Greater Minnesota Transit Investment Plan

January 2011

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Your Destination...Our Priority

Greater Minnesota Transit Investment Plan 2010-2030

February 2011

Prepared for:
Minnesota Department of Transportation, Office of Transit, 395 John Ireland Boulevard, St. Paul, MN

Prepared by:
SRF Consulting Group, Inc.
One Carlson Parkway North, Suite 150
Plymouth, MN 55447-4443

With help from:
Richardson, Richter & Associates, Inc.
Pepin Hugunin & Associates
Northwest Regional Development Commission
Headwaters Regional Development Commission
Arrowhead Regional Development Commission
West Central Initiative
Region Five Regional Development Commission
Mid Minnesota Regional Development Commission
Upper Minnesota Valley Regional Development Commission
East Central Regional Development Commission
Southwest Regional Development Commission
Region Nine Regional Development Commission
Mn/DOT District 6

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Minnesota Department of Transportation
Transportation Building
395 John Ireland Boulevard
Saint Paul, MN 55155

February 2011

Dear Citizens of Minnesota,

I am pleased to share with you the Greater Minnesota Transit Investment Plan. This plan is the result of extensive collaboration between the Minnesota Department of Transportation and citizens, stakeholders, and partners throughout Minnesota. I want to thank everyone who took the time to participate in our outreach meetings and provide comments and suggestions throughout the planning process.

The Greater Minnesota Transit Investment Plan provides the link between the goals and strategies established in the Greater Minnesota Transit Plan, published in 2009, and funding allocations to each public transit system in Greater Minnesota. The plan analyzes projected demand for transit services in Greater Minnesota and the cost of meeting that demand from 2010 until 2030. In addition, the plan outlines Mn/DOT's investment priorities for expanding or reducing transit service according to future state and federal funding levels. Although specific investment priorities will continue to evolve over time, promoting mass transit as a means to improve mobility and accessibility for all Minnesotans will remain essential to Mn/DOT's core strategies.

The Greater Minnesota Transit Investment Plan demonstrates that demand for public transit services in Minnesota is growing. State, federal, and local support will be needed to provide additional transit services to meet this demand. Regardless of future funding levels, Mn/DOT will continue to work toward its mission to provide the highest quality, dependable multimodal transportation system to Minnesotans. The full copy of the Greater Minnesota Transit Investment Plan and additional information are also available on Mn/DOT's website: http://www.dot.state.mn.us/transit/reports/investmentplan/.

Sincerely,

Thomas K. Sorel

Commissioner

An Equal Opportunity Employer

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Executive Summary

Minnesota's public transit systems provide transportation alternatives to driving alone and enable all citizens to participate in the state's communities and economy. The Minnesota Department of Transportation (Mn/DOT)'s strategic vision is to be a global leader in transportation. Mn/DOT is committed to upholding public needs and collaboration with internal and external partners to create a safe, efficient, and sustainable transportation system for the future. To that end, Mn/DOT's strategic directions include improving mobility and accessibility for all Minnesotans through the promotion of public transportation. The Greater Minnesota Transit Investment Plan projects future need for transit services in Greater Minnesota and estimates the cost of providing additional services to reduce unmet need.

In 2009, Mn/DOT completed the Greater Minnesota Transit Plan, a policy plan that defined the vision, policies, and strategies for transit in Greater Minnesota. The Greater Minnesota Transit Investment Plan identifies specific priorities for future transit investment. These investment priorities connect the goals of the policy plan to Mn/DOT's annual funding allocation to individual transit systems. The Greater Minnesota Transit Investment Plan will help decision-makers prepare for growing transit demand in Minnesota and increase public understanding of Mn/DOT's priorities for future transit investment.

Minnesota Statutes, Section 174.24

Legislative direction for the Greater Minnesota Transit Investment Plan requires Mn/DOT to:

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

In addition, the Legislature directed Mn/DOT to specifically identify the passenger levels, levels of service, and costs necessary to address the following targets:

- Meet 80 percent of total transit service needs in Greater Minnesota by 2015
- 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 2010 to 2030

Goal

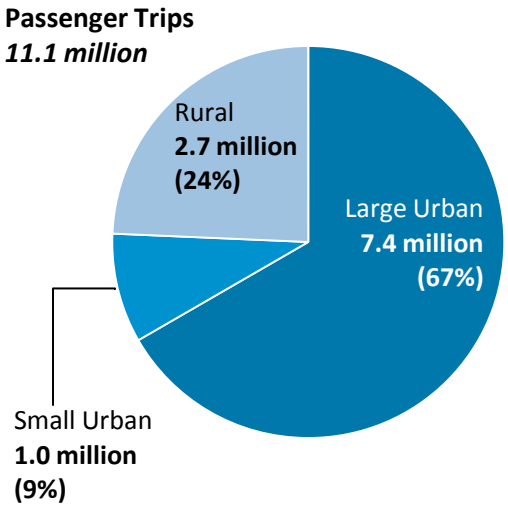
The goal of the Greater Minnesota Transit Investment Plan is to reduce unmet transit service needs by:

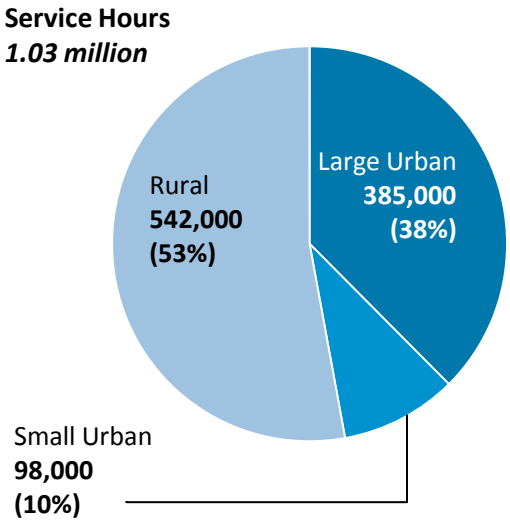
- Understanding the needs of current transit customers and developing a profile of current riders using **market research**
- Determining total and unmet transit needs at the county level using **technical analysis**
- Building support for transit investment priorities through extensive **public outreach** throughout the planning process

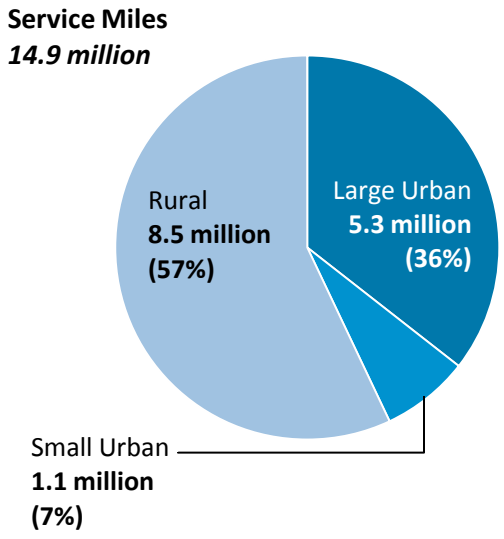
Current Level of Service

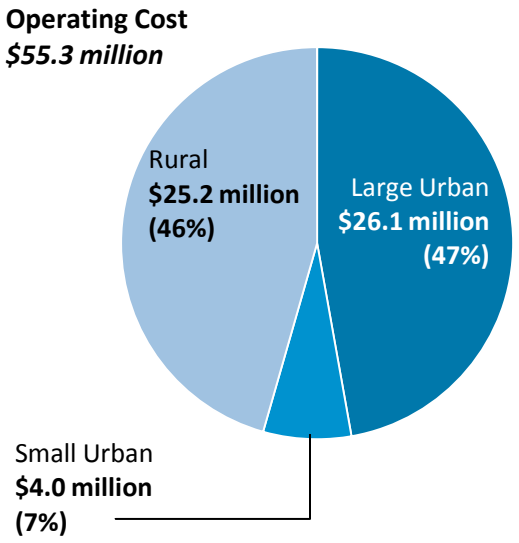
Public transportation needs in Minnesota are growing along with Minnesota's overall population and the population of transit-dependent riders. Minnesota's public transportation systems are growing in response to these needs. In 1990, 40 of Greater Minnesota's 80 counties had some form of public transportation system; in 2009, the number of counties with public transportation systems was 76.

Greater Minnesota transit systems served 11.1 million passenger trips statewide in 2009. A total of 1.03 million service hours were operated, and transit vehicles traveled 14.9 million miles to serve passenger needs. Local, state, and federal sources combined to fund transit programs at a level of $55.3 million. These statistics are detailed by transit system peer group below.









Summary of Needs

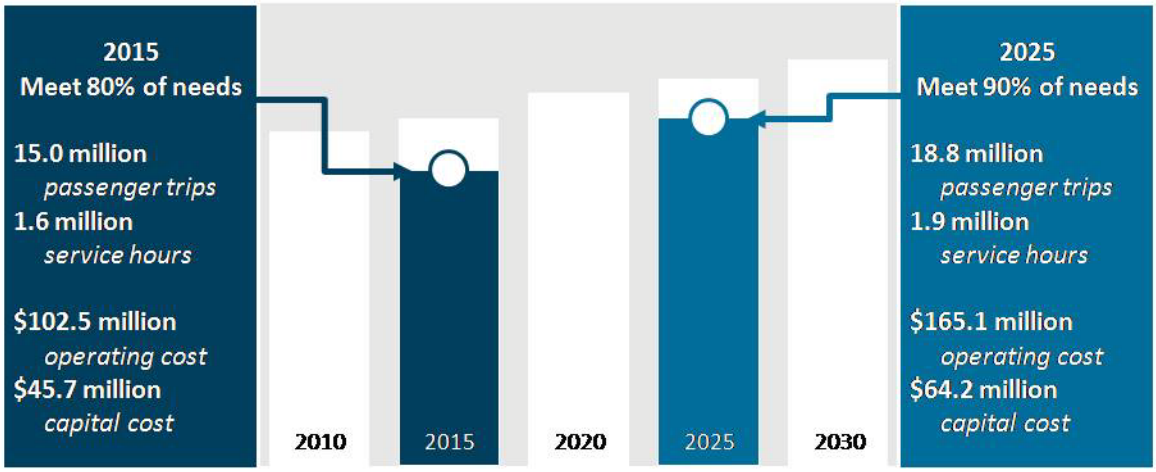
In order to satisfy the legislative mandate for determining transit needs and costs, Mn/DOT developed models for calculating passenger demand, service levels needed to meet demand, and operating and capital costs of providing service. Using market research as a baseline, the models yield a reasonable foundation for quantifying Greater Minnesota's transit needs and costs in future years. In 2009, a total of $55.3 million was spent to provide 11.1 million passenger trips and 1.03 million service hours. Based on the need estimates conducted as part of this plan, 2009 services met approximately 61 percent of total passenger demand and approximately 57 percent of projected service hour needs statewide.

To meet 100 percent of Greater Minnesota's projected transit needs, services would need to be provided at the following levels:

	2010	2015	2020	2025	2030
Total Passenger Demand (millions of trips)	18.1	18.8	20.2	20.9	22.0
Service Hours to Meet Demand (millions)	1.8	2.0	2.1	2.1	2.2
Annual Operating Cost (millions)	$103.7	$128.1	$153.8	$183.4	$216.9
Capital Cost - Vehicle Replacement (millions, five-year totals)	--	$50.2	$57.9	$66.7	$76.6
Capital Cost - Additional Vehicles (millions)	$33.5	$6.9	$4.3	$4.6	$4.4

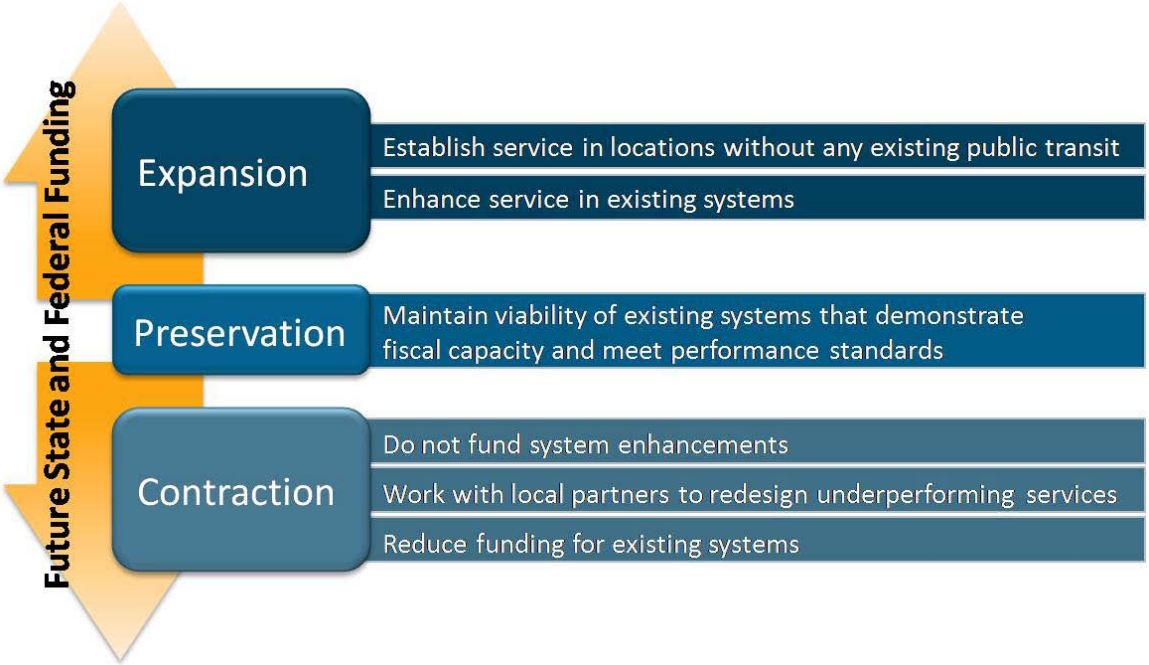
The 2010 additional vehicle capital cost value represents the fleet required to fully close the gap between current levels of service and new service required to meet 100 percent of estimated needs. Values in subsequent years represent the fleet required to meet new levels of service to serve expanding transit need.

Meeting the specific legislative targets for 2015 and 2025 would require the following levels of service:



Summary of Transit Investment Priorities

In an effort to prioritize how Mn/DOT would reduce unmet transit need, the Greater Minnesota Transit Investment Plan sets priorities to guide future investments in public transit. The outcome is a delineation of transit investment priorities that correspond to changing funding scenarios. Mn/DOT's approach to increased or decreased funding scenarios is illustrated below. Mn/DOT's first priority for Greater Minnesota transit is to preserve existing systems by funding each system at a level sufficient to continue the current level of service in the future.



In scenarios of increased future funding, Mn/DOT's highest priority for Greater Minnesota service expansion is to establish service in locations without any existing public transit. Assuming all eligible locations are served by public transit, Mn/DOT's priorities for service expansion, listed in order of importance, include:

- Expand service hours in the morning and night to provide more trips.
- Expand multi-county services to link more communities.
- Provide service on more days of the week.
- Expand service frequencies and coverage.
- Expand service to provide consistent levels of service statewide.

In scenarios of reduced future funding for transit, Mn/DOT will evaluate system applications according to the following principles, listed in consecutive order:

- Funding for system enhancement will not be considered.
- Mn/DOT will work with systems to redesign underperforming service segments.
- Mn/DOT will reduce state and federal funding to those systems with underperforming service segments.
- If decreases in state and federal funding for transit necessitate additional reductions, Mn/DOT will reduce funding allocations to systems that meet or exceed performance standards.

Identified Program Management Tools

Mn/DOT will work with systems to ensure systems incorporate the following program management tools, listed in no particular order, to help implement the investment priorities:

- Explore ways to increase the use of technology to gain efficiencies in transit delivery.
- Refine services using service-level performance measures to increase efficiency of transit delivery.
- Coordinate with other transit providers, including tribes (e.g. White Earth Public Transit), volunteer drivers, Section 5310 programs for the elderly and persons with disabilities, and taxi providers, to increase service delivery options.
- Increase marketing to reach more customers and make citizens more aware of the services that exist in their community.
- Provide transit service without charge for disabled veterans (applies only to fixed-route systems).

