Greater Minnesota Mobility

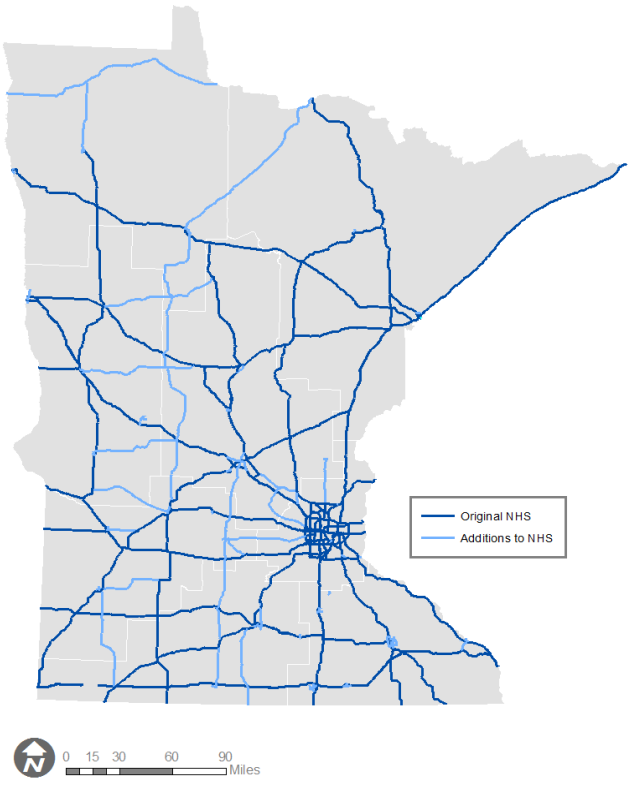
A CRITICAL CONNECTION INVESTMENT

Greater MN Mobility is one of the 14 investment categories of MnSHIP, a fiscally constrained plan MnDOT uses to balance the needs and risks of Minnesota's state highway network. Folios for each investment category describe potential levels of investment and associated outcomes. Through MnSHIP, MnDOT will create an investment direction that guides state highway capital investments for the next 20 years.

INVESTMENT CATEGORY DETAILS

What is Greater Minnesota Mobility?

The goal Greater Minnesota Mobility investments is to enhance the movement of people and freight in Greater Minnesota. The Greater Minnesota Mobility investment category focuses on improving movement of people and freight on the National Highway System (NHS), the priority network for the Minnesota State Highway Investment Plan. The NHS was developed in 1995 and expanded in 2013 to include all Interstates and major US and State Highways. The system totals more than 5,200 miles of roadway in Minnesota. In Greater Minnesota, over 42% of the state highway system is on the NHS.



With the passage of the federal transportation bill Moving Ahead for Progress in the 21st Century (MAP-21), the NHS was expanded to include most of the IRC system.

Why is Greater Minnesota Mobility important?

The NHS connects all major centers and regions of the state. These connections provide access to markets and services through Minnesota and link people with jobs and manufacturers with markets, shoppers with stores, and tourists with regional activities.

Greater Minnesota Mobility's investment objective is to minimize the mobility issues on these critical routes which account for a majority of vehicle and freight traffic on Minnesota's highway system. Less reliable travel times or unstable traffic flow along the system result in increased travel time and fuel costs. For commercial traffic, these disruptions decrease production and delivery schedules and increase the costs of doing business. These higher costs could be passed along to consumers.

How does investing in Greater Minnesota Mobility support the Minnesota GO vision and the Statewide Multimodal Transportation Plan?

Investing in Greater Minnesota Mobility supports the guiding principles laid out in the 50-year vision for the state's transportation system, Minnesota GO. Among those are:

- Ensure regional connections through multiple modes of transportation;
- Provide safe, convenient, efficient, and effective movement of people and goods;
- Ensure accessibility to key resources and amenities throughout communities; and
- Emphasize reliable and predictable options.

Building upon these principles, investment in Greater Minnesota Mobility strengthens multiple strategies identified in the SMTP, notably:

- Prioritize maintaining and operating assets on identified priority networks;
- Apply multimodal strategies that ensure a high return-on-investment, given constrained resources, and that complement the unique social, natural and economic features of Minnesota;

and

- Work together to improve accessibility and safety for everyone traveling on, along, and across roads.

How has the planning context for Greater Minnesota Mobility changed since 2013 MnSHIP?

For the MnSHIP 2037 update, what was previously the IRC Mobility investment category has been changed to Greater Minnesota Mobility. This change is due to several reasons. First, the federal transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21), expanded the NHS system to include most of the IRC system and identified the NHS as the priority network for capital investments. Performance measurements for mobility will be measured on the NHS in the future. Second, as a part of MnDOT's update to the Statewide Freight System Plan, the plan identified the NHS as the freight priority network for trucking after evaluating more than six possible options. For these reasons, the priority network for mobility has expanded beyond the IRC to the NHS in MnSHIP 2037.

