

Minnesota
A Collaborative Vision
for Transportation



Statewide Freight System Plan



SUMMARY | MAY 2016



WHY DEVELOP A FREIGHT PLAN AND ACTION AGENDA?

An efficient freight transportation system is essential to Minnesota's economy. Preserving and improving that system requires a plan of action.

All industries are dependent on the transportation system, and freight- or trade-related industries depend on the option to ship goods via road, rail, water, or air and rely on the connections between these modes. This is especially true in Minnesota, home to nearly 20 Fortune 500 company headquarters, many of which are freight-intensive. These businesses manage national and global production and distribution in areas ranging from retail and food production to medical devices and financial services. They include major manufacturers such as 3M, General Mills, Medtronic, Land O'Lakes, Ecolab, and Mosaic, and agricultural commodities giant Cargill Inc., the largest privately held company in the United States. Minnesota is also home to Best Buy and Target corporate headquarters and distribution centers. A greater proportion of Minnesota's economy is dependent on freight transportation than in most states.

The importance of this Plan is reflected in some of the challenges facing the freight transportation system in Minnesota and how it relates to the national and global economy. These challenges include:

- Maintaining and improving Minnesota's transportation system with limited funding
- Providing modal alternatives for shippers
- Improving connections between different modes of transportation
- Managing the impacts of energy development in North Dakota
- Addressing truck driver and workforce shortages
- Responding to competition for investment from neighboring states

In 2005, with the first state freight plan developed and adopted in the nation, Minnesota established a statewide freight 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.

After more than a decade, this policy continues to serve as a statement underscoring the importance of a competitive and connected freight transportation system in Minnesota. Now, with increased federal focus on freight through both the *Moving Ahead for Progress in the 21st Century (MAP-21) Act* and the recently passed *Fixing America's Surface Transportation (FAST) Act*, it is time to update and strengthen Minnesota's focus on freight with an action plan that addresses today's challenges and prepares Minnesota for the future. With government and private industry working together, we can preserve and enhance a safe, efficient, and reliable freight system in Minnesota.

Minnesota Family of Plans

The **2016 Minnesota Statewide Freight System Plan** is part of MnDOT's "Family of Plans" that provides mode-specific strategies, establishes performance measures and performance-based needs, and identifies system priorities. Each Plan uses statewide planning guidance for consistency between each effort and assurance that each mode is contributing to the same overarching vision. Guiding elements of this Plan include:

- **Minnesota GO Vision.** Provides general direction for different modes of transportation including highways, transit, rail, bikes, pedestrians, freight, and aviation.
- **Freight Policy/Vision.** Expanding on elements of the **Minnesota GO Vision**, this policy – developed as part of the 2005 State Freight Plan – provides a specific vision for the freight transportation system in Minnesota.
- **Freight Plan Goals.** Freight plan goals, established so Minnesota could have a mechanism by which to gauge whether the freight policy/vision is being achieved, include:
 - **Support Minnesota's Economy**
 - **Improve Minnesota's Mobility**
 - **Preserve Minnesota's Infrastructure**
 - **Safeguard Minnesotans**
 - **Protect Minnesota's Environment and Communities**
- **Freight Plan Objectives.** As taken from the **Statewide Multimodal Transportation Plan**, these objectives provide an organizing mechanism for strategies and actions required to advance the freight policy/vision.

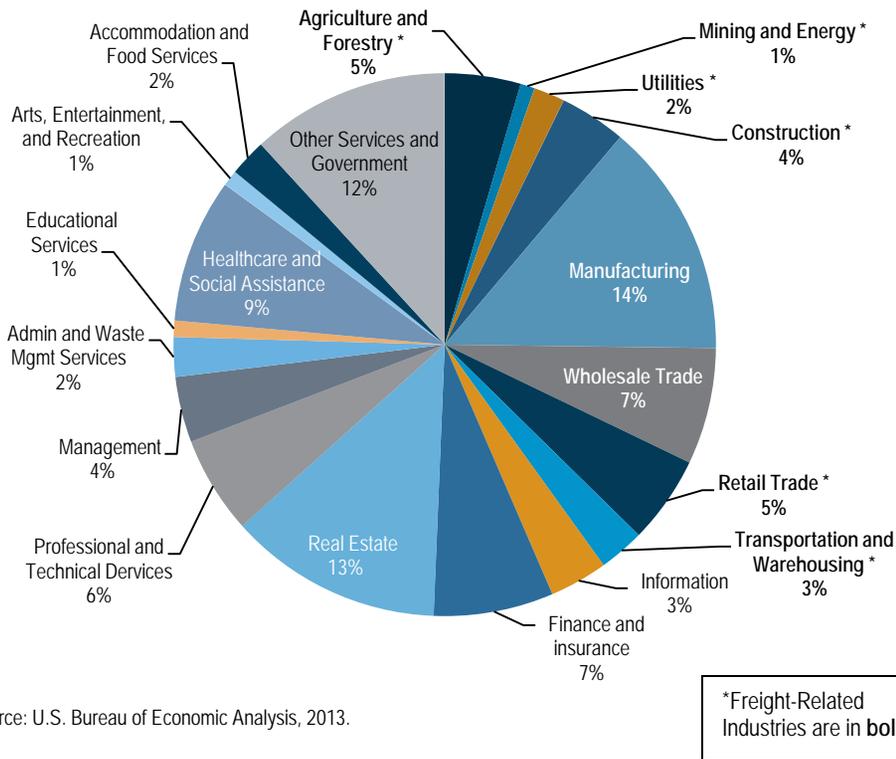
THE IMPORTANCE OF FREIGHT TO MINNESOTA

More than 40% of Minnesota’s gross state product is generated by industries that are directly dependent on freight transportation.

