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Freight and Logistics News

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Annual symposium addresses Minnesota's freight and logistics challenges

Global economy is fast-moving, more competitive, and more metropolitan-centered

Today's global economy is fast-moving and more competitive than ever—and more metropolitan-centered than ever. Metropolitan leaders, along with their state and federal peers, must design policies to address the new reality of the modern metropolis, according to Adie Tomer, the keynote speaker at the 18th Annual Freight and Logistics Symposium.

Leaders and experts from all walks of transportation discussed this new logistics reality and other challenges at the December event in Minneapolis.

National trade statistics generally look only at how the U.S. trades with other countries, explained Tomer, a fellow at The Brookings Institution Metropolitan Policy Program. "When an airplane built in Seattle by Boeing is sold to Delta Airlines in Atlanta ... we can't see that anywhere in our trade statistics. We think that's a major shortcoming in this data."

U.S. trade concentrates in large metropolitan areas: 80 percent of traded value starts or ends in them. Without a full understanding of how these trade networks work together, leaders in both the public and private sectors cannot develop targeted freight strategies and transportation investments to support the extensive supply chains that underpin the U.S. economy, Tomer said.

In its Metro Freight research series, Brookings Institution researchers addressed these data deficiencies. Their findings help better explain how communities relate to each other and what their freight needs might be, Tomer said.



Adie Tomer



Large cities—home to the bulk of economic activity—are also where most traffic congestion occurs. Congestion in one market can hurt regions hundreds or even thousands of miles away. And the problem will only get worse, Tomer predicted. The Brookings research indicates that urban trucking is continuing to grow, directly coinciding with the rise of e-commerce and the use of digital communications to manage shipping.

Other speakers at the symposium discussed new federal law and state policies. The Fixing America’s Surface Transportation Act (FAST Act), signed in December 2015, establishes both formula and discretionary grant programs to fund critical transportation projects designed to benefit freight movements.



State Sen. Scott Dibble

“The FAST Act has a lot of ingredients many of us have been advocating for, for many years,” said Bill Gardner, director of the Office of Freight and Commercial Vehicle Operations at the Minnesota Department of Transportation (MnDOT). “There is dedicated freight funding that I think is a game changer.”

Gardner also reported on Minnesota’s recently updated statewide freight system plan, which provides a new policy framework and strategies to guide planning and investment in various transportation modes. The action agenda will drive freight system improvements for the next 5 to 10 years.

Panelists also discussed implementation of the plan. Tim Henkel, assistant commissioner of modal planning and program management at MnDOT, stressed the importance of additional funding to improve our rapidly aging transportation infrastructure. Without it, MnDOT can only to preserve the system, unable to tackle the many strategies in the action agenda. Minnesota state Sen. Scott Dibble agreed, adding that such a dialogue is necessary for government leaders to respond with tangible policy changes and projects.

The symposium was sponsored by CTS in cooperation with MnDOT, the Minnesota Freight Advisory Committee, the Council of Supply Chain Management Professionals, the Metropolitan Council, and the Transportation Club of Minneapolis and St. Paul.

Related resource:

- [Download symposium proceedings and selected event presentation slides](#)

MFAC meeting marks the start of a new era for freight in Minnesota

The March quarterly meeting of the Minnesota Freight Advisory Committee marks the start of a new era for freight in Minnesota. MFAC chair Bill Goins and vice-chair Ron Dvorak introduced structural changes made to the organization as part of a strategic planning process in conjunction with the development of the second Minnesota Statewide Freight System Plan.



[Minnesota Freight Advisory Committee, March 2016](#)

Dvorak explained that the organizational changes are intended to increase awareness of freight issues locally and nationally, facilitate quick response to freight questions and issues from MnDOT, the Minnesota legislature, and other organizations, and provide a focal point for freight expertise in Minnesota. The changes are the result of a review initiated by the MnDOT Office of Freight and Commercial Vehicle Operations and recommendations from a working group following several months of collaborative effort.

Also at the meeting, John Tompkins, freight project manager with the MnDOT freight office, discussed details of freight provisions at the federal level within MAP-21 and the FAST Act. For the first time, he said, a national freight policy has been established under a national strategic plan, with goals to increase competitiveness, efficiency, and productivity of the freight network. As part of this National Highway Freight Program, Minnesota will receive, on average, \$20 million each year for the next five years for freight projects.

