
Background

CHAPTER 1

Minnesota has an extensive system of streets and highways. The Minnesota Department of Transportation (Mn/DOT) is responsible for maintenance and construction work on the State Trunk Highway System, which includes many of the most heavily traveled highways in the state. Most of the other roads are under the jurisdiction of counties, cities, or townships.

In this chapter, we provide general information on Minnesota's highways and compare Minnesota with other states. In particular, we address the following questions:

- **How does Minnesota's overall highway spending and network of roads compare with other states?**
- **What portions of Minnesota's highway system and spending are on the State Trunk Highway System?**
- **How does Minnesota's State Trunk Highway System compare with state-administered systems elsewhere?**
- **How are highway construction and maintenance funded in Minnesota?**
- **How is the Minnesota Department of Transportation organized and how does the department make decisions about highway projects?**

SYSTEM SIZE

All Streets and Highways

Minnesota has about 130,000 miles of streets and highways--the fifth largest system in the nation after Texas, California, Illinois, and Kansas. Minnesota's large network of roads is largely due to the size of its rural road system. Minnesota has the third largest system of rural roads but ranks only 21st in the number of urban miles of road.

As Table 1.1 shows:

Table 1.1: Miles of Roads and Traffic by Type of Road, Minnesota, 1994

| | <u>Miles of Roads</u> | <u>Percentage of Miles</u> | <u>Annual Vehicle Miles of Travel (in millions)</u> | <u>Percentage of Traffic</u> | <u>Vehicle Miles per Road Mile (in 1,000s)</u> |
|--------------------------------|---------------------------|--------------------------------|---|----------------------------------|--|
| Interstate | 233 | 0.2% | 6,116 | 14.1% | 26,249 |
| Other Freeways and Expressways | 127 | 0.1 | 2,322 | 5.4 | 18,283 |
| Other Principal Arterials | 577 | 0.4 | 3,234 | 7.5 | 5,605 |
| Minor Arterials | 1,944 | 1.5 | 6,130 | 14.2 | 3,153 |
| Collectors | 1,624 | 1.2 | 2,043 | 4.7 | 1,258 |
| Local | <u>10,511</u> | <u>8.1</u> | <u>2,776</u> | <u>6.4</u> | <u>264</u> |
| URBAN | 15,016 | 11.5% | 22,621 | 52.2% | 1,506 |
| Interstate | 681 | 0.5% | 3,454 | 8.0% | 5,072 |
| Other Principal Arterials | 3,571 | 2.7 | 5,853 | 13.5 | 1,639 |
| Minor Arterials | 6,485 | 5.0 | 4,352 | 10.0 | 671 |
| Major Collectors | 15,786 | 12.1 | 3,312 | 7.6 | 210 |
| Minor Collectors | 11,657 | 9.0 | 1,106 | 2.6 | 95 |
| Local | <u>77,002</u> | <u>59.1</u> | <u>2,619</u> | <u>6.0</u> | <u>34</u> |
| RURAL | <u>115,182</u> | <u>88.5%</u> | <u>20,696</u> | <u>47.8%</u> | <u>180</u> |
| TOTAL | 130,198 | 100.0% | 43,317 | 100.0% | 333 |

Source: Federal Highway Administration.

- **Minnesota has a particularly large network of rural roads that serve local needs and carry relatively small amounts of traffic.**

Minnesota has a large network of local roads in rural areas.

Over 59 percent of all the road miles in the state are accounted for by rural roads serving local needs. Only 6 percent of the state's traffic occurs on these roads, many of which are unpaved. In terms of traffic levels, rural local roads carry about one-tenth as much traffic per mile of road as the average road in Minnesota. Urban interstate highways, the busiest category of roads, carry almost 80 times the average traffic level. Figure 1.1 provides definitions for the types of roads listed in Table 1.1.

Overall, Minnesota had about 89 percent more miles of roads per capita than the national average in 1994. Minnesota also had more bridges per capita than the national average, although the state was closer to the national average for bridges than it was for miles of roads. In 1994, Minnesota had 28 percent more bridges per capita than the national average for bridges 20 feet in length or longer.

Two factors contributing to Minnesota's large network of rural roads are Minnesota's low population density and its large number of farms. Compared with other states, Minnesota's population density is 22 percent lower. Minnesota is a relatively large state and is ranked 14th highest in land area, while it is only 20th largest in population. To connect all parts of the state with roads requires a larger network of roads per capita than in more densely populated states.

Figure 1.1: Functional Classifications of Highways

Interstate highways are divided expressways for through traffic, which are part of the federally designated interstate system. Interstates generally have full control of access.

Other freeways and expressways are divided highways for through traffic with full or partial control of access. They generally have grade separation at intersections with other highways.

Principal arterials include interstate highways and freeways, as well as other major roadways serving high-speed, long distance travel. They serve virtually all urban areas with a population of 25,000 or more and a majority of those with a population of 5,000 or more. They provide little or no access to adjacent property.

Minor arterials are intermediate roadways which emphasize mobility but provide more property access than principal arterials. They handle medium length trips and, when combined with the principal arterial system, connect most cities, larger towns, and other traffic generators with one another.

Collectors have an equal emphasis on mobility and land access and provide for trips within neighborhoods and between small cities. Collectors provide the intermediate connection between local streets and the arterial system. In rural areas, **minor collectors** collect traffic from local roads and small communities and link them with more heavily traveled roads. **Major collectors** provide service to moderately sized communities within a county and link those communities with larger population centers nearby.

Local streets and roads facilitate travel over relatively short distances and primarily provide access to property.

Source: Various publications of the Minnesota Department of Transportation and the Transportation Study Board.

