



Greater Minnesota Transit Investment Plan



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Greater Minnesota Transit Investment Plan

EXECUTIVE SUMMARY

The Greater Minnesota Transit Investment Plan's strategies will improve mobility options for all Greater Minnesotans regardless of age, ethnicity, income or disability.

EXECUTIVE SUMMARY

BENEFITS OF GREATER MINNESOTA TRANSIT

Public transit has many benefits for Greater Minnesota:

- Transit provides reliable access to jobs and reduces the cost of travel to work
- Transit enables people to live independently and stay connected to friends and family
- Transit provides access to health care services
- Transit connects people with education opportunities such as school, culture and community centers
- Transit reduces the reliance on single occupant vehicles and reduces greenhouse gas emissions
- Transit connects regional communities and strengthens neighborhood bonds

The Minnesota Department of Transportation is committed to supporting public transit service in Greater Minnesota that is safe, efficient and responsive to customer needs. By preserving current public transportation systems and investing in improvements to service, the Greater Minnesota Transit Investment Plan's strategies will improve mobility options for all Greater Minnesotans regardless of age, ethnicity, income or disability.

WHY AN INVESTMENT PLAN?

In 2009, MnDOT completed the [Greater Minnesota Transit Plan](#), a 20-year strategic plan that identified future transit need and demand for service in Greater Minnesota. The plan supported MnDOT's vision of "a high-quality coordinated transit network that is integrated into the overall state transportation system and that meets the mobility needs of the people of Minnesota."

In 2010, the state legislature asked MnDOT to determine the level of funding required to meet at least 80 percent of public transit demand in Greater Minnesota by 2015, and 90 percent of demand by 2025. [The 2011 Greater Minnesota Transit Investment Plan](#) provided a link between the vision, goals and strategies from the 2009 plan and the funding allocations to each public transit system. As an investment plan, the document also outlined the investment priorities under different funding scenarios.

The 2016 Greater Minnesota Transit Investment Plan is an investment and strategic plan. As an investment plan, this document calculates the investments needed to reach the target of meeting 90 percent of transit demand by 2025. As a strategic plan, this document lays out the policy direction for transit in Greater Minnesota over the next 20 years. The plan's objective is to improve mobility for the general public with emphasis on seniors, youth, low income populations, homeless populations, individuals with disabilities, veterans, new Americans and commuters.

TRANSIT IN GREATER MINNESOTA

Greater Minnesota is made up of 80 counties and is served by more than 50 public transit systems, covering the entire state except the Twin Cities metro region. While most transit funding for the Twin Cities is received directly by the Metropolitan Council, a vast majority of transit funding for Greater Minnesota is received by the state. This means that MnDOT's Office of Transit is involved in overseeing the funding and performance of every Greater Minnesota transit system.

As the population of Greater Minnesota grows and ages, the need for public transit in the number of transit-dependent and choice riders also increases. For example, in the five-year period from 2010 to 2014, Greater Minnesota transit ridership increased 8 percent, more than 900,000 additional passenger trips. To support an increasing number of passengers, Greater Minnesota transit operators expanded service to meet needs. From 2010 to 2014, hours of revenue service provided by Greater Minnesota transit operators grew by almost 9 percent, with the largest increase in service provided by rural transit systems. As ridership and hours of service have increased, so have costs. During the same five-year period, total annual operating costs increased by more than 25 percent (approximately \$15 million).

MARKETS FOR TRANSIT IN GREATER MINNESOTA

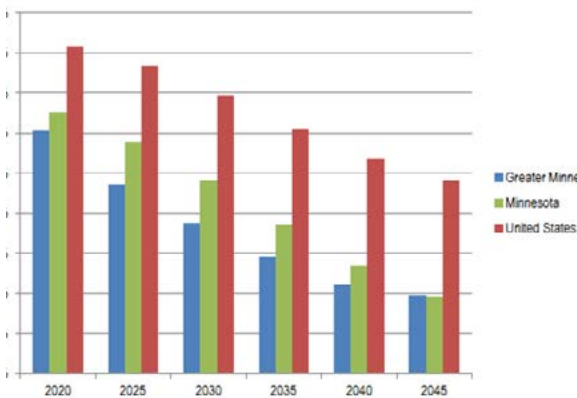
Transit service must meet the times and places where people need to travel. Transit must also evolve as lifestyles, demographics and technology change. MnDOT analyzed demographic, employment and economic trends to gauge how changing patterns across the state may affect public transit in Greater Minnesota. Key trends that will shape the market for transit in Greater Minnesota in the coming years are as follows:

Demographic

- After slight declines, the population in Greater Minnesota is projected to increase from 2010-2040.

The plan's objective is to improve mobility for the general public with emphasis on seniors, youth, low income populations, homeless populations, individuals with disabilities, veterans, new Americans and commuters.

Estimated 30-year Population Growth Rate
2014-2045



- The trends in Greater Minnesota are similar to those nationwide for the increasing growth of older adults
- Greater Minnesota's population of individuals with limited English proficiency is increasing
- Greater Minnesota's population of people with disabilities is increasing.
- Millennials and baby boomers are driving less and are interested in living in walkable communities.

Economic

- The poverty rate in some of Greater Minnesota's large urban areas exceeds the state poverty rate.
- Jobs continue to grow throughout Greater Minnesota since the 2007-2009 recession.
- Unemployment in Greater Minnesota continues to be below the national unemployment rate.
- Jobs in Greater Minnesota have diversified with more varied shift times.

COMMUNITY INPUT

Understanding how Greater Minnesota residents use, and do not use, public transit and what they see as the system's strengths and weaknesses helps determine how well service meets needs and where gaps lie. In developing this plan, MnDOT used stakeholder interviews, paper and online surveys to on-board questionnaires and game-like online investment prioritization exercises to seek public input. The different community engagement tools produced a wide range of views and priorities; however, many themes arose consistently among groups:

- Longer weekday service hours
- Expanded Saturday service and providing Sunday service
- Improved transit marketing and education
- Improved reliability
- Regional service expansion

DEMAND FOR PUBLIC TRANSPORTATION

To determine transit needs and costs, MnDOT developed models for calculating total need for transit and the demand for public transit. Using the 2014 Statewide Transit Demand Model, total statewide ridership demand was estimated at 13.3 million trips in 2014, 18.9 million in 2025 and 20.7 million in 2035 for all counties in Greater Minnesota. This provided MnDOT with the ridership number of 17 million rides as the 90 percent target by 2025. Based on current levels, ridership needs to grow by 4.85 million rides by 2025.

MnDOT also calculated the service levels needed to meet demand, and operating and capital costs for providing service. MnDOT then developed a service plan that addresses the needs of riders and potential riders such as reliability, evening service and weekend service. The plan also calculated the ridership potential generated from the service improvements and how the service plan meets the demand for public transit as required by the state statute.

STRATEGIC DIRECTION FOR GREATER MINNESOTA TRANSIT

The following goals and strategies will guide MnDOT's investment decisions:

Goal 1: Transit service is an attractive and viable transportation option for Greater Minnesota

Strategies: MnDOT supports a transit networks that respond to customer needs for high quality and customer-based service using the following actions:

- 1.1 Implement transit span of service standards and guidelines for all systems
- 1.2 Improve reliability of rural service through schedule adherence
- 1.3 Increase frequency of urban routes, particularly in urban areas and rural areas when warranted
- 1.4 Expand coverage of transit services to under-served and unserved communities
- 1.5 Invest in regional connections and cross-county service where there is a high level of travel between population and employment-rich centers
- 1.6 Develop clear, comprehensive and accessible public information about transit services
- 1.7 Invest in customer amenities that improve the transit experience, such as vehicles and enhancements, automatic vehicle locators, electronic fare systems, waiting shelters and benches as appropriate
- 1.8 Encourage bicycle and pedestrian infrastructure to improve accessibility

The legislature set a target of 17 million rides as the 90 percent of public transit demand by 2025. Based on current levels, ridership needs to grow by 4.85 million rides by 2025.



Goal 2: Improve coordination of services to meet transportation needs

Strategies: Implement and use Regional Transportation Coordinating Councils to increase communication and coordination with transportation partners using the following:

- 2.1 Encourage the transit systems to coordinate with social service agencies to develop transportation options for health and human service clients
- 2.2 Encourage coordination with Non-Emergency Medical Transportation providers to provide access to health services
- 2.3 Collaborate with and among volunteer driver programs to highlight the need and value of volunteer drivers as vital components of Greater Minnesota transportation service
- 2.4 Partner with organizations to provide high-quality transportation service for consumer groups such as veterans
- 2.5 Collaborate with state partners to address transit needs in Greater Minnesota through the Minnesota Council on Transportation Access

Goal 3: Increase transit usage across the transportation network

Strategies: Foster connections between transit systems and customers to increase transit ridership using the following actions:

- 3.1 Conduct statewide and encourage regional marketing campaigns to promote transit services in Greater Minnesota
- 3.2 Invest in supporting technology to engage transportation network companies that will play a role in how transportation services are delivered in Greater Minnesota (e.g. Transportation Network Companies, automatic vehicle location technology and Google Transit)
- 3.3 Include a greater percentage of riders who have a choice between transit and autos for their trips, such as investing in transportation service that provide reliable options for commuters and rides for workers with non-traditional commute times
- 3.4 Develop and enhance partnerships with private providers to better meet customer needs

Goal 4: Ensure fiscal responsibility as a transit funding agency

Strategies: Remain good stewards of public dollars through the following actions:

- 4.1 Stress the importance of local revenue partnerships in supporting transit service through best practices
- 4.2 Invest in high performing, efficient and effective transit service that meets performance standards
- 4.3 Critically evaluate and assess transit systems in their applications for funding using metrics and consistent criteria

Goal 5: Support MnDOT's vision for an integrated multimodal transportation system

Strategies: Support Greater Minnesota transit's role in planning, managing and supporting the multimodal transportation system through the following actions:

- 5.1 Work with transit systems to develop strategies for "first-mile, last-mile" rider needs
- 5.2 Increase usage of the transit network instead of single-occupancy vehicles to support an environmentally sustainable future
- 5.3 Promote linkages between transit systems to other transportation modes, i.e connections through inter-state travel such as Jefferson Lines and Greyhound and commuter rail
- 5.4 Encourage transit systems to actively plan for, and adapt to, changes in travel options such as car-share, ride-share and autonomous vehicles

Goal 6: Elevate the role of public information and outreach in transit system operations

Strategies: Support projects that enhance the customer experience of navigating transit service using the following actions:

- 6.1 Increase MnDOT's investment in transit provider marketing and public outreach
- 6.2 Guide transit systems in developing appropriate, accessible and easy to understand information for their websites
- 6.3 Encourage transit systems to provide information across multiple platforms such as smart-phone travel apps, social media, print materials, etc.
- 6.4 Invest in transit systems that use innovative approaches to public outreach and marketing

- 6.5 Encourage transit systems conduct robust public outreach when undertaking fare changes, large capital projects and service planning, etc.
- 6.6 Ensure that transit systems are providing culturally specific material, as appropriate

PERFORMANCE MEASUREMENT

MnDOT uses performance measures and targets to guide its plans, projects and investments. The GMTIP includes four performance measures (1) ridership, (2) fleet condition, (3) span of service and (4) on-time performance. MnDOT will report progress towards achieving the targets for each measure annually.

FUNDING GREATER MINNESOTA TRANSIT

Current transit funding in Greater Minnesota includes federal and state funding sources in addition to local sources and passenger fares. MnDOT analyzed the current funding forecast from 2016-2025 including the gap between forecasted amounts and needed funding for operating costs.

THE NEXT 20 YEARS

The State of Minnesota has a progressive vision for Greater Minnesota transit- where transit improves mobility for all people, meets current and future rider needs, is flexible and reacts to changing patterns. The strategies outlined in this plan provide a strategic framework to guide investment to achieve this vision over the next 20 years. Based on the technical analysis components and public outreach there is clear quantitative and qualitative evidence for increased levels of public transit in Greater Minnesota.

While meeting the unmet demand for transit in Greater Minnesota is one of MnDOT's greatest challenges, it is also one of its greatest opportunities. Demographic and economic trends in Greater Minnesota indicate a growing demand for public transit. The population of Greater Minnesota is growing. Some older adults and millennials are taking fewer trips and reducing their reliance on a personal vehicle. Many people are traveling between communities to access goods and services.

In addition to demographic trends, extensive community input calls for transit to be available when and where it's needed. Transit riders and non-riders responded that service needs to be reliable, convenient, frequent and connected, in infrastructure and communications. Based on these results, MnDOT developed the Baseline Span of Service Improvements plan that determined a level of service for communities based on population size.

The baseline span of service with urban and rural service improvements is projected to meet 90 percent of the calculated public transit demand in Greater Minnesota. Implementing additional service hours will require time and resources to complete. Federal funding for Greater Minnesota transit is stable, however, state funding resources can be unpredictable. While continuing to fund service and plan for improvements, MnDOT and its partners will need to communicate to the public and policy makers why transit matters and the need for future funding.

THE BENEFITS OF TRANSIT





Greater Minnesota
Transit Investment
Plan

CHAPTER 1: WHY AN INVESTMENT PLAN?

WHY AN INVESTMENT PLAN?

The 2010-2030 Greater Minnesota Transit Plan, completed in 2009, laid out a 20-year strategic framework for transit including goals and objectives transit should strive to achieve. The plan also calculated the unmet public transit need in Greater Minnesota. In 2011, the Minnesota Legislature directed MnDOT to develop a Greater Minnesota Transit Investment Plan to connect the vision and goals for transit with a series of investment strategies that can achieve the vision. The plan is updated every five years.

Under [Chapter 174.24](#) of the Minnesota Statutes, MnDOT must:

- Conduct an analysis of ridership and total transit needs in Greater Minnesota
- Calculate the level of service required to meet total transit service demand in Greater Minnesota
- Prepare an analysis of costs and revenues
- Develop a plan to reduce total (unmet) transit service needs

The legislation also directs MnDOT to identify the passenger levels, levels of service, and costs necessary to address the following targets:

- Meet 90 percent of total transit service needs in Greater Minnesota by 2025.
- Identify costs of meeting 100 percent of total transit service needs every five years from 2015 to 2030.

OBJECTIVES OF THE 2015-2035 GMTIP

The Greater Minnesota Transit Investment Plan 2015-2035 meets these requirements. This plan is designed to achieve the following:

- Updates the 20-year strategic plan for preserving current public transportation systems while improving mobility for the general public with emphasis on older adults, low-income households, individuals with disabilities and commuter consumer groups.
- Refines the investment priorities for expanding, maintaining or reducing transit service according to future state and federal funding levels, as well as the strategic direction of transit in Greater Minnesota.

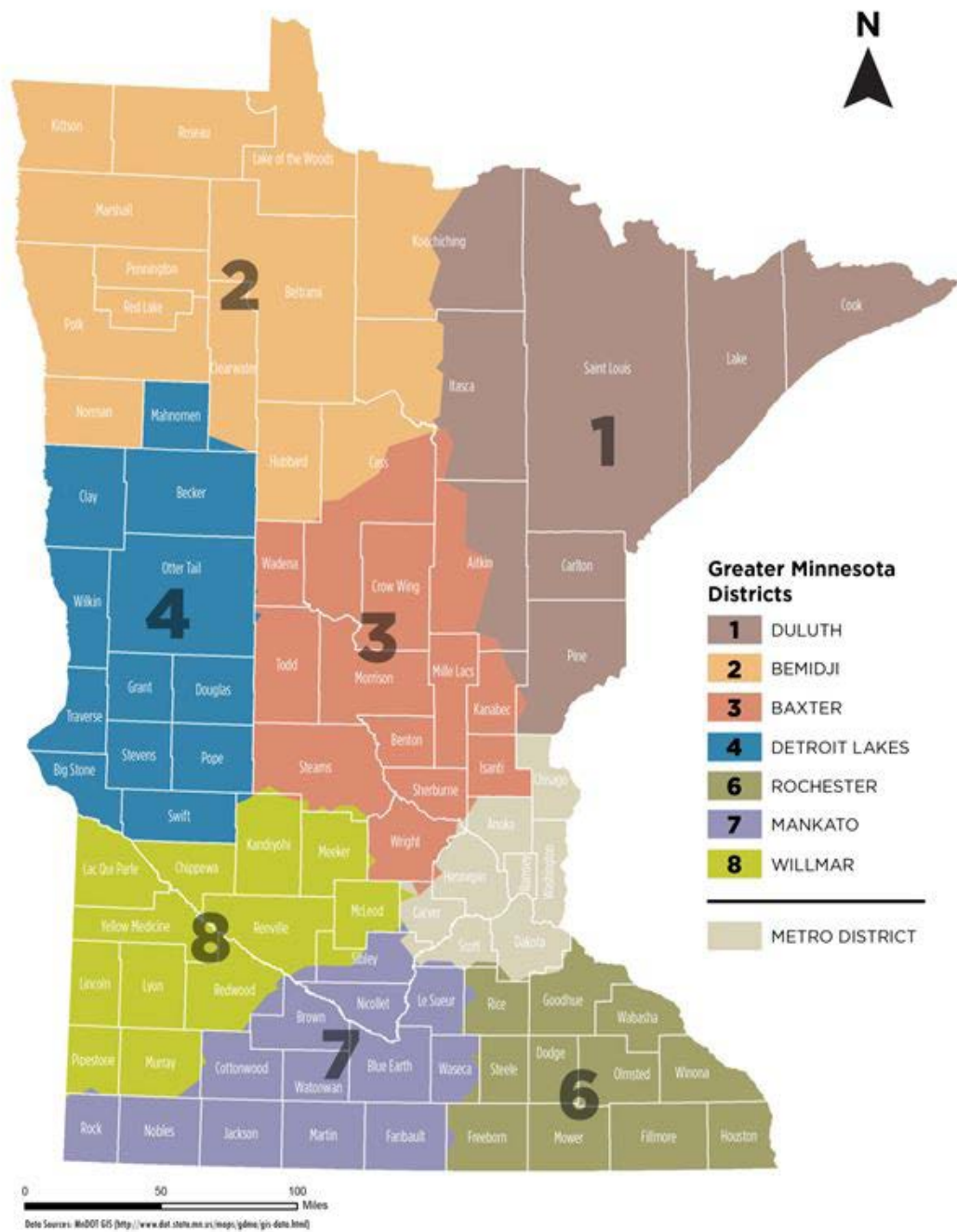


WHAT IS “GREATER MINNESOTA?”

The MnDOT Office of Transit oversees transit operating in Greater Minnesota, which includes all areas of 80 counties outside the Twin Cities. Transit funding in the Twin Cities goes directly to the Metropolitan Council. In Minnesota, urban systems within the seven county metro area are direct recipients of funds from the Federal Transit Authority; however, in Greater Minnesota, transit funding is received by the state. This distinction means that the Office of Transit is responsible for overseeing funding and performance of transit agencies in Greater Minnesota. Figure 1-1 provides shows the boundaries between Greater Minnesota and the seven MnDOT districts.



Figure 1-1: MnDOT District Boundaries





Greater Minnesota
Transit Investment
Plan

Chapter 2

BENEFITS OF TRANSIT

WIDER BENEFITS OF TRANSIT

ECONOMIC BENEFITS

TRANSIT HELPS HOUSEHOLDS SAVE MONEY.

Transportation-related expenses are typically the second largest share of household costs after housing. Nationally, between 2000 and 2012, combined housing and transportation costs increased 44% during the same period that income only grew 25%.¹

Transit provides an affordable transportation option for those who cannot purchase a vehicle. The cost of vehicle ownership and operation continues to grow, reaching more than \$10,000 per year for a medium sized sedan in 2013². The average American household has 2.28 vehicles; 35 percent of households have three or more vehicles. Households encounter a number of costs associated with vehicles, including insurance, licensing, registration, and vehicle taxes. Beyond the sunk costs of purchasing and maintaining the vehicle, the cost of gas, parking, and tolls add additional daily costs. In urban areas, off-street parking requires expensive permits or subscriptions to parking garages. In rural areas, long distances between destinations increase spending on gas and maintenance. The availability of public transportation can help reduce household transportation costs.

HEALTH

TRANSIT INCREASES PHYSICAL ACTIVITY.

The number of hours of physical activity per week declined 32% among Americans between 1965 and 2009. By 2030, this figure is projected to be 46% below physical activity levels in 1965³. Nearly half of Americans do not meet recommended levels of physical activity for adults (30 minutes or more of physical activity per day)⁴. The amount of time some spend traveling in automobiles is one contributor to this trend. Taking transit can help increase physical activity and improve health. On average, transit riders walk 19 minutes a day get to and from transit stops.⁵

Figure 2-1: Walking to Transit



SOURCE: Besser, Lilah, and Andrew Dannenberg. "Walking to Public Transit: Steps to Help Meet Physical Activity Requirements." *American Journal of Preventive Medicine* 29:4 (2005): 273-80.

1 Center for Housing Policy and Center for Neighborhood Technology. "Losing Ground: The Struggle of Moderate-Income Households to Afford the Rising Costs of Housing and Transportation." October 2012. http://www.nhc.org/media/files/LosingGround_10_2012.pdf

2 American Automobile Association. "Your Driving Costs." 2013. <https://exchange.aaa.com/wp-content/uploads/2013/04/Your-Driving-Costs-2013.pdf>

3 Designed to Move: a Physical Activity Action Agenda, 2012. https://www.designedtomove.org/en_US/?locale=en_US

4 Besser, Lilah, and Andrew Dannenberg. "Walking to Public Transit: Steps to Help Meet Physical Activity Requirements." *American Journal of Preventive Medicine* 29:4 (2005): 273-80. Accessed at http://www.cdc.gov/healthyplaces/articles/besser_dannenberg.pdf

5 Besser, Lilah, and Andrew Dannenberg. "Walking to Public Transit: Steps to Help Meet Physical Activity Requirements." *American Journal of Preventive Medicine* 29:4 (2005): 273-80. Accessed at http://www.cdc.gov/healthyplaces/articles/besser_dannenberg.pdf

TRANSIT CAN HELP LOWER RATES OF OBESITY AND CHRONIC DISEASE.

Inactivity is associated with diseases such as diabetes (Type II), coronary heart disease, hypertension, and obesity. Studies show over 5 million premature deaths per year result from disease related to inactivity⁶ and an estimated \$2,741 more is spent per year on higher healthcare costs for persons that lead inactive lifestyles⁷. These same individuals are also more likely to take an additional week of sick days per year and live five years less than more active individuals.^{8,9}

Promoting the use of transit can help lower the risk of sedentary-related illnesses. The benefits of living an active lifestyle have been shown to cause a:

- 50% reduction in coronary heart disease
- 50% reduction in adult diabetes risk
- 50% reduction in the risk of becoming obese
- 30% reduction in the risk of developing hypertension¹⁰

AIR QUALITY

TRANSIT REDUCES CONGESTION AND EMISSIONS.

According to the Environmental Protection Agency, transportation is the second largest contributor to GHG emissions, at 26%, after electricity, at 30%¹¹. Congested travel contributes to higher levels of emissions from vehicle idling and speed variance. The environment and public health suffer from auto-related emissions, particularly in areas where heavy traffic congregates. Convenient and efficient transit service can help relieve traffic congestion and reduce emissions.

People who live in more rural areas of Greater Minnesota may not experience traffic congestion but must travel long distances for work, healthcare, or other services. If these trips could be combined with public transit service, they could reduce single occupancy travel as well as the associated emissions.

TRANSIT CAN HELP CURB THE EFFECTS OF CLIMATE CHANGE.

Climate change will have impacts on the national economy. On our current trajectory, the nation will lose between \$66 to \$106 billion worth of coastal property by 2050¹². Extreme heat has significant economic implications for labor productivity and human health. Studies suggest that the frequency of days over 95 degrees will dramatically increase and extreme weather days may surpass the threshold at which humans can work outside, or inside without air conditioning, while maintaining a normal core temperature¹³. This could lead to productivity slowdowns and enormous strain on the energy grid when demand for air conditioning grows. Agriculture crops will also

6 Lee, I., et al. "Effect of Physical Inactivity on Major Non-Communicable Diseases Worldwide: an Analysis of Burden of Disease and Life Expectancy. The Lancet 380.9838(July 2012): 219-29.

7 Cawley, J. and C. Meyerhoefer. "The Medical Care Costs of Obesity: an Instrumental Variables Approach. Journal of Health Economics 31.1 (January 2012): 219-30.

8 Proper, K.I., et al. "Dose-response Relation between Physical Activity and Sick Leave." British Journal of Sports Medicine 40.2(2006): 17-78.

9 Olshansky, S.J., et al. "A Potential Decline in Life Expectancy in the United States in the 21st Century." New England Journal of Medicine 352.11 (2005): 1138-45.

10 Litman, 2009.

11 EPA. Sources of Greenhouse Gas Emissions. 2014. Retrieved from <https://www3.epa.gov/climatechange/ghgemissions/sources/transportation.html>

suffer in many areas of the country, including areas that are large agricultural producers. Efficient public transit can help curb effects of climate change by reducing the number of vehicle miles traveled and associated emissions.

TRANSIT ACCOMMODATES AN AGING POPULATION OF BABY BOOMERS.

Baby Boomers are reaching retirement. Between 2000 and 2014, older adults (ages 65 and older) have increased 16% in Greater Minnesota¹⁴. Between 2014 and 2045, the older adult population is expected to increase by 88%¹⁵. This large population of older adults will require safe and affordable transit options to stay active and engaged in their communities and access daily services and medical appointments.

TRANSIT ALLOWS FOR AGING IN PLACE

The national discussion surrounding the repercussions of the aging population and housing needs is a pressing one in Greater Minnesota, especially given the projected increased in the older adult population discussed earlier. Surveys and research have shown that people want to stay in their homes as long as possible; however, health and other factors sometimes require people to move into assisted living quarters. While research thus far is not conclusive, initial studies by the US Department of Housing and Urban Development authority point out that people who can age in place have better overall physical and mental health.

TRANSIT SUPPORTS CHANGING TRANSPORTATION PREFERENCES.

Transportation preferences are changing for a new generation of Americans. The Millennial generation (approximately those born between 1981 and 1997) is driving less and using transit, biking, and walking more^{17,18}. Millennials are attracted to communities that offer multiple transportation options. Millennials—and other generations—value transit because it allows them the luxury of working while in transit, staying connected with peers, relaxing, or exercising.



12 Houser, T., et al. "American Climate Prospectus: Economic Risks in the United States." The Rhodium Group. June 24, 2014. <http://rhg.com/reports/climate-prospectus>

13 Houser, T., et al. "American Climate Prospectus: Economic Risks in the United States." The Rhodium Group. June 24, 2014. <http://rhg.com/reports/climate-prospectus>

14 U.S. Census and American Community Survey 2014.

15 American Community Survey 2014 and Minnesota State Demographic Center.

16 US Department of Housing and Urban Development. <https://www.huduser.gov/portal/periodicals/em/fall13/highlight2.html>.

