Trends in State and Local Government Spending

February 1996

Program Evaluation Division
Office of the Legislative Auditor
State of Minnesota

Program Evaluation Division

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JAMES R. NOBLES, LEGISLATIVE AUDITOR

February 13, 1996

Members
Legislative Audit Commission

Missing from many discussions and debates of government spending is a long-term perspective on how spending has changed over time. This report attempts to provide that perspective for state and local governments in Minnesota.

As directed by the Legislative Audit Commission, our report focuses primarily on past trends in state and local government spending. We show how spending has changed relative to population growth and income growth, and we examine the factors which have been responsible for spending trends. In addition, our report attempts to isolate the reasons why Minnesota's level of spending is different from the nation as a whole. Finally, the report examines projections of future spending growth and their financial implications for state and local governments in Minnesota.

Unlike most of our program evaluations, this report does not attempt to evaluate state and local government programs or offer recommendations for legislative action. The principal objective of our report is to provide the Legislature with an objective analysis of spending trends and national comparisons. We hope our analysis will be useful to legislators, government officials, and the public by providing a balanced account of the history of government spending in Minnesota.

Our report was researched and written by John Yunker (project manager), Dan Jacobson, and Jared Creason, with assistance from Conor Smyth, and cost approximately $65,000. We received assistance from numerous state and federal agencies in compiling data for the report.

Sincerely,

James Nobles
Legislative Auditor

Roger Brooks
Deputy Legislative Auditor

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MINNESOTA OFFICE OF THE LEGISLATIVE AUDITOR

Trends in State and Local Government Spending

EXECUTIVE SUMMARY

Government spending and taxes are the subjects of considerable discussion and debate. But past trends in state and local government spending have not been extensively examined. In addition, few analysts have comprehensively studied the reasons why government spending in Minnesota differs from spending in other states.

In this report, we examine in some detail the spending trends in Minnesota and other states since 1957. In particular, we address the following questions:

- **How has state and local government spending changed over time in Minnesota? How much has spending changed when adjusted for inflation and population growth or compared with increases in personal income?**

- **What types of government expenditures account for past growth in spending? What have been the major factors driving spending growth?**

- **How has growth in state and local government spending been financed?**

- **How do spending levels and spending trends in Minnesota compare with national averages for state and local governments?**

- **Are state and local governments in Minnesota facing future budget problems because of spending and revenue trends?**

This study relied extensively on data from the U.S. Census Bureau to analyze spending and personnel trends and to make comparisons with state and local governments nationwide. We also used data from a variety of state and national sources to analyze spending on particular government functions such as education.

TRENDS

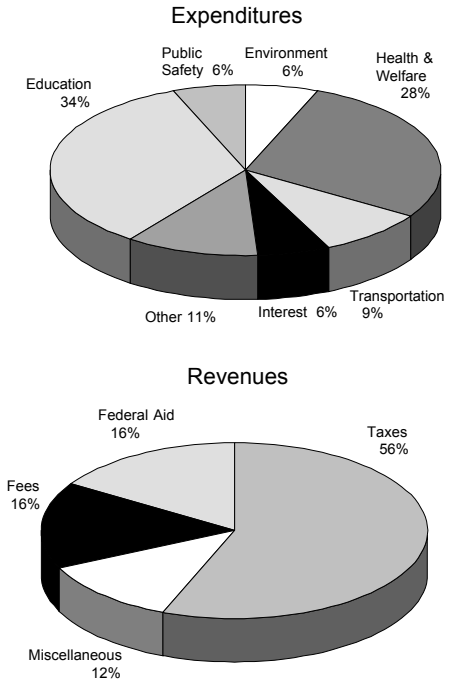
In 1992, state and local governments in Minnesota spent a total of $20.1 billion, including $3.1 billion in federal aid. State government directly spent $7.6 billion, while local governments spent $12.5 billion. Local government expenditures included $4.7 billion in spending financed by state aid. Total state and local spending was $4,500 per state resident.

Almost two-thirds of state and local government spending in Minnesota is for education, health, and welfare.

Education, health, and welfare accounted for a majority of state and local spending. About one-third of all expenditures were for education services, including 24 percent for elementary-secondary education and 8 percent for higher education. Another 28 percent of spending was for health and welfare, including expenditures on Medical Assistance, Aid for Families with Dependent Children (AFDC), various social service and safety net programs, and public hospitals. Other major areas of state and local spending included transportation (9 percent), environment and natural resources (6 percent), and public safety (6 percent).

About 46 percent of total spending funded employee compensation. In 1992, Minnesota state and local governments had about 240,000 full-time equivalent employees: 67,000 state employees (including higher education), 91,000 school district employees, and 82,000 other local government employees. Approximately 35 percent of spending went for non-personnel expenditures such as aid to individuals, purchased services, supplies, and rent. Capital spending (13 percent) and interest on public debt (6 percent) accounted for the remaining expenditures.

Minnesota State and Local Government Expenditures and Revenues, 1992



Source: U.S. Census Bureau.

Taxes paid for 56 percent of spending in 1992.

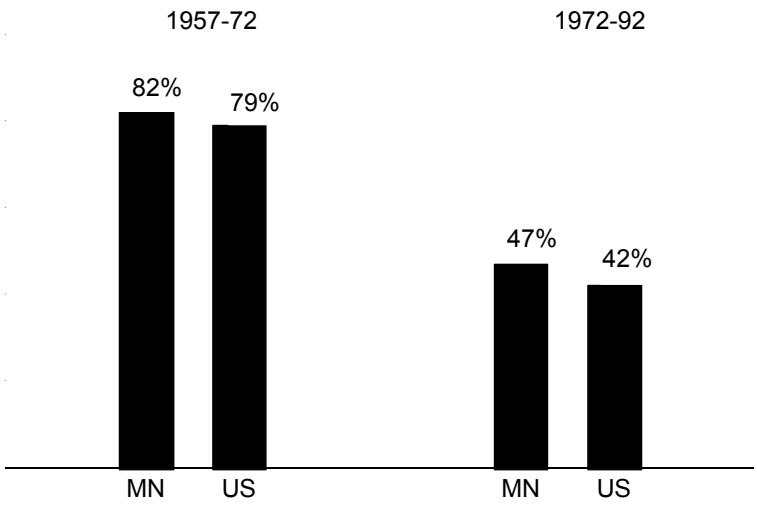
Taxes provided a little more than half of the revenues needed to pay for state and local government expenditures in Minnesota and throughout the nation. In Minnesota, 56 percent of state and local government revenues in 1992 came from taxes, while fees and federal aid each accounted for 16 percent of revenues. Other revenue sources such as interest earnings were responsible for 12 percent of all revenues.

Overall Spending Trends: 1957-92

State and local government spending per capita has increased significantly since 1957 in both Minnesota and other states. From 1957 to 1992, inflation-adjusted spending per capita grew from $1,680 to $4,500 in Minnesota, or 168 percent. Nationwide, there was a 153 percent increase.[1]

The rate of growth in spending, however, has slowed significantly since the early 1970s. From 1957 to 1972, inflation-adjusted spending per capita rose 82 percent in Minnesota, or an average of about 4.1 percent annually. Since 1972, spending per capita has increased 47 percent, or just 1.9 percent annually.

Growth in State and Local Government Expenditures per Capita, 1957-92



Source: U.S. Census Bureau.

Spending growth slowed after the early 1970s.

The growth in spending has been more modest when compared with increases in personal income. From 1957 to 1972, spending rose 50 percent in Minnesota relative to increases in personal income, compared with 58 percent nationally. Since 1972, expenditures have grown only slightly faster than personal income:

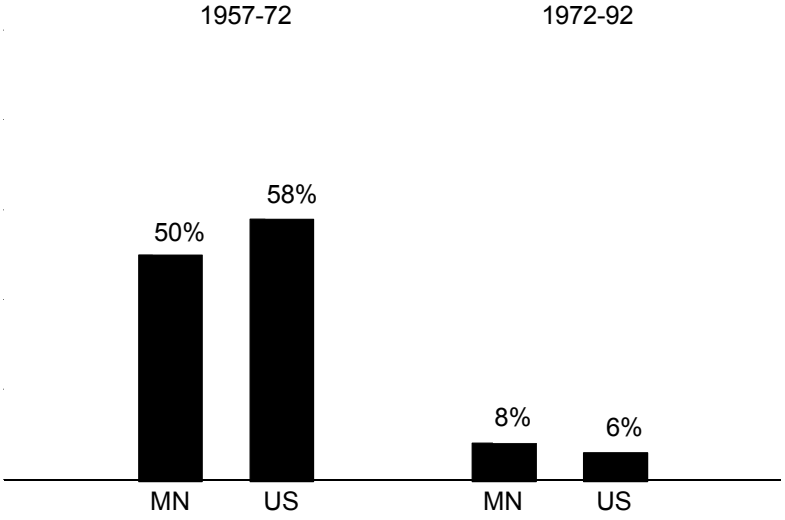
- **Spending relative to personal income increased 8 percent in Minnesota and 6 percent nationwide from 1972 to 1992.**

1 All spending and revenue data presented in this summary are adjusted for inflation.

The slower growth in Minnesota's spending since 1972 is primarily the result of slower growth in education spending. From 1972 to 1985, enrollment in elementary-secondary education fell and caused education spending per capita to decline despite continued growth in spending per student. Spending per capita on higher education peaked in 1972, at the height of the building boom when college campuses were being built or expanded to accommodate growing numbers of students from the post-World War II "baby boom." While current operating expenditures for higher education have grown since 1972, capital expenditures have declined significantly.

Spending trends in Minnesota parallel national trends.

Changes in State and Local Government Expenditures Relative to Personal Income, 1957-92



Source: U.S. Census Bureau.

Significant growth in the number of public employees and their average compensation occurred between 1957 and 1972 in both Minnesota and other states. In Minnesota, the number of state and local government employees per capita increased 53 percent, and average salaries grew 70 percent in inflation-adjusted dollars. Nationally, employment growth was slightly higher (56 percent), while salary increases were lower (60 percent). However:

- **State and local government employment and average salaries have only increased modestly since 1972.**

The number of employees per capita grew 11 percent in Minnesota and 16 percent nationally between 1972 and 1992. Average salaries rose only 4 percent in Minnesota and 3 percent nationwide.

The fastest growing portion of personnel costs was fringe benefits, which grew 182 percent in Minnesota between 1967 and 1987. The growth in fringe benefits was largely due to rapidly increasing health insurance costs and mandated increases in employer contributions for Social Security.

Sources of Spending Growth

Minnesota's fastest growing major area of spending has been health and welfare. From 1957 to 1992, health and welfare spending per capita grew 4.2 percent annually and was responsible for 34 percent of the overall growth in spending per capita. Elementary-secondary education and higher education accounted for 19 percent and 9 percent respectively of the overall growth.

The primary source of spending growth has varied, however, over this 35-year period. Between 1957 and 1972, more than half of the growth in overall spending per capita was due to growth in education spending, as enrollments in elementary-secondary schools and higher education institutions grew significantly. Health and welfare spending was responsible for about 18 percent of the overall spending growth.

The primary source of spending growth changed after 1972, as enrollment in elementary-secondary schools declined and capital expenditures for higher education fell. Between 1972 and 1992, health and welfare accounted for nearly half of the overall growth in spending per capita. Education was responsible for only 9 percent of the growth.

Most of the pre-1972 spending growth was due to education, and much of the later growth has been in health and welfare spending.

Sources of Overall Growth in Minnesota's Spending per Capita, 1957-92

	1957-72	1972-92
Education	53%	9%
Health and Welfare	18	49
Environment/Housing	8	10
Interest on Debt	7	10
Public Safety	3	9
Government Administration	2	7
Transportation	4	0
Other	6	5

Source: U.S. Census Bureau.

Elementary-Secondary Education Trends

Expenditures per capita on elementary-secondary education doubled in Minnesota between 1957 and 1992. All of this growth resulted from increases in spending per student, since enrollment per capita declined about 8 percent. National spending and enrollment trends were similar, but spending per student grew faster nationally than in Minnesota.

From 1957 to the early 1970s, most of the growth in spending per student in Minnesota was due to increases in staffing levels and average salaries. From the early 1970s to the early 1980s, further increases in staffing levels as well as fringe benefit growth appear to explain the growth in spending per student. Since 1981, most

of the growth has been due to increased fringe benefits and growth in exceptional education programs, particularly special education.

Fringe benefit costs and special education are responsible for much of the growth in elementary-secondary education spending per student since 1981.

Growth in fringe benefits has included some increase in benefits provided to school staff, but much of the growth appears to be due to external factors such as rapid inflation in health insurance costs and mandated increases in Social Security.

Growth in special education since the early 1980s has been due to a number of factors. First, there has been significant growth in the number of emotionally or behaviorally disturbed students in special education programs. Second, school districts have hired an increased number of aides to enable more special education students to be educated in the regular classroom. Finally, new state mandates required the provision of services to handicapped individuals from birth.

Higher Education Trends

Higher education spending per capita went up 19 percent in Minnesota from 1978 to 1992. A little more than half of that growth was due to increased enrollment, while the remainder resulted from increased spending per student. The reasons for increased spending per student include growth in employee fringe benefits, administrative expenditures, student services, and non-instructional expenditures such as university research.

Tuition increases have financed an increased share of higher education spending.

Student-paid tuition has financed an increasing share of spending in higher education. From 1978 to 1992, net tuition revenue per student grew 79 percent in Minnesota. State appropriations per student for instructional purposes declined 6 percent in constant dollars.

Nationally, spending has grown faster than in Minnesota. Spending per capita grew 24 percent nationally from 1978 to 1992. Spending per student increased 18 percent nationwide, compared with 8 percent in Minnesota. Tuition growth was slower nationally (57 percent), while state and local appropriations per student increased 3 percent.

Health and Welfare Trends

Health and welfare spending per capita increased 320 percent in Minnesota between 1957 and 1992. In part, this increase was in response to newly established federal programs and funding. For example, the federal government established the Medical Assistance program in the mid-1960s and has provided a little more than half of the funds for the program. In addition, the federal government has expanded the program over the years. Minnesota has also made choices within federal programs and other state programs that have affected the growth in health and welfare spending. Minnesota's spending growth since 1957 has exceeded the 280 percent growth nationwide.

Since 1980, there has been strong growth in spending on major human services programs except AFDC. From 1980 to 1995, spending per capita on those pro-

grams tracked by the Department of Human Services grew 95 percent in Minnesota. Spending per capita on each major program increased at least 65 percent except for AFDC, which declined by about 8 percent. Medical Assistance spending, which increased 118 percent, accounted for 70 percent of the overall growth in spending per capita among those programs examined.

Increases in caseloads and medical costs have caused growth in human services spending.

Caseload increases were responsible for most of the growth in spending per capita for General Assistance/ Work Readiness, General Assistance Medical Care, and Minnesota Supplemental Aid. Caseloads for AFDC also grew, but spending per capita decreased because of a 31 percent decrease in average program spending per recipient in constant dollars. Caseload increases also accounted for most of the increase in Medical Assistance spending, but a significant share of the growth in spending per capita was also due to higher costs per enrollee, particularly for elderly enrollees. Increased utilization of services and medical inflation in excess of the general inflation rate may explain the growth in Medical Assistance spending per enrollee.

Trends in Other Areas

State and local governments have three additional major functions: 1) transportation, 2) public safety, and 3) environmental and natural resource programs. These functions have experienced somewhat varied spending trends in the past.

Since 1957, spending per capita on highways and roads has been relatively constant. Spending per capita grew only 10 percent in Minnesota from 1957 to 1992, while it declined 11 percent nationally. With increases in productivity, state and local governments have been able to address growing automobile use and traffic congestion without increasing spending faster than inflation. Like highway spending, transit spending has also increased only slightly in Minnesota, but has grown much faster nationally.

Growing crime rates and tougher sentencing policies have resulted in fast growth in corrections spending.

Since 1972, spending on public safety programs in Minnesota has increased faster than most other state and local government spending in Minnesota. Spending per capita on corrections and police and fire protection grew 89 percent from 1972 to 1992. Strong growth in corrections spending occurred throughout this period, while police and fire protection grew faster than most state and local activities during the 1970s.

Since 1982, corrections has been one of the fastest growing areas of state and local spending. Correctional spending per capita increased 56 percent in Minnesota and 105 percent nationally. Increased spending has been due to a number of factors. Increased crime rates and tougher sentencing policies have both contributed to the growth in correctional spending. Between 1982 and 1992, the violent crime rate increased 60 percent in Minnesota. Tougher sentencing policies have lengthened prison sentences and resulted in more convicted individuals receiving time in jail or prison.

Since 1972, spending per capita on environmental and natural resource programs has grown 49 percent in Minnesota, or only a little faster than the overall growth

rate for state and local government spending. Parks and recreation spending, which grew strongly in the 1970s, accounted for half of the spending growth among environmental and natural resource programs. Most of the rest of the growth came from solid waste management, which increased 300 percent on a per capita basis. Growth in recycling, hazardous waste cleanup, and spending on waste incineration plants contributed to the increase in solid waste management expenditures.

Since 1977, much of the growth in parks, solid waste management, and sewerage spending has been financed by increased fees and charges. Overall, the share of environmental and natural resource spending financed by fees increased from 19 percent in 1977 to 42 percent in 1992.

Revenue Trends

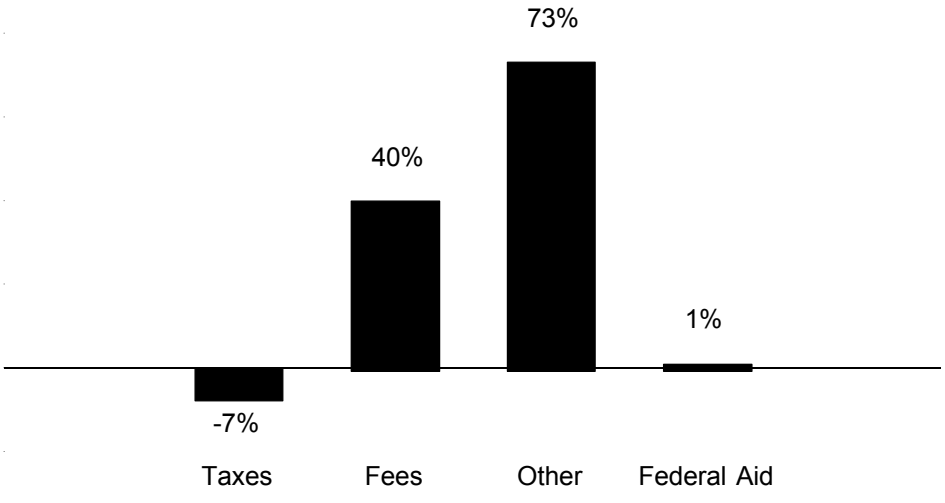
Revenues, like expenditures, grew strongly from 1957 to 1972 in Minnesota. Total state and local government revenues per capita increased 92 percent during that period. From 1972 to 1992, revenues per capita grew slower (45 percent), and revenues grew only 6 percent relative to personal income.

