

**2nd Annual
National Urban Freight
Conference 2007**

**Long Beach, California
December 5-7, 2007**

***Conference Summary
and Observations***

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March 2008



Growth in international trade and changes in manufacturing processes have greatly increased the volume of goods moving into and across the United States. The major transport concentrations – ports, airports, rail hubs – tend to be located in major metropolitan areas, such as Los Angeles, New York, Chicago and San Francisco, but all metropolitan areas are affected by growing freight volumes.

Growing international trade and its associated freight flows generate large benefits and costs. These benefits tend to be dispersed among the many customers who enjoy an increasing variety of goods at ever-lower prices, and among the many businesses that make up the trade supply chain. In contrast, costs tend to be concentrated around major nodes and freight corridors.

The contribution of goods movement to urban congestion, air quality and changing land use patterns is not well understood. Most freight research addresses goods movement between regions. We have only limited understanding of how the economics of international trade activity are distributed across metropolitan areas. Nor are tools for modeling and forecasting freight flows within regions well developed. The nature of the goods movement supply chain is poorly understood, yet this understanding is critical if congestion and environmental problems are to be effectively addressed and solved.

In response to this need to better understand the impacts of goods movement on metropolitan areas, the METRANS Transportation Center at the University of Southern California and California State University, Long Beach organizes an annual National Urban Freight Conference. The 2nd Annual Conference was held in Long Beach, California from December 5-7, 2007.

The Conference attracted researchers from throughout the US and other parts of the world where maritime ports, airports, and rail hubs are located. These facilities all contribute to the economic vitality of larger metropolitan regions but also add to the congestion on an already stressed network of roads and railroads.

The National Urban Freight Conference organized presentations into one of eight different tracks:

1. Models for transportation, port, air, inter-modal operations, impact analysis
2. Port operations, productivity
3. Trucking, air, rail economics, productivity, labor issues
4. Local and regional environmental externalities: congestion, air quality, etc.
5. Policy and institutional issues in urban goods movement
6. Security/vulnerability of goods movement infrastructure
7. Best Practices and lessons learned
8. Technology

These tracks reflect the wide range of issues confronting metropolitan areas as they address the increase in freight flows. They also reflect the multi-disciplinary nature of goods movement research that draws upon engineering, economics, systems analysis, health, planning, and public

policy among others. The Conference offered a unique opportunity to bridge the gap between these often-disparate research areas.

In addition to papers presented in various track sessions, the Conference featured a keynote speaker and plenary sessions that addressed overarching themes tied to the movement of goods in urban areas. These include future freight transportation demand and the ways in which we identify possible solutions to metropolitan-wide problems. They also include the development of a national freight policy framework, a revolutionary change in the way goods movement has been addressed by policy makers.

This summary is organized around the keynote and plenary sessions as well as the eight tracks. Key findings and suggestions from each will be presented; some concluding comments follow. The conference website includes a conference overview and agenda. PowerPoint presentations from plenary speakers, and abstracts and papers from track sessions are also available. Please visit <http://www.metrotrans.org/nuf/2007/papers.html>.



Bob Foster, Mayor of Long Beach, CA; Christine Johnson, Director of Field Services – West, FHWA,; Genevieve Giuliano, METRANS Director, at the podium; Randolph Hall, Vice Provost for Research Advancement, USC.

1. The End of Urban Planning and Global Supply Chain Management

The keynote address was given by Daniel L. Gardner. Mr. Gardner is President of Trade Facilitators, Inc., a Los Angeles-based training and consulting firm that specializes in the field of supply chain management. Prior to founding TFI, Mr. Gardner worked in the third part logistics field for 23 years, where he held senior management positions with Fritz Companies and DHL Global Forwarding.

The keynote address was titled *The End of Urban Planning and Global Supply Chain Management*. Mr. Gardner discussed three major topics: issues at the intersection of urban planning and global supply chain management, future research opportunities in these fields, and strategies for future dialogue between academia, government and the private sector.

Mr. Gardner provided an overview of supply chain management and third party logistics. He then introduced a number of issues that concern both urban planning and supply chain management. Among these issues were the bottlenecks in the transportation system, the movement of distribution centers further inland, and inefficient land uses resulting from insufficient supply chain visibility.

Mr. Gardner stated that a variety of research opportunities exist that would prove beneficial for the global supply chain industry. These topics included the impact of the “backhaul economy” on metropolitan planning; the relationship between insufficient supply chain visibility and larger warehouse footprints; the movement of distribution campuses farther inland; and the impact of immigration reform on the supply chain industry with regard to labor costs and worker skill sets.