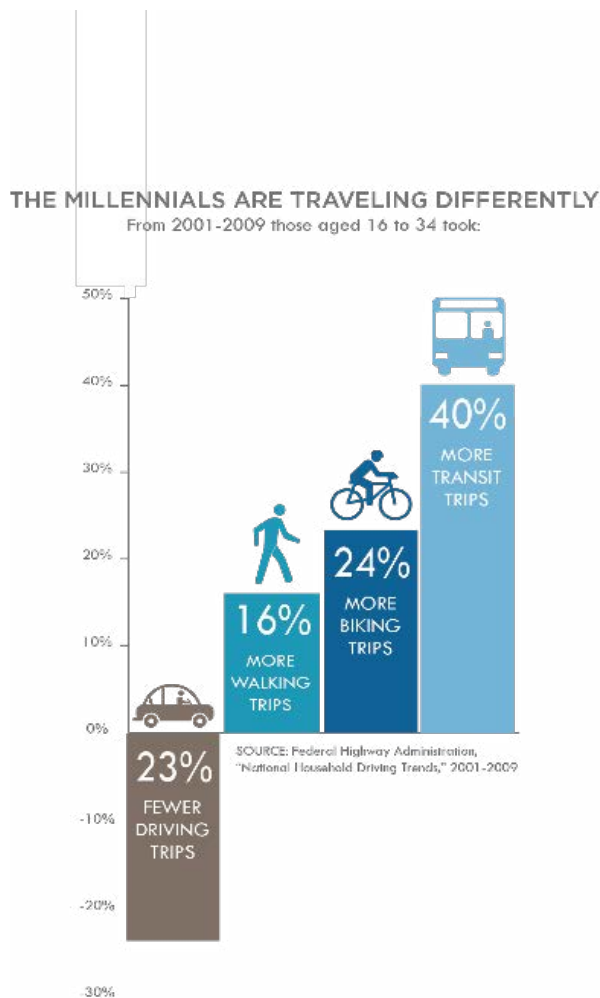
17 Pew Research Center. April 2016. Retrieved from <http://www.pewresearch.org/fact-tank/2016/04/25/millennials-overtake-baby-boomers/>

TRANSIT CAN HELP PROVIDE CONVENIENT ACCESS TO COMMUNITY DESTINATIONS.

The American Community Survey estimates that 9% or 10.5 million households do not have access to a vehicle. Transit provides zero vehicle households an opportunity to connect to education, cultural, social, and recreational outlets throughout their community. These activities help create strong neighborhood centers that are more economically stable, safe and productive. More than 7,200 organization in the U.S. help communities make these connections by providing public transportation.

19 American Community Survey, 2014. 20 American Public Transportation Association. Retrieved from <http://www.apta.com/mediacenter/ptbenefits/Pages/FactSheet.aspx>

Figure 2-2: Millennials Traveling Differently





Greater Minnesota
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Chapter 3

TRANSIT IN GREATER MINNESOTA

TRANSIT IN GREATER MINNESOTA

Greater Minnesota's Transit Systems

As of June 2016, Greater Minnesota had 44 public transit systems and two direct recipient tribes serving the 80 non-Metro counties. They operate a variety of service formats based on the population, land use and the size of the service area.

RURAL TRANSIT SERVICE

MnDOT supports 30 county and multicounty systems in addition to two tribal systems. These systems provide service for much of Greater Minnesota and rural areas. These systems use primarily Demand-Responsive Service. Demand-Response is defined as service to individuals that is activated based on passenger requests. Usually passengers call the scheduler or dispatcher and request rides for particular dates and times. Demand response usually involves curb-to-curb or door-to-door service. Trips may be scheduled on an advanced reservation basis (also known as “Dial-A-Ride”) or in “real-time.” Usually smaller vehicles are used to provide demand-responsive service. This type of service usually provides the highest level of service to the passenger but is the most expensive for the transit system to operate. In rural areas with relatively high populations of elderly persons and persons with disabilities, demand-responsive service is sometimes the most appropriate type of service.

SMALL URBAN TRANSIT SERVICE

MnDOT supports seven small urban transit systems. These systems serve small cities from 2,500–49,999 in population, and primarily run route-deviation type service. With route-deviation service, transit buses travel along a predetermined alignment or path with scheduled time points at each terminal point and in some instances at key intermediate locations. Route deviation service is different from conventional fixed route bus service in that the vehicle may leave the route upon requests of passengers to be picked up or returned to destinations near the route. Following an off-route deviation, the vehicle typically returns to the point at which it left the route. Passengers may call in advance for route deviation or may access the system at predetermined route stops. The limited geographic area within which the vehicle may travel off the route is known as the route deviation corridor.

URBANIZED OR “LARGE URBAN” TRANSIT SERVICE

MnDOT supports seven urbanized systems. These systems serve cities with a population between 50,000 and 200,000. Urbanized systems primarily run



fixed-route service. Fixed route is service that is provided on a repetitive, fixed-schedule basis along a specific route, with vehicles stopping to pick up passengers at and deliver passengers to specific stops. Fixed route service carries a higher number of people because they serve large cities and generally have very good reliability and on-time performance because of the fixed schedule. The frequency, or time in between buses, can vary based on the route from 15 minutes to one hour. This makes service predictable and consistent.

In addition to fixed route service, all urbanized systems must provide ADA Complementary Paratransit Service for eligible individuals who are unable to use the fixed-route service. This is part of the Americans with Disabilities Act of 1990, the law passed by Congress, which makes it illegal to discriminate against people with disabilities in employment, services provided by state and local governments, public and private transportation, public accommodations and telecommunications. Figure 3-1 shows the public transit systems currently operating across Greater Minnesota.

As a whole, Greater Minnesota transit systems reached record highs for ridership and service hours in 2014, with 12.1 million boardings and 1.17 million hours of revenue service. To understand short-term performance trends among transit systems in Greater Minnesota, this analysis covers a five-year period for a variety of indicators. While some rural systems have consolidated in recent years, the most significant structural change to Greater Minnesota's transit system classifications has been the shift of the Greater Mankato Transit System from a small urban to an urbanized system in 2013 when the population increased to more than 50,000. This reclassification resulted in modest increases in service levels, costs and ridership for urbanized systems. It resulted in a dramatic reduction in these measures among small urban systems.

TRANSIT RIDERSHIP

Overall transit ridership in Greater Minnesota grew more than 8 percent from 2010-2014. The largest gain (14.4 percent) occurred in urbanized systems. Ridership on rural systems increased 12.6 percent (see Figure 3-2). A significant portion of the increase in transit ridership for urbanized systems is due to the reclassification of the Greater Mankato Transit System in 2013, previously classified as small urban. Prior to 2013, the urbanized systems had an overall growth of nearly 7 percent.

Figure 3-1: Transit Agencies in Greater Minnesota

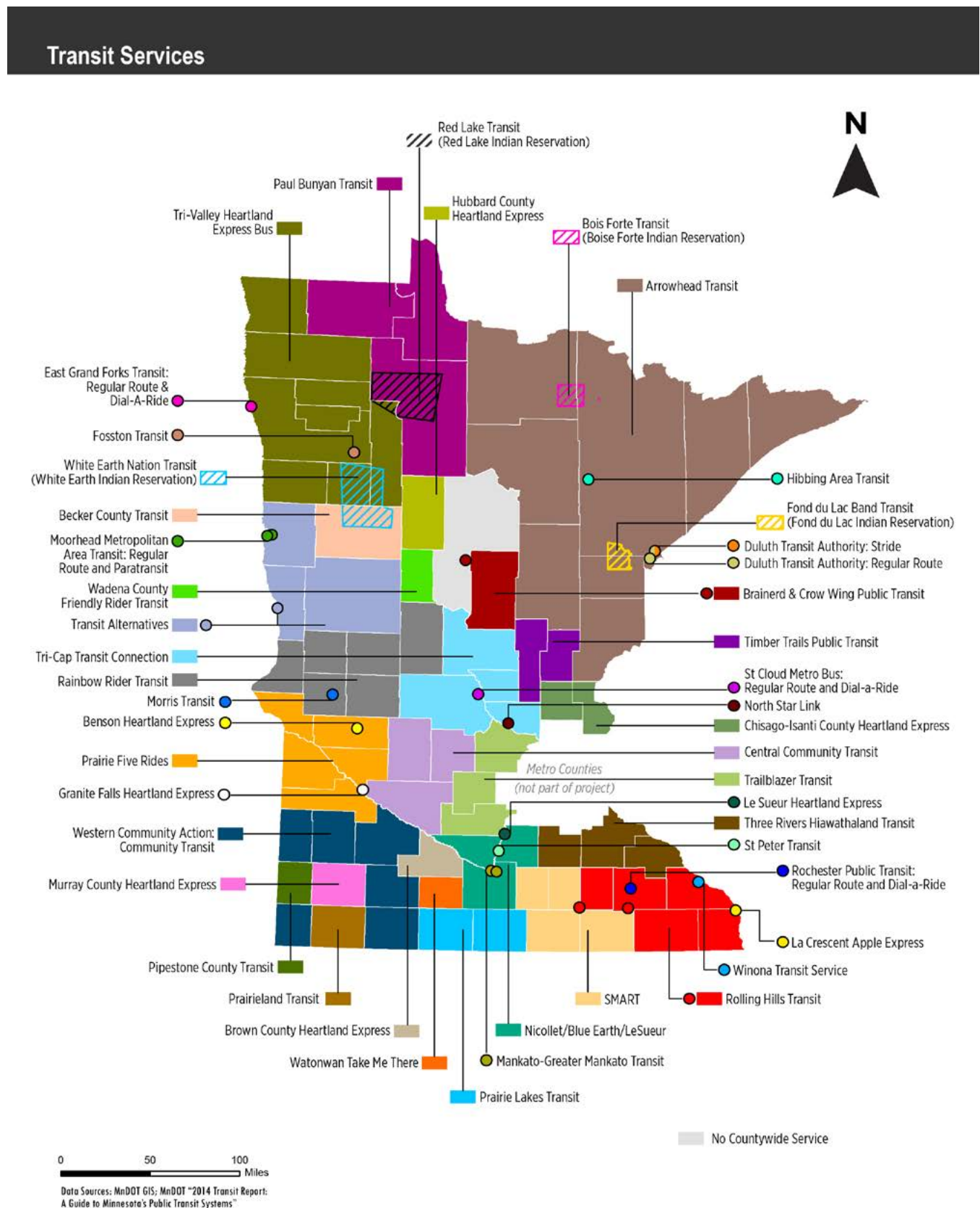


Figure 3-2: Greater Minnesota Public Transit Ridership – 2010 to 2014

SYSTEMS	2010	2011	2012	2013	2014	5-YEAR CHANGE
Rural	2,752,841	2,743,803	2,657,177	2,886,968	3,098,512	12.6
Small Urban*	997,611	1,026,128	1,080,202	601,447	535,794	-46.3%
Urbanized*	7,142,360	7,500,943	7,623,481	8,162,658	8,171,122	14.4%
ADA-Complementary Paratransit	222,528	224,484	215,013	210,789	233,800	5.1%
Greater Minnesota	11,115,340	11,495,358	11,575,873	11,861,862	12,039,228	8.3%

*Greater Mankato Transit System was reclassified as an Urbanized System in 2013

REVENUE HOURS

Transit revenue hours in Greater Minnesota grew by almost 9 percent during the five-year period. The largest gain (18 percent) occurred in the rural systems. The urbanized systems and ADA-complementary paratransit services grew by more than 7 percent.

Figure 3-3: Greater Minnesota Public Transit Revenue Hours – 2010 to 2014

SYSTEMS	2010	2011	2012	2013	2014	5-YEAR CHANGE
Rural	564,307	554,671	563,803	610,653	665,827	18.0%
Small Urban*	95,879	96,776	90,534	64,308	56,527	-41.0%
Urbanized*	322,072	336,261	333,382	343,677	346,724	7.7%
ADA-Complementary Paratransit	85,850	88,340	87,493	89,434	91,994	7.2%
Greater Minnesota	1,068,108	1,076,048	1,075,212	1,108,072	1,161,072	8.7%

Greater Mankato Transit System was reclassified as an Urbanized System in 2013

The increase in hours and increase in riders was nearly equal, showing that the productivity levels yielded from additional hours invested remained steady.

ANNUAL OPERATING COSTS

Overall transit operating costs in Greater Minnesota increased by more than 25 percent (\$15 million) during the five-year period. Urban systems experienced the most significant rise in operating costs (32 percent), with ADA services experiencing an additional increase of 18 percent. The decrease in small urban costs and increase in rural and urbanized systems is the result of the Mankato system being reclassified as an urban system in 2013 and some small urban systems merging with rural systems.

Figure 3-4: Greater Minnesota Public Transit Annual Operating Costs – 2010 to 2014

SYSTEMS	2010	2011	2012	2013	2014	5-YEAR CHANGE
Rural	\$26,831,360	\$28,207,803	\$28,596,297	\$31,233,351	\$35,747,852	33.2%
Small Urban*	\$4,318,471	\$4,549,283	3,904,818	\$2,565,824	\$2,238,184	-48.2%
Urbanized*	\$22,899,589	\$24,923,373	\$26,830,385	\$28,737,075	\$30,219,815	31.9%
ADA-Complementary Paratransit	\$4,475,655	\$4,739,045	\$4,702,382	\$4,730,007	\$5,281,240	17.9%
Greater Minnesota	\$58,524,175	\$62,419,504	\$64,033,884	\$67,266,259	\$73,487,092	25.5%

previously a Small Urban system, was reclassified as an Urbanized System in 2013

Note that operating costs are covered by a mix of state funds, federal funds, fares, contracted services and local contributions. The local share, and where it originates, varies from system to system. In some parts of Greater Minnesota, cities contribute to transit costs. In other areas, counties provide the local match. In other cases, agencies rely on revenues from contracts with human services providers. Finding additional local resources to match federal and state dollars is a challenge of expanding systems.

SERVICE SPAN

To understand how and where additional service hours can be added, it is necessary to evaluate the current level of transit service. Existing spans of service across Greater Minnesota vary greatly by system and size of communities served. Figure 3-5 and Figure 3-6 show existing Greater Minnesota service spans. Each row represents weekday hours of operation for a specific system. Urban services begin operations as early as 4:30 a.m. and end as late as 12:30 a.m. (Duluth Transit). All systems are in operation between the hours of 7 a.m. and 6 p.m. on weekdays. Small urban services begin operations as early as 6 a.m. and end as late as 10 p.m. All small urban systems are operational on weekdays between the hours of 7 a.m. and 4:30 p.m. Rural services begin operations as early as 5 a.m. and end as late as 11 p.m. All rural systems are operational on weekdays between the hours of 9 a.m. and 4 p.m.

Note, a full and detailed analysis of financial and operating statistics for MnDOT transit systems and peer state systems is available in [Technical Memo: Peer Review](#)

Figure 3-5: Existing Service Spans – Urban and Small Urban

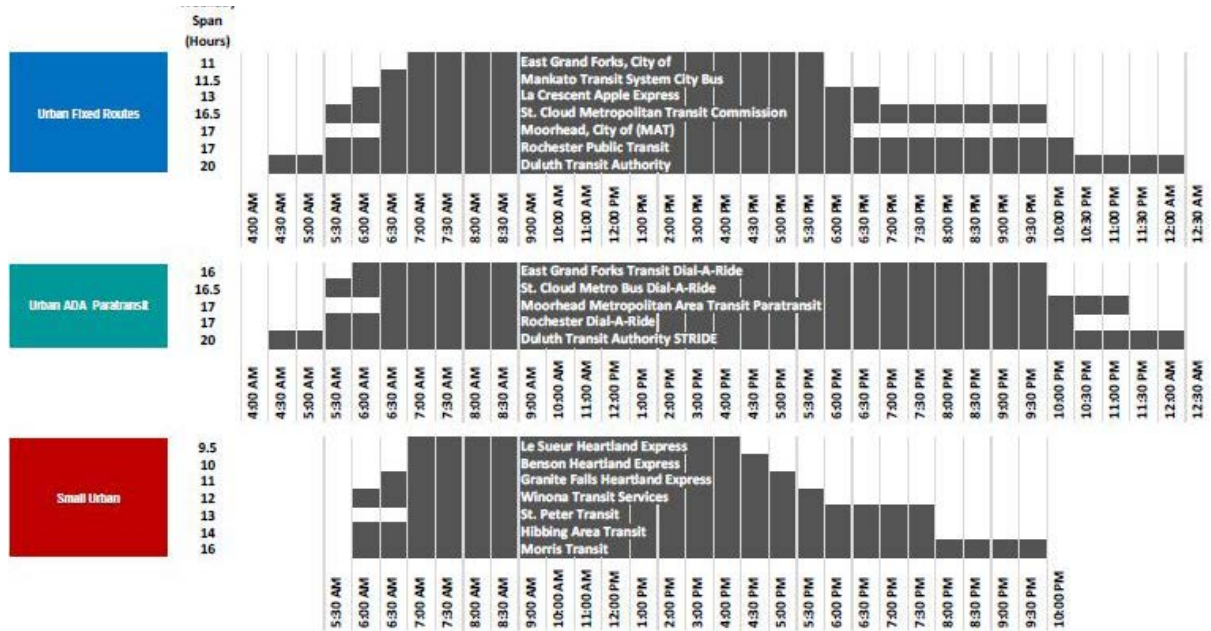
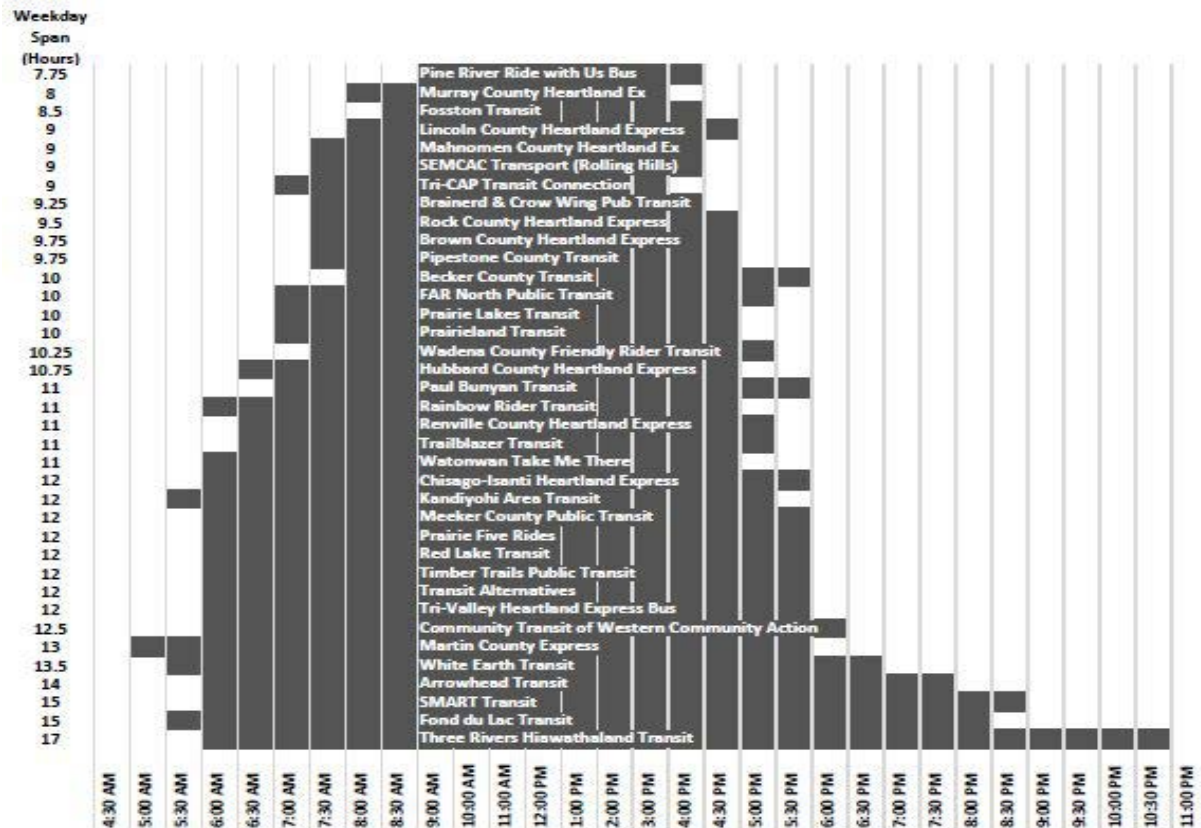


Figure 3-6: Existing Service Spans - Rural





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Chapter 4

MARKETS FOR TRANSIT AND TRENDS IN GREATER MINNESOTA

MARKETS FOR TRANSIT AND TRENDS IN GREATER MINNESOTA

Markets for Transit

Quantifying the need for public transportation services allows communities to see where concentrations of people and jobs are and where vulnerable populations live. This informs the need for transit service, transit routes, service levels (frequency, hours of operation), and fares. Need is an output of mathematical and census calculations. Quantifying need does not automatically translate into transit demand. Need is always greater than demand. Those who need transportation find many options for getting around, including human services transportation, taxis, family, friends or transit. Translating transportation need into demand for public transit services is a challenge. Quantifying need provides an initial benchmark. National experience suggests two factors influence the need for transit service more than others:

- **Density** – High concentrations of workers and/or residents is the most important factor in determining transit ridership. Densely developed areas – such as downtowns in large or small cities, university and college campuses and hospitals – have many people traveling to and from them. Their common trip patterns can be easily served by public transit. Densely developed areas are also more likely to have safe walking environments with sidewalks and crosswalks, so people can safely get to and from transit routes.
- **Demographic Characteristics** – Research shows that households without access to a vehicle or people with low incomes often rely on public transportation for all or a large portion of their travel. Likewise, teenagers who may not have access to a car, or older adults who may be less inclined to drive due to age or a disability, also have a greater reliance on public transportation.

The types of public transportation that can meet demand vary by community context. In dense urban areas, a larger variety of services exists due to higher population densities and land use mixes. In rural areas, driving may be the predominant travel option due to long distances between destinations, and a basic transit service might serve those who have no other transportation option.

POPULATION & EMPLOYMENT

Population and employment densities are important factors because the clustering of people and jobs helps determine where transit routes should run. Most transit systems have two types of riders:

- “choice riders,” or people who own or have access to a car but choose to take transit,

- “transit dependent” riders are those who do not have any other option.

Analyzing overall population and employment density provides insights into the choice rider market.

Population

Figure 4-1 shows statewide population density by county. Overall, the counties of Greater Minnesota have a far lower population density than the seven counties that comprise the Twin Cities. With the exception of Olmsted County in District 6, Greater Minnesota counties with the highest population densities are located around the urban fringe of the Twin Cities area in counties such as Sherburne and Wright. Lower population densities are widely distributed across the western and northern halves of the state. Many of the counties along the border of the Dakotas and Canada have countywide population densities no higher than 10 people per square mile.

Employment

Figure 4-2 displays proportionally-sized symbols representing employment density by Census Block. Many of the state’s largest employers are located in the Twin Cities region. Considerable nodes of employment density also exist around Greater Minnesota’s largest cities such as Rochester, Duluth, St. Cloud and Mankato. Despite the low density of jobs throughout much of the state (see Figure 4-3), the wide distribution of employment sites shown in Figure 4-2 highlights the importance of countywide and regional commuter options in Greater Minnesota.



