

Proposed Modifications
to the Draft 2007
Air Quality Management Plan



February 2007

South Coast Air Quality Management District
Cleaning the air that we breathe...™



Public Workshop

March 2007

Today's Agenda

- Background
- Proposed Modifications to Draft 2007 AQMP
- Key Issues
- Next Steps
- Questions and Answers

Background

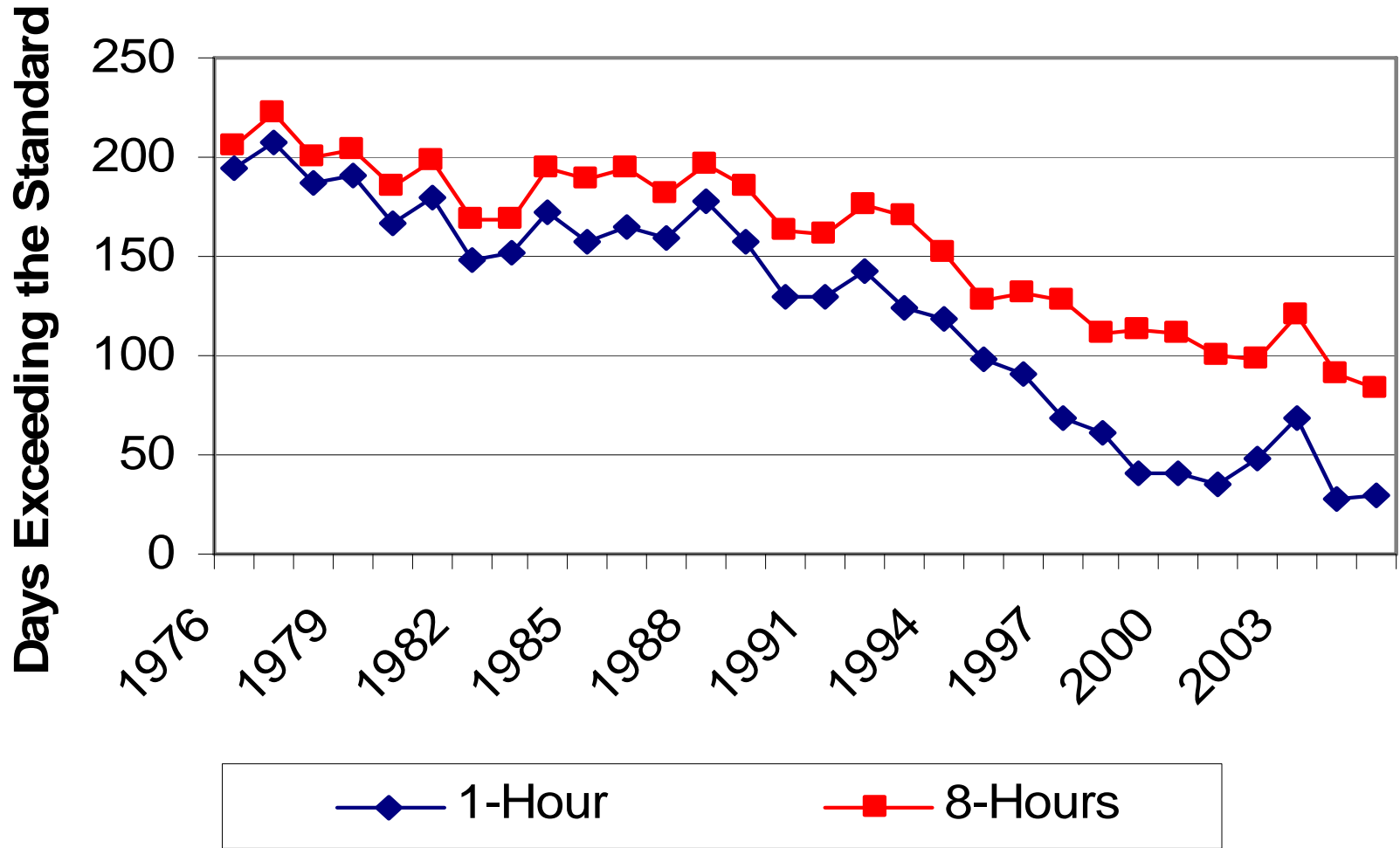
- Draft 2007 AQMP Released in October 2006
- Integrated Plan to Address Both Federal PM2.5 and 8-hour Ozone Standards
 - PM2.5: 2015
 - Building Blocks
 - ⇒SO_x, PM2.5, NO_x, VOC
 - 8-Hour ozone: 2024
 - Building Blocks
 - ⇒NO_x, VOC

Progress Since Release of Draft Plan

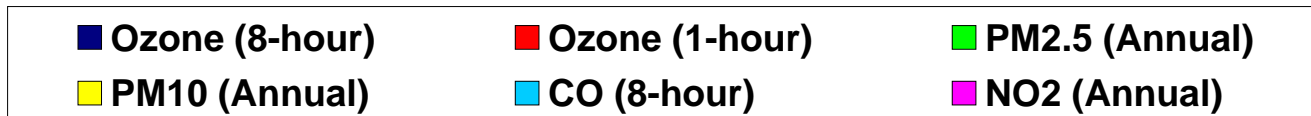
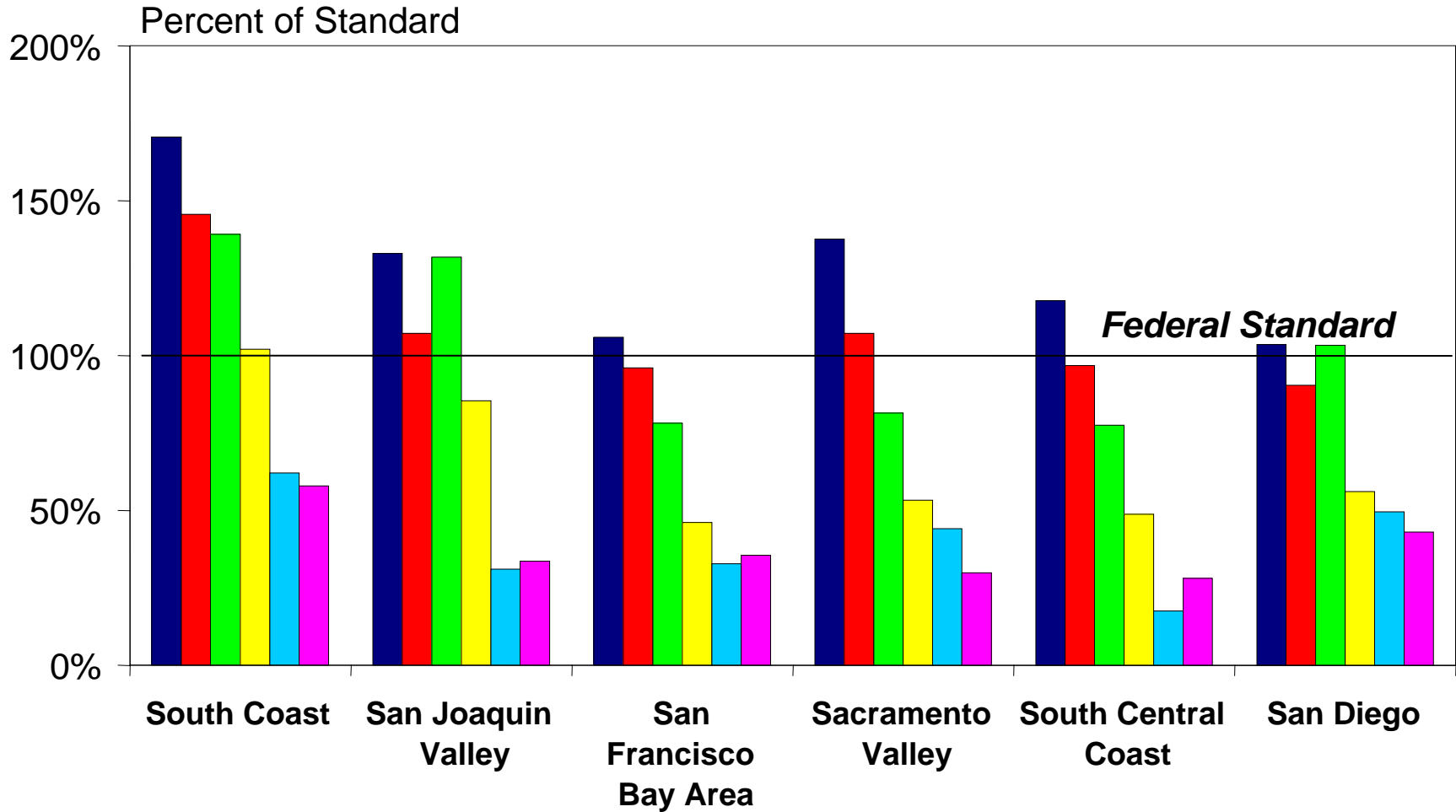
- 9 Public Workshops
- 100+ Stakeholder Briefings
- 41 Comment Letters, 430 Comments
- CARB's Release of Revised Mobile Source Inventory (Nov 06) & State Strategy (Jan 07)
- Modifications to Draft Plan and Draft CEQA Document Released Feb 23, 2007

