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## Central Minnesota Freight Study

Steve Wagner, CFIRE Communications

The Minnesota Department of Transportation (MnDOT) has recently posted a draft final report for the Central Minnesota Regional Freight Study. This study considers the movement of freight through Minnesota's District 3, which includes twelve counties to the west of but not including the Twin Cities of Minneapolis and St. Paul. This area has the largest population base in Minnesota outside the Twin Cities, a population that is project to increase 27 percent by 2030 and approach 1 million people.

District 3 plays a key role in moving freight through Minnesota. All freight transportation modes are represented: truck, rail, air, and pipeline. In 2007, Central Minnesota moved 31 million tons of freight valued at \$16 billion. Sixty percent of the freight tonnage and 28 percent of the freight value results from freight originating outside the region but terminating inside the region; 21 percent of the tonnage and 71 percent of the value originates in the region and is shipped to destinations outside the region. Only 20 percent of the tonnage and one

percent of the value both originate and terminate in the region.

By 2030, freight tonnage moving into, out of, and through Central Minnesota is projected to increase by 41 percent to more than 43 million tons. In the same period, freight value is expected to grow by 92 percent to approximately \$31 billion.



In the course of this study, MnDOT found that each mode provides different types of services, moves different types of cargo, and presents unique challenges. The Interstate 94 corridor is a predominant corridor for truck traffic in Minnesota, but suffers from decreasing truck speeds, increased

congestion, and inadequate overnight truck parking. Central Minnesota is criss-crossed with several Class I and other railroads, but lacks intermodal facilities and has limited rail access facilities. And, the area is experiencing difficulties in retaining air facilities for both passengers and air cargo.

The Central Minnesota Regional Freight Study identifies these challenges to freight transportation in the area in detail and provides

## Developing a Regional Freight Approach

Ernie Perry, MAFC Facilitator



Greetings and Happy New Year! As your new facilitator for the MAFC Coalition I want to take a minute to first introduce myself, and then briefly lay out a few strategies that I see as critical to moving us forward in working in transportation and freight development to grow our economies and communities.

First, a little about my background. I'm a native

Missourian and was a long-term Missouri DOT employee. I moved to Madison, Wisconsin to join CFIRE and MAFC in October 2011. I am blessed with a wonderful wife, Ann, and two children – Lillie (13) and Riess (4). My educational background is in Rural Sociology with emphasis areas in research methods, environmental sociology, economic and community development, and National Environmental Policy Act (NEPA) studies. My experiences in transportation include work in socioeconomic impact analysis for NEPA, and research and development efforts in the areas of customer satisfaction, policy studies, transportation and community development, and economic research. Most recently I worked in the freight development area where I established the freight program at Missouri DOT. I see the MAFC as a tremendous opportunity to support and work with the ten coalition states and their partners to identify and implement strategies that support freight development, and in turn attract and drive economic and community development.

With just three months into MAFC, it is easy to see that regional freight development, including the necessary multi-agency and private sector partnerships, represents one of the most significant areas in which we can work to bring jobs, economic stability and growth, and a solid future to bear for our region, our states, and our communities. Absolutely nowhere in the transportation industry do we have the same opportunity to service and help drive the entire economy. It starts with our transportation investments and the workforce that builds roads and bridges, railways, runways, ports, and pipelines. We know these investments provide solid value to the public.

Freight continues to fuel the economy: transportation, warehousing, and distribution account for around 8 percent of the GDP of the United States. Freight transportation will

only grow in importance as manufacturing and processing facilities cluster to take advantage of the infrastructure and create additional jobs that support industry and create tertiary economic development. Freight investments keep on giving. In supporting freight development, state DOTs are working in the wheelhouse of the economy.

Knowing that you, as transportation professionals, need implementable innovations and solutions to move your agencies and transportation systems forward, we are working to provide products you can put to work, and that help you sell freight to your agencies and the public. The MAFC regional freight study, as well as economic analysis training, and a set of best practices for highway design for commercial motor vehicles represent some of our practical efforts to assist you. Still, there are other efforts and changes we need to pursue that are more subtle in nature. These intangible institutional and organizational areas often present some of the biggest hurdles to innovation and change; they also present some of the biggest opportunities for change that can fuel freight and economic development.