Minnesota also has an above average number of farms and smaller than average farms. Minnesota has about 88,000 farms, or about 138 percent more farms per capita than the national average. Minnesota's farms are also 27 percent below the national average in acreage. Connecting a larger number of smaller farms may require more roads per square mile of land in rural areas. Overall, Minnesota has 53 percent more miles of road per square mile of land than the national average.

State Trunk Highway System

The State Trunk Highway (STH) System includes approximately 12,000 miles of highways, designated in part by the Minnesota Constitution and in part by legislative act. The system includes all interstate highways and urban freeways, as well as the vast majority of principal arterials and rural minor arterials in the state. The size of the system has not changed much since the mid-1980s. As Table 1.2 shows, the STH system is slightly smaller today than in 1984. The STH system has fewer miles of collectors, minor arterials, and local roads and more miles of interstate highways and principal arterials. These changes have come about as a result of some interstate and other construction, turnbacks of lesser traveled roads to counties, and some reclassification of roads.

Minnesota's trunk highway system includes many of the most heavily traveled roads in the state. Table 1.3 shows that:

Table 1.2: Miles of State Trunk Highways, 1984 and 1996

| | <u>1984</u> | <u>1996</u> |
|--|-------------|-------------|
| Interstate | 885 | 914 |
| Other Freeways and Principal Arterials | 3,924 | 4,205 |
| Minor Arterials | 5,685 | 5,639 |
| Major Collectors | 1,573 | 1,193 |
| Minor Collectors and Local | <u>54</u> | <u>23</u> |
| Total | 12,121 | 11,974 |

Source: Minnesota Department of Transportation.

Table 1.3: Miles of Roads and Traffic by Jurisdiction, Minnesota, 1993

| | <u>Percentage of Road Miles</u> | <u>Percent of Traffic</u> |
|-----------------------------|-------------------------------------|-------------------------------|
| State Trunk Highways | 9% | 59% |
| County State-Aid Highways | 23 | 21 |
| Municipal State-Aid Streets | 2 | 8 |
| City Streets | 10 | 7 |
| County Roads | 12 | 3 |
| Township Roads | 42 | 2 |
| Other | <u>2</u> | <u>0</u> |
| Total | 100% | 100% |

Source: Minnesota Department of Transportation.

- **The State Trunk Highway System includes less than 10 percent of the state's roads, but carries almost 60 percent of the state's traffic.**

The interstate highways and other freeways alone carry more than one-fourth of the state's traffic but represent less than 1 percent of the state's miles of road. County and city roads not on the STH system but receiving state aid account for 25 percent of the miles and 29 percent of the traffic. Other county and city roads represent 22 percent of the miles and 10 percent of the traffic. Township roads, many of which are unpaved, account for 42 percent of the state's roads but only 2 percent of the traffic. Federal roads and other state-administered roads such as state park roads account for 2 percent of Minnesota's roads but an insignificant amount of the overall traffic.

In 1994, Minnesota's trunk highway system was the 18th largest state-administered highway system in the nation. On a per capita basis, Minnesota's system had about 11 percent fewer miles than the average state system. While the size of Minnesota's state system is fairly typical of most Midwestern states, some mid-Atlantic states (North Carolina, South Carolina, Virginia, West Virginia, and Delaware) have unusually large state systems. In these states, more than half of

The size of Minnesota's trunk highway system is typical of Midwestern states.

the total miles of road are under the control of state highway agencies. Unlike Minnesota, state agencies in these five states are responsible for many roads serving only local needs.

FUNDING SOURCES

All Jurisdictions

The two largest sources of funds for highway and street expenditures in Minnesota are state highway user taxes and property taxes and assessments. Table 1.4 shows that almost 40 percent of highway and street spending is financed by highway user taxes, including state taxes on motor fuel and motor vehicle registrations. These state taxes are a major source of revenues for state and county governments. About two-thirds of the funding for state trunk highways and close to half of county highway funding comes from these state taxes.

Table 1.4: Share of Highway and Street Expenditures by Revenue Source, 1993

| Revenue Source | Source of Each Jurisdiction's Expenditures ^a | | | | |
|----------------------------------|---|----------|----------|-----------|-------------------|
| | State | Counties | Cities | Townships | All Jurisdictions |
| State Highway User Taxes | 68% | 46% | 13% | 8% | 39% |
| Property Taxes and Assessments | 0 | 31 | 53 | 63 | 31 |
| State General Fund | 0 | 5 | 12 | 17 | 6 |
| Federal Aid | 24 | 9 | 0 | 0 | 10 |
| Bonds and Notes | 0 | 2 | 15 | 6 | 7 |
| Other | <u>8</u> | <u>7</u> | <u>8</u> | <u>6</u> | <u>7</u> |
| Total | 100% | 100% | 100% | 100% | 100% |
| Total Expenditures (in millions) | \$735 | \$562 | \$868 | \$78 | \$2,243 |
| Share of Total | 33% | 25% | 39% | 3% | 100% |

Source: Office of the State Auditor and Minnesota Department of Transportation.

^aData for state government are for fiscal year 1993. Other data are for calendar year 1993.

Some cities and townships also receive revenue from highway user taxes, but spending in these jurisdictions is more dependent on local property taxes and assessments. More than half of city and township spending on roads is financed by local taxes and assessments. About 30 percent of funding for county roads also comes from these local sources. Overall, local property taxes and assessments account for roughly 30 percent of highway and street funding.