Revenue growth since 1972 has been dominated by increases in fees, interest earnings, and other non-tax revenues. Between 1972 and 1992, non-tax revenues per capita grew 108 percent, while federal aid per capita grew 37 percent. State and local tax revenue grew the slowest of the major types of revenues.

- **Between 1972 and 1992, state and local government tax revenues per capita grew 28 percent in Minnesota, but taxes declined 7 percent relative to personal income.**

Since 1972, tax revenues have increased 28 percent per capita but declined 7 percent relative to personal income.

Changes in Minnesota State and Local Government Revenues Relative to Personal Income, 1972-92



Source: U.S. Census Bureau.

Nationally, revenue trends since 1957 have been similar to those in Minnesota. Overall, revenues per capita grew only slightly slower nationally than in Minnesota. Growth in tax and non-tax revenues was slightly lower nationwide than in Minnesota, while growth in federal aid was a little faster nationally. Personal income taxes grew faster in other states and sales taxes grew faster in Minnesota, reflecting Minnesota's earlier reliance on income taxes than other states.

NATIONAL COMPARISONS

Minnesota state and local governments have generally spent more per capita than the national average. For example:

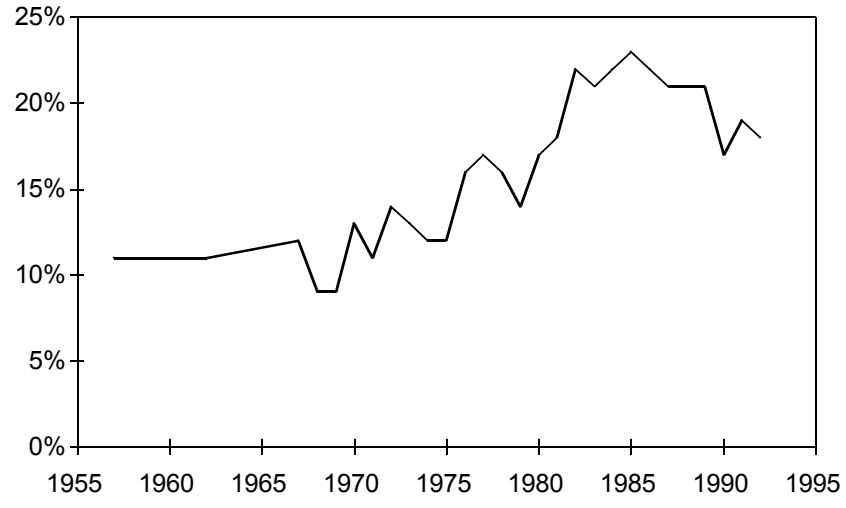
- **In 1992, spending per capita in Minnesota was 18 percent higher than the national average.**

Spending per capita was higher in Minnesota in most categories. Minnesota's spending was 45 percent higher than average for highways and roads, 40 percent higher for natural resources and parks and recreation, 29 percent higher for health and welfare programs, 16 percent higher for elementary-secondary education, and 12 percent above average for higher education. Minnesota spent less than the national average on corrections (41 percent), fire protection (32 percent), police protection (16 percent), and judicial and legal functions (6 percent).

Most of the difference in spending per capita between Minnesota and other states was due to spending on health and welfare programs, education, and highways. Health and welfare programs accounted for 41 percent of the overall spending

Minnesota spends more per capita than the national average for state and local governments.

Percent Difference in Per Capita Spending, Minnesota vs. the National Average, 1957-92



Source: U.S. Census Bureau.

difference, while education accounted for 32 percent and highways accounted for 17 percent of the difference.

A variety of factors explain Minnesota's above average spending.

Minnesota's higher than average spending on health and welfare programs appears to be largely due to welfare and social programs other than Medical Assistance and Aid to Families with Dependent Children (AFDC). These programs include a variety of safety net and social service programs. Minnesota's spending on Medical Assistance and AFDC has been close to the national average. Although Minnesota has fewer enrollees per capita in these programs, above average spending per enrollee brings overall spending per capita close to national averages. Higher than average spending per Medical Assistance enrollee was largely due to Minnesota's higher rate of institutionalization among the elderly and disabled.

Higher than average spending per capita in elementary-secondary education is due to a number of factors. Minnesota has more students per capita than the national average, and spends more than the national average on capital projects, special education, and transportation. Minnesota has fewer special education students per capita than average, but employs 47 percent more special education staff per special education student.

Higher education spending per capita exceeds the national average largely because public colleges and universities in Minnesota enroll more students per capita than their counterparts in other states. Minnesota has typically had a higher number of high school graduates per capita because of its lower than average dropout rates and higher than average number of school-age children per capita. In addition, Minnesota has a higher than average participation rate in higher education among its high school graduates. As a result, Minnesota's public college and university enrollment per capita exceeds the national average.

Spending on highways and roads is higher than the national average because Minnesota spends more per mile of road, particularly on state and municipal roads, and has a much more extensive system of rural roads. Climate and road standards such as road width may explain, in part, Minnesota's higher than average unit costs. The greater number of rural road miles is partially the result of Minnesota's higher than average number of farms, which also tend to be smaller in size than the national average. Spending on natural resources and parks exceeds the national average because of Minnesota's relatively large amount of park land and its citizens' high rates of participation in outdoor recreational activities.

Minnesota's lower than average spending per capita on corrections and police protection is partially related to differences in crime rates. In 1992, Minnesota's crime rate was 18 percent lower than the national average, while the violent crime rate was 54 percent lower in Minnesota than throughout the nation.

Minnesota state and local governments also pay higher salaries than their national counterparts. Average salaries in Minnesota were 5 percent above the national average in 1992, although it appears that fringe benefits were closer to the national average. Minnesota governments also employ 2 percent more staff per capita than

state and local governments nationwide. In 1992, staffing was well above the national average for public welfare, higher education, highways, and natural resource programs.

Minnesota's state and local government revenues must also be higher than the national average in order to finance higher than average expenditures. In 1992, Minnesota's tax revenues per capita were about 14 percent above average, while federal aid received by state and local governments was slightly below average. Other non-tax revenues such as fees and interest income were about 30 percent above the national average.

FUTURE BUDGET PROBLEMS

Two recent reports have projected future budget deficits for state and local governments in Minnesota. In *Within Our Means*, Minnesota Planning projected a cumulative budget deficit of $2.5 billion over a 10-year period (1996-2005). *Agenda for Reform*, also known as the Brandl- Weber report, cited projections from the Department of Finance showing a $5.1 billion gap between expenditures and revenues over a 6-year period (1996-2001). The report also suggested that reductions in expected federal aid might increase the gap to over $8 billion.

The difference in the two estimates is a result of different methods. For *Within Our Means*, Planning assumed that state and local budgets would have to be balanced each year and calculated the amount of spending reductions needed to balance state and local budgets each year. In contrast, the Brandl-Weber report totaled the cumulative gaps between expenditures and revenues assuming expenditures grow as forecast without reduction. Using the same methods as Minnesota Planning, projections in the Brandl-Weber report would show cumulative budget deficits of about $1.3 billion through the year 2001, or $2.3 billion with federal aid reductions. The $1.3 billion figure is similar to the $1.1 billion projected by Planning for the same years.

Minnesota may face future budget problems even without changes in federal aid.

Projected Deficits for Minnesota State and Local Governments (in Millions), 1998-2001

Year	*Within Our Means* Report	Brandl-Weber Report	Alternative Scenario Based on "Price of Government" Revenue Targets
1998	$300	$800	$800
1999	300	300	300
2000	200	100	200
2001	300	100	100
Cumulative Deficits	$1,100	$1,300	$1,300

Notes:
(1) These projections do not include the impact of any federal aid changes.
(2) Some totals do not add due to rounding.
(3) We adjusted the original projections in the Brandl-Weber report so that all three sets of projections assumed that budgets must be balanced each year.

These projected deficits arise, in large part, because of an expected slowing of the growth in personal income and government revenues. At the same time, spending pressures are expected to be significant, particularly for health care and criminal justice programs, although projected spending increases are not higher than the historical rate of growth.

The projections in these two reports are consistent with results we obtained using the most recent forecasts of personal income and the targets set by the 1995 Legislature linking future revenue increases to personal income growth. Even absent federal aid changes, it appears that Minnesota faces budget problems. Slower than expected growth in spending will probably be needed in order to balance state and local budgets, unless state and local revenues are increased or grow faster than expected. Any reductions in the expected growth in federal aid will require additional budgetary adjustments.

Introduction

Government budgets receive considerable attention and are debated intensely. But often lost in the debate and media coverage is a long-range perspective on how much government spending has changed and what has caused spending growth.

This report steps back from the debate and tracks how state and local government spending in Minnesota has changed over a 35-year period. As requested by the Legislative Audit Commission, the report addresses the following questions:

- **On what functions do state and local governments in Minnesota spend public money? How are government expenditures financed?**
- **How has state and local government spending in Minnesota changed over time? How much has spending changed if adjusted for inflation and population growth or increases in personal income?**
- **What types of government expenditures account for the past growth in spending? What have been the major factors driving spending growth?**
- **How do spending levels and spending trends in Minnesota compare with national averages for state and local governments?**
- **For particular types of spending, what are the major factors which explain the differences in spending between Minnesota and other states?**

In addition, we review the factors which may affect future spending growth and examine projections of future state and local budget gaps in Minnesota. The report does not attempt to develop strategies or recommend policies to change the level of spending or taxation.

The report is organized into three parts. The first part, which covers overall trends and comparisons, includes four chapters. Chapter 1 provides background on the types of analyses and data sources we use throughout the report. Chapter 2 examines overall expenditure trends in Minnesota and other states. In addition, the chapter compares Minnesota spending to national averages for state and local governments. Chapter 3 describes how Minnesota governments finance government

spending and makes national comparisons of government revenues and revenue trends. Finally, Chapter 4 summarizes how the level of public employment and average salaries and fringe benefits have changed in Minnesota and other states. It also compares public employee staffing levels, salaries, and fringe benefits in Minnesota with national averages.

This report examines past spending trends and projections of future spending.

The second part of the report examines spending trends in detail for each of six major functions of state and local government. In addition, we make more detailed national comparisons and discuss why Minnesota spending differs from national averages. This part of the report consists of six chapters, which cover the following government functions: elementary-secondary education (Chapter 5), human services (Chapter 6), higher education (Chapter 7), transportation (Chapter 8), public safety (Chapter 9), and environment and natural resources (Chapter 10). These functions account for more than 80 percent of the state and local government spending in Minnesota.

The third part of the report examines spending trends and their potential impact on future state and local government budgets in Minnesota. Chapter 11 reviews projections made by Minnesota Planning and the Minnesota Department of Finance, which suggest Minnesota faces budget deficits over at least the next five to ten years. The chapter also presents various budget scenarios based on the most recent forecasts of personal income and the "price of government" resolution passed during the 1995 legislative session.

Background

CHAPTER 1

There is a considerable amount of data on government spending and numerous analyses of spending trends. Few efforts have been made, however, to comprehensively analyze overall state and local government spending trends in Minnesota or other states. This chapter documents how we analyzed spending in Minnesota. In particular, the chapter addresses the following questions:

- **What data are used in this report to analyze spending trends in Minnesota and make national comparisons?**
- **What methods were used to analyze the data?**

DATA SOURCES

The first part of this report relies extensively on expenditure data from the United States Bureau of the Census. In addition, we used Census Bureau data on public employment, payrolls, and fringe benefits. Most of the data are compiled every year for each state.[1] Every five years a more comprehensive census of all governments is undertaken by the Census Bureau. We used data from the five-year censuses going back to 1957, and supplemented that data with available annual data for other years.

Census Bureau data are generally the most comprehensive source of information on state and local government expenditures. Census data permit both an analysis of spending and related trends in Minnesota and a comparison of spending in Minnesota with other states. Expenditure and other data are available by type of spending (education, transportation, etc.) for each state as well as totals for all 50 states, including the District of Columbia. Census data eliminate double-counting by counting spending where it ultimately occurs. State aid to local governments, for example, is counted as local spending, since local governments actually spend the money. Information is also available, however, on the amount of state aid to local governments for various purposes within each state.

While Census data have numerous advantages, there are also a number of disadvantages. For example, Census data are not the most timely source of data on gov-

1 Data on fringe benefits were only available for selected five-year censuses.

ernment spending. The most recent Census data available are for 1992.[2] In addition, Census data generally do not permit one to determine why state and local government spending in one state differs from spending in other states. Census data typically do not include information on the number of recipients or clients of particular government programs or spending breakdowns which are sufficiently detailed.

We used a variety of data sources.

As a result, we also used data from a variety of other sources in the second part of this report. These data generally came from state agencies in Minnesota, federal government agencies, or other national sources. For example, in analyzing elementary-secondary education, we used data from the Minnesota Department of Children, Families, and Learning; the National Center for Education Statistics of the United States Department of Education; and the National Education Association. Data from these sources permitted either a more up-to-date analysis or a more in-depth analysis of Minnesota's spending and national comparisons than did Census Bureau data.

Sometimes, however, the use of different data sources poses problems. The data may not always agree on the magnitude of spending trends or exactly how Minnesota spending compares with national averages. Some of these differences may be due to known differences in the type of spending measured by each data source. Sources may differ because they include or exclude certain types of spending such as capital spending.

The limitations of various data sources and contradictions among them occasionally limited the extent to which we could draw definitive conclusions about state and local spending in Minnesota. For example, it is not entirely clear exactly how much Minnesota's spending on elementary-secondary education per student varies from the national average. Data sources differ on this point, and variation in the type of spending data collected explains only a part of the difference.

In some other areas, lack of data was a problem. Census data indicate that Minnesota's health and human services spending per capita is well above the national average. Other data sources suggest, however, Minnesota's spending per capita on Medicaid and Aid for Families with Dependent Children (AFDC) is about average. There are insufficient data available to pinpoint exactly what other programs cause Minnesota to have above average spending, as indicated by Census data.

As a result, we were not always able to arrive at definitive conclusions about Minnesota's relative spending or the source of differences between Minnesota and other states. In these cases, we indicate the difficulty of interpreting existing data.

It is important to recognize other sources of information on state and local spending which we utilized. These sources include the Advisory Commission on Intergovernmental Relations (ACIR), the General Accounting Office (GAO), Minnesota Planning, the Minnesota Department of Finance, the Minnesota State

2 In fact, the Financial Compendium of the Census of Governments for 1992 has not yet been published. For 1992, we used unpublished data from the Census Bureau. These data update the preliminary data published in United States Bureau of the Census, *Government Finances: 1991-92 (Preliminary Report)*, 1994.

Auditor's Office, and the Financial Audit Division of the Minnesota Legislative Auditor's Office. ACIR is the source of information on representative expenditures and the representative tax system.[3] The GAO supplied us with unpublished information on a more recent update of representative expenditures. We also benefited from Minnesota Planning's January 1995 report entitled *Within Our Means: Tough Choices for Government Spending* and working papers on various topics which were part of the research for the 1995 report. Additional information which we used included recent projections of future budget gaps from the Department of Finance; past reports from the State Auditor on spending for elementary-secondary education, highways, and public assistance programs; and a 1983 report from the Legislative Auditor on state and local government spending trends from 1957 to 1982.

METHODS

Spending Measures

In this report, we analyze expenditure data in several different ways. First of all, we present expenditure data of two types:

- Expenditures per capita, and
- Expenditures as a percentage of personal income.[4]

We adjusted spending data for population growth and compared spending increases with the growth in personal income.

It is useful to calculate expenditures per capita both to analyze Minnesota trends over time and to make national comparisons. As Minnesota's population has grown, state and local government spending has increased to provide services to Minnesota's new residents. The effect of population growth on spending is factored out by calculating spending per capita. Comparisons with other states are not very enlightening unless we adjust for differences in population. Without an adjustment for population, comparisons would generally show that more populous states have higher spending.

Another way to analyze government spending is to calculate spending as a percentage of a state's overall economic activity. Typically, state and local government spending is calculated as a percentage of a state's personal income. This measure permits national comparisons, and enables one to determine how the share of personal income going to state and local government activity is changing over time. Some suggest that as a state's personal income increases, its citizens desire more public services. Thus, state and local spending may increase as fast as personal in-

3 The representative expenditures analysis attempts to measure how state and local government spending differs from national averages after adjustments for the differences in workload and input costs faced by governments in different states. The representative tax system ranks states according to their tax capacity and their tax effort.

4 We obtained population data from the Bureau of the Census and personal income data from Minnesota Planning.

come. With this measure, we can track changes in spending relative to changes in personal income.

Expenditures per capita can sometimes be broken down into two components:

- Expenditures per client (or workload unit), and
- Clients (or workload units) per capita.

We analyzed spending in a variety of ways.

This breakdown can be useful in determining the extent to which increases in spending (spending per client) and increases in caseload (clients per capita) are causing changes in spending per capita. In higher education, for example, these measures permit one to determine the extent to which enrollment increases are causing spending per capita to grow. In addition, they permit one to make more detailed comparisons with other states. For example, we found that Minnesota's greater than average spending per capita in higher education is largely due to greater enrollment per capita, not greater spending per student.

Where feasible, we also attempt to analyze spending by classifying expenditures by:

- Current operating versus capital expenditures,
- Type of expenditure (or program), and
- Object of expenditure.

Census data can be separated into capital and current operating expenditures. This is important because capital expenditures do not occur as regularly as current operating expenditures. When analyzing trends or making national comparisons, care must be taken to avoid using a year in which capital expenditures are unusually high or low.

Sometimes data by program or object of expenditure can be obtained from a state or federal agency. These data can be useful in pinpointing what accounts for the overall change in expenditures. Program expenditure data on human services can help determine, for example, how much of the overall increase is due to Medicaid, AFDC, or other programs. Data on object of expenditure can help in isolating how much of the overall increase in elementary-secondary spending per student is due to the growth in salaries, fringe benefits, supplies, and other factors.

When available, we have also examined more detailed information on changes in staffing levels. These data were used in analyzing elementary-secondary education and, to a lesser degree, higher education. Staffing data is particularly important in areas such as these because a majority of the expenditures in these areas are for personnel. For other types of spending, personnel costs are of less importance in explaining spending trends. In transportation, for example, capital spending is a more important factor in overall spending. For human services, a majority of spending is for medical services or grants to individuals.

Inflation Adjustment

We adjusted spending data for inflation.

Expenditure data used in this report have been adjusted for the effects of inflation. Generally, we converted actual spending to constant dollars using the implicit price deflator for state and local government purchases as published by the Bureau of Economic Analysis of the United States Department of Commerce.[5] When converting salaries or grants to individuals to constant dollars, we have also used the Consumer Price Index published by the Bureau of Labor Statistics.[6]

Generally, data on both price deflators are published for calendar years. Most of the expenditure data we used was for state fiscal years running from July 1 through the following June 30. As a result, we averaged the quarterly data available on the PGSL, and the monthly data available on the CPI-X1, to obtain fiscal year indices.

