

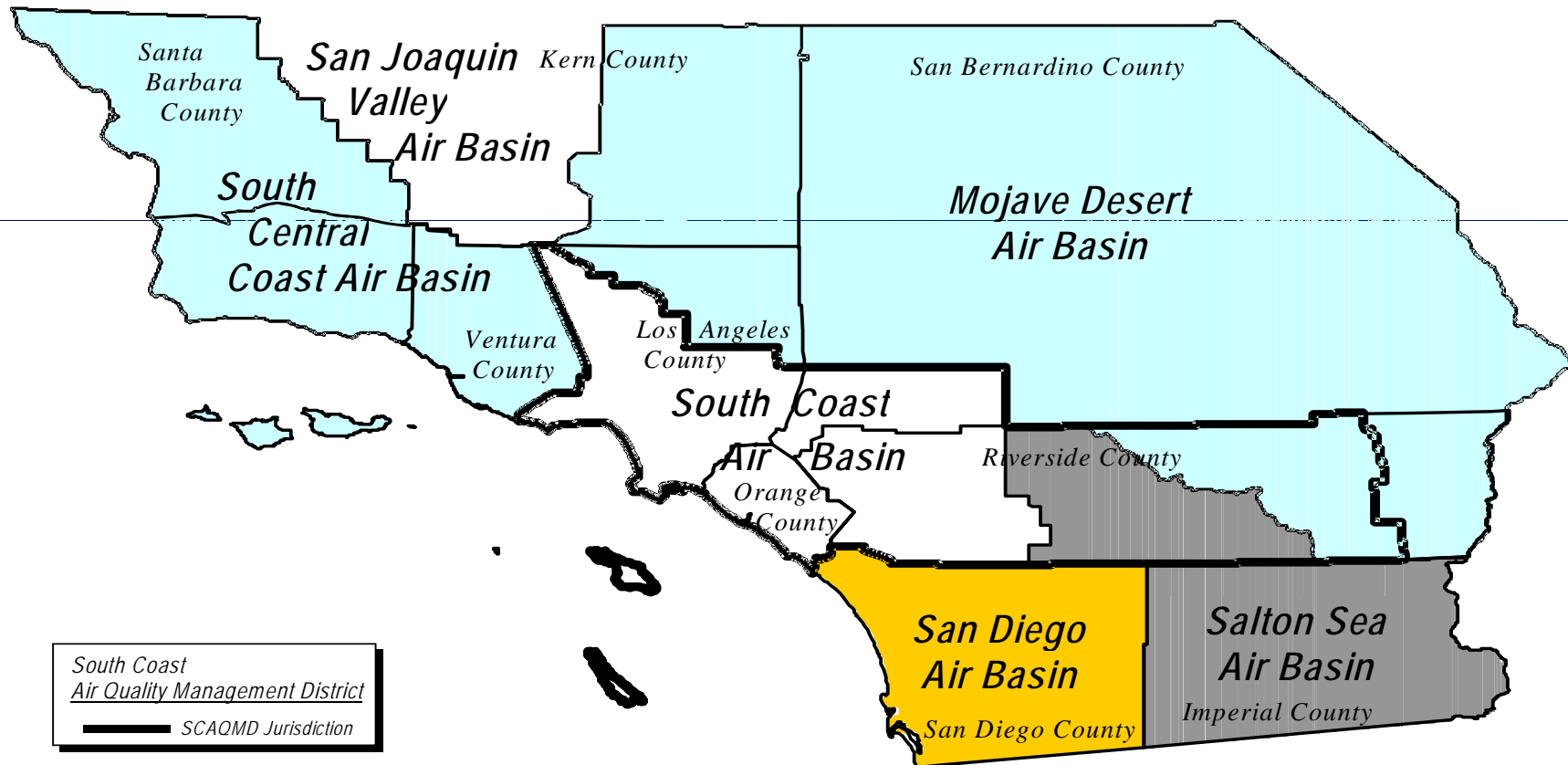
# 2007 South Coast AQMP/SIP Ozone & PM2.5 Control Strategy

Laki Tisopulos, Ph.D., P.E.  
Assistant Deputy Executive Officer  
South Coast Air Quality Management District