Other sources of funding each provide 10 percent or less of total highway and street funding statewide. They include federal aid, the state's General Fund,

bonds, and other sources such as investment income and various fees. Federal aid is particularly significant at the state level, accounting for about one-fourth of the funding for the state Trunk Highway Fund. General purpose aid from the state is also used by cities, counties, and townships to support highways as well as other local government functions.

Highway User Taxes

The State Constitution mandates how 95 percent of the highway user taxes are distributed.

The distribution of highway user taxes is, in large part, governed by provisions in Minnesota's State Constitution. Taxes on motor fuel and motor vehicle registrations must be deposited into the Highway User Tax Distribution Fund.¹ The Constitution requires that 95 percent of the net proceeds of the fund be allocated in the following proportions: 62 percent to the state Trunk Highway Fund, 29 percent to the County State-Aid Highway Fund, and 9 percent to the Municipal State-Aid Street Fund. The remaining 5 percent may be distributed by law to the three funds, but the apportionment of these funds may not be changed more frequently than every 6 years.

Figure 1.2 shows how the \$974 million in highway user taxes were distributed in 1996.² The Trunk Highway Fund received \$572 million, or a little more than 60 percent of the net proceeds of the Highway User Tax Distribution Fund. The County State-Aid Highway Fund received \$262 million for distribution to counties according to statutory formulas and needs studies and another \$8 million to repair or restore roads being turned back to counties by the state. The Municipal State-Aid Street Fund received \$81 million to be distributed according to law to cities with populations of 5,000 or more, as well as \$4 million to reconstruct or improve highways turned back to cities by the state. In addition, \$22 million was distributed through the County State-Aid Highway Fund for town roads and bridges.

National Comparisons

In general:

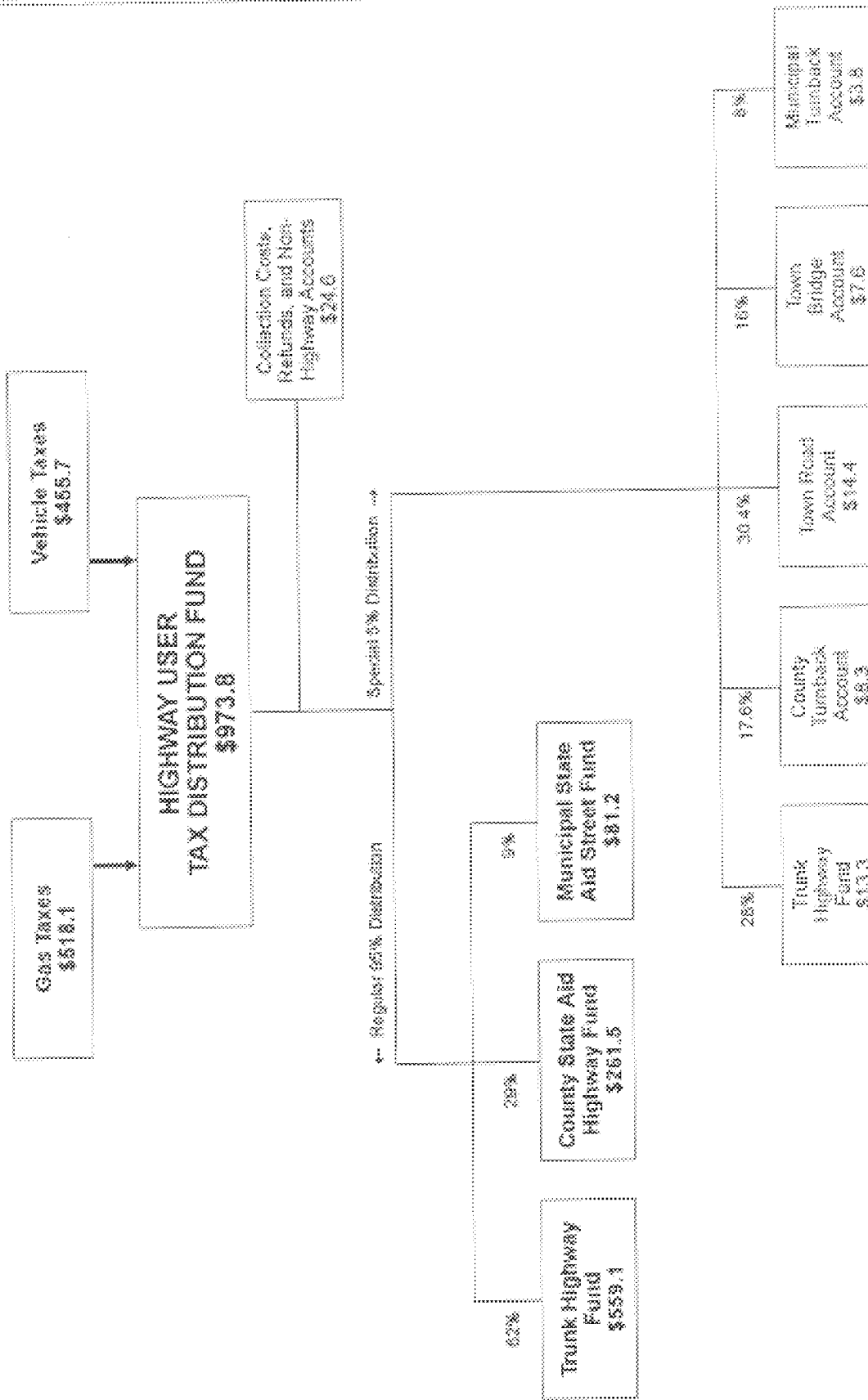
- **Mn/DOT is more reliant than other state highway agencies on motor vehicle registration taxes and less reliant on federal aid, state bonding, and tolls.**

Figure 1.3 shows that 34 percent of revenues for state-administered highways in Minnesota came from motor vehicle registration taxes in 1994, compared with only 15 percent for all such highways in the United States. On either a per capita or per mile basis, vehicle taxes used for state highways in Minnesota were 80 to

¹ Taxes on the sale of motor vehicles do not need to be deposited in the Highway User Tax Distribution Fund.

