
STATEWIDE MULTIMODAL TRANSPORTATION PLAN



Minnesota's highest level policy plan for transportation

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HOW TO USE THIS PLAN

As the highest policy plan for transportation in Minnesota, the Statewide Multimodal Transportation Plan (SMTP) provides objectives, performance measures, strategies and actions to move Minnesota's transportation system forward. These collectively make up the policy direction that answers, "How are we going to achieve a multimodal transportation system that maximizes the health of people, the environment and our economy?"

Not all of the strategies and actions can to be implemented right away. Some will require more time, support and funding. Also, it is important to achieve near-term successes while laying the groundwork for larger and more complex strategies and actions to follow.

Everyone has a role in implementing the policy direction in this plan and ensuring the success of the transportation system.

LOCAL PARTNERS

Agencies and organizations responsible for transportation decisions at the local level. This includes cities, counties, townships, public transit providers, ports, airports, etc.

TRIBAL PARTNERS

Minnesota is home to 11 reservations and 12 federally recognized sovereign Tribal Nations with jurisdiction over lands and resources within Minnesota: Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Lake Superior Chippewa, Leech Lake Band of Ojibwe, Lower Sioux Indian Community, Mille Lacs Band of Ojibwe, Prairie Island Indian Community, Red Lake Nation, Shakopee Mdewakanton Sioux Community, Upper Sioux Community and White Earth Nation. Minnesota is also home to the Minnesota Chippewa Tribe. The Minnesota Chippewa Tribe is a federally recognized tribal government for its member tribes (Bois Forte, Fond du Lac, Grand Portage, Leech Lake, Mille Lacs and White Earth). In addition, Minnesota contains lands owned by the Ho-Chunk Nation, which does not have a reservation. The Ho-Chunk Nation's lands are primarily located in Wisconsin.

REGIONAL PARTNERS

Agencies and organizations involved in regional planning, programming and economic development. This includes metropolitan planning organizations and regional development organizations.

STATE PARTNERS

Agencies and organizations with a statewide mission and interest in or impact on transportation. This includes the Minnesota Department of Employment and Economic Development, the Minnesota Department of Agriculture, the Minnesota Department of Health, the Minnesota Housing Finance Agency, the Minnesota Department of Public Safety, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, the Minnesota Environmental Quality Board and Explore Minnesota Tourism.

FEDERAL PARTNERS

Agencies and organizations that provide federal funding and have policies that impact planning, implementation and maintenance of the transportation system. This includes the U.S. Department of Transportation's Federal Aviation Administration, Federal Highway Administration, Federal Railroad Administration and Federal Transit Administration. Other federal agencies such as the U.S. Environmental Protection Agency, Department of Housing and Urban Development, Department of Commerce/Economic Development Administration, U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service also impact transportation decisions.

PRIVATE SECTOR PARTNERS

Companies that own and operate transportation services. These include railroads, terminal operators and shipping companies as well as developers, construction companies, consultants, etc.

COMMUNITY PARTNERS

Agencies and organizations that are advocates, academics, community-based organizations and chambers of commerce.

PUBLIC

State and federal legislators, community leaders and the general public are active participants in the state's transportation system. Everyone can contribute to transportation decisions by participating in public engagement, boards, committees, councils and legislative processes related to transportation.

OVERVIEW OF THE SMTP

The SMTP is divided into seven chapters. The following is a brief summary of what can be found in each chapter.

CHAPTER 1 “WHAT ARE WE TRYING TO ACHIEVE?” sets the scene with the Minnesota GO Vision for the transportation system now and in years to come.

CHAPTER 2 “WHERE ARE WE NOW?” discusses the state of the transportation system. It describes the current use and condition of the system and how transportation is funded.

CHAPTER 3 “WHAT IS CHANGING?” describes key trends impacting transportation: population, economy, environment, technology, safety and transportation behavior.

CHAPTER 4 “WHAT IS DIRECTING THIS PLAN?” describes public engagement activities for the plan. It also includes information on recent changes to planning and programming considerations and requirements.

CHAPTER 5 “HOW WILL WE GUIDE OURSELVES MOVING FORWARD?” presents objectives, performance measures, strategies and actions that will guide Minnesota toward the Minnesota GO Vision over the next two decades.

CHAPTER 6 “WHAT IS NEXT FOR MNDOT?” outlines a work plan with steps MnDOT will take to advance the plan’s objectives, strategies and actions and how progress will be tracked in the next five years. The chapter also outlines how this plan will influence MnDOT’s other statewide plans.

CHAPTER 7 “HOW WILL WE IMPLEMENT THE SMTP?” identifies who has a role in implementing strategies and actions, and considerations for preparing for the change needed to move Minnesota’s transportation system forward and essential practices for SMTP implementation.

APPENDICES provide additional information and analyses that guided the development of this plan.

- Appendix A – Acknowledgments
- Appendix B – Acronyms
- Appendix C – Glossary
- Appendix D – Planning Reviews
- Appendix E – Environmental Justice & Title VI
- Appendix F – Transportation Funding
- Appendix G – Engagement Summary
- Appendix H – Transportation Equity
- Appendix I – Performance Measures
- Appendix J – Tribal Coordination and Consultation
- Appendix K – Planning Requirements





WHAT ARE WE TRYING TO ACHIEVE

The Statewide Multimodal Transportation Plan (SMTP) is Minnesota's highest level policy plan for transportation. It is a 20-year plan based on the Minnesota GO Vision for a transportation system that maximizes the health of people, the environment and our economy. It supports the 16 goals for transportation established by the Minnesota Legislature. The plan is for all types of transportation and all transportation partners. It is about more than just roads and more than just the Minnesota Department of Transportation (MnDOT). The plan takes into account what is changing for the transportation system and provides direction for progress over the next 20 years.

READ CHAPTER 1 TO:

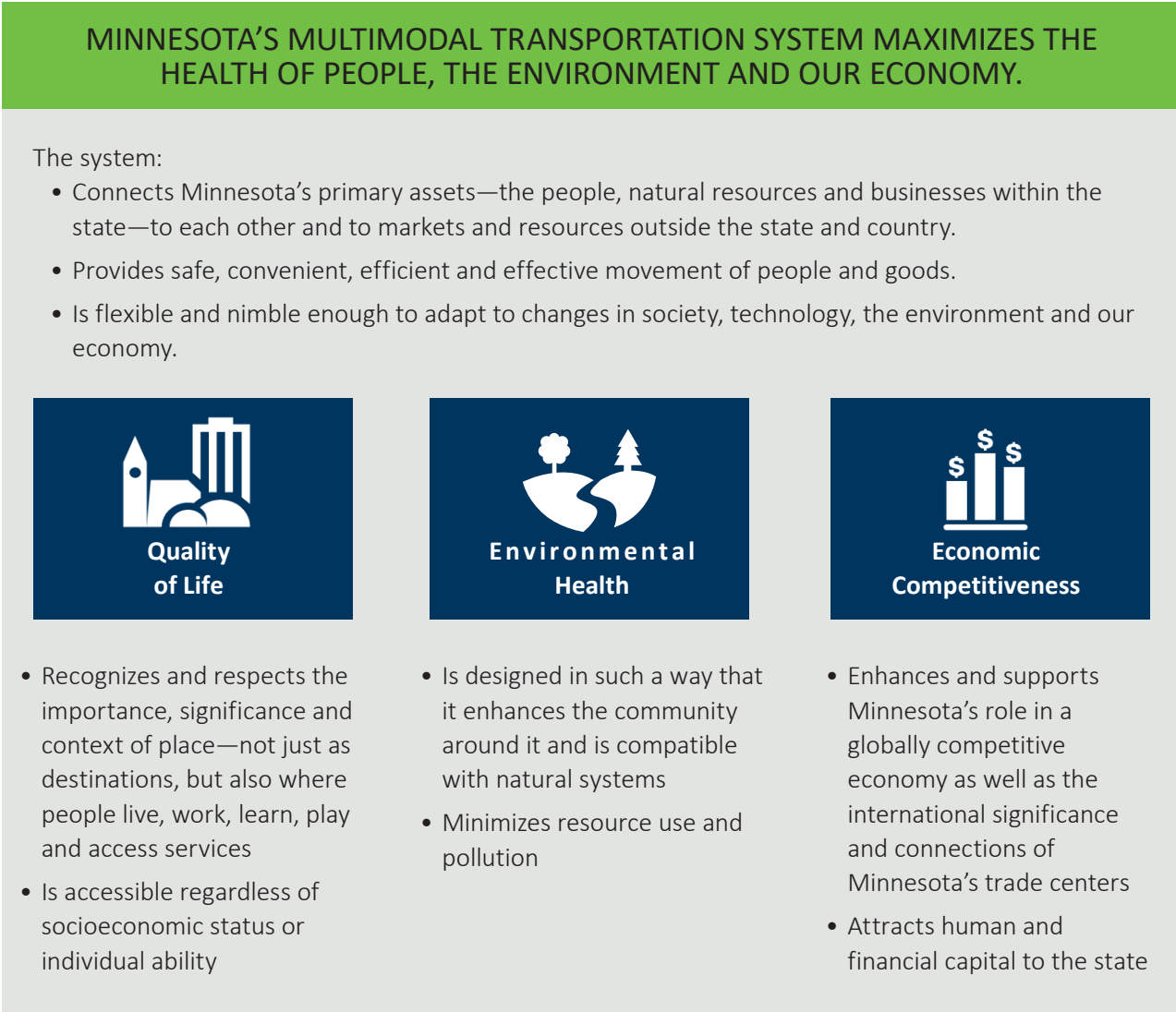
- Read the vision and goals guiding transportation in Minnesota.
- Learn about MnDOT's modal and system plans.
- Learn about the SMTP and the 2022 update process.

MINNESOTA GO VISION

The transportation system is built to move people and goods, ensure a high quality of life for Minnesotans and support our economy. In 2011, MnDOT created the 50-year Minnesota GO Vision to set guiding principles for everyone with a role in making the transportation system work for Minnesotans. The vision says that “Minnesota’s multimodal transportation system maximizes the health of people, the environment and our economy.” It answers the question, “What are we trying to achieve with transportation over the next 50 years?” See Figure 1-1 for the Minnesota GO Vision and guiding principles.

The SMTP is the 20-year plan that sets policy direction for the modal and system plans that make up the statewide transportation plan (i.e., Family of Plans). The state requires the SMTP to be updated every five years. The SMTP and the other plans in the Family of Plans combined meet state and federal transportation planning requirements. These plans must support national, state and local goals. See Appendix K – Planning Requirements to see how the SMTP meets state and federal planning requirements.

Figure 1-1: Minnesota GO Vision and guiding principles



GOALS FOR TRANSPORTATION IN MINNESOTA

Minnesota statute 174.01 identifies 16 goals to ensure Minnesota's has an integrated multimodal transportation system. The 16 goals are:

1. To minimize the fatalities and injuries for transportation users throughout the state.
2. To provide multimodal and intermodal transportation facilities and services to increase access for all persons and businesses and to ensure economic well-being and quality of life without undue burden placed on any community.
3. To provide a reasonable travel time for commuters.
4. To enhance economic development and provide for the economical, efficient and safe movement of goods to and from markets by rail, highway and waterway.
5. To encourage tourism by providing appropriate transportation to Minnesota facilities designed to attract tourists and to enhance the appeal, through transportation investments, of tourist destinations across the state.
6. To provide transit services to all counties in the state to meet the needs of transit users.
7. To promote accountability through systematic management of system performance and productivity through the utilization of technological advancements.
8. To maximize the long-term benefits received for each state transportation investment.
9. To provide for and prioritize funding of transportation investments that ensures that the state's transportation infrastructure is maintained in a state of good repair.
10. To ensure that the planning and implementation of all modes of transportation are consistent with the environmental and energy goals of the state.
11. To promote and increase the use of high-occupancy vehicles and low-emission vehicles.
12. To provide an air transportation system sufficient to encourage economic growth and allow all regions of the state the ability to participate in the global economy.
13. To increase use of transit as a percentage of all trips statewide by giving highest priority to the transportation modes with the greatest people-moving capacity and lowest long-term economic and environmental cost.
14. To promote and increase bicycling and walking as a percentage of all trips as energy-efficient, nonpolluting and healthy forms of transportation.
15. To reduce greenhouse gas emissions from the state's transportation sector.
16. To accomplish these goals with minimal impact on the environment.

FAMILY OF PLANS

The objectives, performance measures, strategies and actions in the SMTP set policy direction for MnDOT's modal and system plans. This set of plans include aviation, bicycle, freight, highway, pedestrian, ports and waterways, rail and transit. These plans are collectively known as the "Family of Plans." Together the Family of Plans directs

investments, maintenance, operations, modal programs and services for all types of transportation throughout the state. Other plans for safety, accessibility, operations, technology and more can but are not required to follow the SMTP's policy direction.

SMTP UPDATE PROCESS

MnDOT is responsible for working with the public, transportation partners and tribal nations to produce the SMTP. Throughout the update process, MnDOT sought input from the public, stakeholders and partners. A summary of the engagement process and input received is included in Chapter 4. A detailed public engagement report is available in Appendix G – Engagement Summary. The plan update process is shown in Figure 1-2.

STEP 1. BACKGROUND INFORMATION

The SMTP process began with a review of plans and studies completed in the last five years and changes in law and policy since 2017. Staff evaluated the progress made in implementing the 2017 SMTP. Insights from these reviews highlighted where MnDOT could make updates to the trend library.

Chapter 2 provides a snapshot of the current transportation system. Chapter 3 includes a high-level summary of trends impacting the transportation system. More background information is included in the appendices.

STEP 2. POLICY DIRECTION

Based on insights from step 1, MnDOT reviewed and updated the objectives and strategies to ensure they aligned with the Minnesota GO Vision and current transportation policies. Actions were developed to clarify how to implement each strategy. Additionally, performance measures were updated for each objective based on the draft policy direction. The updated objectives, performance measures, strategies and actions are listed in Chapter 5.

STEP 3. NEXT STEPS

This work is expected to happen over the next five to 20 years after the plan is adopted, and focuses on the implementation of the policy direction set forward in Chapter 5. Chapter 6 contains the list of activities MnDOT will do in the next five years, known as the SMTP Work Plan. Additionally, each of the Family of Plans will be updated to align with the SMTP policy direction. Chapter 7 identifies partner roles, change readiness considerations and implementation essential practices to move Minnesota's transportation system forward.

Figure 1-2: Statewide Multimodal Transportation Plan process



FOCUS AREAS

This update of the SMTP focused on six areas for transportation in Minnesota—aging infrastructure, climate, economy and employment, equity, safety and transportation options. These were selected in collaboration with the public, stakeholders and partners as part of SMTP engagement. These focus areas cut across all transportation topics and guide priorities for the transportation system.



AGING INFRASTRUCTURE

Infrastructure across the country is aging. As the system ages, more resources go to maintenance and repairs to make sure they serve communities as intended. Minnesota's transportation system shows signs of deterioration and requires attention.



CLIMATE

Minnesota's climate is already changing. Temperatures are increasing and larger, more frequent extreme weather events are occurring year-round. Climate change will impact the way the transportation system is used, built, designed, operated and maintained. The transportation sector needs to combat climate change by providing people with choices to ensure their daily transportation needs are met.



ECONOMY & EMPLOYMENT

The transportation system works best when it evolves to meet the needs of people and the changing economy. Understanding these needs helps ensure that people and goods move safely and efficiently throughout Minnesota. The future requires collaborative solutions that support the economy and employment as an essential goal for the transportation system.

EQUITY

WHAT DOES IT MEAN?



EQUITY

Decisions on policy, design and operations in the built environment and transportation system have led to inequities for underserved communities, especially Black, Indigenous and People of Color. Advancing transportation equity requires having a better understanding of how the transportation system, services and decision-making processes help or hinder the lives of people in underserved communities in Minnesota.

SAFETY

LET'S TALK



SAFETY

Recent shifts in transportation behavior have led to a significant step backwards in transportation safety. 2021 was the deadliest year on Minnesota roads in more than a decade. A mix of traditional and new practices and methodologies are needed to prevent and mitigate human error and ensure people are safe.

TRANSPORTATION OPTIONS

WHAT'S THEIR IMPACT?



TRANSPORTATION OPTIONS

A variety of transportation options support how people and goods move across the state, throughout a region or within a community. Collaboration with all partners is required to ensure a connected transportation system offers options and choices for moving people and goods.

A RENEWED COMMITMENT

This SMTP update continues the last five years of planning activities. It provides a revised set of strategies to advance the Minnesota GO Vision to continue the work set forward by the 2017 SMTP. Actions are a new level of detail to the policy direction to provide clarity on how to meet the commitments in the vision and who has a role in implementing this work.

Since the 2017 plan, there are new opportunities and challenges. Progress has been made toward the Minnesota GO Vision. This update renews the state's commitment to the vision, but it will take all partners to bring the vision to a reality. The challenges Minnesota is facing require bold, coordinated approaches. Collective commitment is needed from all who have a role in making transportation work for Minnesotans. Consider the policy direction in this SMTP an invitation to join MnDOT and transportation partners to build this bold new transportation future together.





WHERE ARE WE NOW

Minnesota's quality of life and economic wellbeing rely on an efficient and reliable transportation system. The system connects businesses to suppliers and customers near and far. The system also allows people to get to their jobs and schools, see a doctor and take advantage of the state's many cultural, entertainment and recreational opportunities. Minnesota and the state's transportation system have great strengths but there are also challenges. Table 2-1 highlights key characteristics of Minnesota.

READ CHAPTER 2 TO LEARN ABOUT MINNESOTA'S TRANSPORTATION SYSTEM:

- Roads
- Bridges
- Safety
- Bicycling & Walking
- Transit
- Freight
- Air
- Ports & Waterways

EXISTING TRANSPORTATION SYSTEM

Minnesota has a vast transportation system that includes roads, railroads, airports, ports, waterways, pipelines, transit systems, trails, bikeways and walkways. The Minnesota Department of Transportation (MnDOT) and local, regional, state, tribal and federal government, along with private and non-profit partners keep the system running. Table 2-2 highlights key characteristics of the transportation system in Minnesota. The following sections provide more detail on the background, use and performance of each part of the system.

Table 2-1: Minnesota at a glance, 2021

CHARACTERISTIC	CURRENT STATUS
Population	5,707,390 (22nd largest)
State Area	86,939 square miles (12th largest)
Population Density	66.6 people/square mile
Median Household Income	\$71,306
Median Household Size	2.49 people
Largest City by Population	Minneapolis (429,954)
Largest County by Population	Hennepin (1,281,565)
Largest County by Area	St. Louis (6,125 square miles)
Gross State Product	\$415 billion (19th highest)
Largest Industries by Gross Domestic Product	1. Financial Services 2. Manufacturing 3. Professional and Business
Biomes	Coniferous Forest Deciduous Forest Prairie Grassland Tallgrass Aspen Parkland
Lakes (10+ acres in size)	11,842

Minnesota's quality of life and economic well-being rely on an efficient and reliable transportation system.



Table 2-2: Snapshot of Minnesota's transportation system, 2022

CHARACTERISTIC	CURRENT STATUS
All streets, roads and highways	142,865 centerline miles
State highways	11,703 centerline miles
County roads	44,526 centerline miles
City streets	23,149 centerline miles
Township roads	55,548 centerline miles
Other public roads	7,939 centerline miles
Bridges (10 feet span and greater)	21,148
Sidewalk miles	698 miles along state highways plus thousands more along local roadways
Designated U.S. Bicycle Routes	North Star Route (USBR 41): 315 miles Mississippi River Trail (USBR 45): 817 miles U.S. Bicycle Route 20: 188 miles Total: 1,320 miles
Off-highway Vehicle Trails	2,959 miles
Twin Cities Transit (7 county area)	204 bus routes, two light rail transit lines, four bus rapid transit lines and dial-a-ride services
Greater Minnesota Transit	40 public transit systems, 28 are rural systems, 7 small urban systems and 5 systems operated by tribal nations
Intercity Passenger Rail	Amtrack Empire Builder (Chicago to Seattle)
Intercity Bus	Greyhound, Jefferson Lines, Land to Air Express, Megabus, Northfield Lines, Rainbow Rider and Saint Cloud NorthStar Link
Freight Rail	4,444 route miles serviced by 21 railroad companies
Commuter Rail	Northstar commuter rail line (Minneapolis to Big Lake)
Airports	305 airports, 133 public airports with nine commercial airports
Great Lakes Ports	Three ports on Lake Superior
River Ports	Four ports on 195 miles of the Mississippi River System
Pipelines	10,398 miles
Carsharing	Two services (HOURCAR and Zipcar) operating in Minneapolis, St. Paul, Winona and Mankato
Ride-hailing	Local taxi companies along with Lyft and Uber
Scooter Sharing	Bird is available in the Twin Cities; Lyft is exclusive to Minneapolis and Lime only operates in St. Paul
Bicycle Sharing	Nice Ride operates in Minneapolis and on the University of Minnesota campus; additional informal systems in communities statewide

STREETS, ROADS & HIGHWAYS

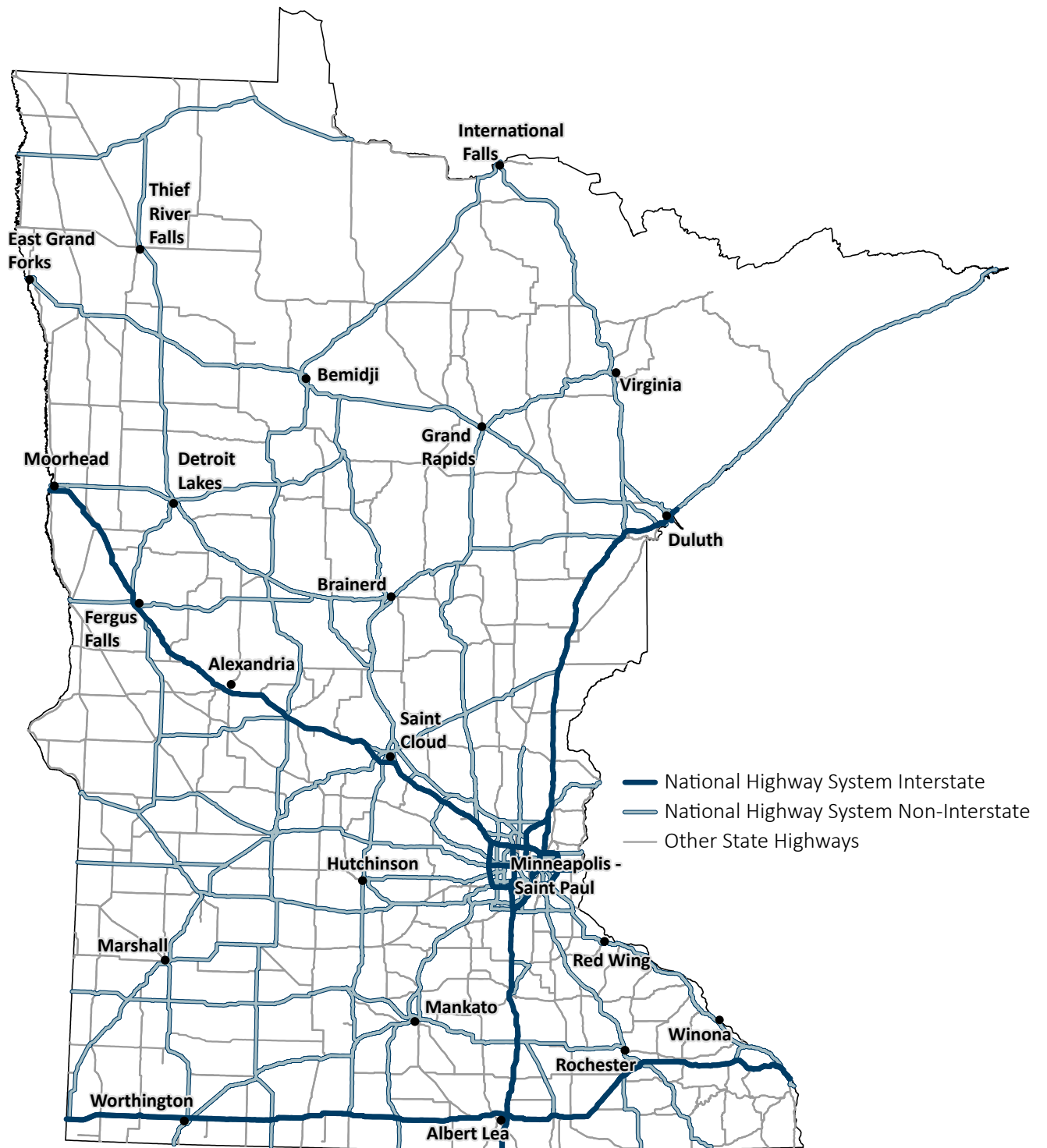
Minnesota has the fourth largest system of streets, roads and highways in the country. As a whole, the network is made up of 142,865¹ centerline² miles of public roadways across state, county, city and township systems. For context, the state ranks 22nd in population and 12th in geographic size. Figure 2-1 shows the existing state highway network. This network of Interstate, US and state highways is the backbone of Minnesota's roadway system. It includes routes designated as part of the National Highway System (NHS) and other state roads. The state highway network is approximately 8% of all roadways in Minnesota.



¹ Minnesota Department of Transportation, "Centerline and Lane Mileage Reports," Office of Transportation System Management, December 31, 2021, https://www.dot.state.mn.us/roadway/data/reports/mlm/21_strgp.pdf.

² Centerline miles is a term for one mile of a single roadway regardless of the number or size of the lanes.

Figure 2-1: Minnesota's State Highway network, 2022



VEHICLE MILES TRAVELED

Minnesota’s roadway network has changed over time to meet the needs of those who use it. From 1992 to 2018, VMT growth on all roads in Minnesota averaged about 1.4% per year.³ From 2000 to 2019, overall statewide total VMT rose approximately 16.5%, from 52.1 billion VMT to 60.7 billion VMT.⁴ However, statewide VMT saw a slight reduction by 1% from 2018 to 2019 per capita. Due to the COVID-19 pandemic, 2020 saw an unprecedented drop in VMT throughout the state. In the early months of the pandemic, the volume of vehicles on Minnesota roadways dropped in some areas by 30% to 50%. This drop in VMT is shown in Figure 2-2.⁵

Figure 2-3 shows how VMT is distributed across the different roadway systems in Minnesota. Since 2020, traffic volumes have returned to or exceed pre-pandemic levels in most of the state, but VMT in the Twin Cities remains about 5% below 2019 levels. Recent evidence from traffic volume data in the Twin Cities⁶ suggests that while daily volumes are rebounding to near pre-pandemic levels, the distribution of trips throughout the day has differed

significantly.⁷ Volumes during the traditional morning peak period are lower, consistent with many workers continuing to work remotely, while trips during the afternoon peak period are returning to higher levels. In the near term, VMT is predicted to remain relatively consistent, but could rise considerably if Minnesotans don’t use lower emission travel options like walking, rolling, bicycling and taking transit or bundle trips to destinations.

Figure 2-3: Percentage of vehicle miles traveled by roadway system, 2020

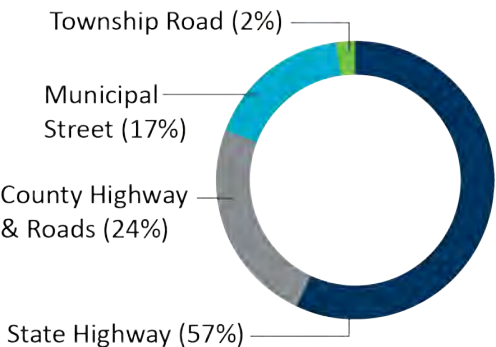
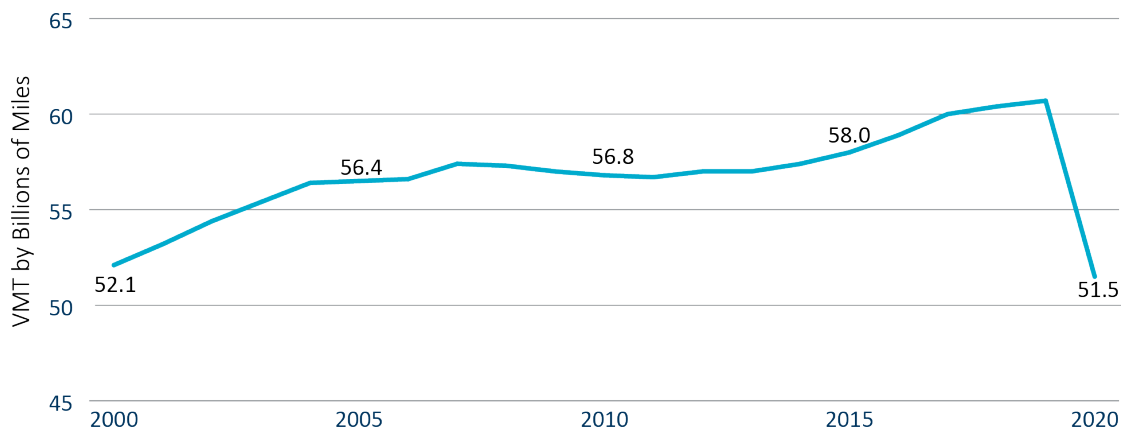


Figure 2-2: Total vehicle miles traveled in Minnesota, 2000-2020



³ Minnesota Department of Transportation, “Vehicle Miles of Travel Trends in Minnesota,” Office of Transportation System Management, September 2019, https://www.dot.state.mn.us/traffic/data/reports/vmt/VMT_Trend_Report_2018.pdf.
⁴ Minnesota GO, “Transportation Behavior,” Trend Library, 2022, <https://minnesotago.org/trends/transportation-behavior>.
⁵ Minnesota Department of Transportation, “Performance Measures,” date accessed March 9, 2022, <https://www.dot.state.mn.us/measures/>.
⁶ Minnesota Department of Transportation, “Regional Transportation Management Center,” date accessed March 9, 2022, <https://www.dot.state.mn.us/rtmc/trafficoperations.html>.
⁷ Metropolitan Council, “Freeway Travel Trends,” date accessed March 9, 2022, <http://metrotransitmshinyapps.io/freeway-traffic-trends/>.