Air Quality Trend

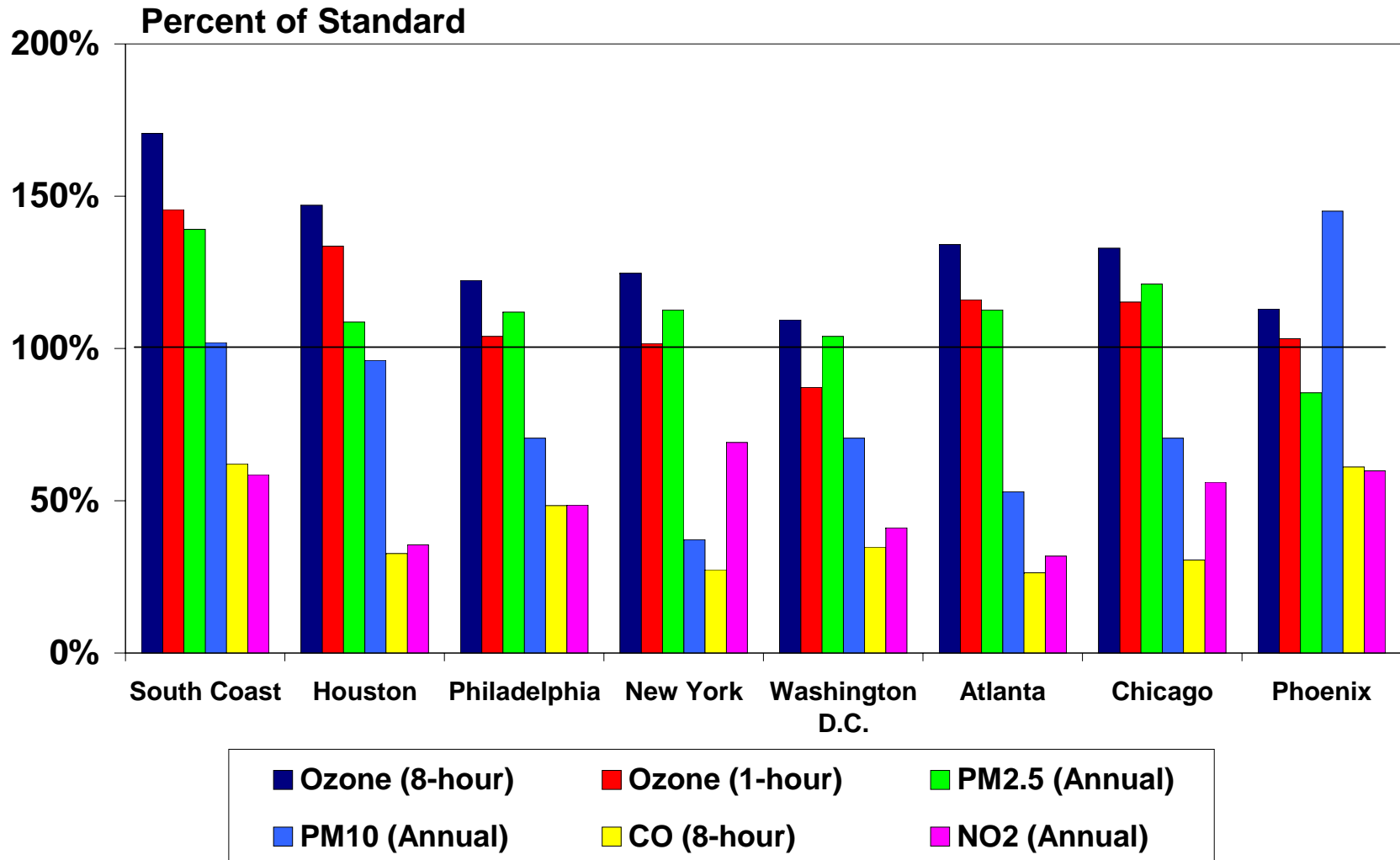
Days Exceeding Ozone Standards



2005 South Coast Air Basin Quality Compared to Other California Air Basins



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



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

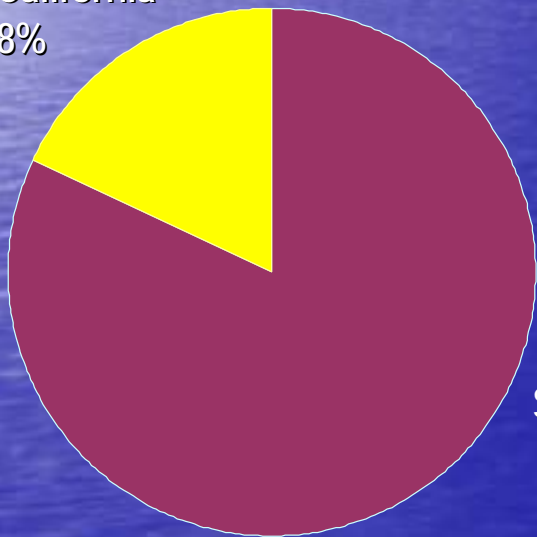
•1999-2000 Air Quality Data

Source: California Air Resources Board

PM2.5 Disproportionate Exposure South Coast Air Basin

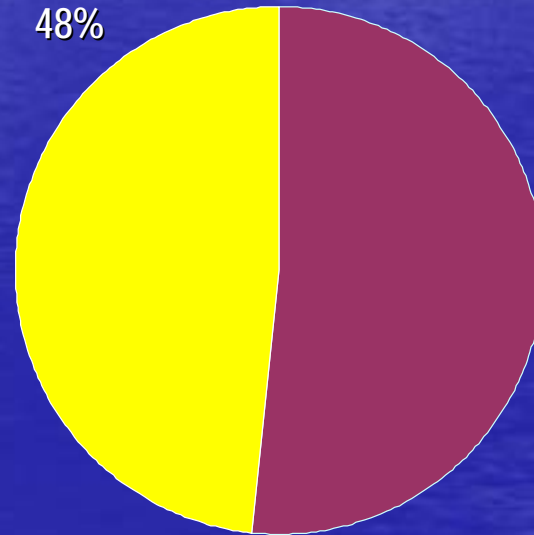
Population-Weighted Exposure Above NAAQS Based on
2000-2002 AIRS Data

Rest of California
18%



South Coast
82%

Rest of Nation
48%



South Coast
52%

Proposed Modifications to Draft 2007 AQMP

- Emissions Inventory
- Attainment Demonstration
 - PM2.5 Standard
 - 8-Hour Ozone Standard
- Control Strategy