Tompkins also shared a new MnDOT promotional video about the development of the Minnesota Statewide Freight System Plan (see link following article).

In addition, Bill Gardner, director of the MnDOT freight office, discussed MnDOT opportunities for freight project funding and collaboration. MnDOT has developed a small working group to consider ways to use FAST Act funds in the development a freight investment plan, which will align with the Minnesota State Highway Investment Plan (MnSHIP).

Jon Huseby and Frank Douma presented a brief overview of the MnDOT Manufacturers’ Perspective Studies and the next phase of the project. Dave Chandler, principal business analyst with the Center for Neighborhood Technology, also provided an overview of an upcoming project sponsored by the McKnight Foundation. The project will analyze cargo-oriented development in the Minneapolis-St. Paul area, which Chandler defined as “a form of development that integrates freight system efficiency with the development of manufacturing and logistics businesses in ways that benefit local economies, the environment, and public safety.”

Scott Peterson, MnDOT director of government affairs, discussed state legislative activities related to freight, noting that this year’s legislative session is extremely short and there have not yet been any committee hearings with just three weeks left for new policy bills to be heard in committee.

MFAC is scheduled to meet three more times in 2016. Visit the MFAC website for more information on upcoming meetings.

Related resources:

- [Minnesota Freight Advisory Committee](#) (including meeting minutes and presentations)
- [Statewide Freight System Plan 2015](#)
- [Statewide Freight System Plan](#) (video)

CTS hosts freight transportation tour for Minnesota legislators

CTS hosted a transportation tour and seminar in February for Minnesota legislators and staff featuring freight movement on the transportation network in Minnesota. The group toured facilities and spoke with company leadership at tenKsolar in Bloomington and Murphy Warehouse Company in Fridley. Between tours, the group stopped at the University for presentations by U of M researchers on Minnesota freight planning and policy and discussion with Minnesota Freight Advisory Committee members.



Forum examines role of freight rail in Minnesota economy

Minnesota has been an economic success story for more than a century, and freight rail has played a key role in that success, according to University of Oregon professor Philip Romero.



Freight rail is responsible for at least 7 percent of Minnesota employment—a quarter of a million jobs—and \$40 billion of state GDP, which is roughly comparable to the revenues from the entire Minneapolis-St. Paul metro area region, Romero said.

Romero was the featured speaker at a Humphrey School forum in February examining the impacts of freight rail on Minnesota's economy. The event was hosted by the State and Local Policy Program (SLPP) at the University of Minnesota Humphrey School of Public Affairs and CTS.

The event explored the impact of freight rail on the Minnesota economy, the industry clusters that are dependent on rail, and a new online freight atlas that can be used to better understand freight flows in the region.

Romero's research report, *Freight Rail: How an "ordinary" industry helps make the Minnesota economy extraordinary*, builds on previous SLPP work and was sponsored by the Minnesota Regional Railroads Association, BNSF Railway, and the Minnesota Chamber of Commerce.

The event also included a panel discussion and a presentation on the Freight Economy Atlas by Tom Horan, a visiting scholar at the Humphrey School and dean of the Drucker School of Business at Claremont Graduate University.



Tom Horan

Related resources:

- [Freight Rail: How an "ordinary" industry helps make the Minnesota economy extraordinary](#)
- [The Freight Economy Project](#)

- [National Freight Economy Atlas](#)
 - [Transportation Policy and Economic Competitiveness Program](#)
-

U of M study finds higher crash risk for truckers with untreated sleep apnea

Truck drivers who fail to adhere to treatment for obstructive sleep apnea (OSA) are five times more likely to be involved in serious, preventable crashes, according to a new study led by researchers at the University of Minnesota Morris (UMM). The project, sponsored in part by the U of M Roadway Safety Institute, is the largest study of sleep apnea and crash risk among commercial motor vehicle drivers to date.

According to the American Academy of Sleep Medicine, OSA affects at least 25 million adults in the United States. A frequent warning sign is excessive daytime sleepiness, which can manifest as drowsy driving.

As part of the study, researchers compared more than 1,600 truck drivers with OSA to an equal number of drivers screened as unlikely to have OSA. Drivers with the disease were given a mask with an air pump worn while sleeping to keep the airway open (an auto-adjusting positive airway pressure machine), and its use was electronically monitored. The rates of preventable serious truck crashes per 100,000 miles driven were compared across the study groups.