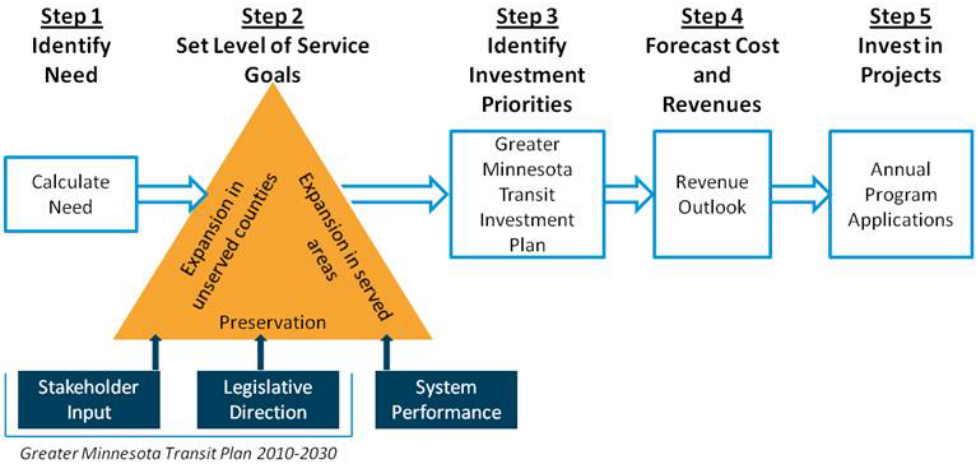
Chapter 1:
Plan Purpose and Development

Minnesota's public transit systems provide transportation alternatives to driving alone and enable all citizens to participate in the state's communities and economy. The Minnesota Department of Transportation (Mn/DOT)'s strategic vision is to be a global leader in transportation. Mn/DOT is committed to upholding public needs and collaboration with internal and external partners to create a safe, efficient, and sustainable transportation system for the future. To that end, Mn/DOT's strategic directions include improving mobility and accessibility for all Minnesotans through the promotion of public transportation. The Greater Minnesota Transit Investment Plan projects future need for transit services in Greater Minnesota and estimates the cost of providing additional services to reduce unmet need.

The Greater Minnesota Transit Investment Plan and its predecessor, the Greater Minnesota Transit Plan 2010-2030, are part of Mn/DOT's Family of Plans, which includes the Statewide Transportation Policy Plan and mode-specific plans for highways, freight and passenger rail, bicycles and pedestrians, aviation, and transit. Together, the Family of Plans establishes Mn/DOT policy, objectives, strategies, performance targets, and investment priorities for Minnesota's transportation system.

In 2009, Mn/DOT completed the Greater Minnesota Transit Plan, a policy plan that defined the vision, policies, and strategies for transit in Greater Minnesota. The Greater Minnesota Transit Investment Plan identifies specific priorities for future transit investment. These investment priorities connect the goals of the policy plan to Mn/DOT's annual funding allocation to individual transit systems. The Greater Minnesota Transit Investment Plan will help decision-makers prepare for growing transit demand in Minnesota and increase public understanding of Mn/DOT's priorities for future transit investment. Figure 1.1 depicts the main elements of the Greater Minnesota Transit Investment Plan and how it will be integrated with Mn/DOT's programming process.

Figure 1.1 Greater Minnesota Transit Planning and Programming Process



Minnesota Statutes, Section 174.24

Specific directions for the Greater Minnesota Transit Investment Plan are defined in Minnesota Statutes, Section 174.24 Subdivision 1a (emphasis added):

> The commissioner [of transportation] 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:
>
> 1. an **analysis of ridership and total transit service needs** throughout greater Minnesota;
> 2. 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;
> 3. an **analysis of costs and revenue options**;
> 4. a **plan to reduce total [unmet] transit service needs** as specified in this subdivision; and
> 5. 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.
>
> The plan must specifically address special transportation service ridership and needs. The plan must also provide that recipients of operating assistance under this section provide fixed-route public transit service without charge for disabled veterans in accordance with subdivision 7.

Goal

The goal of the Greater Minnesota Transit Investment Plan is to reduce unmet transit service needs by employing the following strategies:

- Understanding the needs of current transit customers and developing a profile of current riders using **market research**
- Determining total and unmet transit needs at the county level using mathematical modeling and **technical analysis**
- Building support for transit investment priorities by incorporating extensive **public outreach** throughout the planning process

Each of the above strategies was addressed in the planning process. These components are outlined in the following sections.

Market Research

Mn/DOT used a range of market research techniques to qualitatively and quantitatively understand how transit is perceived in Greater Minnesota. Market research tasks included the following:

- **Demographic profiles.** Mn/DOT undertook a mapping process to graphically represent the connectivity between transit services, key destinations, and transit-dependent populations. The goals of the exercise were to identify and interpret significant demographic patterns, determine whether certain populations who may depend on transit are currently served, and identify gaps in service.

- **Focus groups.** Mn/DOT conducted a series of 12 focus groups to consult with non-users of public transit and gather perceptions of transit services and transit need among this group. Focus group participants included seniors, minorities, persons of low income, and persons with disabilities.

- **Onboard surveys.** Mn/DOT administered an onboard survey to riders on every Greater Minnesota public transit system to gather data about current transit riders and better understand transit needs throughout Greater Minnesota. The survey yielded a total of 10,998 valid responses from riders of 59 systems.

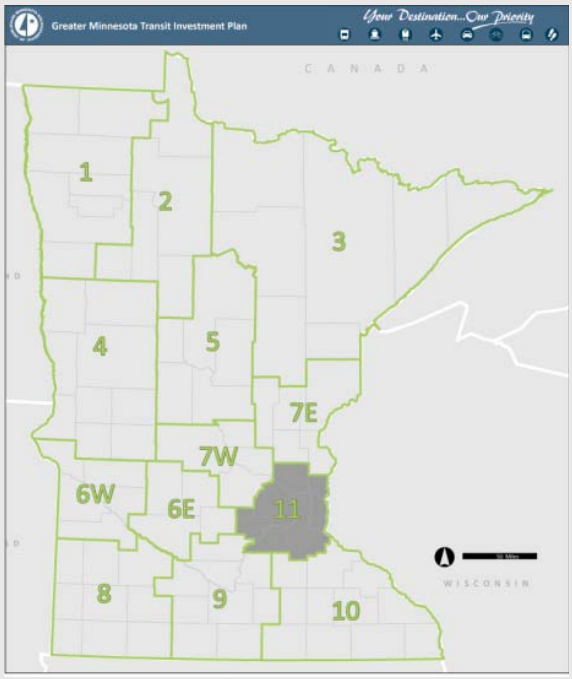
Technical Analysis

Technical analysis in the Greater Minnesota Transit Investment Plan focused on satisfying the legislative mandate for calculating the level of total transit needs and the costs of meeting these needs. To arrive at these answers, Mn/DOT developed two mathematical models, one to project passenger demand (number of transit trips) and the other to project service hours needed to serve the future levels of demand. Results of the service hour model were used to calculate the future costs of providing transit.

Public Outreach

The public involvement process was a key component in the development of investment priorities. Mn/DOT employed several public involvement strategies to ensure all interested stakeholders had opportunity to comment. Additionally, the planning process focused more intensive involvement strategies on stakeholders known to have a high interest in transit investments. The state's Regional Development Commissions (RDCs) or equivalent organizations assisted in the implementation of the public involvement strategies and were instrumental in gathering comments from their communities. Regional boundaries and their county compositions are shown for reference in Figure 1.2.

Figure 1.2 Greater Minnesota Economic Development Regions



Region 1	Kittson, Marshall, Norman, Pennington, Polk, Red Lake, Roseau
Region 2	Beltrami, Clearwater, Hubbard, Lake of the Woods, Mahnomen
Region 3	Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, St. Louis
Region 4	Becker, Clay, Douglas, Grant, Otter Tail, Pope, Stevens, Traverse, Wilkin
Region 5	Cass, Crow Wing, Morrison, Todd, Wadena
Region 6E	Kandiyohi, McLeod, Meeker, Renville
Region 6W	Big Stone, Chippewa, Lac qui Parle, Swift, Yellow Medicine
Region 7E	Chisago, Isanti, Kanabec, Mille Lacs, Pine
Region 7W	Benton, Sherburne, Stearns, Wright
Region 8	Cottonwood, Jackson, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, Rock
Region 9	Blue Earth, Brown, Faribault, Le Sueur, Martin, Nicollet, Sibley, Waseca, Watonwan
Region 10	Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, Winona

Mn/DOT conducted public outreach activities in close coordination with market research tasks. The primary public involvement strategies included structured interviews, outreach meetings and presentations, web page publications, and a public hearing.

Throughout the development of the plan, Mn/DOT presented market research, technical analysis, and public involvement findings to stakeholders. Before finalizing the plan, Mn/DOT engaged stakeholders in discussions regarding draft investment priorities. A summary document of comments received during this process is available on the project website[1].

Investment Priorities

One of the chief outcomes of this plan is a defined set of transit investment priorities, which are informed by the outcomes of the market research and technical analysis components of the plan. Stakeholder involvement played a key role in shaping the development of priorities throughout the planning process.

Investment priorities were developed to address how Mn/DOT would respond to various future funding scenarios for Greater Minnesota transit. Based on these outcomes, Mn/DOT has developed a plan for preserving existing services at current funding levels and priorities for service expansion and contraction in the event of increased or decreased funding.

[1] http://www.dot.state.mn.us/transit/reports/investmentplan/

Project Management and Decision-Making Process

The project management and decision-making structure for the Greater Minnesota Transit Investment Plan incorporated a Mn/DOT Project Management Team (PMT), a Plan Advisory Committee (PAC), and a Technical Advisory Committee (TAC). The PAC and TAC provided policy and technical guidance to the PMT during the development of the plan. Public outreach and opinion-gathering informed the decision-making of these groups. The commissioner of transportation is charged with submitting the Greater Minnesota Transit Investment Plan to the Minnesota Legislature.

Project Management Team (PMT)

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

Technical Advisory Committee (TAC)

The TAC provided overall technical advisory services that guided the work of the PMT. Responsibilities included providing data, offering feedback on the plan methodology, facilitating stakeholder communications, evaluating market research, and recommending investment priorities for consideration by the PAC. The TAC was chaired by Jack Larson of Arrowhead Transit and included the members listed in Table 1.1.

Table 1.1 Technical Advisory Committee Membership

Area	Representative	
District 1	Don Mohawk, District Project Manager Jack Larson (Chair), Arrowhead Transit	
District 2	Kent Ehrenstrom, District Project Manager Greg Negard, Paul Bunyan Transit	
District 3	Sue Siemers, District Project Manager Dave Tripp, St. Cloud Metro Bus	
District 4	Keven Anderson, District Project Manager Harold Jennissen, Rainbow Rider Transit	
District 6	Jean Meyer, District Project Manager Tony Knauer, Rochester Public Transit	
District 7	Jan Klassen, District Project Manager Terrie Gulden, Rock County Heartland Express	
District 8	Bev Herfindahl, District Project Manager Marc Hall (Vice Chair), Pipestone County Transit	
Mn/DOT Office of Transit	Sarah Lenz (representative) John Groothuis (alternate) Noel Shughart (staff support) Judy Ellison (staff support)	Fay Cleaveland (staff support) Becky Alper (staff support) Mike Schadauer (staff support)

Plan Advisory Committee (PAC)

The PAC was responsible for providing strategic policy guidance at key project milestones, culminating in the development of the investment priorities. 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 state agencies, local planning agencies, and public transit providers. Members of the PAC are listed in Table 1.2.

Table 1.2 Plan Advisory Committee Membership

Organization/Agency	Representative
Association of Minnesota Counties	Ryan O'Connor
University of Minnesota Center for Transportation Studies	Gina Baas
Department of Employment and Economic Development	Paul Bridges
Department of Human Services	Bob Ries
Greater Minnesota Metropolitan Planning Organization Representative	Mikel Kunza
League of Minnesota Cities	Anne Finn
Metropolitan Council	Amy Vennewitz
Minnesota Board on Aging	Jackie Peichel
Minnesota Public Transit Association	Tony Kellen
Minnesota State Council on Disabilities	Joan Wilshire
Mn/DOT District Planner Representative	Lisa Bigham/Steve Voss (alternate)
Mn/DOT District Transit Project Manager Representative	Kent Ehrenstrom/Sue Siemers (alternate)
Mn/DOT Modal Planning and Program Management Division	Ray Rought
Mn/DOT Office of Capital Programs and Performance Measures	Peggy Reichert
Mn/DOT Office of Statewide Multimodal Planning	Mark Nelson
Mn/DOT Office of Transit	Mike Schadauer (Chair)
Office of Governor Tim Pawlenty	Rima Kawas (ex-officio)
Regional Development Commission Representative	Ronda Allis
TAC Representative	Marc Hall
Transit System Representative	Linda Elfstrand

Current Level of Service

Public transportation needs in Minnesota are growing along with Minnesota's overall population and its population of transit-dependent riders. Minnesota's public transportation systems are growing in response to these needs. In 1990, 40 counties had some form of public transportation system; in 2009, the number of counties with public transportation systems was 76. Only four counties in Greater Minnesota currently lack some form of public transportation service, as shown in Figure 1.4 on the next page.

To meet transportation needs, Greater Minnesota transit systems served 11.1 million passenger trips statewide in 2009. A total of 1.03 million service hours were operated, and transit vehicles traveled 14.9 million miles to serve passenger needs. Local, state, and federal sources combined to fund transit programs at a level of $55.3 million. Figure 1.3 details these statistics by transit system peer group.

Figure 1.3 Statewide Operating Statistics by Peer Group (2009)