Adjusting for inflation is very important, since price levels have changed dramatically over the time period covered by this report. For example, from 1957 to 1992, the prices faced by state and local governments, as represented by the PGSL, have increased 536 percent. What governments paid $100 for in 1957 cost $636 in 1992.

In two instances, we also used other price deflators to adjust spending. We used the Higher Education Price Index (HEPI) to adjust higher education spending and a Federal Highway Administration price index for highway construction to adjust highway spending. These analyses were done to supplement the use of the PGSL, because price trends in these two areas may have been different from those experienced in other areas of government spending.[7] Unfortunately, specialized price indices are not available for all major areas of spending.

Census Definition of a Year

It is important to recognize how the Census Bureau defines the year for which it collects data on expenditures. Data for 1992 generally means data from states, schools, counties, municipalities, townships, and other government units which had fiscal years ending between July 1, 1991 and June 30, 1992.[8] For Minnesota, data for 1992 include data on cities, counties, and other government units which had a fiscal year ending on December 31, 1991 and data on state government and school districts which had a fiscal year ending on June 30, 1992.[9] Because governments in other states have different fiscal years, one should be careful when

5 Throughout the report, we refer to this deflator as the PGSL, or the Public Goods and Services Index for State and Local Governments.

6 Technically speaking, we used the CPI-U-X1, which is the consumer price index for urban consumers. The notation X1 refers to the revisions made by the Bureau of Labor Statistics to the CPI-U in 1983 to reflect a different definition of housing costs.

7 Some of the most dramatic inflation was experienced by human service programs providing medical care. There is no satisfactory price index to measure inflation affecting government-provided health care.

8 There are a few exceptions to this rule. They are school districts which had a fiscal year ending in August or September of 1992.

comparing spending in Minnesota to individual states.[10] This difference in fiscal years does not, however, have a significant effect on most comparisons of state and local governments. We discuss the significance of this difference in Chapter 2.

We also calculated spending per capita and spending as a percentage of personal income using the methods used by the Census Bureau. Spending per capita for 1992 is calculated by dividing 1992 spending (as defined above) by population as of July 1, 1992. Spending as a percentage of personal income is calculated by dividing 1992 spending by personal income for calendar year 1991.

National Comparisons

Spending comparisons with other states are somewhat difficult to interpret because other states may face higher or lower input costs than Minnesota. Items costing $100 in Minnesota may cost $115 per capita in New York and $85 per capita in South Dakota because of different salaries required to hire similar workers or different prices required to purchase the same supplies and materials.

There have been a number of attempts to adjust actual spending per capita for these differences in input costs. However, it is very difficult to estimate input cost differences across states. Few studies agree on the relative cost differences for individual states.

We compared Minnesota's spending with national averages.

In this study, we do not adjust for input cost differences. We believe that existing data suggest that Minnesota's relative input costs are roughly the same as the national average.[11] As a result, comparisons with national averages can be made without an adjustment. However, comparisons of Minnesota with individual states are more suspect because of possible input cost differences.

Consequently, in this report, we make comparisons with national averages, but rarely discuss how Minnesota ranks among the states. Rankings are suspect for two reasons. First, without a valid means of adjusting for input cost differences, they may be misleading. States ranked high in spending per capita will tend to be those states with relatively high input costs. Second, small insignificant differences among states may be magnified by using rankings.

Furthermore, each national comparison we make is with a national average, not an average of the averages for 50 states. Averaging averages can also be misleading and can cause one to reach erroneous conclusions about how Minnesota differs from the "true" national average.

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9 Minnesota townships have fiscal years ending either on December 31 or February 28.

10 In particular, cities and counties in a number of other states have fiscal years ending later than in Minnesota. Due to inflation, spending by cities and counties in those states would tend to appear higher relative to Minnesota than if the spending were adjusted to reflect the difference in fiscal years.

11 The representative expenditure analysis for 1987 calculated Minnesota's relative input costs to be about one percent above the national average. The updated analysis for 1990 found Minnesota's relative costs to be about one percent below the national average.

SUMMARY

The first part of this report relies on Census Bureau data on state and local government expenditures, revenues, employment, and salaries from 1957 to 1992. These data are used to track Minnesota trends and draw comparisons with other states. The second part of the report examines spending trends in six major areas of state and local government spending. This section supplements the Census Bureau data with data from a number of state agencies and national sources. These various data sources are used to provide more up-to-date information and a more in-depth understanding of the factors underlying the trends for particular types of spending.

Our focus is on the growth in spending which is in excess of that caused by inflation and population growth. After adjusting for those factors, we attempt, when possible, to separate the growth in spending per capita into the growth in caseload (or workload) per capita and the growth in spending per client (or workload unit). When available, more detailed spending data are used to analyze the reasons for growth in spending per client. Our ability to analyze spending trends and make appropriate national comparisons is sometimes limited by the availability of data or contradictory findings from the available data sources.

Expenditures

CHAPTER 2

Policy makers and the public frequently debate how fast government spending should grow in the future. To assess spending needs in the future, it is useful to understand how and why spending changed in the past. Our report provides some context for current budget debates by examining how fast government spending has grown in the past 35 years and what factors drive this growth. This chapter is an overview of spending trends by state and local governments in Minnesota and how they compare with the national averages. In 1992, state and local governments in Minnesota spent about $20.1 billion, or $4,500 per capita. This chapter addresses the following research questions:

- **How has spending by Minnesota's state and local governments changed since 1957? How has spending changed in comparison with inflation and personal income?**

- **What type of expenditures account for the growth in spending?**

- **How does state and local government spending in Minnesota compare with national averages?**

To answer these questions, we used data from the census of governments conducted by the U.S. Bureau of the Census. Our analysis focuses on general expenditures, a Census category that includes operating and capital expenditures, and excludes spending on government operated utilities (electric, gas, water, and transit), liquor stores, and insurance trust funds. The Census Bureau data is the most comprehensive data available on government spending. We collected expenditure data from 1957 through 1992, the most recent year for which Census data were available.

MINNESOTA STATE AND LOCAL GOVERNMENT SPENDING IN 1992

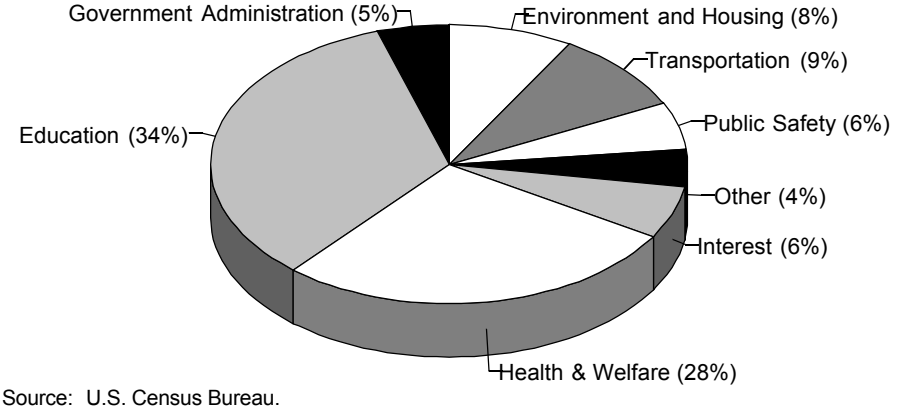
In 1992, state and local governments spent $20.1 billion in Minnesota, including $2.7 billion in capital outlay and $17.5 billion in operating expenditures.[1] State government spent $7.6 billion and local governments spent $12.5 billion. The Census Bureau counts local expenditures that are financed by state aid as local government expenditures. To avoid double counting, state government expenditures do not include $4.7 billion in state aid to local governments.

These Census figures do not measure the same expenditures as the commonly reported state general fund expenditures, which were $7.0 billion in fiscal year 1992. There are major expenditure categories included in each data source that are not included in the other source. Some expenditure categories included in Census data, but excluded from the state's general fund are (1) state spending financed by federal revenues under such programs as Medical Assistance and Aid to Families with Dependent Children (AFDC), (2) trunk highway expenditures, (3) capital expenditures, and (4) interest payments. State General Fund expenditures that are not counted by the Census as state expenditures include state aid for local governments.

In 1992, education, health, and welfare accounted for 62 percent of state and local government spending.

As Table 2.1 and Figure 2.1 show, in 1992 state and local governments spent most of their money on education, health, and welfare. The largest spending category was education, which accounted for 34 percent of total spending, followed by health and welfare (28 percent), transportation (9 percent), environment and housing (8 percent), interest on general debt (6 percent), and public safety (6 percent). General government administration was 5 percent of state and local government spending.

Figure 2.1: Minnesota State and Local Government Expenditures, 1992



Source: U.S. Census Bureau.

1 These figures are based on direct general expenditures in fiscal year 1992 for state government and school districts, and calendar year 1991 for most other governments, including city and county governments. They exclude $1.0 billion in government utility expenditures, $0.1 billion in liquor store spending, and $1.3 billion in insurance trust expenditures such as unemployment compensation payments and employee retirement benefit payments.

Table 2.1: Expenditures by Minnesota State and Local Governments, 1992

	Expenditures (in Millions of Dollars)			Percent Share
	State	Local	Total	State and Local
Education				
Higher Education	$1,535	$129	$1,664	8.3%
K-12 Education	0	4,753	4,753	23.6
Other	282	100	382	1.9
Subtotal	1,817	4,981	6,798	33.8
Health and Welfare				
Public Welfare	2,491	1,134	3,625	18.0
Hospitals	543	772	1,315	6.5
Health	263	292	555	2.8
Other	85	0	85	0.4
Subtotal	3,381	2,198	5,579	27.7
Transportation	724	1,159	1,883	9.4
Public Safety				
Police	59	450	510	2.5
Fire	N/A	171	171	0.8
Corrections	163	135	298	1.5
Protective Inspection	94	28	122	0.6
Subtotal	317	784	1,101	5.5
Environment and Housing				
Natural Resources	259	45	304	1.5
Parks and Recreation	61	344	404	2.0
Housing and Community Development	10	407	416	2.1
Sewerage	3	356	359	1.8
Solid Waste Management	6	208	213	1.1
Subtotal	338	1,359	1,697	8.4
Government Administration	351	639	990	4.9
Interest on General Debt	295	932	1,226	6.1
Other	366	493	859	4.3
Total	$7,588	$12,545	$20,133	100.0%

Source: U.S. Census Bureau.

OVERALL SPENDING TRENDS

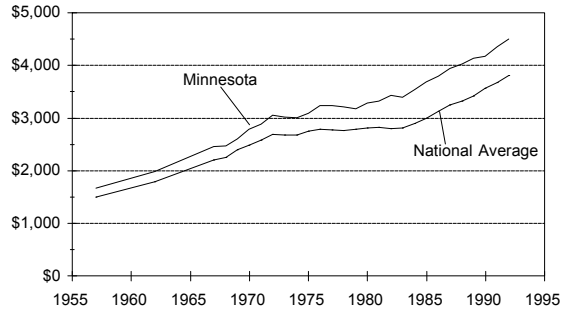
Spending by Minnesota state and local governments increased from $0.9 billion in 1957 to $20.1 billion in 1992.[2] In per capita terms, it grew from $264 to $4,500. We analyzed Minnesota's spending trends in two ways. First, we adjusted the expenditures for population and inflation based on annual population estimates by the U.S. Census Bureau and a price deflator for state and local governments. Second, we examined the change in spending as a percentage of personal income in Minnesota.

Per Capita Spending Trends Adjusted for Inflation

Minnesota's state and local government spending has grown slightly faster than the national average.

Figure 2.2 shows per capita spending trends for state and local governments in Minnesota and the nation from 1957 to 1992. To adjust for inflation, all expenditure figures in this section are expressed in constant fiscal year 1992 dollars. Minnesota's state and local government expenditures per capita grew from $1,680 in 1957 to $4,500 in 1992, an increase of 168 percent. This increase is slightly more than the national average increase of 153 percent.

Figure 2.2: State and Local Government Expenditures per Capita (in Constant 1992 Dollars), 1957-92



Source: U.S. Census Bureau.

Tables 2.2 and 2.3 show spending trends by functional category between 1957 and 1992. Throughout this time period, the three largest spending categories have been: (1) education, (2) transportation, and (3) health and welfare. The fastest growing major category has been health and welfare, which grew by 319 percent between 1957 and 1992, after adjusting for both inflation and population. Education grew by 130 percent, and transportation grew by only 18 percent. As a result, health and welfare went from 18 percent to 28 percent of total spending. Meanwhile, education grew from 39 percent of total spending in 1957 to a high of 45 percent in 1972, but fell to 34 percent in 1992. Transportation fell from 21 percent to 9 percent of total spending over this 35 year period.

2 The Census data include employer contributions for employee retirement as a general expenditure only if they are made to an agency that is not part of the same government. This can affect spending trends in Minnesota because prior to fiscal year 1988, the state made employee retirement contributions to the Teachers Retirement Fund on behalf of school districts. As a result, in most school districts, employer contributions for employee retirement were not included in general expenditures prior to 1988, but were included thereafter. We estimate that the Census Bureau method of classifying employer contributions for employee retirement causes it to overstate overall spending increases over time periods spanning 1988 by about 2 percent.

Table 2.2: Minnesota State and Local Government Expenditures per Capita, 1957-92 (in Constant 1992 Dollars)

	1957	1962	1967	1972	1977	1982	1987	1992	Percent Change 1957-92
Education									
K-12 Education	$520	$619	$800	$926	$854	$827	$907	$1,062	104%
Higher Education	121	164	269	412	318	311	406	372	208
Other Education/Libraries	19	21	27	48	66	58	73	85	345
Subtotal	660	805	1,097	1,386	1,238	1,196	1,386	1,519	130
Health and Welfare	298	327	381	540	694	835	895	1,247	319
Transportation	356	401	452	415	361	375	423	421	18
Public Safety									
Police	37	47	48	66	81	92	100	114	207
Fire	22	25	23	25	31	33	36	38	76
Corrections	21	24	24	25	38	43	56	67	217
Subtotal	80	96	95	115	150	168	192	219	174
Environment and Housing									
Natural Resources	43	47	50	50	56	57	72	68	58
Parks and Recreation	25	27	34	42	72	78	81	90	261
Housing and Community Development	8	22	32	47	46	59	73	93	1,064
Sanitation	56	58	83	100	129	128	104	128	129
Subtotal	132	154	198	239	302	321	330	379	187
Government Administration	83	79	90	117	149	164	189	221	167
Interest on General Debt	31	60	74	127	119	170	311	274	772
Other General Expenditures	40	63	76	122	232	202	213	219	445
Total	$1,680	$1,984	$2,462	$3,061	$3,244	$3,431	$3,939	$4,500	168%

Note: Prior to 1977, the Census data included protective inspection expenditures with other general expenditures. To be consistent, we also included protective inspection expenditures from 1977 to 1992 with other expenditures.

Source: U.S. Census Bureau.

Table 2.4 summarizes how much each category contributed to the overall growth in spending between 1957 and 1992.

- **Most of the growth in state and local government spending has been due to the growth in spending on education, health, and welfare. Very little growth was due to transportation.**

The amount of growth that was explained by a category depends both on how big the category was initially as well as how fast it grew in percentage terms. Health and welfare explained more growth (34 percent) than any other category because it was a large category that grew much faster than average. Education grew at a slower than average rate, but because it was the largest spending category, it still explained 30 percent of the overall spending growth. Transportation was the sec-

Table 2.3: Distribution of Minnesota State and Local Government Expenditures, 1957-92

	1957	1962	1967	1972	1977	1982	1987	1992
Education								
K-12 Education	31%	31%	33%	30%	26%	24%	23%	24%
Higher Education	7	8	11	13	10	9	10	8
Other Education/Libraries	1	1	1	2	2	2	2	2
Subtotal	39	41	45	45	38	35	35	34
Health and Welfare	18	16	15	18	21	24	23	28
Transportation	21	20	18	14	11	11	11	9
Public Safety								
Police	2	2	2	2	2	3	3	3
Fire	1	1	1	1	1	1	1	1
Corrections	1	1	1	1	1	1	1	1
Subtotal	5	5	4	4	5	5	5	5
Environmental and Housing								
Natural Resources	3	2	2	2	2	2	2	2
Parks and Recreation	1	1	1	1	2	2	2	2
Housing and Community Development	0	1	1	2	1	2	2	2
Sanitation	3	3	3	3	4	4	3	3
Subtotal	8	8	8	8	9	9	8	8
Government Administration	5	4	4	4	5	5	5	5
Interest on General Debt	2	3	3	4	4	5	8	6
Other General Expenditures	2	3	3	4	7	6	5	5
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: U.S. Census Bureau.

ond largest spending category in 1957, but since it was the slowest growing category, it explained only 2 percent of the overall growth.

Interest on general debt accounted for 11 percent of the spending growth due to its very rapid growth rate. Housing and community development was the fastest growing category, but because it was very small in 1957, it explained only 3 percent of the overall growth in spending.

Spending grew faster between 1957 and 1972 than since 1972.

Between 1957 and 1992, the average annual rate of growth in state and local government spending (in constant dollars) was 2.9 percent. As Table 2.5 shows, the fastest growth occurred between 1957 and 1972, when spending grew by 4.1 percent annually. Between 1972 and 1982, spending growth tapered off to 1.2 percent per year, then increased to 2.8 percent per year between 1982 and 1992.

- **The main reason that spending has grown at different rates during the past 35 years is the uneven growth in education spending.**

Table 2.4: Percent of Overall Spending Growth Attributable to Functional Spending Categories, Minnesota, 1957-92

Education	
K-12 Education	19%
Higher Education	9
Other Education/Libraries	2
Subtotal	30
Health and Welfare	34
Transportation	2
Public Safety	
Police	3
Fire	1
Corrections	2
Subtotal	5
Environment and Housing	
Natural Resources	1
Parks and Recreation	2
Housing and Community Development	3
Sanitation	3
Subtotal	9
Government Administration	5
Interest on General Debt	9
Other General Expenditures	6
Total	100%

Note: Spending growth is measured in constant dollars per capita, based on the price deflater for state and local governments.

Source: U.S. Census Bureau.

Spending growth rates for non-education categories were relatively stable between 1957 and 1992.

State and local government expenditures per capita (in constant dollars), excluding K-12 and higher education, grew at average annual rates of 3.4, 2.9, and 2.9 percent during the three time periods 1957-72, 1972-82, and 1982-92 respectively. For example, health and welfare spending per capita grew by 4 to 4.5 percent per year during each of these three periods. However, education expenditures per capita grew at an annual rate of 5.1 percent between 1957 and 1972, declined by 1.5 percent per year between 1972 and 1982, and then grew by 2.4 percent per year over the next ten years. These large changes in growth rates correspond with changes in public school enrollment as the "baby boom" generation moved through the school system. Public school enrollment as a percentage of population grew by 1.5 percent per year between 1957 and 1972, declined by 2.9 percent per year between 1972 and 1982, and declined by 0.3 percent per year from 1982 to 1992. In addition, capital expenditures for higher education reached a peak in the early 1970s. Other factors that affected education spending growth rates include student/staff ratios and average salaries and benefits. We examine these factors more closely in Chapters 5 and 7.