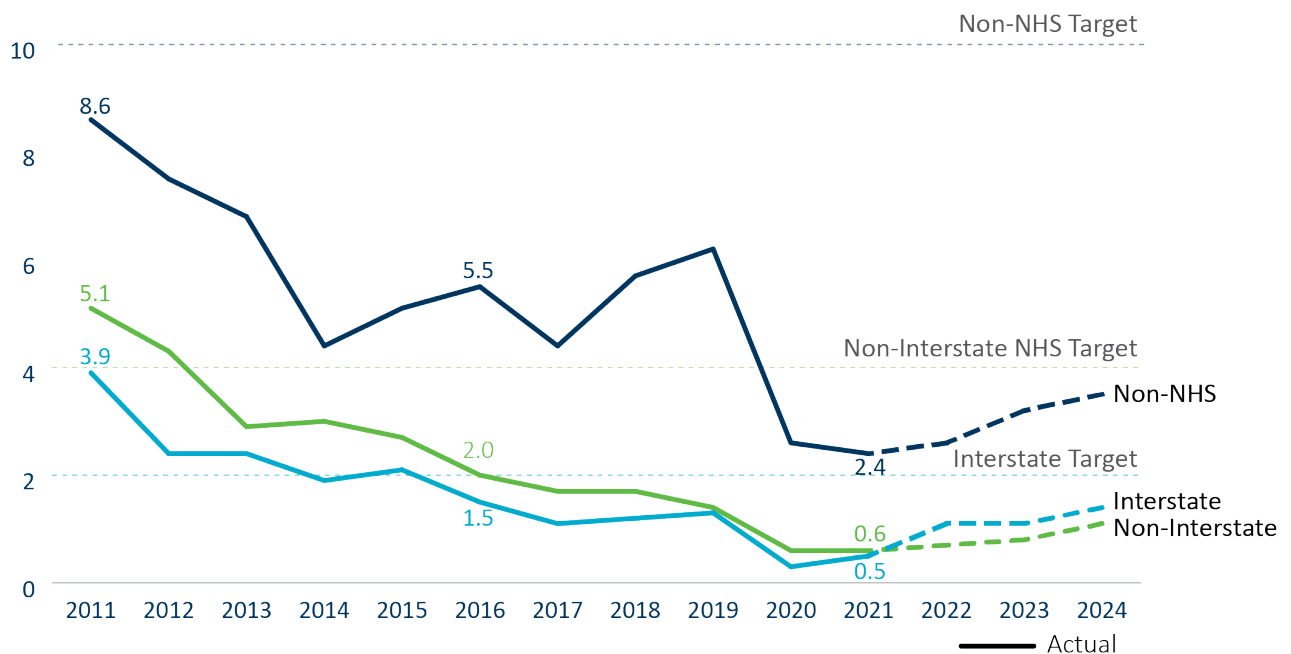
PAVEMENT CONDITION

Faced with an aging system and increasing construction costs, transportation partners throughout Minnesota are struggling to keep the roadway system in good condition. Even with these challenges, there has been a decrease in state highway miles rated as poor condition while more of the system is rated in fair and good condition, as seen in Figure 2-4.

In 2021, the Interstate system met the state target of less than 2% of Interstate pavements in poor condition. Additionally, the Non-Interstate NHS roadways achieved the target of having less than 4% of pavement in poor condition with 0.6% in poor condition in 2021. Finally, the Non-NHS system in 2021 also achieved the target of less than 10% in poor condition.

Although the roadways rated in poor⁸ condition are going down, the percentage of roadways rated in good condition are not increasing at the same rate. This means that more roadways are being categorized as in fair condition. If more roadways aren't moved from fair condition to good condition, the percentage of pavements in poor condition across all roadways is expected to increase in the future. Figure 2-4 shows the percent of roadway miles with a Ride Quality Index less than 2.0 since 2011 and projections for 2021-2024.

Figure 2-4: Percent of Minnesota State Highway pavement in poor condition, 2021



⁸ Minnesota Department of Transportation, "2020 Pavement Condition Annual Report," March 2021, https://www.dot.state.mn.us/materials/pvmtmgmtdocs/AnnualReport_2020.pdf.

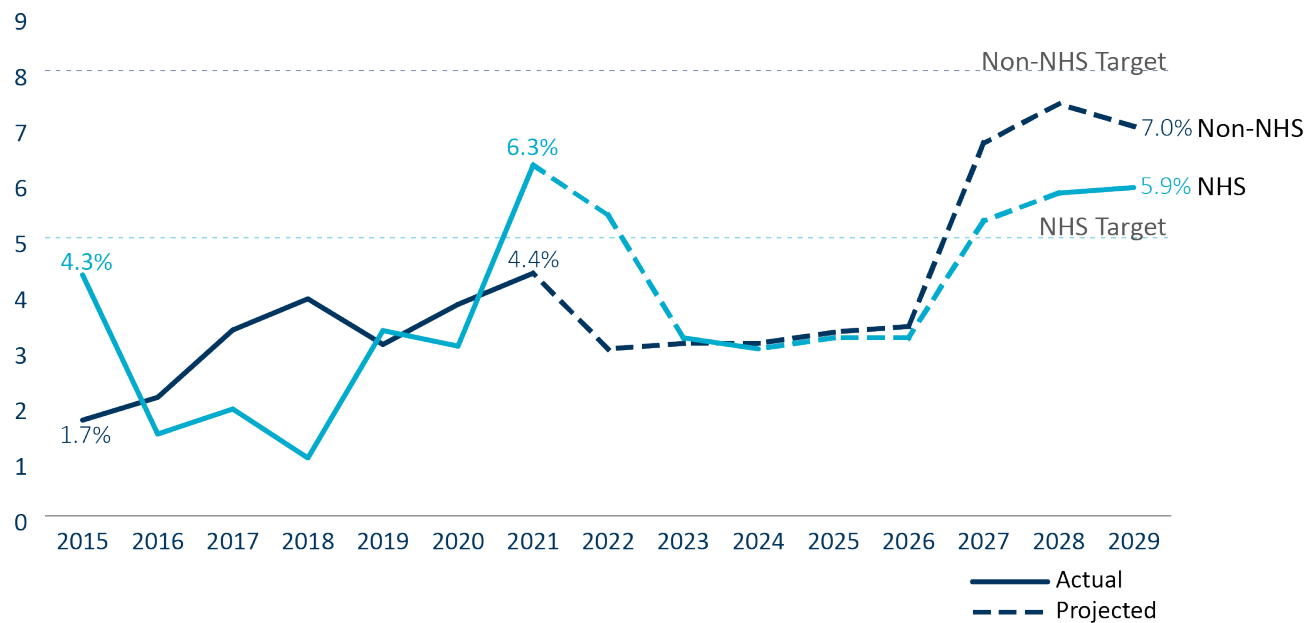
BRIDGE CONDITION

MnDOT is currently not meeting the state’s target for the acceptable percentage of NHS bridges in poor condition⁹. As of 2021, 6% of NHS bridges were in poor condition, which does not meet the NHS state target. Over 4% of Non-NHS bridges were in poor condition, which does meet the Non-NHS state target. 30% of NHS bridges and 31% of Non-NHS bridges were in good condition.¹⁰ As seen in Figure 2-5, the percentage of bridges on the NHS in poor condition exceeded the NHS target of 5% in 2021. This is projected to still exceed the target in 2022 before returning to below the target in 2023. However, the percent of bridges on the NHS in poor condition is projected to again rise above the target in 2026. Note these projections are anticipated to improve as MnDOT expects to use federal funding for bridges as authorized by the Infrastructure Investment and Jobs Act.

On the local road network, the percentage of bridges in poor condition was 5% and 66% of bridges were in good condition in 2020.¹¹



Figure 2-5: Percent of Minnesota State Highway bridges in poor condition, 2021



⁹ Minnesota GO Performance Dashboard, “Bridge Condition,” date accessed March 9, 2022, <https://performance.minnesotago.org/system-stewardship/condition/bridge-condition>.

¹⁰ Minnesota GO Performance Dashboard, “Bridge Condition,” date accessed March 9, 2022, <https://performance.minnesotago.org/system-stewardship/condition/bridge-condition>.

¹¹ Minnesota Department of Transportation, “Minnesota Structures 2021 Report, Bridge Office – Bridge Inventory Management Unit.

TRAFFIC SAFETY

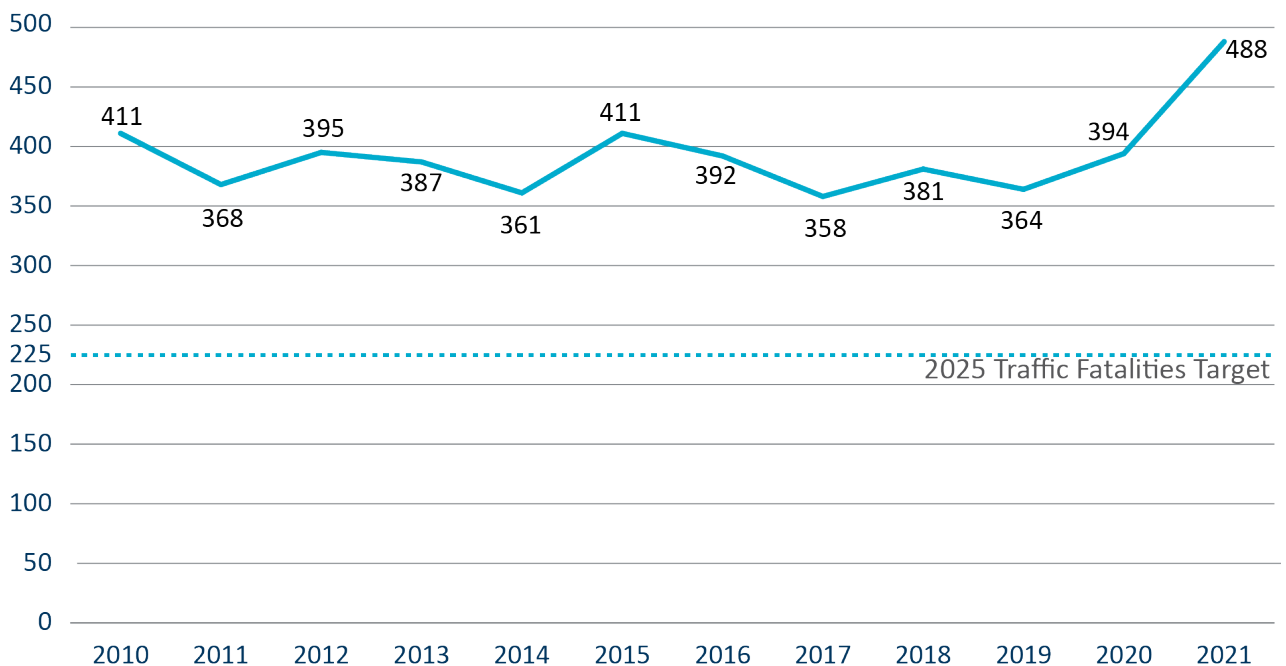
2021 was the deadliest year on Minnesota's roads in over a decade. In total, preliminary reports from the Minnesota Department of Public Safety state that in 2021, 488 people lost their lives due to motor vehicle crashes compared to 394 fatalities in 2020, a

24% increase (Figure 2-6). Note that 2021 numbers are preliminary and are subject to change when the Crash Facts report is published later in 2022. This includes any crash involving a motor vehicle. The number of serious injuries on the roadway system increased from 1,569 in 2020 to 1,722 in 2021. Overall, the total number of serious injuries has generally trended down over the past six years.¹²

From 2016 to 2020, approximately 48 pedestrians and eight bicyclists were killed each year.¹³ Fatalities and serious injuries involving bicyclists and pedestrians remain largely unchanged. For example, in 2015 there were 41 pedestrian and 10 bicyclist fatalities compared to 55 pedestrian and 9 bicyclist fatalities according to preliminary 2021 crash data.



Figure 2-6: Traffic fatalities on Minnesota roads, 2010 to 2021



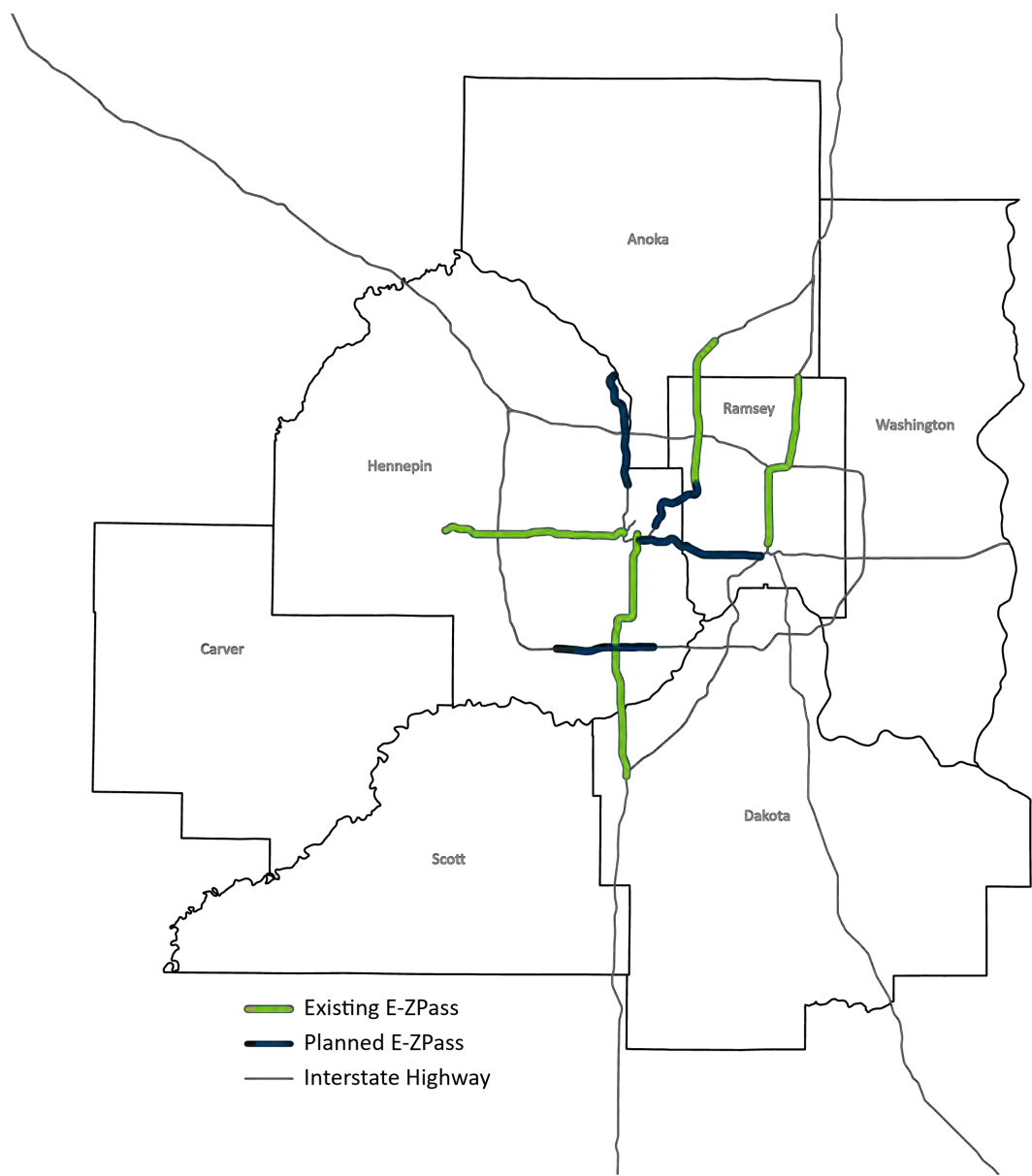
¹² Minnesota Department of Public Safety, "Bike and Pedestrian Safety," Office of Traffic Safety, 2016-2020, <https://dps.mn.gov/divisions/ots/pedestrians-bicycles/Pages/default.aspx>.

¹³ Minnesota Department of Public Safety, "2020 Minnesota Annual Report," Office of Traffic Safety, 2020, <https://dps.mn.gov/divisions/ots/reports-statistics/Documents/Annual-Report-2020.pdf>.

MANAGED LANES

“Managed lanes” are express lanes that use electronic tolls to improve traffic flow, provide alternatives to congestion and improve safety. Managed lanes were first implemented on the Twin Cities’ metro area freeway system in 2005 along I-394. Automated toll lanes and other managed lane technologies have since been extended to portions of I-35W and I-35E. These technologies are under consideration for other parts of the metro area. Figure 2-7 shows the existing and planned managed lane corridors in the metro area. Metro area managed lanes are also referred to as E-ZPass and were previously known as MnPASS.

Figure 2-7: Existing and Tier 1 planned managed lane corridors, 2022



HIGHWAY RELIABILITY & CONGESTION

There are many ways to think about and assess slowdowns on the roadway system. These include measures that analyze traffic delays, travel reliability and traffic congestion when monitoring the performance of the transportation network. The travel reliability is important for the public and freight operators. For individual travelers, reliability may dictate what mode or travel route to use, or it may impact departure times. For freight operators who have to make a freight transfer, an unexpected delay may lead to missed connections or longer travel times.

Since 2013, the reliability of Minnesota's Interstate system has remained relatively consistent at both the statewide and Twin Cities area levels (see Figure 2-8 and Figure 2-9). The statewide Interstate reliability measures tend to be higher (more reliable) than the metro measures since the metro area tends to experience higher traffic volumes and congestion levels. For most of the years between 2017-2020, the Interstate has been less reliable compared to NHS for both the statewide and Twin Cities areas. Due to the COVID-19 pandemic, reliability was considerably better since fewer people were traveling and there was rarely congestion.

Both delays and congestion can be measured in the amount of time and fuel wasted, cost to travelers or reductions in access to destinations within a given amount of time. MnDOT keeps detailed data on motor vehicle congestion for the Twin Cities and collects and analyzes travel time reliability data for Greater Minnesota. Currently, MnDOT measures motor vehicle congestion in the metro area based on travel speed during peak periods which can be seen in Figure 2-10.

MnDOT defines freeway congestion as traffic flowing at speeds less than or equal to 45 miles per hour. Freeway congestion levels in the metro area have remained relatively constant since 2010, with a little more than 20-25% of freeway miles congested during peak travel periods. The metro area freeway system had a marginal increase in the percentage of miles of freeway congested, from 24.2% in 2018 to 24.4% in 2019. The COVID-19 pandemic stay-at-home order decreased congestion by 30-50% initially and it remains at a 15-20% decrease. In 2020, only 1.4% of freeways miles were operating below 45 miles per hour during peak periods. Although congestion is currently projected to increase in the coming years.

Figure 2-8: Minnesota statewide travel reliability, 2017-2020

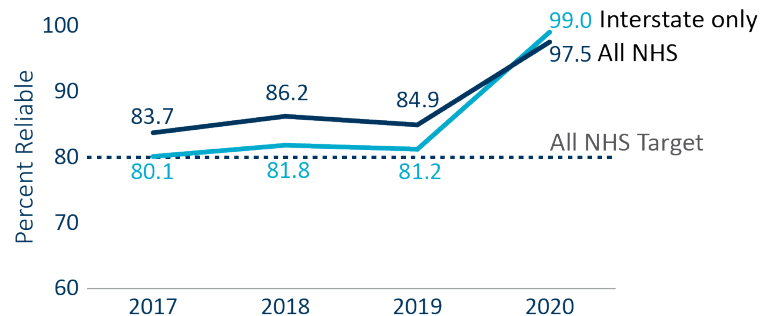


Figure 2-9: Twin Cities travel reliability, 2017-2020

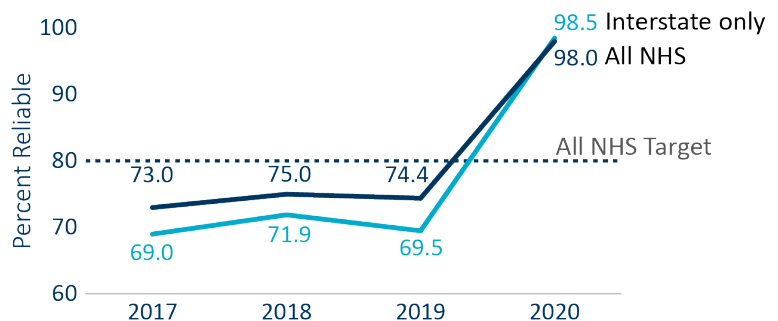
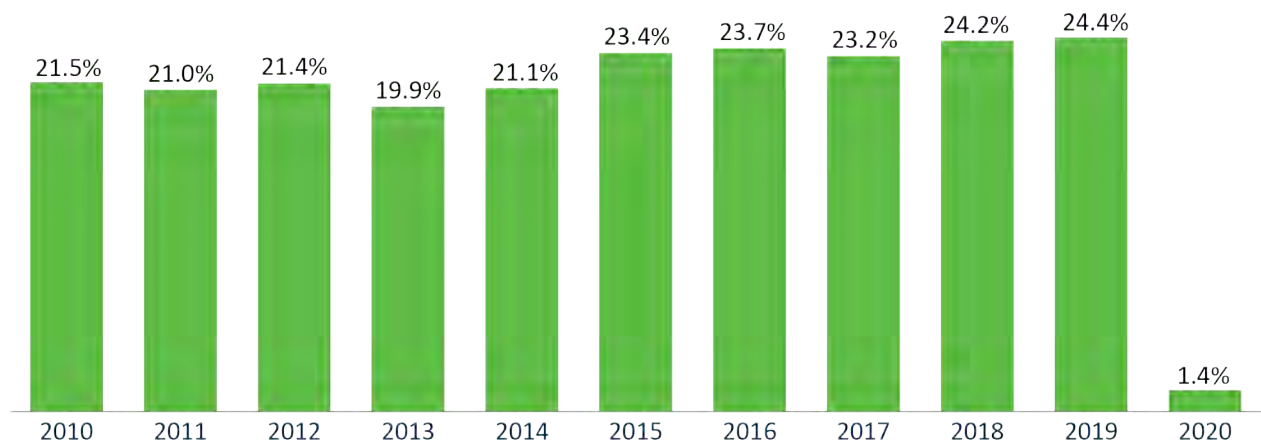
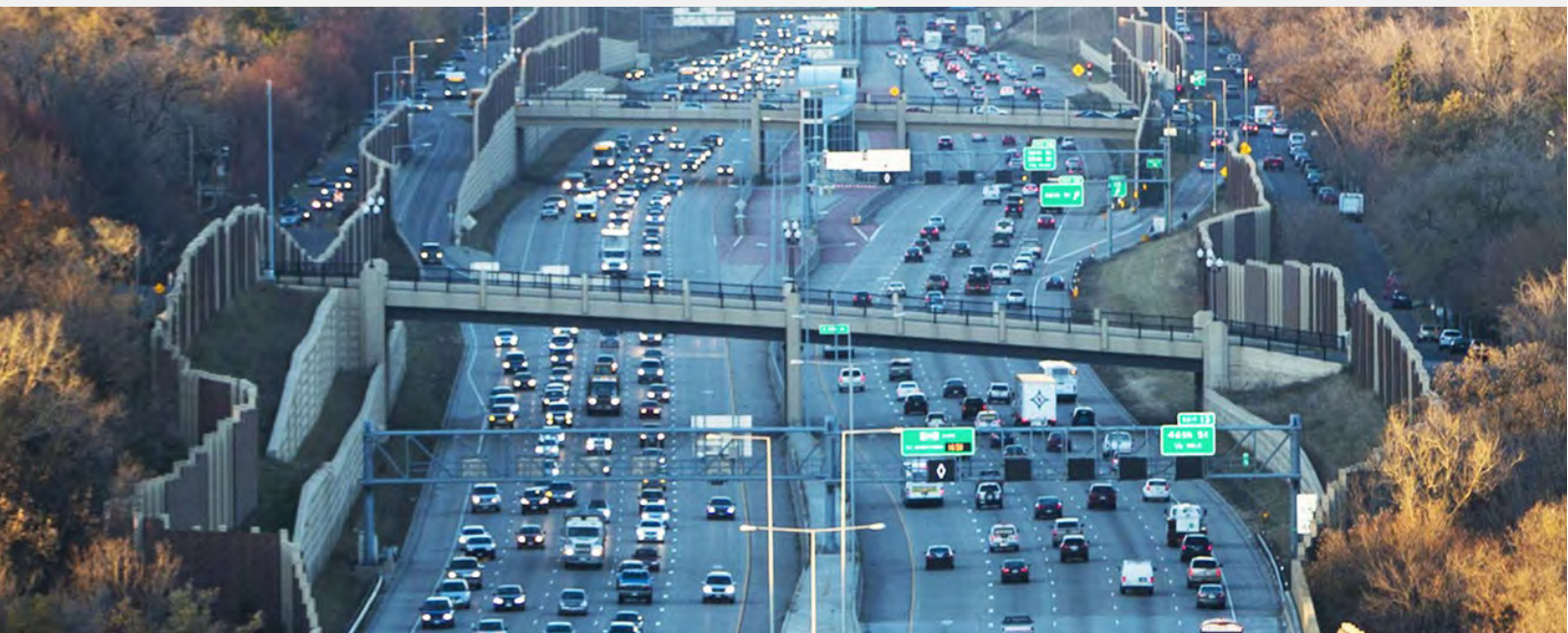


Figure 2-10: Percentage of freeway miles in the Twin Cities operating below 45 mph during peak periods, 2010 to 2020



“...I usually need to get to work at a specific time each day and just from a logistical standpoint I cannot really afford to introduce any variables into my morning commute.”

– Policy Panel and Online Discussion Board Participant



BICYCLING & WALKING

For bicycling and walking, local trips within communities are often more important than long-distance connections. However, there is limited data to report at a local level. At the state level, Minnesota currently has three designated U.S. Bicycle Routes – the Mississippi River Trail, the North Star Route and U.S. Bicycle Route 20. These routes include 1,320 miles of designated bicycle facilities on state and local roads and trails.

Additionally, there are more than 4,000 miles of trails for bicycling and walking in the state. Figure 2-11 highlights existing state trails and priority bicycle corridors under consideration for infrastructure improvements and future designation as state bicycle routes. There are also many more off-road infrastructure facilities that support bicycling and walking. Examples of off-road bicycle and pedestrian facilities include bicycle lanes and widened or paved shoulders.

Minnesota’s statewide bicycling and walking trends can be seen in the results of MnDOT’s Omnibus Survey, where respondents are asked which transportation modes they used over the past year. MnDOT’s Omnibus Survey is a biennial public opinion survey that provides department leadership, managers and program staff with public feedback on MnDOT’s core operations. The 2017 Omnibus Survey indicated 28% of respondents either walked or used a wheelchair or mobility device at least a few times per week, while 9% said they bicycle at least a few times per week. In 2019, 31% of respondents indicated they either walked or used a wheelchair or mobility device at least a few times per week, while 8% said they bicycle at least a few times per week. During 2020, COVID-19 had a substantial impact on frequency of bicycling and walking trends statewide. Twenty percent of survey respondents indicated they walked or used a wheelchair more due to COVID-19 and 13% of survey respondents indicated they bicycled more due to COVID-19.¹⁴

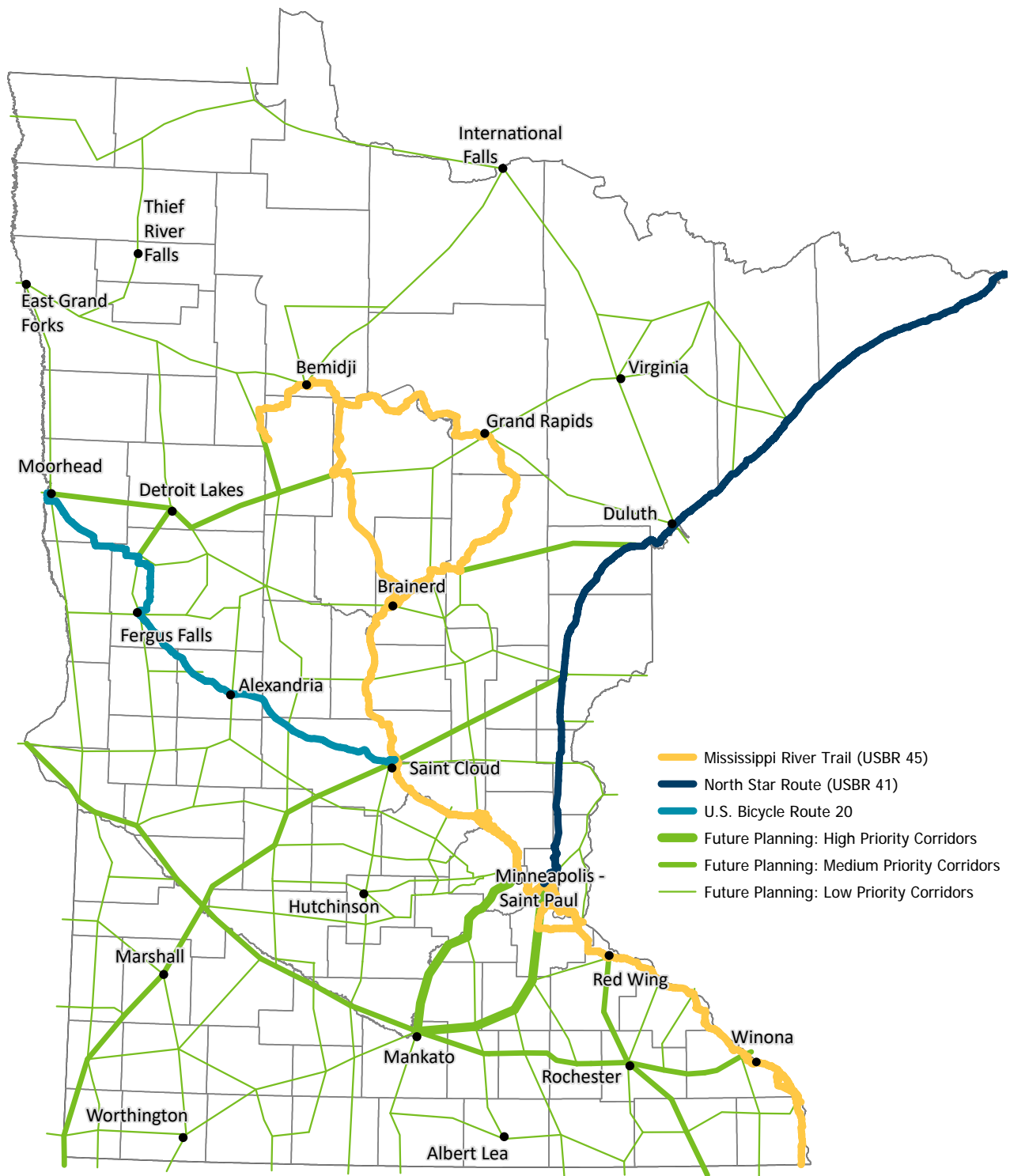
In the Twin Cities, 17% of Minnesotans use a bicycle for travel at least once a month and over 7% complete their trips with a bicycle at least once a week. Almost 2% of daily commutes in the Twin Cities are completed on foot or through rolling.¹⁵ The COVID-19 pandemic also had an impact on daily walking and bicycling trends in the Twin Cities. The initial five weeks of the pandemic saw an increase of 51% in people walking and bicycling when comparing 2017 to 2019 at the same time.



