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A Summary Report

September 11, subsequent security and economic concerns, infrastructure deterioration, growing congestion, and the possible development of an intermodal air cargo facility in or near the Twin Cities were just some of the many engaging topics examined by transportation professionals and policymakers at the fifth annual CTS logistics symposium. CTS director Robert Johns opened the discussions, stressing the importance and value of cultivating public- and private-sector relationships in logistics management in the upper Midwest. This report summarizes the event's five main sessions.

KEYNOTE PRESENTATION

"Four Weeks, Four Months, Four Years: The Future of Freight Transportation"
Speaker: Barry Butzow, Senior Vice President, C.H. Robinson Worldwide

PANEL 1: STATE FREIGHT INITIATIVES

Moderator: Tim Penny, Chair, Minnesota Freight Advisory Committee
Panelists: Elwyn Tinklenberg, Commissioner, Minnesota Department of Transportation;
John Hartnet, Consultant, SITA Logistics Solutions

NATIONAL FREIGHT INITIATIVES

Gary Maring, Director, Office of Freight Management and Operations, Federal Highway Administration, U.S. Department of Transportation

PANEL 2: CARRIER/SHIPPER PERSPECTIVE

Moderator: Fred Beier, Professor of Marketing and Logistics Management, Carlson School of Management, University of Minnesota
Panelists: Terry Hoitink, Chief Financial Officer, Dart Transit;
Toby Madden, Regional Economist, Federal Reserve Bank of Minneapolis

CONGRESSIONAL UPDATE

Elwyn Tinklenberg, Commissioner, Minnesota Department of Transportation

"Four Weeks, Four Months, Four Years: The Future of Freight Transportation"

Barry Butzow, Senior Vice President, C.H. Robinson Worldwide

Barry Butzow

C.H. Robinson Worldwide, headquartered in the Twin Cities, is one of the largest third-party logistics companies in North America and the largest nonasset-based company in the world. Each year, CHRW handles about 2.5 million shipments for 15,000 customers. In addition, the company maintains contracts with more than 20,000 companies, and employs 3,800 people at 139 offices throughout the United States and in Canada, Mexico, South America, and Europe. In 2001, CHRW sales totaled $3.1 billion.

Barry Butzow, CHRW senior vice president, speaking a few weeks before the holidays, framed his talk in terms of the literary classic *A Christmas Carol*. He began with the ghost of freight transportation past: A year ago, it was a seller's market, driver shortages were a major issue, and lack of capacity was a serious concern. In addition, rail systems were dysfunctional, air service was key to time definition, many thought that e-commerce and dot-coms would change how transportation is bought, sold, and managed, and collaboration promised to solve everything.

But things changed. The economy slowed. A lot was blamed on the September 11 attacks, though Butzow feels that day probably just pushed ahead things that were happening anyway.

At present, it's a buyer's market, insurance costs are rising, 8,000 carriers have gone broke, and there is a glut of equipment. Moreover, corporate cost-cutting measures, decreased freight volumes, lower fuel prices, and attempted rate increases by LTL (less-than-truckload) carriers have further burdened the industry. Because of last year's driver shortages and idled vehicles, however, little actual capacity in the marketplace has been lost.

Still, new security concerns have increased costs and distribution time, and it is more difficult to manage capacity. For example, CHRW customers are demanding even better protection of the food supply.

Another growing concern is traffic congestion. In fact, congestion is leading to inner-city bans and additional costs. Some companies, for instance, have added "accessorial" charges of as much as $800 for delivery into certain zip codes, which basically amounts to a "congestion fee."

While the overall number of goods sold nationwide has remained fairly steady, those goods are moving faster to market in smaller unit sizes, which is leading to more trucks on the road. Combined with poor surfaced-based transportation infrastructure in some areas, this is causing capacity issues.

