



MAFC Regional Freight Study

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Table of Contents

Executive Summary	2
The RFS Process and Overview	2
What is in the MAFC RFS?	4
About the RFS	5
People, Programs, and Policy	5
The MAFC Region	5
National Policy Environment	6
Issues and Trends	6
Freight Network	6
Planning and Evaluation Tools	7
Appendices	7
Conclusion	8

Executive Summary

The MAFC Regional Freight Study ([RFS](#)) identifies and characterizes the multimodal economic freight network that connects the communities, states, region and global economy in our ten-state region. Freight transportation professionals realize the importance of a transportation system that connects across political boundaries and modes and are actively working to support and leverage these freight systems. Working to leverage these multistate, multimodal corridors requires a wide array of approaches: from basic system inventories to statistical analysis, logistics science, stakeholder and customer development, economic development strategies, and traffic and operations management. The MAFC RFS appeals to this integrative, multidisciplinary approach to the development of freight transportation and economic development systems. The data, guidance, and analysis included in the RFS reflect a multilayered transportation and economic development agenda. The inventory and analysis in the RFS supports multimodal freight planning and operations, transportation-driven economic development, advancement of freight policy, and the expansion of external relations to private sector partners. The MAFC Regional Freight Study is housed on the [Mid-America Freight Coalition website](#).

The audiences for the MAFC RFS are the state DOT freight professionals as well as their planning partners. The RFS is intended to support each state's role in developing and maintaining freight policy, corridors, movements, systems, economic development, and national competitiveness. The state DOT's role in driving freight policy and program development, and ultimately economic and community development, is paramount.

The RFS Process and Overview

The MAFC RFS identifies the region's multimodal freight system—a system that is fully linked to the economy and that is owned, managed, and operated by a variety of public and private sector players. The RFS addresses the region's freight network that includes highways, rail, waterways, aviation—and to a lesser degree—pipelines. The RFS addresses commodity and freight flows across all of the modes and the intermodal connectors that provide for a seamless system. The RFS details the importance of freight to economic development as well as potential methods for combining transportation and economic development approaches. The RFS serves as a clearing-house for MAFC state policies, programs, and people and offers a one-stop shop for information about best practices and state freight resources and activities. Each study area was also created and analyzed in the context of recent freight policy development culminating in the MAP-21 freight initiatives. The recent developments in national freight policy serve to inform the data and analysis approach of the RFS, and at the same time, the analysis and findings from the RFS were used to provide comments to the USDOT regarding the policy effectiveness and preferences of the freight transportation champions in the MAFC region.

The MAFC RFS is the second regional freight study for the MAFC group of states. The [Upper Midwest Freight Corridor Study](#) was one of the first regional freight studies as well as one of the first collaborative freight efforts across multiple states. These early efforts reflect innovation in freight development in the MAFC states. The innovation and commitment continue with the emphasis on freight systems and economic development in the MAFC RFS.

The MAFC RFS was conceptualized and developed in collaboration with MAFC technical representatives. Discussions that had begun in 2010 evolved and the project began in earnest with new MAFC staff at the 2012 MAFC Annual Meeting in Minneapolis, Minnesota. At this meeting the MAFC technical representatives re-confirmed their commitment to the development of the RFS and emphasized the earlier commitment to making the case for linking