Minnesota’s economy is directly and indirectly dependent on an efficient, reliable, and competitive multimodal transportation system. This is obvious with industries such as agriculture, mining, and manufacturing that move high-volume, heavy products – much of it to destinations beyond Minnesota’s borders.

Figure 1 provides a picture of the state’s industry sectors, showing their contribution to the gross state product (GSP) and identifying those most directly dependent on freight transportation. Overall, 40% of Minnesota’s GSP is dependent on freight-intensive industries – a higher percentage than many neighboring states. It is important to realize that other industries driving the Minnesota economy, such as business services, finance, and healthcare, may not be directly and heavily dependent on freight transportation but are impacted by the industries that are.

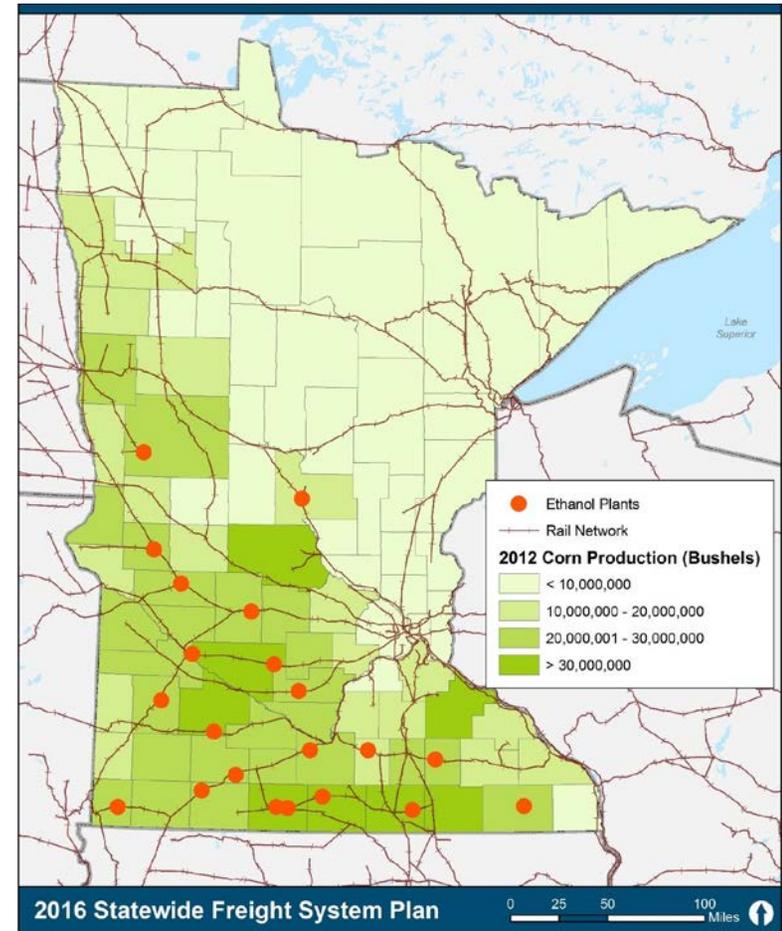
Figure 1 Industry Sectors as Percent of Minnesota GSP



Source: U.S. Bureau of Economic Analysis, 2013.

While a pie chart can provide a quick view of an industry’s “share of the pie,” maps tell the story of how major Minnesota products move through the state. For example, Minnesota is the fourth largest producer of corn in the U.S. About 42% of Minnesota’s corn is exported nationally and internationally while 39% stays in the state – a portion of which feeds Minnesota’s 21 operating ethanol facilities. The map below (see Figure 2) identifies corn production and ethanol plant locations and the rail system that serves them.

Figure 2 Minnesota Corn Production and Ethanol Plant Locations, 2012



Source: USDA National Agricultural Statistics Service, 2012.

THE IMPORTANCE OF FREIGHT TO MINNESOTA

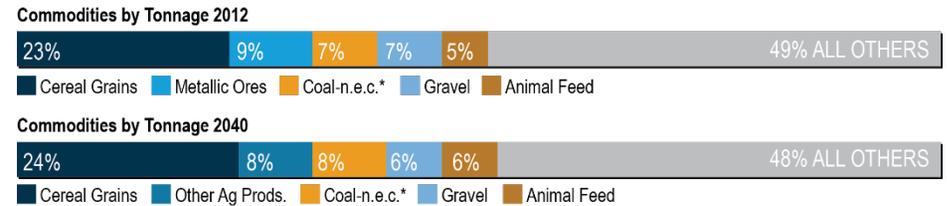
When it comes to freight transportation policy, traditionally the focus has been on tonnage of goods. Commodities such as cereal grains, animal feed, aggregates, and metallic ores rank high in this measure in Minnesota. To better understand the economic impact of the freight system, the focus needs to be broadened to incorporate value measures. Viewing commodities by current value reveals the importance of higher value goods such as electronics and machinery. Looking toward the future, commodities such as precision instruments, electronics, and machinery are forecast to become more important (see [Figures 3 and 4](#)).