¹⁴ Minnesota Department of Transportation, “Omnibus Public Opinion Survey,” MnDOT Public Engagement and Constituent Services Office, MnDOT 2017, 2019, 2020.

¹⁵ Minnesota Department of Transportation, “Minnesota’s Walking and Bicycling Data Collection Report Update,” Office of Transit and Active Transportation, February 22, 2021, <http://www.dot.state.mn.us/bike-ped-counting/reports/2018-2019%20MinnesotaPedBikeCountReport.pdf>.

Figure 2-11: Minnesota’s designated state routes and priority future bicycle corridors, 2022



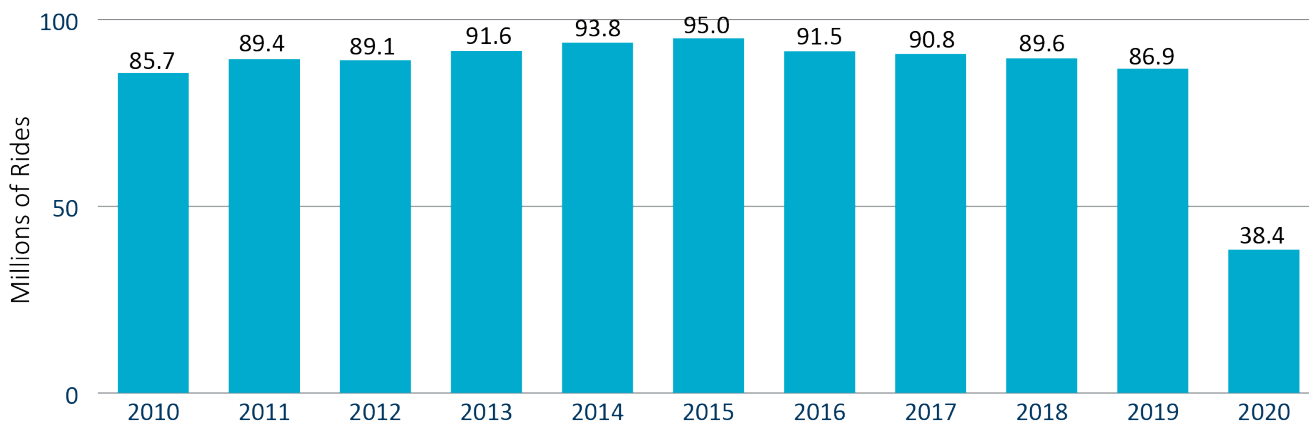
PUBLIC TRANSIT

SEVEN-COUNTY METRO TRANSIT

A variety of public transit options are available in the seven-county metro area. Current options include regular and express bus routes, light rail transit, commuter rail and bus rapid transit —these are collectively known as fixed route services. Dial-a-ride service is also available throughout the region. All 188 communities in the Twin Cities have access to some form of public transit service. Transit use has remained steady between 2010 and 2019 according to Metropolitan Council’s Travel Behavior Inventory Household Survey results. Of those who use transit, 7% use transit weekly and 44% only use transit when attending an event.¹⁶

COVID-19 had a significant impact on transit ridership and service. Ridership fell on all transit services – by as much as 60% on local bus routes, 70% on light rail and 95% on express bus routes and commuter rail.¹⁷ Twin Cities transit ridership fell from a total of 82,486,307 rides in 2019 to 38,390,500 in 2020.¹⁸ In 2021, ridership fell another 6.5% to a total of 35,885,429.¹⁹ Figure 2-12 shows total transit ridership between 2010 and 2020.

Figure 2-12: Seven-County regional transit ridership, 2010 to 2020



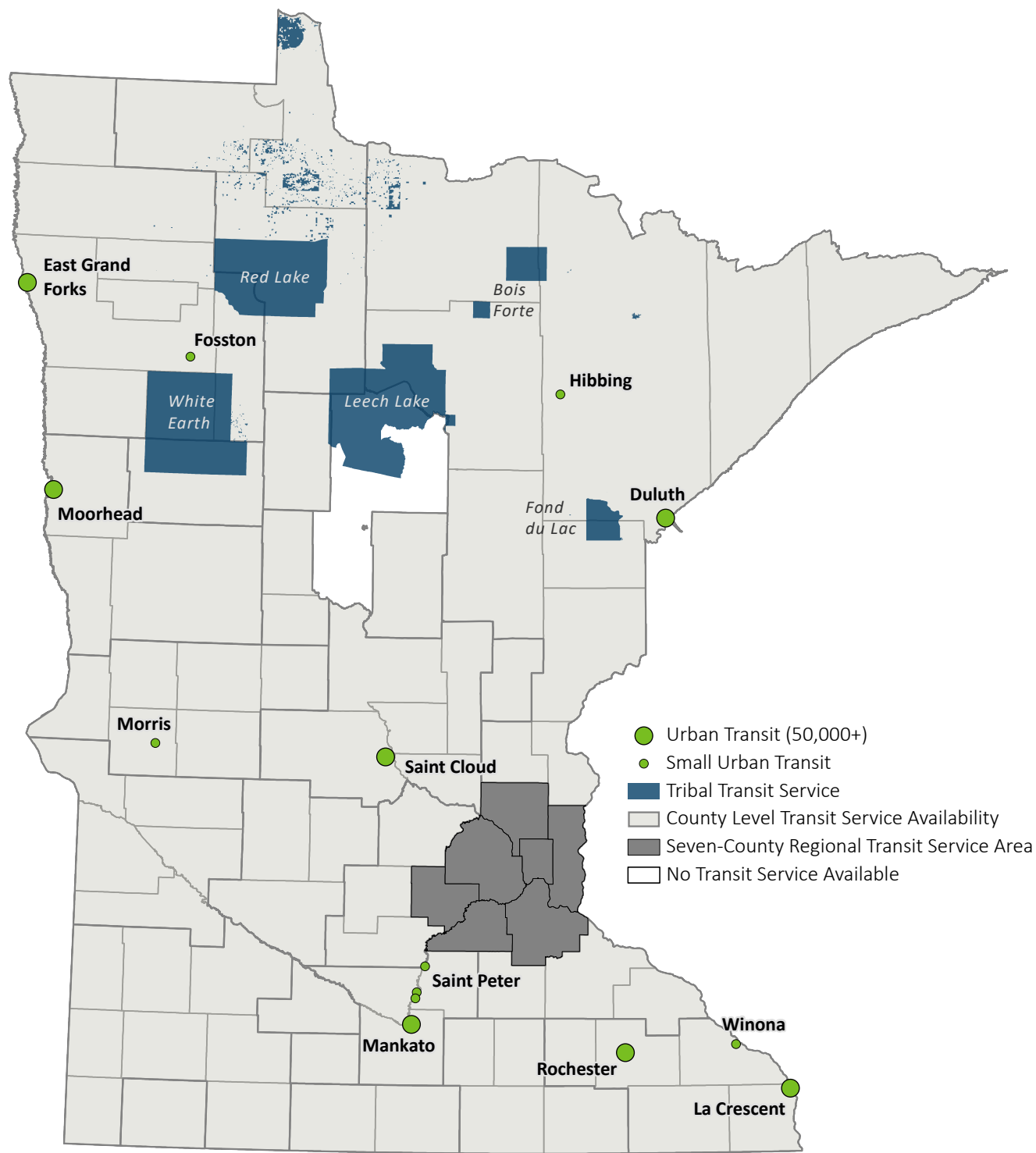
¹⁶ Metropolitan Council, “2019 Travel Behavior Inventory Household Survey Results,” 2019, <https://metro council.org/Transportation/Performance/Travel-Behavior-Inventory/2019.aspx>.

¹⁷ Metropolitan Council, “2021 Regional Transit Ridership,” 2021, <https://metro council.org/Transportation/Planning-2/Reports/Transit-Transitways/Regional-Transit-Ridership.aspx>.

¹⁸ Metro Transit, “Metro Transit Facts,” December 31, 2020, <https://www.metrotransit.org/metro-transit-facts>.

¹⁹ Metropolitan Council, “2021 Year End Ridership,” Transportation Committee, February 14, 2022, <https://metro council.org/Council-Meetings/Committees/Transportation-Committee/2022/February-14,-2022/2021-Year-End-Ridership-Report.aspx>.

Figure 2-13: Greater Minnesota transit service, 2021



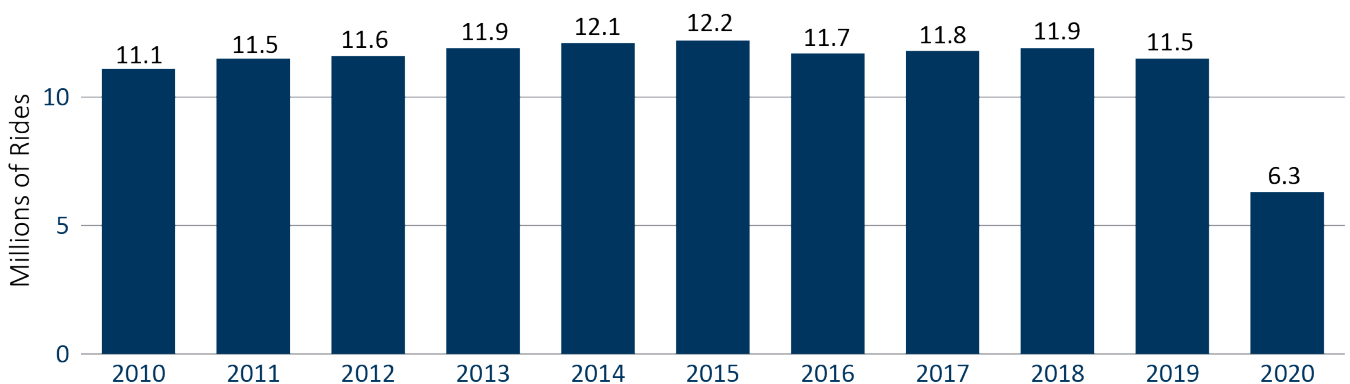
GREATER MINNESOTA TRANSIT

Greater Minnesota has 28 rural transit (5311) systems, five tribal transit systems and several intercity bus providers operated by local governments, joint powers organizations, non-profits and tribal governments that serve 80 Minnesota counties. There are seven small urban (5307) systems in Greater Minnesota's metropolitan areas and 28 rural Enhanced Mobility for Seniors and Individuals with Disabilities programs (5310) across Greater Minnesota. Additionally, eight Regional Transportation Coordinating Councils and six Transit Coordination Assistance Programs are located throughout Minnesota to help reduce transportation gaps, streamline access and provide more transportation options.

Figure 2-13 shows public transit systems in Greater Minnesota. Since the decade high in 2015 of 12.2 million, total transit ridership in Greater Minnesota has decreased over the years as shown in Figure 2-14.²⁰ COVID-19 had a significant impact on ridership and 2020 saw nearly a 50% decrease with 6.3 million rides versus 2019's 11.5 million.



Figure 2-14: Greater Minnesota transit ridership, 2010 to 2020



²⁰ Minnesota GO Performance Dashboard, "Annual Greater Minnesota Transit Ridership," date accessed March 9, 2022, <https://performance.minnesotago.org/critical-connections/access/annual-boardings-recorded-public-transit-providers-serving-greater-minnesota-counties-amtptr>.

INTERCITY PASSENGER RAIL & BUS SERVICES

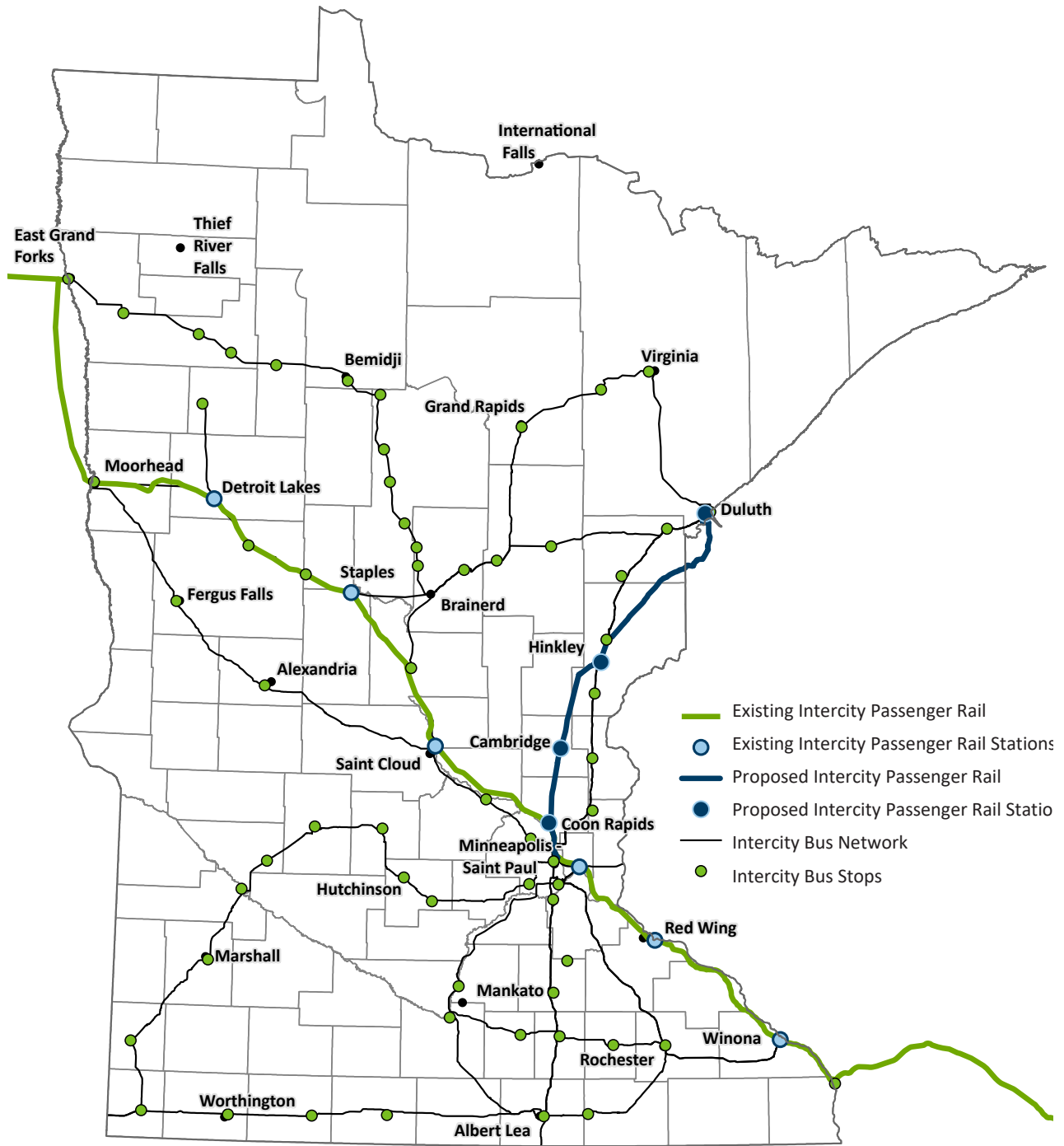
Minnesota has intercity passenger rail and bus service. Amtrak's Empire Builder route offers passenger rail service between Chicago and Seattle, stopping at stations in six Minnesota cities (i.e., Detroit Lakes, Staples, Saint Cloud, Minneapolis-St. Paul, Red Wing and Winona). Round-trip service is expected to be expanded in 2024 with a second daily train from St. Paul to Chicago being added to the existing Amtrak service on the Empire Builder route. Additional corridors are being considered for future passenger rail service.

Greyhound, Jefferson Lines, Land to Air Express, Megabus, Northfield Lines, Rainbow Rider and Saint Cloud NorthStar Link provide intercity bus service to 87 destinations across the state. These services also connect to every major metropolitan area in the Midwest. People took 49,801 rides on intercity bus routes in 2015 and 52,823 in 2020. During the COVID-19 pandemic, intercity bus ridership experienced an increase largely due to short term supplemental intercity bus contracts that were funded through the Coronavirus Aid, Relief and Economic Security Act (CARES Act). These contracts provided additional service beyond the regular intercity bus route services normally provided. Figure 2-15 shows the existing and planned intercity passenger rail corridors and intercity bus network in Minnesota.



Photo Credit: Mike Armstrong

Figure 2-15: Minnesota's existing and planned intercity passenger rail corridors and existing intercity bus network, 2021



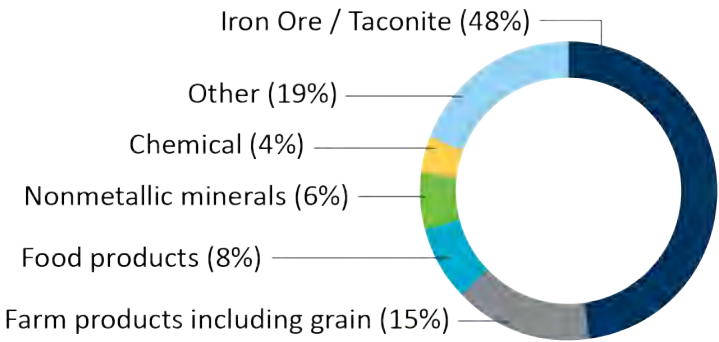
FREIGHT RAIL

As of 2021, there were 21 railroad companies operating in Minnesota on 4,444 route miles of track.²¹ Figure 2-17 shows the state freight rail network. The state ranks eighth in the nation for total track mileage.²² The main products shipped on Minnesota’s freight rail system are iron ores/taconite, coal, cereal grains and other food products as seen in Figure 2-16. Minnesota ranks first in the nation in tons of iron ore shipped, second in originated farm products and third for originated food products.²³

Figure 2-16 shows the mix of commodities that are originated on Minnesota’s freight rail network.²⁴ Furthermore, 15% of commodities on the rail network are farm products and grain. This accounts for 12 million tons. Food products are 8% of commodities, nonmetallic minerals at 6% and chemicals at 4%. Additionally, over 6.5 million tons of commodities fall into the “other” category. In total, 88.6 million tons of commodities were originated on Minnesota’s rail network in 2019.



Figure 2-16: Commodities originated on Minnesota’s freight rail network by weight, 2019



²¹ Minnesota Department of Transportation, “About Railroads in Minnesota,” date accessed March 9, 2022, <https://www.dot.state.mn.us/aboutrail/index.html>.

²² American Association of Railroads, “State Rankings – total rail miles by State: 2020,” 2019, <https://www.aar.org/wp-content/uploads/2021/02/AAR-State-Rankings-2019.pdf>.

²³ Minnesota Department of Transportation, “State Rail Plan,” March 2015, Office of Freight and Commercial Vehicle Operations, <https://www.dot.state.mn.us/planning/railplan/2015report/DraftMNStateRailPlan.pdf>.

²⁴ Minnesota Regional Railroads Association, “Information about Minnesota’s Railroads,” 2021-2022, <https://www.mnrailroads.com/assets/MRRA%202021-22.pdf>.

Figure 2-17: Minnesota's freight rail network, 2021



AIR

Minnesota's air transportation system includes a total of 305 airports, 133 of which are publicly funded and open to the public. Some common aviation activities include personal travel, cargo services, medical transport, agricultural spraying and aerial surveying. Nine of the state's airports offer ticketed airline service – Minneapolis-St. Paul, Bemidji, Brainerd, Duluth, Hibbing, International Falls, Rochester, Saint Cloud and Thief River Falls.

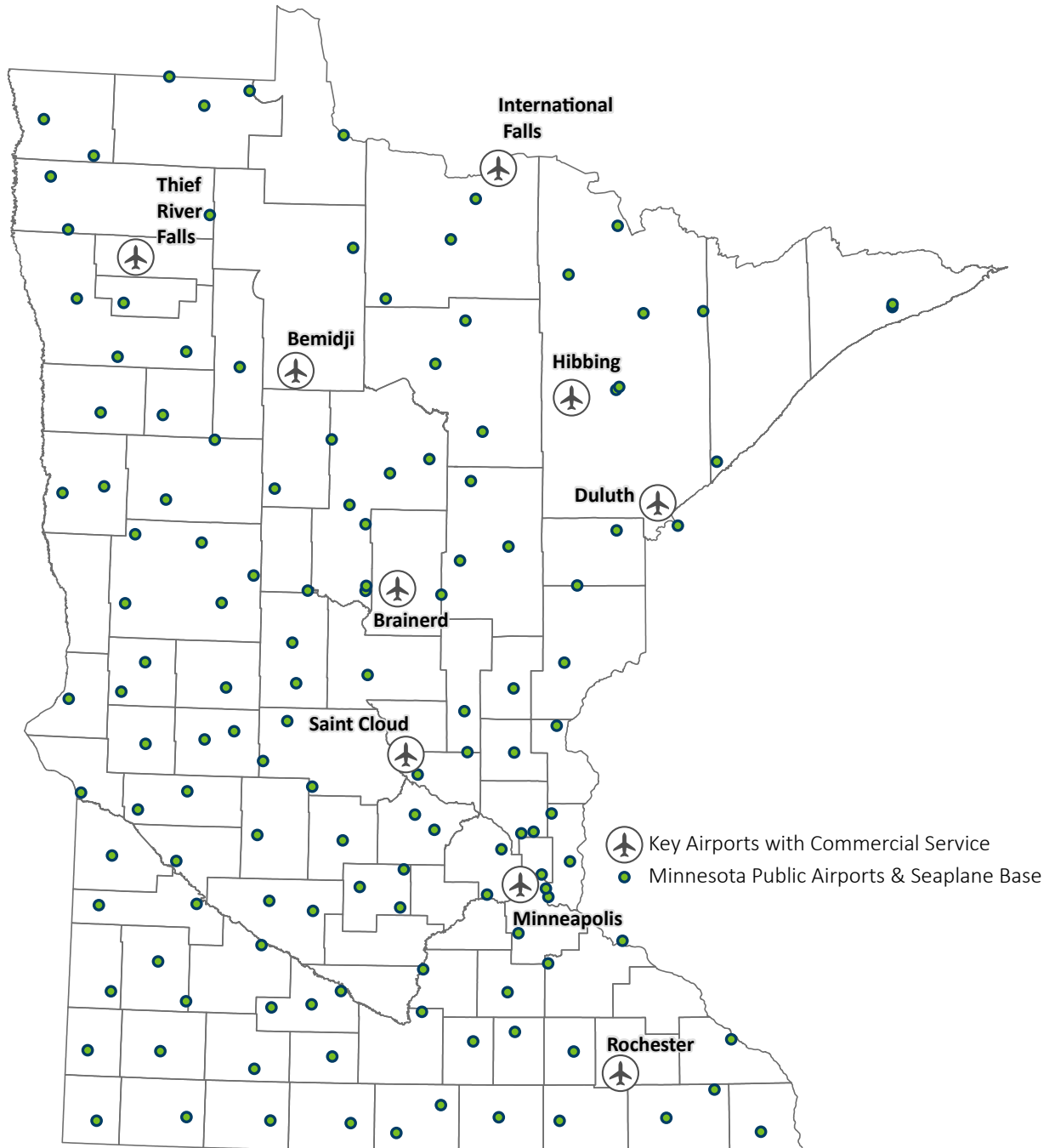
The condition of airport runways and taxiways is important to the efficient functioning of an airport. The last time the aggregate pavement conditions were calculated was for survey year 2017. At that time, the area weighted average pavement condition for Runways and Taxiways was 91.3 on the Pavement Condition Index (PCI). The pavement conditions fluctuate over time with funding levels and other factors. The peak pavement condition was in year 2016 with a PCI index of 94.4. The previous low was in 2009 with an index of 82.9. If this pattern

were to repeat itself, it is anticipated that the next low point would occur in about 2023. However, with the various federal stimulus programs, the recent funding levels have been good, and pavement conditions will be anticipated to be skewed on the high side. Since 2000, the only year that the pavement condition has been lower than the target PCI of 84 was 2009.

Airports are classified based on their size and role in supporting their community. Figure 2-18 shows the existing airport network serving Minnesota.



Figure 2-18: Minnesota's aviation system, 2021



PORTS & WATERWAYS

Minnesota has three ports on Lake Superior. They are located in Silver Bay, Two Harbors and Duluth-Superior. The combined tonnage shipped from these ports in 2019 was more than 56 million tons.²⁵

Four ports are located on 195 miles of the Mississippi River System and provide essential transportation connections and access to national and international markets. The current river ports are located in Red Wing, the Twin Cities, Savage (located on the Minnesota River, a Mississippi River tributary) and Winona. The 15 navigable miles of the Minnesota River are considered a part of the Mississippi River System. A new Wabasha port is also in development and will appear on the system within the next few years bringing the total to five ports on the Mississippi River System. These ports were used to transport over 11 million tons in 2019.

The largest commodity category by tonnage shipped on Minnesota's waterways is iron ore, iron and steel waste and scrap metal. Figure 2-19 highlights the port and waterway system in Minnesota.



²⁵ Minnesota Department of Transportation, "Ports and Waterways," Office of Freight and Commercial Vehicle Operations, date accessed March 9, 2022, <https://www.dot.state.mn.us/ofrw/waterways/commercial.html>.

Figure 2-19: Minnesota's ports and waterway system



TRANSPORTATION FUNDING IN MINNESOTA

Many partners involved in Minnesota’s transportation system provide transportation funding or help decide how money is spent.

Different rules guide revenue and expenditures. All transportation modes are funded to some extent by two funding sources – transportation revenue and general revenue. Typically, funds from public sources are distributed to specific projects and activities through funding programs (Figure 2-20).

Funding for any given project depends on a variety of factors such as the project purpose, transportation mode, scope, lead organization and timing. All these funding factors, including partners, sources and programs, contribute to the process that is fundamental to maintaining and developing the Minnesota transportation system.

Putting it all together is a complex puzzle. See Appendix F – Transportation Funding for a more detailed overview of Minnesota’s transportation funding process.

Figure 2-20: Transportation funding process







WHAT IS CHANGING

Minnesota broadly and transportation specifically is in a period of change and transition. Some of the changes have been underway for years and others are just starting to be felt. Understanding and planning for these changes is complicated by the COVID-19 pandemic. It remains unclear what the lasting impacts of the pandemic will be on the state and specifically transportation.

This chapter describes opportunities and challenges that will impact Minnesota under six trend categories: population, economy, environment, technology, safety and transportation behavior. Recent data throughout this chapter will highlight the effects of COVID-19 across the transportation system. It is not possible to draw firm conclusions on the long-term future for Minnesota and transportation. However, reviewing trends over time can highlight opportunities and challenges for ongoing recovery efforts

Chapter 4 explains MnDOT's work to understand how these trends are informing transportation in Minnesota and how the policy direction in Chapter 5 can prepare the transportation system for the changes to come. See [Minnesota GO's Trend Library](#) to find trend papers.

READ CHAPTER 3 TO LEARN ABOUT TRENDS IMPACTING TRANSPORTATION:

- Population
- Economy
- Environment
- Technology
- Safety
- Transportation Behavior

POPULATION

Minnesota continues to grow and become more diverse. Strong population growth continues to occur in the seven-county metro area, in the Rochester and Mankato areas, as well as along the Interstate-94 corridor toward the Fargo-Moorhead area. While the state demographer estimates that most Minnesota counties will lose population in the next 30 years, the counties experiencing the most population decline are predominantly rural.

Most counties with growth rates 10% and higher include urbanized areas with populations of 50,000 or more. Given the strong historical trend of Minnesota's population becoming more urbanized, it is projected that Minnesota's population growth will continue to occur predominately in urban areas. The seven-county metro area has approximately 56% of the state's population, according to the Minnesota State Demographic Center, and is expected to add nearly 800,000 more people by 2050. This represents most of the state's forecasted population growth over this time period. In 2040, the state's population is expected to reach over six million people. At the same time, deaths will outnumber births, which means that population growth will come from people moving to the state from other states and countries.¹ See Minnesota's population by county in Figure 3-1.

Minnesota is becoming more diverse. Black, Indigenous, Asian, Hispanic and other communities of color (collectively referred to as BIPOC) are expected to increase by more than one million residents between 2018 and 2053. These communities will exceed one-third of the total population.² This trend is most profound in children and youth as BIPOC now make up 32% of the

population age 17 and under. Conversely, BIPOC Minnesotans are only 8% of the state's demographic population age 60 and older.³ Immigration to Minnesota is one contributing factor to Minnesota's increasing diversity with nearly 9% of the state's population being foreign-born. The share of foreign-born residents coming from Asia, Africa and Central and South America stands at 65% as of 2018.

Minnesota continues to get older. Over 920,000 Minnesotans are currently age 65 and older, and that number is projected to grow to more than 1.3 million by the year 2040. The percentage of Minnesotans in that age group is projected to grow from 16% to 21% over the next 20 years. Now and into the future, the median age in Greater Minnesota will be substantially higher than in the seven county metro area.

While older adults have the highest proportion of disability status by age group, most Minnesotans with a disability are younger than 65 years old. According to the U.S. Census Bureau, one in nine Minnesotans have a disability, which is 11% of the total state population.⁴



¹ Minnesota State Demographic Center "Long Term Population Projections for Minnesota," October 2020, https://mn.gov/admin/assets/Long-Term-Population-Projections-for-Minnesota-dec2020_tcm36-457300.pdf.

² Minnesota State Demographic Center, "Minnesota State Demographer Population Projections," Department of Administration, October 2020, <https://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>

³ U.S. Census, American Community Survey, 2015-2019 5-year estimates, generated by MnDOT using data.census.gov.

⁴ U.S. Census Bureau, American Community Survey, 2019 American Community Survey 1-year estimates, S1810; generated by MnDOT using data.census.gov.

future investments that will allow Minnesota to meet its transportation needs and support the people of Minnesota.

Total Population, 2019

- <10,000
- 10,001-25,000
- 25,001-50,000
- 50,001-100,000
- 100,001-500,000
- >500,001

ECONOMY

Minnesota's economy today is diverse and varies regionally. Historically, the state's economy was focused on agriculture, natural resources and manufacturing, which continue to be important sectors in our economy. Over time service-oriented sectors and others have grown. Despite this shift, Minnesota has strength in a broad range of industries within manufacturing. Among the most robust manufacturing clusters are food production, computer and electronics, fabricated metal, machinery and medical devices.

Minnesota's strong manufacturing sector helps to shape transportation in the state. However, changes in supply chain management, the growth in e-commerce, technological advances and new product delivery options are affecting the sector and freight as a result. Logistics continue to adapt and evolve rapidly, but these changes sometime occur more quickly than transportation infrastructure can respond. A modern and safe freight system is key to a strong economy.