How does MnDOT measure performance in Greater Minnesota Mobility?

MnDOT anticipates new federal performance measures and targets for mobility to be set for the NHS as a result of MAP-21. No official performance measures or targets have been announced, but AASHTO has recommended measures of travel time reliability and delay. Travel time reliability measures look at how travel time varies from day to day. There may be delay on the highway, but if it is predictable, the traveling public and freight operators can anticipate the delay and schedule their departure and arrival times accordingly. Delay is the amount of extra travel time spent when travel speed is slower than expected. It is anticipated MAP-21 will use this measure and MnDOT will set a performance target accordingly.

How did MnDOT create the investment levels?

The performance levels outlined in the table represent plausible investment levels for Greater Minnesota Mobility. A risk-and performance-based analysis was undertaken in the summer of 2015 to illustrate potential future scenarios. Performance levels reflect investments between 2022 and 2037 (2018-2021 funding levels influenced by 2013 MnSHIP). PL 0 through 3 represent a range of options to help stakeholders and decision-makers understand outcomes, risks, and system investment strategies for Greater Minnesota Mobility.

How does MnDOT typically invest in Greater Minnesota Mobility?

Currently, no funds are projected to be spent in Greater Minnesota Mobility between 2022 and 2037 because nearly

Tips for using this table

Performance Levels

- **Performance Level 0 (PL 0)** represents a strategy which corresponds to the most extreme risk level MnDOT would consider for investing in Greater Minnesota Mobility.
- MnDOT's current spending in Greater Minnesota Mobility approximately corresponds to **PL 0**.
- Cost + benefit increase and risks decrease from left to right.
- PLs for Greater Minnesota Mobility are independent of other performance categories.

Investment Approach

- See **MnSHIP Investment Approaches** folio

Investment Levels

- The **pie charts** represent MnSHIP's total planning investment for years 2022-2037 ($17.1 billion) and the portion of it which will be dedicated to Greater Minnesota Mobility investment at each PL.
- **Base investment for other categories** is the amount required to invest at PL 0 in every other category.
- **Remaining revenue available** is the additional investment beyond the base investment for all categories in MnSHIP.

Outcomes

- Highlights key outcomes associated with each PL. For Greater Minnesota Mobility, outcomes correspond with key performance measures.

Risks

- Identified as **high**, **medium**, or **low** in each PL; each risk decreases in severity from left to right.

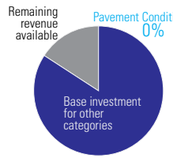
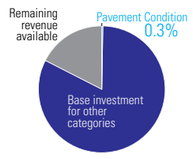
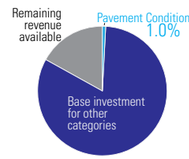
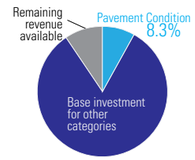
System Investment Strategies

- Details the steps MnDOT would make to mitigate risk at each PL.

Greater Minnesota Mobility

Overarching Goal: Enhance the movement of people and freight in Greater Minnesota.

Performance Objectives: Minimize mobility issues in Greater Minnesota through critical routes with highest vehicle and freight volumes that connect all major centers and regions of the state.

