Developing Freight Fluidity Performance Measures

A Supply Chain Perspective on Freight System Performance

May 21–22, 2014

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Note from Workshop Chair

To most Americans, the performance of our freight system is invisible—until our online purchase fails to appear at our front door within a day or our favorite yogurt isn’t on the grocery store shelf because of a missed delivery. But freight system performance is top-of-mind for manufacturers, shippers, carriers, and network managers and it underlies the fundamental competitiveness of our economy.

The multimodal system that brings products to the assembly line or to our door managed by a variety of public and private entities whose collaboration is necessary for the collective success that determines service quality. Each of those entities measures the performance of components of the system, but customers ultimately care about end-to-end performance of the supply chain as a whole.

In this workshop, we will learn about freight fluidity as a measure of overall supply chain performance and explore ways it might be used to manage and improve that performance. We will hear from private-sector supply chain managers to learn about the management tools they use. We will hear about freight fluidity and some of its applications. Together, we will consider the opportunities and challenges involved in making broader use of the fluidity concept.

On behalf of the planning team, I welcome you to this exciting opportunity for us to explore and advance freight performance management.

— Joseph L. Schofer
Northwestern University
Conference Chair

Workshop Planning Committee

Joseph L. Schofer, Northwestern University, Chair
Russell T. Adise, U.S. Department of Commerce
Stuart P. Anderson, Iowa Department of Transportation
James M. Brock, Avant IMC, LLC
Joseph Bryan, Parsons Brinckerhoff
Christina S. Casgar, San Diego Association of Governments
Sharon Clark, Perdue AgriBusiness LLC
Scott Drumm, Port of Portland
Lance Grenzeback, Cambridge Systematics, Inc.
Nicole Katsikides, Federal Highway Administration
Kenneth N. Mitchell, U.S. Army Corps of Engineers
Michael J. Sprung, Office of the Assistant Secretary of Transportation for Research and Technology
Edward L. Strocko, Federal Highway Administration
Louis-Paul Tardif, Transport Canada

TRB Staff

Tom Palmerlee, Assistant Division Director
Scott Babcock, Senior Program Officer, Rail and Freight
Mai Q. Le, Senior Program Assistant
Brittney Gick, Associate Program Officer
Tyler Robertson, Senior Program Assistant
Wednesday, May 21

7:30 a.m.–5:00 p.m., Outside Keck 100
Registration

7:45 a.m. – 8:30 a.m., Outside Keck 100; seating in Keck 101, 105, and 106
Breakfast

8:00 a.m.–8:15 a.m., Keck 100
Introduction, Background, Objectives, and Plan for the Day
Joseph L. Schofer, Northwestern University, Conference Chair; Caitlin Hughes Rayman, Federal Highway Administration (FHWA)

8:15 a.m.–10:30 a.m., Keck 100
Investment Decisions in Facilities and Services; Private Sector Perspectives on Measuring the Performance of Supply Chains
Tina Casgar, San Diego Association of Governments (SANDAG), moderator

Offered are customer and carrier perspectives on supply chain performance. What aspects of supply chain efficiency are important? How are companies measuring supply chain performance? How is such information used in supply chain management? What additional data and information would make supply chains more efficient?

- Karl Mortenson, Chrysler Group, LLC
- Robert Utz, McCormick & Company, Inc.
- Sharon Clark, Perdue AgriBusiness LLC
- Carl Fowler, Menlo Worldwide Logistics
- Ken Allen, H-E-B Stores (retired)
- Michelle VanderMeer, Whirlpool Corporation

10:30 a.m.–11:00 a.m.
Break

11:00 a.m.–12:15 p.m., Keck 100
Fluidity Overview and Implementation: The Canadian Experience
Russell T. Adise, U.S. Department of Commerce, moderator

Transport Canada has developed many freight system fluidity measurements. This session will present why and how the measurement scheme was developed, how data are gathered, to which uses the measures are applied, obstacles to data collection, and applications of the measures.

- Louis-Paul Tardif, Transport Canada

12:15 p.m.–1:15 p.m., Outside Keck 100; seating in Keck 101, 105, and 106
Working Lunch

1:15 p.m.–2:30 p.m., Keck 100
Fluidity Overview and Implementation: The U.S. Perspective
Nicole Katsikides, FHWA, moderator

U.S. freight fluidity applications to various settings and modes will be identified and discussed. Obstacles and opportunities for applying these metrics will be presented and considered, along with issues involving specific corridors and international border crossings. Projects presented will include fluidity efforts that are under way...
for the U.S. Department of Commerce Supply Chain Advisory Committee and the I-95 Corridor Coalition, as well as U.S. Army Corps of Engineers vessel tracking and FHWA truck probe freight performance measure data.

- Lance Grenzeback, Cambridge Systematics, Inc.
- Joseph Bryan, Parsons Brinkerhoff
- Ned Mitchell, U.S. Army Corps of Engineers
- Jeff Short, American Transportation Research Institute
- Juan Carlos Villa, Texas A&M Transportation Institute

2:30 p.m.–2:45 p.m., Keck 100

Charge to Breakout Groups
Joseph L. Schofer, Northwestern University, Conference Chair

2:45 p.m.–3:00 p.m.

Break

3:00 p.m.–4:30 p.m., Keck 100, 101, 105, and 106

Parallel Breakout Discussion Groups
Attendees will split into four breakout groups of approximately equal size, each moderated by a planning committee member, for deeper discussions of the following topics.

Stakeholders and Uses
Groups will discuss to whom end-to-end supply chain fluidity measures would be useful. Once these stakeholders are identified, the discussion will address the uses to which these measurements can be applied.

Scalability
The scale at which fluidity measures are most effectively gathered and are most useful will be discussed. Should this be on a local, corridor or regional, national, or international scale? How would measurements and uses change across scales?

Performance Measures
The group will develop and discuss feasible, useful specific fluidity measurements and will identify measurements in various modes.

Data Characteristics
Data needs and obstacles will be discussed by the group, along with data characteristics such as timeliness and accuracy.

- **Group 1, Keck 100**
  Tina Casgar, SANDAG, moderator
  Russell T. Adise, United States Department of Commerce, reporter

- **Group 2, Keck 101**
  Lance Grenzeback, Cambridge Systematics, Inc., moderator
  Stuart P. Anderson, Iowa Department of Transportation, reporter

- **Group 3, Keck 105**
  Ned Mitchell, U.S. Army Corps of Engineers, moderator
  Nicole Katsikides, FHWA, reporter

- **Group 4, Keck 106**
  Scott Drumm, Port of Portland, moderator
  James M. Brock, reporter
4:30 p.m.–5:00 p.m., Keck 100
Progress Reports from the Breakouts and Resetting the Agenda
Joseph L. Schofer, Northwestern University, Conference Chair

5:00 p.m.–6:00 p.m., Keck Third Floor Atrium
Reception

5:30 p.m.–6:30 p.m., Keck 100
Guest Lecture (optional)
The Panama Canal: Past, Present, and Future
Joseph L. Schofer, Northwestern University, Conference Chair

Having just returned from a Panama Canal fact-finding trip with unparalleled access to Northwestern’s Panama Canal historical collection, Schofer is uniquely qualified to discuss what may be the most important piece of transportation infrastructure in the world.
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The Role of Freight Transportation in Economic Competitiveness
Washington, D.C.