MinnesotaGO
A Collaborative Vision for Transportation

Greater Minnesota Transit Investment Plan 2017 - 2037

DEPARTMENT OF TRANSPORTATION

MAY 2017

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Greater Minnesota Transit Investment Plan

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

WHY AN INVESTMENT PLAN?

In 2009, Minnesota Department of Transporation 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 need in Greater Minnesota by 2015, and 90 percent of need 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 2017 Greater Minnesota Transit Investment Plan (GMTIP) is an investment and strategic plan. As an investment plan, this document calculates the investments required to reach the target of meeting 90 percent of transit need 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.

The MnDOT 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.

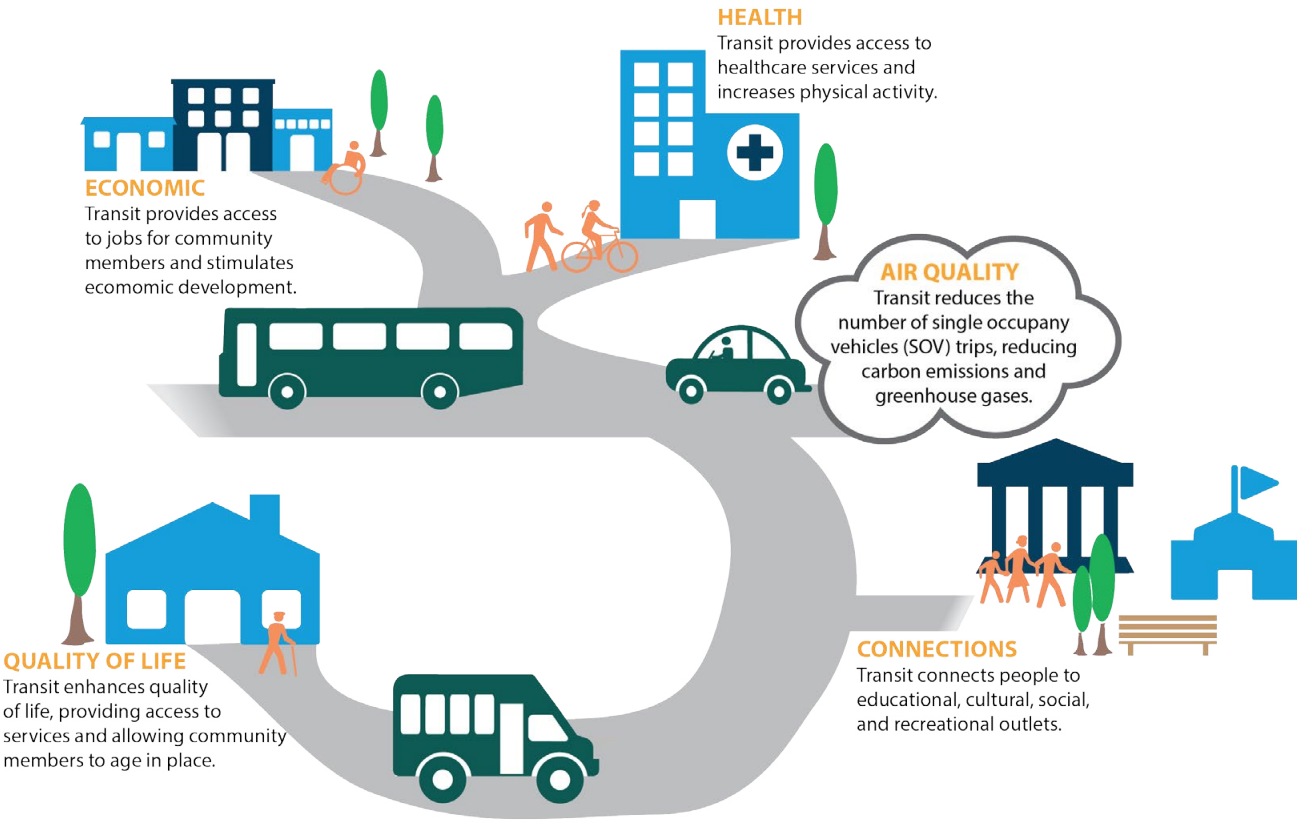
BENEFITS OF GREATER MINNESOTA TRANSIT

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 healthcare services and promotes physical activity

- 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 BENEFITS OF TRANSIT



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 40 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 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 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 the coming years are as follows:

Demographic

- After slight declines, the population in Greater Minnesota is projected to increase
- 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, 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

MEETING THE NEED FOR PUBLIC TRANSIT

To determine transit needs and costs, MnDOT developed a model for calculating the total need for public transit. Using the 2014 Greater Minnesota Transit Need Model, total Greater Minnesota ridership demand was estimated to grow to 13.3 million trips in 2014, 18.9 million in 2025 and 20.7 million in 2035 for all counties in Greater Minnesota. Meeting 90 percent of this need (MnDOT's target) would result in 17 million rides in 2025. Based on current ridership levels, meeting the need would result in ridership growth of 4.8 million rides by 2025.

MnDOT developed a service plan by calculating the service levels to meet the need, and operating and capital costs for providing service. The 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 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 new vehicles, 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

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 for multiple uses such as employment, tourism, and recreation.

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 provides 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 intertcity bus 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 electronic and print materials

6.3 Encourage transit systems to provide information across multiple platforms such as smart phone 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 to conduct robust public outreach when undertaking fare changes, large capital projects, service planning, etc.

6.6 Ensure transit systems are providing culturally specific material, as appropriate

PERFORMANCE EVALUATION

This plan developed a performance evaluation framework using metrics at both the state and local level. State-level metrics include MnDOT's four performance measures (1) ridership, (2) fleet condition, (3) span of service and (4) on-time performance and evaluation criteria used to monitor the transit systems. At the local level, MnDOT recommends that providers use performance guidelines and standards to monitor their own services.

FINANCIAL OUTLOOK

Current transit funding in Greater Minnesota includes federal and state 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 financial outlook considers more than just increases in operating costs. As service expands and inflation occurs, the costs of vehicles, facilities, and employee salaries and benefits must also be taken into account. In total, to expand services to meet legislative mandates a funding gap of $114 million in operating and capital costs will amass from 2021-2025.

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 demograhic 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.

SUMMARY

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 the trends, extensive community input calls for transit to be available when and where it is 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 plan that designates 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. 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 policymakers why transit matters and the need for future funding.

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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 Minnesota Department of Transportation to develop a Greater Minnesota Transit Investment Plan (GMTIP) 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 Statues, 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 need 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 2017-2037 GMTIP

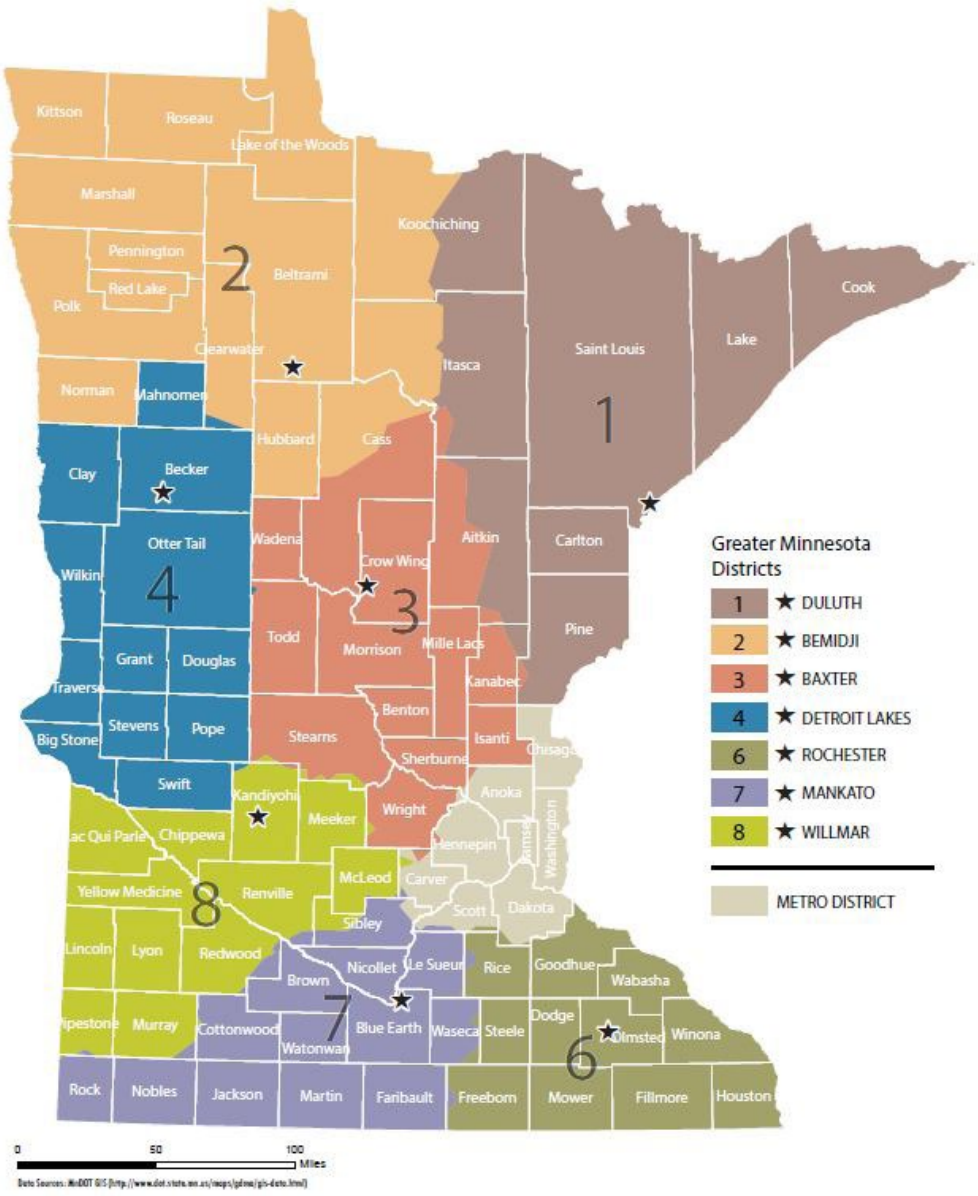
The Greater Minnesota Transit Investment Plan 2017-2037 is designed to achieve the following:

- 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 financial assistance to transit systems 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 other seven urbanized areas are direct recipients of funds from the Federal Transit Administration; 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 serving Greater Minnesota riders. Figure 1-1 provides shows the boundaries of Greater Minnesota and the seven MnDOT districts.

Figure 1-1: MnDOT District Boundaries



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Chapter 2

BENEFITS OF TRANSIT

WIDER BENEFITS OF TRANSIT

CONNECTIONS

Transit provides convenient access to community destinations.

The American Community Survey (ACS) estimates nationally, 9% or 10.5 million households do not have access to a vehicle. The number in Minnesota is slightly lower at 7%[1]. Transit provides zero vehicle households an opportunity to connect to education, cultural, social and recreational outlets throughout their community. Transit services enhance mobility thereby reducing social and economic inequalities[2]. These activities help create strong neighborhood centers that are more economically stable, safe and productive. Transit service also helps preserve the small urban and rural community character by providing access to local and regional destinations for all people.

Access to reliable transit makes education, medical appointments, and steady income possible. Public transit is a vital service for low-income populations, especially in Greater Minnesota where pockets of low-income families live, often with limited access to opportunities to increase their incomes. Reliable transit service provides mobility and access to goods and services, promotes self-sufficiency, independence and frees up household money for other household needs.

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%[3].

Public transit provides an affordable transportation option for those who do not have access to 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 2013. The average American household has 2.28 vehicles; 35 percent of households have three or more vehicles[4].

Households encounter a number of costs associated with vehicles, including insurance, licensing, registration and vehicle taxes. Beyond the costs of purchasing and maintaining the vehicle, the cost of gas, parking and tolls are additional daily costs. In urban areas, off-street parking may require 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.

1 U.S. Census Bureau, 2011-2015 American Community Survey 5-year estimates. "Household Size by Vehicles Available for Minnesota, 2015."

2 National Association for State Community Services Program. "The Stranded Poor: Recognizing the Importance of Public Transportation for Low-Income Households. 2008 *http://www.nascsp.org/data/files/csbg_publications/issue_briefs/issuebrief-benefitsofruralpublictransportation.pdf*

3 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.cnt.org/sites/default/files/publications/CNT_LosingGround.pdf*

4 American Automobile Association. "Your Driving Costs." 2013. *http://exchange.aaa.com/wp-content/uploads/2013/04/Your-Driving-Costs-2013.pdf*

5 Cronin, J., J., Hagerich, J., Horton, J., Hotaling, J. Florida Transportation Disadvantaged Program Return on Investment Study. The Marketing Institute, Florida State University College of Business. 2008

6 Ferrell, C. E. The Benefits of Transit in the United States: A Review and Analysis of Benefit-Cost Studies. Mineta Transportation Institute Publication (2015).

TRANSIT SUPPORTS THE LOCAL ECONOMY

Direct and Induced Economic Drivers

The social benefits of transit in a community include access to medical care, nutritional services, social living and education. In economic terms, a transit system supports the economy through direct, indirect and induced benefits. For direct impacts, the transit system employs and pays local staff that generates a revenue through operations. The induced and indirect costs are considered the ripple effects of the economic activity from operating the transit systems. Effects include spending for the transit system in the local economy for purchased goods or services to support the system. Induced effects are those associated with the economic activity due to spending from employees of the transit system in the local economy. In total, transit systems are significant contributors to the local economy and serve as consistent drivers of economic activity[5].

Cost-Benefit Analysis

Cost-benefit analysis is used to determine if benefits outweigh the costs of implementing transit service, and by how much. Benefits can include travel time savings, reduced vehicle costs, improved safety, reduced greenhouse gas emissions, induced travel, travel time reliability, community impact, parking and environmental quality. Costs include the initial and continuing costs, rehabilitation and end of project costs. In a 2014 survey of rural transit systems nationwide, Godavarthy et al found on average, rural transit resulted in a benefit-cost ratio of 1.20, which means that every dollar invested in transit in rural areas results in $1.20 in benefits[6].

Separate from the direct and indirect economic impacts created by transit operator employment and related activity, the benefits to riders from improved access to jobs and services make up an important category within benefit-cost analysis. Although the benefits are generally larger in urbanized areas, small urban and rural areas have significant gains from transit service, "with between 40-46 percent of total transit benefits attributable to jobs and the economy[6]."

7 Godavarthy, R., J. Mattson, E. Ndembe. Cost-Benefit Analysis of Rural and Small Urban Transit. North Dakota State University Upper Great Plains Transportation Institute Small Urban and Rural Transit Center, July 2014, *http://www.nctr.usf.edu/wp-content/uploads/2014/07/77060-NCTR-NDSU03.pdf*

8 Burkhardt, J.E. Economic Impact of Rural Transit. In Transportation Research Board: Journal of the Transportation Research Board, No. 1666, TRB, National Research Council, Washington, D.C., 1999, pp. 55-64

9 Cronin, J., J., Hagerich, J., Horton, J., Hotaling, J. Florida Transportation Disadvantaged Program Return on Investment Study. The Marketing Institute, Florida State University College of Business. 2008

10 Designed to Move: a Physical Activity Action Agenda, 2012. *https://www.designedtomove.org/*

11 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*

12 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*

13 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.

14 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.

Figure 2-1 Rural and Small Urban Benefits

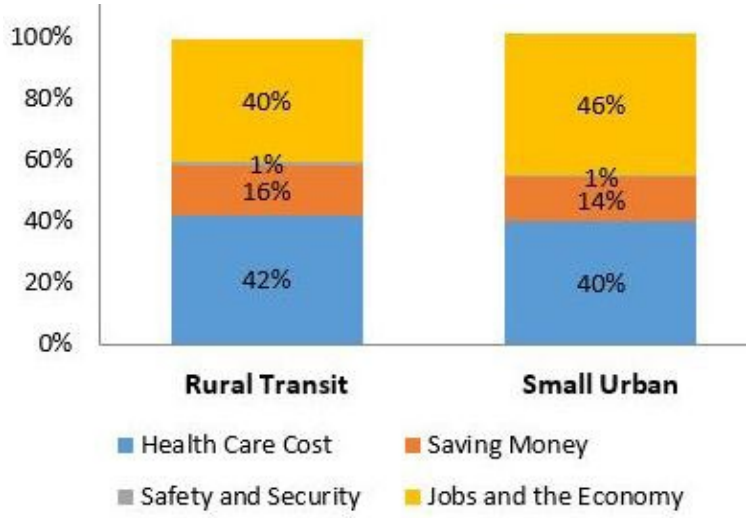


Figure 2-1 displays the difference between rural and small urban transit benefits based on the different components.

RETURN ON INVESTMENT

Return on investment (ROI) is a performance measure used to evaluate the efficiency of an investment, or the rates of return on financial investment in the project. In a study completed by the North Dakota State University Upper Great Plains Institute in 2014, researchers found that on the national scale, urbanized areas had a higher return on transit investments at $2.60:$1 compared to rural areas at $1.1:$1. Overall, (U.S.) transportation cost savings benefits in rural areas total $196 million for fixed-route transit and $34 million for demand response service[3]. For Minnesota, small urban areas with fixed route transit have a benefit cost ratio of 2.86. The benefit-cost ratio for rural areas is 1.77, the 10th highest return in investment in the United States, with a statewide ROI of 2.11[7].

The ROI for transit services in Minnesota follow the national trend of dial-a-ride service, a type of demand response having much lower of ROI of 0.64[7]. Although demand response service may have a lower ROI than fixed-route service, the benefits to the community from demand response service are now being realized. For example, the community benefits $8.27 for every medical trip, $6.23 for every work trip, and $16.35 for the total transit benefits[6].

Multiple studies have identified that the returns on investment can be greater than 3 to 1 by providing transit services that allow and support residents to live independently. Independent living increases the level of business activity in the community in addition to supporting individuals to live active lifestyles and be engaged in the community[8]. Transit also provides access to medical and

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

16 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.

17 Litman, 2009.

18 Wallace, R., Hughes-Cromwick, P., and Hillary Mull. 2006. "Cost Effectiveness of Access to Nonemergency Medical Transportation: Comparison of Transportation and Health Care Costs and Benefits." Transportation Research Record, Journal of the Transportation Research Board No. 1956: 86-93.

19 Hughes-Cromwick, P.R., Wallace, H. Mull, J. Bologna, C, Kangas, J. Lee, and S. Khasnabis, 2005. Cost Benefit Analysis of Providing non-Emergency Medical Transportation. TCRP Web-Only Document 29 (Project B-27): Contractor's Final Report, Transit Cooperative Research Program, Transportation Research Board of the National Academies.

20 Prasad, R., Mattson, J., Ndembe, E. "Cost-Benefit Analysis of Rural and Small Urban Transit in the United States." Transportation Research Record: Journal of the Transportation Research Board, No. 2533, Transportation Research Board, Washington D.C., 2015, pp. 141-148.

nutritional trips. Cronin et al. found these trips to have the highest return on investment of all tested categories ($125:$1 and $110:$1) respectively[9].

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 1965[10]. Nearly half of Americans do not meet recommended levels of physical activity for adults (30 minutes or more of physical activity per day)[11]. The amount of time some spent traveling in automobiles is one contributor to this trend. Taking transit can help increase physical activity and improve health. As shown in Figure 2-2, on average, transit riders walk 19 minutes[12] a day get to and from transit stops, showing that investment in transit can improve health outcomes.[9]

Figure 2-2: Walking to Transit

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 inactivity[13] and an estimated $2,741 more is spent per year on higher healthcare costs for persons that lead inactive lifestyles[14]. 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.[15,16]

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 hypertension[10]

Transit access impacts health.

A growing base of research is measuring the economic outcomes of transit used for medical trips. Providing medical trips is a core of most demand response transit systems, especially in Greater Minnesota. Researchers have estimated that 3.6 million Americans do not obtain medical care every year because they lack adequate transportation to travel to medical appointments[18]. For individuals needing access to medical care, missing appointments can have a significant impact on their health. For example, missed health care trips could lead to decreased health and the individual may need in-home care or even an emergency care trip via ambulance. Additional studies found that the transit dependent population is disadvantaged in ways other than simply access to transportation. The transit dependent population is disproportionately older, low-income, female, minorities, and without college degrees. Therefore, those lacking transportation have an inordinately high prevalence of disease[19].

In addition to providing access to health care, transit also provides intangible benefits such as supporting individuals to live independently and remain connected to the community, friends, and family, which prevents social and physical isolation[20].

AIR QUALITY

Transit reduces congestion and emissions.

According to the Environmental Protection Agency, transportation is the second largest contributor to Green House Gas emissions, at 26%, after electricity, at 30%[21]. 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 2050[22]. 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 temperature[23].

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

22 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.

23 Litman, 2009.

24 Wallace, R., Hughes-Cromwick, P., and Hillary Mull. 2006. "Cost Effectiveness of Access to Nonemergency Medical Transportation: Comparison of Transportation and Health Care Costs and Benefits." Transportation Research Record, Journal of the Transportation Research Board No. 1956: 86-93.