One of the challenges for freight transportation policy is to adequately incorporate an understanding of private-sector supply chains, such as those for corn, corn products, and ethanol (as well as Minnesota’s other key industry sectors), into public-sector decisions about infrastructure investment and operation.

This Plan addresses what is known about the economy and how the private sector uses the transportation system and identifies areas of potential change:

- *Energy supply and cost:* How will sources of energy for transportation evolve, where will they come from, and how much will they cost?
- *Global trade patterns:* What goods will we be trading, whom will we be trading with, and how much volume will be traded?
- *Near-shoring of manufacturing:* Will Asia’s increasing labor and transportation costs result in the shifting of some production from Asia to the Americas? In recent years this has occurred with some goods, such as appliances.
- *Production of goods:* Will new technologies such as three-dimensional printing result in manufacturing being less centralized and closer to consuming markets?
- *Delivery of goods:* How will new vehicle technologies such as drones and self-driving vehicles impact freight logistics?
- *Environmental issues and regulation:* Our transportation system is highly subject to the impacts of climate change and is the second largest producer of greenhouse gases in the U.S., so environmental issues and regulation will have a major impact.
- *Public-private partnerships:* How will transportation system funding needs be met, and how might relationships between infrastructure providers and users change?

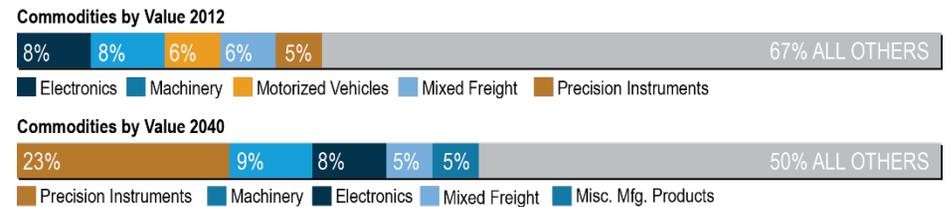
Figure 3 Major Freight Commodities by Tonnage, 2012 (top) and 2040 (bottom)



Source: FHWA FAF3 2015 Provisional estimates.

Note: Coal-n.e.c. refers to coal and petroleum products not elsewhere classified, including natural gas.

Figure 4 Major Freight Commodities by Value, 2012 (top) and 2040 (bottom)



Source: FHWA FAF3 2015 Provisional estimates.



THE FREIGHT TRANSPORTATION SYSTEM IN MINNESOTA

The Minnesota Statewide Freight System Plan defines a Principal Freight Network – including all modes of transportation and their important connections – on which to focus future actions.

In Minnesota, the multimodal transportation system is vast, consisting of:

- More than 11,800 state trunk highway miles and 127,000 local road miles
- Four Mississippi River System ports
- Four Great Lakes ports
- Nearly 4,500 railroad miles
- 135 airports
- Seven international border crossings
- Pipelines and terminal infrastructure
- Numerous facilities where goods are transferred from one mode to another

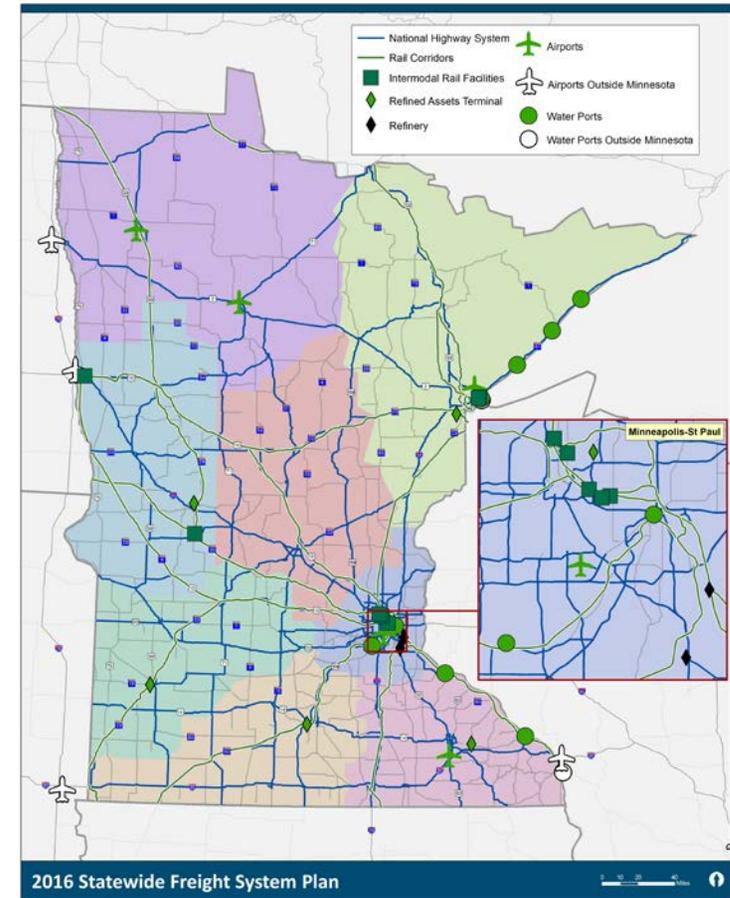
As part of the process for developing this Plan, a collaborative approach was used to designate the Minnesota Principal Freight Network – those components that are most important to the transportation of goods (shown in Figure 5). This network includes:

