MISSISSIPPI VALLEY FREIGHT COALITION

Freight Notes

The Newsletter of the Mississippi Valley Freight Coalition

From the Editor:

Those of you who are really paying attention, will have noticed that this second edition is the winter newsletter. The first was the summer edition. I messed up. Sorry about that, but life has been a little busy over the last six months. In the words of a song from my youth: I feel like a one-eyed cat peeking in a seafood store. Time just got away. I promise to do better in 2009.

Ernie Wittwer

In This Issue:

Interesting Times

We live in interesting times. In my last newsletter, I related the conclusions of two authors on the impact of increasing energy costs on freight, warehousing and the location of manufacturing. The point of each of the writers was that at $150 per barrel oil, patterns of warehousing and distribution were changing and that the location of manufacturing would also be changing. At $200 per barrel, North America became much more attractive as a location for manufacturing. Unfortunately, for the writers, the price of oil is now around $40 per barrel, but the economies of North America and Europe are in such state that the movement of freight is falling anyway!

The drop in freight has even resulted in significant over capacity in the container transport business. A report in the Journal of Commerce (Volume 9, Issue 41, October, 2008) outlines the growth in capacity that has occurred as companies have ordered new and larger ships, many of which have yet to be delivered. Many companies are canceling purchase contracts; others are extending the winter downtime for existing vessels; some are even mothballing ships.

So if the companies whose business it is to understand and react appropriately to the market for freight cannot get their guesses right, what should public agencies do in their planning processes?

1. We have to try to keep focused on larger, long term trends. For example, according the November 7 New York Times, the International Energy Agency warns that the supply issues that caused oil prices of nearly $150 per barrel have not been resolved. They predict that demand will continue to grow to a level of 106 million barrels per day by 2030, up from the current 86 million barrels a day. This demand, according to the agency, will push prices beyond $100 per barrel through 2015 and to $200 per barrel by 2030. These estimates may be wrong in their specifics, but it is hard to argue that the demands of revived American and European economies coupled with the growth in energy used by the emerging economies of the world will do anything but push up demand and prices.

2. Agencies may have to spend more time considering issues that could have an impact the demands for freight transportation. The price of oil is one factor; the choice of ports, with the expansion of the Panama Canal, the increased use of the Suez Express and the growth of Canadian and Mexican ports, is another factor; the value of the dollar is still another factor; expanded use of alternative fuels could also be a factor; and the price and source of other raw materials is a fifth. Abrupt change in any of these factors, or in a number of others, could make our best forecasts wrong, so we would do well to spend more time understanding the interactions of the factors that underly our forecasts and less on the forecasts themselves.
3. Finally, we might also keep focused on the impact of inaction. If our transportation systems cannot meet shipper needs, our economy will suffer. As a senior person from Fed Ex told an audience in Minneapolis recently, we have to innovate to stay competitive. He was speaking about private carriers, but his comments could as easily be applied to public agencies.

So we live in interesting times. Change cannot be easily predicted. The future cannot be easily modeled. But because it is not easy, being flexible and keeping focus on the major trends is more important than ever.

Midwest FreightView: A Regional Freight Database and Information Delivery System

Peter Lindquist, University of Toledo

One of the outcomes of the Upper Midwest Freight Corridor Study was the development of a regional database and GIS-based information delivery system for the freight transportation system in the seven state region. This system, entitled Midwest FreightView (MWFV), was originally envisioned to provide not only a mechanism for reporting on the condition of the regional freight infrastructure, but also to serve as a centralized focus for the continued study of freight movements within the region. This distributed GIS system enables users to access the database through a specialized Citrix Metaframe server located at the Toledo site. Users are given set of permissions to use the site and gain initial access using a standard web browser with no additional software requirements needed. Users operate the delivery system entirely on the Toledo server; screen images, not data, are transferred to users. Thus all data are stored and maintained at the Toledo site to maintain data quality and security.

This GIS delivery system was developed with three principal objectives: 1) to provide a means to spatially relate existing and projected freight flows to the regulatory environment and the physical capacity of the infrastructure, 2) to track trends in freight movement over time and space, and 3) to link freight movement to population characteristics and economic activity within the region. In its present form users can take advantage of the GIS location-based query and selection capabilities as well as mapping functions to illustrate these relationships. In addition, work continues on the system to support advanced analysis capabilities such as vehicle routing, travel time and cost computations, location optimization and site selection. As a result, the system continues to evolve into an effective tool for economic impact analysis and economic development planning using its capabilities in measuring accessibility to markets, locating bottlenecks in the network that hinder freight flows, and identifying feasible locations for warehousing, manufacturing, retail and intermodal connection facilities.