Figure 4-1: Statewide Population Density by County

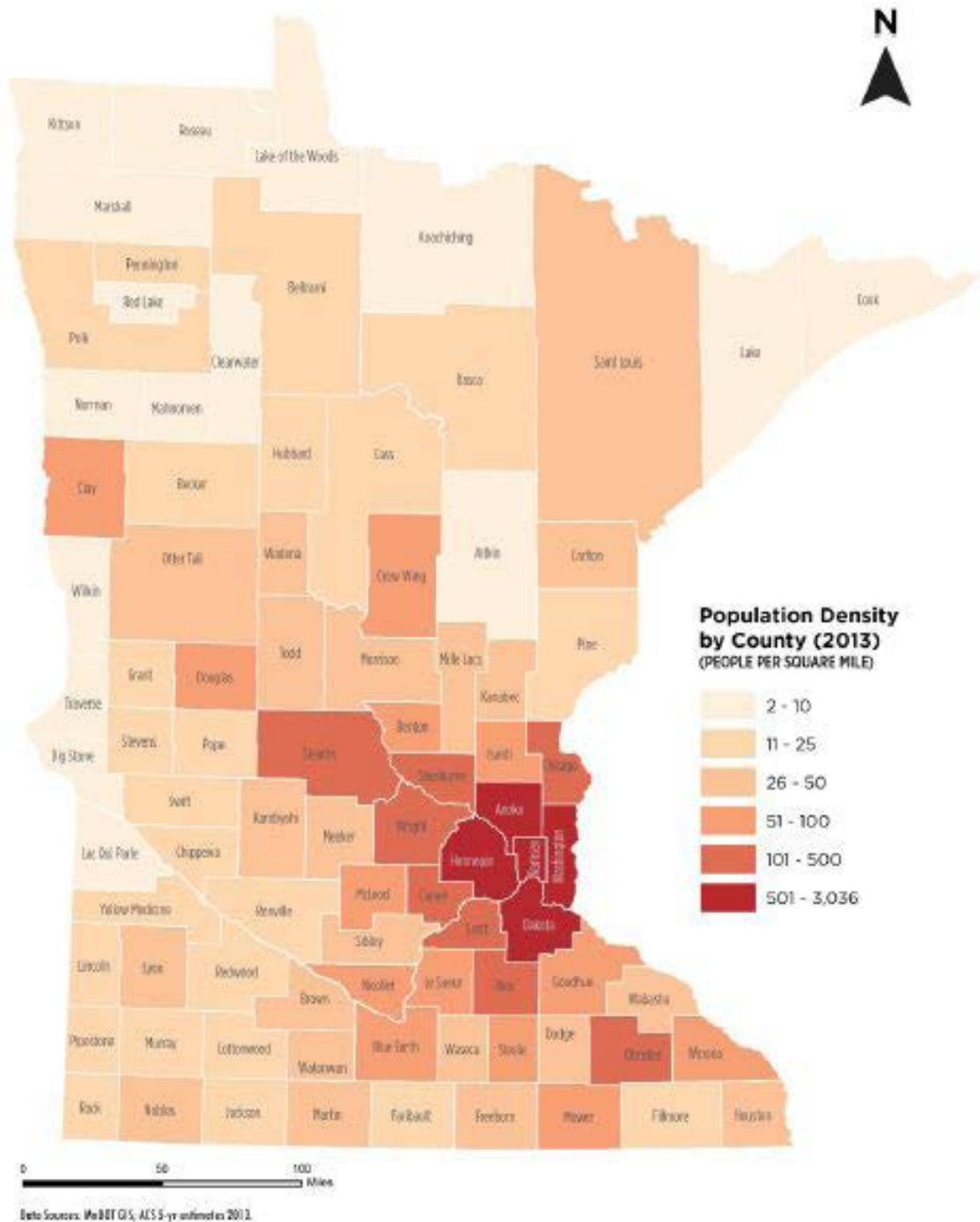


Figure 4-2: Statewide Employment Density by Census Block

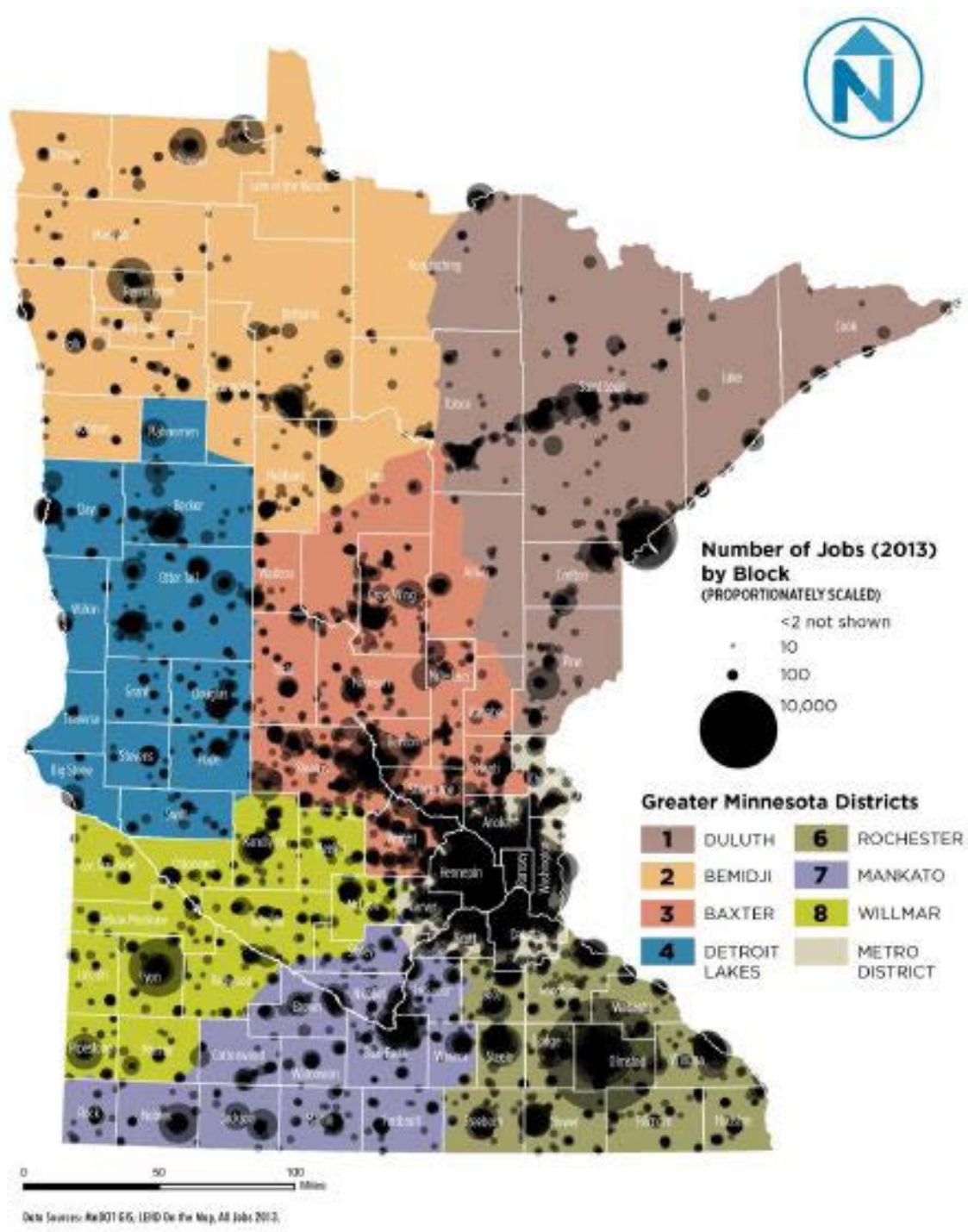
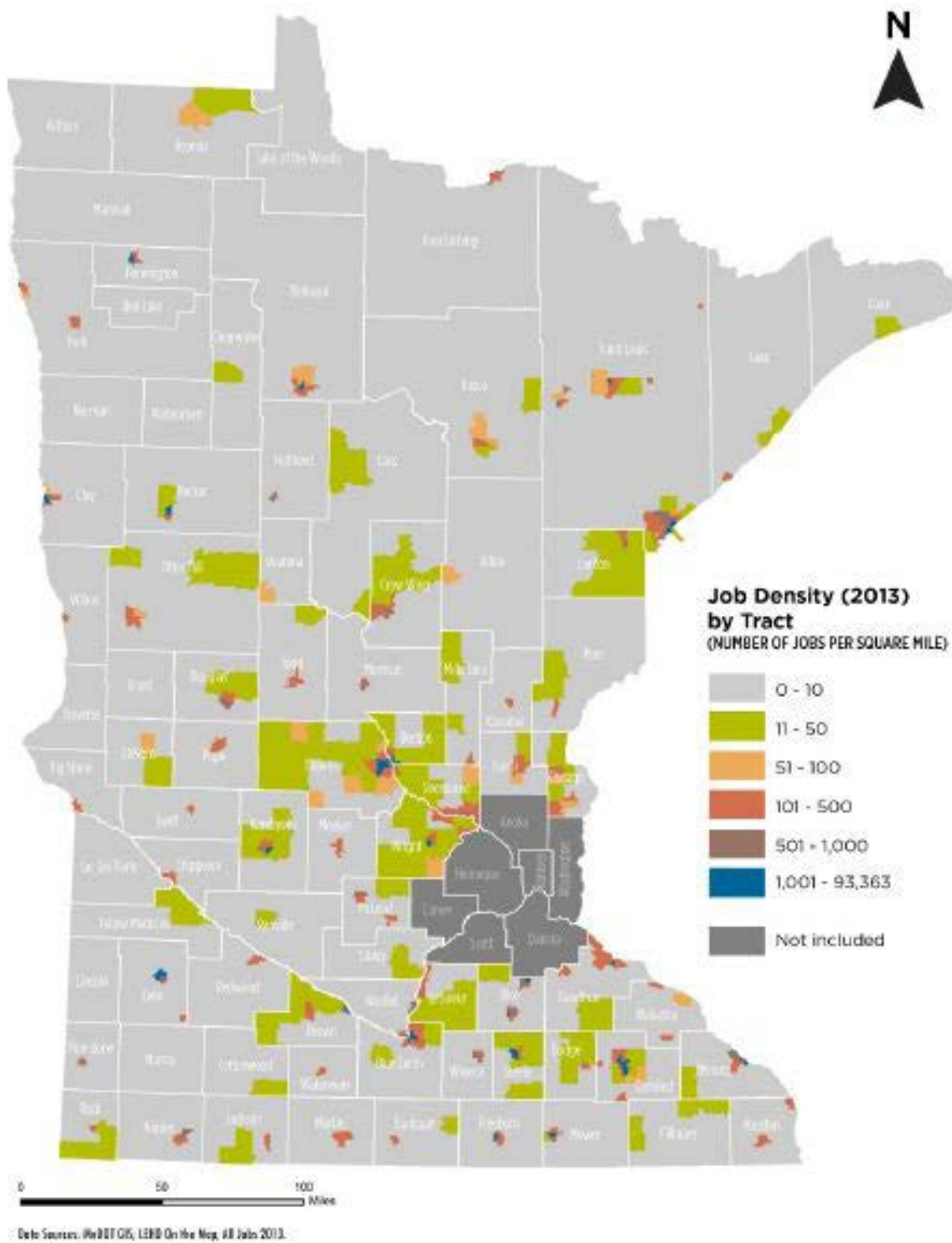


Figure 4-3: Statewide Job Density by Census Tract



VULNERABLE POPULATIONS

Transportation is often a primary barrier cited by individuals as to why they are unable to access employment, medical services and educational opportunities. For this reason, considering environmental justice is a vital component of a broader evaluation of statewide transportation policies and investment priorities. Presidential Executive Order 12898, issued in 1994, directed each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations”. The order builds on Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin.

Distributions of minority populations have been included as part of this analysis to ensure minority populations are not disproportionately affected in an adverse manner. For this analysis minority populations are defined as all Census race categories except White Alone (Not Hispanic or Latino). Maps showing the distribution of minority populations within the MnDOT districts of Greater Minnesota can be found in [Technical Memo: Trends and Opportunities](#). In addition to identifying vulnerable populations, MnDOT took extensive measures to reach out to all sectors of the population through surveys and meetings as explained in Chapter 5.

In addition to identifying the minority populations, this analysis included persons age 65 and older, youth under age 18, persons with limited English proficiency, and households with zero vehicles. These additional population groups have unique transportation needs. Vulnerable populations were also specifically targeted for outreach through a paper survey. ([The full report in Technical Memo: Environmental Justice and Appendix](#)).

Figure 4-4 and Figure 4-5 shows demographic and environmental justice indicators in Greater Minnesota compared to the state and nation as a whole. Figure 4-6 displays the statewide minority map.

- Greater Minnesota has a higher percentage of White Alone than the state or the U.S. but a greater percentage of American Indians than state overall or the U.S. White Alone refers to the segment of the population that are not latino.
- Minnesota has above national average rates of senior and youth populations. However, it ranks considerably below national averages for groups such as low-income, disabled and limited English proficiency.

- Greater Minnesota is similar to the state as a whole in terms of its share of environmental justice populations, with a slightly higher percentage of seniors, persons with disabilities, and low-income households. Greater Minnesota's share of zero-vehicle households is slightly below that of the state, while the population with limited English proficiency is less than half the statewide average.

Figure 4-4: Minority Populations

GEOGRAPHY	TOTAL POPULATION	WHITE ALONE	BLACK ALONE	HISPANIC/ LATINO	ASIAN ALONE	AMERICAN INDIAN /ALASKA NATIVE	NATIVE HAWAIIAN/ PACIFIC ISLANDER	OTHER ALONE	TWO OR MORE
United States	311,536,594	63.3%	12.2%	16.6%	4.8%	0.7%	0.2%	0.2%	2.1%
Minnesota	5,347,740	82.6%	5.1%	4.8%	4.1%	1%	0%	0.1%	2.2%
Greater Minnesota	2,458,193	90.6%	1.5%	3.5%	1.3%	1.5%	0%	0.1%	1.5%

Figure 4-5: Greater Minnesota Vulnerable Populations

GEOGRAPHY	TOTAL POPULATION	SENIOR POPULATION (65+)	YOUTH (UNDER 18)	LOW-INCOME POPULATION ¹	ZERO-VEHICLE HOUSEHOLDS	POPULATION WITH DISABILITIES ²	POPULATION WITH LIMITED ENGLISH ³
United States	311,536,594	13.0%	11.0%	32.0%	9.0%	15.0%	4.5%
Minnesota	5,347,740	13.3%	23.9%	11.5%	7.1%	10.1%	2.1%
Greater Minnesota	2,458,193	15.7%	23.5%	12.0%	6.1%	11.4%	1.0%

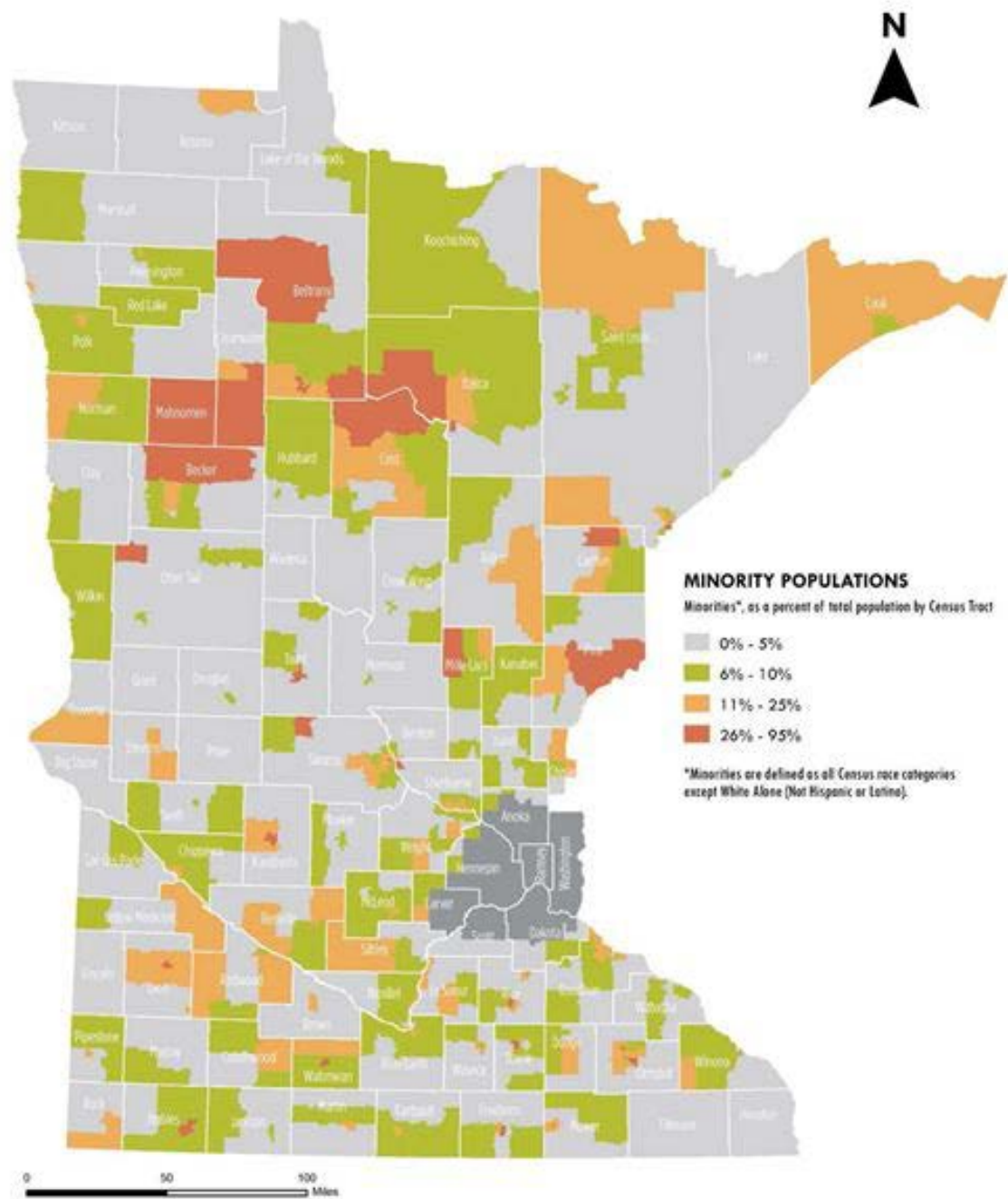
¹ Low-income populations are defined by households making up to 150% of the poverty level.

² Age 18 or older.

³ Age 5 or older who speak English "less than well".

Source: ACS 5-YR Estimates 2013

Figure 4-6: Minority Populations in Greater Minnesota



TRANSIT DEPENDENCY INDEX

MnDOT developed a transit dependency index to highlight areas with concentrations of populations that may use transit. Factors considered in this analysis include densities of the following: population, employment, youth (under 18), older adults (age 65+), households without a vehicle, persons with a disability, limited English ability and low-income households. Further explanation of the methodology for this analysis is provided in [Technical Memo: Trends and Opportunities](#).

- **Population and Employment Density** – Population and employment sites are key indicators of where transit may succeed.
- **Youth Density** – Youth, many of whom do not have a driver's license or access to a vehicle, exhibit a higher overall need for transit than the general population. The percentage of the youth in Greater Minnesota is 23.5 percent, similar to the statewide average of 23.9 percent. Greater Minnesota counties with the highest shares of youth population include Mahnomon, Wright, Sherburne, and Dodge counties. In each of these counties, youth populations comprise more than 24 percent of the total population.
- **Older Adult Density** – Older adults (age 65 and older) typically use public transportation more frequently than the general population. Older adults often exhibit higher demand for transit as they become less capable or willing to drive themselves, or can no longer afford to own a car on a fixed income. Greater Minnesota counties with the highest shares of senior population include Aitkin, Traverse, Big Stone and Lincoln counties with those aged 65 and older comprising more than 28 percent of the total population.
- **Zero Vehicle households** – One of the most influential indicators of transit need is whether a household has access to a car. This indicator may represent households without the economic means of owning a vehicle, households that choose not to own a car or individuals who are unable to drive, such as senior citizens and persons with disabilities. In Greater Minnesota, 6.1 percent of households do not have a vehicle available, slightly less than the statewide share of 7.1 percent. Greater Minnesota counties with the highest percentages of zero vehicle households include Mahnomon (10.7 percent), St. Louis (9.5 percent) and Koochiching (9 percent).
- **Low-Income Populations** – Low-income households earn up to 150 percent of the federal poverty threshold. In Greater Minnesota, 12



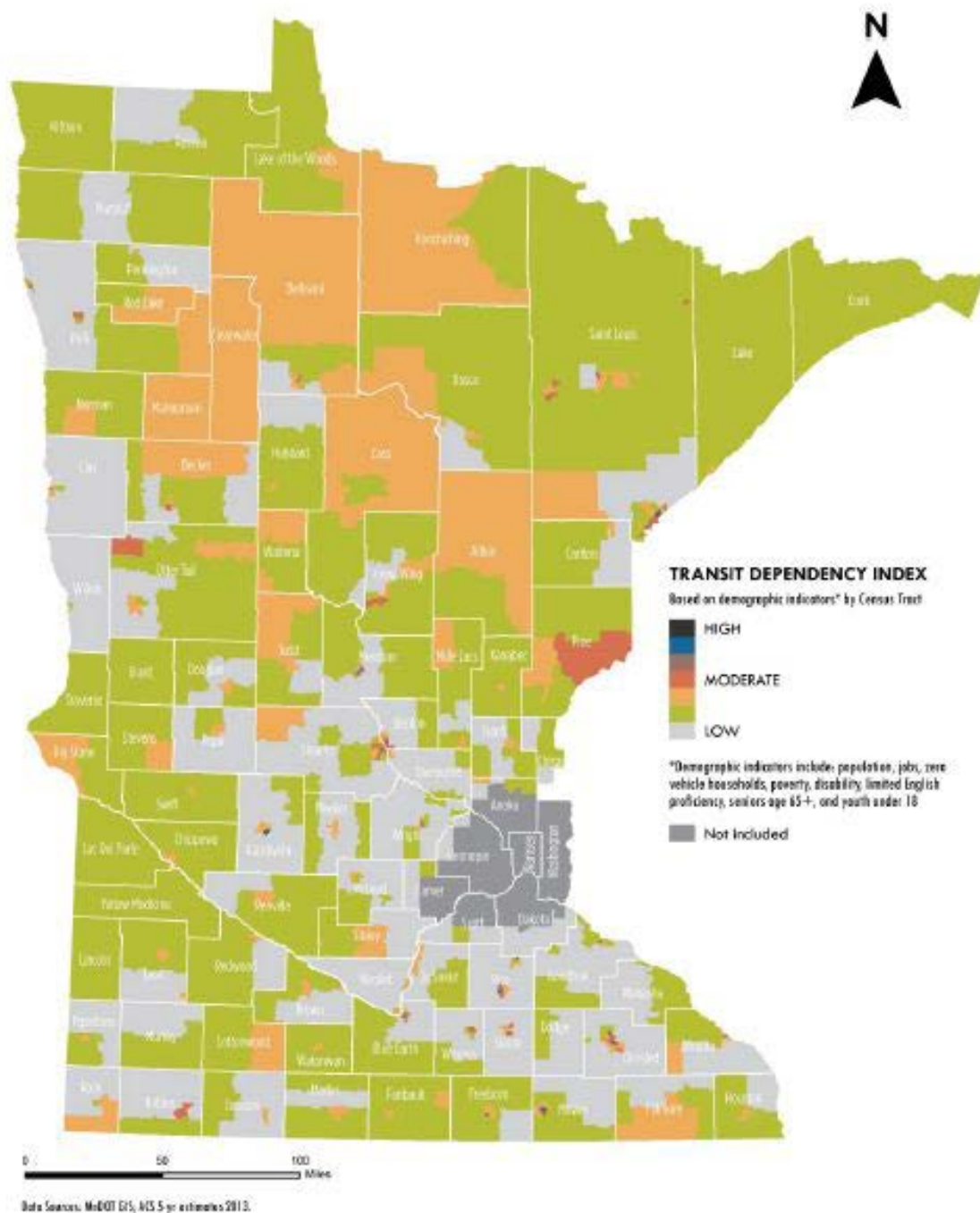
percent of households are classified as low-income, slightly above the statewide share of 11.5 percent. Greater Minnesota counties with the highest percentages of low-income households include Mahnommen (26.2 percent), Beltrami (21.9 percent) and Blue Earth (19.2 percent).

- **Persons with Disabilities** – Persons with disabilities are often heavily dependent on public transit service. Of residents over the age of 17 in Greater Minnesota, 11.4 percent have a disability, slightly higher than the statewide average of 10.1 percent. Greater Minnesota counties with the highest percentages of persons with disabilities include Aitkin (18.6 percent), Clearwater (17.1 percent) and Koochiching (17.1 percent).
- **Persons with Limited English Proficiency** – Limited English proficiency can be another indicator of a household's relative dependency on transit. In Greater Minnesota, only 1 percent of residents speak English "less than well." This is lower than the statewide average of 2.1 percent and the nationwide average of 4.5 percent.

Figure 4-7 shows the Statewide Transit Dependency across Greater Minnesota. Areas with the highest population density have the highest levels of transit dependency. In general, higher levels of transit dependency in rural areas are wider spread across the northern half of the state, with a band of lower transit dependency radiating from the fringes of the Twin Cities Metropolitan Area.



Figure 4-7 Statewide Transit Dependency Index



Trends Affecting Transit in Greater Minnesota

Transit service must meet the times and places where people need to travel. Transit systems must evolve as demographics and lifestyles change. How people access information, the makeup of a typical household, shifting job markets, and the size of generational groups all affect the need for and design of public transportation.

DEMOGRAPHIC TRENDS

Demographics – the quantifiable characteristics of a population – by their very nature are constantly changing in society. Demographic trends affect the need for public services such as transit. By comparing rates of change in Greater Minnesota to the country overall, unique transportation needs begin to emerge.

Demographics

- **People in Greater Minnesota will remain spread out.** Population is not set to increase greatly, meaning very rural areas will likely remain very rural.
- **Urban area population is increasing.** Population in urban areas keeps rising. Access to transit and vibrant walkable/bikeable neighborhoods in city centers may make urban living more attractive to millennials and older adults alike. With increased density in population, opportunity arises to enhance urban services, including transit.
- **Increase in foreign population.** Transit providers should provide bilingual information materials, so foreign born and non-English speaking populations have equitable access to transit services.
- **New family definition.** Smaller household size and more nonfamily households redefine how outreach is done. Combined with the increasing population, an increase in housing units has the potential to influence transit capacity and access needs. As the number of female heads of household increase, accommodating trip chaining to multiple destinations is needed to attract and retain riders.
- **Large population of people with disabilities.** Greater Minnesota has a high percentage of people with disabilities. These populations require accessible vehicles and meeting increasing demand over time must be achieved through partnerships with state human services agencies.

Economy

Many aspects of Greater Minnesota's economy affect the need and demand for transit, such as income levels, employment sectors and changes in technology. An increase in poverty potentially increases the number of persons that have difficulty affording a personal vehicle and are in need of access



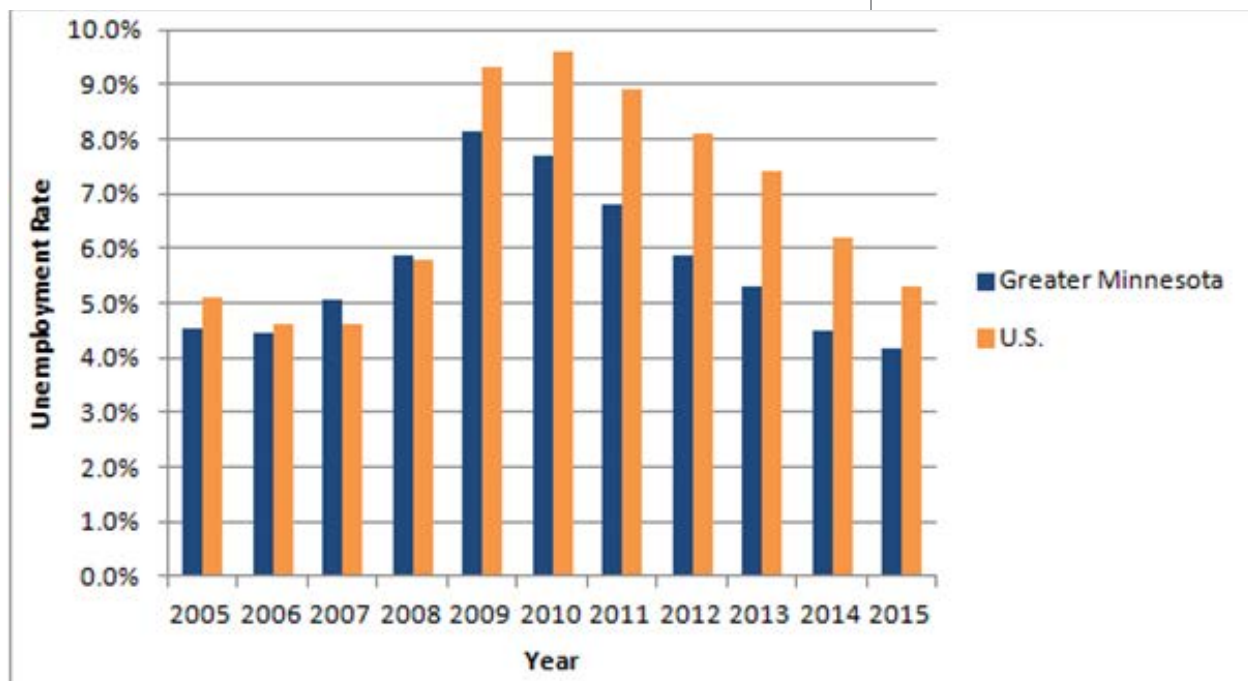
to jobs and to other services. Rates of employment impact the number of frequent transit customers. Since most people travel to work five days per week, a transit system that meets employment needs can capture a high number of frequent riders. The sectors of employment matter in terms of when people need to travel. Second and third shifts, common to Minnesota's manufacturing sectors, require late night and early morning travel.

- **Fewer people in poverty than national average.** Greater Minnesota's percentage of population in poverty remains lower than the nation overall.
- **The Greater Minnesota economy has fared well.** Unemployment rates are lower than the national average.
- **The new economy is shifting transit demands.** New forms of technology have spurred a sharing economy that has encouraged the development of new forms of transit. Autonomous cars are likely to further affect this in the future.
- **Some millennials and baby boomers are driving less and/or contributing to a decrease in driving.** Both generations exhibit similar patterns of wanting to live in walkable communities and choosing to take transit, walk, or bicycle rather than drive.

Development

The development of a sharing economy that uses technology to organize trips and potentially even drive vehicles changes transportation behavior. The following summary statements highlight these trends.

Unemployment Rate in Greater Minnesota and U.S. 2005-2015





- **Suburban development pattern continues.** While urban area population is growing, much of that population is occurring outside the traditional downtown core of Greater Minnesota's urbanized areas. This is requiring transit agencies to expand service areas beyond city borders.
- **Job diversification with varied shift times.** In certain parts of the state, manufacturing jobs are declining while other regions are increasing. These jobs have various shift times including first, second, and third shifts that are challenging for transit agencies. Growth in health care and professional services could mean an increase in those commuting during typical 9-5 hours. Schedules for service sector jobs, particularly late evenings and weekends, can be challenging to coordinate with transit.

Public Policy

Public health should be considered for future transit investments. Given the trends in older adults, transportation investments in walking, bicycling, and transit infrastructure and programs can increase physical activity and support access to public transit. A proactive health approach can also reduce the chance of older adults becoming mobility limited. The link between transportation and public health has become prominent through a variety of factors such as:

- **Pollution.** The transportation sector is the second biggest source of greenhouse gas emissions, which can heighten the risk of asthma and other respiratory problems and also contributes to climate change.
- **Access to health care.** Reliable transportation means people can access medical services and receive preventive treatments that ward off chronic disease.
- **Physical activity rates.** Active forms of transportation can increase physical activity and reduce obesity and the risk of heart attack. This is particularly relevant for Minnesota where heart disease is the second most common cause of death.

The markets and trends in Greater Minnesota described above help shape the transit investment strategies to provide services that address these trends and meet the needs of customers. A full summary of factors contributing to changes in Greater Minnesota is available in [Technical Memo: Trends and Opportunities](#)



Greater Minnesota
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Chapter 5

COMMUNITY INPUT

COMMUNITY INPUT

Public transportation serves the public. Gathering input from existing and potential riders ensures that transit meets what the community wants. Understanding customer expectations and creating service to match those needs will increase ridership. Outreach to gather input from existing and potential riders was comprehensive and took several forms and totaled 6,378 responses (Figure 5-1.) ([View the full Public Participation Plan](#)):

- On-Board survey with existing transit riders (full report available with [Technical Memo: Transit Users Preferences and Travel Patterns](#))
- Online survey gathering priorities for transit and travel behavior (full report available with the [Technical Memo: Non-User Service Priorities](#))
- Origin and destination survey to understand common trip patterns (full report available in [Technical Memo: Existing and Desired Travel Patterns](#))
- “Hard to Reach” survey targeted at traditionally under-represented demographics or communities (full report available in [Technical Memo: Hard to Reach Population Survey](#))
- Tribal outreach including in-person meetings with three tribes and a participatory mapping exercise.