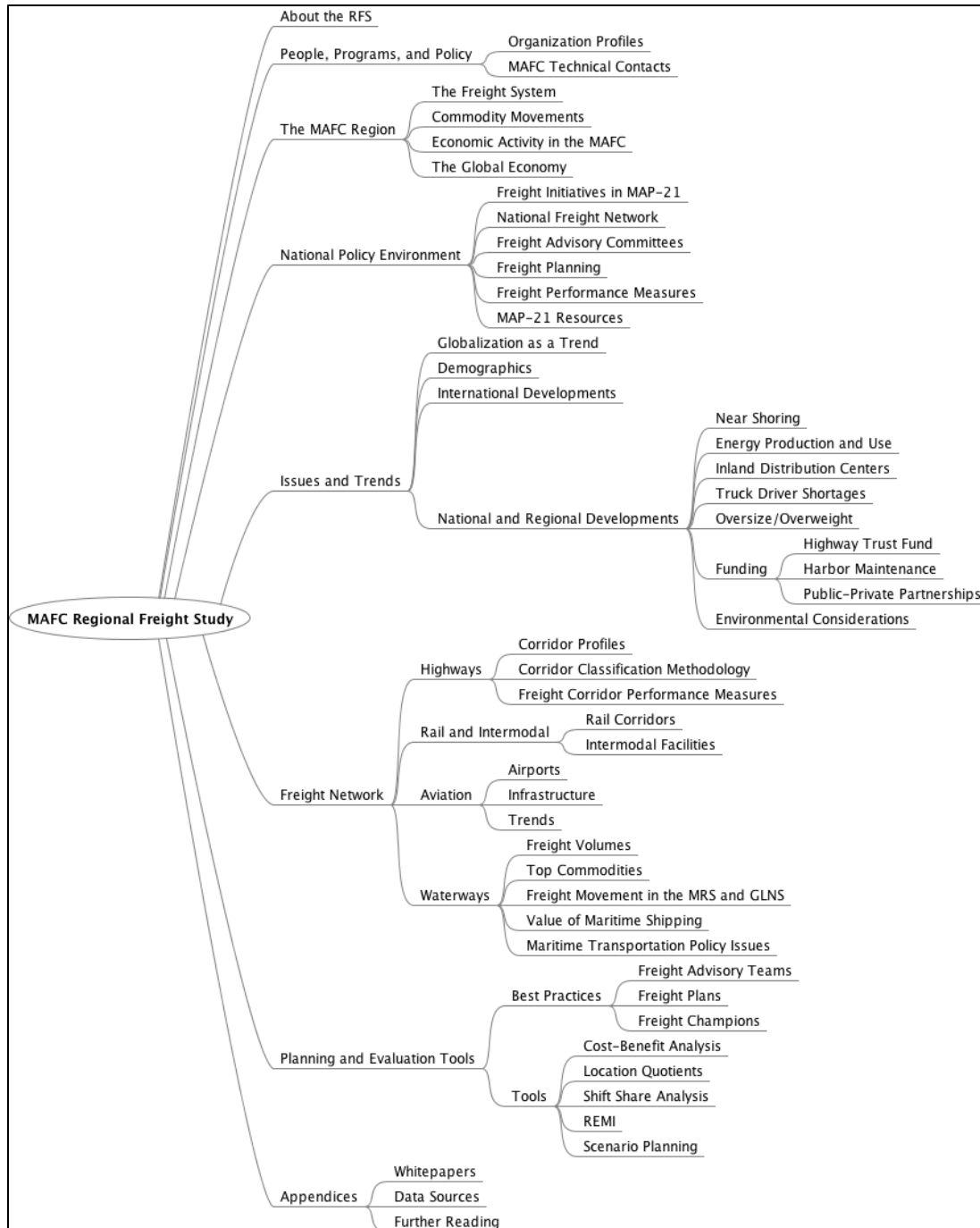
transportation, freight development, and economic development. To ensure continued input from the technical representatives in 2012 and 2013, three conference calls as well as three sessions at MAFC Annual Meetings of 2012 and 2013 were convened. Finally, in August 2013, a half-day RFS freight corridor working session was held in Washington, DC in collaboration with the AASHTO/FHWA Freight partnership meeting. These sessions and teleconferences were geared towards development of the RFS and identification of the region's freight corridors. The discussions also addressed the incorporation of the MAP-21 freight initiatives in the RFS to support state assessment of the new freight initiatives.

In light of the rapidly changing freight policy context, the MAFC RFS has been developed as a living, web-based document. The RFS is designed to accept changing corridor preferences, new policy stipulations, and DOT program changes so that it remains a valuable resource for Coalition states and their planning partners. With recent personnel turnover at the DOTs, the most recent update to the living document is a directory of freight personnel, programs, and policies at the MAFC state DOTs.

What is in the MAFC RFS?

As a multimodal, multistate regional freight study, the outline of the RFS shown below reflects the complexity and breadth required to organize and describe the region's freight and economic systems.

MAFC Regional Freight Study Outline



As shown in the outline, The RFS is organized in eight overlapping and interlinked major headings:

- 1) About the RFS
- 2) People, Programs, and Policy
- 3) The MAFC Region
- 4) National Policy Environment
- 5) Issues and Trends
- 6) Freight Network
- 7) Planning and Evaluation Tools
- 8) Appendices

Four of the sections comprise the study report and analysis, (People, Programs, and Policy; The MAFC Region; National Policy Environment, and the Freight Network). And four of the sections provide context, analysis tools, and best practices (About the RFS; Issues and Trends; Planning and Evaluation tools; and the Appendices). These eight areas are then further broken down into the appropriate descriptive and analytical sections.

