

Center Faculty Discuss Environmental Health Impacts of Ports at Institute of Medicine Meeting

Photo by Andrea Hricko



Trucks idling near the intermodal facility in City of Commerce.

More than one-third of all cargo imported into the U.S. by ship now enters through the Los Angeles and Long Beach Ports, leading the Los Angeles Economic Development Corporation to declare that Southern California has assumed a new role: “U.S. distribution center for Pacific Rim trade.”¹ In fact, the escalating growth of (primarily Asian) imports through these ports also awards them two other titles: “largest port complex in the United States” and “third largest port in the world,” after only Hong Kong and Singapore. But the expansion of international trade — with unregulated foreign-flagged ship emissions and an abundance of diesel equipment used at the Ports — grants the Los Angeles/Long Beach Ports yet another title: largest single source of air pollution in the Los Angeles Air Basin, according to the South Coast Air Quality Management District. And this is without even considering the emissions from hundreds of diesel-powered locomotives moving trains stacked with cargo containers and from thousands of big rig diesel trucks transporting imported freight containers on local roads and freeways.

The National Academy of Sciences’ Institute of Medicine (IOM) invited presenters to discuss the impacts of globalization — including impacts at ports — at its “Roundtable Discussion on Globalization,

International Trade, and Environmental Health” in Washington, D.C. in November 2003. The discussion was suggested and moderated by Dr. John Froines, Director of the UCLA Centers for Environmental Health and Quality and a member of the IOM’s Roundtable on Environmental Health Sciences, Research and Medicine. In addition to port-related impacts, presenters discussed bilateral and multinational trade agreements, the effect of trade agreements on the environment, wages, and workers’ health in developing countries, and the complexities of biotechnology in a global economy.

Dr. Froines began the Roundtable discussion by defining globalization as an ongoing process by which nations, businesses, and people are becoming connected and interdependent across the globe. The process involves travel, exchanging cultures and communication, and integrating economics.² Dr. Froines noted that in today’s world, the impacts of the economic, social, and environmental issues are becoming inherently global, but many of the health impacts are primarily local. In this regard, products made in China that are destined for Chicago are very likely to enter the U.S. through the Los Angeles/Long Beach Ports, with the potential for air pollution exposure and health impacts on local residents of the port communities.

Speaking specifically about these environmental health impacts at the IOM meeting was Andrea Hricko, who directs the Community Outreach and Education Program of the Southern California Environmental Health Sciences Center, funded by the NIEHS and directed by Dr. John Peters at the Keck School of Medicine, University of Southern California (USC). The Center has dedicated significant effort to investigating local Port-related air pollution concerns

The LA/Long Beach port complex is now the 3rd largest port in the world.



Photo by Ed Avol

raised by community residents in Long Beach, San Pedro, and Wilmington, as well as impacts on residents in other areas of the Los Angeles Air Basin where cargo containers travel by truck or rail. A summary of the key points of Hricko's IOM presentation, entitled: *"The New Silk Road" – Environmental Health Impacts of Global Trade and Port Expansion in the Los Angeles Area*, follows.

As the Ports of Los Angeles and Long Beach continue to expand, more and more trucks are required to move an increasing volume of cargo containers. Already, there are 47,000 truck trips a day on the I-710 (Long Beach) Freeway and a new study shows that the number is expected to skyrocket to 100,000 trips a day by the year 2025.³ A recent UCLA/USC study⁴ shows high levels of ultrafine particles and elemental carbon (evidence of diesel exhaust) within the first 300 feet from the 710 freeway, raising concerns about exposed children and residents in nearby homes and schools. Plans to double-deck or expand this freeway to accommodate three times as many trucks in the future have stirred debate among community residents who live along the corridor. They are concerned about losing their homes – and about the increase in diesel pollution — and have raised questions of environmental justice, since the communities along the 710 Freeway are primarily minority.

Also by 2025, the number of locomotives moving throughout the region is expected to double or triple to three times the current number to accommodate the escalating number of imported cargo containers. Like ships (which run on low quality "bunker fuel"), emissions from diesel-powered locomotives (which operate on high sulfur content diesel) are virtually unregulated, raising concerns about local health impacts among residents and school children who live or attend school near rail routes or intermodal facilities. (See photo.) High sulfur diesel fuel is more polluting than that used in big-rig trucks in California. Several of the country's largest intermodal facilities (where cargo is transferred from truck to train and vice versa) are located in East Los Angeles/City of Commerce and in West Colton (San Bernardino County).

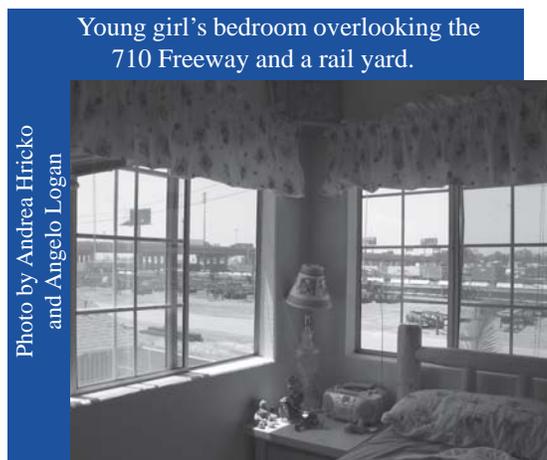
Atmospheric chemistry – combined with wind and other factors – result in these Port-related emissions from ships, trucks, and locomotives affecting the entire region's air pollution. Meanwhile, studies are showing health effects in children exposed to existing levels of

air pollution in Southern California. The USC Children's Health Study shows that children living in the more polluted communities of the Southland have reduced lung function growth (among other effects) and more school absences than children living in less polluted communities.³

