

FFCA 2007

Goods Movement 101: *Community Health and Other Impacts*

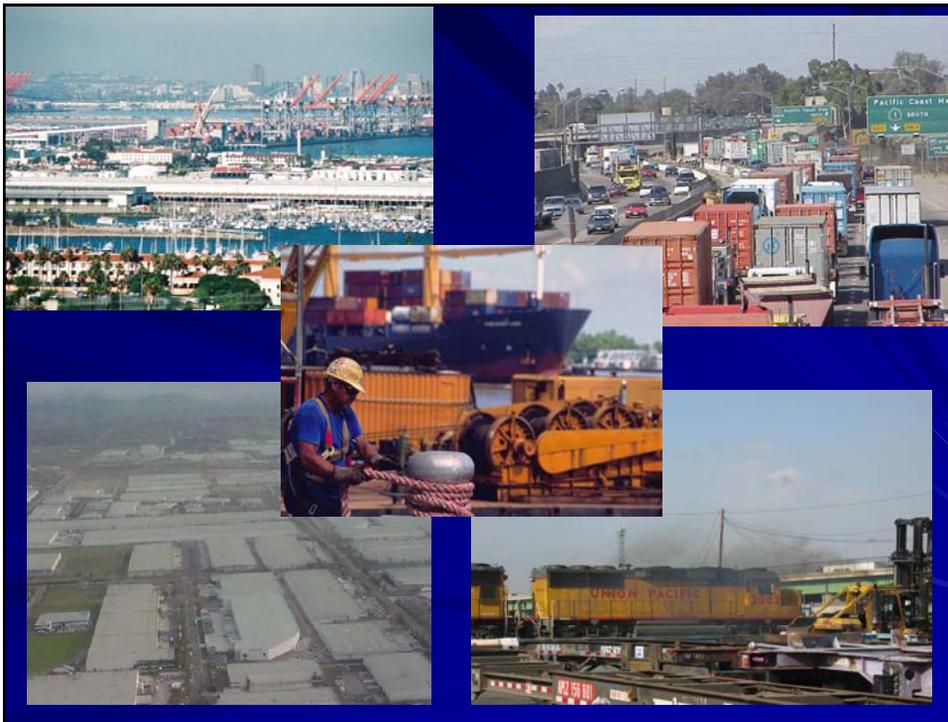
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Our Focus Today: Community Health and Other Impacts

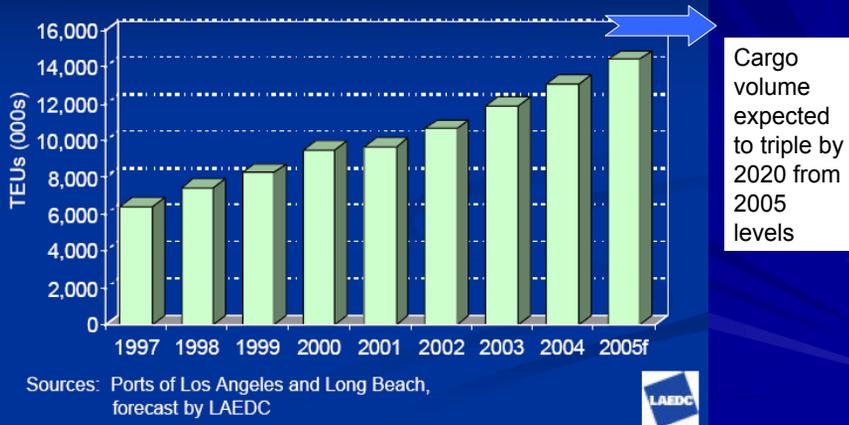


Southern California Environmental Health Sciences Center

- University of Southern California & UCLA scientists
 - Environmental health research
 - What pollutants are in the air and at what levels
 - Criteria pollutants (NO_x, ozone, particulate matter & others)
 - Air toxics, including diesel PM
 - Ultrafine particles
 - Health studies
 - USC Children's Health Study
 - 13 year study of the effects of air pollution on children's health