- Highway system – more than 5,200 miles
- Waterway corridors – one Great Lakes corridor and two inland waterway corridors
- Waterway ports – four Great Lakes ports and four inland waterway ports
- Rail corridors – 2,080 miles
- Rail facilities – seven terminals
- Airports – five airports
- Pipeline facilities – two refineries and six refined asset terminals

This multifaceted network highlights the principal components of each modal system and the points of multimodal/intermodal connectivity. This network links to industries and provides access throughout Minnesota, the Upper Midwest, the nation, and to key international port gateways.

This system will be the focus for future decisions on investment, operations, and regulation to strengthen the State's freight transportation system.

Figure 5 Minnesota Principal Freight Network



Note: Map does not reflect changes to the National Highway System (NHS) resulting from the 2014-2015 Greater Minnesota functional classification review.

FREIGHT TRANSPORTATION SYSTEM USE

Freight tonnage will grow 80% by 2040, demanding increased capacity and efficiency in all modes of transportation.

With mode shares (below) anticipated to essentially remain the same through 2040, the future increase in tonnage from 1.0 billion tons to 1.8 billion tons (see [Figure 6](#)) will place additional stress on the system. Areas congested today – such as the Twin Cities metro region – will be even more congested in the future. In Minnesota, each freight mode plays a critical role in moving goods efficiently, as follows:



By weight, **63%** of goods are moved by truck across the state's **highways**. Trucks transport goods over both long and short distances and are critical for first- and last-mile connections for freight.



Rail is used to move **25%** of goods, by weight, in, out, and across the state. Freight rail can efficiently carry heavy, bulk materials such as grain, coal, and iron ore. Containers carrying imported consumer goods are also transported by rail to Minnesota, from east and west coast ports.



Waterways carry **3%**, by weight, of the goods moved in the state. Like rail, waterways are also well suited for transporting heavy, bulk materials over both long and short distances. Minnesota's ports connect the state to the Great Lakes and the Mississippi River waterway, and to international markets via the Atlantic Ocean and the Gulf of Mexico.

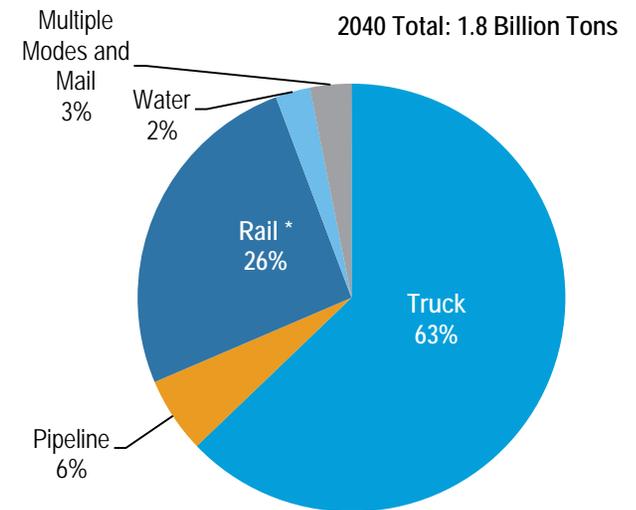
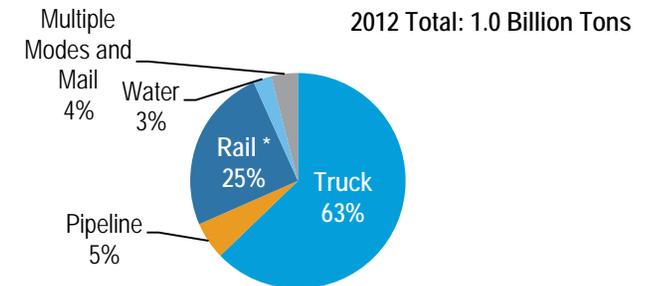


While **air** accounts for less than **1%** of goods, by weight, moved in Minnesota, when measured by the **value** of the goods transported, air cargo accounts for 2% of the total. These time-sensitive, high-value goods include electronics, precision instruments, machinery, and medical devices.



Pipelines transport **5%** of the goods, by weight, moved through the state. If not carried through pipelines, liquid bulk materials would be moved via our roads and rails, causing greater capacity issues for other commercial and personal travel on those same systems.

Figure 6 Mode Share by Weight, 2012 (top) and 2040 (bottom)



Source: FHWA Freight Analysis Framework (FAF3) 2015 Provisional Estimates and 2040 Forecast, and through truck traffic estimated by routing these data; and, STB 2012 Confidential Carload Waybill Sample and FHWA FAF 3.5 forecast for 2040 processed by Cambridge Systematics, Inc.