25 Hughes-Cromwick, P.R., Wallace, H. Mull, J. Bologna, C, Kangas, J. Lee, and S. Khasnabis, 2005. Cost Benefit Analysis of Providing non-Emergency Medical Transportation. TCRP Web-Only Document 29 (Project B-27): Contractor's Final Report, Transit Cooperative Research Program, Transportation Research Board of the National Academies.

26 Prasad, R., Mattson, J., Ndembe, E. "Cost-Benefit Analysis of Rural and Small Urban Transit in the United States." Transportation Research Record: Journal of the Transportation Research Board, No. 2533, Transportation Research Board, Washington D.C., 2015, pp. 141-148.

This could lead to productivity slowdowns and enormous strain on the energy grid when demand for air conditioning grows. Agriculture crops will also 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 Minnesota[24]. Between 2014 and 2045, the older adult population is expected to increase by 88%[25]. 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.

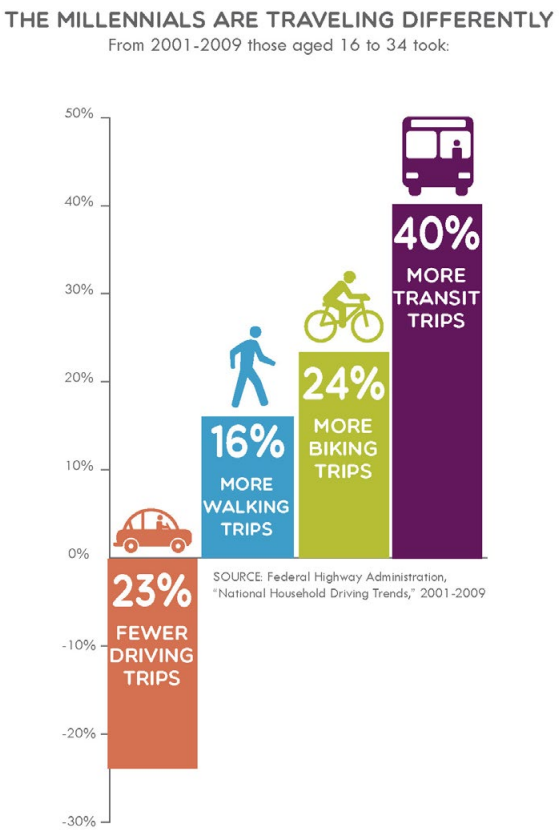
The national discussion surrounding the repercussions of the aging population and housing needs is a pressing one in Greater Minnesota, especially given the projected increased in the older adult population discussed earlier. Surveys and research have shown that people want to stay in their homes as 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[26], as shown in Figure 2-3. 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.

Figure 2-3: Millennials Traveling Differently



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Greater Minnesota Transit Investment Plan

Chapter 3

TRANSIT IN GREATER MINNESOTA

TRANSIT IN GREATER MINNESOTA

Greater Minnesota's Transit Systems and Service

As of June 2016, Greater Minnesota had 40 public transit systems and two direct recipient tribes serving the 80 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 29 county and multicounty systems including two tribal systems. These systems provide service for much of Greater Minnesota and rural areas. These systems use primarily demand response 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 response 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 response service is sometimes the most appropriate type of service.

SMALL URBAN TRANSIT SERVICE

MnDOT supports four 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 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 2015, 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.

OPERATING AND FINANCIAL STATISTICS

TRANSIT RIDERSHIP

Overall transit ridership in Greater Minnesota grew more than 8 percent from 2010-2015. The largest gain (14.4 percent) occurred in urbanized systems. Ridership on rural systems increased 12.6 percent (see Figure 3-2). Prior to 2013, the urbanized systems had an overall growth of nearly 7 percent.

Figure 3-1: Greater Minnesota Public Transit Systems

Transit Services

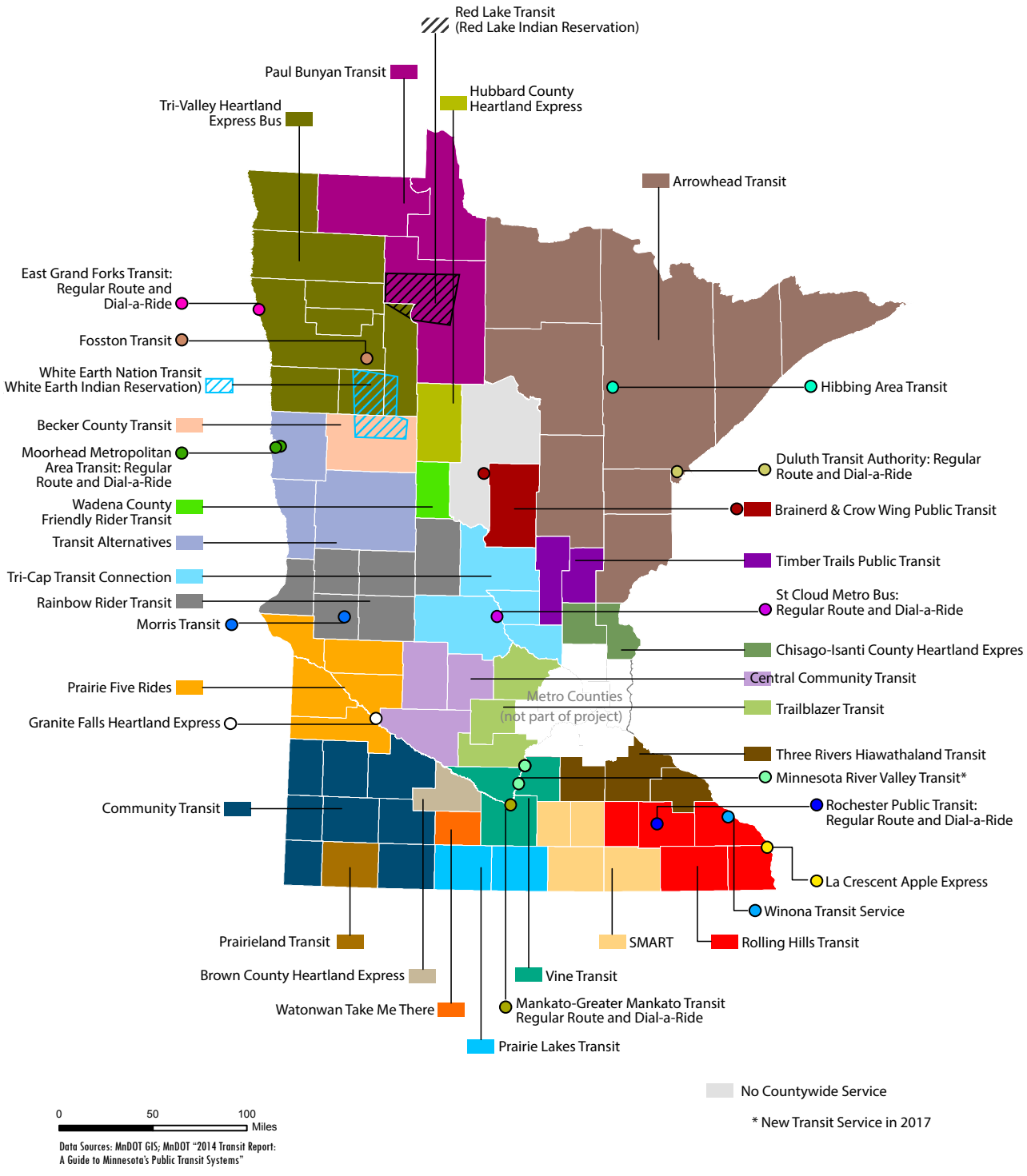


Figure 3-2: Greater Minnesota Public Transit Ridership – 2010 to 2015

SYSTEMS	2010	2011	2012	2013	2014	2015	5-YEAR CHANGE
Rural	2,752,841	2,743,803	2,657,177	2,886,968	3,098,512	3,239,748	12.6
Small Urban*	997,611	1,026,128	1,080,202	601,447	535,794	522,067	-46.3%
Urbanized*	7,142,360	7,500,943	7,623,481	8,162,658	8,171,122	7,976,926	14.4%
ADA-Complementary Paratransit	222,528	224,484	215,013	210,789	233,800	242,671	5.1%
Greater Minnesota	11,115,340	11,495,358	11,575,873	11,861,862	12,039,228	11,981,412	9.2%

*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, as shown in Figure 3-2. 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 2015

SYSTEMS	2010	2011	2012	2013	2014	2015	5-YEAR CHANGE
Rural	564,307	554,671	563,803	610,653	665,827	683,876	18.0%
Small Urban*	95,879	96,776	90,534	64,308	56,527	56,565	-41.0%
Urbanized*	322,072	336,261	333,382	343,677	346,724	348,905	7.7%
ADA-Complementary Paratransit	85,850	88,340	87,493	89,434	91,994	100,036	7.2%
Greater Minnesota	1,068,108	1,076,048	1,075,212	1,108,072	1,161,072	1,189,382	8.9%

*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, as shown in Figure 3-4. 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 urbanized system in 2013 and some small urban systems merging with rural systems.

Figure 3-4: Greater Minnesota Public Transit Annual Operating Costs – 2010 to 2015

SYSTEMS	2010	2011	2012	2013	2014	2015	5-YEAR CHANGE
Rural	$26,831,360	$28,207,803	$28,596,297	$31,233,351	$35,747,852	$37,927,260	33.2%
Small Urban*	$4,318,471	$4,549,283	3,904,818	$2,565,824	$2,238,184	$2,134,513	-48.2%
Urbanized*	$22,899,589	$24,923,373	$26,830,385	$28,737,075	$30,219,815	$30,689,094	31.9%
ADA-Complementary Paratransit	$4,475,655	$4,739,045	$4,702,382	$4,730,007	$5,281,240	$6,098,096	17.9%
Greater Minnesota	$58,524,175	$62,419,504	$64,033,884	$67,266,259	$73,487,092	$76,848,963	25.5%

Note that operating costs are covered by a mix of state and 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. Urbanized services begin operations as early as 4:30 a.m. and end as late as 12:30 a.m. (Duluth Transit Authority). 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

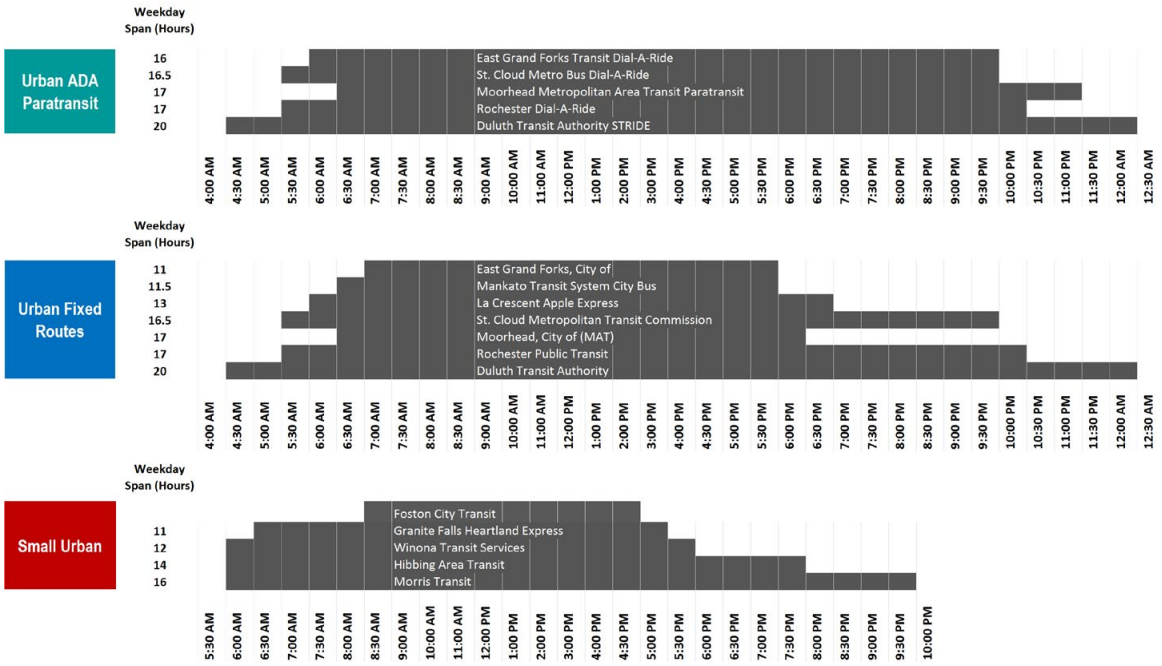
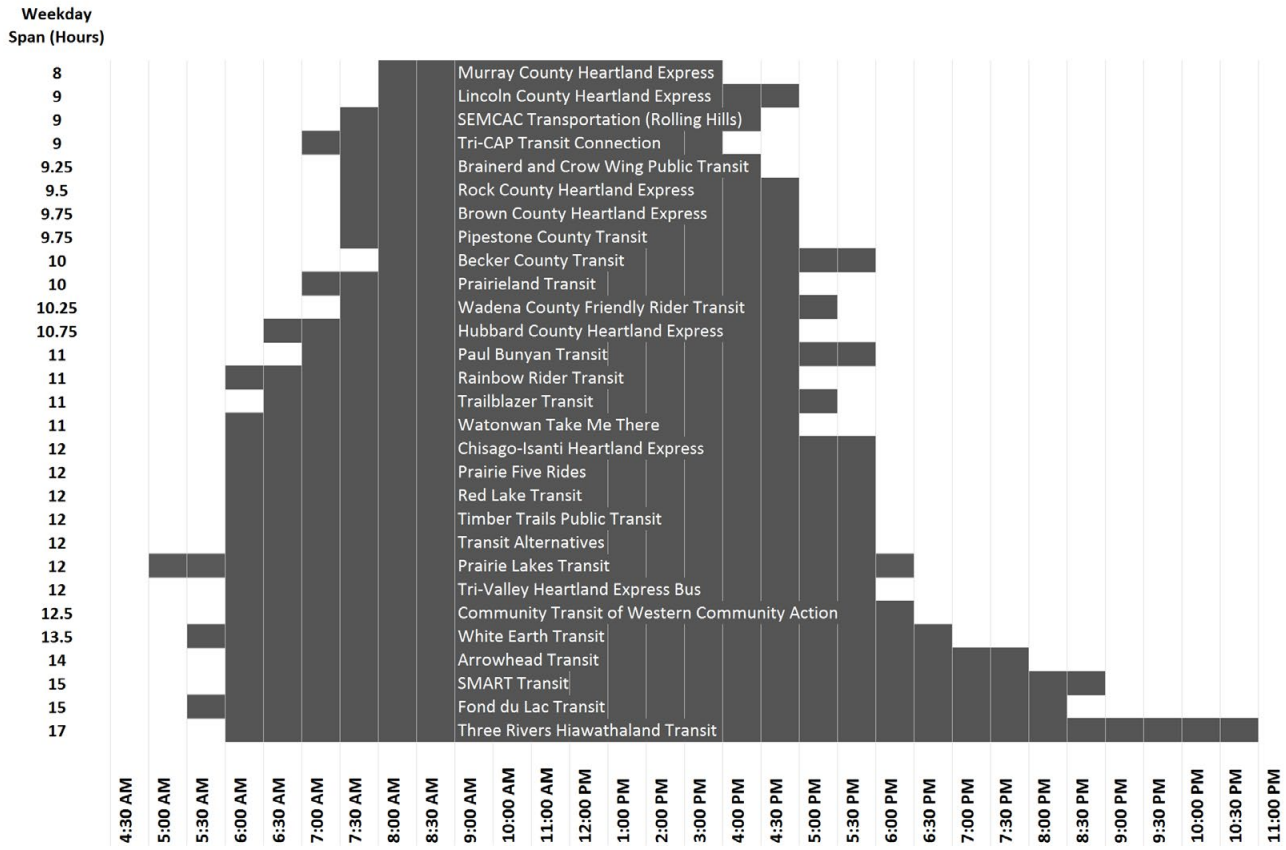


Figure 3-6: Existing Service Spans - Rural



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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 as well as where vulnerable populations live. This informs the need for transit service, transit routes, service levels (frequency, hours of operation), and fares. Those who need transportation find many options for getting around, including human services transportation, taxis, family, friends or transit. 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, 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 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:

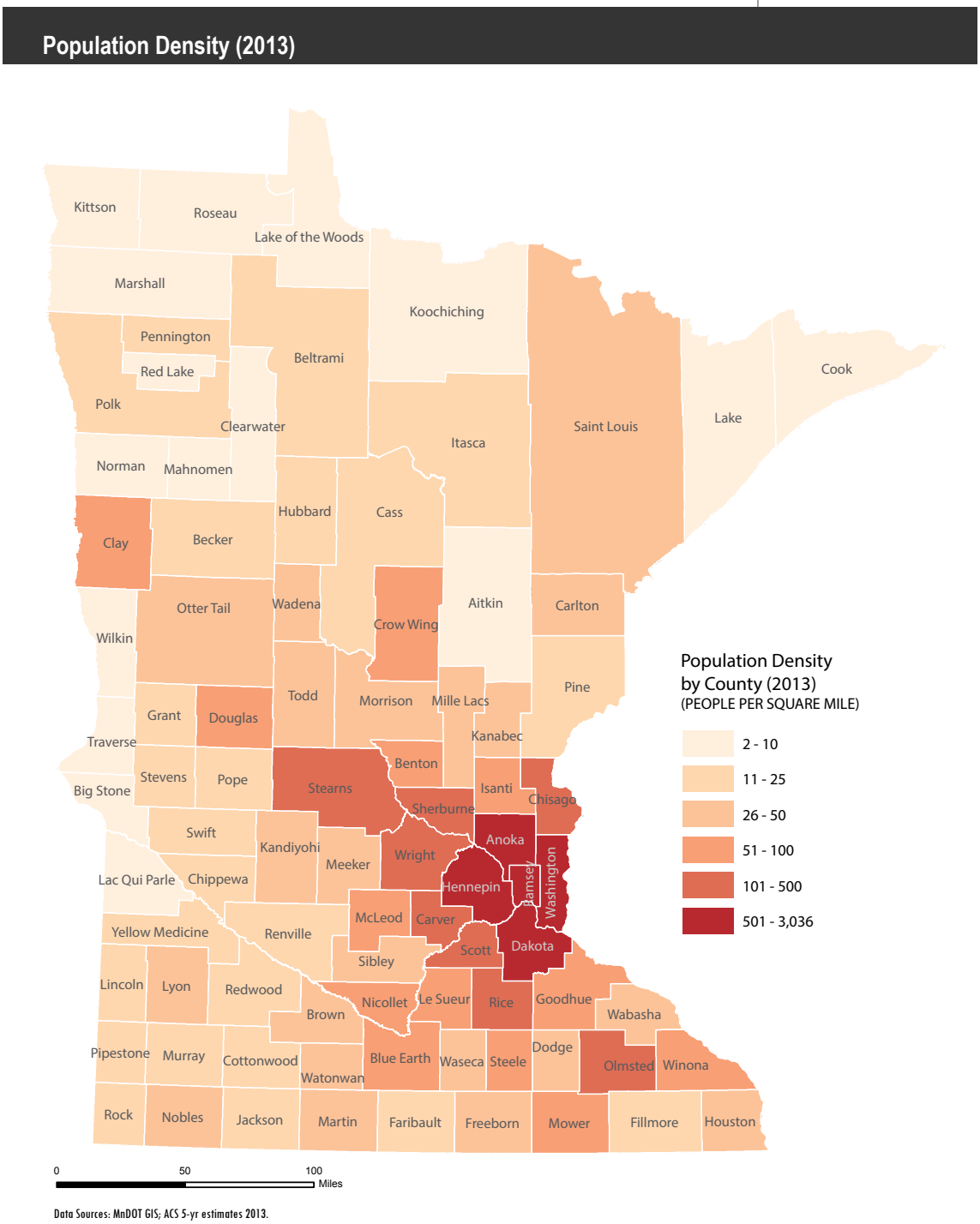
- "choice riders," people who own or have access to a car but choose to take transit
- "transit dependent" people who do not have any other option

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 metro. With the exception of Olmsted County, Greater Minnesota counties with the highest population densities are located around the urban fringe of the Twin Cities metro area in Sherburne and Wright counties. Lower population densities are widely distributed across the western and northern portions 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.