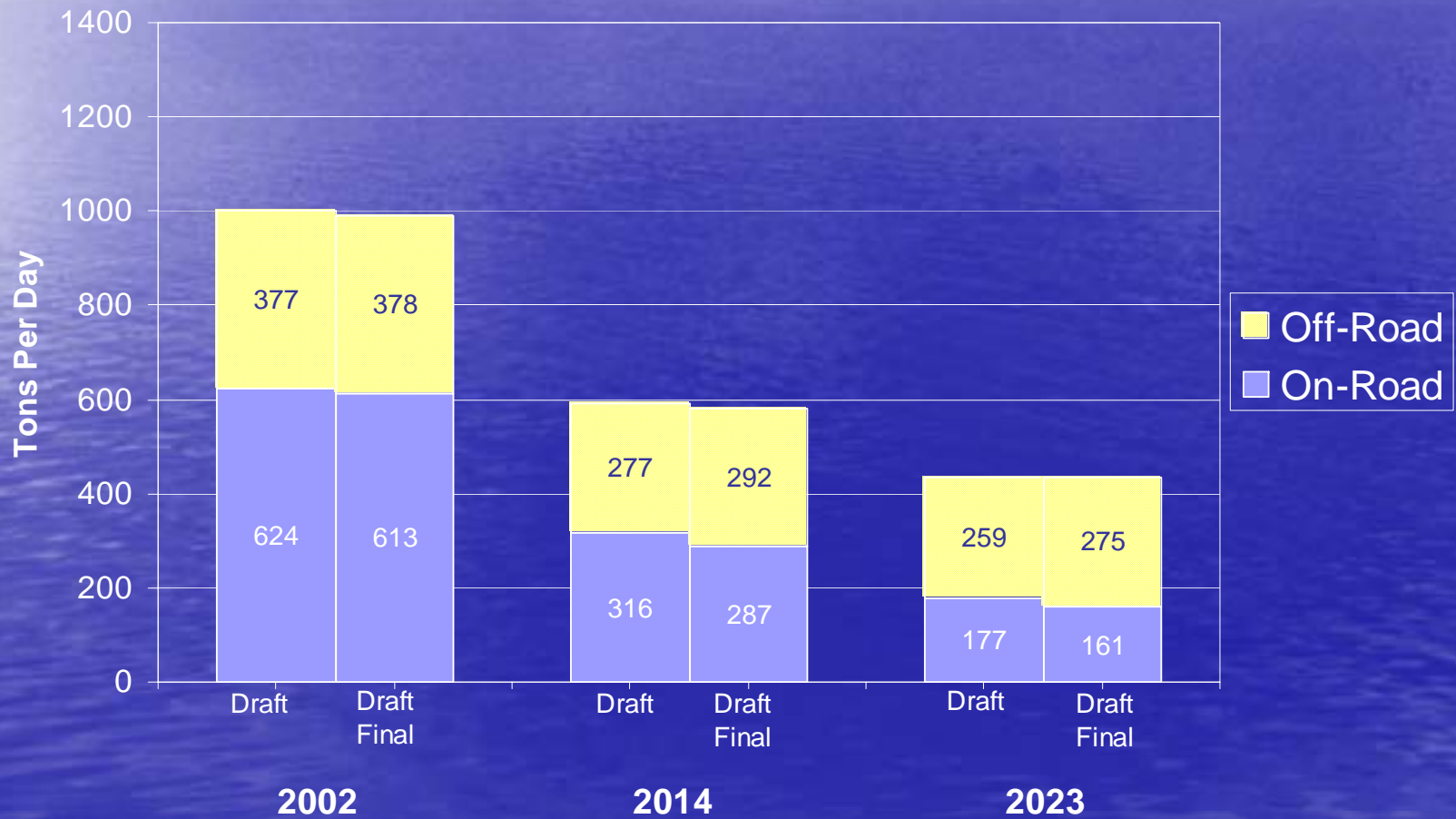
Major Revisions to the Mobile Source Inventory

- Latest On-Road Mobile Source Inventory Model (EMFAC 2007 V2.3) and Off-Road Model Used
- Incorporated Additional CARB Adopted Rules
- Major Revisions:
 - Significant Decrease in On-Road Mobile Source Inventory Due to Treatment of Pending Vehicles
 - Increase in Off-Road Mobile Source Inventory Due to New Survey Data

Baseline Inventory Changes Summer VOC (tpd)

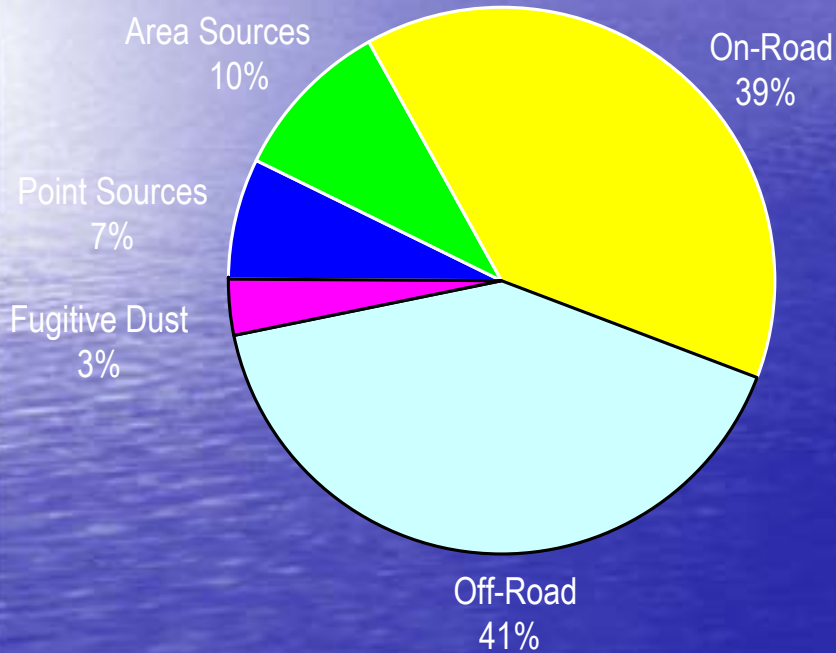


Baseline Inventory Changes Summer NOx (tpd)



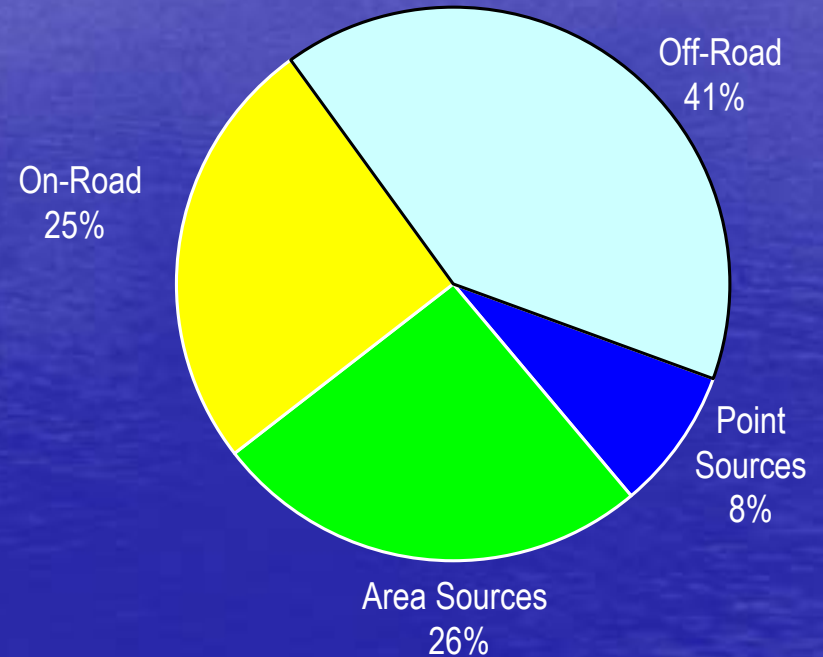
Emissions by Major Category

PM2.5, 2014



(NO_x, SO_x, PM2.5)