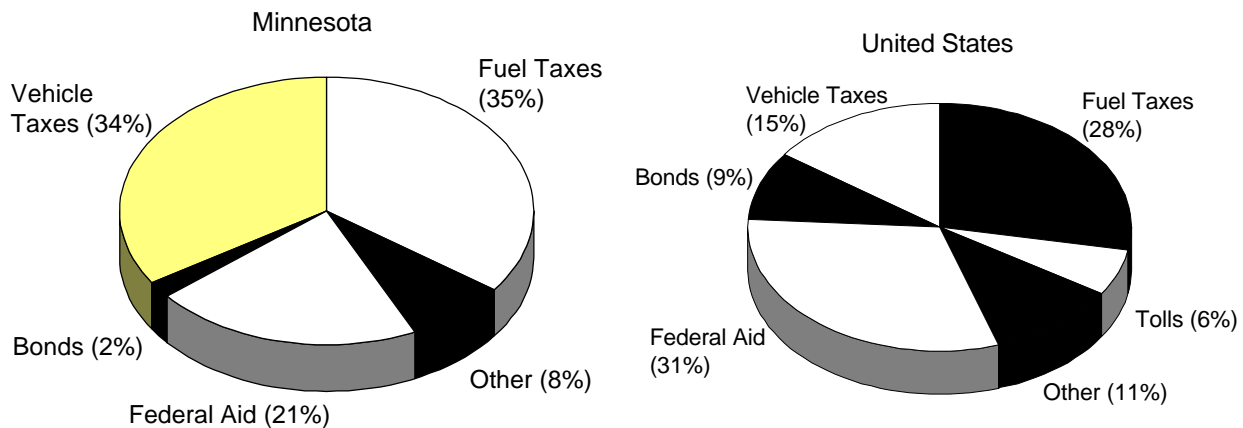
² About \$13 million of the \$974 million total went for tax collection costs. About \$11 million was transferred to the Department of Natural Resources (DNR) for recreational programs serving users of vehicles such as watercraft and snowmobiles. These vehicle owners pay the gasoline tax, but their vehicles do not use highways. Consequently, a portion of gasoline tax receipts is transferred to pay for DNR programs serving their needs.

Figure 1.2: Distribution of Minnesota Highway User Taxes (in Millions of Dollars), 1995



Source: Minnesota Department of Transportation.

Figure 1.3: Sources of Revenues for State-Administered Highways, 1994



Source: Federal Highway Administration.

Minnesota's trunk highway system relies more on highway user taxes and less on federal aid than most other state systems.

90 percent above the national average. A larger share of Minnesota's revenues (35 percent) were also derived from motor fuel taxes than nationwide (28 percent). However, when measured on a per capita or per mile basis, Minnesota's revenues from fuel taxes are fairly close to the national average.

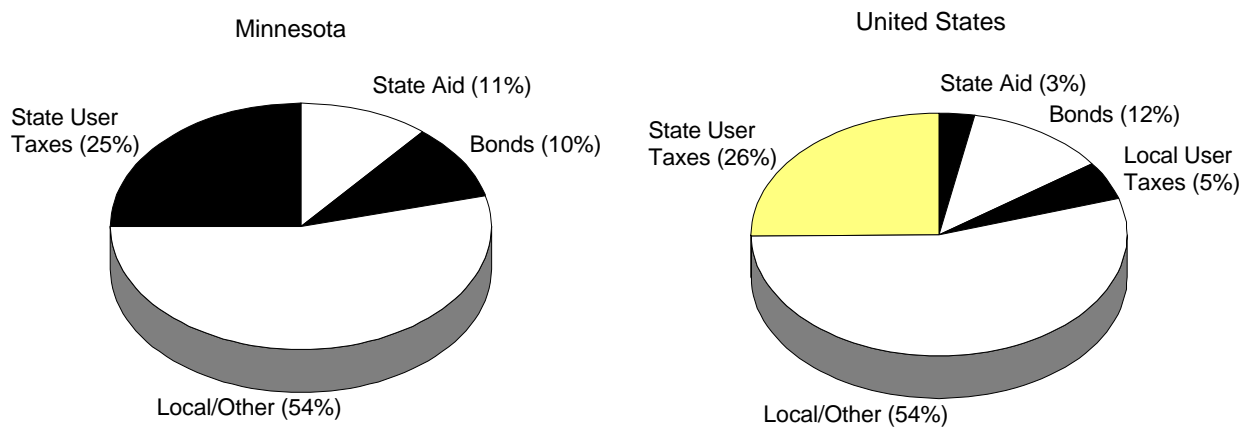
The share of Minnesota's revenues from federal aid was lower than the national average in 1994. Only 21 percent of funds used for Minnesota's state highways came from the federal government, compared with 31 percent for all states. In addition, Minnesota made less use of bonds than other states and no use of tolls to finance state highways.

