



# State Implementation Plan for 8-Hour Ozone in San Diego

Planning and Technical Support  
Division

May 24, 2007

San Diego

# [ Overview

- 8-hour ozone standard and classification
- Ozone air quality and emission trends
- SIP framework
- Attainment demonstration
- Control strategy
- Staff recommendations



# Ozone Health Effects



- Inflammation and irritation of lung tissue
- Coughing, chest tightness, and increased asthma
- 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 Standard

- U.S. EPA promulgated a new 8-hour ozone standard—0.08 ppm
  - established classification for nonattainment areas
  - outlined emission controls and planning elements



# San Diego's Profile



# San Diego's Ozone Classification

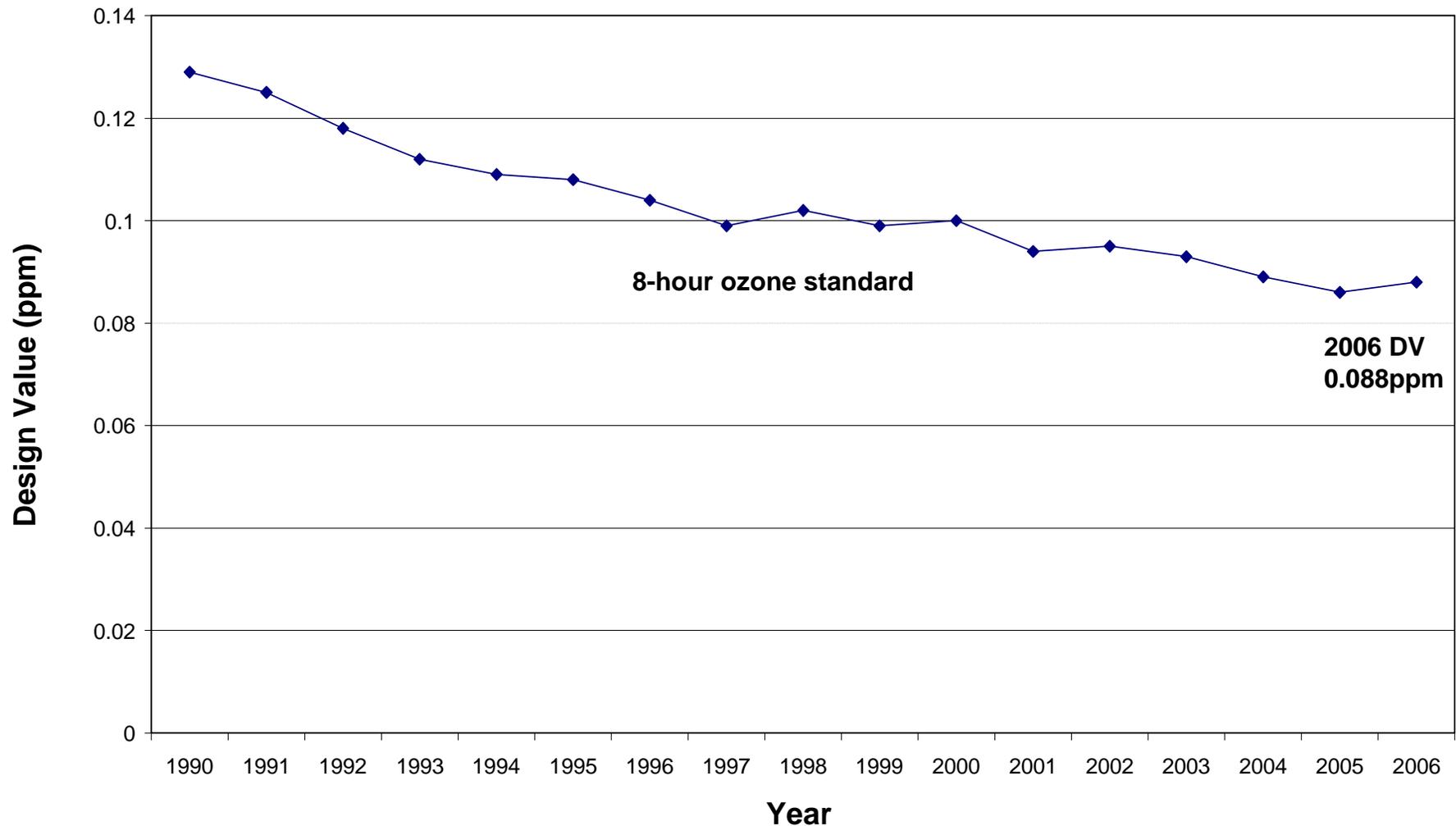
- “Basic” nonattainment area
  - Refers to 8-hour nonattainment areas that met the former 1-hour standard
- “Basic” areas must meet Subpart 1 requirements of the Clean Air Act
  - less prescriptive than Subpart 2