"It's imperative," Butzow warned, "that those controlling funding understand that this country's economy is so dependent on the ability of moving product and moving it around inner cities." In Los Angeles, for example, some have proposed daytime truck bans, which has meant that retailers and wholesalers must run extra shifts to receive products. "All the costs get ratcheted up," Butzow added. "The only way that's going to be somewhat limited is by infrastructure development."

> ***"It's imperative that those controlling funding understand that this country's economy is so dependent on the ability of moving product and moving it around inner cities."***

Another change in the past two years is that the rail network has improved to become a viable freight transport option again, especially for distances of more than 700 miles. "After the disruptions of September 11," Butzow said, "many shippers discovered ground service can compete with domestic air." Specifically, though airplanes were grounded after the attacks, firms shipping "time-definite products" found that ground networks could accommodate a shift. As a result, the pricing economics of what has been known as domestic air freight (which often involves over-the-road shipping) may change, defined more by time than simply the mode of transport.

Likewise, international freight carriers are under pressure from new security concerns, excess capacity, and a weak infrastructure at ports. They are adjusting, however, by consolidating or tapping competitors for extra capacity.

Finally, Butzow visited the future. He predicts the emergence of the total supply chain—complete distribution networks—with single providers handling product in and out of stores, as well as continuation of a trend toward smaller, more frequent shipments. Networked systems (via the Internet) will allow people to manage the supply chain. For example, CHRW handles a lot of newspaper inserts each year, eventually delivered as third-class mail through the U.S. Postal Service. What's more, CHRW processes every AOL disc, starting from their production source in Asia, through each phase of their transportation and storage, to the post office, where they are actually delivered to your mailbox. More importantly, CHRW manages the complete inventory of CDs, tracking them each step of the way, right into the homes of their employees.

Of course, Butzow pointed out, lots of holes still exist in the infrastructure. On most shipping or receiving docks, for instance, there is no Internet access. "It's coming," he says, "but it's just not there yet."

Though the freight industry in the U.S. moves goods more efficiently than anyplace in the world and is quickly filling holes to build visible supply chains, Butzow said the business is really about the money—an area that needs attention. "The use of capital," he said, "is the most inefficient portion of the supply chain today."

To that end, Butzow foresees the entry of financing institutions to tighten the relationship between movement of goods, the real-time transfer of goods, and the real-time transfer of capital in the supply chain. CHRW, for example, doesn't look just at the goods. "When we're developing systems," Butzow added, "we're looking at the total supply chain, which is also the economics of the product itself."

In summary, Butzow asserted that the U.S. distribution network is evidence that free-market capitalism really does work. Still, he said, infrastructure and capital improvements are necessary. Railroads, for instance, are getting aggressive, putting money into infrastructure and capital improvements, and adding capacity. As a result, a boxcar service product will be created, and they will increase their time-definite service. "Who would have ever thought that a railroad," he mused, "would give you a money-back guarantee?"

Citing the huge pressures pushing everyone the past two years, Butzow suggested taking a step back to reflect on how to best put technology, money, and asset utilization to work in the system.

"If you're going to be successful tomorrow," Butzow concluded, "you've got to have flexibility, you have to be able to react quickly, and you've got to be able to use technology to do that. Don't ever forget your human capital, and look for companies with financial stability, well-trained, knowledgeable people, strong relationships, and dependable partners."

PANEL 1: STATE FREIGHT INITIATIVES

***Moderator:* Tim Penny, Chair, Minnesota Freight Advisory Committee**

Freight Investment Plan:

Elwyn Tinklenberg, Commissioner, Minnesota Department of Transportation

Tim Penny

Minnesota transportation commissioner Elwyn Tinklenberg, identifying the freight industry as an important Mn/DOT customer, has his sights set on speeding up government to respond to industry needs more effectively.

"Responding to rapid and dramatic change is not one of the hallmarks of government agencies," Tinklenberg said. "We're trying to understand the trends and the directions, and create a transportation system that responds. There are enormous challenges to that."