Figure 4-1: Statewide Population Density by County



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 4-2: Statewide Employment Density by Census Block

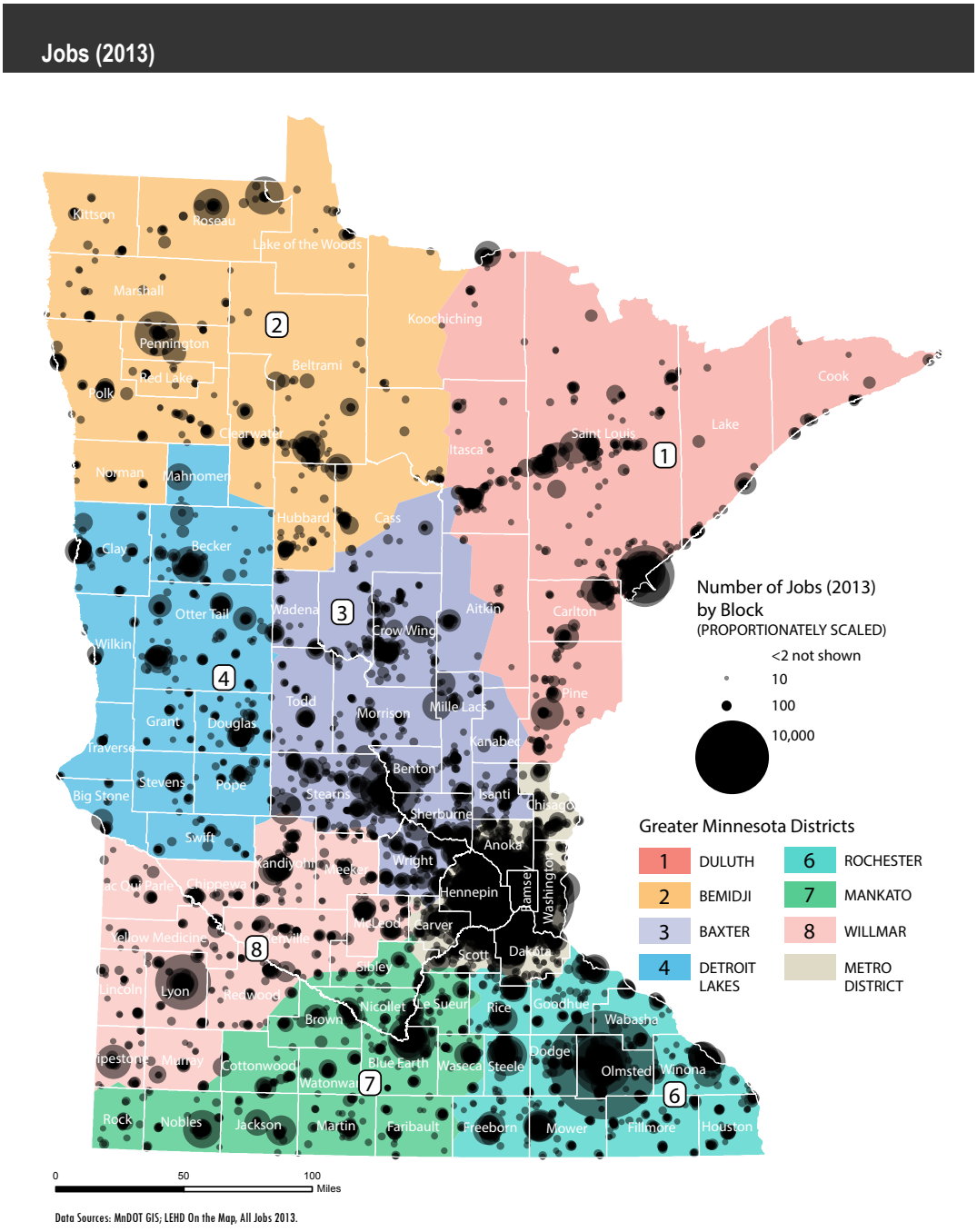
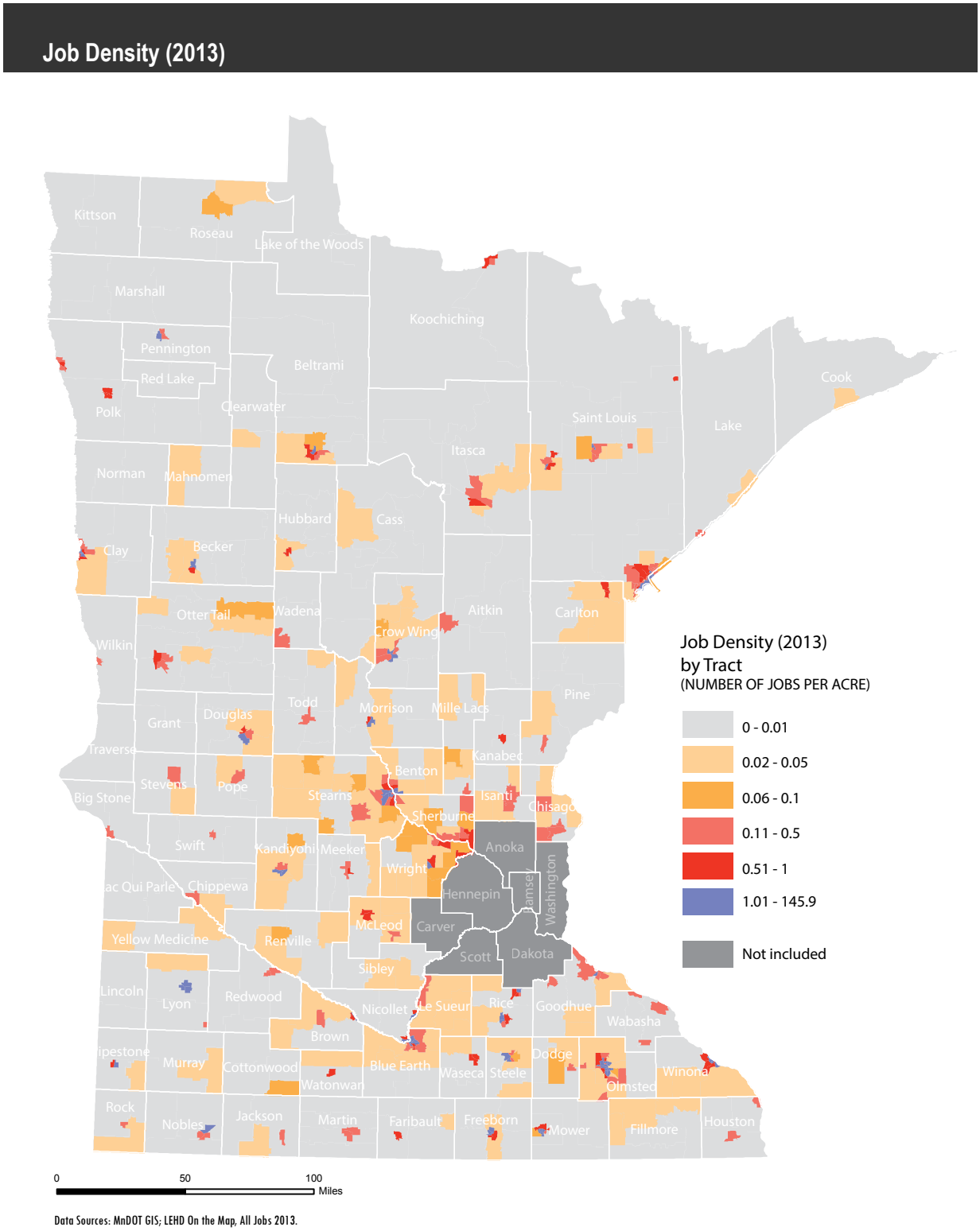


Figure 4-3: Statewide Job Density by Census Tract



Data Sources: MnDOT GIS; LEHD On the Map, All Jobs 2013.

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 in 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 during the development of this plan through surveys and meetings as explained in chapter 5. A full report is available in the *Technical Memo: Environmental Justice*.

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.
- 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%

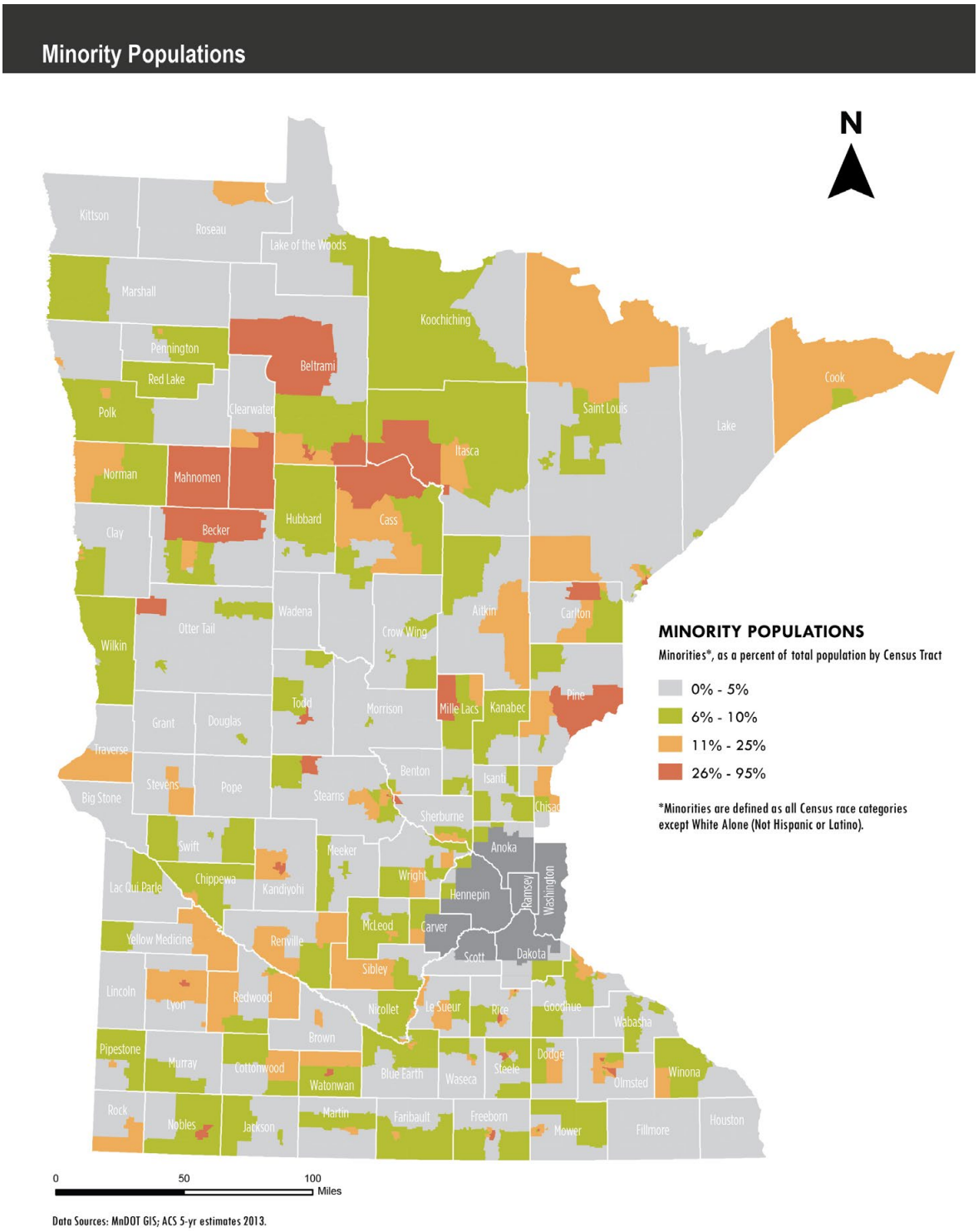
Figure 4-5: Greater Minnesota Vulnerable Populations

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-year Estimates 2013

Figure 4-6: Minority Populations in Greater Minnesota



TRANSIT DEPENDENCY INDEX

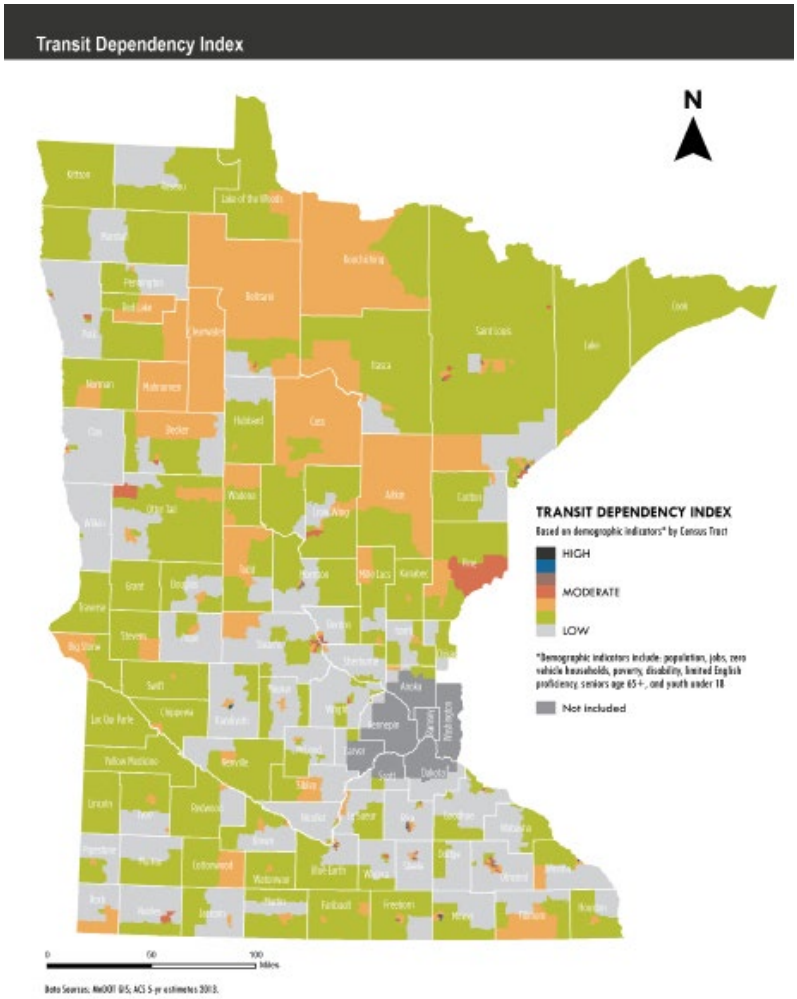
MnDOT developed a transit dependency index to highlight areas with concentrations of populations that may use transit. Factors considered in this analysis include densities of the following: population, employment, youth (under 18), older adults (age 65+), households without a vehicle, persons with a 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 Mahnomen, 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 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 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 Mahnomen (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 Mahnomen (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 Index 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 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.

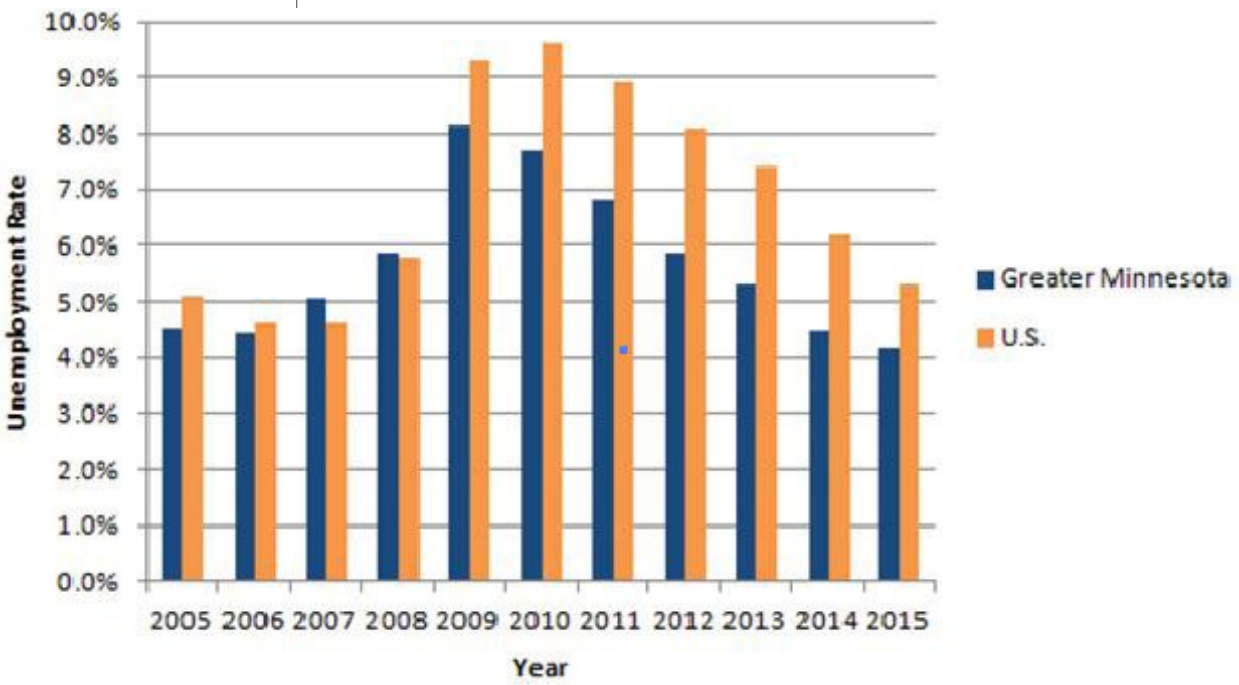
Economy

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 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.

Figure 4-8 displays the unemployment rate in Greater Minnesota.

- **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 development of a new form of transit based on sharing rides and vehicles. 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.

Figure 4-8 Umemployment Rate in Greater Minnesota and U.S. 2005-2015



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.

- **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*

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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.

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

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 urbanized cities. 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 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 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 and Gender.** 77 percent of respondents were between the ages of 18 and 64. 60 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 eight percent have a household income higher than $49,000.
- **Language.** Less than one percent of the surveys submitted were completed in a language other than English.
- **Ethnicity.** 78 percent of respondents were white. Black/African-American Mixed/Other, Asian and Hispanic respondents range from three to seven percent of the total.
- **Driver's License.** More than half (59 percent) of respondents do not have a driver's license.
- **Disability.** 39 percent of respondents reported identifying as someone with a disability, while 19 percent report having a physical condition that requires assistance to use transit.

Figure 5-5 Primary Trip Purpose

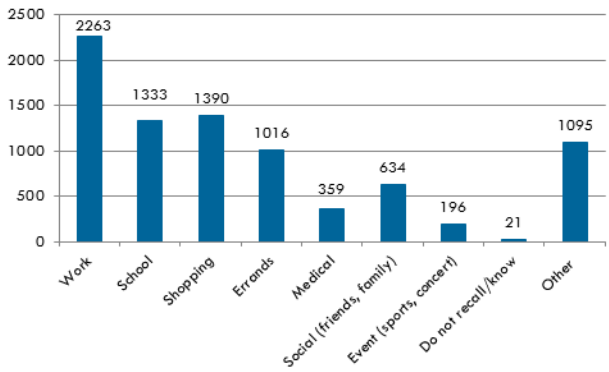


Figure 5-3: On-board survey respondent age

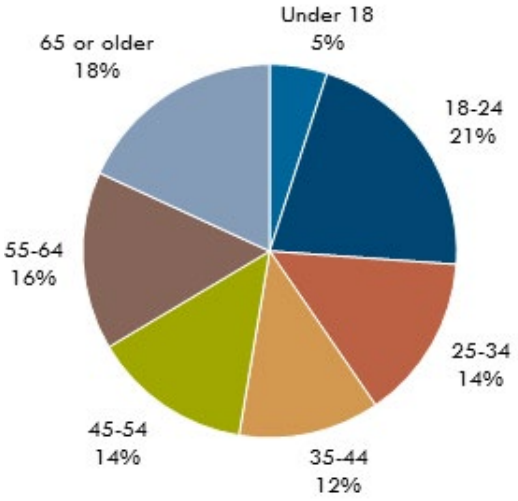
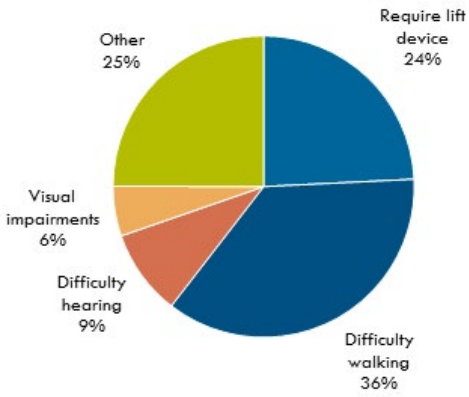


Figure 5-4: Physical conditions that require assisstance to use transit



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.** 51 percent of respondents are "Very Satisfied" with transit service availability in their community. 34 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. Twenty-four percent prefer newspapers, and 22 percent prefer transit websites. Less than 15 percent of respondents listed social media platforms 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 one 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).

