



## OVERVIEW + BACKGROUND FOLIO

# What is MnSHIP?

### What is MnSHIP and what does it affect?

The 20-Year Minnesota State Highway Investment Plan 2013-2032 (MnSHIP) will support the guiding principles from the Minnesota GO vision and link the policies and strategies in the Statewide Multimodal Transportation Plan ([www.minnesotagoplan.org](http://www.minnesotagoplan.org)) to improvements on the state highway system. The **state highway system** is a network of roads that includes interstates, U.S. highways, and state highways, and serves automobiles, trucks, motorcycles, pedestrians, bicyclists, and transit. MnDOT maintains the state's 12,000-mile highway system. MnSHIP will guide capital improvements on Minnesota's highways over the next twenty years; it will not affect local or county roads.

The 20-year plan is divided into three periods:

#### • 2013-2016 - The State Transportation Improvement Program (STIP) (years 1-4):

The STIP identifies projects on the state highway system that MnDOT intends to carry out in the next four years. The investment direction established in MnSHIP will primarily affect projects after the STIP.

#### • 2017-2022 (years 5-10):

A general plan of improvements and several specific projects will be identified in MnSHIP, though project timing and scope may change.

#### • 2023-2032 (years 11-20):

Specific projects will not be identified; rather, MnSHIP will set broad investment priorities and develop associated funding allocations.

MnSHIP will establish a fiscally constrained investment direction

for highway projects from years 2017 through 2032.

### How does MnSHIP differ from the last plan update?

MnSHIP is updated every four years, as required by the Minnesota State Legislature. The last plan was completed in 2009. Since the last plan update, MnDOT has adopted a risk management approach to decision-making. The current MnSHIP update will incorporate risk management in the following ways:

- MnDOT will assess risks across multiple performance levels for each investment category (pages 3-4); and
- MnDOT will solicit feedback on different combinations of strategies that manage risks to the highway system (pages 3-4).

### What other factors will shape MnSHIP?

MnSHIP must consider a variety of factors that affect the state highway system. System needs exceed projected revenue that will be available over the next twenty years (page 2). In addition, MnSHIP will respond to recent federal legislation

(MAP-21) that requires MnDOT to prioritize

improvements on major routes included in the National Highway System.

State and federal requirements, the Governor, technical experts, and public opinion will all guide the development of MnSHIP.



*MnSHIP will address regional mobility, among other highway system needs, through its investment categories.*

# MnSHIP Investment Categories

The total MnSHIP investment will be allocated into ten categories that make up five key groups of highway projects:

#### Asset Management

- Pavement Condition
- Bridge Condition
- Roadside Infrastructure Condition

#### Traveler Safety

- Traveler Safety

#### Critical Connections

- Twin Cities Mobility
- Interregional Corridor Mobility
- Bicycle Infrastructure
- Accessible Pedestrian Infrastructure

#### Regional + Community Improvement Priorities

- Regional + Community Improvement Priorities

#### Project Support

- Project Support

*A fixed percentage that is allocated towards delivering projects.*

# Revenue + Needs Outlook

## What sources of revenue fund the state highway system?

Minnesota’s state highway system is funded through both state and federal sources. The state also uses bonding authority to finance investments in state highways. A **bond** is a written promise to repay borrowed money at a fixed rate over a period of time.