In addition to the practical freight analysis, planning, operations, and policy tools; the more subtle underlying strategies we need to pursue include the following:

1. We need to truly adopt a regional mind-set and approach to developing and managing freight corridors. This includes adoption of this mind-set at the institutional and executive levels and will be borne out by an investment protocol that supports regional transportation efforts. We all know this is difficult as most of us come from a state background. Whether right or wrong, economic and transportation development are too often competitive instead of complimentary across our borders. And at the same time we know that freight movement does not necessarily even see state boundaries except when they act as an impediment to movement. Until we practice what we preach about a focus on regional corridors and investments, and service the businesses that make and move our economy, our parochial perspectives create barriers to commerce instead of facilitating economic growth.
2. We need to help develop coherent and aligned freight transportation, community development, environmental, and economic development policies. Transportation cuts a broad path and so often our policies almost seem at odds across agencies or non-

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supportive of companion agency goals. But we can work through these inefficiencies through policy changes, and by each of us taking steps to reach out and make sure we are including all of the right stakeholders. Freight transportation impacts and supports so much of our lives; we need to be smart about our policies to maximize the synergies we find in polices and systems and avoid the unintended consequences.

3. We need to continue to champion a multimodal transportation system. Each of the systems – rail, roads, waterways, aviation, and pipelines – should be in play. Multiple, integrated transportation systems provide redundancy for economic and national security; they provide economic development opportunities on each of the systems. Greater system integration can provide environmental benefits, increased logistics efficiencies, and provide a robust, connected transportation system that allows us to move just about anything anywhere.

In the transportation sector, freight professionals such as you are more likely to have multimodal experience and understand the potential gains of integrated multimodal systems. You have been out on the river tows, visited the rail yards, and have been amazed at warehousing and trucking operations. We need to share these experiences and knowledge to ensure other transportation professionals are aware of what is at stake. We need to share this information to support our executive level freight champions and to help create them where absent.

4. We need to continue to broaden our partnerships to include more of the private sector and additional agencies. We need to consider business, manufacturing, logistics, and development groups as customer segment classes, just as most DOTs look at the traveling public and their legislative bodies as distinct customer segments. The benefits of this expanded approach include increased rapport and support from these transportation user groups as well as increased opportunities for partnerships in transportation investments.

In terms of expanded agency partnerships, we need to work more closely with our departments of commerce and economic development, and agriculture and natural resources to ensure we market and sell our region to the fullest extent. While our core function is clearly transportation, we can paint a broader

more impressive picture for our region by including business development assets, the quality of life, resource availability, and quality employees. Transportation and freight development support economic development and should be part of the overall package to market our region and bring manufacturing, warehousing, and logistics to our region.

As much as we need the right tools and knowledge to properly plan, design, construct, and operate our transportation systems, we need the regional mentality, the policies, and institutional support to actually activate these tools towards a regional freight solution.

Your challenge is twofold. First, do the important work of planning and completing projects, increasing system efficiencies, and supporting freight. And secondly, to be successful we must work to create and sustain an organizational culture where freight transportation considerations and opportunities are integrated into the everyday operations of transportation agencies.

I look forward to working with you and supporting your state and MAFC regional freight development efforts. There is a lot at stake right now and managing and growing our transportation system and especially freight transportation systems can provide for the growth, the jobs, and the economic stability we need to get everyone back up to speed.

## **CFIRE Scholarships for Rail Short Courses**

Want to learn more about the basic principles of highway-rail crossing safety, railroad construction project management, or railroad engineering and operations? CFIRE has teamed up with the UW Department of Engineering Professional Development to offer scholarships for three rail-related courses.

Employees of public agencies and private organizations that work in the rail sector are eligible to apply. Scholarship qualifications are unrestricted; however preference will be given to transit and transportation agency employees.

Successful applicants will receive a CFIRE full tuition scholarship to attend one of these UW short courses. You would be responsible for travel and lodging expenses. For more information about how to apply for a CFIRE scholarship and how to register for these courses, visit [cfire.wistrans.org/education/epd-rail/](http://cfire.wistrans.org/education/epd-rail/).

