

Chapter 6: Financial Analysis

This section presents financial analysis on the costs of both current and future transit services to meet the levels of demand expected across Greater Minnesota. This section also contains operating and capital cost estimates for expanded service to meet increasing demand as well as new services that could be implemented in currently underserved or unserved areas of the state.

Current Operating Funding

Public transportation programs in Minnesota are funded through a federal-state-local partnership and administered by the Mn/DOT Office of Transit. Public transit in Minnesota is supported from a variety of sources including the State General Fund, the Motor Vehicle Sales Tax (MVST), the federal government, and local jurisdictions through fares, contracted service and local contributions.

While the single greatest source of funding for public transit systems in Greater Minnesota has historically come from the state’s General Fund appropriations, dedicated funding is generated by the MVST. MVST collects revenues from car sales and directs a certain percentage towards transit assistance. A constitutional amendment passed in 2006 specifies that at least 40% of MVST revenues will be directed to transit by 2012. The current legislative allocation provides 4% of the total MVST revenue for transit in Greater Minnesota. Figure 6.1 shows the sources of Greater Minnesota’s funding for public transit systems operating costs from 2005 to 2009. (Numbers for 2005, 2006, 2007, and 2008 represent actual reported operating costs. 2009 numbers are estimates.)

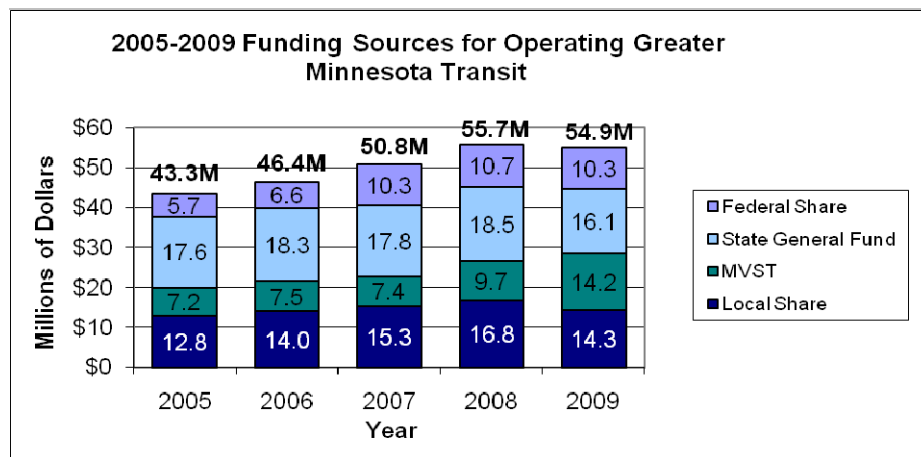


Figure 6.1 Funding Sources for Operating Greater Minnesota Transit

Source: Mn/DOT Office of Transit

Minnesota currently receives funding from the Federal Transit Administration through different federal programs for transit in Greater Minnesota. These include formula funds for public transit systems as well as programs for planning, capital improvements, and targeted programs for the elderly, persons with disabilities and low income individuals.

The local share of funding for transit in Greater Minnesota is set by a fixed local share funding formula. In Urbanized (more than 50,000 population) and Small Urban (2,500 to 50,000 population) areas, the

local share is set at 20%. For rural areas (less than 2,500 population) and for programs serving the elderly and disabled, the local share is set at 15%. The local match can be met through a combination of fare box revenue, auxiliary revenues, and local tax levels.

In 2008, public transportation agencies provided over 11 million rides to residents in Greater Minnesota, as shown in Table 6.1.

Table 6.1 Greater Minnesota Public Transit Ridership by System Type, 2008

System Type	Total Rides
Urbanized	7,382,174
Small Urban	934,152
Rural	2,647,061
Elderly and Persons with Disabilities	225,080
Total	11,188,467

Source: Mn/DOT Office of Transit

Future Operating Costs

Service hours needed to meet future demand targets were estimated in Chapter 5, Future Transit Needs and Demand for Service. Table 6.2 contains a summary of annual service hours required to meet the 80% demand level target in Greater Minnesota for years 2010, 2020, and 2030.

Table 6.2 Estimate of Service Hours Required to Meet Estimated 80% Demand Target

Service Classification	Annual Service Hours (thousands)			
	2008 (Actual)	2010 (Target)	2020 (Target)	2030 (Target)
Urban Areas	389	471	545	608
Small Urban/Rural Areas	626	782	867	930
Underserved Areas/Unserved Areas	N/A	167	181	190
TOTAL	1,015	1,420	1,593	1,728

The future costs to operate the services required to meet estimated future demand are based on the current cost per service hour for all services across Greater Minnesota. The average hourly cost for all transit systems in Greater Minnesota in 2008, \$55.62, is used as a baseline to estimate future total operating costs. To estimate future costs, this baseline hourly rate is increased at an annual rate of 3 percent¹. Estimated hourly costs for years 2010, 2020, and 2030 are shown in Table 6.3.

