



CRITICAL CONNECTIONS INVESTMENT FOLIO

Accessible Pedestrian Infrastructure

Accessible Pedestrian Infrastructure is one of the ten investment categories in MnSHIP. MnSHIP is a fiscally constrained plan, meaning that it must balance the needs and risks of this category against those of the other investment categories. Each investment category has its own folio describing the trade-offs of different investment levels. Please see page 4 for a list of additional folios.

Why is Accessible Pedestrian Infrastructure important?

Everyone is a pedestrian at some point – whether your main form of transport is a vehicle, bus, train, van or bicycle, and whether you travel on your feet or use an assistive device. The requirements laid out in the 1990 Americans with Disabilities Act (ADA) require MnDOT provide accessible alternatives for those using a wheelchair or other assistive devices.

Providing pedestrian infrastructure is an important and growing part of MnDOT’s multimodal network. Accessible Pedestrian Infrastructure helps address many of the challenges and opportunities Minnesota is facing, including:

- **An aging and increasingly diverse population** - Providing walking options gives quality of life and access improvements to those unable or not wanting to drive private automobiles.
- **More Minnesotans living in urban settings** - 19% of all trips are less than one mile, and 10% are less than one-half mile (2009 National Household Travel Survey). This distance can be covered by a walk of about twenty minutes. As Minnesota becomes more urban, and congestion and rising fuel prices become more prevalent, there may be more of a demand for walking facilities.
- **Energy shifts** - Economic forecasts and concerns about the natural environment are shifting to address rising energy costs and fossil fuel emissions’ role in global warming. Providing alternatives to driving supports reducing greenhouse emissions.
- **Health impacts** - More and more Minnesotans are struggling with obesity and other health issues. Proving safe and active transportation alternatives to the car will help promote a healthier lifestyle for all Minnesotans.

Though providing accessible pedestrian infrastructure, alone, will not solve any of the above challenges, it can help. A robust walking network will provide opportunities for Minnesotans to continue enjoying a high quality of life and assist the state in being better stewards of the environmental health of the state.

How does Accessible Pedestrian Infrastructure support the Minnesota GO Vision and Statewide Multimodal Transportation Plan (SMTP)?

Investing in Accessible Pedestrian Infrastructure supports the

guiding principles laid out in the 50-year vision for the state’s transportation system, Minnesota GO. Among those are:

- Leveraging public investments to achieve multiple purposes;
- Emphasizing reliable and predictable options; and
- Ensuring accessibility to users of all abilities and incomes.

Building upon these principles, investment in Accessible Pedestrian Infrastructure strengthens multiple strategies identified in the SMTP, notably:

- Work together to improve accessibility and safety for everyone traveling on, along, and across roads;
- 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
- Support and develop multimodal connections for all Minnesotans regardless of socioeconomic status or individual ability.

How are we investing now?

MnDOT’s pedestrian network is comprised of 101 pedestrian bridges, approximately 20,000 pedestrian ramps, and 390 miles of sidewalk (plus additional unsurveyed sidewalks in District 7 and the metro area).

Pedestrian and ADA projects are typically invested in concurrently with pavement and bridge projects. Though a MnDOT project may include pedestrian amenities, oftentimes, the costs for sidewalks and pedestrian amenities, such as benches and bump-outs,



An unimproved intersection, left, compared with an ADA-compliant intersection, at right.

are paid by the municipality or county in which the project is occurring. Other times, MnDOT constructs the sidewalk, and then the municipality or county maintains the facilities.

Examples of how MnDOT currently funds pedestrian projects range from providing sidewalks in some urban settings, to routinely including accessible curb ramps in facility designs, to

installing **Accessible Pedestrian Signals (APS)**. Pavement projects may include pedestrian infrastructure to respond to identified priorities and local demand. Bridge reconstruction projects also provide pedestrian infrastructure, often together with bicycle accommodations. For example, bridge projects often include paths or separated trails that connect to existing trails.

PERFORMANCE LEVEL OPTIONS

Accessible Pedestrian Infrastructure

Overarching Goal: Ensure safe and convenient pedestrian travel across or alongside the state highway system. Maintain quality of life for all system users.