Some have suggested that Minnesota's constitutional requirements for sharing state highway user taxes with local government are somewhat unique among the 50 states. While a constitutional requirement may not be typical among states, Figure 1.4 shows that state highway user taxes accounted for approximately the same share of revenues for local government highways in Minnesota during 1993 as throughout the nation. The main difference between Minnesota and other states was that:

- **Local governments in Minnesota were more reliant on general purpose state aid and less reliant on local user taxes and tolls to finance local highway spending than the national average.**

About 11 percent of local government revenues in Minnesota were from state aid other than state levied user taxes compared with only 3 percent nationwide. In contrast, local governments in Minnesota received no revenues from locally imposed highway user taxes or tolls, while 5 percent of nationwide revenues came from these sources. Minnesota's local governments were also slightly less reliant than their counterparts in other states on bonds to finance highway spending.

Figure 1.4: Sources of Revenues for Locally-Administered Highways, 1993



Source: Federal Highway Administration.

SPENDING

State and local governments in Minnesota spend more than \$2 billion per year on highways. In this section, we examine how Minnesota's overall spending, as well as expenditures on state-administered highways, compare with the national averages. We also review the growth in Minnesota's highway spending and examine the components of Trunk Highway Fund spending in greater detail.

National Comparisons

Minnesota has consistently spent more per capita on highways than the national average. From 1977 to 1993, state and local governments in Minnesota spent between 43 and 57 percent more per capita than the national average. In 1993, highway spending per capita was 52 percent higher in Minnesota.

There are two factors responsible for Minnesota's higher than average spending:

1. **Minnesota's large rural road system, and**
2. **Higher than average spending per mile on both state and local roads.**

Table 1.5 shows that Minnesota spent about 10 percent more per mile on state-administered roads and about 2 percent more per mile on locally-

Table 1.5: Spending on State and Local Roads, Minnesota and the United States, 1993

| | Expenditures per Capita | | | Expenditures per Mile | | |
|-------------|-------------------------|------------------|-----------------------|-----------------------|---------------|-----------------------|
| | Minnesota | National Average | Percentage Difference | Minnesota | United States | Percentage Difference |
| State Roads | \$170 | \$163 | 4% | \$57,749 | \$52,657 | 10% |
| Local Roads | <u>232</u> | <u>101</u> | <u>129</u> | <u>9,129</u> | <u>8,918</u> | <u>2</u> |
| Total | \$402 | \$264 | 52% | \$14,187 | \$18,302 | (-22)% |

Source: United States Census Bureau.

administered roads than the respective national averages for 1993.³ This table, based on data from the United States Census Bureau, is roughly consistent with data from the Federal Highway Administration (FHWA). From 1990 to 1994, FHWA data show that Minnesota's spending on state-administered roads has averaged about 9 percent more per mile than the national average.⁴

As we discussed earlier in this chapter, the size of Minnesota's rural road system has much to do with the state's population density and agricultural geography. It is less clear what factors account for Minnesota's higher than average spending per mile. It has been suggested that differences in snow and ice control expenditures and higher road standards in Minnesota, including generally wider lanes and shoulders, may account for part of the difference between Minnesota's spending and the national average.

We think that Minnesota's higher than average *spending per mile* at the state level may simply be a statistical aberration and may be misleading. In 1993, FHWA data show that Minnesota spent 5 percent more per mile than the 50 states combined. However, as we pointed out earlier, several states are unusual in that their state highway agencies operate more than half of their states' roads, including many rural roads serving local needs and requiring less costly maintenance and construction on a per mile basis than urban roads. When these

³ Overall, Minnesota's spending per mile has been less than the national average because Minnesota has substantially more miles per capita of relatively low cost rural roads. Despite having more unpaved roads per capita, Minnesota still spends more per mile on its locally administered roads. Available data from 1990 suggest that Minnesota spends substantially more per mile on its municipal roads than the national average. See Office of the Legislative Auditor, *Trends in State and Local Government Spending* (St. Paul, February 1996), 125.

⁴ Minnesota's relative position has varied considerably during this period. In 4 of the 5 years Minnesota spent more than the national average. The difference ranged from 5 percent to 20 percent above average. In 1994, however, Minnesota spent 16 percent less per mile than the national average. Data from Mn/DOT suggest that Minnesota's spending from the Trunk Highway Fund was unusually low that year.

Minnesota's spending per trunk highway mile appears lower than that in similar states.

states were excluded, we found that Minnesota's 1993 spending per mile on state roads was 13 percent less than the average for the remaining states.⁵

We also constructed a comparison group of 9 states similar to Minnesota, including Illinois, Indiana, Iowa, Kansas, Michigan, Nebraska, North Dakota, South Dakota, and Wisconsin. Together, these states have approximately the same percentage of their roads under state control as Minnesota, and the distribution of their state-controlled roads by functional class is also similar to that in Minnesota. When compared to this group of 9 midwestern states, Minnesota's spending per mile on state roads was about 10 percent below the average. This result suggests that one should not draw any substantive conclusions about the level of Minnesota's spending on state roads from a comparison to spending in all 50 states.

Spending Trends

Generally, Minnesota's overall trends in highway spending have been similar to national trends. Both in Minnesota and nationally, highway spending between 1977 and 1993 kept pace with population growth and inflation, but not with the growth in traffic.

From 1977 to 1993, highway spending by state and local governments in Minnesota tripled. After adjusting for inflation, spending growth was 33 percent, which was greater than the 13 percent growth in population but less than the 50 percent increase in traffic volumes statewide. Spending per capita grew 17 percent.⁶ As Table 1.6 shows, the growth in Minnesota's highway spending was slightly larger than that in other states.

Over this same period of time (1977-93), spending by Mn/DOT from the Trunk Highway Fund grew slower than highway spending at all government levels in Minnesota. Spending out of the Trunk Highway Fund increased almost 150 percent over this period but inflation-adjusted spending per capita declined 3 percent.