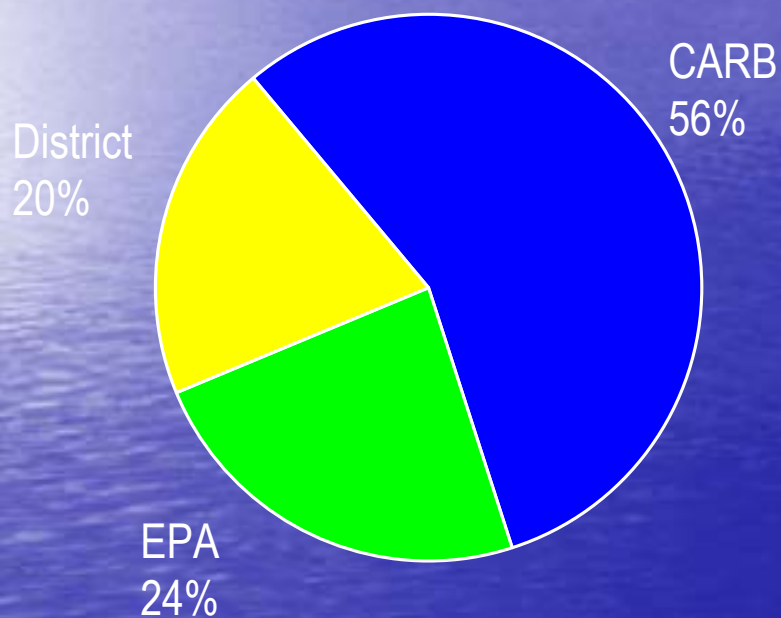
8-Hr Ozone, 2023



(VOC, NO_x)

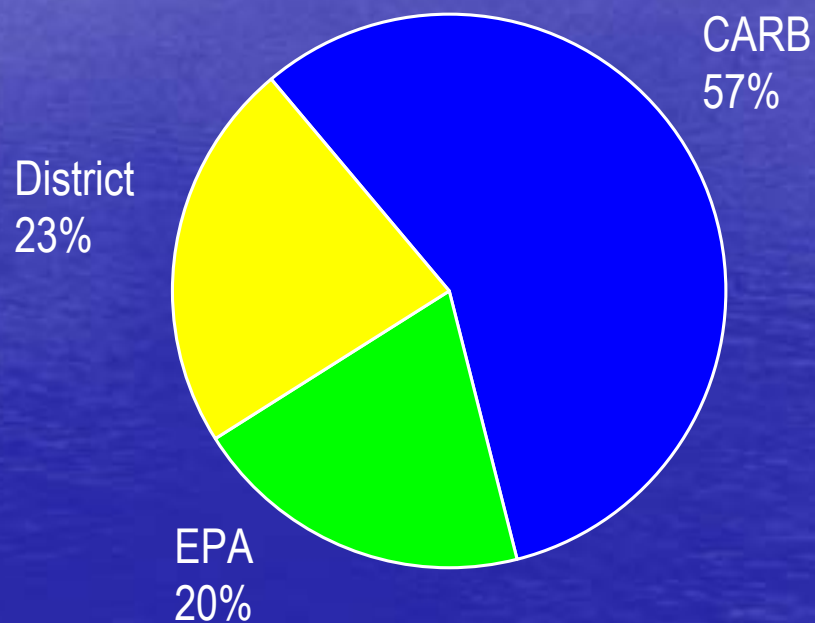
Primary Emissions Responsibility by Agency

PM2.5, 2014



(NO_x, SO_x, PM2.5)

8-Hr Ozone, 2023



(VOC, NO_x)

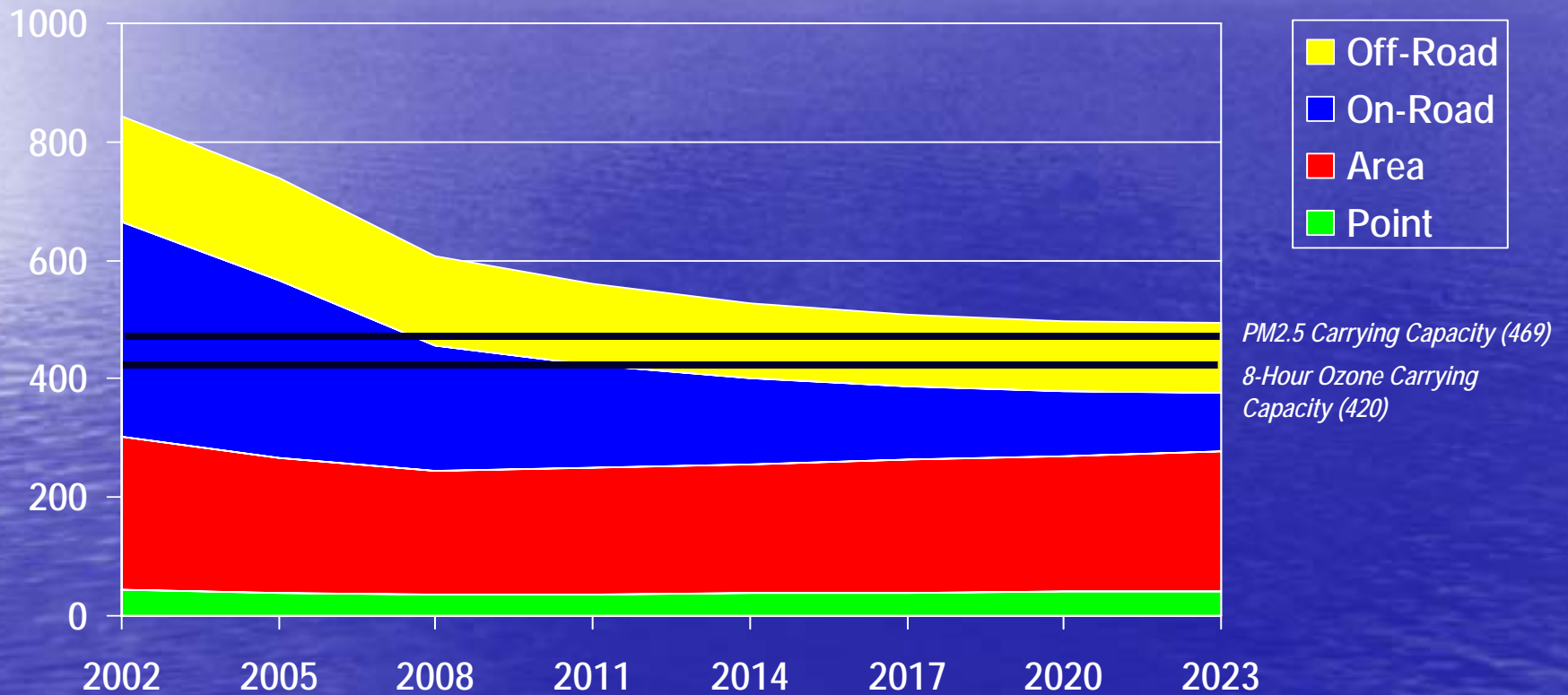
Revisions to Attainment Demonstration

- Revised Modeling Based on Latest Inventory Changes
- Updated Reductions and Carrying Capacities
- PM2.5 Attainment
 - Reductions from CARB's Strategy Not adequate
 - Attainment Based on District's Additional Measures
- Ozone Attainment
 - NOx-Heavy Control Strategy Most Appropriate