Generally, roads are reconstructed every 70 to 80 years. In Minnesota, about 30% of state highway pavements are 60-79 years old and needing to be reconstructed. While they usually have longer lives, many bridges and large culverts on the state highway system are nearing their useful life as well.⁵ Railroads, ports and waterways, public drinking water and wastewater systems all face similar challenges as infrastructure that is aging.

Aging infrastructure, a lack of preventive maintenance and not replacing assets in poor condition can result in leaky pipes and pothole filled streets. Protecting public and private resources invested in the transportation system is important to be good stewards of tax payers' dollars. Asset management is key when making decisions about prioritizing investments, balancing trade-offs and ultimately adapting and improving the transportation system.

The transportation system will also need to adapt to changing urban environments following the COVID-19 pandemic. Even prior to the pandemic, many employers



⁵ Minnesota Department of Transportation, "MnDOT Transportation Asset Management Plan," Asset Management, June 2019, <https://www.dot.state.mn.us/assetmanagement/pdf/tamp/tamp.pdf>.

were reinventing workplaces and providing more flexible work environments. Overall demand for office real estate is expected to decrease if remote and hybrid work trends continue. This may be most felt in downtowns, central business districts and suburban office parks. However, downtowns and urban centers are not likely to disappear.

The future of work and resulting economic and transportation shifts remain uncertain. Though the mix of office, housing, recreation and other amenities may change, the economics of dense urban centers and a growing population are expected to continue to support urban cores. The specific near- and long-term changes and the resulting impacts to the transportation system are unclear and may take decades to materialize.⁶

It is known that inflation has increased during the recovery from the pandemic. Over the long term, restoration of global supply chains will help balance demand for goods and services. Interest rate increases are anticipated to also slow inflation to lower, steadier levels like what was seen in the 2010s. But transportation is expected to continue to face an inflation premium above consumer levels. Infrastructure investment relies on crude oil products and other volatile commodities like steel.



⁶ Federal Reserve Bank of Kansas City, Hybrid Officing Will Shift Where People and Businesses Decide to Locate, date accessed February 28, 2022, <https://www.kansascityfed.org/research/economic-bulletin/hybrid-officing-will-shift-where-people-businesses-decide-to-locate/>

ENVIRONMENT

The transportation system can have significant short- and long-term impacts on people and communities. In Minnesota, the transportation sector is a leading source of air pollution, with on-road vehicles and other mobility equipment accounting for about half of overall air pollution emissions.⁷ Fine particles and other toxins from industrial activity and transportation can negatively affect human health at all levels. Air pollution is estimated to be a major contributor to 3,200 to 6,400 deaths a year in Minnesota. Historically, the benefits and burdens of transportation have not been distributed equitably. The Minnesota Pollution Control Agency estimates that 91% of BIPOC communities have air pollution-related risks above

health guidelines, compared to 46% for low-income communities and 32% for the statewide average.⁸

Minnesota's transportation sector is also contributing to climate change. Since 2016, transportation has been the largest contributor to greenhouse gas emissions in the state. Climate change impacts from high temperatures, large storms and more will impact transportation.⁹ Transportation practices need to change to reduce the sector's contribution to climate change and to ensure the system can adapt to and mitigate the impacts of extreme temperatures and weather.

Transportation's effect on the environment extends



7 Minnesota Pollution Control Agency, *The Air We Breathe: The State of Minnesota's Air Quality*, Amanda Jarrett Smith, Ralph Pribble, Fawkes Steinwand. Saint Paul, Minnesota: Minnesota Pollution Control Agency, 2019. <https://www.pca.state.mn.us/sites/default/files/lraq-1sy19.pdf>.

8 Minnesota Pollution Control Agency, "Disproportionate impacts in Minnesota," date accessed January 11, 2022, <https://www.pca.state.mn.us/air/disproportionate-impacts-minnesota>

9 Elizabeth Dunbar and Dan Kraker, "Climate Change in Minnesota: More Heat, More Big Storms," MPR News, February 2, 2015, <http://www.mprnews.org/story/2015/02/02/climate-change-the-proof>

beyond tailpipe emissions. Construction activities and transportation infrastructure can have long term environmental impacts. Infrastructure disrupts habitats, restricts the movement of animals, contributes to water, air and noise pollution and more.

Infrastructure like roads, airports and railways can divide habitats making it difficult for wildlife to safely navigate through its habitat. Habitat loss, degradation and fragmentation are the three leading causes of biodiversity decline in the state. Populations of monarch butterflies¹⁰, rusty-patched bumble bees¹¹ and little brown bats¹² in particular have declined dramatically in recent years. Species at the edges of these ecosystems such as moose, loons and wild rice are most vulnerable to climate change and at risk of disappearing from Minnesota. Transportation-related activities have contributed to the degradation of ecosystems and natural habitats over time.

Rethinking the role of transportation right-of-way can act as a powerful catalyst for the future of transportation, environment and economy. Alternative uses can help accommodate utilities, allow opportunities to increase clean and renewable energy production and provide strategies to revive and maximize the health of the environment. Alternative uses of transportation right-of-way, when implemented properly, provide community benefit, ensure a high quality of life, maximize investments and protect the environment.



¹⁰ Minnesota State Agency Pollinator Report, "2017 Annual Report," Environmental Quality Board, 2018, [https://www.eqb.state.mn.us/sites/default/files/documents/2017 State Agency Pollinator Report_accessible.pdf](https://www.eqb.state.mn.us/sites/default/files/documents/2017%20State%20Agency%20Pollinator%20Report_accessible.pdf).

¹¹ U.S. Fish and Wildlife Service Midwest Region, "In a Race Against Extinction, Rusty Patched Bumble Bee Is Listed as Endangered," Newsroom, January 10, 2017, <https://www.fws.gov/midwest/news/861.html>.

¹² Minnesota Department of Natural Resources, "Bat Population Decline Continues as Expected," Newsroom, March 28, 2019, <https://www.dnr.state.mn.us/news/2019/03/28/bat-population-decline-continues-as-expected>.

TECHNOLOGY

New technologies are constantly transforming the way the transportation system is used, planned, designed, built and maintained. Things like traffic condition monitoring, maps, on-board vehicle monitors and real-time transit information have improved the ability for people and goods to move around Minnesota. Increasingly, communications and technology need to be integrated into the system to ensure transportation can meet its goals like reducing greenhouse gas emissions, improving air quality and supporting economic development.

Digital infrastructure like broadband is necessary to integrate technology and transportation. Digital infrastructure can be supported by sensors, utilities and data-collecting devices embedded in roads, surrounding infrastructure and right-of-way. The information collected helps improve road conditions, inform first responders, update drivers, promote safety for people traveling and more. For transportation, connected devices and sensors need a reliable, accurate, always-on way to send data and information. But developing digital infrastructure requires significant public and private investment.

Many places in United States, particularly in rural and economically depressed areas, have inconsistent internet and cellular service. Many homes and businesses do not have a fixed high-speed internet connection (also called broadband). These access disparities leave people behind as many higher-paying jobs require a high-speed

internet connection. This was made obvious in the differences of who was able to work remotely during the stay-at-home orders for the COVID-19 pandemic. Though some people substitute cellular wireless for a high-speed internet connection, this is not a long-term solution.

Even when there is little or no opportunity for remote work, technology can have a profound impact on the economy, transportation, education, etc. As communications technology becomes more advanced and cheaper, it can replace some reliance on the transportation system. The COVID-19 pandemic demonstrated that some trips—whether for shopping, school, work or medical care—can be replaced by high-speed internet connectivity.

Technology is also changing the way people get from one point to another. People are now using internet and smartphones to hail rides, compare transportation options and rent cars, bikes and scooters. Transportation services and resources that are shared by users are known as “shared mobility.”¹³ These services can be used concurrently or one after another. Shared mobility includes services such as public transit, micromobility (bikeshare and scooter share), automobile-based services (carshare and rideshare) and commute modes such as car or vanpooling. Many of these services are improved by or rely entirely on technology to work.

“While [teleworking] doesn’t work for me in general, one of the major limitations is access to reliable and affordable Internet.”

— Policy Panel and Online Discussion Board Participant

¹³ Shared-Use Mobility Center, “What is Shared Mobility,” accessed February 2, 2022, <https://sharedusemobilitycenter.org/what-is-shared-mobility/>.

Connected and automated vehicle (CAV) technology especially requires communications and other digital infrastructure to function properly. Connected vehicles can provide information and alerts to drivers and other vehicles to reduce crashes, improve traffic flow and save energy. Highly automated vehicles may not have a steering wheel or a human driver. However, fully “driverless” vehicles are not anticipated to be on streets for many years. Partially automated vehicles are already on Minnesota roads, with companies developing new advancements every day.

As transportation becomes increasingly connected by technology, data is getting larger and more complex. These datasets are sometimes referred to as big data, defined as data gathered from devices like smartphones and services like online shopping.¹⁴ The breadth of big data creates opportunities to reimagine how people live. Big data helps the healthcare system understand how treatments and procedures impact patient populations. Retailers use big data to better target customers and to suggest products to consumers. MnDOT uses big data to maintain roads and bridges, understand travel patterns and improve safety.

As the abundance of collectible data grows—generated from smartphones, Wi-Fi enabled devices, and automated vehicles—security concerns multiply. Transportation departments have already been attacked. Cyber security is vital for the future reliability of the transportation system.



¹⁴ Michael Mattioli, “Disclosing Big Data,” Minnesota Law Review, November 2014: 539-40.

SAFETY

For much of the 20th Century, deaths or serious injuries related to traffic crashes were seen as an unfortunate, but an unavoidable, side effect of the automobile. However, this sentiment is changing. The federal government began enacting requirements for vehicle safety starting in the 1970s. Initiatives like Vision Zero and Minnesota’s Toward Zero Deaths program have grown over the previous two decades. U.S. roadways have become safer for people in vehicles. These initiatives contend that even a single death on the nation’s roadways is one too many. However, during the COVID-19 pandemic, the trend of reducing traffic deaths reversed as unsafe driving behaviors increased. Minnesota saw 488 deaths on Minnesota roads in 2021, up from 394 deaths in 2020 and 364 in 2019.¹⁵

While pedestrian and bicyclist deaths are down slightly from earlier peaks, there has been a backslide in recent years. Now more Americans are dying on foot or bicycle than any year since 1990. In 2021 in Minnesota, 64 of 488 roadway deaths were people walking or bicycling. As seen in Figure 3-2, pedestrian death rates by race and ethnicity are similar to national trends, although lower overall.^{16, 17} American Indians had the highest pedestrian death rate per 100,000 people in both Minnesota and the United States. Black people had the second highest rate of pedestrian deaths, with 2.4 pedestrian deaths per 100,000 people in Minnesota and 3.0 pedestrian deaths per 100,000 people in the United States. Transportation safety is a top priority for Minnesota and applies to all people who use the transportation system regardless of their mode of travel. A one-size-fits-all approach does not work for transportation safety.

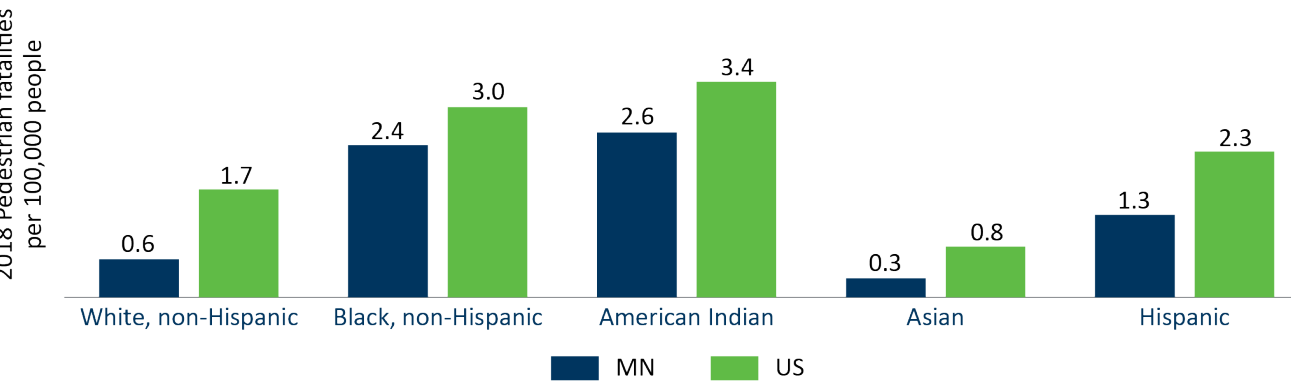


Figure 3-2: Pedestrian death rates by race and ethnicity, 2018

¹⁵ Minnesota Department of Public Safety, “Monthly Preliminary Fatal Crash Numbers,” Office of Traffic Safety, accessed February 2, 2022, <https://dps.mn.gov/divisions/ots/reports-statistics/Pages/monthly-preliminary-fatal-crash-numbers.aspx>.

¹⁶ Fatality and Injury Reporting System Tool, “Pedestrians Killed in Fatal Crashes,” 2013 and 2018, National Highway Traffic Safety Administration,” date accessed March 11, 2022, <https://cdan.dot.gov/query>.

¹⁷ U.S. Census Bureau, “Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States: April 1, 2020 – July 1, 2019,” accessed March 11, 2022, generated by MnDOT using data.census.gov.

TRANSPORTATION BEHAVIOR

Vehicle miles traveled (VMT) is the sum of all distances traveled by all motor vehicles on all roadways during a year. From 2000 to 2019, statewide total VMT rose approximately 16.5%, from 52.1 billion VMT to 60.7 billion VMT.¹⁸ This growth in VMT correlates closely with population growth, growing 14.6% over the same period. Greater Minnesota saw a slight increase in per capita VMT over the same period of time. However, from 2010 to 2019, there was a slight per capita VMT decline (-0.1%) mostly driven by the Twin Cities metro area, which had lower per capita VMT than Greater Minnesota.

Transit is an essential component of the transportation system in Minnesota and helps to connect people with employment, education, new

opportunities, entertainment and shopping. As Minnesota's economy and population change, public transit systems adapt to continue to serve residents, especially those who have no other means to access essential services. In 2019, public transit provided millions of trips, including over 91 million rides in the Twin Cities metro area and 11.5 million rides in Greater Minnesota.^{19 20} Transit ridership levels significantly decreased because of the COVID-19 pandemic. In 2020, the Twin Cities metro area saw a decrease in ridership by as much as 60% on local routes, 70% on light rail and 95% on express bus routes and Northstar commuter rail.²¹ There was a further decline in total ridership of 6.5% from 2020 to 2021. The long-term impacts of the pandemic on public transit are yet to be determined.



¹⁸ Minnesota GO, "Transportation Behavior," Trend Library, 2022, <https://minnesotago.org/trends/transportation-behavior>.

¹⁹ Metropolitan Council, "Metropolitan Area Transit Finance Report," 2020, <https://metrocouncil.org/Transportation/Publications-And-Resources/Transit/FINANCE/2020-Metropolitan-Area-Transit-Finance-Report.aspx>.

²⁰ Minnesota Go Performance Dashboard, "Annual Greater Minnesota Transit Ridership," date accessed January 26, 2022, <https://performance.minnesotago.org/critical-connections/access/annual-boardings-recorded-public-transit-providers-serving-greater-minnesota-counties-amtp>.

²¹ Metropolitan Council, "Metropolitan Area Transit Finance Report," 2020, <https://metrocouncil.org/Transportation/Publications-And-Resources/Transit/FINANCE/2020-Metropolitan-Area-Transit-Finance-Report.aspx>.



Prior to the COVID-19 pandemic, the percentage of individuals working from home in the United States had been increasing. In 2014, 4.5% of workers worked from home. By 2018, 5.3% of workers worked from home.²² In 2019, the U.S. Bureau of Labor Statistics estimated that more than 26 million Americans worked remotely at least part of the time—16% of the total workforce.²³ The way people have worked since March 2020 has broken down cultural and technological barriers that prevented remote work in the past. The pandemic gave more than half of employed adults the opportunity to experience working from home full-time. While the rates have gone down since the mandatory stay at home orders, full- and part-time teleworking is likely to be a more common option in the workforce. As communications technology becomes more advanced and affordable, it can replace reliance on the transportation system, like it did in the COVID-19 pandemic, by transferring reliance on transportation connectivity to high-speed internet connectivity.

The COVID-19 pandemic dramatically impacted travel in all of 2020. In 2020, total VMT decreased to 51.5 billion, almost back to 2000 VMT levels. In 2020, reductions in daily traffic were typically in the range of 30%-50% and reached their lowest traffic volume levels on April 12 at 66% below 2019 traffic levels.²⁴

“My son does not have a car and he really struggles with the insane cost of Uber or Lyft on a daily basis. For low-income wage earners, the % of income spent on transportation can be most of their earned wages - over 50%. Increased access is essential and in the Twin Cities area, there is a dearth of transportation choices in the suburbs.”

– Comment shared during SMTP engagement

²² U.S. Census Bureau, American Community Survey, 1-Year Estimates 2014-2018, B08301, accessed August 25, 2020, generated by MnDOT using data.census.gov.

²³ U.S. Bureau of Labor Statistics, “Table 6. Employed Persons Working at Home, Workplace, and Time Spent Working at Each Location by Full- and Part-Time Status and Sex, Jobholding Status, and Educational Attainment, 2019 Annual Averages,” Economic News Release, June 25, 2020, <https://www.bls.gov/news.release/atus.t06.htm>.

²⁴ Minnesota Department of Transportation, “Traffic Safety Impact of COVID-19,” June 2020, <https://www.dot.state.mn.us/>

Since 2020, traffic volumes have returned to or exceed pre-pandemic levels in most of the state. Recent evidence from traffic volume data in the Twin Cities²⁵ suggests that while daily volumes are rebounding to near pre-pandemic levels, the distribution of trips throughout the day is different.²⁶ It is yet to be determined what near- and long-term VMT trends could look like and can be influenced by transportation and economic recovery efforts following the pandemic.

The pandemic also affected walking, rolling and bicycling. Data collected from automated pedestrian and bicyclist counters from 2017 through 2020 showed declines in walking and bicycling from 2017 to 2019. However, numbers rebounded in 2020, but were lower than volumes in 2017.²⁷ One limitation of these findings is that they reflect volumes at a limited number of specific locations. Also, the volumes do not fully reflect how people are moving throughout a transportation network due to closures, construction projects, daily routines affected by a pandemic or other factors. This limitation can be addressed through additional monitoring which MnDOT is committed to.

Much of the travel behavior data available focuses on people traveling to and from work. Commuting, however, accounts for less than 20% of all trips.²⁸ Commutes have a unique role in determining peak travel demand across many modes. But people use transportation for a variety of reasons. People need to access grocery stores, health services, educational opportunities, social activities and more. The transportation system ensures people can reach all destinations safely, reliably and conveniently whatever their reason for travel.



[trafficeng/safety/docs/traffic-safety-impact-of-covid19.pdf](#).

²⁵ Minnesota Department of Transportation, "Traffic Operations," date accessed March 9, 2022, <https://www.dot.state.mn.us/rtmc/trafficoperations.html>.

²⁶ Metropolitan Council, "Freeway Travel Trends," date accessed March 9, 2022, <http://metrotransitmshinyapps.io/freeway-traffic-trends/>.

²⁷ Institute of Transportation Engineers, "Trends in Bicycling and Walking in Minnesota: A Multi-Year Perspective on the COVID Surge," February 2022, <https://ite.ygsclicbook.com/pubs/itejournal/2022/february-2022/#p=44>.

²⁸ U.S. Department of Transportation, "Commute Mode Share," date accessed May 15, 2022, <https://www.transportation.gov/mission/health/commute-mode-share#:~:text=Commutes%20account%20for%20less%20than,Federal%20Highway%20Administration%2C%202011>).



WHAT IS DIRECTING THIS PLAN

This update of the Statewide Multimodal Transportation Plan (SMTP) was based on evaluation of the public and stakeholder engagement and analyses of other plans and studies by the Minnesota Department of Transportation (MnDOT) or transportation partners completed since 2017. The work that guided this plan has highlighted the complex problems facing Minnesota today and into the future. Commitment is needed from all who have a role in making transportation move for Minnesotans. MnDOT in collaboration with the public, stakeholders and partners have incorporated these insights into the policy direction in Chapter 5.

READ CHAPTER 4 TO:

- Learn how MnDOT connected with people through plan engagement.
- Read what staff learned through reviewing plans and studies that relate to transportation.
- Learn about the plan's state and federal requirements.
- Read about the plan's six focus areas:
 - Aging Infrastructure
 - Climate Change
 - Economy and Employment
 - Equity
 - Safety
 - Transportation Options

PUBLIC ENGAGEMENT

Transportation has a large impact on people, the environment and the economy. People have a right and deserve to be involved in decisions that impact their lives. Accordingly, public engagement was an essential part of the update to the SMTP. The transportation system exists to meet the needs of the people and businesses in Minnesota. It is important to understand what those needs are and use that information to guide decision making. It is also important that everyone is able to participate and be heard.

A high-level summary of engagement is included in the following section. More detailed information can be found in Appendix G – Engagement Summary.

PUBLIC ENGAGEMENT IN CONTEXT

The impact of transportation on peoples' lives has the potential for vast change. Not all people experience outcomes equitably. For example, the COVID-19 pandemic has disproportionately affected Black, Indigenous and People of color (BIPOC) due to ongoing systemic health and social inequities. These inequities combined with the killing of George Floyd in 2020 and Daunte Wright in 2021 have highlighted the need to focus on racial and social justice.

Long-range planning efforts like the SMTP have the potential to address some of the inequities when planning within the social and economic

context of the time. However, plans like the SMTP are not at the top of many Minnesotans' minds. The goal for this update of the SMTP was to have meaningful, inclusive and accessible interactions with Minnesotans while understanding demands from these overlapping public health crises.

MnDOT recognized the extraordinary circumstances surrounding the plan process. However, the goal to engage Minnesotans meaningfully in this project remained. MnDOT committed to a flexible, phased approach to respond to the changing context.





“I believe it is essential to ensure we find ways to live together across diverse perspectives and that people who have been underrepresented in opportunities for health and [unclear] gain be given more support.”

– Comment shared during SMTP engagement

COMMITTEES & WORK GROUPS

The project team created several advisory committees and work groups that helped to guide the planning process. These groups included individuals from a variety of audiences.

POLICY ADVISORY COMMITTEE (PAC)

guided the overall SMTP update process, including advising on engagement activities. PAC members included advocacy organizations, boards, councils, stakeholders and partners who represent different perspectives and modes of transportation.

TECHNICAL ADVISORY COMMITTEE (TAC)

provided guidance on the plan update process, including input on engagement activities. The TAC helped ensure the final policy strategies reflect the priorities and needs of MnDOT and partners. TAC members included staff from MnDOT, other state agencies and partner transportation organizations.

WORK GROUPS related to the six focus areas identified in Phase 1 engagement – one work group for each focus area. These groups addressed technical issues and drafted strategies for MnDOT and partners to address transportation priorities. Members included staff from MnDOT and partner agencies with subject matter expertise in each topic. The six work groups were:

- Aging Infrastructure
- Climate Change
- Economy and Employment
- Equity
- Safety
- Transportation Options

A complete list of committee and work group members is included in Appendix A – Acknowledgments.

TRIBAL COORDINATION & CONSULTATION

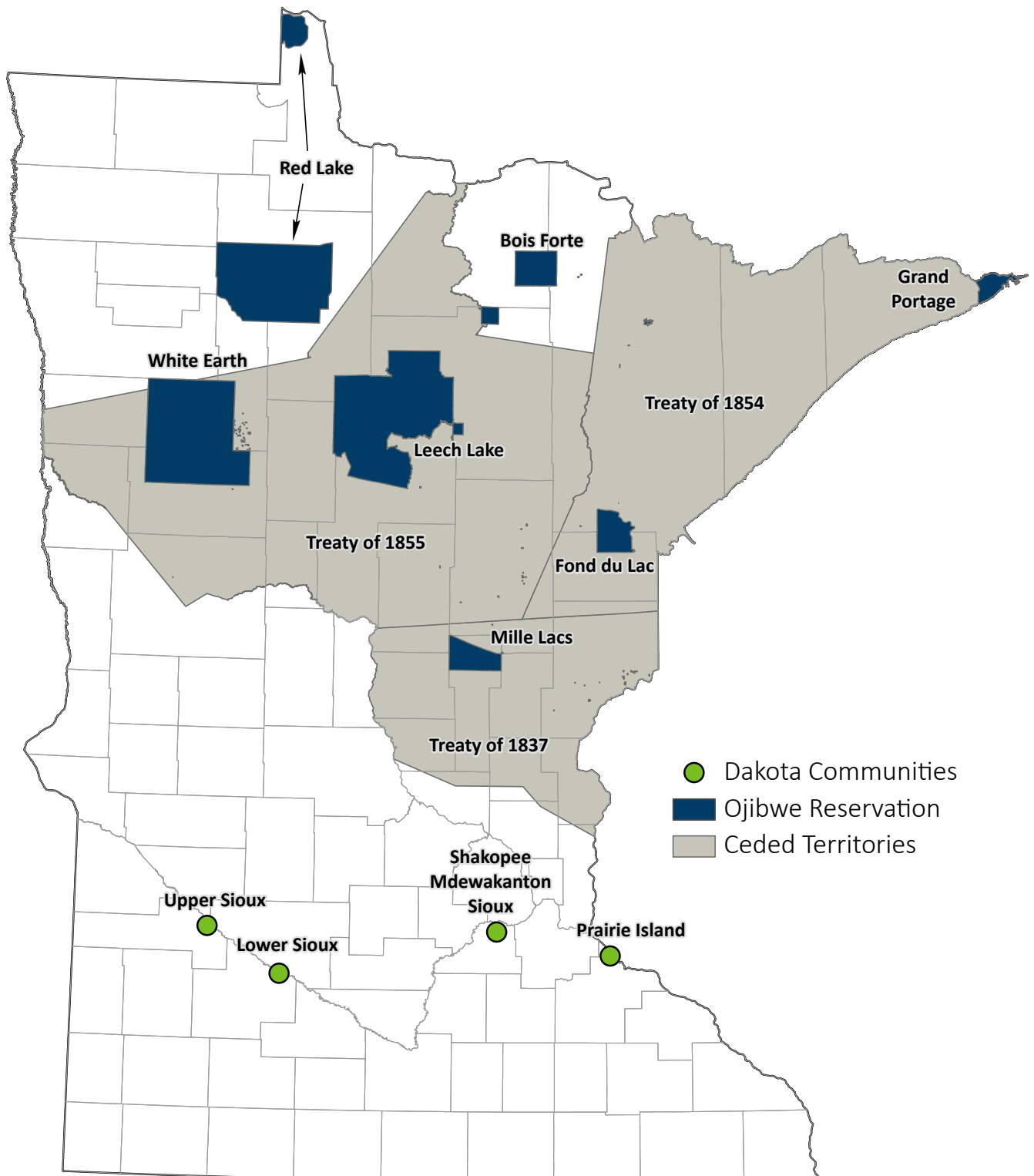
Minnesota is home to 11 federally recognized reservations or communities and 12 federally recognized sovereign governments (see Figure 4-1). Each tribe is a separate sovereign nation — unique unto itself and distinct from all other federally recognized tribes. Each tribe has an independent relationship with the United States and the State of Minnesota. Minnesota affirmed the government-to-government relationships between tribes and the state by Minnesota Statute Section 10.65 and Executive Order 19-24.

It is important to recognize the long history and enduring relationship between Indigenous peoples' connection to “Mni Sota” and the lasting impacts of policies detrimental to the balance of nature. Mutually respectful relations between Indigenous and non-Indigenous peoples are founded on long-term relationship-building, learning processes and developing solutions. Meaningful consultation assists in building better relationships and ensuring a transportation system that works for all.

For this update of the SMTP, MnDOT engaged with Tribal Nations through a government-to-government process. Tribal Nations were asked to provide tribal transportation plans as part of the planning review process. To ensure Tribal Nations interests are included in these high-level decisions, Minnesota Indian Affairs Council helped to designate representatives to serve on three advisory committees (see Appendix A – Acknowledgments). Three Tribes participated in staff-to-staff coordination meetings: Bois Forte, Prairie Island Indian Community and White Earth Nation. Additionally, staff presented to the Advisory Council for Tribal Transportation at key decision points: project start, public launch, strategy development, policy direction coordination and public comment period. More details about coordination and consultation with Tribal Nations can be found in Appendix G – Engagement Summary and Appendix J – Tribal Coordination and Consultation.



Figure 4-1: Tribal reservations and communities in Minnesota, 2021



WE ARE STILL HERE

We live in a place the Dakota call “Mni Sota”, which is not only our state’s name but can be translated to “where the sky reflects off the water.” MnDOT acknowledges the Dakota and Ojibwe people that have historically called this place home, ***are still here***. To discuss land acknowledgement, we must recognize that historic events on this land had serious consequences to Tribal Nations, including the Dakota and Ojibwe people, and MnDOT, as a state agency, must not only be willing to verbally acknowledge but go beyond and take action.

After 163 years, Minnesota state elected leaders have not only recognized that **TRIBAL NATIONS ARE STILL HERE**.

but also codified the government-to-government relationship between Tribal Nations and the State of Minnesota. MnDOT acknowledges Dakota and Ojibwe self-governance, self-determination, and that they adopted the first and most effective sustainability laws.

MnDOT not only verbally acknowledges land issues that paint a shared past but is also taking action with Dakota and Ojibwe Nations to forge a new future around these lands we call home.

The Ojibwe and Dakota people believe you live with the land. It is not something you own but rather an animate being, full of living things, all equally important to human beings. So, we must take advantage of this opportunity to move past our historic social norms to truly acknowledge the historic events around these lands we call Mni Sota, home of the Dakota and Anishinaabe.

One opportunity for the SMTP is to demonstrate that our work will be different. The objectives, strategies and actions in Chapter 5 emphasize investing time and resources in relationships with the eleven Tribal Nations in Minnesota. Building better relationships helps to ensure a transportation system that works for all Minnesotans. Early coordination is key to meaningful consultation with Tribal Nations.



NECESSARY CONCEPTS ABOUT JURISDICTION IN INDIAN COUNTRY

To understand jurisdiction in Indian country, there are a few basic concepts that you need to know about first. To that end, this section will explain that tribes are sovereign nations and that “Indian” is a legal status, not just a race. This section will also explore the definitions of the terms “jurisdiction” and “Indian country,” as well as how jurisdiction in Indian country impacts transportation.

TRIBES ARE SOVEREIGN NATIONS. Sovereignty is the authority of a political entity to govern itself. A tribe determines its own government structures and laws.

“INDIAN” IS A LEGAL STATUS, NOT SIMPLY A RACE. You might think of “Indian” as a race. It is true that individuals can self-identify as belonging to the race “American Indian” on Census Bureau surveys. However, “Indian” is also a legal status.