However, the results depend on which inflation index is used. In Table 1.6 we used the deflator for all government purchases of goods and services (also known as the PGSL), which increased 127 percent from 1977 to 1993. In contrast, the construction cost indices computed by Mn/DOT and the FHWA show an increase in highway construction costs of 79 percent and 84 percent respectively. In other words, highway construction prices have not increased as fast over this period as the prices of other goods and services purchased by state and local governments.

⁵ We excluded North Carolina, South Carolina, Virginia, West Virginia, and Delaware because their state highway systems included more than half of their states' roads, including a significant number of roads serving only local needs. We also excluded Alaska and Hawaii because of the unusual geography of those two states.

⁶ It should also be noted that spending on highways has grown slower than spending on most other state and local government functions. Driven largely by increased health and welfare expenditures, spending per capita on non-highway functions grew 48 percent in Minnesota between 1977 and 1993. As a result, the share of state and local government spending going to highways declined from 10.4 percent to 8.4 percent.

Table 1.6: Trends in State and Local Highway Spending, Minnesota and the United States, 1977-93

| | Percentage Change | |
|--|-------------------|---------------|
| | Minnesota | United States |
| Highway Spending | 201% | 195% |
| Highway Spending (inflation-adjusted) ^a | 33 | 30 |
| Population | 13 | 17 |
| Vehicle Miles of Travel | 50 | 56 |
| Spending per Capita (inflation-adjusted) | 17 | 11 |
| Spending per Vehicle Mile (inflation-adjusted) | (11) | (17) |

Source: United States Census Bureau and Federal Highway Administration.

^aSpending was adjusted for inflation using the deflator for state and local government consumption expenditures and gross investment.

Consequently, in Table 1.7, we present data on the Trunk Highway Fund by applying the Minnesota Construction Cost Index to construction spending from the fund and the PGSL to other spending from the fund. The data show that:

- **Expenditures by Mn/DOT out of the Trunk Highway Fund kept pace with inflation and population growth but not with traffic growth.**

Trunk highway spending grew 23 percent in constant dollars from 1977 to 1993. This growth exceeded the 13 percent population growth experienced in Minnesota but not the 50 percent growth in traffic volumes. The trunk highway system was able to accommodate some of the growth in traffic volumes over this period since there was excess capacity in the system. As we will see in Chapter 2, however, the growth in spending has not been sufficient to prevent growing congestion in Minnesota, particularly on the freeways of the Twin Cities metropolitan area.

Trunk highway spending has outpaced inflation but not the growth in traffic.

Table 1.7: Trends in Trunk Highway Spending by the Minnesota Department of Transportation, 1977-93

| | Percentage Change |
|--|-------------------|
| Spending | 149% |
| Spending (inflation-adjusted) ^a | 23 |
| Spending per Capita (inflation-adjusted) | 9 |

Source: Minnesota Department of Transportation and analysis by the Office of the Legislative Auditor.

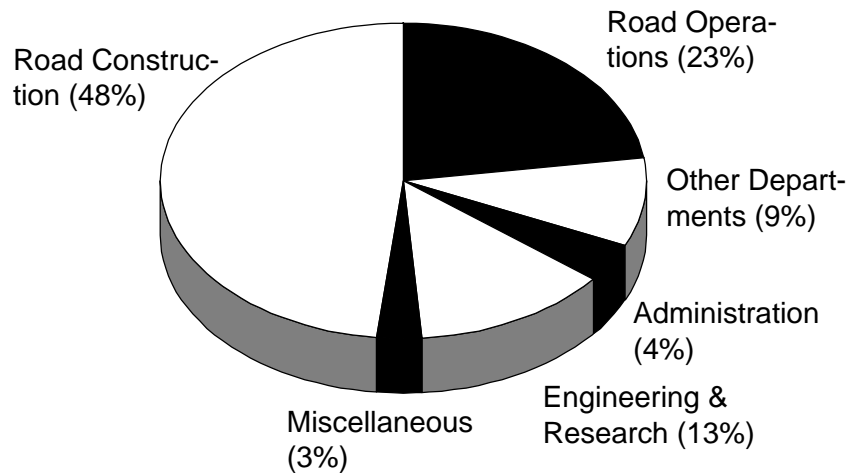
^aThe Minnesota Construction Cost Index was used to adjust construction spending for inflation. The deflator for state and local government consumption expenditures and gross investment was used to adjust other types of spending.

Trunk Highway Spending

During 1996, approximately \$808 million in expenditures were made from the State Trunk Highway Fund. Figure 1.5 shows that in 1996 about 48 percent of the expenditures out of the fund were for road construction projects, including the acquisition of right-of-way. Road construction expenditures include road construction, reconstruction, resurfacing, and reconditioning projects, as well as bridge replacement, repair, and improvement projects. All of the items in the state road construction program are generally done by private contractors hired by Mn/DOT. Close to one-fourth of the spending went for state road operations, such as snowplowing and minor road repairs. Road operations are generally conducted by Mn/DOT personnel stationed around the state. Engineering and research accounted for 13 percent of trunk highway spending. This category primarily includes expenditures on engineering during both the design and construction phases of projects. It also includes Mn/DOT's research and investment management functions. Mn/DOT's administrative functions accounted for 4 percent of trunk highway spending, while other miscellaneous Mn/DOT costs, including building projects and debt service, were responsible for 3 percent of spending. Approximately 9 percent of spending out of the Trunk Highway Fund was done by departments other than Mn/DOT. The vast majority of spending in this category was done by the Minnesota Department of Public Safety, which primarily uses trunk highway monies for highway law enforcement and driver licensing.

Nearly half of the spending out of the Trunk Highway Fund is for the road construction program.