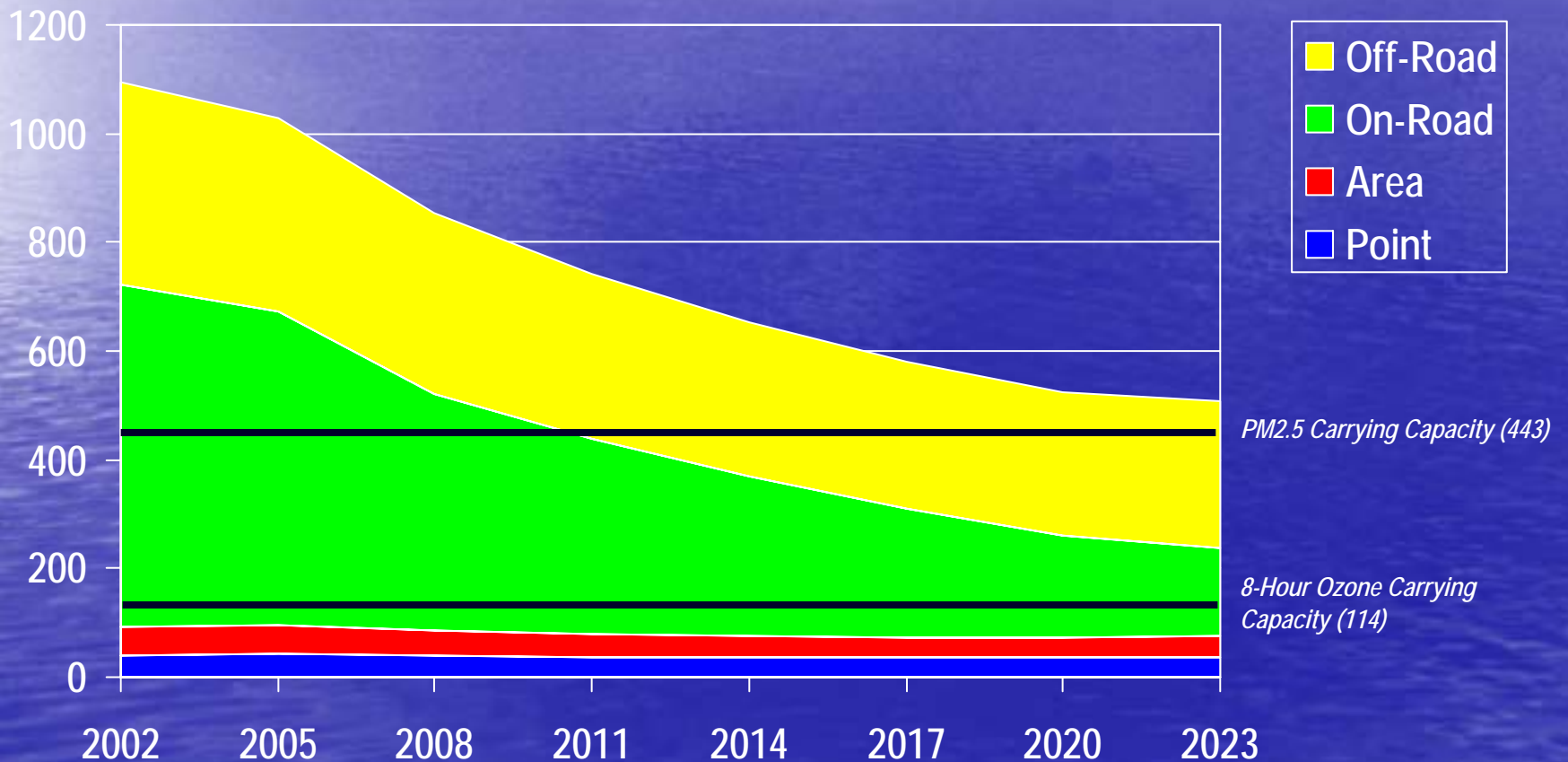
Needed Pollution Reduction (tons per day)

	2014	2023
NOx	203 (31%)	383 (76%)
VOC	59 (11%)	116 (22%)
SOx	24 (56%)	---
PM2.5	14 (14%)	---

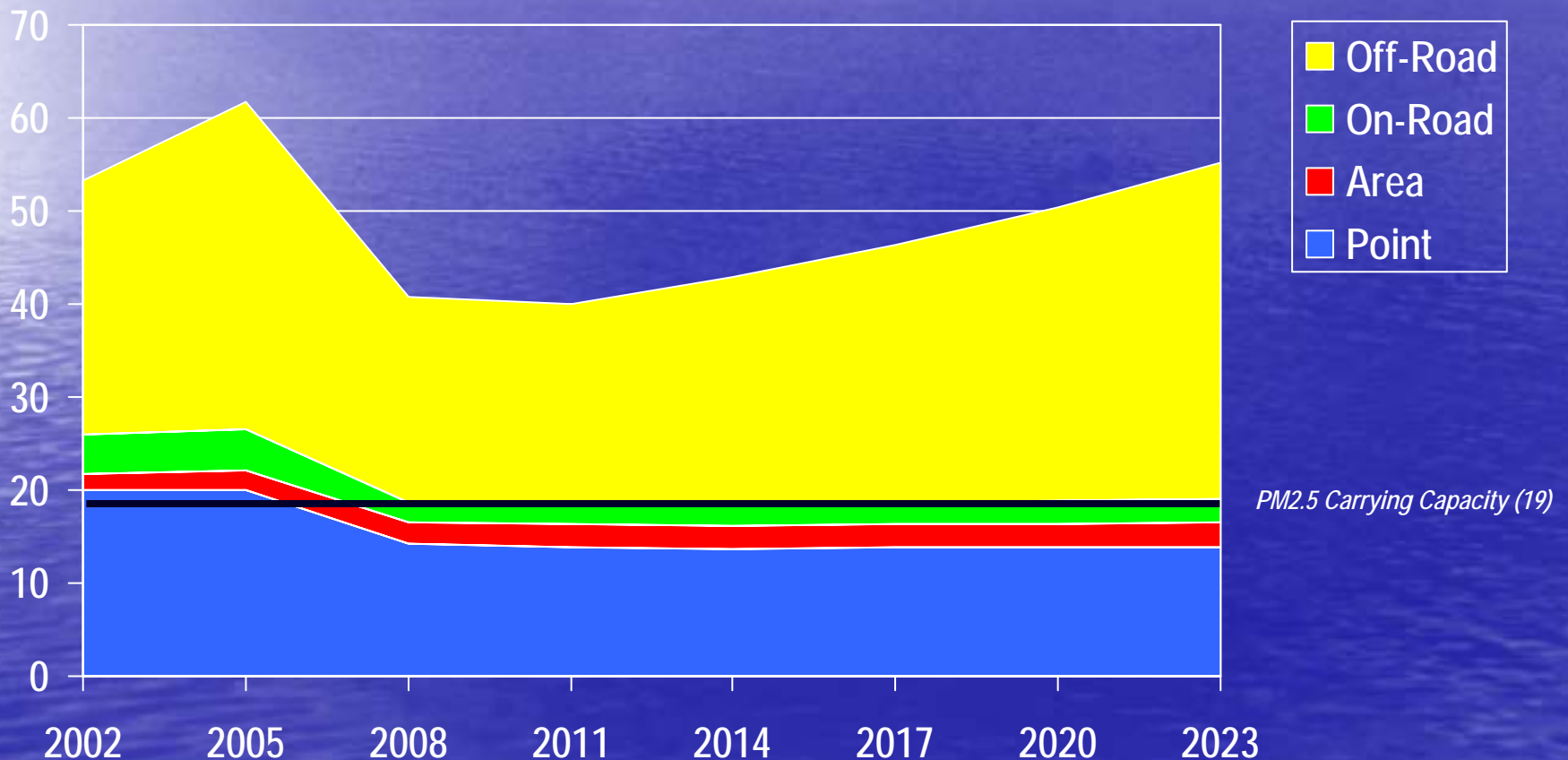
VOC Emissions Trend By Source Category and Carrying Capacity



