8th University Transportation Center Spotlight Conference

The Role of Freight Transportation in Economic Competitiveness

December 10–11, 2014

The Keck Center of the National Academies
Washington, D.C.

Organized by
Transportation Research Board

Supported by
University Transportation Centers
Office of the Secretary for Research and Technology, U.S. Department of Transportation

www.trb.org/conferences/utc2014.aspx
Planning Committee

Denver Tolliver, Chair, North Dakota State University
Reginald Souleyrette, Alternate Chair, University of Kentucky
Stacey Hodge, New York City Department of Transportation
Amy Meyers Jaffe, University of California, Davis
Herby Lissade, California Department of Transportation
Caroline Mays, Texas Department of Transportation
Anne Strauss-Wieder, A. Strauss-Wieder, Inc.
Melissa Tooley, Texas A&M Transportation Institute

Liaisons

Tom Bolle, Liaison, Office of the Assistant Secretary for Research and Technology,
U.S. Department of Transportation
Robin Kline, Liaison, Office of the Assistant Secretary for Research and Technology,
U.S. Department of Transportation
Mike Dinning, Liaison, Volpe Center
Diana Bauer, Liaison, U.S. Department of Energy

TRB Staff

Scott Babcock, Senior Program Officer, Rail and Freight
Tom Palmerlee, Assistant Division Director
Mai Q. Le, Associate Program Officer

Transportation Research Board

Transportation Research Board is one of six major divisions of the National Research Council, which serves as an independent adviser to the federal government and others on scientific and technical questions of national importance. The National Research Council is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board's varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

www.TRB.org
The population of the United States may grow by 40 percent between now and the year 2050 and gross domestic product may increase by 150 percent in that time. Domestic production of crude oil, which has increased by 50 percent since 2008, is expected to grow—but not as rapidly as natural gas production, which is expected to increase by 50 percent between now and 2040. If these trends continue, the demand for freight transportation services will soar, affecting all modes of transportation and all regions of the country.

Historically, the highly developed transportation system in the United States has been a key factor in the nation’s economic competitiveness, connecting population and economic centers and fueling supply-chain efficiency. Transportation will be even more important in the future as other nations invest heavily in transportation infrastructure and as world trade continues to grow.

Please join us for a dialogue on the role of freight transportation in economic competitiveness and help craft solutions to emerging issues and problems. At the Eighth University Transportation Center Spotlight Conference, we will concentrate on three key areas in which freight transportation can enhance economic competitiveness: (1) freight supply-chain operations, (2) transportation system resiliency, and (3) meeting the demands of changing energy markets. The questions we will explore include:

- How does transportation performance enable supply-chain efficiency?
- How do trends in supply-chain planning affect transportation policies and investments?
- How can the ability of a city, region, or nation to recover from severe weather events or security breaches affect its economic competitiveness?
- What can be done to improve the resilience of the freight transportation system?
- What role does the transportation system play in the shale energy revolution?
- How does the shale energy boom affect the need for transportation investments and economic competitiveness at the local, regional, and national levels?

We invite you to participate in this important dialogue.

—Denver Tolliver
Conference Planning Team Chair
North Dakota State University
Wednesday, December 10

7:45 a.m.–8:30 a.m.
Breakfast

8:30 a.m.–10:15 a.m.
**Welcoming Remarks**
Denver Tolliver, Caroline Mays, Melissa Tooley, and Anne Strauss-Wieder

**Plenary Session: Overview**
Mortimer Downey, Mort Downey Consulting, LLC (former Deputy Secretary of Transportation)
David Long, U.S. Department of Commerce

10:15 a.m.–10:45 a.m.
Break

10:45 a.m.–Noon
**Plenary Session: Modal Perspectives on Freight Supply Chains and Economic Competitiveness**
Melissa Tooley, Texas A&M Transportation Institute (TTI)

This session will provide a discussion of economic competitiveness from the perspectives of various modes: railroad, trucking, and maritime. Presenters will address the following questions:

- What challenges to each mode affect U.S. competitiveness in the global arena?
- What changes in policy, legislation, or systems would enhance economic competitiveness in each mode?
- What are the future challenges to each mode that would affect economic competitiveness?
- How can the research community help?

