

Minnesota Statewide Freight System Plan

Final Plan Outline

The Final Plan will:

- Satisfy the requirements of the MAP-21 state freight plan provision and U.S. DOT guidance.
- Be consistent with the project RFP and work plan.
- Be consistent with MinnesotaGO and the other relevant Minnesota plans, studies, and reports. Reference to these will be made in Final Plan documentation and links will be provided on web site. (see below)
- Incorporate project memos, ad hoc committee products, outreach reports and project materials to the extent necessary. Links to these items will be provided on web site. (see below)
- Be presented in a format that engages readers and makes important points with pulled quotes, sidebars, boxes, etc.
- Be written in a style that is accessible to the interested general reader and responsible to the requirements of the professional reader. Style and format will be reviewed to guarantee suitability for private sector and non-technical readers.
- Present an action agenda structured by time—near-term, mid-term, long-term—including proposed actions related to investment (not project specific), operations and institutions, address both statewide and sub-state proposed actions, assign responsibility for actions, a process for monitoring implementation, and include tactical (small) and strategic (large) proposals.

The final plan will be the “document of record” for the Minnesota Statewide Freight System Plan. It will contain several free-standing items: a concise list of major findings, conclusions and recommendations suitable for widespread distribution and useful for releases and talking points for public statements, and presentations; an executive summary that provides a short version of the final report; and the action agenda which contains general policy conclusions and recommendations and specific proposed actions (see above).

There will be a website that presents the final plan in a user-friendly fashion for on-line reading and download, as well as the free-standing items, the foundation documents, and the project materials. A PowerPoint presentation that summarizes the final plan will be prepared.

See draft contents next page.



Executive Summary (stand-alone)

A brief, well-formatted, section-by-section summary of final plan. Suitable for freestanding distribution, and suitable to serve as a cover to the Freight Action Agenda.

Commissioner's Message

A high-level perspective and explanation of why the plan was prepared, why it is important, how all sectors have been included, and the commitment to carrying it out.

Preface

A brief introduction to the plan/contents and how links to/influences MN Family of Plans.

Chapter 1 The Importance of Freight to Minnesota

Presents information on MN's economy, trends and issues and emphasizes "what's changing" related to the multimodal goods movement system and supply chains that the Plan needs to take into consideration. C-Suite quotes on the "cost of doing nothing" related freight system investment. Section provides hyperlinks to:

- Task 2.2 – Economic Context of Freight System Planning
- Consider whether hyperlinks be provided to studies outside the Plan scope, e.g. manufacturing studies, other regional plans/studies, etc.

Chapter 2 Minnesota's Freight Assets and Institutions

Presents an overview of MN's Multimodal Freight Network and how it is used today/future. Presents current picture of funding for freight and how MnDOT includes "freight" in project planning, selection, etc. Section provides hyperlinks to:

- Task 2.3 – Freight Systems Assets and Use
- Task 4.3 – Identification of the MN Multimodal Freight Network
- Task 2.1 – Policy, Plan and Project Synthesis
- Task 2.4 – Existing Institutional Structure
- Other links could include scenario planning workshop summary, institutionalizing freight report, FRED study, etc.



Chapter 3 Minnesota's Freight Needs and Issues

Presents the results of the research carried out for the project, i.e., identifying significant problems, high priority opportunities, performance measures, etc. Section provides hyperlinks to:

- Task 4.1 – Freight Performance Measures and System Condition and Performance
- Task 4.2 – Freight System Needs, Issues and Opportunities

Chapter 4 Strategies to Address Minnesota's Freight Needs and Issues

Presents a discussion that translates needs, issues and opportunities to project strategies. Conducts an evaluation to determine which strategies may provide the biggest benefits to freight system users. Section provides hyperlinks to:

- Task 5.1 – Strategy Identification
- Task 5.2 – Strategy Evaluation and Expected Outcomes

Chapter 5 Actions

Based on the above, presents the most important general conclusions that should guide actions by Minnesota governments, businesses, and non-profits aimed at strengthening the support provided by the freight system to the health and growth of the Minnesota economy today and tomorrow. The chapter summarizes general policy conclusions and recommendations, presents the Freight Action Agenda, identifies entities responsible for specific actions, and offers processes for monitoring implementation of action agenda. Section provides hyperlinks to:

- Task 3 – Minnesota Freight Policy (MN GO framework with refined freight system goals)
- Task 5.3 – Freight Action Agenda



Appendices

Key Definitions

A listing of key definitions and acronyms used in the Plan.

