Resolving conflicts between freight-oriented industries and communities over land use, jobs, and traffic, as well as the latest news on national transportation funding reauthorization efforts, were just some of the many topics examined by freight and logistics professionals, researchers, and policymakers at the seventh annual CTS logistics symposium. CTS director Robert Johns opened the symposium by outlining a variety of local, regional, national, and global perspectives on community-integrated logistics as well as other freight industry issues offered during symposium presentations. This report summarizes the event’s three main sessions.

Leading-Edge Trends and Concepts

**Moderator:** Mark Berndt, Senior Freight Systems Planner, Wilbur Smith Associates

*Freight Logistics in the European Union: The Interaction of Public and Private*

Thomas Zunder, Advanced Railway Research Centre, University of Sheffield, England

*Making Intermodal Logistics Work for Communities: Global Freight Villages*

Roberta Weisbrod, Ph.D., Partnership for Sustainable Ports, Brooklyn, New York

*Identification of Freight Clusters in the Twin Cities Metropolitan Area*

Ferrol Robinson, SRF Consulting Group

Panel: Implications of Community-Integrated Logistics for Minnesota

**Moderator:** Richard Murphy Jr., President, Murphy Warehouse Company

**Panelists:** Lynn Moratzka, Planning Director, Dakota County; Lee Starr, Community Development Director, City of Coon Rapids; Lance Neckar, Professor, Department of Landscape Architecture, University of Minnesota; Bruce Maus, Principal, Corporate Real Estate.

Update on Federal Initiatives and Legislation

Leo Penne, Program Director for Intermodal Activities, American Association of State Highway and Transportation Officials
Historically, commuter and transportation concerns have dominated transportation planning policies, especially in metropolitan areas. Reauthorization of the federal transportation act may provide greater opportunities to focus on freight transportation issues. Mark Berndt, who moderated discussion of current issues, said that because all modes of freight transport are growing, there is an increased need to identify and apply practices that balance the needs of the freight industry and community quality-of-life issues.

Berndt outlined seven key freight issues: communications; traffic flow and congestion; safety and security; economic development; air quality; noise and vibration; and land use and value.

A number of attempts have been made in the Twin Cities to balance the needs of freight facilities and communities including the Minnesota Intermodal Terminal Study (MIRTS), the redevelopment of the Savage Ports, the Air Cargo Distribution Center, and the Twin Cities Post Office relocation in Arden Hills. In addition, individual companies, such as Wilbur Smith Associates, have developed freight policy goals.

But on a larger level, decisions related to location and relocation of freight facilities can best be achieved by answering some key questions: What strategies have been applied elsewhere? How have successful projects approached community quality-of-life issues? And, what must happen in the Twin Cities metropolitan area to facilitate good working relationships between communities and businesses?

Thomas Zunder provided perspective on freight and logistics issues in his discussion of the European Union and its commitment to the Kyoto treaty, which he said drives energy and transport policy and practice in Europe. A number of concerns specific to Europe create challenges that differ from the U.S. transport industry. However, the urban freight industry in the E.U., like its counterpart in the United States, often finds itself caught between environment and quality-of-life issues on one hand, and economic competitiveness on the other.

Zunder said that freight issues of concern in the E.U. include relying on imported energy, reducing CO2 emissions, promoting clean urban transport, and decoupling economic growth and transport growth. Reliance on imported energy and focus on clean urban transport, as outlined in reduced CO2 emissions defined by Kyoto, drive efforts to invest in research on hydrogen and other renewable energy and transport fuels. Decreased reliance on rail and the accompanying increase in road transport means growth in haulage transport has surpassed economic growth, which threatens the E.U.’s commitment to sustainable development.
Other European transport issues are also in play. Transport is an essential driver of industry and trade in the E.U., but its economic importance is diminished as road congestion increases. Congestion, combined with what Zunder called “a chronic failure to invest in new infrastructure,” has led to strategies such as road pricing and a shift from road to rail.

Other issues also come into play. “There is a quality-of-life dimension to urban policy in the E.U. that intertwines with the environmental and economic aspects,” Zunder said. In the most urbanized continent in the world, 80 percent of Europe’s population lives in towns and cities. These towns and cities are relatively small but are located in close proximity to each other. Increased road freight can and often does have a direct impact on the quality of life in neighborhoods and cities.