WHAT IS JURISDICTION? Jurisdiction is the power and authority of a government or court to make or enforce law. The federal government, state government, and tribal governments all have different jurisdiction (i.e., different powers to make and enforce law). When determining what kind of jurisdiction a government has, where you are located geographically is important.

WHAT IS INDIAN COUNTRY? The most commonly used definition of Indian country comes from federal criminal law, but courts often use the same definition in civil (non-criminal) court cases. Indian country includes more than just reservations. Here is a simplified version of the most commonly used definition of Indian country: reservations; allotments; and “dependent Indian communities” (i.e., land that is federally supervised and set aside for the use of Indians, this is usually found on trust land). You can find the complete – more nuanced – definition of Indian country at 18 U.S.C. § 1151.

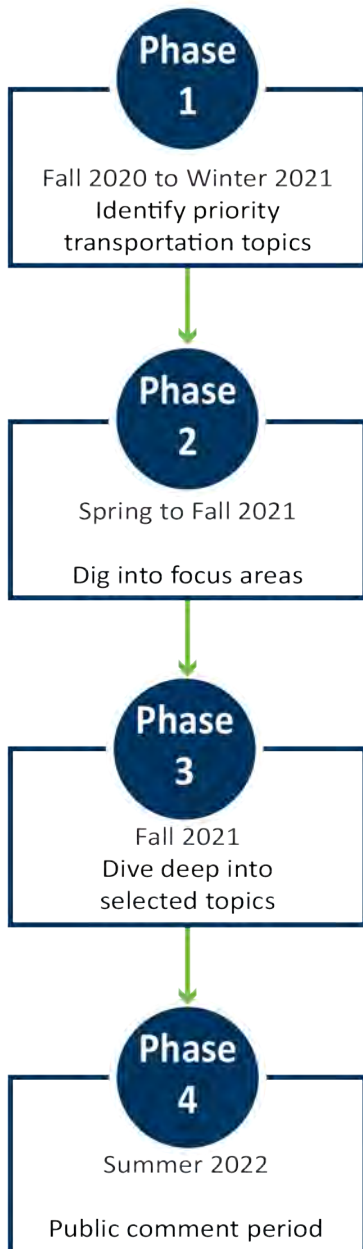
Appendix J – Tribal Coordination and Consultation has more information about:

- Building better relationships with Tribal Nations.
- Case studies of recent work MnDOT has completed in partnership with Tribal Nations.
- Considerations for Tribal Coordination.
- Details about Tribal Coordination and Consultation throughout the SMTP.

Much of the information in Appendix J can apply to any jurisdiction wanting to build better relationships with Tribal Nations.

PHASED APPROACH

**Figure 4-2: Four Phases
of SMTP Engagement**



The four-phased engagement approach (see Figure 4-2) included a variety of ways and opportunities to meet people where they were at. The goal during Phase 1 (completed in early 2021) focused on identifying six focus areas for the SMTP update. The goal for Phase 2 (completed in fall 2021) was to dive deep into each of these six focus areas. The goal for Phase 3 (completed in fall 2021) was to get more feedback on select topics where MnDOT and transportation partners needed more information on how to proceed. Phase 4 is the public comment period and hearing for the draft SMTP. See the [Overall Engagement Summary](#) for a brief overview of Phase 1-3 engagement activities.

PHASE 1

Phase 1 began in October 2020 and ended February 2021. The first phase of engagement focused on connecting with both the general public and transportation partners. This phase prioritized partnerships with community-based organizations and promoted input opportunities with communities and people who have been underserved by transportation decision making. Activities built a broad understanding of Minnesotans' transportation challenges and priorities over the next 20 years. MnDOT asked participants to identify up to six focus areas for this plan update. See the [Phase 1 Engagement Summary](#) for more information on activities, demographics and what MnDOT learned.

PHASE 2


Phase 2 began in March 2021 and ended in October 2021. The second phase of engagement dove deep into each of six focus areas to understand impacts to the transportation system. People were asked to share ideas that evolved into draft strategies and actions for the six focus areas—aging infrastructure, climate change, economy and employment, equity, safety and transportation options. See the [Phase 2 Engagement Summary](#) and [Transportation Equity Definition Report](#) for more information on activities, demographics and what MnDOT learned.

Figure 4-3: SMTP Mode Lib Postcard, 2020

m
MINNESOTA
TRANSPORTATION
LIBRARY

Transportation Mode Lib Game

A FILL-IN-THE-BLANK STORY ABOUT HOW YOU MOVE IN MINNESOTA




I am a _____ with _____ ideas for the future of transportation in Minnesota!

For the past few years, I would go to _____ almost every day to _____. These trips were _____, I would use _____ most often because I needed a _____ way to get there. In an ideal world I would be able to move around using _____ to get to _____.

Life has changed a lot since April, when our normal routines changed due to the COVID-19 pandemic. Now, I go to _____ way more often, but go to _____ much less frequently. Instead of _____ now I take my _____ and it is _____. Over the last 6 months, I realized I would like to _____ more in the future.

Ever since _____ it has been _____ to go to _____ by _____. I feel especially _____ about that.

The easiest way to take short trips around my community is _____. Someday, I hope that: _____



Send this back to us or go online to submit your story!

www.minnesotago.org/modelib


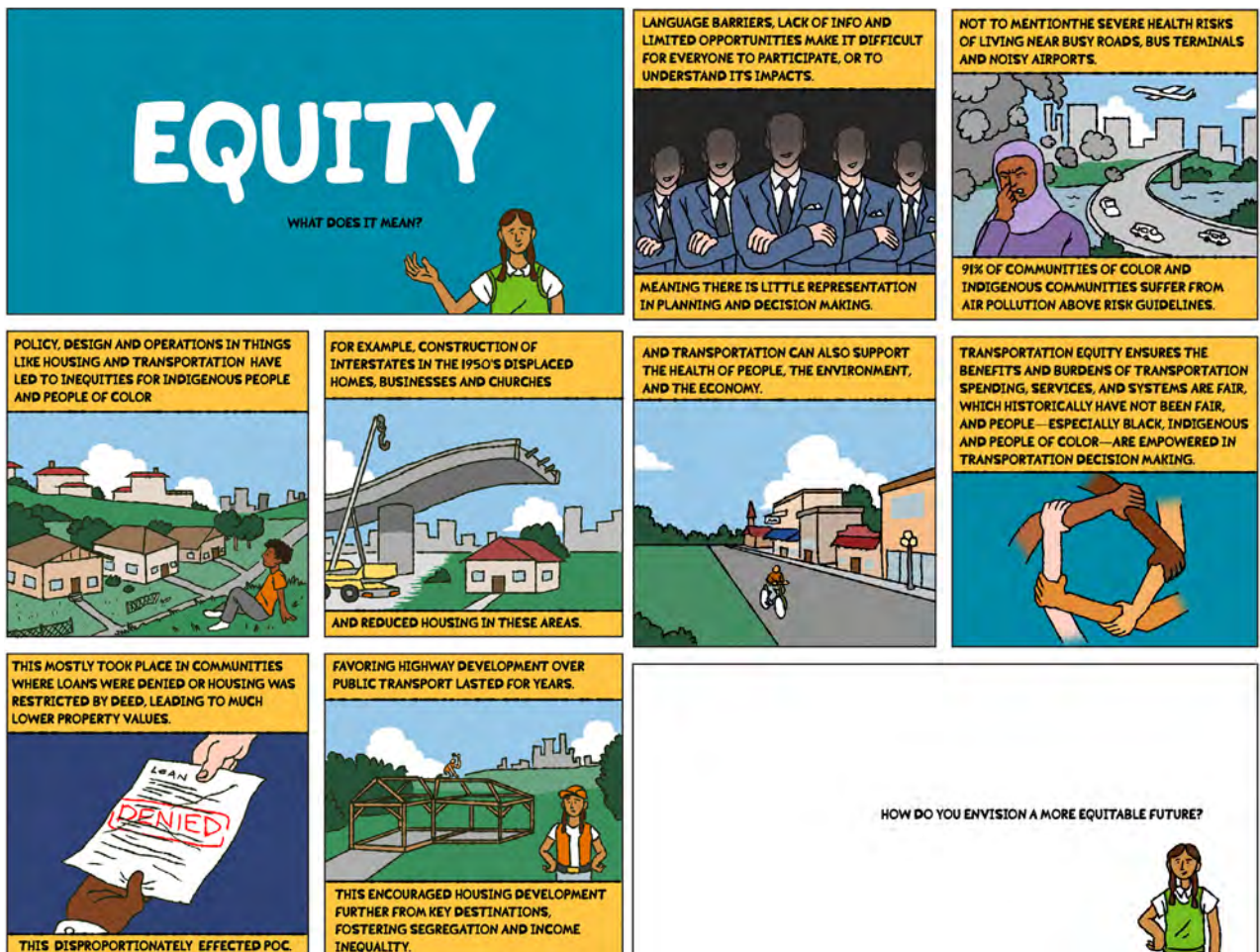


Illustration by Noah Lawrence-Holder

Figure 4-4: SMTP Equity Comic, 2021



CHAPTER 4 | PUBLIC ENGAGEMENT

PHASE 3

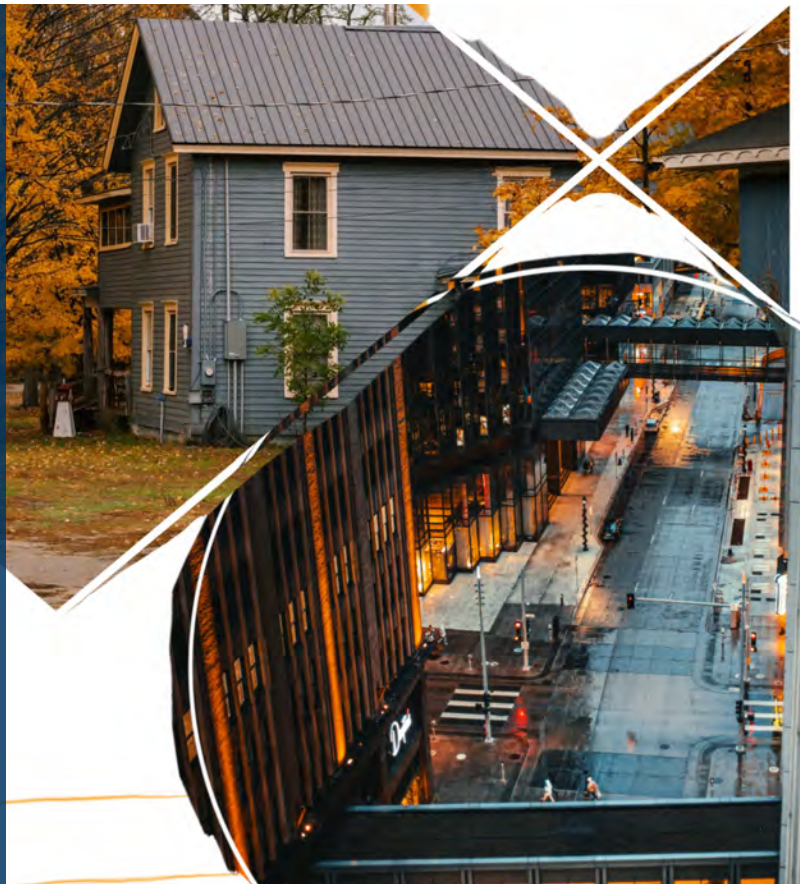
Phase 3 began in September 2021 and ended in December 2021. The aim was to get feedback on select topics where MnDOT and transportation partners needed more information on how to proceed. Phase 3 included both virtual and in-person engagement activities. The changing circumstances around COVID-19 briefly provided an opportunity for staff to connect with people at in-person community events. Phase 3 included a collaboration with MnDOT's Artist-in-Residence, Marcus Young [@marcusyoung](#), to facilitate the Council of Old and New Wisdom. Two forums provided opportunities for stakeholders to share feedback on select policy areas where MnDOT could use additional guidance. See the [Phase 3 Engagement Summary](#), [Council of Old and New Wisdom Report](#), [Policy Panel Survey and Discussion Forum Report](#) and [Stakeholder Forum Summary](#) for more information on activities, demographics and what MnDOT learned.

"Both my mind and my heart agree that the bridges that we build – physically, theoretically and spiritually – connect us to a world bigger than ourselves, and will likely impact the safety of my children and my grandchildren. And when I think about that, I want to mix concrete. I want to pour it in all of the places that need something solid. So that the safety of this collective project can more than anything be what matters the most. I feel like the world around us sometimes only focuses on an agenda. We don't think about the human aspect of it; we don't think about the people that it might impact."

-Marie Chanté Flowers, Council of Old and New Wisdom

PHASE 4

Phase 4 will have a public comment period and hearing for the draft SMTP. MnDOT will schedule a 60-day public comment period at the completion of the draft plan. More information will be available at www.MinnesotaGO.org as the public comment period is scheduled.



PLANNING REVIEWS

The SMTP development process includes plan analyses to ensure we are tracking current and relevant work completed by MnDOT, Tribal governments, transportation partners and other organizations. This section is a summary of work that offered insights that informed how engagement was conducted and what was included in the policy direction in Chapter 5.

PREVIOUS PLAN REVIEW

This SMTP is an update of the 2017-2036 SMTP. To inform the update of the plan, MnDOT staff reviewed engagement conducted for the 2017 plan, progress on the 2017-2020 Work Plan for MnDOT identified in the 2017 plan and the recommendations of a Health Impact Assessment by the Minnesota Department of Health on the 2017 plan.

ENGAGEMENT REVIEW

In developing the previous SMTP (2017-2036) MnDOT conducted robust engagement receiving over 12,000 responses, which included determining which trends impacting transportation were the most important. In 2019, MnDOT staff completed a qualitative review of the responses to identify common themes and rationale about why the trends were important. Common themes followed topics included in the 2017 plan's objectives:

- Access and use of different modes (Critical Connections)
- Asset management, funding, spending, extreme weather (System Stewardship)
- Environment, land use, complete streets/context sensitive solutions, behavior, health equity (Healthy Communities)
- Planning and engagement processes, performance measurement, data, technology (Open Decision Making)
- Safety related to different modes (Transportation Safety)

EQUITY IN THE 2017 SMTP ENGAGEMENT

MnDOT completed a deeper analysis on transportation equity in the engagement responses. The analysis signaled the need to ask about access to destinations, transportation options, travel experiences, opportunities to provide input and barriers to transportation. Themes from the analysis noted the need to plan for:

- Providing safe, convenient and affordable transportation alternatives to driving. Quality transportation options are essential for equity.
- Minimizing environmental impacts. People of different races and people with low incomes are disproportionately affected.
- Meeting the transportation needs of people of different races and people with low incomes first.

The themes from the analysis also highlighted the need to use a people-first planning approach and a health-equity lens in setting the policy direction. See Appendix D – Planning Reviews to see the 2017 SMTP Engagement Review.

CHAPTER 4 | PLANNING REVIEWS

2017-2020 SMTP WORK PLAN ASSESSMENT

The 2017 SMTP included a MnDOT-specific work plan with 17 activities to advance the goals and objectives established in the plan. The activities were organized into six subject areas:

- Engagement, communications & education
- Advancing equity
- Asset management
- Land use & transportation
- Planning
- Climate change & environmental quality

Progress on the work plan items were listed as complete, substantial progress, some progress or in progress. At the time of the assessment, all 2017-2020 Work Plan items had been initiated. Only two were marked as complete: increase the transparency of MnDOT's project selection processes and review existing and potential new National Highway System intermodal connectors.

See Appendix D – Planning Reviews to see the 2017 SMTP Work Plan Assessment.

HEALTH IN ALL POLICIES REVIEW

The 2017 SMTP was cross-referenced with the corresponding 2016 Health Impact Assessment (HIA). The review focused on confirming areas where the SMTP included health recommendations and identifying opportunities for greater inclusion in the SMTP update process. Opportunities identified for inclusion in the 2022 SMTP range fell into the following five categories:

- Transportation Safety
- Critical Connections
- Equity
- Healthy Communities
- Additional Opportunities for the SMTP update

See Appendix D – Planning Reviews to read the results of the Health in All Policies Review of the 2017 SMTP.



OTHER MNDOT, PEER & PARTNER PLAN REVIEW

Staff compiled a list of peer and partner agencies whose work is impacted or informed by transportation decisions or is transportation focused. Staff reviewed nearly 100 plans completed since January 2017—the adoption date for the previous SMTP. The review confirmed that MnDOT, partners and peers were tracking similar trends and issues. Many of the topics in the plans and studies were topics MnDOT had already integrated into its work or was tracking for the 2022 SMTP. Examples of topics and trends MnDOT is already tracking include planning for all transportation modes, economic vitality, safety and environmental stewardship. This alignment confirms staff were aware of the trends and topics most likely to affect transportation.

The review identified the following potential new topics to include in MnDOT’s trend analysis. Other MnDOT plans and programs may already consider these, but this review indicated increased emphasis on their importance.

- Extreme weather impacts
- Housing affordability
- Logistics including change in freight traffic
- Park access and transportation needs
- Travel safety including speeds

See Appendix D – Planning Reviews to learn more about the Other MnDOT, Peer and Partner Plan Review.



PLANNING REQUIREMENTS

The SMTP update process is guided by federal, state and agency requirements. Chapter 1 includes a list of state transportation goals. Two notable requirements guiding the 2022 SMTP are Environmental Justice & Title VI and Justice40. A complete list of requirements can also be found in Appendix K – Planning Requirements.

ENVIRONMENTAL JUSTICE & TITLE VI

Title VI of the 1964 Civil Rights Act prohibits discrimination on the basis of race, color and national origin in federally funded programs and activities. Additionally, Presidential Executive Order 12898 on Environmental Justice requires agencies to identify and address the effects of all programs, policies and activities on minority and low-income populations.¹ The purpose of environmental justice is to ensure that public agencies treat people fairly and involve them in meaningful ways during the development and implementation of transportation plans and projects.

Appendix E – Environmental Justice and Title VI provides an analysis of the potential impacts the policy direction identified in Chapter 5 may have on the state’s environmental justice populations. More information on how MnDOT engaged people in the SMTP plan process can be found in Appendix G – Engagement Summary.

JUSTICE 40

In January 2021, President Biden signed Executive Order 14008 “Tackling the Climate Crisis at Home and Abroad,” which created the Justice40 Initiative. Justice40 aims to “deliver 40% of the overall benefits of relevant federal investments to disadvantaged communities.” The Executive Order combined with investments like the Infrastructure Investment and Jobs Act (IIJA) make this the largest expansion in environmental justice in history. The initiative is to ensure cross-governmental collaboration to ensure benefits from investments in climate and clean energy are delivered to disadvantaged communities.

Given transportation’s role in contributing to climate change and contributing to inequities in communities, the industry will need to align work to ensure federal investments achieve this goal. Implementation of Justice40 is unclear. However, the policy direction in Chapter 5 helps to build a foundation for this work going forward.

¹ U.S. President. Proclamation. “Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations,” Executive Order 12898 of February 11, 1994, Federal Register 59, no.32 (February 16, 1994), <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>.

PLAN FOCUS AREAS & EQUITY REVIEW

Planning context, analysis and public engagement resulted in the following framework guiding the SMTP policy guidance and work plan. Since the adoption of the Minnesota GO Vision in 2011, MnDOT has been helping usher in a new standard for moving people and goods. This includes using technology, strategic investments and commitment to communities to make transportation more equitable, sustainable, efficient and convenient.

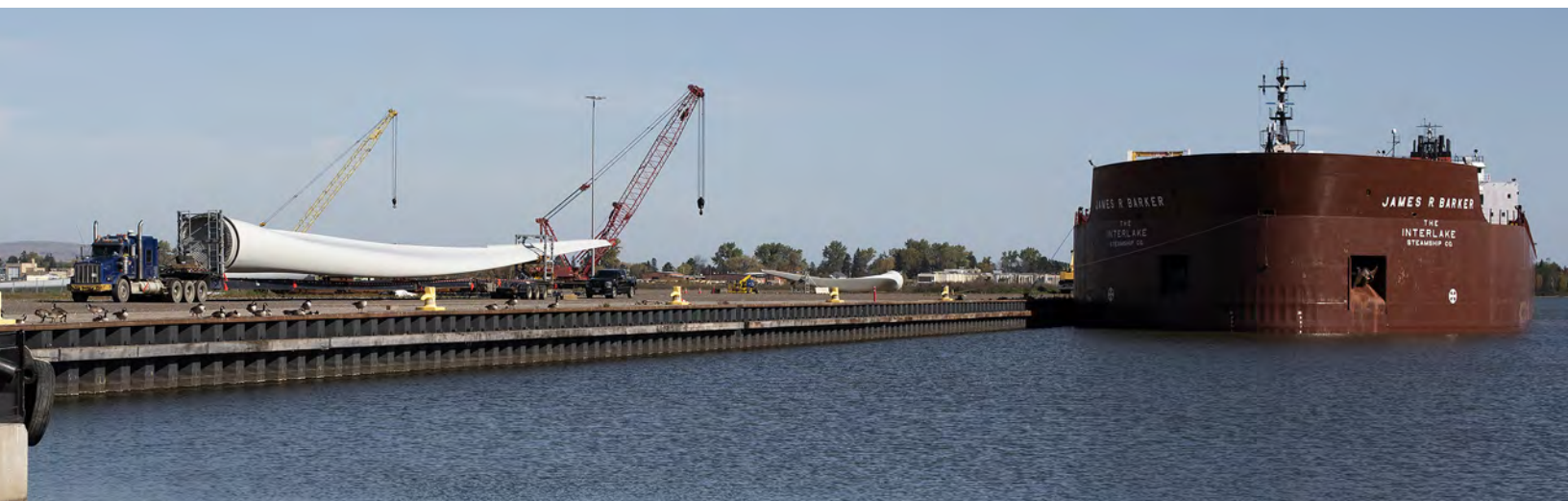
However, there is uncertainty of what the future may look like and what the lasting impacts of COVID-19 will be. People are experiencing the quadruple threat of a pandemic, systemic racism, climate change and an inequitable economic recovery. Any one of these crises could have significant consequences to people, the environment or the economy. Combined, the threats have created fluid, uncertain and complex challenges in which action can feel more hasty than bold.

Yet, the future can be more equitable, sustainable, efficient and convenient if planned in context. The

results of the work outlined in this chapter highlights the importance of acknowledging the most significant challenges and how the transportation system can change to deliver on the promises of the Minnesota GO Vision. To be clear on the priorities for transportation in Minnesota, this update of the SMTP is centered on six focus areas that cut across all transportation topics:

- Aging infrastructure
- Climate change
- Economy and employment
- Equity
- Safety
- Transportation options

The objective statements, performance measures, strategies and actions in Chapter 5 are the result of work completed by six work groups—one for each focus area. The TAC and PAC further refined the policy direction. Policy development was informed by an equity review process to ensure the policy direction advances transportation equity.



FOCUS AREAS

AGING INFRASTRUCTURE

Minnesota's transportation system shows signs of deterioration and requires attention. Between the 1950s and 1980s, the growth of urban and suburban areas required a rapid build out of sewer, transportation, utility and water systems. This means that a majority of transportation and other infrastructure was built between 40 and 80 years ago. This infrastructure is aging, which requires increased maintenance and repairs.

Minnesota, like other states across the nation, has an abundance of aging roads and bridges that need upkeep. For reference, MnDOT typically reconstructs roads when the road is between 70 and 80 years old and bridges are typically reconstructed when they are between 50 to 100 years old. Additionally, maintenance needs can be found on city and county roads, transit systems, ports and waterways, railroads and airports. These add to an ever-growing list of investments needed to maintain the quality of the state's transportation system.

Faced with an extensive, rapidly aging system and increasing construction costs, transportation partners in Minnesota are struggling to keep the system out of poor condition. Poor condition can look like out-of-service transit vehicles, gaps in sidewalks, bridges in need of repair and poor pavement quality. Not only do deficiencies result in rough roads, sidewalks that fail to meet ADA standards, etc., deterioration can also make the system vulnerable to risks from things like climate change and extreme weather.

Climate change will likely disrupt critical systems, increase operating costs, exacerbate funding gaps and cause spillover effects for our communities and economy. Few infrastructure assets will be left untouched by the changing climate and none can be ignored entirely. However, investment needs present opportunities to build back better to adapt the transportation system to meet the challenges of climate change and extreme weather events.

“Rebuild what is needed cost effectively. Do not let it get into poor condition which requires complete reconstruction.”

– Comment shared during SMTP engagement

CLIMATE CHANGE

Minnesota's climate is changing rapidly. Temperatures are increasing and larger, more frequent extreme weather events are occurring year-round. Substantial warming during winter and at night and increased rain and snow fall damage buildings and infrastructure, limit recreational opportunities, alter growing seasons and impact natural resources. The decades ahead will bring even warmer winters and nights, even larger rainfall events, increased summer heat and longer droughts. For these reasons, climate change will impact the way transportation infrastructure is used, built, operated and maintained.

Transportation is the largest contributor to greenhouse gas (GHG) emissions—the most significant driver of climate change—in the state. While GHG emissions from the transportation sector have been declining since 2005, Minnesota did not meet the statewide 2015 emissions target. Although continued declines in emissions are projected, they are still projected to be 10 to 15% higher than the 2030 reduction target. While transportation contributes a large percentage of GHG emissions, the sector can also deliver strategies to reduce transportation's impact to the climate. However, bolder action is needed to meet targets to reduce and mitigate GHG emissions.

The SMTP focuses on how the transportation system—not just individual people—can act to combat climate change. The transportation choices people make as individuals contribute to climate change. However, people's choices are constrained by the options available and affordable to them. Many Minnesotans need more choices to ensure their daily transportation needs are met while giving them options to do so in ways that contribute less to climate change. Change starts with bold policy solutions to ensure people have choices in how, when and in what form they act.

A combination of statewide policy solutions, like those in this SMTP, and local actions are needed to connect the goals of climate action with the tangible choices people have available to them. The future of transportation and climate change requires more coordination across jurisdictions and disciplines. Transportation will need to make a shift to default to climate-friendly options such as using modes that don't depend on fossil fuels and building in ways that reduce impact on the environment. This shift will require the transportation system to look, feel, operate and be maintained differently in the coming decades.



ECONOMY AND EMPLOYMENT

Trends in Minnesota's economy are highly reflective of demographic, environmental and technological trends in the state. Changes in these areas impact the types of businesses that are needed to provide the goods and services that are in demand. Ensuring that a variety of modes are available to move goods to, from and within Minnesota is a vital part of supporting economic expansion and recovering from the COVID-19 pandemic. Greater employment in service-based industries has changed where people work and the times that they need to be at work, placing changing demands on the transportation system, especially in Minnesota's cities and towns.

Rising inflation and ongoing global supply chain disruptions are putting even greater pressure on Minnesota's businesses, households and transportation partners.

Changes in the manufacturing sector may necessitate easier access to air cargo facilities to ship smaller, high value goods. On-demand shipping will continue to change the way that people think about delivery and courier services, and the way that those services use the transportation system. Freight movement was changing before the pandemic. But COVID-19 accelerated the trend toward customized deliveries for individual consumers. Freight destinations used to be focused on hubs and businesses, but now have expanded to include individual homes. Any place with an address can now be served as a freight destination.

Economic trends impacting transportation will also change the future of the transportation workforce. The sector employs millions of people in planning, design, construction, operation and maintenance of the vast transportation system. Many more people rely on transportation-related fields like freight operators and state troopers. Driver shortages, skills mismatch, an aging workforce, etc. are raising concerns about how to ensure the workforce can deliver the transportation system Minnesotans need and rely on. Also, evolving industry needs are requiring more and different positions like accountants, IT professionals, lawyers, etc. now and in the future.

Dealing with workforce challenges may require changes in ways transportation agencies do business and the role of partnerships. The transportation future in Minnesota needs to maintain flexibility to be nimble to serve people, businesses and the economy. Coordinated and collaborative solutions are needed to keep Minnesota's economy and workforce moving.



EQUITY

Policy, design and operations in housing and transportation have led to inequities for BIPOC. For example, construction of the interstate system in the 1950s displaced homes, businesses, places of faith and more. This mostly took place in communities where loans were denied or housing was restricted by deed, which led to much lower property values. Highway development was favored over investment in public transit for decades. As a result, housing development has been happening further from key destinations further compounding issues of equity and access to jobs and essential services. These and other practices have exacerbated segregation and income inequity over generations creating a harmful legacy of past decisions. These inequities combined with the killing of George Floyd and Daunte Wright have highlighted the need to focus on racial and social justice. This legacy has strengthened Minnesota's commitment to advance transportation equity today.

Since 2018, MnDOT's [Advancing Transportation Equity Initiative](#) has aimed to better understand how the transportation system, services and decision-making processes help or hinder the lives of people in underserved and underrepresented communities in Minnesota. The initiative has looked at transportation equity at a high level. Work completed since 2018 has ranged from equity-focused conversations with stakeholders in Greater Minnesota, policy and program equity reviews, research and more. Insights include:

- Lack of an agency-wide transportation equity definition or specific target populations is a challenge
- Equitable engagement is necessary but not sufficient
- Statewide solutions to advance equity can help address broader transportation challenges and vice versa
- Need to move beyond research to implementation

TRANSPORTATION EQUITY

ACKNOWLEDGMENT OF PAST HARMS

MnDOT acknowledges the transportation system and agency decisions have underserved, excluded, harmed and overburdened some communities. We understand some of our past decisions denied Black and Indigenous communities as well as people with disabilities the full participation of transportation benefits. These and other underserved communities have historically carried disproportionate burdens of transportation decisions.

WHAT TRANSPORTATION EQUITY MEANS TO MNDOT

MnDOT is committed to creating an equitable transportation system.

Transportation equity means the benefits and burdens of transportation systems, services and spending are fair and just, which historically has not been the case. Transportation equity requires ensuring underserved communities, especially Black, Indigenous and People of Color, share in the power of decision making.

We will not transform our transportation systems, services and decision-making processes overnight, nor will we always get it right on the first try. Transportation equity is an ongoing journey of listening, learning, changing, implementing and adapting.

Everyone in our agency regardless of position or work assignment has a role to advance transportation equity. We will partner with community members, community based organizations, transportation service providers, Tribal Nations and government institutions to evolve our work and to change outcomes for our communities.

CHAPTER 4 | PLAN FOCUS AREAS & EQUITY REVIEW

The 2022 SMTP process included several activities to embed transportation equity in the planning approach. Staff collaborated with the Minnesota Department of Health to complete a Health in All Policies review of the 2017 SMTP. Equity was one of six focus areas, which resulted in the Equity Work Group that advised the process and draft policy direction. An equity review was developed and

applied to review all draft strategies and solutions. It is clear that there needs to be clarity about goals to be able to measure progress and hold transportation decision makers accountable.

