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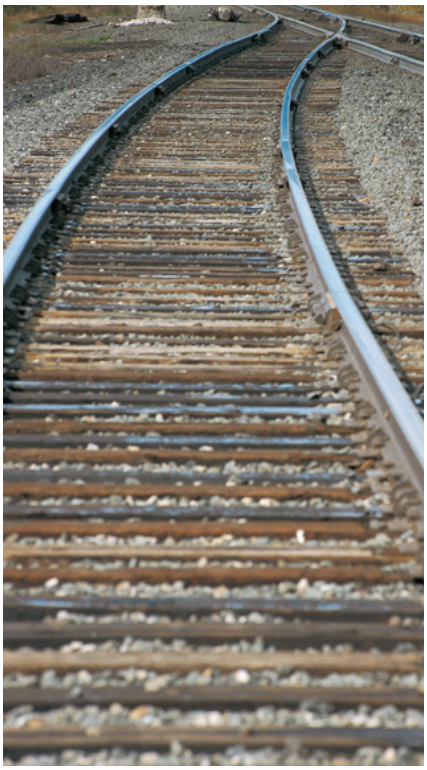


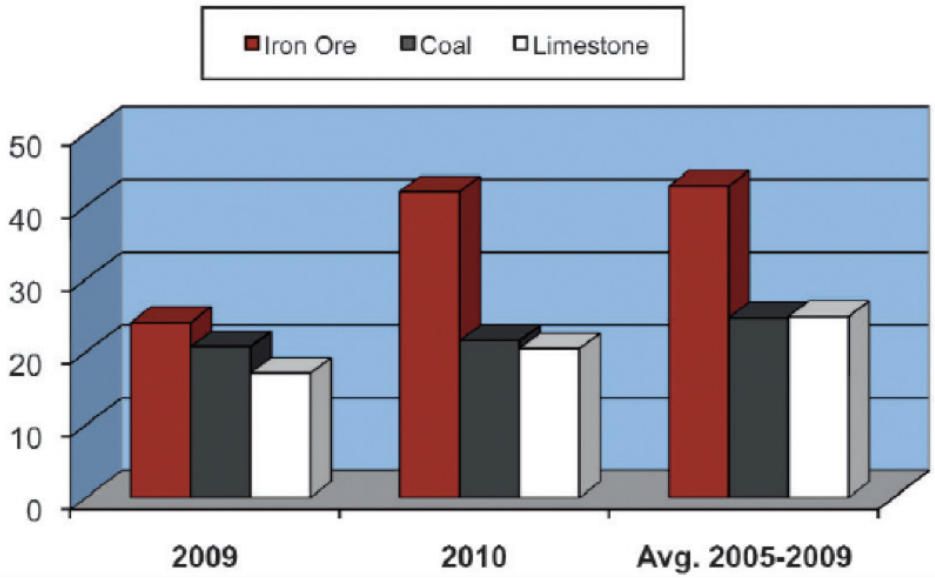
Ship Building on the Great Lakes

Ernie Wittwer, MAFC Facilitator

In a recent issue of *Freight Notes* (No. 11), I reported comments made at a listening session sponsored by MARAD on the future of Great Lakes shipping. Some of those comments, which I said surprised me, questioned whether the shipbuilding industry on the Lakes had the capacity to build a new thousand-foot laker from scratch. These comments made by members of the shipping industry basically asked whether existing Great Lakes ship building companies had the skilled workers needed to build a new boat of that size.

I was surprised by the comments because shipbuilding has historically been a significant industry on the Lakes. In the World War II era, for example, Great Lakes shipbuilders made a contribution to the war effort by producing a range of ships for the US Navy. In those pre-Seaway days ships built on the Lakes had to make their way to the ocean through the canal at Chicago and the Mississippi River system to the Gulf of Mexico.