# Air Quality Trends

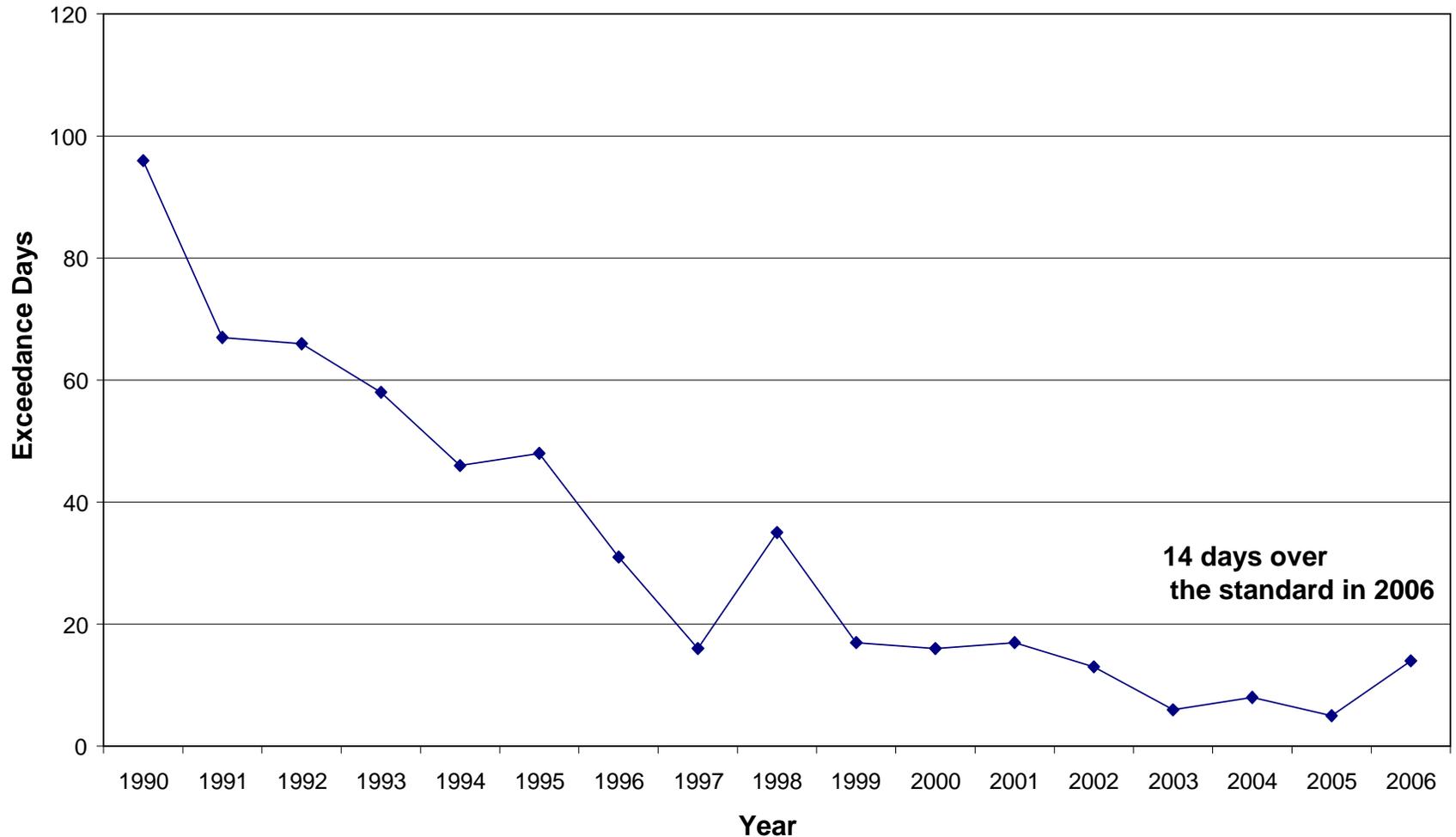
- Attained 1-hour ozone standard in 2001
- Significant air quality improvement
  - Design value decreased 15% over last 10 years
  - Days over the standard decreased 54% over last 10 years