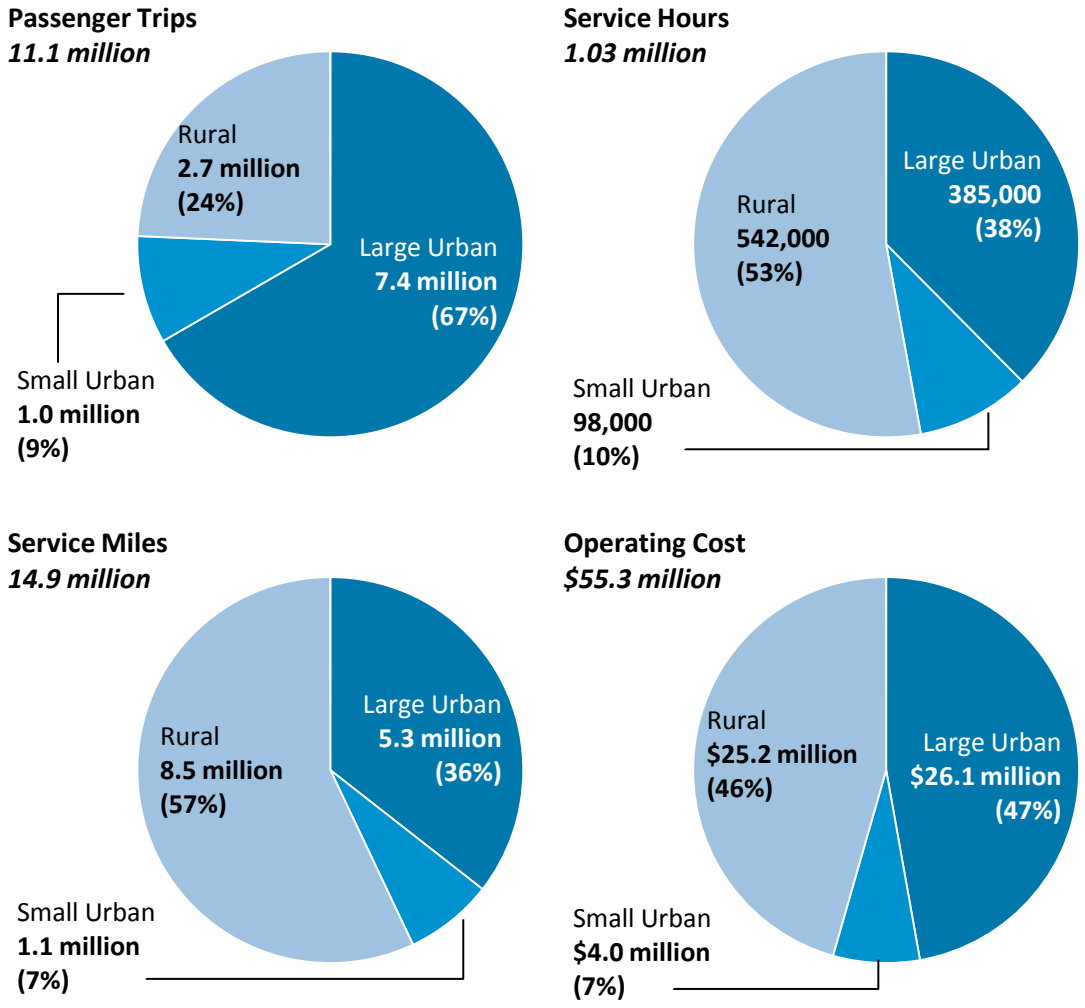
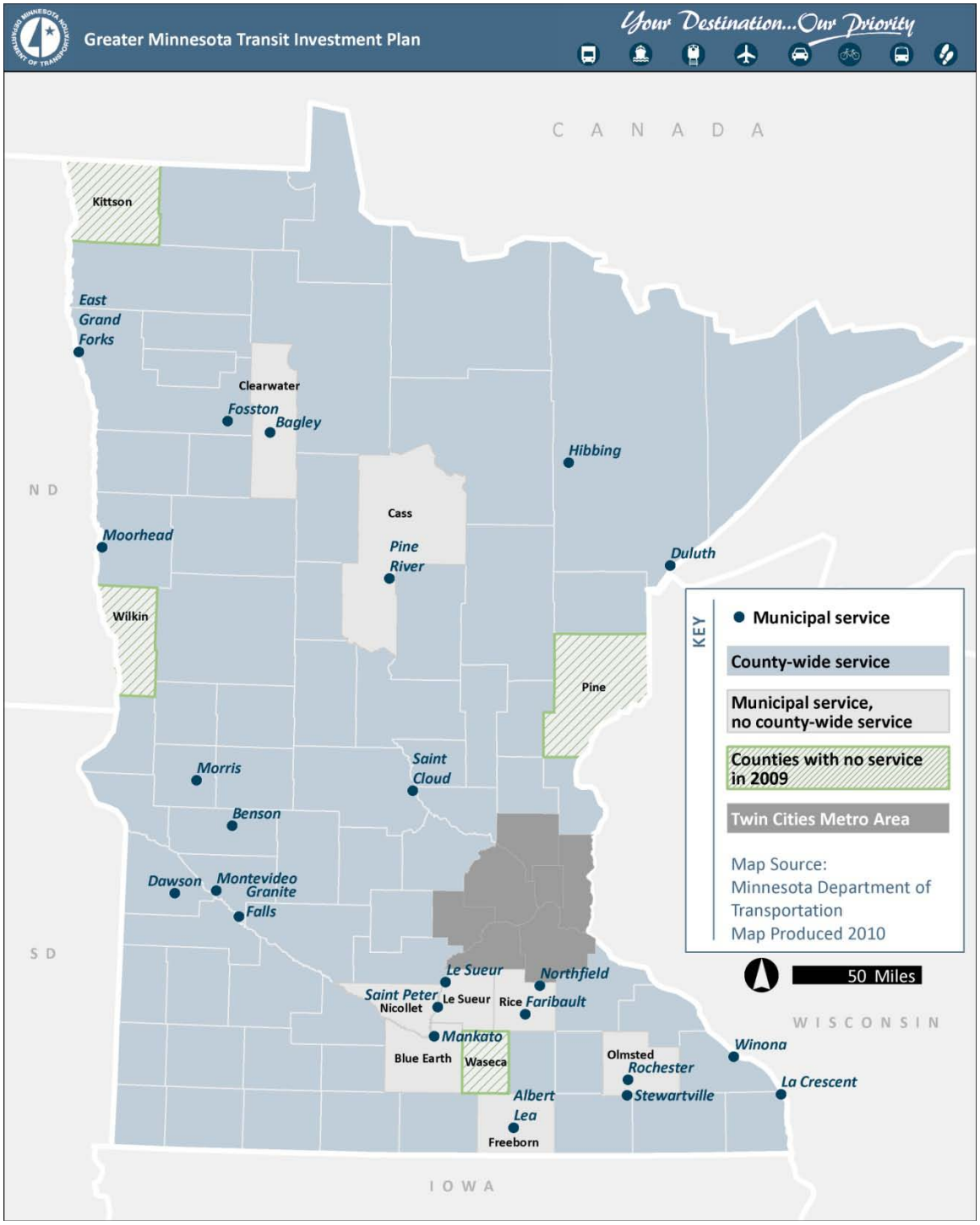


Figure 1.4 Greater Minnesota Transit Service Coverage (2009)



Source: Mn/DOT Office of Transit

Peer Groups

Within the plan's technical analysis, systems are treated differently by peer group to account for the substantial differences in operating environments and characteristics between the various transit services throughout Greater Minnesota. For the purposes of this plan, Greater Minnesota transit systems are initially classified into three peer groups: large urban, small urban, and rural. These peer group divisions supplant the classifications used in previous Greater Minnesota transit planning efforts. The peer groups were developed based on system size, service area, and type of service provided. Systems classified in each peer group are listed in Table 1.3.

Table 1.3 Transit System Peer Groups (2010)

Peer Group	Transit Systems	
Large Urban (7 systems)	Duluth Transit Authority	Moorhead Metropolitan Area Transit
	East Grand Forks Transit	Rochester Public Transit
	La Crescent Apple Express	St. Cloud Metro Bus
	Mankato Public Transit	
Small Urban (12 systems)	Albert Lea Transit	Montevideo Heartland Express
	Benson Heartland Express	Morris Transit
	Faribault Flyer	Northfield Transit
	Granite Falls Heartland Express	St. Peter Transit
	Hibbing Area Transit	Stewartville Heartland Express
	Le Sueur Heartland Express	Winona Transit Service
Rural (40 systems)	Arrowhead Transit	Pine River Ride With Us Bus
	Austin/Mower County Area Transit (AMCAT)	Pipestone County Transit
	Becker County Transit	Prairie Five RIDES
	Brainerd/Crow Wing Public Transit	Prairieland Transit
	Brown County Heartland Express	Rainbow Rider Transit
	Chisago-Isanti County Heartland Express	Red Lake Transit
	Cottonwood County Transit	Renville County Heartland Express
	Dawson Heartland Express	RiverRider Public Transit System
	FAR North Public Transit	Rock County Heartland Express
	Faribault County Prairie Express	SEMCAC Transportation
	Fosston Transit	Steele County Area Transit (SCAT)
	Grant County Alpha Transit	Three Rivers Hiawathaland Transit
	Hubbard County Heartland Express	Timber Trails Public Transit
	Kandiyohi Area Transit (KAT)	Trailblazer Transit
	Lincoln County Heartland Express	Transit Alternatives
	Mahnomen County Heartland Express	Tri-CAP Transit Connection
	Martin County Express	Tri-Valley Heartland Express Bus
	Meeker County Public Transit	Wadena County Friendly Rider Transit
	Murray County Heartland Express	Watonwan Take Me There
	Paul Bunyan Transit	Western Community Transit

System performance varies greatly by peer group, as illustrated in Table 1.4. Comparing the performance of the peer groups illustrates some key challenges in providing service to the wide cross-section of transit markets in Greater Minnesota. Small urban and rural systems require less operating assistance to provide an hour of service than large urban systems. However, due to higher productivity, a large urban passenger trip can be provided for roughly half the cost of a small urban passenger trip, and about a third of the cost of a rural passenger trip. Rural systems, which serve two thirds of the total Greater Minnesota population, often travel long distances to provide a passenger trip, resulting in

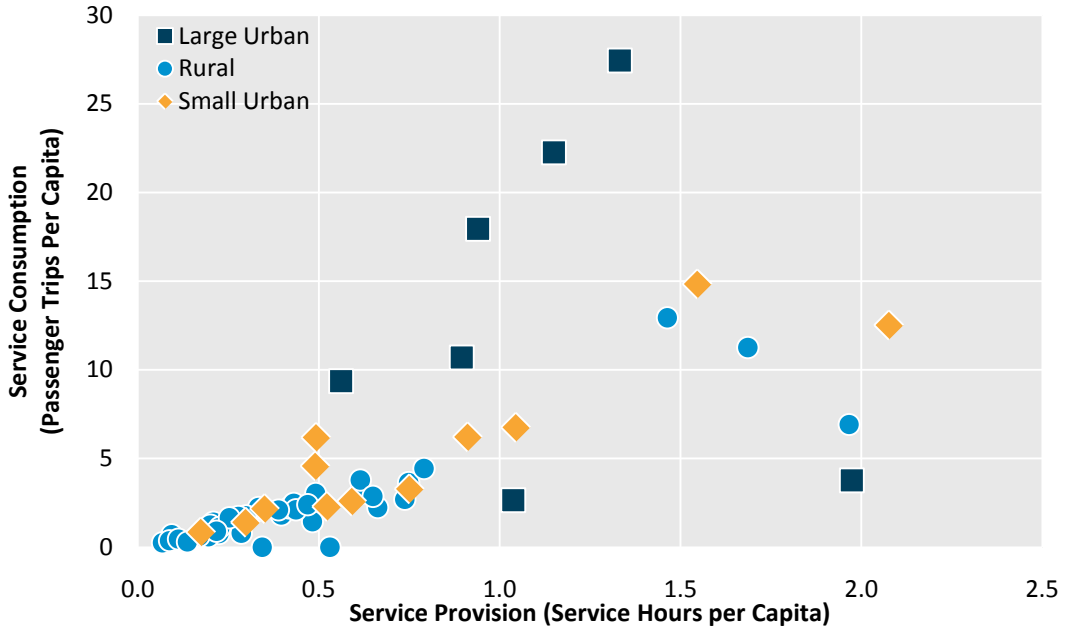
higher per-passenger costs and lower productivity, as measured by passengers per service hour.

Table 1.4 Transit System Peer Group Performance Comparison (2009)

	Large Urban (Typical Range)	Small Urban (Average)	Rural (Average)
Cost per passenger	$2.50–$3.25	$5.50	$9.00
Cost per service hour	$50–$75	$40	$45
Passengers per service hour	20–24	7	5
Passenger trips per capita	20–25	5	2.5
Service hours per capita	1.0–1.2	0.8	0.4

Performance also varies widely within peer groups. Figure 1.5 shows per capita provision and consumption of service by peer group as an example of variation within peer groups. These per capita measures may be used as a key indicator of service equity throughout the state. Most rural systems (shown with circles) annually provide less than an hour of service per capita and serve fewer than five passenger trips per capita; however, some outlier systems provide more service and serve as many as 13 annual passenger trips per capita. Small urban systems (shown with diamonds) are similar to rural systems in their distribution. The seven large urban systems (shown with squares) are distributed throughout the plot, providing anywhere from 0.6 to 2 annual hours of service per capita and serving as few as 2.7 and as many as 27.5 annual trips per capita.

Figure 1.5 Performance Variation among Peer Groups (2009)



Source: Mn/DOT Office of Transit

The wide variation in performance among public transit system peer groups validates Mn/DOT's decision to carry forward the concept of peer groups into the analysis of statewide needs.

Statewide Demographic Overview

Transit service needs will increase in the future as the population of transit-dependent Minnesotans grows. Table 1.5 and Table 1.6 detail projected changes in population by region. From 2000 to 2030, the population of Greater Minnesota is expected to increase by 32 percent—adding nearly three quarters of a million people, with the largest population gains in the Minnesota Development Regions[2] immediately north and northwest of the Twin Cities. In 2000, approximately 14 percent of Greater Minnesota residents were age 65 or older; by 2030, seniors will account for 23 percent of the population. In 2000, persons in poverty made up 8 to 16 percent of the regions' total populations. It is anticipated that this population will grow at about the same rate as the general population. Persons with disabilities comprise 15 to 20 percent of the total population in most Greater Minnesota regions; this group is also expected to grow at a pace similar to that of the general population.

Table 1.5 Change in Total Population and 65+ Population, 2000-2030

	Total Population			Population 65 and Over		
Region	2000	2030	Change 2000-2030	2000	2030	Change 2000-2030
1	88,472	94,030	6%	15,062	23,520	56%
2	76,161	96,920	27%	11,042	22,980	108%
3	322,073	346,880	8%	53,637	92,120	72%
4	210,059	255,180	21%	36,061	66,720	85%
5	152,100	197,380	30%	25,929	54,360	110%
6E	115,899	133,530	15%	18,094	32,720	81%
6W	50,011	44,500	-11%	10,368	13,370	29%
7E	136,244	256,140	88%	17,142	52,250	205%
7W	321,795	629,200	96%	30,925	103,560	235%
8	121,717	116,900	-4%	23,191	30,200	30%
9	222,790	250,360	12%	33,737	56,760	68%
10	460,102	589,370	28%	63,833	131,740	106%
Total	2,277,423	3,010,390	32%	339,021	680,300	101%

Source: Minnesota State Demographer

Table 1.6 Change in Persons in Poverty and Persons with Disabilities, 2000-2030

	Population in Poverty			Population with Disabilities		
Region	2000	2030	Change 2000-2030	2000	2030	Change 2000-2030
1	8,742	9,263	6%	13,874	14,774	6%
2	12,459	16,246	30%	14,373	18,192	27%
3	37,623	40,355	7%	59,046	63,317	7%
4	23,129	28,214	22%	33,718	41,138	22%
5	17,542	22,592	29%	28,744	37,116	29%
6E	9,757	11,094	14%	17,693	20,256	14%
6W	4,296	3,819	-11%	6,744	6,020	-11%
7E	12,357	22,289	80%	24,011	44,035	83%
7W	25,288	46,437	84%	43,996	86,263	96%
8	11,501	11,069	-4%	17,199	16,496	-4%
9	21,455	24,185	13%	30,798	34,552	12%
10	37,828	47,134	25%	64,615	82,171	27%
Total	221,977	282,696	27%	354,811	464,330	31%

Source: U.S. Census 2000, Minnesota State Demographer

[2] See Figure 1.2 on page 1-4 for reference.

Demographic Profile Findings

The demographic profile and transit service mapping exercise conducted during this planning process represented Mn/DOT's first-ever attempt at mapping all Greater Minnesota public transit services. The resulting visual representations helped stakeholders understand the great diversity of transit service needs, existing levels of service, and operating environments that exist in Greater Minnesota. The maps depicted transit services along with six demographic base layers, population density, persons in poverty, minority populations, populations with limited English proficiency, persons 65 or older, and zero-vehicle households. Mn/DOT used the maps for stakeholder discussions and displayed them at public open houses.

Two of the regional maps are presented on the following pages to show the diversity of conditions and services across the state. A map for each Minnesota Development Region can be found on the project website[3].

Region 9, located in south central Minnesota, is an area representative of these vast differences. A demographic profile map showing the region's population density, key destinations, and transit services is reproduced in Figure 1.6 on the following page. The region's largest city, Mankato, has a relatively dense core area and is served by a large urban fixed-route transit system. Many of the smaller communities in the region, including St. Peter, Le Sueur, Blue Earth, and Fairmont, serve their populations with municipal dial-a-ride service. Brown, Watonwan, and Martin counties are all served by rural countywide demand-response service. A network of rural route service connects smaller communities to key destinations in Fairmont, Blue Earth, New Ulm, and other towns. Region 9 also includes Waseca County, one of the four Greater Minnesota counties currently unserved by any kind of public transit service.

Region 3 is located in northeast Minnesota, and exhibits a very different variety of transit services. The region includes the Duluth Transit Authority, which carries more than a quarter of all Greater Minnesota transit passenger trips. In addition, each of Region 3's seven expansive counties is served by some type of transit service operated by Arrowhead Transit. The region's extensive network of rural community-to-community routes connects people from across the Arrowhead to key destinations in the Duluth area, as well as the Iron Range towns of Grand Rapids, Hibbing, and Virginia. Figure 1.7 contains a demographic profile map showing Region 3.

