

Transit Services

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SUMMARY

In recent years, Minnesota policy makers have wrestled with questions about highway and transit funding without satisfactorily resolving them. Transit advocates point to an imbalance in spending between highways and transit, noting that state and local government expenditures on highways are more than ten times as much as transit spending. In addition, Minnesota's highway spending is significantly more than the national average, while its transit spending is well below the national average. Transit advocates also suggest that expanding transit would reduce the need to expand highways in the Twin Cities metropolitan area where congestion has been growing in recent years. Expanded transit services might also improve the mobility of individuals throughout the state who do not have access to an automobile.

Highway advocates emphasize the declining role of transit in serving the transportation needs of citizens. For example, since 1960, transit ridership per capita declined by about 50 percent in the Twin Cities metropolitan area and now accounts for only about 2 to 3 percent of daily trips. Highway advocates also suggest that expanding transit would not significantly reduce the need for highway expansion but would result in additional spending.

This report cannot resolve the long-standing policy debates over transit and highways. However, the report attempts to provide information and analysis which may help guide further discussion and debate. The report reviews the trends in transit ridership, services, and spending over the last decade and examines how transit services in Minnesota compare with transit services across the nation.¹ In addition, the report recommends changes in the planning process which would enable the Legislature and the Governor to get better and more comprehensive information from the Metropolitan Council and the Minnesota Department of Transportation (Mn/DOT) on the advantages and disadvantages of alternative ways of addressing Minnesota's transportation problems. In particular, our report addresses the following questions:

- **What types of transit services are currently provided in Minnesota, how much service is provided, and how are these services financed?**
- **How have transit ridership, services, and spending changed over the last decade?**

¹ An analysis of the trends, performance, and needs of the State Trunk Highway system was provided in Office of the Legislative Auditor, *Highway Spending* (St. Paul, 1997).

- **How do transit services in Minnesota compare with those in other states?**
- **Do the Metropolitan Council and Mn/DOT provide policy makers with adequate information and analysis on the role that transit can play in addressing transportation problems in the Twin Cities metropolitan area?**

In carrying out this study, we interviewed staff at the Metropolitan Council, Mn/DOT, and various transit agencies. We thoroughly analyzed data on transit ridership, services, and spending from the Metropolitan Council, Mn/DOT, and national sources. In addition, we examined a variety of planning documents and corridor studies available from the Metropolitan Council and Mn/DOT, as well as planning documents and analyses conducted in several metropolitan areas in other states. Our research included a review of relevant literature on transit needs and planning.

BACKGROUND

In 1996, transit operating costs were \$166 million in the Twin Cities area and \$24 million in outstate Minnesota.

In 1996, transit operators in the seven-county metropolitan area of the Twin Cities carried close to 66 million passengers and provided 2.6 million vehicle hours of service at a total operating cost of \$166 million. Metro Transit, an organization within the Metropolitan Council and the primary operator in the area, provided most of the transit service, accounting for over 90 percent of the passengers. Regular route service is also provided by a number of private operators with whom the Metropolitan Council has contracts. Twelve suburban communities that opted out of the metropolitan transit system in the 1980s and early 1990s provide a variety of services to residents in southern and western suburbs. The services include regular route and demand responsive services and are provided by Metro Transit and various private operators. Metro Mobility, the region's specialized service for those with disabilities or mobility limitations, is provided by two private operators under contract with the Council. In addition, there are five small communities within the metropolitan area that have dial-a-ride services for residents with special needs who do not qualify for Metro Mobility and ten rural transit systems providing specialized services to senior citizens and persons with disabilities.

In outstate Minnesota, there were 70 public transit systems that provided 800,000 hours of service and served more than 8 million passengers at an operating cost of about \$24 million in 1996. These services range from regular route service and specialized services for the elderly and disabled in larger cities to dial-a-ride services in small cities and rural areas. The systems include one large urbanized system (Duluth), 4 urbanized area systems (East Grand Forks, Moorhead, Rochester, and St. Cloud), 24 small urban systems in communities ranging from 2,500 to 50,000 in population, 4 elderly/disabled systems (Duluth, Moorhead, Rochester, and St. Cloud), and 37 rural systems. More than half of the operating expenditures and about 70 percent of the outstate ridership come from Duluth and the 4 large urbanized area systems.