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

ON-BOARD 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 urbanized 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, 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. 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

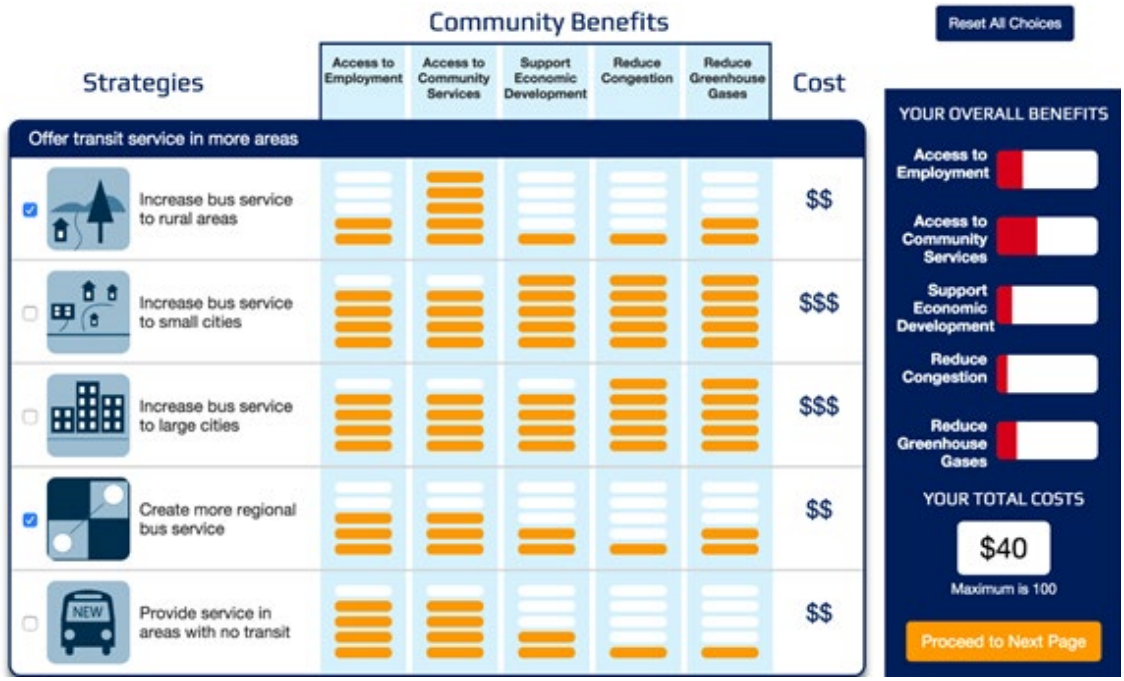
Each strategy has a cost and an explaination on how it would contribute to the community:

- 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 5-6 shows a screenshot of one of the strategy tables from the survey.

To reach out to populations typically under-represented in community engagement, the survey was translated into Somali, Hmong and Spanish, as well as 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.

Figure 5-6: Design Your Own Transit System Survey Screenshot

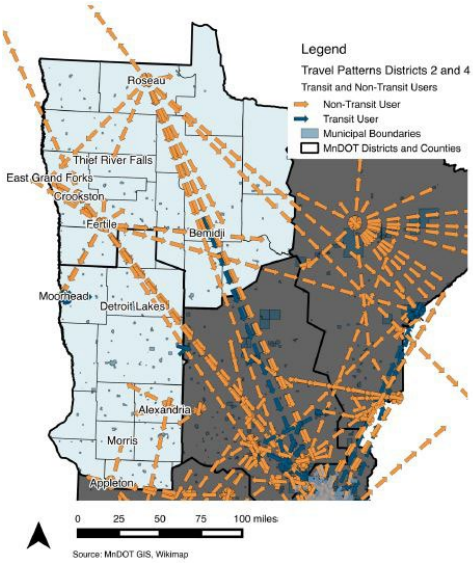


SUMMARY OF FINDINGS

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 due to 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.

Figure 5-7: District 2 Regional Travel Destinations



- **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 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, with congestion mitigation 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.

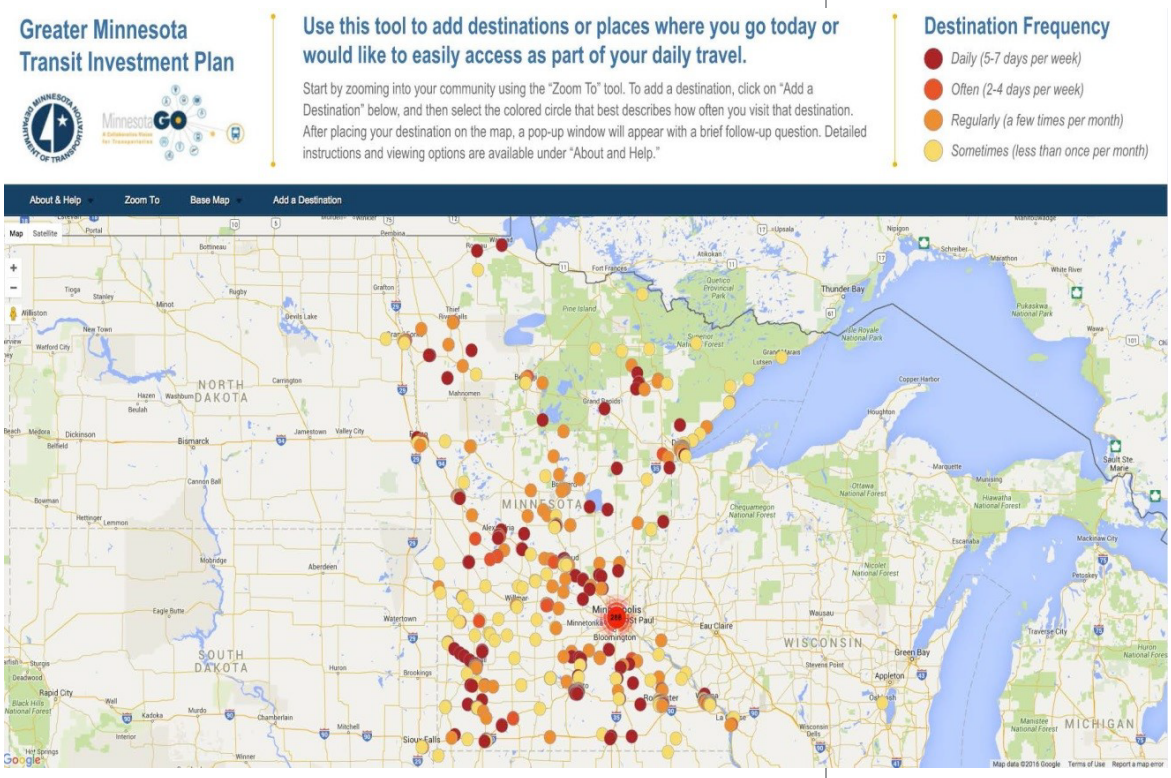
Online Mapping Tool - Origins and Destinations

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.

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 5-7 and 5-8). 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.

Figure 5-8: Wikimapping Tool



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

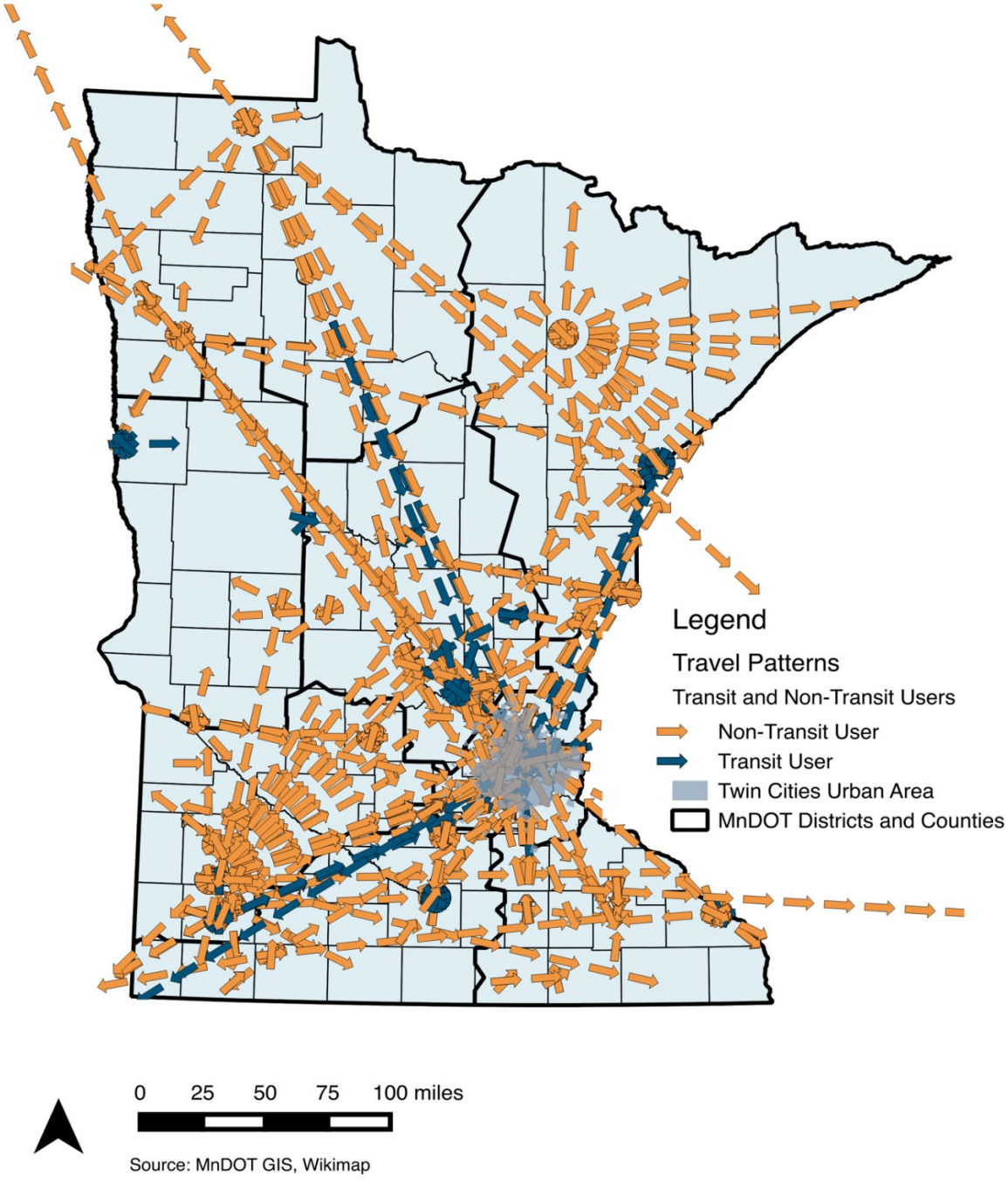
The Wikimapping and destination survey tool were available from mid-December 2015 to the end of February 2016. Both were accessible through the "Get Involved" page of the project website and were shared in several email to various stakeholders. Links to the surveys were posted on MnDOT social media pages 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 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 (Figure 5-8). 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.
- 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.

Figure 5-8: Existing and Desired Travel Patterns



“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 staff 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 and 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, more frequent service 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, fewer automobiles per household, 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.

- **Frequent service is highly desired by riders and non-riders when determining potential transit use.** Currently, fixed route 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, urbanized and small urban systems offer Saturday service, with the exception of La Crescent Apple Express. Sunday service is rarer. Among urbanized 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 urbanized 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 urbanized 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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MinnesotaGO
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Greater Minnesota Transit Investment Plan

Chapter 6

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. MnDOT will work with transit systems to:

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 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 new vehicles, 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 (DHS) and MnDOT, in collaboration with other agencies, are working to create Regional Transportation Coordinating Councils (RTCC). 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 RTCCs 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* (MCOTA)

GOAL 3: INCREASE TRANSIT USAGE ACROSS THE TRANSPORTATION NETWORK

Increasing ridership is a core element of the GMTIP. 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 TNCs (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 implement scheduling apps

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 (taxis, health care, etc.) 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 vison'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. This plan also connects to the Minnesota Department of Health's intiative of advancing health equity and strengthening community relationships.

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* and the *Minnesota Bicycle System Plan*

5.2 Increase usage of the transit network to replace single-occupancy vehicles and 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, Amtrack, 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 smartphones, 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 and all written materials

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

6.7 Utilize local cultural community groups to help translate and distribute materials

SUMMARY

The strategies listed in this chapter are the direct results of public outreach, and input from the plan committees, transit systems and other 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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Chapter 7

PERFORMANCE MEASUREMENT

PERFORMANCE MEASUREMENT

To measure and communicate transit system milestones and their value is critical to convey the importance of transit to the general public, transit agency boards and the legislature. This plan uses two different types of metrics for measuring performance, those at the state level and metrics for local agency use. First, MnDOT uses performance measures to track progress at the state level, such a ridership. MnDOT also uses evaluation criteria to assess transit systems for strengths and weaknesses in order to make informed funding decisions.

In comparison, transit system guidelines and standards track progress at the local level and are controlled and monitored by the transit agency, separate from MnDOT. Transit system guidelines and standards recommended in this plan are the result of research into national peer systems, in addition to a survey of Greater Minnesota transit providers and cover operational metrics that help assess progress toward system goals and objectives.

The GMTIP's performance evaluation strategy helps MnDOT and local transit providers to:

- Demonstrate the value of local and regional transit services to stakeholders
- Track system strengths and weaknesses
- Facilitate improved performance
- Address the transit needs of Greater Minnesota
- Secure the financial support to sustain it

State Performance Measures and Evaluation Criteria

Performance Measure: Assesses progress towards achieving a goal, outcome or objective. This definition covers performance measures used to make decisions or evaluate the effectiveness or adequacy of a policy, strategy or investment. Key transit system performance measures link MnDOT's agency goals, the Olmstead Plan, Heading Home: Minnesota's Homeless Initiative, and the GMTIP. The MnDOT performance measures also address the Federal Transit Administration regulatory mandates to develop measures and track performance.

Evaluation Criteria: Used by the Office of Transit to evaluate performance of transit providers. Evaluation criteria are used as criteria that helps inform MnDOT of system strengths and weaknesses. The evaluation criteria are also part of a larger evaluation for future expansion projects and capital needs.

PERFORMANCE MEASURES

The GMTIP provides a series of performance measures and targets to guide MnDOT in response to federal and state mandated oversight requirements, plans, projects and investments.

Federal Performance Based Planning

The FTA's Fixing America's Surface Transportation Act or FAST Act, calls for statewide transportation performance-based planning that integrates standards and targets encompassing every level, national, statewide, regional and local. The FAST Act requires states to consider performance measures and targets when developing policies, programs and investment priorities in the statewide transportation plan. In addition, public transit providers are instructed to set targets, report on progress, develop transit asset management plans and report on the measures. The full description of the federal measures is included in the plan's Appendix.

MnDOT Performance Measures

MnDOT relies on state based regulations to guide its plans, projects and investments in support of public transit. The GMTIP has four performance measures covering (1) ridership, (2) fleet condition, (3) span of service and (4) on-time performance. The GMTIP identifies targets for each of these performance measures, and MnDOT will annually report progress towards addressing these targets.

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*. The transit ridership performance target is that by 2025 public transit will serve 90 percent of transit need. To meet this goal, Greater Minnesota public transit must add more service. Ridership is currently tracked monthly and reported annually in the Annual Transit Report. For 2015, MnDOT identified there were 12.1 million transit rides provided, which was approximately 87 percent of the transit need. Progress towards the goal will be reported each year in the Annual Transportation Performance Report and the Annual Transit Report.

MEASURE #2: FLEET CONDITION

This measure is a general indicator of the overall age and accumulated miles of the transit system's vehicle fleet. It is defined as the percentage of Greater Minnesota transit vehicles that are within their "useful life." *MnDOT's Asset Management Plan* determines the useful life of vehicles. For transit vehicles, the useful life is based on the combination of miles and years the vehicle has been in service. Each transit system semi-annually reports the age and mileage of transit vehicles. The target is for 90 percent of vehicles to be within their useful life; the minimum threshold is 80 percent. In 2016, 22 percent of vehicles were past their useful life.

Future improvements to the public transit systems fleet are needed to meet the minimum threshold for this target. The progress towards the target will be reported each year in the Annual Transit Report.

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

This performance measure identifies the percentage of the state's communities whose public transit span of service meets guidelines (Figure 7-1) established. The information is collected using published transit system service schedules. The target is that by 2025, 90 percent of municipalities in Greater Minnesota will have transit service according to their municipal service population. Transit systems shall provide the baseline span of service as local financial resources are available and demand warrants. 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. The progress towards the span of service will be collected and reported annually in the Annual Transportation Performance Report and the Annual Transit Report.

Figure 7-1: Baseline Span of Service

MUNICIPALITY POPULATION	PEER GROUP	WEEKDAY HOURS	SATURDAY HOURS	SUNDAY HOURS*
50,000 and over	Urbanized	20	12	9
49,999 – 7,000	Small Urban	12	9	9
6,999-2,500	Small Urban	9	9	NA
County Seat Towns* (<2,500 pop)	Rural	8 (3 days a week)	NA	NA

* As demand warrants based on individual system performance policies

MEASURE #4: TRANSIT ON-TIME PERFORMANCE

Improved reliability is a core component of the GMTIP. Reliability will be measured by on-time performance as the percentage of transit vehicles arriving at their pick-up site within the appropriate window of time. The pick-up window is established in the provider performance standards.

The on-time performance target is 90 percent of trips will be picked-up within the appropriate time window by 2025 and beyond. MnDOT will begin to analyze the data in 2017 and start reporting annually in the 2018 Annual Transportation Performance Report and the Annual Transit Report.

MNDOT EVALUATION CRITERIA

The MnDOT Office of Transit annually evaluates transit system performance to prioritize operating and capital projects. MnDOT ranks each system based on a series of specific criteria and assign each transit system a score. Based on the evaluation criteria, the transit systems are nominally ranked and scores within the bottom 10 percent are targeted for additional technical assistance from MnDOT. Funding allocations are not made based on this information, but does help inform MnDOT about system strengths and weaknesses. The criteria are reviewed and refined annually by the Office of Transit (Figure 7-2).

Figure 7-2: Evaluation Tool Criteria

ACCESS	PERFORMANCE	FINANCIAL METRICS	CONTRACT COMPLIANCE
Percentage of countywide need (hours per capita)	Passengers per hour	System Revenue to Expenses	Progmatic/ factual evaluation by Project Manager
Minimum level of access	Percentage of service in underperforming routes	Cost per trip	NA
Rural Service Volume	On-time performance	Cost per service hour	NA
Span of service	NA	NA	NA

Transit System Guidelines and Standards

OVERVIEW

MnDOT has a strong commitment to support efficient and effective public transportation services in Greater Minnesota. The guidelines and standards presented in this section reflect the six types of service that are operated by Greater Minnesota public transportation systems (Figure 7-3). Each service type has guidelines and standards to help the system track their own performance Figure 7-8.

Figure 7-3: Six Service Types

SERVICE TYPE	SYSTEM TYPE	APPLICATION
Fixed-Route	Urbanized (5307)	Urbanized Communities
ADA Complementary Paratransit	Urbanized (5307)	Urbanized Communities
Dial A Ride Demand Response	County-wide and Regional Multi-county systems	Non-Urbanized Communities
Deviated Route Demand Response (Municipal)	County-wide and Regional Multi-county systems	Non-Urbanized Communities
Deviated Route Demand Response (Rural/Regional)	County-wide and Regional Multi-county systems	Non-Urbanized Communities
Intercity Bus Feeder	County-wide and Regional Multi-county systems (5311 F)	Urbanized and Non-Urban Communities

Fixed route service - a vehicle is operated along a prescribed route according to a fixed schedule.

ADA complementary paratransit - Transportation service required by the Americans with Disabilities Act (ADA) for individuals with disabilities who are unable to use fixed route service. This service must be comparable to the level of service provided to individuals without disabilities who use the fixed route. The complementary services must be origin-to-destination service (demand response). Service must be provided in a corridor three-fourths of a mile on either side of the fixed route.

Dial-a-ride service - operates in a defined area such as a city, county or transit agency jurisdiction during advertised days and hours. Pickups and drop-offs typically take place anywhere within the service area and sometimes at important out-of-area locations. Riders call to request a pickup time and service providers develop schedules and routes according to these requests.

Route deviation service - operates along established routes that typically have designated stops. Between these stops, vehicles deviate from an established route to pick up or drop off riders within a defined off-route service area.

SYSTEM GUIDELINES AND STANDARDS

Throughout the GMTIP planning process, MnDOT identified 24 metrics in collaboration with Greater Minnesota transit providers. MnDOT highly recommends each system choose, adapt and refine some of the proposed guidelines to reflect the operational characteristics of each system. In addition to tracking performance, should a system ever reduce service, the reductions should be based on performance standards to comply with Environmental Justice requirements.

MnDOT highly recommends, but does not require the transit systems to adopt these measures. Performance measurement is a good business practice. Using performance measurement transit systems can; identify problem areas for further analysis, generate information for policy formulation, measure goal attainment for priority areas, and determine resource allocation.

The benefit of implementing the metrics is that each system will develop a stronger profile of their system's strengths and weaknesses. The metrics are grouped into the following two categories:

1. Service Design and Reliability Guidelines: (not associated with cost or productivity)

- Service Design Guidelines (1) facilitate access to high-quality public transportation (service frequency, and service hours per capita) and (2) provide multimodal amenities and safe waiting areas (bicycle parking at transit stops, continuous walking routes, and crossings to stops)
- Reliability Guidelines (1) provide convenient and reliable service (on-time performance and advanced reservation time) and (2) maintain fleet to ensure passenger safety and state of good repair (road calls, accidents, and spare ratio)

2. System Performance Standards (related to cost or productivity):

- Ridership: Measure the change in network usage (passengers per hour) and ensure services operate responsibly (cost per ride).

SERVICE DESIGN AND RELIABILITY GUIDELINES

The Service Design Guidelines are intended to guide allocation of transit resources and to work towards regional coordination and consistency. These guidelines represent the general types of transit service, enhancements and amenities that are appropriate to implement; however, exceptions exist based on local circumstances and funding. Use of these service design guidelines is optional, but highly recommended. MnDOT will not mandate use of the guidelines or require new reporting. These measures are to benefit the transit systems for their own reporting and use.

Provider Reliability Guidelines

Reliability of transit service has been recognized as a significant determinant of quality of service in the plan. The reliability guidelines are intended to serve as indicators for the transit agency to measure and monitor. These guidelines are representative of the general performance thresholds service that systems may attempt to reach. However, exceptions often exist based on specific local circumstances and available funding.

