8th Annual Freight and Logistics Symposium

December 3, 2004

A Summary Report

Rising costs and low capacity mean major changes for the transportation industry. Freight and logistics professionals, researchers, and policymakers examined forces of change affecting the future of the freight industry—from trucking to rail, air, and marine transport—at the 8th Annual Freight and Logistics Symposium. CTS director Robert Johns and Council of Supply Chain Management Professionals Twin Cities Roundtable president Greg West opened the symposium by explaining the need for discussion between the public and private sector about the challenges facing freight transportation. Topics included the changing landscape of transportation, public- and private-sector views of the future of trucking, the effects of those challenges on other transportation modes, and the implications of technology on the future of trucking. This report summarizes the four main sessions of the symposium.

Transportation: A Changing Landscape

KEYNOTE SPEAKER: Gary Petersen, Director of Transportation, General Mills

The Future of Trucking: Forces for Change

MODERATOR: Robert Johns, Director, Center for Transportation Studies

PRIVATE-SECTOR PERSPECTIVE: Jim Butts, Vice President for Transportation, C.H. Robinson Worldwide

PUBLIC-SECTOR PERSPECTIVE: Cecil Selness, Director, Office of Freight and Commercial Vehicle Operations, Mn/DOT

PANELISTS: John Hausladen, President, Minnesota Trucking Association; **Rick Kjonaas**, Deputy State Aid Engineer, Mn/DOT; **Natalio Diaz**, Director of Metropolitan Transportation Services, Metropolitan Council.

Panel: Implications for Other Modes, Technology, and the Infrastructure

MODERATOR: Greg West, National Sales and Marketing Manager, C.H. Robinson

PANELISTS: Richard Stewart, Director, Transportation and Logistics Research Center, University of Wisconsin—Superior; **Dan Murray**, Director of Research, American Transportation Research Institute

Update on the Federal Motor Carrier Safety Administration

SPEAKER: Chuck Horan, Director of Enforcement and Compliance Division, Federal Motor Carrier Safety Administration

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Transportation: A Changing Landscape

Keynote Presentation

Keynote Speaker: Gary Petersen, Director of Transportation, General Mills

"Carriers were reluctant to add capacity until they were certain the economy was on the rebound."

–Gary Petersen

Gary Petersen defined the changing landscape of transportation by describing past and present trends, looking at how these trends have affected General Mills, and providing his outlook on the future.

Until 2003, Petersen said, the transportation industry saw productivity gains marked by increases in trailer sizes, loads, stack trains, and new carriers, which fostered an abundance of capacity. After 20 years of high productivity and high capacity, 2004 was a year of great change because of cost increases and capacity issues, a trend that holds significant implications for freight and logistics management.

Petersen experienced these implications firsthand in the private sector when he worked to develop an integrated distribution network during the General Mills-Pillsbury merger. Once the merger was complete, he found that his $575 million transportation budget projection fell far short of actual expenses. New challenges facing both manufacturers and carriers likely caused this dramatic increase in expense.

On the manufacturing side, Petersen said changes in 2004 included a rise in operating costs, limited pricing options, consolidated buyers becoming more powerful, and increased service demands. Carriers experienced rising operating costs but aggressive pricing due to high demand and low supply. "Rising costs and low capacity meant big changes," Petersen summarized.

What specifically changed? First, costs increased. Higher costs for driver wages, fuel, insurance, and equipment spurred more bankruptcies, which meant fewer trucking companies. In addition, changes in government regulations—dictating shorter driver hours and longer wait times—reduced truck capacity. That, coupled with changes in the U.S. economy, led to a driver shortage. Second, increased bankruptcies, weak trailer sales, old fleets, and a lack of drivers caused capacity constraints. "Carriers were reluctant to add capacity," Petersen said, "until they were certain the economy was on the rebound."

Petersen offered predictions on future trends. "Trucking will be driven by demand, tonnage will grow by 6 percent, driver pay must increase, and government regulations will be more restrictive," he said.

