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13th annual Freight and Logistics Symposium proceedings published

Effects of recession likely to linger as economy recovers

Effects of the recession on the freight and logistics industries will likely linger for some time even after the economy recovers, according to presenters at the [13th Annual Freight and Logistics Symposium](#), held December 4 in Minneapolis. Tight capacity in many transportation modes and the need for increased innovation in supply chain strategies will be among the lasting effects. ([Download proceedings](#), 230 KB PDF.)

A panel moderated by **Fred Corrigan**, executive director of the Aggregate & Ready Mix Association of Minnesota and chair of the CTS Executive Committee, looked at trends and scenarios for the future.

According to **Richard Murphy Jr.**, president and CEO of Murphy Warehouse Company, logistics networks in the post-recovery landscape will continue to face the twin challenges of rising fuel prices and shortages of truckload capacity (and, at least in the short term, rail and ocean capacity). "When the recession hit, everybody dropped capacity ASAP," he said. "Capacity drops will have a haunting effect when we start coming back."

Murphy added that changes in retail distribution, consumer demands, and growing population centers are causing fundamental changes in U.S. logistics practices. Supply chain strategists are seeing the benefits of reversing a 20-year trend and are moving toward more distribution centers—not fewer—as fuel prices and the pressure to go green make a strong argument for shorter transits. In addition, Murphy expects increased manufacturing in Mexico, Central and South America, and the United States. "We're going to see more and more people give serious consideration to 'near sourcing,'" he said. "This is a shift from a focus on labor cost per hour to a greater focus on lowered total landed cost."

Jim Butts, senior vice president of transportation at CH Robinson, called for more innovation and collaboration among supply chain partners. He predicted the post-recovery landscape will bring increased outsourcing to third-party logistics firms and other specialists as firms realize logistics isn't a core competency or decide they need a new perspective. Among chief concerns facing trucking, he added, is the potential for an exodus of drivers from the industry when the economy picks up.

The second panel, moderated by **Dave Christianson**, manager of freight planning and development for the Minnesota Department of Transportation (Mn/DOT), turned to the changes required for transportation infrastructure, practices, and policy.

Fred Beier, professor emeritus with the Carlson School of Management at the University of Minnesota, said trading partners will be even more demanding given that supply chains are ultimately competing against other supply chains. "The key to success to supply chains is how they can integrate their activities between different trading partners," Beier said. Partners need to share data to make supply chains even more transparent, create more customized products, and enhance customer service.

In prerecorded remarks, **Bob Portiss**, port director at the Tulsa, Oklahoma, Port of Catoosa, outlined the development of the inland seaport. The port offers a Foreign Trade Zone and extensive intermodal transportation facilities as a corridor access point for on-site rail, truck, and barge transportation and nearby air service. "We've



Richard Murphy Jr. and Jim Butts

responded to the recession by helping our terminal operators attract new customers and find ways to ship even more by water," Portiss said.

Dan Murray, vice president of research with the [American Transportation Research Institute](#), closed the panel discussion with an overview of future transportation policies currently being shaped by policymakers and major national transportation groups. He emphasized that national policies and funding allocations are currently in great flux. "The silence of the Congress," he said, "seems to say everyone wants a transportation bill yesterday but nobody knows how to fund it."

The event was sponsored by CTS, in cooperation with [Mn/DOT](#), the [Minnesota Freight Advisory Committee](#), the [Council of Supply Chain Management Professionals Twin Cities Roundtable](#), the [Metropolitan Council](#), and the [Transportation Club of Minneapolis and St. Paul](#). It was facilitated by [Continuing Professional Education](#) at the University of Minnesota.

A summary report of this year's symposium is being mailed to symposium attendees and most recipients of this electronic newsletter. If you do not receive one or need additional copies, please visit the [CTS publications page](#) for a PDF version, or contact CTS at cts@umn.edu or 612-626-1077.

Research analyzes freight traffic between Minneapolis–St. Paul and Chicago

The I-94/I-90 freeway corridor between the Minneapolis–St. Paul metropolitan area and Chicago is one of the most important links for freight traffic in the Upper Midwest, and freight traffic on the route is steadily increasing. To help the Minnesota Department of Transportation better understand freight movements along this key corridor, **Chen-Fu Liao** of the [Minnesota Traffic Observatory](#) evaluated data from the national Freight Performance Measure (FPM) system. Liao's findings have been published in a research report from the University of Minnesota's Intelligent Transportation Systems Institute.



Since 2002, the Federal Highway Administration and the American Transportation Research Institute have worked together to measure average travel rates on significant travel corridors. Using data from automatic vehicle location (AVL) units and cellular/wireless communication systems installed on trucks, the FPM system currently has the ability to derive average truck travel speed and travel time on all national highways.

Liao's research analyzed data on heavy trucks (mainly commercial Class 8 vehicles over 20,000 pounds). Using statistical software, he processed data on truck trips along the corridor from May 2008 to April 2009, including truck speed, speed variation, truck volume variation, distribution of destinations, stop location, and rest duration. Based on this data, Liao developed methods to measure the level of congestion and travel-time reliability along the corridor.