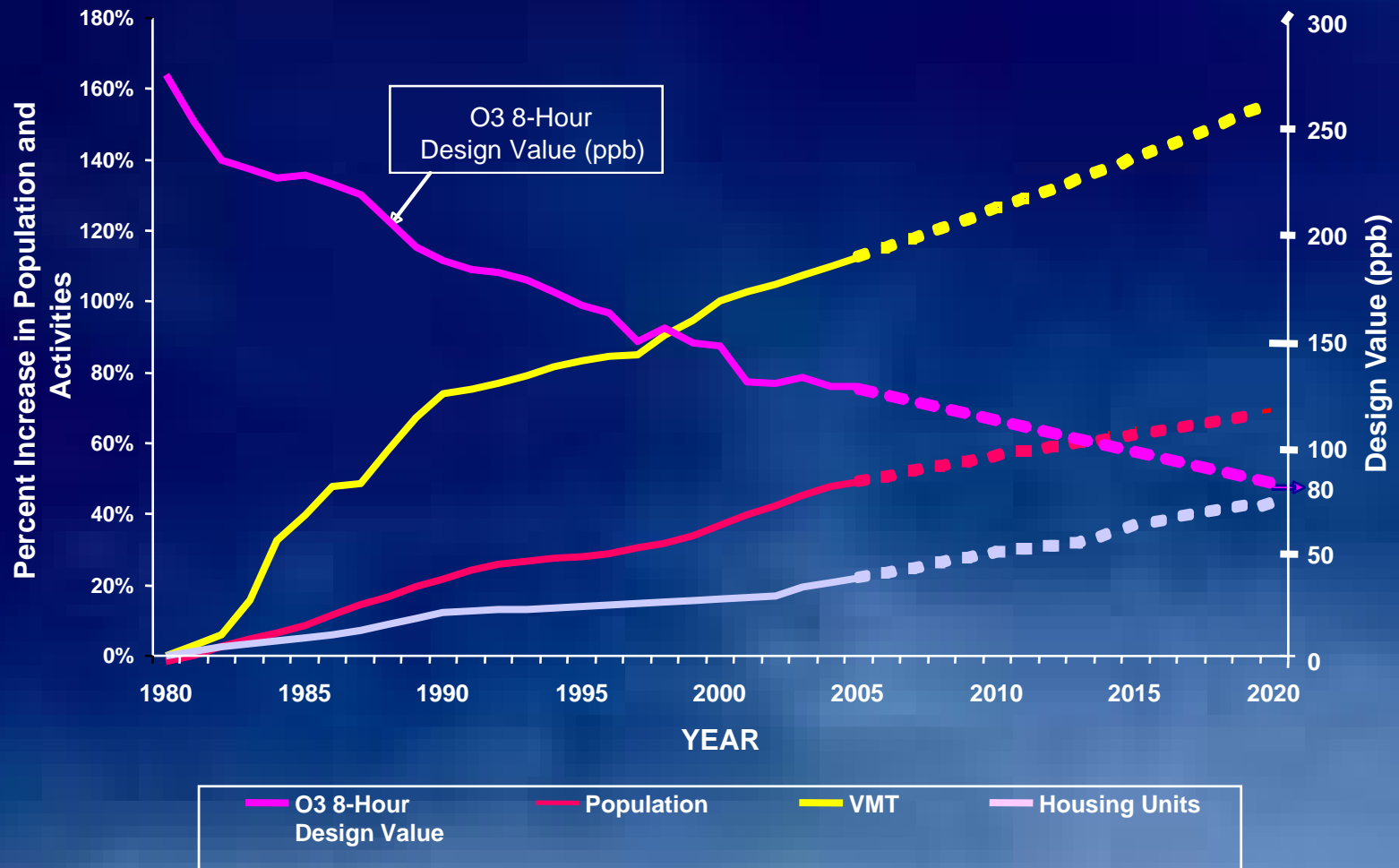
NACAA Spring Membership Meeting  
May 6, 2008



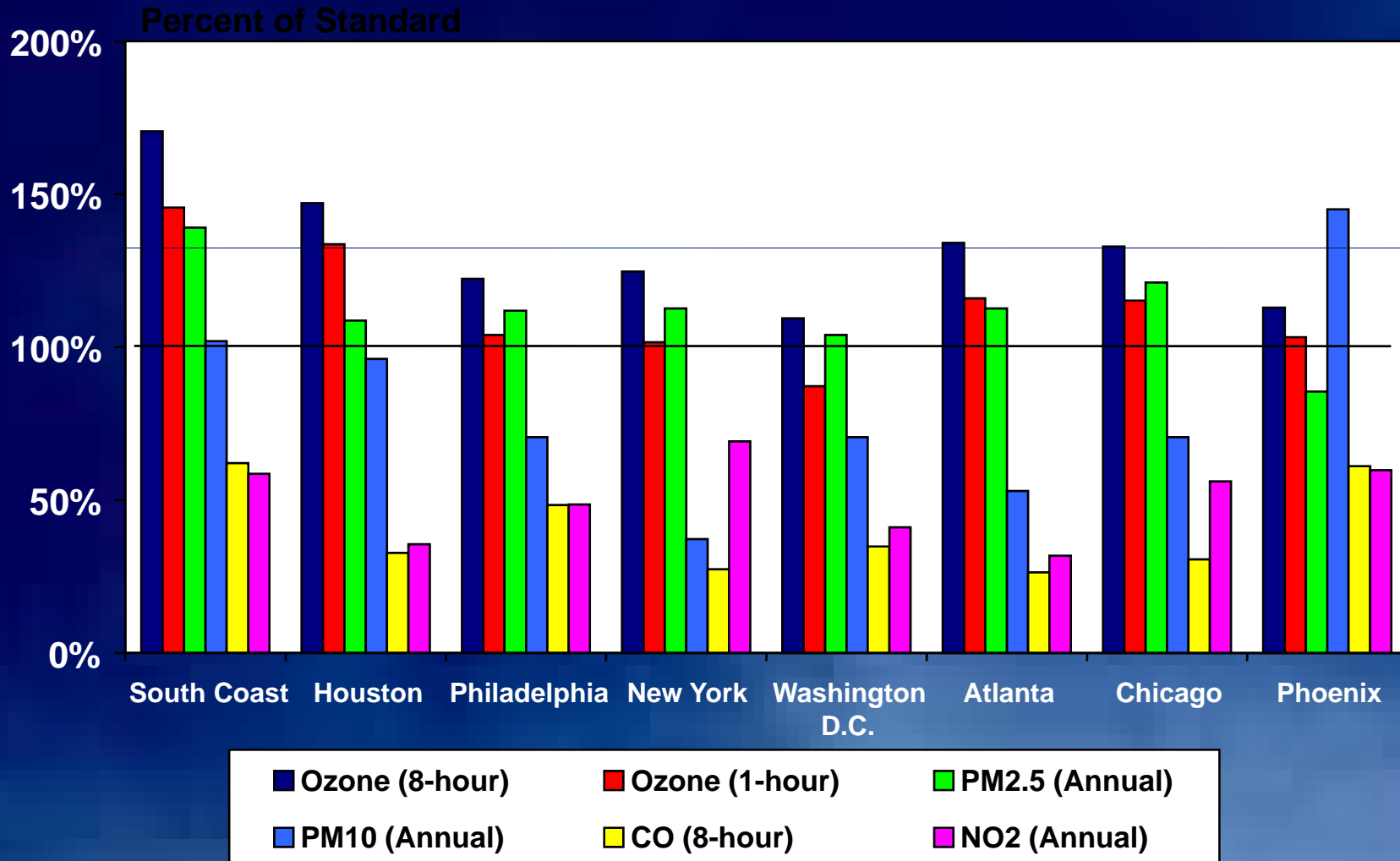
# Boundaries of the South Coast Air Quality Management District and Federal Planning Areas



