



**WEST COAST COLLABORATIVE**  
A public-private partnership to reduce diesel emissions





# Diesel emissions pose a significant environmental health problem

## » Diesel exhaust

- › Serious health impacts
  - exacerbates asthma, respiratory and cardiac illness
- › Possible human carcinogen
  - over 70% of the cancer risk from all air toxics
- › Degrades air quality
  - Particulate Matter
  - Ozone
- › Contributes to climate change



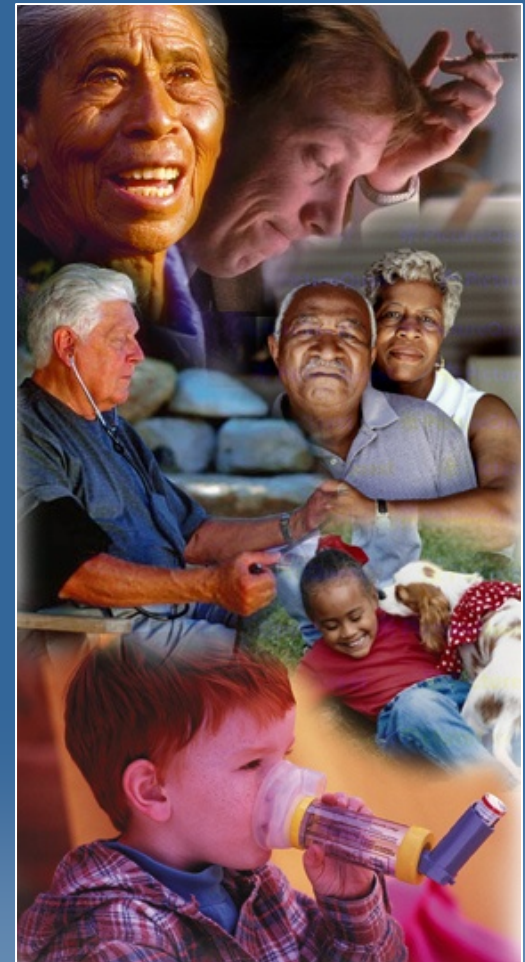
Paul Bubbosh (EPA OTAQ), Deborah Jordan (EPA R9), and Michael Antonovich (LA County Supervisor and AQMD Board Member) announce a Smartway project to reduce diesel emissions with children from Horace Mann elementary school in Los Angeles on September 30, 2004.





# Some Groups Are More at Risk

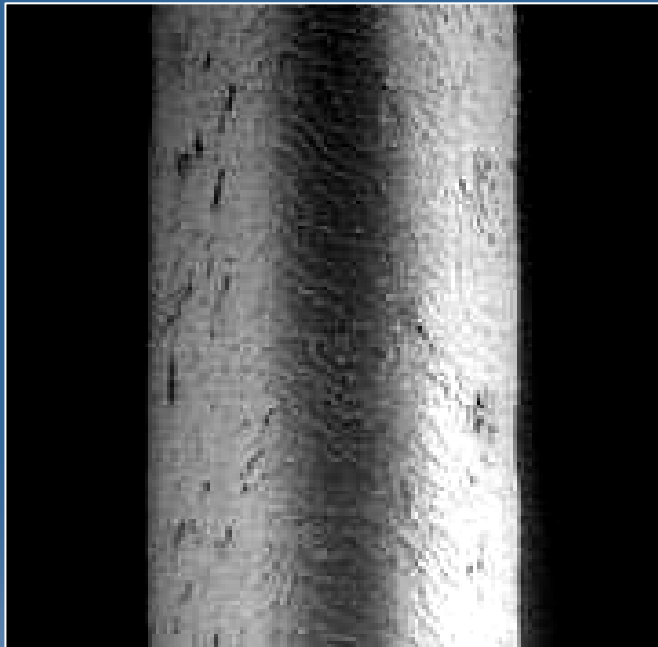
- » People with heart or lung disease
  - › Conditions make them vulnerable
- » Older adults
  - › Greater prevalence of heart and lung disease
- » Children
  - › More likely to be active
  - › Bodies still developing
  - › Breathe more per body pound