NOx Emissions Trend By Source Category and Carrying Capacity



SOx Emissions Trend By Source Category and Carrying Capacity

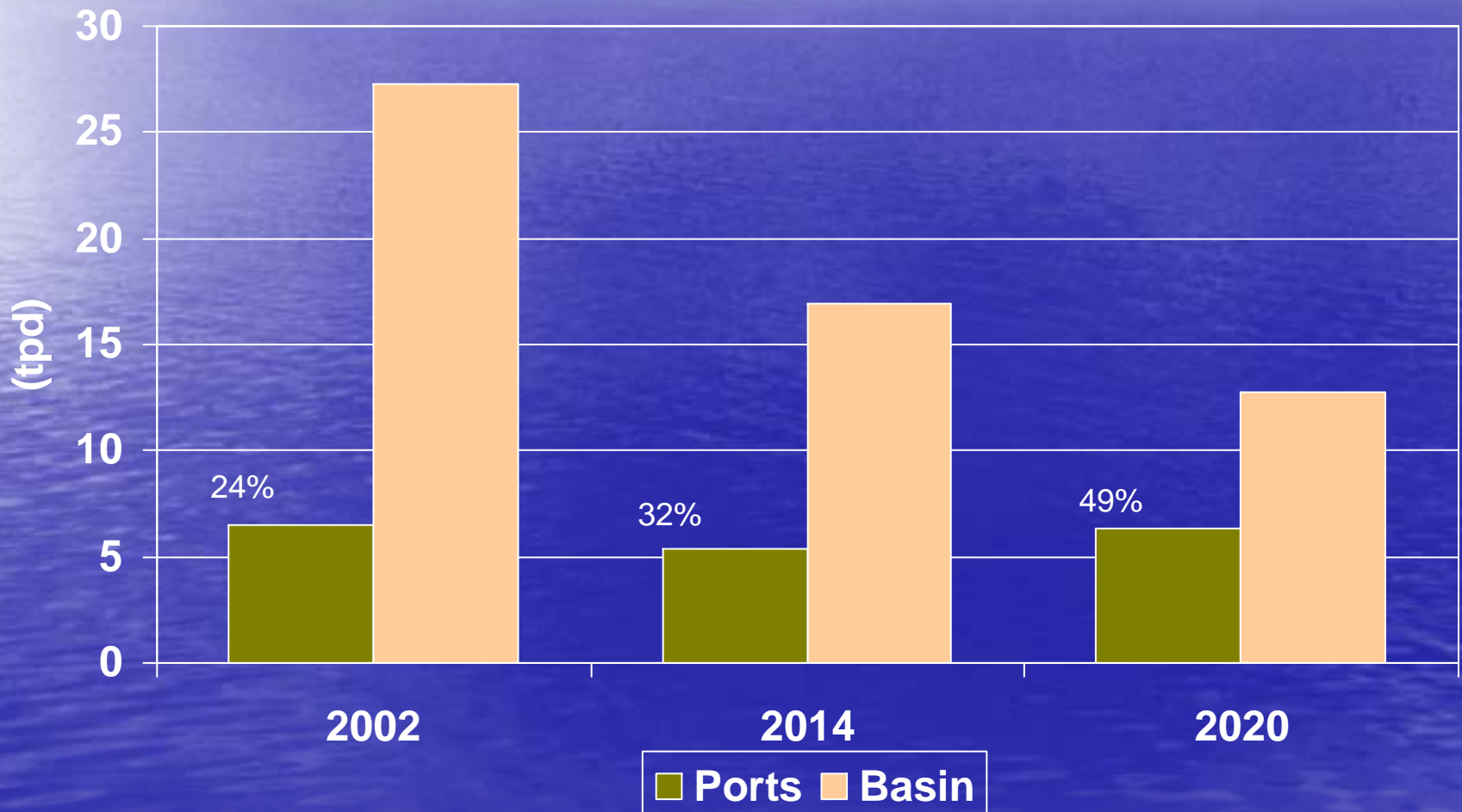


Goods Movement Growth 2001-2020

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

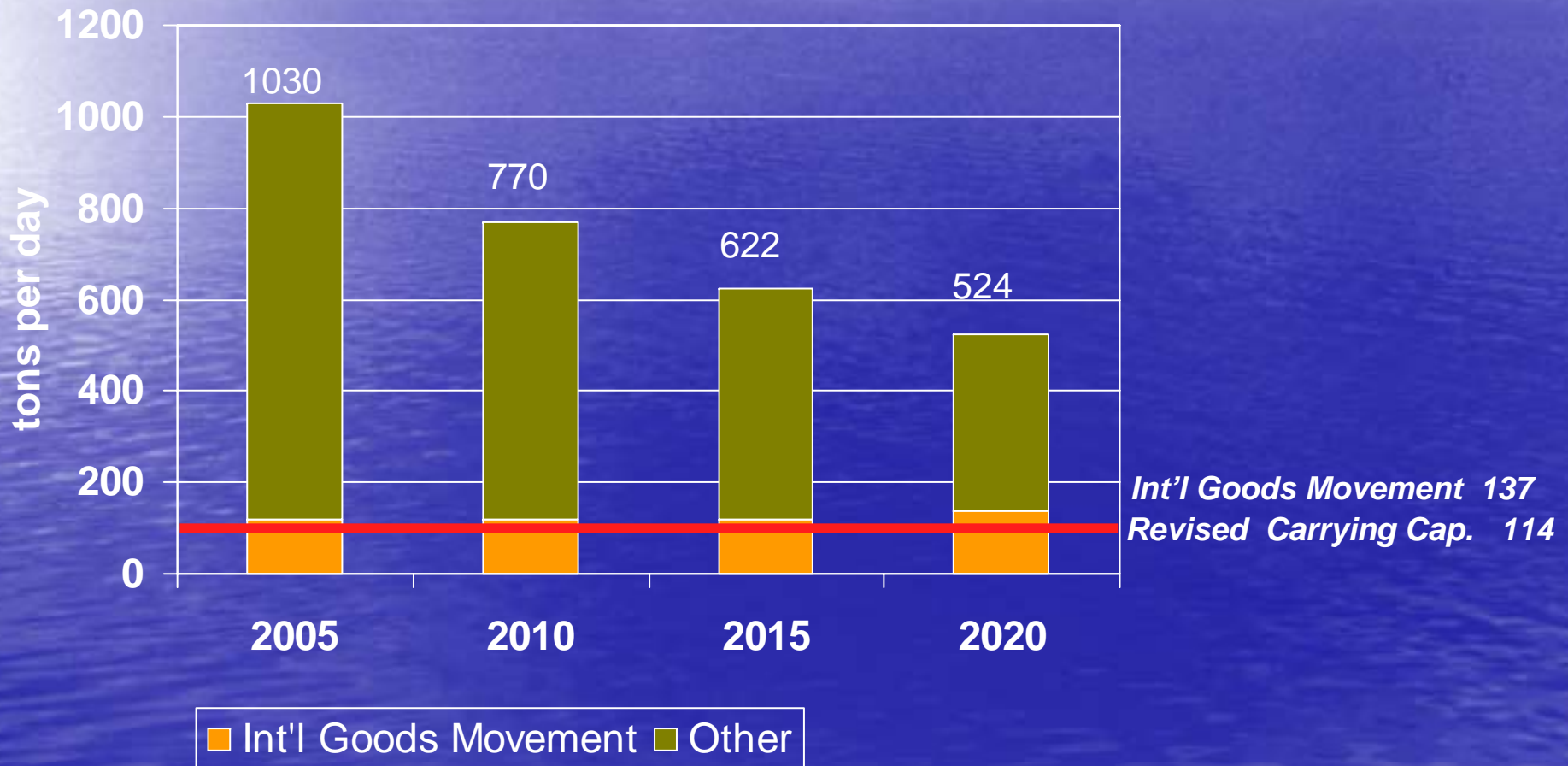


Contribution of Port-Related Sources to Regional Diesel PM



NOx Baseline Emissions and 8-Hour Ozone Carrying Capacity

(tons per day)



Control Strategy Design

- PM2.5 Strategy
 - Maximum controls of SO_x and directly emitted PM2.5
 - Necessary NO_x controls
 - Modest VOC controls to ensure progress toward ozone attainment
- 8-Hour Ozone Strategy
 - Focus on NO_x control programs
 - Necessary VOC reductions

Revisions to Control Strategy

- District's Stationary and Mobile Source Control Measures
- State and Federal Control Measures
 - CARB's Statewide Strategy
 - District Staff's Proposed Policy Options to Supplement CARB's Control Strategy
- SCAG's RTP and TCMs
- Long-Term Strategy
- Contingency Measures

District's Stationary and Mobile Source Control Approaches

- Facility Modernization
- Energy Efficiency/Conservation
- Good Management Practices
- Market Incentives/Compliance Flexibility
- Area Source Programs
- Emission Growth Management
- Mobile Source Programs