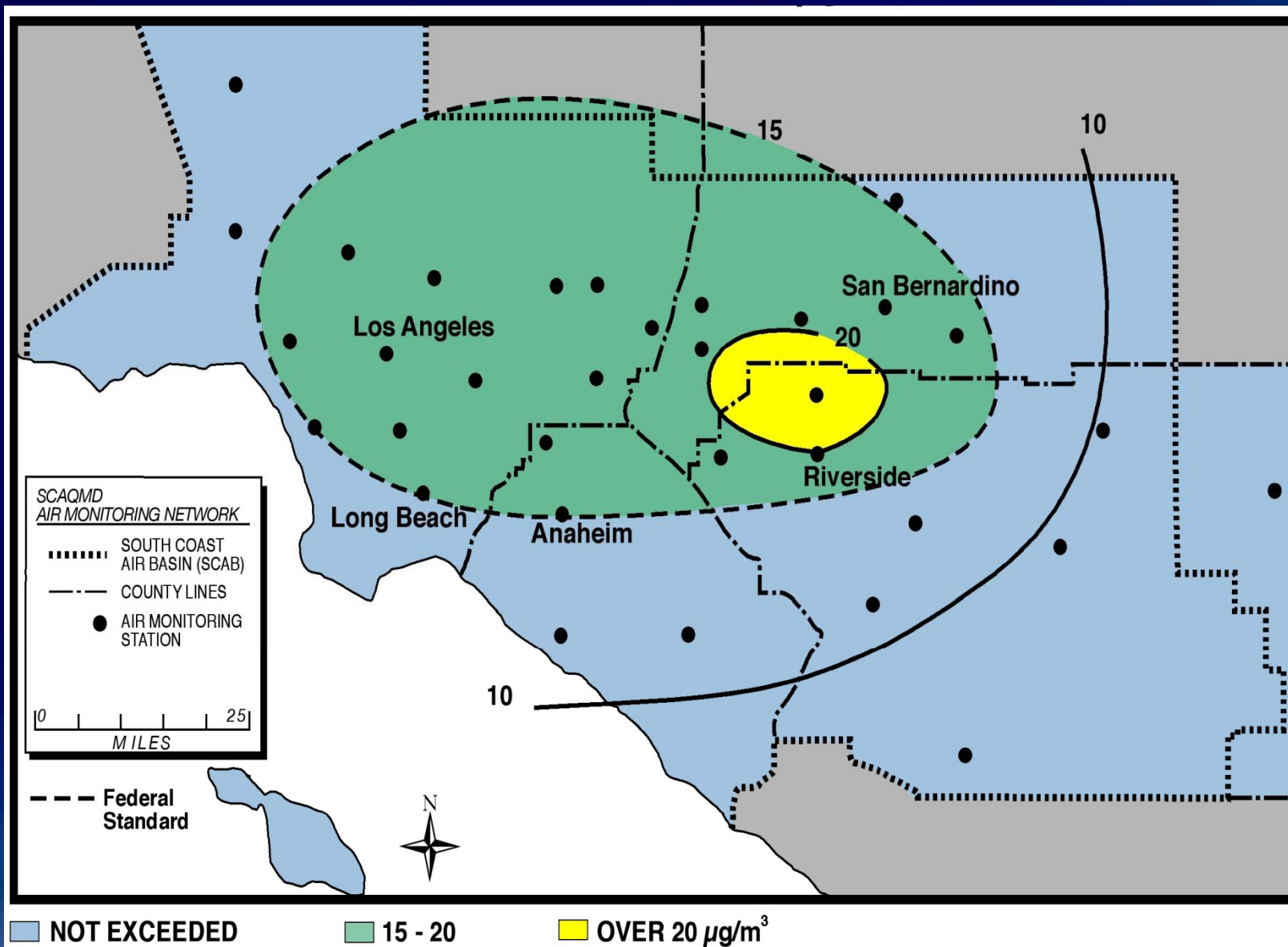
# Demographic Projections and Ozone Air Quality Trend



# 2005 South Coast Air Basin Quality Compared to Other U.S. Cities



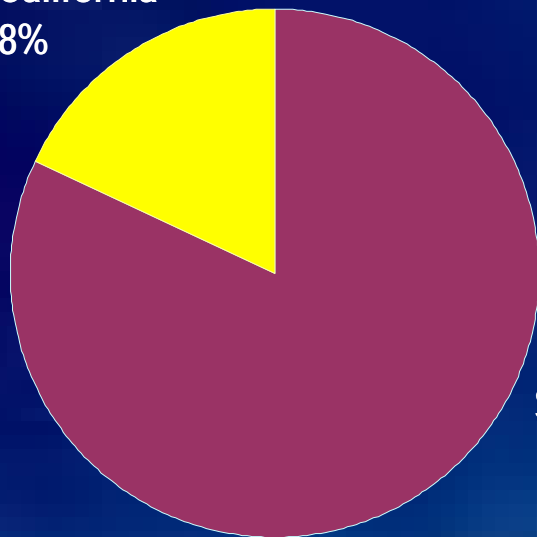
# 2005 Annual Average PM2.5 Concentration



# PM2.5 Disproportionate Exposure South Coast Air Basin

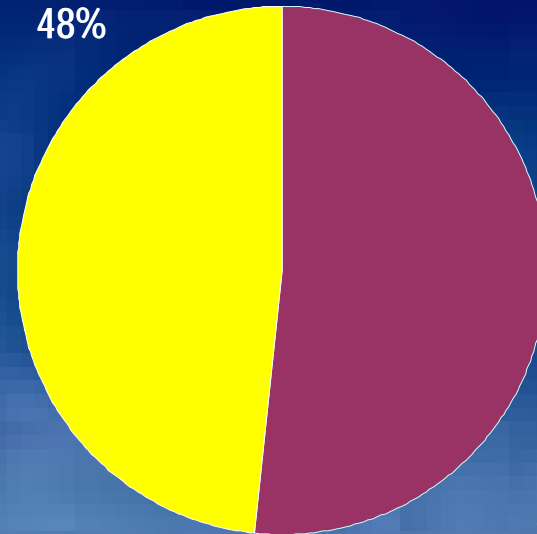
Population-Weighted Exposure Above NAAQS Based on  
2000-2002 AIRS Data

