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DEPARTMENT OF TRANSPORTATION

10-Year Capital Highway Investment Plan 2021 - 2030





DECEMBER 2020

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PURPOSE OF 10-YEAR CAPITAL HIGHWAY INVESTMENT PLAN

The 10-Year Capital Highway Investment Plan is updated annually to communicate MnDOT's proposed capital investments for the next ten years. It serves as an annual check-in during MnDOT's 20-Year State Highway Investment Plan update cycles. MnSHIP was last fully updated in January 2017. An adjustment to the investment direction was made in February 2019 to reflect the additional transportation funding from the 2017 and 2018 Legislative Sessions. The annual CHIP also creates the opportunity to compare investments to the investment guidance established in MnSHIP, ensuring accountability. The primary objectives of the CHIP are to:

- Detail MnDOT capital investments over the next ten years on the state highway network
- Compare planned and programmed projects with the investment priorities established in MnSHIP, and explain any change in direction or outcomes
- Facilitate coordination between MnDOT districts and local units of government on future investments
- Improve the transparency of MnDOT's proposed capital investment and decisionmaking

The CHIP includes projects in two time periods:

- Years 5-10 which represent MnDOT's planned projects
- committed to delivering

Selecting projects on the state highway system is an annual process. MnDOT starts identifying potential projects 10 years in advance. MnDOT district staff work each year with MnDOT central office and specialty office staff to complete a 10-year list of projects for each district on the state highway system. MnDOT then combines the districts' project lists into the 10-Year Capital Highway Investment Plan.

COVID-19 Impacts

The 2021-2030 CHIP was developed using expected revenue projections completed with the 2017 MnSHIP update. As the CHIP was being developed, COVID-19 hit the United States and stay-at-home orders were issued for Minnesota resulting in less travel and transportation revenue. The CHIP revenue projections were not updated to reflect these changes because the long-term impacts on transportation revenues from COVID-19 and shifts in transportation behavior are not fully known. If transportation revenue is impacted over several years, future CHIPs will reflect the change in state highway investment. The next update to MnSHIP will begin later this year and will include an updated expected revenue forecast and investment direction which will also be reflected in future CHIPs.

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MnSHIP is MnDOT's vehicle for deciding and communicating capital investment priorities for the state highway system. It is updated every five years.

Each year MnDOT staff develops investment guidance to ensure that collectively MnDOT is achieving the outcomes established in its highway investment document, MnSHIP.

Years 1-4, called the State Transportation Improvement Program, which represent projects MnDOT selected for funding and

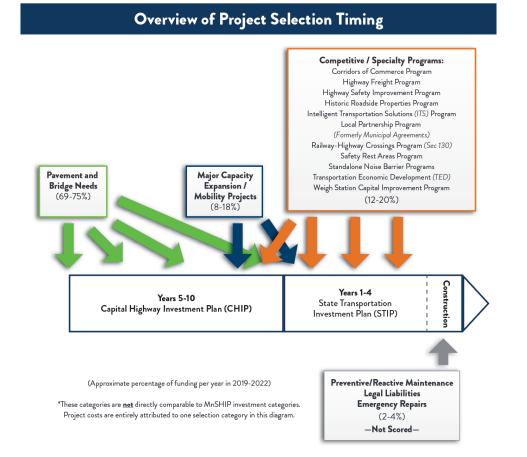
MnDOT Project Selection

As required by MnDOT's Project Selection Policy, MnDOT uses scores to prioritize and select highway construction projects. Project selection is the decision to fund a project and add it to the list of projects to be constructed. Selected projects are listed in the 10-year Capital Highway Investment Plan and 4-year State Transportation Improvement Program. The score assigned to candidate projects is a key factor in the project selection decision, but MnDOT may consider other factors in addition to the score. MnDOT provides a short explanation when a high scoring project is not selected or when a lower scoring project is selected. Those explanations and the full list of candidate projects considered for selection can be found here: http://www.dot.state.mn.us/projectselection/.

MnDOT scores and selects stretches of pavement and specific bridges that need work typically five to ten years before construction. Once selected, MnDOT identifies and evaluates alternatives as well as other legal requirements, opportunities to advance legislative goals, objectives in state plans, and other repairs and improvements that make sense to do at the same time. The department follows a complete streets approach, which considers the needs of all the different types of vehicles and people who will use the road or bridge. MnDOT balances all of the identified needs and opportunities against the funding guidance of MnSHIP and looks for cost-effective and affordable solutions. MnDOT also works with local and regional partners, metropolitan planning organizations, tribal governments and regulatory agencies and seeks public input during the development of the project.

The chart below provides an overview of the timing of MnDOT's project selection categories and programs.

Figure 1: Overview of Project Selection Timing



For other types of projects, such as targeted safety improvements or major expansions of the system, MnDOT usually selects projects three to six years before construction. MnDOT manages a variety of special programs with specific Program, Transportation Economic Development Program, and Corridors of Commerce Program.

MnDOT also sets aside funding to fix and maintain things like rest areas, traffic cameras and ramp meters, historic roadside properties, truck weigh stations, noise walls, and other infrastructure. Each of these programs has its own selection process. Projects are typically scored and selected two to five years before construction.

Finally, MnDOT holds a small amount of funding to fix damage caused by each winter season or to make emergency repairs. The department selects these projects the same year they are constructed. They are not selected using numeric scoring and are not included in the CHIP.

Program Funding Distribution

MnDOT's selection of state highway construction projects follows the policy direction established in the Statewide Multimodal Transportation Plan and the investment guidance in the MnSHIP.

MnSHIP establishes an overall distribution of expected revenue to meet the objectives, strategies and performance measures in the Statewide Multimodal Transportation Plan on the state highway system. The plan also includes expected outcomes and performance targets the agency uses to inform project selection. MnSHIP dedicates the majority of funding to fixing pavement and bridges, but also allocates funding to other categories such as safety, congestion relief, other roadside infrastructure, and improvements for pedestrians, bicyclists and freight.

Based on the investment guidance in MnSHIP and federal and state laws, MnDOT divides available and planned funding into programs and categories within which projects are selected. For projects selected within each of the agency's eight districts (see map below), MnDOT distributes anticipated funding using formulas, which consider the condition of pavement and bridges, size of the network, and use of the system within each district.

Project Selection Processes

MnDOT selects projects within categories based on types of projects and within specialty and competitive programs. Each category and program has a separate process to evaluate, prioritize and select projects.