The research methods used include a Travel Time Index (TTI) to measure the level of congestion and a Buffer Time Index (BTI) to measure travel time reliability. Truck speed, speed variation, truck volume variation, distribution of destinations, stop location, and rest duration derived from each individual trip were processed and analyzed using statistical software. Freight performance was evaluated and analyzed to compare truck travel time with respect to duration, reliability, and seasonal variations.

Results from the FPM analysis could be applied to a number of freight planning issues, according to the report, including measuring truck travel-time reliability and the impact of congestion on the cost of freight, determining where truck stops or parking facilities are needed, and evaluating how traffic volume affects cars and trucks differently.

Download the report:

- [Using Archived Truck GPS Data for Freight Performance Analysis on I-94/I-90 from the Twin Cities to Chicago](#) (CTS 09-27)

Researchers use computers to help find parking spots at truck stops

Driver fatigue is believed to be a factor in many heavy truck crashes. The lack of safe, available truck parking on interstate highways may contribute to fatigue. According to a recent survey, most truck drivers prefer truck stops for overnight rests.

Existing truck stop directories provide helpful information, but drivers could additionally benefit from a system that dynamically informs them of which stops have parking spaces available. Vehicle detection—a core technology component in these systems—presents distinct challenges when operating throughout the day and night. It is imperative that vehicle detection functions reliably under all weather conditions and at all times—especially at night, when demand for parking peaks.



Transportation professionals have introduced or proposed a wide range of technologies to develop parking information systems. After reviewing the most commonly used technologies, Professor Nikolaos Papanikolopoulos, Pushkar Modi, and Vassilios Morellas, all from the University of Minnesota Department of Computer Science and Engineering, have determined that machine vision is currently the most practical and reliable technology.

In its simplest form, machine vision uses digital video cameras and image processing software to perform narrowly defined tasks such as counting objects on a conveyor belt or reading serial numbers—or in this case, counting empty spaces at a truck stop. However, this is not always so simple.

The researchers are developing a prototype system that would use video cameras suspended 30 to 60 feet above the parking area on rooftops or poles. Each parking spot would be monitored by more than one camera, which would increase the reliability of the system.

The cameras would “see” by noting the percentage of pixels that are occluded, or covered, by a foreground object—in this case, a truck. Each camera would send these data to a computer, which would determine parking availability by using pattern recognition. Since the system does not require a high-quality representation of each truck, it is quite efficient and can compute up to 10 frames per second on a standard laptop computer.

It is important and in some occasions absolutely necessary for drivers to have updated information on parking spot availability as they approach nearby truck stops. This will enable them to make timely rest decisions so that they do not exceed the legal limits of continuous driving hours set by the Federal Motor Carrier Safety Administration. Moreover, the availability of information about timely parking spot vacancies may deter drivers from parking on the shoulders of highways or ramps, which creates a safety hazard for all motorists. Finally, parking in truck stops ensures the drivers get uninterrupted sleep.

Related resources:

- [2009 ITS Institute Annual Report story: "Counting Empty Parking Spots at Truck Stops"](#)
- [Counting Empty Parking Spots at Truck Stops research project page](#)

Freight committee discusses rail plan, economic outlook, and legislative agenda

The Minnesota Freight Advisory Committee met February 19, 2010, for its winter quarterly meeting in Bloomington, Minnesota.

Dave Christianson, manager of freight planning and development for the Minnesota Department of Transportation (Mn/DOT), discussed the development of the state's rail network. The [Minnesota Comprehensive Statewide Freight and Passenger Rail Plan](#) addresses clearly defining private and public sector roles; identifying priority rail corridors, programs and projects; enhancing freight access to markets and expanding competitive services; improving overall freight flows and logistics; developing practical and usable performance methods; and complying with federal planning and funding requirements. ([View Christianson's presentation](#), 1.3 MB PDF)

A panel, moderated by Mn/DOT government affairs director **Scott Peterson**, discussed transportation legislative issues for 2010, including several that will impact freight services.

- **Margaret Donahoe**, Minnesota Transportation Alliance legislative director, discussed its \$75 million bonding request for local bridges, and \$100 million bonding request for local roads in routes of regional significance and freight corridors. ([View Donahoe's presentation](#), 716 KB PDF)
- **John Hausladen**, Minnesota Trucking Association president, discussed several areas of concern: productivity, funding, permitting, environment, safety, and liability.
- **Mark Wagner**, Twin Cities & Western (TC&W) Railroad president, emphasized the importance of the Minnesota Comprehensive Statewide Freight and Passenger Rail Plan and expressed support for proposed legislative funding for the Minnesota Rail Service Improvement Program.
- **Kevin Walli**, Minnesota Ports Association director, talked about the evolution of the Minnesota Port Improvement Program and its importance. He also expressed support for continued funding of the multimodal improvement bonding bill.
- Peterson outlined Mn/DOT's current and future legislative efforts affecting freight: quick clearance for trucks on the roadways, truck-weight proposals, a second round of federal stimulus, construction management, and innovative finance.