Petersen's outlook on rail was mixed. Despite service and operating problems, rail will be a viable option for some products, he said. However, rail is operating at less than 75 percent on-time delivery and is investing in tracks but not equipment. Box cars are old and the railroads are not replacing them, so companies must buy new box cars themselves. In addition, rail companies don't have enough crews to handle increased capacity. "There's not much leverage to negotiate, though, because there are still only the four major railroads in the country," Petersen said, "so there's little competition."

To compensate for the drop in trucking capacity, Petersen predicted an increase in intermodal transport. But problems exist in container movement because of congestion in major corridors. Overall, the intermodal transport industry is growing faster than capacity but will remain a viable option.

Manufacturers can take some steps to improve their bottom line. "Look for long-term relationships, make freight driver-friendly, find ways to collaborate, use modal options, and communicate to internal upper management the realities of the transportation situation—prepare them for the realities," Petersen advised.

Petersen concluded with his outlook for 2005: "Look for continued rate pressures and capacity concerns; railroad service will improve but slowly; hours-of-service regulations will be more restrictive; more dedicated fleets will be created to ensure capacity; and collaboration will increase between manufacturers and receivers by sharing trucks."

The Future of Trucking: Forces for Change

Moderator: Robert Johns, Director, Center for Transportation Studies

Trucking Transportation in the Private Sector: Industry Overview

Jim Butts, Vice President for Transportation, C.H. Robinson Worldwide

"There's an opportunity for collaboration and creativity to help shippers succeed."
–*Jim Butts*

Jim Butts offered a private-sector perspective that underscored issues common to both the public and private sector. He said that capacity challenges, rising carrier costs, and increasing rates and supply-chain management costs have "had a big impact by eliminating productivity gains." He also suggested that turning to intermodal transport has limitations because volume has grown while capacity has decreased.

Butts cited bankruptcies, fewer trucks, limited additional investment in equipment by the remaining carriers, and demand for shorter lead-time as factors causing decreased capacity. Rising carrier costs stem from increases in driver wages, fuel, and insurance while demand has increased simultaneously. He said the cost of insurance has stabilized but is still high.

Butts predicted increasing rates due to more unplanned volume and smaller carrier capacity that is not incorporated into supply demand. As the economy strengthens, the lack of capacity will continue to drive shipping costs.

"There's an opportunity for collaboration and creativity to help shippers succeed," Butts observed. To increase productivity, he said, shippers are making an effort to become more driver-friendly by providing better signage and improving pick-ups and drop-offs. C.H. Robinson Worldwide, for example, has worked to bring smaller carriers into their portfolio. In fact, smaller carriers have become a big part of what Robinson sees as a solution to transportation problems.

Better planning to improve collaboration between shippers, carriers, and third-party providers, Butts concluded, will be key solutions in future years.

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Public-Sector Perspective

Cecil Selness, Director, Office of Freight and Commercial Vehicle Operations, Mn/DOT

"Congestion in the Twin Cities will result in 2 million hours of delay each year for trucks."
–*Cecil Selness*

Cecil Selness described the public-sector perspective by outlining the factors considered in developing a statewide freight plan. The first issue considered was longer-term economic and transportation trends. He said the state expects a 60 percent increase in freight through 2020—a large increase—and 80 percent of that will be handled via trucks. Increased population growth, employment, and consumption, as well as increased international trade, will fuel the growth.

"Trucking will grow the fastest, but rail, water, and air will be important for freight movement," Selness said. Railroads will be more important for long-distance movement while local freight transport will be done by trucks, which will mean more wear and tear on highways. "Congestion in the Twin Cities will result in 2 million hours of delay each year for trucks," Selness said. Increases in truck traffic and crashes will make congestion worse.

Selness proposed that solutions should focus on improving the statewide road infrastructure, including interregional corridors, "last mile" connections, and the 10-ton roadway network. He also offered other solutions to add capacity, such as widening lanes, removing bottlenecks, pursuing intelligent transportation systems (ITS) and other efficiencies, evaluating the impact of truck flows, and developing a safety plan for trucks to avoid crashes that reduce traffic flow. In addition, he suggested changes in commercial vehicle regulations such as a more efficient permit system, less-intrusive weight and safety management, and use of advanced technologies.