Daniel L. Gardner, Trade Facilitators, Inc.

The address ended with Mr. Gardner encouraging shared vision and common goals for solving the issues relevant to both urban planning and supply chain management. Mr. Gardner challenged the audience to work from an integrated, systematic approach that balanced the interests of society, business, organized labor, academia and government. These different sectors must have a shared vision, common goals and a belief that you can do well by doing good.

2. Freight and Metropolitan Areas

The opening plenary session at the National Urban Freight Conference featured Christine Johnson, Director of Field Services – West, for the Federal Highway Administration. Ms. Johnson discussed the national perspective on freight movement and America’s metropolitan areas.

The national transportation agenda, according to Ms. Johnson, is increasingly shifting its focus both to freight and to metropolitan areas. Transportation has moved beyond merely improving connectivity, speed, reliability and throughput. In addition, transportation professionals must ask questions such as “What land use patterns will affect trip generation and how?” and “how can technology and data analysis be used to improve the existing system?”



Christine Johnson, Director of Field Services – West, FHWA

An imbalance currently exists at the national level between who pays for the transportation system that facilitates freight movement and who benefits from that system. Bottlenecks in urban centers create congestion in those regions, as well as problems throughout the network. An imbalance between costs and benefits also exists for rural states with high traffic volume and maintenance costs.

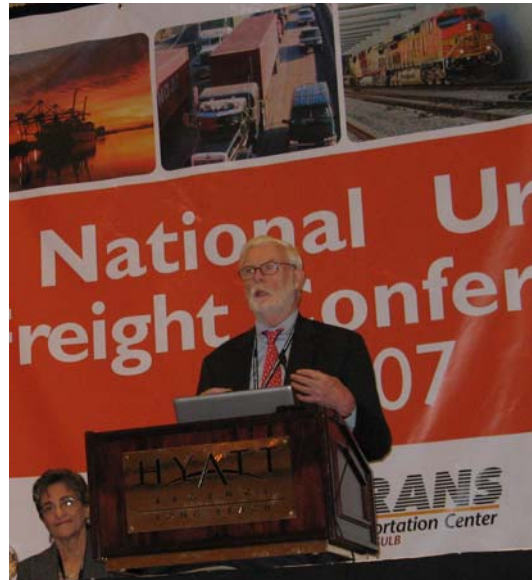
Ms. Johnson concluded her address with four strategies for improving freight movement within metropolitan areas:

- Think in terms of corridors, systems and regions
- Don’t just push the problem to the next bottleneck
- Understand freight movement patterns relative to the metropolitan areas in which they occur
- Focus on operational, technology-based solutions first, and look to capacity expansions next

3. Legislative Context for Goods Movement Policy

The second day's plenary session featured Mortimer Downey, Chairman of PB Consult, Inc. Mr. Downey previously served as President of PB Consult and U.S. Deputy Secretary of Transportation. His address was titled a *Legislative Context for Goods Movement Policy*.

Mr. Downey gave a historical perspective of transportation policy in the United States during the last century, from the policies directed at "getting the farmer out of the mud" that characterized the early part of the 20th century to the era of highway building in the latter half of the century to the era of "environment and system enhancement" that has characterized the last several transportation bills.



Mortimer Downey, PB Consult

New transportation legislation will need to be in place by October 2009. This legislation will come during a period of change, with a newly elected President and Congress. Mr. Downey identified the key elements of change as adequate resources, goods movement focus, institutions, greater flexibility of funding, earmark control, sustainability and research and technology.

Mr. Downey identified constraints that could impede improvements in the new legislation:

- Fiscal: both short term and long term budget problems
- Programmatic: earmarks and interest group politics
- Institutional: silos with executive and legislative branches; and separation of public and private transportation modes

Despite these concerns, there are hopeful signs for the freight industry. Projects such as the Alameda Corridor demonstrate the ability to bring parties together to work toward a worthwhile goal. The focus on freight in SAFETEA-LU is likely to continue with the new legislation. Mr. Downey concluded by stating that the new transportation legislation should not be just a reauthorization of past priorities, but a new authorization that sets a pattern for future policy.

During the same session, Ray Derr of the Transportation Research Board provided an overview of the National Cooperative Freight Research Program (NCFRP). Mr. Derr discussed NCFRP's history, areas of research and mission of conducting research and disseminating timely findings that will inform investment and operations decisions affecting the performance of the freight transportation system. An overview was given of NCFRP's projects for FY 2006 and 2007, which range from *Impacts of Public Policy on the Freight Transportation System* to *Private Sector Responses to Freight Transportation Capacity Constraints*.