Traffic congestion, for instance, is an especially pressing concern. In particular, the Twin Cities lags behind only Atlanta in recent growth of the problem. In addition, Tinklenberg said, regulatory measures, infrastructure development, capacity issues, safety, and security need attention.

John Hartnet, Tim Penny, and Elwyn Tinklenberg

According to the commissioner, Minnesota's economic future depends on the state's ability to compete. He stressed the importance of developing public/private partnerships and focusing efforts on creating and improving multimodal transportation systems.

"Everybody knows the cost of doing something—you can calculate that—but we just never talk very much about the cost of doing nothing."

—Elwyn Tinklenberg

To illustrate what Minnesota's competition looks like, Tinklenberg described a 15,000-acre transportation facility with a private airport built in Alliance, Texas (just north of Forth Worth) as an "incredible integration of services." He also mentioned similar facilities that have been developed in Memphis, Denver, and San Diego.

"Everybody knows the cost of doing something—you can calculate that—but we just never talk very much about the cost of doing nothing," he observed. "We need to keep that cost in mind as we move forward."

Mn/DOT Freight Investment Plan

Objectives:

- enable multimodal freight transportation options for shippers
- focus investment in key freight corridors
- develop public-private partnerships
- speed up Mn/DOT programs and delivery of projects

Project Recommendations:

- **Savage Ports/Trunk Highway 13—$23 million** (upgrade access to Minnesota River ports via TH13 between I-35 and TH169 to accommodate heavy traffic and improve safety)
- **Winona Harbor intermodal improvements—$12.6 million** (upgrade access to Mississippi River port via railroad, roadway, and harbor to accommodate greater traffic flows)
- **Minnesota Rail Service Improvement program—$12 million** (maintenance and development of the state's short-line and regional railroads, essential for moving freight to and from Class 1 railroads)
- **Minnesota Port Development Assistance Program—$11.3 million** (competitive improvements for ports in Duluth, St. Paul, Minneapolis, Red Wing, and Winona)
- **TC&W Switching Yard, Glencoe, Minnesota—$1.6 million** (relocate operations from a residential area to the city industrial park)

To find the way forward, Tinklenberg said the Minnesota Department of Transportation is eager to work with industry. For improvements already underway, he credits the work of the Minnesota Freight Advisory Committee **(www.dot.state.mn.us/ofrw/freight.html)** and chair Tim Penny's leadership.

Most importantly, Mn/DOT, along with the Freight Advisory Committee, has developed an action plan based on the Minnesota Statewide Freight Flow Study conducted in 2000. (See **Mn/DOT Freight Investment Plan**.) It has three major focus areas. First is to enable multimodal freight transportation options for shippers by improving truck routes, air access, rail service, and intermodal service. To accomplish this, Mn/DOT is seeking nearly $61 million, including $38 in a bonding request to support projects.

Second, the plan focuses investment in key freight corridors, the critical links from Minnesota to other states and nations.

Third, the plan calls for the development of public-private partnerships. Key to this goal is strengthening the role of the Freight Advisory Committee and similar organizations, coordinating with cities, counties, other states, and federal agencies, and identifying project funding partners.

Finally, Tinklenberg set forth an internal, departmental objective aimed at efficiency. "We have got to find ways to deliver projects faster, to use up less of the money on process, and get the money into projects," he said. "All of this is just the beginning for Mn/DOT as we continue to change the way we do business."

Minneapolis-St. Paul International Air Cargo Study:

John Hartnet, Consultant, SITA Logistics Solutions

John Hartnet, a specialist consultant as well as chair of AerTuras Irish Cargo Airlines, presented findings from a Minneapolis-St. Paul international air cargo study conducted in late 2001 by SITA, an international society for aeronautical communications. The purpose of the study was to look at key MSP issues, identify and map delivery redundancies, and recommend operational improvements.