Table 2.5: Average Annual Growth Rates for State and Local Government Spending per Capita, After Adjusting for Inflation, Minnesota, 1957-92

	1957-72	1972-82	1982-92	1957-92
Education				
K-12 Education	3.9%	-1.1%	2.5%	2.1%
Higher Education	8.5	-2.8	1.8	3.3
Other Education/Libraries	6.4	1.8	4.0	4.4
Subtotal	5.1	-1.5	2.4	2.4
Health and Welfare	4.0	4.4	4.1	4.2
Transportation	1.0	-1.0	1.2	0.5
Public Safety				
Police	3.9	3.5	2.1	3.3
Fire	0.9	3.0	1.4	1.6
Corrections	1.2	5.4	4.6	3.3
Subtotal	2.5	3.8	2.7	2.9
Environment and Housing				
Natural Resources	1.0	1.3	1.8	1.3
Parks and Recreation	3.6	6.3	1.5	3.7
Housing and Community Development	12.6	2.2	4.7	7.3
Sanitation	3.9	2.6	-0.0	2.4
Subtotal	4.0	3.0	1.7	3.1
Government Administration	2.4	3.4	3.0	2.8
Interest on General Debt	9.8	2.9	4.9	6.4
Other General Expenditures	7.7	5.2	0.8	5.0
Total	4.1%	1.1%	2.7%	2.9%

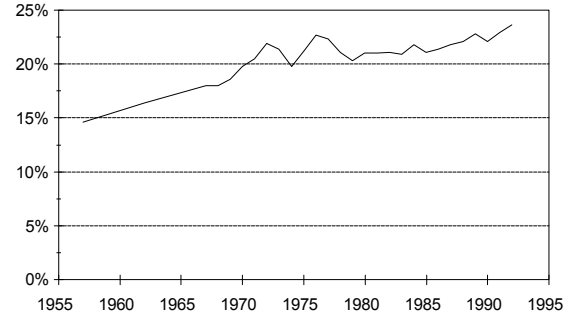
Source: U.S. Census Bureau.

Since 1972, spending has grown only a little faster than personal income.

Spending as a Percentage of Personal Income

As a percentage of personal income, Minnesota's state and local government spending grew from 14.6 percent in 1957 to 21.9 percent in 1972, remained about the same through 1987, then rose to 23.6 percent in 1992 (see Figure 2.3). Overall, spending as a percent of personal income grew by 61 percent during the past 35 years, considerably lower than the growth in per cap-

Figure 2.3: Minnesota State and Local Government Expenditures as a Percent of Personal Income, 1957-92



Source: U.S. Census Bureau.

ita, inflation-adjusted spending. The reason that the growth in spending is slower when measured as a percent of personal income is because personal income grew considerably faster than inflation throughout this time period.

Between 1957 and 1992, health and welfare explained nearly half of the growth in spending as a percentage of personal income.

Table 2.6 shows the trend in spending as a percentage of personal income by functional category.

Health and welfare spending grew steadily from 2.6 percent of personal income in 1957 to 6.5 percent in 1992. Health and welfare explained 44 percent of the growth in spending as a percent of personal income between 1957 and 1992. In more recent years, health and welfare explained an even higher percentage of the growth. For example, it explained 57 percent of the growth between 1982 and 1992.

Education spending rapidly increased from 5.7 percent to 9.9 percent of personal income in 1972, declined to 7.4 percent in 1982, and rose to 8.0 percent in 1992. Both K-12 education and higher education spending grew rapidly as a percent of

Table 2.6: State and Local Government Expenditures as a Percent of Personal Income, Minnesota, 1957-92

	1957	1972	1982	1992	Percent Change 1957-92	Percent of Growth 1957-92
Education						
K-12 Education	4.5%	6.5%	5.1%	5.6%	23%	12%
Higher Education	1.1	2.9	1.9	1.9	85	10
Other Education/Libraries	0.2	0.3	0.4	0.4	168	3
Subtotal	5.7	9.9	7.4	8.0	39	25
Health and Welfare	2.6	3.9	5.1	6.5	152	44
Transportation	3.1	3.0	2.3	2.2	-29	-10
Public Safety						
Police	0.3	0.5	0.6	0.6	85	3
Fire	0.2	0.2	0.2	0.2	6	0
Corrections	0.2	0.2	0.3	0.3	91	2
Subtotal	0.7	0.8	1.0	1.1	65	5
Environment and Housing						
Natural Resources	0.4	0.4	0.3	0.4	-5	-0
Parks and Recreation	0.2	0.3	0.5	0.5	117	3
Housing and Community Development	0.1	0.3	0.4	0.5	601	5
Sanitation	0.5	0.7	0.8	0.7	38	2
Subtotal	1.1	1.7	2.0	2.0	73	9
Government Administration	0.7	0.8	1.0	1.2	61	5
Interest on General Debt	0.3	0.9	1.0	1.4	425	13
Other General Expenditures	0.4	0.9	1.2	1.1	228	9
Total	14.6%	21.9%	21.1%	23.6%	61%	100%

Source: U. S. Census Bureau.

personal income after 1957, reaching peaks in 1971 or 1972, after which they declined and did not reach those levels again through 1992.

Transportation was the only major category to decline as a percentage of personal income betwen 1957 and 1992.

Transportation spending steadily declined from 3.1 percent in 1957 to 2.2 percent of personal income in 1992. It is the only major spending category to decline as a percent of personal income over this 35 year period.

The public safety category grew from 0.7 percent in 1957 to 1.2 percent of personal income in 1992. This growth was almost entirely due to police and corrections spending. Police spending increased rapidly between 1957 and 1982, but increased slowly after 1982. In contrast, corrections spending did not increase between 1957 and 1972, but has grown rapidly since 1972. Spending on fire protection remained nearly constant as a percent of personal income throughout this period.

Spending Trends by Object of Expenditure

This section examines spending trends from 1967 to 1992 by object of expenditure, including salaries, fringe benefits, capital outlay, interest payments on general debt, and other non-personnel expenditures such as aid to individuals, purchased services, supplies, and rent. We used this time period because the only years that the Census Bureau collected comprehensive data on fringe benefits were 1967, 1982, and 1987. To estimate fringe benefits for 1992, we used national data on changes in fringe benefit costs for state and local governments between 1987 and 1992. These national data indicate a smaller rate of growth than do Minnesota data on fringe benefit costs for local school districts. As a result, our results, based on the national fringe benefit data between 1987 and 1992, may underestimate the increase in fringe benefit costs.

Table 2.7 summarizes the trends by object of expenditure. We found that:

- **Between 1967 and 1992, increases in employee compensation expenditures explained about 43 percent of the growth in state and local government per-capita spending, after adjusting for inflation.**

The increase in employee compensation is due to the combined effect of a higher percentage of the population employed by state and local governments, higher average salaries, and higher fringe benefits. We estimate that between 1967 and 1992, 19 percent of the overall spending growth is attributable to growth in public employment (as a fraction of population), 12 percent is due to higher average salaries, and 12 percent is due to higher average fringe benefits.

Interest on the general debt accounted for 10 percent of the spending growth. Capital outlay (in constant dollars) declined during this time period. Other non-personnel expenditures were responsible for 51 percent of the spending growth.

- **About 31 percent of the growth in government spending is due to increases in non-personnel expenditures for welfare and hospitals, including Medical Assistance.**

Table 2.7: Trend in Spending by Object of Expenditure, Minnesota, 1967-92

	Expenditures per Capita (in constant 1992 dollars)			
	1967	1992	Percent Change	Percent of Growth
Employee Compensation				
Salaries and Wages	$1,084	$1,675	54%	29%
Employee Benefits	97	374	285	14
Interest	74	274	272	10
Capital Outlay	668	594	-11	-4
Other Non-Personnel Expenditures				
Welfare and Hospitals	203	832	309%	31%
Other	335	752	125	20
Total Expenditures	$2,462	$4,500	83%	100%
Breakdown of Employee Compensation				
Employees (FTE) per 1,000 Population	439	52	33%	19%
Average Salary	$27,890	$32,451	16	12
Average Benefits	$2,497	$7,247	190	12

Source: U. S. Census Bureau.

The non-personnel welfare and hospital spending consists primarily of welfare benefits provided to individuals and medical and social services purchased by state and local governments.

Net Expenditures

Net expenditures exclude spending financed by non-tax revenue.

State and local government expenditures are financed by state and local taxes, charges paid by the public for specific services received, revenue from the federal government, and miscellaneous revenue. In this section, we examine trends in expenditures net of charges and miscellaneous revenue. We also look at expenditures net of federal revenue.

Expenditures net of charges and miscellaneous revenue can be viewed as a measure of the public cost of government activities. Some common charges are college tuition, sewer charges, parking fees, and payments by patients, insurance companies, and Medicare for medical services provided by public hospitals. Examples of miscellaneous revenue are interest earnings, private donations, special assessments, and child support collections under the Aid to Families with Dependent Children program.

In 1992, public hospitals in Minnesota received about $916 million from patients, their insurance carriers, or Medicare. To determine the public cost of hospitals, payments from patients and insurance companies need to be subtracted from total spending. To obtain the cost for state and local governments, Medicare payments also need to be subtracted. Similarly, to obtain the public cost of government, it is important to subtract various miscellaneous revenues such as interest revenue (the largest miscellaneous revenue category) and AFDC child support collections.

Trends in net expenditures need to be interpreted cautiously because they are affected by changes in pricing policies and methods of delivering services as well as normal cost changes. For example, net sanitation expenditures have declined in Minnesota because sewer and solid waste charges have increased substantially. This is the result of policy decisions to have people pay for sanitation services according to their usage.

Net Expenditures in 1992

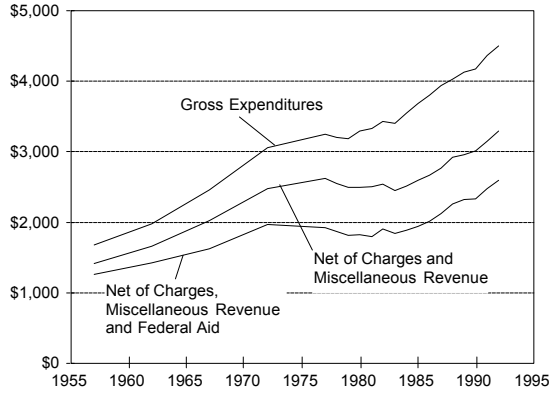
In 1992, Minnesota's state and local governments financed 15.3 percent of their expenditures with charges, 11.5 percent with miscellaneous revenue, and 15.4 percent with federal revenue (taxes financed almost all of the rest of spending). As a result, net expenditures for 1992 were $2,602 per capita, 42 percent less than gross expenditures. Table 2.8 presents net expenditures by spending category. Since miscellaneous revenues are not broken down by functional category, the table includes expenditures net of charges and federal revenue only. Charges and federal revenue financed a high percentage of spending on sanitation (69 percent), housing and community development (63 percent), and health and welfare spending (48 percent). As a result, these categories account for a smaller share of total net expenditures than they do for gross expenditures. For example, health and welfare spending made up 21 percent of overall net expenditures compared with 28 percent of gross expenditures.

Net Expenditure Trends

Tables 2.9 and Figure 2.4 summarize trends for net expenditures. Overall, we found that:

- **Between 1957 and 1992, net expenditures grew slower than gross expenditures because state and local governments increasingly used charges, miscellaneous revenue, and federal revenue.**

Figure 2.4: State and Local Government Expenditures per Capita (in Constant 1992 Dollars), Minnesota, 1957-92



Source: U.S. Census Bureau.

Table 2.8: Net per Capita Expenditures of Minnesota State and Local Governments, 1992

	Expenditures:			Percent Share of Expenditures:		
	Expenditures	Net of Charges	Net of Charges and Federal Revenue	Expenditures	Net of Charges	Net of Charges and Federal Revenue
Education						
K-12 Education	$1,062	$1,025	N/A	23.6%	26.9%	N/A
Higher Education	372	220	N/A	8.3	5.8	N/A
Other Education/Libraries	85	85	N/A	1.9	2.2	N/A
Subtotal	1,519	1,330	1,214	33.8%	34.9%	38.9%
Health and Welfare	1,247	1,042	644	27.7%	27.3%	20.6%
Transportation	421	389	326	9.4	10.2	10.5
Public Safety						
Police	114	114	114	2.5	3.0	3.7
Fire	38	38	38	0.8	1.0	1.2
Corrections	67	67	67	1.5	1.7	2.1
Protective Inspection	27	27	27	0.6	0.7	0.9
Subtotal	246	246	246	5.5	6.5	7.9
Environment and Housing						
Natural Resources	68	61	56	1.5	1.6	1.8
Parks and Recreation	90	65	65	2.0	1.7	2.1
Housing and Community Development	93	84	34	2.1	2.2	1.1
Sanitation	128	40	40	2.8	1.0	1.3
Subtotal	379	249	195	8.4	6.5	6.2
Government Administration	221	221	221	4.9	5.8	7.1
Interest on General Debt	274	274	274	6.1	7.2	8.8
Other General Expenditures	192	192	192	4.3	5.0	6.2
Charges NEC		(133)	(133)		-3.5	-4.3
Other Federal Revenue			(59)			-1.9
Total	$4,500	$3,811	$3,119	100.0%	100.0%	100.0%

Source: U.S. Census Bureau.

Net expenditures per capita grew from $1,270 to $2,602, an increase of 105 percent, compared with 168 percent for gross expenditures per capita. During each of the three time periods we examined (1957-72, 1972-82, and 1982-92), governments in Minnesota increasingly used charges and miscellaneous revenue to finance their spending. Between 1957 and 1992, expenditures net of charges and miscellaneous revenue increased by 131 percent. Federal revenue as a percentage of gross expenditures grew rapidly between 1957 and 1972, but declined slightly after 1972.

We also analyzed trends in net expenditures by functional category. However, neither miscellaneous revenue data nor federal intergovernmental revenue data were

Table 2.9: Trend in Net State and Local Government Expenditures (in Constant 1992 Dollars per Capita), Minnesota, 1957-92

	1957	1962	1967	1972	1977	1982	1987	1992	Percent Change
Expenditures	$1,680	$1,984	$2,462	$3,061	$3,244	$3,431	$3,939	$4,500	168%
Charges	164	195	268	361	376	484	575	689	319
Miscellaneous Revenue	92	128	170	219	244	402	599	517	464
Expenditures Net of Charges and Miscellaneous Revenue	1,424	1,662	2,025	2,481	2,625	2,546	2,766	3,294	131%
Federal Revenue	154	236	400	508	698	642	645	692	349
Expenditures Net of Charges, Miscellaneous Revenue, and Federal Revenue	$1,270	$1,427	$1,625	$1,973	$1,926	$1,905	$2,121	$2,602	105%
Revenues as a Percent of Gross Expenditures									
Charges	9.8%	9.8%	10.9%	11.8%	11.6%	14.1%	14.6%	15.3%	56%
Miscellaneous Revenue	5.5	6.4	6.9	7.2	7.5	11.7	15.2	11.5	111
Federal Revenue	9.2	11.9	16.2	16.6	21.5	18.7	16.4	15.4	68

Source: U. S. Census Bureau.

broken down by functional category for most of this time period. As a result, we examined trends in expenditures net of charges. Table 2.10 presents the trends in net expenditures by functional category. We found that:

- **Spending trends for expenditures net of charges are very similar to the gross expenditure trends described earlier.**

As with gross expenditures, most of the growth in expenditures net of charges was due to education, health, and welfare. Between 1957 and 1992, these categories explained 66 percent of net expenditures, compared with 65 percent for gross expenditures. Sanitation was the only category for which net and gross expenditures had significantly different growth rates. Gross sanitation expenditures grew by 129 percent between 1957 and 1992, whereas net sanitation expenditures declined by 10 percent.

NATIONAL COMPARISONS

Per capita spending comparisons need to be interpreted cautiously.

In this section, we compare Minnesota's spending per capita with the national average for state and local governments. Per capita spending comparisons need to be interpreted cautiously because a variety of factors can affect a state's per capita spending. First, the prices of labor and goods needed to produce public services vary among states. For example, some states must offer higher wages to attract qualified employees because the prevailing wages are higher than average. Sec-

Table 2.10: Minnesota Expenditures per Capita Net of Charges (in Constant 1992 Dollars)

	1957	1972	1982	1992	Percent Change 1957-92	Percent of Growth 1957-92
Education						
K-12 Education	$497	$891	$785	$1,025	106%	23.0%
Higher Education	75	293	208	220	193	6.3
Other Education/Libraries	19	48	56	85	346	2.9
Subtotal	591	1,232	1,050	1,330	125	32.2
Health and Welfare	259	448	660	1,042	302	34.1
Transportation	347	401	351	389	12	1.9
Public Safety						
Police	37	66	92	114	207	3.3
Fire	22	25	33	38	76	0.7
Corrections	21	25	43	67	217	2.0
Subtotal	80	115	168	219	274	6.1
Environment and Housing						
Natural Resources	37	39	48	61	64	1.0
Parks and Recreation	19	34	65	65	243	2.0
Housing and Community Development	6	40	52	84	1,205	3.4
Sanitation	45	73	81	40	-10	-0.2
Subtotal	107	186	246	249	233	6.2
Government Administration	83	117	164	221	167	6.0
Interest on General Debt	31	127	170	274	772	10.6
Other General Expenditures	40	122	202	219	445	7.8
Charges NEC	(23)	(47)	(63)	(133)		
Total	$1,515	$2,700	$2,948	$3,811	151%	100.0%

Source: U.S. Census Bureau.

ond, personal income affects what a state can afford to spend and may also affect the level of services demanded by its citizens. Existing data suggest that Minnesota's personal income and input costs are close to the national average. Between 1982 and 1992, Minnesota's per capita personal income has ranged from 99 percent of the national average to 102 percent.[3] As we discussed in Chapter 1, other studies have estimated that input costs for Minnesota are slightly higher or slightly lower than the national average. Thus, these two factors should not cause large differences between Minnesota's spending and the national average.

However, there are several other factors for which it is difficult to measure how much each contributes to per capita spending differences. For example, the need for services varies among states. Poverty rates vary among states, causing differences in the need for public assistance. Differences in miles of roads and vehicle

3 U.S. Department of Labor, Bureau of Economic Analysis.

miles driven per capita may lead to differences in highway spending needs. Alternatively, differences in spending may simply reflect differences in preferences over the level of services desired. Finally, states may vary in how efficiently they provide services.

Since per capita spending comparisons do not distinguish between these reasons, they are just a first step in analyzing the level of Minnesota's spending. The Advisory Commission on Intergovernmental Relations attempted to measure how the need for services varies among states by developing various workload measures for each major spending category. We present the results of this effort later in this chapter. But it is important to recognize that measuring needs is inherently difficult, and existing measures need to be examined closely before drawing conclusions.