## Where are we headed?

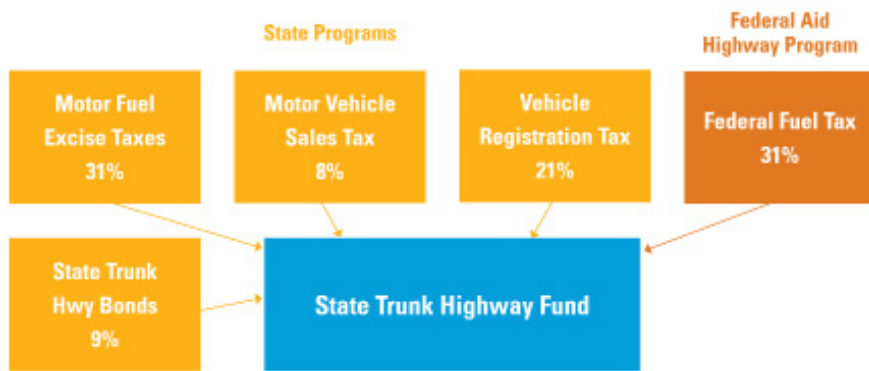
MnDOT anticipates limited growth in revenue for several reasons. First, the historic growth in revenue generated through state and federal fuel taxes is slowing due to changes in travel patterns and more fuel-efficient vehicles. In addition, MnDOT will approach its set limit on bonding capacity during the next decade. Around 2020, MnDOT expects to repay more than \$200 million per year, or 19% of its projected revenues, towards debt service from bonds.

Over the next twenty years, future revenue is forecast to be approximately \$18 billion. The 2013-2016 State Transportation Improvement Program (STIP) includes approximately \$4 billion in capital projects. This leaves approximately \$14 billion in projected revenue to invest between 2017 and 2032, the years MnSHIP covers.

## Will MnDOT be able to address the system’s needs?

The state highway system’s needs have increased since the 2009 MnSHIP update and will continue to grow. Preliminary estimates suggest that the investment needed just to preserve physical highway assets in good repair—without addressing safety, mobility or local issues—would require all projected revenue over the 20-year period. MnDOT’s obligation to balance revenue constraints, legislative requirements, increasing needs, and reduced buying

power means that MnSHIP must establish the state’s priorities for capital investments on state highways.



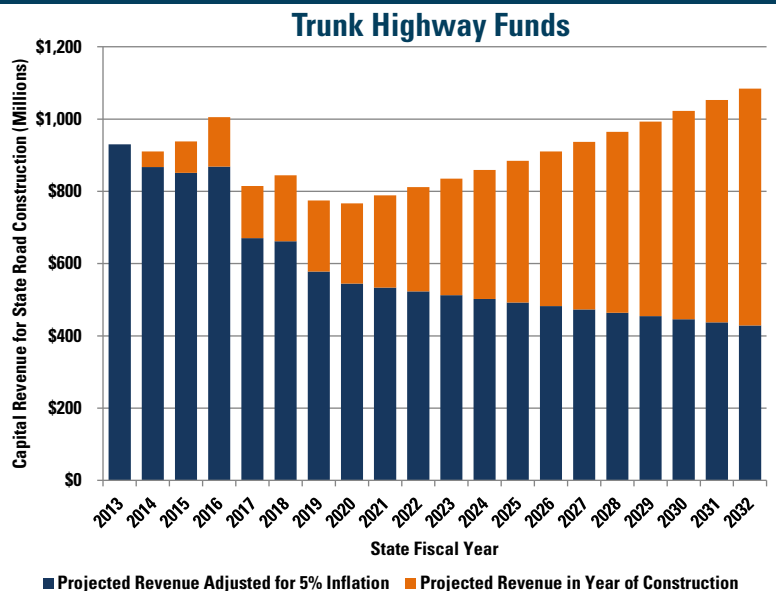
State and federal revenue sources contribute to Minnesota’s trunk highway system fund. Percentages reflect an approximated breakdown of the trunk highway fund for State Fiscal Year 2010.

# Reduced Buying Power

## How will buying power affect transportation funding?

**Inflation** is a rise in the general level of prices that may lead to a loss in buying power. The future value of current transportation funds will be greatly reduced due to increases in the cost of fuel, materials (such as asphalt, steel, and concrete), labor, and equipment. MnDOT will likely have only half of its current purchasing power in 20 years, which poses serious challenges to the state transportation network.

The graphic to the right depicts how expected revenue would be impacted given a 5% inflation rate (the historic capital construction inflation rate over the last decade). The general decline in revenue reflects a loss in buying power over the next twenty years.



The buying power of projected revenue is expected to decrease over the next twenty years.