See Appendix H – Transportation Equity for more information.

SAFETY

Over the last decade and half, Minnesota has made targeted efforts to reduce traffic fatalities through its multi-agency Toward Zero Deaths initiative. Unfortunately, reduced traffic volumes resulting from COVID-19, along with the strain on enforcement during the pandemic, is thought to have produced higher speeds and more aggressive driving. That shift in behavior has continued despite a return to pre-pandemic traffic volumes.

2021 WAS THE DEADLIEST YEAR ON MINNESOTA'S ROADS IN OVER A DECADE.

Recently, transportation and public safety officials launched a traffic enforcement and awareness campaign aimed at the spike in speed-related fatalities.

“MnDOT and state government can create safe conditions with speed limits, no potholes, and keeping ice and snow off roads. All individuals have a responsibility to be safe and respectful on the roads.”

– Policy Panel and Online Discussion Board Participant

This recent increase in traffic-related fatalities illustrates the value of a Safe System approach to transportation. The Safe System approach aims to anticipate human error and accommodate human injury tolerances to reduce fatal and serious injuries. Implementing traditional and new Safe System strategies can incrementally improve safety and help build a culture of safety in transportation.

New technologies like connected and automated vehicles (CAV) have the potential to reduce fatalities and injuries and significantly change the way that people travel. However, many questions still remain on how CAV will impact society as it relates to equity, liability and privacy. That is why it is important to consider the implications of this technology when planning for the future of transportation. One aspect of this is CAV readiness, which assumes a mix of non-automated, partially automated and highly automated vehicles on the roadway—which comes with several safety concerns—and unclear timelines for CAV adoption.

A mix of traditional and new practices and methodologies will likely be required to design the transportation system to prevent and mitigate human error. Partners like those in engineering, enforcement, education and emergency response can help shift the focus to design and operate a safe system for all Minnesotans especially those most vulnerable. Everyone has a role and responsibility to implementing an equitable, Safe System approach.

TRANSPORTATION OPTIONS

The more people drive, the more vehicles there are on the road. More vehicles mean more congestion. Measuring delay can help a region understand congestion and its impacts. Delay per person controls for population growth and helps to understand efficiency and reliability on highways. MnDOT collaborated with the Metropolitan Council on the [Twin Cities Highway Mobility Needs Analysis](#) to develop a target of 9 minutes per person per day (equivalent to 40 hours per year). Overall, the transportation system needs a range of solutions including travel demand management, active transportation investment, land use changes and vehicle miles traveled (VMT) reduction to meet the target.

VMT provides a measure of total travel by vehicle, travel changes over time and differences in travel among regions and state. When combined with other measures (e.g. accessibility, mode use, delay), VMT becomes a powerful indicator about how the transportation system is functioning. VMT tends to increase with population growth and in areas with lower density and long travel distances. Decreased VMT can have positive impacts on the overall health of people and the environment. For example, VMT bears a direct relationship to vehicle emissions, and can serve as a GHG emissions indicator.

The ability to meet the targets to decrease GHG emissions, delay and VMT requires similar strategies. These include providing more transportation options, encouraging mode shifts and coordinating land use policies. Making these changes allow people to take shorter trips, trips by other modes, combine trips, the opportunity not to travel or option to use virtual options. Health and equity considerations should be central to conversations about decreasing VMT. Without comprehensive and coordinated solutions, people with the least means are most likely to experience the negative impacts of policies to decrease VMT.

Transportation options vary in scale depending on whether people and goods move across the state, throughout a region or within a community. This could mean an integrated network of roads, safe options to bicycle and walk, easy access to transit service or local connections to key freight routes. All connections, regardless of level, location or transportation type, need to be coordinated to ensure they are accessible.

Each person identifies different connections as critical based on where they live and their individual needs. For example, the key connections needed for driving may be different than those for freight, transit, bicycling or walking. Transportation options in the suburban Twin Cities will look different than those for main streets around Greater Minnesota. Collaboration across all partners is required to ensure a connected transportation system offers options and choice for how people and goods move.

“Not everyone can afford a car and it’s important that cities are accessible for everyone to be able to get around to their jobs, grocery stores, medical appointments, etc. Cities planned around the assumption that everyone has a car are inaccessible and bad for the environment.”

– Policy Panel and Online Discussion Board Participant

POLICY DIRECTION EQUITY REVIEW

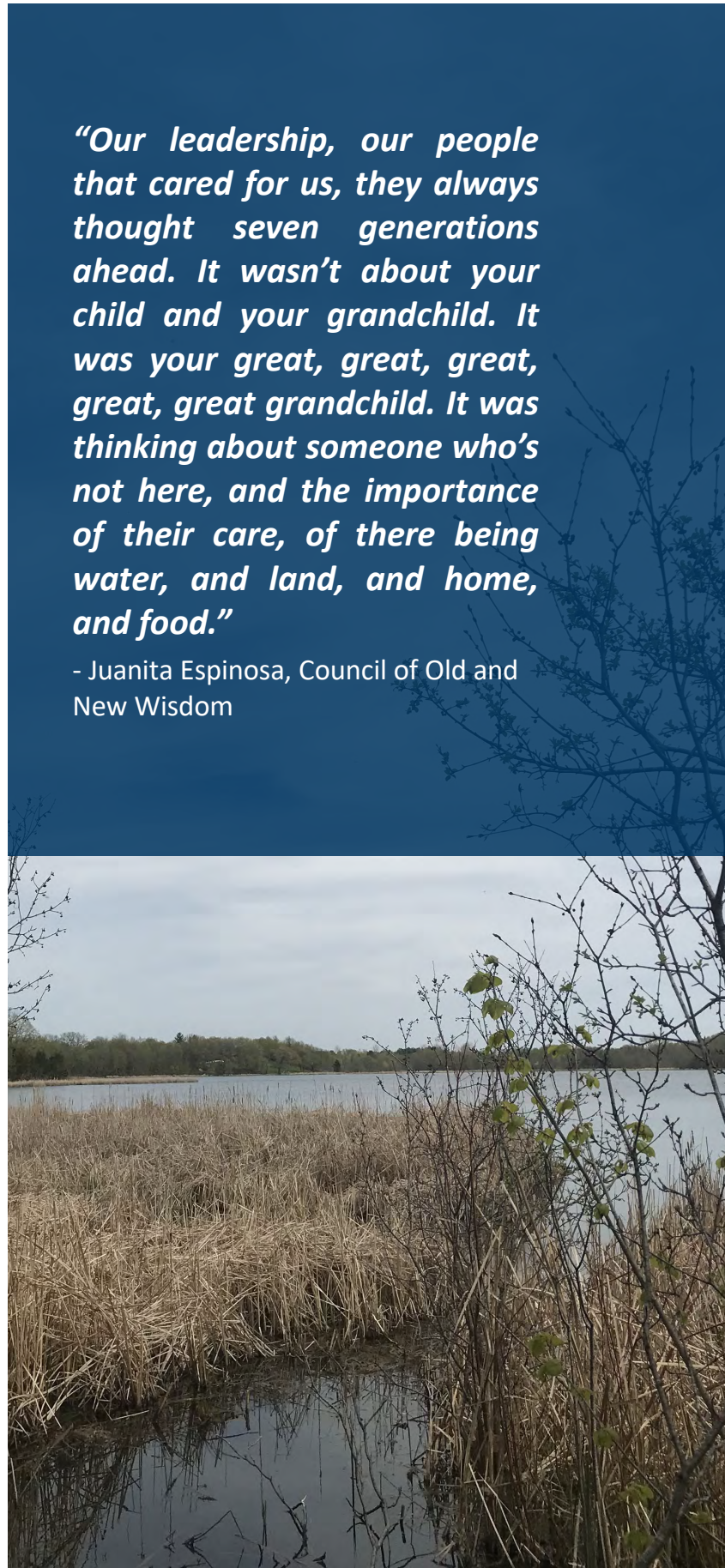
The Equity Work Group coordinated an equity review of the draft strategies identified by the other five work groups advising the SMTP. The review was completed in three parts—initial evaluation, equity workshop and staff review of strategies. The review process was guided by discussions and input with the Equity Work Group. During the initial evaluation, each of the six work groups prioritized which of the draft strategies would go through the equity review. Comments were consistent across work groups and included changes to strategies that focused on:

- Prioritizing people (specifically BIPOC), historically excluded communities and people disadvantaged in transportation decision making.
- Acknowledging who has been harmed by past decisions.
- Reducing barriers to participation and decision making.
- Calling out vulnerable users of the transportation system.

During the equity workshop, participants discussed a mix of strategies from the equity review and flagged some for further review. Following the workshop, staff completed a thorough review of draft strategies and actions to amend language to advance transportation equity. Staff shared feedback from the equity review with the TAC and PAC, and both committees completed further review of the language. More information on the equity review process is available in Appendix H – Transportation Equity.

“Our leadership, our people that cared for us, they always thought seven generations ahead. It wasn’t about your child and your grandchild. It was your great, great, great, great, great grandchild. It was thinking about someone who’s not here, and the importance of their care, of there being water, and land, and home, and food.”

- Juanita Espinosa, Council of Old and New Wisdom







HOW WILL WE GUIDE OURSELVES MOVING FORWARD

The challenges Minnesota is facing require bold, coordinated approaches. This work cannot be left to chance. Collective commitment is needed from all with a role in making transportation work for Minnesotans. The policy direction in this SMTP is an invitation to join MnDOT to build this bold new transportation future together.

READ CHAPTER 5 TO:

- Understand the policy direction that will guide transportation decisions for the next 20 years:
 - Objectives – desired outcomes for meeting the Minnesota GO Vision and transportation goals.
 - Performance Measures – metrics used to track progress toward the success of the objective.
 - Strategies and Actions – approaches and specific steps to meet or support the objective.

OBJECTIVES, PERFORMANCE MEASURES, STRATEGIES & ACTIONS

The purpose of this plan is not to list every possible activity, but to focus on key areas where additional emphasis is needed. Taken together, the objectives, performance measures, strategies and actions support the Minnesota GO Vision and 16 statutory goals for transportation in Minnesota. The plan focuses on six objectives:

- Open Decision Making
- Transportation Safety
- System Stewardship
- Climate Action
- Critical Connections
- Healthy Equitable Communities

Each objective has four parts:

- **Objective statement** – desired outcomes for meeting the Minnesota GO Vision and transportation goals.
- **What this is about** – description about the purpose of the objective.
- **Performance measures** – metrics used to track progress toward the success of the objective.
- **Strategies and actions** – approaches and specific steps to meet or support the objective.

The objectives, performance measures, strategies and actions are listed in no particular order.

To help ensure that progress is made over the next 20 years, each objective includes a list of related performance measures. These measures help track progress toward meeting the objectives and the desired outcomes of the vision. The state performance measures are a mix of metrics MnDOT has authority over and some MnDOT does not. Some of the measures influence annual decision-making processes. Other measures help to understand how the transportation system is functioning over time but are beyond any one agency to directly influence. To clarify the difference between the performance measures, the tables below include a column titled “MnDOT’s Role.” The agency’s role may be a mix of Lead, Partner and Support reflecting the following considerations:

- **Lead:** MnDOT has authority to influence the measurable outcomes that help meet SMTP objectives.
- **Partner:** MnDOT collaborates with key partners to measure system performance over time.
- **Support:** MnDOT has limited direct authority and focus may be on long-term outcomes.



OPEN DECISION MAKING

MAKE EQUITABLE TRANSPORTATION DECISIONS THROUGH INCLUSIVE AND COLLABORATIVE PROCESSES THAT ARE SUPPORTED BY DATA AND ANALYSIS.

WHAT THIS IS ABOUT

Transportation decision makers are stewards of the transportation system and have the responsibility to make informed choices and be open about how and why decisions are made. Decision makers need to rely on many different types of information and input to make responsible decisions supported by data and analysis, when applicable. This also requires balancing many, sometimes competing, priorities. Open, transparent and equitable decision making are essential to building better relationships and ensuring learning, understanding and trust.

ENGAGING WITH PEOPLE using the transportation system means creating opportunities for people to influence decisions. Good engagement starts with understanding community wisdom and uses inclusive, accessible and varied tools to reach and hear communities. Communication must be effective; this means information is available, easy to find, culturally responsive and understandable. This includes using plain language and meeting the Americans with Disabilities Act (ADA) accessibility standards. Good engagement and communication result in decisions that better reflect the community's priorities.

Engagement also requires being clear and specific about what decisions will be made and by whom. The public's role in transportation decision making is not static. The process for each decision can and will likely be different. Engagement should ensure that people understand their role and what opportunities there are to influence the decision at hand. Engagement done early and often builds capacity for transportation partners and the public to work together.

LEARNING AND UNDERSTANDING are essential in the decision-making process. Early coordination and collaboration are key to learning and understanding community goals, issues and concerns. Transportation partners should build better relationships to understand the unique needs of communities. Communication and education for the public is also crucial to meet Minnesota's transportation goals. Open decision making includes communicating the big picture to develop support and mutual understanding of constraints and opportunities. Everyone can listen, learn and seek to understand the expertise that others are bringing into conversations. In partnerships, learning and understanding go both ways.

ENSURING TRANSPARENT AND EQUITABLE DECISION MAKING is about building public trust through thoughtful communication, engagement and education. Transportation decision makers need to be accountable for the decisions they make, because the majority of transportation funding comes from the public through taxes and fees. Decision makers need to ensure public resources are used efficiently and effectively, and that decisions are well documented and communicated.

This work should be rooted in understanding and overcoming the history of transportation-related trauma and exclusion that underserved communities have historically faced. Some community groups—such as Black, Indigenous and People of Color (BIPOC)—may not be ready to start building relationships with agencies and staff. Trust in government beyond transportation agencies has been eroding over time especially in communities harmed by previous decisions.

Working with a variety of partners and community-based organizations can help get community input and data while making progress toward building trust and forming relationships. Asking a series of questions which include who is influencing decisions, who is potentially left out, who is burdened and

who is benefitting by a transportation decision can help to advance transportation equity. The SMTP policy direction lays the groundwork of trust and relationship building to improve transportation decision making in the future.

PERFORMANCE MEASURES

Table 5-1 lists performance measures related to the Open Decision Making objective. More information on these performance measures can be found in Appendix I – Performance Measures.

Table 5-1: Open Decision Making Performance Measures

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Public Trust and Confidence	Annual percent of respondents that agree with the following statements: <ul style="list-style-type: none"> • "I feel MnDOT understands my needs (and the needs of others like me) and has developed a transportation system that works well for me." • "MnDOT acts in a financially responsible manner." • "How confident are you today in MnDOT's ability to do a good job at communicating accurate information to Minnesota citizens about their transportation plans and projects?" 	74% felt MnDOT understood their needs, 64% felt MnDOT acts in a financially responsible manner and 82% felt MnDOT was communicating accurately about transportation plans and projects (2020)	≥80% overall and for each demographic segments	Lead	Percent and trend; report by different demographic segments
Project-Level Public Engagement Measures	e.g., post-project surveys	In development	Work plan item	Lead	Percent and trend
Partner Coordination	Measure MnDOT coordination with external partners during planning and programming	In development	Work plan item	Lead	Under consideration through SMTP Work Plan

OTHER RELATED PERFORMANCE MEASURES INCLUDE: Representation within MnDOT (System Stewardship).

STRATEGIES & ACTIONS

1. Ensure people have opportunities to play an active and direct role in transportation decision making.

- 1.1 Start transportation processes by working with communities to identify strategies that support people's vision, priorities and needs.
- 1.2 Determine community demographics for plans, programs and projects and tailor public engagement approach to increase broad community participation and input.
- 1.3 Create public engagement plans that clearly articulate decision points, who will be involved at each step of the process and who has authority over each decision.
- 1.4 Include those impacted by transportation decisions as members of decision-making teams.
- 1.5 Actively engage in community-centered conversations and use community wisdom to inform decision making.
- 1.6 Create and implement processes and systems to monitor and evaluate effectiveness in achieving shared outcomes.

2. Build and strengthen lasting relationships to ensure that people are engaged in transportation projects and activities especially with underserved communities.

- 2.1 Commit to regular two-way communication with partners, stakeholders and the public to continuously gather feedback.
- 2.2 Hire and involve community-based organizations to conduct and lead engagement activities with underserved populations.
- 2.3 Identify and connect with Tribal Governments, local elected officials and community leaders through project scoping and delivery.
- 2.4 Collaborate with partners to include transportation-related questions in their surveys and other data collection efforts with underserved communities.
- 2.5 Coordinate with partners to ensure people's priorities and needs are considered including for those without reliable transportation choices.
- 2.6 Provide education opportunities and programs for community members and transportation partners to understand each other on how to participate in transportation decision making together.



3. Provide consistent, transparent, fair, just and equitable communication.

- 3.1. Partner with the public and stakeholders to identify, develop and implement communication and engagement approaches.
- 3.2. Use culturally appropriate communication and engagement methods and techniques.
- 3.3. Set plain language and accessibility standards for agency and contractor deliverables and provide training for staff.
- 3.4. Provide training for different communication methods including storytelling.
- 3.5. Increase staff ability and provide resources to improve engagement for people with disabilities and limited English proficiency.

4. Understand and learn from personal and community experiences on how the transportation system can negatively and positively affect communities.

- 4.1 Co-create and share narratives about transportation in collaboration with communities that have been harmed by decisions related to the transportation system and built environment.
- 4.2 Use the wisdom from community narratives to inform plans, manuals, training content, etc.
- 4.3 Provide training and resources to build staff capacity to understand cumulative historical impacts of transportation decision making.

5. Use research and data to drive decision making in pursuit of local, regional, Tribal, statewide and national goals.

- 5.1 Ensure key transportation data is kept up-to-date, usable and easily accessible to transportation partners and the public.
- 5.2 Track and share information about transportation needs and system performance to inform decision making.
- 5.3 Increase use of accessible mapping tools and data visualization in communications with the public.
- 5.4 Analyze and present data broken out by community and demographic segments to allow for meaningful analysis.
- 5.5 Use qualitative data to advance transportation equity.



TRANSPORTATION SAFETY

SAFEGUARD TRANSPORTATION USERS AS WELL AS THE COMMUNITIES THE SYSTEM TRAVELS THROUGH. APPLY PROVEN STRATEGIES TO REDUCE FATALITIES AND SERIOUS INJURIES FOR ALL MODES. FOSTER A CULTURE OF TRANSPORTATION SAFETY IN MINNESOTA.

WHAT THIS IS ABOUT

Ensuring transportation safety is a top priority for Minnesota. It includes the safety of people traveling and the safety of the communities the system travels through.

ENSURING TRANSPORTATION USER SAFETY applies to all people who use the transportation system regardless of their mode of travel, as well as transportation workers. Comprehensive safety involves an integrated approach that includes education, enforcement, engineering and emergency medical and trauma services – and more. Each of these areas is critical to improving overall safety and helping to grow a safe transportation culture in Minnesota.

Advancing transportation equity in safety is key to making sure all Minnesotans are safe. A one-size-fits-all approach does not work for transportation safety. Data can help MnDOT and transportation partners understand how to address specific safety challenges and eliminate the disproportionate number of fatalities and serious injuries for people who are underserved by transportation, especially BIPOC. Working with communities to make transportation decisions grounded in local wisdom can help eliminate disparate safety outcomes.

PROTECTING COMMUNITY SAFETY

is much more than just transportation. There are risks to the transportation system that can negatively impact community safety by impeding essential travel needs such as emergency response, emergency medical and trauma services. These threats include severe weather, acts of terrorism and crime. Planned special events like major sporting events, parades and marathons can also strain or overwhelm the transportation system's capacity and inhibit public safety efforts. In addition, transportation infrastructure, facilities and services can impose risks to surrounding communities.

Through the Toward Zero Deaths program, MnDOT partners with various enforcement agencies (state and local) that improve road user safety through education and enforcement. MnDOT encourages a holistic and collaborative approach to ensure enforcement that does not adversely impact BIPOC and other underserved communities. To advance equity in transportation, each organization has a specific role to play to ensure people and communities are safe.

REDUCING FATALITIES AND SERIOUS

Safe System Approach

Safe System approach to traffic safety makes a commitment to reach zero deaths through building a culture of safety. The six principles of Safe System address all aspects of transportation safety through a people-centered, holistic approach. Road system investment decisions are central to a culture of safety putting MnDOT and transportation partners in a key position to achieve our zero deaths vision.

MnDOT's transportation safety partnerships like Minnesota Toward Zero Deaths (TZD) and Safe Routes to School are key to building a culture of safety through a Safe System approach. TZD is the state's cornerstone traffic safety program, employing an interdisciplinary approach to reducing traffic crashes, injuries and deaths on Minnesota roads. Safe Routes to School improve safety, reduce traffic and improve air quality near schools through a multidisciplinary approach. Everyone has a role in a culture of transportation safety!



INJURIES requires an ongoing focus that puts safety first and helps demonstrate Minnesota's commitment to protecting people traveling. Understanding and accommodating human behavior can reduce fatal and serious injuries. Implementing "Safe System" designs can improve safety for all people traveling by any mode. See the call out box to learn more about the Safe System approach to transportation safety.

BUILDING A CULTURE OF SAFETY requires

ongoing collaboration to recognize and reduce gaps in transportation safety. A mix of traditional and innovative practices and methodologies will likely be required to prevent and mitigate crashes and injuries. Partners—like those in engineering, enforcement, education and emergency response—can help shift the focus upstream to design and operate a safe transportation system for all Minnesotans especially those most vulnerable. Everyone has a role and responsibility to implement an equitable, Safe System approach.

PERFORMANCE MEASURES

Table 5-2 lists performance measures related to the Transportation Safety objective. More information on these performance measures can be found in Appendix I – Performance Measures.

Table 5-2: Transportation Safety Performance Measures

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Fatalities	Annual traffic fatalities on Minnesota roadways	488 traffic fatalities (2021)	≤225 by 2025 Decreasing to 0	Lead & Partner	Number and trend
Serious Injuries	Annual traffic serious injuries on Minnesota roadways	1,722 serious injuries (2021)	≤980 by 2025 Decreasing to 0	Lead & Partner	Number and trend
Pedestrian Fatalities and Serious Injuries	Annual fatalities and serious injuries of people walking on Minnesota roadways	55 pedestrians killed and 168 seriously injured (2021)	Decreasing to 0	Lead & Partner	Number and trend
Bicycle Fatalities and Serious Injuries	Annual fatalities and serious injuries of people bicycling on Minnesota roadways	Nine bicyclists killed and 52 seriously injured (2021)	Decreasing to 0	Lead & Partner	Number and trend
Perception of Safe Walking and Bicycling	Percent of MnDOT Omnibus Survey respondents perceiving safe environments for walking/bicycling	84% of respondents felt safe bicycling 78% of respondents felt safe walking (2020)	≥80% overall and for all demographic segments	Partner	Percent and trend; report by different demographic segments
Aviation Fatalities and Crashes	Total number of aviation fatalities and incidents	Four fatalities in four crashes (2021)	0	Partner	Number and trend
Rail Derailments	Annual total number of rail derailments	18 (2020)	0	Partner	Number and trend
Rail Grade Crossing Fatalities and Serious Injury Crashes	Annual number of crashes at highway-rail grade crossings that result in a fatality or serious injury	Under Redevelopment	0	Lead & Partner	Number and trend
Rail Grade Crossings	Annual percent of highest risk crossings receiving improvements	Under Redevelopment	≥5% annually	Lead & Partner	Percent and trend
Incident Clearing Time	Average incident clearance time	≤35 minutes since 2010	≤35 minutes	Lead	Number and trend
Transit Safety Events	Urban transit operators (i.e., 5307) safety events	In development	Decreasing number of events	Partner	Under consideration through SMTP Work Plan

OTHER RELATED PERFORMANCE MEASURES INCLUDE: Bridge Inspections (System Stewardship), Rest Area Condition (System Stewardship) and Rural Transit Vehicle Condition (System Stewardship).

“We have very few sidewalks to walk on so walkers have to walk on the shoulder of the streets. Vehicles don’t move over when meeting a walker and I’ve even had vehicles swerve towards me when I have been walking in the street because there was no sidewalk.”

– Comment shared during SMTP engagement



STRATEGIES & ACTIONS

1. Coordinate with partners to ensure the health, safety and security for people most vulnerable especially for those walking, rolling, bicycling and taking transit.

- 1.1 Implement more forgiving road design to mitigate the severity of crashes and the resulting injuries.
- 1.2 Work with partners to create and implement shared values, actions and behaviors that build a traffic safety culture for all modes.
- 1.3 Leverage partnerships to implement Toward Zero Deaths and Vision Zero strategies and road safety design initiatives.
- 1.4 Implement best practices for people to feel safe and secure walking, rolling, bicycling and taking transit.
- 1.5 Develop effective engagement efforts to educate local agencies and the general public on engineering solutions that will improve safety.

2. Modify infrastructure to accommodate all modes of transportation using complete streets, context sensitive and Safe System approaches.

- 2.1 Explore opportunities for lower cost solutions that can be deployed quickly.
- 2.2 Design roads for appropriate speeds based on land use context and user needs.
- 2.3 Design and maintain transportation infrastructure to support current and new technology with proven safety benefits for all users.

3. Emphasize equitable education and enforcement techniques with proven safety benefits for people and communities.

- 3.1. Support effective education and enforcement efforts focused on unsafe transportation behaviors such as speeding, not using seatbelts, distracted driving, driving under the influence, etc.
- 3.2. Engage communities in an ongoing dialogue on transportation safety needs for all people and modes.
- 3.3. Collaborate with other agencies like the Department of Public Safety to explore equitable enforcement approaches through research and review of new and best practices.
- 3.4. Expand collecting and sharing of transportation safety data to include factors most important to underserved populations.
- 3.5. Develop and share critical safety information and support education and outreach efforts to improve health, safety and security for people.

4. Prioritize safety for people and communities through the safe movement of goods.

- 4.1 Invest to increase safe and reliable routing for hazardous, oversize and overweight material transport.
- 4.2 Increase availability and accessibility of safe and reliable freight truck parking.
- 4.3 Invest in safety improvements to roads, sidewalks, bicycle lanes and trails that cross railroads and freight routes, including the installation of gates and warning signs.

5. Collaborate with local, regional, Tribal, state and federal partners to ensure efficient and coordinated response to special, emergency and disaster events.

5.1 Work with emergency medical and trauma services to reduce response time and increase survivability.

5.2 Enhance and maintain emergency communications infrastructure across the state.

5.3 Preserve and enhance critical access routes for emergency response.

5.4 Develop emergency response plans in areas where evacuation or other major events may require coordinated transportation responses.

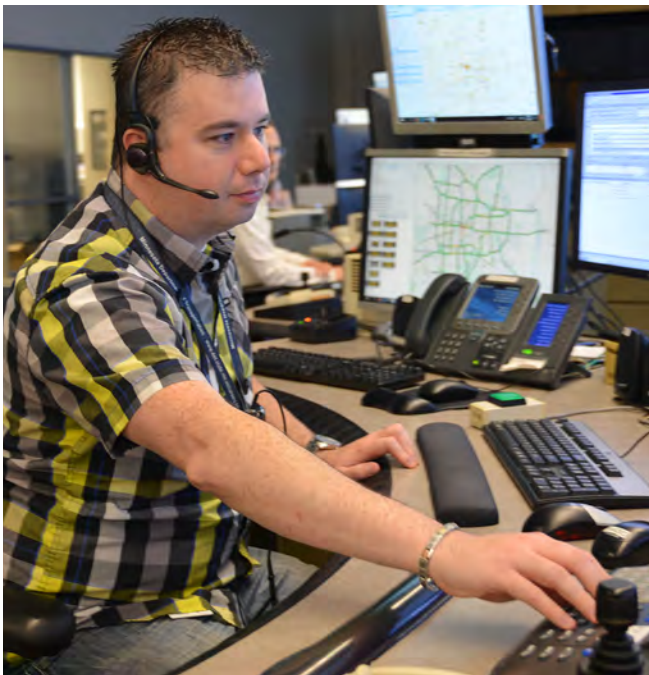
6. Promote the development and deployment of connected and automated transportation technologies.

6.1. Pilot technologies and business models to maintain flexibility in a changing market.

6.2. Use technology to improve transportation accessibility and safety for all Minnesotans and to reduce transportation disparities.

6.3. Improve school and work zone safety by leveraging connected and automated vehicle technologies and data.

6.4. Advance connected and automated vehicle research and data collection to address Minnesota's transportation challenges and opportunities.



SYSTEM STEWARDSHIP

STRATEGICALLY BUILD, MAINTAIN, OPERATE AND ADAPT THE TRANSPORTATION SYSTEM BASED ON DATA, PERFORMANCE AND COMMUNITY NEEDS. ENSURE EFFECTIVE AND EFFICIENT USE OF RESOURCES.

WHAT THIS IS ABOUT

MnDOT and transportation partners are stewards of the transportation system. This includes the management of specific transportation assets and the overall transportation system. With a changing climate and other disruptive events, there is also a focus on resiliency of the transportation system. Each of these components plays a key role in ensuring the transportation network is reliable.

MANAGING ASSETS is a systematic process of cost-effectively operating, maintaining and upgrading assets once they are built or purchased. Transportation assets include all aspects of the transportation system such as travel ways, vehicles and support facilities. This also includes data, software and research that help improve materials and practices to maximize the useful life of an asset. The trend for the past decade has been to focus on maintaining and modernizing existing roads and bridges, while strategically completing the network for other modes. This continues to be a priority.

DESIGNING WITH CONTEXT SENSITIVITY ensures that the character of projects are appropriate to the surrounding context, such as built, natural and cultural elements. Developing accessible transportation facilities with the community in mind can create transportation projects that reflect the goals of the people who live, work and travel in the area. Context varies by geography, community and how someone uses the system. A community-based approach to transportation requires partnering early and often, understanding the needs of all users and considering impacts that extend beyond the right-of-way.

PRACTICING ENVIRONMENTAL STEWARDSHIP protects and improves natural and cultural resources. This includes focusing on equity, the environment and our economy while also planning for the near- and long-term stewardship of environmental resources. MnDOT and transportation partners can consider new environmental quality techniques, maintenance activities and alternative site design practices to preserve the state's valuable natural and cultural resources while reducing harm.

DEVELOPING THE TRANSPORTATION WORKFORCE can provide opportunities for new ideas to leverage innovation and technology. Innovation is critical to get the most out of transportation investments. By seeking a diverse workforce and promoting transportation trade careers, MnDOT and transportation partners can identify more efficient ways to build, maintain and adapt to ongoing system-level changes (e.g., climate change).



PERFORMANCE MEASURES

Table 5-3 lists performance measures related to the System Stewardship objective. More information on these performance measures can be found in Appendix I – Performance Measures.