Table 6.3 Hourly Operating Cost Estimates, 2010–2030

	2010	2020	2030
Estimated hourly operating cost	\$59.01	\$79.30	\$106.57

Future operating costs were based on estimated service hours and hourly operating costs. To calculate estimates for future years, the hourly rate in the appropriate year is applied to the total number of service hours for that year:

¹ This is the Transit Operating Cost Index (TOPCI) developed by Mn/DOT.

Hourly Rate in Year 20XX (Table 6.3)	x	Total Annual Service Hours in Year 20XX (Table 6.2)	=	Total Operating Cost in Year 20XX (Table 6.4)
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The results of this calculation are shown in Table 6.4 for urban areas, small urban, and rural areas, and under- and unserved areas of the state.

Table 6.4 Annual Operating Cost Estimates, 2010–2030

Service Classification	Annual Operating Cost			
	2008	2010	2020	2030
Urban Areas	\$26,820,169	\$27,793,710	\$43,218,500	\$64,794,560
Small Urban/Rural Areas	\$28,837,645	\$46,145,820	\$68,753,100	\$99,110,100
Underserved Areas/Unserved Areas	N/A	\$9,854,670	\$14,353,300	\$20,248,300
Total	\$55,657,814	\$83,794,200	\$126,324,900	\$184,152,960

In 2008, the total operating cost for transit services in Greater Minnesota reached \$55.7 million. Between 2010 and 2030, total operating costs for existing and additional Greater Minnesota transit services are projected to more than double. In 2010, almost \$84 million will be needed to meet the 80% target level of demand, with more than half of costs attributed to small urban and rural areas. By 2030, the operating costs of providing transit services to meet the 80% target to Greater Minnesota are expected to rise to more than \$184 million.

However, there are services that Greater Minnesota transit systems provide which are not funded through state or federal programs. Future operating costs incorporate these services into future growth estimates. In 2008, these locally funded transit services were estimated to be in the range of \$7-8 million. This issue was raised during the public involvement process.

Future Capital Costs

Capital cost estimates include vehicle replacement costs for existing services, equipment needed to expand current services to keep pace with increasing demand, new equipment for underserved and unserved areas, and replacement costs for these new fleets in the outer years.

In 2008, transit systems across Greater Minnesota operated a total of 651 vehicles, ranging from small cutaways to full-size transit buses. Vehicles are currently funded through an 80% federal-20% local partnership. Vehicles purchased through Mn/DOT's Office of Transit are required to meet ADA vehicle regulations. Mn/DOT classifies transit vehicles into different classes based on size, vehicle life, and use. Fleet costs in this analysis are calculated based on three classes of vehicles currently in use across Greater Minnesota:

Class 300/400 vehicles are light-duty cutaway buses with service lives of four and five years, respectively. The majority of the total Greater Minnesota transit fleet is composed of Class 400 vehicles, which are widely used in rural systems and in complementary paratransit.

Class 500 vehicles are medium-duty buses with a service life of seven years.

Class 600/700 vehicles are heavy-duty transit buses with service lives of 10 and 12 years, respectively, and are used primarily in large urban systems.

The 2008 inventory of vehicles forms the baseline for future estimates of vehicle needs and capital costs. A count of vehicle types by service classification in Greater Minnesota is shown in Table 6.5.

Table 6.5 Vehicle Counts by Service Classification, 2008

Service Classification	Class 300/400	Class 500	Class 600/700
Urban Areas	39	--	175
Small Urban/Rural Areas	329	108	--
Total	368	108	175

Vehicle costs play a key role in determining future fleet costs. To calculate fleet replacement and expansion costs for future years, vehicle unit costs for each vehicle type were projected out to year 2030, increasing at an annual rate of three percent². Estimated vehicle costs through 2030 are shown in Table 6.6.

Table 6.6 Estimated Vehicle Unit Costs through 2030

Vehicle Type	Estimated Vehicle Cost		
	2010	2020	2030
Class 300/400	\$66,000	\$88,698	\$119,203
Class 500	\$114,000	\$153,206	\$205,897
Class 600/700	\$305,000	\$409,894	\$550,864

Source: Minnesota Department of Transportation

Fleet Replacement for Existing Services

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 is replaced annually. Based on vehicle type and average service life, rates of annual fleet turnover were calculated, as shown in Table 6.7.

Table 6.7 Annual Vehicle Replacement Rates

Vehicle Type	Annual Turnover Rate
Class 300/400	20%
Class 500	15%
Class 600/700	9%

Fleet replacement costs are calculated by multiplying the total vehicle count by type, the estimated vehicle unit cost, and the associated annual turnover rate:

Total Vehicle Count by Type (Table 6.5)	x	Estimated Vehicle Unit Cost (Table 6.6)	x	Annual Turnover Rate by Type (Table 6.7)	=	Total Fleet Replacement Cost (Table 6.8)
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² This is the Transit Operating Cost Index (TOPCI) developed by Mn/DOT.

