13th Annual Freight and Logistics Symposium Minneapolis, Minnesota

Views of the System after Economic Recovery

December 4, 2009

A Summary Report

The economic recession and its recovery will alter supply chain practices, demanding even greater innovation and planning among supply chain management professionals. The 13th Annual Freight and Logistics Symposium brought together representatives from the public, private, and academic sectors to address the impacts of the recession and the recovery on supply chains and transportation modes. Laurie McGinnis (acting director of CTS), Meg Duncan (Council of Supply Chain Management Professionals–Twin Cities Roundtable president), and Bill Gardner (Minnesota Freight Advisory Committee member and director of freight planning and development at Mn/DOT) opened the forum by acknowledging the need to engage both public and private interests in making better-informed transportation planning and supply chain decisions. Symposium topics included recession-stimulated changes in distribution patterns and transportation modes, "green" (sustainable) supply chain initiatives, and transportation infrastructure and policy.

Presenters:

Trends and Scenarios for the Future

Richard Murphy Jr., President/CEO, Murphy Warehouse Company

Jim Butts, Senior Vice President of Transportation, CH Robinson

Future Energy Scenarios and Public Policy Alternatives

Fred Beier, Professor Emeritus in Supply Chain Management, Carlson School of Management, University of Minnesota

Bob Portiss, Port Director, Tulsa Port of Catoosa

Dan Murray, Vice President of Research, American Transportation Research Institute

Center for Transportation Studies

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Trends and Scenarios for the Future

A Panel Discussion

Moderator: **Fred Corrigan,** Executive Director, Aggregate and Ready Mix Association of Minnesota

Panelists: **Richard Murphy Jr.,** President/CEO, Murphy Warehouse Company
Jim Butts, Senior Vice President of Transportation, CH Robinson

Richard Murphy Jr.

The first panel discussion focused on the changes in transportation networks and supply chain practices that are required to realign networks following a severe economic recession. It was moderated by Fred Corrigan, executive director of the Aggregate and Ready Mix Association and chair of the CTS Executive Committee.

Supply chain logistics in a post-recovery landscape

Richard Murphy Jr., president/CEO of Murphy Warehouse Company, provided a sweeping review of transportation trends and discussed how sourcing and distribution patterns as well as national logistics practices are changing in response to rising energy costs and other macroeconomic trends. He reminded attendees that logistics makes up about 10 percent of the U.S. economy, with nearly $4,500 spent annually per person on transportation, warehousing, and other supply chain costs.

Murphy predicted that in response to the recession, already lowered capacity—particularly in the trucking and rail segments—will linger for years. The trucking segment, as the single largest U.S. freight transportation mode, will see further changes heading into recovery. "Trucking companies will try to recoup losses by keeping capacity tight, and driver shortages will reappear," Murphy said.

Rail is increasingly appealing to a broader spectrum of shippers due to energy savings and the potential for cost savings. "The rails are more fuel-efficient on a per-mile basis. They can have lower emissions but require longer lead times," Murphy said. Rail was at or near capacity when the recession hit, he added, so once the economy improves to a certain level, the rail industry will have the same capacity issues as trucking.

Maritime carriers lowered capacity in response to depressed shipping volumes worldwide, Murphy said. Still, the ocean segment will have plenty of capacity as new, large vessels that were ordered years ago finally come online. "We're going to see overcapacity for years in this industry," Murphy said.

"We're going to see more and more people give serious consideration to 'near sourcing.' This is a shift from a focus on labor cost per hour to a greater focus on lowered total landed cost."

—Richard Murphy Jr.

Global sourcing and U.S. logistics: changes ahead

The great likelihood that fuel prices will continue to increase adds to the challenges of an economic rebound and is sure to spark real change in shipping and distribution patterns, Murphy said. He expects to see more mode shifting: "Air moves to ground and ocean. Some intermodal will move to box car, TL into intermodal, LTL into TL, and rail to barge." Growth will be strong in inland waterway shipping on barges—one barge can accommodate the capacity of 15 railcars or 80 truckloads, making them an inexpensive alternative.

(Truckload shipping, or TL, is the movement of large amounts of cargo, generally filling an entire semi-trailer or intermodal carrier. Less-than-truckload, or LTL, generally mixes freight from several customers in each trailer.)