Figure 1.5: State Trunk Highway Expenditures, FY 1996

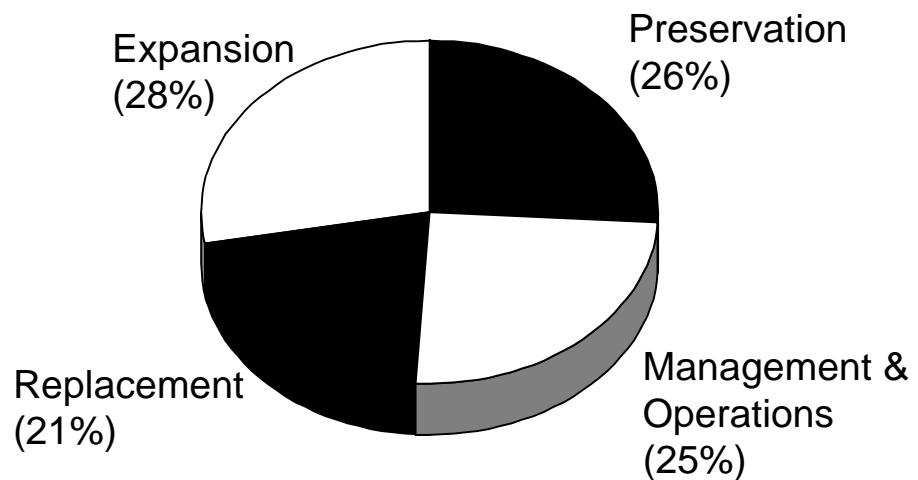


Source: Minnesota Department of Transportation.

Figure 1.6 provides greater detail on the \$385 million of expenditures in the state road construction budget. Roughly equal shares were spent in 1996 on expansion (28 percent), preservation (26 percent), management and operations (25 percent), and replacement (21 percent).⁷ Expansion projects generally attempt to reduce travel times and improve mobility over projected conditions. The goal of preservation projects is to maintain existing roads and bridges in acceptable condition. Preservation activities include road repair, resurfacing, and reconditioning, as well as bridge repair. Timely attention to preservation activities helps to maximize the life of roads and bridges.

The road construction budget funds expansion, preservation, replacement, and system management projects.

Figure 1.6: Expenditures in the State Road Construction Program, 1996



Source: Minnesota Department of Transportation.

The purpose of management and operation activities is to operate the existing highway system in a safe and efficient manner. This category includes the acquisition of right-of-way, safety improvements, traffic management, intelligent transportation systems, cooperative agreements, and miscellaneous improvements and enhancements.

The purposes of replacement projects are two-fold. Reconstruction of a road or replacement of a bridge may be done simply to replace a deteriorated piece of the system for which repair is no longer a cost-effective option. Alternatively, reconstruction or replacement may occur primarily to improve a part of the highway system for economic development reasons. In that case, the project may address safety, congestion, or weight restriction problems. Some replacement projects may serve both purposes.

⁷ These Mn/DOT estimates are based on the assumption that the \$53.4 million spent on interstate preservation was divided among the four categories according to actual project histories studied in 1991. They may understate the amount of preservation activity and overstate the amount of expansion activity.

Mn/DOT

The Minnesota Department of Transportation is the principal state agency responsible for the “development, implementation, administration, consolidation, and coordination of state transportation policies, plans, and programs.” Mn/DOT was established to create a “balanced transportation system, including aeronautics, highways, motor carriers, ports, public transit, railroads, and pipelines.”⁸

The Commissioner of Mn/DOT is responsible for managing a department which had over 5,000 employees and spent or distributed funds totaling about \$1.4 billion per year in 1996. As the organization chart in Figure 1.7 shows, the department has two deputy commissioners. One deputy commissioner oversees engineering and operations and serves as the chief engineer. Three divisions--Engineering Services, Operations (outstate), and Metropolitan--report to the chief engineer. The other deputy commissioner serves as chief financial officer and oversees the work of Mn/DOT's other three divisions: Finance and Administration, Transportation Research and Investment Management, and State Aid for Local Transportation.

In terms of spending and staff, the State Trunk Highway System is Mn/DOT's largest responsibility. State and local roads together account for about 90 percent of the department's spending. Because Mn/DOT's role with local roads is mainly in setting standards and distributing state aid, local roads account for 40 percent of spending but only 1 percent of staff. About half of Mn/DOT's spending and 90 percent of its staff are involved with the maintenance and construction of the State Trunk Highway System. In addition, as Table 1.8 shows, 71 percent of Mn/DOT's full-time employees are involved in trunk highway operations and are located in Mn/DOT district offices or Metropolitan Division offices, maintenance area offices, and truck stations throughout the state. Another 5 percent of staff provide operations centrally or support the operations in the field. Centrally provided engineering services account for about 12 percent of Mn/DOT's total staff. Other centrally provided functions account for another 12 percent.

Decision-making within Mn/DOT was significantly decentralized in 1992.

Since about 1992, decision-making within Mn/DOT about highway construction and maintenance has been significantly decentralized. Mn/DOT's seven outstate district offices and the Metropolitan Division (see Figure 1.8) have the primary responsibility for delivering maintenance services and planning and overseeing construction work by contractors. District offices and the Metropolitan Division make maintenance and construction decisions with input from the central office at Mn/DOT and in coordination with Area Transportation Partnerships (ATPs). These ATPs are principally responsible for making decisions about how to spend federal funds allocated under the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). In the seven-county Twin Cities metropolitan area, the Metropolitan Council is the federally designated Metropolitan Planning Organization and is responsible for developing, in cooperation with Mn/DOT and

⁸ *Minn. Stat.* §174.01, Subd. 1.

