Creating a think tank
Industry, educators partner in creating a multi-purpose database

Project Participants
- American Great Lakes Ports Association
- Canadian Chamber of Maritime Commerce
- Detroit Port Authority
- Great Lakes Commission
- Lake Carriers' Association
- NOAA
- Port of Duluth
- St. Lawrence Seaway Development Corporation
- Transport Canada
- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Maritime Administration
- University of Minnesota Duluth (GLMRI)
- University of Wisconsin-Superior (GLMRI)

The project team developing the Great Lakes Maritime Information Delivery system is headed by (from left) Dr. Peter Lindquist; student web developer, Tony Jayne; Research Technician, Samir Dhar; and Project Manager, Sarah Schaefer. Not pictured are students Tim Hord, Darian Chappel and Dan Niel.

T he Great Lakes Maritime Information Delivery System is envisioned to serve as a resource for public policy decisions and for drawing the link between maritime freight movements and economic development throughout the Great Lakes/St. Lawrence Seaway. The comprehensive data repository and information clearinghouse system will serve as a resource to facilitate the acquisition, storage, management, analysis and exchange of data between analysts and decision-makers within the industry. As a result, the information obtained from this system can be used in projects ranging from estimating the economic impacts of Great Lakes ports to evaluating opportunities for short sea shipping.

The system began as part of the Upper Midwest Freight Corridor Study, which focused on an intermodal approach to freight movements through a seven state region surrounding the Great Lakes. The initial project concentrated on collecting complete highway and railway network data that was incorporated into a GIS data-
viewer. Another project linked airfreight flows into the system. These early stages were conducted in partnership with the Midwest Regional University Transportation Center at The University of Wisconsin-Madison, the Urban Transportation Center at The University of Illinois-Chicago and the Intermodal Transportation Institute at The University of Toledo. Funding came from the departments of transportation from Illinois, Indiana, Iowa, Minnesota, Ohio and Wisconsin.

Currently, the project is funded in large part through the Great Lakes Maritime Research Institute (GLMRI) and the University of Toledo University Transportation Center (UT UTC) and focuses primarily on waterborne commerce connected to landside transportation networks. The project has been funded by GLMRI for three years and is receiving new support in 2008 from the U.S. Army Corps of Engineers.

The database holds a vast array of data, such as: employment by NAICS classification; agricultural production data by commodity; port, dock and lock locations in the U.S. and Canada; annual vessel movements from MARAD; weather station data; import/export flows; FAF zones and centroids and FAF2 OD flows; Great Lakes fleet vessel inventory; highway network estimated travel times; and satellite imagery and aerial photography of all Great Lakes dock facilities. Collecting up-to-date data will be a continuous effort for the project team.

Until recently much of the research effort has been in collecting pertinent data and then translating and cleaning it to fit into the system. Information has also been gathered from industry stakeholders through annual workshops.

There is sufficient data at this time to begin analyzing the economic impact or quantifying the value of Great Lakes shipping to the region and to the nation. In particular, data related to jobs, economic impact of Great Lakes shipping, safety issues and congestion relief associated with diverting freight traffic to the Great Lakes can be retrieved from the system and analyzed. In addition, the system has been upgraded to include intermodal connections at docks and terminals to build a comprehensive intermodal transportation network in order to support studies evaluating short sea shipping opportunities and coordinating goods movement between modes through the system.

**Entering a new phase.** The project team’s effort is shifting from the sole concentration of data collection to improving the delivery system. The current project phase is focusing on delivery of more information and making the system as user-friendly as possible.

The team is working on updating the website to include prepared maps, tables and other graphics, as well as detailed help functions and an online user guide. The delivery system can be previewed at http://maritime.utoledo.edu The data-viewer can be viewed through the CITRIX link. Email samir.dhar@utoledo.edu to register for a temporary user ID and password. Through the data-viewer, a user can see the data in a mapped picture format.

Picture the Great Lakes and surrounding region. Now picture where cement manufacturing employment is concentrated, which is possible to view for every industry listed with the Bureau of Labor Statistics data located within the information delivery system. Did you know that 24 percent of U.S. manufacturing is located within a four-hour drive from the closest port in the Great Lakes? This is available, along with a boatload of other information, for users to picture in the data-viewer.

**Increasing system objectives.** Other elements of the project include contracting with the U.S. Army Corps of Engineers to develop a data collection system for all commercial ports, wharves, terminals and docks in the Great Lakes region. In addition, the team is exploring opportunities for the development of a Great Lakes Maritime Exchange to promote maritime commerce and regional economic development in the Great Lakes.

One of the long-term objectives of this project is to develop a self-sustaining information delivery resource for the Great Lakes region. Eventually this data repository and delivery system must be able to sustain itself financially as a member of the maritime industry in this region. To this end, it is proposed that GLMRI and its partners in the industry consider the establishment of a Great Lakes Maritime Exchange (GLMX) similar to the exchanges in the coastal regions of the United States and in British Columbia. These exchanges partner with one another through The Maritime Information Services of North America (MISNA), an umbrella organization of non-profit 501(c)(6) maritime exchanges in the United States and British Columbia.

Looking ahead, analysis tools will be added to the system that can handle network routing and geographic accessibility issues. Location-allocation and optimization software will be added along with tools for traffic and flow assignment models. Ultimately, econometric analysis will be used for predictive modeling within the system.

The delivery system has been designed to be used as an information clearinghouse, data repository and analysis tool for the Great Lakes maritime industry.