Transit services are funded throughout Minnesota through a combination of local, state, and federal support, along with fare and other operating revenues. Compared with outstate transit systems, transit in the metropolitan area is more reliant on local property taxes and less reliant on state appropriations and federal grants. In 1996, property taxes and other local contributions accounted for 42 percent of total operating revenues in the Twin Cities area and 15 percent in outstate Minnesota, while state appropriations accounted for 26 percent in the Twin Cities area and 44 percent in outstate Minnesota. Federal grants provided less than one percent of operating funds in the Twin Cities area and 12 percent outstate. Fares and other operating revenues provided similar shares of operating revenues—32 percent in the Twin Cities area and 28 percent outstate.

The overall operating cost per rider for all transit services in outstate Minnesota is similar to that for transit services in the Twin Cities metropolitan area. The cost per rider averaged \$2.83 in outstate Minnesota and \$2.53 in the Twin Cities area in 1996. Operating costs per vehicle mile tend to be lower outstate due to lower wage and benefit packages and the greater use of volunteer drivers and smaller vehicles. However, these lower costs are offset by lower numbers of passengers served per vehicle mile. The lower productivity of outstate transit services results

The overall operating cost per rider was \$2.53 in the Twin Cities area and \$2.83 in outstate Minnesota in 1996.

Table 1: Performance of Minnesota Transit Systems, 1996

<u>Twin Cities Area Systems</u>	<u>Operating Cost per Rider</u>	<u>Operating Cost per Vehicle Mile</u>	<u>Riders per Vehicle Mile</u>
Metro Transit ^a	\$2.10	\$5.68	2.71
Private Operators	3.57	3.85	1.08
Opt-Out Communities	5.70	3.76	0.66
Metro Mobility ^b	16.12	3.17	0.20
Small Urban	6.38	1.77	0.28
Rural	10.72	1.79	0.17
Total	\$2.53	\$4.73	1.87
<u>Outstate Systems</u>			
Large Urbanized	\$2.40	\$3.86	1.61
Urbanized	1.72	2.52	1.47
Elderly/Disabled	6.65	1.94	0.29
Small Urban	2.91	1.97	0.68
Rural	6.44	0.95	0.15
Total	\$2.83	\$1.79	0.63

NOTE: Vehicle miles for systems in the Twin Cities area and outstate are measured differently. In the Twin Cities area, it is the number of miles that vehicles drive while in service. In the outstate area, it is the number of miles that vehicles drive whether in service or not.

^aDoes not include its opt-out services.

^bVehicle miles are an estimate.

SOURCE: Unpublished data from the Metropolitan Council and Minnesota Department of Transportation.

from the lower population densities in areas served by outstate transit services and the greater share of dial-a-ride and specialized services delivered outstate.

TRENDS

Overall:

Since 1987, transit ridership has declined in the Twin Cities area and increased modestly outstate.

- **The trend throughout Minnesota over the last decade has been toward increased service, but ridership has declined in the Twin Cities area and increased only modestly outstate.**

From 1987 to 1996, miles of transit service increased 20 percent in the Twin Cities metropolitan area and 86 percent in outstate Minnesota. Over the same period, ridership decreased 10 percent in the Twin Cities and increased 4 percent in outstate Minnesota. In the Twin Cities metropolitan area, service increases primarily occurred in the western and southern suburbs that opted out of the metropolitan transit system. Ridership increased in these suburbs, but ridership fell on other parts of the regular route system. Service increases outstate occurred in every program category except the large urbanized program operated in Duluth. However, more than 85 percent of the outstate service increase occurred in rural areas, where a large number of new transit systems were funded and service increased more than 300 percent overall. Outstate ridership trends reflect a 25 percent decline in ridership in Duluth and increases across other categories of service.

Operating expenditures in inflation-adjusted dollars increased less than the amount of service increased between 1987 and 1996. Spending was up 11 percent in the Twin Cities area and 20 percent in outstate Minnesota. This reflects the fact that the expanded services tended to cost less per mile of service than existing services. State appropriations for transit increased more than 50 percent in constant dollars in both the Twin Cities area and outstate Minnesota. This growth offset declining federal operating assistance for transit, particularly in the Twin Cities area, and provided some increase in operating expenditures. Funding from local and regional tax sources and from fare revenue also increased over the last 10 years.