# Risk, Performance, + Scenario-Based Planning

## What is performance-based planning?

In performance-based planning, quantitative measures are used to determine how well a given plan will contribute to stated goals. MnDOT uses performance trend data and forecasts to guide investments and operational decisions. For the latest Annual Minnesota Transportation Performance Report, visit <http://www.dot.state.mn.us/measures/index.html>

In the last MnSHIP update, MnDOT used performance measures and targets to identify its future investment needs on the state highway system. The current update advances this concept by identifying various funding possibilities in each of the ten investment categories listed on page 1 (e.g., Bridge Condition).

## How are “Performance Levels” used in MnSHIP?

MnDOT has outlined four to five levels of potential funding for each investment category. These varying investment amounts are called “Performance Levels” in MnSHIP. Each Performance Level is unique in its investment level, strategy, performance outcomes, and associated risks. Investing at a given Performance Level in one category does not cause the Performance Levels in other categories to adjust. For example, choosing a Performance Level 2 in Bridge Condition does not mean that Roadside Infrastructure Condition must be set at Performance Level 2.

MnDOT has estimated the extent to which each Performance Level would meet agency-wide performance targets through year 2032. This Performance Level analysis will help MnDOT and its stakeholders gain a realistic understanding of how the different investment approaches would affect Minnesota highways over

the next two decades.

## How will MnDOT incorporate risk in MnSHIP?

MnDOT has embraced a risk management approach in its operations and capital decision-making to proactively identify, clarify, and address risks and opportunities. This approach is intended to protect and create value for all transportation stakeholders across the state.

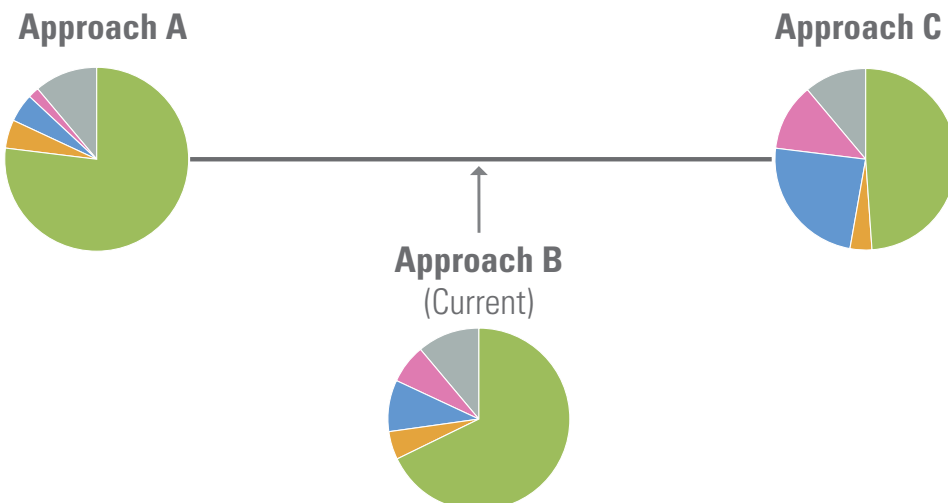
Consistent with this approach, MnDOT is using a risk-based assessment in MnSHIP to both articulate and convey the risks associated with each Performance Level option. The risks at each level vary by their expected impact to the system and the likelihood of their occurrence.

## How will MnDOT use scenario planning for MnSHIP?

As shown in **Step 2** of the plan development process (page 4), MnDOT has used both performance measures and risk to define a potential range of investment for each category. This step allows MnDOT and the public to better understand the tradeoffs associated with different Performance Levels.

**Step 3** of the MnSHIP update involves evaluating investment approaches that use different combinations of Performance Levels from each investment category. Each approach represents a potential way to balance risk and performance outcomes given legislative requirements and revenue constraints. For more information, see the Scenario Planning folio.

Ultimately, seeking feedback on the likely outcomes associated with various investment approaches will help MnDOT to establish the most relevant investment direction and plan.