While shipbuilding remains a significant industry on the Great Lakes, its focus has moved to building smaller vessels and to repair and maintenance. This change in focus is understandable in light of the changes that have taken place in the commerce of the Lakes. In the nineteenth century and the first half of the twentieth century many vessels moved on the Lakes carrying a wide variety of cargo and passengers. The 2010 Statistical Report of the Lake Carriers' Association lists 59 US flagged vessels, both self-propelled and tug-barge units. Forty-eight of these are dry bulk carriers, five are cement carriers and six are tankers. Dry bulk has become so dominant that the Carriers' Association's annual report focuses on three commodities: coal, iron ore, and limestone.



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Measuring Transportation Performance

Ernie Wittwer, MAFC Facilitator

Many of us in the transportation community have been lamenting the lack of action at the federal level in the reauthorization of transportation programs. We have been operating on continuing resolutions and loans from the general fund for a very long time and Congressional action still seems years in the future.

I recently had the chance to hear from the heads of two state departments of transportation, both of whom have been fairly successful at a state level in gaining support from their elected officials. Deb Miller, Secretary of the Kansas DOT, and Paula Hammond, Secretary of the Washington DOT, spoke at the TRB Fourth International Conference on Performance Measurement. Both of their agencies have gotten high marks from state media and both have fared reasonably well in the struggles for revenue. Their secret, which they shared with 150 conference attendees: they share information easily and often with the people of their states and with elected policy makers. They do this regularly, not just when they need a revenue boost. And they do it in a manner that is understandable to the non-technical person. In short, they use performance metrics and performance management techniques to illustrate the condition and needs of the transportation systems they manage and of the performance of their agencies. Most notably, they share the bad news as well as the good.

This approach can be contrasted with the situation nationally and in many states. We talk about backlogs requiring billions of dollars and estimates to maintain and improve the system of hundreds of billions of dollars. The numbers are so huge that they defy understanding. Moreover, the system has never been funded in the manner that these estimates would suggest. The American Society of Civil Engineers gives the transportation system a grade of D or F in part by considering the cost of improving many deficiencies that would never be addressed even under the most lavish funding levels imaginable. And we talk about the failed I-35W Mississippi River bridge in Minnesota as if the failure could be attributed to deferred maintenance (instead of the design flaw and increased weight identified by the National Transportation Safety Board investigation). Overall, we in the transportation community spin an incredible tale and then find it difficult to understand why our intended audience does not find it credible. And we do this mainly when we need more revenue. We have not established the credibility that comes with regularly sharing information in a meaningful way.

Kansas and Washington, because they share information so widely, have established a trust and credibility with their taxpayers and their policy makers. Trust makes their information believable. We could learn from their experience. We as a transportation community need to build a greater trust with our national taxpayers and policy makers. To do this, we have to build some base of information. That information has to include some agreed-upon measures of the condition of the transportation system and how it is used. The transportation community in the US has not agreed on measures of such basics as the quality of bridges and pavements or the safety conditions that exist. Nor have we agreed on what is good, mediocre, or bad performance. From a usage point of view, we have no solid source of information on congestion or efficiency. Once we develop such information and metrics, we have to be willing to share the results openly and often. Lacking the tools and the resolve to use them, we really are not in a position to speak intelligently about the needs of the transportation system.

It's unfortunate that we have not developed the ability to have and use such basic tools nationally. The realistic story of our transportation system would be compelling. The anecdotal evidence gathered from a recent 2,500-mile road trip through eight states in a very small car tends to confirm the story. Many of our interstate pavements are in terrible shape. Congestion abounds. Even some of our signs and markings are in need of work. If we had the data, we could plot a trend line that has been headed downward for several years and could be expected to move downward more sharply over the next decade on most of the measures that concern the public. These are pretty basic asset management concepts, but because we are afraid of being compared to others, and because elected and appointed officials dread bad news, we are not able to use them. Until we learn to acquire and use the data, we will be unable to tell a credible story of our transportation system needs.