The majority of MnDOT projects are selected within categories of project based on the guidance of the MnSHIP. These categories include:

- Asset management: the rehabilitation and replacement of pavement, bridges and other infrastructure
- Minnesota state highways
- freight or connections for active transportation users

objectives. Each program scores candidate projects against a set of criteria. Cities, counties and other groups may apply for funding or suggest specific project ideas for many of these programs. Examples include the Highway Safety Improvement

Targeted safety improvements: improvements to reduce the number of crashes and people injured or killed on

Mobility and capacity expansion: improvements to traffic flow, congestion relief, travel time reliability, the movement of

ASSET MANAGEMENT PROJECTS

Projects selected under the asset management category include the rehabilitation and replacement of pavement, bridges and other infrastructure.

The majority of MnDOT highway construction projects are pavement and bridge projects. MnDOT scores these projects based on pavement and bridge needs. Projects are selected to address a primary pavement or bridge need and added to the 10-year Capital Highway Investment Plan.

The selection of pavement and bridge projects are informed by district staff, experts from MnDOT's bridge and materials offices and two asset management software programs: the Highway Pavement Management Application and the Bridge Replacement and Improvement Management System. MnDOT's approach to managing pavement and bridge conditions is based on:

- Investment direction, performance measures and planned outcomes in MnSHIP
- National goals and performance targets for interstates and the National Highway System
- Guidance and strategies in the Transportation Asset Management Plan

Pavement and bridges on the NHS are scored and selected separately from pavement and bridges off the system. A map of the state highway system showing which roads are part of the NHS is included in Figure 4 on the next page.

Once selected, MnDOT then identifies and evaluates alternatives and other needs, legal requirements, issues and opportunities in coordination with local partners, and considers public input. In the process, pavement work may be added to a bridge project or vice versa. The department follows a context sensitive complete streets approach, which considers the needs of all users. The final project may address a substantial number of needs beyond the pavement or bridge need that precipitated the project. Projects may move years based on local coordination, project delivery, timing of other nearby construction projects, and funding shifts. The need score remains unchanged unless the project no longer addresses the precipitating need, or if the project changes to meet one of the thresholds for major capacity expansion and mobility projects.

TARGETED SAFETY IMPROVEMENTS

MnDOT evaluates options to improve safety as part of every project. Not every safety concern can always be addressed on every project, but MnDOT makes a concerted effort to address the safety of all users during the project development process.

MnDOT also manages the Highway Safety Improvement Program, which specifically targets improvements that reduce the number of fatal and serious injury crashes. In addition, the Railway-Highway Crossings Program, Intelligent Transportation Systems Program and Safety Rest Area Program each fund projects that increase and support safe travel on state highways. Other competitive programs such as the Corridors of Commerce Program, Minnesota Highway Freight Program, Local Partnership Program, and Transportation Economic Development Program include safety factors in the scoring process.

MOBILITY AND CAPACITY EXPANSION

MnDOT evaluates options to improve the safety, efficiency and functionality of the transportation system as part of every project. When developing pavement and bridge projects. MnDOT looks for opportunities to make targeted improvements that address traffic flow and travel time reliability, the movement of freight, or connections for people walking, rolling or biking. Most significant capacity expansion and mobility projects (for example, converting a signalized intersection into an interchange or adding lanes to a freeway) are now selected through competitive programs like the Corridors of Commerce Program, Minnesota Highway Freight Program or the Transportation

Economic Development Program. However, MnSHIP does allocate some funding to address congestion relief and improve mobility, primarily in the Twin Cities metropolitan area.

Smaller improvements (costing less than \$10 million) identified through the Congestion Management Safety Plans, Metropolitan Planning Organization Long Range Transportation Plans, or the Greater Minnesota Mobility Study do not need a separate score if delivered as part of a pavement or bridge project. Projects initiated by cities and counties on the state highway system meeting one of the criteria above that receive competitive funding through the Metropolitan Council's Regional Solicitation or federal competitive programs like INFRA, TIGER or BUILD do not need be to be scored to receive MnDOT match funds. They are considered selected through that competitive process.

SPECIALTY AND COMPETITIVE PROGRAMS

MnDOT manages a variety of special programs with specific objectives. The programs either are established in state or federal statutes, have a limited specialized purpose and/or use a competitive application process to select projects. Cities, counties and other groups may apply for funding or suggest specific project ideas for most of these programs.

The current list of competitive programs includes:

- or projects that improve the movement of freight and reduce barriers to commerce.
- National Highway Freight Program: funds projects with measurable benefits for freight transportation.
- Highway Safety Improvement Program: funds projects that reduce fatal and serious injury crashes.
- would benefit both systems.
- consolidation of crossings, replacement of antiquated equipment, and new grade crossing controls.
- abatement measures currently exist and no major construction projects are currently programmed.
- with measurable economic benefits.

Other current specialty programs include:

- or eligible for, the National Register of Historic Places.
- information processing systems or services to improve the efficiency and safety of the state highway system.
- Safety Rest Area Program: funds construction, repair and rehabilitation of rest areas and waysides.
- for the enforcement of state and federal weight and size commercial motor carrier laws

Corridors of Commerce Program: funds additional highway capacity on segments where there are currently bottlenecks in the system

Local Partnership Program (Formerly District Cooperative/Municipal Agreement Programs): funds locally initiated improvements to state highways, particularly locations where the local transportation network intersects with the state system and an improvement

Railway-Highway Crossing Program: funds the elimination of hazards at railway-highway crossings, including the closure and

Stand Alone Noise Barriers Program: fund construction of new noise barriers along state highways in locations where no noise

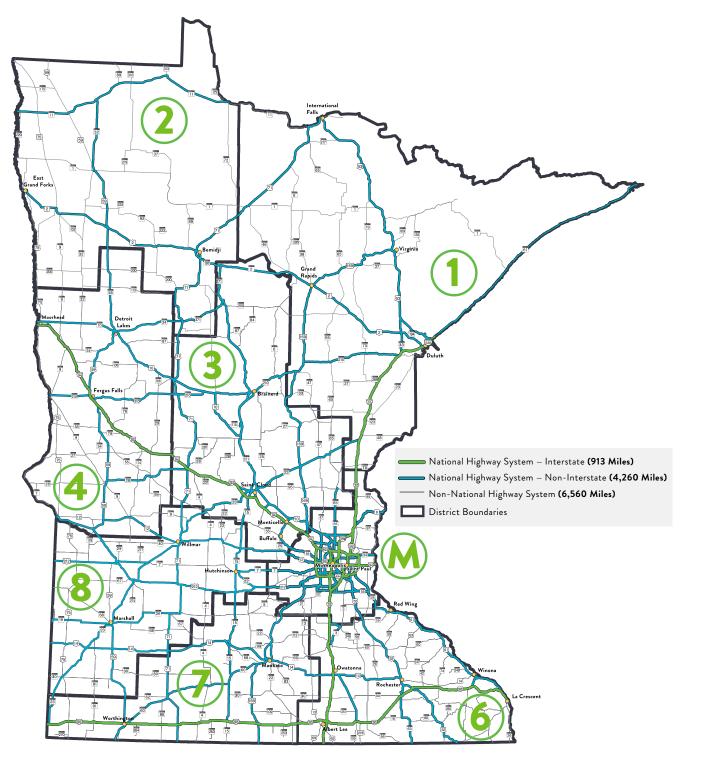
Transportation Economic Development Program: funds projects that support job creation and retention as well as other improvements