Our national comparisons are based on the combined spending of state and local governments because the responsibilities of different levels of governments varies greatly among the states. For example, it does not make sense to compare state government spending on higher education between a state with a state-run system and a state with a local system.

1992 Per Capita Spending Comparisons

Comparisons between Minnesota and the national average for state and local government spending are presented in Table 2.11.

Since 1980, Minnesota's spending per capita exceeded the national average by at least 17 percent.

- **In 1992, Minnesota spent, on average, about 18 percent more per capita than state and local governments in the nation.**

Minnesota spent 12 to 38 percent more per capita than the national average in each of the major spending categories except public safety, for which Minnesota was 28 percent below average. Minnesota's spending exceeded the national average by the largest amount for transportation (38 percent), followed by human services (29 percent), interest on debt (26 percent), environment and housing (24 percent), K-12 education (18 percent), higher education (12 percent), and government administration (12 percent).

Comparisons Over Time

Figure 2.5 shows that between 1957 and 1992, Minnesota's per capita spending has exceeded the national average for state and local governments by between 9 and 23 percent.[4] Since 1980, Minnesota has been higher than the national average by at least 17 percent.

4 Spending comparisons between Minnesota and other states can be affected by the Census classification of employer contributions for employee retirement and by differences among governments in fiscal years. The Census general expenditure data excludes employer contributions for employee retirement if they are made to the a fund controlled by the same government. This affects comparisons between Minnesota and other states because it excludes more employer contributions (as a percent of general expenditures) in other states, on average, than it does for Minnesota. As a result, if all employer contributions were included, Minnesota's general expenditures per capita would be 17 percent higher than the national average instead of 18 percent. On the other hand, many city and

In 1992, Minnesota spent more than the national average on all major functions except public safety.

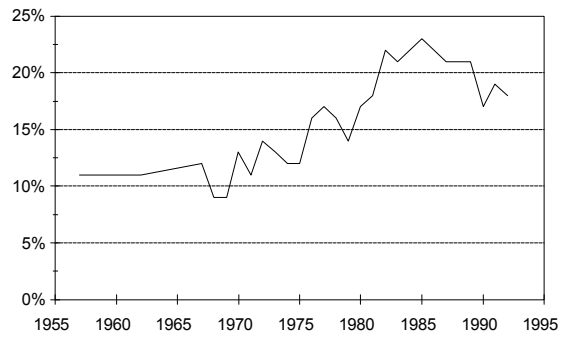
Table 2.11: State and Local Government Expenditures per Capita, Minnesota vs. U. S. Average, 1992

	Minnesota	United States Average	Percent Difference from U. S. Average
Education			
K-12 Education	$1,062	$898	18%
Higher Education	372	331	12
Other Education/Libraries	85	70	22
Subtotal	1,519	1,298	17
Health and Welfare	1,247	967	29
Transportation	421	306	38
Public Safety			
Police	114	135	-16
Fire	38	56	-32
Corrections	67	113	-41
Subtotal	219	304	-28
Environment and Housing			
Natural Resources	68	51	33
Parks and Recreation	90	62	47
Housing and Community Development	93	67	39
Sanitation	128	127	1
Subtotal	379	307	24
Government Administration	221	197	12
Interest on General Debt	274	217	26
Other General Expenditures	219	217	1
Total	$4,500	$3,813	18%

Source: U. S. Census Bureau.

county governments in other states do not have the same fiscal year as Minnesota. This can affect comparisons because spending in some states is being reported for a later time period than in Minnesota. We estimate that this makes national spending appear about 0.3 percent higher than it would be if they used the same reporting period as Minnesota. Thus, we estimate that the combined effect of these two factors is less than 1 percent.

Figure 2.5: Percent Difference in per Capita Spending, Minnesota vs. the National Average, 1957-92



Source: U.S. Census Bureau.

1990 Comparisons Based on Workload Measures

Another way to compare spending among states is to compare spending relative to various workload measures, such as the number of poor persons, or number of crimes. For example, instead of comparing welfare spending per capita, one could compare welfare spending per poor person. In 1990, the Advisory Commission on Intergovernmental Relations (ACIR) developed workload measures for the major spending categories, as shown in Figure 2.6. ACIR designed these workload measures to reflect differences in need for services. [5]

After adjusting for workload differences, Minnesota's spending was 22 percent above the national average.

In 1992, the author of the original ACIR report updated the report based on 1990 Census data. [6] Table 2.12 shows how Minnesota's spending compares with national spending, relative to these workload measures. The first column shows how Minnesota's workloads per capita compare with the national average. Overall, according to ACIR's estimates, Minnesota's workload is 95 percent of the national average. In other words, ACIR's model estimates that Minnesota could meet its needs as well as the rest of the nation by spending 5 percent less per capita. The second column in Table 2.12 gives Minnesota's per capita spending in 1990 as a percent of the national average. The third column is the ratio of Minnesota's spending to the estimated amount necessary to provide the average level of services in the nation. Since Minnesota spent 17 percent more per capita than average, but its estimated need for services was 5 percent less than average, ACIR's model suggests that it spent 22 percent more than the amount required to provide the average level of services.

After adjusting for ACIR's estimates of service needs, Minnesota's spending is still higher than the national average for all spending categories except police and corrections. Minnesota exceeded the national average by the largest amount for public welfare due to Minnesota's higher per capita spending and its lower poverty rate. Minnesota's public welfare spending was 69 percent more per poor person than the national average. For most other categories, Minnesota was 12 to 29 percent higher than average.

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5 Advisory Commission on Intergovernmental Relations, *Representative Expenditures: Addressing the Neglected Dimension of Fiscal Capacity*, (Washington: 1990).

6 Unpublished memorandum from Robert W. Rafuse, Jr., (Washington: November 9, 1992).

Figure 2.6: Workload Measures for State and Local Governments Developed by the Advisory Commission on Intergovernmental Relations

1. Elementary and Secondary Education

The workload measure is the weighted sum of three population groups: (1) children of elementa ry-school age [5-13] net of enrollment in private elementary schools, (2) youth of secondary-school age [14-17] net of private secondary enrollment, and (3) the population under 18 living in households with incomes below the poverty line. The weights are, respectively, 0.6, 1.0, and 0.25.

2. Higher Education

The measure is the weighted sum of the population in the age groups 14-17, 18-24, 25-34, and 35 and older. Each weight [1.32 percent, 22.44 percent, 4.16 percent, and 0.83 percent respectively] is the full-time-equivalent number of students in the age group enrolled in institutions of higher education nationwide as a proportion of the total population in the age group.

3. Public Welfare

The workload measure is the population living in households with incomes below the poverty line.

4. Health and Hospitals

The measure is the sum of the equally weighted percentage distributions of (1) persons age 16-64 with work disabilities, (2) the population living in households with incomes below 150 percent of the poverty line, and (3) the total population.

5. Highways

The workload measure is the weighted sum of the percentage distributions of two variables: (1) vehicle-miles traveled, and (2) lane-miles of streets and roads other than those on federally controlled land. The first is weighted 0.825, the second 0.175.

6. Police and Corrections

The measure is the sum of the equally weighted percentage distributions of (1) the population age 18-24, (2) the number of murders committed, and (3) the total population.

7. All Other Direct General Expenditures

The workload measure is total population.

Source: Advisory Commission on Intergovernmental Relations, *Representative Expenditures: Addressing the Neglected Dimension of Fiscal Capacity* (Washington, D.C.: 1990).

Available workload measures are only rough indicators of service needs.

As we discussed earlier, these results need to be interpreted cautiously. One limitation is that the workload measures do not always reflect the differences in needs between Minnesota and the nation. The measure for public welfare appears to be appropriate for programs targeted at people living below the poverty level. However, the census category of public welfare includes most Medical Assistance spending, including institutionalized care of the aged and disabled. For nursing home services, the age distribution (such as percent of population over 65, giving greater weight to those who are over 85) might be a better indicator of relative need than the population with incomes below the poverty level. For example, in 1990, 1.6 percent of Minnesota's population was 85 or older, compared with 1.2 percent for the nation (the percentage who were 65 or older was about the same). As a result, the workload measure for public welfare probably overstates the differences between Minnesota and other states.

Another limitation of workload measures is that high spending relative to workload does not distinguish among various causes of high spending. Spending could

Table 2.12: Minnesota's 1990 Spending Compared with the National Average for State and Local Governments, Based on Workloads Developed by the Advisory Commission on Intergovernmental Relations

	Minnesota as a Percent of the National Average		
	Workload	Per Capita Spending	Spending Relative to Workload
K-12 Education	101%	113%	112%
Higher Education	95	117	123
Public Welfare	78	132	169
Health and Hospitals	89	114	129
Highways	119	153	129
Police and Corrections	73	71	97
Environment and Housing	99	125	126
Government Administration	99	112	113
Interest on General Debt	100	124	124
Other General Expenditures	100	103	104
Total	95%	117%	122%

Note: Workload measures are adjusted for input cost differences, based on methods developed by the ACIR. Minnesota's input costs for the above spending categories ranged from 0 to 1.7 percent lower than the national average.

Source: Memorandum from Robert Rafuse, Jr., U. S. Department of Treasury. This is an unpublished document obtained from the General Accounting Office. It is an update of a report published by ACIR in 1990: Representative Expenditures: Addressing the Neglected Dimension of Fiscal Capacity.

be high because a state serves more people, provides higher quality services, or spends less efficiently. For example, Minnesota spent 22 percent more on higher education than what would be expected based on national spending levels and Minnesota's age distribution. This is partly due to the fact that within each age range, a higher proportion of Minnesota residents attend college than in other states. We examine this issue in more depth in Chapter 7. Another reason that Minnesota's spending is higher might be that Minnesotans want higher quality services. However, comprehensive outcome data for government services are not available to compare Minnesota's services with those in other states.

SUMMARY

Over the past 35 years, per capita spending by Minnesota's state and local governments grew by 2.9 percent per year, after adjusting for inflation. Health and welfare explained more growth (34 percent) than any other spending category. It grew faster than overall spending, particularly during the past 20 years. Education spending explained the second largest amount of growth (30 percent), even though its annual growth rate (2.4 percent) was below the overall growth rate. The reason that education spending explains much of the overall growth is that it remains the

largest spending category. Transportation, the third largest spending category, contributed very little to spending growth because it increased by an average of only 0.5 percent per year.

The fastest growth occurred between 1957 and 1972, when spending increased by 4.1 percent per year. The main reason that overall spending grew at a slower rate after 1972 was the effect of the baby boom on education spending. Education spending grew rapidly as the baby boom generation moved into the education system during the 1950s and 1960s, but education spending did not grow as fast after 1972 because K-12 school enrollments declined between 1972 and 1985 as the baby boom moved out of the system. Most other spending categories increased by about the same annual rate during the last 20 years as they did during the first 15 years.

In 1992, Minnesota spent 18 percent more per capita than the national average for state and local governments. Minnesota was higher than average for all major spending categories except public safety. After adjusting for differences in workload measures developed by the Advisory Commission on Intergovernmental Relations, Minnesota's state and local government spending was still above average for all spending categories except police and corrections.

Revenues

CHAPTER 3

Most of this report focuses on state and local government expenditures. Even in a report about spending trends, however, it is important to review how government finances its expenditures. Accordingly, this chapter examines changes in state and local government revenues over a 35-year period using data from the Census Bureau. In particular, the chapter addresses the following questions:

- **What are the sources of state and local government revenue in Minnesota and other states? How has the relative share of revenues contributed by state and local taxes changed over time?**
- **How much have overall Minnesota revenues and particular sources of revenues changed over time? Do trends in Minnesota differ from those in other states?**
- **How does the level of revenue collected in Minnesota compare with other states? What accounts for any differences?**

SOURCES OF REVENUE

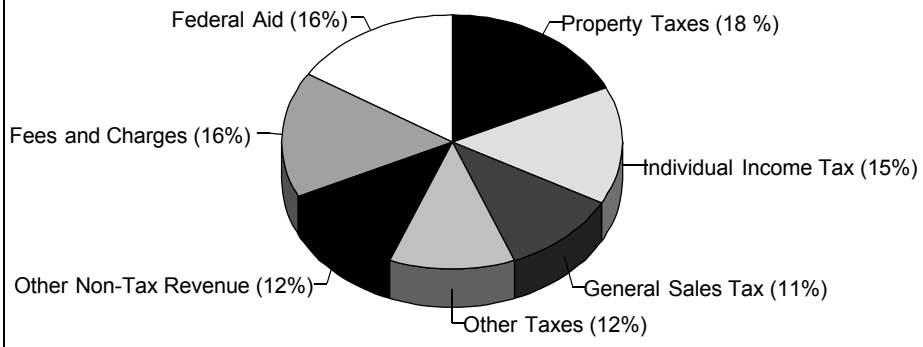
There are six major sources of state and local government revenue in Minnesota:

- Property taxes,
- Individual income taxes,
- General sales taxes,
- Federal aid,
- Charges and fees, and
- Other non-tax revenue.

As Figure 3.1 shows, property taxes accounted for 17.7 percent of state and local government revenue in Minnesota in 1992. The individual income tax and the

In 1992, 56 percent of revenues came from state and local taxes.

Figure 3.1: Sources of State and Local Government Revenue in Minnesota, 1992



Source: U.S. Census Bureau.

general sales tax accounted for 15.3 percent and 11.2 percent of total revenues. Other significant shares of revenue came from federal aid (16.0 percent), charges and fees (15.7 percent), and other non-tax revenue (11.8 percent).[1] Other taxes made up 12.3 percent of revenue.

Overall, 56 percent of total revenue in Minnesota came from state and local taxes, while 43 percent was from other sources. Table 3.1 shows that these overall shares were about the same in other states in 1992. However, other states received

Table 3.1: Sources of State and Local Government Revenue, Minnesota and the United States, 1992

	Minnesota		United States	
TAXES				
Property	17.7%		18.3%	
Individual Income	15.3		11.9	
General Sales	11.2		13.4	
Motor Fuel	2.4		2.4	
Other Selective Sales	4.0		4.4	
Corporate Income	2.2		2.4	
Motor Vehicle License	2.0		1.2	
Other	1.7		3.2	
All state and local taxes		56.5%		57.2%
FEDERAL AID		16.0		18.4
NON-TAX SOURCES				
Charges and Fees	15.7		14.1	
Miscellaneous	11.8		10.4	
All non-tax sources		27.5		24.4
TOTALS		100.0%		100.0%

Source: U.S. Census Bureau.

1 Other non-tax revenue is called "miscellaneous general revenue" by the Census Bureau and consists of interest earnings, special assessments, proceeds from sales of property, and other miscellaneous revenue.

a slightly higher percentage of their revenues from sales taxes, property taxes, and federal aid than did Minnesota. State and local governments in Minnesota received a higher than average share of their revenues from the individual income tax, fees and other non-tax sources of revenue, and the motor vehicle license tax.

State and local governments have become increasingly reliant on fees and other non-tax sources of revenue.

Since 1957, in both Minnesota and other states:

- **The share of government revenue coming from state and local taxes has declined.**
- **The portion of revenues financed from fees and other non-tax sources has increased.**
- **The share of revenues from federal aid has increased but was lower in 1992 than its peak in the mid- to late-1970s.**

Tables 3.2 and 3.3 show that these trends are similar in both Minnesota and other states. The data also show that the share of revenues from both the individual income tax and the general sales tax has increased. The declining share accounted for by all taxes is largely due to the substantial decrease in the share of revenues from property taxes. In Minnesota, the share of revenues from property taxes declined from 38 percent in 1957 to 18 percent in 1992. Decreasing shares from other taxes such as the motor fuel tax and the motor vehicle license tax also contributed to decreased relative reliance on taxes to fund state and local government spending.

Table 3.2: Percentage of State and Local Revenue from Various Sources, Minnesota, 1957-92

	1957	1962	1967	1972	1977	1982	1987	1992
Property	38.3%	39.0%	32.6%	25.6%	18.1%	14.8%	16.8%	17.7%
Individual Income	7.9	10.0	13.0	13.8	16.1	16.3	16.0	15.3
General Sales	NA	NA	NA	7.8	7.9	9.3	10.2	11.2
Motor Fuel	6.2	4.9	4.6	3.9	3.3	2.7	2.5	2.4
Other Sales	7.5	6.6	5.7	5.2	5.7	4.5	4.3	4.0
Corporate Income	2.7	2.9	3.6	3.2	4.3	3.4	2.9	2.2
Motor Vehicle License	4.3	3.5	2.9	2.0	1.8	1.7	1.9	2.0
Other	7.1	4.1	3.2	2.6	3.4	2.8	1.3	1.7
All Taxes	74.0%	71.0%	65.6%	64.1%	60.5%	55.5%	55.9%	56.5%
Federal Aid	9.8	12.3	16.4	16.8	20.9	18.7	15.7	16.0
Charges and Fees	10.4	10.1	11.0	11.9	11.3	14.1	13.9	15.7
Miscellaneous Non-Tax	5.8	6.6	7.0	7.2	7.3	11.7	14.5	11.8
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: U.S. Census Bureau.

Table 3.3: Percentage of State and Local Revenue from Various Sources, United States, 1957-92

	1957	1962	1967	1972	1977	1982	1987	1992
Property	33.7%	32.7%	28.6%	25.6%	21.9%	17.9%	17.6%	18.3%
Individual Income	4.6	5.2	6.4	9.1	10.3	11.1	12.2	11.9
General Sales	10.6	10.4	11.1	12.1	12.8	13.2	14.1	13.4
Motor Fuel	7.5	6.4	5.3	4.3	3.2	2.3	2.3	2.4
Other Sales	6.8	6.4	6.1	5.9	5.3	4.9	4.6	4.4
Corporate Income	2.6	2.2	2.4	2.6	3.2	3.3	3.3	2.4
Motor Vehicle License	3.6	2.9	2.5	2.0	1.6	1.3	1.3	1.2
Other	6.2	5.1	4.5	3.7	3.4	4.1	3.5	3.2
All Taxes	75.5%	71.3%	66.9%	65.4%	61.7%	58.2%	58.9%	57.2%
Federal Aid	10.1	13.5	16.8	18.7	21.9	19.1	16.7	18.4
Charges and Fees	9.9	10.8	11.5	11.3	10.9	12.4	12.7	14.1
Miscellaneous Non-Tax	4.5	4.4	4.8	4.6	5.5	10.3	11.6	10.4
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: U.S. Census Bureau.

TRENDS

Annual state and local government revenues have grown significantly over the last 35 years. In Minnesota, revenues grew from $0.8 billion in 1957 to $19.6 billion in 1992 -- an increase of 2,316 percent. The revenues of all state and local governments in the United States increased even faster (2,450 percent) -- going from $38.2 billion to $973.3 billion.

Over this period, however, inflation has also been significant. The general price levels faced by state and local governments have increased 536 percent. In addition, population has grown 37 percent in Minnesota and 50 percent throughout the United States. Personal income has increased 1,344 percent in Minnesota and 1,346 percent across the country.