Community opposition is pushing railyards further out, Murphy said. These yards, along with giant interior U.S. inland ports (integration hubs that process intermodal shipments on stack trains), are viable distribution alternatives serving regions from markets such as Kansas City, Dallas, Memphis, Chicago, and Atlanta. "Before the recession hit, the [coastal] ports were busy places," he explained, and they were unable to handle demand, spurring the creation of inland ports.

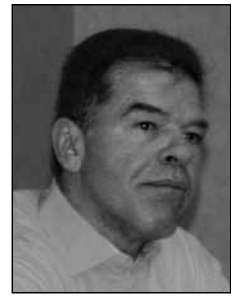
Container volumes through the Panama Canal have skyrocketed, Murphy continued, as this route has become a lower-cost alternative to congested West Coast ports. The current expansion of the Canal to accommodate larger ships, with expected completion by 2014, will multiply traffic. In addition, growing ranks of importers of Asian goods will join mega-retailers like Target and Wal-Mart to bring containers into Gulf and East Coast ports, he said. Third-party logistics providers (3PLs), located up to 100 miles from major ports, will increasingly set up large import warehouses to serve customers.

Murphy said changes in retail distribution, consumer demands, and growing population centers are causing fundamental changes to U.S. logistics practices. Using the "more is less" motto, 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 pressure to go green make a strong argument for shorter transits. "Since local delivery costs are the most expensive portion of the trip, network modeling becomes much more important in how you fan out your distribution centers," Murphy said.

As a result of these trends—and particularly, fuel cost concerns—look for increased manufacturing in Mexico, Central and South America, as well as the United States, Murphy said. "We're going to see more and more people give serious consideration to 'near sourcing.' This is a shift from a focus on labor cost per hour to a greater focus on lowered total landed cost."

"More and more, the value added for service providers within our industry is to create intellectual property that others within the industry can benefit from."

—Jim Butts



Jim Butts

Green logistics

Pressure to go green will "put the brakes on logistics velocity," Murphy said. Although transit distances may be shorter in the future, transit times may be longer as slower modes (and slower speeds) are used to maximize fuel efficiency. And despite the trend toward smaller orders seen today, some companies might increase their order minimums to consolidate shipments and cut costs, requiring longer lead times. "This means more cross-docking," Murphy said.

(In cross-docking, materials are unloaded from an incoming semi-trailer truck or rail car and loaded directly into outbound trucks, trailers, or rail cars with little or no storage in between.)

In addition to fundamental shifts in supply chain practices to conserve fuel and cut costs, Murphy said the logistics industry is undertaking a number of sustainable initiatives. These include facility design changes such as LEED (Leadership in Energy and Environmental Design) green building certifications, wind and solar energy production on roofs, and improved stormwater management practices such as installing prairie and rain gardens instead of lawn mowing.

Innovation in a cost-conscious environment

Jim Butts, senior vice president of transportation at CH Robinson, said the post-recovery landscape requires even greater levels of innovation and collaboration among supply chain partners against a backdrop of constant pressure to cut costs.

"Most organizations don't have processes to encourage innovation. They don't have processes to encourage risk taking nor do they have ways of taking ideas, which are the raw material of innovation, and giving them traction," he said.

One big barrier to innovation, Butts said, is the treatment of supply chain departments as tightly controlled cost centers, which discourages new and seasoned professionals from staying with the profession. "Top talent will perceive that as a lack of a growth opportunity for them," he said. As a result, Butts cited the need to educate and train supply chain professionals with an eye toward specific industry knowledge of a market. He also called for training to leverage the capabilities of supply chain management software so businesses can mine the information they have to make better business decisions.

Butts echoed comments by Murphy in saying significant challenges lie ahead for the battered TL industry given recent carrier bankruptcies, lack of modern equipment, and low driver wages. Among other chief concerns facing trucking, he said, is the potential for an exodus of drivers from the industry when the economy picks up.

Butts said mixed messages about the recovery are leading to general uncertainty and overall caution in the marketplace. Nevertheless, the post-recovery landscape will bring more business to 3PLs as firms realize logistics isn't a core competency or they need a new perspective. "More and more, the value added for service providers within our industry is to create intellectual property that others within the industry can benefit from," he said.