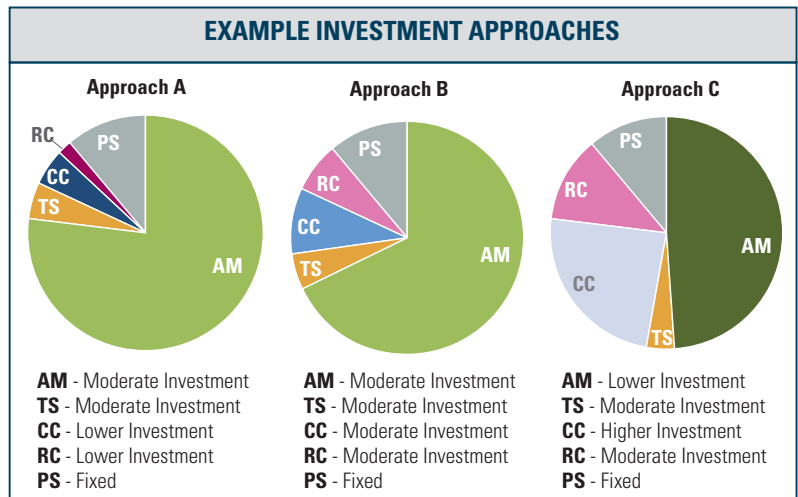
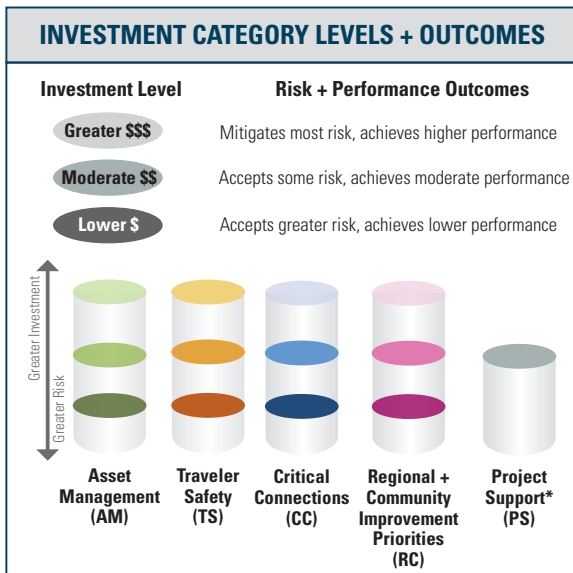


*In Step 3 of MnSHIP, MnDOT will produce different combinations of Performance Levels from each investment category to solicit feedback from stakeholders. Approaches A, B, and C are example investment approaches. Colors correspond to the five key groups of highway projects:*

- **Asset Management**
- **Traveler Safety**
- **Critical Connections**
- **Regional + Community Improvement Priorities**
- **Project Support**

# Plan Development Process

The figure below illustrates the performance-based and risk-based planning process that the 2013-2032 MnSHIP update is using.



\*A fixed percentage that is allocated towards delivering projects.

MnSHIP will be influenced by feedback from stakeholders throughout the state of Minnesota. Opportunities to participate include:

#### Webinars

- **August 27, 2012** - MnSHIP Overview
- **September 10, 2012** - Investment Categories and Scenario Planning I
- **September 24, 2012** - Investment Categories and Scenario Planning II
- **March 2013** - Briefing on draft plan

#### Meetings

- **October 2012** - Stakeholder engagement meetings will take place in each MnDOT District.
- **April 2013** - MnDOT will hold a public hearing on the draft plan.

#### Look for these additional folios!

##### Investment Category Folios

- Pavement Condition
- Bridge Condition
- Roadside Infrastructure Condition
- Traveler Safety
- Twin Cities Mobility
- Interregional Corridor Mobility
- Bicycle Infrastructure
- Accessible Pedestrian Infrastructure
- Regional + Community Improvement Priorities
- Project Support

##### Scenario Planning

- MnSHIP Investment Approaches

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