What influence can the E.U. have on freight and logistics issues? Although the E.U. is a confederation of sovereign states, it does not have a constitution. Policies can be agreed on at the member states level, but it’s up to the individual states to take action. The result is often a disconnect between policy and action. The situation is complicated further by fierce competition among logistics companies trying to meet rising customer needs, a wide dislike of those representing transport concerns, national governments that pass transport and logistics problems on to the cities, and city governments that are ignorant of transport needs and issues.

Yet some countries have taken positive action. For example, the United Kingdom developed a sustainable distribution policy that calls for reducing carbon emissions through training, setting cooperative policies, and modernizing fleets. France has asked each of 70 local governments to develop a distribution strategy.

Some E.U. states have freight policies but many are relatively ineffective or too narrowly focused. To address this problem, the Best Urban Freight Solutions (BESTUFS) was established as a network for use by practitioners, experts, academics, and policymakers—a kind of clearinghouse for members to share best practices across the E.U. Toward that end, BESTUFS disseminates information related to urban freight issues through workshops, presentations, best practices handbooks, research through clustering guides, newsletters, and conferences for participants at local, city, and national levels.

The key theme identified in the first BESTUFS workshop was the development of urban freight platforms. Freight platforms are centralized distribution centers where large trucks offload at a hub and cargo is then distributed by smaller vehicles. Trials based on this concept were undertaken rather extensively in E.U. states including Germany and the UK. Experiences in several E.U. states showed that the model was flawed for a number of reasons. Urban freight platforms eliminated competitive advantages, were inexpertly run by public officials, and often introduced delivery delays. Freight platform successes have occurred, however, in situations where developers were able to impose top-down solutions, enforce compliance, and provide secure sites.

Although urban freight platforms have not been a successful model in competitive, free market environments, the E.U. along with BESTUFS continues to work toward developing a successful, unified approach to urban freight logistics. While deep weaknesses at the local level have been identified, Zunder said there has also been “a wide range of pilots and successful exceptions.”

“There is a quality-of-life dimension to urban policy in the E.U. that intertwines with the environmental and economic aspects.”

–Thomas Zunder
Roberta Weisbrod mined her experience with development of a freight village at Tremley Point in New Jersey to propose that global freight villages may be the solution to the urban freight dilemma in the United States. According to Weisbrod, the dilemma is this: cities benefit from the growth of trade and wealth in the form of higher standards of living, while the resulting increase in trucks, emissions, and congestion serves to reduce quality of life. Many U.S. models don’t solve the problem of locating freight facilities in proximity to cities. Location of freight distribution centers at a distance from urban markets results in what Weisbrod called “the freight analog of sprawl.”

Global freight villages, which originated in Europe, are high-performance freight and logistics centers that are shared and located in urban areas, often by re-using brownfields. Such villages include services expanded far beyond logistics and freight needs—many include restaurants, offices, service stations, and recreation areas. They are often located close to multiple modes of transport, including railways, airports, roads, and ports. Global freight villages benefit freight businesses and communities alike—they enable trade and relieve congestion, provide jobs in urban areas, restore lands to the tax roles, and provide improved freight efficiency and security. Freight villages designed by well-known architects have provided an aesthetic benefit to the public as well.

Because the closest freight centers to New Jersey were located 60 miles away in New York City, Tremley Point solved a critical logistics problem. The site offered acres of brownfields available for development and proximity to local transportation centers as well as to a growing port. The downside of the site was lack of access to interstate highways, the next problem slated for improvement.

To make freight villages work, Weisbrod said that site-specific research must be done to uncover issues that are unique to a potential location. In addition, the return on investment to both the public and private investors must be carefully considered. To discourage gated community-style living, freight villages must be designed to encourage spillover into the city. “The dangers of public involvement are many,” Weisbrod also said. “Freight villages are often located where cheap land is available or where low employment is an issue, and most city platforms are massively subsidized so when public funds are withdrawn, the platforms disintegrate.”