# San Diego Federal 8-hr Ozone Design Value (1990-2006)

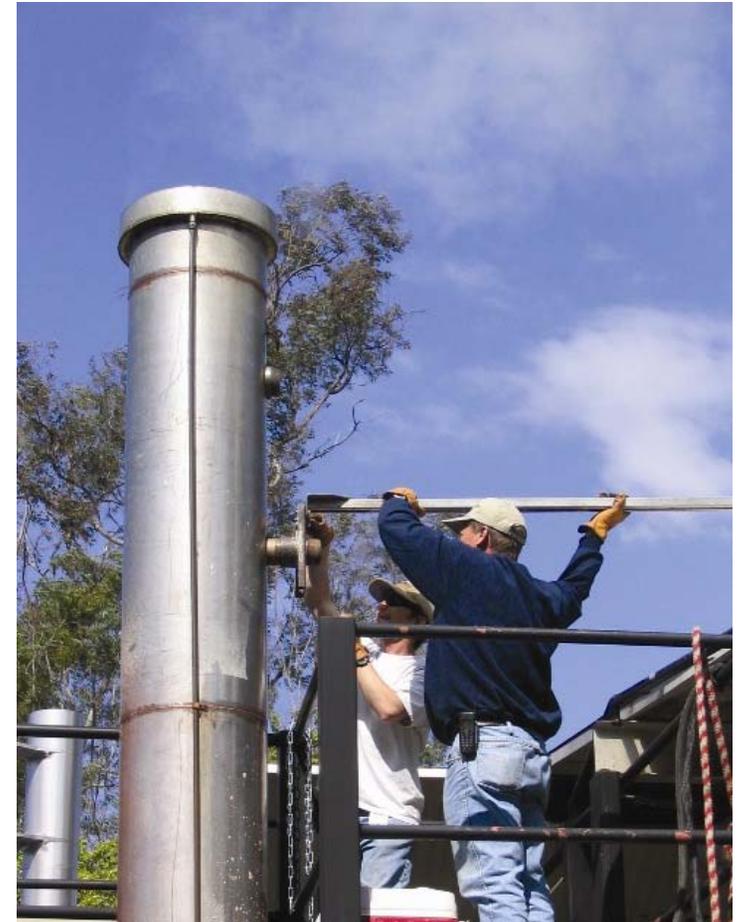


# Federal 8-hr Ozone Exceedance Days (1990-2006)

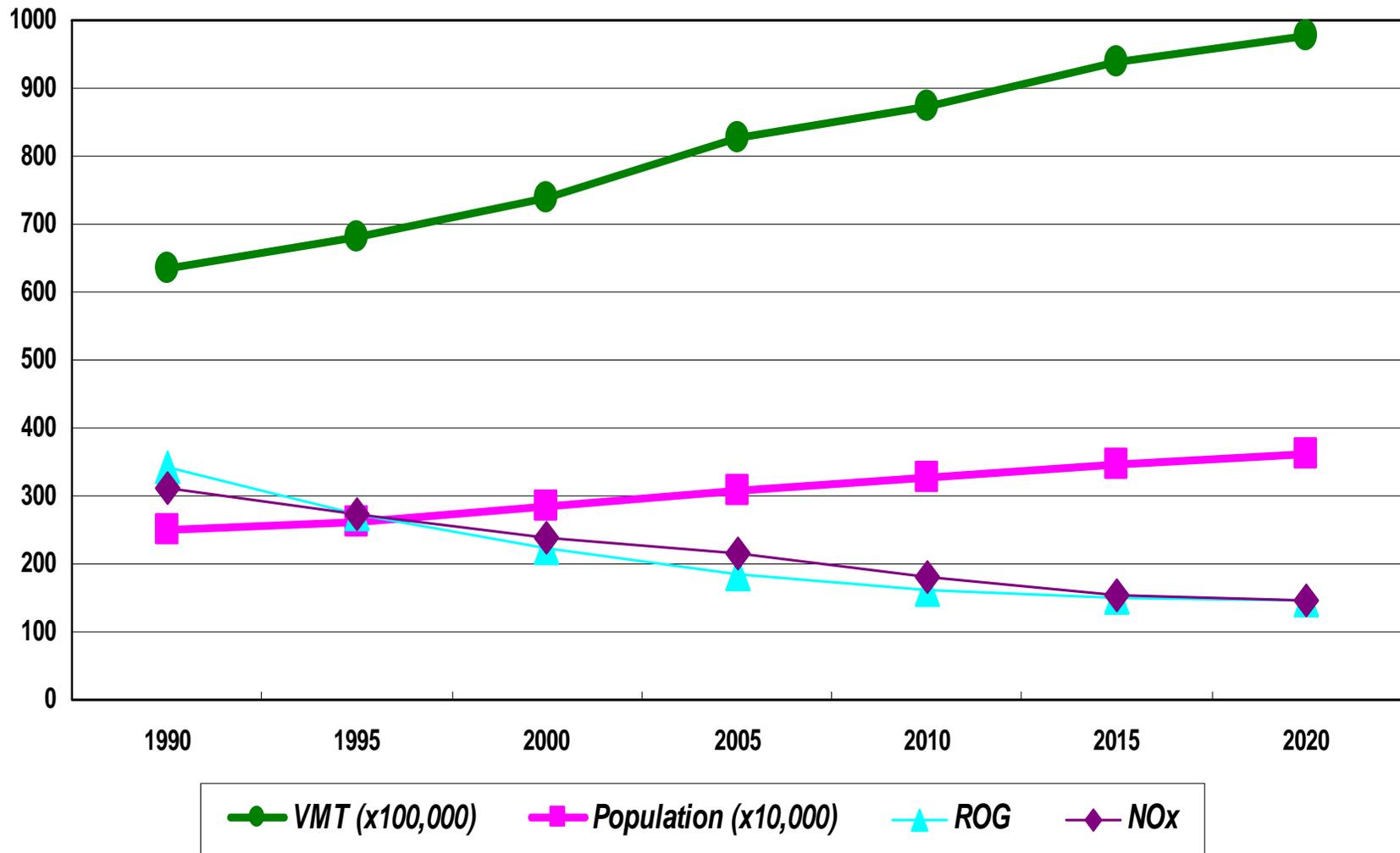


# Sources of Ozone Forming Emissions

- Main sources of NO<sub>x</sub>:
  - passenger vehicles,
  - ships and commercial boats,
  - and off-road equipment
- Main sources of ROG:
  - passenger vehicles,
  - consumer products,
  - architectural coatings,
  - recreational boats, and
  - lawn and garden equipment



# San Diego Trends



# [ SIP Framework ]

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- Emission Inventory
- Attainment Demonstration
- New Weight of Evidence guidelines
- Control strategies
- Transportation conformity emission budgets

# Attainment Demonstration

- Photochemical modeling for “basic” areas
- Design value of 84 ppb or less is considered attainment
- Must show a full clean year (2008) before June 15, 2009 attainment deadline

# Supplemental Weight of Evidence Now Required

- Recognizes uncertainty inherent in air quality modeling
- Uses measured air quality and meteorological data
- If design value is between 82-87 ppb, supplemental analysis can be used to demonstrate attainment

# San Diego's Attainment Demonstration

- District photochemical modeling predicts a 2008 design value of 86 ppb
- ARB staff modeled additional episode
  - Coincides with direction of San Diego's findings



# San Diego's Weight of Evidence Analysis

- Unmonitored areas analysis
- Modeled ozone exposure reduction
- Air quality trend data
  - Includes 30, 20, and 10-year trends of design value reduction
- Emission trends
- Meteorology of recent years
- Shortened ozone season

# [ Transportation Conformity



- Establish budgets for transportation conformity

<b>Pollutant</b>	<b>2008 and Subsequent Years (tons per year)</b>
ROG	53
NO <sub>x</sub>	98

# [ Control Strategy



- District controls meet former 1-hour “serious” requirements
- Existing controls provide necessary reductions for 2009 attainment
- State triennial update is due in late 2007 and will include an “all feasible measures” assessment

# Staff Recommendations

- Plan is technically sound and meets applicable requirements
- Staff recommends adoption of 2007 San Diego 8-Hour SIP and submittal to U.S. EPA

