Establishing Attainment Targets

Karen Magliano

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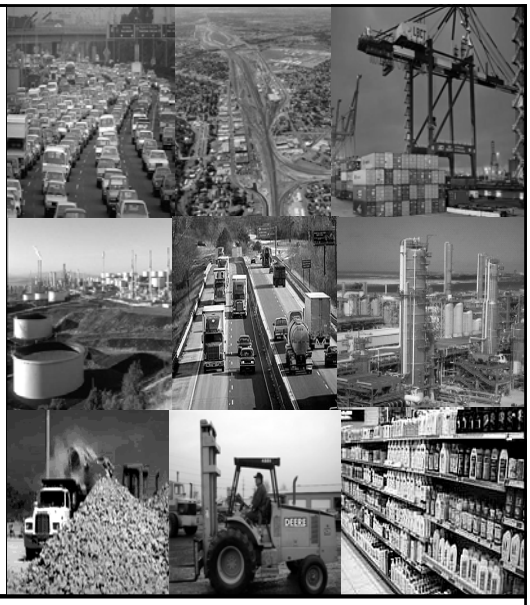
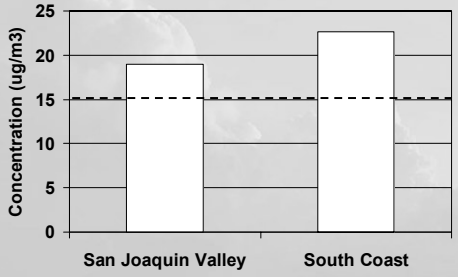


Presentation Overview

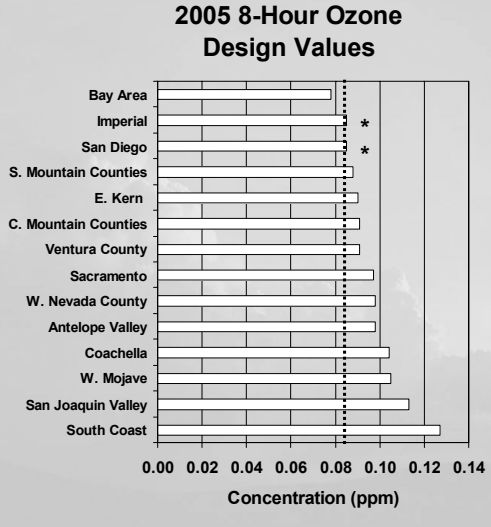
- **Overview of current air quality**
- **Process for establishing targets**
- **PM2.5 emission reduction targets**
- **8-hour ozone emission reduction targets**

Current Air Quality – PM2.5



- Both South Coast and San Joaquin attain the 24-hour PM2.5 standard of 65 ug/m3

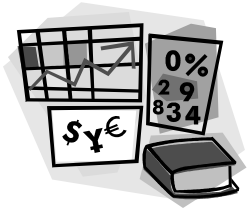
Current Air Quality - Ozone



San Diego

Establishing attainment targets

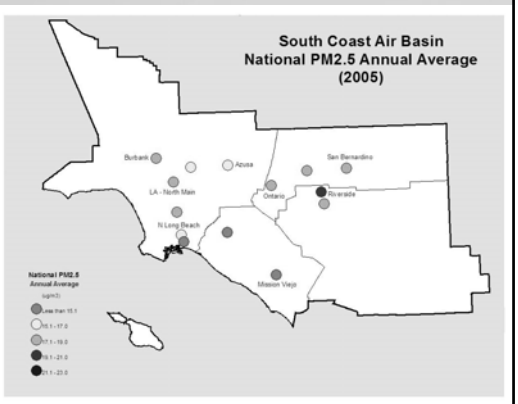
- Attainment demonstration must characterize the emission reductions needed for attainment
- Multiple tools used to assess needed level of control; weight-of-evidence approach



Weight-of-Evidence Assessment

- Includes multiple techniques:
  - Analysis of air quality and emission patterns and trends
  - Simple modeling techniques such as linear rollback
  - More comprehensive modeling techniques such as grid-based modeling