Tips for Using This Table

Investment Levels

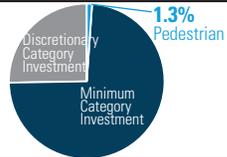
- The **pie charts** represent the distribution of MnSHIP's total planned investment (\$14.3 billion) at each PL.
- **Minimum Category Investment** is the amount required to invest at PL 0 in every other category, and current PLs for pavement and bridge in Accessible Pedestrian Infrastructure PLs 1, 2 and 3.
- **Discretionary Category Investment** is the remaining revenue available for additional investment beyond the Minimum Category Investment for all categories in MnSHIP.

Performance Levels

- **Performance Level 0** (or **PL 0**) represents a strategy in which Accessible Pedestrian Infrastructure would receive less than current funding. PL 0 corresponds to the most extreme risk level MnDOT would potentially consider.
- Costs + benefits increase while risks decrease from left to right.
- MnDOT's current spending in Accessible Pedestrian Infrastructure corresponds to **PL 1**.

Outcomes

- MnDOT does not have established targets for pedestrian and ADA infrastructure along state highways. MnDOT has created an inventory of ADA ramps and is partially completed a sidewalk inventory, which will help measure performance.
- Given the lack of performance targets, outcomes are identified as a decline or improvement compared to current conditions.

	Performance Level 0 <i>Lowest cost, greatest risk</i>	Performance Level 1 <i>Lower cost, higher risk</i>
Investment Approach <i>(Scenario Planning Folio)</i>	PL does not correspond with an Investment Approach.	Approach A Approach B
Investment Level <i>Total</i> <i>Years 5-10 (2017-2022)</i> <i>Years 11-20 (2023-2032)</i>	\$148 M \$9 M/yr \$10 M/yr 	\$190 M \$13 M/yr \$12 M/yr 
Investment Description	<ul style="list-style-type: none"> • Current pavement + bridge investments drop, thus reducing investment in accessible pedestrian network • Completion rate for ADA projects identified in years 5-10 slowed, completed by 2032 	<ul style="list-style-type: none"> • Invest in ADA/pedestrian network via pavement + bridge investments • Continue current ADA implementation rate throughout years 5-10, complete add'l ADA projects at 25% rate for yrs 11-20 • No stand-alone non-ADA pedestrian projects undertaken
Outcomes <i>How would investments improve or decline pedestrian and ADA infrastructure?</i> - Decline in standards = Current standards + Improved conditions	<ul style="list-style-type: none"> - Fewer improvements (curb ramps, primarily) made through bridge + pavement projects due to decreased investment - No improvement in safety or access issues specifically targeted to pedestrians - APS installed only at highest priority locations 	<ul style="list-style-type: none"> = Bridge + pavement investments support pedestrian + ADA improvements = Focus on ADA compliance at high priority intersections (the most heavily used + located in front of public buildings) = APS installed at approx. half of needed intersections (approx. 600)
Risks H = High Risk M = Medium Risk L = Low Risk MR = Managed Risk RR = Remaining Risk	<ul style="list-style-type: none"> (M) Increased crashes, safety issues (M) State highways a barrier to pedestrian movement (M) Unappealing network detracts from local economies (H) ADA standards not met; liability issues increase (M) Needs not accommodated for in project scoping, results in few improvements (M) Lack of awareness of ped. rights + responsibilities 	<ul style="list-style-type: none"> (M) Increased crashes, safety issues (M) State highways a barrier to pedestrian movement (M) Unappealing network detracts from local economies (M) ADA standards not met; liability issues increase (M) Needs not accommodated for in project scoping, results in few improvements (L) Lack of awareness of pedestrian rights + responsibilities 
Risk Management Strategies <i>What strategies would MnDOT use to manage risk?</i>	<ul style="list-style-type: none"> • Regional, local + internal MnDOT collaboration on pedestrian/ADA projects • Continue Share the Road Campaign 	<ul style="list-style-type: none"> • Regional, local + internal MnDOT collaboration on ped/ADA projects • Share the Road Campaign includes pedestrian-specific messages • Identify, address + maintain critical intersections + bridge connections

Where are we headed?

