PURPOSE AND SCOPE

The 2017 **Minnesota Statewide Freight System and Investment Plan** represents an update to Minnesota's first State Freight Plan developed in 2005. The development of this plan was undertaken by the Minnesota Department of Transportation in partnership with public and private sector freight stakeholders throughout the state.

This plan describes Minnesota's freight transportation system and its role in the state's economy, current and emerging industry trends, the performance of the freight transportation system, and current and future issues and needs. This plan also includes Minnesota's Freight Action Agenda for MnDOT and its partners to advance a number of strategies that will improve the efficiency, safety and reliability of the freight system.

This 2017 **Minnesota Statewide Freight System and Investment Plan** aligns with **Minnesota GO** and the **Statewide Multimodal Transportation Plan,** which establish Minnesota's overall vision for transportation. In addition, the plan meets the freight planning requirements of the federal Fixing America's Surface Transportation Act, or **FAST Act**.

The 2017 **Minnesota Statewide Freight System and Investment Plan** includes the following chapters:

- **Chapter 1 – The Importance of Freight to Minnesota** provides an overview of the importance of freight industries and goods movement to the state of Minnesota, including trends that may affect goods movement in the future.
- **Chapter 2 – Minnesota's Freight Assets and Use** describes the state's existing multimodal freight system, including designation of Minnesota's Principal Freight Network.
- **Chapter 3 – Minnesota's Freight Needs and Issues** identifies freight system performance measures and describes the condition and performance of Minnesota's freight system. This chapter also identifies needs and issues to be addressed to achieve the goals of the plan as well as national freight goals.
- **Chapter 4 – Strategies to Address Minnesota's Freight Needs and Issues** provides an overview of infrastructure projects and other supporting strategies to mitigate and address freight system needs and issues. Project details are included in Appendix A.
- **Chapter 5 – Actions and Next Steps** outlines the next steps for Minnesota's public and private sector freight stakeholders in **Minnesota's Freight Action Agenda**.
- **Chapter 6 – Freight Investment Plan**

Additional information supporting the plan is included in several appendices. These appendices are available in a separate document.

- **Appendix A – Additional Resources** provides an overview of the technical documents developed as part of this plan, as well as resources developed by MnDOT and others that were used for plan development.
- **Appendix B – Outreach** highlights the committees and public engagement activities employed during the plan development process. This includes formation of an advisory committee and technical team, three working groups focused on special topics, one-on-one interviews with industry, interviews with each of Minnesota's neighboring states and provinces, online surveys, and other outreach activities to public and private freight system stakeholders.

- **Appendix C – Environmental Justice** provides a general evaluation of how this plan may impact Minnesota's environmental justice populations.
- **Appendix D – Key Definitions** is a glossary of freight terms and acronyms used in the plan.

Plan Structure

The 2017 Minnesota Statewide Freight System and Investment Plan is part of MnDOT's "Family of Plans," a collection of transportation documents that identify mode-specific strategies, establish performance measures and performance-based needs, and identify system priorities. Each plan uses statewide planning guidance that was developed to ensure consistency between each effort and to ensure each plan is contributing to the same overarching vision. Key elements guiding the development of the 2017 Minnesota Statewide Freight System and Investment Plan include:

- **Minnesota GO Vision.** Provides general direction for all modes of transportation including highways, transit, rail, bikes, pedestrians, freight and aviation.
- **Freight Policy.** This policy, developed as part of the 2005 State Freight Plan, provides a specific policy for the freight transportation system in Minnesota.
- **Freight Plan Goals.** As part of this plan, freight goals were established to provide Minnesota with a mechanism to gauge if the freight policy is being achieved.
- **Freight Plan Objectives.** As taken from the **Statewide Multimodal Transportation Plan**, these objectives provide an organizing mechanism for strategies and actions required to further advance the freight policy.

Minnesota Go Vision for Transportation

Minnesota's multimodal transportation system maximizes the health of people, the environment and our economy.