Figure 5-1: Summary of Outreach Participants

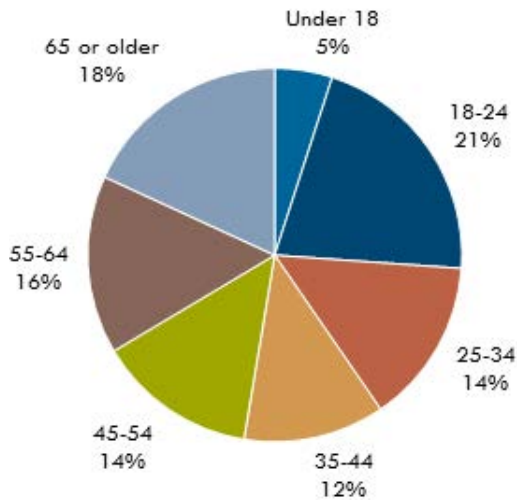
SURVEY INSTRUMENT	TOTAL RESPONSES
Onboard Survey	5,297
Online Community Survey	341
Wikimapping Tool	341
Hard to Reach Population Survey	399
Total	6,378

On-Board Transit Rider Survey

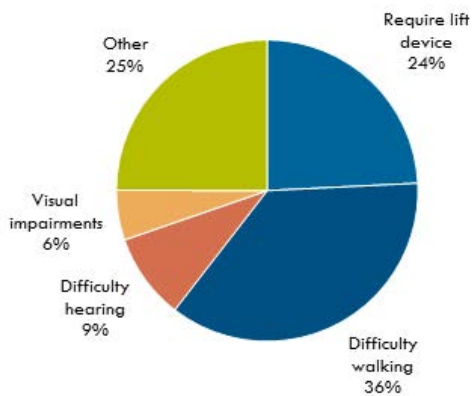
MnDOT distributed surveys to transit providers operating across Greater Minnesota. The surveys were administered on board transit vehicles to users of more than 40 systems across the state from rural dial-a-ride services to large fixed-route systems in cities such as Duluth and Mankato. Riders responded to questions related to transit use, including mode of access, frequency of use, trip purpose and desired improvements. Surveys were distributed during one calendar week, with most systems conducting their surveys during the week of Nov. 2, 2015. Participants were assisted in a variety of ways including: bus drivers helping to fill out forms for those requiring help writing, working

The onboard and online surveys were translated into Spanish, Somali and Hmong.

On board survey respondent age



Physical conditions that require assistance to use transit



with caretakers to facilitate completion in group homes, and sending forms home with children to receive help from a parent or guardian. In total 5,297 valid surveys were collected: 5,258 in English, 25 in Spanish, 11 in Somali, and 3 in Hmong. To assess the results in the context of the Greater Minnesota Transit Investment Plan, survey responses were grouped into the three population designations used to allocate transit funding (see Figure 5-2).

Figure 5-2: Transit System Types

SYSTEM TYPE	PRIMARY POPULATION CENTER POPULATION	TYPICAL SERVICE TYPES
Rural	Less than 2,500	Dial-a-ride
Small Urban	2,500–50,000	Dial-a-ride, deviated route
Urban	More than 50,000	Dial-a-ride, fixed-route

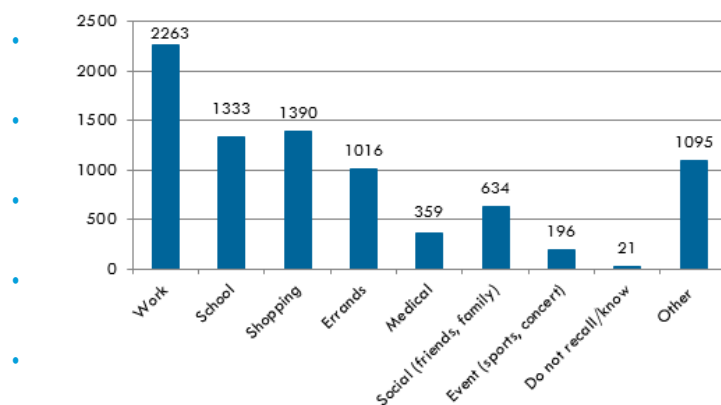
SUMMARY OF FINDINGS

Respondent Profile

- **Geography.** More than half of respondents represented rural service types, and more than one-third represent urbanized services.
- **Age.** Seventy-seven percent of respondents were between the ages of 18 and 64. Sixty percent were female and 40 percent male.
- **Income.** Half of the respondents' had earnings within the lowest household income response category (under \$25,000). Only 8 percent have a household income higher than \$49,000.
- **Language.** Less than 1 percent of the surveys submitted were completed in a language other than English.
- **Ethnicity.** Seventy-eight percent of respondents were white. Black/African-American Mixed/Other, Asian and Hispanic respondents range from 3 to 7 percent of the total.
- **Driver's License.** More than half (59 percent) of respondents do not have a driver's license.
- **Disability.** Thirty-nine percent of respondents reported identifying as someone with a disability, while 19 percent report having a physical condition that requires assistance to use transit.

Transit Behaviors

- **Primary transit destination.** Nearly two-thirds (65 percent) of respondents list work or school as a primary transit trip destination.
- **Mode choice.** Twenty-seven percent of respondents prioritized convenience when choosing their mode of travel. Travel time is the second most cited factor at 17 percent.
- **Transit use.** Half of respondents ride transit 5 to 7 days per week, with 82 percent of respondents riding transit at least twice a week.
- **Tenure.** One-third of respondents have ridden transit for more than five years, and 73 percent have been riding transit for at least a year.



Attitudes and Opinions

- **Satisfaction.** Fifty-one percent of respondents are “Very Satisfied” with transit service availability in their community. Thirty-four percent are “Satisfied” and 10 percent are “Somewhat Satisfied”. Five percent are dissatisfied with service.
- **Travel needs served by transit.** More than 70 percent of respondents note that “75 percent or More” of their travel needs are served by transit.
- **Desired improvements.** When given the choice to select desired improvements to transit, 42 percent selected longer service hours and 24 percent selected increased reliability (transit arriving on-time). A high percentage (18 percent) of respondents selected “Other (please specify).” Comments listed under this response consist mainly of a desire for longer hours of service or providing service on weekends.
- **Preferred source of information.** Forty percent of respondents picked flyers/newsletters as the preferred source for receiving transit information.



As a whole, riders expressed a desire for longer service hours, improved reliability and weekend service.

Twenty-four percent prefer newspapers, and 22 percent prefer transit websites. Less than 15 percent of respondents listed social media platforms such as Facebook and Twitter as a preferred source of transit information.

Differentials by Transit System Type

- **Respondents on the urbanized systems** are younger than the statewide average (22.5 percent more between ages 18–34) and are most likely to be riding transit to work or school (80 percent vs. 65 percent). They have the highest level of transit satisfaction, but the lowest share of respondents that have at least 75 percent of their travel needs served by transit. They have a considerably higher rate of preference for receiving transit information via transit websites and social media platforms compared to riders in small urban or rural areas.
- **Respondents on the small urban systems** fall in between urban and rural riders in terms of age. More than half (57 percent) use transit as a primary means to access work or school. Small urban system riders are more likely to use transit for shopping and errands than other service areas. They have a level of satisfaction slightly above the overall survey average, and the rate of respondents that consider at least 75 percent of their travel needs served by transit is 1 percent below the overall survey average. Small urban systems had a much lower rate of response compared to other service areas, comprising just 6 percent of total Greater Minnesota results.
- **Respondents of rural systems** are more likely to be above the age of 65 and less likely to be between ages 18–34 as compared to riders of the other service types. They are less likely to use transit to access work or school than riders are of other service types; however, they are more likely to use transit to access medical destinations and for shopping. Compared to other service areas and the statewide average, they have a considerably lower rate of having a driver's license (28.1 percent) and a higher rate of physical conditions that require assistance to use transit (29 percent reported having a condition affecting access to the bus). They have a level of satisfaction above the statewide average, and have the highest rate of respondents who consider at least 75 percent of their travel needs served by transit (73.7 percent).

ONBOARD SURVEY CONCLUSION

The findings of the on-board survey provide valuable insights about the current transit users in Greater Minnesota. The results point to differences in

the demographic and behaviors of riders among rural, small urban and urban systems. However, many ideas and views about existing transit service in Greater Minnesota are similar among riders in all communities.

Overall, the survey results reveal that the majority of transit users in Greater Minnesota are female, white and low-income. More than 75 percent of riders fall within the category of “commuter age” (18–64) and more than half do not possess a driver’s license. This can help transit agencies target marketing and services toward these users. A significant number of riders (about 25 percent) have been riding for less than one year, showing that transit may be appealing to an increasingly broad audience in Greater Minnesota.

While many characteristics are similar for all service types, there is a difference among rural riders, small urban and urbanized riders. Rural riders are more likely to be elderly, without a driver’s license, disabled, and dependent on transit for trips other than work or school. Rural riders are less likely to ride transit on a daily basis compared to riders in small urban or urbanized communities.

In terms of attitudes and opinions, transit operators across Greater Minnesota earned high levels of satisfaction from riders in all communities. As a whole, riders expressed a desire for longer service hours, improved reliability and weekend service. In regards to how information is distributed, older riders preferred traditional sources of media such as flyers/newsletters and newspapers compared to social media, text message, and email. Younger riders request more information through websites, social media and email.

Online Community Survey

The online survey included two components: (1) a needs assessment asking about travel patterns and why transit is or is not a good option, and (2) a game-like component that asked people to prioritize transit service improvements based on cost and potential community benefits. A planning game—titled “Design Your Own Transit System”—used a game interface to identify service priorities by asking people to select transit service improvement strategies from a variety of choices. Strategies were grouped into four major categories:

- Service area expansion
- Existing service enhancements
- Facilities
- Information systems

Figure 5-3: Design Your Own Transit System Survey Screenshot

Community Benefits

Reset All Choices

Strategies	Access to Employment	Access to Community Services	Support Economic Development	Reduce Congestion	Reduce Greenhouse Gases	Cost
<input checked="" type="checkbox"/> Offer transit service in more areas						
<input checked="" type="checkbox"/> Increase bus service to rural areas						\$\$
<input type="checkbox"/> Increase bus service to small cities						\$\$\$
<input type="checkbox"/> Increase bus service to large cities						\$\$\$
<input checked="" type="checkbox"/> Create more regional bus service						\$\$
<input type="checkbox"/> Provide service in areas with no transit						\$\$

YOUR OVERALL BENEFITS

Access to Employment

Access to Community Services

Support Economic Development

Reduce Congestion

Reduce Greenhouse Gases

YOUR TOTAL COSTS

\$40

Maximum is 100

Proceed to Next Page

Each strategy has a cost and a strategy on how it would contribute to the community:

- Access to employment
- Access to community services
- Support economic development
- Reduce congestion
- Reduce greenhouse gases

Respondents were given a maximum spending budget. This required respondents to prioritize improvements based on community benefits, cost and personal preference. Figure 5-3 shows a screenshot of one of the strategy tables from the survey.

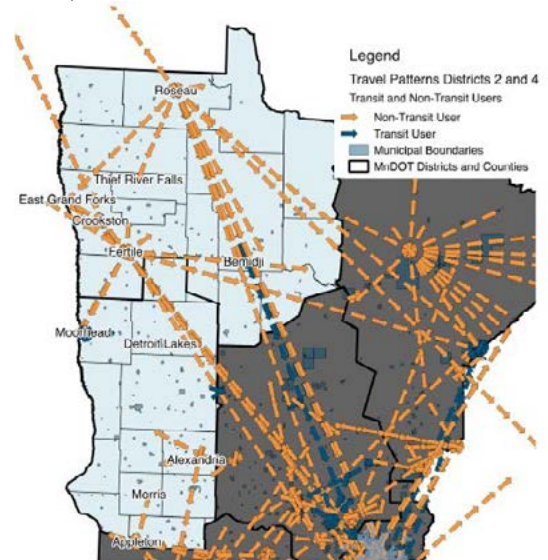
To reach out to populations typically underrepresented in community engagement, the survey was translated into Somali, Hmong and Spanish, and into an ADA-compatible format. One response was received for the non-English surveys and seven responses were received for the ADA-compatible survey. MnDOT promoted the survey via social media and purchased additional advertising on Facebook. A total of 341 responses were collected for this exercise.

SUMMARY OF FINDINGS

Summarized below are the key findings and themes from the online community survey.

- **The survey reached a variety of current and potential transit users across the state.** Respondents were well spread across the state, and one-fifth of the respondents used bus transit within the past year. Those who used transit used a variety of services, including fixed-route bus services, commuter rail and dial-a-ride. Those who used transit used it in different ways, with some respondents relying on daily service and others using transit for occasional trips. Two-thirds of respondents indicated they would consider using transit if it served their community.
- **Respondents would like to reduce their automobile use and the associated travel costs and environmental concerns.** These were key factors in choosing to use public transportation. Marketing campaigns that encourage transit as a way to reduce vehicle use should be considered.
- **Regional service expansion, longer service hours and frequency increases are high priority improvements, especially for respondents who do not currently use transit.** The top two desired improvements were more service in outlying communities and service beyond city/county boundaries. These improvements were selected at a higher rate among non-current riders. Regional bus service and service in areas without transit were selected by many respondents in the “Design Your Own Transit System” portion of the survey. Respondents also said service span and frequency increases are desired.
- **The most important community benefit of transit was access, and congestion mitigation was the least important.** This indicates that congestion is likely not a problem for survey respondents or those reasons are not at the top of the list of why a person chooses to take transit.

District 2 Regional Travel Destinations



Online Mapping Tool - Origins and Destinations

An interactive online mapping tool was developed to better understand travel patterns of current transit users and non-transit users. Information collected through this tool can help quantify the need for public transportation within and across communities. Analyzing destinations and travel patterns helps transit agencies and communities identify where additional or enhanced transit service is desired and where there is a need for further study and outreach on existing service.

Figure 5-4: Wikimapping Tool



WIKIMAPPING TOOL

MnDOT created an interactive online mapping project using a Wikimapping platform to gather transit user and non-transit user existing and desired destinations (see Figure 5-4). Participants tagged their usual destinations on a Google map and also provided the destination type such as “work”. Each user’s data was tied to a unique identifier, allowing for origin-destination analysis and for users to revisit and update the site multiple times without needing to create a new account. Participants were asked a series of questions, including their current level of transit usage, how frequently they travel and the primary purpose for traveling to each destination. There was no limit to the number of destinations each user could contribute.

DESTINATION SURVEY TOOL

An ADA accessible destination survey was also available for users uncomfortable with or unable to use the Wikimapping tool. Similar questions were asked in the survey, including current transit use, common destinations and trip purpose. Rather than entering destinations on a map, participants typed addresses and descriptions of destinations. These destinations were later geocoded and combined with the destination information received through the Wikimapping tool to comprehensively map and analyze travel patterns.

DISTRIBUTION OF TOOLS

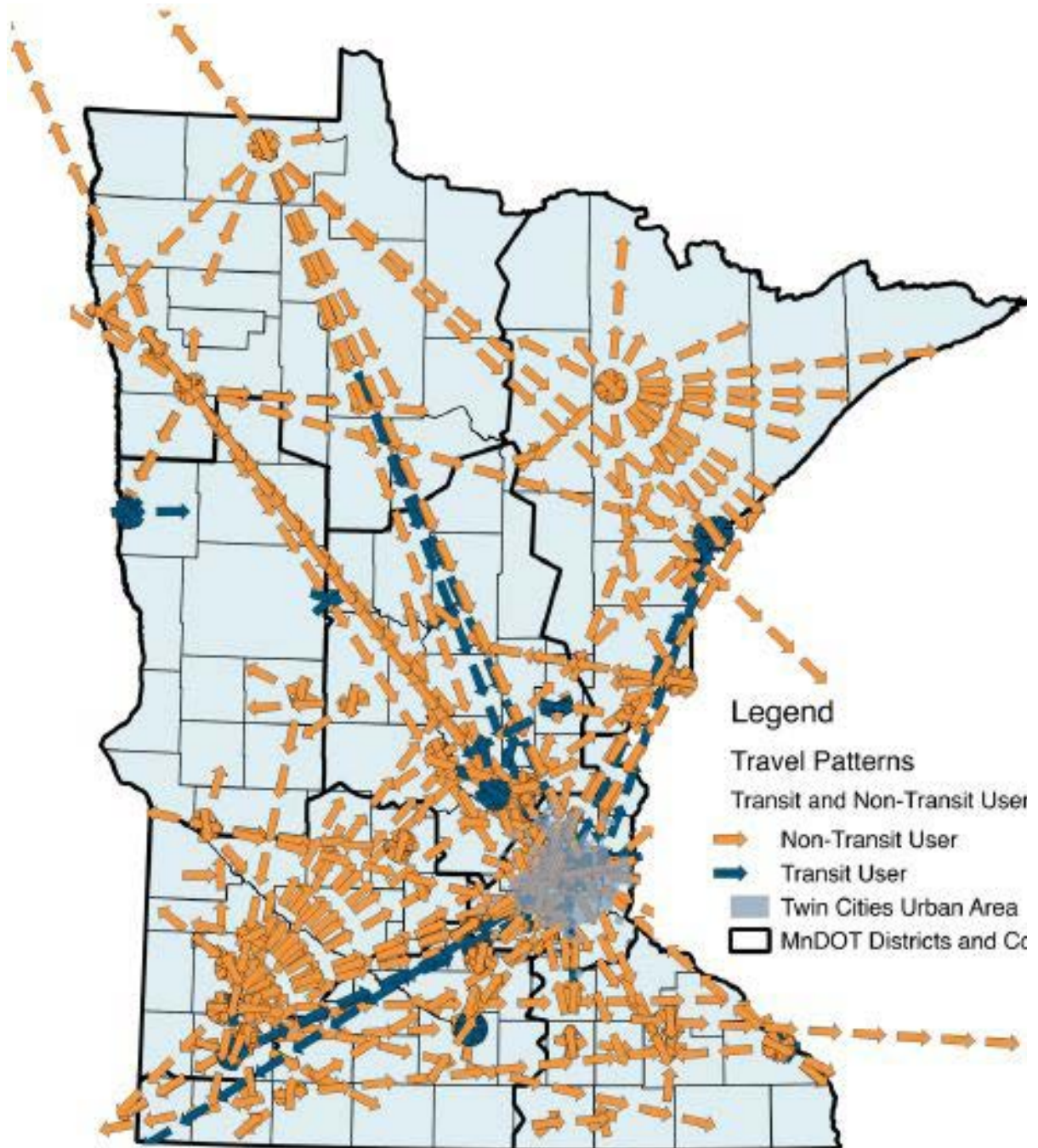
The Wikimapping and destination survey tool were available from mid-December 2015 to the end of February 2016. Both were accessible through the “Get Involved” page of the project website and were shared in several email blasts to various stakeholders. Links to the surveys were posted on MnDOT social media pages weekly throughout the open survey period.

SUMMARY OF FINDINGS

Destination responses were received from every MnDOT district and several outlying states. In total, the Wikimap and destination survey yielded 1,481 responses from 341 unique users. Of the 341 unique users, 153 used Wikimaps to enter destinations (45 percent of users) and 188 used the destination survey to enter destinations (55 percent of users). However, Wikimap users entered an average of seven destinations per user, while destination survey users entered an average of two destinations per user. Key findings and themes from the origins and destinations survey are summarized below.

- Transit users are more likely to have lower incomes, have larger households and fewer cars per household, and are more likely to be employed part-time than non-transit users.
- The majority of respondents to the Wikimap and online destination survey were non-transit users (76 percent)
- Non-transit users and transit users identified a need for trips crossing county lines and connections to cities in other MnDOT Districts. Transit providers may need to provide service opportunities that cross county lines and connect cities in other districts to reach this new market. This may require updating service areas and/or current funding structure. Coordinating service schedules and/or co-locating transit stops to allow for transfers among neighboring transit agencies may be a near-term solution to provide long-distance or city-to-city service. In some cases, consolidating transit providers may allow agencies to cover larger areas to further meet the need for longer distance travel.

Figure 5-5: Existing and Desired Travel Patterns



- Many non-transit users identified local destinations that could be served by transit. Non-transit users who have access to transit may be more likely to use transit if transit also served additional nearby destinations. The Wikimapping and destination survey tool may provide support to modify existing service to serve more short distance trips through transit, including information on trip purposes, desired time of day travel to nearby destinations, and reasons for not using transit. Short distance travel patterns may indicate an opportunity to provide more information on available transit service to potential riders and an opportunity for transit providers to increase farebox revenue through a greater number of short distance trips.

“Hard to Reach” Populations

MnDOT placed a high priority on connecting with and receiving input from a diverse set of Minnesota residents, including seniors, low-income populations, persons with housing instability, individuals with disabilities, veterans and New Americans. Collectively, outreach to these “hard to reach” population groups was conducted with paper surveys (since Internet access is often limited for certain population groups), in person presentations and stakeholder discussions.

MnDOT developed a paper survey with pre-paid postage to provide an alternative opportunity to participate in the GMTIP update for populations with limited internet access and/or computer skills. Several human service organizations across Greater Minnesota were contacted directly to assist in distributing the paper survey. These project partners were asked to give the surveys to clients during appointments, at meetings and at each organization’s front desk. Surveys were shared at community meetings and tribal council briefings attended by MnDOT during the plan update. Project partner organizations included:

- Arrowhead Bookmobile Services
- Bi-County Community Action Programs, Inc.
- Grand Portage Band
- Leech Lake Band of Ojibwe
- Mille Lacs Band of Ojibwe
- Minnesota Valley Action Council

- Northwest Community Action
- Prairie Five Community Action Council
- Semcac
- Vine Faith in Action
- West Central Minnesota Communities Action, Inc.

MnDOT also developed an online version of the survey as another way to collect information, particularly with college students. The survey link was shared with the organizations and through email, Facebook and other social media outlets.

KEY FINDINGS

A total of 158 completed paper and 241 online surveys were received. Key findings and themes from the survey aimed at collecting input from hard to reach populations are summarized below.

- The majority of respondents did not use transit in the past year (87 percent). Of these non-transit users, 41 percent indicated that they would use transit if it served where they lived, and 34 percent were not sure if they would use transit if it were available.
- Participants identified a need for transit to better reach outlying cities or communities and provide service beyond city or county boundaries, better information on how to use transit and more frequent and more evening or night service.
- Participants are more likely to choose transit if it is convenient, low cost and allows for flexibility in travel plans.
- Participants most preferred to receive transit information and updates by email, newspaper or flyers and newsletters. Paper survey respondents were less likely to prefer email than online survey respondents were.

In summary, paper survey respondents were more likely to have lower incomes, have larger households with fewer automobiles per household, were more likely to have a disability and more likely to be ethnically or racially diverse than online survey respondents.



Tribal Consultation

MnDOT's Office of Transit worked with multiple tribal nations throughout the planning process. Staff received input on the plan from tribal leaders through guided discussions. Staff also met with and worked with three tribes in Greater Minnesota. During these events, staff used a participatory mapping exercise to understand the regional travel demand of tribal members in addition to distributing the 'hard to reach' paper survey.

In summary:

- Staff met with Grand Portage Tribe planning staff and presented highlights of the planning process. Community staff at Grand Portage completed the paper survey in spring 2016.
- Staff also participated in the Mille Lacs Tribe Band meeting in fall of 2015. The GMTIP was briefly presented followed by two exercises to gather input from the tribal members. First, a participatory mapping exercise where participants used dots on table-top maps to identify their regional travel destinations. This helped MnDOT understand that people were crossing boundaries to access other trade centers. Second, the staff distributed and collected the 'hard to reach population' paper survey.
- Staff also participated in Winterfest at the Leech Lake Reservation in winter, 2016. Approximately 250 people attended the community event. Staff used the regional mapping exercise to capture travel destinations and the "hard to reach" paper survey for priorities.

Community Input Conclusions

Understanding the amenities and types of service desired by transit customers is essential to help determine how well service meets needs and where gaps lie. Surveys conducted with riders and non-riders reveal customer expectations that influence whether a person will get on a bus.

- **Regional service expansion, longer service hours and increased frequency are high priority improvements, especially for those not currently using transit.** Highly desired improvements include more service in outlying communities and beyond city/county boundaries, along with service span and frequency increases. Many users desire more reliable transit service. Reliability can be measured using on-time performance for fixed route service and customer denial rates for demand responsive services. Data for these metrics is currently not tracked. This presents an opportunity for systems statewide to monitor their performance.



- **Frequent service is highly desired by riders and non-riders when determining potential transit use.** Currently, urban systems maintain average headways of less than one hour, with the exception of St. Peter Transit and Winona Transit. Most rural and small urban systems operate demand-response services. These services do not have an “average” headway.
- **Weekend service is another priority for riders, especially those who do not currently use the service.** Currently, the majority of ADA-complementary paratransit, urban and small urban systems offer Saturday service, with the exception of Le Sueur Heartland Express and La Crescent Apple Express. Sunday service is rarer. Among urban systems, only two providers offer Sunday service. Weekend service among rural and small urban providers is similarly varied. A number of providers offer half-day service on either Saturday or Sunday. Only five rural providers offer both Saturday and Sunday service.
- **Evening service, defined in this case as service past 7 p.m., is highly desired by users wishing to take transit outside of normal commuting hours.** Half of the urban systems provide evening service. A similar trend is found for small urban systems, with about half providing service past 6 p.m. Evening service is much rarer among rural service providers, where only around 12 percent of providers offer evening service. All providers offering evening service also offer service on at least one weekend day.
- **For riders, the ability to view a schedule online makes trip planning much more convenient and is highly desired.** All urban and small urban systems have online schedules available to the public for fixed route service. The vast majority of rural service providers have service operating hours and days listed online.
- **The ability to travel between cities/counties throughout the state is important for providing access to users.** Currently, only providers serving multiple counties operate inter county services. This service preference is only found among rural providers.

In summary, the lessons learned through the public outreach effort, such as the need for longer service hours and improved frequency, are directly tied to the development of the Service Plan that will address customer needs and increase ridership. In addition, rider and non-rider expectations and needs are addressed in the strategic direction and strategy prioritization.

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Greater Minnesota
Transit Investment
Plan

Chapter 6

DEMAND FOR PUBLIC TRANSPORTATION

DEMAND FOR PUBLIC TRANSPORTATION

For each Greater Minnesota Transit Investment Plan, [*Minn. Stat. 174.24*](#) requires MnDOT to make an assessment of ridership, total transit services needs in Greater Minnesota, and a plan to meet those needs.

This plan fulfills all statutory requirements throughout the following chapters. Some of the terminology was changed from the statute to language that is easier to understand. The new language does not change the original meaning of the statute but clarifies the terminology for the readers of this document.

MnDOT requirements:

- Conduct an analysis of total transit service needs in Greater Minnesota
- Calculate the level and type of service required to meet public transit demands in Greater Minnesota
- Develop a plan to reduce unmet transit service demand
- Prepare an analysis of costs and revenues

In addition, the state statute directs MnDOT to identify the passenger levels, levels of service and costs necessary to address the following targets:

- Meet 90 percent of total transit service demand in Greater Minnesota by 2025.
- Identify costs of meeting 100 percent of total transit service demand every five years from 2015 to 2030.

Estimating Transportation Need and Public Transit Demand

Two models were used to calculate transportation need and demand for public transit. A mobility gap model calculated the total transit service need in Greater Minnesota. The model used trip rates and projections of future trips based on demographic changes to calculate the need and demand. A demand model estimated the public transit demand.

After identifying the demand for public transit, MnDOT developed a service plan that addresses the needs of riders and potential riders such as reliability, evening service and weekend service. The plan also calculated the ridership potential generated from the service improvements and how the service plan meets the demand for public transit as required by the state statute.