At the IOM meeting, Hricko noted that economic development advocates argue that port expansion is driving the Southern California economy, attributing one out of 7 jobs in the region to port-related activities. She also noted that there are skeptics who question the wage levels and nature of jobs created by an economy based on "goods movement." Hricko concluded that discussions about economics and traffic congestion currently overwhelm considerations of public health in L.A.'s transportation and goods movement planning process. The challenge ahead, she suggested, is for health scientists to engage with regional urban and transportation planners as port and related infrastructure (e.g., freeway) expansion plans are being considered. In this regard, Hricko recently addressed elected officials and others who serve on two committees (Goods Movement and Energy/Environment) of the Southern California Association of Governments (SCAG), urging them to consider health impacts when making decisions on expanding transportation infrastructure.

Over the past three years, various UCLA and USC faculty have been involved in looking at local and regional impacts of the Ports on air pollution and health. John Froines, John Peters, and Andrea Hricko have each addressed the Planning Commission and Board of Supervisors in Riverside County, raising concerns about adding new sources of air pollution to this heavily polluted region, with more and more heavy

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duty diesel trucks servicing new cargo distribution centers (warehouses) in the Inland Empire.

(Thousands of acres of new warehouses have been built in Riverside and San Bernardino Counties in the past five years to accommodate the increase in imported freight from the Ports.) Dr. Jim Gauderman has spoken at community meetings in the Inland Empire, describing the results of USC studies – which show respiratory health impacts among children in that region.

In addition, Ed Avol has been actively involved in evaluating air pollution impacts of the Ports, serving as a consultant to the Port of Los Angeles' Community Advisory Committee Subcommittee on Air Quality and also on a committee looking at the impact of the 710 Freeway expansion. Both Dr. Peters and Andrea Hricko have testified before government officials who are making decisions on the 710 Freeway expansion. In addition, Ed Avol and Dr. Rob McConnell have spoken at community meetings or State of California Assembly hearings on the need to reduce Port-related diesel emissions.

The Southern California Environmental Health Sciences Center, along with the Southern California Particle Center and Supersite, the UCLA Center for Occupational and Environmental Health, the Children's Environmental Health Center, and many community and government partners plan to sponsor a Town Hall Meeting on the local and regional impacts (community/environmental/public health) of the Ports this fall. For additional information, please contact Amy Tam at USC (323-442-3762).

1. *On-Trac Corridor Trade Impact Study, 2002*, on website of Los Angeles Economic Development Corporation: <http://www.laedic.org>
2. Labonte, R. (2003). Globalization, trade and health: Unpacking the linkages, defining the healthy public policy options. In R. Hofrichter, (Ed.), *Health and Social Justice: Politics, Ideology and Inequity in the Distribution of Disease*. San Francisco: Jossey-Bass.
3. Meyer, Mohaddes Associates, Inc. *Draft Port of Los Angeles Baseline Transportation Study*. December 2003.
4. Zhu, Y. et al. Study of ultrafine particles near a major highway with heavy duty diesel traffic. *Atmospheric Environment* 36(2002) 4323-4335.
5. Kuenzli, N. et al. *Breathless in Los Angeles: The Exhausting Search for Clean Air*. *American Journal of Public Health*, September 2003, Vol. 93, No. 9, pp. 1494-1499.

Valuable Resources: Long Beach Press Telegram 8-part series entitled: "Toxic Air: How the Ports Contribute to Pollution in the L.A. Basin," accessed at: <http://lang.presselegram.com/projects/toxicair/>

Natural Resources Defense Council and Coalition for Clean Air. *Harboring Pollution: The Dirty Truth about U.S. Ports*, March 2004, accessed at <http://www.nrdc.org/air/pollution/ports/contents.asp>

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traditionally taught in safety and health degree programs. It is essential that training for new professionals in this field include organizational and program management skills, and new approaches to safety management.

During the visit, the ERC trainees had an opportunity to discuss the roles of occupational safety and health disciplines in a facility such as the one we visited. It led to a spirited discussion about which discipline was "best" suited for which roles. However, the discussion had an eerie sense of disconnect from the reality that one person in the facility was responsible for managing all of the environment and occupational safety and health programs. The time in which even relatively large industrial facilities had in-house programs with industrial hygienists, nurses, occupational medicine doctors, and environment specialists is essentially gone. It is interesting that funding for the training programs by the National Institute for Occupational Safety and Health still emphasize the traditional safety and health disciplines, although it is becoming increasingly rare for professionals to function only in these traditional disciplines. The COEHs and SCERC will continue to explore how the safety and health training programs must change in order to meet the needs of the evolving field of occupational and environmental health.

Finally, the visit demonstrated the value of allowing ERC trainees to see how workplaces are changing and how safety and health programs are being implemented. It is essential for our trainees to have access to real workplaces so their training is appropriate and based on real world experiences. The SCERC appreciates the willingness of employers to provide this access. We encourage employers and health and safety professionals who read this newsletter to collaborate with us in providing this essential training by allowing access to your workplaces.