The system:

- Connects Minnesota's primary assets – the people, natural resources, and businesses within the state – to each other and to markets and resources outside the state and country
- Provides safe, convenient, efficient and effective movement of people and goods
- Is flexible and nimble enough to adapt to changes in society, technology, the environment and the economy

To enhance quality of life, the system:

- Recognizes and respects the importance, significance, and context of place – not just as destinations, but also where people live, work, learn, play and access services
- Is accessible regardless of socioeconomic status or individual ability

To support environmental health, the system:

- Is designed in such a way that it enhances the community around it and is compatible with natural systems
- Minimizes resource use and pollution

To promote economic competitiveness, the system:

- Enhances and supports Minnesota's role in a globally competitive economy as well as the international significance and connections of Minnesota's trade centers
- Attracts human and financial capital to the state

MINNESOTA GO VISION

In 2011, MnDOT launched the Minnesota GO visioning process. As part of this, MnDOT asked Minnesotans to help shape a vision that answers the question, "What are we trying to achieve for transportation over the next 50 years?" The visioning effort collectively defined a desired future toward that state, regional and local transportation planning

could navigate. The result was the first long-range transportation vision adopted for Minnesota, a shared vision that aligns the transportation system with what Minnesotans expect for their quality of life, economy and natural environment.

The Minnesota GO Vision does not answer the question "how will we do it?" This question is addressed in the subsequent statewide, modal and regional planning efforts that constitute the Family of Plans. The 2017 Minnesota Statewide Freight System and Investment Plan is one of these plans.

MINNESOTA FREIGHT POLICY

The 2005 Minnesota State Freight Plan clearly articulated the position of MnDOT with respect to freight transportation and introduced the following freight specific policy:

Provide an integrated system of freight transportation in Minnesota – highway, rail, water, air cargo and intermodal terminals – that offers safe, reliable and competitive access to statewide, national and international markets.

This freight policy was adopted by MnDOT and underscores the importance of all modes for a balanced freight transportation system, the need for connections between modes, and the fact that efficient access to expanding markets is critical to Minnesota businesses operating in a global economy. This freight policy is carried forward to the 2017 Minnesota Statewide Freight System and Investment Plan.

FREIGHT PLAN GOALS

The goals of the 2017 Minnesota Statewide Freight System and Investment Plan reflect those aspects of the multimodal freight system that are most important to the public and private sector freight stakeholders in the state. The following five goals were established to further articulate the components of the freight policy.

Support Minnesota's Economy

The ability of businesses and industries in Minnesota to compete in the marketplace relies in part on an efficient freight transportation system that effectively moves goods and raw materials. The freight system that these businesses depend on is multimodal, transports products not only within Minnesota but also throughout the U.S., and provides connections to trading partners throughout the world. Minnesota's freight system needs to respond and adjust to changing state, U.S., and world economic conditions.

Improve Minnesota's Mobility

Freight system mobility can be described in several ways. Delay, slow travel speeds, and congestion are ways to measure mobility, and each translates into a freight transportation system that may have limited maneuverability, be unreliable, have chokepoints, and not provide a competitive advantage to industry. A freight system that has limited mobility may be unattractive for industries, especially where "just-in-time" delivery is critical. Minnesota's freight system needs to offer access for all freight users and reliable service with minimal chokepoints.

Preserve Minnesota's Infrastructure

In 2012, one billion tons of freight moved over Minnesota's transportation system, and by 2040 that volume is expected to rise to 1.8 billion tons – an increase of 80 percent overall. In 2012, trucks carried 63 percent of all freight

tonnage, while rail (carload and intermodal) carried about 25 percent.[1] This growth in freight transportation will stress Minnesota's transportation infrastructure. Strategic improvements in multimodal freight system infrastructure to ensure critical segments and connections are both available and in a state of good repair are essential for Minnesota to meet expected demand.

Safeguard Minnesotans

Safety is a high priority for both public and private organizations involved in freight transportation. In Minnesota, a multifaceted approach to enhance safety has resulted in a historic trend of decreasing fatalities for both passenger and commercial vehicles.[2] However, there are increased safety concerns in some Minnesota communities due to increased transport of hazardous materials, in particular crude oil from the Bakken region of North Dakota transported by rail. Minnesota needs to enhance freight system safety and ensure plans are in place to protect areas where freight activity and the public interface.

Protect Minnesota's Environment and Communities

Minnesota's residents and businesses rely on freight transportation to support their economies; however, freight facilities and services sometimes negatively impact communities and the environment. Some of these impacts relate to air quality and noise, the presence of trucks in neighborhoods, and land use conflicts. Freight may affect Minnesota's traditionally underrepresented communities, such as racial and ethnic minorities, households without vehicles, and persons who are low-income. It is necessary to plan, design, develop, and preserve the freight system in a way that respects and complements the natural, cultural, and social context and is consistent with the principles of context sensitive solutions.

FREIGHT PLAN OBJECTIVES

The objectives of the 2017 Minnesota Statewide Freight System and Investment Plan are the same as those defined in the 2012 **Statewide Multimodal Transportation Plan**. These objectives are crosscutting and provide an organizing mechanism for strategies and actions required to further advance the freight policy. The types of strategies and actions in each category are briefly described below.

