

Research Issues in Freight Transportation: Congestion and System Performance

A Summary Report

National Urban Freight Conference
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Research Issues in Freight Transportation

- TRB spotlight conference held Oct. 22-23, 2007 in Washington
- Sponsored by TRB Freight Systems Group, Marine Group, Freight Data Committee with support from RITA



Research Issues in Freight Transportation

- Purpose: Provide forum for researchers, government officials and private sector reps to exchange ideas on how freight transportation system can be improved
- Format: Presentations from system users, state DOT, retailer, carrier and researchers followed by small group break-out sessions



Research Issues in Freight Transportation

■ Objectives

- Improve collaboration among researchers
- Encourage interaction and synergies among universities, govt., private sector and TRB
- Define freight-related research opportunities
- Identify future freight-related critical issues for USDOT and other govt. staff



Research Issues in Freight Transportation

- Major Points/Themes include
 - Total costs in the supply chain, cost components and externalities
 - Importance of external factors in influencing transport decisions
 - Fuel costs and fuel efficiency
 - Importance of data and data-driven analysis
 - Freight network modeling and need to provide information of use to decision makers



Research Issues in Freight Transportation

- Major Points/Themes include
 - Systems perspective
 - Reliability, predictability and flexibility of networks
 - Environmental sustainability and green approaches to distribution and production
 - How to bring public and private together given differing goals



Research Issues in Freight Transportation

- Major Points/Themes include
 - Performance management, not just measures
 - Strategic investments: how to accomplish at national level
 - Need broad perspective (not just large companies)



Research Issues in Freight Transportation

- What isn't well researched
 - Institutional structures used elsewhere
 - How to communicate to a generation of users that have had infrastructure but not had to face hard financing decisions
 - Impacts on national, regional, state and metro economies of changes in global market



Research Issues in Freight Transportation

- What isn't well researched
 - Node operations
 - How to make "almost good data" work



Research Issues in Freight Transportation

- Most appropriate for academic research community
 - New concepts/modeling/NCFRP
 - Evaluations
 - Syntheses and documenting state-of-the-practice
 - Case studies and lessons learned
 - Institutional analyses/consequences



Research Issues in Freight Transportation

- Most appropriate for academic research community
 - Larger scale thinking
 - Technology and materials (Basic science)
 - Interdisciplinary/cross-cutting intermodal
 - Politically controversial/lightning rod issues



Research Issues in Freight Transportation

- Priority Research Agenda?
 - ROI analysis
 - Freight planning process
 - Freight data at different levels of disaggregation
 - Network optimization
 - Role of technology in system performance
 - Institutional issues



Research Issues in Freight Transportation

- Priority Research Agenda?
 - Environmental sustainability
 - Workforce issues (aging population, motivation of new generation)
 - Understanding the broader relationship between economic factors and transportation demand, esp. re international flows

Research Issues in Freight Transportation

■ Next Steps

- National Conference Follow-up?
- How to get researchers to speak about these issues on industry's "turf"



Thank you

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