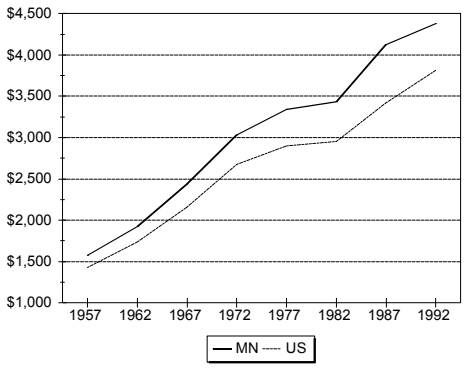
Like expenditure growth, revenue growth should be measured in a way that properly adjusts for changes in price levels and population. In this section, we use two standard methods for measuring revenue growth relative to economic and population changes. These methods are: 1) inflation-adjusted revenues per capita and 2) revenues as a percentage of personal income.

Revenues per Capita

Minnesota's state and local government revenues per capita (in 1992 dollars) grew by 178 percent from $1,576 in 1957 to $4,381 in 1992. Figure 3.2 shows that other states experienced similar increases. The national average grew 168 percent from $1,425 in 1957 to $3,817 in 1992.

The increase in revenues per capita was not, however, uniform throughout this entire 35-year period. Table 3.4 shows that Minnesota revenues per capita grew 92 percent from 1957 to 1992, or 4.5 percent annually. In contrast, revenue growth was only 45 percent, or 1.9 percent annually, from 1972 to 1992.

Figure 3.2: State and Local Government Revenue per Capita (in Constant 1992 Dollars), 1957-92



Source: U.S. Census Bureau.

In addition:

- **Taxes grew the slowest of the four major types of revenues.**

Revenues per capita have grown, but taxes have been the slowest growing source of revenues.

From 1972 to 1992, taxes per capita increased 28 percent compared with 37 percent for federal aid, 91 percent for charges and fees, and 136 percent for miscellaneous non-tax revenues (See Figure 3.3.). The annual rate of growth in tax revenues per capita was 1.2 percent, while charges and miscellaneous revenue grew at annual rates of 3.3 percent and 4.4 percent respectively. Most of the tax growth during these 20 years was in individual income taxes and sales taxes. Property taxes per capita did not change when adjusted for inflation.

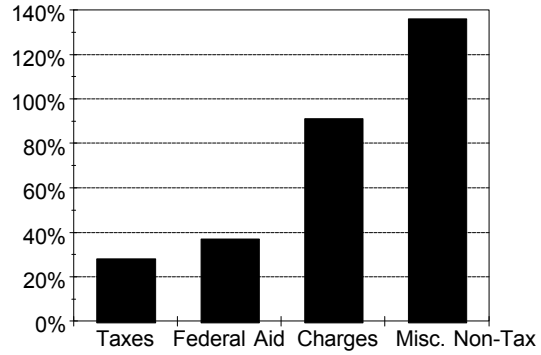
During the earlier period (1957-72), growth in charges and other non-tax revenue was equally strong, but taxes and federal aid increased faster than in the last 20

Table 3.4: Percentage Change in Minnesota Revenues per Capita (in 1992 Dollars), 1957-92

	1957-72	1972-92
Property	29%	0%
Individual Income	233	61
All Sales	138	50
Corporate Income	130	(-3)
Motor Vehicle License	(-13)	50
Other Taxes	(-29)	(-5)
All Taxes	67%	28%
Charges and Fees	119	91
Miscellaneous Non-Tax	139	136
Own Source Revenue	77%	46%
Federal Aid	230	37
All Revenues	92%	45%

Source: U.S. Census Bureau.

Figure 3.3: Percentage Increase in Minnesota Revenue per Capita (in Constant 1992 Dollars), 1972-92



Source: U.S. Census Bureau.

years. Taxes grew 67 percent, or 3.5 percent annually. Federal intergovernmental revenue rose 230 percent, or 8.3 percent annually.

Trends in other states were similar to those in Minnesota. Table 3.5 shows that the average changes in overall revenues per capita and tax revenues per capita were slightly less than those in Minnesota. Overall revenues per capita increased 88 percent nationally from 1957 to 1972 and 43 percent from 1972 to 1992. Increases in Minnesota were 92 percent and 45 percent respectively. Nationally, tax revenues per capita grew 63 percent and 25 percent during these two time periods, compared with 67 percent and 28 percent in Minnesota. Revenue from the federal government, however, grew slightly faster in other states. Over the entire 35-year period, federal aid per capita rose 354 percent in Minnesota compared with 390 percent nationally.

Minnesota's overall revenue trends parallel national trends.

Even though taxes were 74 percent of the state and local government revenue in Minnesota in 1957, Table 3.6 shows that taxes accounted for only 53 percent of the inflation-adjusted growth in revenues per capita from 1957 to 1972. Since taxes grew slower than other revenue sources during this period, taxes declined to 64 percent of all revenues in 1972. Over the next 20 years, taxes again grew

Table 3.5: Percentage Change in State and Local Revenues per Capita (in 1992 Dollars), United States, 1957-92

	1957-72	1972-92
Property	43%	2%
Individual Income	271	86
All Sales	70	29
Corporate Income	92	33
Motor Vehicle License	3	(-15)
Other Taxes	13	21
All Taxes	63%	25%
Charges and Fees	114	78
Miscellaneous Non-Tax	91	221
Own Source Revenue	70%	43%
Federal Aid	249	40
All Revenues	88%	43%

Source: U.S. Census Bureau.

Table 3.6: Percentage of per Capita Revenue Growth Explained by Various Sources, Minnesota, 1957-92

	1957-72	1972-92
Property	12%	0%
Individual Income	20	19
General Sales	16	19
Other	5	2
All State and Local Taxes	53%	40%
Charges and Fees	14	24
Miscellaneous Non-Tax	9	22
Own Source Revenue	76%	86%
Federal Aid	24	14
Totals	100%	100%

Source: U.S. Census Bureau.

slower than other revenues, accounting for 40 percent of the growth in revenues per capita. By 1992, taxes were 57 percent of all revenues.

From 1972 to 1992, various non-tax sources of revenue accounted for nearly half (46 percent) of the revenue growth in Minnesota. Growth in federal aid accounted for 14 percent. Individual income taxes and the general sales tax each accounted for 19 percent of the total growth.

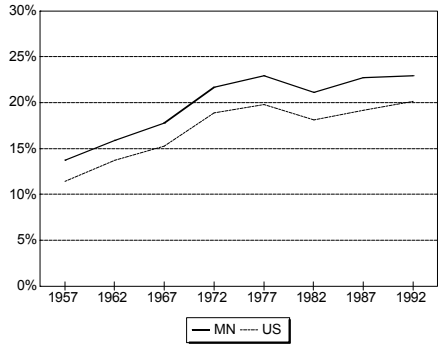
Revenue Growth Compared with Personal Income Growth

State and local government revenues in Minnesota and other states have also grown significantly as a percentage of personal income. As Figure 3.4 shows, Minnesota revenue as a percentage of personal income increased from 13.7 percent in 1957 to 23.0 percent in 1992. Nationally, revenue grew from 11.4 percent to 20.1 percent of personal income.

Table 3.7 shows, however, that:

- **Most of the revenue growth relative to personal income occurred before 1972.**

Figure 3.4: State and Local Government Revenues as a Percentage of Personal Income, 1957-92



Source: U.S. Census Bureau.

Table 3.7: Percentage Change in Minnesota Revenues Relative to Personal Income, 1957-92

	1957-72	1972-92
Property	6%	(-27)%
Individual Income	174	18
All Sales	95	10
Corporate Income	89	(-29)
Motor Vehicle License	(-28)	10
Other Taxes	(-42)	(-30)
All Taxes	37%	(-7)%
Charges and Fees	80	40
Miscellaneous Non-Tax	96	73
Own Source Revenue	46%	7%
Federal Aid	171	1
All Revenues	58%	6%

Source: U.S. Census Bureau.

Since 1972, taxes have not increased as fast as personal income.

From 1957 to 1972, Minnesota revenues relative to personal income rose 58 percent, while the increase was only 6 percent during the next 20 years.[2] Taxes relative to personal income grew 37 percent from 1957 to 1972 but declined 7 percent from 1972 to 1992. Despite the drop in relative tax revenues, overall revenues grew 6 percent from 1972 to 1992 largely because of significant growth in charges and other non-tax revenues. Charges and fees rose 40 percent relative to personal income, while other non-tax revenues increased 73 percent.

The national trends were similar to those in Minnesota. Growth in overall revenues relative to personal income was slightly faster nationally. From 1957 to 1972, overall revenues grew 66 percent relative to personal income. The growth slowed to 7 percent from 1972 to 1992. The slightly higher national growth rates were the result of slightly higher growth rates for personal income and personal income per capita in Minnesota.

Another way of comparing revenues with personal income is to calculate "own source" revenues as a percentage of personal income. Own source revenues include all the revenues included above except federal intergovernmental revenue. For Minnesota, own source revenue as a percentage of personal income increased from 12.4 percent of personal income in 1957 to 19.3 percent in 1992. The pattern of growth was similar to that for all revenues, with own source revenue growing 46 percent relative to personal income from 1957 to 1972 and 7 percent from

2 This calculation is the percentage increase in state and local government revenues as a percentage of personal income.

1972 to 1992. Nationally, own source revenue increased 50 percent relative to personal income during the earlier period and 7 percent from 1972 to 1992.[3]

Growth in More Recent Years

Census data on revenues are not available beyond 1992. Actual data for Minnesota have been published, however, by the Minnesota Department of Finance through 1994. The two data sources cannot be directly compared because of differences in the definition of non-tax revenues, but the Finance data can be used to estimate changes in Minnesota revenues from 1992 to 1994.

The Finance data suggest that both overall revenues per capita and own source revenue per capita increased 7 percent in Minnesota from 1992 to 1994. Taxes per capita rose 8 percent, non-tax revenues increased 4 percent, and federal aid grew 11 percent.

Growth relative to personal income was a little lower than per capita growth. Overall revenues grew 4 percent relative to personal income, while own source revenue was up 3 percent. Taxes increased 4 percent relative to personal income, while federal aid grew 7 percent. The growth in non-tax revenues relative to personal income was less than 1 percent.

Over the last two years, the annual rate of growth in revenues per capita has been about 3.6 percent. This is more than the annual growth rate of 2.5 percent for 1982 to 1992 based on Census data. Similarly, the growth relative to personal income over the last two years is larger than indicated by Census data for the previous ten years. The annual rate of growth in revenues relative to personal income was 1.8 percent according to Finance Department data for 1992 to 1994. From 1982 to 1992, revenues grew 0.8 percent relative to personal income.

NATIONAL COMPARISONS

We have already seen that the level of revenues collected in Minnesota is higher than national averages calculated either on a per capita basis or as a percentage of personal income. In this section, we examine these national comparisons in greater detail. We focus on comparisons of revenues per capita, since comparisons using personal income yield similar results.

3 Own source revenue as a percentage of personal income is similar to the "price of government" calculated under Minnesota state law. These figures are, however, a little higher than those calculated by the Minnesota Department of Finance, because the Census Bureau's definitions of interest earnings and other non-tax revenues appear to be more inclusive than those used by Finance.

Revenues per Capita

Overall:

- **Minnesota state and local government revenue per capita was 15 percent higher than the national average in 1992.**

Table 3.8 also shows how Minnesota compared nationally in 1992 for the major categories of revenue and for particular types of taxes. Minnesota's tax collections per capita were 14 percent above the national average. Revenue per capita from charges and other non-tax sources were 28 percent and 31 percent higher than their respective national averages. As a result, own source revenue per capita was 18 percent above average. Federal aid per capita was 1 percent below the national average.

In 1992, Minnesota collected 15 percent more revenue per capita than the national average.

Table 3.8: Percentage Difference Between Minnesota Revenues per Capita and the National Average, 1992

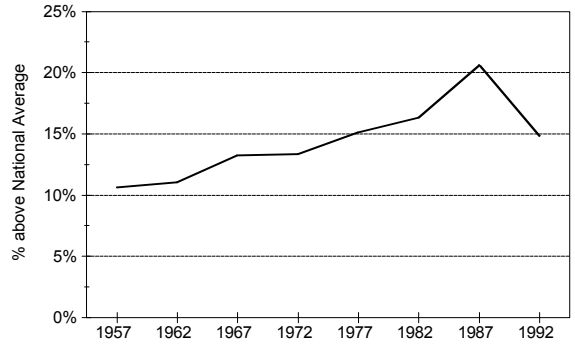
Property	11%
Individual Income	48
General Sales	(-4)
Selective Sales	8
Corporate Income	1
Motor Vehicle License	98
Other	(-37)
All Taxes	14
Charges and Fees	28
Miscellaneous Non-Tax	31
Own Source Revenue	18
Federal Aid	(-1)
All Revenues	15%

Source: U.S. Census Bureau.

Taxes varied considerably in their relationship to national averages. Individual income taxes per capita were 48 percent above average, while general sales tax collections per capita were 4 percent below average. Property taxes per capita were 11 percent above average. Motor vehicle license taxes per capita were 98 percent above the national average, but represent only 2 percent of revenues.

Minnesota's relative rankings have varied somewhat over time, but the general pattern has remained much the same. Figure 3.5 shows that revenues per capita in Minnesota have generally been about 10 to 20 percent above the national average.

Figure 3.5: Percentage Difference Between Minnesota Revenues per Capita and the National Average, 1957-92



Source: U.S. Census Bureau.

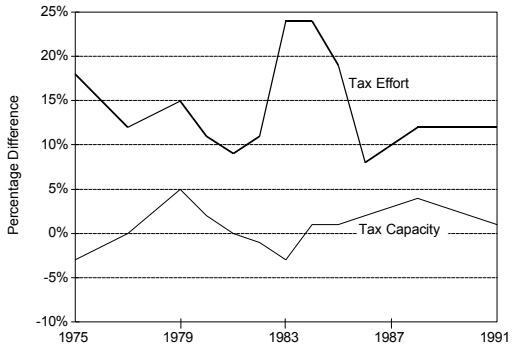
Tax Capacity and Tax Effort

How Minnesota revenues per capita compare with the national average is the product of two factors: 1) tax capacity and 2) tax effort. Tax capacity measures the revenues per capita which would be generated in each state by applying national average tax rates to that state's tax bases. In other words, tax capacity varies across states only because states differ in the economic bases such as income, property wealth, and sales upon which taxes are levied. Tax effort is the ratio of a state's actual revenues to its estimated capacity. Tax effort measures how states differ in the extent to which they tax a given tax base or tax capacity.

State-by-state estimates of tax capacity and tax effort have been published by the Advisory Commission on Intergovernmental Relations (ACIR). Figure 3.6 shows how Minnesota's relative tax capacity and tax effort have changed between 1975 and 1991. Generally:

- **Minnesota's overall tax capacity has been close to the national average, while its tax effort has generally been about 10 to 20 percent above the national average.**

Figure 3.6: Percentage Difference Between Minnesota's Tax Capacity and Tax Effort and the National Averages, 1975-91



Source: U.S. Census Bureau.

Table 3.9 provides more detailed information for specific taxes. In 1991, tax capacity was 1 percent above the national average, while tax effort was 12 percent above average. As a result of these two factors, overall tax revenues per capita were 13 percent above average.

Minnesota's relative tax capacity was fairly close to the national averages for specific types of taxes except for severance taxes which were 92 percent below average. Tax effort varied considerably by type of tax. Tax effort was above average

Table 3.9: Minnesota's Tax Capacity and Tax Effort Compared with the National Average, 1991

	Percentage Difference from National Average for:		
	Tax Capacity	Tax Effort	Tax Revenue Per Capita
Property	(-4)%	12%	8%
Personal Income	4	49	55
General Sales	8	(-9)	(-2)
Selective Sales	(-1)	(-6)	(-7)
License Taxes	2	80	85
Corporation	9	(-2)	7
Estate and Gift	20	(-71)	(-65)
Severance	(-92)	(-72)	(-98)
Other	(-1)	(-25)	(-26)
All Taxes	1%	12%	13%

Source: U.S. Advisory Commission on Intergovernmental Relations.

Minnesota has average tax capacity and above average tax effort.

for individual income taxes (48 percent), property taxes (12 percent), and license taxes (80 percent). Tax effort was below average for all other major tax categories.[4]

The ACIR has also published estimates of capacity and effort which apply to other revenue sources. For 1991, ACIR's broader revenue estimates included user charges, special assessments, rents and royalties, and lottery net income as well as taxes. For this "representative revenue system," ACIR estimated that Minnesota's overall revenue capacity was 1 percent below average, while its revenue effort was 17 percent above average. These factors resulted in overall revenues per capita, as measured by the ACIR, being 16 percent above the national average.

State Aid to Local Governments

Typically, a major component of state budgets is the state aid provided to local governments for a variety of purposes. Expenditure data presented in Chapter 2 do not separately itemize this component and instead count this spending at the local level where it ultimately occurs. It is interesting, however, to see how states vary in the degree to which local governments are dependent on state governments for revenue.

Table 3.10 presents information on state aid to local governments in Minnesota and other states. In general, local governments in Minnesota appear to be more dependent on state government for revenues than in most states. In 1992, state aid to local governments was $1,072 per capita in Minnesota, or 40 percent higher than

4 Tax effort and tax capacity also varied within some of the major categories listed in Table 3.9. For example, within the selective sales tax category, Minnesota's tax effort was above average for the tax on tobacco products (59 percent), the motor fuels sales tax (13 percent), and taxes on distilled spirits (8 percent). Lower than average tax effort on other products and services resulted in overall tax effort for selective sales taxes being 6 percent below average.

Minnesota provides more state aid to local governments than most states.

Table 3.10: State Aid per Capita to Local Governments, Minnesota and the United States, 1992

	Minnesota	National Average	Percentage Difference
Education	$592	$484	22%
Public Welfare	161	101	60
General Support	155	62	152
Highways	71	32	120
Health/Hospitals	18	31	(-41)
Sewerage	16	1	1,426
Public Transit	10	16	(-38)
Housing/Community Development	3	3	(-2)
Other	48	40	20
Total	$1,073	$769	40%

Source: U.S. Census Bureau.

the national average of $769.[5] In Minnesota, state aid per capita to local governments was higher than the national average for education (22 percent), public welfare (60 percent), highways (120 percent), and general support for cities and counties (152 percent). Lower than average state aid per capita occurred for public transit (-38 percent) and housing/community development (-2 percent).

Part of the 40 percent difference in state aid per capita resulted because Minnesota spent 15 percent more overall per capita than other states in 1992. However, after adjusting for this factor, Minnesota state government still provided a higher than average amount of aid to local governments. State aid to local governments as a share of total state and local general revenue in Minnesota was 21 percent above the national average.

SUMMARY

We found that revenue growth for Minnesota's state and local governments was the strongest between 1957 and 1972. Revenue growth slowed considerably since then, but the rate of growth has increased in recent years. Taxes have generally grown the slowest of the major types of revenues. Between 1972 and 1992, tax revenues per capita grew only 28 percent and declined 7 percent relative to personal income.