“To put our findings in context, if we look at 1,000 truck drivers each working for a year, the drivers with obstructive sleep apnea who refuse mandated treatment would have 70 preventable serious truck crashes, compared to 14 crashes experienced by both a control group and by drivers with sleep apnea who adhered to treatment,” said Stephen Burks, lead author of the study and professor of economics and management at UMM.

Burks organizes the Truckers & Turnover Project (T&T) at UMM. T&T researchers performed the statistical analysis of the study data, acquired from Schneider National—the first major motor carrier to institute an internal OSA program—and its sleep apnea services provider, Precision Pulmonary Diagnostics.

According to Burks, the study’s findings stress the importance of adding OSA screening standards to the medical exam that commercial truck drivers take every two years.

Related resources:

- [Read the complete story in CTS Catalyst](#) (April 2016)
 - [Exploring Links between Medical Conditions and Safety Performance in Tractor Trailer Drivers](#) (Roadway Safety Institute)
 - [Truckers & Turnover Project](#) (University of Minnesota, Morris)
-

‘New logistics’ will change the way goods are delivered—and how the road network is used

Today, moving freight accounts for more than a third of the world’s transport energy—and that share is growing. The rise in global trade, online retailing, and business-to-business delivery is not only changing how goods are moved but also the type of goods moved and how far or frequently they are transported.

Currently, this massive movement of goods throughout the economy relies on an intricate—and largely decentralized—multimodal network of truck, rail, ship, and airplane delivery. However, change is on the horizon. In a study sponsored by the Minnesota Department of Transportation and the Minnesota Local Road Research Board, U of M experts outline the important impacts these changes will have on the road network and transportation infrastructure.

Changes in the way logistics operations are organized will help drive advances. New information technology permits the sharing of data between and across businesses, which in turn drives efficiency and leads to fuller vehicles.

The study also examined some of the potential drivers for changes in the freight industry as a result of logistics reorganization. These include supply chain pooling, in which individual logistics operations are shared between collaborators, and the Physical Internet Initiative, which seeks to create standards for packaging to enable the homogenization of freight technology.

Other transportation and logistics changes will result from shifts in the ways businesses and consumers receive goods and services, including business-to-business systems and technologies that enable a sharing economy, same-day delivery services, 3-D printing, and “last mile” delivery services. In addition, a growing portion of purchases can be delivered directly over the Internet.



The research is part of a multi-pronged study that analyzed the technological shifts altering surface transportation and the implications for Minnesota.

Related resources:

- [Read the complete story in *CTS Catalyst*](#) (February 2016)
 - [The Transportation Futures Project: Planning for Technology Change](#)
-

Alternative fuels will help shape Minnesota’s transportation future

The mix of fuels used to power the vehicles on our nation’s roadways is diversifying rapidly. While gasoline and diesel are still dominant, an increasing percentage of vehicle power is coming from alternatives such as biofuel, natural gas, and electricity. What could this shift mean for Minnesota’s transportation future? The Minnesota Department of Transportation and the Minnesota Local Road Research Board turned to U of M experts for analysis.

Minnesota leads the nation in biofuel use, in part due to a series of legislative acts designed to encourage ethanol production and consumption. But Adam Boies, an assistant professor in the Department of Civil, Environmental, and Geo- Engineering, predicts that biofuel consumption in the state is near saturation and that future shifts will likely be between biofuels.

If the price of natural gas remains significantly lower than diesel fuel, natural gas vehicles will likely make up an increasing share of the heavy-duty vehicle fleet in Minnesota. A larger natural gas refueling infrastructure will need to be developed, most likely by private organizations that manage fleets of vehicles.

Minnesota electric vehicle sales have lagged behind the nation—winter temperatures are one factor—but Boies expects the numbers to rise. The growing numbers will require a more robust charging infrastructure, likely supplied or subsidized by government agencies, he says.

In the long term, on-road charging systems are being investigated. In these systems, under study in several countries, charging coils embedded within the roadway transfer power wirelessly to vehicles. In addition, better vehicle efficiency is likely to continue the trend of falling fuel tax revenues. Moreover, emphasis on fuel efficiency in the light-duty and heavy-duty vehicle fleets will drive the weight of these vehicle segments in opposite directions.

Boies’ research is part of a multi-pronged study funded by MnDOT and the LRRB that analyzed the technological shifts altering surface transportation and the implications for Minnesota.