Overall:

- **The inflation-adjusted cost per rider rose 23 percent in the Twin Cities metropolitan area and 20 percent in outstate Minnesota from 1987 to 1996.**

This trend was the result of ridership declines on the Twin Cities regular route system and in Duluth. In addition, the expanded services in Twin Cities suburbs and rural outstate areas tended to cost more per rider than existing services. The cost per mile of service, however, fell 13 percent in the Twin Cities area and 33 percent in outstate Minnesota. This decline reflects the lower per-mile costs of expanded services as well as some possible economies such as the increased use of smaller vehicles. The average productivity of transit services, as measured by

The overall cost per rider has increased in both the Twin Cities area and in outstate Minnesota.

Table 2: Transit Trends, 1987-96

<u>Operating Statistics</u>	<u>Twin Cities Area^a</u>	<u>Outstate Minnesota</u>
Ridership	-10%	4%
Amount of Service ^b	20	86
Operating Costs	11	25
State Appropriations	51	57
<u>Performance Measures</u>		
Cost per Rider	23%	20%
Cost per Mile	-13	-33
Riders per Vehicle Mile	-25	-44

NOTE: All financial figures are in 1996 dollars.

^aFigures based on vehicle miles are for Metro Transit, private operators, and opt-out communities. Data on 1987 vehicle miles were not available for Metro Mobility and rural systems in the Twin Cities area.

^bMeasured in vehicle miles. However, vehicle miles are measured differently in the Twin Cities area and outstate. In the Twin Cities area, it is the number of miles that vehicles travel while in service. In the outstate area, it is the number of miles that vehicles travel whether in service or not.

SOURCE: Unpublished data from the Metropolitan Council and Minnesota Department of Transportation.

the number of passengers per vehicle mile, declined by 25 percent in the Twin Cities area and 44 percent in outstate Minnesota. This trend is primarily due to the declining ridership on regular route services in the Twin Cities and Duluth and the lower productivity of expanded services.

NATIONAL COMPARISONS

Extensive data are available from the Federal Transit Administration to make comparisons of transit services in Twin Cities area with services in other large urban areas throughout the United States. Much less information is available for purposes of comparing outstate transit services to those in other states. The limited data available suggest that:

- **Minnesota spends more than most states on transit in non-urbanized areas.**

Minnesota's operating expenditures per capita ranked 9th highest out of 41 states reporting data. These data do not include spending in urbanized areas such as the Twin Cities, Duluth, East Grand Forks, Moorhead, Rochester, and St. Cloud. As a result, they exclude outstate spending in the large urban and urbanized area programs.

We compared transit services in the Twin Cities area with services in 31 other urbanized areas in the United States with a 1990 population between 900,000 and

4 million. These areas range in population from Indianapolis to Detroit. The Twin Cities urbanized area had a population of 2.1 million in 1990 and was the 9th largest in population of the 32 urbanized areas. In 1995, 20 of the 32 urbanized areas had a form of rail transit operating, while the Twin Cities and 11 others did not have rail transit.

The Twin Cities area has below average transit ridership, but appears to serve commuters relatively well.

In comparison with this group, we found that:

- **The Twin Cities area has below average transit ridership per capita, as well as a below average amount of service per capita and below average spending per capita.**

Data from the Federal Transit Administration indicate that transit ridership, spending for transit operations, and the amount of transit service in the Twin Cities area are all between 35 and 40 percent lower than the average per capita for the comparison group in 1995.² However, these comparative data need to be interpreted carefully, since half of the ridership in the comparison group is from just 5 urbanized areas and only 10 areas have above average ridership per capita. Consequently, it is important to consider how the Twin Cities area ranks relative to other areas. Of the 32 urbanized areas, the Twin Cities area's ridership per capita ranked 18th highest, while the amount of vehicle miles of service per capita and spending per capita ranked 23rd and 19th highest respectively. In each case, the Twin Cities ranked in the lower half of the 32 areas.