## Fracking & Transportation in the MAFC

Maria Hart, CFIRE Researcher & Whitney Schroeder, Project Assistant

Oil production in the United States is booming thanks to advances in drilling techniques that can extract oil and natural gas from previously unrecoverable shale rock formations. Technologies which make recovery economically feasible include two practices: horizontal drilling and hydraulic fracturing, or what is commonly known as “fracking.”

During the fracking process, water, silica sand, and a mixture of chemicals are injected into the earth by horizontal drilling to produce small explosions that assist in breaking up shale deposits to allow natural gas to escape and be collected for energy use.

A recent bulletin from the US Energy Information Administration notes that average daily production rates in

the Bakken Shale Oil Field, which spans 200 square miles in Western North Dakota, Montana, and southern Canada, have increased from 2000 barrels in 2000 to 260,000 in 2010. In August 2011, North Dakota was averaging 445,000 barrels per day. This activity has resulted in explosive growth of the transportation network in North Dakota.

Fracking is more resource intensive than traditional vertical drilling because it requires specialized equipment, chemical fluids, water, sand, and flow back water removal as well as rig equipment. For every well, 5.6 million gallons of water are needed, 3 million pounds of sand, and 320,000 pounds of pipe. Preliminary research suggests that 1000 truck equivalents are needed to drill one well.



Source: Energy Information Administration based on data from various published studies. Updated: May 9, 2011

## 2012 MAFC Annual Meeting

*Ernie Perry, MAFC Facilitator*

Make sure the 2012 MAFC Annual Meeting, to be held on April 18-20 in Minneapolis, Minnesota is on your calendar!



## 2012 ANNUAL MEETING

MINNEAPOLIS, MINNESOTA ■ APRIL 18-20, 2012



[MIDAMERICAFREIGHT.ORG](http://MIDAMERICAFREIGHT.ORG) ■ [CFIRE@ENGR.WISC.EDU](mailto:CFIRE@ENGR.WISC.EDU)

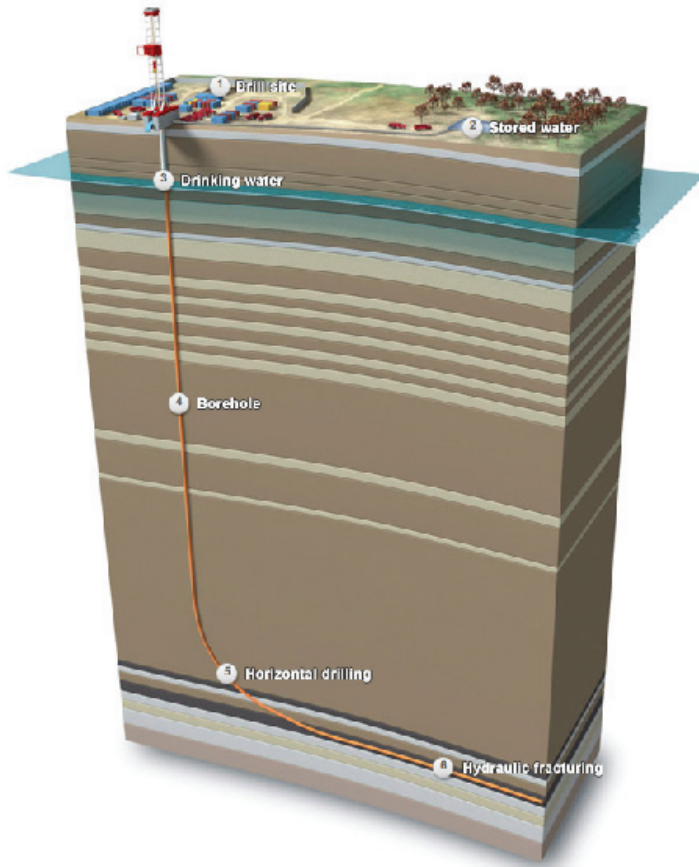
We have formed a meeting coordination team that includes the Minnesota DOT, University of Minnesota CTS, and several representatives from state DOTs, RPCs and MPOs, and MAFC and CFIRE staff.