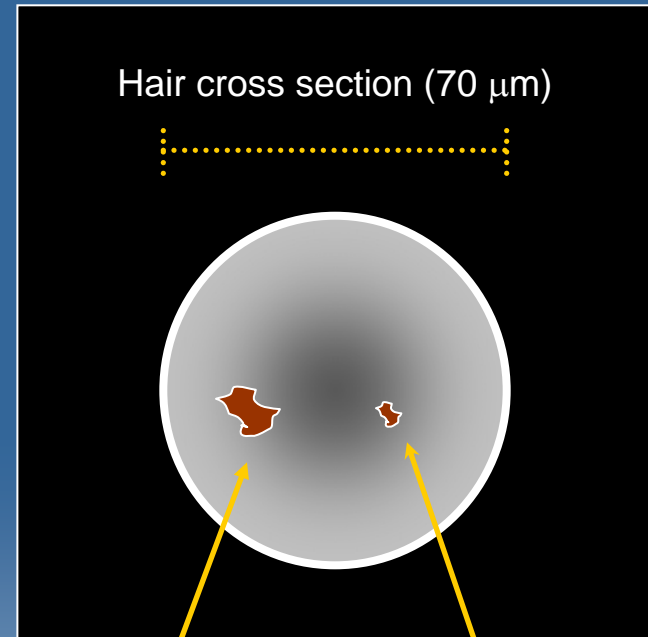


# Particulate matter (PM) in diesel exhaust is the driver of risk

- › Mix of particles and liquid droplets
- › Considerably smaller in size than human hair
- › Penetrates deeply into the lungs



Human Hair (70  $\mu\text{m}$  diameter)