—Ernie

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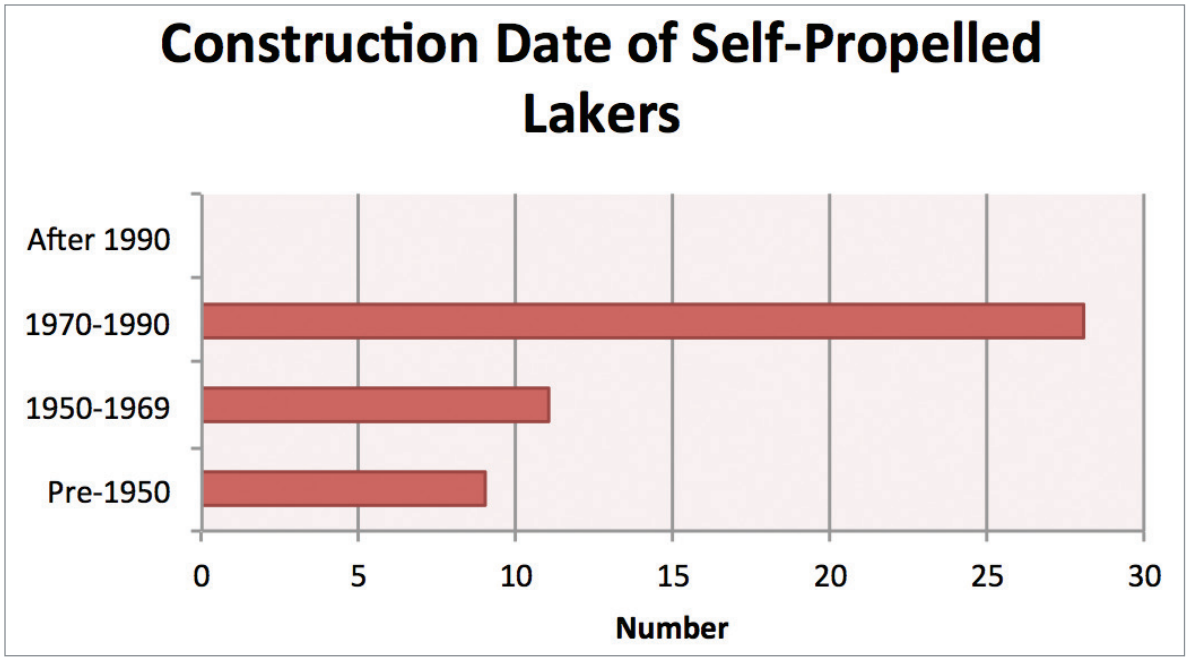
Typically, these products move from ports at the head of the Lakes such as Duluth-Superior to power plants around the Lakes and industrial sites on the lower Lakes.

Not only is the number of vessels small and their focus tight, their age is also significant. The Carriers' Association lists 48 self-propelled vessels. The oldest was built in 1906. None have been built in the last 20 years. Many have undergone more than one major overhaul, but steel hulls last a very long time in fresh water. Moreover, shipping companies are now facing major new costs to re-power those vessels to comply with EPA clean air guidelines. With these costs and stagnant or declining cargo on the lakes, it is unlikely that any new lakers will be built in the near future. Newer cargo vessels do exist on the lakes, but they are Canadian flagged and tend to serve a very different function than the US flagged fleet. The workhorses of the US fleet are thousand footers, the biggest boats that can make it through the Soo locks. Canadian vessels tend to be smaller, 750 feet or less, designed to move through the Saint Lawrence Seaway. On the Seaway they move the products of Canada's agricultural and manufacturing heartland to the Atlantic coast. Some of the newer Canadian boats have been built in Asia to take advantage of lower manufacturing costs. Chinese-built boats have been reported to cost less than half of a similar boat built in North America.



US flagged boats cannot be built in Asia. US law—the Jones Act—makes it illegal. Moreover, thousand-footers, the type of boats that would probably be built for the US fleet, have to be built on the Lakes because they cannot pass through the Saint Lawrence Seaway or the Mississippi River system to enter the Great Lakes.