[3] http://www.dot.state.mn.us/transit/reports/investmentplan/

Figure 1.6 Demographic Map – Region 9 Population Density

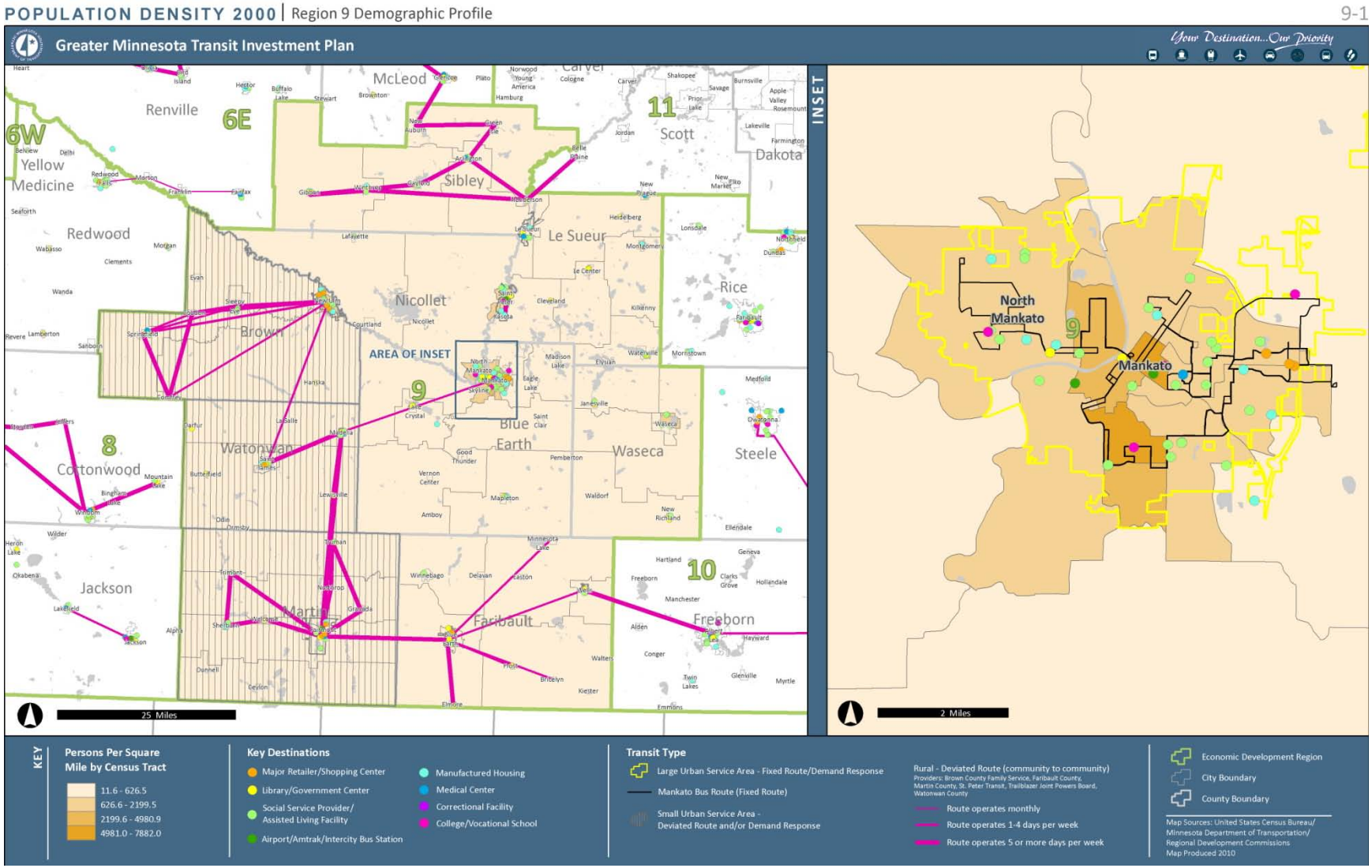
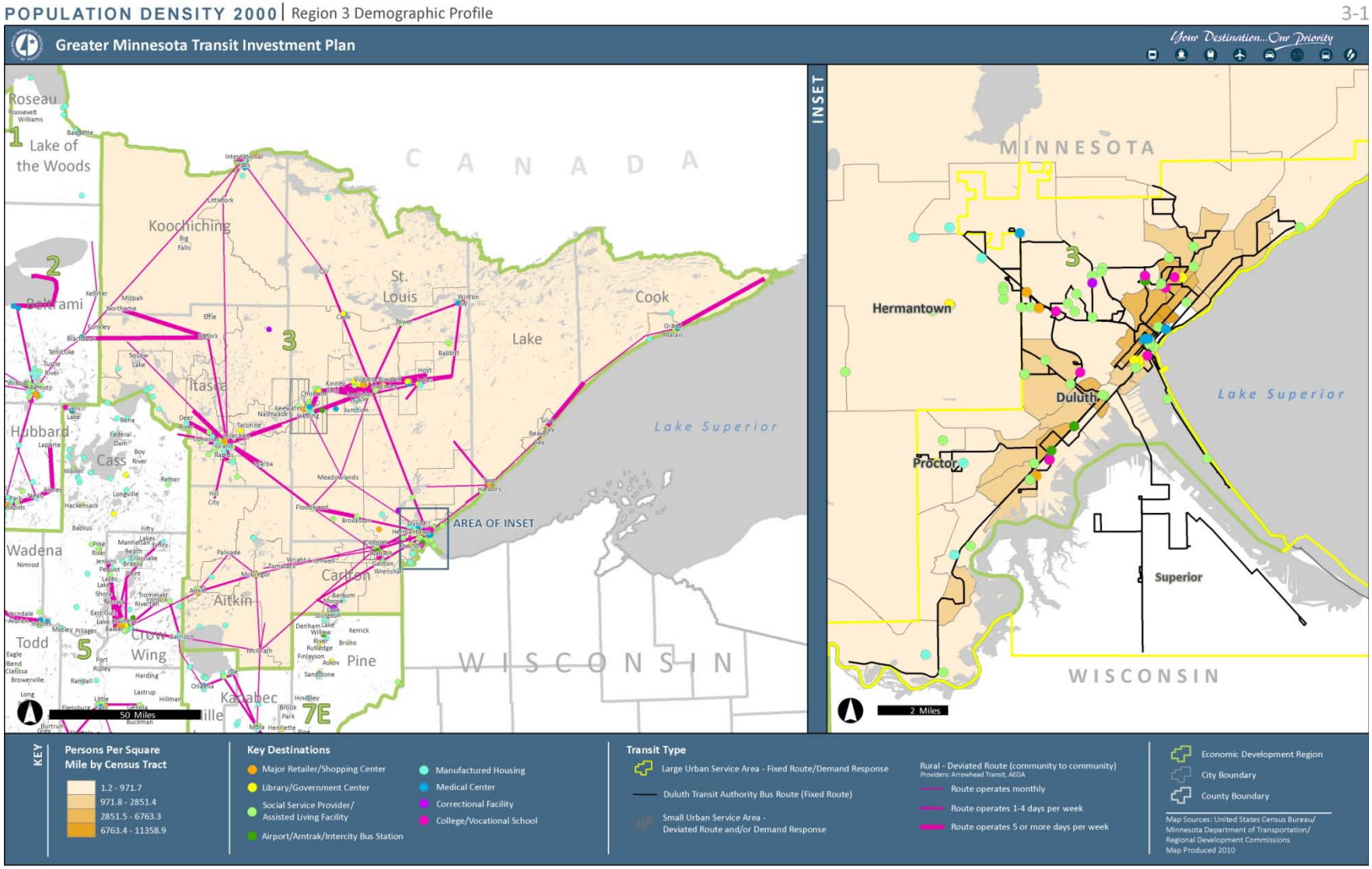


Figure 1.7 Demographic Map – Region 3 Population Density



Transit Funding Sources

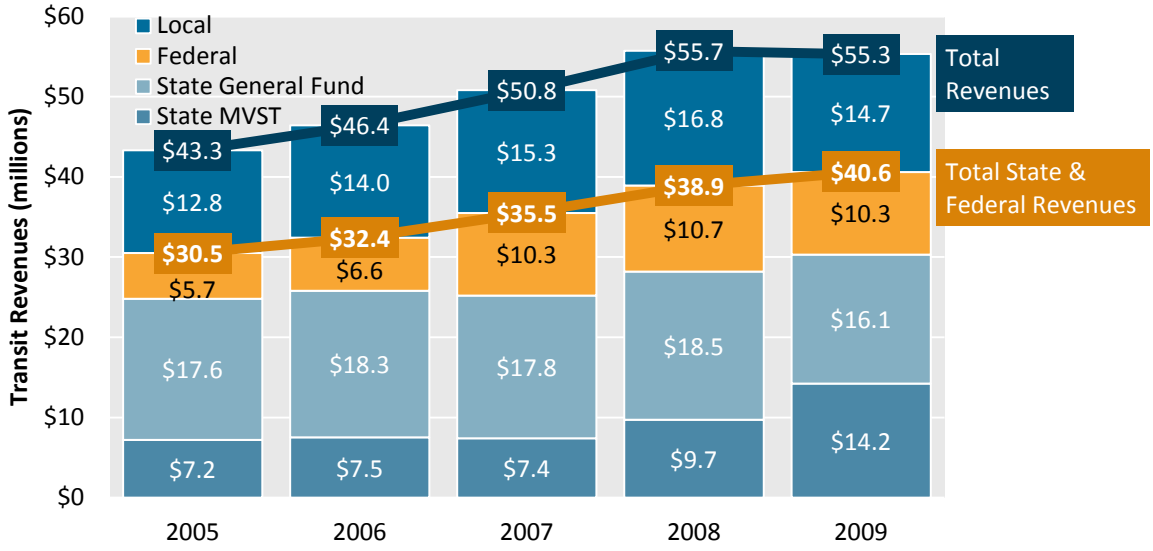
The Mn/DOT Office of Transit is responsible for the administration of state and federal transit assistance funds for Greater Minnesota. Public transportation programs in Minnesota are funded through a federal-state-local partnership. When state and federal funds are adequate, local sources pay a maximum share of the total operating costs, either 15 or 20 percent, depending on the type of service operated. During some recent years the available state and federal funds have not been sufficient to fully fund service at the legislative targets of 80 and 85 percent. Local systems have the option to fund additional transit service beyond their 15 to 20 percent requirement when that is the case.

Public transit operations in Minnesota are supported at the state and federal level from a variety of sources. A major source of state funding is the Motor Vehicle Sales Tax (MVST), which collects revenues from automotive sales and directs up to 40 percent of these funds towards transit assistance. Currently, Greater Minnesota transit's share of MVST revenue is set at 3.75 percent. This share will increase to 4 percent in State Fiscal Year 2012. Other funding for public transit systems in Greater Minnesota has historically come from appropriations from the state's General Fund. Funding from the Federal Transit Administration through operating and capital programs forms the remainder of Greater Minnesota's public transit budget.

Funding sources for Greater Minnesota transit operations for 2005 through 2009 are shown in Figure 1.8. In 2009, the distribution of operating funding was as follows:

- General Fund – 29%
- MVST – 26%
- Federal funds – 19%
- Local funds – 26%

Figure 1.8 Greater Minnesota Transit Operating Funding Sources, 2005-2009



Source: Mn/DOT Office of Transit

Chapter 2:
Market Research

At the outset of the planning process, Mn/DOT and its RDC partners undertook two extensive market research tasks to better understand the needs of current and potential Greater Minnesota transit customers. Market research consisted of a statewide survey of current transit users and a set of focus groups held to consult with people who do not currently use transit. The goal of conducting these tasks was to obtain a reliable and valid base of information to feed into development of investment priorities. The results of the onboard survey and focus groups provided a foundation from which Mn/DOT could conduct technical analysis and draft its investment priorities.

Onboard Surveys

Mn/DOT developed an onboard rider survey to be administered on each public transit system in Greater Minnesota, with the goal of using transit riders' input to better understand statewide transit needs. The onboard survey was conducted in March, April, and May 2010, during which a total of 10,998 riders of 59 public transit systems responded to the survey. The key findings are documented in this plan, and a complete report of survey findings is available on the Greater Minnesota Transit Investment Plan website[4].

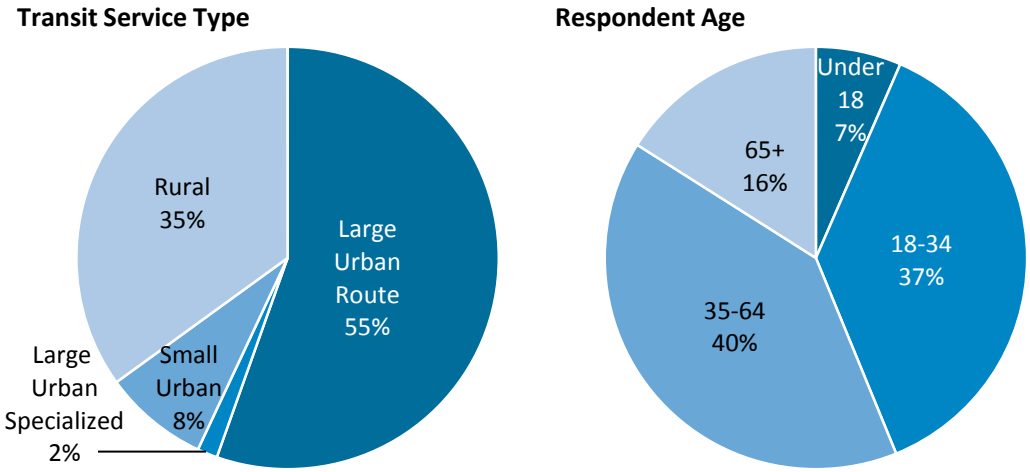
Respondent Profile

The survey asked a number of questions about demographics and personal attributes to learn more about who uses transit in Greater Minnesota. The two most important differentiators of survey respondents' transit behaviors and opinions are the type of transit system used and the age of the respondent. Figure 2.1 illustrates the distribution of respondents by these two characteristics. Over half of respondents are users of large urban services (including fixed-route and elderly and disabled services), while about 35 percent use rural services and the remaining 8 percent use small urban systems. Seventy-seven percent of respondents are between the ages of 18 and 64, while 16 percent are older than 64 and 7 percent are younger than 18.

Sixty percent of respondents are female and 40 percent are male. Survey respondents skew strongly toward lower income households, with 63 percent of respondents reporting household income of less than $20,000. An estimated five of six respondents are below the Greater Minnesota average household income of about $45,000.

[4] http://www.dot.state.mn.us/transit/reports/investmentplan/

Figure 2.1 Survey Respondents by Transit Service Type and Age



Because Mn/DOT has recently begun to monitor trends related to populations with limited English proficiency, the survey asked respondents about their language. English is the first language for 93 percent of respondents. Among those for whom English is not the first language, 96 percent said they understand English very well or well. Transit riders are more ethnically diverse than the population as a whole. Seventy-nine percent of respondents are white; in comparison, approximately 95 percent of the general population of Greater Minnesota is white.

Respondents were also asked about other characteristics associated with transit use. Fifty one percent of respondents do not have a driver's license. Twenty percent have an impairment or disability that requires assistance in riding transit. Four percent of respondents are disabled veterans who are entitled to free rides on fixed-route systems. Nearly 14 percent of respondents from large urban elderly and disabled services are disabled veterans, while the percent of respondents who are disabled veterans from the other transit system types range from 3.4 percent on large urban route service to 4.4 percent on rural services.

Transit Behaviors

During their sampled trips, one third of respondents were riding to work and one in five to school, for a total of 53 percent for these two most common destinations. Seventeen percent were traveling to shopping, 13 percent to a medical appointment, and 8 percent to a social engagement. The remaining nine percent of respondents were traveling to a variety of destinations that were not statistically significant.

A total of 53 percent were riding transit either because they do not have a car or because they do not drive. Another 4 percent do not like to drive. Fourteen percent were riding transit because it saves money, 8 percent because it saves time, and 6 percent because it is better for the environment. The remaining 15 percent of respondents rode transit for a variety of reasons that were not statistically significant.

More than half of respondents ride transit at least five days a week, and 86 percent ride at least twice a week. One in four has been riding transit for less than one year. This

indicates that many users are brand new to transit, requiring systems to continually update marketing information.