Table 5-3: System Stewardship Performance Measures, 1 of 2

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Pavement Condition	Annual percent of state highways with good and poor ride quality	<ul style="list-style-type: none"> Interstate Good: 90.7% Interstate Poor: 0.6% NHS Good: 81.6% NHS Poor: 0.6% Non-NHS Good: 75.1% Non-NHS Poor: 2.4% (2021) 	<ul style="list-style-type: none"> Interstate Good: ≥70% Interstate Poor: ≤2% NHS Good: ≥65% NHS Poor: ≤4% Non-NHS Good: ≥60% Non-NHS Poor: ≤8% 	Lead	Percent, trend and predicted future
Bridge Condition	Annual percent of state bridges in good and poor condition as a percent of total bridge deck area	<ul style="list-style-type: none"> NHS Good: 32.9% NHS Poor: 3.1% Non-NHS Good: 32.6% Non-NHS Poor: 3.8% (2021) 	<ul style="list-style-type: none"> NHS Good: ≥50% NHS Poor: ≤5% Non-NHS Good: ≥50% Non-NHS Poor: ≤8% 	Lead	Percent, trend and predicted future
Bridge Inspections	Annual percent of routine bridge inspections completed on time	99.5% (2020)	100%	Lead	Percent and trend
Culvert Condition	Annual percent of highway culverts in poor or severe condition	17% (2020)	≤10%	Lead	Percent and trend
ADA Compliance	Total percent of state-owned sidewalks, signals, curbs and driveways substantially compliant with ADA standards	<ul style="list-style-type: none"> Curb Ramps: 61% compliant Sidewalks: 66% compliant (2021) 	100% by 2037	Lead	Percent and trend
Airport Pavement Condition	Measure identifying the condition and quality of the airport infrastructure across the state	Under Redevelopment	≤4%	Lead & Partner	Percent and trend

Table 5-3: System Stewardship Performance Measures, 2 of 2

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Rural Transit Vehicle Condition	Percent of 5311 vehicles exceeding Useful Life Benchmark (ULB)	7.5% (2020)	<10%	Partner	Percent and trend
Rest Area Condition	Share of buildings in poor condition	6.1% (2021)	<4%	Lead	Percent and trend
Native Seeding and Plantings	Percentage of acres planted with native seeds and plants as part of large projects	<ul style="list-style-type: none"> • Seeding: 68% (2020) • Planting not yet available 	<ul style="list-style-type: none"> • Seeding: ≥75% • Planting Urban: ≥80% • Planting Rural: ≥90% 	Lead	Percent and trend
Road Salt Chloride Use	Rate of liquid to solid de-icing chemicals applied to reduce overall chlorides used on the roadway for snow and ice control	41 gallons of liquid chlorides used for every ton of salt (2020-2021)	200 gallons of liquid per ton of solid by 2027	Lead	Rate and trend
Workforce Participation	Annual percent ethnic representation and women in the highway-heavy construction workforce	12.9% of people working on a federal aid highway project were ethnic representation and 11.1% were women (July 2021)	Increasing	Partner	Percent and trend
Representation within MnDOT	Annual percent racial and ethnic representation and women in MnDOT's workforce	11% ethnic representation and 22% women in MnDOT's workforce	Increasing	Lead	Percent and trend

Other related performance measures include: Project Letting (Open Decision Making), Rail Grade Crossings (Transportation Safety), Greenhouse Gas Emissions (Climate Action) and Resilience (Climate Action).

“Undeniably, funding for maintenance and preservation activities needs to be consistent and sustainable.”

– Comment shared during SMTP engagement

STRATEGIES & ACTIONS

1. Maximize the useful life of transportation assets while considering performance, costs and impacts to people, the environment and our economy.

- 1.1 Incorporate asset management principles in capital, maintenance and operations decisions.
- 1.2 Ensure capital planning processes prioritize preventive maintenance.
- 1.3 Review planned maintenance and reconstruction projects to identify cost-effective opportunities to improve safety, manage congestion and improve transportation options.
- 1.4 Minimize environmental impacts and lower lifecycle costs through the reuse of materials and use of innovative new materials and techniques.
- 1.5 Use performance-based planning and data to inform the location and timing for project improvements.

2. Improve coordination with partners on the management of all assets connected to the transportation system.

- 2.1 Expand fiber optic and communications infrastructure for safety, access and operational benefits.
- 2.2 Explore contractual, technical and design options for better year-round maintenance and use for all modes of transportation.
- 2.3 Align timing and scale of transportation improvements with local utility replacement plans.



3. Plan, design, develop and maintain transportation infrastructure and facilities in a way that reflects and is informed by the surrounding context.

- 3.1. Prioritize transportation improvements that support existing and compatible planned land uses.
- 3.2. Right size the transportation system to make the best use of available resources and right-of-way for all modal options.
- 3.3. Expand opportunities to leverage full value and productivity of existing transportation right-of-way.
- 3.4. Develop a transportation system that is respectful of cultural resources and maintains those resources for generations to come.

4. Preserve and improve Minnesota's natural resources and minimize harm to the environment.

- 4.1. Promote pollinator habitat, native plantings and trees within transportation right-of-way.
- 4.2. Integrate green infrastructure practices into transportation projects and facilities.
- 4.3. Improve water quality through the development and use of innovative stormwater management strategies.
- 4.4. Implement practices that reduce chloride use during winter maintenance.
- 4.5. Research, develop and implement measures to preserve habitats near the transportation system, protect wildlife and limit the spread of invasive species.

5. Provide training and resources for a diverse and inclusive transportation workforce.

- 5.1. Examine current hiring practices and policies to reduce biases.
- 5.2. Identify opportunities to attract, retain, develop and promote Black, Indigenous and People of Color, people with disabilities, women and people from other underserved communities.
- 5.3. Set and meet equity goals in awarding contracts and build community capacity to fulfill contracting goals.
- 5.4. Analyze and reduce barriers to contracting such as project size, performance bonding, insurance requirements and capital access.
- 5.5. Provide consistent equity messaging and training opportunities in the transportation sector.

6. Promote transportation trades and technical careers.

- 6.1. Promote careers in transportation including job fairs, partnering with schools and other activities.
- 6.2. Support organizations to create a diverse pipeline of qualified applicants for construction and transportation operations.
- 6.3. Work with partners to develop training and apprenticeship programs in transportation-related occupations with high demand.
- 6.4. Create new partnerships to expand recruitment efforts that address transportation needs and the pool of bus, commercial and volunteer drivers.



CLIMATE ACTION

ADVANCE A SUSTAINABLE AND RESILIENT TRANSPORTATION SYSTEM. ENHANCE TRANSPORTATION OPTIONS AND TECHNOLOGY TO REDUCE GREENHOUSE GAS EMISSIONS. ADAPT MINNESOTA'S TRANSPORTATION SYSTEM TO A CHANGING CLIMATE.

WHAT THIS IS ABOUT

Minnesota's climate is changing and will continue to do so for the foreseeable future. The decades ahead will bring even warmer winters and nights and heavier rainfalls. This includes the likelihood of increased summer heat and the potential for longer dry spells. Minnesota is also likely to see more severe weather and floods. For these reasons, climate change will impact the way transportation infrastructure is used, built, operated and maintained. Change is needed to ensure the transportation system can sustain through and adapt to climate change. Key commitments include reducing emissions, coordinating with communities and building resiliency.

ENHANCING TRANSPORTATION OPTIONS

to provide a variety of choices for people to access goods, services and destinations is key. Transportation partners must work together to make transportation accessible, equitable and reliable, which can encourage shifts to lower emission transportation options.

REDUCING EMISSIONS from the transportation sector will create healthier and more livable communities. Minnesota's transportation sector is the largest contributor to greenhouse gas emissions—the most significant cause of climate change—in the state. This objective focuses on tailpipe emissions as this presents a significant near-term opportunity to curb GHG emissions. Lower emissions modes of travel (such as walking, rolling, bicycling and taking transit), electric vehicles, alternative fuels and innovative technologies and solutions can help reduce GHG emissions.

COORDINATING WITH COMMUNITIES is key to understanding people's needs. Resilient and sustainable solutions need to be centered on community voices, especially underserved communities who are facing severe climate change impacts. It is crucial that coordination and consultation with impacted communities occurs early and often, so the community can be a partner in creating effective, sustainable and adaptive solutions that work for them.

BUILDING RESILIENCY within the transportation sector can help communities recover from a range of events. Within transportation and infrastructure planning, there are two types of climate change responses—mitigation and adaptation. Mitigation focuses on reducing emissions to slow climate change. Reducing GHG emissions results in healthier communities, enhanced biodiversity and a stronger economy. Adaptation focuses on adjusting to the effects of climate change that are already happening and cannot be avoided. Adaptation can reduce vulnerability and increase resilience through asset management, long-range planning, design, construction, operations and maintenance.

PERFORMANCE MEASURES

Table 5-4 lists performance measures related to the Climate Action objective. More information on these performance measures can be found in Appendix I – Performance Measures

Table 5-4: Climate Action Performance Measures

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Greenhouse Gas Emissions	Total annual greenhouse gas emissions from the transportation sector (percentages shown in parenthesis reflect percent reduction from 2005)	40.3 million metric tons CO ₂ e (2018)	<ul style="list-style-type: none"> • 29.5 million metric tons CO₂e (30%) by 2025 • 20.1 million metric tons CO₂e (50%) by 2030 • 14.1 million metric tons CO₂e (65%) by 2035 • 8.0 million metric tons CO₂e (80%) by 2040 	Lead & Partner	Number and trend
Zero Emission Vehicles (ZEV) Registered in Minnesota	Total percent of light-duty vehicles registered in Minnesota that are electric or another type of ZEV	23,897 EVs registered, which is 0.4% of total vehicles (December 2021)	<ul style="list-style-type: none"> • 5% by 2025 • 20% by 2030 • 45% by 2035 • 65% by 2040 	Support	Percentage and trend
Zero Emission Vehicles (ZEV) Sold in Minnesota	Percent of new light-duty vehicles sold in Minnesota that are electric or another type of ZEV	About 2% (2021)	<ul style="list-style-type: none"> • 60% by 2030 • 100% by 2035 • 100% by 2040 	Support	Percentage and trend
System Resilience	Measure that evaluates resilience at a system level (i.e., not just individual assets)	In development	Work plan item	Lead	Under consideration through SMTP Work Plan
Asset Resilience	Resilience of assets by type (e.g., bridges, culverts, etc.)	In development	Work plan item	Lead	Under consideration through SMTP Work Plan

Other related performance measures include: Perceptions of Safe Walking and Bicycling (Transportation Safety), Vehicle Miles Traveled (Critical Connections), Regional Job Accessibility by Bicycle, Car and Transit (Critical Connections), Transit Span of Service (Critical Connections), Bridge Condition (System Stewardship), Culvert Condition (System Stewardship), Native Seeding and Planting (System Stewardship) and Physical Activity (Healthy Equitable Communities).

STRATEGIES & ACTIONS

1. Transition the transportation sector away from dependence on fossil-based fuels.

- 1.1 Invest in and encourage the transition of vehicle fleets to electric or non-fossil-based fuels.
- 1.2 Partner to expand electric vehicle charging using non-fossil-based sources of energy.
- 1.3 Implement a clean fuels standard.
- 1.4 Integrate equity in siting of electric vehicle charging infrastructure.
- 1.5 Support non-fossil-based sources of electricity for trucking, rail, aviation and maritime use.
- 1.6 Encourage more efficient travel like grouping errands or activities into one trip, shortened trips, etc. when using transportation powered by fossil fuels.

2. Make transportation and land use decisions that reduce total greenhouse gas emissions.

- 2.1 Integrate transportation and land use decisions to encourage mode shifts and to reduce the distance needed to travel for daily needs.
- 2.2 Support land use decisions and parking policies that expand walking, rolling, bicycling and transit options for people to get to destinations.
- 2.3 Monitor, track and forecast greenhouse gas emissions as part of investment, program and project decision making.
- 2.4 Develop state, regional, county and city climate action plans.

3. Protect people and communities through regional approaches to mitigate risk from the changing climate and extreme weather.

- 3.1. Integrate climate change considerations into transportation decision making and evaluate opportunities to mitigate risks.
- 3.2. Develop corridor and regional vulnerability assessments.
- 3.3. Coordinate with agencies on stormwater management within and on adjacent lands to the transportation system.

4. Increase resiliency of people and communities by adapting infrastructure to withstand the changing climate.

- 4.1 Adapt design and maintenance practices to increase the resiliency of the transportation system.
- 4.2 Coordinate with partners to identify and implement transportation right-of-way uses that reduce threats to people from exposure to extreme weather and temperatures.
- 4.3 Use economic, disaster and public health recovery efforts to rebuild in a way that is more resilient.
- 4.4 Leverage data to inform investment and project development decisions and identify new approaches to climate adaptation.



Climate Action

Innovative solutions are needed to make our transportation system more resilient to climate change and extreme weather. A more resilient system can reduce health impacts and minimize disruptions to the travel of people and goods. The Climate Action strategies focus on emerging transportation issues not covered by other sections of the SMTP. Climate-related strategies and actions in other SMTP objectives include reducing vehicle miles traveled, encouraging travel options other than driving alone and coordinating with local partners on land use planning. Many strategies and actions throughout Chapter 5 are part of a coordinated and comprehensive approach to climate action.

“The changing climate needs to be considered for future projects. While I may not see the change, I would love for my grandchildren to live in a better climate.”

– Policy Panel and Online Discussion Board Participant

CRITICAL CONNECTIONS

MAINTAIN AND IMPROVE MULTIMODAL TRANSPORTATION CONNECTIONS ESSENTIAL FOR MINNESOTANS' PROSPERITY AND QUALITY OF LIFE. STRATEGICALLY CONSIDER NEW CONNECTIONS THAT HELP MEET PERFORMANCE TARGETS AND MAXIMIZE SOCIAL, ECONOMIC AND ENVIRONMENTAL BENEFITS.

WHAT THIS IS ABOUT

The transportation system is a vital part of keeping Minnesotans connected to family, jobs, healthcare, schools, places of worship, shopping, recreation and entertainment. What is considered a critical connection is different for each person depending on where they live and each mode. Components of this objective include identifying key connections, ensuring transportation options and sharing responsibility to ensure critical connections.

IDENTIFYING KEY CONNECTIONS within and between communities is key to providing a complete, efficient and affordable transportation system. Critical connections vary by transportation mode and may be different for walking, rolling, bicycling, transit, driving and freight purposes. These connections differ in scale depending on how people and goods move across the state, throughout a region or within a community. Changes in our economy may warrant new freight connections or increase connectivity. Also, new investments are needed to increase system connectivity for people walking, rolling, bicycling and taking transit.

ENSURING TRANSPORTATION OPTIONS can support communities by providing the necessary link between people and opportunities. Businesses need predictable and reliable access to suppliers and customers. People need access to jobs, school, food, childcare, health services and other destinations no matter where they live. To accommodate non-drivers, it is necessary to provide various transportation options like complete accessible

sidewalk networks, shared mobility services, transit, shuttles, etc. All communities are designed differently and need various types of transportation networks. A well-connected local network can promote mobility choice, reduce local trips by vehicle and positively impact the environment.

Providing transportation options is key to reducing per capita vehicle miles traveled (VMT). VMT is one measure that can help us understand how the system is serving all users in different communities across the state. It helps inform progress towards agency goals around safety, accessibility, person throughput and reducing emissions causing climate change. Different geographies, communities and contexts will have different needs and opportunities to how they want to approach VMT and related strategies.

SHARING RESPONSIBILITY across all transportation partners is key to identifying, maintaining and enhancing priority connections. MnDOT and transportation partners strive to provide connections that prioritize people's movement and quality of life. This includes sidewalks, bicycle routes, roadways, waterways, intercity and regional bus, airports and railways. All connections, regardless of level, location or transportation type, need to be coordinated with one another to ensure a connected Minnesota.

PERFORMANCE MEASURES

Table 5-5 lists performance measures related to the Critical Connections objective. More information on these performance measures can be found in Appendix I – Performance Measures.

Table 5-5: Critical Connections Performance Measures, 1 of 2

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Travel Time Reliability	Percent of person-miles traveled on the National Highway System (NHS) that are considered reliable	86.2% in 2018 and 97.5% in 2020	≥80%	Lead	Percent and trend
Truck Travel Time Reliability	Index measuring the consistency of commercial truck travel times on the Interstate system	1.48 in 2019 and 1.24 in 2021	≤1.5	Lead	Number and trend
Vehicle Miles Traveled	Number of miles traveled across Minnesota per capita (percentages shown in parentheses are the percent reduction from 2019)	10,691 miles per capita (2019)	<ul style="list-style-type: none"> • 10,263 (-4%) by 2025 • 9,835 (-8%) by 2030 • 9,515 (-11%) by 2035 • 9,195 (-14%) by 2040 	Partner	Number and trend and by urban, suburban and rural
Job Accessibility by Bicycle, Car and Transit	Average annual number of jobs accessible within 30-minutes during morning peak traffic by bicycle (on medium stress roads), driving and transit	<ul style="list-style-type: none"> • 40,967 jobs accessible by bicycle (on medium stress roads) • 586,940 jobs accessible by car • 13,069 jobs accessible by transit (2019)	Increasing	Lead & Partner	Number and trend by mode
Traveler Delay	Average delay per person in the Twin Cities	9.7 minutes (2018)	≤9 minutes per weekday	Lead & Partner	Number and trend
Transit On-time Performance	Annual transit on-time performance within the Twin Cities and within Greater Minnesota	<ul style="list-style-type: none"> • Twin Cities: Metro Transit Bus: 86% (2021) • Greater Minnesota: 95.2% (2021) 	<ul style="list-style-type: none"> • Twin Cities: Metro Transit Bus: N/A • Greater Minnesota: ≥90% 	Partner	Percent and trend
Transit Span of Service	Measure communicating the percentage of public transportation services that meet minimum service guidelines for access in the Twin Cities and Greater Minnesota	Under Redevelopment	≥90%	Partner	Percent and trend

Table 5-5: Critical Connections Performance Measures, 2 of 2

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Transit Ridership	Boardings recorded by public transit providers	<ul style="list-style-type: none"> Urban: 91.6 million (2019); 40.9 million (2020) Rural: 11.5 million (2019); 6.3 million (2020) 	Increasing	Partner	Number and trend by Twin Cities Metropolitan Area and in Greater Minnesota
Air Transportation	Annual number of available seat miles offered from commercial service airports	<ul style="list-style-type: none"> 24.3 million (2019) 12.6 million (2020) 	Increasing	Support	Number and trend

Other related performance measures include: ADA Compliance (System Stewardship), Emergency Response (Transportation Safety), Greenhouse Gas Emissions (Climate Action), Multimodal Accessibility (Healthy Equitable Communities) and Physical Activity (Healthy Equitable Communities).

STRATEGIES & ACTIONS

1. Provide equitable access to destinations and services.

- 1.1 Prioritize people most vulnerable in the transportation system using complete streets, context sensitive and Safe System approaches.
- 1.2 Partner with other agencies on projects to create or expand connections within and between communities.
- 1.3 Partner and invest in high-capacity transit services and transitway corridors where existing and planned land uses justify a high demand for transit services in urban areas.
- 1.4 Increase accessibility for people walking, rolling, bicycling and taking transit as part of highway resurfacing and preservation projects, traffic operations and system design.

2. Ensure efficient, affordable, reliable and safe movement of goods throughout the state.

- 2.1 Define priority networks and integrate the networks into decision making based on connectivity and access to destinations.
- 2.2 Add new and improve existing first- and last-mile connections for better freight access to the transportation system.
- 2.3 Address freight bottlenecks in the transportation system.
- 2.4 Use technology for system optimization for all modes.

3. Provide transportation options to connect people to services, employment, neighborhoods and other destinations.

3.1. Develop and improve multimodal options including intercity passenger rail and intercity bus within and between cities and regions.

3.2. Integrate transit with mobility options, shared mobility and micromobility through system improvements like mobility hubs and transit stations.

3.3. Provide more flexibility in types, spans and frequency of transit service to better connect people with key destinations.

3.4. Expand and modify the transportation network for safe and convenient options for people to walk, roll, bicycle and take transit.

4. Support economic vitality through transportation investment.

4.1. Identify and prioritize multimodal solutions with a high return on investment.

4.2. Collaborate with partners early to leverage existing and planned transportation resources to support business development.

4.3. Support and expand transportation programs that demonstrate potential to strengthen economic competitiveness.

4.4. Meet regularly with economic development officials, freight carriers and other industry stakeholders to understand changing economic conditions and future freight transportation needs.

5. Follow a tiered, phased approach to addressing mobility and safety based on the following order of actions.

5.1. Encourage walking, rolling, bicycling, carpooling and taking transit.

5.2. Support and encourage technology solutions like telework and telehealth that provide virtual access to jobs and services.

5.3. Leverage travel demand management strategies as part of comprehensive congestion management planning.

5.4. Implement lower cost and targeted improvements before considering major expansion.

6. Encourage modal shifts away from single-occupant vehicles through infrastructure improvements, education, programs and services.

6.1. Use quick, low-cost and creative projects to gain public and institutional support for investing in permanent projects.

6.2. Use data and community input to understand walking, rolling, bicycling and transit needs and preferences for vulnerable populations.

6.3. Increase consumer awareness of transportation choices using education, outreach and incentives to inform travel decisions.

6.4. Support complete streets implementation through education, trainings and technical assistance.

6.5. Invest to make travel by non-single occupant vehicle more easily available and attractive to use.

HEALTHY EQUITABLE COMMUNITIES

FOSTER HEALTHY AND VIBRANT PLACES THAT REDUCE DISPARITIES AND PROMOTE HEALTHY OUTCOMES FOR PEOPLE, THE ENVIRONMENT AND OUR ECONOMY.

WHAT THIS IS ABOUT

Healthy equitable communities provide opportunities for everyone to reach their fullest potential. They connect people to employment, education, recreation, goods, services and more. Also, the places we live, work and play have considerable impact on health and wellbeing. Investments preserve and promote community identity and should be considered a part of the community. Not all places are the same and there is no one-size-fits-all transportation solution.

Unfortunately, transportation can be a barrier, especially for underserved communities such as BIPOC, people with disabilities, people with low incomes, people with limited English proficiency and others. Tailoring solutions to specific places, leads to projects that respect and complement people, the environment and our economy. This also helps ensure that Minnesota is advancing equitable access to opportunities, preserving the natural and cultural heritage for future generations and maintaining an environmentally and economically viable transportation system for all to use in the future.

COORDINATING WITH LOCAL PARTNERS to develop and design places that reflect the character of the community help to advance the health of people, the environment and our economy. Supporting local strategies and development practices create employment opportunities and can lower housing and transportation costs.

ELIMINATING BARRIERS AND REDUCING DISPARITIES lead to healthy outcomes for all. Transportation provides connections to destinations, but often serves as a barrier for underserved communities. Engaging with people underserved by transportation decision making can aid in reducing inequities. Community-based organizations are able to help identify and remove barriers to participation. By identifying disparities, transportation partners can develop policies, programs and deliver projects that expand mobility and access.

ADVANCING THE HEALTH OF PEOPLE AND COMMUNITIES means expanding opportunities, access and mobility choices for people. Transportation partners should work with communities to support opportunities for convenient multimodal access. This can look like providing connections for physical activity or improving access to a park or recreation area. Also, transportation is an important part of the built environment, and contributes to healthier, more livable communities. By considering health and equity in transportation planning, transportation partners can develop new policies, programs and projects that will improve the health and wellbeing of people and the communities they live in.



PERFORMANCE MEASURES

Table 5-6 lists performance measures related to the Healthy Equitable Communities objective. More information on these performance measures can be found in Appendix I – Performance Measures.

Table 5-6: Healthy Equitable Communities Performance Measures

MEASURE	DESCRIPTION	CURRENT CONDITION	TARGET OR DESIRED DIRECTION	MNDOT'S ROLE	REPORTING
Air Quality	Number of criteria pollutants below National Ambient Air Quality Standards (NAAQS) threshold each year	Minnesota is in compliance with NAAQS	All criteria pollutants below threshold	Partner	Number of and which pollutants not meeting standards
Physical Activity	Percent of Minnesotans who bicycle or walk at least weekly	32.5% of Minnesotans bicycle or walk at least weekly	<ul style="list-style-type: none"> • 35% by 2025 • 40% by 2030 • 50% by 2035 • 60% by 2040 	Partner	Percent and by demographic segments
Transportation Cost	Measure of how much household income goes to transportation	In development	Work plan item	Support	Under consideration through SMTP Work Plan
Multimodal Accessibility	(i.e., destination access) for walking, bicycling and transit at a project- and program-level	In development	Work plan item	Lead & Partner	Under consideration through SMTP Work Plan
Increase in Transportation Equity	Transportation equity is directly influenced by improving multimodal access, reducing transportation costs and improving transportation safety	In development	Work plan item	TBD	Under consideration through SMTP Work Plan

Other related performance measures include: Public Trust and Confidence (Open Decision Making), Fatalities and Serious Injuries (Transportation Safety), Perception of Safe Walking and Bicycling (Transportation Safety), Transit Safety (Transportation Safety), ADA Compliance (System Stewardship), Workforce Participation (System Stewardship), Vehicle Miles Traveled (Critical Connections), Regional Job Accessibility by Bicycle, Car and Transit (Critical Connections) and Transit Span of Service (Critical Connections).

STRATEGIES & ACTIONS

1. Coordinate transportation and land use planning among transportation partners, stakeholders and the public.

- 1.1 Design spaces that reflect the identity and priorities of the community, foster a sense of belonging and improve Minnesotans' quality of life.
- 1.2 Collaborate with a broad set of stakeholders and partners on transportation planning as part of comprehensive, economic development and land use planning, coordination and review.
- 1.3 Collaborate with partners to identify and plan economic development sites that can enhance transportation connectivity.
- 1.4 Encourage compact development to enable job access through different modes.
- 1.5 Identify opportunities to redesign or remove transportation barriers that divide or separate communities.

2. Eliminate burdens and reduce structural inequities for people and communities disproportionately impacted by transportation.

- 2.1 Work with community partners to identify and remove barriers to participating in transportation planning and decision making.
- 2.2 Identify disparities in mobility and access and develop plans to reverse or eliminate these impacts through multimodal transportation solutions.
- 2.3 Implement equity reviews for transportation or land use policies, planning, programs and projects.
- 2.4 Develop and support community resources to reduce inequities in transportation.
- 2.5 Accelerate technology solutions for accessible and reliable transportation.
- 2.6 Pursue strategies to mitigate past effects of transportation construction.



3. Reduce combined housing and transportation costs for cost-burdened households.

- 3.1. Improve first- and last-mile connections in neighborhoods and job centers.
- 3.2. Support the construction of complete streets and a connected network to accommodate walking, rolling, bicycling and transit.
- 3.3. Educate people on the impacts transportation decisions have on housing costs.
- 3.4. Expand and enhance public transportation to improve access across the state.
- 3.5. Promote infill development and land use practices that support walkable and bikeable communities.

4. Develop and support a diverse workforce in Minnesota.

- 4.1. Promote job retention and creation in the core of communities to support community vitality.
- 4.2. Ensure the transportation system supports job access for second and third shift workers.
- 4.3. Collaborate with multisector partners to identify, understand and address gaps in workforce skills for current and future demand.
- 4.4. Connect people to education, training and workforce development centers.

5. Leverage transportation solutions to improve public health.

- 5.1. Integrate health and equity considerations in transportation planning, programming and project delivery using a Health in All Policies approach.
- 5.2. Support opportunities for physical activity through walking, rolling and bicycling.
- 5.3. Implement programs and investments that improve air quality and reduce noise especially for people experiencing the greatest impacts.
- 5.4. Ensure convenient multimodal access to open space, parks and recreation areas.
- 5.5. Increase equitable access to healthy, culturally appropriate and sustainable food through transportation options.
- 5.6. Align transportation assets and services with community needs during public health emergencies.



MODES & USERS OF THE TRANSPORTATION SYSTEM

The SMTP is for all the ways people and goods move around Minnesota. The number of ways people and goods travel continues to change and evolve and now even includes substituting travel for virtual access.

AGRICULTURAL EQUIPMENT



Agricultural equipment is not traditionally thought of as a mode, but nevertheless is often a user of the transportation system. Within the past few decades, there has been significant change in both farm size and farm equipment. Changes in agricultural practice has caused a faster shift to larger, heavier equipment than transportation technology and design can monitor and test. Transportation must ensure safe use of the system for agricultural equipment and others traveling in the area.

ANIMAL POWERED VEHICLES



Communities using animal powered vehicles are often located along scenic routes, in agricultural areas, around economic centers and in natural and cultural areas. Transportation construction, operations and maintenance requires taking care to connect with and account for people traveling using animal powered vehicles. This needs to be balanced with the needs of a variety of users.



AVIATION

Aviation is central to social connections and economy development. Air mobility is about efficiency, speed and interconnectivity. Improvements in aviation are creating new opportunities to move people and goods. This mode is positioned to lead innovation and have big impacts on new mobility, sustainability and freight.



BARGES & BOATS

The ports and waterways connect Minnesota's people and goods to destinations around the US. Rail and water serve the agriculture, mining, manufacturing, and trade sectors, while air is mostly used for the transport of high-value manufactured goods and consumer products. New infrastructure, programs and services can bring opportunities to turn ports into hubs for innovation, mobility and sustainability.



BICYCLES

Increasing the number of people traveling by bicycle can help meet vehicle miles traveled, physical activity and accessibility targets. Bicycle use varies by context and culture. New electric powered bicycles and cargo bicycles are increasing the ranges and uses of bicycles.



Engineering solutions and education programs can provide more and better opportunities for people to ride their bicycles.



BUSES & LIGHTRAIL TRANSIT

Transit provided vital connections for frontline and essential workers during the pandemic. Historically and now transit services are key to connecting people to destinations.



Improvements and innovations are transforming transit from a service to an integrated mobility network. Transit can continue to innovate to help address congestion, health, safety, equity and sustainability.



CARS, MOTORCYCLES, TRUCKS & SPORT UTILITY VEHICLES

Motorized passenger vehicles are essential modes for the transportation system. These are the most commonly used forms of transportation in the state. Passenger vehicles provide essential first- and last-mile connections for people and goods. Evaluating and retooling programs and practices can help transportation partners continue to provide people a robust network that meets user needs now and into the future.



COMMERCIAL TRUCKING

The efficient movement of freight and commodities, including the movement of freight by truck, is a key consideration for transportation in Minnesota. Trucking is important to all industries, as even goods moving via other modes often use trucks for the first- and last-mile of the trip. Freight volumes are increasing, and commercial trucking will continue to serve a significant role in transportation and economic development.