Tom O'Brien, Director of Research at the Center for International Trade and Transportation at California State University, Long Beach, outlined research issues in freight transportation as discussed at the Transportation Research Board's spotlight conference in Washington, DC, held October 22-23, 2007. The major objectives of this conference were to improve collaboration among researchers, identify freight-related research issues and opportunities, and encourage coordination between academia, government agencies and the private sector. It was concluded that freight-related issues that should be pursued by the academic community include those that are interdisciplinary or require large-scale thinking, technology-based problems and issues that are politically controversial.

The session concluded with Michael Onder of the Federal Highway Administration. His presentation discussed the structure of Office of Freight Management and Operations within FHWA, performance objectives for the office, and key freight research activities for 2008. The office includes sections for policy, program delivery and freight operations and technology. Major performance objectives include improved travel time reliability for freight movement at ports of entry and along corridors; reduced congestion and improved mobility through providing analytic capability to transportation managers, planners and policy developers; and increased throughput of the transportation network through collaborative testing and analysis of technology with industry. Key activities for 2008 include assessing the cost-benefit of exclusive truck lanes and optimizing throughput through the correlation of traffic management data with freight movement schedules.

4. Track Sessions

In addition to the plenary sessions, the National Urban Freight Conference featured more than 70 papers in eight different tracks designed to explore the various aspects of freight movement within metropolitan areas. Each track was composed of different sub-tracks around which presentations were organized.

Track 1: Models for transportation, port, air, intermodal operations, impact analysis

Track 1 comprised seven sub-tracks: models and advanced technology; models – air, rail and traffic flows; modeling freight flows; modeling port operations; modeling truck and container movement; models for trucking; and network modeling and routing.

Models and Advanced Technology

Papers in this session explored the use of technology in analyzing and improving transportation systems. These included technological solutions in urban freight impact statements, 3D tree-structured object tracking and the use of Maglev conveyors for container drayage.

Modeling Air, Rail and Traffic Flows

This session included three papers. One paper examined integer programming (IP) models in increasing railway capacity while another modeled the impacts of truck restrictions on urban freeways. A third paper looked at green freight movement strategies in Europe.

Modeling Freight Flows

This session included four papers. The first examined the manners in which economic activity and transportation demand are influenced by the supply chain. The second presented a model for multi-mode, multi-level freight movement. The third looked at inter-jurisdictional spillovers in infrastructure investment while the final paper investigated national interstate input output models.

Modeling Port Operations

This session included three papers that investigated the modeling of port operations. The first paper examined the use of simulation in projecting operations at a container facility currently under construction in Alabama. The second paper attempted to minimize problems associated with late vessel departures while maximizing benefits from early departures. The final paper examined the berth and quay crane assignment process and its effect on vessel turnaround time.

Modeling Truck and Container Movement

Three papers were featured in this session. The first looked at the simulation of various technologies and strategies and their impact on terminal capacity and on congestion outside of the terminal. The second paper identified the benefits of an Inland Depot for Empty Container (IDEC) system. The final paper looked at the optimization of cross-dock operations.

Models for Trucking

This sub-track included three papers. The first paper looked at the optimization of a truck appointment system. The second paper discussed factors that influence participation in cooperative multi-carrier delivery initiatives in New York. The third paper explored the impact of congestion on commercial carriers.

Network Modeling and Routing

This session featured three papers. The first explored vehicle movement and routing in an emergency environment. The next paper analyzed a freight flow prediction model. The session's final paper used a model to lower costs at FedEx.

Track 2: Port operations, productivity

This track included two different sub-tracks: 1) impacts of supply chain policy and 2) port operations and productivity.

Impacts of Supply Chain Policy

This track included four papers. Two of the papers discussed the Clean Trucks Program at the Ports of LA and Long Beach. One paper examined the success of the PierPass extended gate operation program, also at the Ports of LA and Long Beach. Another paper looked at exclusive truckways in Canada.

Port Operations and Productivity

Three of the four papers in this session examined operations at the Ports of LA and Long Beach. One looked at wait and flow times. Another examined capacity increases through improvements

in productivity, and the third looked at improvements to efficiency through technological and procedural changes. The final paper studied the viability of Inland Container Terminals in British Columbia.

Track 3: Trucking, air, rail economics, productivity, labor issues

This track featured sessions covering trucking transport and economics.

Issues in Trucking Transport and Economics

This session included papers on a variety of topics: the use of derivatives to decrease volatility in freight transportation, congestion pricing at the Ports of LA and Long Beach, productivity gains and its effect on urban areas, examination of triple trailer truck operations in the western U.S., truck-oriented freight performance measures, and an analysis of freight movement in congested areas.