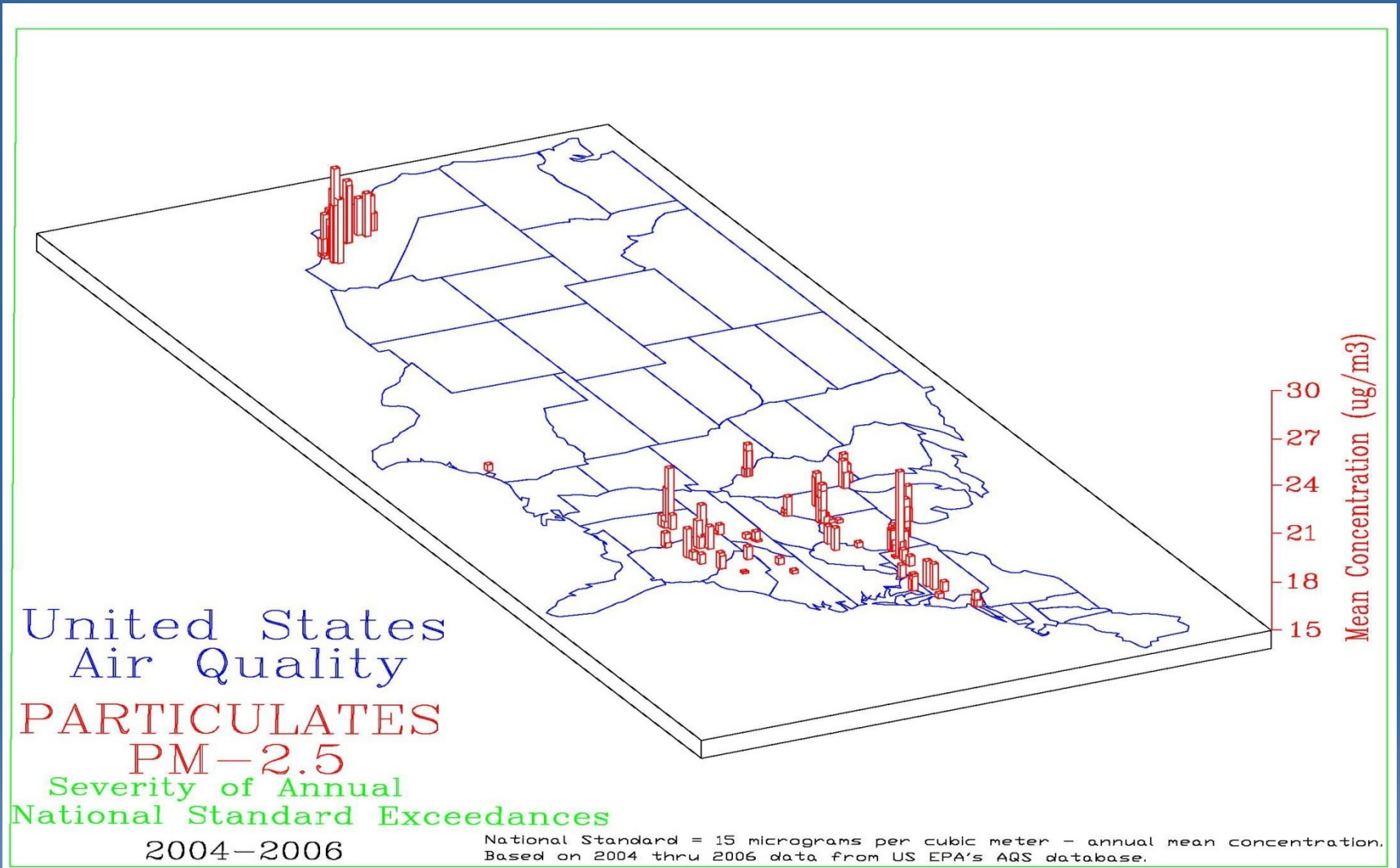


PM<sub>10</sub> (10 $\mu\text{m}$ )

PM<sub>2.5</sub> (2.5  $\mu\text{m}$ )