CALCULATING TRANSPORTATION NEED IN GREATER MINNESOTA - MOBILITY GAP

The first component in the Mobility Gap formula is to use the daily household trip rate by vehicle ownership. This trip rate was developed from data in the 2009 National Household Travel Survey for the West North Central Division, which includes North Dakota, South Dakota, Nebraska, Kansas, Missouri, Iowa and Minnesota. As shown in Figure 6-1, as the number of vehicles per household increases, the trip rate also increases. Zero vehicle households make 2.4 trips per day while households with one vehicle make 4.5 trips per day. The difference between the trip rates represents the mobility gap for households owning no vehicle.

Figure 6-1: Daily Household Trip Rate vs. Vehicle Ownership, 2009

VEHICLES PER HOUSEHOLD	TRIPS PER RURAL HOUSEHOLD PER DAY
0	2.4
1	4.5
Gap	2.1

Source: 2009 National Household Transportation Survey, TCRP Report 161

The Mobility Gap formula multiplies the trip rate difference by the number of households without vehicles in the given area. Multiplying this value by 300 days provides the annual number of trips not taken due to a lack of vehicle. The value 300 (determined for use in the formula by Transit Cooperative Research Program (TCRP) reflects that trip need is likely reduced on the weekends, but annual need is not only associated with weekdays.

The Mobility Gap formula, illustrated in Figure 6 2, was used to help identify overall transportation need by comparing the trip rates for households owning one or more personal vehicles to the trip rates for households owning no personal vehicles. Households without a personal vehicle have limited travel options and may not be able to complete all of their needed trips. This formula highlights how many trips a household may have taken if they had access to a vehicle. [Figure 6-2: Mobility Gap Formula](#)



The 2014 Mobility Gap for Greater Minnesota is 37,926,000 trips. As shown in Figure 6-3, this value was calculated by multiplying the trip rate difference, (2.1), the number of households with no vehicle, (60,200), and 300 days.

Figure 6-3: Mobility Gap for Greater Minnesota, 2014

TRIP RATE DIFFERENCE	NUMBER OF HOUSEHOLDS WITH NO VEHICLE	DAYS PER YEAR	MOBILITY GAP (ANNUAL TRIPS)
2.1	60,200	300	37,926,000

Figure 6-4 shows the estimates of projected travel need for Greater Minnesota. It should be noted that these estimates greatly exceed actual travel demand observed by local transit systems. Only a portion of the overall transit need can be met by public transit services. The Mobility Gap formula provides a relative estimate of mobility limitations, measuring only one factor of influence—lack of access to a personal vehicle.

Figure 6-4: Mobility Gap Summary for Greater Minnesota

	2010	2020	2030
Mobility Gap (Annual Trips)	66.4 million	72.2 million	76.4 million

Only a portion of the overall transit need can be met by public transit services. The Mobility Gap formula provides a relative estimate of mobility limitations, measuring only one factor of influence—lack of access to a personal vehicle.

DEMAND FOR PUBLIC TRANSIT

Public transit cannot meet all of the transportation needs in Greater Minnesota. In transit terms, “demand” is the number of passenger trips to meet the need. The term “ridership” refers to the actual trips made on public transit. A Ridership Estimation Model, Figure 6 6 was used to estimate the demand for public transit and the ridership by incorporating trip rates for transit-dependent population. Because the model does not account for local conditions, it should not be used to estimate transit demand at a county or local level. The model is also not intended to serve as a planning tool for designing future transit services that could influence travel choices. A description of the model used to calculate these numbers is available in the Appendix.

In addition to demand estimation, the second part of understanding needs lies in calculating service hours required to meet the demand. This methodology uses existing service hour rates per capita and service hours per trip. Median service hour rates per capita and per trip were calculated based on community size and multiplied by the population of likely transit users.

The legislative target is 90 percent of tansit de-
mand, or **17 million trips**

Transit Demand Calculations

The 2014 statewide transit model is based on a recalibration of the national methodology for assessing transit ridership as released by the Transit Cooperative Research Program. The TCRP national model was developed to guide decisions on how to distribute federal transit funding at the state level. This model assesses transit need in rural areas on the basis of demographic features that describe the level of transit dependency. These features include populations of seniors (aged 60 years and above), people with disabilities, low-income residents and residents in households without a motor vehicle. The equation for estimating transit demand is as follows:

$$Demand_{TCRP} (trips\ per\ year) = 2.20(population\ age\ 60^{+}) + 5.21(mobility\ limited\ population\ age\ 18\ to\ 64) + 1.52(residents\ of\ households\ without\ vehicles)$$

In Minnesota, the TCRP methodology underestimates transit demand throughout the state and particularly in counties with urban MPOs or college campuses. For this reason, an alternative methodology was sought to more accurately predict actual transit ridership in Minnesota. This 2014 methodology recalibrates the TCRP model and incorporates binary (0/1) variables for counties with urban MPOs as well as college campuses. The updated equation is as follows:

$$Demand_{MN2014} (trips\ per\ year) = \beta_1 (Demand_{TCRP}) + \beta_2 (Demand_{TCRP} \times MN\ MPO) + \beta_3 (Demand_{TCRP} \times campus) + \beta_4 (Demand_{TCRP} \times MN\ MPO\ and\ campus)$$

where

$$\beta_1 = 3.11609, \beta_2 = 6.70306, \beta_3 = 6.61977, \beta_4 = 8.11724$$

In 2015, MnDOT provided 12.1 million rides, ap-
proximately 87 percent of demand.

The Minnesota-specific hybrid model combining elements of the TCRP model plus integration of higher-density areas resulted in estimates for 2014 ridership that were much closer to actual numbers than the TCRP model alone. Using the 2014 Statewide Transit Demand Model, total statewide ridership demand was estimated at 13.3 million trips in 2014, 18.9 million in 2025 and 20.7 million in 2030 for all counties in Greater Minnesota (Figure 6-5).

Figure 6-5: Projected Transit Demand

YEAR	100% OF PUBLIC TRANSIT DEMAND (MILLION)
2014	13.3
2020	16.9
2025	18.9
2030	20.1

Figure 5-6: 2014 Statewide Transit Ridership Demand Model

Service Plan to Meet the Demand for Public Transit

The goal of the service plan is to translate the demand into policy and action. Based on extensive public outreach, people take transit because it:

- operates when they need it (span of service)
- goes where they need it (regional mobility connections)
- is convenient (frequency)
- is reliable (on-time performance),
- is easy to understand (public information).

The service plan detailed in the following sections of the plan addresses these components.

SPAN OF SERVICE

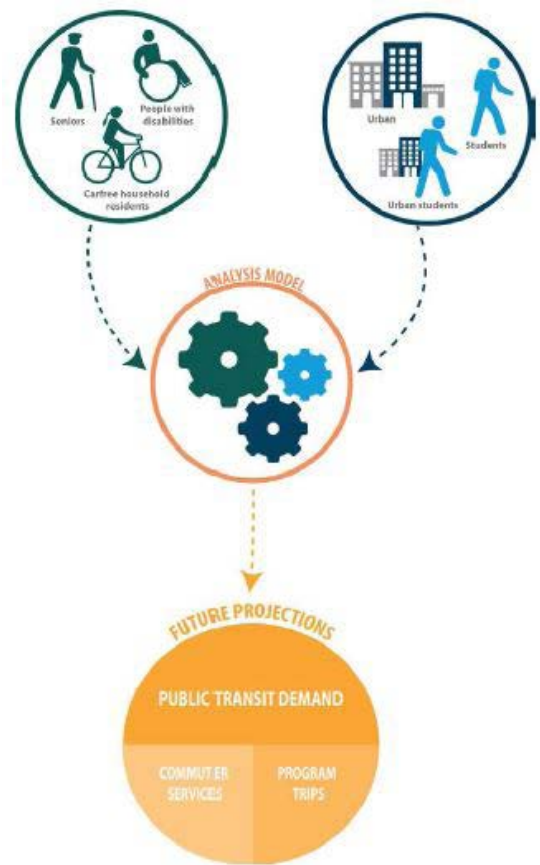
After calculating the demand for public transit, MnDOT developed a plan for how to meet the demand and the level of service needed. The legislative target of meeting 90 percent of demand would place the ridership goal at 17 million annual trips by 2025. With a current annual ridership of 12.15 million, this indicates that ridership should grow by 4.85 million trips annually by 2025. To meet the demand, MnDOT developed a service plan that establishes a baseline span of service for communities based on their population. This concept “right sizes” the level of transit service for each community. Small urban systems are broken into two population groups because the density, land use, population and other attributes of cities less than 7,000 are much different from cities of more than population of 7,000.

Figure 6-7 below outlines baseline span of service for both weekday and weekend service. At this time, the majority of cities and communities in Greater Minnesota have service that operates for shorter service spans than the baseline. Existing service spans for each transit system are shown in the Appendix.

Figure 6-7: Greater Minnesota Baseline Span of Service

SERVICE POPULATION	PEER GROUP	WEEKDAY	SATURDAY	SUNDAY
Cities over than 50,000	Urban	20	12	9
Cities 49,999 – 7,000	Small Urban	12	9	9
Cities 6,999 – 2,500	Small Urban	9	9	NA
County Seat Town/Small Communities < 2500*	Rural	8 (3 days per week)	NA	NA

*These are the baseline spans of service for county seat towns, but serve as guidelines only for service span in non-county seat communities.



ESTIMATING RIDERSHIP

High and low estimates of passengers per hour, or pph, were used to project the ridership increase from the additional service with the ridership target of 4.85 million rides by 2025. Transit system provider performance standards of 15 pph for urbanized, 8pph for small urban and 3pph for rural systems were used for the low estimate (see Appendix for Performance Standards). For the high estimate, the 2014 average passengers per hour for each system type were used (21 pph for urbanized, 8 pph for small urban and 4 pph for rural.)

As calculated in Figure 6-8, Figure 6-9 and Figure 6-10, the total 508,967 additional hours of service could result in a low estimate of 3.54 million rides by 2025 and 6.27 million rides by 2025 in the high estimate. Based on this calculation, implementing the baseline span of service should grow ridership to meet the legislative target of meeting 90 percent of demand by 2025.

Figure 6-8: Projected Ridership with Baseline Span of Service Improvements

BASELINE SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS	LOW ESTIMATE RIDERSHIP POTENTIAL	HIGH ESTIMATE RIDERSHIP POTENTIAL BY 2025
Urban Areas Weekday	20 hrs./day	54,750	821,250	1,292,100
Urban Areas Saturday Service	12 hrs./day	4,950	74,250	116,820
Urban Areas Sunday Service	9 hrs./day	13,500	202,500	318,600
Small Urban 2,500 - 50,000 Weekday	12 hrs./day (7,000 - 49,999); 9 hrs./day (2,500 - 6,999)	126,540	379,620	1,202,130
Small Urban 2,500 - 50,000 Saturday Service	9 hrs./day	40,222	120,666	382,109
Small Urban 7,000 - 50,000 Sunday Service	9 hrs./day	18,245	54,735	173,372
Rural, County Seat Towns < 2500	8 hrs./day; 3 days per week	19,163	57,489	90,066
Total Baseline		277,370	1,710,510	3,575,197

Note: These ridership numbers do not account for service provided by tribal public transit.

Figure 6-9: Projected Ridership with Urban Improvements

URBAN SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS	LOW ESTIMATE RIDERSHIP POTENTIAL	HIGH ESTIMATE RIDERSHIP POTENTIAL BY 2025
ADA Complementary Service	Service to support fixed route improvements	104,832	314,469	314,469
Unserved Urban Areas	Improve urban transit service coverage	31,632	474,480	746,515
Peak Hour Frequency	Provide 30-minute peak hour frequency	33,133	496,995	781,938
Regional Express Buses	Six routes	30,000	450,000	708,000
Total Urban Service Improvements		199,597	1,735,944	2,550,922

Figure 6-10: Ridership Projections with Rural Service Improvements

RURAL SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS	LOW ESTIMATE RIDERSHIP POTENTIAL	HIGH ESTIMATE RIDERSHIP POTENTIAL BY 2025
Regional Mobility	Route operates min. 2 days/week connecting communities for shopping and medical	32,000	96,000	150,400
Intercity Feeder	Regional service tied to intercity bus service	NA ¹	NA	NA
Unserved Rural Areas	Improving rural transit coverage ²	NA	NA	NA
Additional Contract Services (Outside of Public Transit)	Assumes contracts requiring expanded service pay full cost ³	NA	NA	NA
Total Rural Service Improvements		32,000	96,000	150,400
Grand Total of all service improvements		508,967	3,542,454	6,276,119

1 No information is available at this time. A feasibility study is needed for more information

2 Coverage is defined as a five-mile buffer around the community boundaries and will be provided using the existing hours. More information is needed before hours and ridership can be calculated.

3 More study is needed before ridership estimates can be calculated.

The service plan is projected to increase ridership to meet the **4.85 million additional rides by 2025.**

Approximately 46% of community currently meet the baseline span of service for weekdays.

GAP BETWEEN BASELINE SERVICE SPAN AND EXISTING SERVICE SPAN

Agencies across the state provide service at different levels depending on their resources, service population and other factors. To meet the baseline set in Figure 6-7, agencies may be required to add longer service span hours to their current offering. Figure 6-11 and Figure 6-12 highlight in orange the number of additional hours needed to reach the service baselines. The overall trend is that cities, which lack service, need to increase span for both weekday and weekend services. Urbanized systems generally have the largest service gaps among providers in Greater Minnesota.

Figure 6-11: Increase in Weekday ADA Service

Figure 6-12: Increase in Weekday Urban Service



Only some cities have transit services that meet or exceed the baseline service span. Of urban services, only Duluth, Proctor and Hermantown have service that spans more than 20 hours on weekdays, more than 12 hours Saturday and more than nine hours Sunday. All other urban communities fall below the baseline. Eighteen of 39 small urban transit cities with more than 7,000 residents have service that meets or exceeds the baseline span for weekdays, five have a service span that meets or exceeds the baseline for Saturday and none have nine hours of service on Sunday. Small urban transit cities with fewer than 7,000 residents have even less service – fewer than four out of 10 of these cities have a weekday service span of nine hours or more.

Although MnDOT established no baseline service span for Sunday, one in 10 cities has a minimal span of service on Sunday. Eight of the 24 smallest, rural communities (one-third) have service that exceeds the recommendation for baseline service span for weekdays.

Figure 6-13 shows that the total projected service hour gap for weekdays is 200,453. If these additional hours were provided, transit agencies would meet their baseline standards assuming they continue to operate the same number of vehicles they currently operate for the extended service span. Additionally, 45,172 service hours are projected for Saturday service and 31,745 service hours to meet the Sunday service span baseline.

Although transit systems will be encouraged to meet the baseline service standards, each system must contribute the required local match to state funding and is subject to the performance standards described in Chapter 8. Transit is a public service and can be implemented in each county based on the need. For example, a small bedroom community may have no desire or need for public transportation. Instead, funds can be directed to other communities with transit service.

In summary, the baseline span of service is estimated to meet 90 percent of transit need by 2025. The goals and strategies identified in chapter 6 provide the link between the needs of riders, preferences of non-riders and the investments to drive transit over the next 20 years.



Figure 6-13: Gap between Baseline Service Span and Existing Service Span

BASILINE SERVICE IMPROVEMENTS	AVERAGE WEEKDAY SERVICE SPAN	AVERAGE WEEKDAY DAILY REVENUE HOURS	AVERAGE WEEKDAY VEHICLES	ADDITIONAL SERVICE HOURS REQUIRED FOR BASELINE	AVERAGE SAT. SPAN	AVERAGE SAT. DAILY REVENUE HOURS
Urban 50,000+	16	133	8.0	54,750	11	99
Small Urban 7,000-49,999	10	31	2.9	49,490	5	8
Small Urban 2,500 - 6,999	7	14	1.7	77,050	1	1
Rural, County Seat Towns < 2500	3	5	1	19,163	NA	NA
Total Service Gap				200,453 weekday hours		

COMMUNITY SERVICE POPULATION	AVERAGE SATURDAY VEHICLES	ADDITIONAL SERVICE HOURS REQUIRED FOR BASELINE (SATURDAY)	AVERAGE SUNDAY SERVICE SPAN	AVERAGE SUNDAY DAILY REVENUE HOURS	AVERAGE SUNDAY VEHICLES	ADDITIONAL SERVICE HOURS REQUIRED FOR BASELINE (SUNDAY)
Urban 50,000+	8.0	4,950	6	60	8.5	13,500
Small Urban 7,000 - 49,999	1.3	11,135	2	3	1.1	18,245
Small Urban 2,500 - 6,999	1.0	29,088	0	0.6	0.8	NA
Rural, County Seat Towns <2,500*	NA	NA	0.2	0.4	0.1	NA
Total Service Gap		45,172 Saturday hours				31,745 Sunday hours

*Includes only county seat towns.

MEETING 100% OF THE DEMAND

The Service Plan is projected to meet 90 percent of the identified public transit demand. There are three elements involved with reaching the remaining 10 percent of demand. First, the strategies identified in the next chapter complement the Service Plan. For example, coordinating with Transportation Network Companies and improving links with other transportation modes will build ridership towards meeting the demand. Second, transit can work to eliminate the gaps in service by increasing frequency and coverage and adding more evening hours in rural areas. Finally, developing transit routes for traditional-time commuters and regional travelers will meet the remaining demand. The span of service makes significant strides in providing access to transportation for communities; however, the demands of some commuters may not be met. This remains an opportunity for transit in the near future.





Greater Minnesota
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Chapter 7

STRATEGIC DIRECTION

STRATEGIC DIRECTION

One of the key purposes of this plan is to provide a defined set of investment strategies. This chapter presents investment strategies based on the stated priorities of the community, transit operators and Plan committees. The strategies also aim to meet the assessed transit needs throughout Greater Minnesota and achieve the mission of the MnDOT Office of Transit.

Office of Transit Mission: To help people and communities meet their mobility needs by supporting safe, responsive, efficient, and environmentally sound transit services and by safely accommodating bicycles and pedestrians to help everyone move smarter, safer and more efficiently.

Investment Goals and Strategies

GOAL 1: ENHANCE TRANSIT SERVICE TO BE AN ATTRACTIVE AND VIABLE TRANSPORTATION OPTION FOR GREATER MINNESOTA

People in Greater Minnesota need viable transportation options to access jobs, services, education and recreation. Driving is the most common form of transportation in Greater Minnesota. It offers flexibility when making decisions and is generally available when needed. When asked how to make transit a viable option, transit users and non-users stated that transit services need to be reliable, predictable and available when and where needed. A viable transit system enables the rider to make decisions with the confidence that transit will be available during the scheduled times.

Another component of a viable transit network is improving travel opportunities within and between communities. Improving travel within communities means promoting bicycle and pedestrian connections with transit service and improving access. Investing in regional connections gives more people the opportunity to travel between communities and reach goods and services available in larger communities.

Part of making transit a viable transportation option is also about providing the right type of information for passengers as they navigate the system. Maps, fare information, schedules, stops and reservation policies are all necessary pieces when choosing to use transit. Additional rider benefits such as benches and electronic fare systems improve the rider experience.

Strategies: The Office of Transit will support a transit network that responds to customer needs for high quality and customer-based service using the following actions:





- 1.1 Implement transit span of service standards and guidelines for all systems
- 1.2 Improve reliability of rural service through schedule adherence
- 1.3 Increase frequency of urban routes, particularly in urban areas and rural areas when warranted
- 1.4 Expand coverage of transit services to under-served and unserved communities
- 1.5 Invest in regional connections and cross-county service where there is a high level of travel between population and employment-rich centers
- 1.6 Develop clear, comprehensive and accessible public information about transit services
- 1.7 Invest in customer amenities that improve the transit experience, such as vehicles and enhancements, automatic vehicle locators, electronic fare systems, waiting shelters and benches as appropriate
- 1.8 Encourage bicycle and pedestrian infrastructure to improve accessibility

GOAL 2: IMPROVE COORDINATION OF SERVICES TO MEET TRANSPORTATION NEEDS

A well-coordinated approach to transportation makes the network stronger, more efficient and improves the mobility options for riders. Coordination benefits riders and partners. Coordinated transit systems provide rides to more people and riders benefit by having access to multiple transportation options. Coordinating partners also benefit by becoming invested in the transportation system and profit from collaboration of ideas and resources. Coordination between transportation partners can also increase funding opportunities by serving a larger range of riders and needs.

The Minnesota Department of Human Services and MnDOT, in collaboration with other agencies, are working with the Metropolitan Council, and other local governments and organizations to create Regional Transportation Coordinating Councils. Coordination between transportation providers and service agencies has been a long-term goal and strategy to fill transportation gaps, provide more service with the same or fewer resources, streamline access to transportation and provide customers more options of where and when to travel.

Strategies: Implement and use the Regional Transportation Coordinating Councils to increase communication and coordination with transportation partners using the following actions:

- 2.1 Encourage the transit systems to coordinate with social service agencies to develop transportation options for health and human service clients
- 2.2 Encourage coordination with non-emergency medical transportation providers that provide access to health services
- 2.3 Collaborate with, and among volunteer driver programs to highlight the need and value of volunteer drivers as vital components of Greater Minnesota transportation service
- 2.4 Partner with organizations to provide high-quality transportation service
- 2.5 Collaborate with state partners to address transit needs and regulatory issues in Greater Minnesota through the [Minnesota Council on Transportation Access](#)

GOAL 3: INCREASE TRANSIT USAGE ACROSS THE TRANSPORTATION NETWORK

Increasing ridership is a core element of the Greater Minnesota Transit Investment Plan. Not only will increasing ridership respond to the legislature's directive to meet unmet transit needs, it will also show that Greater Minnesota transit service is a valuable, efficient and effective public good.

Increasing ridership in Greater Minnesota requires multiple, coordinated efforts. For example, statewide marketing campaigns will develop information about available transit services around the state and highlight the role of transit systems. Renewed efforts will appeal to potential riders who have a choice between using transit or a personal vehicle. Examples include more frequent service during commute times and increased service availability for non-traditional commute times.

Greater Minnesota transit must also reflect trends in transportation network companies (e.g. Uber and Lyft) and increasing reliance on platforms such as Google Transit to travel in the state by investing in technology and developing new partnerships.

Strategies: Foster connections between transit systems and customers to increase transit ridership using the following actions:

- 3.1 Implement statewide, and encourage regional marketing campaigns to promote Greater Minnesota transit services



- 3.2 Invest in technology to engage transportation network companies and scheduling apps (e.g. Transportation Network Companies, automatic vehicle location technology and Google Transit)
- 3.3 Include a greater percentage of riders who have a choice between transit and autos for their trips, such as Investing in transportation services that provide reliable options for commuters and rides for workers with non-traditional commute times
- 3.4 Develop new and enhanced partnerships with private providers to meet customer needs



GOAL 4: ENSURE FISCAL RESPONSIBILITY AS A TRANSIT FUNDING AGENCY

Transit in Greater Minnesota is a publically funded service. MnDOT uses several strategies to ensure that it is a fiscally responsible funding source. For example, MnDOT uses a competitive program funding application each year to allocate resources to the transit systems based on their performance.

Decision-support software is used to critically analyze transit systems during the review. In addition, MnDOT has elevated the role of system performance in funding decisions in the past several years.

Systems that exceed performance standards in areas such as efficiency and effectiveness are more likely to be funded in times of limited available funds. Under performing systems are subject to annual evaluations of service including operations, service planning and design and capital uses.

Strategies: Remain good stewards of public dollars through the following actions:

- 4.1 Stress the importance of local partnerships in supporting transit service
- 4.2 Invest in peer-tested strategies that provide high performing, efficient and effective transit service that meet performance standards
- 4.3 Use decision-support software to evaluate and assess transit

GOAL 5: SUPPORT THE MINNESOTA GO VISION FOR AN INTEGRATED MULTIMODAL TRANSPORTATION SYSTEM

MnDOT's vision of a multimodal transportation system maximizes the health of the people, the environment and the economy. Greater Minnesota Transit supports the vision by connecting people to jobs, goods, services and

recreation. As a modal and investment plan, this plan aligns to the vision's eight guiding principles such as ensuring accessibility, regional connections, coordination across sectors and jurisdictions, and leveraging investments to serve multiple purposes.

Transit is also a core element of reducing the reliance on single occupancy vehicles and reducing vehicle miles traveled. By promoting and encouraging the use of transit in addition to walking and biking, Greater Minnesota transit is an important part of the integrated multimodal transportation system. This meets [MnDOT's Complete Streets](#) goal of a balanced transportation system that integrates all modes and includes transportation users of all types, ages and abilities. This goal also works to minimize network gaps and barriers to transportation of all users.

Strategies: Support Greater Minnesota Transit's role in planning, managing and elevating the multimodal transportation system through the following actions:

- 5.1 Work with transit systems to develop strategies for "first-mile, last-mile" rider needs with strategies identified in [Minnesota Walks](#)
- 5.2 Increase usage of the transit network in replacement for single-occupancy vehicles in supporting an environmentally sustainable future
- 5.3 Promote linkages between transit systems to other transportation modes, i.e connections through inter-state travel such as Jefferson Lines and Greyhound and commuter rail
- 5.4 Actively plan for, and adapt to, changes in travel options such as car-share, ride-share and autonomous vehicles

GOAL 6: ELEVATE PUBLIC INFORMATION AND OUTREACH

Insufficient information and lack of knowledge and understanding about transit service is one of the greatest barriers to using the service. Potential and regular riders need basic information to navigate the system including maps, fare information, schedules, stop locations, reservation policies and tips on how to ride the service. Improving information and providing clear and comprehensive material for riders is a key to increasing ridership and improving the customer experience.

Advances in technology have changed how people access information. Developing content for smart phones, tablets and computers are major pieces of the communication puzzle, yet ensuring paper materials are also kept up-to-date, accurate and easily accessible. Transit systems need to make this information available for riders and visitors about the variety of transportation options available to them.

The role of public outreach is a critical component of transit system operations. Systems need to engage the public through multiple channels and use innovative and smart approaches for public input for decisions such as fare and route changes.

Strategies: Support projects that enhance the customer experience of navigating transit service using the following actions:

- 6.1 Increase MnDOT investment in transit provider marketing and public outreach
- 6.2 Guide transit systems in developing appropriate, accessible and easy to understand information for their websites
- 6.3 Encourage transit systems to provide information across multiple platforms such as smart-phone travel apps, social media, print materials, etc.
- 6.4 Encourage transit systems to use innovative approaches to public outreach and marketing
- 6.5 Encourage transit systems to conduct robust public outreach when undertaking fare changes, large capital projects and service planning, etc.
- 6.6 Ensure transit systems are providing culturally specific marketing and program material in response to their Limited English Proficiency plans

SUMMARY

The strategies listed in this chapter are the direct results of public outreach, and input from the plan committees, the transit system providers and other transportation stakeholders. These strategies will guide transit investments and activities undertaken by MnDOT. Transit services developed based on these strategies need to fulfill the local match funding requirement and are also subject to the performance measures and provider performance standards.



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Greater Minnesota
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Chapter 8

PERFORMANCE MEASUREMENT

PERFORMANCE MEASUREMENT

Policymakers want to fund services and programs that work. Being able to measure and communicate the value achieved by investing in transit is a critical part of the funding process. Building on this theme, an important element of the Greater Minnesota Transit Investment Plan is evaluating Greater Minnesota's transit systems. Included are the development of performance measures and standards to improve the level and quality of service and build support for strengthening local and regional transit systems.

Performance Measures and Standards

Performance measures support community and agency goals, and often include evaluation criteria. When discussing performance measures, a number of terms are used:

- **Metric:** A quantifiable assessment of condition or performance.
- **Performance Measure:** A metric that measures progress towards a goal, outcome or objective. This definition covers metrics used to make decisions or evaluate the effectiveness or adequacy of a policy, strategy or investment. A metric may be termed a performance measure without a target if MnDOT would evaluate and potentially change a course of action based on the metric's trend or direction.
- **Target:** A target is a specific performance level representing the achievement of a goal, outcome or objective.
- **Provider Performance Standards:** These metrics were set through MnDOT's Office of Transit in coordination with the local transit providers. These standards are categorized by different transit service. Transit systems need to use the targets to design and operate transit service. The Office of Transit uses the performance standards to evaluate each transit system in yearly application for funding.