· Historic Roadside Properties Program: funds the repair, rehabilitation and preservation of roadside properties that are either listed on,

Intelligent Transportation Systems Program: funds the installation of new or upgrade of existing electronics, communications, or

Weigh Stations Capital Improvement Program: funds the installation, repair and replacement of the physical infrastructure necessary

Figure 2: State Highway System



Role of Public and Stakeholder Involvement

The public and stakeholders can influence MnDOT construction projects through participation in the planning, programming and project development processes.

MnDOT conducts public and stakeholder involvement when developing the Statewide Multimodal Transportation Plan, MnSHIP and other plans, which set the framework for project selection and how projects are developed. Participation in other MnDOT, metropolitan, regional and local plans and studies also shape individual projects and project prioritization.

MnDOT engages partners, stakeholders and the public in the project development process. Involvement at this stage influences the details of what is included and not included in a project, as well as the timing, delivery mechanism, and traffic mitigation of a project among other details.

While involvement in the planning process and project development offer the greatest opportunity to influence the projects MnDOT delivers, the public and stakeholders can also review and comment on MnDOT's draft project selection decisions. As part of the project selection process, MnDOT districts work with a broad range of stakeholders through Area Transportation Partnerships. These partnerships provide a collaborative decision-making process for the selection of projects that are recommended to receive federal funds. In addition, ATPs provide a local perspective on potential state-funded projects. Prior to finalizing the STIP, MnDOT posts a draft for public review and comment. Beginning with the 2020-2023 STIP, MnDOT also posts the scores for projects considered but not selected and the reasoning behind selection decisions with the drafts.

In urban areas with populations of 50,000 or more, project selection happens as part of a cooperative, continuous and comprehensive planning process between MnDOT and a Metropolitan Planning Organization. All federally funded and regionally significant MnDOT highway construction projects within MPO planning boundaries must be included or consistent with the metropolitan long-range transportation plan and included in the region's four year Transportation Improvement Program (TIP). Each MPO in the state posts their draft TIP for public review and comment.

MnDOT developed the CHIP to improve early project stakeholder coordination. The District CHIP documents include the scores for projects. MnDOT also posts the scores for projects considered but not selected and the reasoning behind selection decisions. The public and stakeholders can review and submit comments on the CHIP at any time.

A few competitive programs, such as the Corridors of Commerce Program, allow the public and stakeholders to submit project ideas as well as express support for specific candidate projects

Description of Investment Categories

MnDOT invests in the state highway system through various types of capital improvement projects. Some projects enhance the condition of existing infrastructure, whereas others add new infrastructure to the system. MnDOT tracks capital investment in highways by investment categories which are components of projects. A single MnDOT project can include investment from multiple different investment categories. The 2017 MnSHIP identified 14 investment categories. The individual categories are separated in five major objective areas as illustrated in Figure 5. There are many competing priorities for investment along the state highway system. MnDOT is responsible for selecting investments that best balance these priorities. This is especially challenging given the widening gap between MnDOT's projected transportation revenues and investment needs.

Figure 3: Investment Category Descriptions

INVESTMENT CATEGORY	CATEGORY DESCRIPTION
Pavement Condition	Pavement Condition investments include overlays, mill and overlays, full-depth reclamations, and reconstructions of existing state highway pavement.
Bridge Condition	Bridge Condition investments include replacement, rehabilitation, and painting of state highway bridges. The Bridge Condition category does not include supporting elements for bridges, such as signs, pavement markings, or lighting.
Roadside Infrastructure Condition	Roadside Infrastructure Condition elements include drainage and culverts, traffic signals, signs, lighting, retaining walls, fencing, noise walls, guardrails, overhead structures, rest areas, Intelligent Transportation Systems (ITS), and pavement markings.
Jurisdictional Transfer	Jurisdictional Transfer includes the costs associated with transferring ownership of a road to or from MnDOT. Transferred roads provide the right level of service, and better meet customer expectations for maintenance, ride quality, and safety.
Facilities	Facilities investments include rehabilitation and replacement of the 52 MnDOT-owned rest areas and 10 weight enforcement operational buildings and weigh scales. The Facilities investment category does not include buildings such as district headquarters or other operational facilities.
Traveler Safety	MnDOT currently uses a combination of three types of safety investments in its effort to improve safety and reduce the number of annual fatalities and serious injuries on Minnesota roads; Proactive lower cost, high-benefit safety features; Improvements at sustained crash locations; Railway-highway crossing improvements
Twin Cities Mobility	 MnDOT pursues the following strategies to address regional mobility issues in the Twin Cities metro area: Active Traffic Management. Operational improvements to help manage the effects of congestion, which include variable message signs (traveler information systems), freeway ramp metering, dynamic signing and re-routing, busonly shoulder lanes, reversible lanes, dynamic speed signs, and lane specific signaling. Spot mobility improvements. Lower cost, high-benefit projects that improve traffic flow and provide bottleneck relief at spot locations. These projects include freeway and intersection geometric design changes, short auxiliary lane additions, and traffic signal modifications to ease merging and exiting traffic. MnPASS express lanes. Priced managed lane projects that provide a predictable, congestion-free travel option for transit users, those who ride in carpools, or those who are willing to pay. In the Twin Cities, this system is called MnPASS, which currently operates on 1-394, 1-35E, and 1-35W. Major capacity investments. Projects aimed at enhancing mobility, safety, multimodal, or freight movements such as improved or new interchanges. General-purpose lanes may be considered in order to correct lane continuity or in other rare instances where MnPASS has been evaluated and found not to be feasible.
Greater Minnesota Mobility	Investments in this category include projects that improve travel time reliability for people and freight on the National Highway System outside of the Twin Cities area. The NHS is the priority network for mobility investment in MnSHIP. Typical investments include low-cost improvements such as upgraded signals, turn lanes, intersection improvements, or passing lanes.
Freight	Freight includes the movement of all goods that originate or terminate in Minnesota across all modes. Investment in this category comes from the National Highway Freight Program created in the FAST Act.