Revisions to District's Stationary and Mobile Source Measures

- Major Revisions of Measures
 - New or Re-Development Projects (EGM-01)
 - Space Heaters (CMB-03)
 - Facility Modernization (MCS-01)
 - RECLAIM NO_x (MCS-07)
- New Measures
 - Emission Charges of \$5,000 per Ton for Stationary Sources (≥ 10 tons per year) (MCS-08)
 - Identification and Repair (or Replacement) of High-Emitting Light- and Med-Duty Vehicles (MOB-05,06)
 - Consumer Products Not Regulated by CARB (CTS-04)
 - Concurrent Reductions from Global Warming Strategies (MOB-07)

CARB's Statewide Strategy

Anticipated Reductions from
ARB Proposed State Measures

ARB Proposed NOx Measures

(summer season, tons per day)

NOx Measures	2014	2023
On-Road		
• Passenger Vehicles	14	7
• Trucks	47	18
Goods Movement	49	99
Off-Road Equipment	14	15
<i>TOTAL</i>	125	139

ARB Proposed ROG Measures

(summer season, tons per day)

ROG Measures	2014	2023
On-Road		
• Passenger Vehicles	18	11
• Trucks	5	2
Goods Movement	1	3
Off-Road Construction & Mining	2	2
Other Off-Road		
• Evaporative Standards	NYQ	NYQ
• Recreational Vehicles & Boats	6	21
Consumer Products	13	14
TOTAL	45	52

ARB Proposed SOx/PM2.5 Measures

(summer season, tons per day in 2014)

SOx Measures	
Goods Movement	20
<i>TOTAL</i>	<i>20</i>
PM2.5 Measures	
On-Road (Trucks)	4
Goods Movement	3
Off-Road Equipment	3
<i>TOTAL</i>	<i>>9</i>

Ongoing ARB Programs

- Diesel Risk Reduction Program
 - 75% reduction in diesel particulate matter emissions and associated risk by 2010
- Goods Movement Emission Reduction Plan
 - Ports are the single largest source of pollution in the South Coast
 - ARB's Goods Movement Plan establishes goals and timelines for reducing emissions from this category
 - Plan implementation will significantly reduce pollution, exposure, and risk to nearby communities
- Incentives, Grants, and Bond Programs
 - Over \$1.5 billion each year in State funds is spent to clean the air

2007 ARB Rulemaking Proposals

- Diesel and on-road private fleet rules
- Ports-related strategies:
 - Lower ship speeds in coastal waters, commercial harbor craft, cold ironing, port trucks, cleaner fuels in OGV main engines
- Evaporative and exhaust standards
- Tighter rules covering consumer products and architectural coatings
- Portable outboard marine tanks, inboard and stern drive boat regulations
- Tighter aftermarket parts replacement program

State Strategy Workshops

Sacramento	April 5
Fresno	April 10
El Monte	April 25

Additional information is available at:

www.arb.ca.gov/planning/sip/2007casip.htm

For general questions, contact:

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SCAG Input to South Coast AQMP

- Socioeconomic Projections
 - Emission inventories
- Transportation Demand Model
 - Airshed modeling
 - On-road emissions budgets
- Transportation Strategy
 - Based on adopted 2004 Regional Transportation Plan (RTP)

Key 2004 RTP and On-Going Programs

- Transportation Control Measures (TCMs)
 - Reduce vehicle use or change congestion conditions (ex., HOV, transit)
 - Based on 2006 Regional Transportation Improvement Plan (RTIP)
- Smart Growth (“Compass”)
 - Integrate land use and transportation planning
 - Policy framework for balanced and efficient growth and transportation patterns

Key 2004 RTP and On-Going Programs (cont.)

- Regional Goods Movement System
 - Mitigate and improve air quality impacts and accommodate facility needs
 - Truck-only lanes
 - Grade separation
 - On-going multi-partner program
 - Consider alternative freight transport technology
 - High-speed low/zero emission regional transport system for both cargo and people

Emissions Benefits of RTP/TCMs

- RTP provides approximately 2 t/d ROG and < 1 t/d NO_x reductions in 2014 and 2023 (EMFAC2007)
- Smaller over time as motor vehicle emissions substantially reduced through technology
- Most TCMs already implemented to meet 2010 1-hour ozone standard and included in baseline
- Regional transportation model captures only grosser changes in land use due to Compass and does not reflect expected benefits
- Substantial reductions could accrue from an innovative regional goods movement system

Revisions to Long-Term Strategy

- 4 New Measures to Replace Draft AQMP
 - On-Road Mobile Sources (SCLTM-01A,B)
 - Off-Road Mobile Sources (SCLTM-02)
 - Consumer Products (SCLTM-03)

Revisions to Contingency Measures

- Not Identified in Draft AQMP
- 4 New Measures Included
 - Offsetting Emission Increase Due to Natural Gas Specifications (CTY-01)
 - Emission Charge for Stationary Sources (≥ 10 tons per year) (CTY-02)
 - Banning pre-Tier 3 Off-Road Engines (CTY-03)
 - Accelerated Implementation of CARB's Proposed Measures (CTY-04)

Key Issues

- PM2.5 Attainment by 2015 and Specific Control Strategy
- 8-hour Ozone Attainment by 2023 and “Black Box” Measures

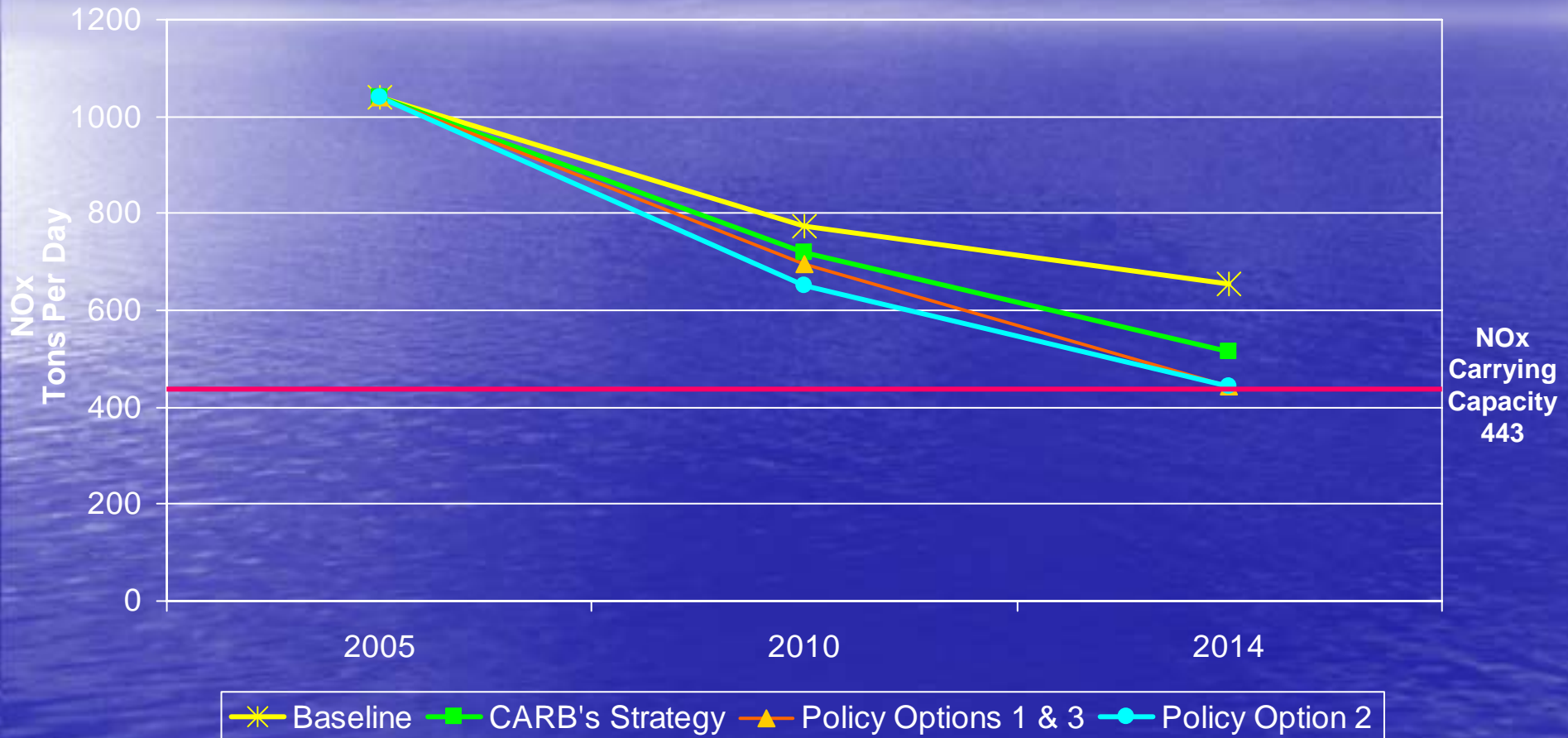
PM2.5 Attainment

- Attainment Date Fast Approaching
- CARB's Strategy Not Attaining Standard until 2020
 - Not an Acceptable Public Policy Option
- AQMD Staff Offers three Policy Options to Achieve the Needed Reductions by 2015