Whether this matters depends on the direction of future Great Lakes commerce. Given the relatively flat level of Great Lakes shipping and the longevity of boats on fresh water, the existing fleet can probably maintain the status quo almost indefinitely. If we believe—as the US DOT apparently believes—that lake-borne commerce should be expanded both in total volume and in cargo type, then we will also have to confront the challenge of updating and expanding the existing fleet. Smaller vessels might be an option if this expansion includes other types of cargo such as containers. In this case, we may have to consider some modification to the Jones Act to allow the purchase of vessels manufactured abroad. If the volume of lake-borne cargo increases with, for example, a significantly resurgent US steel industry, on-Lake shipbuilding will required and we will have to confront the issues involved in reviving this industry. Partnerships with non-Lake shipbuilders may provide the skills needed to build ships for carrying freight on the Great Lakes.

These concerns may be proven wrong, or displaced by others. It depends on the direction that Great Lakes commerce takes in the coming years, and how the US DOT encourages this industry to develop. In the current economic and political environment, the outcomes are less than clear—and this clarity will perhaps be some time in coming.

MAFC Annual Meeting Workshops

Steve Wagner, MAFC Communications

During the 2011 MAFC Annual Meeting, held April 26-28 in St. Louis, Missouri, MAFC staff and attendees participated in four workshops. Each of these workshops was designed to encourage discussion and gather feedback about projects currently underway. Three of these workshops were focused on the ongoing Regional Freight Study and one was devoted to the MAFC Outreach Materials (MVFC 08) project, which is nearly complete.

The performance measures and key industries workshops were conducted by MAFC Facilitator Ernie Wittwer. The communications and outreach materials sessions were conducted by MAFC communications coordinator Steve Wagner and MAFC researcher Bob Gollnik. These are the results of these workshops and feedback sessions.

Performance Measures

One element of the regional freight study is the creation of performance measures to better understand and direct the flow of freight through the region. In one of the break out sessions at the annual meeting, participants were asked to help develop those measures. The group began by considering a model for measurement that contained strategic goals, strategies for attaining those goals, and actions to implement strategies.

The first task of the group was to define the overarching strategic goals of the region in the movement of freight. They agreed on the following:

- Enhance livability
- Enhance safety
- Improve economic competitiveness
- Enhance security

With these four items as the end points for the effort, the group looked at strategies. They developed the following:

Security

- Keep freight moving—stopped freight is at risk
- Identify vulnerabilities
- Identify alternatives
- Deal with international crossing issues.
- Provide secure truck parking
- Enhance communications between industry and responders

Livability

- Minimize conflicts between modes
- Reduce congestion
- Reduce emissions
- Conduct incident management
- Improve land use planning

Safety

- Reduce congestion
- Make geometric fixes
- Install roadway protective features
- Provide roadside features—staging areas
- Improve driver education
- Economic competitiveness
- Enhance connections to markets
- Enhance connections to rural markets
- Increase transit speeds
- Increase transit reliability
- Provide tax incentives to targeted industries
- Attract manufacturing and warehousing

After identifying strategies, the group began developing measures for each strategies. Time did not allow them to complete this task, but a partial listing follows:

- Keep traffic moving (travel times, travel speed, incidents, delay response measures).
- Vulnerabilities (number of vulnerabilities, monitoring in place, bridge ratings)
- Truck parking (surveys of user satisfaction, number of parking spaces, utilization rates)
- Market connections (value of imports and exports, direct and indirect jobs by industry, number of international origin-destination pairs for air freight, tonnage of imports and exports)
- Conflicts between modes (miles of truck lanes, number of quiet zones, number grade crossings closed, number of new separations)
- Reduced congestion (travel times, reduced V/C, clearing times for incidents)
- Reduced emissions (air quality measures in urban areas, trucks with new emission equipment)
- Safety (fatality rates, crash rates)

Next Steps

The research team will review state and key MPO plans to determine whether the performance measures identified in this workshop are used by the states and MPOs and will

update the above list as needed. The team will then consider data availability for the measures and prepare a short report for the MAFC technical committee. The committee members will evaluate the measures from the perspective of their specific organization. Modifications will be made as needed. A final product will follow.