TOTAL CARGO HANDLED AT THE LA/LB PORTS



Air Pollution Emissions

- Emissions from ships, harbor craft, trucks, and locomotives are significant and are growing
- If not controlled, will prevent Southern California from reaching air pollution standards
- Are causing health impacts – at today's levels

The Big Picture

- Ships bring containers into Ports
- Each container “becomes a truck” on the freeway or ends up on a train
- Ships/trucks/locomotives – add to the entire region’s air pollution
 - Impacts can be 50 miles from the Ports
- Also create local problems in the communities where they operate
 - Railyards, freeways, rail lines, distribution centers
 - Pollution and noise

USC/UCLA Center’s Research Findings on the Health Effects of Air Pollution in Southern California

- Increased % of children with abnormal lungs
 - In children living in the more polluted communities
 - In children living near freeways
- More asthma in children living near busy roads and freeways
- Increased school absences when ozone levels go up
- More premature and low birth weight babies in mothers living near traffic
- Elevated risk of heart disease and death in adults related to fine particles in the air
- Evidence that ultrafine particles may be more toxic

Diesel Exhaust – A Toxic Air Contaminant (TAC) in California

- Diesel declared a “TAC” in 1998 because studies showed it causes elevated risk of cancer in:
 - Railroad workers
 - Truck drivers
 - Dock workers

Diesel particulate matter

- Diesel particulate:
 - Includes carbon particles or “soot”
 - Includes fine and ultrafine particles too small to see

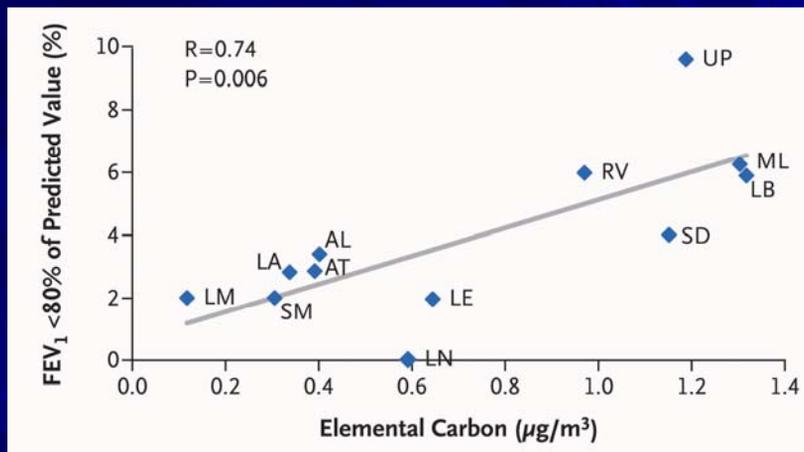
Fine particles* in diesel exhaust

■ “Numerous studies have associated fine particulate matter with a variety of respiratory and cardiovascular problems:

- aggravated asthma
- irregular heartbeats
- heart attacks
- and early death in people with heart or lung disease.”

■ * Smaller than 2.5 microns in size
■ Source: U.S. EPA press release, December 2005