PM2.5 Spatial Variability



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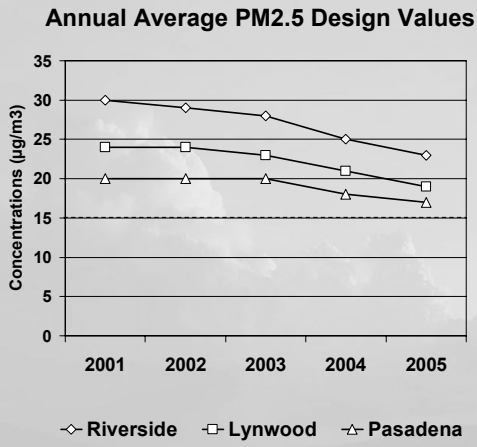
PM2.5 Trends



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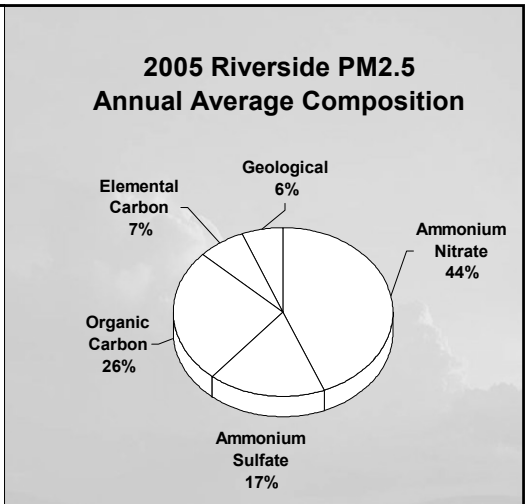
PM2.5 Components



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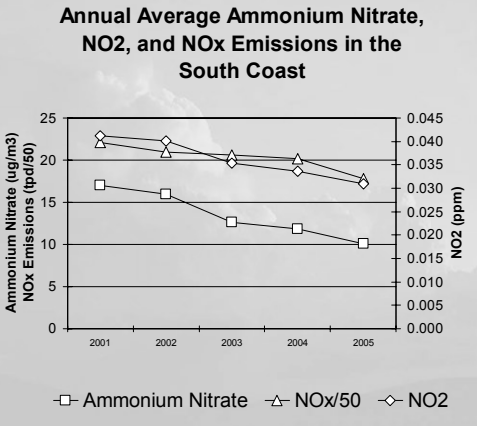
PM2.5 Nitrate Trends



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Key Modeling Results

- **Modeling work is ongoing – results to date indicate:**
  - **Existing control program is effective, but significant additional reductions are needed to attain standard**
  - **A broad multi-pollutant strategy will be needed**
  - **Grid-based modeling suggests the largest emission reductions will be needed at sites in the eastern basin**

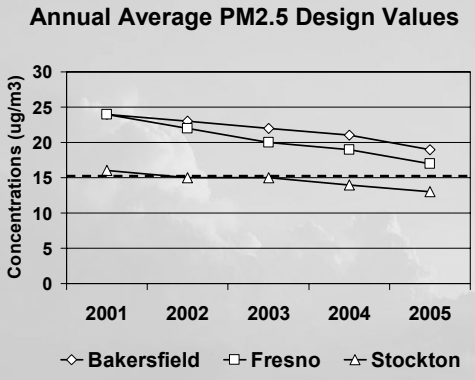
Weight-of-Evidence Integration

- **PM2.5 has been declining over the last 15 years**
- **Continued multi-pollutant regional strategy will achieve attainment in much of the air basin. Estimated reductions needed are:**
  - **50% SOx**
  - **25% NOx**
  - **10% ROG**
  - **10% diesel PM**
- **Targeted reductions may be needed to ensure attainment at all sites, especially those in the eastern basin**

