



UNMET NEEDS

Over the next 20 years, MnDOT estimates there will be \$36.7 billion in available revenues to address \$52-57 billion in identified transportation needs, resulting in a funding gap of approximately \$15-20 billion. Recent increases in revenue have substantially reduced the unmet need for MnSHIP. However, over the planning period, revenues are not expected to keep pace with forecasted inflation for the construction-related sector. Additional capital improvements are needed to maintain aging infrastructure and meet Minnesotans' growing transportation needs.

The unmet needs presented in this chapter refer to the same set of needs presented in Chapter 4: Investment Needs. For the state highway system, the difference between the 20-year needs and the amount MnDOT plans to spend in each investment category over this timeframe is shown in Figure 7-1. MnDOT estimates there will be a funding gap of between \$15 and \$20 billion over the next 20 years. This is a slight reduction from the \$21 billion unmet need identified in the 2017 MnSHIP document. The range reflects the reduction in Highway Mobility need if MnDOT is successful at achieving its vehicle miles travelled reduction target. Both immediate investment needs and those expected to arise over the next 20 years will not be fully addressed. As a result, the state will fall short of meeting its performance-based goals.

CHAPTER 7

Figure 7-1: Summary of Unmet Needs through 2042

INVESTMENT CATEGORY	20-YEAR NEEDS	20-YEAR EXPENDITURES	UNMET NEEDS	UNDERFUNDED IMPROVEMENTS
Pavement Condition	\$14.7 billion	\$13.5 billion	\$1.8 billion	Other NHS and Non-NHS pavement condition
Bridge Condition	\$6.6 billion	\$6.0 billion	\$600 million	Non-NHS bridge condition
Roadside Infrastructure	\$5.1 billion	\$2.8 billion	\$2.3 billion	All roadside assets including culverts, signage, lighting, noise walls
Rest Areas	\$300 million	\$150 million	\$150 million	Rest area condition
Climate Resilience	\$1.2 billion	\$550 million	\$600 million	Most climate resilience upgrades and snow trap locations are not addressed
Transportation Safety	\$2.4 billion	\$1.3 billion	\$1.2 billion	Some sustained crash locations are not addressed
Advancing Technology	\$150 million	\$100 million	\$50 million	Fiber network expansion
Highway Mobility	\$6.6 billion*	\$1.2 billion	\$5.4 billion	E-ZPass express lanes, strategic capacity and spot mobility improvements
Freight	\$1.3 billion	\$700 million	\$600 million	Freight bottlenecks
Pedestrian and Bicycle	\$4.6 billion	\$1.2 billion	\$3.4 billion	Sidewalk system completion, implementing district bike plans
Local Partnerships	\$1.2 billion	\$1 billion	\$200 million	Jurisdictional transfer
Main Streets/Urban Pavements	\$1.7 billion	\$900 million	\$900 million	Some urban pavement locations with ADA and/or local community needs are not addressed
Small Programs	\$100 million	\$100 million	-	Not applicable
Project Delivery	\$11.5 billion	\$7.3 billion	\$4.2 billion	Cost to deliver capital projects based on analysis of historic expenditure patterns
INVESTMENT CATEGORY TOTAL	TOTAL=\$52-57 BILLION	TOTAL=\$36.7 BILLION	TOTAL=\$15-20 BILLION	

SYSTEM STEWARDSHIP: UNMET NEEDS

PAVEMENT CONDITION

Based on the spending strategies outlined in Chapter 6: Investment Direction, Interstate pavement condition is projected to meet performance targets by 2042. Pavement condition on the Other NHS and Non-NHS roadways are projected to be slightly worse than targets. Projected outcomes on both systems have improved significantly with the additional funding received in the 2023 legislative session.

BRIDGE CONDITION

NHS bridge condition is projected to meet performance targets by 2042. Non-NHS bridges in poor condition will double and not meet their performance target. Despite this, projected non-NHS bridge outcomes have improved significantly with the additional funding received in the 2023 legislative session.

ROADSIDE INFRASTRUCTURE

There is additional funding for Roadside Infrastructure in the MnSHIP investment direction that will help reduce the projected increase in poor roadside assets, but conditions are expected to decline and not meet targets. This is one of the largest unmet needs in MnSHIP. Deteriorating roadside infrastructure leads to increased maintenance and capital costs for MnDOT.