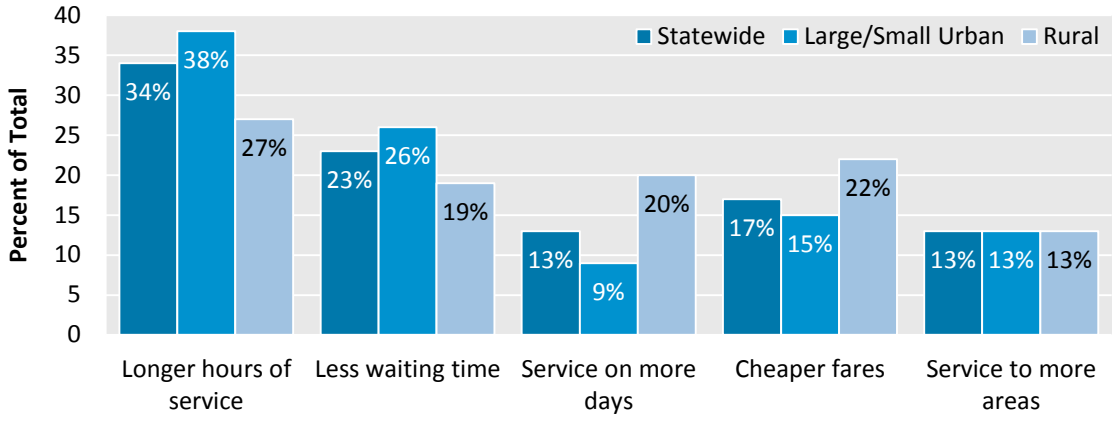
Attitudes and Opinions

The survey asked respondents how satisfied they were with the availability of transit within their community. Sixty-nine percent are very satisfied with their transit service, 27 percent are somewhat satisfied, and 4 percent are not very satisfied or not satisfied at all. Riders age 65 and over are most likely to be very satisfied with their transit service (85 percent). African-Americans are least likely to be very satisfied (56 percent). Still, more than half of every age and ethnic group reported themselves as "very satisfied" with their transit service. The level of satisfaction with transit service seems to be related to whether one has a car and/or a driver's license. If one has no other mobility option, then the level of satisfaction is generally higher. Those who drive a car are more likely to compare their transit service to the mobility they experience with their car, and find transit to be wanting. These people are more likely to ride transit because it saves time or money.

One of the onboard survey's key goals was to gauge the level of needs being met by current transit services. Respondents were asked "What percent of your transportation needs are served by the bus?" The average Greater Minnesota transit user reported 67.7 percent of needs being met. This finding is used later in the plan's technical analysis to help determine the level of unmet needs across the state. The level of needs being served varied little across the transit system peer groups, suggesting that there are sizable unmet needs for transit throughout the state.

Respondents were also asked what potential changes to transit service would be most valuable to them. Figure 2.2 illustrates the results. A total of 70 percent of respondents preferred improvements related to the time service is available, through longer hours of service, less waiting time between buses, and service on more days of the week.

Figure 2.2 Survey Respondents' Preferred Improvements to Transit Services



Only riders of large urban elderly and disabled services did not list longer hours of service as one of their top two changes. Riders of large urban elderly and disabled

services and respondents with household incomes greater than $50,000 rated less waiting time as their first choice for improvement.

Differentials by Transit System Type

Respondent characteristics from each transit system peer group vary from the statewide aggregate. The peer groups include **large urban** (both fixed-route and elderly and disabled services), **small urban** route deviation and on-demand services, and **rural** route deviation and on-demand services.

- **Large urban fixed-route** service users are younger, ride more frequently, are more likely to ride to work or school, and do so on a more discretionary basis, as they are more likely to have a car and a driver's license. They are more likely to prefer receiving transit information via email or a website.

- **Large urban elderly and disabled service** riders are much older, ride less frequently, are more likely to ride to medical appointments, and are less likely to have a car and a driver's license. They are three times more likely than the statewide aggregate to report having limited physical mobility and/or need assistance in riding transit. They report the highest percentage of transportation needs being met by their transit service (73.2 percent versus 67.7 percent statewide). Their preferred transit enhancement is less waiting time, and they prefer to receive transit information via direct mail.

- **Small urban** riders are older, ride less frequently, are more likely to ride to shopping, and are less likely to have a car and a driver's license. They resemble the statewide aggregate on most other dimensions.

- **Rural** service users are older and more likely to ride to work, but they ride less frequently. They are also more likely to ride to medical appointments and shopping. They are less likely to have a car and a driver's license. They are more likely to prefer receiving transit information via direct mail.

Differentials by Age

After transit system type, age is the greatest differentiator of characteristics and opinions among Greater Minnesota transit customers.

- **Riders under 18** are most likely ride to school and do so more than twice a week. They are more likely to want cheaper fares, but household income is highest for riders under 18 than for any age group.

- **Riders age 18-34** mostly ride to work or school, and 92 percent ride more than twice a week.

- **Riders age 35-64** mostly ride to work, and 90 percent ride more than twice a week. Almost half have ridden public transit for more than five years.

- **Riders age 65 and over** ride less frequently and are more likely to ride to shopping (33 percent) and medical appointments (29.5 percent). More than 40 percent have ridden transit for five years or more. Transit ridership becomes less gender-diverse with age; riders age 65 or over are 76 percent female. Riders over 65 are also less racially diverse than the statewide aggregate.

Focus Groups

Focus groups were held in March and April 2010 to consult with non-users of public transit and gather perceptions of transit services and transit need among this group. Each RDC was responsible for conducting one focus group in its region, for a total of 12 sessions statewide. RDCs used their existing networks to identify and invite 10 to12 participants. RDCs screened invitees to ensure they were not regular transit riders and were not employed by a stakeholder agency, e.g. transit provider, RDC, local politician, etc. Focus group membership included representation from seniors, persons with low incomes, minorities, and persons with disabilities.

Focus group discussions focused on four themes: current traveling experiences, transit perceptions, marketing, and future alternatives. Comments were generally consistent throughout the state with few differences between regions. Discussions of each theme are summarized in the following sections.

Current Traveling Experiences

- **Use of personal vehicles.** The majority of participants used their own vehicles for their daily trips. Many had never used or thought about taking public transit.
- **Types of trips.** Types of trips varied by demographic group. Those with children noted an increased number of trips per day due to children's activities. Retired participants noted inconsistent schedules and multiple trips per day for recreation and volunteer purposes.
- **Knowledge of transit service.** Knowledge of existing services varied by area. In some areas, like Bemidji, there was widespread knowledge of transit services and how they worked. In other areas, there was little to no knowledge.

Transit Perceptions

- **Convenience.** The majority of participants do not use transit because it is inconvenient (e.g. does not go where they need to go, long travel times, long wait times).
- **Independence.** Many participants noted they like their independence and transit is an impediment.
- **Who transit service is for.** There were many comments that participants did not know services were available to the general public and thought transit service was only for the elderly and disabled. Others felt that only those that need it should use it.

- **Weather.** Participants often used weather as a reason for not using transit, not wanting to wait outside in the cold or the difficulty of maneuvering sidewalks with large snow banks.

- **Personal safety.** Some participants noted personal safety as a reason for not using transit. Others noted child safety as a reason for not using public transit, for example lack of seat belts.

- **Waste of money/use of service.** Some participants had seen partially full or nearly empty buses and viewed this service as a waste of money.

- **Cost of fares.** This was not considered as a barrier to using transit. Most that had knowledge of fares thought they were reasonable.

Marketing

- **Increased promotions.** The majority of participants felt that additional promotions were needed on the services available.

- **Incentives to ride.** Many participants noted that incentives to ride would increase transit usage. Examples included free service days, discounted passes, or free passes for students. While many suggested incentives, not all indicated that such incentives would increase their likelihood to use transit.

- **Where users get information.** Many participants indicated they would use the phone book to get information on local transit services. Other options included the internet, brochures, and flyers in the community.

- **Where systems offer information.** Most participants felt that information should be placed on bulletin boards throughout the community, in locations such as grocery stores, churches and senior centers.

Future Alternatives

- **Increased use "in the future."** Many participants noted they could see an increased use of transit "in the future." Some noted just a general increase in use, and some noted they would use it themselves. Reasons for increased use included aging, high fuel prices, increased vehicle ownership costs, and lack of parking.

- **Efficiency of service.** Many participants noted a need for increased efficiency of service. This included shorter trips, fewer stops, shorter wait times, express bus lanes, and coordinated services with community organizations and businesses.

- **Expansion of service.** Many participants noted a need for increased services, such as weekend and evening hours, increased service area, and fixed-route service versus dial-a-ride.

Chapter 3:
Technical Analysis

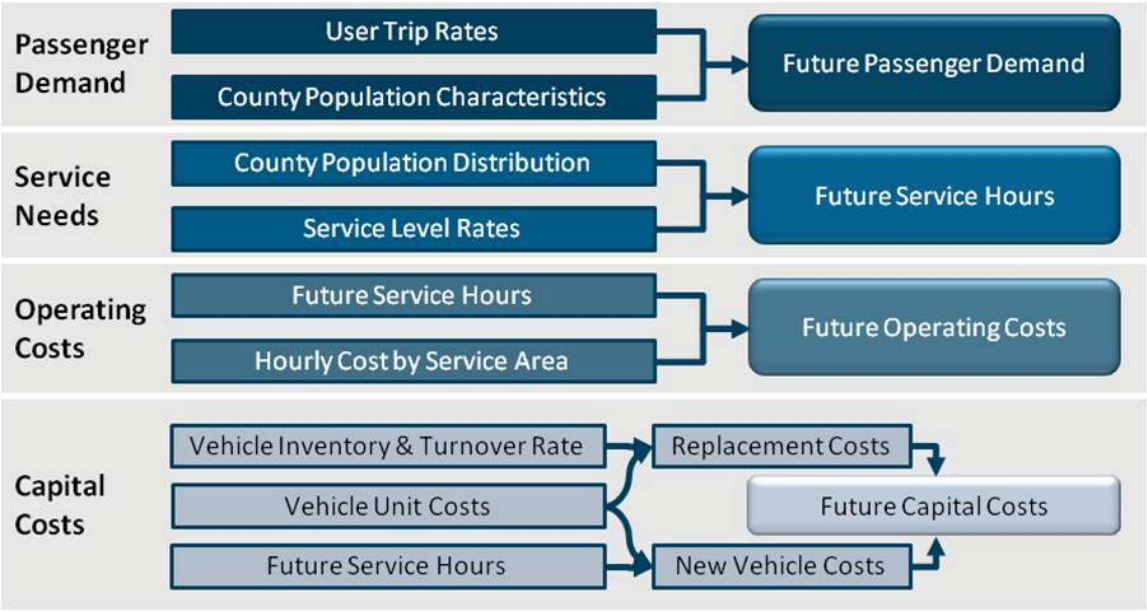
Technical analysis within the Greater Minnesota transit plan addresses five components that affect future transit service provision:

- **Passenger demand** estimates project how many transit trips Greater Minnesota residents will need to make in the future
- **Service level** estimates determine how many hours of service transit providers will need to operate to meet demand levels
- **Operating cost** estimates gauge how much the additional service will cost to provide
- **Capital cost** calculations address costs of replacing existing transit vehicles and purchasing new vehicles to provide additional service
- **Future revenues** provide a framework to understand funding for transit services

Market research and public outreach findings are incorporated in the technical analysis methodologies. The analysis results are used to better understand the size of the investment gap between current transit services and projected needs, and to guide potential investment strategies for future services.

In order to better understand total transit service needs in Greater Minnesota, Mn/DOT developed models to estimate future transit needs in terms of both passenger demand and service hours. Unit costs and inflation factors are applied to these future transit need projections in order to estimate the operating and capital funds needed to fully meet future transit needs in Greater Minnesota. Figure 3.1 illustrates the model methodology.

Figure 3.1 Technical Analysis Methodology



Passenger Demand Estimation

Demand estimation techniques often form the basis for establishing transit needs. Several models have been developed in other states to estimate transit demand; however, no one method fits all geographies. After reviewing existing models for estimating transit needs, Mn/DOT determined that an alternative approach was needed for the Greater Minnesota Transit Investment Plan. The Minnesota Hybrid Demand Model was developed for this plan using portions of models used in other states to better reflect the diversity of transit services and service areas found across Greater Minnesota. The Minnesota Hybrid Demand Model estimates demand using two basic components:

- All Greater Minnesota counties have a base level of public transit demand that can be adequately represented by applying specific trip rate factors to transit-dependent populations of seniors, persons with disabilities, and low-income persons.
- In counties with a large urban center (population above 50,000), an additional component of transit demand is incorporated to account for expanded markets of commuters, students, and general travelers. Other select counties with special service conditions also exhibit a high level of need that exceeds the base level represented by the first model component. Current services in these locations serve unique user groups, such as college/university students or other unique travel markets.

Each component of the model was calibrated using transit trip rates factored to represent the 100th percentile of per capita passenger trip rates found across all Greater Minnesota transit systems in 2009. In addition, trip rates were factored to represent the levels of need currently being met in large urban areas and select counties with special service conditions, according to 2008 utilization data from Mn/DOT and the results of the onboard user survey. Future year total county projections shown in Table 3.1 on the following page were combined with elderly population projections to form the basis for future year demand estimates. This information is provided by the Minnesota State Demographer[5]. Additional information on persons with disabilities, low-income populations, and zero-car households is based on the 2000 U.S. Census.

The model is detailed in Figure 3.2.

Figure 3.2 Minnesota Hybrid Model for Passenger Demand Estimation

Annual Demand by County =		4.2	X	Population 65 years or older
	+	15.0	X	Population with disabilities under 65 years
	+	7.0	X	Low-income, non-disabled population under 65 years
	+	3 x 365 x P	X	Zero-vehicle households in counties with major urban centers and special service conditions counties
		(Fixed-route Factor "P" varies by urban center or county to calibrate to current demand, and ranges from 20 to 50%)		

[5] Detailed projections can be viewed in a technical memorandum on the project website at http://www.dot.state.mn.us/transit/reports/investmentplan/

Table 3.1 Future Year Population Projections by County

County	2000	2010	2020	2030	County	2000	2010	2020	2030
Aitkin	15,301	17,050	18,700	19,370	Martin*	21,802	20,470	19,970	19,620
Becker	30,000	34,300	38,210	39,860	McLeod	34,898	38,930	42,230	44,660
Beltrami	39,650	46,590	52,380	56,430	Meeker	22,644	24,470	26,250	27,200
Benton	34,226	43,730	51,490	56,970	Mille Lacs	22,330	29,620	35,970	40,630
Big Stone	5,820	5,290	5,160	5,110	Morrison	31,712	34,480	37,470	39,450
Blue Earth	55,941	60,830	64,730	68,060	Mower	38,603	39,290	40,330	40,990
Brown	26,911	26,600	26,990	27,280	Murray	9,165	8,610	8,460	8,340
Carlton	31,671	36,950	41,950	45,300	Nicollet	29,771	32,390	34,980	36,490
Cass	27,150	31,040	34,500	36,250	Nobles	20,832	20,500	20,630	20,590
Chippewa	13,088	12,790	13,040	13,130	Norman	7,442	6,900	6,990	7,040
Chisago	41,101	59,160	75,600	89,320	Olmsted	124,277	148,130	168,400	183,290
Clay	51,229	57,080	63,020	66,910	Otter Tail	57,159	59,040	61,930	63,700
Clearwater	8,423	8,790	9,270	9,470	Pennington	13,584	14,050	14,760	15,210
Cook	5,168	5,570	6,050	6,320	Pine	26,530	30,660	34,320	36,450
Cottonwood	12,167	11,700	11,690	11,740	Pipestone*	9,895	9,220	9,270	9,250
Crow Wing	55,099	65,220	73,960	79,750	Polk	31,369	31,850	33,370	34,280
Dodge	17,731	21,660	25,110	27,740	Pope	11,236	11,560	12,270	12,670
Douglas	32,821	37,890	42,750	45,920	Red Lake	4,299	4,350	4,520	4,600
Faribault	16,181	15,250	15,190	15,050	Redwood	16,815	15,660	15,430	15,280
Fillmore	21,122	21,960	23,000	23,640	Renville	17,154	16,860	17,300	17,590
Freeborn	32,584	31,950	32,050	32,020	Rice	56,665	66,420	75,500	82,230
Goodhue	44,127	48,030	52,170	55,200	Rock*	9,721	9,590	9,890	10,010
Grant	6,289	6,080	6,280	6,390	Roseau	16,338	17,080	18,330	19,170
Houston	19,718	20,350	21,270	22,080	Sherburne	64,417	101,560	134,390	161,990
Hubbard	18,376	19,560	20,840	21,430	Sibley	15,356	15,370	15,700	15,840
Isanti	31,287	45,080	57,710	68,770	St. Louis	200,528	198,010	200,490	202,040
Itasca	43,992	45,610	47,630	48,470	Stearns	133,166	154,220	173,520	188,760
Jackson	11,268	11,220	11,390	11,490	Steele	33,680	38,450	42,900	46,030
Kanabec	14,996	17,560	19,710	20,970	Stevens*	10,053	9,650	9,960	10,210
Kandiyohi	41,203	42,000	43,320	44,080	Swift*	11,956	10,810	10,300	9,960
Kittson	5,285	4,420	4,000	3,720	Todd	24,426	25,200	26,230	26,630
Koochiching	14,355	13,690	13,400	13,150	Traverse	4,134	3,530	3,170	2,970
Lac qui Parle	8,067	7,150	6,830	6,640	Wabasha	21,610	22,940	24,380	25,170
Lake	11,058	11,480	11,990	12,230	Wadena	13,713	14,110	14,830	15,300
Lake of the Woods	4,522	4,410	4,500	4,530	Waseca	19,526	19,700	20,400	20,760
Le Sueur	25,426	29,910	34,090	37,090	Watonwan	11,876	10,900	10,500	10,170
Lincoln	6,429	5,930	5,970	5,950	Wilkin	7,138	6,610	6,620	6,550
Lyon	25,425	24,220	24,210	24,250	Winona*	49,985	49,430	50,200	50,980
Mahnomen	5,190	5,120	5,100	5,060	Wright	89,986	136,110	181,240	221,480
Marshall	10,155	9,860	9,990	10,010	Yellow Medicine	11,080	10,100	9,970	9,660

*Denotes special conditions counties

Source: Minnesota State Demographer

Figure 3.3 provides an illustrative example of the demand model application for County A, a hypothetical county with population characteristics as shown in Table 3.2.