After the technical committee has evaluated the performance measures report, the research team will make any necessary modifications and publish the report as part of the regional freight study.

Key Industries

Another element of the regional freight study is identifying major industries that will be the source of economic growth in the 21st century. These industries will be studied to better understand how transportation can be made a source of support for their growth. Participants in this breakout session at the 2011 MAFC Annual Meeting began by listing currently significant industries and those that are emerging.

Existing Industries

- Warehousing
- Chemical
- Steel
- Petroleum
- Energy (bio-fuels, wind components)
- Agriculture (crops, livestock, dairy, produce)
- Auto and RV
- Manufactured homes
- Bridge beams
- Paper
- Non-metallic ore (sand, dolomite, limestone, aggregates)
- Aircraft
- Forestry
- Mining (metallic, coal)
- Office furniture
- Cement
- Mining equipment
- Electric equipment (generators)

Emerging Industries

- Value-added food processing
- Taconite processing (near mine steel production)
- Diversified tool and die manufacturing
- Military contracting (tired vehicles)
- Advanced manufacturing related to the auto industry
- Transportation/logistics (warehousing, order fulfillment, medical equipment distribution)
- New materials (bio-plastics, carbon fiber)
- Energy (cellulose ethanol, algae ethanol, wind manufacturing)
- Energy storage (batteries)
- Small electric vehicles
- New food markets (i.e. dried cherries)
- Identity preserved grains
- Local foods (growing and distribution)
- Exporting meats
- Domestic production and marketing (near sourcing)
- Identity preserved grains (container management)

The group discussed in some depth how the listing might be consolidated and made more tractable, but were unable to drawn any conclusions.

Next Steps

At the end of the session, participants were asked to identify economic development experts in their state or region and return that information to the research team. The team will engage those experts to more fully define key industries and to identify contacts within each industry for interviews and information.

Communications

On the last day of the 2011 MAFC Annual Meeting, a small group of state, academic, and MPO representatives attended a workshop conducted by the MAFC communications staff. This workshop was designed to gather ideas about what sorts of communications materials and published products would most usefully communicate the results of the MAFC regional freight study.

Audience

Before considering the question of what communications products should be published, the group focused on the audiences for these products. These audiences included: state DOTs, MPOs, state and federal legislators, policy makers at all governmental levels, chambers of commerce, lobbyists, economic development agencies, industries and utilities, transportation coalitions, realtors and property developers, trade associations, academic research programs, and the general public.

Because transportation in general—and freight transportation in particular—concerns everyone, nearly everyone might be considered as the audience for communicating the results of the regional freight study.

Purpose

Once the group identified a wide range of audiences of for the results and products of the MAFC regional freight study, it turned to a discussion of the purposes this information should serve. The group identified three basic purposes:

- **Information.** The basic results of the regional freight study.
- **Education.** Targeted information, designed to increase the understanding of freight transportation in the region and its importance to the nation as a whole.
- **Marketing.** Materials designed to convince its intended audience of the importance of freight transportation and the crucial need for investment in freight-related infrastructure and programs.

These purposes each blend into–and serve–each other.

Types of Products

After a lengthy discussion of purpose, the group briefly touched on the types of products that should be published as part of the regional freight study. In the course of discussion, two drastically different product types arose:

- **Data.** The data behind the regional freight study, including GIS shape files and other freight-related information.
- **Narrative materials.** A suite of published material with a common message that can be used as is or incorporated into other documents, presentations, and web sites by agencies and other audiences.

The group emphasized that both of these options were necessary in order to make the results of the regional freight study broadly useful. And, they were adamant about the need for a single, simple message about the importance of freight in the MAFC region, and the compelling reasons for freight investment and cross-border cooperation in freight programs.