Minnesota's trends were similar to national trends for state and local governments. The level of revenue collected in Minnesota, however, has consistently been about 10 to 20 percent above the national average. Minnesota has had about average tax capacity but has had a higher level of tax effort than other states.

5 These Census Bureau figures on state aid to local governments include some federal aid which is passed through the states and spent at the local level. This is more likely to be a significant factor with categories such as public welfare than with other categories.

Personnel Costs

CHAPTER 4

Public employee salaries and benefits are a significant portion of state and local expenditures. Personnel costs account for a little less than one-half of the government expenditures in Minnesota. This chapter examines how staffing levels, average salaries, and fringe benefits have changed over the 35-year period from 1957 to 1992. The chapter addresses the following issues:

- **How have public employee staffing levels and average compensation changed over time in Minnesota?**
- **Do trends in Minnesota differ from those in other states?**
- **How do staffing levels, average salaries, and fringe benefit packages for Minnesota's state and local government employees compare with those in other states?**
- **How significantly will future spending trends be affected by the need to fund current unfunded liabilities of public employee pensions in Minnesota?**

This chapter relies primarily on Census Bureau data available every five years from the Census of Governments. Data on employment levels should be carefully interpreted, since states may differ from one another and over time in the degree to which they use private contractors, rather than public employees, to perform certain functions. In addition, the extent to which the public sector is involved in operating utilities and providing solid waste disposal services varies across states.

Salary trends and comparisons also need to be carefully interpreted. For example, trends in average salaries could reflect changes in the mix of employees rather than changes in their average compensation. In general, however, we did not find that changes in, or differences in, the mix of employees significantly affected the trends and comparisons presented in this chapter.

EMPLOYMENT LEVELS

From 1957 to 1992, the number of full-time equivalent employees of state and local governments increased an estimated 132 percent in Minnesota and 169 percent

nationally. In 1992, the number of employees was almost 240,000 in Minnesota and 13,369,000 nationally. As Table 4.1 indicates, about 28 percent of state and local government employees in Minnesota were state employees. School districts had about 38 percent of the employees, while counties had 15 percent. Municipalities and townships accounted for 14 percent of employment, and other public employers had 5 percent.

In 1992, Minnesota had about 240,000 state and local government employees.

Table 4.1: Full-Time Equivalent Employment in State and Local Governments by Jurisdiction, Minnesota and the United States, 1992

	Minnesota		United States	
	FTE Employees	Percent	FTE Employees	Percent
School District	90,601	38%	4,331,714	32%
County	36,921	15	2,032,740	15
Municipal/Township	33,037	14	2,606,220	20
Special District	12,052	5	542,327	4
Local Governments	172,611	72%	9,513,001	71%
State Government	67,332	28	3,856,222	29
Total	239,943	100%	13,369,223	100%

Source: U.S. Census Bureau.

Nationally, a greater share of employment was at the municipal and township levels, and a smaller share was at the school district level. These differences may be due to different organizational structures. In some larger metropolitan areas in other states, schools are run by city governments rather than school districts.

More than half of the state and local government employees in Minnesota were involved with education. As Table 4.2 shows, about 37 percent of employees were in elementary-secondary education and 15 percent were in higher education. Another area employing a substantial share (17 percent) of employees was social services and income maintenance programs. Areas such as transportation, public safety, environment and housing, and government administration each accounted for between 5 and 7 percent of state and local government employment in Minnesota.

Nationally, a larger share of employment was involved with public safety, while a smaller share was in higher education. About 11 percent of state and local government employment nationwide was in public safety (police, corrections, and fire protection) compared with 7 percent in Minnesota. The share of employment in higher education was 12 percent in the United States and 15 percent in Minnesota.

Table 4.2: Full-Time Equivalent Employment in State and Local Governments by Function, Minnesota and the United States, 1992

	Minnesota		United States	
	FTE Employees	Percent	FTE Employees	Percent
Higher Education	35,809	15%	1,546,970	12%
Elementary-Secondary Education	87,982	37	5,000,164	37
Other Education/Libraries	3,816	2	193,333	1
Social Services/Income Maintenance	40,403	17	2,011,879	15
Transportation	12,994	5	591,760	4
Public Safety	17,109	7	1,507,370	11
Environment/Housing	13,437	6	748,226	6
Government Administration/Judicial	15,634	7	857,233	6
Utilities	5,094	2	443,431	3
Other	7,665	3	468,857	4
Total	239,943	100%	13,369,223	100%

Source: U.S. Census Bureau.

Trends

Growth in public employment is best measured relative to changes in population. As a state's population grows, there is generally an increase in the demand for public services such as education, transportation, and police protection. The number of public employees thus typically grows along with population.

State and local government employment per capita has not grown much since 1972.

From 1957 to 1992, the number of state and local government employees per capita increased 70 percent in Minnesota. However, as Table 4.3 indicates:

- **Most of the growth in public employment occurred between 1957 and 1972.**

During that period, the number of employees per capita increased 53 percent in Minnesota. In contrast, employment per capita increased only 11 percent from 1972 to 1992. Employment growth was a little stronger in other states. Nation-

Table 4.3: Estimated Percentage Change in Employment per Capita, Minnesota and the United States, 1957-92

	Minnesota	United States
1957-72	53%	56%
1972-92	11	16
1957-92	70%	81%

Source: U.S. Census Bureau.

ally, the number of state and local government employees per capita increased 56 percent from 1957 to 1972 and 16 percent from 1972 to 1992.[1]

In Minnesota, employment in higher education grew the fastest throughout this 35-year period (See Table 4.4). The number of higher education employees per capita more than tripled from 1957 to 1992. Several other government functions also experienced strong employment growth. Employment per capita in social services, environment/housing, and government administration each doubled.[2] As Figure 4.1 indicates, the number of employees per capita in elementary-secondary education increased significantly from 1957 to 1972, but declined during the next 15 years before increasing almost back to 1972 levels. The only major area which experienced a decline in employment per capita over the entire 35-year period was transportation.

The strongest growth in public employment has been in higher education.

Table 4.4: Percentage Change in Employment per Capita, Minnesota, 1957-92

	1957-72	1972-92	1957-92
Higher Education	115%	63%	249%
Elementary-Secondary Education	74	(-1)	72
Other Education/Libraries	35	41	91
Social Services/Income Maintenance	53	39	112
Transportation	3	(-13)	(-11)
Public Safety	53	27	95
Environment/Housing	38	51	109
Government Administration/Judicial	41	49	111
Utilities	46	17	71
Other	41	(-20)	12

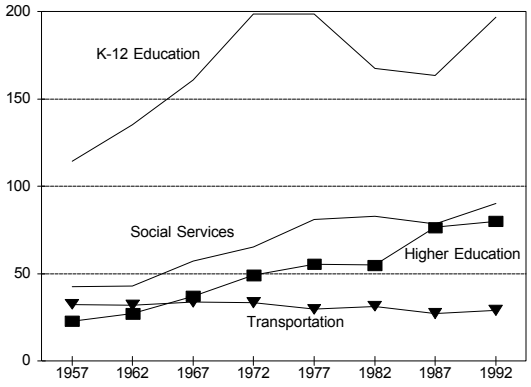
Source: U.S. Census Bureau.

Two-thirds of the employment growth between 1957 and 1972 was in education. According to Table 4.5, employment growth in elementary-secondary education accounted for 50 percent of overall growth in employment per capita, while 16 percent of the growth was in higher education. From 1972 to 1992, elementary-secondary education was not a factor in overall employment growth. Higher

1 Figures on employment and salary trends were adjusted to reflect a change in the definition of a full-time equivalent employee which the Census Bureau made in 1986. As a result, our figures are slightly different than published Census numbers. Published Census figures do not correct earlier figures for the change in how part-time employees were counted in full-time equivalents. We adjusted for the change in definition by assuming that, for 1957 to 1982, the ratio of full-time equivalents from part-time workers to the total number of part-time workers was equal to the average for 1987 and 1992. Our overall trend results are similar to those using unadjusted Census data. National comparisons of employment levels and average salaries are somewhat affected, however, because Minnesota has typically had a greater share of part-time workers than other states.

2 These rates of increase are based on unadjusted Census Bureau data on the number of full-time equivalent employees. Lack of adequate data by government function prevented us from adjusting for the change in definitions used by the Census Bureau. The adjusted rates of increase would probably be a little lower than those appearing in Table 4.4. The rates shown in Table 4.4 are, however, probably a good indication of the relative growth across various government functions.

Figure 4.1: Full-Time Equivalent Public Employment per 10,000 Population, Minnesota, 1957-92



Source: U.S. Census Bureau.

education was responsible for 39 percent of the overall growth, and social services accounted for 32 percent of the growth.

Student enrollment trends played a role in the employment changes in education. However, employment did not simply rise or fall in response to enrollment trends. For example, in elementary-secondary education, enrollment in Minnesota declined 15 percent from 1972 to 1992, while the number of staff increased 14 percent according to Census Bureau figures.[3] Although employment per capita declined 1 percent, enrollment per capita declined 27 percent over the 20-year period.

National Comparisons

Figure 4.2 shows how Minnesota has compared with the national average for state and local government employees per capita over the 35-year period. Over the last decade, Minnesota has been at or near the national average. In 1992, the number of public employees per capita in Minnesota was 2 percent above the national average.

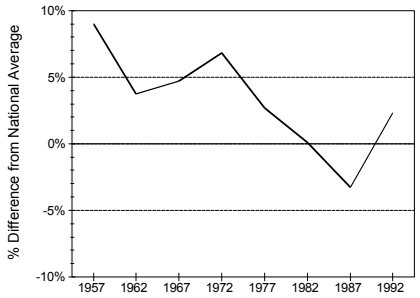
Table 4.5: Share of Employment Growth from Various Sources, Minnesota, 1957-92

	1957-72	1972-92	1957-92
Higher Education	16%	39%	23%
Elementary-Secondary Education	50	(-3)	33
Other Education/Libraries	1	3	2
Social Services/Income Maintenance	13	32	19
Transportation	1	(-6)	(-1)
Public Safety	6	10	8
Environment/Housing	3	13	6
Government Administration/Judicial	4	15	7
Utilities	2	2	2
Other	4	(-5)	1
	100%	100%	100%

Source: U.S. Census Bureau.

3 Data from the National Center for Education Statistics suggest a somewhat lower rate of employment growth (7 percent instead of 14 percent) in Minnesota's elementary-secondary schools from 1972 to 1992.

Figure 4.2: Percentage Difference in Employees per Capita, Minnesota vs. the National Average, 1957-92



Source: U.S. Census Bureau.

In 1992, Minnesota had slightly more public employees than the national average.

Table 4.6 indicates how Minnesota compared with the national averages for a variety of government functions in 1992. State and local government employment per capita in Minnesota was substantially above national averages for public welfare (43 percent), natural resources (33 percent), higher education (32 percent), and highways (31 percent). Minnesota's employment was 35 percent below average for public safety functions including police, corrections, and fire protection and 19 percent below average for judicial system related activities. Minnesota was also 35 percent below average for public utilities and 56 percent below average for solid waste management. The comparisons for public utilities and solid waste management are difficult to interpret, however, since states may differ significantly in the degree to which private enterprises, rather than public entities, perform some of these functions.

It is also important to understand differences among states in how employment is divided between state government and various local governments. Outside of education, Minnesota has more of its public employees in local governments and fewer in state government. In fact, in 1992, Minnesota had 24 percent fewer state employees per capita outside of education than the national average. This figure is misleading, however, for two reasons. First, Minnesota's system of state and local governments is simply more decentralized than most other states. Minnesota has a greater share of its employees in social services, transportation, and public safety in local governments than other states. Some of these local government employees perform functions which are performed by state government employees in other states. Minnesota state government is not necessarily leaner than other states. Second, when education is included, the number of state employees per capita in Minnesota was very close to the national average. Table 4.7 shows that state government employment in Minnesota was 1 percent below the national average in 1992, and local government employment was 3 percent above average. This occurred because higher education employment is more concentrated at the state level in Minnesota than in other states.

Minnesota has higher than average public employment levels for higher education, public welfare, highways, and natural resources.

Table 4.6: Percentage Difference in Employees per Capita, Minnesota vs. the National Average, 1992

	Percentage Difference from National Average	
Higher Education	32%	
Elementary-Secondary Education	0	
Other Education	(-5)	
Libraries	31	
Education Services		8%
Public Welfare	43	
Hospitals	17	
Health	(-17)	
Social Insurance Administration	(-35)	
Social Services/Income Maintenance		14
Highways	31	
Air/Water Transportation	(-45)	
Transportation		25
Police	(-25)	
Fire Protection	(-51)	
Corrections	(-41)	
Public Safety		(-35)
Natural Resources	33	
Parks and Recreation	9	
Housing/Community Development	4	
Sewerage	(-4)	
Solid Waste Management	(-56)	
Environment/Housing		2
Financial and Other Administration	16	
Judicial/Legal	(-19)	
Government Administration		4
Water Supply	(-36)	
Electric and Gas	(-37)	
Transit	(-33)	
Utilities		(-35)
State Liquor Stores		(-100)
All Other		(-5)
Total		2%

Source: U.S. Census Bureau.

Table 4.7: Employees per 10,000 Population by Level of Government and Function, Minnesota and the United States, 1992

	State Government			Local Governments			Combined State and Local		
	Minnesota	United States	Percentage Difference	Minnesota	United States	Percentage Difference	Minnesota	United States	Percentage Difference
Higher Education	74.1	50.4	47%	5.8	10.2	(-43)%	79.9	60.6	32%
Elementary-Secondary Education	0.0	1.1	(-100)	196.4	194.9	1	196.4	196.0	0
Other Education	3.6	3.8	(-5)	0.0	0.0	NA	3.6	3.8	(-5)
Libraries	0.0	0.0	NA	4.9	3.7	31	4.9	3.7	31
Education Services	77.6	55.4	40%	207.1	208.9	(-1)%	284.8	264.2	8%
Social Service/Income Maintenance	27.6	39.7	(-30)	62.6	39.2	60	90.2	78.9	14
Transportation	11.4	10.3	10	17.6	12.8	37	29.0	23.2	25
Public Safety	7.3	16.9	(-57)	30.8	42.2	(-27)	38.2	59.1	(-35)
Environment/Housing	9.0	7.3	24	21.0	22.1	(-5)	30.0	29.3	2
Government Administration/Judicial	9.9	11.9	(-17)	25.0	21.7	15	34.9	33.6	4
Utilities	0.0	1.1	(-100)	11.4	16.3	(-30)	11.4	17.4	(-35)
Other	7.3	8.6	(-16)	9.9	9.8	1	17.1	18.4	(-7)
All Non-Education	72.6	95.8	(-24)%	178.2	164.1	9%	250.8	259.9	(-4)%
TOTAL	150.3	151.2	(-1)%	385.3	372.9	3%	535.6	524.1	2%

Source: U.S. Census Bureau.

AVERAGE SALARIES AND PAYROLLS

Salary Trends

Average salaries for state and local government employees in Minnesota increased more than eight-fold from about $3,800 in 1957 to more than $31,000 in 1992.[4] The average national increase was a little less, as average salaries increased from about $3,900 to almost $30,000.

Like the private sector, little real growth in wages has occurred in the public sector since the early 1970s.

Much of the increase in salaries, particularly since 1972, was due to inflation. Table 4.8 shows that, after adjusting for inflation, average salaries increased 70 percent in Minnesota and 60 percent nationally from 1957 to 1972. However:

- **Average inflation-adjusted salaries increased only slightly from 1972 to 1992.**

During the last 20 years, average salaries for state and local government employees increased 4 percent in Minnesota and 3 percent across the country after inflation. The slowdown in the increase in public employee salaries is consistent with wage trends in the private sector of the U.S. economy.

4 Salary trends and comparisons made in this chapter also reflect the adjustment we made to correct for the Census Bureau's change in the definition of a full-time equivalent employee. In general, published Census data tend to overstate the employment growth and understate the payroll growth which has occurred in state and local governments. No adjustment is necessary when overall payroll trends are examined.

Table 4.8: Changes in Average Inflation-Adjusted Salaries for State and Local Government Employees, Minnesota and the United States, 1957-92

	Minnesota	United States
1957-72	70%	60%
1972-92	4	3
1957-92	77%	64%

Source: U.S. Census Bureau.

Growth in state and local government payroll costs has slowed down considerably since 1972.

Payroll Trends

Changes in public payrolls depend on both employment trends and average salary trends.[5] Table 4.9 shows how state and local government payrolls per capita have changed since 1957 after adjusting for inflation. Reflecting both employment and salary trends, payrolls per capita increased significantly from 1957 to 1972 and modestly from 1972 to 1992.

Minnesota public payrolls per capita increased 160 percent in constant dollars from 1957 to 1972, compared with a national average of 149 percent. From 1972 to 1992, inflation-adjusted payrolls per capita increased only 16 percent in Minnesota, slightly less than the national average of 19 percent. Minnesota's 16 percent increase includes an 11 percent increase in employees per capita and a 4 percent increase in average inflation-adjusted salaries.

National Comparisons

As Figure 4.3 shows, average state and local government salaries in Minnesota have generally been above the national average in recent years. Since 1972,

Table 4.9: Changes in Inflation-Adjusted Payrolls per Capita for State and Local Government Employees, Minnesota and the United States, 1957-92

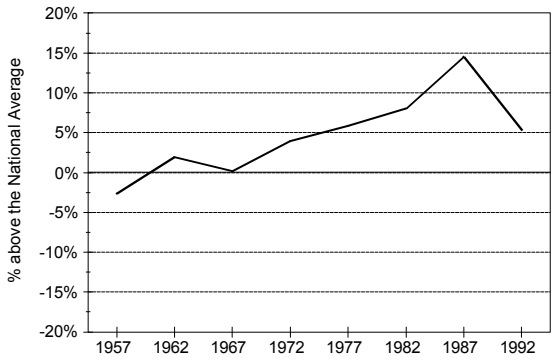
	Minnesota	United States
1957-72	160%	149%
1972-92	16	19
1957-92	201%	196%

Source: U.S. Census Bureau.

5 Payrolls include only salaries and wages, not fringe benefits.

In 1992, average salaries for Minnesota's public employees were 5 percent above the national average.

Figure 4.3: Percentage Difference in Average Public Employee Salaries, Minnesota vs. the National Average, 1957-92



Source: U.S. Census Bureau.

average salaries have been between 4 and 15 percent above average. In 1992, average salaries were 5 percent above the national average.[6]

Minnesota's overall public payrolls per capita have been above the national average throughout most of the 35-year period since 1957. Payrolls per capita have generally been between 5 and 10 percent above the national average. For 1992, payrolls per capita were about 8 percent above the national average. This 1992 figure reflects an employment level which was 2 percent above average and average salaries which were 5 percent above average.