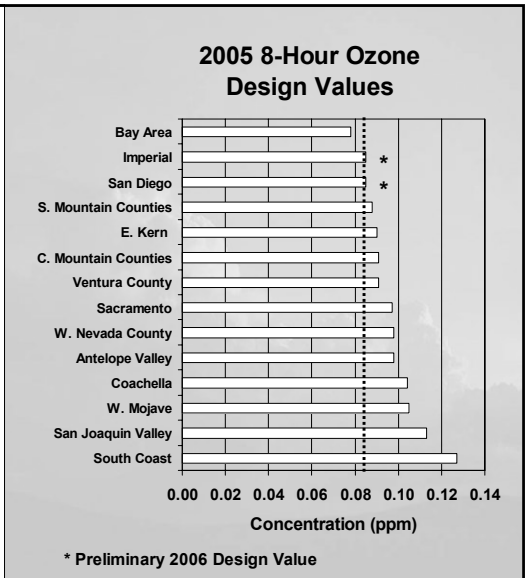
San Joaquin Valley

- San Joaquin is developing PM2.5 SIP for submission in 2008
- Modeling and analysis work is still under development
- Emission targets will be revisited as information becomes available
- PM2.5 concentrations show significant decline

SJV PM2.5 Trends



Current Air Quality - Ozone



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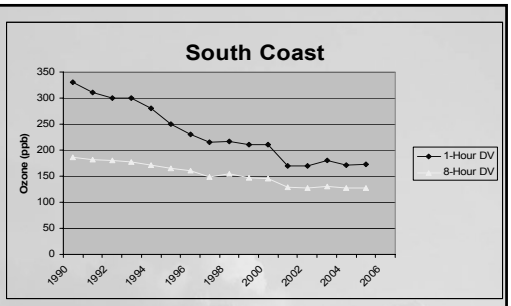
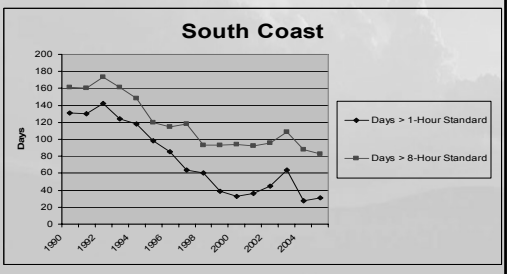
Ozone Trends
(SCAQMD)





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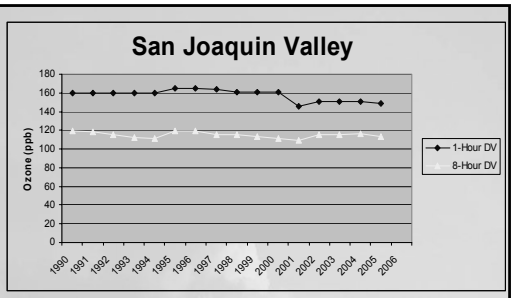
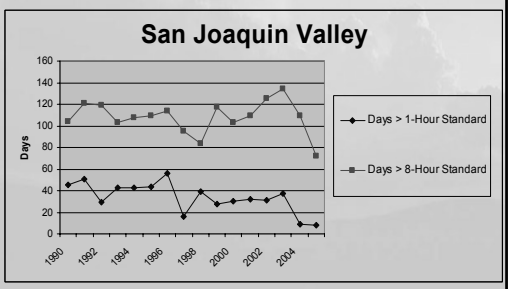
Ozone Trends
(SJV)





Ozone Precursor Inventory

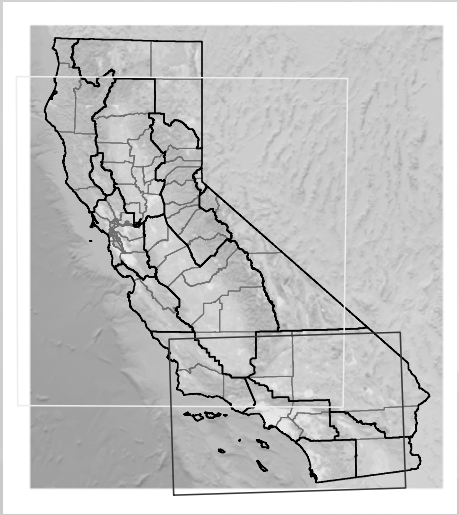
NOx

- **Projected to decrease from 2005 to 2020 by ~50% in the SCAB and SJV**

ROG

- **SC:**
  - **ROG projected to decrease by ~30% to ~600 TPD**
  - **Natural emissions account for another 120 TPD**
- **SJV:**
  - **ROG projected to decrease by ~10% to ~360 TPD**
  - **Natural emissions account for another 1100 TPD**