Next Steps

As the work on the regional freight study continues, the MAFC research team will develop three areas to support the communications aspects of the study:

- A section on the MAFC website to house all of the materials related to the regional freight study.
- An area for online collaboration amongst the stakeholders of the study.
- A survey to gather more information from a larger group about the communications needs for the study.

Outreach Materials

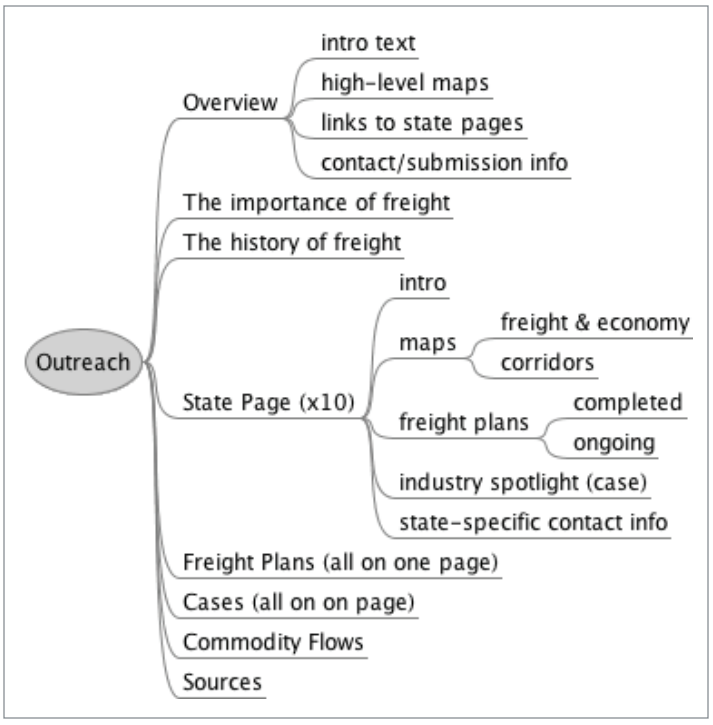
On the second day of the 2011 MAFC Annual Meeting, a group of state, academic, and MPO representatives attended a workshop conducted by the MAFC research staff. This workshop was designed to gather feedback and ideas for the MAFC outreach project (MVFC 08), which will conclude shortly.

The workshop began with an overview of feedback that was gathered at the 2010 MVFC Annual Meeting which asked participants to scope the type of information that would be most useful to them as public agency representatives. Namely, attendees were asked who are the users and consumers, and what should the message be? Results were as shown below:

Users
- State and local transportation planners, state legislators and staff
- Consumers
- Policy-makers, businesses, chambers of commerce (the overwhelming majority)

Message
- Stories
- Origination/destination of goods
- Infrastructure investment importance

Based on this feedback the MAFC project team assembled a website aimed at covering each of these points and offering



interactive features and the ability to download data and documents. The group was asked to consider the proposed website architecture, shown in the following graphic, and identify any missing elements or provide other thoughts. In the broad sense, the site will provide an overview of freight importance in the MAFC along with a suite of state-specific pages that drill-down to more detail and offer links to freight-related documents and plans. The site will be supported by downloadable data (spreadsheets, and GIS files) along with narrative content.

The group had a lengthy discussion about several aspects of the site, and had several key conclusions:

- The 'Grab and Go' accessibility of the high-level and state maps will be a useful feature for presentations and high-level overviews
- NAFTA and trans-border data would be a useful addition given the MAFC states location along the NAFTA corridor.
- Additional traffic data—particularly truck traffic counts and congestion points—should be added.
- 'Emerging industry' content would be beneficial for neighboring states to gauge regional freight needs.
- State specific industry content could be supplied by DOT staff and would provide useful supplemental material for MAFC members.
- Major freight generators, such as KC Smartport, could be highlighted to emphasize freight importance in the region.