*Note: Rail intermodal was excluded from Multiple Modes and Mail and included in Rail. Multiple Modes and Mail includes overnight mail and package delivery services.

FREIGHT TRANSPORTATION SYSTEM CONDITION AND PERFORMANCE

This Plan contains a performance measurement process that will guide decisions on maintenance and focus decisions concerning future investment.

The current condition and performance of Minnesota's freight system is generally good. However, there are significant needs and issues that should be addressed in the near term, and others that will require attention in light of changing economic conditions. Freight system performance measures for measuring system condition and performance will help guide resource investment to respond to these changing conditions.

Measures were identified to link to the goals and objectives of this Plan. Evaluation of the condition and performance of the highway portion of the freight system included (see [Table 1](#)):

- **Safety-related measures** are designed to improve the safety, security, and resilience of the freight transportation system. Nationwide, safety is at the forefront of planning and investment decision-making as it is in Minnesota, where some specific efforts focus directly on rail safety.
- **Infrastructure condition measures** of freight system condition provide information about the suitability of physical infrastructure for freight transportation and can help inform system maintenance and preservation programs.
- **Mobility measures** cover a wide range of aspects of the system, including delay, congestion, and overall reliability of the highway system. How long does it take to make the freight trip and can you depend on it?

Knowing where needs and issues (such as chokepoints and bottlenecks) exist on significant freight highway corridors can inform policy and investment decision-making. The success of Minnesota's economic engine relates to the ability of the multimodal freight system to convey goods safely and efficiently.

From a multimodal perspective, freight system demand and how each mode is used needs to be understood and tracked. Measuring freight system volume demand sheds light on the importance of each part of the multimodal transportation system and its condition and use and provides critical information for policy development and program decision-making. Many other performance measure categories – such as safety, asset management, and operations – rely on demand measures to portray more accurately the scale and importance of the measurement. For example, weight-restricted bridges may not be an issue if they are on routes not utilized by heavy trucks. However, bridge weight limitations are a serious concern along routes where trucks, especially overweight trucks, must travel.

Table 1 Highway Condition and Performance Scorecard for Freight in Minnesota

PERFORMANCE CATEGORY	EXPECTED TREND	POSSIBLE IMPLICATION
Safety	Increasing ●	Overall traffic fatalities experienced a slight increase in the most recent year but have generally been on a downward trend.
Infrastructure Condition	Consistent ▲	Pavement and bridge conditions have improved recently but, absent new funding, are projected to worsen in the future.
Mobility	Declining ●	Nationally, annual hours of truck delay is increasing. This delay is greatest in the largest urban areas in the U.S., including the Twin Cities, where congestion will increase while travel speeds decrease for both trucks and cars.

Source: Adapted from the Annual Transportation Performance Report, MnDOT, 2012.

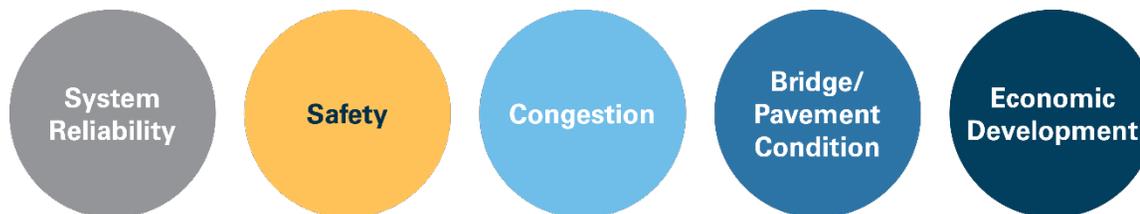


ISSUES AND OPPORTUNITIES

The highest priorities for future action are system reliability, safety, congestion, bridge and pavement condition, and economic development.

The development of the Plan included extensive and various outreach techniques to complement data analysis. Those involved in freight movement – in both the private and public sectors – are most concerned about **system reliability, safety, congestion, bridge/pavement condition, and economic development**. Needs for all modes were identified, but the highway system topped the list. Strategies to address these priorities include:

- **Use the freight system in Minnesota as an economic driver.** The freight system is a conduit for economic activity in the state. This Plan designates Minnesota's Principal Freight Network and recommends how the network should be used, including using the freight network to focus on new development, prioritize investments, and provide funding to projects on the freight network.
- **Use public-private partnerships.** Much of the freight transportation system is owned and operated by the private sector, and goods are transported on all systems. Public-private partnerships can drive needs determination and project development, as well as funding and implementation.
- **Use advanced technology.** For the variety of needs and issues identified, there are many opportunities to introduce technology as part of the solution to improve operational efficiency, safety, and mobility. Some of these include positive train control (PTC), weigh-in-motion systems (WIM), dynamic message signs (DMS) for traveler information, global positioning systems (GPS), and intelligent truck parking.
- **Integrate freight considerations in public agency decision-making.** Other MnDOT offices not solely focused on freight should consider it more thoroughly in the day-to-day activities. For example, MnDOT should annually track freight system performance measures, strengthen consideration of freight during project and investment planning, reflect freight considerations when providing assistance to transportation planning organizations and in continued coordination with FHWA, and maintain an effective freight research program in partnership with the University of Minnesota.