Despite the Twin Cities' ranking in the lower half in overall ridership per capita:

- **The Twin Cities area has ranked fairly high in the percentage of commuters who use transit to get to work.**

Table 3: Comparisons of Metropolitan Area Transit Systems, 1995

	<u>Riders per Capita</u>	<u>Vehicle Miles per Capita</u>	<u>Vehicle Hours per Capita</u>	<u>Operating Cost per Capita</u>
Average of 32 Urbanized Areas	43.0	16.5	1.1	\$92.2
Average of 12 Non-Rail Areas	21.1	11.9	0.8	47.0
Average of 20 Rail Areas	54.2	18.9	1.2	115.4
Metro Transit ^a	27.4	10.3	0.7	\$56.1
Rank within 32 Urbanized Areas	18th Highest	23rd Highest	23rd Highest	19th Highest
Rank within 12 Non-Rail Areas	3rd Highest	6th Highest	6th Highest	4th Highest

^aIncludes its opt-out services.

SOURCE: Program Evaluation Division analysis of transit operating data from Federal Transit Administration, *Data Tables for the 1995 National Transit Database Report Year*, Tables 11 and 26. The population estimates for urbanized areas were developed by the Program Evaluation Division.

² The Twin Cities area would probably be even farther below the comparison group average for total transit spending per capita, considering the large capital investment made by those cities with rail transit. We were unable to include capital spending in our spending comparison because of the lack of adequate national data.

In 1990, the Twin Cities area ranked 9th highest of 29 metropolitan areas for which data were collected on the percentage of morning work commutes taken on transit. An estimated 5.3 percent of morning commutes in the Twin Cities were taken using transit compared with a average of 5.5 percent for our comparison group. On this dimension, the Twin Cities ranked ahead of Atlanta (4.7 percent), which has an extensive heavy rail subway system and, according to national data, had a 1990 transit ridership per capita more than twice that in the Twin Cities. The Twin Cities ranked just behind Portland (5.4 percent), which has received much acclaim for its light rail system and reliance on transit. National data for 1990 indicate that Portland had about 50 percent more riders per capita than the Twin Cities.

The Twin Cities' higher ranking on transit service for commuters than on overall transit ridership is due to two factors. First, to a greater extent than all but one of the urbanized areas in our comparison group, the Twin Cities area focuses its transit services on the peak commuting periods. The Twin Cities area has the second highest ratio of transit vehicles used during peak periods to vehicles used during midday. Second, unlike the data on work commutes, the ridership data available from the federal government overstates transit ridership and causes problems with comparisons when the transit systems in two urbanized areas have different transfer rates. National ridership data counts the total number of transit boardings rather than "linked trips" (those that may require one or more transfers). As a result, national data from the Federal Transit Administration count a morning commute as two transit trips if the commuter first takes the bus and then transfers to another bus or to a rail system. While national data indicate that Atlanta has twice the ridership per capita in the Twin Cities, data we obtained on the transfer rates in Atlanta and the Twin Cities suggest that Atlanta has only 30 to 40 percent more riders per capita when transit trips are appropriately counted.

Transit in the Twin Cities area operates in an environment that is relatively automobile-friendly.

Regardless of how transit ridership is measured, it appears that:

- **Transit ridership in the Twin Cities ranks fairly high considering the area's relatively low population density as well as several other factors which make the area automobile-friendly.**

In 1990, the Twin Cities area ranked 29th out of the 32 urbanized areas in population density. Only Indianapolis, Atlanta, and Kansas City had fewer people per square mile. The Twin Cities area also has a high number of roadway miles per capita (6th highest out of 32), more than the average number of vehicles per household (8th highest out of 29), and lower than average congestion costs per person of driving age (25th out of 31). Lower than average population density makes it more costly for transit to provide the trips desired by the public. Large, less congested highway networks encourage residents to drive rather than ride transit.

Even though the Twin Cities area has a relatively low population density, we found that:

- **The operating cost per rider in the Twin Cities area was about average for bus systems.**

Transit in the Twin Cities area has higher than average fares and an unusually high reliance on property taxes.

In 1995, Metro Transit's operating cost per rider was \$2.05, while the average for bus systems in the 12 urbanized areas without rail was \$2.06. Metro Transit ranks 9th highest among the 12 areas.³ Because Metro Transit has heavily focused its services on the most productive times of the day (the peak commuting hours), it has the 3rd highest number of riders per vehicle mile. However, for similar reasons, Metro Transit also has the 2nd highest cost per vehicle mile of service. The combined effect of these two factors is an operating cost per rider that is slightly lower than average.