Table 3.2 Hypothetical County A Population Characteristics

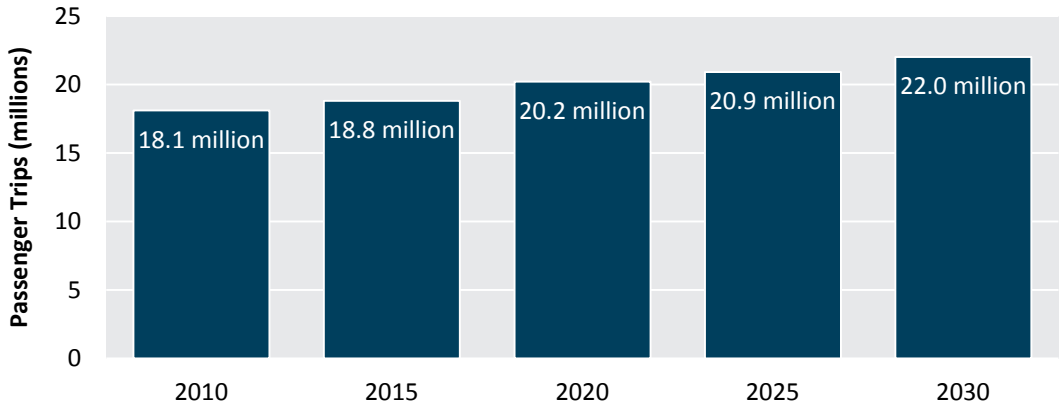
	Year 2000	Year 2030
Total population	55,000	65,000
Population age 65 or older	6,500	10,500
Low-income population	12.7%	12.7%
Population with disabilities	14.6%	14.6%
Zero-vehicle households	2.7%	2.7%

Figure 3.3 Hypothetical County A Year 2030 Estimated Passenger Demand

	4.2	X	*6,500*	persons age 65 or older (year 2030)
+	15.0	X	*9,455*	persons with disabilities under 65 years (year 2030)
+	7.0	X	*8,273*	low-income, non-disabled persons under 65 years (year 2030)
+	3 x 365 x *20%*	X	*1,733*	zero-vehicle households (year 2030)
=			606,563	annual one-way transit trips in 2030
	(Fixed-route Factor $P_{County\ A}$ = 20%)			

Transit need estimates were developed for each of Greater Minnesota's 80 counties with the method illustrated above and aggregated to produce a statewide total. The result is an estimate of total transit service needs in Greater Minnesota, measured in annual one-way passenger trips potentially using public transit. The calculations account for the needs of all Greater Minnesota residents, including persons with disabilities. Statewide passenger demand estimates are shown in Figure 3.4.

Figure 3.4 Statewide Total Annual Estimated Passenger Demand



In 2009, the level of passenger demand met was 11.1 million annual trips, representing 61 percent of 2010 projected demand.

Service Level Estimation

Service hours are used to establish transit service level needs. In order to produce future transit service hour estimates for Greater Minnesota, Mn/DOT developed the Minnesota Service Hours Model. The primary inputs for the model are current service levels, current county population estimates, and future county population projections. To develop the service hour projections, annual per capita service hour target rates for the county population within each transit peer group, shown in Table 3.3, were applied to the future population of each county. The medium-sized urban area peer group was added for this analysis to account for significant differences in current amounts of per capita service provided.

Table 3.3 Service Hours per Capita Target Rates by Peer Group

Peer Group	Target Rate
Large urban (Duluth, Rochester, St. Cloud)	1.50-1.75
Medium urban (Moorhead, Mankato, La Crescent, East Grand Forks)	1.00
Small urban	0.75
Rural – High service level	0.75
Rural – Low service level	0.50

Target rates of service hours per capita were selected as the best way to project standardized service levels across the state. The rates are based on current statewide peer group averages and the percent of needs currently being met according to the onboard survey results. For each county, transit peer group target rates were applied to the population segments they serve. County populations were allocated into the following segments:

- Urban (for counties that contain the cities of Duluth, Rochester, St. Cloud, Moorhead, Mankato, La Crescent, and East Grand Forks)
- Cities over 10,000 (not including cities in the urban category)
- Rural (includes cities under 10,000)

For initial model setup, 2008 county-level service hours targets were applied to the total county population to derive a county-specific service hours per capita target rate. To develop future service hours projections, the county-specific service hours per capita target rate was applied to future population estimates provided by the State Demographer. The complete service hours model is illustrated in Figure 3.5.

Figure 3.5 Minnesota Service Hours Model

Current (2008) Service Hours by County		Large Urban Segment	X	Large Urban Target Rate
	+	Medium Urban Segment	X	Medium Urban Target Rate
	+	Small Urban Segment	X	Small Urban Target Rate
	+	Rural (High Service Level) Segment	X	Rural Target Rate
	+	Rural (Low Service Level) Segment	X	Rural Target Rate
	= +	Special Consideration Segment	X	Special Consideration Target Rate
Service Hours Per Capita Target Rate	=	*Current Service Hours by County* / Current County Population		
County Future Service Hours	=	Future Population Projections	X	*Service Hours Per Capita Target Rate*

Figure 3.6 provides an illustrative example of the service hours model application for County B, a hypothetical county with population characteristics as shown in Table 3.4.

Table 3.4 Hypothetical County B Population Distribution

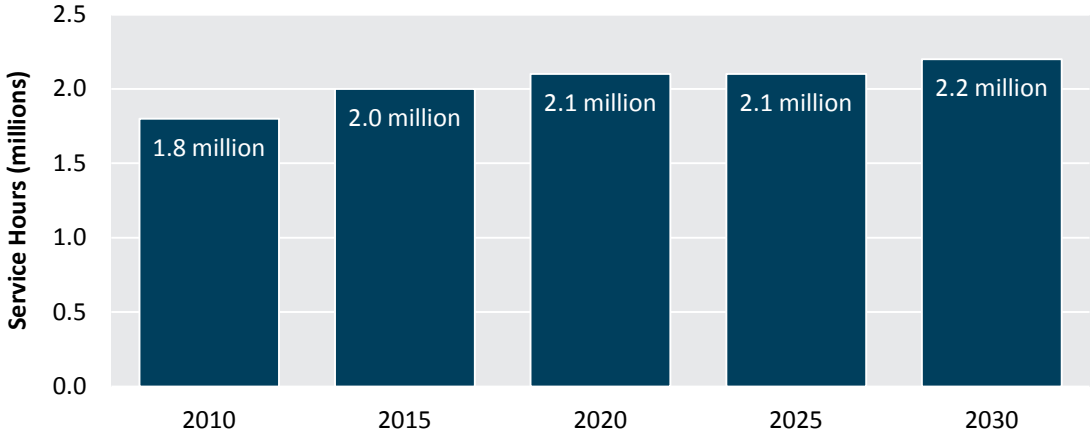
	Year 2010	Year 2030
Total population	60,000	75,000
Large urban population	30,000	--
Small urban population	20,000	--
Rural population	10,000	--

Figure 3.6 Hypothetical County B Year 2030 Estimated Service Hour Needs

Current Annual Service Hours Target	=	*30,000* large urban population	X	*1.50*	=	45,000	
		+ *20,000* small urban population	X	*0.75*	=	15,000	
		+ *10,000* rural population	X	*0.50*	=	5,000	
						= 65,000 *current annual service hours*	
Service Hours Per Capita Target Rate	=	*65,000* current annual service hours / 60,000 total current population				= *1.08 service hours per capita*	
2030 Service Hours	=	*75,000* total persons (2030)	X	*1.08* service hours per capita		= *81,200 service hours*	

Service level estimates calculated for each county and aggregated at the statewide level. Statewide service level estimates are shown in Figure 3.7.

Figure 3.7 Annual Service Hours Needed to Fully Meet Passenger Demand



The level of service provided in 2009 was 1.03 million statewide service hours, representing 57 percent of 2010 projected service hour needs.

Current Service Gap

According to Mn/DOT, the total number of passenger trips served in 2009 was 11,056,833 and the actual number of service hours operated was 1,025,425. Based on the demand estimates conducted as part of this analysis, 2009 services met approximately 61 percent of passenger demand and 57 percent of projected service hour needs statewide. This differs slightly from the results of the onboard survey, which indicate about 68 percent of transit needs being met in areas where public transit services are currently available. The slight difference in needs met is attributable to the cities and counties that do not currently have any public transit service in operation. Table 3.5 includes a comparison of the actual versus projected 2010 need (passenger demand and service hours).

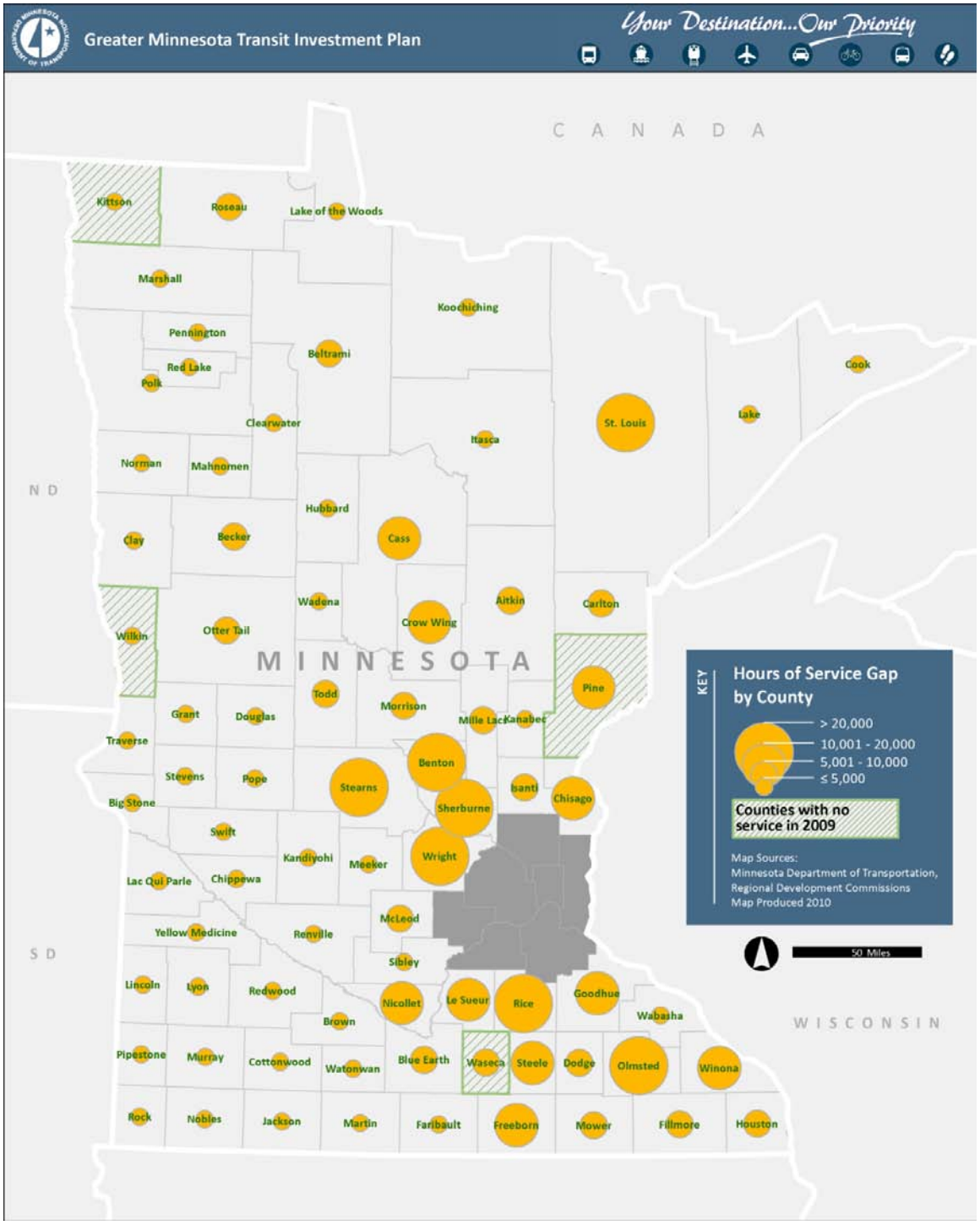
Table 3.5 2010 Statewide Service Gap

	Actual (2009)	Projected (2010)	Gap	Percent of Total Projected Need Served
Passenger demand	11,056,833	18,132,000	7,075,167	61%
Service hours	1,025,425	1,836,000	810,575	57%

Figure 3.8 on the following page shows the service hour gap by county. The information depicted in the figure is also included in tabular form in a technical memorandum available on the project website[6].

[6] http://www.dot.state.mn.us/transit/reports/investmentplan/

Figure 3.8 Current (2010) Gap in Service Hours



Operating Costs

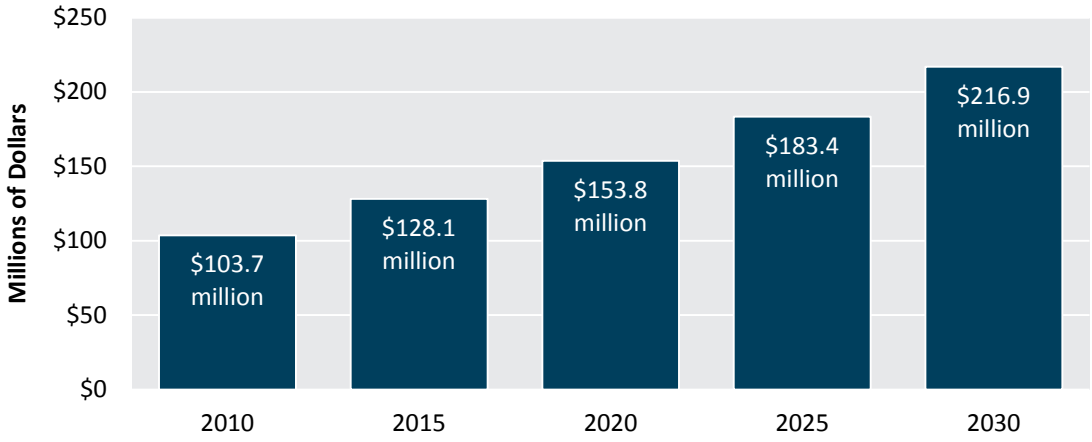
In order to guide potential investment strategies for future services and to better understand the size of the investment gap between current transit services and projected needs, Mn/DOT developed a model to estimate the cost to meet future transit needs in Greater Minnesota. The primary inputs for the cost model are the future service need estimates (service hours) developed as part of this analysis and current operating expenses per service hour. To develop the cost estimates, an average expense per hour rate for transit system peer groups was applied to the future service hours for each county and adjusted for inflation, assuming costs will increase at 2.85 percent per year. The hourly rates for each peer group are presented in Table 3.6.

Table 3.6 Operating Cost Hourly Rates by Peer Group

Peer Group	Average Cost per Hour (2009 dollars)
Large urban	$70.10
Medium urban	$65.70
Small urban/rural	$45.20

Projected total annual operating costs are shown for future years through 2030 in Figure 3.9.