Table 6.8 contains a summary of total replacement costs by service classification. Costs are shown for replacement of current fleets in urban and small urban/rural areas as a snapshot of years 2010, 2020, and 2030. The total cost to replace current fleets for the years 2011-2030 is \$318,505,149.

Table 6.8 Total Fleet Replacement Costs for Existing Transit Systems

Service Classification	2010	2020	2030
Urban Areas (current fleet)	\$5,318,550	\$7,147,686	\$9,605,893
Small Urban/Rural Areas (current fleet)	\$6,189,600	\$8,318,305	\$11,179,106
Total	\$11,508,150*	\$15,465,991	\$20,784,999

* \$7.417 million for 60 vehicles purchased under the American Recovery and Reinvestment Act included in this total.

Additional Fleet to Meet Demand

Vehicles are needed to meet currently unmet demand as well as demand projected to grow in future years. Vehicle needs for currently unmet demand are based on the gap in service hours between current service levels and estimated current demand, as previously shown in Table 6.2. Table 6.9 summarizes the additional fleet requirements, based on 2,000 annual hours per Class 300/400 vehicle and 2,500 annual hours per Class 600/700 vehicle to meet the 80% target level of demand. Estimates for 2010 assume that transit systems will use excess capacity within their existing fleet to provide the additional service hours needed to reach the 80% target demand level.

Table 6.9 Additional Fleet Requirements to Meet Demand

Vehicle Type	2010	2020	2030
Class 300/400	52	55	41
Class 600/700	0	25	22
Total	52	80	62

Cost of the fleet to meet expanded fleet demand are calculated by multiplying the vehicle type by the vehicle unit cost:

Additional Fleet to Meet Demand by Vehicle Type (Table 6.9)	x	Estimated Vehicle Unit Cost (Table 6.6)	=	Cost of Additional Fleet (Table 6.10)
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The costs associated with acquiring additional vehicles to meet unmet and growing demand are displayed in Table 6.10.

Table 6.10 Cost of Additional Fleet

Service Classification	2010	2020	2030
Urban Areas	\$0	\$10,697,574	\$12,435,076
Small Urban/Rural Areas	\$0	\$3,769,685	\$3,754,905
Underserved/Unserved Areas	\$3,432,000	\$620,889	\$536,415
Total	\$3,432,000	\$15,088,149	\$16,726,396

In addition, there are additional costs associated with fleet replacement for the expanded fleet in the outer years. A summary of the total costs associated with an expanded fleet have been displayed in Table 6.11.

Table 6.11 Total Expanded Fleet Costs – Initial Purchase and Replacement Costs

	2010	2020	2030
Initial Purchase Cost for Additional Fleet	\$3,432,000	\$15,088,149	\$16,726,396
Replacement Cost for Additional Fleet	\$0	\$3,799,940	\$7,659,487
TOTAL	\$3,432,000	\$18,888,089	\$24,385,883

The capital cost spikes that are expected in 2010 are due to the significant investment required to start-up new services in the underserved and unserved areas. These capital cost spikes are also due to the expansion of services to reach statewide transit 80% demand targets in most small urban and rural areas.

Total Fleet Costs

The total capital costs are determined by summing the cost to replace existing fleet and cost of expanded fleet (both initial purchases and replacement of additional vehicles). Total costs to keep pace with fleet replacement cycles and to add vehicles to meet future demand are shown in Table 6.12.

Fleet Replacement Costs (Table 6.8)	+	Total Expanded Fleet Costs (Table 6.11)	=	Total Cost to Meet Existing and Expanded Fleet Demand (Table 6.12)
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In 2010, it is estimated that fleet-related capital costs will be approximately \$31.1 million to meet the full level of demand across the state. In 2030, capital costs to maintain and expand transit vehicle fleets in Greater Minnesota will equal approximately \$45.2 million.

Table 6.12 Total Costs to meet existing and expanded fleet demand

	2010	2020	2030
Replacement Fleet Costs	\$11,508,150*	\$15,465,991	\$20,784,999
Total Expanded Fleet Costs	\$3,432,000	\$18,888,089	\$24,385,883
Total	\$14,940,150	\$34,354,080	\$45,170,882

* \$7.417 million for 60 vehicles purchased under the American Recovery and Reinvestment Act included in this total.

Summary of Future Operating and Capital Costs

The future annual operating costs for Greater Minnesota public transit service will grow from \$54 million in 2008 to more than \$184 million in 2030. These costs assume service levels grow to meet the 80% demand level target and include annual cost inflation of 3 percent. By 2030, services operating in the urban areas will account for 35 percent of the total operating costs across the state.

The future cumulative capital costs consist of a fleet replacement component for existing services along with a new fleet component for expanded services. The on-going fleet replacement cost of existing services will increase from \$11.5 million in 2010 to \$20.7 million in 2030. The cost for additional vehicles to expand services to meet the 80% demand level target, including initial purchases and their associated replacement costs in the outer years, will reach \$24.4 million in 2030. The total capital cost will be \$14.9 million in 2010 and \$45.2 million in 2030.