- **Accountability, Transparency, and Communication.** Make transportation system decisions through processes that are open and supported by data and analysis; provide for and support coordination, collaboration, and innovation; and ensure efficient and effective use of resources.
- **Transportation in Context.** Make fiscally responsible decisions that respect and complement the natural, cultural, and social context; and integrate land uses and transportation systems to leverage public and private investments.
- **Critical Connections**. Identify global, national, statewide, regional and local transportation connections essential for Minnesotans' prosperity and quality of life; preserve and improve these connections by maximizing return on investment given constrained resources; and consider new connections.

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1 The data source for freight demand for modes other than rail was the Federal Highway Administration's Freight Analysis Framework version 3.5. FAF utilizes a 2007 base year with synthesized 2012 values and a 2040 forecast. For rail, the data source was the STB 2012 Confidential Carload Waybill Sample.

2 Minnesota Toward Zero Deaths, http://www.minnesotatzd.org/

- **Asset Management.** Strategically preserve and operate transportation assets; rely on system data, partners' needs, and public expectations to inform decisions; put technology and innovation to work to improve efficiency and performance; and recognize that the system should change over time.
- **Traveler Safety and System Security.** Safeguard travelers, transportation facilities, and services; apply proven strategies to reduce fatalities and serious injuries for all travel modes; reduce system vulnerability; and ensure system redundancy to meet essential travel needs during emergencies.

Federal Legislation

The **Minnesota Statewide Freight System and Investment Plan** was developed in compliance with the guidance provided by MAP-21. The FAST Act of 2015 increased the federal focus on freight and provided additional requirements and resources related to state freight planning. This section details how each piece of this plan aligns with the requirements and recommendations of these acts.

MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT

MAP-21 was signed into law in 2012, providing federal transportation funding and guidance to state departments of transportation and Metropolitan Planning Organizations. Under MAP-21, statewide freight plans must describe how the state will improve its ability to meet the National Freight Policy goals. The MAP-21 National Freight Policy goals are:

- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness
- Reduce congestion on the freight transportation system
- Improve the safety, security, and resilience of the freight transportation system
- Improve the state of good repair of the freight transportation system
- Use advanced technology, performance management, innovation, competition, and accountability in operating and preserving the freight transportation system
- Reduce adverse environmental and community impacts of the freight transportation system

FIXING AMERICA'S SURFACE TRANSPORTATION ACT

The FAST Act, a five-year, $300 billion surface transportation bill passed in 2015, provides the most comprehensive and coordinated provisions for freight of any prior national transportation bill. The first transportation bill with dedicated freight funding, the FAST Act includes a $4.5 billion competitive grant program for nationally significant freight and highway projects and $6.3 billion in formula funding to improve the newly designated National Highway Freight Network (NHFN), which expands the Highway Primary Freight Network developed under MAP-21. Additionally, the U.S. Department of Transportation is developing a National Freight Strategic Plan, which assesses the condition and performance of the nation's freight system and provides forecasts and improvement strategies. To guide resources and investment to the most critical pieces of transportation infrastructure for freight, the U.S. DOT is

also developing a National Multimodal Freight Network, which expands beyond the NHFN to include key multimodal facilities such as public ports, waterways, and Class I rail systems.[3]

The FAST Act establishes new requirements for state freight plans that build upon MAP-21. To receive formula funds for freight transportation projects, states are required to have FAST Act compliant freight plans by 2017. Many of the components of freight planning required under MAP-21 (described in the next subsection) are carried forward as part of the FAST Act. State freight plans will be required to align with National Highway Freight Program goals and National Multimodal Freight Policy goals.

In addition, FAST Act compliant state freight plans are required to include the following components:

- A fiscally-constrained, prioritized project investment plan
- A bottleneck analysis
- Identification of critical urban and rural freight corridors
- Identification of multimodal freight facilities and corridors

Although this current plan meets the requirements for a MAP-21 compliant plan, the above components must be addressed in order for Minnesota's Statewide Freight Plan to be FAST Act compliant. Minnesota has already taken steps towards the last two components, identifying critical corridors and multimodal freight facilities, through the development of the state Principal Freight Network, described later in this document. MnDOT will adopt a FAST Act compliant plan by December 2017.

To demonstrate this plan's compliance with the National Multimodal Freight Policy, **Table 0.1** illustrates how these goals relate to the goals of this freight plan.