INVESTMENT CATEGORY	
Bicycle	This category includes reconstructed an
nfrastructure	highways. Typical improvements include
	highways, at-grade crossings and maint
Accessible	Typical improvements include projects to
Pedestrian	accessible pedestrian signals and other
Infrastructure	
Regional &	RCIPs are collaborative investments that
Community	needs. Typical improvements include in
mprovement	landscape improvements, bypass or turn
Priorities	complete streets, and regional or spot c
Project Delivery	Project Delivery includes components o
	highway projects. These components in
	construction incentives.
Small Programs	The Small Programs category includes
	but make up a part of MnDOT's overall
	unforeseen issues or are used to fund o
	category. If funding is required beyond t
	investment category during the next Mn

CATEGORY DESCRIPTION

and new infrastructure to accommodate bicyclists along or across state de bike lanes, signage for bicycle routes, crossings over or under state ntaining shoulders on identified priority routes.

to bring curb ramps into compliance with ADA standards, installation of er pedestrian improvements across and along state highways.

hat respond to regional and local concerns beyond system performance ntersection improvements, projects that support multimodal connectivity, urning lanes, access management solutions, improvements that support capacity projects.

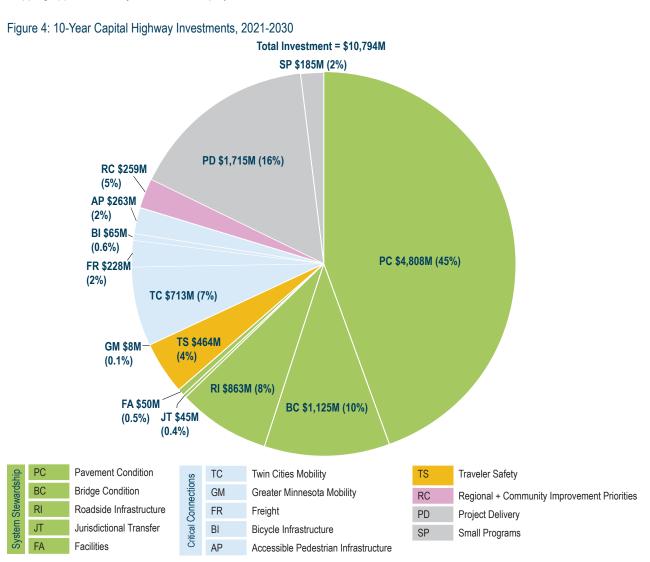
of projects that are critical to ensure the timely and efficient delivery of include right-of-way costs, consultant services, supplemental agreements, and

s investments that are not specifically identified or prioritized within MnSHIP, I capital investment. Small Programs typically respond to short-term, one-time specialized programs that do not fit into a MnSHIP investment the short-term, an effort is made to incorporate the program into a MnSHIP nSHIP update.

SUMMARY OF INVESTMENT PLAN

Investments by category in MnDOT's 10-Year CHIP (2021-2030) are shown in the pie chart below (Figure 4).

The investment priorities in this plan are consistent with those established in MnSHIP (see Figure 9 for comparison). As in MnSHIP, investments are focused on system stewardship (pavement condition, bridge condition, roadside infrastructure condition) with a lesser mix of other investments. The individual projects in the 10-Year CHIP have been mapped and are available at MnMAP, MnDOT's online mapping application. Projects are also displayed in the District Investment Plans



Performance Outcomes

As part of the 10-Year CHIP process, MnDOT projects performance outcomes based on planned projects. Figure 9 displays projected performance through 2030.

With the investments in the 10-Year CHIP, MnDOT is expecting to achieve most of the results planned for in MnSHIP. Pavement Condition outcomes are in-line with those established in MnSHIP. Bridge condition is the exception. Bridge condition on the NHS and Non-NHS is projected to be worse than the anticipated outcomes in MnSHIP. While investment levels in the CHIP are comparable to MnSHIP, revised estimates of future bridge projects identified higher project costs leading to less bridges being addressed with allocated funding. Along with increases in projected costs, changes to the bridge inspection process and bridge modeling have led to worse projected outcomes for bridges than were presented in MnSHIP.

The performance outcomes in other categories are more difficult to project as they are subject to changes in the economy, driving behavior, and demographics, and are not fully the result of MnDOT investments. Given that the spending levels for these categories are similar to the levels established in MnSHIP, MnDOT expects the outcomes in these categories for the 10-Year CHIP to be similar.

PAVEMENT INVESTMENT STRATEGIES

- Increase preventive maintenance spending on the Interstate and NHS pavements to increase their life

- cost effective and will optimize pavement life

OUTCOMES

Despite significant investment, pavement condition on non-interstate NHS and non-NHS is projected to worsen over the next ten years. Interstate pavement will hit the target in 2030. Non-interstate NHS poor pavement will increase from 1.4 percent in 2019 to 6.0 percent in 2030, missing the 4 percent MnSHIP target. Non-NHS poor pavement will increase from 6.2 percent to 10.4 percent in 2030, missing target of 10 percent poor.

Figure 5: MnDOT Pavement and Bridge Assets

DISTRICT	CENTERLINE MILES	NUMBER OF BRIDGES (INCLUDING BRIDGE CULVERTS)
1	1,886	545
2	1,500	353
3	1,573	419
4	1,559	324
6	1,421	841
7	1,273	468
8	1,427	356
Metro	1,093	1,284
Total	11,732	4,590

Use low cost preventive maintenance strategies such as crack sealing, chip seals and micro surfacing will be utilized to prolong the pavement life, as pavement conditions deteriorate these resources will be redirected towards reactive maintenance needs

Use innovative strategies such as thin concrete overlays over bituminous to evaluate cost/benefit of alternative pavement fixes

Continue to assess pavement condition and evaluate options to respond to those highways that display the highest needs that are

BRIDGE INVESTMENT STRATEGIES

· Strategic preventive maintenance for bridges to keep assets in good condition longer

OUTCOMES

Bridge condition on the NHS is projected to deteriorate from 3.1 percent poor in 2019 to 8.9 percent by 2030. Non-NHS bridges will also worsen going from 3.4 percent to 11.2 percent poor. Both bridge systems will miss their targets in 2030 (Figure 6).

ROADSIDE INFRASTRUCTURE INVESTMENT STRATEGIES

- Continue to coordinate roadside infrastructure investments (culverts, guardrail, signing) with other preservation projects
- Replace infrastructure with greatest exposure to the traveling public, mostly through pavement/bridge projects

OUTCOMES

In general, the system's roadside infrastructure elements are expected to deteriorate relative to today's levels. However, NHS routes will receive more frequent upgrades to roadside infrastructure elements compared to non-NHS routes due to the relative frequency of pavement and bridge projects on those roads.

