



Port of Oakland

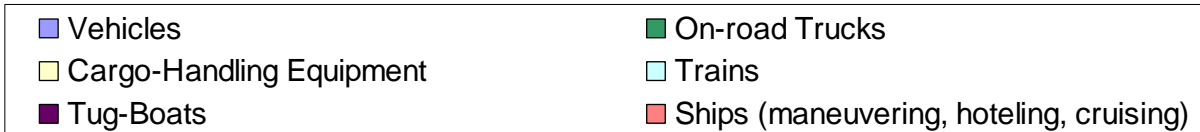
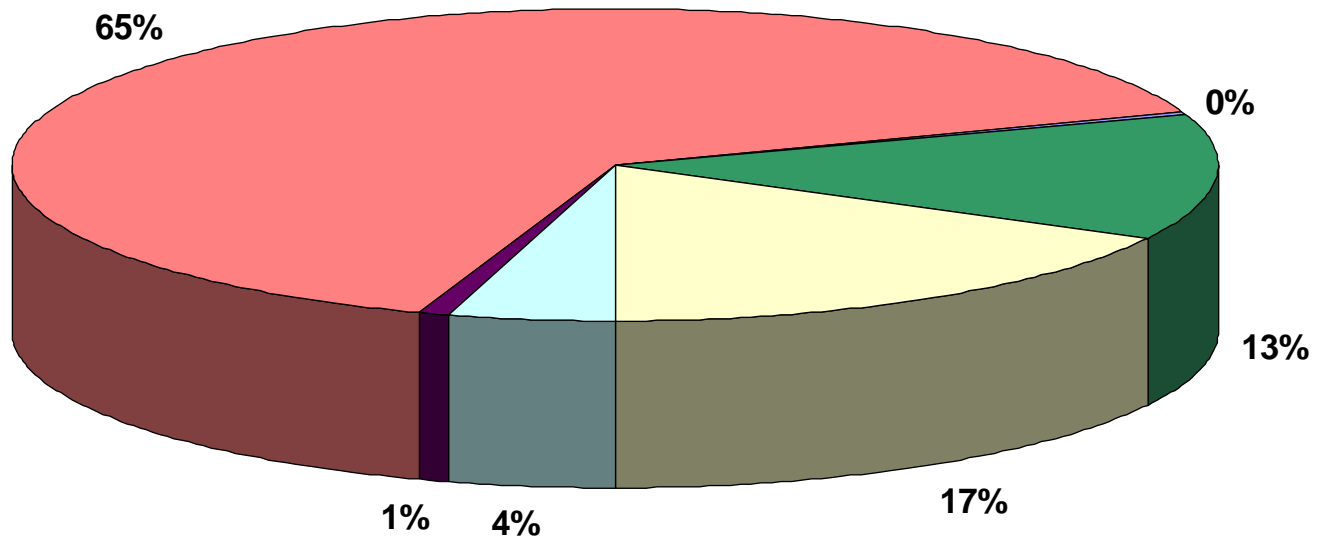
Vision 2000

Air Quality Mitigation Program

- OVERALL STRATEGY: BE PART OF THE SOLUTION, OR, HOW MANY ENEMIES CAN YOU AFFORD?
- \$ 9 MILLION DEVOTED TO AIR QUALITY IN \$700 MILLION PROJECT
- STRATEGY:
 - Maximize quantity of emissions reduced for dollars spent, with preference for:
 - reducing diesel particulates
 - reducing local emissions