REST AREAS

The condition of rest areas will continue to deteriorate. Rest areas will make progress towards complying with the Americans with Disabilities Act standards.



CLIMATE ACTION: UNMET NEEDS

CLIMATE RESILIENCE

The Climate Resilience investment category received an increase in funding from the existing investment approach. Highest priority flood mitigation locations and locations for new and improved green infrastructure are funded. With the MnSHIP investment direction, MnDOT will not be able to address all high return on investment snow trap locations or all highway culverts that need resilience fixes.

TRANSPORTATION SAFETY: UNMET NEEDS

TRANSPORTATION SAFETY

Safety outcomes are difficult to project. Recent years have seen an increase in transportation fatalities and serious injuries in Minnesota. These recent trends have made reaching statewide short-term and long-term safety targets increasingly difficult. The increased investment in Transportation Safety in the MnSHIP investment direction will help reduce fatalities and serious injuries on state highways, particularly for pedestrians and bicyclists. The highest priority locations for pedestrian and bicycle safety improvements are funded. Despite the increase in safety funding, MnDOT will not be able to address all state highway locations with fatal/serious injury crash rate in the top 10%.

ADVANCING TECHNOLOGY

Needs for advancing technology will largely be met. MnDOT will be able to invest in immediate and medium needs for fiber network expansion but will not be able to meet long-term needs.



CRITICAL CONNECTIONS: UNMET NEEDS

HIGHWAY MOBILITY

In the Twin Cities region, highway mobility needs related to active traffic management, transit-supportive investments and spot mobility improvements will be addressed. MnDOT will not be able to fully build out E-ZPass lanes or implement strategic capacity improvements where needed. Because of this lack of investment, the region is not expected to meet its target for highway delay per person.

In Greater Minnesota, highway mobility investments will be able to address the highest priority needs for spot mobility improvements on the NHS. Strategic capacity needs will not be addressed with the MnSHIP investment direction.

It is important to note that additional investments in highway mobility are likely outside of MnSHIP. These include investments funded through the Corridors of Commerce program, federal solicitations and state bonding.

FREIGHT

MnDOT is able to fund the greatest needs for freight movement on state highways including truck parking and weigh station maintenance. Unmet needs include addressing major freight bottlenecks throughout the state and the construction of new weigh station facilities. Future increases to VMT and delay would negatively impact freight movement in Minnesota and potentially lead to higher costs for businesses and customers.

PEDESTRIAN AND BICYCLE

The biggest area of unmet need for the Pedestrian and Bicycle investment category is implementation of the district bike plans. Pedestrian investment is prioritized. MnDOT is able to achieve its goal of substantial compliance with ADA by 2037. The highest priority needs for sidewalk system completion are funded however MnDOT will not be able to fully fund the needs identified in the Statewide Pedestrian System Plan.

The majority of improvements identified in the district bike plans will not be addressed with the MnSHIP investment direction. Some standalone bicycle improvements and priority state bikeways will be funded. The majority of bicycle improvements will be made as part of pavement and bridge projects. State highways may continue to be barriers to bicycle movement in many locations, although they will continue to allow bicycle movement along them.

HEALTHY EQUITABLE COMMUNITIES: UNMET NEEDS

LOCAL PARTNERSHIPS

MnDOT will continue to partner with local agencies through the Local Partnership Program and the Transportation Economic Development program but will not be able to address all needs. In addition to the needs identified by MnDOT, transportation partners identified an additional \$5 billion in local needs on the state highway system. These improvements are not funded in MnSHIP and are not included in the needs identified in Chapter 4: Investment Needs.

MnDOT has limited ability to find opportunities to realign roadways under the correct agency through jurisdictional transfer. Roadways that are currently owned by MnDOT but would better serve the traveling public if owned by a local agency will not be repaired or transferred. This results in potentially foregone savings from future maintenance and capital costs.

MAIN STREETS/URBAN PAVEMENTS

Despite a substantial increase in investment, MnDOT will not be able to fully address its needs for Main Streets/Urban Pavements. Half of candidate urban locations will not be addressed within the timeframe of the plan.