Modeling Domains

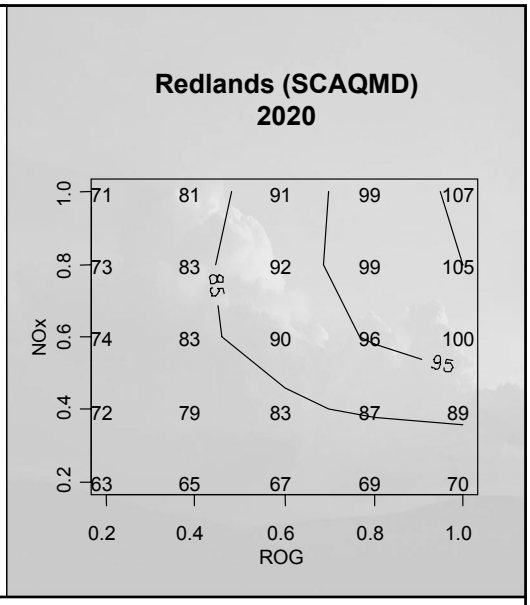


The two domains cover all 8-hour ozone non-attainment areas

Preliminary Modeling Results

- Future year modeling in progress
- Goal: estimate future year emission targets for attainment
- Model runs are made with various "across-the-board" emission changes from baseline
- Carrying capacity diagrams are constructed
- Contour line for standard identifies estimated targets for attainment

Preliminary Modeling Results (SCAQMD)



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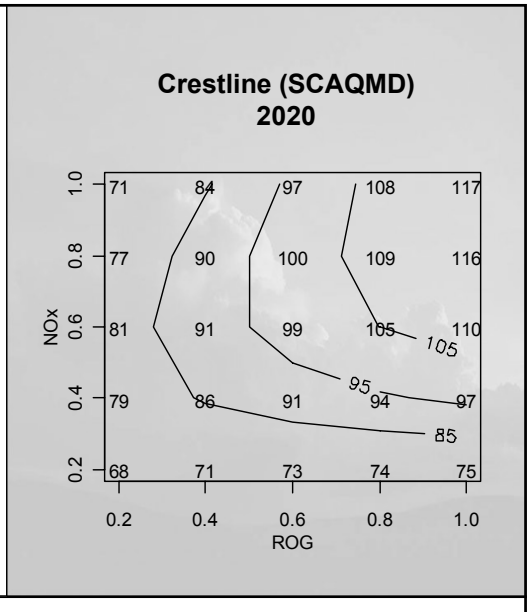
Preliminary Modeling Results (SCAQMD)



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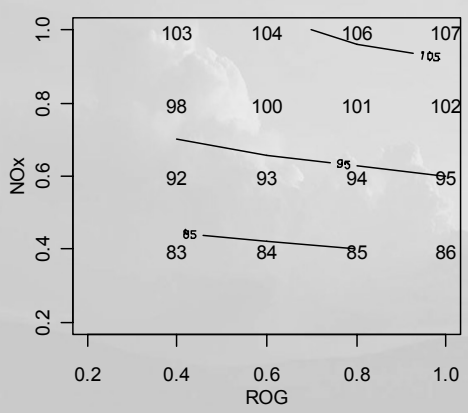
Preliminary Modeling Results (SJV)



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Corroborative Analyses in Progress

- Assessment of episodes
- Met-adjusted AQ trends
- Modeled trends
- Measurement-based corroboration of modeling
- Changes in ozone-forming potential
- HC/NOx and reactivity changes from PAMS network
- Modeling of additional episodes

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Key Points

- **1- and 8-hour ozone metrics have improved in the SCAB due to existing control program**
- **Population exposure has improved in the SJV**
- **Work in progress to define the needed emission targets to meet the 8-hour ozone standard**
- **Preliminary results indicate that substantial reductions will be needed**

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