About the RFS

The [About the RFS](#) section of the study provides the context for the study effort within a drastically changing economic climate and a transportation system constrained by limited capacity and scarce funding. This context is also impacted by the developing policy environment that is complicated by access to key freight data, the nuances of developing private-public relationships, and a means to recognize and fund intermodal and freight projects in general.

People, Programs, and Policy

The [People, Programs, and Policy](#) section of the study provides a staff directory of freight personnel across all modes and functions at the state DOTs, a review of state freight programs, and an in-depth look at marine and rail freight activities and developments across the ten MAFC states. The directory, a recent addition to the RFS and still under construction, was requested by states at the 2014 MAFC Annual Meeting. This directory helps put a face to a name for both new and long-time representatives and will help facilitate better communication among MAFC technical representatives. The directory's program and policy sections also reinforce the collaborative nature of the Coalition by making it easier to share policies, programs, and practices across the state DOTs. Of special note in this section are the recent additions of marine freight and rail freight program overviews to the RFS:

- [Marine Highways and Marine Freight Development in the MAFC](#)
- [MAFC State Rail Data Collection](#)

The MAFC Region

In [The MAFC Region](#) section the basic descriptive data for the freight modes, as well as the support infrastructure such as warehousing and intermodal facilities, are presented.

For the highway network, the freight tonnage and total road mileage by state are provided. Additionally, given the significance of trucking to our economy and freight movement, and concerns regarding the supply of the qualified drivers, employment in trucking is tracked by

state and as part of the total employment. In the rail section, the Class I rail corridors are mapped along with associated major rail businesses. Total rail employment and number of businesses are provided by state and compared to total all-sector employment. Similarly the waterway section tracks the extent of the navigable marine system in the MAFC, the tonnage at MAFC ports, as well as employment in the marine industry by state. For freight aviation, the air cargo facilities in the region are mapped, and the tons of freight moved by state, the top air-freight commodities, and aviation-related employment in the ten MAFC states and the United States are reported. For pipelines, the associated businesses and employment related to these facilities are tracked.

Freight support infrastructure for the region is also mapped and includes ports of entry and a foreign trade zone discussion, warehousing, and logistics services, as well as related employment and intermodal facilities.

This section also tracks the top commodities by mode, value, and tonnage moved in the region, modal distribution of goods, and origins and destinations for freight in the MAFC region and its member states. This information and analysis in this section is derived from the Federal Freight Analysis Framework and Bureau of Economic Analysis data. In addition to providing commodity information, this section also presents the analysis process and data approach necessary for state practitioners to use this information successfully in their planning and operations work.

The economic and industry class basis of freight and economic activity are also captured in this section. The GDP contribution by industry class and economic output are reported. Further, the historic economic shift share and a location quotient analysis are incorporated in the analysis based on the potential for certain manufacturing process to reshore to the MAFC region. The section concludes with a discussion and trends in the global economy and addresses imports, exports, and top trading partners for MAFC states.

National Policy Environment

The [National Policy Environment](#) section of the study provides the overall national policy environment starting with a brief history of the federal DOT activities that progressed towards development and institutionalization of freight planning and operations at the USDOT. This section also describes and provides a bibliography of seminal federal freight studies and MAP-21 freight initiatives. The MAP-21 freight issues addressed in the RFS include the national freight network, freight advisory committees, freight planning, and freight performance measures. The document provides analysis of the prescribed data and techniques, and also provides approaches for understanding and implementing the initiatives.

Issues and Trends

In the [Issues and Trends](#) section, research reports on developments in US energy and frac sands are included as well discussions on the impact of globalization and reshoring. Further, an array of useful resources has been collected to support identification and development of freight corridors and the understanding freight policy issues.

Freight Network

The [Freight Network](#) section is rich in data and information that identifies and profiles freight corridors and facilities for all modes: highways, waterways, rail, aviation, and pipelines. The creation of the corridor networks across the modes was a collaborative effort with state technical representatives to identify the data, the corridors, and their relevance to the states and region.

For the highways mode, the collaborative approach resulted in a comprehensive tiered corridor approach that reflects the relevance of rural feeder networks as well as major urban interstates.

The freight highway corridors are characterized by up to 24 different variables to identify the wide array of critical functions these corridors provide to freight systems and the economy. The incorporation of a multi-variable definition of freight corridors also increases the ability of the states to respond to emerging policy developments with relevant data and analysis.