Rest of California  
18%



South Coast  
82%

Rest of Nation  
48%



South Coast  
52%

6

6

# Recent CARB Assessment of PM Health Effects



## SCAB Cases/Year due to PM2.5 \*

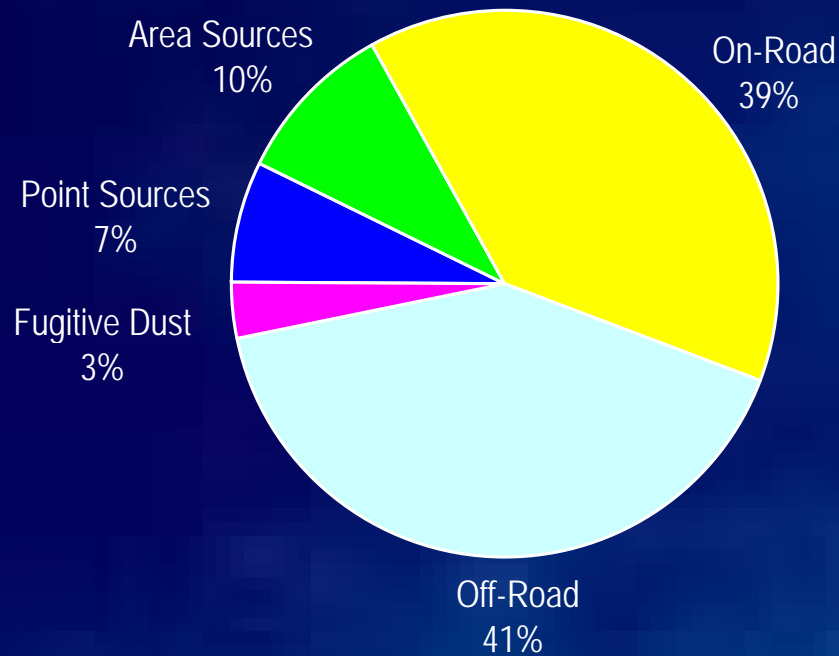
Premature Deaths	5,400
Hospitalizations	2,400
Asthma & Lower Respiratory Symptoms	140,000
Lost Work Days	980,000
Minor Restricted Activity Days	5,000,000

\*1999-2000 Air Quality Data

Source: California Air Resources Board

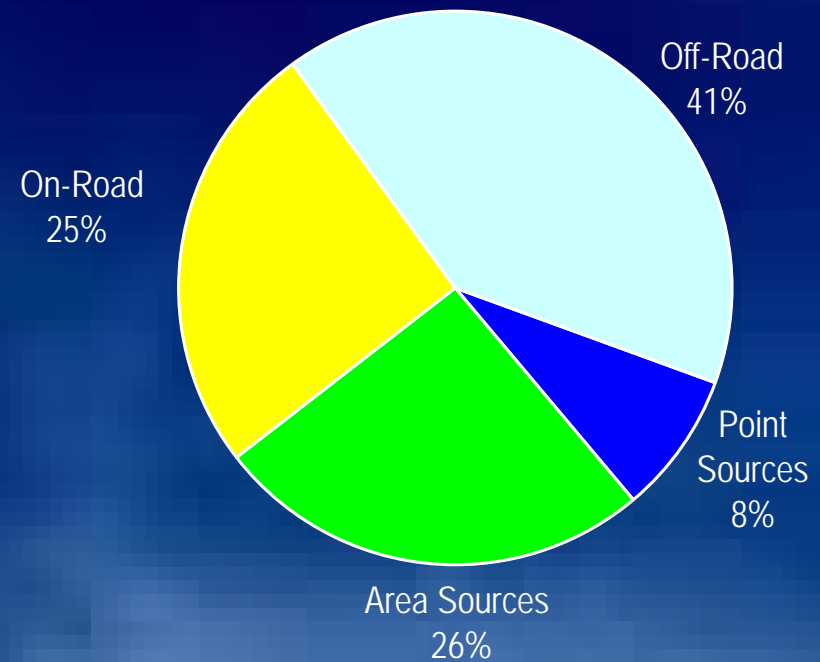
# Emissions by Major Category SCAQMD

PM2.5, 2014



(NO<sub>x</sub>, SO<sub>x</sub>, PM2.5)

8-Hr Ozone, 2023

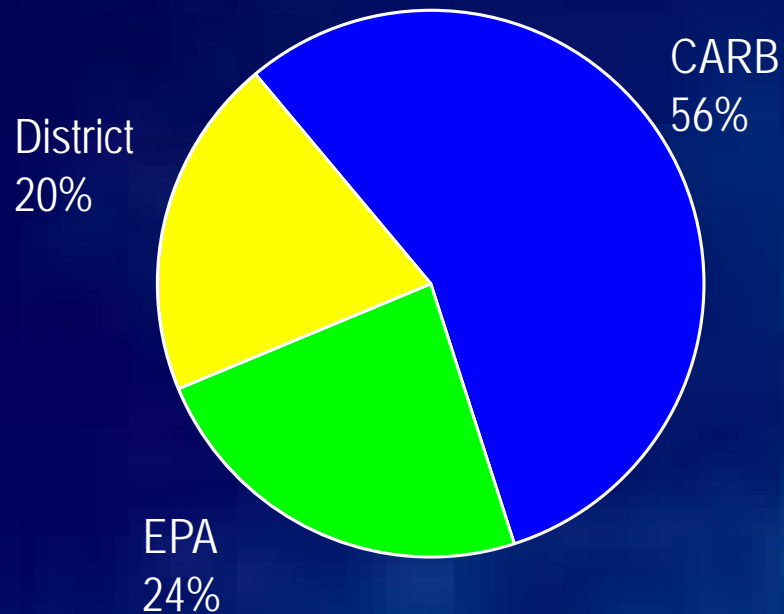


(VOC, NO<sub>x</sub>)



