

Industry Clusters and Freight Infrastructure

Dynamic and innovative industry clusters are critical for the success of a regional economy. But questions remain: Which industries are growing? Does Minnesota's freight infrastructure meet industry needs? How do clusters affect transportation systems and local communities?

To fill this information need, TPEC researchers create new analysis tools, study Minnesota's industry clusters, and engage regional business and policy leaders. The result is a valuable knowledge base to inform freight infrastructure planning and investment decisions.

NATIONAL FREIGHT ECONOMY ATLAS

To better understand freight flows and foster the growth of freight infrastructure, TPEC researchers created a new online platform—the National Freight Economy Atlas.

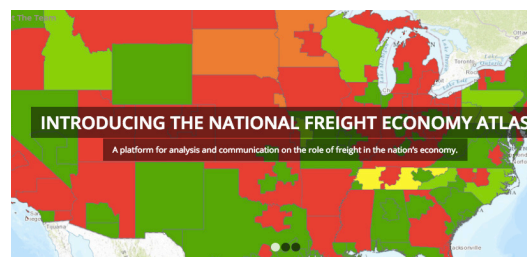
The atlas allows users to analyze the freight infrastructure at the national, regional, state, and metropolitan/combined statistical areas. It incorporates data from the US Census 2012 Commodity Flows Survey, the Federal Highway Administration Freight Analysis Network, and the Bureau of Economic Affairs.

The atlas displays information in a series of interactive maps. National and regional maps provide detailed analysis of freight and economic clusters. Industry cluster maps provide freight economy information geared to specific characteristics of industry clusters, such as cereal grains or base metals. Story maps provide insights into supply chains enhanced by freight transportation.

The atlas was a combined effort of TPEC, Esri (a geographic information systems company), and the Center for Information Systems and Technology at Claremont Graduate University. Additional funding for the project was provided by BNSF Railway.

"As a critical mass, industry clusters promote efficiencies that individual businesses or industries cannot, and they tend to have a large economic impact on a region."

—Lee Munnich, TPEC director



ANALYSES OF INDUSTRY CLUSTERS IN MINNESOTA REGIONS

TPEC worked with the Minnesota Department of Transportation (MnDOT), Minnesota Department of Administration, and U of M Extension to develop and implement a unique approach linking economic development and transportation planning. Their work has focused on getting manufacturers' perspectives on transportation issues as part of regional transportation decision making.

The team identified competitive traded industry clusters in MnDOT operations districts. U of M, MnDOT, and local economic development staff interviewed manufacturers and their carriers within these clusters to better understand the transportation and logistics issues these companies face. The team also asked how MnDOT could make improvements to its operations and systems to help alleviate or minimize these issues.

A pilot study in MnDOT District 8 was completed in 2014. Since then, projects have been conducted in District 4 and District 2, with another project under way in District 1. Plans are being made to conduct projects in District 6 and in the Twin Cities metro area.

Topics covered in the interviews have included district operations and maintenance, communications, infrastructure, and policy questions. MnDOT has incorporated results of the studies into its statewide freight planning.

PUBLIC ENGAGEMENT: CONFERENCE, FORUM

Under the TPEC umbrella, the Humphrey School of Public Affairs co-sponsored a two-day forum: Mapping the Midwest's Future—Regional Innovation Clusters and Competitiveness. The 2014 forum marked the launch of the U.S. Cluster Mapping Portal, a national economic initiative that provides open data about regional clusters and economics to support business, innovation, and policy in the United States. Conference attendees included more than 180 business leaders, policymakers, economic development officials, and academics from 12 Midwest states and 4 Canadian provinces.

In 2016, TPEC hosted a forum about the impacts of freight rail on Minnesota's economy. Topics included a study of the number of jobs rail contributes to in Minnesota, the industry clusters that are dependent on rail, and the TPEC freight atlas.

WHAT'S NEXT

A current project is analyzing changing supply-chain systems in the state's grain industry. The fine-grained analysis will look at the impacts of these changes on freight networks, such as congestion on local road systems.

FOR MORE INFORMATION AND ADDITIONAL ANALYSES

TPEC welcomes public engagement and encourages you to contact us with your questions, comments, and research needs.

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Minnesota has a diverse and changing set of industry clusters, such as recreational vehicles, agriculture, and medical devices.