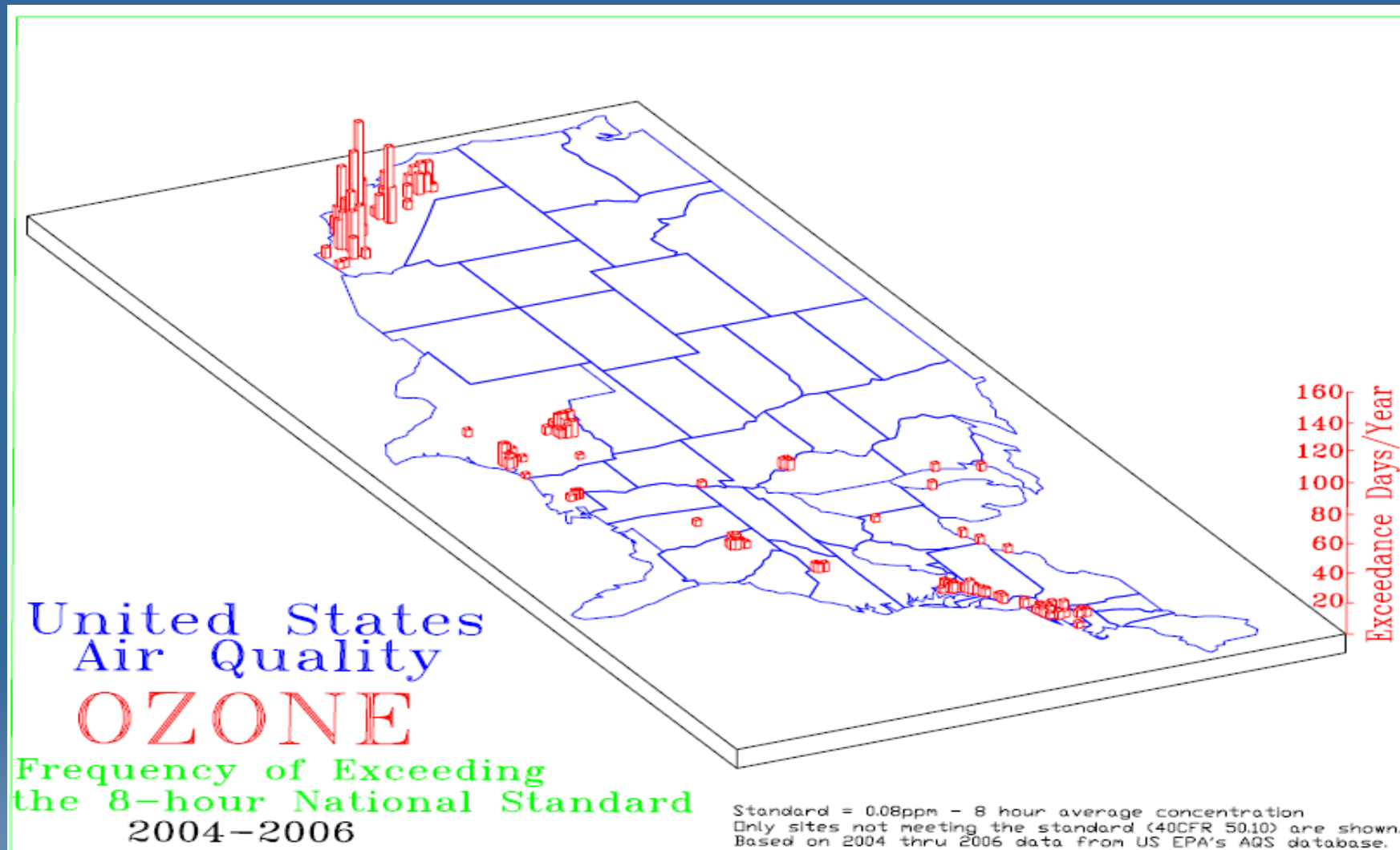


# The West Coast has the most severe PM exceedances in the country



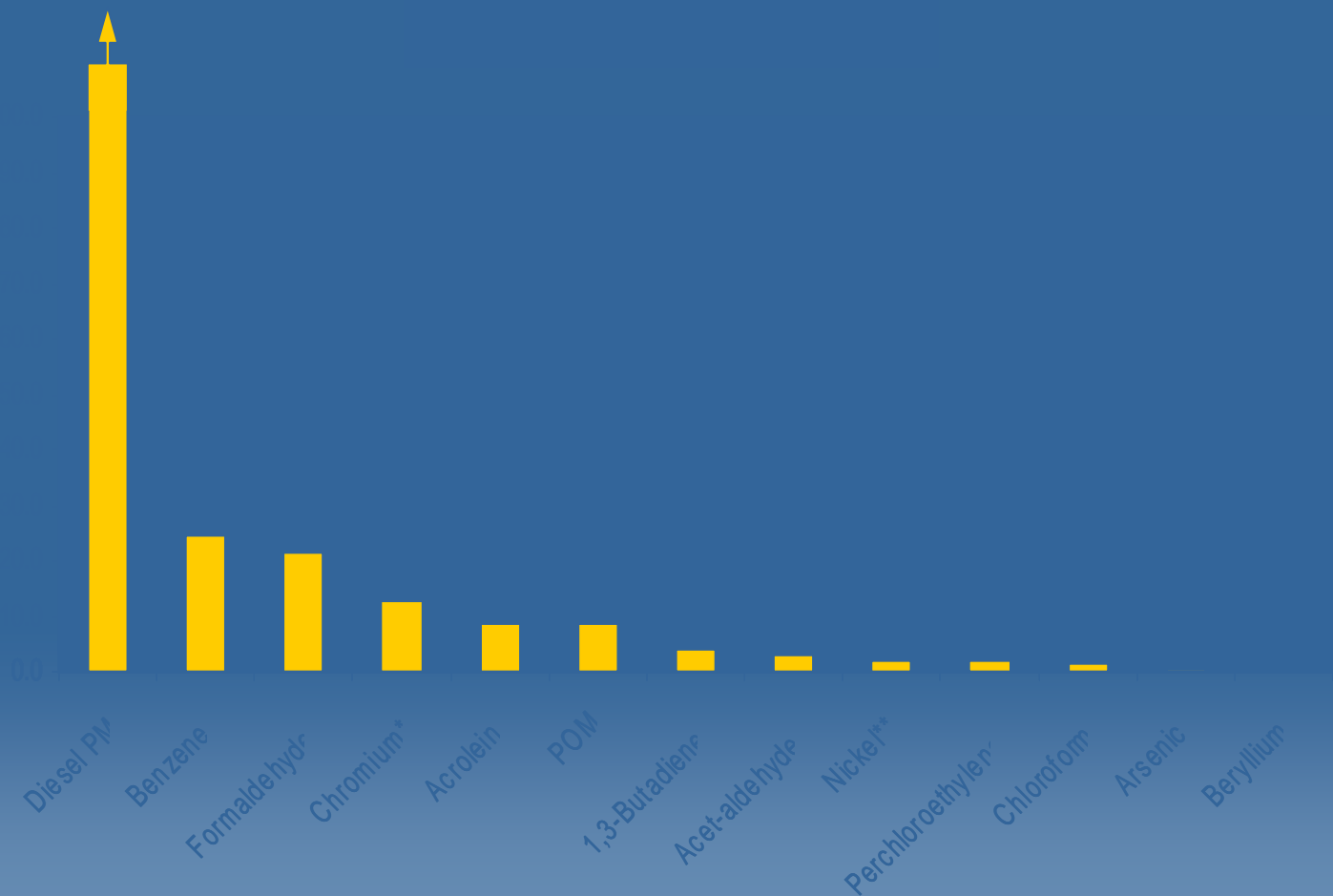


... and  $\text{NO}_x$  from diesel exhaust contributes to the ozone problem



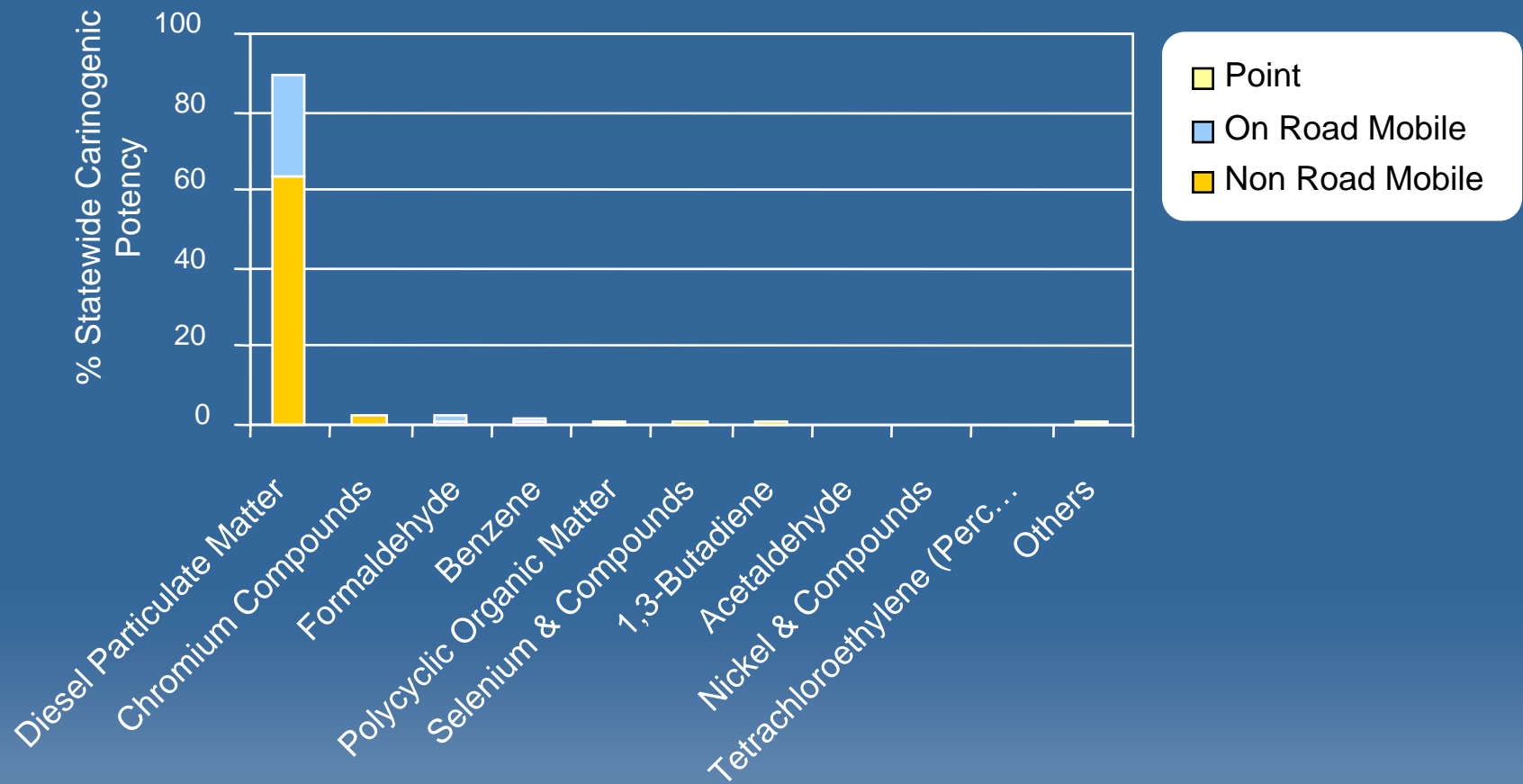


# Oregon Ranks Diesel PM as the #1 Hazard for All Air Pollutants Statewide





## ...As Does Washington for Cancer Effects







# EPA Regulations

## Regulatory Standards:

Clean Diesel Truck and Bus Rule: Dec 2000

Clean Air Nonroad Diesel Rule: May 2004

## Cleaner diesel fuel requirements:

ULSD for highway diesel engines started in 2006 (at retail locations September 1st in California and October 15th nationally),

Low sulfur diesel for nonroad diesel engines in 2007,

ULSD for nonroad diesel engines in 2010, and

ULSD for locomotives and marine engines in 2012.



# EPA Regulations – engine standards

- » Engine standard requirement
  - › Highway sector in 2007
  - › Construction and other non-road in 2011
  - › Locomotive and marine engine rule has been proposed
  
- » Fuel and engine standards for large commercial marine diesel vessels like cruise and container ships are anticipated.





# EPA Regulations

- » When fully implemented in 2030, these regulations will annually prevent up to:
  - 12,000 premature deaths,
  - one million lost work days,
  - 15,000 heart attacks and
  - 6,000 children's asthma-related emergency room visits
- » Combined, these stringent regulations will achieve \$150 billion in health benefits
- » But what can be done with the 11 million engines in use today?



EPA's National Clean Diesel Campaign was launched in 2005 to build on the success of its voluntary programs

- » Clean School Bus USA Program
  - › Over \$20 million granted since 2003
- » Smartway Transport Partnership
  - › \$7 million granted since 2001
- » Voluntary Retrofit & Replacement Program
  - › Over \$5 million granted since 2000







# National Program Developments

- » Now 7 Collaboratives
- » Increased importance of tracking and reporting
- » Greater interest and expectations from decision makers



**National Clean Diesel Campaign**

**Northeast  
Diesel Collaborative**



**Mid-Atlantic  
Diesel Collaborative**

*on the route to cleaner air*





# Federal Funding: Overview

## » **FY07/08 budget**

- » FY07 - \$50 million; FY08 - \$35 million for the National Clean Diesel Campaign
  - » Continuing Resolution for FY07 (\$12 million)
- » There are now 7 Collaboratives nationally to share funding

**National Clean Diesel Campaign**

## » **Energy Policy Act 2005**

- » Diesel Emission Reduction Act (DERA) \$1 Billion over 5 years
  - » Authorization, still needs appropriation
  - » Provisions for state programs

## » **Transportation SAFETEA- LU**

- » CMAQ \$ for nonroad retrofit (over \$8 billion available)
  - » Makes construction equipment retrofits eligible for trust fund
  - » Funding available now from metropolitan planning orgs



## Other federal, state, and local incentive programs are also addressing this issue

- » **California's Carl Moyer Program**
  - › Over \$150 million granted (since 1998) to clean up almost 7,000 engines statewide
  - › Over \$140 million available per year from 2005-2015
- » **USDA Programs:**
  - › Natural Resource Conservation Service EQIP Program
  - › Rural Development
- » **Public and Private Sector Innovative Financing**
  - › Cascade Sierra Solutions and Small Business Administration
  - › State Infrastructure Banks
- » **US DOE's Clean Cities Program**
  - › Millions of dollars granted annually



Ron Kreizenbeck (EPA Regional Administrator) announces the Collaborative with WA Governor Locke, Dennis McLerran (Executive Director Puget Sound Clean Air Agency) and officials from the City of Seattle, Port of Seattle and Princess Cruise Lines in Seattle, WA on September 30, 2004.