SYSTEM PERFORMANCE STANDARDS

Performance standards evaluate the productivity and efficiency of services provided. To be responsible and dynamic, a transit system must consistently measure and adjust service accordingly. These standards serve as indicators of route performance and call attention to routes that may need adjustment. The use of multiple performance standards provides better insight into the operational and financial performance of services and allows transit providers to balance the cost and ridership of each route in the system's service network.

The examples below, passengers per hour, passengers per trip, cost per passenger and cost recovery describe the basic concept and why the information is valuable to collect.

Productivity: Passengers per Hour

Productivity is measured as the number of passengers per hour (Figure 7-4). Productivity is calculated by the total number of passengers carried divided by the total service hours. A high number of passengers per hour show a route is serving more people. The passengers per hour metric is calculated at both the route and trip level, but can be also viewed on a per bus basis to establish a minimum standard of route performance. Figure 7-4 shows the minimum passengers per hour. Passenger per hour is applicable for all service types and in all communities.

Figure 7-4: Productivity: Passengers per Service Hour

SERVICE TYPE	ROUTE AVERAGE*
Fixed Route	15
Commuter Bus	15
Route Deviation (Urban/Community)	8
Route Deviation (Rural)	5
Dial A Ride (Urban/Community)	3
Dial A Ride (Rural)	2

*Route average represents the average passengers per service hour over the entire day. Individual hours may fall below the standard. Also, service hours is defined as one bus operating for one service hour.

Productivity: Passengers per Trip

The passengers per trip applies to intercity and regional mobility services only. These services are typically several hours in length. Therefore, the standard for passengers per hour does not apply. This standard describes the minimum acceptable capacity of service operating on a given route, Figure 7-5. Routes that do not meet these minimum standards should be reviewed for potential changes to increase ridership or reduce service. Very poor performing routes may be considered for elimination.

Figure 7-5: Passengers per Trip

SERVICE TYPE	MINIMUM PER TRIP
Regional Mobility	3
Intercity Bus Feeder	3

For example, Route 1 operates three buses; each operates eight hour per day. The daily ridership on Route 1 is 96. The route productivity average is four passengers per hour (pph).

Cost Effectiveness: Cost per Passenger

A route's cost effectiveness is measured by the cost required to deliver service on a per passenger basis. This standard identifies the possible cost ranges when comparing overall system averages and focuses on corrective action for those services falling below averge. Figure 7-6 shows the cost per passenger thresholds and possible corrective action. Routes should be assessed after being in operation for one year.

Figure 7-6: Cost per Passenger

COST PER PASSENGER	MONITORING GOAL	POSSIBLE ACTION
20 to 35 percent over system average	For quick review	Minor modification to route
35 to 60 percent over system average	For intense review	Major changes to route
Greater than 60 percent over system average	For significant change	Restructure or eliminate route

Cost Effectiveness: Cost Recovery

A second measure for determining route cost effectiveness is the percentage cost recovery for a route (revenue/expense). Cost recovery calculates the amount of revenue generated by a service to cover the operating expense. Revenue typically includes fares, contract revenue, local contributions or local tax subsidy.

MnDOT recommends transit systems generate a minimum of five percent excess revenue on their services (20 percent rurals/25 percent urbanized). By increasing the revenue beyond the amount needed to pay the local share for the service (15 percent rurals/20 percent urbanized), the excess revenue is available for capital match or match on service expansions that do not have a revenue source for the local share.

Implementation of a Performance Monitoring Framework

Establishing a set of transit performance guidelines helps evaluate the adequacy of existing transportation services provided by Greater Minnesota public transit systems and guides the development of proposals that improve those services. Initially, these guidelines should be used as a baseline as each system defines its own set of standards associated with its appropriate service type.

Several points should be made with respect to the development and subsequent application of the performance guidelines. First, reasonable judgment must be used in applying the guidelines to assess the current service. While guidelines are quantitative for the most part, unusual situations may arise which warrant special consideration. Issues related to public policy and funding cannot always be addressed fully by numerical guidelines.

Second, the guidelines may conflict since some relate to the benefits to be derived from transit service while others relate to their costs. Nonetheless, the guidelines permit the tradeoffs to be defined and an informed decision made to resolve differences.

Third, the comparison of actual performance with the guidelines should not be made on a "pass fail" basis. Instead, results should be viewed in terms of the proportion of time the guideline is met or the level of attainment. Finally, the guidelines have been set at reasonable values that can be achieved or that can serve as useful "targets."

MnDOT recommends transit agencies use a five-step process to adopt the guidelines.

1. Identify the service types the system operates. (fixed route, deviated route, etc.)

2. Initially, providers should select only a few of the 24 potential metrics.

3. Determine the performance of the system for the metrics that are selected. For each transit system, both the system-wide and individual performance of each service should be considered.

4. Identify the guidelines and standards for the system associated with the metrics being reviewed.

5. Review system performance for the applicable service type and metrics listed in the guideline. Based on the review, set the standards to reflect the system's particular situation.

The periodic application the guidelines and standards can become a powerful tool in guiding the restructuring of services to productivivity and better serve residents. Transit systems should review service standards every few years to determine whether the standards should be revised to reflect changes that have been made. For example, a recent trend of mergers among Greater Minnesota transit systems may result in differences as to the manner in which an organization might interpret the guidelines or standards differently prior to or after the merger's effective date.

Service Design Guidelines

Service Design Guidelines are intended to guide the appropriate allocation of transit resources and ensure regional coordination and consistency. These guidelines are representative of the general types of transit service and service enhancements and amenities that are appropriate to implement. However, exceptions often exist based on specific circumstances and available funding. Figure 7-8 shows the recommended guidelines for service design.

Reliability Guidelines

Reliability of transit service has been recognized as a significant determinant of quality of service in the plan. The reliability guidelines are intended to serve as indicators for the transit agency to measure and monitor. These guidelines are representative of the general performance thresholds service that systems may attempt to reach. However, exceptions often exist based on specific local circumstances and available funding. Figure 7-8 shows the recommended guidelines for reliability.

Figure 7-7:Provider Design Guidelines

METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
Service Hours: Span of service	Baseline Span of Service	Baseline Span of Service	Baseline Span of Service				
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	NA
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
Service hours per capita	2.0	0.45	0.45				

METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
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
Planning Requirements	Urban areas over 50,000 – Identified and analyzed as part of Transit Development Plan	Meets public participation requirements (see glossary) Service expansions must be determined through an alternatives analysis.	Meets public participation requirements (see glossary) Service expansions must be determined through an alternatives analysis.	Meets public participation requirements (see glossary) Service expansions must be determined through an alternatives analysis.	Meets public participation requirements (see glossary) Service expansions must be determined through an alternatives analysis.	Meets public participation requirements (see glossary) Service expansions must be determined through an alternatives analysis.	Meets public participation requirements (see glossary) Service expansions must be determined through an alternatives analysis.
Number of shelters installed	Shelters at stops with at least 20 boardings per day or major transfer points	NA	Shelters at stops with at least 20 boardings per day or major transfer points				
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	Bike Parking at stops with at least 20 boardings per day	Bicycle Access on Buses		
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		Pedestrian facilities within ¼ mile of stops with at least 20 boardings per day			

Figure 7-8 Provider Reliability Guidelines

METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
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	Should always depart on-time, notice should be provided to riders in unusual weather circumstances	Should always depart on-time, notice should be provided to riders in unusual weather circumstances	Should always depart on-time, notice should be provided to riders in unusual weather circumstances	90% of schedule stops on-time, within 5 minutes after a scheduled stop
Advance Reservation Time		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				
Reservation Negotiation Window			Maximum: Up to an hour before or after requested time				
Trip Denials	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
Trip Cancellations	Bus or vanpool trips should only be canceled from lack of riders or weather cancelations	Bus or vanpool trips should only be canceled from lack of riders or weather cancelations	Bus or vanpool trips should only be canceled from lack of riders or weather cancelations	Bus or vanpool trips should only be canceled from lack of riders or weather cancelations	Bus or vanpool trips should only be canceled from lack of riders or weather cancelations	Bus or vanpool trips should only be canceled from lack of riders or weather cancelations	Bus or vanpool trips should only be canceled from lack of riders or weather cancelations

METRIC	FIXED ROUTE	ROUTE DEVIATION	DIAL A RIDE	REGIONAL MOBILITY	COMMUTER BUS	INTERCITY BUS FEEDER	VANPOOL
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.	A formal process should be established for resolving problems/ complaints	A formal process should be established for resolving problems/ complaints
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.	Should be serviced (oil change and other preventative) maintenance every 7,500 miles.	Should be serviced (oil change and other preventative) maintenance every 7,500 miles.
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
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.
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 20%	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 20%	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 20%	Vanpool providers should be able to secure a spare vehicle within one business day.

Minnesota GO
A Collaborative Vision for Transportation

Greater Minnesota Transit Investment Plan

Chapter 8

SERVICE PLAN TO MEET THE NEED FOR PUBLIC TRANSIT

MEETING THE NEED FOR PUBLIC TRANSIT

LEGISLATIVE GOAL OF MEETING 90% OF TOTAL TRANSIT SERVICE NEEDS BY 2025

For each update to the 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.

"The Commissioner shall develop a Greater Minnesota Transit Investment Plan that contains a goal of meeting at least 80 percent of total transit service needs in greater Minnesota by July 1, 2015, and meeting at least 90 percent of total transit service needs in Greater Minnesota by July 1, 2025. The plan must include, but is not limited to, the following:

- an analysis of ridership and total transit service needs throughout greater Minnesota;
- a calculation of the level and type of service required to meet total transit service needs, for the transit system classifications as provided under subdivision 3b, paragraph (c), of urbanized area, small urban area, rural area, and elderly and disabled service;
- an analysis of costs and revenue options; Prepare an analysis of costs and revenues (Chapter 9)
- a plan to reduce total transit service needs as specified in this subdivision; and
- identification of the operating and capital costs necessary to meet 100 percent of the greater Minnesota transit targeted and projected bus service hours, as identified in the greater Minnesota transit plan, for 2010, 2015, 2020, 2025, and 2030 (Chapter 9)"

Transit Need in Greater Minnesota

OVERVIEW

The level of transit need across Greater Minnesota varies from community to community. Demographic factors impact transit need. To reflect current demographic data, MnDOT updated the model from the 2011 GMTIP to estimate future transit needs. MnDOT updated the Transit Need model from the 2011 GMTIP to reflect current demographic data that estimates future-year transit needs.

Based on results of the 2014 Greater Minnesota Transit Need Model, MnDOT developed a service plan designed to meet the transit need in Greater Minnesota. The core element of the service plan is the baseline span of service, with additional urban and rural service improvements. The service plan addresses the needs of riders and potential riders such as reliability, evening service and weekend service.

The planning horizon for the service plan is nine years and fully implemented by 2025 as directed by the legislature. During the next nine years, transit systems will incrementally work towards implementing the service plan. Not all service will be implemented at once. Some years, transit systems may focus on improving span of service, while in other years, systems may focus on expanding service coverage.

MnDOT calculated the number of service hours needed to implement the service plan and the ridership potential. Using trip rates for specific service types, MnDOT projects that the service plan is likely to reach the legislative ridership target of 90 percent of transit needs met by 2025. The cost of this service plan is based on the number of service hours calculated to implement the plan (see Chapter 9).

CALCULATING TRANSIT NEED

MnDOT calculated the transit need in Greater Minnesota using the 2014 Greater Minnesota Transit Need Model. The updated model improved upon the model used in the 2011 GMTIP. The improved model emphasizes variables for college campuses and urbanized areas greater than 50,000 in population.

The prior model also estimated a large unmet need of several million rides prior to 2015, which was not realistic. The new model accounts for the demographic changes occurring into the future with an aging population and growing demand in urbanized areas. The targets for 2025 were updated and are listed in Figure 6-1, along with a comparison to the prior model targets. The legislative target is 90 percent of 18.9 million, or 17 million rides by 2025. In 2015, ridership was 12.2 million, so to meet the 2025 target an additional 4.8 million rides are needed.

The 2014 model is based on a Transportation Collaborative Research Panel Report (TCRP) 161, but with some adjustments for Minnesota based on a regression analsyis of the model variables. The main source of data for the estimates used in the 2014 Greater Minnesota Transit Need Model is the U.S. Census Bureau's American Community Survey. Demographic factors including total population, population by age, the number of vehicles available by household, population living in poverty and population with a disability were obtained from the five-year ACS data (2008-2012). Future projections (2013 and beyond) of population by age were compiled by the Minnesota State Demographic Center.

The legislative target is 90 percent of tansit need, or **17 million trips by 2025.**

Because the model does not account for local conditions, it should not be used to estimate transit need at a county or local level. To calculate transit needs at the local level, transit systems should conduct public outreach and market research campaigns to understand local transportation needs.

Figure 8-1: Comparison Between Transit Need Models, Greater MN Total Annual Estimated Ridership (millions)

YEAR	2011 MODEL	2014 MODEL
2015	18.8	13.3
2020	20.2	16.9
2025	20.9	18.9 (90% 17 million)
2030	22.0	20.1

2017 Greater Minnesota Transit Service Plan

In 2015, MnDOT supported transit systems that provided 12.1 million rides, appoximately 87 percent of the need.

The goal of the service plan is to translate the need into policy and action. Based on extensive public outreach, people indicated they use transit when 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)

SERVICE IMPROVEMENTS

Potential service improvements are categorized by location and service type to act as a development guide for the transit systems to reference as they consider service enhancements in their local area. There are many possibilities for service enhancements, and the service plan provides some of the enhancement options. Some options will be more appropriate in particular municipalities than other options. For example, as service improvements are considered in addressing unmet needs, transit systems may consider how to implement changes on a municipality-by-municipality basis considering the need by both time of day and day of the week. Some municipalities may have a strong weekday need and no Saturday need, while others have a need for more Sunday service.

While the service improvements identified in the service plan address many of the service gaps throughout Greater Minnesota, they do not address all of the service needs, particularly the client specific population needs. For example, the goal of the Olmstead Plan is to allow persons with disabilities to function independently within a community. This independence includes the ability to get to work without owning a car.

While the fixed route urbanized systems provide a level of availability and frequency to support work trips, most Greater Minnesota systems in smaller municipalities and the rural areas do not have public transit service operating during the needed times to the needed locations to meet extensive work trip needs. To establish this level of public transit service would be cost prohibitive in Greater Minnesota. To meet the individual trip needs, transportation alternatives provided by human service transportation providers must supplement what public transit can provide.

Baseline Span of Service

To meet the transit need in Greater Minnesota, MnDOT developed a service plan that establishes a baseline span of service (the number of hours that community based bus service is available) for municipalities based on their population (Figure 8-2). This concept suggests the level of transit service for each municipality size. Small urban municipalities are broken into two population groups. Municipalities with a population of 2,500 to 6,999 are much different from municipalities with a population of 7,000 to 49,999 due to density, land use, population and other attributes.

The basis for the baseline span of service is an attempt to provide a minimum level of service to effectively address employment trips. Transit service availability is limited for persons seeking transportation for employment, particularly the transit dependent population including persons with disabilities and low-income individuals who may work later in the day and require weekend transportation for employment. The span of service also allows persons to function independently without the need for a car, addressing more of the needs of carless households and persons temporarily homeless. The baseline span of service for Greater Minnesota is so effective at describing transit level of service from a consumer's perspective that it has been endorsed as one of the measurable goals for *Minnesota's Olmstead Plan* and Minnesota's Statewide initative "*Heading Home: Minnesota's Plan to End Homelessness.*

To calculate the hours required to implement the baseline span of service in the service plan, MnDOT compared the current level of community based dial-a-ride and route deviation services to the proposed service plan level of service. For the baseline level of service, each municipality was evaluated to determine the number of hours needed for weekday, Saturday and Sunday service. The additional weekday daily hours were then multiplied by the peak number of vehicles operating in each municipality. For weekends, a minimum number of vehicles by municipality size were used. Based on evaluating peer cities of various sizes operating weekend service, the number of vehicles was two for municipalities more than 10,000 population without current weekend service and one for municipalities less than 10,000 in population.

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

For municipalities under population of 2,500 the county seat towns were identified as a key component of the baseline span of service. County seat towns in rural areas serve as the government center for county activity. Most county seat towns have a grocery store and a critical care hospital, making these municipalities an important hub for shopping and medical needs.

Many municipalities may also have public transit providing services to human service clients at the beginning and end of the day for organizations such as Day Training and Habilitation Centers. Human service transportation is not factored into the span of service calculations.

Figure 8-2: Baseline Service Improvements by 2025

BASELINE SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS
Urban Areas Weekday	20 hrs./day	54,700
Urban Areas Saturday Service	12 hrs./day	5,000
Urban Areas Sunday Service*	9 hrs./day	13,500
Small Urban 2,500 - 50,000 Weekday	12 hrs./day (7,000 - 49,999); 9 hrs./day (2,500 - 6,999)	126,500
Small Urban 2,500 - 50,000 Saturday Service	9 hrs./day	40,200
Small Urban 7,000 - 50,000 Sunday Service*	9 hrs./day	18,200
Rural, County Seat Towns < 2,500*	8 hrs./day; 3 days per week	19,200
Total Baseline		277,300

*As demand warrants based on individual system performance policies (See Performance Chapter)

Urbanized Service Improvements

The service plan also includes service improvements for urbanized areas with greater population of 50,000. The urbanized area improvements were based on survey responses from the urbanized transit systems. These improvements include expanding the hours of operation (span of service) and capacity of the ADA complementary paratransit service transportation service required by the ADA for individuals with disabilities who are unable to use fixed route transportation systems). Additional improvements include increasing the frequency of fixed route buses during peak hours in the morning and evening and adding fixed route transit service to areas currently without any service (Figure 8-3).

Figure 8-3: Urbanized Service Improvements by 2025

URBANIZED AREAS > 50,000	DESCRIPTION	NEEDED ANNUAL HOURS
ADA Complementary Service	Service To Support Fixed Route Improvements, Increased Capacity	104,800
Unserved Areas	Improve Service Coverage	31,600
Peak Hour Frequency	Provide 30 Minute Peak Hour Frequency	33,100
Regional Express Routes	Commuter Service Into Metropolitan Areas	30,000
Total Urban Improvement Hours		199,500

Rural Service Improvements

For rural areas, the service plan calls for rural mobility routes connecting smaller communities to the larger communities in the region (Figure 8-4). This will allow persons in the rural areas connections to shopping and medical facilities on a more regular basis.

Figure 8-4: Small Urban and Rural and Total Service Improvements by 2025
Rural Service Improvements

SMALL URBAN AND RURAL AREAS	DESCRIPTION	NEEDED ANNUAL HOURS
Regional mobility	Routes operating minimum of 2 days/ week, connecting communities for shopping and medical	32,000
Total rural improvement hours		32,000
Total Improvements (Baseline, Urban and Rural)		508,800

Figure 8-5 displays the total estimated service hours needed to implement the service improvement.

Figure 8-5: Greater Minnesota Total Annual Estimated Service Hours (in millions)

YEAR	SERVICE HOURS
2015	1.2 (Actual)
2020	1.45
2025	1.72
2030	1.83

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

ESTIMATING RIDERSHIP FROM THE SERVICE PLAN

To determine if the proposed service plan would meet the forecasted 90 percent need for 2025, high and low estimates of passengers per hour or (pph) were used to project ridership for the additional service and compared to the ridership target of an additional 4.8 million rides by 2025. Transit system provider performance standards of 15 pph for urbanized fixed route service, 2.5 pph for urbanized ADA complementary paratransit service, 15 pph for regional express service, and 3 pph for all dial a ride service were used for the low estimate (see Chapter 7 Performance Standards). For the high estimate, the 2015 average passengers per hour for each system type were used (21 pph for urbanized, 8 pph for small urban and 4 pph for rural), Figure 8-6 and 8-7.

The 508,967 additional hours of service could result in a low estimate of 3.5 million additional rides and a high estimate of 6.3 million additional rides by 2025. Based on this calculation, implementing the baseline span of service should grow ridership enough to meet the legislative target of meeting 90 percent of demand by 2025. (Note: These ridership numbers do not account for service provided by tribal public transit providers.)