JURISDICTIONAL TRANSFER INVESTMENT STRATEGIES

- Leverage other dedicated funding
- Pursue turnbacks of Non-NHS roadways by working closely with local jurisdictions and optimizing funding sources
- Balance investment between the Twin Cities area and Greater Minnesota
- · Identify projects in the CHIP where investments could facilitate the transfer of ownership

OUTCOMES

The Jurisdictional Transfer investment level in the CHIP in combination with the \$50 million annually allocated to jurisdictional transfers through the Highway Flex Fund, investment would facilitate more transfers identified in the 2014 Minnesota Jurisdictional Realignment Project report.

The following turnbacks are programmed:

- MN Highway 237 from Stearns County Highway 237 to the north ramps of I-94. transfer from MnDOT to Stearns County in 2021
- MN 222 from MN Highway 92 to Red Lake County Road 53 in Oklee in 2022

FACILITIES INVESTMENT STRATEGIES

- · Prioritize health- and safety-related repairs to rest areas unless replacement is warranted
- Focus investments on weigh scale mechanics and existing weigh station buildings

OUTCOMES

At the level of investment included in MnSHIP, MnDOT expects the percentage of facilities needing significant renovation or replacement to

increase. Investments in rest areas and weigh stations will be reactive, increasing maintenance costs and limiting MnDOT's ability to keep many facilities in a state of good repair.

FACILITIES INVESTMENT STRATEGIES

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TRAVELER SAFETY INVESTMENT STRATEGIES

- problem
- Support local Safe Routes to School (SRTS) planning efforts
- travelers

OUTCOMES

Fatalities have been reduced over the past 10 years. In 2015, the number of fatalities was 411. Every year since then has been lower. (Figure 6). While MnDOT will continue to make investments in traveler safety, the goal of TZD cannot be achieved through infrastructure improvement alone. Even full implementation of all identified safety projects may do little to prevent fatalities and serious injuries that are a result of driver behavior such as distracted or impaired driving.

GREATER MINNESOTA MOBILITY INVESTMENT STRATEGIES

signals, ITS, turn lanes and passing lanes

OUTCOMES

MnDOT will select projects based on the results of the recently completed Greater Minnesota Mobility Study, which identified locations with reliability or mobility issues on the NHS. MnDOT will invest \$8 million per year in 2022 and 2023 to complete several operational and lowcost capital improvements on the NHS.

TWIN CITIES MOBILITY INVESTMENT STRATEGIES

- Focus on investments that provide reliable congestion-free options on Twin Cities metro area corridors
- Focus on low cost spot mobility projects that provide safety benefits and reduce delays

Prioritize crash locations based on existing problems and the effectiveness of specific, cost effective solutions in addressing the

Coordinate safety investments, as appropriate, with other preservation projects and local jurisdictions to minimize disruption to

· Focus investment to improve travel time reliability through low-cost, high-benefit operational improvements such as upgraded traffic

OUTCOMES

MnDOT and the Metropolitan Council will be able to continue to invest in Twin Cities Mobility to implement the following:

- Several additional and expanded spot mobility improvements
- Completion of one to two managed lane projects •

While these projects will help improve travel time reliability, it is still anticipated to worsen through 2030 relative to today due to anticipated regional growth and the related increase in mobility needs across the system.

FREIGHT INVESTMENT STRATEGIES

- System investment strategies that were identified in the recently completed Freight Investment Plan include safety related improvements and freight congestion/efficiency improvements on the NHS as well as establishing first/last mile connections to the non-NHS.
- Implement projects to address freight needs identified in the Manufacturer's Perspectives Study

OUTCOMES

MnDOT will invest Freight funding in the above areas on both critical urban and critical rural freight corridors. Nearly 20 projects have been identified in fiscal years 2020-2023, such as freight planning studies, expansion and interchange projects, and rest area improvements MnDOT is currently soliciting for additional projects in fiscal years 2023-2025. Once selected, the additional projects will be included in future CHIPs.

BICYCLE INFRASTRUCTURE INVESTMENT STRATEGIES

- Continue the Local Partnership Program to strategically improve the bicycle network by partnering with local units of government where possible
- Focus investments on priority network routes as identified in the District Bicycle Plans
- Support the implementation of the State Bicycle Plan and Minnesota Walks

OUTCOMES

MnDOT will continue to invest its limited bicycle infrastructure funds. Minimal funds curtail the ability to make new bicycle improvements and to maintain existing bicycle infrastructure as a part of pavement and bridge projects. Existing bicycle infrastructure will deteriorate and negatively affect the goal of promoting and increasing bicycling in Minnesota.

ACCESSIBLE PEDESTRIAN INFRASTRUCTURE INVESTMENT STRATEGIES

- Focus more investment in sidewalks, curb ramps and accessible pedestrian signals
- Make other pedestrian improvements, including eliminating gaps in the network, via complete streets via complete streets
- Continue addressing identified ADA needs in communities through standalone and preservation projects

OUTCOMES

MnDOT is committed to achieving substantial ADA compliance of the state pedestrian network by 2037. Districts will fund a range of pedestrian and ADA projects based on their needs. Investments will be primarily curb ramps, sidewalks and accessible pedestrian signals at intersections, implemented concurrently with pavement and bridge projects. MnDOT will be able to complete some stand-alone ADA improvements, focusing on complete streets and filling gaps in the sidewalk network.

REGIONAL AND COMMUNITY IMPROVEMENT PRIORITIES INVESTMENT STRATEGIES

- Maintain the TED program
- Expand partnerships with local agencies/communities that leverage funds to complete larger projects

OUTCOMES

MnSHIP will invest \$330 million in RCIPs through 2037. Most investments will be completed through Local Partnership Program and design add-ons to existing projects. Stand-alone RCIP projects will be limited. The vast majority of improvements will be made through Corridors of Commerce projects, the TED program and the Local Partnership Program. With the addition of Corridors of Commerce projects, actual RCIP investment in the CHIP is higher than MnSHIP levels.