OTHER: UNMET NEEDS

SMALL PROGRAMS

MnSHIP assumes MnDOT will continue to need a fixed amount of funds throughout the 20-year timeframe to respond to short-term, unforeseen issues and continuing commitments. MnDOT currently plans \$5 million per year or 0.3% of its total projected revenue to cover investments in Small Programs.

If MnDOT does not fully spend its annual allocation for small programs in a given year, it directs the funds toward its highest unaddressed risks in the capital program.

PROJECT DELIVERY

MnDOT estimates that achieving its targets and key objectives in the areas of System Stewardship, Climate Action, Transportation Safety, Critical Connections and Healthy Communities would require approximately

\$11.5 billion in Project Delivery through 2042. The MnSHIP investment direction includes \$7.3 billion for Project Delivery. An additional \$4.2 billion would be required for Project Delivery if MnDOT were to deliver a program that meets the needs in all of the MnSHIP investment categories.

MnDOT estimated the amount historically spent in this category to establish the proportion of the overall investment that would be required to design, engineer and construct projects over the next 20 years. Approximately 20% of MnDOT’s annual capital investment typically goes to supporting the delivery of projects. The percentage of spending in project delivery has changed significantly since 2017 MnSHIP as a result of more thorough analysis of actual expenditures and increased requirements for MnDOT projects.

REMAINING RISKS

Each investment category workgroup identified highway capital risks related to their investment area. These risk statements were scored for likelihood and impact (high, medium, low) at the end of the MnSHIP planning period based on MnDOT’s current investment approach and the investment direction in this plan. Due to an increase in funding, many risks were reduced compared to the current investment approach. Figure 7-2 shows the risks that were reduced from a high risk in the current investment approach.

Figure 7-2: High Risks Reduced with MnSHIP Investment Direction

INVESTMENT CATEGORY	RISK STATEMENT	RISK LEVEL CURRENT APPROACH	RISK LEVEL WITH MNSHIP INVESTMENT DIRECTION
Pavement	Maintenance budgets require more reactive repairs due to lack of capital investment	High	Medium
Rest Areas	Potential closure of rest areas due to decreased replacement and renovation creating unsafe conditions	High	Medium
Climate Resilience	Local economies and communities could see increased vulnerability due to increases in extreme weather events	High	Medium
Climate Resilience	Increased extreme weather events (flash flooding, snow drifts, etcetc.) cause dangerous conditions on roadways	High	Medium
Climate Resilience	MnDOT may not maximize the health of Minnesota’s people, environment and economy	High	Medium
Highway Mobility	MnDOT may not address local and regional partner mobility priorities and the legislature directs funding toward capacity projects	High	Medium
Highway Mobility	Unstable traffic flow at certain locations may raise the risk of crashes	High	Medium
Pedestrian and Bicycle	The state highway system presents a barrier to people who want to cross or travel along it	High	Medium

CHAPTER 7

Despite the increased investment in MnSHIP, not all risks are reduced. Figure 7-3 shows the remaining high risks for MnDOT capital investment. The highest remaining risks are related to pavement and roadside infrastructure condition and maintenance and the impacts of extreme weather events. Pavement and Roadside Infrastructure are two investment categories that saw smaller percentage increases in funding for this plan. These are also investment areas that require large investment amounts to achieve tangible outcomes. Pavement Condition is set to receive over \$13 billion in funding in MnSHIP. Roadside Infrastructure is set to receive \$2.8 billion.

MnDOT will continue to implement strategies identified in Chapter 6: Investment Direction and the Transportation Asset Management Plan to manage these assets to their lowest costs and lengthen their service life.

The impact of Minnesota’s changing climate on state highways is an increasing risk. It is an area of focus in the SMTP and led to the creation of the Climate Resilience category in MnSHIP. Despite a new investment category and additional funding in this plan for climate resilience improvements, the risks remain. Service interruptions and road closures are expected to continue and will likely increase given projected climate trends.

Figure 7-3: Remaining Risks with the MnSHIP Investment Direction

INVESTMENT CATEGORY	RISK STATEMENT	RISK LEVEL WITH MNSHIP INVESTMENT DIRECTION
Pavement Condition	Increase in poor pavement condition requiring more maintenance projects	High
Roadside Infrastructure	Equipment/systems exceeds service life or are damaged and are no longer functional	High
Climate Resilience	More frequent service interruptions and road closures	High



This page is intentionally left blank.