We've already received some suggested topic areas and events for the annual meeting agenda, including:

- Private sector keynote speakers to challenge us to keep up with the economy and business.
- A panel discussion with members of various state freight advisory teams to discuss the hows, the whys and the benefits of having a freight advisory team.
- Economic analysis training.
- Panel discussions on freight and livability.
- Dinner and tours at the new Target Stadium.
- Tours of the Mississippi River system.
- Tours of the Twin Cities rail hub.

If you have additional suggestions or questions, please feel free to contact meeting co-chair John Tompkins (MnDOT) at [john.tompkins@state.mn.us](mailto:john.tompkins@state.mn.us) or Ernie Perry (MAFC/CFIRE) at [ebperry.wisc.edu](mailto:ebperry.wisc.edu).

We look forward to seeing you in Minneapolis in April.



Fracking process (National Geographic Society)

The MAFC states are at the heart of the fracking boom supply chain. Four MAFC states—Illinois, Iowa, Minnesota, and Wisconsin—supply the mined silica sand (frac sand) used for fracking. The sand is transported west to drilling locations in North Dakota, south to Texas or east to Ohio and Pennsylvania. The sand mining boom has taken many communities by surprise as they deal with the concerns such as air quality, increased truck traffic on local roads, and longer exposure to rail traffic at grade crossings. Many counties have placed moratoriums on sand mining in order to comprehensively study all impacts.

As part of the MAFC Regional Freight Study, CFIRE is developing a white paper on this emerging industry. The scope of the paper will include the transportation impacts of fracking, new patterns of traffic generation and the intersection of energy and environmental policy in the United States. CFIRE will be working with member states to reflect the challenges each state faces.

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recommendations for improvements. Specifically, the study aims to (1) identify industry- and region-specific trends as they relate to freight transportation and their solutions; (2) plan for improvements to freight movements in the region; and, (3) strengthen freight considerations in public project planning and investment decision-making.

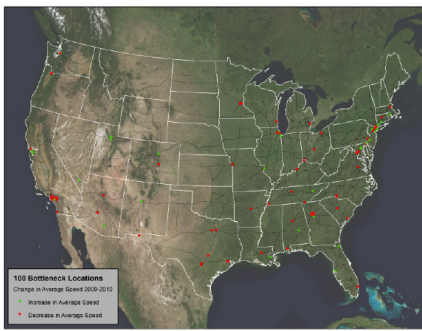
Based on this study, MnDOT was able to identify a series of key issues and make draft recommendations for each.

- Address freight rail access in the region
- Establish a regional freight advisory committee
- Designate Super Haul corridors
- Support restoring commercial passenger/air cargo throughout the region
- Designated a Truck Network
- Support capacity improvements on the I-94 Corridor
- Build TH 24 connection: Clear Lake to I-94 Clearwater improvements
- Address urban freight mobility in significant freight corridors, particularly on IRC
- Increase truck parking at Fuller Lake rest area west of Clearwater

For more information about the Central Minnesota Freight Study, visit [www.dot.state.mn.us/planning/freightplan/central/](http://www.dot.state.mn.us/planning/freightplan/central/).

## FPM Report Updated

The FHWA Office of Freight Management and Operations, in conjunction with the American Transportation Research Institute, recently released an updated version of the Freight Performance Measures (FPM) report on congestion monitoring of freight-significant highway locations.



This report shows that congestion increased at 61 percent of the 100 freight significant locations from 2009 to 2010. The current version of the FPM report now tracks 250 locations.

For more information, consult the [list of 250 freight significant locations](#) and the [map of year-to-year changes](#) (above) at the initial 100 locations.

## Update: Regional Freight Study

*Ernie Perry, MAFC Facilitator*

To keep the lines of communication open, we want to provide a brief summary of our current work with the MAFC Regional Freight Study. Work on the study continues, and it's all the more important now that freight is a larger component of the proposed transportation reauthorization package.

The identification of national freight corridors is one of the first study tasks. Current efforts to identify the region's significant freight corridors and trade routes will help prepare the states for implementation of a national freight policy and a freight corridor approach. We are also building the important relationships, the community of practice, and the critical mass of freight champions that can help drive improvements to our region's economy and quality of life.