	Performance Level 0 *Lowest cost, greatest risk*	Performance Level 1 *Lower cost, higher risk*	Performance Level 2 *Greater cost, lower risk*	Performance Level 3 *Greater cost, lower risk*
Investment Approach *(See Approach Folio)*	**Approach A** Corresponds with current investment	**Approach B, C**	PL does not correspond with an Investment Approach	PL does not correspond with an Investment Approach
Investment Level *Total* *Years 5-10 (2022-2027)* *Years 11-20 (2028-2037)*	**$0 M** $0 M $0 M 	**$52 M** $2.6 M/yr $3.6 M/yr 	**$172 M** $8.5 M/yr $12.1 M/yr 	**$1,389 M** $68.8 M/yr $97.6 M/yr 
Investment Description	No mobility investments on NHS in Greater MN	Invest in operational and low-cost capital improvements at locations experiencing high travel time delay in Greater MN	Invest in operational, low-cost capital improvements, limited high cost capital improvements at locations experiencing high travel time delay in Greater MN	Invest in operational, low-cost capital, and high-cost capital improvements at locations experiencing high travel time delay in Greater MN
Outcomes *To what extent would MnDOT meet Greater Minnesota Mobility goals and objectives?*	• Majority of the Greater MN NHS performs well with limited delays • A few corridors continue to have increasing travel time delay	• Majority of the Greater MN NHS performs well with limited delays • Travel time delays addressed at 3-5 locations through operational improvements and 3-5 locations through low-cost capital improvements	• Majority of the Greater MN NHS performs well with limited delays • Travel time delays addressed at 3-5 locations through operational improvements, 3-5 locations through low-cost capital improvements, and 1-2 capacity improvements	• Majority of the Greater MN NHS performs well with limited delays • Travel time delays addressed at 3-5 locations through operational improvements, 3-5 locations through low cost capital improvements, and 10+ locations through capacity improvements • Remaining travel time delay reduced on a majority of the NHS in Greater MN
Risks	**Medium** • Less predictable travel times and unstable flow on NHS • Difficulty entering highway during peak periods • Signals and stop signs disrupt traffic flow, increase travel time variability • Increased congestion impacts freight --> greater costs **Low** • Increased congestion --> safety risk	**Medium** • Less predictable travel times and unstable flow on NHS • Difficulty entering highway during peak periods • Signals and stop signs disrupt traffic flow, increase travel time variability • Increased congestion impacts freight --> greater costs **Low** • Increased congestion --> safety risk	**Medium** • Less predictable travel times and unstable flow on NHS • Signals and stop signs disrupt traffic flow, increase travel time variability • Increased congestion impacts freight --> greater costs **Low** • Difficulty entering highway during peak periods • Increased congestion --> safety risk	**Low** • Less predictable travel times and unstable flow on NHS • Signals and stop signs disrupt traffic flow, increase travel time variability • Increased congestion impacts freight --> greater costs • Difficulty entering highway during peak periods • Increased congestion --> safety risk
Risk Management Strategies *What strategies would MnDOT use to manage risk?*	• Focus on traveler information and other travel demand strategies	• Focus investment on locations to improve travel flow through operational improvements such as improved/upgraded signals, ITS deployment and low-cost/high return on investment improvements such as intersection improvements, turn lanes, or passing lanes.	• Focus investment on locations to improve travel flow through operational improvements and low-cost/high return on investment improvements, and a limited number of capacity improvements.	• Focus investment on locations to improve travel flow through operational improvements and low-cost/high-return-on-investment improvements, and capacity improvements.

all of the NHS is meeting their performance targets. Investments in Greater Minnesota Mobility may only be made at locations that are performing below targets. **Projects on NHS that meet their performance target are not funded as part of the Greater Minnesota Mobility investment category but may be funded through the RCIP or Traveler Safety investment category** depending on the type of improvement. RCIPs are investments that respond to regional concerns and collaboration opportunities in order to support economic competitiveness and quality of life.

What risk are address through increased Greater Minnesota Mobility investment?

Generally, the more MnDOT invests in Greater Minnesota Mobility, the more MnDOT is able to reduce these key risks.

- Less predictable travel times and unstable flow at key locations result in lost time, less fuel efficiency, and impacts to system users that are traveling region to region or between major centers.
- Increased congestion results in less reliable trips for freight, and potentially disrupts production/delivery schedules. This could increase the costs for businesses. These higher costs could be passed on to the consumer limiting the economic competitiveness of state.
- Increased highway congestion increases the potential for crashes resulting in serious injuries.
- Inability to make traditional capacity improvements at locations could result in more access issues (difficulty in gaining access during peak travel times) and some localized safety problems.
- Increased traffic volumes at railroad grade crossings and increased volume and implementation of traffic signals contribute to intermittent disruption of traffic flow, increased congestion, and travel time variability. These could increase costs to users.

How is MnDOT enhancing financial effectiveness through Greater Minnesota Mobility?

Investing in improving mobility at certain locations with low travel time reliability and greatest peak period delay will have the most significant impact on the traveling public and freight operators. Greater Minnesota Mobility investments would maximize their impact by targeting operational and low-cost/high-benefit projects first to address mobility issues on the system. These projects could include upgrading and optimizing traffic signals, investing in ITS in Greater Minnesota, completing intersection improvements, and adding turn lanes or passing lanes. These high return on investment projects allow MnDOT to make improvements on more corridors than would be possible through investing in traditional expansion projects.

Find more information with these additional folios!

System Stewardship
- Pavement Condition
- Bridge Condition
- Roadside Infrastructure Condition
- Jurisdictional Transfer
- Facilities

Transportation Safety
- Traveler Safety

Critical Connections
- Twin Cities Mobility
- Bicycle Infrastructure
- Accessible Pedestrian Infrastructure

Healthy Communities
- Regional + Community Improvement Priorities

Other Investments
- Project Delivery
- Small Programs

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