District Staff's Proposed Policy Options for PM2.5 Attainment

- Policy Option 1
 - District's Proposed Additional Mobile Source Control Measures (71 t/d NO_x)
- Policy Option 2
 - CARB 2003 AQMP Commitment for Defined Measures in 2010 with Additional Reductions by 2014
- Policy Option 3
 - Same Rate of Reduction under Policy Option 1
 - Incentive Programs
 - \$600 million per year

Comparison of Rate of Reductions Under Various Policy Options



Proposed Additional Mobile Source Measures

	Implementation Proposal
HD Truck Retrofits/ Modernization (20.9 tpd – NOx) (6.3 tpd – NOx – Port Trucks)	<ul style="list-style-type: none">• Increase Target Vehicles by 15% (Up to Model Year 2005); ~ 21,600 HD Vehicles• ~ 15,000 Port Trucks by 2012 Implemented Under Ports Clean Air Action Plan
Construction/ Industrial Equip. (15.8 tpd – NOx)	<ul style="list-style-type: none">• Move Up Proposed Fleet Average Limits (Equivalent to Replacing Tier 0 and 1 with Tier III or Better by 2014)
Locomotives (11 tons/day NOx)	<ul style="list-style-type: none">• 100% Tier III (as Provided in Port Clean Air Action Plan)

Proposed Additional Mobile Source Measures

	Implementation Proposal
Light-Duty Vehicles (3.65 tpd – NOx 2 tpd – VOC)	<ul style="list-style-type: none"> • 100,000 ATPZEVs by 2014; 1 MM by 2020 • Greater Deployment of OBD III
Fuel Reformulation and Alternatives (5.2 tpd – NOx – Gaso.; 3.9 tpd – NOx – Diesel)	<p>10 ppm Sulfur Content Cap on Gasoline Fuels;</p> <p>10% Use of Diesel Alternatives</p>
Pleasure Craft (1.1 tpd – NOx; 2.9 tpd – VOC)	<p>Evap/Ex. Standards; Accelerated Turnover</p>

Proposed Additional Mobile Source Measures

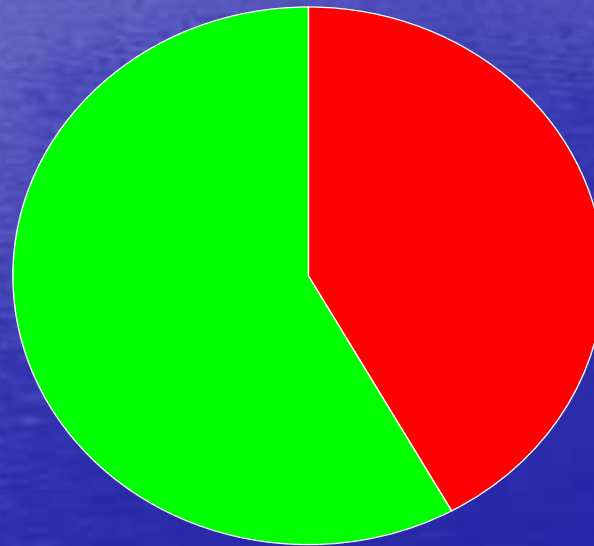
	Implementation Proposal
Cargo Handling Equipment (1.1 tpd – NOx)	Additional Reductions as Identified in Ports Clean Air Action Plan
Transport Refrigeration Units (1.12 – NOx)	Additional Reductions Through NOx Retrofits
Ground Support Equipment (0.8 tpd – NOx; 0.3 tpd – VOC)	Additional Reductions to Meet Original MOU and for GSE Not Covered by MOU or CARB Off-Road Rule Proposal

Ozone Attainment

- Significant Reductions Needed for Attainment
 - NO_x: 383 t/d (76%)
 - VOC: 116 t/d (22%)
- Focus Primarily on Mobile Sources
- Undefined “Black Box” Measures (41%)
- Extensive Penetration of Advanced Technology Vehicles, Zero- or near-Zero Transportation Systems; Cleanest Trucks, Off-Road Equipment, Ships, Trains, and Aircraft

8-Hour Ozone Attainment Strategy

Short-Term Measures
(59%, 292 t/d)



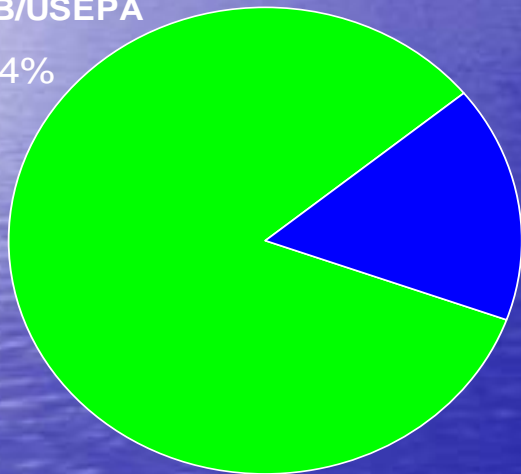
Black Box
(41%, 207 t/d)

Total Reductions = 499 tpd

Reduction Responsibility By Agency

VOC

CARB/USEPA
84%

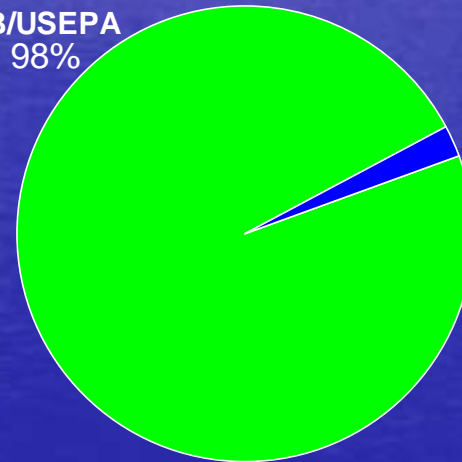


District
16%

Total Reduction = 116 TPD

NOx

CARB/USEPA
98%



District
2%

Total Reduction = 383 TPD

Bump-Up Requests

- Reclassification of Non-Attainment Status
- South Coast Air Basin
 - “Severe-17” to “Extreme”
 - 2021 to 2024 Attainment Date
- Coachella Valley Portion of Salton Sea Air Basin
 - “Serious” to “Severe-15”
 - 2013 to 2018 Attainment Date

Implementation Tools

- Rulemaking
- Incentive-Based Programs
- Public/Private Funding
- Legislative Support

Key Messages

- South Coast has worst air quality in nation (Ozone and PM2.5)
- Health impacts higher than previously estimated
- Meeting federal attainment deadlines difficult to almost impossible
- All feasible control strategies needed especially for mobile sources

Public Support and Participation

- Support
 - AQMP's Proposed Control Measures
 - AQMD's Proposed Policy Options for PM_{2.5} Attainment
 - Legislative Actions
 - Funding
- Participation
 - Public Education
 - Consumer Choice (e.g., products, vehicles)

Next Steps

- Public Workshops – Mar 13-15, 2007
- Draft Socio-Econ Assessment – April 2007
- Regional Hearings – April 2007
- Adoption Hearing – May 2007
- CARB Hearing – May 2007
- Submittal to U.S. EPA – June 2007



Cleaning the air that we breathe.