National data also indicate that the financing of transit services in the Twin Cities differs from typical financing methods. In particular, they show that:

- **The Twin Cities transit system has an unusually large share of funds coming from property taxes.**

About 45 percent of Metro Transit's operating funds came from dedicated property taxes in 1995, compared with an average of only 2 percent elsewhere. While the use of the property tax has created some explicit expectations for cities about how much transit service they should receive, transit services in the Twin Cities area are theoretically less vulnerable to year-to-year decisions at the state and federal levels about funding for operations. Twin Cities area transit services receive a higher percentage of operating funds from dedicated taxes than the average system in our comparison group. We also found that:

- **Twin Cities area transit services charge higher fares per rider than other comparable systems.**

In 1995, fare revenue per rider was 65 cents for Metro Transit, while the average for the non-rail areas in our comparison group was 55 cents. The Twin Cities ranked 3rd highest among the 12 urbanized areas without rail. National data also suggest that transit services in the Twin Cities area receive lower government subsidies per rider than average. However, because the data for other areas include services not reported by the Twin Cities area to the Federal Transit Administration, it is unclear how the Twin Cities area ranks in terms of government subsidies per rider.

National data show a trend in ridership that should be of concern to policy makers in Minnesota. In particular:

- **Ridership per capita has fallen much faster in the Twin Cities area than has typically been the case in large metropolitan areas.**

Between 1988 and 1995, Metro Transit's ridership per capita declined 22 percent while the average decline for a comparison group was only 6 percent. During this period, Metro Transit's ridership per vehicle mile of service declined by 17 percent while the average decline for bus operations in the comparison group was only 6 percent.

³ If privately-operated bus services in the Twin Cities area were included, then the bus operating cost per rider was \$2.17 in 1995 and ranked 7th highest among the 12 non-rail urbanized areas in our comparison group.

**Declining
ridership in the
Twin Cities
area is a cause
for concern.**

There are a number of reasons why ridership has dropped in the Twin Cities area. However, because many of the trends affecting ridership here have also affected ridership elsewhere across the country, it is less clear why the drop here has been larger than in most metropolitan areas. Suburbanization made it more difficult for transit operators to generate ridership in the Twin Cities area. In addition, social and economic changes occurred that increased the area's reliance on the automobile. For example, the number of two-income families increased. As a result, people wanted the flexibility that a car provides to carry out the activities of their increasingly complicated lives. In addition, per capita personal income increased and gasoline prices fell in constant dollars. People were able to afford more cars and drive more often. Finally, policy decisions on fares and services contributed to the decline. Metro Transit's fare revenue per rider increased faster than the average for the non-rail comparison group (16 percent vs. 6 percent). In addition, the area's heavy reliance on property taxes to fund transit has at times caused metropolitan agencies to cut transit services on the most productive routes in Minneapolis and St. Paul in order to serve suburbs that had not been receiving services in line with their property tax contributions. For example, service on Route 16—once the region's most highly traveled route—was cut by 17 percent between 1987 and 1996.⁴ While the amount of service has increased overall, the growth has been largely in the suburbs, particularly in those communities that opted out of the metropolitan transit system. Suburban routes generally produce less ridership per revenue mile than inner city routes like Route 16.

TWIN CITIES METROPOLITAN AREA

Over the last decade, the Legislature and the Governor's Office have supported significant increases in state appropriations for Twin Cities area transit operations. Because of declining federal grants, these state increases have permitted transit spending to grow slightly. Elected officials have not, however, provided support for more significant growth in transit operations and have not approved plans for major capital expansions of the transit system in the metropolitan area.

Several plans for major expansions have been put forward over the last decade. The Regional Transit Board (RTB), which existed between 1984 and 1994, lobbied along with the county regional railroad authorities for a 9-line light rail system. After failing to get approval for that plan, the RTB and the Metropolitan Council proposed a new "vision for transit" in the early 1990s, which included two light rail lines, expanded bus service, development of numerous bus hubs, and new park-and-ride lots. The new vision was never fully funded by the Legislature, although the Metropolitan Council, with various sources of capital funding including some financial assistance from Mn/DOT, has proceeded to develop additional hubs and park-and-ride lots.