To promote global freight village development in the United States, Weisbrod said a number of questions must be addressed to determine when freight villages may be a good solution to the urban freight dilemma: Is bigger better? Where would freight villages work? What are the benefits and downsides of freight villages? What is the public and private return on investment? Both generic and site-specific research is needed to address these issues.
Ferrol Robinson reported on a study, called *Adequacy of Freight Connectors to Interregional Corridors and Major Highways*, published by the Minnesota Department of Transportation in 2003. The rationale for the study was that improving freight productivity is key to increasing economic activity in the state and maintaining competitiveness.

The study, which included rural and metropolitan areas, identified 27 freight clusters as well as issues, deficiencies, and next steps necessary within each. According to Robinson, the study was invaluable in that it scientifically established cluster boundaries and served to update the database to identify and map major freight generators, locate geographically clustered freight facilities that are bordered by major transportation arteries, and identify access points to the regional transportation system.

Robinson said the *Adequacy of Freight Connectors* report identified problems in one cluster in Savage, on the Minnesota River, that included “substantial congestion at many times of the day, the highest percentage of truck traffic in the region—in addition to significant rail and river traffic—some deficient bridges, and the need to add and widen interchanges.” The study indicated that “there’s a lot of pressure, especially in downtown areas, to move industrial freight out to residential areas, which has its own problems,” Robinson said.

Next steps in this process will be to relate clusters and connector deficiencies to area project improvements, establish funding priorities for investment decisions, and superimpose freight dollars and corridor uses on the statewide freight plan. Robinson suggested that next steps should also include getting more consensus through meetings and maintaining an open dialog to address freight-related issues.

“There’s a lot of pressure, especially in downtown areas, to move industrial freight out to residential areas.”

—Ferrol Robinson

*Identification of Freight Clusters in the Twin Cities Metropolitan Area*

Ferrol Robinson, SRF Consulting Group

*(From left) Ferrol Robinson, Roberta Weisbrod, Thomas Zunder, and Mark Berndt*
A panel of local experts, building on the big-picture perspective from the earlier presentations about leading-edge concepts and trends in freight and logistics, discussed ways to integrate regional business, transportation, and land-use policy and practice.

Richard Murphy Jr., also chair of the CTS executive committee, moderated discussions. He requested symposium attendees to think wearing two hats. “Think about how these transportation/logistics-related functions look when you sit at home,” Murphy asked, “versus when you sit in your office. Those two are very different.”

“Think about how transportation/logistics-related functions look at home versus when you’re at your office [as a transportation professional]. Those two [views] are very different.”

—Richard Murphy

Since the mid 1990s, members of the Department of Landscape Architecture have considered ways to rebuild the city and shape suburban growth in a way that integrates fragmented urban growth policies. Toward that end, Professor Lance Neckar explored the relationship between amenities—like parks, open spaces, and multiple transit options—and freight movement and storage. He used two projects to demonstrate his point: one in the central corridor in St. Paul and one in Cottage Grove, a major suburban area in the Twin Cities and home to a 3M chemical plant.

Many issues confront people who live in areas that include freight centers. According to Neckar, people are “frustrated by fragmentation in city, regional, and state policy that has an impact on their everyday lives and in their neighborhoods.” Neckar’s work in the central corridor looked at the accommodation of both freight and people. “From a designer’s point of view, part of the problem was the huge scale, that is, most freight shipping movement uses huge horizontal space, which is in direct contradiction to the way most people live in their neighborhoods,” Neckar said. “So one of our issues in this central corridor project was to accommodate the need for large horizontal spaces and still create an environment that allows for neighborhood values and quality-of-life aspects associated with the normal amenities of living in the city,” he continued.

In this situation, as in many others, the city’s port authority is involved. The primary mission of this agency is to create jobs, so the issue of trucks in neighborhoods or how neighbors live in relationship to these trucks and to these jobs is “not on their screen,” according to Neckar. “We need a better process to integrate all of these issues at the neighborhood and city level, but most cities have no staff to deal with these kinds of issues,” he said. Often, neighborhood groups take on these issues but at a very localized level.