Environmental Justice

MnDOT required appendix. MnDOT may do this in-house as part of this Plan.

Outreach

Describes outreach process and its major elements. Acknowledges public and private sector participants. Presents major findings. Emphasizes open and comprehensive process and the focus on business input. A formal outreach tech memo is not planned, but numerous resources could be referenced:

- Communications Plan
- PAC and TT presentations, summaries
- MN/CTS Freight Summit, presentation and summary themes
- MFAC website, freight Plan presentations
- MetroQuest high-level findings reports (Round 1 and Round 2)
- Plan fact sheet/educational handout
- “About the Plan” video

Freight Action Agenda

Standalone “one-stop-shop” of priority recommendations for the short-, mid- and longer-term. This includes project, policy, program and partnership strategies.



Minnesota Statewide Freight System Plan

Freight Performance Measures Working Group

Purpose

The Freight Performance Measures Working Group was assembled to recommend freight system performance measures for evaluation as part of the Minnesota Statewide Freight System Plan, and for MnDOT's longer term consideration as part of annual performance reporting.

Work Steps

The working group, comprised of MnDOT's freight and performance measure "implementers" conducted activities within the following work steps:

- **Meeting #1 – Base Understanding (September 9, 2014).** This meeting presented the latest guidance related to Federal freight performance measures, as well as background on what freight performance measures MnDOT currently tracks. Participants identified what elements of freight performance are most critical to measure from their perspective, and why, e.g., to report performance to stakeholders, identify needs, or help program projects. Gaps between existing state measures, required Federal measures, and desired measures were discussed, including adaptation of current non-freight performance measures.
- **Meeting #2 – Data (November 21, 2014).** This meeting discussed available data to support the "long list" of measures identified in Meeting #1. The working group discussed the strengths and weaknesses of available data and tools, such as the ability of MnDOT to realistically track as part of annual report card or the ability to forecast the data to aid in decision-making.
- **Meeting #3 – Recommendations (February 20, 2015).** This meeting further discussed the recommended measures (a short-list from the previous meeting). Focus was placed on whether measures are more appropriately tracked at the statewide, network or modal level. Measures of interest where no data are available to track were documented for longer term consideration.

The short-list of measures will be used to analyze the freight system as part of Plan development, however targets have not been established. This Plan will provide guidance to MnDOT on freight targets to consider as measures become more fully implemented in the next report card (and after official U.S. DOT guidance is released).

The following page highlights the recommended freight performance measures.

Modes covered include – Truck (T), Rail (R), Water (W), Air (A), Pipeline (P)