The air cargo study concluded that the challenges facing MSP are no different than those facing 90 percent of the world's airports. Global distribution capability is key to competitiveness and the economic well-being of the state. However, MSP's cargo role is declining because passenger business (scheduled carriers) takes priority. About 72 percent of Minnesota's airfreight is now carried by FedEx, UPS, Emory, and Bax Global. Just 10 years ago, 60 to 70 percent of the state's airfreight was shipped on scheduled carriers.

Moreover, structural problems have damaged the traditional freight-forwarding industry. For example, 82 percent of Twin Cities' international airfreight goes to and from Chicago's airport by truck. "It is not a business where, if you give them the freight," Hartnet said, "you can sleep peacefully in your bed and know that it's going to be there tomorrow or the day after. It's 'God willing, it will be there at some time.' That's the problem that the industry is facing."

John Hartnet

Hartnet outlined several recommendations resulting from the international air cargo study:

1. Encourage integrators to continue development at MSP, especially to prepare for the big shift to the international distribution business.
2. Move traditional airfreight handling away from the airport to save storage and handling costs.
3. Develop a new or existing all-cargo airport facility in a low-cost, unrestricted operating environment to complement and support MSP.
4. Create a secure regional distribution center between MSP and the cargo airport.
5. Create an enterprise development zone located around the cargo airport.
6. Approach USPS to move regional international mail through MSP.
7. Improve truck access to MSP to account for rush-hour traffic.
8. Speed up the customs-clearance process by providing freight information to customs prior to the arrival of the goods.

Finally, Hartnet offered some advice toward implementing the airfreight improvement proposals. "This is the consultant telling you: Don't create any more studies," he said. "You don't need studies—you need action. This thing will only happen if your political leaders take this thing by the scruff of the neck and make it happen."

National Freight Inititatives

Gary Maring, Director, Office of Freight Management and Operations, Federal Highway Administration, U.S. Department of Transportation

Minnesota, said Gary Maring, director of the FHWA freight management office, has demonstrated leadership in addressing freight concerns, especially by establishing a state freight advisory committee. As a result, Maring said his office welcomes collaborative efforts with Minnesota and will be looking for input from this state as the FHWA prepares for reauthorization of federal transportation funding in 2003.

Since the Intermodal Surface Transportation Efficiency Act of 1991, or ISTEA, it's been a struggle, Maring said, to bring public and private sectors together. Though Minnesota has done well in developing public-private partnerships, many areas of the country have experienced problems because globally oriented private industry typically plans in terms of months, while the local-minded public sector often establishes project timeframes of 10 to 20 years.

In addition, Maring said, intermodal connectors to rail, marine ports, and airports need federal oversight to manage badly needed infrastructure upgrades and development. Moreover, environmental, community, and land use impacts are increasing the costs and complexity of expanding marine, rail, truck, and air terminals. And freight security has become a much higher priority since September 11, congestion has grown worse (from 1980-1998, vehicle travel was up 78 percent while road miles increased 1 percent), and freight volumes are projected to double by 2020.

Maring said his office welcomes input from Minnesota as the FHWA prepares for reauthorization of federal transportation funding in 2003.

Maring identified a number of policy challenges as funding reauthorization looms ahead. For instance, both passenger and freight demand upon the nation's infrastructure will increase significantly, but planning and financing methods, which tend to favor passenger systems, do not adequately address freight's unique concerns. Maring summarized several concerns gleaned from feedback gathered at recent FHWA outreach events:

- providing new capacity with improved operations
- improving intermodal connections to offer choice, connectivity, and interoperability

- exploiting technology to improve efficiency and security
- improving state and metro mechanisms for planning and financing freight
- supporting multistate coalitions to deal with regional corridor, trade, and transportation issues

"We need to plan and operate the system as a system," Maring emphasized, "not as individual modes and elements."

Finally, Maring explored possibilities for incorporating security measures into freight transportation efficiency efforts. For example, only 1 to 2 percent of approximately 17 million freight containers entering the country from abroad each year are inspected by U.S. Customs. But, Maring cautioned, we need to know what's in them, their origin, route, and destination, and who is involved in their transportation.