Concerns around rising fuel costs, the dynamic nature of sourcing, a shifting legislative and regulatory environment, as well as carbon reduction initiatives are all complicating supply chain planning. "The array of decision trees out there, the complications and complexities, are just increasing," Butts said. One bright spot is the expected increase in U.S. exports in part because of the lower value of the dollar, he added.

Following the presentation, the speakers fielded questions from the audience. A common theme was the need to involve all parties in the supply chain in infrastructure development issues, including public and private partnerships. Both Murphy and Butts said involvement must be strong from municipal and state governments.

Changes Needed: Infrastructure, Policy, and Practice

A Panel Discussion

Moderator: **Dave Christianson**, Manager, Freight Planning and Development, Mn/DOT

Panelists:
Fred Beier, Professor Emeritus in Supply Chain Management, Carlson School of Management, University of Minnesota
Bob Portiss, Port Director, Tulsa Port of Catoosa
Dan Murray, Vice President of Research, American Transportation Research Institute

A second panel, moderated by Dave Christianson, manager of freight planning and development for Mn/DOT, switched the focus to the changes required for transportation infrastructure, practices, and policy. Commenting on the first panel, Christianson said the holistic view of the entire supply chain has never really existed before in the United States. For one organization to have the expertise and knowledge to move and control goods—all the way from raw materials through manufacturing and back out to the final consumer—is "just fantastic," he said.

Challenges to the practice

In an age when supply chains compete against other supply chains, trading partners are demanding even more from their partners, said Fred Beier, professor emeritus with the Carlson School of Management at the University of Minnesota. "The key to success to supply chains is how they can integrate their activities between different trading partners. When you are integrated, you eliminate non-value-added costs," he said.

To this end, marketing-related data shouldn't be overlooked, Beier said. Integrated supply chains eliminate the extra inventory that collects when decision-making activity and marketing information are separated. True supply chain integration makes the supply chain more transparent and shares marketing information across parties.

This also means a sharper focus on customer service and product reliability. "Customization means serving different segments and different customers with unique products," Beier said. Although post-recession consumers will emerge even more cautious, they are getting used to all forms of buying, particularly Internet shopping, which will continue to grow. As a result, some organizations tied to these distribution models are reverting to centralized inventories. "The marketplace is also asking for smaller shipments, which will work to the benefit of transportation brokers and 3PLs," he said.

Like the first panel, Beier reiterated that following the recession, supply chain practices will rely more on cross-docking and shipment consolidations in the face of tight transportation capacity. "At the end of the recession, it's going to be reduced transport capacity that's going to pull transportation costs upward. There's going to be a lot more trade-off between time and distance," he said.

Finally, in a post-recovery environment with wary customers and demanding clients (and in which the largest trading partners and vendors set the rules), the ability to know costs is going to be critical, Beier said. "You need to have metrics that essentially look at financial criteria—not only cash to cash but also to ROI [return on investment] and profitability."

Multimodal strategies: lessons for Minnesota

Bob Portiss, port director at the Tulsa, Oklahoma, Port of Catoosa (via pre-recorded video), outlined the development of the inland port and provided insights into the benefits of waterway transportation. The 2,000-acre intermodal transportation hub,

Fred Beier

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—Fred Beier

> "The only answer to future volumes of freight traffic to be moved through our country is our inland waterway system."
> —Bob Portiss

situated near the head of the McClellan-Kerr Arkansas River Navigation at the end of the waterway chain of the Mississippi and Missouri Rivers, began development in the 1960s.

The port's interior location and use of rail-truck-barge combinations offer significant transportation savings compared with over-the-road trucking from congested ocean ports or other intermodal combinations, Portiss said.

The Port of Catoosa features a Foreign Trade Zone and extensive intermodal transportation facilities and serves as a corridor access point for on-site rail, truck, and barge transportation and nearby air service. The average barge shipment takes 10 days to transit along the 445-mile McClellan-Kerr navigation system (which features 18 locks and dams) to ultimately connect to the Mississippi River and the New Orleans Gulf Coast. "We're a corridor access point onto the waterway for business and industries throughout northeast Oklahoma and the Central States area," he said.