In addition, Mn/DOT has provided additional financial support for transit through the construction of ramp meter bypasses for transit vehicles and carpoolers, bus-

⁴ Route 16 provides service between St. Paul and Minneapolis on local streets, while express bus service between the downtowns is provided by Routes 94B, 94C, and 94D. Although express bus service increased between 1987 and 1996, service on Route 16 combined with express service declined 8 percent.

only shoulder lanes on Twin Cities area freeways, high occupancy vehicle lanes on portions of two area freeways, and downtown Minneapolis parking garages with special rates for carpoolers. The Metropolitan Council has been deeply involved in the needed redesign of the existing bus system.

In recent years, the Metropolitan Council's long-range transportation plan has been limited to projects which can be supported by existing levels and sources of funding. This "fiscally constrained" approach is mandated by both state and federal law and is desirable in that it forces planning agencies to focus its efforts on plans that can be supported with available funds. The Council's long-range transportation plan for the years 2001 through 2020 includes more than \$1.6 billion for highway improvements and expansion but only \$85 million for transit capital improvements such as transitways.

The Metropolitan Council's long-range planning efforts appear to be somewhat limited in comparison with metropolitan planning organizations in other major urban areas. Planning organizations elsewhere tend to provide policy makers with an analysis of possible options beside those in their fiscally constrained plans. The Council staff's reluctance to put other options forward may be due to past rejections by elected officials, as well as their preoccupation since 1994 with the significant challenges of running Metro Transit and keeping Metro Mobility services operating smoothly.

The lack of alternative plans and analysis might be less of a concern if travel within the Twin Cities area were expected to level off. However, the Council is projecting a 29 percent growth in population between 1995 and 2020 and a 46 percent increase in vehicle miles traveled in the metropolitan area. With continued growth projected in the amount of traffic on Twin Cities streets and highways, the Council needs to consider alternative approaches to solving the area's transportation problems, including transit expansion options. We recommend that:

Policy makers need better information on how best to address the area's growing transportation problems.

- **The Metropolitan Council, with assistance from Mn/DOT, should supplement its fiscally constrained long-range transportation plan with a more detailed examination of alternative ways of addressing the growing transportation problems in the Twin Cities area.**

In preparing such an analysis, the Council should consider a variety of approaches including expanded bus service, reduced bus fares, implementation of rail transit, construction of additional high-occupancy vehicle facilities or transitways, further improvements in traffic management, use of parking or congestion pricing strategies, and additional highway expansion. Policy makers do not need a wish list of projects but would benefit from a clear and comprehensive analysis of what different approaches, and combinations of approaches, could accomplish in improving transportation in the Twin Cities metropolitan area. Policy makers do need to be realistic, however, in their expectations about what various options can accomplish. It will not be easy to deal with the region's continuing growth in traffic in light of local and national trends in transit ridership and carpooling.

Some observers might suggest that enough studies have been done and additional studies will not affect the deadlock among policy makers over transportation

funding. Studies have been completed on highway and transit options in various transportation corridors and on such issues such as congestion pricing. In addition, Mn/DOT is currently doing a study of commuter rail options as a result of a 1997 legislative mandate.

These studies, along with the region's experience with high-occupancy lanes, help to provide a base of understanding. However, they do not answer some of the key questions facing policy makers or provide policy makers with a comprehensive understanding of what can be achieved under various policy options. For example, it is unclear how much highway congestion would be affected by expanding transit service in comparison with other strategies. Policy makers and the public are reluctant to invest additional dollars in transit or highways or to commit to a new approach such as congestion pricing or tolls without an objective analysis of the relative benefits and costs of various options. Additional analysis is no guarantee that policy makers will agree to provide additional funding for transit or highways but will help policy makers to reach a better understanding of the choices available to them and can help the Twin Cities metropolitan area make more informed decisions about its future. We also recommend that:

- **The Metropolitan Council and Mn/DOT should do a better job of projecting, analyzing, and presenting information to policy makers on future traffic patterns and congestion problems in the Twin Cities metropolitan area.**

Better information is also needed on the future growth in congestion.

Very little information is contained in the Council's current long-range plan on projected traffic growth, estimated changes in average speeds on Twin Cities highways, and growth in the number of miles of congested highways. Elsewhere, the Council has used an outdated measure of highway capacity for Twin Cities freeways and has overstated the number of congested miles of highways. In its long-range plan, Mn/DOT's Metro Division appropriately reports on the estimated change in congested highway miles under its fiscally constrained plan but fails to analyze how spending an additional \$6.6 billion on "unmet" highway expansion needs would affect congestion and average speeds.