Next Steps

Based on the discussion the MAFC research team will consider the following steps to finish the website:

- The project team will assemble the additional data/information requested (traffic, trans-border, etc).
- A section on the MAFC website to house all of the materials collected for the outreach project.
- An area of the website to solicit feedback and tweak as necessary.
- An area for submission from state and MPO representatives to maintain current information.
- Periodic contact with state technical representatives to solicit current information, data, and content.

The presentation from this workshop is also available as a downloadable PDF.

Wisconsin's Long-range Transportation Plan

Steve Wagner, MAFC Communications

Officially adopted in 2009, *Connections 2030* is the long-range transportation plan for Wisconsin.

> *The plan addresses all forms of transportation; integrates transportation modes; and identifies policies and implementation priorities to aid transportation decision makers when evaluating program and project priorities over the next 20 years.*

Connections 2030 is a comprehensive transportation plan for moving people and freight in and through Wisconsin using highways, local roads, air, water, bicycle, pedestrian, and transit modes. The plan's vision closely echoes the US DOT's strategic goals:

> *An integrated multimodal transportation system that maximizes the safe and efficient movement of people and products throughout the state, enhancing economic productivity and the quality of Wisconsin's communities while minimizing impacts to the natural environment.*

Connections 2030 relies heavily on corridor management to manage larger areas in a "cohesive, investment-focused way." In the process, WisDOT has identified 37 system-level priority corridors which serve important aspects of the Wisconsin economy and connect it to other states. Corridor management also provides a tool for integrating the multiple legal and financial jurisdictions—state and local government, regional planning commissions, and metropolitan planning organizations—that are stakeholders in many transportation projects.

This plan contains 37 high-level policy recommendations grouped into seven interrelated themes: preserve and maintain Wisconsin's transportation system; promote transportation safety, foster Wisconsin's economic growth; provide mobility and transportation choice; promote transportation efficiencies; preserve Wisconsin's quality of life; and, promote transportation security. WisDOT used a thematic structure to provide an "integrated, multimodal approach" instead of making recommendations based on mode.

Work on *Connections 2030* was started in 2002 and the plan was officially adopted by WisDOT in 2009. At the time of adoption, WisDOT freely acknowledged that existing revenue streams were insufficient, that the motor fuel tax (the source of most of revenue for the highway trust fund) was projected to remain flat through at least 2015, and that continued growth and deteriorating infrastructure would only widen this gap.

In the intervening period, the economic and political environment in Wisconsin has changed radically. Because of this, one might wonder about the viability of *Connections 2030* as useful planning document. While it is true that the current administration in Wisconsin seems to place little value on non-motorized and public transportation, the purpose of a long-range plan is not to merely reflect the values and thoughts of the administration in power, but rather it is to reflect the values and desires of the people who took part in the planning process. If the professional analysis that supports the plan and the public involvement processes that informed it were done correctly, the plan will continue to furnish a long range vision of transportation investment in Wisconsin. As the political currents ebb and flow, the vision may be more fully realized than it appears to be today.

We sometimes forget that planning for the public sector is done within a political environment. A well-crafted plan does not reflect only the current political thinking, it also should inform that thinking. One group of political leaders may emphasize some elements of the vision outlined in a plan, as the current Wisconsin administration has emphasized highways. Other leaders at other times will chose to embrace other elements within the vision. If all the elements are not well documented and articulated, they may not be understood or embraced.

For more information and to read the entire plan, visit the *Connections 2030* website at wiconnections2030.gov.

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The Mid-America Freight Coalition (MAFC) is a regional organization that cooperates in the planning, operation, preservation, and improvement of transportation infrastructure in the Midwest. The ten states of the AASHTO Mid-America Association of State Transportation Officials (MAASTO) share key interstate corridors, inland waterways, and the Great Lakes. The MAFC is funded by the National Center for Freight & Infrastructure Research & Education and the DOTs of the ten member states.