An often-unnoticed freight mode, aviation, is also well represented in the MAFC region. The RFS identifies the freight moving aviation facilities as well as the jobs, payroll, and economic output from these aviation facilities. The major commodities and import and export dimension of freight aviation are also described.

In the rail and intermodal section of the RFS, the focus is on the intermodal facilities and the development and freight service they bring to an area. The major intermodal facilities in the region are mapped and characterized by modal access, size in acreage, types of commodity or goods, lift counts for container yards, and warehouse and distribution locations. These facilities are economic engines, and their locations and operations affect other modes as well as local communities. Understanding and leveraging these facilities is important to state transportation agencies as they respond to their economies.

For maritime freight in the region, states can access Great Lakes shipping as well as several major tributaries and river systems. Again, an often-overlooked mode, marine freight moves a significant amount of US grain and aggregates, as well as chemicals and petroleum. Both of the major systems in the MAFC region serve as connections to export markets through the Great Lakes and Saint Lawrence Seaway and the Lower Mississippi River and the Gulf of Mexico. The RFS documents major commodity types, tonnages, and the status of the MAFC states as compared to the US totals.

Planning and Evaluation Tools

The [Planning and Evaluation Tools](#) section includes freight best practices and freight planning and evaluation tools, as well as examples are extracted from state efforts and industry leaders. Practices that are exemplary in creating efficiencies that save money, time, and lives are included. These sections will be updated as new practices are implemented and proven. Tools and best practices included to date are: 1) freight advisory committees (which were active in the MAFC region prior to MAP-21), 2) determination of critical rural corridors, 3) rail data collection practices, and 4) the inclusion and analysis of all modes in a freight study. Upcoming additions include best practices in freight performance measures and performance data that will be based on a July 21, 2014 webinar on freight performance measures held by MAFC.

Appendices

The [Appendices](#) to the RFS provide a compilation of data sources, analyses, and larger reports that were used to develop the RFS. This information will prove useful to those looking for additional resources and details.

Conclusion

The MAFC RFS details a multistate, multimodal economic network that spans the MAFC states and connects them to each other and the world. With rapid innovation in freight policy and programs both nationally and within the states since 2008, and continued policy adaptations in the wind, the RFS has been constructed as a living document. As economic and logistics conditions change, as primary freight corridors change, as new policies and programs germinate, and as personnel and programs change across the MAFC states, the MAFC RFS will change as well to reflect the current conditions. This will ensure that the states always have an up-to-date resource for working with and accessing their peer states resources.

As state DOTs are of paramount importance to the successful operation of a multistate, multimodal freight network and the economy that it supports, the policy and program momentum in freight should continue and to a large extent should be directed towards supporting state DOT efforts. To that end, the MAFC RFS was designed to support state DOT freight innovation through:

1. Providing a baseline of modes, moves, and facilities across the region.
2. Increasing awareness and institutional focus on multimodal freight movement.
3. Supporting state planning and projects by validating state trends and the importance of multistate linkages for economic development and efficiencies.
4. Preparing for potential corridor-level programs and expansion opportunities.
5. Providing maps, data, and analysis approaches that can be adopted by states in support of their efforts.
6. Promoting mutual awareness and sharing of best practices and innovation as a one-stop shop that provides a directory of corridors, peoples, programs, facilities, data, and analysis.
7. Promoting a multivariable, multimodal approach to understanding, defining, and operationalizing freight corridors.
8. Promoting a greater understanding of freight policy and program options, and the operational and real-world consequences for freight systems and the economy.

As freight policy makers begin to address the role freight and associated policies and programs have on the economies of the states and the nation, the RFS will prove useful through providing powerful information on the benefits and the linkages between freight systems and the economy. The RFS describes and details the region's freight systems. In effect the RFS provides a directory and how-to manual of the tools (highways, rivers, rails, and airports) that states can use to grow employment, wealth, and quality of life in their communities.

And finally, we would like to thank the ten MAFC technical representatives and the MAASTO states in general. The RFS was completed with an enormous amount of state support by the MAFC technical representatives and a host of other personnel throughout the ten agencies. The states provided data, analysis guidance, product reviews, and implementation of the RFS contents.

The MAFC staff looks forward to the continued collaboration, the evolution of freight policy and programs, and working with the MAASTO states to leverage these freight systems to the benefit of the region's communities, states, and the nation.



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