“Our primary intermodal facility is in the historic central corridor in St. Paul,” Neckar said. “When important industrial clusters sit in the central corridor, the question is: How do we cope with this need for all of that horizontal logistical capacity and still have this other, more fine-grained neighborhood use?” For example, security and access must be balanced across both constituencies. After 9-11, intermodal yards, already very big spaces that cut through the center of the city, are being fenced and
dividing neighborhoods. When neighborhoods are involved, things like pedestrian bridges are needed so residents can cross the rail quarter to walk to school or get to a grocery store.

Neckar’s team developed a model that involved a more human scale with trucks located in the back of warehouses and a separate truck parkway at the back of the buildings. The idea was to maximize the separation between neighborhood and trucks as well as the multimodality that is potentially available when new bridges are introduced.

“Often, when people hear talk of a commuter rail, they immediately think of light rail so it is necessary to explain the differences in mode,” Neckar said, prefacing his discussion of the Cottage Grove/3M issue. “Light rail is often on a completely different corridor and is in the fabric of the neighborhood, while commuter rail may or may not touch the fabric of the neighborhood and is a different mode with different scale issues.” This becomes important to help people understand the global scale issues involved in relationship to shipping that occurs in their neighborhood, such as when 3M is in their back yard.

In Cottage Grove, the 3M chemical plant is located on the river on land the company owns. 3M is looking to build a 40,000-square-foot intermodal facility on this location in the next 20 years. This offers the potential for innovative development, including passenger inter- and multimodal facilities. According to Neckar, however, this also creates a huge problem “because of the very large scale of the new plan coming online in relationship to the passenger area. These are big issues that need to be handled at a regional level.” And, because a large part of Cottage Grove’s tax base is 3M, the city has little room to negotiate. This situation represents a difficult scenario that many localities face as they take on these issues in suburban locations.

“We have a tremendous opportunity to enhance true intermodality, but it might not be best done in some suburban locations,” Neckar concluded. If freight facilities are located in urban areas, integrated plans would address issues such as assuring that freight-related developments are built in a style more in scale with neighborhoods.

A County Perspective: ‘Road Capacity Deficiencies Already Exist’

Lynn Moratzka, Planning Director, Dakota County

Lynn Moratzka provided a county-level perspective on community logistics and congestion. She discussed the issues associated with growth pressures in Dakota County, the fastest growing county in Minnesota. From 1980 to 2000, Dakota County’s population increased by 83 percent, primarily in Eagan, Burnsville, Lakeville, and Apple Valley. “By 2030, we are expecting another 153,000 people, which is another 42 percent increase,” Moratzka said. That population increase translates to a projected 79 percent increase in traffic congestion over the next 20 years.

Dakota County recently finished a transportation plan based on the projection of a 79 percent increase in traffic as well as increased congestion at the river crossings. At the I-35W bridge crossing, 103,000 vehicles cross each day; by 2025, 140,000 vehicles will cross. On Cedar Avenue, 93,000 vehicles cross the bridge each day and, by 2025, 130,000 vehicles will cross.

“We need a better process to integrate all of these issues at the neighborhood and city level, but most cities have no staff to deal with these kinds of issues.”

–Lance Neckar
Lee Starr discussed multimodal issues at the city level using Coon Rapids as an example. Coon Rapids has two lines of the Burlington Northern Santa Fe Railway running through the city and two major regional highways next to its industrial areas. According to Starr, the city wants to diversify and provide a wide variety of jobs. As a result, new businesses locate in Coon Rapids because the city offers opportunities for industries that depend on both rail and truck traffic.

Coon Rapids has been able to mitigate the impact of off-site traffic generated by the industrial park facilities. Its two industrial parks are well-buffered by highways, commercial property, or parks. Because the business parks are close to the highway system and an interchange, “truck traffic does not run through residential neighborhoods,” Starr said. “We also have some side agreements with the trucking industries in our parks to avoid routing their trucks through residential neighborhoods. This has been very effective.”

Coon Rapids has a general policy that embraces intermodal transport, good road and rail linkages, and horizontal land availability. The city has also offered incentives such as tax-increment financing to subsidize costs involved with construction of rail spurs and soil correction required at some sites. “Our lessons aren’t rocket science,” Starr said. “If you want to attract multimodal industries, you have to have the proper mindset and the proper environment at the local-policy level to welcome these kinds of industries.”

According to Starr, the city’s success in welcoming freight-related businesses has been based on offering appropriate, accessible locations with the proper infrastructure as well as city assistance to help with costs unique to individual businesses and sites.