Both agencies have reported data on the estimated change in highways speeds from 1990 to 2020 but neither has published these estimates in their long-range plans. Typically, the agencies have reported that peak hour speeds will decline significantly, particularly on highways other than freeways. Freeway speeds will remain relatively constant due to ramp metering, but the waiting time at ramp meters may increase.

We found, however, that the regional travel forecasting model used by the Council and Mn/DOT provides more than one calculation of average highway speed. One method of calculation shows results similar to those described above. A second method suggests that average speed during the peak hour will decline only one to two miles per hour between 1995 and 2020 rather than the six to seven miles per hour estimated using the other method. According to Council staff, the reason for the modest decline estimated by the second method could be that some of the traffic growth during the peak hours is expected to divert from the freeways and main arterial highways to lesser highways and city streets. Many of these other roads have excess capacity during peak hours, so travelers can arrive at their

destinations in roughly the same amount of time using these roads as when using congested freeways. Consequently, average speeds may not slow down much at least through the year 2020. However, average speeds may slow significantly once these roads also become congested.

The Metropolitan Council and Mn/DOT need to examine this discrepancy in estimates of average speeds and clarify how they project average speeds to change in the future. In addition, both agencies should provide better and more complete information on projected changes in miles of congested highways during peak hours, the expected spread of congestion beyond peak hours, estimated changes in ramp meter waiting time, and the relationship between congestion on freeways and major arterial highways and the amount of traffic expected on other metropolitan area roads.

Finally, we recommend that:

- **The Metropolitan Council should use linked transit trips in planning future transit redesigns or expansions and in reporting transit ridership to policy makers.**

The current method for measuring transit ridership needs to be changed.

The use of unlinked trips counts transfers as additional transit trips and thus overstates the number of people using transit. Adding rail to a bus system can increase the number of transfers significantly. The Council's transit redesign appears to have modestly increased the number of transfers in recent years. Transit redesign tends to truncate long existing bus routes at newly created transit hubs in the suburbs and then creates feeder bus routes in the suburbs. Transfer rates increase because riders transfer from one bus route to another. If unlinked trips are used to measure ridership, an increase in ridership may be reported even if the number of people using buses has not changed.

While Council staff and Mn/DOT have tended to use linked transit trips when analyzing light rail plans in the past, the Council is not generally using linked trips to measure the region's bus ridership. Since the Legislature has recently shown interest in setting targets for increasing Metro Transit's ridership, we think it is important to focus on linked trips. Between 1995 and 1996, Metro Transit's ridership, as measured by linked trips fell by 0.4 million, while the number of unlinked trips rose 0.8 million.

OUTSTATE MINNESOTA

The last decade has been a period of rapid expansion of outstate transit services into new geographical areas. Four new small urban systems were added, bringing the total number of small urban systems to 24 in 1996. Rural systems grew in number from 14 in 1986 to 37 in 1996. Total system mileage in outstate transit systems doubled since 1986.

By 1996, municipal transit systems were operating in 34 of 39 outstate regional centers, and rural systems were operating in 53 of 80 outstate counties. Mn/DOT anticipates growth in the future but says that it has received adequate funding for all transit assistance grant proposals so far and has not had to cut off funding for any operating systems. Not every county or city in the state is a candidate for

**Closer scrutiny
of outstate
transit
performance is
needed.**

public transit. State transit assistance requires a significant local match, and not every community is willing to raise the needed local funding. Some may also be adequately served by transit services run by human services providers or by private operators.

It seems unlikely that the next ten years can match the growth of the period 1986 to 1996. Outstate transit appears to be entering a period of slower growth but the need for transit may nevertheless grow as the population ages and health delivery becomes more centralized. In any case, it is appropriate to pay closer attention to performance of existing systems rather than establishment of new systems. In fact, transit services in Duluth and some other areas have been losing riders and may need to be restructured.

We recommend that Mn/DOT closely review systems where performance is substandard. At some point, Mn/DOT may well have to choose between cutting back funding of below average performers in order to establish or expand efficient and effective transit systems elsewhere in the state. We do not recommend adoption of rigid performance criteria or funding formulas, but Mn/DOT should formally compare similar services on several performance indicators and routinely investigate the reasons behind poor performance by those that are failing to achieve an adequate level of performance.