One answer to the security and efficiency dilemma, Maring said, is ITS America's Intermodal Freight Technology Working Group, a consortium of public agencies and private sector firms that share the common goal of enhancing the efficiency and cost-effectiveness of the U.S. intermodal freight transportation network. Their objective is to improve U.S. global economic competitiveness and meet important domestic needs, such as security, using information technology. Several projects and operational tests underway, for instance, use smart cards, biometrics, and electronic manifests to control access to air cargo terminals and to create a chain of custody.

Another security approach, Maring added, are electronic seals and real-time asset/cargo tracking using GPS and cellular communications to read container tags or bar codes on an item, pallet, container, or truck. "We're busily looking at the opportunities for technology," he said.

In conclusion, Maring characterized the intermodal transportation funding acts beginning with ISTEA in 1991. Where ISTEA emphasized efficiency, and TEA-21 (1998-2003) focused on equity, Maring thinks the next bill will target effectiveness—meeting the challenges of system integration—by bringing together intelligent technology, infrastructure funding, institutional development, and international trade.

Gary Maring can be contacted by e-mail at **gary.maring@fhwa.dot.gov** *or on the Web at* **www.ops.fhwa.dot.gov/freight**.

Panel 2: Carrier/Shipper Perspective

Moderator: **Fred Beier, Professor of Marketing and Logistics Management, Carlson School of Management, University of Minnesota**

Panelists:
Terry Hoitink, Chief Financial Officer, Dart Transit
Toby Madden, Regional Economist, Federal Reserve Bank of Minneapolis


Fred Beier

University professor Fred Beier, who also serves as CTS executive committee chair, opened the panel by comparing freight to water—freight flows along the path of least resistance. "The path of least resistance," he said, "is defined in terms of the price-service alternatives that the shipper faces."

Specifically, Beier said shipping firms have begun to realize that they are competing at the supply chain level, which emphasizes total service to the customer. And, since firms/supply chains realize inventory costs money, shipments will get smaller. Information exchange between partners, however, is a substitute for inventory. Beier's recent research also indicates that when shippers evaluate carriers, on-time delivery and cost are the dominant criteria. This implies, of course, the need for an efficient transportation system with adequate capacity that will support time-critical product.

Dart CFO Terry Hoitink agreed with Beier that service and cost are the two issues discussed by customers. As a result, he added, acceptable on-time rates now begin at 98 percent. But because of challenges raised by things like increasing congestion and demand for much tighter security, the industry is looking to public-private partnerships for help.

Because of September 11, Hoitink said, those in the freight industry want to do everything they can to ensure security—while also ensuring productivity. Echoing previous speakers, he pointed to information technology for solutions. "We're going to need to learn how to communicate much better," he said. For example, some states said they wouldn't issue more commercial driver's licenses until they figured out how to ensure safety of shipments such as hazardous materials. But the industry can't afford that slow of an approach, Hoitink said, because new people, the lifeblood of their industry, are needed to replace an aging workforce.

Other issues that affect all of transportation, according to Hoitink, include regulation, hours of service, and tort reform, which has reached the crisis point. "After service, our primary interest is safety because of the cost involved, and just because it's the right thing to do," Hoitink continued. "We want to make sure that when we work with, particularly legislative bodies, we're focusing on the real safety issues, and not paperwork issues."


Toby Madden and Terry Hoitink

Next, Toby Madden, an economist with the Federal Reserve Bank in Minneapolis, confirmed that, indeed, the economy has been in a recession. As a result, layoffs in the transportation industry have doubled. Trucking and warehousing, which together employ more than 1.8 million workers across the country, lost 27,000 jobs over the past year. The Twin Cities metro area, though, added 300 jobs in those areas during the same period. What's more, the trucking industry still has excess capacity, and many truckers haven't dropped fuel surcharges, so profitability could get better. Overall, Madden was cautiously optimistic that the economy would start to pick up in the second half of 2002. But Madden added that he expected a hit to productivity with the introduction of new security measures.