The meeting concluded with a talk on Minnesota's economy by **Neal Young**, Minnesota Department of Employment and Economic Development director of economic analysis. He gave an overview of the state's Gross State Product, industry base, key sector (manufacturing), exports, and a growing diverse population. Young also discussed current economic conditions, long-term projects, and Minnesota's future. ([View Young's presentation](#), 228 KB PDF)

MFAC is a partnership between government and business to exchange ideas and recommend policy and actions that promote safe, productive, and sustainable freight transportation in Minnesota. MFAC consists of representatives from Minnesota's shipper and carrier communities as well as a variety of other interested organizations, and provides advice to the Minnesota Department of Transportation (Mn/DOT) and the Metropolitan Council regarding freight issues and investments. For more information, refer to the MFAC Web site, or contact Bob Gale, Mn/DOT Office of Freight and Commercial Vehicle Operations, 651-366-3664, e-mail: robert.gale@dot.state.mn.us.

FHWA 'Talking Freight' seminars

Upcoming topics and dates for the "Talking Freight" online seminars from the Federal Highway Administration (FHWA) are listed here. See the [Talking Freight Web site](#) for further details.

March 17, 2010 [Clean Air at Port Facilities](#) 1:00 p.m. – 2:30 p.m. ET

Transportation Club Expo scheduled for March 23, 2010

March 23, 2010 [Transportation Club 2010 Expo and Luncheon](#) Ramada Plaza Mall of America 2300 East American Blvd. Bloomington, MN 55425

The expo, the largest transportation exhibition in the United States with more than 80 exhibitors, follows the luncheon and is free.

- **Luncheon Speaker:** George Beck, Commodity Classification Board National Motor Freight Traffic Association.

- **Luncheon Cost:** \$40 (\$45 non-members)
- **Contact:** Transportation Club at 952-239-1226 or office@transportationclub.com.

Council of Supply Chain Management Professionals Twin Cities Roundtable events

April 15, 2010 Tour (tbd)

May 20, 2010 Breakfast meeting Ramada Plaza Mall of America 2300 East American Blvd. Bloomington, MN 55425

Previous events:

- [September 18, 2009 – Twin Port Tour Pictures](#) (4.6 MB PDF)

Please visit the [Minnesota Council of Supply Chain Management Professionals Twin Cities Roundtable](#) online for more information about upcoming events.

PIANC USA calendar

PIANC is the world association for waterborne transport infrastructure.

September 22, 2010 [PIANC USA 2010 Annual Meeting](#) (Held in conjunction with the National Waterways Conference) Boston, Massachusetts

September 22-24, 2010 [National Waterways Conference](#) Boston, Massachusetts

September 13-16, 2011 [Smart Rivers 2011 Conference](#) New Orleans, Louisiana

More news and information

- [Freight Facts and Figures 2009](#) is now available from the FHWA Office of Freight Management and Operations. This report is a snapshot of the volume and value of freight flows in the United States, the physical network over which freight moves, the economic conditions that generate freight movements, the industry that carries freight, and the safety, energy, and environmental implications of freight transportation.
- [NCSL Transportation Operations, Management and ITS Legislation Tracking Database](#). The National Conference of State Legislatures (NCSL), in cooperation with the Federal Highway Administration, has developed a tool for up-to-date, real-time information about bills and executive orders introduced in the 50 states and the District of Columbia related to the operation and management of the surface transportation system. The database includes executive orders and passed, pending and failed legislation from 2009 and 2010. Topics include freight management and operations.
- [Department of Homeland Security letter report on Container Security Initiative](#). The U.S. Department of Homeland Security has released a letter report that explores the efficacy of Customs and Border Protection's (CBP) management and oversight of the Container Security Initiative to achieve its mission to identify and inspect high-risk cargo at foreign ports.
- [America's Freight Transportation Gateways 2009](#), an update of a report released in 2004 by the Bureau of Transportation Statistics of the Research and Innovative Technology Administration (RITA), is a data profile of the nation's leading international freight transportation gateways in 2008 and presents summary trend data from 1990. It is a collection of information that highlights the top 25 freight gateways, providing the most recent annual information on the movement of goods through these seaports, airports, and land border crossings.
- Recently published freight-related research from the Transportation Research Board (TRB):
 - [National Cooperative Freight Research Program: A Status Report](#) is a staff digest of the progress and status of the cooperative research program sponsored by the Research and Innovative Technology Administration (RITA) and administered by TRB.
 - [Institutional Arrangements for Freight Transportation Systems](#) examines 40 guidelines, reflecting lessons learned from existing arrangements, that are designed to help agencies and industry representatives work together to invest in and improve the freight transportation system.

Comments

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