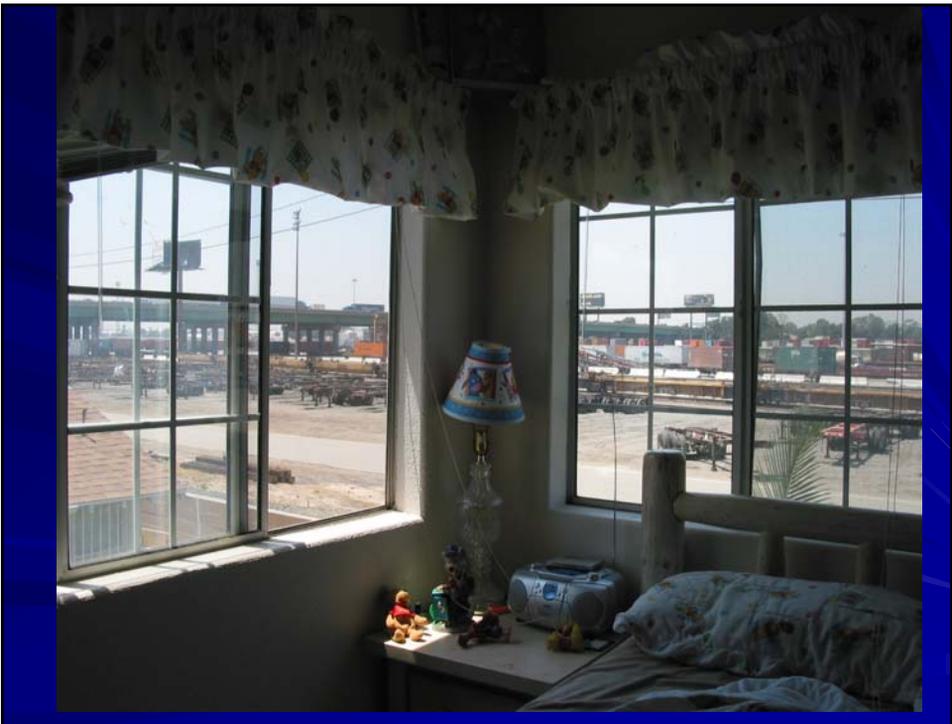
Abnormal Lung Function – Diesel Exhaust Exposure (as indicated by elemental carbon)



Gauderman et al [USC], *NEJM*, 2004

What does this mean for communities...





Health Disparities - Disproportionate Impacts

- “The Californians who live near ports, rail yards, and along high traffic corridors, are subsidizing the goods movement sector with their health.”

California Air Resources Board,
December 2005

Proximity to Goods Movement Activities and Diesel Exhaust

Big-rig trucks entering the 710 freeway, as seen from a front porch in City of Commerce



Land Use Guidelines of California Air Resources Board

- Issued after:
 - reviewing public health literature
 - Conferring with stakeholders

Land Use Guidelines say:



- “Do not build new homes within 500 feet of a freeway”

– *They need to also say:*

- **DO NOT BUILD OR EXPAND A FREEWAY WITHIN 500 FEET OF A HOME**

Land Use Guidelines say:



■ “Within one mile of a rail yard, consider possible siting limitations”

■ *They need to also say:*

■ **DO NOT BUILD A RAILYARD WITHIN ONE MILE OF HOMES OR SCHOOLS**

Examples of Current Land Use Mistakes



Land Use & Proximity Issues

- 500,000 Californians live within 1000 feet of active freight railroad lines*
- More than a dozen schools are within ¼ mile of the Long Beach Freeway

*Los Angeles *Times* analysis





Other Community Impacts

- Noise
 - Links to high blood pressure and heart disease
 - Students can't learn
 - Residents can't sleep
 - Cost of sound walls and insulation
- Loss of sense of community
 - Traffic
 - Distribution centers – millions of acres of changed landscape

Community Impacts, continued

- Train crossings
 - Cities forced to pay cost of “quiet zones” & grade crossings
- Loss in property values
 - Homes in close proximity to freeways, rail yards, ports, distribution centers

Community Impacts, continued

- Damage to roads
 - One big rig truck causes as much damage as 2000-3000 cars
- Costs for heavy duty truck and rail accidents
- Costs for building new infrastructure to support goods movement

Conclusions

- We are observing harmful health effects from air pollution today, under current air pollution levels
- Air pollution levels must be reduced below what they are today to protect health
- But imports continue to skyrocket
- Expanding ports and freeways and rail yards to accommodate increasing imports will create even more community health impacts
- Any new projects must consider the scientific evidence on health impacts and take extraordinary efforts to control emissions