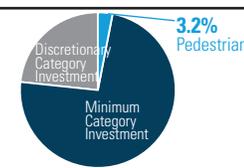
Under current funding levels, MnDOT is projected to spend an average of \$12 million annually on Accessible Pedestrian Infrastructure for the next 20 years, due primarily to pavement and bridge projects that include a pedestrian component. ADA investments would be made to keep in compliance with existing

standards. Few **stand-alone** pedestrian projects would be pursued, meaning projects that are completed solely to enhance pedestrian infrastructure and are not associated with road construction work (or ADA compliance). Examples include mid-block crossings and median refuges.

PERFORMANCE LEVEL OPTIONS

Accessible Pedestrian Infrastructure

Performance Objectives: In urbanized, urbanizing, and high-volume pedestrian traffic areas, provide accessible pedestrian facilities along and across the state highway system where appropriate; eliminate non-motorized fatalities and serious injuries through strategic crossings, pedestrian facilities, and education campaigns.

	Performance Level 2 <i>Greater cost, lower risk</i>	Performance Level 3 <i>Greatest cost, lowest risk</i>
Investment Approach <i>(Scenario Planning Folio)</i>	Approach C	PL does not correspond with an Investment Approach.
Investment Level <i>Total</i> <i>Years 5-10 (2017-2022)</i> <i>Years 11-20 (2023-2032)</i>	\$324 M \$20 M/yr \$20 M/yr 	\$464 M \$29 M/yr \$29 M/yr 
Investment Description	<ul style="list-style-type: none"> Invest in ADA/pedestrian network via pavement + bridge investments Meet system needs for ADA compliant curb ramps and Accessible Pedestrian Signals (APS) by 2032. Add equivalent of \$4.4 M/yr 2017-32 for stand-alone pedestrian projects 	<ul style="list-style-type: none"> Invest in ADA/pedestrian network via pavement + bridge investments Maintain ADA investment to attain life-cycle replacement rates for curb ramps and APS by 2032. Add equivalent of \$13.2 M/yr 2017-32 for stand-alone pedestrian projects
Outcomes <i>How would investments improve or decline pedestrian and ADA infrastructure?</i> <i>- Decline in standards</i> <i>= Current standards</i> <i>+ Improved conditions</i>	<ul style="list-style-type: none"> = Bridge + pavement investments continue to support pedestrian + ADA improvements + Standalone pedestrian + ADA projects are undertaken: mainly low-cost, high benefit projects such as crosswalks, sidewalks, signals, curb extension + pedestrian refuges, and other complete streets elements + All curb ramps (20,000) maintained to current ADA standards over life of the plan + All signalized intersections (1,200) equipped with APS systems over life of the plan 	<ul style="list-style-type: none"> = Bridge + pavement investments continue to support pedestrian + ADA improvements + Stand-alone pedestrian + ADA projects are undertaken: both low-cost, high benefit projects such as crosswalks and sidewalks, etc., as well as projects of a greater investment such as bridges or tunnels + All curb ramps (20,000) maintained to current ADA standards over life of the plan. + All signalized intersections (1,200) equipped with APS systems over life of the plan
Risks <i>H = High Risk</i> <i>M = Medium Risk</i> <i>L = Low Risk</i> <i>MR = Managed Risk</i> <i>RR = Remaining Risk</i>	<ul style="list-style-type: none"> (M) Increased crashes, safety issues (M) State highways a barrier to pedestrian movement (M) Unappealing network detracts from local economies (L) ADA standards not met; liability issues increase (L) Needs not accommodated for in project scoping, results in few improvements (L) Lack of awareness of pedestrian rights + responsibilities 	<ul style="list-style-type: none"> (M) Increased crashes, safety issues (L) State highways a barrier to pedestrian movement (L) Unappealing network detracts from local economies (L) ADA standards not met; liability issues increase (L) Needs not accommodated for in project scoping, results in few improvements (L) Lack of awareness of pedestrian rights + responsibilities 
Risk Management Strategies <i>What strategies would MnDOT use to manage risk?</i>	<ul style="list-style-type: none"> Continue collaboration strategies and Share the Road Campaign Improve the accessible pedestrian network by investing in low-cost, high-impact projects 	<ul style="list-style-type: none"> Continue collaboration strategies and Share the Road Campaign Improve the accessible pedestrian network by investing in low-cost, high-impact projects Undertake larger capital projects

How do we measure performance in Accessible Pedestrian Infrastructure?