Related resources:

- [Read the complete story in *CTS Catalyst*](#) (January 2016)
 - [The Transportation Futures Project: Planning for Technology Change](#)
-

More news and information

[FHWA ‘Talking Freight’ seminars](#)

“Talking Freight” online seminars from the Federal Highway Administration (FHWA) provide transportation practitioners a way to broaden their freight knowledge base and develop new job skills. Seminars typically are held from 1:00 p.m. – 2:30 p.m. (Eastern) on the third Wednesday of each month. Please check the Talking Freight Seminars website for the latest information. Recorded sessions of previous seminars are available from the [Talking Freight Archives](#).

[ATRI launches project to capture driver challenges in locating safe truck parking](#)

In March, the American Transportation Research Institute (ATRI) launched a new research initiative to collect real-world information on the daily situations and challenges that truck drivers face in locating appropriate and safe parking. ATRI is recruiting drivers who will keep a 14-day diary of their truck parking issues. The diaries ask drivers to record daily stops that relate to fuel and food stops, their 30-minute rest break and the mandated 10-hour break. The data collected in ATRI’s driver diaries will also build on existing knowledge of truck parking shortages by providing qualitative information on driver parking behavior as well as how parking uncertainty impacts the industry’s productivity.

[Implementation and Evaluation of a Low-Cost Weigh-In-Motion System](#)

(Minnesota Department of Transportation, March 2016)

Weigh-in-motion (WIM) systems provide detailed traffic information, which is useful in making decisions about transportation systems. But the cost of installation and maintenance of a WIM system typically is very high. This project successfully built and installed a low-cost WIM system that cut total materials costs by 93 percent compared to a conventional WIM system. Data analysis showed that the average of the weight measurements by the low-cost WIM system could be as accurate as the conventional WIM system as long as the weights are calibrated based on pavement temperature.



Transportation Research Board (TRB) freight-related research

- [Commercial Motor Vehicle Driver Fatigue, Long-Term Health, and Highway Safety: Research Needs](#) (March 2016)
This report assesses the state of knowledge about the relationship of such factors as hours of driving, hours on duty, and periods of rest to the fatigue experienced by truck and bus drivers while driving and the implications for the safe operation of their vehicles. In addition, this report evaluates the relationship of these factors to drivers' health over the longer term, and identifies improvements in data and research methods that can lead to better understanding in both areas.
- [Spills of Diluted Bitumen from Pipelines: A Comparative Study of Environmental Fate, Effects, and Response](#) (February 2016)
This report examines the current state of knowledge and identifies the relevant properties and characteristics of the transport, fate, and effects of diluted bitumen and commonly transported crude oils when spilled in the environment. This report assesses whether the differences between properties of diluted bitumen and those of other commonly transported crude oils warrant modifications to the regulations governing spill response plans and cleanup. Given the nature of pipeline operations, response planning, and the oil industry, the recommendations outlined in this study are broadly applicable to other modes of transportation as well.
- [New IDEAs for Rail Safety: Annual Report of the Rail Safety IDEA Program](#) (January 2016)
This annual report presents a summary of progress on investigations conducted as part of the Rail Safety Innovations Deserving Exploratory Analysis (Rail Safety IDEA) program sponsored by the Federal Railroad Administration and overseen by the Transportation Safety IDEA Program Committee. The Rail Safety IDEA program provides funding for projects that promote innovative approaches to improving railroad safety or performance.
- [Review of the 21st Century Truck Partnership, Third Report](#) (December 2015)
The 21st Century Truck Partnership (21CTP) works to reduce fuel consumption and emissions, increase heavy-duty vehicle safety, and support research, development, and demonstration to initiate commercially viable products and systems. This report is the third in a series of three by the National Academies of Sciences, Engineering, and Medicine that have reviewed the research and development initiatives carried out by the 21CTP. In addition, this report builds on the Phase 1 and 2 reviews and reports, and also comments on changes and progress since the Phase 2 report was issued in 2012.
- [Modernizing Freight Rail Regulation](#) (September 2015)
This report examines the future role of the Surface Transportation Board (STB) in overseeing and regulating the service levels and rate offerings of railroads, particularly as they become revenue adequate. The approaches recommended in this congressionally-requested report are intended to resynchronize a regulatory program that has become outdated. The study committee finds that while the U.S. freight railroad industry has become modernized and financially stable since the Staggers Rail Act of 1980, some of the industry's remaining economic regulations have not kept pace and should be replaced with practices better-suited for today's modern freight rail system.

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