PROJECT DELIVERY INVESTMENT STRATEGIES

- Increase planning and prioritization at the District level
- deliver the district program

OUTCOMES

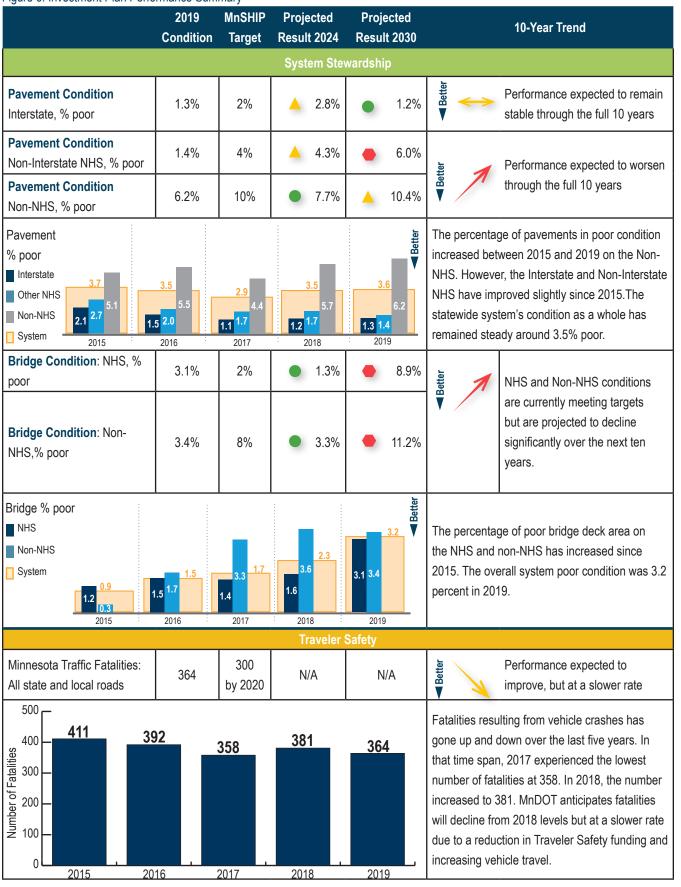
MnDOT assumes that it will continue to spend approximately 16 percent of its funds in this category. This is consistent with recent averages due to the similarity in improvement types scheduled through 2030.

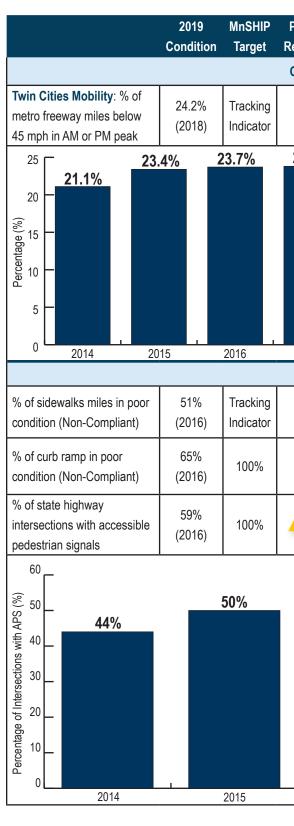
SMALL PROGRAMS

Small Programs is used to fund short-term, unforeseen issues and one-time priorities/needs as they arise. Some programs do not easily fit into a MnSHIP investment category. If funding is required beyond the short-term, an effort is made to incorporate the program into a MnSHIP investment category during the next MnSHIP update. Components of Small Programs in MnSHIP include centrally managed programs and historic property investments.

Anticipate and provide funding for supplemental agreements, cost overruns, incentives, right-of-way, and consultants to support and

Figure 6: Investment Plan Performance Summary

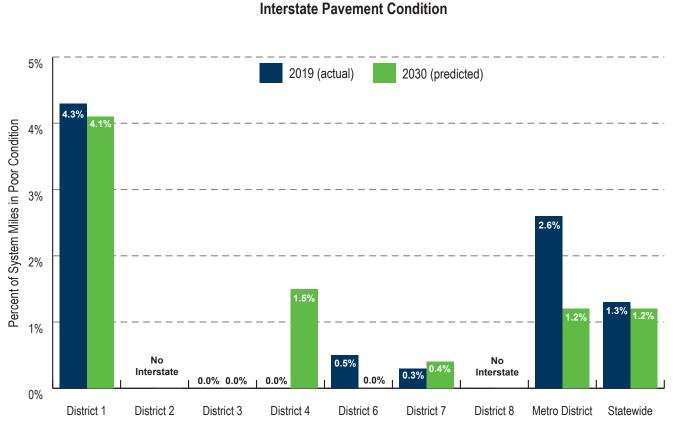




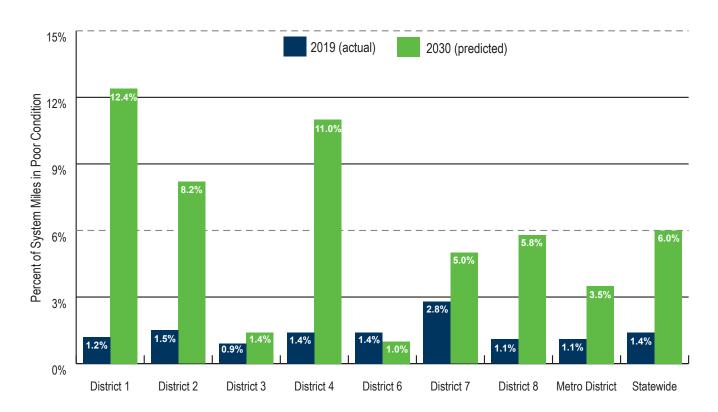
Projected	Projected	10-Year Trend
esult 2024	Result 2030	
Critical Con	nections	
N/A	N/A	Performance expected to continue at current levels
23.8%	24.2%	
2017	2018	Congestion is affected by economic conditions, population growth, fuel prices and other factors that increase travel demand. Since 2014, freeway congestion has increased every year. Since COVID-19 hit Minnesota and the stay- at-home orders were issued, congestion has declined. However, the long-term travel impacts resulting from COVID-19 are unknown.
Pedestrians		
N/A	N/A	Performance expected to continue at current levels
N/A	N/A	Target expected to be achieved by 2037
^ 70-80%	<u> </u>	Target expected to be achieved by 2037
	59%	
	2016	Accessible pedestrian infrastructure is typically addressed as part of highway reconstruction projects. As a result, the percentage of sidewalks in poor condition is likely to improve as mill and overlay projects still address ADA compliance. Accessible pedestrian signals (APS) will continue to be installed at state highway intersections as existing signals reach the end of their useful life. MnDOT anticipates achieving system-wide APS compliance by 2037.
	2016	