Figure 3.9 Annual Operating Cost of Fully Meeting Future Service Needs

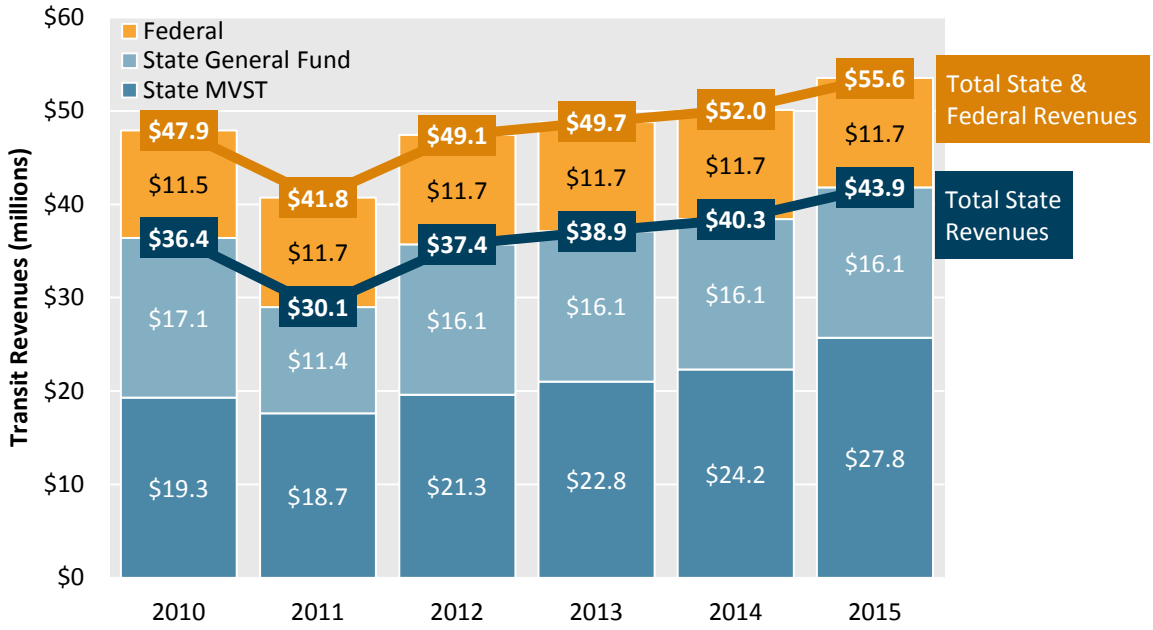


The total operating cost for services in 2009 was $55.3 million.

Operating Revenues

Projected state and federal Greater Minnesota public transit operating revenues through 2015 are illustrated in Figure 3.10.

Figure 3.10 Projected State/Federal Greater Minnesota Transit Operating Revenues, 2010-2015



Sources: Mn/DOT Office of Transit, MMB November 2010 MVST Forecast

It is projected that total transit operating revenues from state and federal sources will decline in 2011, and then grow to $55.6 million in 2015.

Capital Costs

Capital cost estimates include vehicle replacement costs for existing services and costs of purchasing new vehicles required to serve future needs.

Vehicle Replacement

Fleet replacement costs are a product of vehicle cost and service life, both of which vary considerably according to vehicle type. To maintain a safe and viable transit system, it is assumed that a certain percentage of each system's fleet must be replaced annually. Vehicle fleet replacement costs are calculated by applying vehicle turnover rates to vehicle unit costs and current fleet size. Inflation-adjusted fleet replacement costs required to maintain existing systems annually through 2015 and in five-year increments through 2030 are presented in Table 3.7 and Table 3.8. System needs are grouped into large/medium urban and small urban/rural classifications to reflect current fleet composition.

Table 3.7 2011-2015 Annual Fleet Replacement Cost (in millions)

Year	Large/Medium Urban	Small Urban/Rural	Annual Total
2011	$4.3	$5.2	$9.5
2012	$4.4	$5.3	$9.7
2013	$4.5	$5.5	$10.0
2014	$4.7	$5.7	$10.4
2015	$4.8	$5.8	$10.6

Table 3.8 2011-2030 Vehicle Replacement Costs in Five-Year Increments (in millions)

Years	Large/Medium Urban	Small Urban/Rural	Five-Year Total
2011-2015	$22.7	$27.5	$50.2
2016-2020	$26.2	$31.7	$57.9
2021-2025	$30.2	$36.5	$66.7
2025-2030	$34.6	$42.0	$76.6

New Vehicle Requirement

New transit vehicles are needed to meet current and projected future service needs in both unserved and underserved areas. New vehicle needs are projected using a model based on the results of the Minnesota Service Hours Model (see Figure 3.5). The primary inputs for the capital cost model are the estimated service hours to meet the needs targets, current service hours, transit vehicle unit costs, and the average annual service hours per transit vehicle. Figure 3.11 summarizes the capital cost model for new vehicles.

Figure 3.11 Capital Cost Model for New Vehicle Requirement

Target Year Capital Cost	=	Vehicle Unit Costs (Table 3.9)	X	*Target Year Vehicle Fleet Gap by Population Segment*
Target Year Vehicle Fleet Gap by Population Segment	=	Target Year Service Hours Gap / 2,500 (average annual service hours per vehicle)	X	*Representative Population Segment Distribution*

The average annual service hours per transit vehicle (2,500 hours) was applied to the service hours gap for the population represented by each transit system peer group in each county to derive the additional vehicle fleet needed to meet unmet service needs. A vehicle unit cost was then applied to develop the estimated capital cost of meeting each target. The Greater Minnesota transit fleet consists of vehicles from three different classes, ranging from low-capacity cutaway buses to heavy duty, high-capacity fixed-route buses. Table 3.9 lists the estimated 2010 vehicle unit costs by class and the population segment typically served by each.

Table 3.9 Vehicle Unit Cost by Class

Vehicle Class	Population Segment Served	Estimated Vehicle Cost (2010)
600/700 (high-capacity)	Urban	$305,000
500 (mid-capacity)	Small urban (cities over 10,000)	$114,000
300/400 (low-capacity)	Rural	$66,000

Unit costs are increased by 2.85 percent annually for future year estimates to account for inflation. The total vehicles and related capital cost required to meet 100 percent of needs are summarized in Table 3.10. These costs are incurred in addition to the ongoing fleet replacement costs.

Table 3.10 Capital Cost of Additional Vehicles Required to Meet 100 Percent of Future Needs

	2010	2015	2020	2025	2030
Total new vehicles required	297	53	36	32	26
Class 600/700	49	9	6	6	5
Class 500	48	9	6	5	4
Class 400	200	35	24	21	17
Total cost (adjusted for inflation)	$33.6 million	$6.9 million	$4.3 million	$4.6 million	$4.4 million

The 2010 additional vehicle capital cost value represents the fleet required to fully close the service gap from current levels of service. Values in subsequent years represent the fleet required to meet new levels of service to serve expanding transit need.

Sources of Capital Funding

Capital funding sources for Greater Minnesota transit vehicles include Federal 5307 Formula Funds, Federal 5309 Discretionary Funds (Competitive Funds), and Federal Highway Administration Flex Funds. Of these, Federal Highway Administration Flex Funds are the primary funding source for maintaining the Greater Minnesota transit capital program. The current capital funding level from these funding sources allows Greater Minnesota transit systems to meet the majority of their existing capital needs.

Chapter 4: Public Involvement

Mn/DOT was committed to integrating public involvement into decision-making throughout the Greater Minnesota Transit Investment Plan process. Pairing public involvement techniques with the results of market research and technical analysis helped Mn/DOT gain an understanding of existing transit service needs and informed the development of the plan.

The goals of the public outreach program included the following:

- **Creating early and continuous opportunities for involvement.** Mn/DOT conducted two rounds of outreach meetings at key points in the plan.
- **Providing timely information about the plan development.** Mn/DOT regularly briefed stakeholders on plan progress and maintained current information for public consumption on the project website. RDCs conducted over 50 stakeholder presentations throughout the state, engaging the public in dialogue about investment priorities.
- **Reaching a diverse set of stakeholders.** Together with its RDC partners, Mn/DOT included a wide array of stakeholder voices in the planning process. Mn/DOT targeted transit-dependent populations, including persons with disabilities, seniors, minorities, and persons with low incomes for participation in market research and public outreach presentations.
- **Seeking review and comment at key decision-making points.** Before finalizing the plan, Mn/DOT held public open houses and engaged stakeholders in extensive discussions regarding draft investment priorities.
- **Integrating public comment and market research into the decision-making process.** Feedback from the project stakeholder committees directly affected the planning process. In addition, Mn/DOT used the findings of structured interviews as an input to technical analysis.

The specific involvement strategies employed during the plan included structured stakeholder interviews, outreach meetings and presentations, public open houses, web page publications, and a public hearing.

Structured Interviews

The purpose of the structured interviews was to engage stakeholders in an in-depth discussion regarding investment priorities in cases of increased and decreased funding scenarios.

A total of 24 structured interviews were conducted with key stakeholders from across the state to test validity of Greater Minnesota transit investment priorities. Questions focused on investment priorities for rural versus urban areas, availability of services, cost-effectiveness, service investment priorities, expansion of fixed-route service versus dial-a-ride, marketing, and pricing of transit services.

Participants represented the following groups:

- Veterans services
- Chambers of commerce
- Key destinations
- Social services
- Senior services
- Health care organizations
- Minority organizations
- Citizens

Participants represented organizations/citizens from across Greater Minnesota. The following geographic areas were represented:

- Statewide
- Southwestern Minnesota
- West Central Minnesota
- Southeastern Minnesota
- Northwestern Minnesota
- St. Cloud area
- Duluth area
- Wadena area
- Brainerd Lakes area
- Mankato area
- Fargo/Moorhead area
- Bemidji area
- Aitkin County
- Blue Earth County
- Carlton County
- Chisago County
- Isanti County
- Kanabec County
- LeSueur County
- Mille Lacs County
- Pine County
- Renville County
- Waseca County

The following key themes emerged from the structured interviews:

- **Rural vs. urban.** The majority felt that expanding service in rural Minnesota is an important investment priority, as the need for access to services is significant. Others felt that investments should be made in growing urban areas where systems provide the most rides.

- **Availability of service.** The majority felt that transit should be available to every Minnesotan, although concerns about the feasibility and cost of doing so were noted by some.

- **Cost-effectiveness.** Many respondents felt that cost-effectiveness was a good measure for determining investment priorities, while others felt that it should not be the only criterion evaluated.

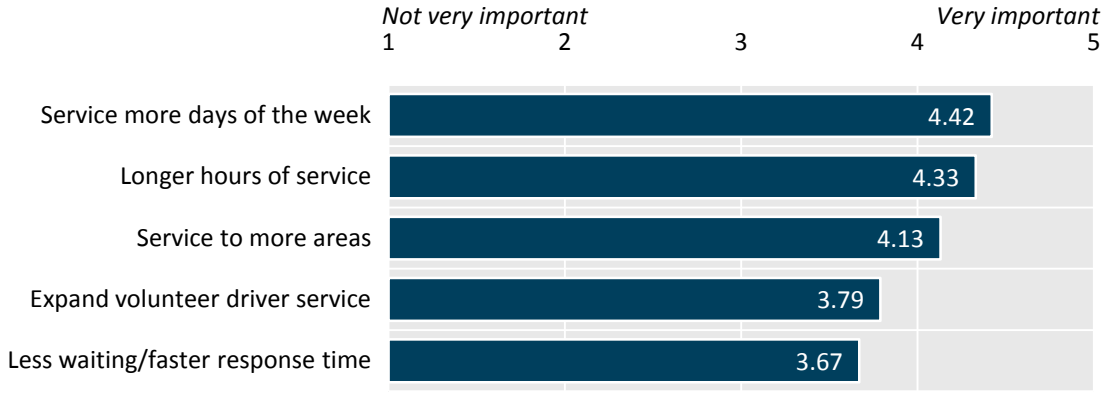
- **Fixed-route vs. dial-a-ride/on-demand.** Dial-a-ride or on-demand service was more preferred than fixed-route service.

- **Marketing.** A need for increased marketing was noted by most respondents. Several respondents noted that collaboration with community organizations and alternative marketing tactics were needed.

- **Fare price.** The majority of respondents did not feel that fare price was a barrier to transit use. Other barriers, such as availability, awareness, and connectivity, were noted.

- **Investment priorities.** Service expansions in terms of days of the week, service hours, and areas served were most important to interview participants. Participants were asked to state the importance of five expansion options on a scale of 1 to 5, with 1 being the least important and 5 being the most important. Results are shown in Figure 4.1.

Figure 4.1 Importance of Potential Transit Improvements (Interview Participants)



Outreach Meetings and Presentations

RDCs or equivalent organizations each held outreach meetings and gave presentations to interested organizations in their communities. Over 50 stakeholder presentations were given throughout Greater Minnesota. The presentations provided an opportunity to share information on key elements of the plan as well as provided an opportunity for in-depth dialogue. Participants were not only encouraged to comment orally, but also to provide written comment on comment cards. Throughout the development of the plan, approximately 300 comment cards were collected. Some highlights from the comments received are:

- Providing service in more areas is the most important priority for expansion.

- Providing longer hours of service and service more days of the week are also high priorities.

- Transit services need to be marketed to potential customers so that people know what services are available in their communities.

- Rural areas need transit services and must not be penalized for low passenger volumes.

Public Open Houses

Each RDC held an open house to present technical analysis findings to the public and review draft investment priorities. Open houses were widely publicized and held in transit accessible locations. Attendees provided generally positive feedback on the investment priorities.

Web Page

Mn/DOT dedicated a page on its website to provide current information on the Greater Minnesota Transit Investment Plan. Mn/DOT used the web page as a repository for results of market research, technical analysis, and public outreach processes. Notices for stakeholder participation opportunities were also posted on the web page.

Public Hearing

Mn/DOT held a public hearing on the draft Greater Minnesota Transit Investment Plan on January 19, 2011. The hearing was held via video conference at all Mn/DOT district offices and via web-based Adobe Connect software to encourage participation from all geographic areas. Key themes from the comments included:

- The need for increased transit funding to ensure transit needs are met statewide.
- The importance of transit services in helping seniors live at home, especially in rural areas.
- The need for increased coordination among transportation services.

Chapter 5: Summary of Needs

The market research, technical analysis, and public outreach undertaken during the course of this planning process underscore the fact that there is not one simple way to calculate statewide transit needs. Due to the diversity of areas served by public transit and the mix of users in Greater Minnesota, transit means different things to different stakeholders and perceptions and expectations of transit service will continue to vary in the future. Using market research as a baseline, the mathematical models developed in this plan have yielded a reasonable foundation for quantifying Greater Minnesota's transit needs and costs in future years, which can be used to shape priorities and direct resources toward filling the current gaps in transit service.

Response to Legislative Targets

The Minnesota State Legislature required this plan to identify the capital and operating costs necessary to meet 100 percent of total transit service needs for 2010, 2015, 2020, 2025, and 2030. These needs and costs are shown in Table 5.1.

Table 5.1 Summary of Future Needs and Costs (100-percent level), 2010-2030

	2010	2015	2020	2025	2030
Total Passenger Demand (millions of trips)	18.1	18.8	20.2	20.9	22.0
Service Hours to Meet Demand (millions)	1.8	2.0	2.1	2.1	2.2
Annual Operating Cost (millions)	$103.7	$128.1	$153.8	$183.4	$216.9
Capital Cost - Vehicle Replacement (five-year totals)	--	$50.2	$57.9	$66.7	$76.6
Capital Cost - New Vehicles (millions)	$33.5	$6.9	$4.3	$4.6	$4.4

Vehicle replacement costs through 2010 are accounted for under current funding programs. The 2010 new vehicle capital cost value represents the fleet required to fully close the gap between current levels of service and new service required to meet 100 percent of estimated needs. Values in subsequent years represent the fleet required to meet new levels of need to serve the expanding population.

2015 and 2025 Targets

The Minnesota State Legislature set a goal of meeting 80 percent of Greater Minnesota transit needs by 2015. Current transit services meet approximately 61 percent of passenger needs. To reach the 2015 goal, Greater Minnesota transit systems will need to serve significantly more passenger trips, which will require more service hours. Greater Minnesota transit systems are on track to provide approximately 1.03 million service hours in 2010. By 2015, 1.6 million service hours will be needed to meet the targeted 80 percent of passenger trips; in other words, transit systems will need to collectively operate 570,000 more service hours annually by 2015 in order to meet the 80-percent target.

