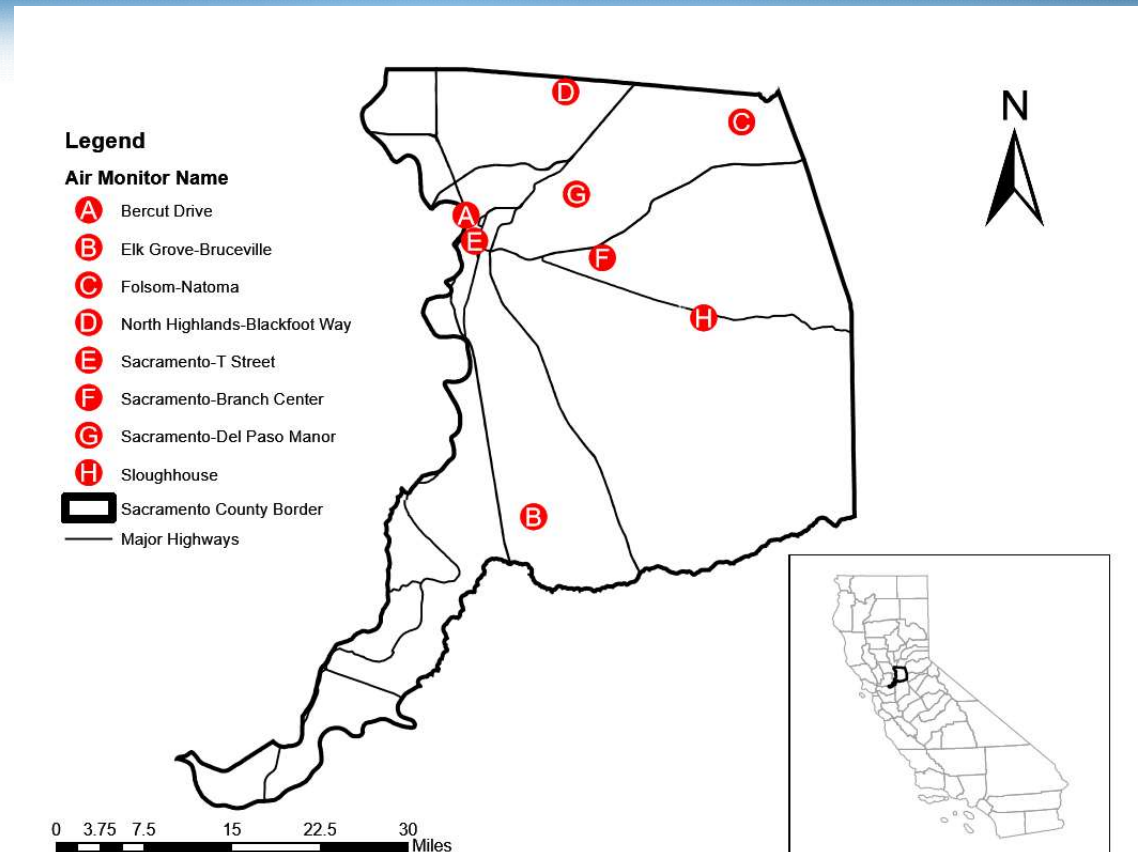
Monitor Locations and Status



Regulatory Monitoring Site



Low Cost Sensor Example



Stationary Source Permitting and Enforcement

- Reviews and evaluates existing and new permits
 - Ensure operations meets requirements
 - New equipment and/or operation must meet the most restrictive controls – Best Available Control Technology
- Inspects all permitted facilities
 - Approximately 4,300 permitted stationary sources
 - Most inspected once a year, on average
 - Violations issued for noncompliance – monetary penalties
- Responds to air quality complaints

Communications Office / Land Use Review

- Communications Office
 - Conducts outreach, education, and regional forecasting/reporting
 - Regional summer time program “Spare The Air”
 - Winter wood smoke program “Check Before You Burn”
- Land Use Review – commentator role
 - Yearly review of hundreds of land use and transportation projects
 - District comments on projects with impacts to air quality
 - Participates in meetings and hearings on various projects

Cleaner Technology Incentive Programs

- Provides many cleaner technology incentive programs
 - Goal to create emission reductions through funding cleaner technology
 - Incentive funding available for a variety of projects
 - Diesel trucks, locomotives, and agricultural equipment
 - School bus grants
 - Community CarShare for disadvantaged communities
 - Wood stove / fireplace change out