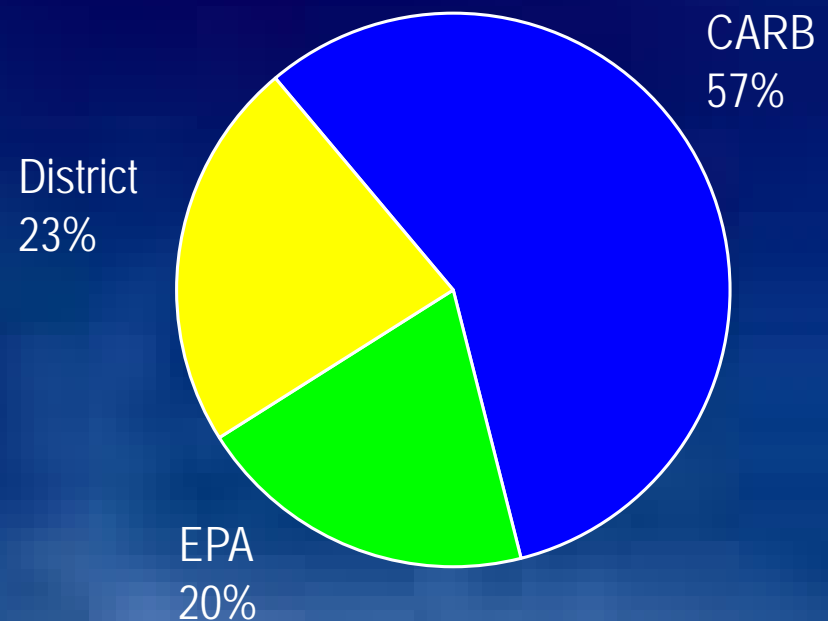
# Primary Emissions Responsibility by Agency

PM2.5, 2014



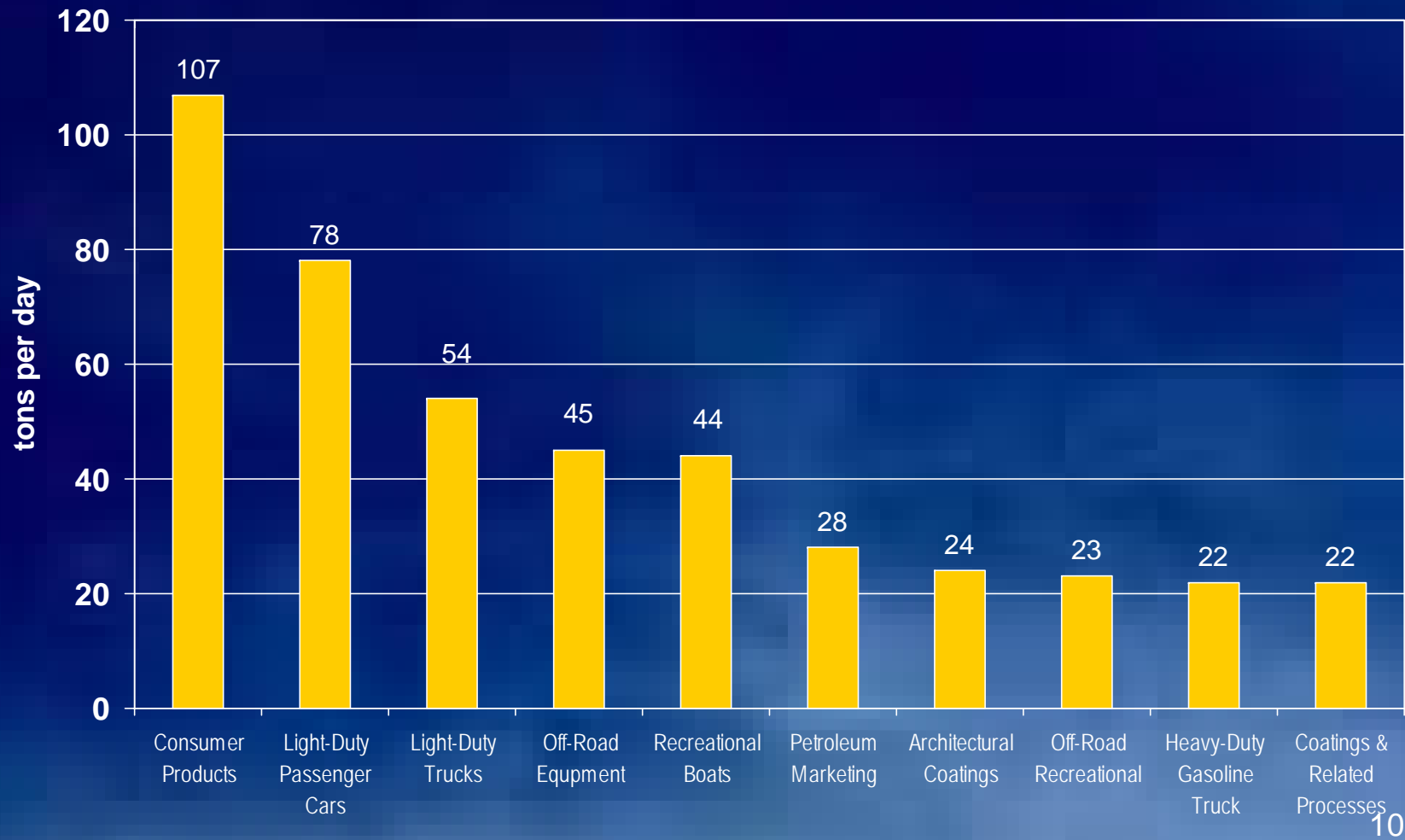
(NO<sub>x</sub>, SO<sub>x</sub>, PM2.5)