Table 0.1 National Multimodal Freight Policy Goals and Minnesota Statewide Freight System and Investment Plan Goals

NATIONAL MULTIMODAL FREIGHT POLICY	MINNESOTA STATEWIDE FREIGHT PLAN
Identify **infrastructure improvements, policies and operational innovations** that • Strengthen the contribution of the National Multimodal Freight Network to the economic competitiveness of the United States • Reduce congestion and eliminate bottlenecks on the National Multimodal Freight Network • Increase productivity, particularly for domestic industries and business that create high-value jobs.	**Freight Plan Goal - Preserve Minnesota's Infrastructure**
Improve the **safety, security and resilience** of multimodal freight transportation	**Freight Plan Goal - Safeguard Minnesotans**

[3] Class I is a railroad designation by the Surface Transportation Board (STB) referring to the seven largest U.S. railroads. The four primary Class I rail operators in Minnesota are BNSF, Canadian Pacific (CP), Union Pacific (UP), and Canadian National (CN).

NATIONAL MULTIMODAL FREIGHT POLICY	MINNESOTA STATEWIDE FREIGHT PLAN
Achieve and maintain a **state of good repair** on the National Multimodal Freight Network	**Freight Plan Goal - Preserve Minnesota's Infrastructure**
Use innovation and **advanced technology** to improve the safety, efficiency and reliability of the National Multimodal Freight Network	The concepts of advanced technology applications, performance management, innovation and accountability cut across all goal areas identified in this plan; these concepts have been incorporated as strategies.
Improve the **economic efficiency and productivity** of the National Multimodal Freight Network	**Freight Plan Goal - Support Minnesota's Economy**
Improve the reliability of freight transportation	**Freight Plan Goal – Improve Minnesota's Mobility**
Improve the **short- and long-distance movement** of goods that • Travel across the rural areas between population centers • Travel between rural areas and population centers • Travel from the Nation's ports, airports and gateways to the National Multimodal Freight Network	**Freight Plan Goal – Improve Minnesota's Mobility**
Improve the flexibility of States to support multi-State corridor planning and the creation of multi-State organizations to increase the ability of States to address multimodal freight connectivity	**Freight Plan Goal – Improve Minnesota's Mobility**
Reduce the adverse **environmental** impacts of freight movement on the National Multimodal Freight Network	**Freight Plan Goal - Protect Minnesota's Environment and Communities**

In addition to the National Multimodal Freight Policy, FAST Act also identified specific topics that must be addressed in statewide freight plans. **Table 0.2** highlights the required content and where it can be found in this plan or its supporting documents, including technical memos developed as part of the planning process.

Table 0.2 How National Freight Plan Requirements are addressed in this Freight Plan

PLAN ELEMENT	FREIGHT PLAN CONTENT
Identification of significant freight system trends, needs, and issues	• Freight System Needs, Issues, and Opportunities Technical Memo
Description of the freight policies, strategies, and performance measures that will guide the freight-related transportation investment decisions	• Freight System Performance Measure Technical Memo • Strategies and Implementation Technical Memo
When applicable, a listing of • Multimodal critical rural freight facilities and corridors • Critical rural and urban freight corridors	• Freight Investment Plan

PLAN ELEMENT	FREIGHT PLAN CONTENT
Description of how the plan will improve the ability of the State to meet the national multimodal freight policy goals and the national highway freight program goals	• The 2016 Minnesota Statewide Freight System and Investment Plan has developed goals similar to the national freight goals in order to show support.
Description of how innovative technologies and operation strategies, including freight intelligent transportation systems, that improve the safety and efficiency of freight movement, were considered	• Freight System Needs, Issues, and Opportunities Technical Memo • Strategies and Implementation Technical Memo
In the case of roadways on which travel by heavy vehicles is projected to substantially deteriorate the condition of the roadways, a description of improvements that may be required to reduce or imped the determination	• Freight System Needs, Issues, and Opportunities Technical Memo • Strategies and Implementation Technical Memo
An inventory of facilities with freight mobility issues, such as bottlenecks, within the State and for those facilities that are State owned or operated, as description of the strategies the State is employing to address the freight mobility issues	• Freight System Needs, Issues, and Opportunities Technical Memo • Strategies and Implementation Technical Memo
Consideration of any significant congestion or delay caused by freight movements and any strategies to mitigate that congestion or delay.	• Freight System Performance Measure Technical Memo • Freight System Needs, Issues, and Opportunities Technical Memo
A Freight investment plan that includes a list of priority projects and describes how funds made available would be invested and matched.	• Freight Investment Plan