Track 4: Local and regional environmental externalities: congestion, air quality, etc.

Track four had two sub-tracks: 1) environment -emissions and 2) environmental impacts.

Environment-Emissions

This session featured two papers that discussed emissions. One looked at technological and operational strategies for reducing truck emissions in Southern California while the other examined emissions from crude oil vessels.

Environmental Impacts

Two papers are included in this session. One examined the movement of hazardous freight through urban areas while the other paper looked at economic, social and environmental impacts on trade corridors.

Environment and Energy

Two of the four papers included in this session focused on emissions. One looked at emissions from intermodal freight in Southern California while the other focused on emissions from diesel locomotives in the Alameda Corridor. The third paper explored the production of hydrogen from agricultural wastes. Another featured a CGE model that looks at transportation and the environment in Southern California.

Track 5: Policy and institutional issues in urban goods movement

This track had four separate sub-tracks, highlighting the various institutional issues influencing freight movements in metropolitan areas. They included policy-impacts, policy-transport issues, policy-institutional issues, and policy-planning and regulatory issues.

Policy-Impacts

Papers presented during this session focused on institutional reforms and port efficiency in Singapore and Dubai, societal costs of freight movement at the Port of New York, intermodalism and the use of transit systems in air freight delivery in the San Francisco Bay Area.

Policy-Transport Issues

Three papers were presented during this session. One focused on public-private partnerships in the rail industry. Another looked at goods distribution in medium-sized cities, with a focus on La Rochelle, France. The third paper examined road pricing and other strategies for moving freight to off-peak hours

Policy-Institutional Issues

This sub-track featured two papers. One paper established the need for and provided strategies for educating and familiarizing public sector freight planners on private sector logistics and supply chain practices. The other paper looked at environmental health issues related to port activity.

Policy-Planning and Regulatory Issues

Two papers were presented during this session. The first presentation examined the needs of the customer in freight planning. The other paper looked at planning for freight activities in small metropolitan areas.

Track 6: Security/vulnerability of goods movement infrastructure

This track included one sub-track: supply chain security and vulnerability.

Supply Chain Security and Vulnerability

Four presentations were given during this session. The first paper discussed interoperability of communication equipment at the Ports of LA and Long Beach and its effect on port security. The next presentation discussed strategies for supply chain process management as a strategy for increasing market agility, cutting costs and encouraging collaboration among trading partners. Another paper looked at RFID tags and their role in supply chain security. The final paper examined post 9/11 security measures regarding commercial vehicle operations.

Track 7: Best practices/lessons learned

This track included two sub-tracks: 1) best practices-freight villages and 2) lessons learned in alleviating freight congestion.

Best Practices-Freight Villages

The session on best practices was centered on the idea of freight villages. The first paper looked at the concept of freight villages and its applicability to urban areas. The next paper looked at best practices from freight villages in Europe. The third paper looked specifically at the integration of inland ports into Southern California's goods movement system.

Lessons Learned in Alleviating Freight Congestion

This session included three papers that provided lessons learned for alleviating freight congestion. The first paper looked at the impact of eliminating at-grade crossings on freight service in Reno, Nevada. A second paper provided lessons learned in Kansas City. The final paper examined the use of service-oriented architecture in freight operations.

Track 8: Technology

This track included two sub-tracks: 1) advanced technology and 2) technology best practices.

Advanced Technology

This session featured a panel presentation on Strategic Mobility 21, a Congressionally-mandated Advanced Logistics Joint Concept Technology Demonstration funded through the Office of Naval Research. Panelists were Michael O’Neil of Boeing and Shui Lam, John Hwang and Burkard Englert of California State University, Long Beach. The moderator of the session was Lawrence Mallon, Director for Strategic Mobility 21.



Strategic Mobility 21 Panel

Technology Best Practices

The two presentations during this session looked at best practices regarding technology. The development of a technology industry in the area around the Ports of LA and Long Beach was the focus of the first presentation. The second looked at a consolidated transfer/storage center for empty containers and its implications for the San Pedro ports.

5. Future Research: Three Perspectives

The 2007 National Urban Freight Conference concluded with a plenary session discussion among three panelists representing government, the private sector and academia. Larry Orcutt of Caltrans represented government, Patty Senecal of the International Warehouse Logistics Association represented the private sector and James Moore of the University of

Southern California represented academia. Each panelist provided a viewpoint from his or her respective sector on current research and the direction that research should take in the future.