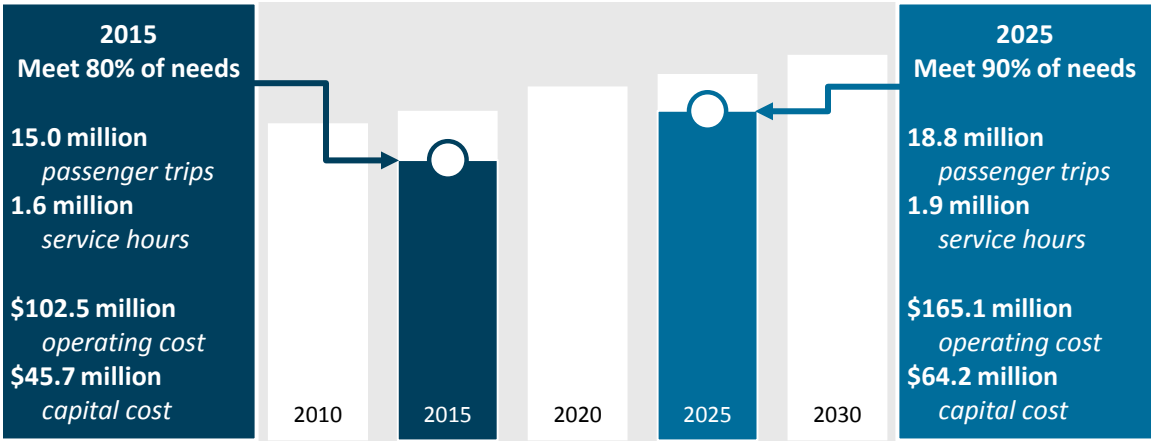
- **$102.5 million** in annual operating revenues from state, federal, and local sources will be required to meet the 80-percent target in 2015.
- **$45.7 million** will be needed to meet the capital needs associated with the 2015 target.

In addition, the Legislature directed Mn/DOT to specifically identify the passenger levels, levels of service, and costs necessary to meet 90 percent of total transit service needs by 2025. To reach the 2025 target of serving 18.8 million annual passenger trips, Greater Minnesota transit systems will need to provide 1.9 million annual service hours.

- **$165.1 million** in annual operating revenues will be required to meet the 90-percent target in 2025.
- **$64.2 million** in capital investment will be required to meet the 2025 target.

The costs of meeting the specific 80-percent and 90-percent legislative targets are illustrated in Figure 5.1.

Figure 5.1 Summary of Future Needs to Meet Legislative Targets



*2015 capital cost includes vehicle replacements from 2010 to 2015 and new vehicle purchases needed to fill service gap between current levels and 2015 target

*2025 capital cost includes vehicle replacements from 2015-2025 and new vehicle purchases needed to fill service gap between 2015 target and 2025 target

State/Federal Funding Gap

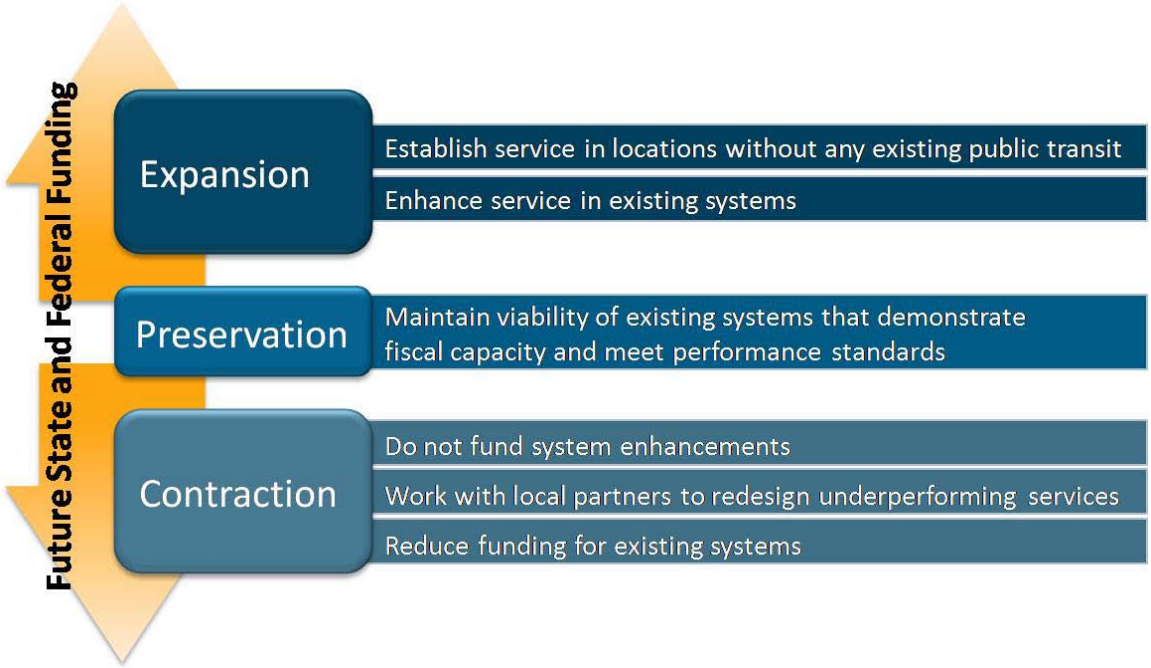
The cost implications of meeting the service needs are substantial. In calculating the funding gap between projected funding and funds needed to meet the 2015 target, it is assumed that the combined state and federal share of total statewide operating funds is 82.7 percent and the local share covers the remaining 17.3 percent. State and federal revenues are expected to remain relatively flat over the near term. By 2015, these combined sources are anticipated to grow to $55.6 million over 2010 levels of $47.9 million. The small increase in operating revenue will not even cover the expected cost increases from inflation, leaving a $29.2 million state/federal funding gap to meet the 2015 target.

Chapter 6:
Transit Investment Priorities

In addition to calculating future service needs, the Greater Minnesota Transit Investment Plan sets priorities to guide future transit investments so that unmet service needs can be reduced. As Mn/DOT undertook development of the plan, it sought to better understand the needs of current and potential transit customers, estimate the gap between current service levels and reasonable needs levels, and incorporate the thoughts and directions from stakeholders who routinely deal with transit providers and customers. In addition, Mn/DOT carefully considered the needs of program administration so that any forthcoming changes would not impede progress already being made toward meeting transit needs across the state. The outcome is a delineation of transit investment priorities that correspond to changing funding scenarios.

Figure 6.1 illustrates Mn/DOT's recommended approach to increased or decreased funding scenarios. Mn/DOT plans to re-evaluate investment priorities every four years and make adjustments as needed.

Figure 6.1 Transit Funding Scenarios and Service Implications



Preservation

Mn/DOT's first priority for Greater Minnesota transit is to preserve existing systems by funding each system at a level sufficient to continue the current level of service in the future. To qualify for preservation, a system must demonstrate local fiscal capacity and meet performance standards as measured through an annual system review process.

Mn/DOT will implement an annual review of transit systems to determine eligibility for state support of system preservation. Mn/DOT will use a three-step review process to establish system eligibility:

1. **Conduct system-level performance reviews based on peer groups.** Three peer groups will be established for large urban systems, small urban systems, and rural systems. Reviews will use the following measures:

   - Cost per passenger
   - Cost per service hour
   - Passengers per service hour
   - System revenue to total operating cost ratio

   Systems that fall more than 20 percent short of the average performance for any one measure for the peer group within which they reside will be subjected to follow-up operational analysis. New services will be expected to meet performance measures within three years of start-up.

2. **Check compliance with state and federal reporting requirements.** Systems must comply with the following requirements to be eligible for the maximum level of preservation funding:

   - Monthly reporting to Mn/DOT
   - Incident reporting
   - Drug and alcohol reporting
   - Federal Financial Accountability and Transparency Act (FFATA) reporting
   - Disadvantaged Business Enterprise (DBE) reporting
   - Applicable federal reporting
   - Satisfactory outcome to annual site visit

3. **Conduct follow-up operational analysis.** If a system fails on either of the first two steps, Mn/DOT will require a follow-up analysis at the system and service segment level as needed to identify causes of poor performance. Mn/DOT will work with systems to improve performance.

Expansion

Service expansion priorities address how additional funds would be spent after all current systems are maintained at their current levels, should increased funding become available for Greater Minnesota transit.

Mn/DOT's highest priority for Greater Minnesota service expansion is to establish service in locations without any existing public transit. This priority is directly shaped by legislative mandate[7]. To be eligible for service, locations would have to demonstrate local fiscal capacity and ability to meet performance measures within three years of development.

After service is established in unserved areas, Mn/DOT's top priorities for enhancing service in existing systems, listed in order of importance, are to:

- **Expand service hours in the morning and night to provide more trips.** Expanding service hours was the most important service expansion identified by current passengers during the onboard survey.
- **Expand multi-county services to link more communities.** Stakeholders expressed a need for more services connecting residents and destinations across county boundaries.
- **Provide service on more days of the week.** Some communities only have service two days a week; others communities have weekday service but would like to add service on one or both weekend days.
- **Expand service frequencies and coverage.** For example, expanding frequencies in an urban system could mean running buses every half hour instead of every hour. In a rural system, it could mean the ability to schedule dial-a-ride one day in advance instead of two. An example of adding coverage in an existing area is adding a new bus route or adding a new community within a county-wide system.
- **Expand service to provide consistent levels of service statewide.** Consistent statewide levels of service mean that peer group communities can provide similar amounts of service hours with their state and federal funding dollars.

[7]Minnesota Statutes, Section 174.01, Subdivision 2, Part 6

Contraction

The following priorities address how Mn/DOT will evaluate funding applications and allocate available funds in the event that future funding for transit is reduced. Four guidelines define Mn/DOT's response to a reduced-funding scenario. Guidelines are listed in consecutive order.

- In an environment of contracted funds, funding for system enhancement will not be considered. In other words, if there is not enough money to adequately preserve all existing systems statewide, no one system will receive any additional money for enhancement.
- Mn/DOT will work with systems to redesign underperforming service segments. Mn/DOT and the transit provider will evaluate performance measures set for peer groups in more detail to see how systems can operate more efficiently.
- Mn/DOT will reduce state and federal funding to those systems with service segments that underperform on the performance measures.
- If decreases in state and federal funding for transit necessitate additional reductions, Mn/DOT will reduce funding allocations to systems that meet or exceed performance standards.

Identified Program Management Tools

Mn/DOT believes every Greater Minnesota public transit system should integrate program management tools into its operations. Mn/DOT expects that these will be utilized by public transit systems regardless of future funding levels.

Mn/DOT will work with systems to ensure the following tools, listed in no particular order, are used to help implement the investment priorities:

- Explore ways to increase the use of technology to gain efficiencies in transit delivery.
- Refine services using service-level performance measures to increase efficiency of transit delivery.
- Coordinate with other transit providers, including tribes (e.g. White Earth Public Transit), volunteer drivers, Section 5310 programs for the elderly and persons with disabilities, and taxi providers, to increase service delivery options.
- Increase marketing to reach more customers and make citizens more aware of the services that exist in their community.
- Provide transit service without charge for disabled veterans (applies only to fixed-route systems).

Appendix A: Supporting Documentation

All documents listed below are available on the project website at http://www.dot.state.mn.us/transit/reports/investmentplan/. Accessible formats are available on the web or by request from Mn/DOT.

- Public Involvement Strategy
- Structured Interview Summary Report
- Focus Group Summary Report
- Onboard Survey Form
- Onboard Survey Summary Report
- Demographic Profile Sample Maps
- Transit Needs Calculation Technical Memorandum
- Technical Analysis Documentation Memorandum

Appendix B: Glossary

This glossary defines terms that appear in the Greater Minnesota Transit Investment Plan. Many of these terms have multiple definitions; therefore, terms are defined as they are used in the context of this plan.

ADA paratransit: Demand-response transit service mandated by the Americans with Disabilities Act (ADA). Provided within ¾ mile of fixed routes to certified users who are unable to use fixed routes due to a disability or health condition.

Capital cost: The cost of equipment and facilities required to support transportation systems: vehicles, radios, shelters, etc.

Coordination: A cooperative arrangement among transportation providers and/or purchasers, which is aimed at realizing increased benefits through the shared management and/or operation of one or more transportation related functions.

Cost-effectiveness: The ratio of the cost of a transit system to the level of service provided. Various measures may be used to determine cost-effectiveness, e.g. cost per passenger trip.

Dedicated funding source: A funding source that by law is available for use only to support a specific purpose, and cannot be diverted to other uses; e.g., the federal gasoline tax can only be used for highway investments and, since 1983, for transit capital projects.

Demand estimation of need: The use of projection models to estimate future year transit needs in terms of both passenger demand and service hours

Demand-response/dial-a-ride service: A transportation service characterized by flexible routing and scheduling of relatively small vehicles to provide door-to-door or point-to-point transportation at the user's demand.

Elderly and disabled transportation: Transportation service to persons that are physically disabled and/or elderly and live in areas with a population over 50,000.

System revenue to total operating cost ratio: Total local revenue, including fares, advertising, service contracts, and taxes, divided by total operating cost.

Federal Transit Administration (FTA): A part of the United States Department of Transportation that administers the federal program of financial assistance to public transit.

Fixed-route transit: Transportation service operated over a set route or network of routes on a regular time schedule; also called regular route.

Local fiscal capacity: A transit subrecipient's ability to:

- Provide, at a minimum, the local share required for capital improvement/replacement and existing operations and expanded services.
- Manage operational and capital transit programs to meet ongoing operational cash flow needs and to meet planned and incidental capital replacement needs.
- Establish and maintain transit accounts within the existing accounting system to manage transit farebox, cash, and contract revenue, and to segregate transit revenue and costs from other agency's program revenue and costs.
- Provide all Mn/DOT fiscal and operational reporting in a timely manner.
- Provide program and project management oversight to assure the fiscal integrity of state and federal funding.

Marketing: A comprehensive process to induce greater use of transportation services by determining the needs or demand of the community and potential customers, developing and implementing service on the basis of these needs, pricing the services, promoting the services, and evaluating the services as implemented in relation to customer needs and marketing goals.

Motor Vehicle Sales Tax (MVST): A source of revenue for Minnesota public transit. See Minnesota Statute 279B.09. Thirty-six percent of money collected on the purchase price of motor vehicles registered in Minnesota is deposited in the metropolitan area transit account under section 16A.88. Four percent must be deposited in the Greater Minnesota transit account under section 16A.88. The Greater Minnesota transit account supports the Public Transit Participation Program in Minnesota Statutes, Section 174.24.

Operating cost: The recurring costs of providing transit service; e.g. wages, salaries, fuel, oil, taxes, maintenance, depreciation, insurance, marketing, etc.

Passenger trip: A one-way trip made by one person from origin to destination. One round trip equals two passenger trips.

Peer group: A group of transit systems which individually share many commonalities, and for which averages are collectively determined on key statistics regarding the operating environment and level of service.

Public transportation: Transportation service that is available to any person upon payment of the fare either directly, subsidized by public policy, or through some contractual arrangement, and which cannot be reserved for the private or exclusive use of one individual or group. "Public" in this sense refers to the access to the service, not to the ownership of the system that provides the service.

Service hours: The total number of hours when the vehicle is in revenue service (i.e., the time when a vehicle is available to the general public and there is an expectation of carrying passengers). Excludes deadhead hours, but includes recovery/layover time.

Rural area: A geographic area with a population center of less than 2,500.

Service gap: The difference between the actual level of passenger trips and service hours provided and the projected level of need estimated as part of this plan.

Service span: The duration of time that service is made available or operated during the course of the service day e.g., 6:00 a.m. to 10:00 p.m.

Stakeholder: An individual or organization that has an interest in the decisions which affect transit safety and operations. Stakeholders include the public, industry, interest groups, and state and local officials.

Small urban: A geographic area with a central city that has a population of between 2,500 and 50,000.

Total operating cost: The total of all operating costs incurred during the transit system calendar year, excluding expenses associated with capital grants.

Total passengers: The total of all revenue passengers, plus transfer passengers on second and successive rides, and free ride passengers.

Transit-dependent passenger: A person who does not have immediate access to a private vehicle, or because of age or health reasons cannot drive and must rely on others for transportation.

Urbanized area: A geographic area with a central city that has a population of over 50,000.

Vehicle service life: The standard life cycle for different vehicle classifications. The minimum life cycle is determined by the FTA.