PERFORMANCE MEASURES

MnDOT uses performance measures and targets to guide its plans, projects and investments. The performance measures listed below were approved through MnDOT's internal review process and will be adopted through the public planning process and through the formal public comment period.

In addition to MnDOT policy, the Fixing America's Surface Transportation Act, or FAST Act, requires performance-based planning. It requires statewide transportation planning processes to integrate, either directly or by reference, the goals, objectives, performance measures and targets identified at the national or statewide level, and measures and targets established by MPOs

and the public transit providers. The FAST Act also requires states to consider performance measures and targets when developing policies, programs and investment priorities in the statewide transportation plan.

The GMTIP has four approved performance measures including (1) ridership, (2) fleet condition, (3) span of service and (4) on-time performance. Targets were identified for each of these performance measures. MnDOT will report progress towards these targets annually.

MEASURE #1: RIDERSHIP

Increasing public transit ridership is a goal in [Minnesota Statutes § 174.24, subd 1a](#), the Olmstead Plan and [Heading Home: Minnesota's Plan to Prevent and End Homelessness](#). To meet this goal, Greater Minnesota public transit must add more service hours and buses to serve 90 percent of transit demand by 2025. In 2015, MnDOT provided 12.1 million rides, approximately 87 percent of the 2015 transit demand. Ridership is reported and tracked monthly by MnDOT and is analyzed and publically reported in the Annual Transit Report.

MEASURE #2: FLEET CONDITION

Public transit providers are mandated to set targets and report on progress and develop transit asset management plans and report on the measures. The fleet condition measure is defined as the percent of Greater Minnesota transit vehicles that are within their useful life based on their age and accumulated miles. Each transit system will report on the age and mileage of transit vehicles annually. MnDOT will analyze the existing data and establish a baseline to measure the fleet against. The target is 90 percent of fleet within useful life, the minimum threshold is 80 percent. At the beginning of 2016, the number of vehicles past their useful life was 22 percent.

MEASURE #3: SPAN OF SERVICE

[Minnesota Olmstead Plan](#)

In response to a court mandate, the State of Minnesota developed the [Minnesota Olmstead Plan](#), which outlines how state agencies will support individuals with disabilities so they may live, learn, work and enjoy life in the most integrated setting of their choice. The transportation-related goals found in the Minnesota Olmstead Plan were developed by the state and approved by the federal court in June 2015. The goals are designed to remove barriers and improve transportation access to help individuals with disabilities become more independent and integrated into their communities. The span of service plan specifically addresses the core components of increasing access to transit service and connecting employment, housing, services and



recreation in Greater Minnesota. The increased service levels will not only increase ridership but play an important role in fulfilling the goals identified in Minnesota's Olmstead Plan.

Span of Service

The Span of Service performance measure is the percent of the state's communities whose span of service meets the minimum guidelines. The information is collected using published transit system service schedules. The target is 90 percent by 2025. Currently, only 46 percent of rural and small urban communities meet the weekday span of service guidelines, 4 percent for Saturday service and only one community for Sunday service. For the seven urbanized systems, only Duluth currently has service meeting standards on weekdays and Sundays. Duluth, St. Cloud and Rochester meet the standards for Saturday service. The progress towards the span of service will be collected and reported annually.

MEASURE #4: TRANSIT ON-TIME PERFORMANCE

Improved reliability is a core component of the Greater Minnesota Transit Investment Plan. Reliability is measured by on-time performance and is defined as the percent of transit vehicles that arrive at their pick-up site within the appropriate window of time. The performance pick-up window was established in the provider performance standards (see Appendix). The target is 90 percent of trips picked-up within the appropriate time window by 2025. Currently, there is no baseline measure, MnDOT will analyze the existing data and establish a baseline. This information will be collected and reported yearly.

EVALUATION FRAMEWORK

To assess the validity of the strategies identified, each was compared against the four adopted transit performance measures. As shown in Figure 8-1, each strategy was analyzed to assess whether it supports, degrades or is neutral towards efforts in achieving the four performance measures.

+ = Supports / helps achieve performance measure

N = Neutral – neither hurts nor helps performance measure

- = May degrade progress toward performance measure



Figure 8-1: Performance Measure Evaluation

STRATEGY CODE	SPAN OF SERVICE	ON-TIME RELIABILITY	FLEET CONDITION	RIDERSHIP
1.1 Implement transit span of service standards and guidelines for all systems	+	N	N	+
1.2 Improve reliability of rural service through schedule adherence	N	+	N	N
1.3 Increase frequency of urban routes	N	N	N	+
1.4 Expand coverage of transit services to under-served and unserved communities	N	N	N	+
1.5 Invest in regional connections and cross-county service where there is a high level of travel between population and employment-rich centers	N	N	N	+
1.6 Develop clear, comprehensive and accessible public information about transit services	N	N	N	+
1.7 Invest in customer amenities that improve the transit experience, such as new vehicles and vehicle enhancements, automatic vehicle location, electronic fare systems, waiting shelters and benches	N	N	N	+
1.8 Support bicycle and pedestrian infrastructure to improve accessibility	N	N	N	+
2.1 Encourage the transit systems to coordinate with social service agencies to develop transportation options for health and human service clients	N	N	N	+
2.2 Encourage coordination with Non-Emergency Medical Transportation providers to provide access to health services	N	N	N	+
2.3 Collaborate with, and between volunteer driver programs to highlight the need and value of volunteer drivers as vital components of Greater Minnesota transportation service	N	N	N	+
2.4 Partner with organizations to provide high-quality transportation service for veterans	N	N	N	+
2.5 Collaborate with state partners to address transit needs in Greater Minnesota	N	N	N	+
3.1 Support statewide and regional marketing campaigns to promote transit services in Greater Minnesota	N	N	N	+
3.2 Invest in supporting technology to engage transportation network companies that will play a role in how transportation services is delivered in Greater Minnesota (e.g. Transportation Network Companies, automatic vehicle location technology and Google Transit)	N	+	N	+

STRATEGY CODE	SPAN OF SERVICE	ON-TIME RELIABILITY	FLEET CONDITION	RIDERSHIP
3.3 Expand the transit market to include a greater percentage of riders who have a choice between transit and auto for their trips, such as Investing in transportation services that provide reliable options for commuters and rides for workers with non-traditional commute times	+	N	N	+
3.4 Develop new and enhanced partnerships with private providers to meet customer needs	N	N	N	+
4.1 Stress the importance of local partnerships in supporting transit service	N	N	N	+
4.2 Invest in high performing, efficient and effective transit service that meet performance standards	N	+	N	N
4.3 Use decision-support software to critically evaluate and assess transit systems in their applications for funding and annual review	N	N	N	N
5.1 Work with transit systems to develop strategies for “first-mile, last-mile” rider needs	N	N	N	+
5.2 Increase usage of the transit network in replacement for single-occupancy vehicles in supporting an environmentally sustainable future	N	N	N	+
5.3 Support infrastructure and communications that enable connections between travel modes	N	N	N	+
5.4 Encourage transit systems to actively plan for, and adapt to, changes in travel options such as car-share, ride-share and autonomous vehicles	N	+	+	N
6.1 Increase MnDOT investment in transit provider marketing and public outreach	N	N	N	+
6.2 Guide transit systems in developing appropriate, accessible and easy to understand information for their websites	N	N	N	+
6.3 Encourage transit systems to provide information across multiple platforms such as smart-phone travel apps, social media, print materials, etc.	N	+	N	+
6.4 Encourage in transit systems that use innovated approaches to public outreach and marketing	N	N	N	+
6.5 Encourage that transit systems conduct robust public outreach when undertaking fare changes, large capital projects and service planning, etc.	N	N	N	+
6.6 Ensure that transit systems are providing culturally specific material, as appropriate	N	N	N	+

Provider Performance Standards

Performance measures speak to how transit will help achieve overall state goals, but performance standards provide a way to track progress at the individual transit agency level. Performance standards cover operational metrics that help assess progress toward performance measures. The provider performance standards proposed in this plan are the result of research into state peer systems and discussions and surveys with transit system providers. See Appendix for a full chart of performance standards, and the [Technical Memo: Performance Standards](#)

Provider performance standards have different metrics for different service types including fixed route, route deviation, Dial a Ride, regional mobility, commuter bus, intercity bus feeder and vanpool. The 24 metrics were developed in collaboration with the Greater Minnesota Transit providers throughout the planning process. The metrics are grouped into the following categories:

- Access: Facility access to high-quality public transportation (examples, service frequency, and service hours per capita)
- Ensure safe access to transit: Provide multimodal amenities and safe waiting areas (example, bicycle parking at transit stops, continuous walking routes and crossings to stops)
- Ridership: Increase network usage by linking people with goods, services and jobs (example, passengers per hour)
- Reliability: Provide convenient and reliable service (example, on-time performance and advanced reservation time)
- Safety: Maintain fleet to ensure passenger safety and state of good repair (example, road calls, accidents, and spare ratio)
- Cost-effectiveness: Ensure services operate responsibly (example, cost per revenue hour, cost per ride and farebox recovery)

IMPLEMENTATION OF PERFORMANCE MEASURES AND PROVIDER PERFORMANCE STANDARDS

Key steps in the process of incorporating the framework into MnDOT's system include:

- Evaluate current decision-making criteria in annual review of systems
- Develop sampling plan and methodology to collect on-time performance for system
- Refine the goals and objectives within the annual application for funding

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Greater Minnesota
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Chapter 9

FINANCIAL OUTLOOK

FINANCIAL OUTLOOK

Transit Funding Sources

Current transportation funding in Greater Minnesota includes federal and state funding sources. Eligibility and distribution of these resources are detailed in the following sections. Transit providers are also expected to contribute local revenue sources.

FEDERAL FUNDING SOURCES

The four federal grant sources available to Greater Minnesota transit providers and are described below:

- The Urbanized Area Formula Program (5307)
- Enhanced Mobility for Seniors and Individuals with Disabilities Formula Program (5310)
- Formula Grants for Rural Areas (5311)
- Bus and Bus Facilities Program (5339)

Urbanized Area Formula Program (5307) is available for urbanized areas, defined as places with populations greater than 50,000 but less than 200,000, excluding the Metropolitan Council in the Twin Cities. Funding is available for transit capital, planning and operations activities. Minnesota has eight urbanized areas eligible to receive this grant. The seven cities in Greater Minnesota are Fargo-Moorhead, Grand Forks-East Grand Forks, La Crosse-La Crescent, Mankato, Rochester, Duluth/Superior and St. Cloud. These areas receive 5307 grant funds directly from the FTA. Urbanized transit systems in Greater Minnesota received \$8,683,755 in 5307 funds for FFY 2015. For FFY 2016 Minnesota received \$8,667,839 in 5307 grant funding for all seven urbanized areas throughout the state.

Enhanced Mobility of Seniors and Individuals with Disabilities (5310) provide funding for capital and operating assistance to organizations that serve elderly and/or persons with disabilities. MnDOT distributes 5310 funds to selected awardees. Awardees may include tribal governments, state and local governments, private nonprofit organizations, public transportation operators, and private operators of public transportation services. For FFY 2016 MnDOT administered 5310 statewide for the following:

- Urbanized systems: \$1,936,203
- Small urban systems: \$615,573
- Rural systems: \$1,215,679



Formula Grants for Rural Areas (5311) are available for rural and small urban areas (places with populations less than 50,000). In 2016, \$15,673,443 is available for transit capital and operating assistance, of which 15 percent or \$2,351,016 goes to intercity bus under section 5311(f). In addition, \$244,630 5311(b) (3) funds were appropriated to research, training and technical assistance for transit operators in non-urbanized areas. Registered tribes received \$2,313,787 in 5311(c) funds for transit capital and operating costs.

States and registered tribes are the direct recipients of these grants from the FTA. States distribute funds to sub-recipients that may include local governmental authority, a nonprofit organization or an operator of public transportation or intercity bus service. Boise Forte and Fond du Lac Tribes are direct recipients of FTA dollars. MnDOT supports two tribal systems, White Earth and Red Lake, from MnDOT's 5311 funds in addition to 5311(c).

Since MnDOT is a direct recipient of 5311 grant funding, it selects sub-recipients through an application process before entering into a contract with the selected grant awardees.

Bus and Bus Facilities Program (5339) provides funding to assist in the procurement of vehicles or construction of facilities. MnDOT is responsible for distributing these funds to Greater Minnesota transit providers. The funds can only be used for capital investments (replacing, rehabilitating, and purchasing buses and bus-related equipment, and constructing bus-related facilities). For FFY 2016, Minnesota received a total of \$635,929 for Greater Minnesota urban areas and \$1.75 million for rural areas.

STATE FUNDING SOURCES

The Minnesota Legislature appropriates transit funding from the general fund on a biennial basis. The legislature also statutorily sets the percentage of Motor Vehicle Sales Tax revenue dedicated to public transit at 40 percent:

- Greater Minnesota Transit Account receives 4 percent
- Metropolitan Area Transit Account receives 36 percent
- The highway user tax distribution fund requires 60 percent

In addition, Greater Minnesota transit receives 50 percent of Motor Vehicle Lease Sales Tax revenue collected beyond the specified threshold of \$32 million.

Figure 9-1 summarizes CY 2015 operating budget for Greater Minnesota Transit providers using the different funding sources.

Figure 9-1: CY 2015 Operating Budget for Greater Minnesota Transit

PEER GROUP	FEDERAL (5307 AND 5311)	STATE GENERAL FUND	STATE MVST*	LOCAL SHARE	TOTAL
Rural	\$14,380,430	\$6,627,880	\$13,364,740	\$6,352,950	\$40,726,000
Urbanized	\$4,132,000	\$10,434,400	\$8,512,400	\$5,750,200	\$28,829,000
ADA-Complementary Paratransit	\$0	\$2,458,625	\$2,458,625	\$867,750	\$5,785,000
Small Urban	\$857,500	\$478,850	\$478,850	\$453,800	\$2,269,000
Total	\$19,369,930	\$19,999,755	\$24,814,615	\$13,424,700	\$77,609,000

* Motor Vehicle Sales Tax (also includes MVLST)

Source: 2015 MnDOT Transit Report

MnDOT annually distributes state funds to Greater Minnesota transit through the Public Transit Participation Program. These funds are used for operating, capital and planning activities. Any of the following organizations—or combination of the following— are eligible to receive state funding:

- Any legislatively established public transit commission or authority
- Any county or any statutory or home rule charter city providing financial assistance to or operating public transit
- Any private operator of public transit

LOCAL FUNDING SOURCES

Minnesota state law requires local funding participation from public transit services that receive federal and state funding. As shown in Figure 9-2, a fixed-share funding formula sets a required local share of the transit operating costs. Local share is dependent on the peer group classification of the service.

Figure 9-2: Federal, State, and Local Share Funding Requirements

PEER GROUP	FEDERAL AND STATE SHARE	LOCAL SHARE REQUIREMENT
Rural (population less than 2,500)	85%	15%
Urbanized (population more than 50,000)	80%	20%
Elderly and disabled (ADA paratransit)	85%	15%
Small urban (population 2,500 - 50,000)	80%	20%

Source: Minnesota Statute 174.28, subd 3b.

Fare and contract revenues sometimes achieve the local share required to leverage the federal and state share.

- Fare Revenue. Funding provided directly from cash fares, pre-paid tickets or sales of passes to individuals.
- Contract Revenue. Funding provided by organizations for the transport of their clients. An example is the transport of Day Training and Habilitation clients. Revenue is also generated from advertising and other contracts.

In some communities local funds are provided to “close the gap” where insufficient fare and contract revenues are collected. Figure 9 3 summarizes the local share of operating costs over a five-year period.

Figure 9-3: Greater Minnesota Public Transit Annual Local Share, 2010–2014

PEER GROUP	2010	2011	2012	2013	2014
Rural	\$4,024,704	\$4,231,170	\$4,289,444	\$4,685,002	\$5,364,278
Urbanized*	\$4,579,917	\$4,984,674	\$5,366,077	\$5,747,415	\$6,043,963
ADA-Complementary Paratransit	\$671,348	\$710,856	\$705,357	\$709,501	\$792,186
Small Urban*	\$863,694	\$909,856	780,963	\$513,164	\$447,636
Greater Minnesota	\$10,139,663	\$10,836,556	\$11,141,841	\$11,655,082	\$12,648,063

*Greater Mankato Transit System, previously a small urban system, was reclassified as an urbanized system in 2013

Source: MnDOT Transit Report, 2011-2015

ANNUAL OPERATING COSTS

Figure 9-4 shows the annual operating costs for Greater Minnesota transit systems by peer group. Overall transit operating costs in Greater Minnesota increased by 25 percent (almost \$15 million) during the five-year period. During this time, hours of service and ridership increased by 9 percent, while inflation accounted for much of the remainder. Urbanized and ADA-complementary paratransit systems experienced the most significant increase in operating costs at 32 percent (\$8 million) and 18 percent (\$0.8 million) respectively. The significant decrease in small urban costs and increase in rural and urbanized costs is due to the reclassification of Mankato in 2013 as well as some small urban systems merging with rural systems.

Figure 9-4: Greater Minnesota Public Transit Annual Operating Costs, 2010–2014

PEER GROUP	2010	2011	2012	2013	2014	PERCENT CHANGE (2010–2014)
Rural	\$26,831,360	\$28,207,803	\$28,596,297	\$31,233,351	\$35,761,854	33.3%
Urbanized*	\$22,899,589	\$24,923,373	\$26,830,385	\$28,737,075	\$30,219,815	32.0%
ADA-Complementary Paratransit	\$4,475,655	\$4,739,045	\$4,702,382	\$4,730,007	\$5,281,240	18.0%
Small Urban*	\$4,318,471	\$4,549,283	\$3,904,818	\$2,565,824	\$2,238,184	-48.2%
Greater Minnesota	\$58,525,075	\$62,419,504	\$64,033,882	\$67,266,257	\$73,501,093	25.6%

*Greater Mankato Transit System, previously a small urban system, was reclassified as an urbanized system in 2013

Source: MnDOT Transit Report, 2011-2015

OPERATING COSTS FOR SERVICE IMPROVEMENTS

Additional service must be added by transit systems that are not providing a span of service that meets or exceeds the baseline. Those additional hours are estimated at \$90 per revenue hour (per vehicle in service) for urban providers, and \$55 for small urban and rural providers. These costs are fully allocated, meaning that administrative costs for extended dispatching, customer service, maintenance, etc. are included. These costs are calculated as baseline service improvements and are shown in Figure 9-5.

MnDOT's current annual operating grant contract budget is \$77.6 million (FY 2015) (Figure 9 1). Ensuring that transit systems increase their service to meet the baseline service span means an additional 277,000 annual service hours at an annual operating cost (based on FY 2016 \$) of \$17.8 million. This represents a 23% increase in operating costs over existing expenditures.

If all service improvements and expansions listed in Figure 9-5, Figure 9-6 and Figure 9-7 were implemented, the additional 508,967 service hours would result in a 51 percent increase in Greater Minnesota annual transit operating costs (additional \$39.4 million). While the current overall local share requirement is approximately \$13.4 million, the expanded services would increase the local share requirement by approximately \$6.8 million.



Figure 9-5: Baseline Service Improvements: Supplemental Operating Costs

BASILINE SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS	OPERATING COST ¹	LOCAL SHARE 20/15%
Urban Areas Weekday ²	20 hrs./day	54,750	\$4,927,500	\$985,500
Urban Areas Saturday Service	12 hrs./day	4,950	\$445,500	\$89,100
Urban Areas Sunday Service	9 hrs./day	13,500	\$1,215,000	\$243,000
Cities 2,500 - 49,999 Weekday ³	12 hrs./day (7,000-49,999 population); 9 hrs./day (2,500-6,999 population)	126,540	\$6,959,722	\$1,043,958
Cities 2,500 – 49,999 Saturday Service	9 hrs./day	40,222	\$2,212,228	\$331,834
Cities 7,000-49,999 Sunday Service	9 hrs./day	18,245	\$1,003,465	\$150,520
County Seat Towns <2,500	8 hrs./day; 3 days per week	19,163	\$1,053,938	\$158,091
Total Baseline		277,370	\$17,817,352	\$3,002,003

¹ Based on average hourly operating costs of \$90 for urban service and \$55 for rural service.

² Additional hours of service needed for urban improvements were identified by the urban transit providers as part of the planning process

³ The operating cost for cities 2,500 to 50,000 were combined in this chart, the description lists the two different service spans for cities 2,500-6,999 and 7,000 to 49,999.

Figure 9-6: Urban Service Improvements: Supplemental Operating Costs

URBAN SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS	OPERATING COST ¹	LOCAL SHARE 20/15%
ADA Complementary Service	Service to support fixed route improvements	104,832	\$9,434,880	\$1,415,232
Unserved Urban Areas	Improve urban transit service coverage	31,632	\$2,846,880	\$569,376
Peak Hour Frequency	Provide 30-minute peak hour frequency	33,133	\$2,981,970	\$596,394
Regional Express Buses	Six routes ⁴	30,000	\$4,500,000	\$900,000
Total Urban Service Improvements		199,597	\$19,763,730	\$3,481,002

⁴ Northstar Link-type services to urban areas over 50,000 population (\$150/hr.)

Figure 9-7: Rural Service Improvements: Supplemental Operating Costs

RURAL SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS	OPERATING COST	LOCAL SHARE 20/15%
Regional Mobility	Route operates minimum 2 days/ week connecting communities for shopping and medical ⁵	32,000	\$1,760,000	\$264,000.0
Intercity Feeder	Regional service tied to intercity bus service	NA ⁶	NA ⁷	NA
Unserved Rural Areas	Improving rural transit coverage	NA	NA	NA
Additional Contract Services (Outside of Public Transit)	Assumes contracts requiring expanded service pay full cost	NA	NA	NA
Total Rural Service Improvements		32,000	\$1,760,000	\$264,000

⁵ 40 counties x 8 hrs./day x 50 wks. Assumes half of counties already have mobility routes.

⁶ A feasibility study is needed to define the additional annual hours

⁷ "NA" values do not have standard costs per annual revenue hour or operating cost

Figure 9-8: Total Operating Cost for All Improvements

TOTAL	ADDITIONAL ANNUAL HOURS	OPERATING COST	LOCAL SHARE 20/15%
Total Baseline	277,370	\$17,817,352	\$3,002,003
Total Urban Service Improvements	199,597	\$19,763,730	\$3,481,002
Total Rural Service Improvements	32,000	\$1,760,000	\$264,000
Grand Total	508,967	\$39,341,082	\$6,747,005

CAPITAL COSTS

In many communities, it is assumed that additional service will also require capital (bus) purchases. These costs are shown in Figure 9-9. A total of 246 additional buses are projected to be needed to meet service improvements. These will cost approximately \$45.1 million (local share is \$9 million). Based on MnDOT's 10-Year Capital Plan, annual capital expenses increase from \$12.1 million in 2016 to \$26.8 million in 2025, with a cumulative total increase of \$229.6 million. The expansion vehicle costs are not included in the 10-Year Capital Plan.

Note that the 246 vehicles is the total number to implement the full service improvements. Service will be added incrementally and capital will be purchased as needed over the next several years.

Figure 9-9: Service Improvements and Expansions: Supplemental Capital Costs

BASELINE SERVICE IMPROVEMENTS	FLEET SUPPLEMENT REQUIRED	SUPPLEMENTAL CAPITAL COST ESTIMATE ¹	LOCAL SHARE 20%
Urban 50,000+	120	\$36,288,000	\$7,257,600
Small Urban 2,500 - 49,999	126	\$8,802,000	\$1,760,400
Total Service Improvements Expansion Vehicles	246 vehicles	\$ 45,090,000	\$9,018,000

¹ Vehicle costs per MnDOT: Urban service - \$457,000 (Class 700 Diesel); Rural and Small Urban - \$76,000 (Class 400 Diesel) Annual Cost index of 3% annual

Cost of Meeting 100% of Transit Demand

Minnesota statute 174.24 directed MnDOT to “identify of the operating and capital costs necessary to meet 100 percent of the greater Minnesota transit targeted and projected bus service hours for 2020, 2025 and 2030”. The 2014 Statewide Transit Demand Model calculated the total greater Minnesota trip demand for 2020, 2025 and 2030 (Figure 9-10).

Figure 9-10: Transit Demand Projections

YEAR	100% OF DEMAND (TRIPS)
2020	16.9 million
2025	18.9 million
2030	20.1 million

MnDOT used a mathematical formula to calculate the number of service hours needed to meet 100 percent of demand. The number of service hours is equal to the ridership target divided by average productivity standards (7 passengers per service hour). The service hours projected from the current year to 2030 are listed in Figure 9-11. The cost per hour is indexed at 3 percent per year for inflation. The local share is 20 percent for urban systems and 15 percent for rural.

Figure 9-11: Operating Cost to Meet 100% of Demand

YEAR	SERVICE HOURS	COST PER HOUR	OPERATING COST	LOCAL SHARE (URBAN)	LOCAL SHARE (RURAL)
Current year	1,200,000	\$69.16	\$82,992,000	\$8,299,200	\$6,224,400
2020	1,885,714	\$77.84	\$146,784,000	\$14,678,400	\$11,008,800
2025	2,171,429	\$90.24	\$195,949,714	\$19,594,971	\$14,696,229
2030	2,342,857	\$104.61	\$245,086,285	\$24,508,629	\$18,381,471

Meeting 100% of transit demand will require capital investments. Figure 9-12 shows the replacement costs for the existing fleet during each five-year period from 2016-2030 which does not include the vehicles needed for the service expansion. Figure 9-13 shows the additional number of vehicles needed to add service to meet 100 percent of demand per five-year period. A standard of one vehicle for every 3,000 hours in urban areas and one vehicle per 2,000 hours for rural service was used in this calculation. The local capital share for both urban and rural systems is 20 percent.

Figure 9-12: Replacement Capital Costs

CURRENT CAPITAL	TOTAL REPLACEMENT COST (MILLIONS)	LOCAL SHARE (20%) (MILLIONS)
2016 - 2020	\$98.3	\$19.6
2021 - 2025	\$131.3	\$26.2
2026 - 2030	\$135.2	\$27.0
Total	\$364.8	\$72.9

Figure 9-13: Expansion Capital Cost to Meet 100% of Demand

YEAR	URBAN VEHICLES	TOTAL URBAN CAPITAL COST	URBAN LOCAL SHARE (20%)	RURAL VEHICLES	TOTAL RURAL CAPITAL COST	RURAL LOCAL SHARE (20%)
2016-2020	43	\$20,142,857	\$4,028,571	29	\$2,171,429	\$434,286
2021-2025	129	\$66,031,931	\$13,206,386	86	\$7,118,336	\$1,423,667
2025- 2030	114	\$68,043,650	\$13,608,730	76	\$7,335,202	\$1,467,040
2030- 2035	171	\$118,321,859	\$23,664,372	114	\$12,755,264	\$2,551,053

Funding Service Improvements

OPERATING COST PROJECTIONS

To guide potential investment strategies for future services and to better understand the size of the investment gap between current transit services and projected demand, MnDOT developed a service plan to meet future transit demand in Greater Minnesota. The primary inputs for the cost model are the future service demand estimates (service hours) developed as part of the service plan and current operating expenses per service hour. To develop the cost estimates, an average expense per hour rate for transit systems was applied to the future service plan and adjusted for inflation, assuming costs will increase at 3 percent per year.

The number of hours listed in Figure 9-14 depicts the number of hours to implement all service including expansion. The hours are incrementally ramped up each year by 57,000. Of the total 57,000 additional hours each year, 28,500 will be added to urban systems and 28,500 to small urban and rural transit systems combined. The annual operating cost is based on the 2016 average transit system cost of \$65 per service hour, indexed with a 3 percent annual increase. The 57,000 additional hours will provide service needed to increase ridership to meet the 90 percent of demand target by 2025.