Figure 8-6: 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	54,700	821,250	1,292,100
Urban Areas Saturday Service	12 hrs./day	5,000	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)	126,500	379,620	1,202,130
Small Urban 2,500 - 50,000 Saturday Service	9 hrs./day	40,200	120,666	382,109
Small Urban 7,000 - 50,000 Sunday Service	9 hrs./day	18,200	54,735	173,372
Rural, County Seat Towns < 2500	8 hrs./day; 3 days per week	19,200	57,489	90,066
Total Baseline		277,300	1,710,510	3,575,197

Figure 8-7: Projected Ridership with Urbanized Service Improvements

URBANIZED SERVICE IMPROVEMENTS MUNICIPALITIES > 50,000	DESCRIPTION	ADDITIONAL ANNUAL HOURS	LOW ESTIMATE RIDERSHIP POTENTIAL BY 2025	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 coverage	31,632	474,480	746,515
Peak Hour Frequency	Provide 30-min. peak hour frequency	33,133	496,995	781,938
Unserved Urban AreasRegioanl	Improve urban transit coverage	30,000	450,000	708,000
Regional Express Bus	Six Routes (TBD)	30,000	450,000	708,000
Total Urbanized Service Improvements		199,597	1,735,944	2,550,922

Figure 8-8: Projected Ridership with Rural and Total Service Improvements

SMALL URBAN AND RURAL SERVICE IMPROVEMENTS	DESCRIPTION	ADDITIONAL ANNUAL HOURS	LOW ESTIMATE RIDERSHIP POTENTIAL BY 2025	HIGH ESTIMATE RIDERSHIP POTENTIAL BY 2025
Regional Mobility	Route operates min. of 2 days/week, connecting communities for shopping and medical	32,000	96,000	150,400
Total Rural Service Improvements		32,000	96,000	150,400
Grand Total of all service improvements		508,967	3,542,454	6,276,119

Meeting 100 Percent of the Need

In addition to identifying the service hours needed to meet 90 percent of the transit need, the legislature also directed MnDOT to calculate the hours necessary to meet 100 percent of the transit need. There are public transit needs that cannot be met efficiently. Many of those needs are part of the remaining 10 percent of need. However, strategies to meet the last 10 percent involve coordinated services because public transit cannot efficiently deliver the service. There are three elements involved with reaching the remaining 10 percent of need. First, strategies identified in the chapter 6, Strategic Direction, complement the service plan. For example, coordinating with Transportation Network Companies and improving links with other transportation modes will help people complete those remaining, needed trips. Second, transit can work to eliminate the gaps in service by increasing frequency, coverage, and adding more evening hours in rural areas. Finally, developing transit routes for traditional time commuters and regional travelers will meet the remaining need. The baseline 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 future.

Service Plan under Reduced Resources

While funding levels are sufficient to support the current level of transit service in Greater Minnesota, transit agencies may face future budgetary challenges similar to those experienced in the last recession. Many transit agencies saw decreases in state and local funding in 2010 and 2011. To survive, agencies were forced to cut service, raise fares, lay off employees and implement hiring freezes, among other actions. The actions came even as agencies were expected to serve an increased number of riders.

MnDOT provides a local-level service evaluation framework in the chapter 7 to serve as guidance when evaluating any service changes, including service reductions. When service changes or fare increases are proposed, the transit system is required to seek input from the affected communities.

Conclusion

By expressing the future service need in the form of a service plan, transit systems have a clear picture of what improvements will meet the potential transit user's preferences. The planning horizon for the service plan is nine years and fully implemented by 2025. During the next nine years, it is forecasted that transit systems will incrementally work towards implementing the service plan. Not all service will be implemented at once. Some years, transit systems may focus on improving span of service, while in other years, the systems may focus on expanding service coverage.

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Chapter 9

FINANCIAL OUTLOOK

FINANCIAL OUTLOOK

Transit Funding Sources

Current transportation funding in Greater Minnesota includes federal, state and local funding sources. Eligibility and distribution of these resources are detailed in this chapter.

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. Greater Minnesota has seven urbanized areas eligible to receive funds from this grant program. 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 Federal Fiscal Year 2015. For Federal Fiscal Year 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) provides funding for capital and operating assistance to organizations that serve elderly and/or persons with disabilities. Typically MnDOT awards grants from this program for buses or mobility management programs, but other projects are also eligible if they fulfill the program purpose. MnDOT uses 10 percent of the funds for program administration and distributes remaining 5310 funds to selected awardees statewide in the three categories listed in the bullets below. Awardees may include tribal governments, state and local governments, private nonprofit organizations, public transportation operators, and private operators of public transportation services.

For Federal Fiscal Year 2016, the amount of Section 5310 funds appropriated to Minnesota were:

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

Since MnDOT is a direct recipient of 5310 grant funding, it selects sub-recipients through an application process before entering into a contract with the selected grant awardees.

Formula Grants for Rural Areas (5311) are available for rural and small urban areas (places with populations less than 50,000). In Federal Fiscal Year 2016, $15,673,443 was available for transit capital and operating assistance, of which 15 percent or $2,351,016 went to intercity bus under section 5311(f) and 10 percent is used by MnDOT for program administration.

In addition, $244,630 5311(b)(3) funds were appropriated to research, training and technical assistance for transit operators in non-urbanized areas (Rural Transit Assistance Program).

Six registered tribes in Minnesota received $2,313,787 in 5311(c) funds for transit capital and operating costs directly from FTA in Federal Fiscal Year 2016.

Other than 5311(c) funds, States are the direct recipients of 5311 grant funds from the FTA. States distribute these funds to sub-recipients. Sub-recipients may include a local governmental authority, a nonprofit organization, a tribe or an operator of public transportation or intercity bus service. 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. The Boise Forte, Fond du Lac and White Earth tribes have chosen to receive funds through MnDOT's distribution of statewide Section 5311 appropriation directly from FTA. Red Lake has chosen to receive funds through distribution from MnDOT.

Bus and Bus Facilities Program (5339) provides funding to assist in the procurement of vehicles or the 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 Federal Fiscal Year 2016, Minnesota received $635,929 for Greater Minnesota urban areas and $1.75 million in national distribution funds that can be sub-granted to rural or urban public transit operators.

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 (MVLST) revenue collected beyond the specified threshold of $32 million, which goes to the State's General Fund. The MVST and MVLST are deposited in the Greater Minnesota Transit Account.

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

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

PEER GROUP	FEDERAL (5307 AND 5311)	STATE GENERAL FUND	GMTA	LOCAL SHARE	TOTAL
Urbanized	$3,550,637	$10,278,400	$8,247,601	$8,612,455	$30,689,094
ADA-Complementary Paratransit	$0	$2,458,625	$2,354,347	$1,285,124	$6,098,096
Small Urban	$766,372	$470,505	$443,827	$453,809	$2,134,513
Rural	$13,204,355	$6,882,135	$11,240,172	$6,600,598	$37,927,260
Transit For Our Future	$0	$0	$399,994	$70,587	$470,581
Other Transit Services	$0	$0	$1,277,145	$505,557	$1,782,702
Total	$17,521,364	$20,089,665	$23,963,086	$17,528,130	$79,102,247

Source: 2016 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 six-year period.

Figure 9-3: Greater Minnesota Public Transit Annual Local Share, CY 2010–2015

PEER GROUP	2010	2011	2012	2013	2014	2015
Urbanized*	$7,281,909	$8,496,173	$10,332,687	$9,773,268	$9,545,032	$8,612,455
ADA-Complementary Paratransit	$1,728,114	$1,850,106	$1,812,382	$1,624,061	$1,391,083	$1,285,124
Small Urban*	$1,122,970	$1,264,521	$1,199,668	$684,847	$509,253	$453,809
Rural	$6,801,836	$7,012,690	$7,514,682	$7,048,246	$7,544,224	$6,600,598
Transit For Our Future	--	--	--	$44,029	$65,192	$70,587
Other Transit Services	--	--	--	$247,887	$210,332	$505,557
Greater Minnesota	$16,987,395	$18,623,491	$20,859,419	$19,464,520	$19,265,116	$17,528,130

*Greater Mankato Transit System, previously a small urban system, was reclassified as an urbanized system in 2013. Source: MnDOT Transit Report, 2011-2016

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 35 percent (more than $20 million) during the five-year period. During this time, hours of service and ridership increased by 14.2 and 9.6 percent, respectively, while inflation accounted for much of the remainder. The significant decrease in small urban costs and increase in rural and urbanized costs is due to the reclassification of Mankato from a small urban to an urbanized system in 2013, as well as some other small urban systems merging with rural systems.

Figure 9-4: Greater Minnesota Public Transit Annual Operating Cost, 2010-2015

PEER GROUP	2010	2011	2012	2013	2014	2015	PERCENT CHANGE (2010-2015)
Urbanized*	$22,899,589	$24,923,373	$26,830,387	$28,737,075	$30,219,815	$30,689,094	34.0%
ADA-Complementary Paratransit	$4,475,654	$4,739,045	$4,702,382	$4,730,007	$5,281,240	$6,098,096	36.3%
Small Urban*	$4,317,571	$4,549,283	$3,904,818	$2,565,824	$2,238,184	$2,134,513	-50.6%
Rural	$26,830,569	$28,207,803	$28,596,297	$31,233,351	$35,761,854	$37,927,260	41.4%
Transit For Our Future	--	--	--	$278,798	$784,613	$470,581	--
Other Transit Services	--	--	--	$436,711	$465,532	$1,782,702	--
Greater Minnesota	$58,523,383	$62,419,504	$64,033,884	$68,261,171	$74,751,238	$79,102,247	35.2%

*Greater Mankato Transit System, previously a small urban system, was reclassified as an urbanized system in 2013. Source: MnDOT Transit Report, 2011-2016

OPERATING COSTS FOR SERVICE IMPROVEMENTS

The goal of this plan is for transit systems to add service in the communities they serve if they are not providing a span of service that meets or exceeds the baseline described in Chapter 6, as long as revenue sources remain secure and ridership supports such services. Other additional services are also proposed in order to achieve the goal of meeting 90 percent of need by 2025. The cost of those additional hours have been estimated below using the average cost per hour for each peer group (Urban, ADA Paratransit, Small Urban, Rural and Express) from 2015 increased by 3 percent per year to illustrate the cost of additional service in 2017 dollars ($) in Figure 9-5. These costs are fully allocated, meaning that administrative costs for extended dispatching, customer service, maintenance, etc. are included. It is important to note that this service would be added incrementally from now until 2025 to achieve the goal of meeting 90 percent of need by 2025.

The total cost of operating public transit in Greater Minnesota in 2015 was $79 million as shown in Figure 9-1. Meeting this plan means adding about 509,000 annual service hours at an additional annual operating cost (in 2017 $) of $35.7 million. This represents a 51 percent increase in operating costs over existing expenditures. The current overall local share requirement is approximately $17.5 million, the expand services would increase the local share requirement by approximately $6.3 million.

Figure 9-5: Service Improvements: Supplemental Operating Cost in 2017 dollars

SERVICE IMPROVEMENTS	PEER GROUP	DESCRIPTION	2025 GOAL	OPERATING COST[1]	LOCAL SHARE 15/20%
Urban Areas Weekday [2]	Urban	20 hours/day	54,750	$5,109,000	$1,021,800
Urban Areas Saturday[2]	Urban	12 hours/day	4,950	$462,000	$92,400
Urban Areas Sunday[2]	Urban	9 hours/day	13,500	$1,260,000	$252,000
Cities 7,000-49,999 Weekday	Small Urban	12 hours/day	31,635	$1,267,000	$253,400
	Rural	12 hours/day	63,270	$3,723,000	$558,450
Cities 2,500-6,999 Weekday	Small Urban	9 hours/day	10,123	$405,000	$81,000
	Rural	9 hours/day	21,512	$1,266,000	$189,900
Cities 2,500-49,999 Saturday	Small Urban	9 hours/day	13,273	$531,000	$106,200
	Rural	9 hours/day	26,949	$1,586,000	$237,900
Cities 7,000-49,999 Sunday	Small Urban	9 hours/day	6,021	$241,000	$48,200
	Rural	9 hours/day	12,224	$719,000	$107,850
County Seat Towns < 2,500	Small Urban	8 hours/day; 3 days/ week	6,324	$253,000	$50,600
	Rural	8 hours/day; 3 days/ week	12,839	$755,000	$113,250
ADA Complementary Paratransit	Elderly & Disabled	Service to support fixed route improvements	104,832	$6,780,000	$1,017,000
Unserved Urban Areas	Urban	Improve urban transit service coverage	31,632	$2,952,000	$590,400
Peak Period Frequency	Urban	Provide 30-minute peak period frequency	33,133	$3,092,000	$618,400
Regional Express	Express	Six routes[3]	30,000	$3,372,000	$674,400
Regional Mobility	Rural	Routes operating a minimum of 2 days/ week connecting communities for shopping and medical[4]	32,000	$1,883,000	$282,450
Total Service Improvements			508,967	$35,656,000	$6,295,600

1 Based on average hourly operating costs by peer group (Urban, Elderly & Disabled, Small Urban, Rural and Express) in 2015 and escalated to 2017 dollars. Peer groups are also referred to as recipient classifications in Minnesota Statutes 174.24, subd. 3b.

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

3 Northstar Link-type services to urban areas more than 50,000 population

4 40 counties x 8 hrs/day x 50 weeks. Assumes half of counties already have mobility routes1 Based on average hourly operating costs by peer group (Urban, Elderly & Disabled, Small Urban, Rural and Express) in 2015 and escalated to 2017 dollars. Peer groups are also referred to as recipient classifications in Minnesota Statutes 174.24, subd. 3b.

CAPITAL COSTS

In many communities, additional service will also require capital purchases. These costs are shown in Figure 9-6. A total of 210 additional buses are projected to be needed for service improvements between now and 2025. These buses will cost approximately $45.5 million in 2017 dollars (local share is $9.1 million). The annual cost of replacement buses for the existing fleet, plus supplemental buses added over time for the service improvements, will increase from $12.9 million in 2016 to $21.8 million in 2025. The 210 vehicles is the total number to implement the full service improvements. Since service will be added incrementally, capital will be purchased as needed over the next several years.

Figure 9-6: Service Improvements: Supplemental Capital Cost in 2017 dollars

BASELINE SERVICE IMPROVEMENTS	FLEET SUPPLEMENT REQUIRED	SUPPLEMENTAL CAPITAL COST ESTIMATE[1]	LOCAL SHARE 20%
Urbanized 50,000+	60	$28,200,000	$5,640,000
Small Urban 2,500 - 49,999	140	$10,640,000	$2,128,000
Express	10	$6,700,000	$1,340,000
Total Service Improvements	210	$45,540,000	$9,108,000

[1]Estimated vehicle costs in 2017 dollars: Urban - $470,000 (Class 700 Diesel); ADA Paratransit, Small Urban & Rural - $76,000 (Class 400 Diesel); Express - $670,000 (Motorcoach)

Cost of Meeting 100% of Transit Need

Minnesota statute 174.24 directs MnDOT to "identify 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 Greater Minnesota Transit Need Model calculated the total greater Minnesota trip need for 2020, 2025 and 2030 (Figure 9-7).

Figure 9-7: Transit Need Projections

YEAR	100% OF NEED (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 need. The number of service hours is equal to the ridership target divided by average productivity in 2015 (9.9 passengers per hour). The service hours projected from the current year to 2030 are listed in Figure 9-8. The cost per hour is indexed at 3.1 percent per year for inflation. The local share is 20 percent for urbanized, small urban and express systems and 15 percent for rural and elderly and disabled (complementary ADA paratransit).

Figure 9-8: Operating Costs to meet 100% of Need

YEAR	100% OF TRANSIT NEED (TRIPS)	SERVICE HOURS	TOTAL OPERATING COST	LOCAL SHARE (URBAN)	LOCAL SHARE (ELDERLY & DISABLED)	LOCAL SHARE (SMALL URBAN)	LOCAL SHARE (RURAL)	LOCAL SHARE (EXPRESS
2016	14,500,000	1,465,000	$98,492,000	$7,780,000	$1,155,000	$544,000	$7,264,000	$147,000
2020	16,900,000	1,707,000	$132,588,000	$10,339,000	$1,515,000	$740,000	$9,911,000	$193,000
2025	18,900,000	1,909,000	$170,912,000	$13,365,000	$1,964,000	$952,000	$12,739,000	$250,000
2030	20,100,000	2,030,000	$210,349,000	$16,462,000	$2,421,000	$1,171,000	$15,665,000	$308,000

Meeting 100% of transit need would require capital investments. Figure 9-9 shows the replacement costs for the existing fleet during each five-year period from 2016-2030. It does not include the vehicles needed for the service expansion. Figure 9-10 shows the additional number of vehicles needed to add service to meet 100 percent of need per five-year period. A standard of one vehicle for every 2,500 hours of service was used in this calculation. The local share for capital is 20 percent as called for in Minnesota Rules 8835.0320. Buses were grouped into Large (class 600 and 700) and Small (class 300, 400 and 500) with the class 700 and 400 bus prices in 2015 being used for the Large and Small estimated cost, respectively, and inflated by 3 percent per year.

Figure 9-9: Replacement Capital Cost to Meet 100% of Need

CURRENT CAPITAL	TOTAL REPLACEMENT COST (MILLIONS)	LOCAL SHARE (20%) (MILLIONS)
2016 - 2020	$81.28	$16.26
2021 - 2025	$107.08	$21.42
2026 - 2030	$135.01	$27.00
Total	$323.37	$64.67

Figure 9-10: Expansion Capital Cost to Meet 100% of Need

CAPITAL EXPANSION	LARGE BUSES	TOTAL URBAN CAPITAL COST (MILLIONS)	URBAN LOCAL SHARE (20%) (MILLIONS)	SMALL BUSES	TOTAL SMALL BUS CAPITAL COST (MILLIONS)	SMALL BUS LOCAL SHARE (20%) (MILLIONS)
2016-2020	65	$32.78	$6.56	130	$9.94	$1.99
2021-2025	25	$15.24	$3.05	55	$4.95	$0.99
2025- 2030	20	$14.40	$2.88	31	$3.25	$0.65
Total	110	$62.42	$12.48	216	$18.14	$3.63

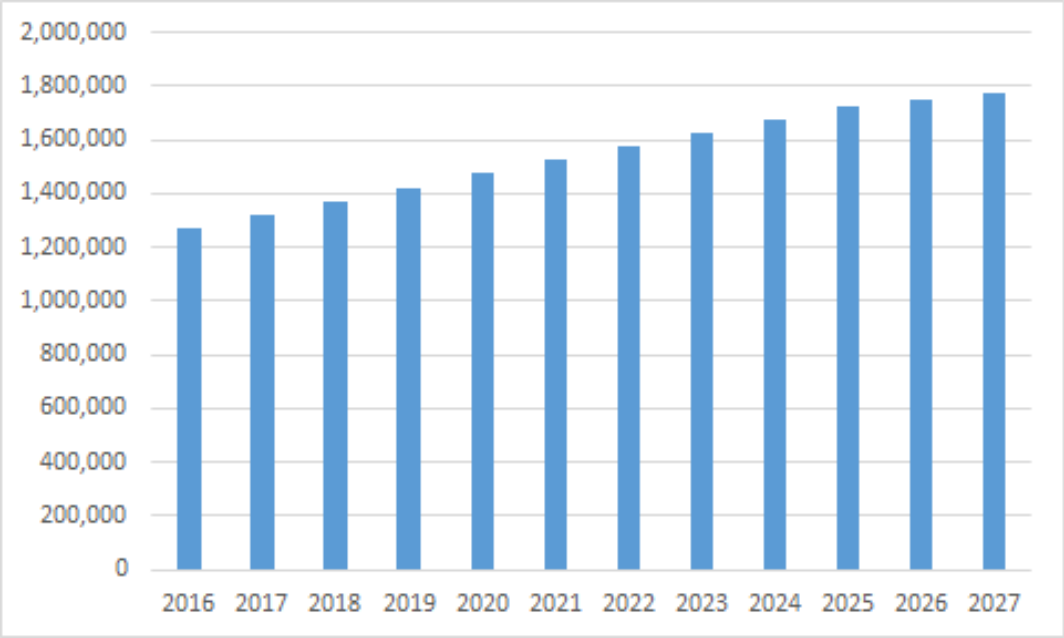
Funding Service Improvements

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 need, MnDOT developed a service plan to meet future transit need in Greater Minnesota. The components of the service plan are described in Chapter 6 and based on input received during the outreach phase of this plan. The primary inputs for the cost model are the future service need 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 each peer group of transit systems was applied to the future service plan and adjusted for inflation, assuming costs increase at 3.1 percent per year.

The number of hours charted in Figure 9-11 and listed in Figure 9-12 depicts the number of hours to implement all service including expansion. The hours are incrementally ramped up by approximately 51,000 hours each year. Of the total 51,000 additional hours each year, approximately 13,800 will be added to urbanized fixed route systems, 10,500 to ADA Complementary Paratransit in urbanized areas, 3,000 to express routes serving urbanized areas, and 23,600 to small urban and rural transit systems combined.

Figure 9-11: Hours of Service to Achieve Goal of Meeting 90% of Need by 2025 and Hold There



The annual operating cost is based on the 2015 average peer group transit system average costs of $87.96 per service hour for urbanized systems, $60.96 for ADA Complementary Paratransit (elderly & disabled), $37.74 for small urban, $55.46 for rural and $105.95 for express, inflated with a 3.1 percent annual increase. The 51,000 additional hours will provide service needed to increase ridership to meet the 90 percent of need target by 2025.