8-Hr Ozone, 2023

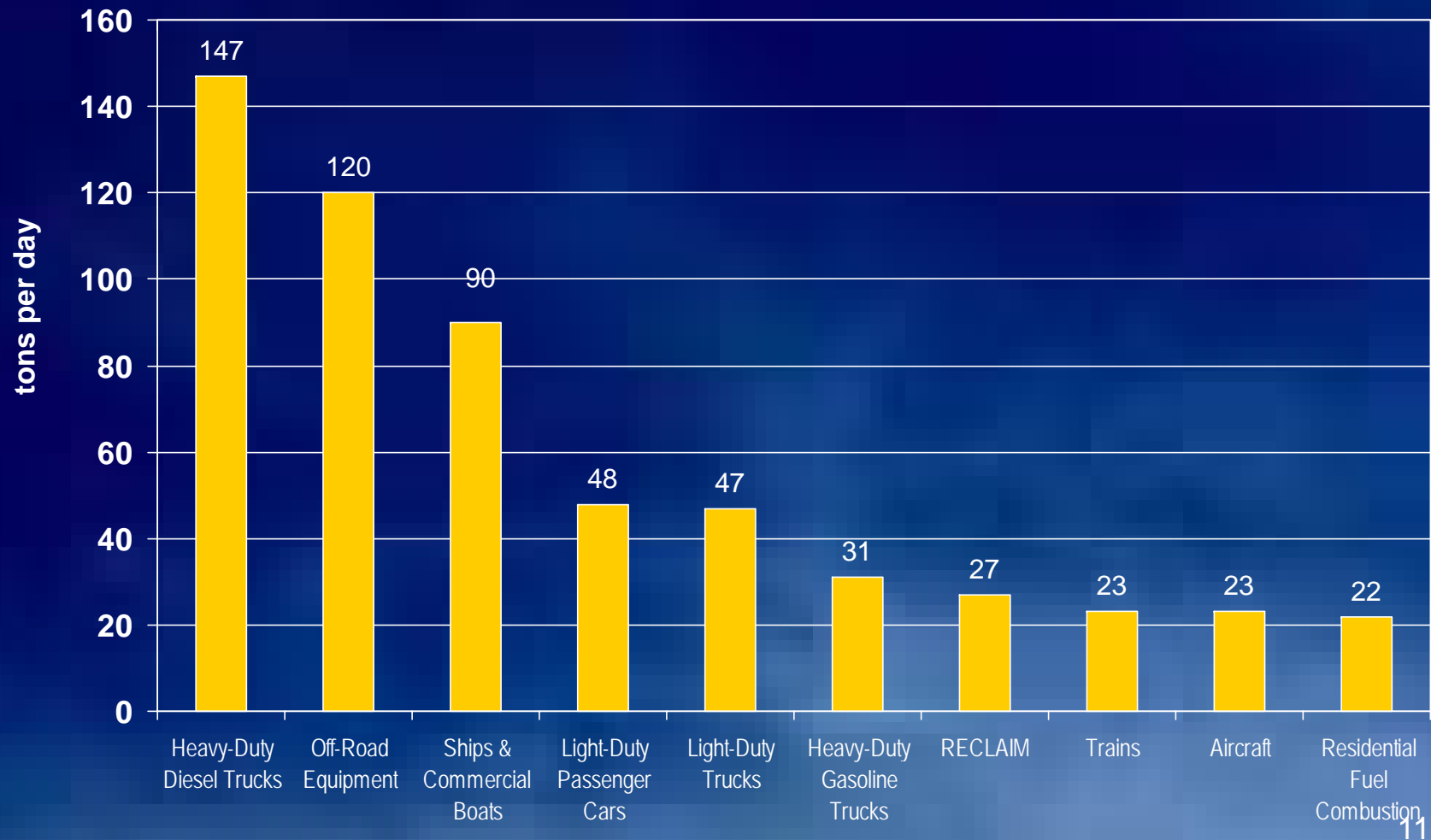


(VOC, NO<sub>x</sub>)