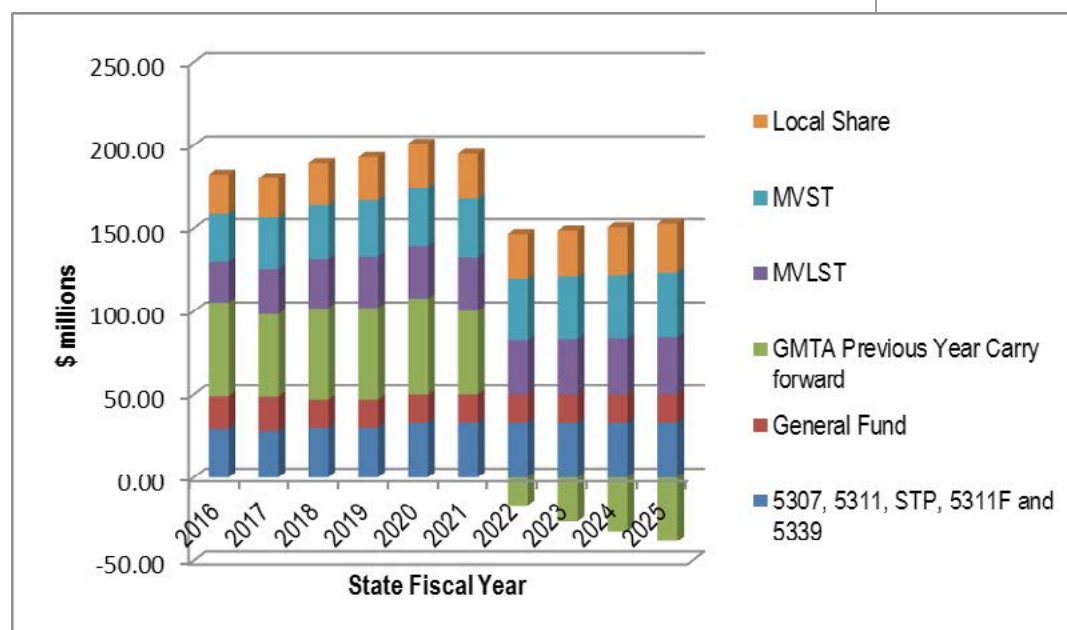
Figure 9-14: Total Operating Cost for All Service, Including Service Improvements

YEAR	NUMBER OF HOURS TO IMPLEMENT SERVICE IMPROVEMENTS	ANNUAL OPERATING COST	OPERATING COST (MILLIONS)
2017	1,257,000	\$65.00	\$81.7
2018	1,314,000	\$66.95	\$88.0
2019	1,371,000	\$68.96	\$94.6
2020	1,428,000	\$71.03	\$101.4
2021	1,485,000	\$73.15	\$108.6
2022	1,542,000	\$75.35	\$116.2
2023	1,599,000	\$77.61	\$124.1
2024	1,656,000	\$79.94	\$132.4
2025	1,713,000	\$82.34	\$141.1

PROJECTED REVENUE

Figure 9-15 shows that transit revenue sources will generally remain stable until 2025 with the exception of the Greater Minnesota Transit Account previous year carry forward, which will decline starting in 2024. The GMTA previous year carry forward amount is important. It must always exceed the amount of Motor Vehicle Leased Sales Tax that will be received in a given fiscal year because the Motor Vehicle Leased Sales Tax MVLST is not deposited until the last day of fiscal year. The GMTA can never go into negative numbers. Thus, to achieve this increase in service, more funding must be available for FY 2021 and beyond to keep the GMTA above zero.

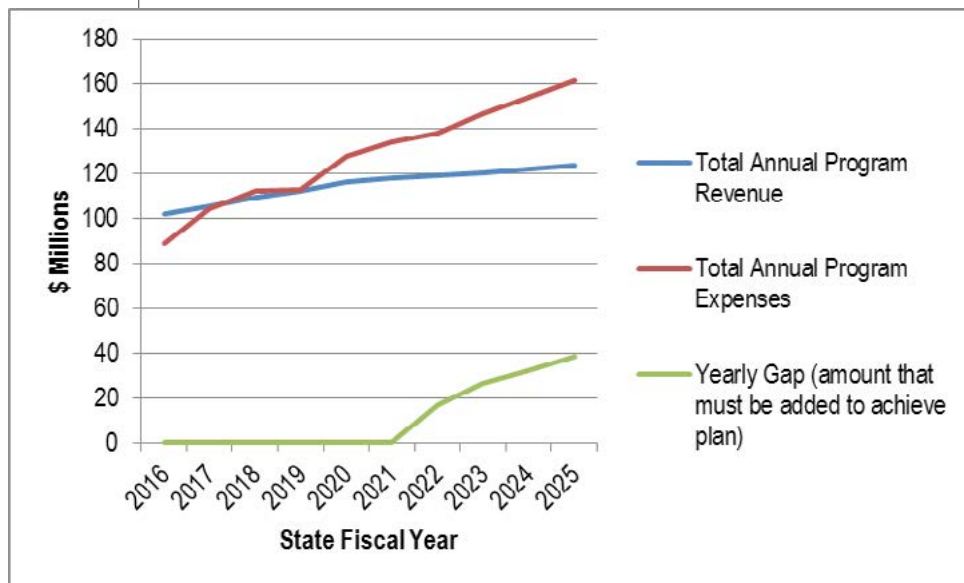
Figure 9-15: Greater Minnesota Funding Sources



FUNDING GAP

MnDOT's funding forecast shows that with already-planned expansions, expenses will exceed revenues in 2021 (Figure 9-16). By 2021, a positive carry over balance in the GMTA will be used up and additional funding will be needed from that year forward to continue to meet 90 percent of the transit demand. This is projecting a total gap for this period of \$114.1 million. Additional funding would need to be identified prior to 2021.

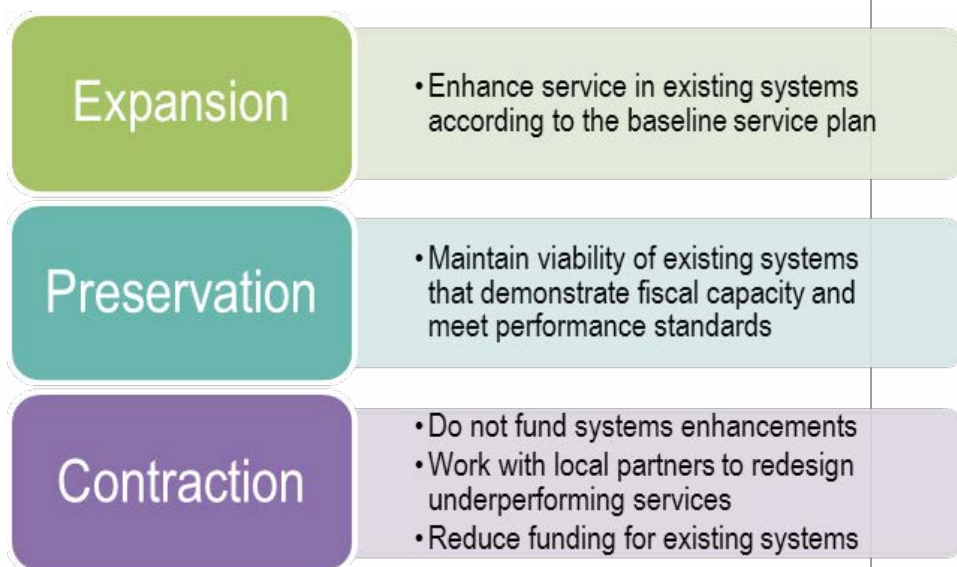
Figure 9-16: Program Expenses and Cost Gap



INVESTMENT SCENARIOS

In addition, to developing strategies for how to invest in Greater Minnesota transit, this Plan also establishes investment categories that correspond to changing funding scenarios. MnDOT's approach to increased or decreased funding scenarios is illustrated in Figure 9-17. MnDOT's first priority for Greater Minnesota transit is to fund each system at a level sufficient to continue the current level of service and add additional hours to reach the baseline span of service.

Figure 9-17: Investment Scenarios





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Chapter 10

STRATEGY PRIORITIZATION & IMPLEMENTATION

STRATEGY PRIORITIZATION & IMPLEMENTATION

The strategies listed in Figure 10-1 will be implemented over the short and long-term, as resources are available. To prioritize and phase investments, MnDOT rated each strategy on its estimated feasibility, cost and ease of implementation, sustainability, and its fulfillment of one or more of MnDOT's goals for its transit system. In general, most of the identified strategies have a medium to high feasibility, meaning that they have a good likelihood of funding, achieving political backing and support from the public. The strategies are grouped by theme but not listed in order of priority.

Figure 10-1: Prioritization Matrix

CATEGORY	STRATEGY	FEASIBILITY	COST	EASE OF IMPLEMENTATION	SUSTAINABILITY (SHORT, MEDIUM, LONG TERM)	BEGIN PROCESS	INVESTMENT STRATEGY #
Improve public information (Transit Systems)	Improve transit system websites	High	\$	Easier	Medium	2016-2017	6.2
Improve public information (Transit Systems)	Support systems to provide electronic information on multiple platforms (mobile apps, social media, and inputting schedules into Google Transit based platforms)	High	\$	Easier	Long	2017	6.3
Improve public information (Transit Systems)	Invest in transit systems that use innovative approaches to public outreach and marketing	Medium	\$\$	Easier	Long	2017-2018	6.4-6.5
Improve public information (Transit Systems)	Ensure transit systems are providing culturally specific material, as appropriate	High	\$	Easier	Long	2017	6.6
Improve public information (MnDOT)	Support state and regional marketing campaigns to promote transit service	High	\$\$	Easier	Medium	2017	3.1
Improve public information (MnDOT)	Improve access and quality of information to people about transit	High	\$\$	Easier	Long	2017-2019	1.6

CATEGORY	STRATEGY	FEASIBILITY	COST	EASE OF IMPLEMENTATION	SUSTAINABILITY (SHORT, MEDIUM, LONG TERM)	BEGIN PROCESS	INVESTMENT STRATEGY #
Improve public information (MnDOT)	Increase transit usage in replacement for single occupant vehicles	High	\$\$	Easier	Long	2017	5.2
Financial	Use decision-support software to evaluate transit systems	High	\$	Easier	Long	2017	4.3
Financial	Encourage local revenue partnerships	High	\$	Moderate	Medium	2017	4.1
Coordination and Partnerships	Partner with organizations to provide veterans transportation	High	\$\$	Moderate	Long	2017	2.4
Coordination and Partnerships	Implement Regional Transportation Coordinating Councils in Greater Minnesota	High	\$\$	Moderate	Long	2017	Goal 2
Coordination and Partnerships	Encourage coordination with non-emergency medical transportation providers	Medium	\$	Moderate	Long	2017-2025	2.2
Coordination and Partnerships	Collaborate with and between volunteer driver programs	High	\$	Moderate	Long	2017-2025	2.3
Coordination and Partnerships	Encourage transit systems to coordinate with social service organizations	High	\$	Moderate	Medium	2017	2.1
Coordination and Partnerships	Coordinate with state partner to address transit needs	High	\$	Easier	Medium	2017	2.5
Coordination and Partnerships	Develop new and enhance partnerships with private providers	Medium	\$	Moderate	Long	2019	3.4
Service Plan	Implement baseline span of service for systems	Medium	\$\$\$	Difficult	Long	2017-2025	1.1-1.2
Service Plan	Increase frequency of transit service on urban routes	Medium	\$\$\$	Moderate	Long	2017-2025	1.3
Service Plan	Support regional travel connections	Medium	\$\$\$	Difficult	Long	2017-2025	1.5

CATEGORY	STRATEGY	FEASIBILITY	COST	EASE OF IMPLEMENTATION	SUSTAINABILITY (SHORT, MEDIUM, LONG TERM)	BEGIN PROCESS	INVESTMENT STRATEGY #
Service Plan	Invest in transit service that meets needs for riders that have a choice in their travel mode	Medium	\$\$	Difficult	Long	2017-2025	3.3
Service Plan	Improve transit service coverage by expanding into underserved or un-served areas	Medium	\$\$	Moderate	Long	2017-2025	1.4
Service Plan	Invest in high performing, efficient and effective service	High	\$	Easier	Long	2017-2025	4.2
Infrastructure and technology	Invest in new vehicles and vehicle enhancements	High	\$\$\$	Easier	Long	2020	1.7
Infrastructure and technology	Support transit systems in using scheduling software	Medium	\$\$\$	Difficult	Long	2018	1.7
Infrastructure and technology	Encourage transit systems to plan and adapt to changes with peer-sharing and ride-sharing opportunities	Low	\$	Moderate	Long	2018	5.4
Infrastructure and technology	Support technology to engage the Transportation Network Companies	Low	\$\$\$	Difficult	Long	2019	3.2
Infrastructure and technology	Invest in urban systems to acquire electronic fare systems	Medium	\$\$\$	Difficult	Long	2019	1.7
Infrastructure and technology	Invest in urban park and ride lots	Medium	\$\$\$\$	Difficult	Long	2020	1.7
Multimodal	Encourage first/last mile infrastructure with local partners	Low	\$\$	Moderate	Long	2017-2025	1.8/5.1
Multimodal	Support links to other transportation modes	High	\$\$	Moderate	Long	2017-2025	5.3
Customer amenities	Support systems to acquire automatic vehicle location technology	Medium	\$\$	Moderate	Long	2017-2025	1.7
Customer amenities	Invest in customer amenities such as benches and shelters	Low	\$\$	Moderate	Long	2017-2025	1.7



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Chapter 11

THE NEXT 20 YEARS

THE NEXT 20 YEARS

The State of Minnesota has a progressive vision for Greater Minnesota transit, where transit improves mobility for all people, meets current and future rider needs, is flexible and reacts to changing patterns. The strategies outlined in this plan provide a strategic framework to guide investment to achieve this vision over the next 20 years. Based on the technical analysis components and public outreach there is clear quantitative and qualitative evidence for increased levels of public transit in Greater Minnesota. Meeting the unmet demand for transit in Greater Minnesota is one of MnDOT's greatest challenges, but it is also one of its greatest opportunities. Demographic and economic trends in Greater Minnesota indicate a growing demand for public transit. The population of Greater Minnesota is growing. Some older adults and millennials are taking fewer trips and reducing their reliance on a personal vehicle. Many people are traveling between communities to access goods and services.

In addition to demographic trends, extensive community input called for transit to be available when and where its needed. Transit riders and non-riders responded that service needs to be reliable, convenient, frequent and connected, in infrastructure and communications. Based on these results, MnDOT developed the Service Improvements plan that determined a level of service for communities based on population size. The baseline span of service with both urban and rural service improvements is projected to meet 90 percent of the calculated public transit demand in Greater Minnesota. Implementing additional service hours will require time and resources to complete. Federal funding for Greater Minnesota transit is stable, however, state funding sources can vary. While continuing to fund service and plan for improvements, MnDOT and its partners will need to communicate to the public and policy makers why transit matters and the need for future funding.



Looking Forward

The examples above are just a few of the many components involved when developing a transit plan. MnDOT is constantly looking ahead to trends and opportunities and ways promote Greater Minnesota transit. The following are conditions that MnDOT is looking towards over the extended time horizon for this plan:

- Transit Service Factors
- Coordination with the transportation network companies operating in Greater Minnesota to meet some of the transportation demand

- Investing in technology that streamlines and improves decision about transportation modes such as travel apps
- Improved customer amenities on buses and connecting infrastructure (wifi, benches and stops) and closer link between pedestrian and bicycle environments and transit
- Integration of autonomous vehicle technology
- Coordination of rides and services to meet the needs of customers
- Funding Factors
- The cost of gasoline is expected to rise in the next several years and may reduce some gas usage, resulting in a drop in funding for Greater Minnesota transit
- The sales of new vehicles is a significant revenue source for transit, however the lifecycle of vehicles is increasing and may result in fewer vehicles purchases.

In summary, the 2015-2035 Greater Minnesota Transit Investment Plan lays out the strategic direction and investment priorities for transit over the next 20 years. Investments made in the quality and availability of service will improve the quality of life for residents, enhance local economies and contribute to an environmentally sustainable future.



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Appendix

APPENDIX

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1. PROJECT MANAGEMENT AND DECISION-MAKING PROCESS

The project management and decision-making structure for the plan used a MnDOT project management team, a technical advisory committee and a plan advisory committee. The TAC and PAC provided policy and technical guidance to the PMT during the development of the plan. Public outreach components informed the decision-making process for all three groups. The commissioner of transportation is ultimately responsible for the submittal of the plan to the Minnesota Legislature.

PROJECT MANAGEMENT TEAM

The PMT included key MnDOT planning and technical staff. It was responsible for managing the ongoing development of the plan and ensuring that external and internal communications provided ongoing opportunities to influence the decision-making process.

- Mike Schadauer, director, Office of Transit
- Robert Clarksen, coordinator, Intercity Bus
- Sara Dunlap, co-project lead, principal planner
- Judy Ellison, director, Planning
- Tom Gottfried, director, Programming
- Sarah Lenz, program coordinator
- Bobbi Retzlaff, program coordinator, Office of Transportation System Management
- Noel Shughart, co-project lead, Planning Team
- Darrel Washington, coordinator, Urban Transit System

TECHNICAL ADVISORY COMMITTEE

The TAC provided technical review that guided the work of the PMT. Responsibilities included providing data, reviewing methodologies, facilitating stakeholder communications, evaluating market research and recommending investment priorities. TAC members included transit agency and MnDOT staff.

- Keven Anderson, transit director – Rainbow Rider
- Carol Clark, transit director – VINE Faith in Action

- Tiffany Collins, transit director – Central Community Transit
- Ryan Daniel, executive director – St. Cloud Metro Bus
- Lezlie Grubich, executive director – Paul Bunyan Transit
- Bev Hefindahl, project manager, MnDOT Office of Transit
- Monica Hennessy Mohan, city clerk - Winona
- Dennis Jensen, general manager – Duluth Transit
- Jack Larson, transit director – Arrowhead Transit
- Don Mohawk, project manager, MnDOT Office of Transit
- Amy Repinski, director of transportation – Three Rivers Hiawathaland Transit
- Mark Sehr, transit director – Rock County

PLAN ADVISORY

The PAC was responsible for providing strategic policy guidance at key project milestones. The PAC considered market research findings, stakeholder comments and technical analysis when offering policy guidance. The PAC was comprised of key stakeholders and partners, including representatives from other Minnesota state agencies, tribal governments and regional planning agencies. Members of the PAC are listed in below:

- Gina Bass, University of Minnesota Center for Transportation Studies
- Julie Belisle, Department of Education
- Laurie Berner, United Day Activity Center (Duluth)
- Bob Bollenbeck, Regional Development Organization
- Tiffany Collins, Minnesota Public Transit Association, Central Community transit
- Vicki Dalle Molle, Southeast Minnesota Council on Independent Living
- Shelly Diaz, Mille Lac Band
- Daniel DuHamel, MnDOT Communications Representative
- Anne Finn, League of Minnesota Cities
- Jay Hancock, Department of Employment and Economic Development

- Earl Haugen, East Grand Forks MPO
- Tim Held, Department of Health
- Wayne Hurley, Regional Development Organizations
- Wade Kline, Fargo-Moorhead Metro COG
- Matt Knutson, Department of Human Services – Disability Services Division
- Dean Loidolt, Central MN Council on Aging
- Gina Mitteco, MnDOT Metro District Representative
- Mark Nelson, MnDOT Modal Planning Representative
- Jackie Peichel, Minnesota Board on Aging
- Dave Pesch, Rochester-Olmsted Council of Governments
- Bob Ries, Department of Human Services – Health Care Administration
- Mike Shadauer, MnDOT Office of Transit
- Harlan Tardy, Arrowhead Economic Opportunity
- Amy Vennewitz, Metropolitan Council
- Steve Voss, MnDOT district planner representative
- Joan Willshire, Minnesota State Council On Disability

2. PLANNING IN CONTEXT

The GMTIP builds on recent state and regional plans. Technical Memo: Context Review provides an in-depth assessment of contributing documents and plans. This provides an overview of the context in which this plan was developed. Highlights include:

- Federal and state requirements
- MnDOT vision and plans

FEDERAL REQUIREMENTS

Federal planning requirements vary significantly by type of statewide transportation plan. The Greater Minnesota Transit Investment Plan must adhere to the following federal planning requirements/guidelines codified in Statewide Transportation Planning code:

- Title 23 U.S. Code §135 Statewide Transportation Planning, requires each state to develop a statewide transportation plan and a statewide transportation improvement plan.
- Title 49 U.S. Code §5304 Statewide Transportation Planning, requires each state to develop a multimodal long-range statewide transportation plan and STIP.
- Title 49 Code of Federal Regulations §613 Subpart B, which serves to implement the above provisions of the code of federal regulations.
- Title 23 Code of Federal Regulations §450 Subpart B, which serves to implement the above provisions of the U.S. Code in a manner that facilitates the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight (including accessible pedestrian walkways and bicycle transportation facilities) and that fosters economic growth and development between states and urbanized areas, while minimizing the transportation-related fuel consumption and air pollution in all areas of the state. There are 10 planning goals:
 1. Support the economic vitality of the United States, the states, metropolitan areas, and nonmetropolitan areas, especially by enabling global competitiveness, productivity and efficiency
 2. Increase the safety of the transportation system for motorized and non-motorized users

3. Increase the security of the transportation system for motorized and non-motorized users
4. Increase accessibility and mobility of people and freight
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns
6. Enhance the integration and connectivity of the transportation system, across and between modes throughout the state, for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
10. Enhance travel and tourism

In addition to transportation-specific legislation, Congress identified additional requirements that apply to all transportation plans regardless of their topic. Examples of the requirements include:

- [*Title VI of the Civil Rights Act of 1964, as amended*](#), and other related civil rights laws that prohibit discrimination based on race, color, national origin, sex, age and religion.
- [*Americans with Disabilities Act of 1990, as amended*](#), which guarantees equal opportunity for persons with disabilities in public accommodations, transportation, government services, and telecommunications.
- [*Executive Order 12898*](#) related to environmental justice, which ensures that minority and low-income populations do not bear disproportionately high and adverse health or environmental effects in comparison to other populations.
- [*Executive Order 13166*](#) states that people with limited English proficiency should have meaningful access to federally-funded programs and activities.

FEDERAL STANDARDS: PERFORMANCE-BASED PLANNING

On Dec. 4, 2015, President Obama signed into law Public Law 114-94, section 1105 (23 U.S.C. 117), Fixing America's Surface Transportation Act, or FAST Act. Funding surface transportation programs at more than \$305 billion for fiscal years 2016 through 2020, the FAST Act continues many of the streamlined and performance-based surface transportation programs established in the Moving Ahead for Progress in the 21st Century Act.

The FAST Act integrates performance into many federal transportation programs and continues the MAP-21 requirements for performance-based planning elements. There are seven national performance goals for federal transportation programs.

- **Safety**—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Infrastructure condition**—To maintain the highway infrastructure asset system in a state of good repair.
- **Congestion reduction**—To achieve a significant reduction in congestion on the National Highway System.
- **System reliability**—To improve the efficiency of the surface transportation system.
- **Freight movement and economic vitality**—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental sustainability**—To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Reduced project delivery delays**—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

For each of these national goals, the Federal Highway Administration is establishing performance measures.

MINNESOTA STATE PLANNING GOALS

Minnesota State Statute 174.01 identified 16 transportation goals for the state transportation system. All statewide transportation plans must address these goals. The goals are to:

1. Minimize fatalities and injuries for transportation users throughout the state
2. 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. Provide a reasonable travel time for commuters
4. Enhance economic development and provide for the economical, efficient, and safe movement of goods to and from markets by rail, highway, and waterway
5. 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. Provide transit services to all counties in the state to meet the needs of transit users
7. Promote accountability through systematic management of system performance and productivity through the utilization of technological advancements
8. Maximize the long-term benefits received for each state transportation investment
9. 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. Ensure that the planning and implementation of all modes of transportation are consistent with the environmental and energy goals of the state
11. Promote and increase the use of high-occupancy vehicles and low-emission vehicles
12. 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. 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. Promote and increase bicycling and walking as a percentage of all trips as energy-efficient, nonpolluting, and healthy forms of transportation
15. Reduce greenhouse gas emissions from the state's transportation sector
16. Accomplish these goals with minimal impact on the environment

MINNESOTA GO VISION FOR TRANSPORTATION

Adopted in 2011, the Minnesota GO 50-Year Statewide Vision is for a multimodal transportation system that maximizes the health of people, the environment and the economy. The vision and guiding principles address all forms of transportation, including transit. The implementation of this vision is shared by all modes at MnDOT.

The system:

- Connects Minnesota's primary assets—the people, natural resources and businesses within the state—to each other and to markets and resources outside the state and country
- Provides safe, convenient, efficient and effective movement of people and goods
- Is flexible and nimble enough to adapt to changes in society, technology, the environment and the economy

QUALITY OF LIFE

The system:

- Recognizes and respects the importance, significance and context of place—not just as destinations, but also where people live, work, learn, play and access services
- Is accessible regardless of socioeconomic status or individual ability

ENVIRONMENTAL HEALTH

The system:

- Is designed in such a way that it enhances the community around it and is compatible with natural systems
- Minimizes resource use and pollution

ECONOMIC COMPETITIVENESS

The system:

- Enhances and supports Minnesota's role in a globally competitive economy and the international significance and connections of Minnesota's trade centers
- Attracts human and financial capital to the state

STATEWIDE MULTIMODAL TRANSPORTATION PLAN

The Statewide Multimodal Transportation Plan provides broad multimodal objectives and strategies to direct modal investment plans. The plan places an emphasis on building and maintaining a multimodal transportation system through solutions that ensure high returns on investment, and complement the social, natural and economic features of Minnesota given constrained resources. The plan is intended to dovetail with the guiding principles outlined by the Minnesota GO 50-Year Vision.

The Statewide Multimodal Plan is the prevailing transportation policy framework for the state covering the next two decades. The objectives and strategies outlined in the plan were used in conjunction with the principles of the 50-Year Vision to guide the GMTIP update to create a plan aimed at generating high returns on investment given Minnesota's unique set of social, natural, and economic resources.