**Marine Perspectives**
Heather Nachtmann, University of Arkansas

**Railroad Perspectives**
John Gray, Association of American Railroads

**Trucking Perspectives**
Bob Costello, American Trucking Associations

Noon–1:30 p.m.
Lunch

1:30 p.m.–3:00 p.m.
**Plenary Session: Transportation System Resiliency**
Anne Strauss-Wieder, A. Strauss-Wieder, Inc.

Disasters, both natural and manmade, can wreak havoc on local, regional, and national transportation systems. The ability of these systems to recover from disasters is crucial to their economic competitiveness and long-term viability. This session will explore the importance of resiliency in the context of maintaining and improving the economic competitive standing of these systems.

**Global Supply Chain Resilience**
Janet Benini, U.S. DOT

**Private Industry Perspectives**
Chris Luebbers, Norfolk Southern
3:00 p.m.–3:30 p.m.
Break

3:30 p.m.–5:00 p.m.
Plenary Session: Energy Sector Development and Economic Competitiveness
French Thompson III, BNSF Railroad

The energy boom has increased U.S. economic competitiveness and has established the link between an efficient, multimodal freight transportation system and economic prosperity. This session will offer discussion on the changing U.S. energy markets and on its effects on the freight transportation system and economic competitiveness. Speakers will address the following questions:

- What are the impacts of the shale energy development boom on transportation investments and economic competitiveness at the local, regional, and national levels?
- What transportation challenges, today and in the future, result from the booming energy development and how can these challenges be addressed?
- What are potential developments in local, regional, national, and international energy trade policy and what are their implications for the U.S freight transportation system and economic competitiveness?

Energy Development in the 21st Century
Helen Currie, ConocoPhillips

The Effects of Energy Development on the American Consumer
Michael Zehr, Consumer Energy Alliance

Changes in Cargo Flows with U.S. Shale Oil Outbound and Impacts on Ports
John LaRue, Port of Corpus Christi

5:00 p.m–7:00 p.m.
Reception and Poster Presentations
Join us for the conference poster session and reception. Beverages and hors d’oeuvres will be served.

Vulnerabilities to Texas Transportation due to the Mexican Energy Reform
Alexander Bühler-Rose and Juan Carlos Villa, TTI

Beyond Public vs. Private: Is There A Third Option to Improve the Economic Competitiveness of US Ports?
Anthony M. Pagano and Bo Zou, University of Illinois at Chicago

Using Information Technology to Improve the Competitiveness of Inland Waterways Freight Movement
Alejandro Solis and Vijay Perincherry, HDR, Inc.

The Economic Importance of Chickamauga Lock
Larry Bray and Chrisman (Chris) Dager, University of Tennessee Center for Transportation Research

Assessment of Border Wait Times Impact upon Manufacture’s Just-in-Time Cargo Supply Chain While Crossing the El Paso–Juarez Border Corridor
Bob Trotter, Brenda Manak, TTI

The Cost of Railway Congestion and Delay
Bo Zou and Tyler Dick, University of Illinois at Urbana–Champaign

Transportation Engineering Education and Workforce Development Efforts in the Rio Grande Valley
Carmen Pena and Angela Chapman, University Transportation Center for Railway Safety

Bakken Shale Oil Development’s Impact on Rural Roads
Alan Dybing and Yasaman Kazemi, Upper Great Plains Transportation Institute

Supply Chain Skills Shortage: A Threat to Economic Competitiveness?
Evelyn Thomchick, Kusumal Ruamsook, Chris Craighead, and Martin Pietrucha, Pennsylvania State University
Which Is More Effective in Promoting the Economy? Economic Impact of Investment on Highway Construction and Highway Maintenance  
Lei Zhang and Eirini Kastrouni, University of Maryland, College Park

Freight Management Tool for New Jersey DOT  
Pat Szary, Rutgers University, and Lazar Spasovic, New Jersey Institute of Technology

Modeling Crude Oil by Rail Shipments and Potential Population at Risk Using Waybill Data and Geographic Information Systems  
Steven Peterson, Oak Ridge National Laboratory