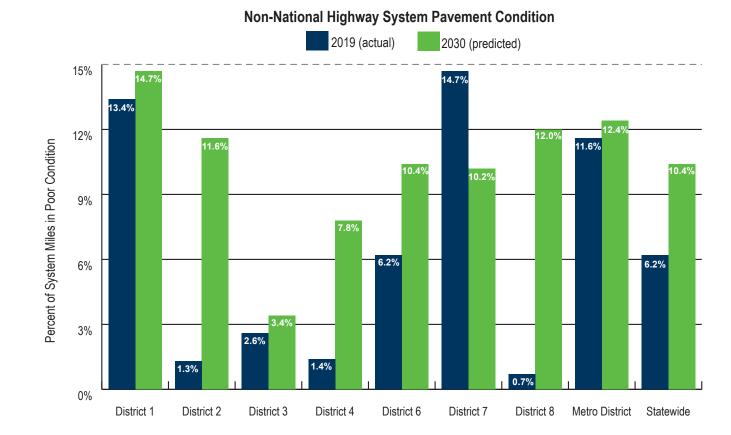
DISTRICT PERFORMANCE OUTCOMES

Figure 7: District Performance Outcomes



Non-Interstate National Highway System Pavement Condition



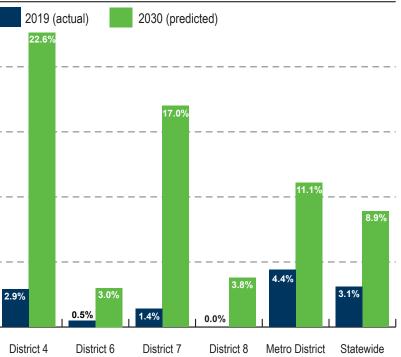




25% Percent of Bridge Deck Area in Poor Condition 20% 15% 10% 5% 2.9% 2.9% 0.0% 0.0% 0.2% 0% District 1 District 2 District 3

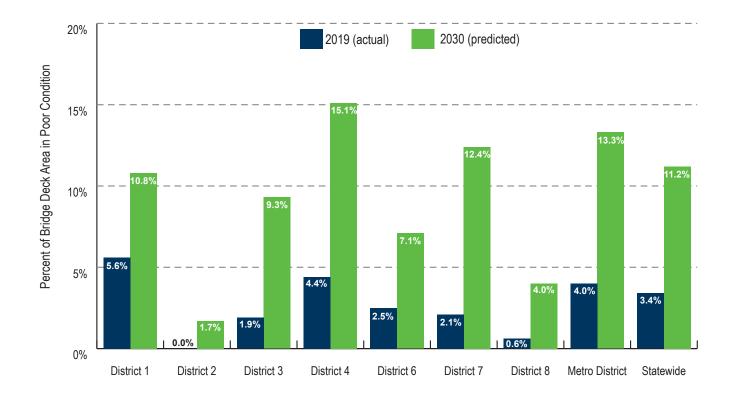
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National Highway System Bridge Condition



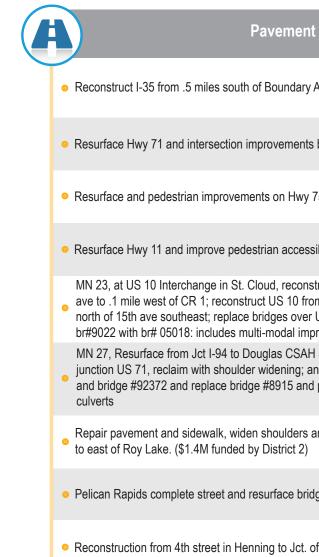


Non-National Highway System Bridge Condition



DISTRICT PROJECT HIGHLIGHTS

MnDOT will complete many important projects during the next ten years. The following projects are highlighted for their complexity and/ or their advancement of the <u>Minnesota GO Vision</u>. The years listed refer to state fiscal year, which runs July 1 - June 30th. Multi-year projects are listed in their first year of construction.



- Reconstruct southbound lanes of Hwy 52 near H
 northbound lanes from Hwy 60 to CR 7. Potentia 52 and Hwy 57 intersection at Hader
- Reconstruct Hwy 43 from Hwy 61 to Mankato Ave
- Resurface Hwy 60 from Hwy 14 to Hwy 13 in Wa with improved sidewalks and crossings
- Resurface Hwy 22 from Mankato to St. Peter; rep

nt	Route	District	Year
ry Ave to bridge over Hwy 23	I-35	1	2028
nts between Hwy 197 Beltrami CR 59	US 2	2	2022
ry 75 and Hwy 175 in Hallock	MN 175 US 75	2	2023
essibility and signals in Warroad	MN 11	2	2024
nstruct MN 23 from .1 mile west of Lincoln from .2 mile west of St. Germain to .1 mile er US 10, br# 9021 with br# 05019 and nprovements	MN 23	3	2023
AH 82 in Osakis and from Jct CSAH 82 to and replace Wobegon trail bridge #758 nd pipe 2304930 with new bridges and boy	MN 27	3	2022
s and construct turn lanes from Hwy 59 ?)	MN 200	4	2022
ridge #5025 over the Pelican River	US 59 MN108	4	2024
t. of Hwy 210	MN 108	4	2024
Hwy 19 to near Hwy 60 and resurface al new interchange and bridge at Hwy	US 52	6	2021
ve/Sarnia Ave in Winona	MN 43	6	2022
aterville; reconstruct in Madision Lake	MN 60	7	2021
eplace 1 bridge and repair 3 bridges	MN 22	7	2024

A	Pavement	Route	District	Year
 Reconstruction of Hwy 19 through M 	larshall	MN 19	8	2025
	system, drainage, signing, lighting, median barrier MN Hwy 120 in Oakdale to St. Croix River in	I-94	Metro	2023
• Resurface road from the Como Ave projects planned on MN 280	exit ramp to just north of I-35W. Part of several	MN 280	Metro	2027
	Bridge	Route	District	Year
 I-35, I-535 & US 53 in Duluth, 0.16m Interchange Construction(TPI) 	ni. S 27th Ave W to Jct Garfield Ave. Twin Ports	I-35	1	2021
 Repair or replace the Blatnik Bridge 	on I-535 between Duluth and Superior	I-535	1	2028
	2 bridges on US Hwy 10 from .25 miles East of Ferry a and reconstruct MN47/US169 interchange, and ADA improvements	US 10	Metro	2022
	Safety	Route	District	Year
Construct Roundabout on Hwy 7 at County	the intersection of Hwy 7 and CR 1 in McLeod	MN 7	8	2023
Mob	ility/Expansion	Route	District	Year
 Reconstruct US 169 in Elk River, TH Replace Br 71002 with new BR 710 	H 101 to 197th Ave. Convert to freeway design. 20 NB over US 10	US 169	3	2023
Replace Br 71002 with new BR 710	20 NB over US 10 4-lane from Hwy 15 at New Ulm to east of Nicollet	US 169 US 14	3 7	2023 2022
 Replace Br 71002 with new BR 710 Reconstruct Hwy 14 from 2-lane to (481st Ave); construct 2 new interch 	20 NB over US 10 4-lane from Hwy 15 at New Ulm to east of Nicollet			

COMPARISON TO MNSHIP

Each year the 10-Year Capital Highway Investment Plan compares planned and programmed investments to the guidance established in MnSHIP. Figure 8 shows the comparison between the 10-Year CHIP investment and the investment in corresponding years of MnSHIP (2021-2030). With the additional highway funding from the 2017 Legislative Session, MnDOT revised the MnSHIP investment direction to account of the impact of additional revenue. There are some differences between the revised MnSHIP guidance and the planned investment in the CHIP. Some of the differences to note include:

- inclusion.
- project needs.
- years of the STIP.
- .
- system.
- the Local Partnership Program.
- MnSHIP.