Outreach Complemented the Plan's Data Analysis

- A **Plan Advisory Committee** of “big picture thinkers” provided high-level policy guidance on issues and strategies, as well as feedback on major findings and documents.
- A **Technical Team** of “implementers” provided input into how the elements of the Plan and recommendations could be acted upon.
- A **Project Management Team** guided development of the Plan and coordinated with stakeholders internal and external to MnDOT.
- **Ad Hoc Working Groups** provided input on freight infrastructure, performance measures, and policy.
- The **Minnesota Freight Advisory Committee** provided direction during Plan development and will oversee Plan implementation.
- **One-on-one interviews** were conducted with key business and industries across the state.
- Meetings were held with all of the **Metropolitan Planning Organizations** statewide.
- Meetings were held with planners and engineers in each of the eight **MnDOT Districts**.
- Interviews were conducted with **neighboring states and Canadian provinces** sharing borders with Minnesota.
- **Freight summits** were held in December 2014 and December 2015 to gather input from freight industry leaders in the public and private sector.
- Meetings were held with **tribal governments** to obtain perspectives from transportation leaders.
- Two rounds of **online engagement** were conducted to collect information on freight needs and priorities from

WHAT IS A FREIGHT PROJECT?

A freight project can be maintenance or new investment, an operational or regulatory improvement, or any action that improves the safety and efficiency of freight movement.

Many transportation projects have benefits to freight. A number of the projects on MnDOT's funded surface transportation program will have substantial carry-over benefits to the freight system. For example, repaving a segment of a state highway is a general improvement project intended to benefit all vehicles. While this typically may not be considered a freight project, freight haulers derive a wide range of benefits from this traditional transportation investment.

The location of a highway improvement project also determines its value to freight movements. For instance, road projects on identified routes with heavy truck traffic (e.g., National Highway System [NHS] or Minnesota's Principal Freight Network) will likely benefit freight movements more so than projects on other routes. Most freight trips use a combination of state and local systems to reach their destinations.

Stakeholders were asked to prioritize where MnDOT should focus efforts, as well as where new freight funds should be allocated in the future. Private industry respondents noted that focus should be placed on the highway system. Bridge and pavement maintenance projects and roadway corridor improvements were the top two infrastructure investments recommended.

For the purpose of this Plan, a "freight project" is defined simply as:

"A transportation project that improves the safety or efficiency of freight movements."

This definition applies to highway, railway, waterway, airway, and pipeline systems that fall within the public and private sector realms of ownership and operation.



Bridge Replacement



Rail Intersection



Truck Parking Pilot



Lane Widening

TYPES OF RECOMMENDATIONS

The Plan advances recommendations aligned with plan objectives, aimed at achieving plan goals.

The 2016 Minnesota Statewide Freight System Plan recommends a series of actions to preserve and strengthen the condition and performance of Minnesota's freight transportation system. These coordinated actions reflect high-priority goals that will generate freight system benefits. These actions are important for improving current system condition and performance and Minnesota's capacity to adapt to changing conditions and unforeseeable events.

Recommendations are organized by the following plan objectives, which are derived from the Statewide Multimodal Transportation Plan:

- **Accountability, Transparency, and Communication.** Actions that 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.** Actions that 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.** Actions that 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.
- **Asset Management.** Actions that 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.** Actions that 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.

This Plan suggests priority types of projects, primarily categorized under three objective areas, that serve as a guide for MnDOT's future freight transportation investments:

- **Asset Management.** Projects that focus primarily on the maintenance and/or reconstruction of existing infrastructure.
- **Critical Connections.** Projects that increase the capacity and performance of key freight system connections to make the system work better as a whole.
- **Traveler Safety and System Security.** Projects that improve safety for all users of the transportation system and improve the reliability of freight movements.

These types of projects are consistent with MnDOT's current investment plan and also provide a foundation for federal project eligibility available under the FAST Act.

Manufacturer's Perspectives Studies

Across the state, MnDOT is interviewing area businesses about their transportation needs as part of the Manufacturer's Perspectives Studies. MnDOT is gaining a better understanding of freight customers' transportation priorities and challenges, including:

- The importance of smooth pavement for reducing product and equipment damage
- Flashing signs ahead of intersections that warn truckers of the upcoming stop sign or red light
- Operational changes, such as letting a dairy cooperative know when snowplows go out during winter storms, allowing their milk trucks to follow and deliver their product on time

Many great ideas are emerging from these studies, and the results are benefiting MnDOT's planning and project development. Small, targeted investments to MnDOT's programming and operations can make a big difference to Minnesota businesses' freight transportation needs.

MINNESOTA FREIGHT ACTION AGENDA

This Plan proposes 30 specific actions, including a freight system investment plan and dedicated funding for freight projects.

The Freight Action Agenda outlines next steps for MnDOT and the state's public- and private-sector freight partners, all of whom had a role in developing this Plan. From the beginning, the public-private Plan Advisory Committee that guided its development made it clear that the objective was a realistic action plan.