MWFV has been expanded and updated since the completion of the UMFC project report in 2005. In that time, the system's corridor region has been expanded to ten states comprising the Mississippi Valley Freight Coalition. Data collection efforts have also extended beyond the sources that originally included highways rail lines and waterways, airports, ports and intermodal terminals. The Toledo project team has partnered with the Great Lakes Maritime Research Institute to expand the system to include

FreightView, (continued)

greater portions of the Great Lakes and St. Lawrence Seaway. MWFV now features a comprehensive intermodal network in the Great Lakes that includes a detailed water network linked to navigation locks and commercial dock facilities. Docks in the system serve as nodes linking the waterway with roads and railroads on the landside. Each port in the region is encoded in detail using digital aerial photos and satellite imagery. This work has been supported by the U.S. Army Corps of Engineers Navigation Data Center.

In addition to the water network, the project team has expanded the rail and highway networks. The Oak Ridge National Laboratory's Center for Transportation Analysis (CTA) Rail Network has been updated and expanded by the project team and linked to the waterway network through the dock nodes. The original BTS National Highway Planning Network used in the study has been merged with the Oak Ridge National Laboratory CTA highway network; the resulting product contains a wider range of attributes. This integrated highway network also features highway speed limits that were absent from the original networks. Future efforts will include the addition of the American Transportation Research Institute's highway travel time data. Work also continues in merging the highway and rail networks at intermodal terminal locations in order to ultimately simulate cargo flows among modes through the system.

Air transportation has also been added to the system. Monthly freight tonnages by all carriers between commercial airports in the United States have been added to the repository for the years 1998-2007. These data are available both in a detailed network format and as a matrix of flows between airports.

Additional data dealing with usage, capacity and administrative policies have been tied to these components of the network. The network also contains existing data sets from BTS, FHWA, FRA and state DOT databases as a means to provide as detailed a description of the network as possible. The regional database still contains detailed regional economic data that were originally placed in the repository. These data included sectoral employment figures, number and locations of establishments, and the types of commodities produced within each portion of the region. However, the repository has been significantly expanded with more detailed data from The IMPLAN Group and Dun and Bradstreet. Additional data documenting population and housing characteristics within the region and the nation as a whole are also included in the database to provide a means to relate freight movements to regional and national markets.

As a result, the database serves as a resource for CFIRE, transportation professionals and economic development authorities to draw the essential link economic activity and the capacity of the freight infrastructure to support the movement of goods in the region. The database continues to be structured into a continuous, seamless coverage of the regional transportation system rather than a patchwork of individual states' transportation maps. This approach was intentionally adopted to underscore the importance of the study's regional perspective and to enable stakeholders and public officials to gain a wider view of freight movements beyond their local regions or states. The database and data delivery system were also designed to bring together transportation professionals from a wide range of organizations such as State Departments of Transportation, Metropolitan Planning Organizations, Economic Development Organizations, Private Sector Participants and Research Organizations.

This system remains a work in progress. The Toledo project team has continued work on the development of this resource, and a new version of MWFV with expanded data delivery capabilities will be uploaded to the site in December 2008. In addition, the project team is planning a series of user workshops for comprehensive training in the use of the system. The first of these workshops is tentatively scheduled for February 2009 in Toledo. The second is planned for the Mississippi Valley Freight Coalition meeting in Kansas City in April, 2009. Announcements for these workshops will be posted on the CFIRE site.

Midwest FreightView can be found at http://midwestfreightdata.utoledo.edu/

From Lean to Green Logistics?

For the past several decades, the transportation world has been focused on and fascinated by lean logistics. Just-in-Time, Pull, and manufacturing-on-demand are but three of the theories of logistics that dominated thinking in the US and much of the world. Lean generally means low inventories, frequent shipments and deliveries and a heavy reliance on information technology. Concerns over global warming, and the cost of fuel, may force some to rethink the pursuit of lean.

Lean

- Low inventory levels
- Reliance of information technology
- Frequent deliveries
- Frequent shipments

Researchers at the University of Minnesota and the University of Wisconsin are analyzing the impact of an alternative theory of logistics as a way of reducing the carbon emissions associated with freight without huge investments in technology.

The idea behind green logistics is simple: Consider the carbon emissions when making shipping decisions. In practice, this will tend to mean giving more attention to optimizing shipping rather than inventories. It will also tend to mean larger inventories and fewer shipments.