# As part of EPA's national program, the Collaborative seeks to do even more

- » The goal of the Collaborative is to reduce diesel emissions in the most impacted communities by:
  - › Supporting and bringing attention to the many highly successful existing efforts
  - › Creating a forum for information sharing along major transportation corridors in the West
  - › Leveraging significant new resources
  - › Developing and implementing projects



Marcus Peacock (EPA Deputy Administrator) and Wayne Nastri (EPA R9 Administrator) present \$300,000 award to Port of Long Beach for Hybrid Yard Hostler Project on September 6, 2006





# West Coast Collaborative Goals

## » ***Protect/Improve Public Health by:***

- › Helping to meet National Ambient Air Quality Standards (PM2.5, Ozone)
- › Meeting air toxics goals (both federal and state/local partners)

## » ***Support Energy Security and Green House Gas Reductions by:***

- › Using cleaner fuels (biodiesel, biogas/natural gas, electric ...) relative to total diesel fuel
- › Advancing regional/local production of renewable fuels supporting local agriculture and forestry sectors
- › Utilizing SmartWay and other programs to virtually eliminate on-road, locomotive, and where appropriate, non-road HDD idling (ports, corridors, distribution locations)



# The West Coast Collaborative includes public, private, and non-profit partners

- » USEPA, USDOE, USDOT, USDA, HUD and DOD
- » State and local leadership in CA, NV, AZ, ID, WA, OR, HI, and AK
- » Environment Canada and Mexico SEMARNAT
- » Private and non-profit sector partners
- » Over 900 participants



Region 10 Administrator Michael Bogert, Oregon Governor Ted Kulongoski, OR Department of Energy Director Mike Grainey, and the OR Trucking Association announce their support for Sharon Banks and Cascade Sierra Solutions. EPA awarded CSS \$200K and OR committed \$2 million to the I-5 Corridor Smartway Upgrade Project in June 2006.



# Six workgroups address different industry sectors



- » Marine Vessels and Ports
- » Trucking
- » Locomotives and Rail
- » Construction
- » Agriculture and Biofuels
- » Public Fleets

Oregon Governor Ted Kulongoski and Dean Ron Adams of the OSU Engineering School receive a check from Suzanne Rudzinski (EPA OTAQ) and Julie Hagensen (EPA R10) supporting the Oregon I-5 Corridor Idle Reduction Project. Also participating, Stephanie Hallock (Director ODEQ), Mike Burnett (Executive Director of Climate Trust) and Mark Reeve (Chair Oregon EQC).



# Accomplishments demonstrate the effectiveness of Collaboration

- » \$12.7 million in EPA funding has leveraged over \$40 million from our partners to implement
  - › 74 projects
    - 52 Collaborative projects (\$7.5 million); and
    - 22 Clean School Bus USA projects (\$5.2 million)
- » 29 grants have been awarded for California projects, totaling \$5 million



Teri Shore (Bluewater Network), Matt Haber (EPA R9), Jack Broadbent (APCO Bay Area Air Quality Management District), Ron Dunfee (Lubrizol), Ron Duckhorn (Blue and Gold Fleet) and Charlene Haught Johnson (Water Transit Authority) announce the Collaborative and its support for the Bay Area Water Transit Authority ferry diesel emissions reduction project on September 30, 2004 in San Francisco.





# Accomplishments – Convening Partners and Information Sharing

- » Over 900 partners
- » Nationally recognized website, sector meetings
- » Hosting of large workshops/meetings ~2-3 per year (over 1000 participants)
- » Hosting of regional/targeted workshops and funding forums (6 in R10; 4 in R9)
- » Raising awareness and amplifying progress
  - › ~10 press events per year
  - › Congressional outreach



Roseville Rail Yard Advanced Locomotive Emissions Control System (ALECS); \$39,000 grant to the Placer County Air Pollution Control District with \$100K in matching funds



## ... But more can be done

- » California estimates that it would take over \$2 billion of diesel reduction projects to achieve healthy air
- » The Collaborative enhances state and local efforts to improve the health and economy of the West
  - › Every dollar spent creates \$13 in health benefits
  - › Investments in new technologies lead to economic development opportunities



The unveiling of an innovative technology being demonstrated at the Roseville Railyard to capture and treat emissions from diesel train locomotives. This demonstration project is funded by a \$39,000 grant to Placer County Air Pollution Control District, with over \$1 million in leveraged funds.



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# For more information on the West Coast Collaborative...

## » Visit our website

[www.westcoastcollaborative.org](http://www.westcoastcollaborative.org)

## » Contact

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EPA Administrator Stephen Johnson and Regional Administrator Wayne Nastri present \$211,000 to Sacramento Metropolitan Board Member Roger Dickinson and Air Pollution Control Officer Larry Greene to retrofit construction equipment engines in and around Sacramento on August 22, 2005.