The Freight Action Agenda delivers a set of actions needed to advance freight performance in Minnesota. Each action item listed identifies the lead agency/ organization responsible and the timing of each action. This guide for implementation will be updated regularly and serves as a tool for monitoring progress and fostering continued collaboration. Thirty recommended actions are listed on the next two pages in [Table 3](#). Below are five key actions that provide the foundation for this Plan and support the remainder of the Action Agenda items:



Table 2 Five Key Actions

	ACTION	DESCRIPTION	LEAD	PARTNERS
Integrate Freight	Integrate freight into transportation planning and project development	Consider freight in overall project planning across modes (highway, rail, water and air). Regularly engage the private sector and consider their perspectives during freight system planning.	MnDOT	State, regional, and local planning agencies and the Minnesota Freight Advisory Committee (MFAC)
Freight System Investment Plan	Develop freight system investment plan	Develop a detailed FAST Act compliant prioritized investment plan that aligns multimodal freight system projects and available sources of funding so they can be implemented.	MnDOT	Public and private freight system stakeholders, system owners and operators
Performance-Based Investment Approach	Use a performance-based approach to make strategic investments on Minnesota's Principal Freight Network	Apply freight system performance measures to monitor and report system condition and identify investment needs for key transportation infrastructure.	MnDOT	Public and private freight system stakeholders, owners and operators
Advanced Technology	Use advanced technology to provide better information and operate the system cost-effectively	Monitor development of advanced technologies and their applications for freight. Apply and fund as appropriate.	MnDOT	State and Federal agencies
Advocate for Freight Projects and Funding	Advocate for freight projects and dedicated freight funding	Public and private freight stakeholders advocate together for advancing critical freight partnerships, strategies, and investments. The FAST Act established the first dedicated source of funding for freight infrastructure at the national level.	MnDOT and MFAC	Public- and private-sector freight stakeholders

MINNESOTA FREIGHT ACTION AGENDA

Table 3 Minnesota Freight Action Agenda

ID	STRATEGY CONCEPT	DESCRIPTION
1	Education	Educate the public on the critical role freight plays in the economy and everyday life of Minnesotans.
2	Partnerships	Engage and partner with Minnesota's public agencies and with producers, shippers/receivers, carriers and other private-sector freight stakeholders to address Minnesota's freight issues together. Engage and partner with neighboring states to address regional freight issues together.
3	Ongoing Freight Forum	Convene an ongoing dialog between public- and private-sector freight stakeholders to keep freight topics front and center.
4	Advocacy	Public and private freight stakeholders advocate together for advancing critical freight partnerships, strategies, investments, and continued funding for freight investments. The FAST Act established the first dedicated source of funding for freight infrastructure at the national level.
5	Traveler Information	Provide freight-specific traveler information, such as truck parking availability, expected travel time and roadway conditions
6	Workforce Development	Programs in cooperation with community colleges and private sector to ensure workforce is available for industry needs (e.g., truck drivers).
7	Corridor Preservation	Actively manage preserved rail corridors held in the State Rail Bank and evaluate for possible future transportation uses
8	Truck Routes	Coordination of truck routes/planning in industrial and urban areas with restrictions and enforcement in adjacent residential areas.
9	Complete Streets	Treatments that consider truck movements as part of total vehicle traffic, which can include time-of-day delivery windows to reduce conflicts with other street users, design guidelines for curb pullouts that can be used at different times for bus pullouts, truck parking, and others.
10	Land Use Planning and Policies	Land use planning and policies to ensure freight development areas are designated and preserved, and that development occurs adjacent to existing infrastructure.
11	Freight as a Good Neighbor	Programs and projects that maintain Minnesota's high quality of life by balancing the local negative impacts of freight transportation with the National benefits provided.
12	Advanced Technology	Monitor development of advanced technologies and their applications for freight. Apply and fund as appropriate.
13	Integrate Freight into All Planning Projects	Consider freight in overall project planning across modes (highway, rail, water and air). Regularly engage the private sector and consider their perspectives during freight system planning.
14	Investments on the Principal Freight Network	Apply multimodal solutions that ensure a high return on investment, given constrained resources, and that complement the unique social, natural and economic features of Minnesota.
15	First-/Last-Mile Connections	Freight connections like highway access and rail spurs to local businesses.

(Action Agenda continued on next page)