Recommendations

Recommended Measure/Indicator	Type	Data Availability and Description	Mode(s) Covered	Existing MnDOT Measure?
FREIGHT				
Annual Hours of Truck Delay (AHTD)	Mobility	The National Performance Management Research Data Set (NPMRDS) is the intended source for AHTD data. MnDOT currently has a access to the dataset but is awaiting final FHWA requirements before implementing NPMRDS analysis in performance measure reporting. The dataset will likely be richer for the metro areas of the state.	T	
Truck Reliability Index (RI80)	Mobility	The National Performance Management Research Data Set (NPMRDS) is the intended source for truck reliability data. MnDOT currently has a access to the dataset but is awaiting final FHWA requirements before implementing NPMRDS analysis in performance measure reporting. The dataset will likely be richer for the metro areas of the state.	T	
Total domestic shipments to, from or between Minnesota locations	Demand, Economy	FHWA Freight Analysis Framework (FAF)-based data, measured in value and ton-miles, updated intermittently. Excludes international shipments and “through” shipments.	T, R, W, A,P	X
Freight Mode Share in Minnesota (tons) ¹	Demand, Economy	Freight Analysis Framework (FAF)-based data supplied by the MnDOT Office of Freight and Commercial Vehicle Operations. Reported by <i>tons</i> , 2002-2011	T, R, W, A,P	X
Freight Mode Share in Minnesota (value)	Demand, Economy	Freight Analysis Framework (FAF)-based data supplied by the MnDOT Office of Freight and Commercial Vehicle Operations. Reported by <i>value</i> , 2002-2011	T, R, W, A,P	X
Freight Mode Share in Minnesota (ton miles)	Demand, Economy	Freight Analysis Framework (FAF)-based data supplied by the MnDOT Office of Freight and Commercial Vehicle Operations. Reported by <i>ton miles</i> , 2002-2011	T, R	X
Heavy Commercial Vehicle Miles Traveled (HCVMT)	Demand, Economy	Commercial vehicle miles traveled on the Minnesota State Highway System (in billions). A product of automatic traffic recorder (ATRs), and road cost user studies.	T	X

¹ Tonnage for all modes can be estimated using FHWA FAF data. Tonnage for rail and waterway shipments are currently collected and reported by MnDOT separately, as they utilize additional data sources (see below). Ideally, these and other mode-specific data will be synthesized to present consistent demand statistics for the State. The ongoing Statewide Freight System Plan combines data from FAF, STB, and individual airport and port facilities to provide freight mode share.





Recommended Measure/Indicator	Type	Data Availability and Description	Mode(s) Covered	Existing MnDOT Measure?
Heavy Commercial Average Annual Daily Traffic (HCAADT) by Corridor	Demand, Economy	Commercial vehicle miles traveled on the Minnesota State Highway System (in billions). A product of automatic traffic recorder (ATRs), and road cost user studies.	T	X
Annual Rail Shipments in Minnesota (in millions of tons)	Demand, Economy	Currently collected by MnDOT staff from Association of American Railroads (AAR) for Annual Performance Report. Also available from annual STB waybill sample (more precise) or FAF database. Requires STB approval.	R	X
Annual Container Lifts in Twin Cities intermodal yards (in thousands)	Demand, Economy	Currently obtained by MnDOT staff from facility operators. Also available from annual STB waybill sample analysis. Requires STB approval.	R	X
Annual Port Shipment Tonnage (in millions of tons)	Demand, Economy	Currently obtained by MnDOT Ports and Waterways staff for Annual Performance Report	W	X
SAFETY				
Number of Fatalities	Safety, Environment, Community	MnDOT currently tracks the total number of fatalities resulting from crashes involving a motor vehicle, maintained by MnDOT Office of Traffic, Safety and Technology	T	X
Fatality Rate	Safety, Environment, Community	MnDOT currently tracks the traffic fatality rate on all Minnesota roads (per 100 million VMT)	T	X
Number of Serious Injuries	Safety, Environment, Community	MnDOT currently tracks serious traffic injuries on all Minnesota roads	T	X
Serious Injury Rate	Safety, Environment, Community	MnDOT currently tracks the traffic injury rate on all Minnesota roads (per 100 million VMT)	T	X
Severe Crashes Involving Trucks	Safety, Environment, Community	MnDOT has the ability to extract severe crashes involving trucks from the crash database	T	
Incidents at Highway/Railroad Crossings	Safety, Environment, Community	MnDOT extracts crossing incident data from the Federal Railroad Administration (FRA) crossing database	T	
PAVEMENT MEASURES				
Interstate Pavement in Good, Fair and Poor Condition based on the International Roughness Index (IRI)	Infrastructure Condition	IRI data is currently collected, but not reported as MnDOT favors the "Ride Quality" Index, which is a function of collected Roughness Data.	T	X