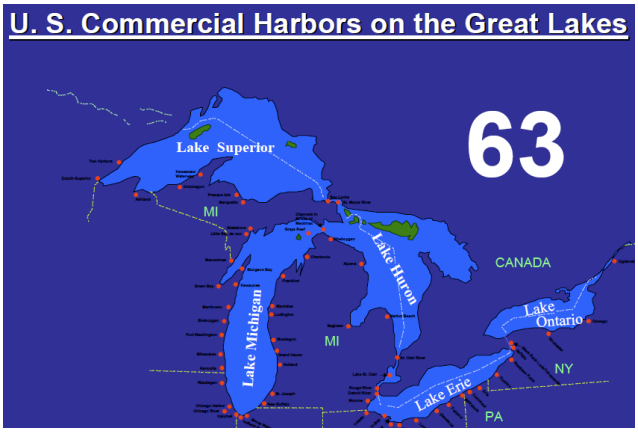
A presentation on green logistics made by Saif Benjaafar, of the University of Minnesota, can be found on the MVFC website: http://www.mississippivalleyfreight.org/news.htm

Great Lakes Dredging Crisis?

One of the speakers at last Fall's Ohio Freight Conference was a representative of the Great Lakes Commission. He spoke about the impact of dredging on Great Lakes shipping. Lake levels have been low for the past eight years and dredging has not kept pace. As a result, most harbors on the lakes are well below approved depth levels. The numbers on the

map above range from 18 inches below approved depth to as much as 60 inches below. This translates to ships moving less cargo because they have to maintain a shallow draft.

In part this is a result of natural processes, lake levels are low. In part it is also a budgetary issue, the federal government simply has not chosen to allocate sufficient funds to the dredging of the lakes. In part it is also a matter of policy, some in the Corps of Engineers and US Department of Transportation feel that harbors should handled higher levels of cargo to qualify for dredging. One policy threshold that has been discussed is over one-million tons per year. Applying this criteria would reduce the number of commercial



ports on the lakes from sixy-three to thirty-six. Another threshold that has been discussed is ten-million tons per year. This would reduce the number of commercial ports to sixteen.

Great Lakes Dredging (Continued)

Is this a dredging crisis? It really depends on your view of what the lakes should be and the role they should play in commercial transportation. Applying the most restrictive dredging criteria would fundamentally change the nature of transportation on the lakes. The opportunities for maritime shipping would be significantly reduced. The lakes would tend to be confirmed in their role as the mover of bulk cargo.

The states of the MVFC have said repeatedly that the maritime resources of this region should be exploited as a regional advantage. Those resources, the Great Lakes and the Mississippi River system, hold the potential of being a source of low-cost, low-emission, congestion free transport. But if they are to realize their potential as transportation resources, we have to invest in them.

So if a crisis exists in Great Lakes dredging, it exists as much as a failure in public discourse as a failure in transportation. Are the states and businesses that have an interest in maritime transport taking an active role in this important policy discussion? If they are, the discussion is taking place in a manner that makes it invisible to any outside observer.

The full presentation is on the MVFC website: http://www.mississippivalleyfreight.org/news.htm

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CFIRE Happenings

A number of things have happened at CFIRE over the last few months:

- In late August, we were the hosts of the Mid-Continent Transportation Research Forum. This event, which is jointly sponsored by the UW-Madison and Iowa State University, is held in alternate years in Madison and in Ames. It brings together researchers and practitioners from a number of states and universities.
- In December, we hosted a workshop on the 21st Century Transportation Workforce. Seven of the Mississippi Valley states took part along with fifteen educational institutions and a number of consultants. Over two days, we tried to look at the future of the transportation industry and the impact that changes in that industry would have on the skills needed in the workforce. Proceedings are being written and will be available at the CFIRE website.
- Also in December, representatives of the states got together on a snowy day in Moline to craft regional positions for federal reauthorization. Those positions are now being documented. They will be reviewed and approved by the states before they are released. At the same meeting, we spoke at length about freight performance measures. Ideas on this topic are also be documented.


SAVE THE DATE
April 14-16, 2009
Mississippi Valley Freight Coalition
2009 Annual Meeting
Kansas City, Missouri
Hosted by the Missouri and Kansas Departments of Transportation
Hampton Inn & Suites Kansas City-Country Club Plaza
4600 Summit, Kansas City, Missouri
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Mississippi Valley Freight Coalition
National Center for Freight and Infrastructure Research and Education (CFIRE) at the University of Wisconsin-Madison
Great Lakes maritime Research Institute