Madden specifically addressed the cost of traffic congestion during a follow-up question-and-answer period. "Economists," he said, "like to say there's no such thing as a free lunch, because there's always a cost for everything. That's opportunity cost, or the value of your next best alternative."

The tough part for government officials, Madden pointed out, is calculating the cost of infrastructure development compared with the benefits, and who should pay for it. With the Highway 62 & 55 development project (focused mostly on commuters), for example, officials thought the benefit from the improvements was worth the cost of the houses they razed.

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Congressional Update:

Elwyn Tinklenberg, Commissioner, Minnesota Department of Transportation

Commissioner Tinklenberg reported that Congress just appropriated $32.9 billion for highway funding in 2002, which represents a represents a 44 percent increase since 1991. Though most of Minnesota's share is allocated on a formula basis for things like the national highway system and enhancement programs, the state received large increases in certain special categories. Those include the transportation and community preservation program ($250 million, up from $25 million), the borders and corridors program ($490 million, up from $140 million), rail improvements, and Guidestar ($6 million).

One big change in state transportation departments is a greater focus on operations. "We're taking what we've already built," Tinklenberg said, "and making sure it's operating as efficiently as possible."

Specifically, the commissioner cited traffic management tools developed through intelligent transportation systems such as ramp metering, which has allowed for increased traffic flow and predictability. "Minnesota is a leader," Tinklenberg said."Congressman Martin Sabo has been a tremendous support of the Guidestar program and ITS initiatives, in partnership with the University of Minnesota and Mn/DOT."

Tinklenberg pointed to multimodal transportation alternatives such as light rail, commuter rail, and commuter buses as ways to address congestion because existing systems are limited in capacity as well as in room to grow. "The more capacity we can create by removing some of the commuters," he said, "the better it is for the shippers who need to use those corridors on time-sensitive schedules."

In particular, the investments in corridor projects like Rush Line, Red Rock, and North Star are helping with the overall plan to get some traffic off of those important roadways at peak times. In addition, research into quieter aircraft engines may allow more growth in air traffic during off-hours, and funding of intercity passenger rail systems could provide a more efficient travel alternative to short-hop flights.

In conclusion, Tinklenberg credited bipartisan support of transportation in Congress for helping Minnesota. "The next year is going to be really important as we look at reauthorization," he stressed. "You need to be involved and engaged in that."

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"Government officials," Madden concluded, "are in a very tight spot because they don't exactly know what the benefits and costs are, let alone who's going to bear those costs and who's going to receive the benefits."

> **"Government officials are in a very tight spot because they don't exactly know what the benefits and costs are, let alone who's going to bear those costs and who's going to receive the benefits."**

Viewing congestion from a commerce standpoint (vs. a commuter perspective), Madden proposed congestion pricing as one answer. Until now, collection costs have precluded such measures. But new technology using devices such as transponders makes efficient billing possible. Some people may complain that transportation used to be "free," he said. They might say, "We're paying for it with a gas tax." But, he added, they also pay with their time sitting in a traffic jam. More importantly, Madden thinks companies like FedEx, for example, would find value in paying a congestion toll.

Closing

Robert Johns, Director, Center for Transportation Studies

In summary, CTS director Robert Johns reiterated a symposium consensus that developing infrastructure is a key role of government. A new wrinkle common to the discourse, though, is the importance of security, especially as a result of September 11. Freight, too, is clearly a more important priority for government, and the proposal for the development of a possible air cargo facility has stimulated discussions.

Johns enthusiastically informed the group that they were part of the largest-ever CTS annual logistics symposium, and he reminded participants of the need to continue sharing resources, information, and dialogue. In parting, he quoted Dart's Terry Hoitink, who had earlier summed up the day's message: "The whole thing hinges on partnerships," Hoitink said. "We can't be adversaries."

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