Economic and Operational Impacts of Commercial Trucks on Florida Freeways and Multilane Highways  
Seckin Ozkul, Center for Urban Transportation Research, and Scott Washburn, University of Florida

Visualizing the Role of Intermodal Terminals on the Primary Freight Network: Uncovering Data Gaps for Systems Analysis  
Teresa Adams and Maria Hart, University of Wisconsin Madison Center for Freight and Infrastructure Research and Education

Modeling Multimodal Freight Transportation Network Performance Under Disruptions  
Jing Dong and Micah Makaiwi, Iowa State University

Understanding Government and Railroad Strategy for Crude Oil Transportation in North America  
Joel Carlson, CPCS Transcom Ltd., and Joseph Sussman, Massachusetts Institute of Technology

Implementation of the Off-Hour Delivery Program in New York City  
Jeffrey Wojtowicz and Felipe Aros-Vera, Rensselaer Polytechnic Institute (RPI)

Innovative Freight Data Collection Methods and Performance Measure at U.S.–Mexico Border  
Juan Carlos Villa, TTI

Impact of Mexico’s Northern Trade Corridor on Texas’ Highway Infrastructure  
Megan Kenney and Jolanda Prozzi, TTI

A Multifaceted Approach to Assessing Economic Productivity Impacts of Freight Transportation Investments  
Naomi Stein and Glen Weisbrod, Economic Development Research Group

Potential Crude Petroleum National Transportation Network “Boom” Leading Indicator Methodology  
Ted Isbell and Konstadinos Goulas, University of California, Santa Barbara

The Last 50 Miles: Making Place Matter in Evaluating Freight Systems Economic Performance  
Scott Bernstein and Sarah Campbell, Center for Neighborhood Technology

Spatial Analysis of the Economic and Community Impacts of Freight Rail in Minnesota  
Thomas Horan, Claremont Graduate University, and Lee Munnich, University of Minnesota

Multimodal Opportunities to Reduce the Effects of Changing Fuel Prices: Case Studies of Upper Midwest Forest Products Industry  
Pasi Lautala, Michigan Technological University

Understanding the Role of Inland Navigation in Coal Movements  
Benjamin Blandford and Ted Grossardt, Kentucky Transportation Center

Freight Generation, Freight Trip Generation and Land Use  
José Holguín-Veras and Miguel Jaller, RPI

Impacts of Policy-Induced Freight Modal Shifts  
José Holguín-Veras and Miguel Jaller, RPI

The Impact of Freight Transportation on the Competitiveness of Texas’s Exports  
Jolanda Prozzi and Megan Kenney, TTI
Thursday, December 11

7:45 a.m.–8:30 a.m.
Breakfast

8:30 a.m.–10:00 a.m.
**Plenary Session: Global Freight Supply Chain Issues**
Reginald Souleyrette, University of Kentucky

This session will provide a discussion of the broader impacts of the supply chain. Presenters will address economic, international, and social issues. Multimodal topics include performance measures, reliability, and information systems.

  Naomi Stein, EDR Group

- Innovative Freight Data Collection Methods and Performance Measure at U.S.–Mexico Border
  Juan Carlos Villa, TTI

- Social Cost Pricing in Freight Transportation
  David Austin, U.S. Congressional Budget Office

10:00 a.m.–10:30 a.m.
Break

10:30 a.m.–Noon
**Parallel Breakout Discussion Groups**
Attendees will split into three breakout groups of approximately equal size, each moderated by a planning committee member, for deeper discussions of the topics listed below.

- **Group 1**
  Freight Supply Chains
  Melissa Tooley, TTI

- **Group 2**
  Transportation System Resiliency
  Anne Strauss-Wieder, A. Strauss-Wieder, Inc.

- **Group 3**
  Energy Sector Developments
  Caroline Mays, Texas DOT

Noon–1:30 p.m.
Lunch

1:30 p.m.–3:00 p.m.
**Breakout Session Reports**

3:00 p.m.–4:00 p.m.
**Closing Session: Final Discussion and Adjournment**
Save the Date

Transportation Research Board 94th Annual Meeting
January 11–15, 2015
Washington, D.C.

Save the Date

Transportation for Sustainability
An International Conference
May 7–8, 2015
Washington, D.C.