As we identify the major freight corridors in each of the modes and verify the results with MAFC technical members and the private sector, we are beginning the work of adding themes that identify the attributes of the corridors and facilities. Examples of current mappings and themes include economic descriptors such as the number of jobs and businesses, the identification of traffic bottlenecks, shipping and business patterns, and consideration of planning constraints such as air quality issues, environmental justice, and community impacts.

Visits with economic development groups and freight stakeholders are also underway. We will use these discussions to document their perspectives on the current freight systems, and to identify the future needs and direction of the transportation sector in order to support freight movement and the economy.

We have also begun work on several white papers addressing current and future freight industry issues. The initial papers address integrating environmental justice concepts into freight development, the transportation implications of frac-sand mining and oil extraction, and the investment in and management of our waterway system.

As we progress with this study, we will be in touch with our state MAFC contacts and the private sector to ensure we are capturing your thoughts, providing the information you need, and addressing the right issues.

Finally, as we develop and map these corridors and complete the other tasks, we will create an interactive website so that you can view and comment on the efforts.

## **Update: 2012 MAFC Priorities**

*Ernie Perry, MAFC Facilitator*

We have identified a group of four over-arching priorities to guide MAFC efforts in 2012.

### **1. Regional Freight Study**

*Prepare a Regional Freight study for the coalition states that fosters a regional approach to freight development, attracts economic development, supports communities, and provides for effective utilization of the region's transportation and logistics assets.*

- Provides an intermodal inventory of regionally significant freight corridors and nodes, freight generators, and freight networks. Demonstrates the importance of these corridors and facilities to local, regional, and national economic development efforts.
- Identifies regional freight bottlenecks and system constraints.
- Assesses freight-related policies and strategies to facilitate regional transportation and economic development.
- Identifies and assesses future freight trends for the region.
- Provides a freight planning approach that blends available quantified data, economic development approaches, stakeholder input, and strategic planning to provide for evaluation and presentation of freight projects from a regional perspective.
- Provides for assessment of freight projects across modes within state transportation plans.
- Provides supporting analyses for freight projects that compete for federal freight funding.

Underlying these objectives is the expressed consensus that a MAFC Regional Freight Study should provide the basis for fostering collaboration among the coalition states as well as for pursuing multi-state projects at the federal level.

### **2. Economic Analysis Training**

*Develop and provide economic analysis training that addresses the estimation of economic benefits of freight projects for state DOTs and partners.*

- Provide states with guidelines and processes to compare the economic benefits of multimodal freight projects within their state transportation plans as well as demonstrate the project's benefits for competitive national freight funding.

- Training will be provided to MAFC state representatives at the MAFC annual meeting and published as a guidebook.

### **3. Highway Design Training**

*Develop and provide training for MAFC states, partners, and other interested parties for a course addressing highway design for commercial motor vehicles.*

- The training will provide an understanding of the roadway design and operational characteristics of commercial motor vehicles and how states can accommodate these vehicles classes in their design and traffic management approaches.
- Special design cases related to commercial motor vehicles will be addressed.
- Design best practices for commercial motor vehicles will be identified and shared.
- Training will be provided to MAFC state representatives at the MAFC annual meeting.
- Course will be added to the curriculum of the University of Wisconsin-Madison Engineering Professional Development program to provide for wider distribution of the course.

### **4. Relationships and Partnerships**

*Continue to develop relationships with MAFC states and partners to provide a grounded program focus and quick response to information and customer service needs.*

1. Participate in freight, transportation, and economic development conferences in MAFC states.
2. As appropriate, meet with MAASTO and other DOT representatives to identify and service state freight priorities and concerns.
3. Develop a regional freight community of practice to share best practices and information.
4. Develop a freight clearinghouse for innovation, collaboration, and rapid response to state DOT research and information needs.
5. Organize and execute quarterly MAFC teleconferences and an annual meeting.

For more information and to provide feedback about these efforts, contact MAFC Facilitator Ernie Perry ([ebperry@wisc.edu](mailto:ebperry@wisc.edu)) or CFIRE Director Teresa Adams ([adams@engr.wisc.edu](mailto:adams@engr.wisc.edu)).

# SAVE THE DATE!

## MID-AMERICA



## FREIGHT COALITION

### 2012 ANNUAL MEETING

MINNEAPOLIS, MINNESOTA ■ APRIL 18-20, 2012



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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.