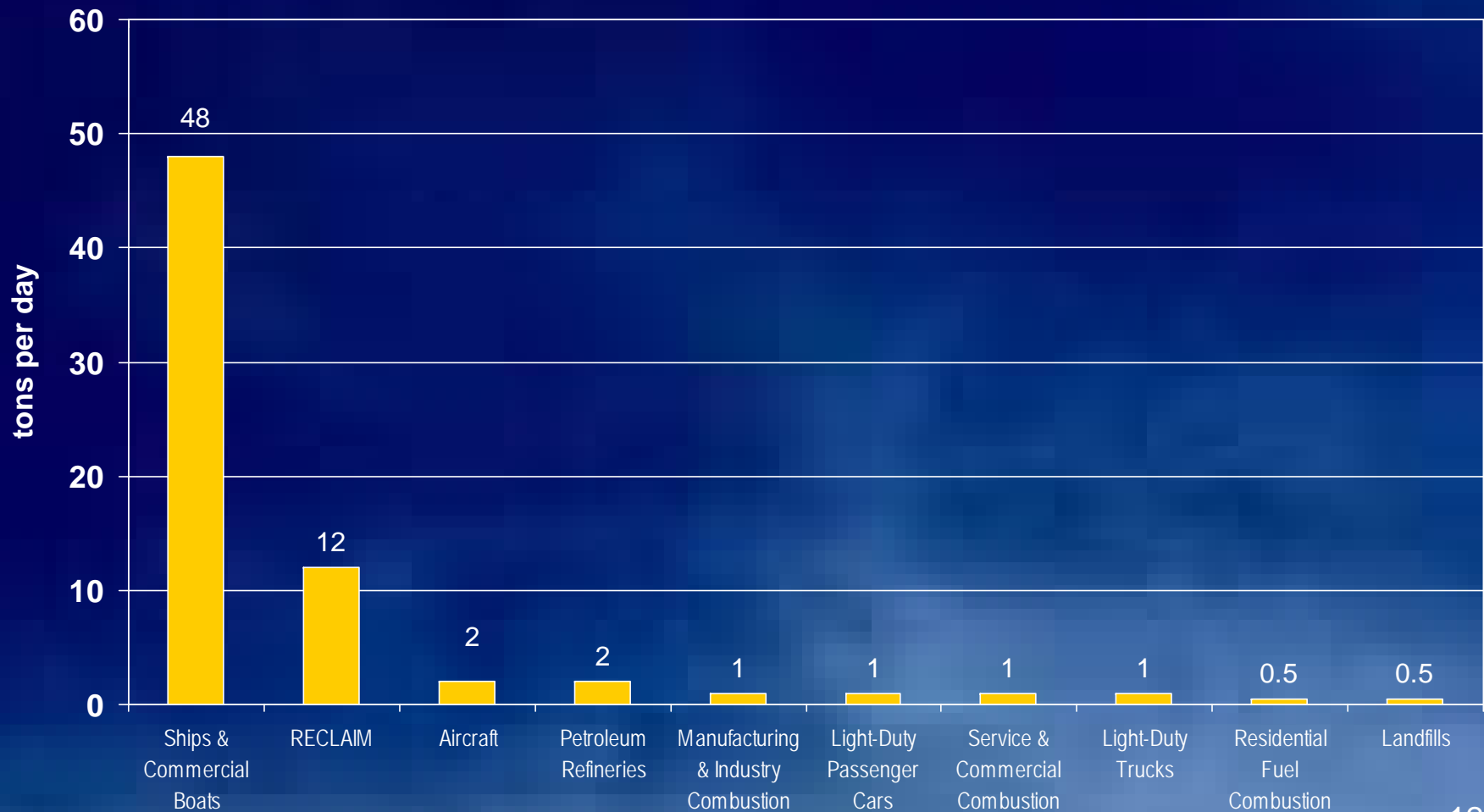
# VOC Annual Average Emissions 2014



# NOx Annual Average Emissions 2014



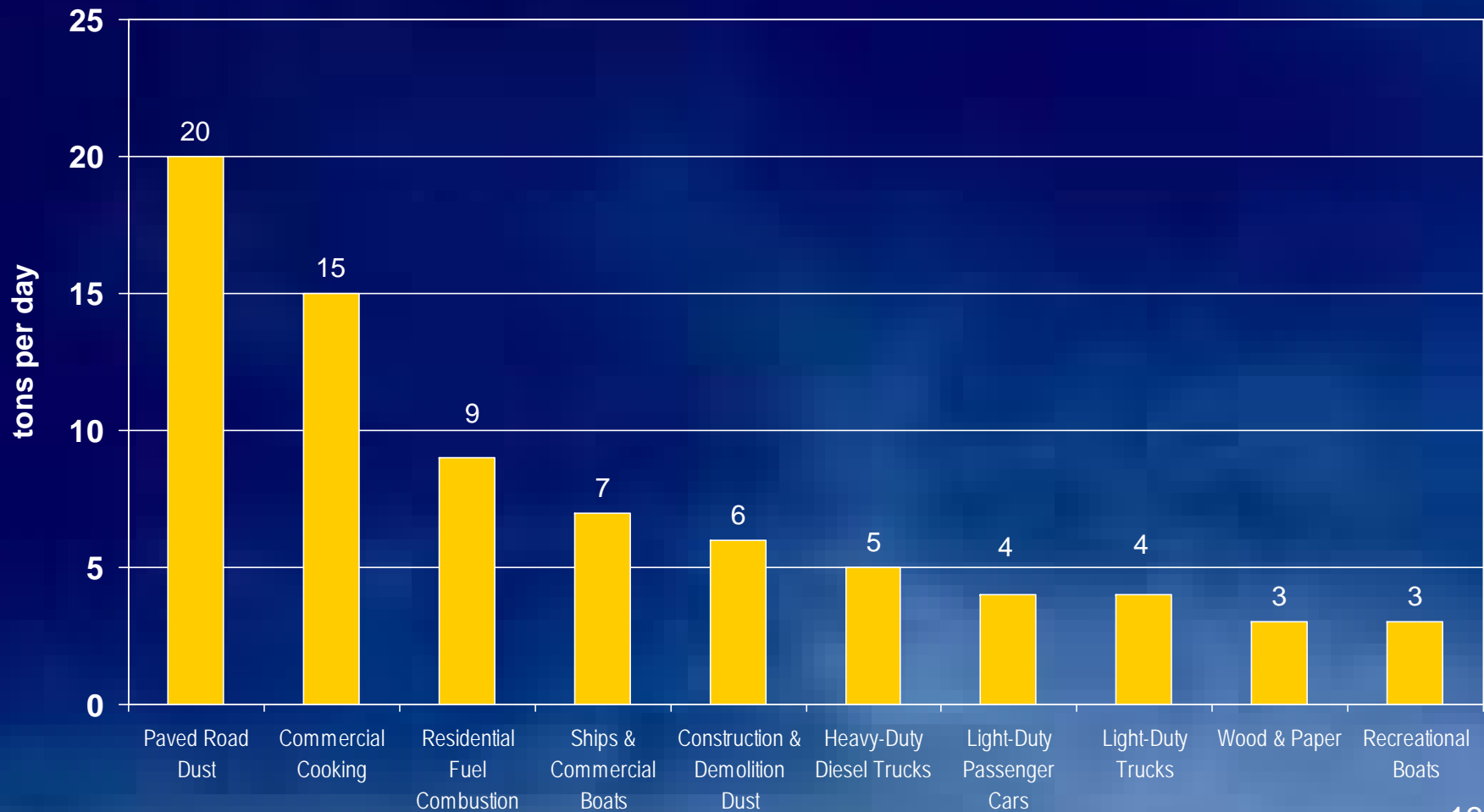
# SOx Annual Average Emissions 2014



12

12

# Directly Emitted PM2.5 Annual Average Emissions-2014



# Goods Movement Growth 2001-2020

- 300 % increase in cargo through the ports
- 170% increase in truck travel
- 150% increase in rail cargo



# Design Principles

- Expeditious Progress
- Meet Attainment Deadlines
- Minimize Cost Impacts to Degree Practicable
- All Feasible Measure and Promote Fair Share Responsibility