Stop Talking Transportation

The first speaker during the session was Larry Orcutt, Research and Innovation Division Chief at Caltrans. Mr. Orcutt emphasized that future strategies and research should emphasize the Three C's: communication, coordination and collaboration.

Transportation professionals often speak in the language and acronyms of their industry. "Talking transportation" makes it difficult to communicate with leaders and the general public. The language used in such discussions must be accessible to everyone, not just transportation professionals.

Coordination among groups is also essential. Industries, regions and disciplines must work together to find solutions instead of allowing themselves to be "divided and conquered."

Collaborative research is also important. Transportation researchers must market boldly, make deals unabashedly and embrace policy research.

Mr. Orcutt concluded by stating that change is essential and can best be achieved through studying best practices and lessons learned and through employing strategies such as public-private partnerships, integrated corridor management and urban partnerships.

Research that is Relevant to the Private Sector

The next panelist to speak was Patty Senecal, who is director of state government affairs for the International Warehouse Logistics Association.

Ms. Senecal discussed the evolving focus of the transportation industry and of transportation research. Ten years ago, the focus was on better, faster and smarter movement of freight. In the post 9/11 environment, the priority shifted to security concerns. Today, focus is on the environmental aspects of transportation and freight movement.

Ms. Senecal discussed the interaction between university-based research and the private sector. University research is highly valued because it brings unbiased research to the table. However, there is often a disconnect between the type of research that industry needs and the type of research that universities provide. She noted that the private sector, potential customers for this research, was not well represented at the conference. The industry wants to see research that clearly identifies problems and the solutions to those problems. Research needs to show the private sector how it can save money, minimize safety risks and improve efficiency. Faster research is also needed, because dynamics change quickly and render older findings obsolete.

Possible research opportunities that would be of interest to the private sector include the greening of the supply chain, the aging of the truck driver labor pool, and tolls and congestion pricing.

Focus on Data and Decreasing Uncertainty

The session closed with James Moore, Chair of the Department of Industrial and Systems Engineering at the University of Southern California.

Dr. Moore stated the necessity for researchers to climb out of their individual silos and collaborate to come up with solutions. Lots of “just out of the box” thinking will be required. In the end, however, congestion in freight movement is inevitable, as there is no bottom to the global trade pool. Increased throughput, not decreasing congestion, is the goal that will allow us to become wealthier more cheaply.

Dr. Moore was pleased with the emphasis on data that he saw at the conference. There is an avalanche of data coming and researchers need to figure out how to use it. This focus on data will help to achieve the “Holy Grail” of increased certainty. Faster research and better data cannot necessarily improve forecasts, but they can decrease uncertainty.

6. Mobile Session

This year’s mobile session visited two sites that are representative of vital links in Southern California’s goods movement system: Target Logistics Services and the Customs Examination Station at Price Transfer.



Target Logistics warehouse facility

The first stop for the mobile session was in Carson, at the headquarters of Target Logistics Services, a firm that provides C-TPAT-certified, customized logistics solutions to a wide variety of clients. Numerous Target executives and employees, including President Chris Coppersmith, were on hand to give tours of the facilities and answer questions. Participants toured the company’s marketing and customer service center,

security offices and a warehouse facility that housed everything from escalators to vending machines. All participants were given a DVD outlining Target Logistics' worldwide services and operations.

The second destination for the mobile session was at a U.S. Customs and Border Protection (CBP) Centralized Examination Station (CES) at Price Transfer Group in Long Beach. CBP agents provided attendees with an overview of customs procedures at the Ports of LA and Long Beach. Agents also led a tour of the customs examination facility. Price Transfer Group is the largest provider of CBP / Homeland Security CES services in the country.

7. Concluding Thoughts

The 2nd National Urban Freight Conference afforded researchers and practitioners a unique opportunity to consider valuable lessons from Southern California, the US and other parts of the world. We learned that much work is being done to resolve the issues tied to a lack of good urban freight data; but we also learned that our work risks becoming irrelevant if we do not develop research questions that are of interest to industry and community stakeholders. We have been challenged to disseminate our findings more quickly and more widely.

We also learned that federal freight policy is at a crossroads. The next reauthorization and a new administration will offer opportunities to raise the profile of goods movement in areas outside of traditional transportation hubs. Yet, the transportation financing process will remain a challenge, as will other institutional impediments that have hindered the development of a national consensus surrounding the safe and efficient flow of goods.

Some consensus is being built around the question of sustainability; but even with sustainability, there is work to be done on effective financing measures and policy tools that result in both improved system-wide freight flows and an improved environment. The 2nd National Urban Freight Conference provided researchers necessary feedback on the value of current efforts in these areas and much needed direction for the future.