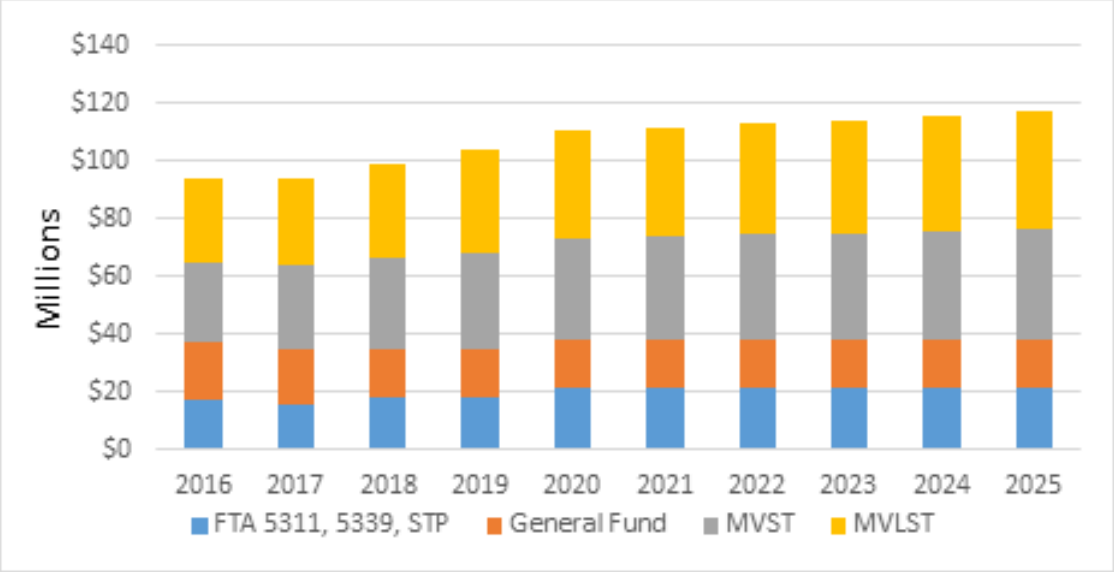
Figure 9-12: Total Operating Cost for All Service, Including Service Improvements, to Meet 90% of Need by 2025

CALENDAR YEAR	SERVICE HOURS	TOTAL OPERATING COST	LOCAL SHARE (URBAN)	LOCAL SHARE (ELDERLY & DISABLED)	LOCAL SHARE (SMALL URBAN)	LOCAL SHARE (RURAL)	LOCAL SHARE (EXPRESS)
2016	1,269,000	$85,248,000	$6,614,000	$981,000	$466,000	$6,403,000	$125,000
2017	1,319,000	$91,582,000	$7,093,000	$1,050,000	$502,000	$6,890,000	$134,000
2018	1,369,000	$99,643,000	$7,653,000	$1,123,000	$554,000	$7,562,000	$143,000
2019	1,419,000	$106,268,000	$8,166,000	$1,199,000	$590,000	$8,060,000	$153,000
2020	1,469,000	$113,201,000	$8,703,000	$1,278,000	$628,000	$8,582,000	$163,000
2021	1,519,000	$120,455,000	$9,264,000	$1,361,000	$668,000	$9,128,000	$173,000
2022	1,569,000	$128,043,000	$9,852,000	$1,448,000	$709,000	$9,699,000	$184,000
2023	1,619,000	$135,977,000	$10,466,000	$1,539,000	$753,000	$10,296,000	$196,000
2024	1,669,000	$144,272,000	$11,109,000	$1,634,000	$798,000	$10,920,000	$208,000
2025	1,718,000	$152,856,000	$11,774,000	$1,733,000	$845,000	$11,566,000	$221,000

PROJECTED REVENUE

Figure 9-13 shows that grantable transit revenue sources are expected to generally remain stable until 2025 with a slightly higher growth rate before 2020 than after. The State General Fund is assumed to remain at the current legislatively defined baseline amount. State sales tax values for 2017-2021 are from the November 2016 Minnesota Management and Budget forecast. Beyond that, they are assumed to grow at the rate of the Consumer Price Index forecast for Heavy Duty Truck Manufacturing from the Bureau of Labor Statistics. FTA appropriations are assumed to grow at a 2 percent rate through the life of the Fixing America's Surface Transportation Act (FAST-Act) and stay flat beyond.

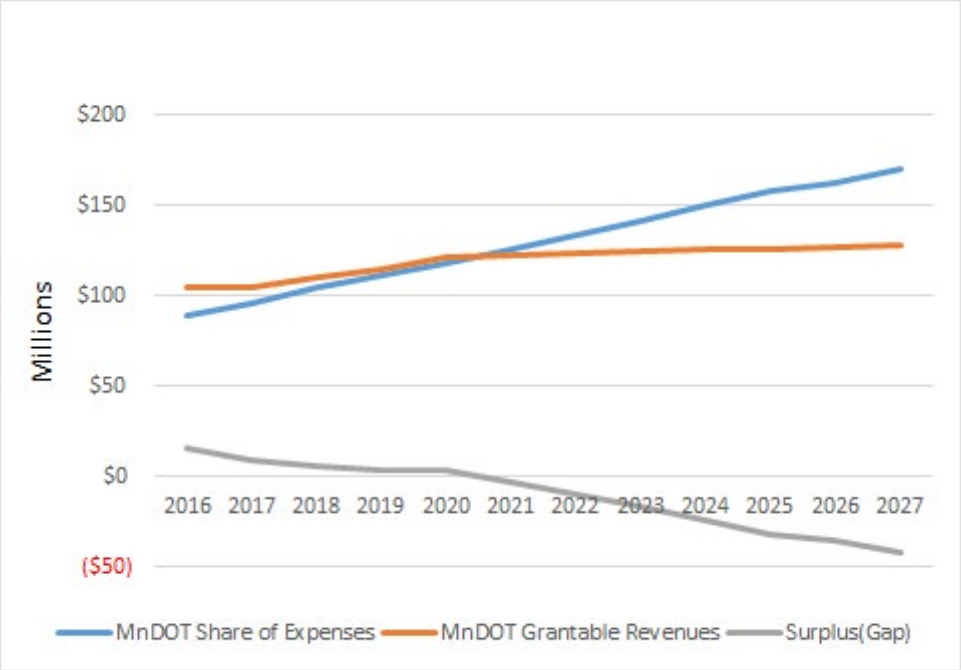
Figure 9-13: Greater Minnesota Funding Sources



FUNDING GAP

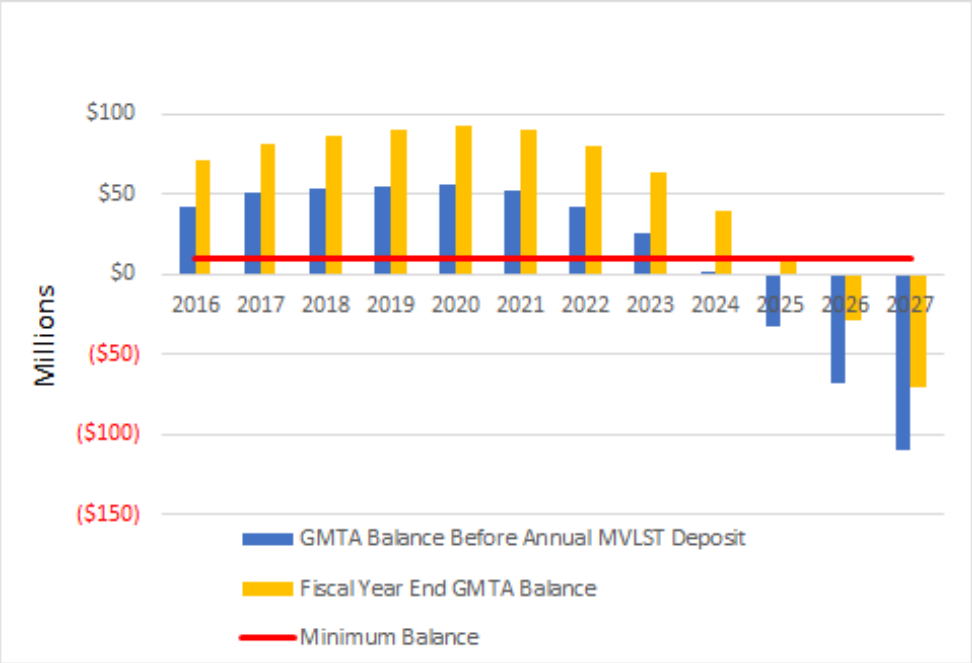
With the planned expansions to achieve the goal of meeting 90 percent of need by 2025, expenses will start to exceed revenues in 2021 (Figure 9-14). By 2025, the annual deficit between revenues and expenses will climb to about $31 million. It will increase by about $5 million per year.

Figure 9-14: Program Revenue, Expenses and Cost Gap



Greater Minnesota transit is fortunate to have an existing balance in the Greater Minnesota Transit Account (GMTA). Figure 9-15 illustrates the balance. Each year shows to bars reflecting the balance before and after the annual MVLST deposit is made. The green bar depicts the GMTA balance after the books are closed after a fiscal year. The red bar depicts the GMTA balance just before that year's MVLST revenues are deposited. That deposit happens at the end of the fiscal year. As shown in Figure 9-15, by 2024, the positive balance in the GMTA will be exhausted and additional funding will be needed from that year forward to continue to meet 90 percent of the transit need. MnDOT strives to keep a $10 million balance in the GMTA so it can help transit systems in emergencies as well as to whether lower than expected revenues. To achieve the goal by 2025 and hold there through 2027 (in other words, the next ten-year period of 2018 through 2027) will require approximately $120 million of additional revenue. This is based on the $110 million deficit shown by the red bar in 2027 plus the $10 million minimum balance MnDOT strives to maintain.

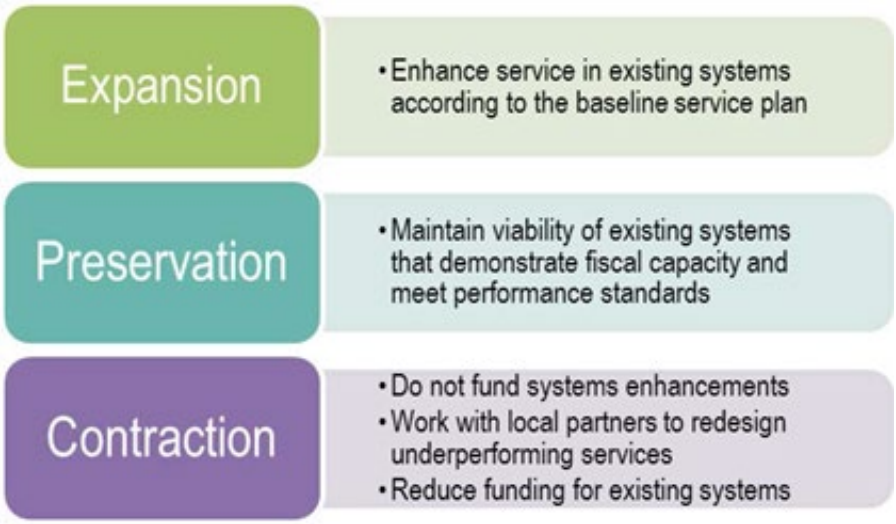
Figure 9-15: Greater Minnesota Transit Account Balance



OTHER INVESTMENT SCENARIOS

The previous discussion outlined the planned expansion to achieve the legislative goal of meeting 90 percent of need by 2025 and holding there. However, this Plan must also establish investment strategies that correspond to other funding scenarios. MnDOT's approach to increased or decreased funding scenarios is illustrated in Figure 9-16. This is also stated in *Minnesota Rules § 8835.0270, Subpart 1:*

Figure 9-16: Investment Scenarios



Allocation priorities

MnDOT shall allocate financial assistance to recipients for purposes of the public transit participation program according to the following order of priority:

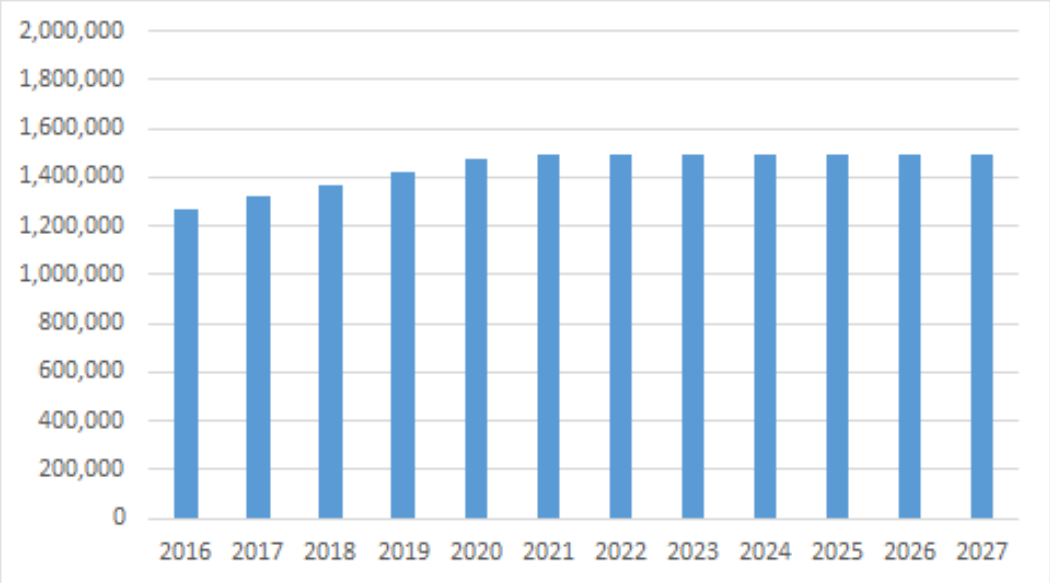
1. operating costs for existing public transit systems
2. capital costs for existing public transit systems
3. operating and capital costs for the provision of public transit services in a community or area not currently served by public transit

FISCALLY CONSTRAINED SCENARIO

As noted above, additional revenues beyond those currently expected will be needed to achieve the goal of this plan. This section is intended to describe what would happen if those additional funds are not available—a fiscally constrained scenario.

There are many different ways one can define a fiscally constrained scenario. For this plan, the fiscally constrained scenario reviewed how close Greater Minnesota transit service could come to the legislative goal of achieving 90 percent of need and maintaining that level of service through 2027. If no additional funds are provided, Greater Minnesota transit could meet 86 percent of the hours of service need through 2020 (Figure 9-17). By 2027, Greater Minnesota transit would only meet 75 percent of the need. The hours of service that would be delivered are illustrated in Figure 9-17.

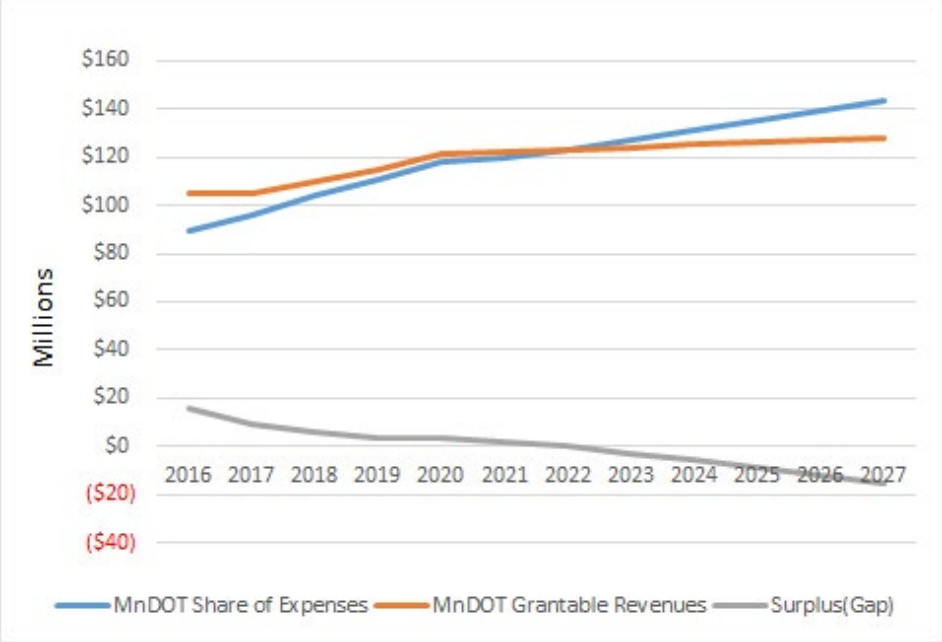
Figure 9-17: Fiscally Constrained Scenario Hours of Service



The level of need that would be met in this scenario is 86 percent through 2020, and then decreases to 75 percent in 2027.

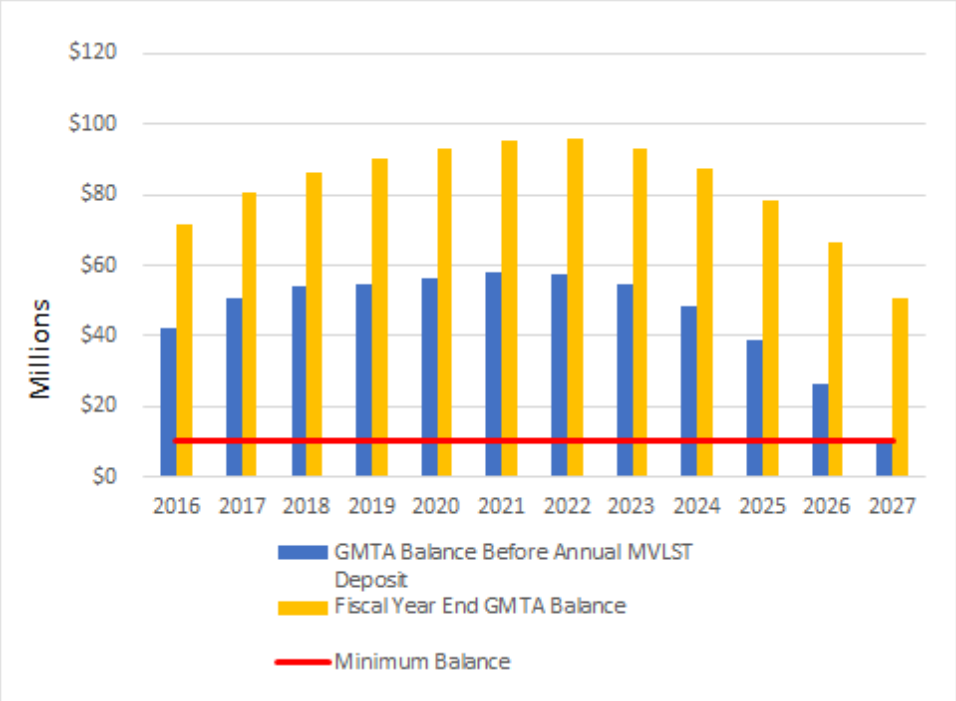
This scenario delays the point at which expenses exceed revenues to 2023. As shown in Figure 9-18, the deficit by 2027 is approaching $16 million and growing by about $3.5 million per year. To maintain the same hours of service in 2028 as shown for 2027 would require an additional $19 million in funding beyond those currently expected.

Figure 9-18: Program Revenues, Fiscally Constrained Scenario Expenses and Cost Gap



As shown in Figure 9-19, under this scenario, the GMTA balance grows slightly higher than under the fiscally constrained scenario of achieving the goal of meeting 90 percent of need by 2025. It also remains at a high level longer because this scenario depends on using the balance to sustain hours of service longer into the future.

Figure 9-19: Fiscally Constrained Scenario Greater Minnesota Transit Account Balance



PILOT PROGRAM SCENARIOS

As this investment plan was being completed, MnDOT was launching a discretionary grant pilot program to encourage earlier service expansion. Knowing that a lack of local funds to fulfill match requirements was slowing expansion, this program offers an opportunity for grants for up to two years for service expansion and improvements and associated capital investments with no local match requirement, allowed under Minnesota Statutes 174.24, subd 3b(e). Capital grants will be 100 percent state funds and operating grants will cover the entire operating deficit.

MnDOT estimates that this pilot program will result in 50,000 (lower growth) to 100,000 (higher growth) additional hours of service. Some could start before the end of calendar year 2017, but most will start in 2018 and some requiring new buses with a long lead time might not start until later.

Charts depicting service hours, expenses versus revenues, and impact on the GMTA balance for each pilot program scenario follow in Figures 9-20 through 9-25. As one would expect, the earlier spending in these scenarios bring the time at which more funding is needed earlier.