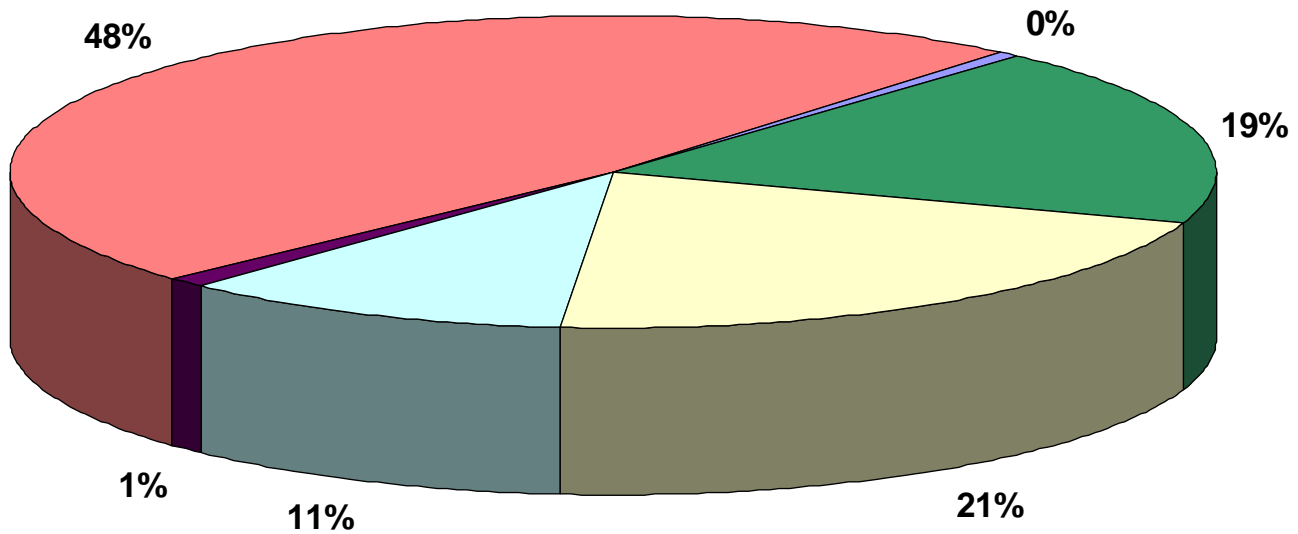
Projected 2003 Particulate Emissions per Equipment Category

Port of Oakland, EPD, March 27, 2001
Source: Berths 55-58 EIR, Dec. 1998



Projected NOx Emissions for 2003 per Equipment Category

Port of Oakland, EPD, March 27, 2001
Source: Berths 55-58 EIR, Dec. 1998



Mitigation Measures Considered

- Cargo Ships
- Tug Boats
- Dredges
- Off-road Cargo Handling Equipment
- On-road Trucks
- Switch Locomotives
- Employee Vehicles
- Public Transit Buses
- Stationary Industrial Sources

PROCESS MATTERS

- Jung was right—symbols drive behavior
- Three symbols were important
 - Trucks
 - On-dock rail
 - Cold-ironing
- *Good process engages* stakeholders, converts skeptics to supporters
- Critical element of program design

Technical Review Panel

- Bay Area Air Quality Management District
- California Air Resources Board
- California Energy Commission
- Neighborhood Representative
- Technical Experts
- Port of Oakland

Let us know how to take matters to our
Board

Program Design

- Container yard equipment
- Transport trucks
- Need inventories
- Assessment of technologies
- Build relationships with constituencies
- Recently received a \$1.5 million grant





Container Terminal Equipment Repower and Retrofit Project

- Repower Partial
- Retrofit with DOCs 100%
- Switch to ULSD Fixed
- Incentives Sliding scale

Exhaust Treatment

- Diesel Oxidation Catalysts
- Some Favor Diesel Particulate filters, but not yet ready for these uses

Truck Program

- Emulsified Fuel Demonstration
- Diesel Oxidation Catalyst
- Subsidize Purchase of newer trucks (post 1996)
- Engine Repowering with Moyer Grant

WHAT IS ON THE HORIZON?