The Future of Trucking: Forces for Change

A Panel Discussion

Moderator: Robert Johns, Director, Center for Transportation Studies
Panelists: John Hausladen, President, Minnesota Trucking Association; Natalio Diaz, Director of Metropolitan Transportation Services, Metropolitan Council; and Rick Kjonaas, Deputy State Aid Engineer, Mn/DOT.

“There is pressure for bigger and larger trucks but carriers don’t want to spend more to add this capacity.”

–John Hausladen

Three panelists presented additional perspectives on the issue of increased capacity. Capacity was addressed in terms of bigger and larger trucks, increased volume on state highways, and the impact of more and larger trucks on an inadequate county-road system.

Truckers’ capacity concerns

Minnesota Trucking Association president John Hausladen discussed capacity in terms of truck size and weight. “There is pressure for bigger and larger trucks,” he said, “but carriers don’t want to spend more to add this capacity.” Carriers are interested in heavier trucks rather than longer ones, he added, but they are concerned with how larger trucks will affect the public image of trucking.

Hausladen also brought up concerns about the intrusiveness of regulations aimed at limiting how much truckers work and the number and complexity of supporting documents truckers must use to record when and where each truck has been. He also addressed the capacity issue from a safety and liability perspective. Ultimately, he said, safety issues result in the hiring of more experienced drivers, but these drivers cost more in wages and health insurance, thus driving up costs. In addition, accidents often spawn lawsuits that further increase costs.

Limited road capacity

Met Council metropolitan transportation services director Natalio Diaz looked at capacity in terms of the ability of the state highway system to handle significant increases in traffic volume. “We expect an 80 percent to 110 percent increase in volume over the next 20 years,” he said, “which means increased congestion with limited capacity for expansion.”

According to Diaz, many Twin Cities-area highways have one or two lanes, and expansion to three or four lanes will marginally increase capacity. Everyone agrees more capacity is needed, he added, but federal and state road construction funding has fallen behind, causing both capacity and cost problems.

A seamless transportation system

Mn/DOT deputy state-aid engineer Rick Kjonaas demonstrated capacity challenges in the county-road system with a map that showed a disjointed county- and state-road system. “Over 50 percent of the county-road system is not suited for 9-ton trucks,” he said. “But county engineers know the weaknesses of the system, so they want to work with highway builders and managers to improve it.”

Efforts to improve the county-road system have included weight-compliance training, development of a statewide freight plan, and county cost-benefit studies. The goal, Kjonaas noted, is to develop a seamless transportation system within the state. That means addressing access, capacity, and safety issues involving the county- and state-highway system in collaboration with state and local transportation officials and the trucking industry.

(From left) Rick Kjonaas, Natalio Diaz, John Hausladen (*speaking*), Cecil Selness, and Jim Butts

One common theme among the many questions participants asked and the answers panelists provided: there's no easy fix for trucking. Given the fact that the transportation industry infrastructure is limited in how much it can accomplish alone, Jim Butts suggested that driver costs and congestion are the two major issues that public policymakers and private transport providers need to address.

Part of the problem is a lack of funding. "There are not many dollars. Drivers are willing to pay their fair share," John Hausladen pointed out, "but trucking companies also need to address driver and customer needs by using a less-than-truckload (LTL) model." Cecil Selness added that Mn/DOT can do its share by developing a state freight plan based on rethinking how trucks flow in a congested transportation system. But Mn/DOT uses a longer-term strategy—10 to 20 years ahead—with the philosophy that costs come first and benefits come over time. Carriers need and want shorter-term solutions, so finding ways to improve communication with carriers will be important.

This difference in taking the shorter- versus longer-term view to address capacity challenges has made collaboration between the public and private sectors difficult. Over the years, Natalio Diaz said, many have tried to establish public-private partnerships but, despite talking about working together, each sector has different goals. "Government must provide good transportation services for a number of sectors, and sometimes there's a disconnect in communicating goals," he said. "It's very difficult to see how this relationship can work."

Other questions fielded by panelists included topics that have been hot-button issues for the transportation industry. The wisdom of adding "black boxes" to trucks has been hotly debated. "Safety is not enhanced, so if a whole system is created with minimal impact, then why do it?" Hausladen asked. "The trucking industry stance is that the technology needs more work."