More major infrastructure for ocean ports, rails, or highways is unlikely to be built, Portiss said, so the development of inland waterway facilities is a viable alternative. "The only answer to future volumes of freight traffic to be moved through our country is our inland waterway system. That's [as] true for those of you on the Upper Mississippi as it's true for us on the McClellan-Kerr waterway," he said.

It's important to seek new business in a down market, Portiss emphasized. "We've responded to the recession by helping our terminal operators attract new customers and find ways to ship even more by water," he said. He urged Midwest inland port developers to let the private sector handle operations, noting the port's business model as a state-run agency that owns the port property and oversees all its development. Because the port operates as a state agency without ties to a city or county jurisdiction, it has had the freedom over the years to invite private industry, such as terminal operators, to lease and run facilities that the port develops and owns.

Freight system impacts of the federal authorization bill

Dan Murray, vice president of research with the American Transportation Research Institute, provided a broad overview of proposed transportation policies and programs under consideration by national legislators and transportation groups. He emphasized that proposed national transportation reauthorization policies and programs are in great flux given differing agendas, priorities, and funding concerns. In the meantime, transportation continues on a shoestring budget due to multiple continuing resolutions.

Among several initiatives, the latest transportation bill, proposed by Congressman James Oberstar, chairman of the House Transportation and Infrastructure Committee, will likely undergo considerable modifications since it does not identify funding sources, Murray said. "The silence of the Congress seems to say everyone wants a transportation bill yesterday but nobody knows how to fund it. Promulgating new taxes in a tenuous economy is a challenging proposition for anybody to jump on board."

The Freight Improvement Program under the proposed bill is primarily focused on the expansion and improvement of roads, Murray said. The formula to distribute funding to states is yet to be determined. "The new $450 billion bill is substantially higher than the prior bill, and it goes to $500 billion if you include the $50 billion proposed for the development of high-speed rail," he said.

Proposed programs of national significance include critical high-cost projects and the creation of corridor coalitions that may provide a focus for new freight and intermodal infrastructure. Other proposed programs include the Critical Assets Investment Program, which calls for tunnel and bridge enhancements, and the Metropolitan Mobility and Access Program, which addresses congestion, sustainability, and land use issues.

Murray said a federal fuel-tax increase would be the most likely and efficient source of funding for a new transportation bill. In the interim, one of the most intriguing ideas comes from Oberstar and David Obey, chairman of the Appropriations Committee, which calls for a two-year transportation bill funded out of general federal funds.

Murray said toll projects that require public-private funding agreements should be viewed with caution. "You want to watch what aspect of public-private partnerships are useful and good for freight and the taxpayer, and which ones might be more speculative," he said. Private-sector cost-sharing of infrastructure that is owned by the taxpayer is typically beneficial for the taxpayer, he said, while selling or leasing public infrastructure can be a poor choice. Finally, given the complexity of transportation issues, the need for transportation planners and managers to have a thorough understanding of freight operations and freight-related economics is critical but still generally lacking, Murray said.

In the discussion that followed the panel presentations, questions were raised about the viability of inland waterway transportation. Portiss said the nation can expect to see a return to congested U.S. seaports following the recession but inland barge transportation will likely be sought as a cost-effective alternative. "Capacity is not an issue now but it will be again. Future volumes of traffic will use the Gulf Coast more," he said.

> "The silence of the Congress seems to say everyone wants a transportation bill yesterday but nobody knows how to fund it."
> —Dan Murray

Regarding a question about the benefit of taking inventory out of supply chains, Beier explained that excess inventory can hurt supply chains. "Firms have improved cost accounting and learned how expensive keeping inventory can be. Inventory is being pushed back up the supply chain," he said. The carrying costs associated with inventory are less onerous for raw materials than for finished products. One remedy, he said, is to have inventory data and marketing information at hand so firms can be responsive to meet demand, even at a distance.

Concluding remarks

CTS acting director Laurie McGinnis gave concluding observations about the symposium. The content provided attendees with some innovative, creative ways to address the recovery period. "I hope today has provided you with new information, resources, and tools to move forward in your role…as we ready ourselves for post-economic recovery," McGinnis said. She also thanked the CTS Freight and Logistics Symposium planning committee for its efforts.

Dan Murray

Laurie McGinnis

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