“Our lessons aren’t rocket science: if you want to attract multimodal industries, you have to have the proper mindset and the proper environment at the local-policy level to welcome these kinds of industries.”

— Lee Starr
Bruce Maus found success as a real estate developer, in part, by understanding the ways in which transportation relates to how companies locate in a particular geographical area. Because of a shift from proprietary-based technology to process-based technology, American business makes decisions based one premise—“products must be better, available now, and cheaper.” To survive and remain competitive, companies make location decisions to minimize the time the product spends in the transportation system. Regional distribution centers must be close to the manufacturer. Rural areas tend to welcome businesses more than suburbs, so many companies locate distribution centers in rural areas where space is available, land is cheap, and people need jobs.

According to Maus, the context in which manufacturing companies must make decisions today has changed. In the last 25 years, American businesses, using proprietary-based technology, invented the microchip, the diode, and many other technical products—and exported those products to the rest of the world. “We dominated technology on a worldwide basis for a long time. Then, somewhere in the 60s and 70s, other countries started making and inventing technology and exporting products,” Maus said. We began to transition to what is termed a “process-technology economy” as products we invented were exported and reproduced through reverse engineering. According to Maus, “There is no respect for our U.S. patent laws, so we can no longer rely on proprietary technology to drive the economy.”

To remain competitive, American industry will have to find a faster way to manufacture products at a lower cost and in a shorter period of time. “Customers want a product to be better than the last one they got, they want it in a shorter period of time, they want you to increase the quality—and all of this has to be done at the same time,” Maus said.

American companies that are surviving and growing must operate in the context of “shorter, faster, and better.” This affects location decisions. On a five-day, order-entry cycle, a product can no longer be in the transportation network more than one day because the other four days are needed for order processing, manufacturing, and packaging of the product. The product can be on the truck for one day only, so the regional distribution center must be close to the manufacturing plant. Because land is scarce and very expensive in metropolitan areas, many businesses reduce their costs by putting distribution centers in rural areas.

Budget shortfalls in local government will increase pressure on land-use policy in the central city and the outlying suburbs. Landlocked cities will increase real estate tax values, condemn properties, and put them to a different use that will pay more real estate taxes and perhaps gain some higher-paying, high-tech jobs. The implication for companies that are in the transportation business is greater emphasis on choosing the locations of manufacturing and distribution centers based on “better, cheaper, and available now.”

“Customers want a product to be better than the last one they got, they want it in a shorter period of time, they want you to increase the quality—and all of this has to be done at the same time.”

—Bruce Maus
Implications of community-integrated logistics for Minnesota came into focus when panelist Lynn Moratzka explained how Dakota County plans to manage future growth and expansion in this time-sensitive economy. Moratzka said that Dakota County spends $30 million annually for capital improvements to expand and maintain county roads, but there is a shortage of funds. They are looking to the legislature for local options such as sales taxes to fund road projects and to other intermodal transit to free up road system capacity. Because the county has no authority in the state system, they are working to locate intermodal facilities based on space availability and proximity to the existing road system.

Panelists generally agreed that to compete on a regional level, local governments must work together to look at the larger, regional picture because businesses that generate freight are located in urban, suburban, and outlying areas. To systematically push freight facilities to the fringe may be at cross purposes to creating a large-scale system that makes sense for city businesses as well as those needing to move products in greater Minnesota. For example, Dakota County and rail authorities are working on a regional level to support a multimodal solution to move people from single-occupancy vehicles, but this is only part of the overall answer. Expanding regional or statewide vehicle weight restrictions could reduce the number of trucks on the road but then other issues, like bridge capacity, come into play.

The situation in Dakota County also inspired mention of other efforts to cope with traffic congestion through road expansion, more transit options, and wiser land-use policies. Through the course of the discussion, several panelists and participants commented on efforts to develop the North Star and Red Rock transportation corridors, primarily focused on the pending and hotly-debated commuter rail projects central to each plan. After citing the recently published CTS report, *Market Choices and Fair Prices*, which synthesizes the five-year Transportation and Regional Growth Study examining transportation and land development in Minnesota, panelist Lance Neckar said, “We need to compete as a region. But we also need to coordinate our efforts as a region—that’s the name of the game right now. We are part of a global, regional strategy for economic growth in this world, and we just have to pay attention to that.”