# Control Strategy Design

- Step I
  - Maximum controls of SO<sub>x</sub> and directly emitted PM<sub>2.5</sub>
  - Necessary NO<sub>x</sub> controls
  - Modest VOC controls to ensure progress toward ozone attainment
- Step II
  - Continue NO<sub>x</sub> control programs
  - Necessary VOC reductions
- Attainment Demonstration
  - All grid cells
  - At or below the standards



# 2007 AQMP Control Strategy

- District's Stationary and Mobile Source Control Measures
- State and Federal Control Measures
  - CARB's Proposed Concepts
  - District Staff's Recommended State and Federal Stationary and Mobile Source Control Measures
- SCAG's 2004 RTP/2006 RTIP
- Long-Term Strategy

# Plan Summary

- Inclusive Control Strategy
  - 2015 PM2.5 Attainment
  - 2024 Ozone Attainment
- 31 - Stationary Source Measures
- 30 - Mobile Source Measures

## Emissions Reductions Needed

	2014	2023
NOx	203 (29%)	383 (76%)
VOC	59 (11%)	116 (22%)
SOx	24 (56%)	---
PM2.5	14 (14%)	---

# Highlights of Control Measures

- New Development and Re-Development Projects
- Consumer Products Certification and Use Restrictions
- Facility Modernization
- Backstop Rule for Ports and Port-Related Facilities

# Highlights of Control Measures (cont)

- Cleaner Fuel in Ocean Going Vessels Auxiliary and Main Engines
- Ocean-Going Vessels While At Berth At A California Port
- Off-Road Engine In-use Standards
  - Local Opt-in Surplus Reductions
- In-Use On-Road Heavy-Duty Diesel Vehicles

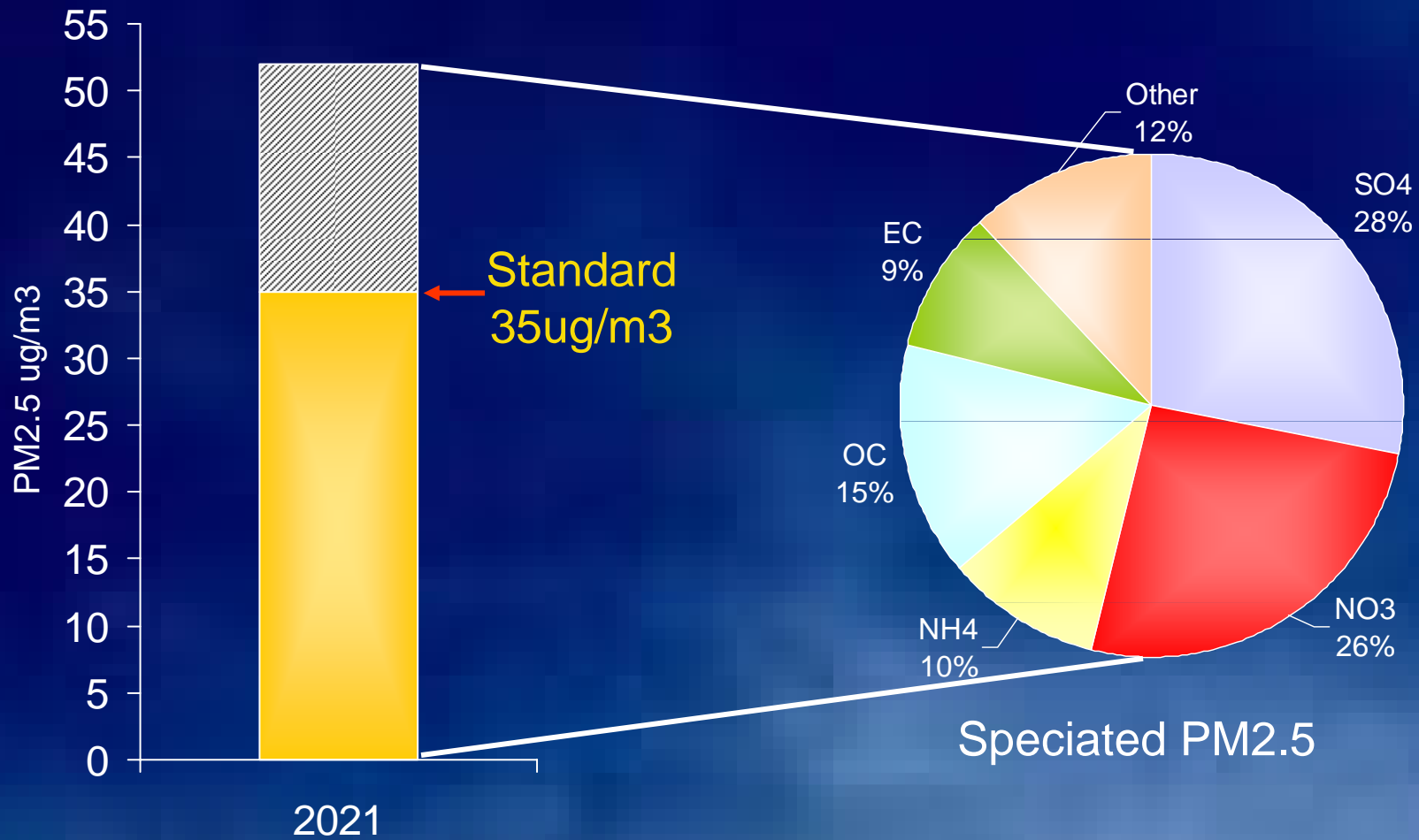
# Market Incentive Programs

- Public/Private Investment to Accelerate Fleet Turnover
  - Carol Moyer Program
  - AB923
  - Prop 1B
  - Others

# Challenges on the Horizon

- Revised 24-Hour PM<sub>2.5</sub> Standard
  - 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>
  - EPA designations finalized (12/2008?)
  - AQMP due three years following final designation
- Revisions to the 8-Hour Ozone Standard
  - New standard: 0.075 ppm
  - Final designations finalized (12/2010)

# Predicted Maximum 24-hour PM 2.5 Concentration (2021)



# Summary

- Concerted effort underway to implement 2007 AQMP control strategy
- Federal partnership needed
- New air quality standards pose significant challenge to attainment by 2020 and beyond