Figure 1.8: Minnesota Department of Transportation Districts

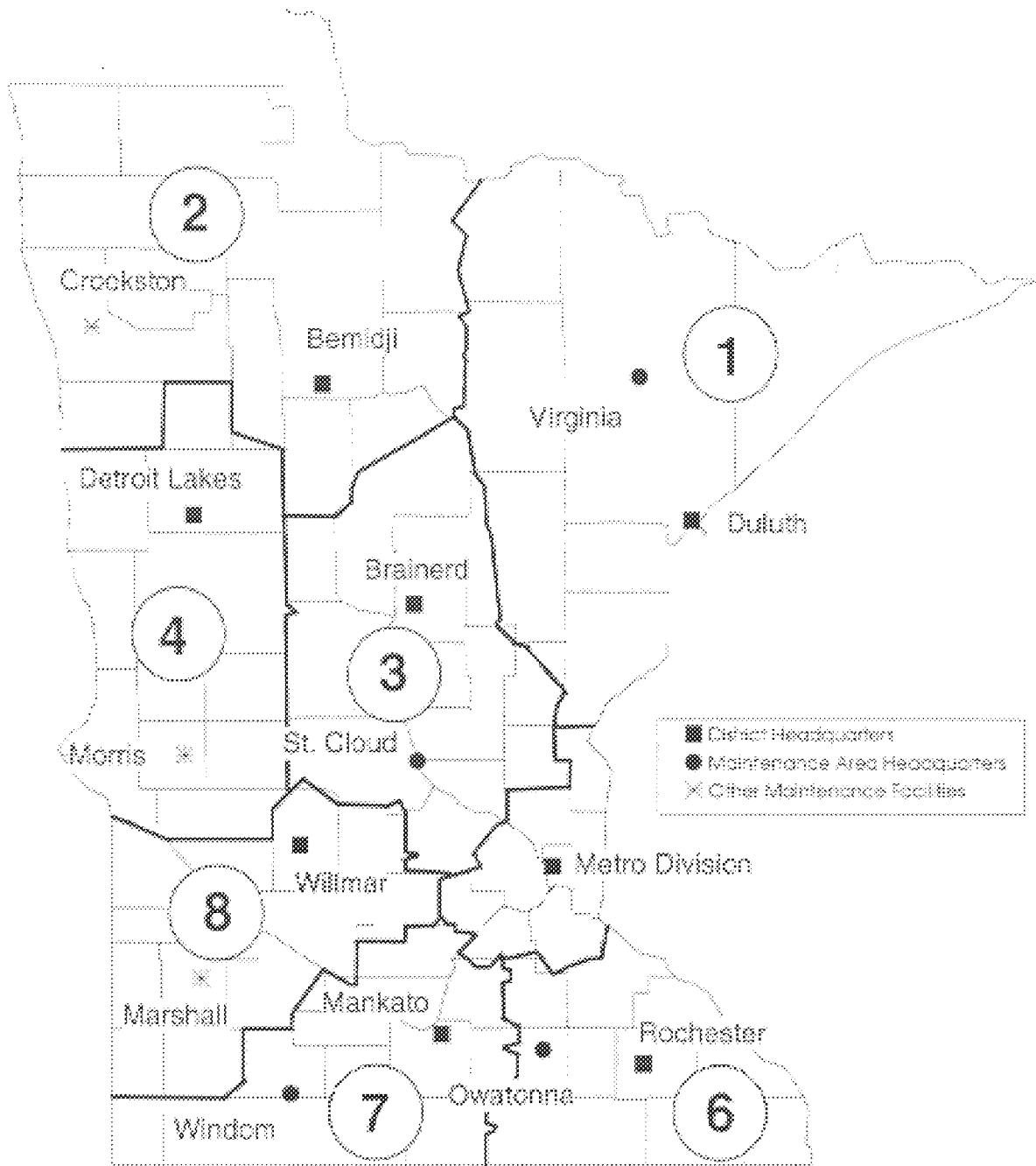


Table 1.8: Full-Time Mn/DOT Employees, June 1996

| | <u>Number</u> | <u>Percentage</u> |
|--|---------------|-------------------|
| Outstate Operations | 2,182 | 43.7% |
| Metropolitan Operations | 1,381 | 27.7 |
| Central Operations | <u>243</u> | <u>4.9</u> |
| Subtotal: Operations | 3,806 | 76.3% |
| Engineering Services | 597 | 12.0% |
| General and Administration | 288 | 5.8 |
| Transportation Research and Investment Management | 276 | 5.5 |
| State Aid | <u>24</u> | <u>0.5</u> |
| Subtotal: Non-Operations | <u>1,185</u> | <u>23.7%</u> |
| Total | 4,991 | 100.0% |

Source: Minnesota Department of Transportation.

affected transit operators, a long-range transportation plan and a transportation improvement program for the area.

SUMMARY

Minnesota's state and local governments spend significantly more than the national average on highways. This is due in part to Minnesota's large network of rural roads, which are largely under the jurisdiction of local governments. Minnesota also spends more per mile than the national average for both state-administered roads and locally-administered roads. However, it is difficult to conclude much from this about Minnesota's State Trunk Highway System, because the national average is distorted by a handful of state highway agencies which have responsibility for more than half of the roads in their states.

Minnesota's trunk highways account for less than 10 percent of the roads in the state, but almost 60 percent of the traffic and about one-third of the highway spending. Trunk highway spending by Mn/DOT has generally kept up with inflation and population growth but not with increases in traffic volumes.