MICROMOBILITY

Micromobility service—like electric kick scooters or bike share—provide versatile transportation options especially for shorter trips. Where consistently available, they provide people with options outside personally owning an automobile. These options also help make first- and last-mile connections for people traveling by other modes. Micromobility helps to serve an integrated multimodal transportation system.



CHAPTER 5 | MODES & USERS OF THE TRANSPORTATION SYSTEM

PIPELINES



Pipelines, unlike the other modes of logistics, move through our daily lives' unseen, whether buried beneath our feet or silently moving commodities overland through sparsely populated fields. Pipelines serve as a primary route to move crude oil to refineries and natural gas to power plants. This option will continue to have a logistics role in transportation.

TRAINS



The railroad industry is growing and changing. New technology is refining physical systems. And new approaches and practices are improving safety and operations. These changes help boost economic growth, productivity, competitiveness and safety. Efforts are underway to increase intercity passenger rail options.

ATV & SNOWMACHINES



ATVs and snowmachines often operate in transportation right-of-way traveling adjacent to or across roadways. In areas with fewer paved roads, they serve an important transportation function. These uses will continue to be considered and anticipated in areas where they provide recreational and transportation options.

VIRTUAL



While not traditionally considered a mode of transportation, virtual options are increasingly how people access goods, services and connect with family, friends, etc. Over time, virtual options have come to replace part or all of some trips that used to be completed using another mode of travel. The future of transportation includes understanding the role of virtual services in connecting Minnesotans to goods and services.



WALKING

Most trips start and end with walking and rolling. Walking for daily or short trips can provide health and economic benefits. Investing in more opportunities for people to walk and roll is especially important in low-income communities and areas with Black, Indigenous and People of Color. Improvements need to focus on removing barriers for people walking and rolling.





WHAT IS NEXT FOR MNDOT

The Minnesota GO Vision, objectives, performance measures, strategies and actions laid out in Chapter 5 provide direction for all transportation partners. This direction outlines how partners should work together to develop, maintain and operate Minnesota's transportation system. This chapter outlines how the Minnesota Department of Transportation (MnDOT), specifically, will move forward the objectives, strategies and actions of the 2022 Statewide Multimodal Transportation Plan (SMTP). The next steps for MnDOT include identifying near-term work activities, continued planning efforts, monitoring and reporting.

READ CHAPTER 6 TO:

- Understand what MnDOT will do in the next five years (2022-2027) to implement the SMTP.
- Read what is next for MnDOT's modal and system plans.
- Learn how MnDOT tracks SMTP implementation by reporting each year how the transportation system is operating.

2022-2027 WORK PLAN

MnDOT will initiate the activities listed below before the SMTP is updated in five years. These activities are not necessarily specific to any one objective or strategy but represent key areas for MnDOT to advance. Taken together, these activities will help realize the overall policy direction laid out in this plan. The list is not meant to be all inclusive. There are many other activities in each of these areas and other areas that MnDOT will do in the upcoming years to help move this plan forward.

As a statewide transportation agency, MnDOT works every day with communities around the state and is often asked to help with issues that go beyond transportation. MnDOT can help by enlisting other agencies, partners or organizations whose expertise or authority falls in these areas. Depending on the situation, MnDOT may fill one of several roles:

- **DO:** Some work plan activities are exclusively within MnDOT's authority to complete. These focus on internal processes, procedures, policies, etc. to inform how the agency makes decisions.
- **LEAD:** For many transportation decisions, MnDOT is typically the leader in partnership with other agencies and communities. MnDOT's primary and traditional mission is to provide an integrated transportation system and to lead state transportation policy, plans and programs.
- **PARTNER:** For issues or situations that cross over agency disciplines or missions, MnDOT is typically a partner with communities and other agencies. Though MnDOT might not be leading a conversation or an investment, staff may still be involved in other important ways.
- **FACILITATE:** While MnDOT's primary mission is focused on transportation, MnDOT has the capacity to assist with other issues. These could range from local transportation issues to land use, housing, public health and economic opportunities. While these issues are typically not under MnDOT's purview, the agency has an interest in the health of the communities it serves and beneficial relationships with Tribal, federal, state and local agencies.

Each category includes acknowledgment of the role MnDOT is expected to play. The work plan activities are categorized by themes that are quick for people to understand and communicate. Related objectives are listed for each work plan item to clearly tie the activities to the policy direction in Chapter 5.

Note that not all activities will be implemented at the same time. Implementation may require building on existing work. This can sometimes mean implementing near-term actions to move towards longer-term strategies. It is possible that MnDOT might not be able to complete all work plan items before the next update of the SMTP. Lessons learned through implementation will provide valuable information and insights for MnDOT processes and operations that could likely extend beyond long-range planning.

WORK PLAN ACTIVITIES

ENGAGEMENT, COMMUNICATIONS & EDUCATION

DO

- **Increase partnerships with community-based organizations** to conduct public engagement and communication activities for MnDOT's projects, plans, studies and programs. Nurture relationships with community-based organizations to enhance the breadth and depth of collaboration with Minnesotans.

Related objectives: Open Decision Making, Healthy Equitable Communities.

- **Evaluate and update policies and procedures that will reduce participation barriers for underserved communities** to engage with MnDOT processes. This includes learning from current pilot projects and developing policy and processes for providing reimbursement, vouchers or incentives to increase participation from underserved communities in our transportation processes and projects.

Related objectives: Open Decision Making, Healthy Equitable Communities

- **Develop a community ambassador program** to enhance public engagement with Black, Indigenous and People of Color (BIPOC), people with limited English proficiency and people with low incomes. Support the development of two-way communications between MnDOT and these populations in transportation planning, policy, program and project-development processes. This includes sharing back to MnDOT information and insights from engagement—such as work done by MnDOT's Office of Tribal Affairs—to inform future public engagement efforts.

Related objectives: Open Decision Making, Healthy Equitable Communities

- **Provide more continuous engagement with partners and the public.** MnDOT has a large presence within a community during planning and construction activities but is less present and involved if no work is currently underway. Expanding MnDOT's engagement efforts to include more ongoing communication and relationship building would allow for broader understanding of local and regional priorities.

Related objectives: Open Decision Making

- **Improve transparency of MnDOT decisions and efforts.** MnDOT has increased the transparency of the agency's decisions by posting project selection scores, candidate lists, plans, programs and other related information. MnDOT will build on this work by expanding the practice to other programs and look for additional opportunities to publicly share more information about decisions the agency makes. Transparency helps ensure people are informed in transportation decision making and helps combat misinformation.

Related objectives: Open Decision Making

Answer to "How do you envision a more equitable future?"

"Re-envisioning ways to bring people to the table, addressing the barriers, and altering the educational requirements that limit Indigenous and Persons of Color to the planning and design process."

— Comment shared during SMTP engagement

LEAD

- **Collaborate with partners, stakeholders and the public to prepare for connected and automated transportation.** Building knowledge of connected and automated vehicle (CAV) technology throughout Minnesota so people have the information they need and can help shape the future of transportation. Develop two-way, trusting and lasting relationships with communities, organizations and entities to create a CAV-ready environment in Minnesota and increase confidence in Minnesota's CAV program.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Critical Connections

PARTNER

- **Enhance public education programs in collaboration with transportation partners.** Keep the public and stakeholders informed on major transportation policy and safety issues using a variety of tools such as communication campaigns, demonstrations, pilots, technical assistance workshops and more.

Related objectives: Open Decision Making, Transportation Safety, Healthy Equitable Communities

"Living where I do, means I am dependent upon a car for transportation. I am very anxious about climate change and fear we have not moved quickly enough to slow the process."

— Comment shared during SMTP engagement

CLIMATE ACTION AND PUBLIC HEALTH

DO

- **Transition MnDOT's fleet to zero emission vehicles.** MnDOT owns hundreds of light, medium and heavy duty vehicles. MnDOT has already started to transition the light and medium duty vehicles to zero emission vehicles (ZEV) options and will continue to do so. MnDOT is also exploring options for heavy duty vehicles. MnDOT will be a leader in the state enterprise by encouraging all state departments and agencies to transition to zero emission fleets.

Related objectives: Climate Action, Healthy Equitable Communities

- **Leverage MnDOT right-of-way to reduce carbon emissions.** There is a growing list of ways transportation right-of-way can be used to reduce carbon emissions such as carbon capture and storage, clean energy utilities, active transportation and more. Expand on MnDOT's NextGen Highways work.

Related objectives: System Stewardship, Climate Action, Healthy Equitable Communities

- **Develop tools and guidance to mitigate urban heat islands.** Document understanding of how extreme heat affects Minnesota, what populations are most directly affected and how people are impacted for the long term. Recommend and implement strategies to reduce urban heat islands.

Related objectives: System Stewardship, Climate Action, Healthy Equitable Communities

LEAD

- **Develop a carbon reduction strategy.** The federal Infrastructure Investment and Jobs Act created dedicated funding for projects that reduce transportation emissions. To do so, states must work with metropolitan planning organizations and other partners to develop a carbon reduction strategy. This will build off of the Pathways to Decarbonization report in 2019 and other recent efforts to identify key strategies for reducing transportation greenhouse gas emissions.

Related objectives: Climate Action, Critical Connections, Healthy Equitable Communities

PARTNER

- **Collaborate with private and public partners to support the deployment of zero emission vehicles (ZEV) throughout Minnesota.** Use a variety of tools and tactics to support ZEV in Minnesota. Implement the recommendations from the Regional Electric Vehicle Midwest Plan. Develop and implement a National Electric Vehicle Infrastructure plan for designated corridors in the state. Create opportunities for co-ops, municipal utilities, and investor-owned utilities to discuss best practices related to ZEV chargers. Engage fuel providers to understand their role in ZEV charger deployment. Develop and share resources for businesses on how to support ZEVs.

Related objectives: System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

- **Strengthen and develop collaborative relationships with public health partners** to better integrate health into transportation decisions. Expand on MnDOT's collaboration with the Minnesota Department of Health. Work with partners to identify opportunities to integrate health into transportation policies, programs and projects along with a commitment to advance shared goals. Identify and track public health measures, including the utility of public impact evaluation tools.

Related objectives: Open Decision Making, Critical Connections, Healthy Equitable Communities

"It's important to center our decision making processes on people's lived experiences and the challenges that they have, and also connect this to who is making decisions."

-Abdullahi Abdulle, Council of Old and New Wisdom



EQUITY

DO

- **Build internal capacity to advance transportation equity.** Offer transportation equity training for all staff and update orientation materials to include information about transportation equity. Develop resources to ensure staff throughout the agency understand how their role can advance transportation equity.

Related objectives: Open Decision Making, System Stewardship, Healthy Equitable Communities

- **Clarify how equity considerations could be accounted for in Environmental Justice analysis.** Ensure there is clear distinction on the federal requirements for Environmental Justice. Provide resources to staff to understand how MnDOT's commitment to transportation equity relates to and supports Environmental Justice analysis. Update guidance materials for consistency.

Related objectives: Open Decision Making, System Stewardship, Healthy Equitable Communities

LEAD

- **Enhance analysis and evaluation of transportation equity in planning, programming and project development.** Use an equity lens to facilitate decisions and build tools to measure transportation equity in capital improvements. Understand how to quantify benefits and burdens for planning and project delivery.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

PARTNER

- **Co-create stories about transportation in Minnesota in collaboration with communities.**

Center Minnesota's transportation story in people's lived experiences, especially for communities that have been harmed most by past decisions. Collaborate with partners and communities to identify dominant narratives, align our understanding of the power of storytelling and generate elements of a new transformational narrative that centers on transportation equity.

Related objectives: Open Decision Making, Healthy Equitable Communities

FACILITATE

- **Collaborate with partners to evaluate equity implications of transportation fees, fines and fares and develop options to reduce disparities.** Conduct analyses on the impact of transportation fees, fines and fares for BIPOC and people with low incomes. Recommend policy changes to advance transportation equity.

Related objectives: Open Decision Making, Transportation Safety, Critical Connections, Healthy Equitable Communities

"We have one car and two adults which means that we need reliable transportation and shared mobility to access employment. This limits where either of us can access jobs because most public transportation and shared mobility do not reliably exist outside of Minneapolis and St. Paul."

– Comment shared during SMTP engagement

TRANSPORTATION OPTIONS

DO

- **Implement recommendations from regional studies and plans.** Regional planning processes like the Manufacturers' Perspectives Project, Community Conversations project focused on equity as well as district freight and bicycle plans resulted in near- and long-term recommendations. Look for opportunities to implement the actions listed in the plans.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

- **Continue to integrate complete streets into transportation decision making.** Support Complete Streets Policy and Complete Streets Handbook implementation. Track Complete Streets performance measures to inform decision making. This will help ensure the needs for people of all ages and abilities, traveling along and across roadways, are considered during all phases of planning, scoping, project development, construction, operations and maintenance activities.

Related objectives: Transportation Safety, System Stewardship, Critical Connections, Healthy Equitable Communities

LEAD

- **Increase the availability and accessibility of safe and affordable transportation options,** including more lower emission transportation options. Provide community engagement and education needed to maximize the return on infrastructure investment. Work with multijurisdictional partners to understand how increasing transportation options meet SMTP commitments.

Related objectives: Open Decision Making, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

PARTNER

- **Expand travel demand management strategies in collaboration with partners.** Diversify travel choices, such as route, time of travel and mode. Provide people with effective choices to improve travel accessibility and reliability.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

- **Expand intermodal and multimodal freight opportunities** with input from Minnesota businesses. Explore opportunities to invest in and support intermodal freight access across the state and identify potential options to promote modal shifts for freight carried by railroads, ports and waterways.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections

- **Work with transportation partners to identify and advance statewide strategies for reducing per capita vehicle miles traveled (VMT) 20% by 2050.** Opportunities to reduce vehicle miles traveled vary by geography, community and context. Work with partners to determine where there are the greatest opportunities to meet local travel needs and SMTP targets for VMT, greenhouse gas (GHG) emissions and multimodal accessibility. Develop guidance for regional planning with place-based strategies to reduce per capita VMT.

Related objectives: Open Decision Making, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

PLANNING, POLICY & GUIDANCE

DO

- **Revise Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities between MnDOT and Local Units of Government Policy** to incorporate explicit considerations for SMTP commitments including climate, equity and health.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

- **Update MnDOT technical guidance to incorporate new practices and policy direction.** MnDOT is responsible for a variety of technical guidance that influences how projects are developed and impact communities in Minnesota. It is important that these documents are updated periodically to reflect new research, innovation and policy direction. Guidance should address changes needed to meet SMTP targets for VMT reduction, GHG reduction, multimodal accessibility and transportation safety.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities



SYSTEM STEWARDSHIP & OPERATIONS

DO

- **Strengthen vulnerability identification and resilience in planning and programming.**

Expand data and analysis to be able to identify the criticality of transportation assets, understand prioritization options and establish decision analyses to inform programming decisions.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

- **Expand the diversity of MnDOT's contractor pool for more opportunities for women, people with disabilities, Veterans and BIPOC to perform MnDOT work.** By increasing the proportion of contracting dollars for these groups, MnDOT can drive economic recovery in tribal, rural and urban parts of the state and increase the safety, accessibility and useful life of MnDOT assets. Effort should be made to collaborate with contractors with diverse staff and those who will have a difficult time competing with large firms. MnDOT can use statutory authority for negotiated contracts and other contracting strategies (like the Disadvantage Business Enterprise program) to reduce contracting disparity and to continue developing best practices in government contracting in order to drive change regionally and nationally.

Related objectives: Open Decision Making, System Stewardship, Healthy Equitable Communities

- **Pilot collaborative approaches to develop, attract and retain more Black, Indigenous and People of Color, people with disabilities and women to the transportation industry,** including trades positions. Use MnDOT’s Workforce Diversity Initiative as a resource for strategies and lessons learned to scale workforce development.

Related objectives: Open Decision Making, System Stewardship, Healthy Equitable Communities

- **Procure and implement a freight network optimization tool** that will provide cargo and marketing information to chambers of commerce and Minnesota businesses.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Critical Connections

LEAD

- **Support recovery and resilience of transportation operations from the COVID-19 pandemic.** All parts of the transportation system have been disrupted by the pandemic. MnDOT will collaborate with partners to understand opportunities to improve transportation system operations as more information about long-term impacts become clearer. Near-term opportunities include studying changes to travel demand by different modes, exploring strategies to support transit ridership recovery and addressing freight bottlenecks.

Related objectives: Open Decision Making, Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

- **Explore options to improve year-round maintenance.** Collaborate with partners to explore best practices to ensure year-round maintenance within MnDOT right-of-way. Update planning, design and maintenance to incorporate best practices.

Related objectives: Transportation Safety, System Stewardship, Climate Action, Critical Connections, Healthy Equitable Communities

PARTNER

- **Increase the number of licensed commercial drivers in Minnesota.** From transit and snowplows to freight and construction, many aspects of transportation depend on licensed drivers to keep the system moving. MnDOT will collaborate with private and public partners on opportunities to increase the number of people with commercial driver’s licenses including exploring options for people ages 18 to 21.

Related objectives: Transportation Safety, System Stewardship, Critical Connections

PARTNER

- **Work with partners to evaluate telework opportunities and broadband expansion** to support transportation system operations and economic development. Understand the state of the industry through pandemic recovery and support the development of resources.

Related objectives: Open Decision Making, System Stewardship, Climate Action, Critical Connections

TRANSPORTATION SAFETY

DO

- **Integrate Safe System approach in transportation safety processes and initiatives.**

Pursue a holistic and comprehensive framework to make the transportation system safer for people. Incorporate considerations of human behavior and human vulnerability into system design and operations.

Related objectives: Transportation Safety, Healthy Equitable Communities

- **Complete and implement district safety plans.** Incorporate information from the SMTP into the district safety planning for both rural and urban contexts. Ensure processes and outcomes support a Safe System approach to transportation safety.

Related objectives: Transportation Safety, Healthy Equitable Communities

LEAD

- **Continue to strengthen and expand partnerships for Toward Zero Deaths, Vision Zero, Safe Routes to School, Active Transportation Program, Operation Lifesaver and other partnerships.** Working together, partners can build a culture of safety, advance transportation equity and focus investment where there is opportunity for greatest impact.

Related objectives: Open Decision Making, Transportation Safety, Climate Action, Critical Connections, Healthy Equitable Communities

- **Expand efforts to ensure safe speeds.** 2021 was the deadliest year on Minnesota's roads in over a decade due in part to reckless driving including high speeds. Partners, including the Department of Public Safety, have a role in decreasing speeds and improving transportation safety.

Related objectives: Open Decision Making, Transportation Safety, Healthy Equitable Communities

PARTNER

- **Provide more options for safe and reliable truck parking** in collaboration with partners. Identify underused locations that might be appropriate for truck parking in the near term. Regulatory changes and partnerships may be needed to provide sustainable options for the long term.

Related objectives: Transportation Safety, System Stewardship

FACILITATE

- **Collaborate with partners to pilot and evaluate automated speed enforcement in school and work zones.** Work with partners to identify areas of opportunity for deployment. Study, track and monitor data over the course of the pilot to evaluate safety and equity outcomes.

Related objectives: Open Decision Making, Transportation Safety, Healthy Equitable Communities

NEXT STEPS FOR THE FAMILY OF PLANS

MnDOT's Family of Plans provides direction for all the ways that goods and people move throughout Minnesota and helps meet the 16 statutory goals for transportation in Minnesota. All planning at MnDOT begins with the Minnesota GO 50-year Vision. The SMTP is the first plan under the Minnesota GO Vision in the Family of Plans listed in Figure 6-1. The other plans in the Family of Plans provide policy direction for all transportation modes in the state. Descriptions for each modal and system plan is located below. See Table 6-1 for the update cycle for each modal and system plan.

- **Greater Minnesota Transit/Mobility Investment Plan** – The plan sets policy and investment priorities for transit and determines the level of funding necessary for the state to meet its transit needs in Greater Minnesota. Updating the Greater Minnesota Transit/Mobility Investment Plan is anticipated to start in 2022, with final adoption anticipated in 2025.
- **Statewide Pedestrian System Plan** – The plan identifies priority areas for investments and lays out specific strategies to improve walking availability and accessibility. The plan was based off of the collaborative framework, Minnesota Walks, developed in 2016 with the Minnesota Department of Health. MnDOT adopted the state's first statewide pedestrian plan in 2021.
- **Statewide Bicycle System Plan** – This plan identifies policy direction for bicycle transportation in Minnesota. The most recent update of the Statewide Bicycle System Plan was adopted in 2016.
- **Minnesota State Highway Investment Plan** – This plan sets a fiscally constrained, performance-based, 20-year investment direction for future capital improvements on Minnesota's state highway system. Updating the Minnesota State Highway Investment Plan is underway and anticipated to be adopted in 2023.
- **Minnesota State Freight Plan** – This document broadly plans for Minnesota's freight system across all modes. This plan also includes Minnesota's Freight Action Agenda for MnDOT and its partners to advance a number of strategies that will improve the efficiency, safety and reliability of the freight system. The most recent update was adopted in 2018 and the update is due in 2024.
- **Minnesota State Aviation System Plan** – This plan informs decision making and guides the development of Minnesota's system of publicly-funded airports. The plan is updated in two parts; Phase 1 was completed in 2019. Phase 2 is ongoing and will validate the deliverables from Phase 1 and include developing a continuous implementation plan.
- **State Rail Plan** – This plan establishes guidance for Minnesota initiatives and investments for freight and passenger rail services. An update to the State Rail Plan is in process and adoption is anticipated in 2024.
- **Statewide Ports and Waterways Plan** – This document broadly plans for Minnesota ports and waterway facilities. The first Statewide Ports and Waterways Plan was adopted in 2014.

The new policy direction from this SMTP will be reflected in each of MnDOT's modal and system plans as they are updated. It is anticipated that these updates will occur over the next few years.

In addition to MnDOT's Family of Plans, there are many more supporting plans and studies that inform transportation decision making for MnDOT and other transportation partners. These plans focus on specific topics, such as safety or on specific geographic areas or corridors. This planning helps direct the specific projects that build, maintain and operate Minnesota's transportation system.

Figure 6-1: MnDOT’s Minnesota GO Vision and Family of Plans



Table 6-1: Family of Plans update schedule

MODAL OR SYSTEM PLAN	LAST ADOPTED	NEXT UPDATE ANTICIPATED
Greater Minnesota Transit/Mobility Investment Plan	2017	2025
Statewide Pedestrian System Plan	2021	Recommended to be updated every five years and at least once every 10 years
Statewide Bicycle System Plan	2016	Recommended to be updated every five years and at least once every 10 years
Minnesota State Highway Investment Plan	2017	2023
Minnesota State Freight Plan	2018	2024
Minnesota State Aviation System Plan	Phase 1: 2019	Phase 2: ongoing
State Rail Plan	2015	2024
Statewide Ports and Waterway Plan	2014	Recommended to be updated every five years and at least once every 10 years

MONITORING & REPORTING

To track progress toward the objectives identified in this plan, MnDOT will continue to monitor and report on the key performance measures identified in Chapter 5. The primary reporting method is Minnesota GO Performance Dashboard. This website holds transportation partners accountable for delivering the direction identified in this plan. It also allows the public and transportation partners to see how well the plan strategies are working. Since the SMTP is only updated every five years, annual performance reporting is useful to identify if and when any mid-course corrections are necessary.

MnDOT will also collaborate with partners, stakeholders and the public to develop additional performance measures and targets in the near term. The current list of measures does not tell the complete story of the plan. For some policy areas there is a need to develop new measures or reassess existing targets to better communicate progress. Specific measures to be explored and developed are identified in Table 6-2. However, others may be added over time.

MnDOT will also look to improve how performance measures are reported to make sure the information is easy to find, engaging and accessible for Minnesotans. MnDOT will update its performance measure website and reporting to include all the performance measures from Chapter 5 and new measures as they are adopted.



Table 6-2: List of performance measures to be developed

PROPOSED MEASURE	RELATED OBJECTIVE
Project-level engagement	Open Decision Making
Partner coordination	Open Decision Making
System resilience	Climate Action
Asset resilience	Climate Action
Transportation Cost	Healthy Equitable Communities
Multimodal accessibility	Healthy Equitable Communities
Increase in Transportation Equity	Healthy Equitable Communities



HOW WILL WE IMPLEMENT THE SMTP

The next phase of the SMTP is to transition the plan’s broad policy direction into specific, action-oriented tasks. Some of the considerations are easier to foresee than others. For example, investing in first- and last-mile connections continues to be a priority for walking, rolling, bicycling, transit, freight and economic development. Other things are harder to predict 20 years—even 10 years—from now.

Evolving technology, reckoning with systemic oppression, a global pandemic and climate change present new opportunities, stresses, innovations and practices to keep transportation moving in Minnesota. The transportation industry can’t anticipate all the unknowns. However, it is known that the transportation system of the past cannot solve the problems of today or those of tomorrow.

The SMTP needs to be implemented with purpose, intention and in coordination with stakeholders and partners. And everyone has a role!

READ CHAPTER 7 TO:

- Understand how partners can integrate SMTP policy direction into their work.
- Read about what is required of MnDOT and partners to implement the SMTP.

PARTNER ROLES

Everyone has a role in implementing the SMTP. For partners with transportation decision-making authority, the SMTP provides a framework for changes to policies, programming and practices to move transportation toward the Minnesota GO Vision. For partners without transportation decision-making authority, the plan serves as a set of recommendations and direction to understand how transportation can be integrated into their work and an opportunity to hold transportation partners accountable. Roles include:

LOCAL PARTNERS include agencies and organizations responsible for transportation decisions at the local level, and who play the lead role implementing the SMTP in their communities. Local partners include entities that make important transportation decisions reflecting the value, context and needs of the community. Transportation partners will assist in aligning design, engineering, land use, programming and operational decisions.

TRIBAL PARTNERS are the 12 federally recognized sovereign Tribal Nations with jurisdiction over land and resources in Minnesota. Indian Country includes road, bridges, highways, transit services, sidewalks and more. Tribal partners plan, build and manage key parts of Minnesota's transportation system and tribes are key partners in moving transportation forward.

REGIONAL PARTNERS include metropolitan planning organizations (MPOs), regional development organizations (RDOs) and groups of counties and cities that can play a lead role in implementing the SMTP at the regional scale. Regional collaboration is critical to update other regional visions and long-range plans. In addition, these collaborations help to align transportation, economic development, workforce development and environmental stewardship decisions.

STATE PARTNERS can assist in facilitating the implementation of SMTP policy direction at the system level. Partner and sibling agencies can collaborate through steering committees and councils, coordinate implementation activities and assist in the monitoring and reporting.

FEDERAL PARTNERS can help ensure that ongoing planning efforts are consistent with the SMTP. Additionally, federal partners may be able to provide guidance and technical assistance to help implement the strategies and actions. On occasion, outcomes from statewide planning are able to inform work completed by federal partners.

PRIVATE SECTOR PARTNERS own and operate transportation services. These include railroads, terminal operators and shipping companies as well as developers, construction companies, consultants, etc. Partnerships are key to delivering plans, programs and projects that meet the SMTP policy direction.

COMMUNITY PARTNERS are advocates, academics, community-based organizations and chambers of commerce. These partners help identify community needs, proven practices and tangible steps to improve transportation for people.

MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT) will lead, partner or facilitate as appropriate. MnDOT will lead strategic efforts where it is appropriate, serve as a partner for work that crosses over disciplines or missions, develop MnDOT-specific actions and facilitate implementation with partners to move forward the SMTP policy direction. MnDOT work plan items are identified in Chapter 6.

PREPARING FOR CHANGE

This SMTP is intended to provide a framework for evaluating evolving conditions to proactively manage the change required to serve Minnesotans now and into the future. One role of the public sector is to manage technology, innovation and change. Each agency—or even department, team or person—may be in different phases of change. Some will be working to understand opportunities and risks to new initiatives. Others will be evaluating the impact of pilots and offering lessons learned to others considering similar solutions.

The SMTP policy direction includes a range of work to meet jurisdictions where they are in the change process. For each strategy and action, it may be helpful to determine where the organization is at currently and how best to proceed whether preparing for, managing or reinforcing change:

- **PREPARE FOR CHANGE.** Understand opportunities and risks. Align change with industry values. Formulate plans for change management in collaboration with stakeholders. Build coalitions to accelerate change.
- **MANAGE CHANGE.** Listen for and respond to stakeholder feedback. Adapt work and apply new techniques to support change over time. Implement engagement and training plans to empower others to act.
- **REINFORCE CHANGE.** Monitor and track change processes. Identify gaps and plan responses. Document and share learnings and insights to integrate promising approaches as new standards of doing work.

The challenges Minnesota is facing require bold, coordinated approaches. Collective commitment is needed from all who have a role in making transportation move for Minnesotans. Collaboration with transportation partners throughout the plan development process has built a solid foundation to implementing this plan. Continuing to collaborate and coordinate with partners is key to successful implementation of the SMTP. Consider the objectives, performance measures, strategies and actions in Chapter 5 an invitation to join MnDOT and transportation partners to build this bold new transportation future together.



MANAGING TRADEOFFS

It's important to acknowledge that not all strategies and actions may be implemented concurrently. The policy direction set forth requires tradeoffs. Also, several of the commitments in the SMTP—like reducing greenhouse gas emissions and decreasing traveler delay—may have positive and negative equity impacts. Change is required to meet social, economic and environmental goals for transportation. But a one-size-fits-all approach will not serve Minnesotans in the near term.

Overall, examining tradeoffs is needed to understand how best to use available resources and barriers that exist. As a part of SMTP implementation, strategies and actions should be evaluated for barriers, benefits and burdens to inform future transportation decisions. Chapter 6 includes work for MnDOT to understand the distribution of benefits and burdens to inform phased implementation and future policy recommendations.

ESSENTIAL PRACTICES FOR PLAN IMPLEMENTATION

The SMTP needs to be implemented with purpose, intention and in coordination with stakeholders and partners. Each step of the process helps to understand needs and develops strategies to address short- and long-term changes necessary to realize the commitments in this plan. Implementation activities should reflect flexible and realistic schedules to adapt to a wide variety of changing conditions. Essential practices for plan implementation include:

- Building more and better capacity for equitable and inclusive engagement.
- Consulting and evaluating other efforts to integrate transportation planning processes.
- Informing future long-range transportation plan updates across all jurisdictions.
- Coordinating on regional and local plans with Metropolitan Planning Organizations and Regional Development Organizations.
- Incorporating best practices from other state agencies and transportation partners.
- Providing ongoing implementation communications.

These efforts together are foundational to implement the SMTP. Everyone has a role in implementing the policy direction in this plan and ensuring the success of the transportation system. We will make Minnesota GO together.