ID	STRATEGY CONCEPT	DESCRIPTION
16	Targeted Freight System Investments	Make targeted infrastructure investments (corridor and spot improvements) to support and enhance the multimodal freight system.
17	Intermodal and Multimodal Facilities	Intermodal and multimodal facility development to allow goods to shift between modes such as truck, rail and water. Includes making equipment available.
18	Urban Goods Movement Programs	Projects and programs in urban centers focused on mitigating congestion caused by rush-hour traffic, incidents, work zones or other factors where high volumes of freight and passenger traffic must coexist.
19	Truck Size and Weight	Improved routing for overdimensional and overweight vehicles. Consistency of regulations between Minnesota and neighboring states.
20	Modal Options/ System Redundancy	Modal alternatives (e.g., truck, rail and water) in spot locations and modal redundancy within key corridors so companies have access to a variety of cost-effective and competitive freight modes to ship their goods. Address captive shipper issue.
21	Evaluate and Restructure Existing Freight Funding Programs	Restructure MnDOT's programs to more adequately address freight needs.
22	Freight Data	Improved data collection (e.g., truck counts) and use of innovative sources to help the public sector do better freight planning
23	Freight System Performance Measures	Utilize freight system performance measures to monitor and report system condition and identify investment needs for key transportation infrastructure
24	Freight System Investment Plan	Develop a detailed FAST Act compliant prioritized investment plan that aligns multimodal freight system projects and available sources of funding so they can be implemented.
25	Prioritize Maintenance on the Principal Freight Network	Prioritize bridge/pavement maintenance on these shared routes to ensure ability to handle freight rail and truck, as well as passenger, traffic
26	Design for Freight Safety	Design and implement geometric features that improve vehicle safety such as the use of rumble strips/stripes, wider shoulders, and other features where appropriate
27	Truck Parking	Conduct assessment of truck parking and plan for expansion, as warranted
28	Incident Management and Emergency Response Plans	Develop emergency plans to ensure critical supply chain connectivity and proactively route hazardous materials
29	Rail Crossings	Assess grade-crossing safety and implement policies, programs and investments related to safety of at-grade crossings and seek funding for implementation
30	Rail System Vulnerabilities	Develop and implement a comprehensive plan that addresses key safety vulnerabilities across Minnesota's rail network

FREIGHT PLAN IMPLEMENTATION

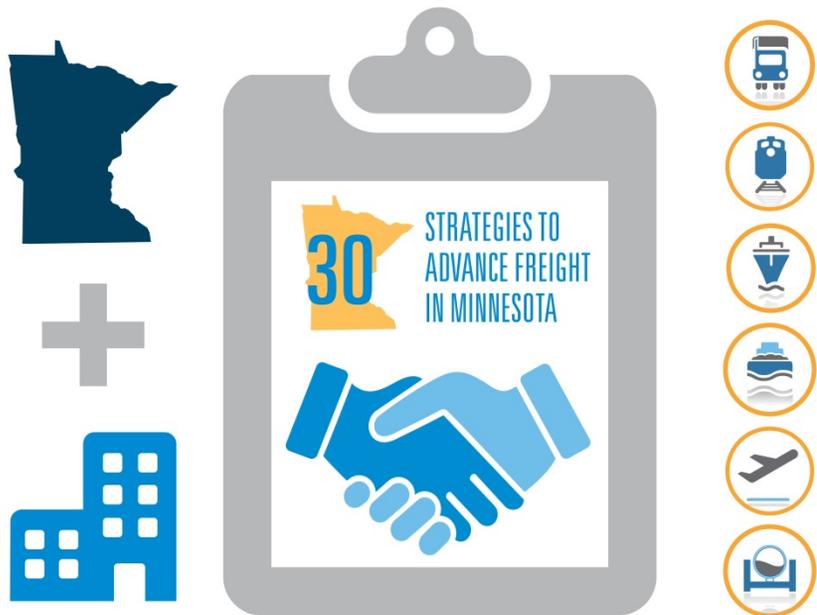
Actions will require collaboration between and within the public and private sectors, for all modes of transportation.

The recommendations in this Plan are not limited by available funding. It will be up to MnDOT and its government and business partners to determine what can be accomplished within funding constraints.

Leading the charge will be the efforts of the Minnesota Freight Advisory Committee (MFAC), the nation's first State DOT Freight Advisory Committee. MFAC was created in 1998 to provide a forum for the exchange of ideas and addressing of issues between MnDOT and the private sector to develop and promote a safe, reliable, and efficient freight transportation system. MFAC, repurposed in the course of this Plan's development, will:

Monitor and report on the implementation of the Statewide Freight System Plan and its Freight Action Agenda, including the development of recommendations for any revisions and updates to the Plan.

With MFAC's oversight, this Plan positions the State to better integrate freight within MnDOT and prepares the agency and its public- and private-sector freight partners for the future, including opportunities to plan better and capture freight project funding collaboratively.



Actions Recommended for the Minnesota Freight Advisory Committee

- **Monitor and report on implementation** of the Statewide Freight System Plan and its Freight Action Agenda, including the development of recommendations for any revisions and updates to the Plan.
- Create an Annual Report for the MnDOT Commissioner that includes a **"State of Freight,"** an overview of trends and important issues, and reports on the activities of the MFAC from the past year.
- Review significant MnDOT initiatives and activities and **provide freight impact and benefits comments.**
- Direct the preparation and dissemination of white papers on freight transportation **issues important to Minnesota's economy.**
- **Advocate** for needs of freight transportation to the public, elected officials, and other public agencies and organizations.
- Suggest **research initiatives and tools** supporting the economic vitality of the state.

ADDITIONAL RESOURCES

Development of the **2016 Minnesota Freight System Plan** was guided by an Advisory Committee consisting of policy leaders and directors from all levels of government and from industry. MnDOT sincerely appreciates the efforts of each of those that contributed.

Bill Goins, Co-Chair

Tim Henkel, Co-Chair

Bruce Abbe

Lon Anne

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For more information

www.dot.state.mn.us/planning/freightplan

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