Figure 9-20: Pilot Program with Lower Growth Hours of Service

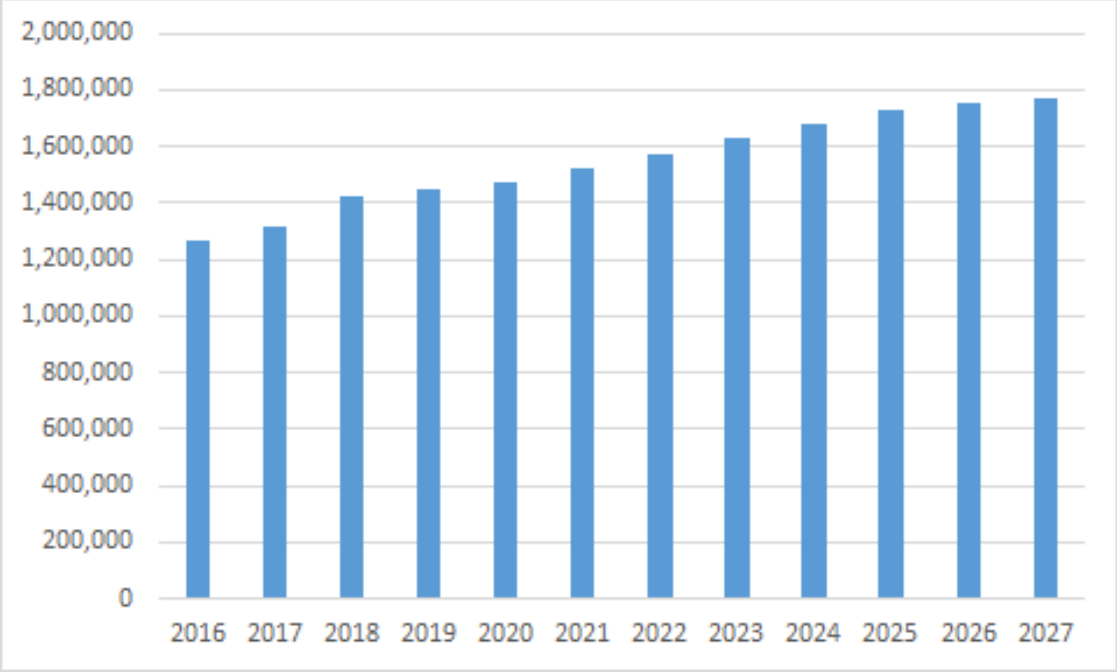


Figure 9-21: Pilot Program with Lower Growth Revenues, Expenses and Cost Gap

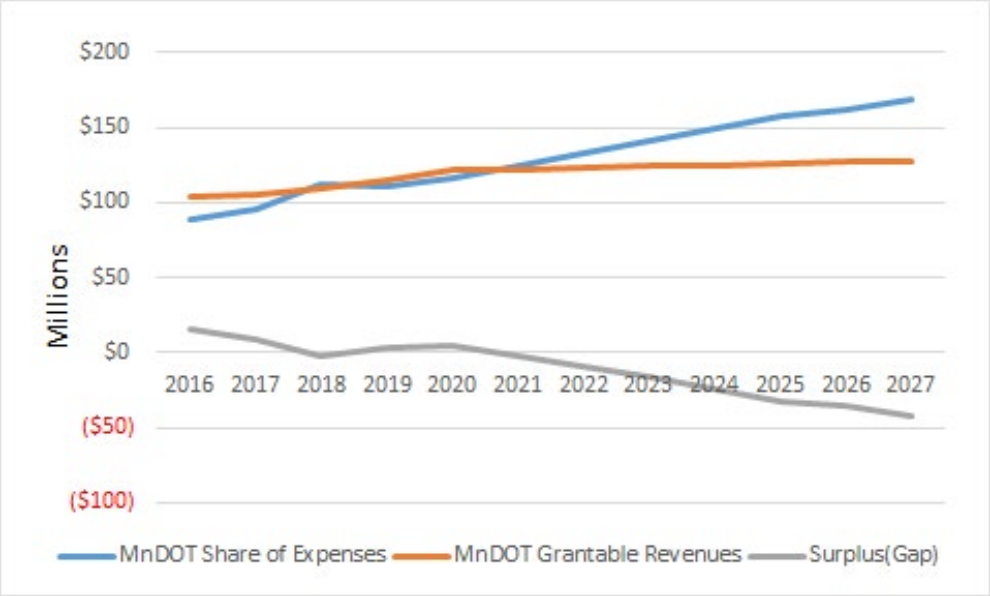


Figure 9-22: Pilot Program with Lower Growth Greater Minnesota Transit Account Balance

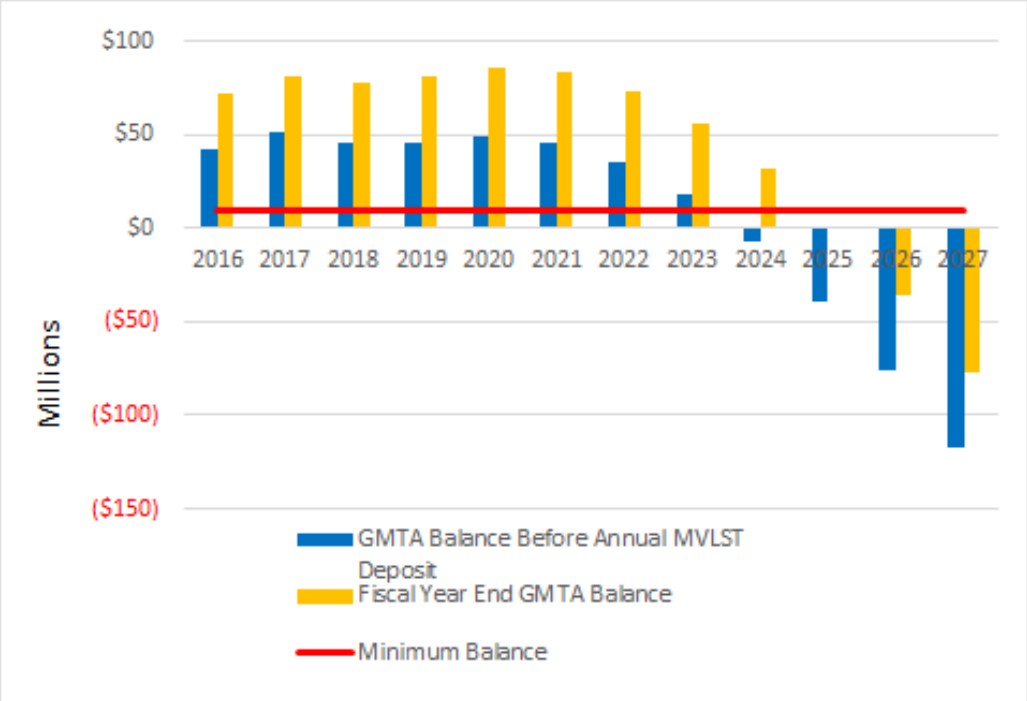


Figure 9-23: Pilot Program with Higher Growth Hours of Service

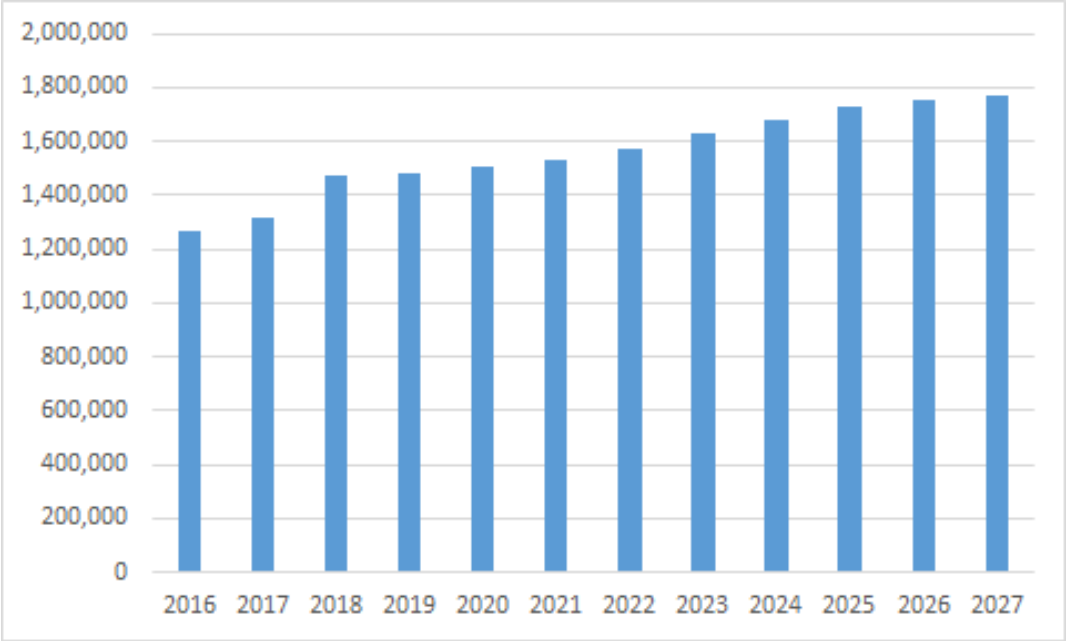


Figure 9-24: Pilot Program with Higher Growth Revenues, Expenses and Cost Gap

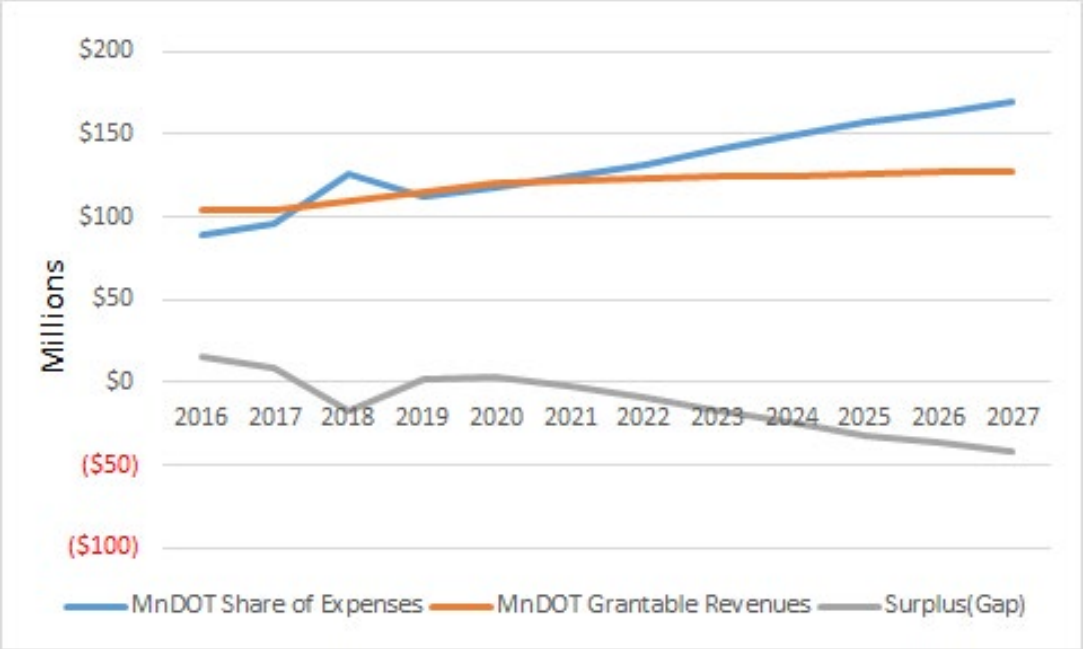
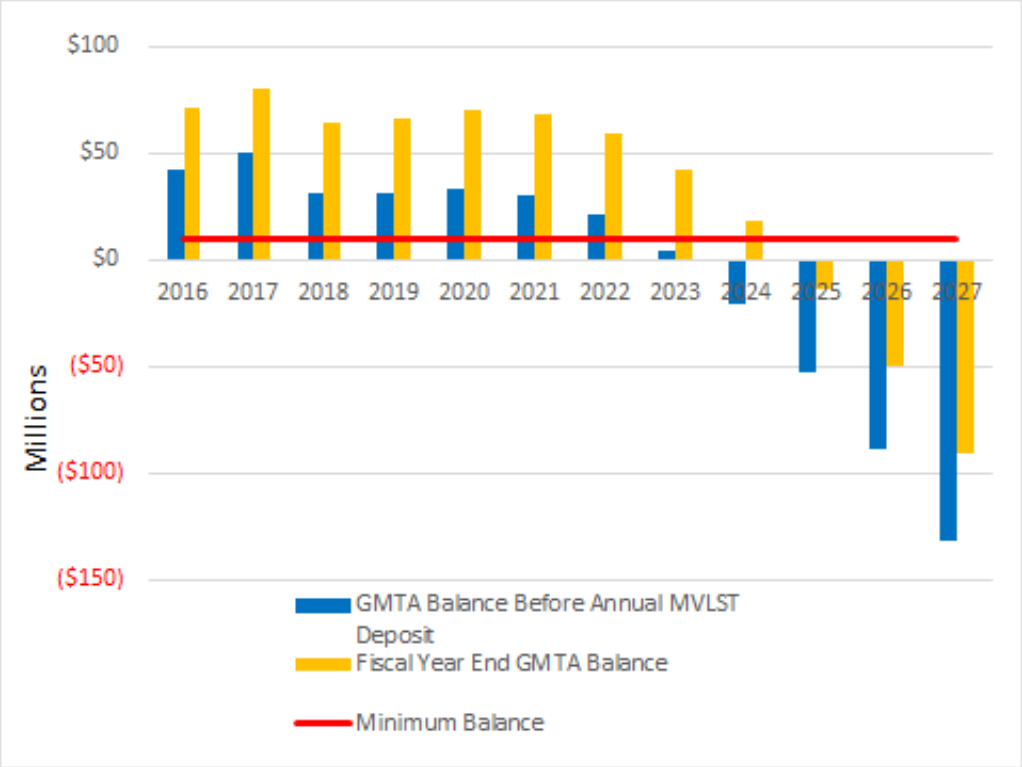


Figure 9-25: Pilot Program with Higher Growth Greater Minnesota Transit Account Balance



CONCLUSION

Greater Minnesota transit is well situated to continue striving for the goal of meeting 90 percent of need by 2025 and into the future. This Plan describes the service expansion necessary to meet that goal and describes how currently anticipated funding will fall short by $120 million over the 2018 to 2027 period. Governor Dayton released his transportation funding proposal just before this Plan was completed. It calls for providing that additional $120 million to Greater Minnesota transit from the General Fund over the 2018 to 2025 period.

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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	$$	Easier	Long	2017-2019	1.6
Improve public information (MnDOT)	Increase transit usage in replacement for single occupant vehicles	High	$$	Easier	Long	2017	5.2

CATEGORY	STRATEGY	FEASIBILITY	COST	EASE OF IMPLEMENTATION	SUSTAINABILITY (SHORT, MEDIUM, LONG TERM)	BEGIN PROCESS	INVESTMENT STRATEGY #
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	$$$	Difficult	Long	2017-2025	1.5
Service Plan	Invest in transit service that meets needs for riders that have a choice in their travel mode	Medium	$$	Difficult	Long	2017-2025	3.3

CATEGORY	STRATEGY	FEASIBILITY	COST	EASE OF IMPLEMENTATION	SUSTAINABILITY (SHORT, MEDIUM, LONG TERM)	BEGIN PROCESS	INVESTMENT STRATEGY #
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 need in Greater Minnesota. Implementing additional service hours will require time and resources to complete. Federal funding for Greater Minnesota transit is projected to remain 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 to 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 TNCs operating in Greater Minnesota to meet some of the transportation need
- Investing in technology that streamlines and improves decision making about transportation modes such as travel apps

- Improved customer amenities on buses, connecting infrastructure (wifi, benches and stops) and closer links between pedestrian and bicycle environments with 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 2017-2037 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

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 COMMITTEE

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 Organizations
- Tiffany Collins, Minnesota Public Transit Association, Central Community transit

- Vicki Dalle Molle, Southeast Minnesota Council on Independent Living
- Shelly Diaz, Mille Lacs Band of Ojibwe
- 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

FEDERAL PLANNING REQUIREMENTS

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 December 4, 2015, President Obama signed into law Public Law 114-94, section 1105 (23 U.S.C. 117) Fixing America's Surface Transportation Act, (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 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 Minnesota Go 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.

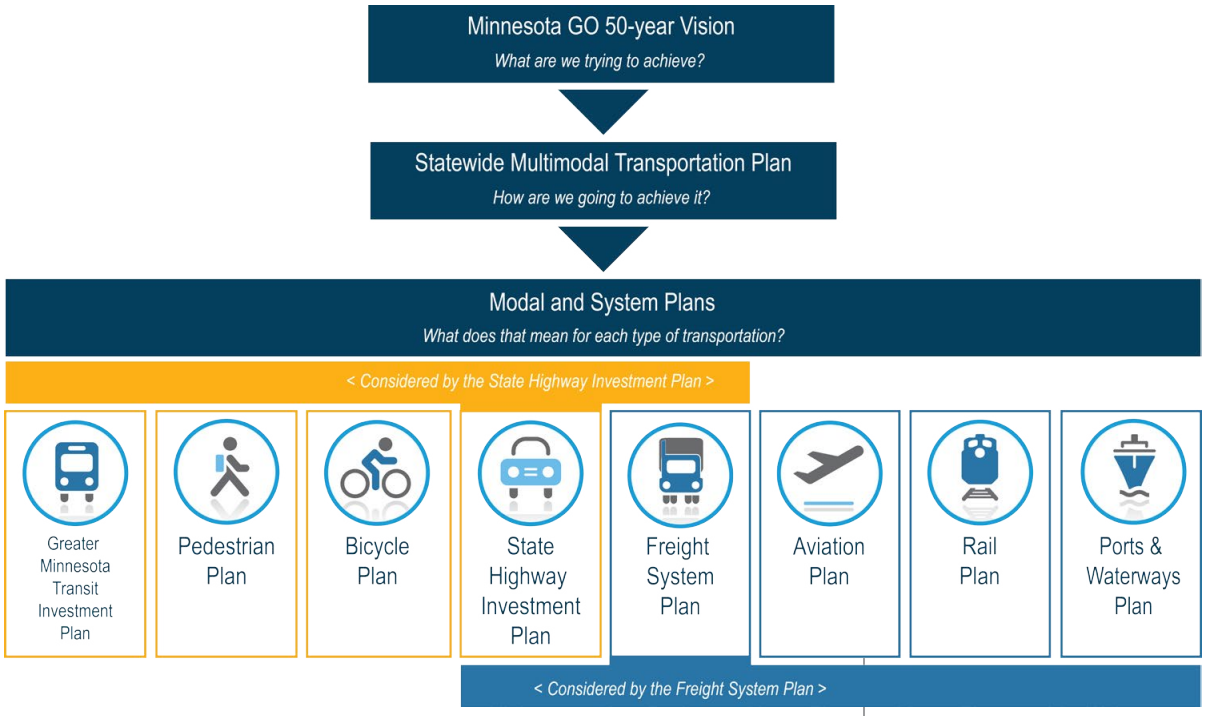
Guiding Principles

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 17 million in Greater Minnesota (approximately 50 percent increase).
- By 2025, 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 straight-forward 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 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.

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 identified 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 gathered 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*.

FEDERAL REQUIREMENTS ON PERFORMANCE MEASURES

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.

Current Uses of Transit Performance Evaluation

Performance measurement frameworks are widely used in the transit industry and vary from agency to agency. All transit systems in Greater Minnesota, including small urban and rural transit agencies, monitor and track basic performance data and report data monthly to the Office of Transit. This data includes passenger trips, hours, miles, safety incidents, fleet condition and financial data. Performance data is reported to the Federal Transit Administrations, and its National Transit Database, is used by transit systems to comply with Tittle VI requirements, and to monitor progress in meeting goals included in Minnesota's Olmstead Plan.

National Transit Database

FTA's National Transit Database (NTD) records the financial, operating and asset condition of transit systems. The NTD is designed to support local, state, and regional planning efforts and help governments and other decision-makers make multi-year comparisons and perform trend analyses. All systems in Greater Minnesota, including small urban and rural transit agencies monitor and track basic performance data and report monthly to the Office of Transit. These include trips, hours, miles, safety incidents, vehicle fleets and financial data. MnDOT is the recipient of Section 5311 funds and reports required data to NTD.

Title VI

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color or national origin in programs receiving federal financial assistance. MnDOT strongly encourages all transit providers to follow the fixed route system Title VI requirements to prevent discriminatory service decisions. The FTA requires fixed route transit systems to monitor service standards at least once every three years by comparing the level and quality of service provided to predominantly minority and predominantly low-income areas.

Minnesota's Olmstead Plan

The Olmstead Plan focuses on measurable outcomes for people with disabilities and improvements on their quality of life. 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 Olmstead Goals for transportation apply to the increase in public transit service to meet 90% of the transit need by 2025. There is no measure that tracks or reports the number of Olmstead clients riding public transit. MnDOT assumes that improved transit services to the public will also improve transit service to the Olmstead population. The transportation-related goals in the plan are as follows:

- Goal: By 2025, additional rides and service hours will increase the annual number of passenger trips to 17 million in Greater Minnesota (approximately 50% increase).
- Goal: By 2025, expand transit coverage so that 90% of the public transportation service areas in Minnesota will meet the baseline span of service.
- Goal: By 2025, transit systems' on-time performance will be 90% or greater statewide.

Annual progress and reporting of progress towards the goals start in 2017.

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		●			●	
Kandiyohi Area Transit		●			●	●
Lincoln County Heartland Express						
Mahnomen County Heartland Express					●	
Meeker County Public Transit		●	●		●	
Minnesota River Valley Transit		●			●	●
Murray County Heartland Express					●	
Paul Bunyan Transit		●			●	
Pine River Ride with Us Bus					●	
Pipestone County Transit		●	●		●	
Prairie Five Rides						●
Prairie Lakes Transit		●		●	●	

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

Figure A-6 Small Urban System Inventory

AGENCY	AVERAGE HEADWAYS <=60 MINUTES?	WEEKEND SERVICE – SATURDAY?	WEEKEND SERVICE – SUNDAY?	EVENING SERVICE AFTER 7 PM?	SCHEDULES ONLINE?	INTER-COUNTY SERVICE?
Granite Falls Heartland Express			●			
Hibbing Area Transit	●	●	●	●	●	
Morris Transit		●	●	●	●	
Winona Transit Services	●	●			●	

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