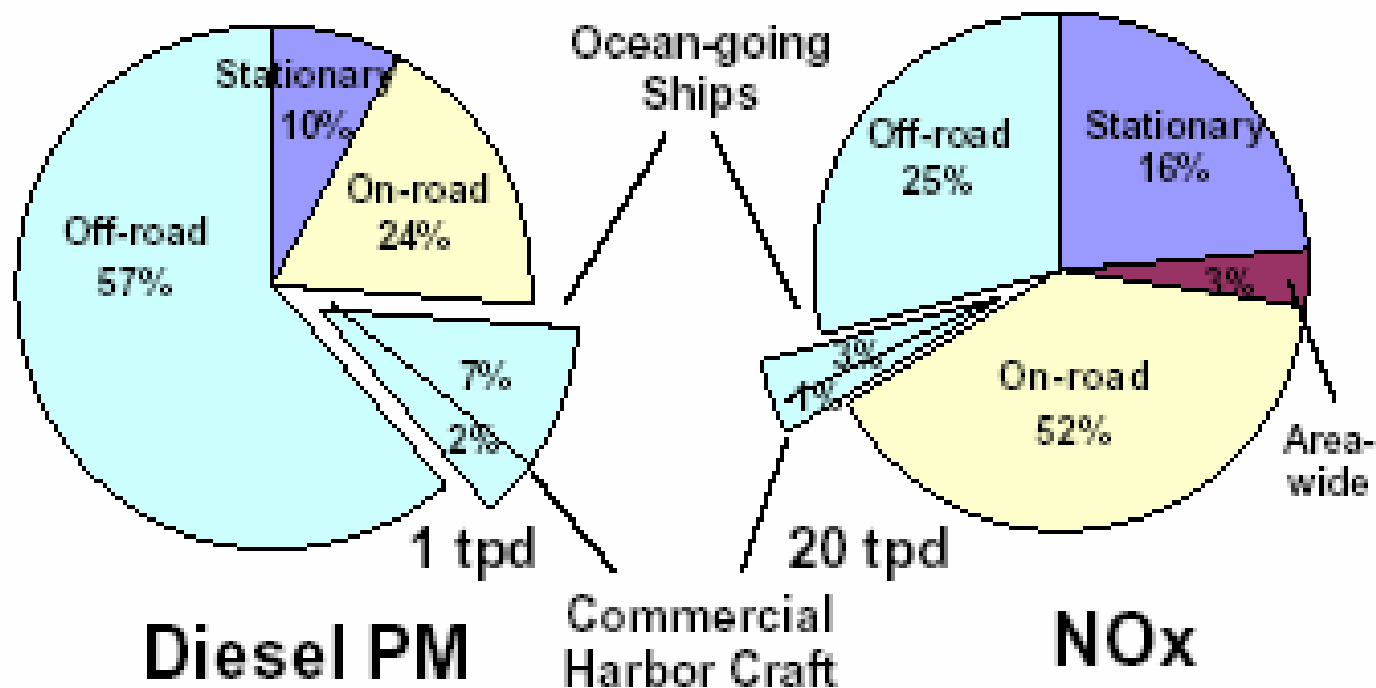
- LITIGATION OVER PROJECTS--HHRA
- REGULATION
- LEGISLATION
- DEMONSTRATION PROJECTS
- RATIFICATION OF MARPOL ANNEX VI

WHAT'S LEFT TO DO?

- PM REMAINS AN ISSUE
 - 7% FROM SHIPS
 - 57% OFF-ROAD DIESEL
 - 24% ON-ROAD DIESEL
- NOX REMAINS AN ISSUE
 - 3% FROM SHIPS
 - 25% FROM OFF-ROAD DIESEL
 - 52% FROM ON-ROAD DIESEL

Commercial Harbor Craft Contribute to Diesel PM and NOx Emissions

Year 2000 Statewide Diesel PM and NOx Emissions



Source: California Air Resources Board

LITIGATION

- THE APPROACH FOR VISION 2000
 - PAID FOR THEIR TECHNICAL EXPERT
 - LET THEM REVIEW THE ADMINISTRATIVE DRAFT EIR SECTION ON AIR QUALITY
 - WE KNEW THEIR ISSUES AND APPROACH, REACHED AGREEMENT
- CHINA SHIPPING SETTLEMENT

REGULATION

- MARITIME WORKING GROUP IN CALIFORNIA
- HARBOR CRAFT REGULATIONS ARE COMING
- AUXILLIARY ENGINES TOO

LEGISLATION

- AB 3104—TAX FUELS TO PAY FOR EXPANSION OF CARL MOYER FUND
- SB 1247—SPOT BILL FOR FUNDING, COST-EFFECTIVENESS AND TECHNOLOGY INCENTIVES
- AB 2042—NO NET INCREASE

Will any of these will work?

DEMONSTRATION PROJECTS

- EXHAUST TREATMENT
- EMULSIFIED FUEL
- LOWER SULFUR FUELS
- DISTILLATES IN AUXILLIARY ENGINES

IS THERE COMMON GROUND?

- IF THE MACHINES ARE DIRTY, CLEAN UP THE MACHINES
- STATE AND FEDERAL REGULATION WILL BE NECESSARY
- IMPROVING GATE EFFICIENCY SHOULD BE CONSIDERED
- INCENTIVE PROGRAMS TO CLEAN UP EXISTING ENGINES CAN WORK
- WE NEED TO PUSH TECHNOLOGY WITH DEMONSTRATION PROJECTS
- FUNDING WILL BE DIFFICULT AND CONTROVERSIAL



uncommo... cookies, c...

DRAI

WARNING
Lubrication
Instructions

STEEL





