



## Regulation for On-Road Heavy-Duty Trucks Operating at California's Ports (Port Trucks)

Maritime Air Quality Technical Working Group Meeting

September 12, 2006

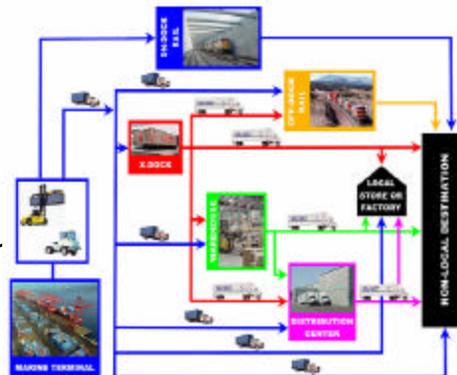
California Environmental Protection Agency



Air Resources Board

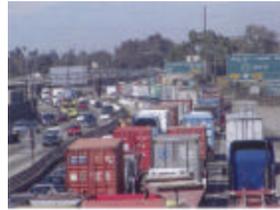
## Background

- ◆ Trucks
  - Older/Dirtier
  - Driver Economics
- ◆ Operating Chain
  - Owner/Operator
  - Primary Motor Carrier
  - Shipping Company
- ◆ Travels Locally
  - Rail
  - Distribution Facilities
  - Near Densely Populated Areas



# Port Information

- ◆ Health Risk
  - Greater than 10 in a Million
- ◆ Emission Inventory
  - Statewide Emissions – Goods Movement
    - Diesel PM ~ 50 tons per day (TPD)
    - NOx ~ 1,100 TPD
  - Port Truck Emissions
    - Diesel PM ~ 1.6 TPD
    - NOx ~ 19 TPD



I-710 Under Normal Conditions



I-710 During Ports Shutdowns

SSA Marine

# Port Information – Cont.

- ◆ Annual Container Volume for Ports of Oakland, Long Beach and Los Angeles

2005	2020 (Estimated)
9 Million	23 Million



## Port Information – Cont.

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### Port Trucks

- ◆ Population\* ~12,000
- ◆ Age Distribution – Older than avg.

\* Caltrans and Ports 2002 Data



## ARB's Port Truck Report

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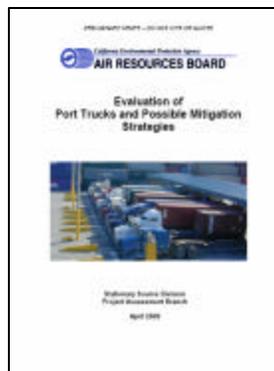
### Goals/Objectives – 3 Initial Strategies

#### Strategy 1:

- ◆ Replace pre-1994 Trucks
- ◆ Install DPFs
- ◆ Low Cost
- ◆ Low NOx Reductions

#### Strategy 2:

- ◆ Replace pre-2003 Trucks
- ◆ Install DPFs
- ◆ High Cost
- ◆ High NOx Reductions



## ARB's Port Truck Report – Cont.

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### **Strategy 3:**

- ◆ Replace the oldest trucks and install controls on the rest.
- ◆ Establish emission criteria for trucks entering port service.
- ◆ Beginning 2017 and by 2019, trucks will further reduce emissions by meeting 2010 engine standards.
- ◆ Evaluate potential incentives.

## ARB's Port Truck Report – Cont.

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### ◆ **Potential Diesel Emission Control Strategies:**

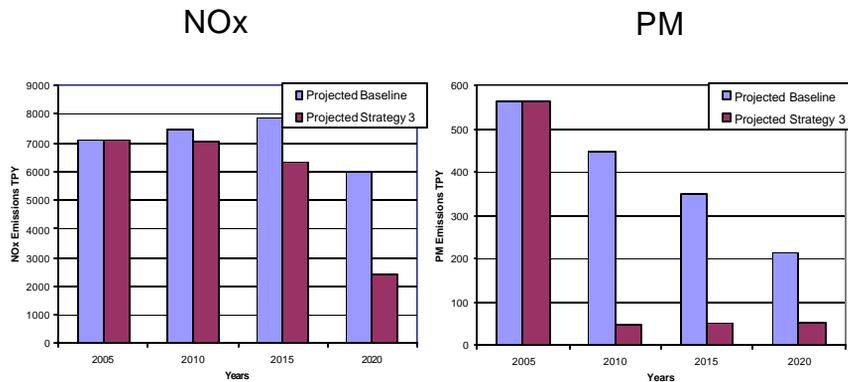
- Diesel Particulate Filters:
  - Passive
  - Active
- NOx Catalyst
- Fuel-borne Catalyst
- Flow-through Filters



### ◆ **Technology Neutral**

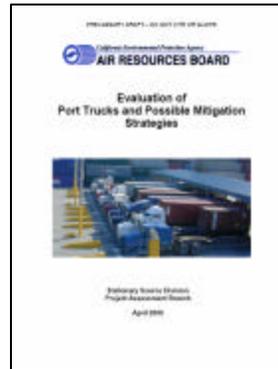
# ARB's Port Truck Report – Cont.

## Estimated Strategy 3 Emission Reductions



## Concerns

- ◆ **Owner/Operator Dynamics**
  - Economics
  - Funding
  - Fleet Fluidity
  - Outreach
- ◆ **Additional Data Needed**
  - Fleet Population/Age
  - Operating Dynamics
- ◆ **Implementation**
- ◆ **Enforcement**
- ◆ **Replacement Truck Availability**
- ◆ **Fleet/Container Growth/Infrastructure**



# Board Date / Contacts

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- ◆ **Board Date – Late 2007**

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**Web Site:**

<http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm>