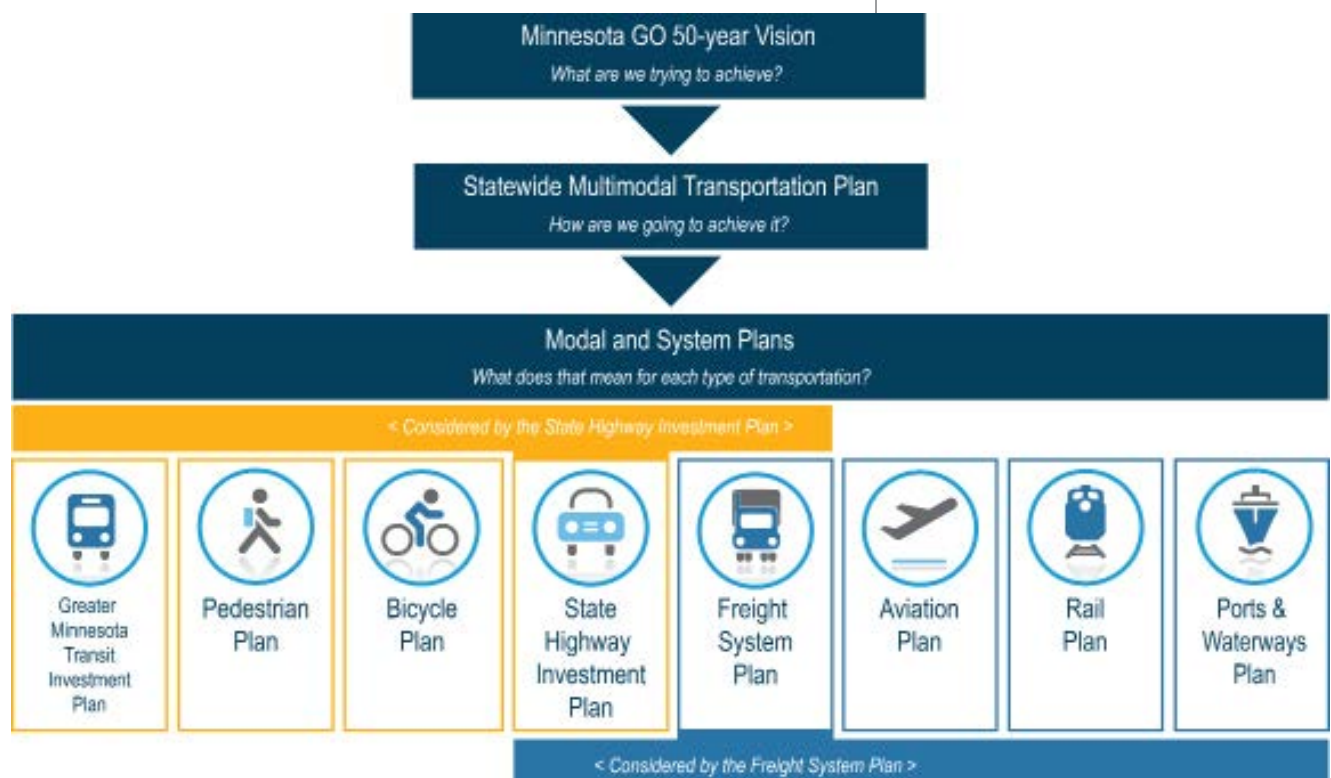
Guiding Principles

The following principles will guide future policy and investment decisions for all forms of transportation throughout the state. These are listed in no particular order. The principles are intended to be used collectively.

- Leverage public investments to achieve multiple purposes: The transportation system should support other public purposes, such as environmental stewardship, economic competitiveness, public health and energy independence.
- Ensure accessibility: The transportation system must be accessible and safe for users of all abilities and incomes. The system must provide access to key resources and amenities throughout communities.
- Build to a maintainable scale: Consider and minimize long-term obligations—don't overbuild. The scale of the system should reflect and respect the surrounding physical and social context of the facility. The transportation system should affordably contribute to the overall quality of life and prosperity of the state.

- Ensure regional connections: Key regional centers need to be connected to each other through multiple modes of transportation.
- Integrate safety: Systematically and holistically improve safety for all forms of transportation. Be proactive, innovative and strategic in creating safe options.
- Emphasize reliable and predictable options: The reliability of the system and predictability of travel time are frequently as important, or more important, than speed. Prioritize multiple multimodal options over reliance on a single option.
- Strategically fix the system: Some parts of the system may need to be reduced while other parts are enhanced or expanded to meet changing demand. Strategically maintain and upgrade critical existing infrastructure.
- Use partnerships: Coordinate across sectors and jurisdictions to make transportation projects and services more efficient.

Figure A-1: Family of Plans



MINNESOTA'S OLMSTEAD PLAN

The Olmstead Plan focuses on outcomes for people with disabilities and improvements on their quality of life. The most recent update of the plan, released in July 2015, contains 33 measurable goals and 13 topic areas. The measureable goals are intended to provide the state with specific indicators of progress towards achieving the integration mandate of the Americans with Disabilities Act. The transportation-related goals in the plan are as follows:

- By Dec.31, 2020 accessibility improvements will be made to 4,200 curb ramps (increase from base of 19 percent to 38 percent) and 250 Accessible Pedestrian Signals (increase from base of 10 percent to 50 percent). By 2025, additional rides and service hours will increase the annual number of passenger trips to 18.8 million in Greater Minnesota (approximately 50 percent increase).
- By 2020, expand transit coverage so that 90 percent of the public transportation service areas in Minnesota will meet minimum service guidelines for access.
- By 2020, transit systems' on time performance will be 90 percent or greater statewide.

Since the Olmstead Plan requires that transit providers must be measured and monitored on an annual basis, it is critical that the measures be straightforward and easy to track and report. Annual measuring progress and reporting the results starts in 2016. The measures used to monitor and track progress toward meeting the Olmstead goals will be defined as part of this Transit Investment Plan.

TRANSIT DEVELOPMENT PLANS

Urbanized areas (defined as metro regions with more than 50,000 people) must create their own transportation plans. Transit Development Plans specifically assess transit service in the short and long-term, and are produced by metropolitan planning organizations, transit agencies and/or cities in Greater Minnesota. MnDOT reviewed the TDP plans for 2012-2016 Fargo-Moorhead, 2009 Duluth Transit Authority Vision Report, City of Rochester Transit Development Plan 2006, Greater Mankato Transit Redesign Study 2012, La Crosse Regional Transportation Plan and Multi-modal Transit Element 2004 and the St. Cloud Metro Bus Performance, Redesign, Market Study and Long Range Plan Update. A summary of each document is available in Technical Memo: Plan Context.

MINNESOTA PLANS AND STUDIES

Minnesota Walks

Formerly known as the Statewide Pedestrian System Plan, Minnesota Walks is being completed through a collaborative effort between MnDOT and the Minnesota Department of Health. Development of the plan is being guided by the following three goals:

- Gain a better understanding of pedestrian needs and challenges in Minnesota from public and external stakeholders to help MnDOT and MDH better address pedestrian needs.
- Develop and prioritize recommendations for new projects, policies and programs that would improve the pedestrian environment at the state, regional and local levels.
- Provide recommendations to clarify the various roles and responsibilities of partners involved with creating better pedestrian environments in Minnesota.

3C Strategies

In 2011, MnDOT launched the Transit for Our Future initiative to refine MnDOT's process for evaluating applications for public transit funding. The goal of the Transit for Our Future initiative is to improve customer access and service by establishing consistent state program policies that balance accessibility (i.e. broad availability to all users regardless of ability, income, etc.) with efficiency in providing public transit service in Greater Minnesota. Transit systems may choose one or more strategies intended to enhance the organizational working relationships among Greater Minnesota public transit systems resulting in expanded service access, more efficient management, and/or a higher level of compliance with existing and future federal regulations. As part of this initiative, MnDOT developed the Guidance for Coordination, Cooperation and Consolidation document. The "3C" strategies are:

- **Coordination:** Two or more agencies work together in some formal relationship, perhaps focusing primarily on information sharing. All agencies retain their separate identities and authorities, including control over the vehicles they own and their employees.
- **Cooperation:** Two or more agencies use joint decision making power to establish formal arrangements (interagency agreements) to provide for the management of the resources of a distinct system. Agencies retain their separate identities and authorities, including control over the vehicles they own and their employees.

- **Consolidation:** Two or more agencies vest all operational authority in one agency that then provides services according to purchase of service agreements or other contractual relationships. The vehicles are owned by the consolidated system and employees may be employed by the consolidated system.

3. PUBLIC OUTREACH

CONSULTATION WITH ENVIRONMENTAL RESOURCE AGENCIES

As part of the planning effort, the project team consulted with environmental resource agencies to provide information and hold discussions with agencies that will be impacted by the GMTIP. Specifically, presentations and topic conversations were held through the planning process as part of the Minnesota Council on Transportation Access. MCOTA was established by the Minnesota Legislature in 2010 to “study, evaluate, oversee, and make recommendations to improve the coordination, availability, accessibility, efficiency, cost-effectiveness, and safety of transportation services provided to the transit public.”

Members of MCOTA included:

- Minnesota Department of Employment and Economic Development
- Metropolitan Council
- Minnesota Department of Human Resources – Board on Aging
- Minnesota Council on Disabilities
- Minnesota Department of Veterans Affairs
- Minnesota Department of Health
- Public Transit Association
- Minnesota Department of Education

TRADITIONAL TRANSPORTATION PARTNERS

Throughout the planning process, the project leaders worked and collaborated with different stakeholder groups and organizations. The goal of the public engagement was to bring information to groups early and often in the process. Project leaders presented on plan components at regularly

scheduled meetings with key organizations including the Metropolitan planning organizations, regional development organizations and the area transportation partners. Project leads also conducted a series of webinars with the public transit providers on the results of the public outreach campaign, performance standards, investment priorities and the strategies.

TRIBAL GOVERNMENTS

There are 12 federally recognized tribes in Minnesota. Each tribe is a separate sovereign nation and has an independent relationship with the United States and the State of Minnesota. This unique relationship is recognized in federal requirements, Governor Executive Order 13-10 and MnDOT Policy AD005, Minnesota Tribal Nations Government-to-Government relationship with MnDOT: Providing for Consultation, Coordination and Cooperation.

Federal requirements note that plans should be developed in consultation with tribal governments. Consultation is defined as “one or more parties confer with the other identifies parties in accordance with an established process and, prior to taking action(s), considers the views of the other parties and periodically informs them of action(s) taken” (23 CFR 450.102). The executive order notes that state agencies will work directly with tribes when developing or implementing policies or programs that directly affect Indian tribes and their members.

MnDOT's Office of Transit worked with multiple tribal nations throughout the planning process. Staff received input on the plan from tribal leaders through guided discussions. Staff also met with and worked with three tribes in Greater Minnesota. During these events, staff used a participatory mapping exercise to understand the regional travel demand of tribal members in addition to distributing the 'hard to reach' paper survey. The purpose was to involve the tribal community in the planning process and understand the unique needs of the tribal members.

In summary:

- Staff met with Grand Portage Tribe planning staff and presented highlights of the planning process. Approximately 50 Elderly Nutrition Program staff at Grand Portage completed the paper survey in spring 2016.
- Staff also participated in the Mille Lacs Tribe Band meeting in fall of 2015. Approximately 200 tribal members attended the meeting. The GMTIP was briefly presented followed by two exercises to gather input from the tribal members. First, a participatory mapping exercise was held, where participants used dots on table-top maps to identify their regional travel destinations. This helped MnDOT understand that people were crossing

boundaries to access other trade centers. Second, the staff distributed and collected the 'hard to reach population' paper survey.

- Staff also participated in Winterfest at the Leech Lake Reservation in 2016. Approximately 250 people attended the community event. Staff used the regional mapping exercise to capture travel destinations and the "hard to reach" paper survey for priorities.

ENVIRONMENTAL JUSTICE

Throughout the planning process, MnDOT staff looked to gather input from populations included in Environmental Justice policy and populations have been included as part of the plan to ensure minority populations are not disproportionately affected in an adverse manner. A full demographic analysis of minority populations including other "vulnerable populations" was developed and documented in [Technical Memo: Environmental Justice Assessment](#). The primary tool for collecting input was through surveys:

- The on-board survey results showed a higher number of minority populations ride transit in Greater Minnesota. A full report of the on-board survey results are available in the [Technical Memo: Transit User Preferences](#).
- Hard to Reach Population survey: MnDOT understood that access to internet and the ability to complete the online engagement tools was a barrier from collecting information. MnDOT distributed a paper survey through human service organizations and three tribal communities. Results of the survey showed that participants were older, an average of age 65, reported higher percentages of disabilities, and had less access to a vehicle. The full analysis is available in the [Technical Memo: Hard to Reach Population Survey Results](#).

4. PERFORMANCE MEASUREMENT

Performance measurement frameworks are widely used in the transit industry and vary from agency to agency. Transit agencies report basic information about their service to the National Transit Database to receive federal transit funding. The NTD is an excellent resource for performance data at the national level. Very small systems, such as those with fewer than nine vehicles, do not have to report to NTD. Locally, all systems in Greater Minnesota, including small urban and rural transit agencies, monitor and track basic performance data and report monthly to MnDOT. Performance measures and standards are a valuable tool for assessing progress, monitoring trends and determining how to allocate financial resources. The objective of the performance measurement is to help MnDOT:

- Demonstrate the value of local and regional transit services to policymakers, funders and the public at large
- Understand and track system strengths and weaknesses
- Motivate and facilitate improved performance
- Create a strategy that helps achieve the level of transit service to meet the needs of Greater Minnesota and secure the financial support to sustain it

MnDOT uses a computer software package to evaluate Greater Minnesota transit system performance by applying qualitative and quantitative data. The program ranks each system based on a series of specific criteria and assigns them a score. The purpose of this tool is to prioritize projects and trade-offs between a series of programs and services. While the primary focus of this tool is to make funding recommendations and allocate resources, it is not a rigid process. It is used for funding day-to-day operations and for capital projects and is particularly relevant for system expansion and retrenchment.

On May 27, 2016, FHWA and the Federal Transit Administration published the Final Rule on Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning in the Federal Register to implement the changes to the planning process established by MAP-21 and the FAST Act. The rule requires metropolitan planning organizations and states to establish performance targets that address the national performance measures issued by the U.S. DOT and to report on them annually. State transportation improvement programs and metropolitan transportation improvement programs must include a description of the anticipated progress toward achieving the targets brought about by implementing the program of projects.

Selection of performance targets by metropolitan planning organizations is intended to be coordinated, to the maximum extent practicable, with providers of public transportation and selection of targets at the state level is intended to incorporate metropolitan targets. States can choose to set different targets for urban and rural areas, but they must coordinate with providers of public transportation in urbanized areas with a population of fewer than 200,000 individuals not represented by a metropolitan planning organization.

Figure A-2: U.S. DOT Goals and Performance Monitoring



Source: U.S. Department of Transportation

In addition, Federal Transit Administration will issue a Transit Asset Management Rule that defines state of good repair and establishes state of good repair performance measures. Providers of public transportation will be required to set targets and report on progress as well as to develop transit asset management plans. Public transportation providers will also report transit safety performance criteria and standards. The FTA published a NPRM in September 2015; a final rule is expected later this year.

Finally, all recipients of FTA funding are required to develop an agency safety plan and certify that the plan meets FTA requirements. At a minimum, these plans must include strategies for identifying risks and minimizing exposure to hazards and performance targets based on the safety performance criteria. The FTA published a NPRM on public transportation agency safety plans in April 2016.

5. INVENTORY OF TRANSIT SERVICES BY SYSTEM

Figure A-3: Urban ADA Complementary Paratransit Providers Inventory

AGENCY	AVERAGE HEADWAYS <=60 MINUTES? (FIXED-ROUTE)	WEEKEND SERVICE – SATURDAY?	WEEKEND SERVICE – SUNDAY?	EVENING SERVICE AFTER 7 PM?	SCHEDULES ONLINE?	INTER- COUNTY SERVICE?
Duluth Transit Authority STRIDE		•	•	•	•	
East Grand Forks Transit Dial-A-Ride		•			•	
Mankato Transit System Mobility Bus		•			•	
Moorhead Metropolitan Area Transit Paratransit		•		•	•	
Rochester Dial-A-Ride		•	•		•	
St. Cloud Metro Bus Dial-A-Ride		•	•	•	•	

Figure A-4: Large Urban System Inventory

URBAN FIXED ROUTES AND DEVIATED SERVICES	AVERAGE HEADWAYS <=60 MINUTES?	WEEKEND SERVICE – SATURDAY?	WEEKEND SERVICE – SUNDAY?	EVENING SERVICE AFTER 7 PM?	SCHEDULES ONLINE?	INTER-COUNTY SERVICE?
Duluth Transit Authority	•	•	•	•	•	
East Grand Forks Transit	•	•			•	
La Crescent Apple Express					•	
Mankato Transit System City Bus	•	•			•	
Moorhead, City of	•	•		•	•	
Rochester Public Transit - RR	•	•		•	•	
St. Cloud Metropolitan Transit Commission RR	•	•	•	•	•	

Figure A-5: System Inventory and Priorities - Rural

AGENCY	AVERAGE HEADWAYS <=60 MINUTES?	WEEKEND SERVICE – SATURDAY?	WEEKEND SERVICE – SUNDAY?	EVENING SERVICE AFTER 7 PM?	SCHEDULES ONLINE?	INTER-COUNTY SERVICE?
Arrowhead Transit		•		•	•	•
Becker County Transit					•	
Brainerd and Crow Wing Public Transit					•	•
Brown County Heartland Express			•		•	
Chisago-Isanti Heartland Express					•	•
Community Transit of Western Community Action					•	•
FAR North Public Transit		•	•		•	•
Fond du Lac Transit		•	•	•	•	•
Fosston Transit					•	
Hubbard County Heartland Express		•			•	

AGENCY	AVERAGE HEADWAYS <=60 MINUTES?	WEEKEND SERVICE – SATURDAY?	WEEKEND SERVICE – SUNDAY?	EVENING SERVICE AFTER 7 PM?	SCHEDULES ONLINE?	INTER- COUNTY SERVICE?
Kandiyohi Area Transit		•			•	•
Lincoln County Heartland Express						
Mahnomen County Heartland Express					•	
Martin County Express		•				
Meeker County Public Transit		•	•		•	
Murray County Heartland Express					•	
Paul Bunyan Transit		•			•	
Pine River Ride with Us Bus					•	
Pipestone County Transit		•	•		•	
Prairie Five Rides						•
Prairie Lakes Transit		•		•	•	
Prairieland Transit					•	
Rainbow Rider Transit					•	•
Red Lake Transit						
Renville County Heartland Express					•	
Rock County Heartland Express			•		•	
SEMCAC Transportation (Rolling Hills Transit)					•	•
SMART Transit		•	•	•	•	•
Three Rivers Hiawathaland Transit	•	•		•	•	•
Timber Trails Public Transit					•	•
Trailblazer Transit						•
Transit Alternatives		•			•	•
Tri-CAP Transit Connection					•	•

AGENCY	AVERAGE HEADWAYS <=60 MINUTES?	WEEKEND SERVICE – SATURDAY?	WEEKEND SERVICE – SUNDAY?	EVENING SERVICE AFTER 7 PM?	SCHEDULES ONLINE?	INTER- COUNTY SERVICE?
Tri-Valley Heartland Express Bus		•			•	•
Wadena County Friendly Rider Transit		•	•	•	•	
Watsonwan Take Me There					•	
White Earth Transit					•	•

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6. SERVICE STANDARDS

Figure A-6: Provider Performance Standards by Service Type

OBJECTIVE	METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
Access: Facilitate access to high-quality public transportation	Service Hours: Span of service	These three types of service are to be provided according to the baseline span of service. Type provided as demand warrants.	These three types of service are to be provided according to the baseline span of service. Type provided as demand warrants.	These three types of service are to be provided according to the baseline span of service. Type provided as demand warrants.	NA	NA	NA	NA
Access: Facilitate access to high-quality public transportation	Service Frequency	60 minutes or better 30 minutes or better peak hours	30 minutes or better w/o DAR, 60 min or better with DAR	NA	2 round trip per week	Minimum 2 round trips in morning, 2 round trips in afternoon Peak : 30 – 60 minutes Midday: At least one round trip if market supports	3 round trips per week	
Access: Facilitate access to high-quality public transportation	Service availability: % of population who have local transit service available	75% of the service area population within ¼ mile of a transit route	75% of service area population within ¾ mile of a transit route	75% of population covered by service area.	80% of communities in service area have regional mobility service 80% of the service area population have regional mobility service	NA	80% of population within 25 miles of intercity bus stop	4 - Maximum number of pick-up locations 2-4 maximum number of drop-off locations

OBJECTIVE	METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
Access: Facilitate access to high-quality public transportation	Service hours per capita	2.0	0.45	0.45	NA	NA	NA	NA
Access: Facilitate access to high-quality public transportation	Information availability (print, online, translated)	Standard requirements: Title VI, Riders Guide, Service Schedules (Locations/time), trip reservation process	Publicly advertise the availability of route deviation service. Publish deviation policy/procedure. All other standard requirements	Standard requirements: Title VI, Riders Guide, Service Schedules (Locations/time), trip reservation process	Standard requirements: Title VI, Riders Guide, Service Schedules (Locations/time), trip reservation process	Standard requirements: Title VI, Riders Guide, Service Schedules (Locations/time), trip reservation process	Standard requirements: Title VI, Riders Guide, Service Schedules (Locations/time), trip reservation process	Standard requirements: Title VI, Riders Guide, Service Schedules (Locations/time), trip reservation process
Access: Facilitate access to high-quality public transportation	Planning Requirements	Urban areas over 50,000 – Identified and analyzed as part of Transit Development Plan Service expansions must be determined through an alternatives analysis.	Meets public participation requirements Service expansions must be determined through an alternatives analysis.	Meets public participation requirements Service expansions must be determined through an alternatives analysis.	Meets public participation requirements Service expansions must be determined through an alternatives analysis.	Identified and analyzed as part of a corridor study. Service expansions must be determined through an alternatives analysis	Identified and analyzed as part of a corridor study. Service expansions must be determined through an alternatives analysis	Meets public participation requirements Service expansions must be determined through an alternatives analysis
Ensure safe access to transit and provide multimodal amenities and safe waiting areas	Number of shelters installed	Shelters at stops with at least 20 boardings per day or major transfer points	Shelters at stops with at least 20 boardings per day or major transfer points	Shelters at stops with at least 20 boardings per day or major transfer points	NA	Shelters at stops with at least 15 boardings per day or major transfer points	NA	NA
Ensure safe access to transit and provide multimodal amenities and safe waiting areas	Bicycle parking present at transit stops	Bike parking at stops with at least 20 boardings per day	Bike Parking at stops with at least 20 boardings per day	Bicycle Access on Buses	Bicycle Access on Buses	Bike Parking at stops with at least 20 boardings per day	Bicycle Access on Buses	NA

OBJECTIVE	METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
Ensure safe access to transit and provide multimodal amenities and safe waiting areas	Continuous walking routes and crossings to stops	Pedestrian facilities within ¼ mile of stops with at least 20 boardings per day	Pedestrian facilities within ¼ mile of stops with at least 20 boardings per day	NA	NA	Pedestrian facilities within ¼ mile of stops with at least 20 boardings per day	NA	NA
	Level of coordination between public transportation and human services transportation	All public transit providers are required to coordinate with the Regional Transportation Coordination Councils.	All public transit providers are required to coordinate with the Regional Transportation Coordination Councils.	All public transit providers are required to coordinate with the Regional Transportation Coordination Councils.	All public transit providers are required to coordinate with the Regional Transportation Coordination Councils.	All public transit providers are required to coordinate with the Regional Transportation Coordination Councils.	All public transit providers are required to coordinate with the Regional Transportation Coordination Councils.	All public transit providers are required to coordinate with the Regional Transportation Coordination Councils.
Ridership: Link people with goods, services, and jobs and increase usage	Passengers per service hour	15	Small Urban (8), Rural (5)	3	3 boardings per trip	15	3 boardings per trip	8
Reliability: Provide convenient and reliable service	On-time performance	90% of schedule stops on-time, within 5 minutes after a scheduled stop	No bus shall depart a formal time point before the time published in the schedule. 90%- on time performance	90% on time within published pickup window. Urban Window – 20/20 minutes Rural Window – 45/45 minutes	No bus shall depart a formal time point before the time published in the schedule. 90%- on time performance	Should always depart on-time, notice should be provided to riders in unusual weather circumstances	On-time performance	90% of schedule stops on-time, within 5 minutes after a scheduled stop

OBJECTIVE	METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
Reliability: Provide convenient and reliable service	Advance Reservation Time	NA	For deviation requests: Urban – Minimum 2 hrs. in advance Rural - Minimum 24 hours in advance Next day service	Urban – Minimum 2 hrs. in advance Rural - Minimum 24 hours in advance Next day service	NA	NA	NA	NA
Reliability: Provide convenient and reliable service	Reservation Negotiation Window	NA	NA	Maximum: Up to an hour before or after requested time	NA	NA	NA	NA
Reliability: Provide convenient and reliable service	Trip Denials¹	Transit systems must follow the ADA trip denial definitions and process	Transit systems must follow the ADA trip denial definitions and process	Transit systems must follow the ADA trip denial definitions and process	Transit systems must follow the ADA trip denial definitions and process	Transit systems must follow the ADA trip denial definitions and process	Transit systems must follow the ADA trip denial definitions and process	Transit systems must follow the ADA trip denial definitions and process
Reliability: Provide convenient and reliable service	Trip Cancellations	Bus trips should only be canceled from lack of riders or weather cancelations	Bus trips should only be canceled from lack of riders or weather cancelations	Bus trips should only be canceled from lack of riders or weather cancelations	Bus trips should only be canceled from lack of riders or weather cancelations	Bus trips should only be canceled from lack of riders or weather cancelations	Bus trips should only be canceled from lack of riders or weather cancelations	Vanpool trips should only be canceled from lack of riders or weather cancelations
Reliability: Provide convenient and reliable service	Passenger complaints	The benchmark is 6 complaints / 100,000 boardings	The benchmark is 6 complaints / 100,000 boardings	The benchmark is 6 complaints / 100,000 boardings	The benchmark is 6 complaints / 100,000 boardings	The benchmark is 6 complaints / 100,000 boardings	The benchmark is 6 complaints / 100,000 boardings	A formal process should be established for resolving problems/ complaints
Reliability: Provide convenient and reliable service	Road calls	The benchmark is 1 road call/14,000 revenue miles.	The benchmark is 1 road call/14,000 revenue miles	The benchmark is 1 road call/14,000 revenue miles	The benchmark is 1 road call/14,000 revenue miles	The benchmark is 1 road call/14,000 revenue miles	The benchmark is 1 road call/14,000 revenue miles	Should be serviced (oil change and other preventative) maintenance every 7,500 miles.

OBJECTIVE	METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
Safety: Maintain fleet to ensure passenger safety and state of good repair	Accidents	Fewer than 1 recordable accident per 100,000 revenue miles	Fewer than 1 recordable accident per 100,000 revenue miles	Fewer than 1 recordable accident per 100,000 revenue miles	Fewer than 1 recordable accident per 100,000 revenue miles	Fewer than 1 recordable accident per 100,000 revenue miles	Fewer than 1 recordable accident per 100,000 revenue miles	Fewer than 1 recordable accident per 100,000 revenue miles
Safety: Maintain fleet to ensure passenger safety and state of good repair	Fleet maintenance	At least 75% of all regular fleet vehicles should be available for operations at all times.	At least 75% of all regular fleet vehicles should be available for operations at all times.	At least 75% of all regular fleet vehicles should be available for operations at all times.	At least 75% of all regular fleet vehicles should be available for operations at all times.	At least 75% of all regular fleet vehicles should be available for operations at all times.	At least 75% of all regular fleet vehicles should be available for operations at all times.	At least 75% of all regular fleet vehicles should be available for operations at all times.
Safety: Maintain fleet to ensure passenger safety and state of good repair	Spare ratio	The ratio of spare vehicles to regular fleet vehicles should be less than 20%	The ratio of spare vehicles to regular fleet vehicles should be less than 25%	The ratio of spare vehicles to regular fleet vehicles should be less than 25%	The ratio of spare vehicles to regular fleet vehicles should be less than 25%	The ratio of spare vehicles to regular fleet vehicles should be less than 25%	The ratio of spare vehicles to regular fleet vehicles should be less than 25%	Vanpool providers should be able to secure a spare vehicle within one business day.
Cost-Effectiveness: Ensure services operate responsibly	Cost per revenue hour	\$85.00	\$50	\$60.00	NA	NA	NA	NA
Cost-Effectiveness: Ensure services operate responsibly	Cost per ride	\$5.00	\$6.00	\$15.00	NA	NA	NA	NA
Cost-Effectiveness: Ensure services operate responsibly	Farebox recovery (% of operating cost)	20% (Includes local subsidy)	20% (Includes contract revenue and local subsidy)	20% (Includes contract revenue and local subsidy)	20% (Includes local subsidy)	25%	15%	50-100% (< \$120 monthly cost to vanpool user)

¹⁶Section 8.5.4: Trip Denials and Missed Trips" FTA Circular FTA C 4710.1. November, 2015
https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/Final_FTA_ADA_Circular_C_4710.1.pdf

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