Recommended Measure/Indicator	Type	Data Availability and Description	Mode(s) Covered	Existing MnDOT Measure?
Non-Interstate NHS Pavement in Good, Fair and Poor Condition based on the International Roughness Index (IRI)	Infrastructure Condition	IRI data is currently collected, but not reported as MnDOT favors the "Ride Quality" Index, which is a function of collected Roughness Data.	T	X
Pavement Structural Health Index	Infrastructure Condition	MnDOT currently measures ride quality on the Interstate system, the non-Interstate National Highway System and on all state highways, and tracks percentage of highways with poor ride quality.	T	X
BRIDGE MEASURES				
Percent of Deck Area on Structurally Deficient Bridges	Infrastructure Condition	MnDOT currently measures Bridge condition is calculated from the results of inspections performed at least every two years on all state highway bridges.	T	X
NHS Bridges in Good, Fair and Poor Condition based on Deck Area	Infrastructure Condition	MnDOT currently measures Bridge condition is calculated from the results of inspections performed at least every two years on all state highway bridges.	T	X
Bridge Dimensions	Infrastructure Condition	Performance Measures Ad Hoc Working Group recommended a measure that identifies/quantifies percent of highway (and railway if available) vertical and horizontal clearance for commercial vehicles along the MFN.	T, R	

Minnesota Statewide Freight System Plan

Multimodal Freight Network Working Group

Purpose

The Multimodal Freight Network Working Group was assembled to recommend Minnesota's Multimodal Freight Network (MFN) and suggest how it could be used to MnDOT Leadership.

Work Steps

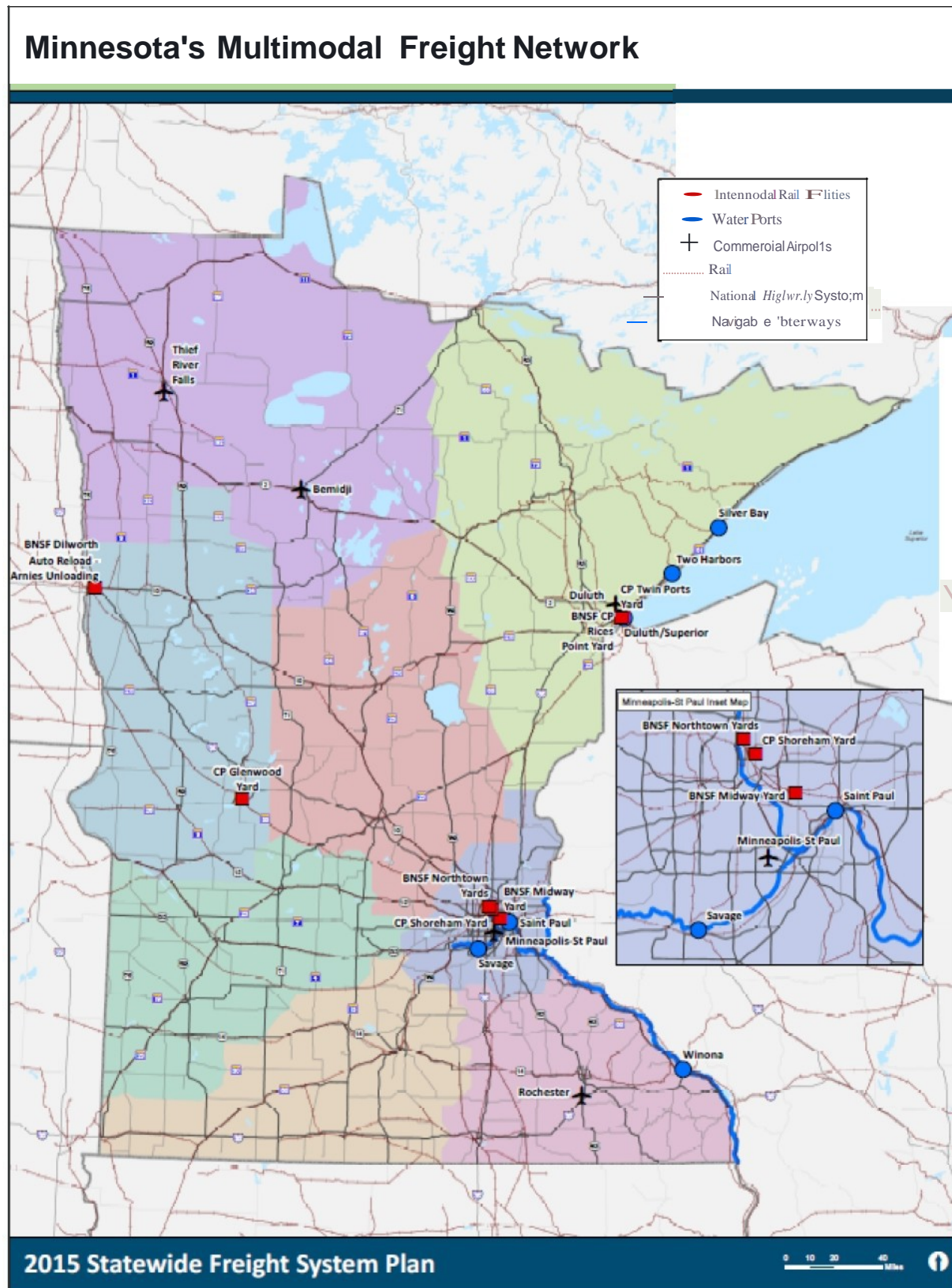
The working group, comprised of MnDOT's modal experts, conducted activities within the following work steps:

- **Meeting #1 – Highway System Designation (December 3, 2014).** This meeting focused on the highway portion of the network and discussed the various transportation networks that could inform the designation of the MFN. Participants discussed the purposes of each of these networks, their overlapping principles, their connectivity across jurisdictions and to regional points of significance, and their applicability to the designation of the MFN.
- **Meeting #2 – Multimodal Connectivity (January 27, 2015).** This meeting reviewed findings from Meeting #1 and confirmed the highway portion of the network should be the Enhanced NHS. This meeting then explored multimodal connectivity through discussion of FHWA intermodal connector designation criteria, and the routes within Minnesota that are currently designated as such, or could be in the future.
- **Meeting #3 – Non-Highway System Designation (February 26, 2015).** This meeting centered on the non-highway components of the MFN, and further reviewed FHWA intermodal criteria, as well as other usage information. This meeting confirmed the rail, water and aviation system nodes.
- **Meeting #4 – Recommendations (March 26, 2015).** This meeting summarized findings from previous discussions and recommended MFN components and potential uses. This information will be shared with MnDOT and Plan committees for further discussion.

The following pages highlight the recommended Multimodal Freight Network and potential applications.



Recommended Multimodal Freight Network





Recommended Multimodal Freight Network Applications (DRAFT)

The working group “tiered” the potential *highway* applications. These are noted as:

- 1 - applications using existing resources with minimal administrative coordination (near-term),
- 2 - applications that require moderate administrative coordination, and
- 3 - applications that require additional funding and/or significantly more administrative coordination.

The MFN be used to ...	Highway	Rail Lines	Waterways	Freight Facilities
Track freight system activity	1	X	X	X
Monitor freight system performance	1	X	X	X
Identify and prioritize system needs	2	X	X	X
Provide different design or accessibility standards	3			X
Provide different (higher) maintenance standards	3*			
Receive priority consideration during project selection and funding	1			X
Align with dedicated freight funding source	2	X		X
Consider Complete Streets principles	2			
Support existing businesses	2			
Provide access to intermodal facilities	1			

* The Highway portion of the network is the Enhanced NHS and it may already receive priority for maintenance.