Selness addressed the issue of transporting hazardous materials, suggesting that this is a federal issue and should be addressed on a public level. "The opportunity is to find ways to meet security needs that aren't overly intrusive, like pre-clearing loads and up-to-the-minute information on where loads are," Selness said. He added that site impacts and cost issues will be topics for the next three to five years.

A question about the gas tax was directed to Hausladen. He said the trucking industry had responded to a 10-cent increase, "but we pay a lot already and there are other sources of money—like increasing license fees, car purchase taxes, and bonding—so we'd like to see a balanced approach that shares the load."

Night driving was the final issue addressed by panelists when an audience member asked, "Should incentives be made available to use road capacity at night?" In response, Butts said hours-of-service (HOS) regulations have restricted the number of driving hours as well as night driving. HOS rules also mean truckers must find overnight parking facilities, Hausladen added, noting that many drive certain hours based on where they know they'll be able to park. Finally, Selness described California's appointment system and surcharge for picking up containers during regular daytime hours. As a result, he said, the appointment system had relieved yard congestion.

"Over 50 percent of the county-road system is not suited for 9-ton trucks."

–Rick Kjonaas

"Government must provide good transportation services for a number of sectors, and sometimes there's a disconnect in communicating goals."

–Natalio Diaz

Implications for Other Modes, Technology, and the Infrastructure

Research Presentations

Moderator: Greg West, National Sales and Marketing Manager, C.H. Robinson Worldwide

Next, Greg West guided the discussion beyond just trucking to a broader exchange about the implications for other transportation modes as well as changes in transportation-related technology and their implications.

"Modal shifts are gradual and are often technology-enabled; to be accepted in the marketplace, costs must go down and the volume shipped must go up."

–*Richard Stewart*

Will Motor Carrier Changes Cause Modal Shifts?

Richard Stewart, Director, Transportation and Logistics Research Center, University of Wisconsin—Superior

Richard Stewart outlined how freight transportation demand is derived. Modal shifts have been influenced by changes in the freeway system and the appearance of double-stacked trains, truck-to-air (Federal Express), and containers (trucks moved onto ships). "Modal shifts are gradual and are often technology-enabled," Stewart explained. "To be accepted in the marketplace, costs must go down and the volume shipped must go up."

According to Stewart, specific attributes influence modal shifts, including factors like proximity to destination (must be close), reliability, cost, velocity (keeping products flowing), shipper flexibility (if carriers have invested a lot in one method of transportation, they tend to go transmodal more slowly), and break-even mileage (the number of miles at which it is cost-effective to go intermodal).

Stewart flagged some trends to watch in 2005 and beyond. He suggested that maritime operations will move much more cargo shipped in containers, perhaps as much as 67 percent in 2005. The biggest challenge for the trucking industry will be the need for more drivers. The rail industry will need to raise rates because the cost of capital to return-on-investment does not encourage investment. Rail, he observed, has "lost flexibility and productivity, so it may not be able to grow."

Stewart said that there has been a growing trend to move agricultural products via containers. Rail has taken steps to minimize transport of this low-velocity, low-value cargo and shift it to another transport mode. Short sea markets may be the mode that will pick up agricultural product transport.

In predicting future freight transportation trends, Stewart suggested that:

- Costs will rise faster for trucking than for rail or marine modes.
- Growth in world trade will put long-term capacity pressures on both truck and rail.
- A gradual modal shift of low-value, low-velocity cargoes will shift to "bottom feeders."
- New marine technology and infrastructure improvements will enhance modal shift.
- Logistics hubs/global villages will develop and grow in importance.

(From left) Richard Stewart, Greg West, and Dan Murray

Trucking, Technology, and Other Implications

Dan Murray, Director of Research, American Transportation Research Institute

Dan Murray presented a brief economic history of factors affecting all transport modes. "For all four modes as well as shippers and manufacturers, economics is everything," he said. "Volume is up, capacity is down, and truck tonnage is growing—in fact, all modes are growing."