 Corridors of Commerce projects selected in 2017 and 2018 are included in this CHIP investment totals but are not considered as a part of the MnSHIP investment direction. Overall investment over the next ten years is higher than planned investment due to their

Pavement Condition investment lower by over \$170 million compared to guidance due to several factors including additional bridge

• Traveler Safety investments also saw an increase compared to guidance as a part of pavement projects especially in the first four

Twin Cities Mobility investment increased due to additional mobility projects funded through the Corridors of Commerce program.

• Freight investment is under programmed in the STIP because some of the projects are on local roads and not on the state highway

RCIP investment increased due to inclusion of the Corridors of Commerce projects in greater Minnesota and increased investment in

Project Delivery investment is higher than guidance by \$240 million but remains around 16% of the overall program as was the goal in

Figure 8: Investment Plan Investment Comparison

INVESTMENT CATEGORY	10-YEAR CHIP	REVISED MNSHIP GUIDANCE	DIFFERENCE FROM MNSHIP	DIFFERENCE FROM MNSHIP (\$ IN MILLIONS)
Pavement Condition	43.2%	48.5%	-5.2%	-\$170
Bridge Condition	10.8%	10.2%	0.6%	\$150
Roadside Infrastructure Condition	7.9%	7.6%	0.2%	\$87
Jurisdictional Transfer	0.4%	0.4%	0.0%	\$2
Facilities	0.5%	0.4%	0.1%	\$11
Traveler Safety	4.7%	3.4%	1.4%	\$179
Greater MN Mobility	0.1%	0.3%	-0.2%	-\$18
Twin Cities Mobility	6.1%	4.8%	1.3%	\$178
Freight	2.5%	3.0%	-0.5%	-\$26
Bicycle Infrastructure	0.6%	0.6%	0.0%	\$2
Accessible Pedestrian Infrastructure	2.4%	2.4%	0.0%	\$18
RCIPs	3.1%	1.5%	1.5%	\$177
Project Delivery	16.0%	14.7%	1.3%	\$266
Small Programs	1.7%	2.2%	-0.5%	-\$33
TOTAL (\$ IN MILLIONS)	\$10,892	\$10,069		\$823

DISTRICT INVESTMENT COMPARISON

Figure 9 displays the investment percentages for each district over the ten year period. Each district has different needs and the mix of investment varies from district to district. MnDOT is committed to meeting performance outcomes on a statewide level but each district has the flexibility to prioritize its own projects, particularly on the non-NHS.

Figure 9: District Investment Comparison

INVESTMENT CATEGORY	1	2	3	4	6	7	8	METRO	CO	TOTAL INVESTMENT (\$ IN MILLIONS)
Pavement Condition	31%	58%	56%	61%	55%	49%	61%	40%	2%	\$4,709
Bridge Condition	29%	7%	8%	4%	10%	10%	5%	11%	0%	\$1,177
Roadside Infrastructure Condition	8%	12%	8%	11%	10%	11%	8%	6%	1%	\$857
Jurisdictional Transfer	0%	0%	0%	0%	0%	0%	0%	0%	5%	\$45
Facilities	0%	0%	0%	0%	0%	1%	0%	0%	5%	\$54
Traveler Safety	7%	5%	4%	5%	5%	4%	4%	3%	10%	\$517
Greater Minnesota Mobility	0%	0%	0%	0%	0%	0%	0%	0%	0%	814.3%
Twin Cities Mobility	0%	0%	0%	0%	0%	0%	0%	19%	0%	\$662
Freight	4%	0%	0%	0%	0%	0%	0%	0%	24%	\$277
Bicycle Infrastructure	0%	1%	1%	0%	2%	1%	1%	0%	0%	\$64
Accessible Pedestrian Infrastructure	2%	4%	2%	3%	3%	2%	3%	3%	1%	\$262
RCIPs	1%	1%	5%	3%	1%	9%	4%	1%	7%	\$333
Project Delivery	18%	12%	14%	13%	14%	15%	15%	16%	24%	\$1,742
Small Programs	0%	0%	0%	0%	0%	0%	0%	0%	20%	\$185
TOTAL INVESTMENT (\$ IN MILLIONS)	\$1,401	\$601	\$1,310	\$689	\$973	\$940	\$584	\$3,479	\$915	\$10,892

REMAINING RISKS

While MnDOT tries to manage and mitigate risks to the state highway system, there are several risks which without additional funding and resources will continue to be undermanaged. Below is the list of those risks that are common across the districts.

- Project Delivery and Coordination: Over the next 10 years, MnDOT will be delivering more projects and several large complex
 projects which will require more resources to deliver and manage traffic impacts caused by construction.
- Lack of Expansion/Modernization: With pavement and bridge conditions expected to continue to deteriorate, MnDOT has focused
 majority of investment to maintain the existing state highway system. The limited investment MnDOT is able put towards expanding
 capacity and modernizing the state highway system is not sufficient to match the needs or expectations of stakeholders and the
 public.
- Urban Highway Projects: State highway projects through urban areas tend be more costly projects to deliver because of their complexity, utilities and other infrastructure and level of required local coordination and public involvement. In many instances, these roads function both as state highways and as city streets. MnDOT is limited in the number of urban projects it can deliver over the next ten years.
- **Pavement and Bridge Condition**: Even with a majority of investment focused on repairing or reconstructing pavement and bridges, pavement and bridge conditions are predicted to worsen over the next ten years under projected funding levels.
- Non-Pavement and Bridge Needs: MnDOT will be unable to address all identified safety, bicycle, pedestrian, and other infrastructure needs such as culverts, lighting, or guardrail replacement, with the current level of investment.

CONTACT INFORMATION

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