MnDOT has recently completed an inventory of all curb ramps along the state highway system, including compliance with ADA standards. This inventory will help direct investment in the state's ADA infrastructure by identifying greatest needs. The state is also currently undertaking an inventory of all sidewalks on the Minnesota state highway network.

What are the risks to be addressed with Accessible Pedestrian Infrastructure investment?

Generally, the more MnDOT invests in Accessible Pedestrian Infrastructure, the more we are able to reduce these key risks:

- Lack of investment in accessible pedestrian infrastructure does not align with statewide guiding principles of leveraging public investments to achieve multiple purposes, ensuring accessibility, integrating safety and emphasizing reliable and predictable options.
- Continuing to defer investments statewide decreases opportunities for healthy living and reduced oil dependency.
- Lack of connectivity threatens vitality of transit investments and, in some cases, the quality of local economies.

How are we optimizing resources?

Bundling pedestrian and ADA projects with pavement and bridge projects can create efficiencies for mobilizing construction forces and materials. At times, however, it may be more efficient to install pedestrian or ADA infrastructure as a stand-alone project.

What does MnDOT control?

MnDOT has the authority to add pedestrian and ADA infrastructure on or across the approximately 12,000 miles of state highway. While many of these miles may be suitable walking routes, local roads may provide better alternatives. For example, a county or local road may provide a superior pedestrian route due to volume, type of traffic, and/or speeds. However, because MnDOT does not control that road, it is difficult to invest in pedestrian facilities on it, but when appropriate, MnDOT coordinates efforts with local units of government.

Look for these additional folios!

Overview + Background

- What is MnSHIP?

Investment Category Folios

- Pavement Condition
- Bridge Condition
- Roadside Infrastructure Condition
- Traveler Safety

- Twin Cities Mobility
- Interregional Corridor Mobility
- Bicycle Infrastructure
- Regional + Community Improvement Priorities
- Project Support

Scenario Planning

- MnSHIP Investment Approaches

What would MnDOT do with dedicated pedestrian funds?

With the exception of installing ADA ramps and APS signals, MnDOT does not typically undertake projects specifically for improving pedestrian-related needs. If the Accessible Pedestrian Infrastructure category were to be funded

beyond its current level (PL 1), MnDOT would undertake projects specifically aimed at improving pedestrian conditions.

An annual investment of \$4.4 million (PL 2) would allow MnDOT to complete stand-alone projects at a scale it has not yet undertaken. This investment is estimated to fund one of the following: 690-1,960 crosswalks (depending on width of road), install 15 miles of sidewalk, repair 10 miles of sidewalk, install 78 complete street curb extensions (includes associated drainage, road, sidewalk work), or install 16 mid-block pedestrian crossings. These numbers show that an investment of approximately 2% of the total MnSHIP investment could have dramatic impacts on the pedestrian infrastructure throughout the state.

How will Accessible Pedestrian Infrastructure funds be invested in Minnesota?

The eight MnDOT Districts have varying pedestrian and ADA infrastructure needs. Each district plans and executes their pedestrian projects. MnDOT's Central Office has a pedestrian section in its Transit Office and an ADA project group (which oversees ADA policy, design, and construction) which provides resources and guidance as appropriate.

For more information contact:

Ryan Wilson, P.E., AICP
Project Manager, 20-Year State Highway Investment Plan
Office of Capital Programs & Performance Measures
Minnesota Department of Transportation
395 John Ireland Boulevard, MS 440
St. Paul, MN 55155-1899
651.366.3537
ryan.wilson@state.mn.us



Disconnected sidewalks and lack of crosswalks (parallel to state highway) cause unpleasant pedestrian environment.