Most important, panelists concurred that better communication is needed to increase understanding of the economics of freight issues among legislators and the general public. Panelists Lee Starr and Lynn Moratzka described detailed public outreach efforts aimed at involving area residents and building informed community support. A local coalition of chambers of commerce in several metropolitan counties has formed to communicate these issues to the legislature and general public. “We haven’t been able to get the business community to understand that they need to stand up and communicate what their needs are to the legislative bodies and to the general public,” Moratzka concluded. “I believe that the general public is far ahead of where our elected officials are, and they need to keep talking [about their] needs and what’s important.”

“We haven’t been able to get the business community to understand that they need to stand up and communicate what their needs are to the legislative bodies and to the general public.”

—Lynn Moratzka
For the first time, freight-related issues are close to priority lobbying in Washington, Leo Penne reported, because there is a strong consensus that freight and transport issues are important to the productivity of the U.S. economy and our competitiveness in world markets. Freight, he said, is on the verge of getting money “to determine who gets how much, when, and how, and for what.” Efforts aimed at reauthorization of the federal transportation act include proposals based on the American Association of State Highway and Transportation Officials (AASHTO) freight policy, which emphasizes the need for more capacity to plan, conduct research, and, according to Penne, “create an open process between public and private.”

The AASHTO freight policy outlines nine key objectives, including creation of a freight planning capacity building program, a freight transportation cooperative research program, and a freight advisory group. Other goals include improving innovative finance tools, investing in intermodal connectors, and expanding the corridors program. AASHTO would also like to make freight projects eligible for Congestion Mitigation and Air Quality (CMAQ) funding, increase funding for rail crossings, and expand and reform the Railroad Rehabilitation and Improvement Financing (RRIF) program.

The focus of highway freight movement productivity is on freight chokepoints, corridors, hubs, and connectors. “These systems must be viewed as integrated systems. That is, one works because the others do and no one mode can be shortchanged in the process,” Penne said, pointing out that 60 percent of freight moves on the highway system. He suggested alternatives: targeted capacity expansions; operations including incident management, variable signage, and value pricing; truck size and weight limits; financing approaches including self-financing; public-private partnerships; and public-public partnerships.

To address key freight transportation issues on the federal level, the administration has focused on funding, expansion, and planning in many areas, though without proposing new money devoted to freight or an expansion of eligibility to allow the industry to compete in more arenas for existing dollars.

SAFETEA, the Senate’s reauthorization proposal, tracks activity and has more money available. This group has a number of issues on the table including freight transportation gateways and a freight transportation coordinator, innovative financing strategies, and freight intermodal connectors as well as a multi-state corridor program. Also under consideration is surface transportation program (STP) eligibility for publicly-owned freight transportation projects, a border planning operations and technology program, and a planning capacity building program.

The House has proposed significant programs and spending. The Transport Equity Act (TEA-LU) includes three programs: the National Corridor Infrastructure Improvement Program, the Coordinated Border Infrastructure Program, and the National Cooperative Freight Transportation Research Program. It also includes projects of regional and national significance and addresses dedicated truck lanes, railway-highway crossings, truck parking facilities, intermodal connectors, and freight planning capacity building.

“No one knows what will be funded. At the root of it is that there is no money and no stomach to raise more money.”
–Leo Penne

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In summary, CTS director Robert Johns reviewed a variety of topics and issues that had surfaced during the day’s discussions. These dynamic times, he observed, continue to create challenges and pressures on the transportation industry, especially in the area of freight and logistics.

Johns described the conundrum of balancing economic competitiveness with quality-of-life issues. Specifically, he cited examples gleaned from the day’s speakers and panelists of ways freight-oriented industries might more effectively address community needs. Moreover, Johns expressed hope for obtaining new resources and higher priority for the industry at the federal level.

Johns also reminded participants of the many resources available from CTS, including a new freight and logistics e-news service. “There are certainly a number of research issues that came out of today’s discussions and we hope to participate in them further,” he said. “Our goal is to continue to be a resource for all of you.”