Murray's assessment of challenges in the trucking industry underscored conclusions of other symposium presenters: high insurance costs, volatile fuel prices, more compliance costs with additional regulations, driver shortages, and increasing wages. Tight profit margins for trucking companies may be the best way to understand the challenges this industry faces. The profit margin is 3 percent to 4 percent for trucking as a whole, and less than 1 percent for small companies. "LTL [less-than-truckload] is one of the more productive modes of the trucking industry with roughly a 5 percent profit margin in 2004," Murray noted.

On the plus side, however, Murray projects a 100 percent increase in truck traffic over the next 20 years which, he says, will mean increased truck size. "There will be a major increase in truck freight movement as well as non-truck freight growth." The key issue will be intermodal growth, which has become the fastest sector of freight movement, surpassing air cargo. With this huge increase, though, intermodal transport is reaching its peak because of capacity, technology, and efficiency problems. According to Murray, the second fastest growing sector of the industry is expedited air cargo.

Strategic issues for the trucking industry include: volatility in taxation, insurance costs, and fuel prices; use of technology; congestion; security; and data privacy. Use of technology is growing rapidly, but mostly for the larger carriers. In fact, Murray said, new technology for safety systems, combating driver fatigue, and rollover control will be available before authorities are even able determine the appropriate use of such technologies within the industry. "We'll see some really interesting new technologies going on board for all four modes, but it will be a long stretch of time," Murray said.

Murray broke with other presenters in his prediction that hours-of-service regulations will not change. He also acknowledged that congestion is "a huge problem" but said it's not at a crisis level in Minnesota.

Security issues dictated by the USA Patriot Act represent a question mark for the trucking industry, especially in terms of what systems will be developed and required, when, and what impact those changes will have on shipper/carrier costs. "We still need to step in, possibly with tax dollars, to invest in systems that are going to protect the public domain," Murray said. The ideal goal, in his words, is a "freight information highway"—a project that is currently under development. Electronic supply-chain manifests exist but are not universal because none have fully integrated government connectivity. Despite the difficulties, Murray is confident that developing a widely accepted and unified supply-chain management system is "absolutely doable."

Both Murray and Stewart concluded their presentation on a positive note for the trucking industry. "I think trucks will grow like mad," Stewart said. And Murray's conclusion: "I think the next few years are going to be wonderful for shippers and truckers."

"Volume is up, capacity is down, and truck tonnage is growing—in fact, all modes are growing."

–Dan Murray

Chuck Horan

Update on Federal Motor Carrier Safety

Chuck Horan, Director of Enforcement and Compliance Division, Federal Motor Carrier Safety Administration

Chuck Horan presented an overview of the Federal Motor Carrier Safety Administration's (FMCSA) mission, goals, and programs. According to Horan, FMCSA is striving for a 41 percent reduction in the large truck fatality rate by 2008 as a way to fulfill its mission of reducing crashes, injuries, and fatalities involving large trucks and buses. Programs aimed at effectively reducing accidents and fatalities are regulatory (Federal Motor Carrier Safety and Hazardous Material), informational (Motor Carrier Safety Identification and Information System, and Commercial Drivers License), educational (New Entrant Safety Assurance), and monitoring (Motor Carrier Safety Assistance Program and Performance and Registration Information System Management).

Horan also outlined other FMCSA activities including research and technology, border and international safety, safety education and outreach, and the interstate household goods program.

"Gary Petersen's recommendations to shippers can be applied to both the public and private sectors—collaboration, modal options, and communication of realities."

–Robert Johns

Closing

Robert Johns, Director, Center for Transportation Studies

To wrap things up, CTS director Robert Johns summarized the main themes of the symposium, noting in particular remarks about the changing landscape of the freight industry.

"Gary Petersen's recommendations to shippers can be applied to both the public and private sectors—collaboration, modal options, and communication of realities," Johns pointed out.

Johns highlighted the public- and private-sector issues raised by the panelists discussing the future of trucking, including infrastructure capacity, the structural strength of the highway system, regulation, and driver issues related to cost and budget uncertainties. "The panel got down to the real, on-the-ground tensions that exist on dealing with these issues," he pointed out.

In conclusion, Johns emphasized the importance of investments in transportation. "It's essential for our economy, as we've heard," he said. "This event has crystallized a lot of issues and helped educate us all."

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