Table 4.10 shows how average salaries and payrolls per capita in Minnesota compared with national averages in 1992 for a variety of government functions. In

Table 4.10: Percentage Difference in Average Salaries and Payrolls per Capita, Minnesota and the National Average, 1992

	Percentage Difference from the National Average	
	Average Salaries	Payrolls per Capita
Higher Education	4%	37%
Elementary-Secondary Education	6	6
Social Services/Income Maintenance	3	18
Transportation	16	45
Public Safety	5	(-32)
Environment/Housing	11	14
Government Administration/Judicial	10	15
Utilities	(-6)	(-38)
Other	4	3
Total	5%	8%

Source: U.S. Census Bureau.

6 It is difficult to determine if the higher than average public employee salaries in Minnesota reflect higher than average private sector salaries. In general, available data do not suggest that the higher than average public employee salaries can be explained by higher than average private sector salaries or a higher than average cost of living in Minnesota. However, the lack of adequate comparison data on the private sector prevents us from reaching a definitive conclusion.

general, average salaries in Minnesota were above the national average for all functions listed in the table except public utilities. Average salaries were 10 percent or more above average in transportation, environment/housing, and government administration.

Payrolls per capita were above average for all functions except public utilities and public safety, which both had below average employment levels. Payrolls per capita in Minnesota were 45 percent above average in transportation, 37 percent above average in higher education, and 18 percent above average for social services and income maintenance programs. Payrolls per capita were 38 percent below average for public utilities and 32 percent below average for public safety functions.

FRINGE BENEFITS

The most recent data available on employee fringe benefits paid by state and local governments in Minnesota is for 1987.[7] Minnesota's state and local governments spent about $1.18 billion on fringe benefits, or about 20.1 percent of employee payroll. The average cost per employee was about $5,749.

There are three major types of fringe benefits: social security, employee retirement, and health and disability insurance. Together, these three benefit categories accounted for 97 percent of Minnesota's fringe benefit expenditures in 1987. As Table 4.11 and Figure 4.4 show, employee retirement expenditures were 37 percent of overall fringe benefit expenditures, with social security and health and disability insurance each accounting for 30 percent.[8]

Table 4.11: Cost of Employee Benefits per Employee, Minnesota, 1987

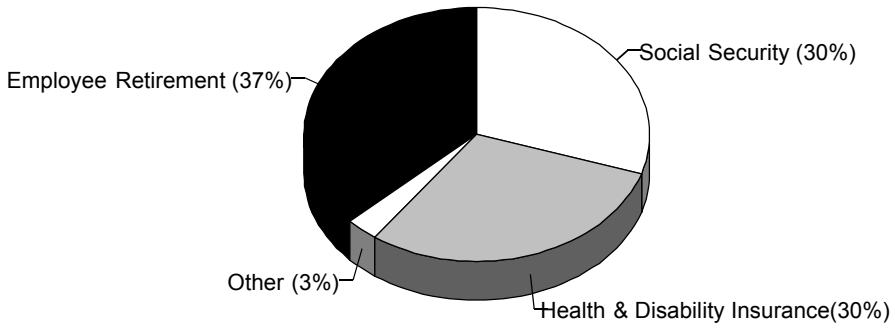
	Amount	Percent
Social Security	$1,703	29.6%
Employee Retirement	2,120	36.9
Health and Disability Insurance	1,744	30.3
Life Insurance	76	1.3
Unemployment Insurance	44	0.8
Bonuses and Cash Awards	41	0.7
Severance Pay	18	0.3
Other Benefits	4	0.1
Total	$5,749	100.0%

Source: U. S. Census Bureau.

7 Comprehensive data on the fringe benefit expenditures made by state and local governments are only available from the Census Bureau for selected years (1967, 1982, and 1987).

8 The costs of vacations, holidays, and sick leave are not included in fringe benefits, since the Census Bureau includes these items in payroll costs.

Figure 4.4: Cost of Employee Benefits, Minnesota, 1987



Source: U.S. Census Bureau.

Trends

Fringe benefits have grown much faster than inflation.

We used Census Bureau data to examine the trend in fringe benefit expenditures between 1967 and 1987. Comparable data were available for both years for the four largest types of fringe benefits. Census data show that:

- **Between 1967 and 1987, fringe benefits paid by state and local governments in Minnesota increased much faster than inflation and average salaries.**

The cost of these fringe benefits in Minnesota increased from $518 per employee in 1967 to $5,642 in 1987. After adjusting for inflation, fringe benefits increased by 182 percent, or 5.3 percent per year.[9] Fringe benefit costs also increased significantly faster than average salaries, going from 9 percent of payrolls in 1967 to 20 percent of payrolls in 1987.

Table 4.12 shows the change in cost between 1967 and 1987 for different types of fringe benefits. The table indicates that:

- **Most of the growth in fringe benefit costs is due to the rising costs of health and disability insurance and Social Security.**

The fastest growing benefit was health and disability insurance, which increased by 11.3 percent per year in Minnesota, after adjusting for inflation. Social Security costs increased by 7.1 percent annually. Together, these two benefits explained 77 percent of the growth in average fringe benefit cost. Retirement costs

9 Data from the Bureau of Labor Statistics' Employment Cost Index suggest that the national growth rate for fringe benefits paid by state and local governments tapered off after 1987. These data indicate an annual rate of increase of only 0.3 percent between 1987 and 1995 after adjusting for inflation, compared with a 4.7 percent annual rate of increase between 1967 and 1987 using Census data. We are somewhat skeptical of the more recent trends indicated by the Employment Cost Index. In Minnesota, health insurance and social security contributions made by school districts continued to increase after 1987. Total fringe benefit expenditures made by Minnesota school districts increased from 21.3 percent of payroll in 1987 to 24.9 percent in 1994.

Table 4.12: Trend in Average Cost of Employee Benefits, Minnesota, 1967-87 (in Constant 1992 Dollars)

	Cost per Employee				
	1967	1987	Percent Change	Annual Growth Rate	Percent of Growth
Social Security	$518	$2,053	297%	7.1%	35%
Employee Retirement	1,616	2,557	58	2.3	21
Health and Disability Insurance	248	2,103	748	11.3	42
Life Insurance	29	92	215	5.9	1
Total	$2,411	$6,804	182%	5.3%	100%

Source: U. S. Census Bureau.

Health insurance and Social Security costs have grown the most.

grew by 2.3 percent per year, considerably less than the other two major benefit categories. As a result:

- **Employee retirement costs explained only 21 percent of the growth in fringe benefit costs between 1967 and 1987.**

As Table 4.13 shows, the share of fringe benefit costs going for employee retirement declined from 67 percent in 1967 to 38 percent in 1987. Furthermore, Census data indicate that Minnesota's retirement costs per public employee declined by about 13 percent between 1987 and 1992. The recent trend in retirement contributions in Minnesota and throughout the nation is, in part, the result of increased retirement fund earnings.

Table 4.13: Change in Share of Fringe Benefit Cost by Type of Benefit, Minnesota, 1967-87

	Percent Share	
	1967	1987
Social Security	21%	30%
Employee Retirement	67	38
Health and Disability Insurance	10	31
Life Insurance	1	1
Total	100%	100%

Source: U. S. Census Bureau.

National Comparisons

In 1987, fringe benefits provided by Minnesota's state and local governments cost 3 percent more per employee than the national average. As Table 4.14 shows, Minnesota's costs were higher because its Social Security costs were higher. Social Security covers almost all of Minnesota's state and local government employees, but several states continue not to participate in Social Security. While

Minnesota's fringe benefit costs per employee were 3 percent above the national average.

Table 4.14: Annual Employee Benefit Cost per Employee, Minnesota and the National Average, 1987

	Minnesota	United States	Percent Difference
Social Security	$1,703	$1,120	52%
Employee Retirement	2,120	2,557	-17
Health and Disability Insurance	1,744	1,734	1
Life Insurance	76	61	25
Other Benefits	107	103	4
Total	$5,749	$5,575	3%

Note: The annual average cost is the October 1987 cost times 12 divided by the number of full-time-equivalent employees in October 1987.

Source: U. S. Census Bureau.

governments typically make higher retirement contributions when employees are not covered by Social Security, the additional retirement contribution is usually less than the cost of Social Security. Minnesota's health and disability insurance costs differed from the national average by less than 1 percent.

Future Employee Retirement Costs

We showed that employee retirement costs have increased moderately faster than inflation and do not explain much of the growth in fringe benefits. However, since many retirement funds have large unfunded liabilities, some policy makers are concerned about how much retirement benefits will cost state and local governments in the future. To address this issue, we examined the actuarial valuation reports for 14 retirement funds for Minnesota public employees, including the three major funds (the Minnesota State Employees Retirement Fund, the Teachers Retirement Fund, and the Public Employees Retirement Fund). These valuation reports estimate the funds' unfunded liability as of July 1, 1995, and determine whether the current employee and employer contribution rates are sufficient to eliminate the unfunded liability by the year 2020.

There are different methods for measuring unfunded liability and the adequacy of pension funding. This section is based on the method required by statute for actuarial valuations.[10] Other methods may yield different results.[11]

10 Minn. Stat. §356.20 and §356.215.

11 The method we used values assets at cost and includes realized capital gains and losses, plus one-third of unrealized capital gains and losses. The rationale for this method is to stabilize estimates of contribution requirements. Otherwise, fluctuations in the stock and bond markets could cause large changes in the contribution requirements. When stock and bond markets have been rising, this method tends to value assets below market value. When markets have been declining, it tends to value assets above market value. Since markets have been rising, recent actuarial valuations of assets are below market value. For example, on July 1, 1995, the assets of the Public Employees Retirement Fund had an actuarial value of $5.14 billion, about 2.4 percent less than the market value of $5.27 billion.

As Table 4.15 shows, most of the retirement funds, including the three major funds, have significant unfunded liability. The overall unfunded liability was about $4.0 billion, about 16 percent of the funds' total accrued liability. But, in most cases, including all three of the major funds, actuarial valuations indicate that the combined employee/employer contribution rate is within 1 percent of the rate required to eliminate the unfunded liability by 2020.

Six of the funds do not have sufficient current contribution rates to eliminate their unfunded liabilities by 2020. Actuaries estimate that additional annual contributions of about $38 million would be required to eliminate the unfunded liabilities. For the other eight funds, contributions exceed the amounts required to eliminate unfunded liabilities by an estimated $21 million per year.

For all three major retirement funds, the actual contribution is within 1 percent of payroll of the amount required to eliminate the unfunded liability by 2020. The contribution rates were 0.36 percent and 0.22 percent above the required rate for the Teachers Retirement Fund and the State Employees Retirement Fund, respectively. The contribution rate was 0.70 percent below the required rate for the Public Employees Retirement Fund. Nevertheless, the contribution deficiency for the Public Employees Retirement Fund is large, because it is the second largest fund in the state. Its estimated annual deficiency is $20.2 million per year, the largest deficiency of the funds we examined.

Funds with large deficiencies in their combined employee and employer contribution rates include the teacher retirement funds for Minneapolis, St. Paul, and Duluth, the Legislators Retirement Fund, and the Elected State Officers Retirement Fund. The total unfunded liability of these five funds is about $678 million, of which 91 percent is due to the teacher retirement funds in Minneapolis and St. Paul. To eliminate the unfunded liability by 2020, according to actuarial valuations, the Minneapolis Teachers Retirement Fund needs to increase its employee/employer contribution rate from 19.00 to 25.18 percent of payroll. This would increase its contribution by $10.8 million annually. The St. Paul Teachers Retirement Fund needs to raise its contribution rate from 15.87 to 17.96 percent of payroll, an increase of $3.1 million per year. The retirement funds for legislators and elected state officers are much smaller than the other retirement funds and account for less than 1 percent of the total unfunded liability. The reason that they have large deficiencies in their current contribution rates is that these two funds are designed to run differently than other employee retirement funds. Unlike other funds, government contributions to these funds do not occur until an individual's retirement. To eliminate the unfunded liability by 2020, the total employee/employer contributions would need to be increased by 32.5 percent for the Legislators Retirement Fund and 34.6 percent for the Elected State Officers Retirement Fund.[12] This would require additional annual contributions of $2.34 million for the Legislators Retirement Fund and $0.16 million for the Elective State Officers Retirement Fund.

12 Assets reported for the Legislators Retirement Fund and the Elected State Officers Retirement Fund include employee contributions made to the state's general fund that are not held in segregated reserves. If these contributions were not counted as assets, the deficiency would be 36.74 percent and 38.92 percent of payroll, respectively.

Table 4.15: Actuarial Valuations of Minnesota Public Employee Retirement Funds as of July 1, 1995 (Dollar Figures in Thousands)

Retirement Fund	Teachers	Public Employees	State Employees	Minneapolis Employees	Public Employees Police and Fire	Minneapolis Teachers	Police and Fire Consolidation
Accrued Liability	$9,717,623	$6,622,069	$3,795,926	$1,230,966	$1,196,795	$983,249	$744,514
Assets	8,348,124	5,138,461	3,462,098	964,886	1,385,901	554,960	675,332
Unfunded Accrued Liability	1,369,499	1,483,608	333,828	266,080	(189,106)	428,289	69,182
Funding Ratio	85.9%	77.6%	91.2%	78.4%	115.8%	56.4%	90.7%
Contributions Required to Fully Fund Accrued Liabilities by 2020 (as Percent of Payroll)	14.30%	9.61%	8.05%	44.48%	16.49%	25.18%	N/A
Actual Contributions (Percent of Payroll)							
Employee Contributions	6.51	4.31	4.07	9.75	7.60	6.16	
Employer Contributions	8.15	4.60	4.20	22.20	11.40	9.80	
Additional Contribution [1]	--	--	--	12.53	--	3.04	--
Total Contributions	14.66%	8.91%	8.27%	44.48%	19.00%	19.00%	
Contribution Surplus (Deficiency)							
Percent of Payroll	0.36%	(0.70)%	0.22%	0.00%	2.51%	(6.18)%	0.00%
Annual Amount	$8,251	$(20,201)	$3,598	$0	$7,878%	$(10,775)	$0

The impact of these fourteen funds on future state and local spending is somewhat difficult to forecast for several reasons. First, actuarial valuations vary from year to year. While the numbers presented in Table 4.15 represent the most current actuarial valuations of these funds, these actuarial estimates will likely change in the future as actuaries revise their assumptions or use more current information on factors such as investment performance. Second, it is unclear how the Legislature will choose to address the problems of funds with persistent deficiencies or adjust the contribution rates of funds with persistent surpluses. Adjustments can either be made to the contributions made by state and local governments to pension funds or to the contributions made by employees. Only the former affects state and local spending. Finally, estimated impacts on state and local expenditures are also affected by the timing of any adjustments to the funds. For example, if a persistent deficiency in a fund is not addressed at this time, it would have a potentially greater percentage impact on state and local spending when addressed in the future.

Despite these problems, we can provide a rough estimate of the potential impact of retirement fund deficiencies on future state and local government spending. In making this estimate, we assume that all deficiencies and surpluses in the annual contribution rates are eliminated by changing the level of contributions made by state or local governments. In addition, we assume that all deficiencies and surpluses are addressed promptly. Table 4.15 shows that, under those conditions:

Table 4.15: Actuarial Valuations of Minnesota Public Employee Retirement Funds as of July 1, 1995 (Dollar Figures in Thousands), continued

Retirement Fund	St. Paul Teachers	State Patrol	Duluth Teachers	Correctional Employees	Judges	Legislators	Elective State Officers	TOTAL
Accrued Liability	$633,070	$283,078	$173,965	$153,491	$102,238	$50,255	$2,948	$25,690,187
Assets	445,733	284,918	142,852	165,427	56,813	21,213	378	21,647,096
Unfunded Accrued Liability	187,337	(1,840)	31,113	(11,936)	45,425	29,042	2,570	4,043,091
Funding Ratio	70.4%	100.6%	82.1%	107.8%	55.6%	42.2%	12.8%	84.3%
Contributions Required to Fully Fund Accrued Liabilities by 2020 (as Percent of Payroll)	17.96%	21.34%	13.23%	11.11%	27.32%	41.54%	43.58%	
Actual Contributions (Percent of Payroll)								
Employee contributions	5.90	8.92	5.50	4.90	6.36	9.00	9.00	
Employer contributions	9.54	14.88	5.79	6.27	22.00	0.00	0.00	
Additional contribution1	0.43	--						
Total Contributions	15.87%	23.80%	11.29%	11.17%	28.36%	9.00%	9.00%	
Contribution Surplus (Deficiency)								
Percent of Payroll	(2.09)%	2.46%	(1.94)%	0.06%	1.04%	(32.54)%	(34.58)%	
Annual Amount	$(3,100)	$984	$(942)	$44	$244	$(2,340)	$(156)	$(16,515)

Source: Actuarial valuation reports prepared by the actuary for the Legislative Commission on Pensions and Retirement.

[1]Additional contributions for the Minneapolis Employees Retirement Fund are paid for by the state. For Minneapolis Teachers Retirement Fund, contributions equal to 2.87 percent of payroll are shared by the state (50%), the city (25%), and the school district (25%). In addition, fund members pay an administrative assessment of .17 percent of payroll. For the St. Paul Teachers Retirement Fund, the state pays 0.34 percent of payroll and fund members pay an administrative assessment of 0.09 percent of payroll.

- **Full funding of these 14 retirement funds by the year 2020 would require additional annual funding of about $17 million in 1995 dollars.**

Current pension fund deficiencies will likely have only a minor impact on future government spending.

While this is a significant amount of additional government spending, it is not likely to be a major factor in future spending trends. In 1995, this overall deficiency represented 0.12 percent of the state and local government taxes collected in Minnesota. [13]

SUMMARY

Significant growth in staffing levels and average salaries in both Minnesota and other states occurred between 1957 and 1972. In Minnesota, the number of state and local government employees per capita increased 53 percent, and average inflation-adjusted salaries grew 70 percent. Nationally, employment growth was

13 Assuming no change in actuarial valuations, the annual net deficiency in years between 1995 and 2020 would remain a constant percentage of payroll and would consequently grow at the rate of payroll growth.

slightly greater (56 percent), while salary increases were lower (60 percent). Two-thirds of the employment growth in Minnesota was in elementary-secondary education and higher education, both of which were experiencing significant enrollment increases.

Much less growth in both staffing levels and salaries occurred between 1972 and 1992. The number of employees per capita in Minnesota increased only 11 percent, compared with 16 percent nationally. Average salaries rose 4 percent in Minnesota and 3 percent nationally. In Minnesota, 39 percent of the employment growth was in higher education, and 32 percent was in social services and income maintenance programs.

Fringe benefit costs per employee in Minnesota increased by 182 percent between 1967 and 1987, after adjusting for inflation. Most of this growth was due to rapidly increasing health and disability insurance costs and Social Security costs. Employer contributions to public employee pension funds also increased, but at a slower rate.

In 1992, Minnesota had 2 percent more state and local government employees than the national average. Average salaries were about 5 percent higher than average, but total compensation per employee may be a little closer to the national average. The last available data on fringe benefits indicated that fringe benefits were a smaller percentage of salary costs in Minnesota than nationally. In 1987, fringe benefits in Minnesota were 20.1 percent of payroll costs compared with 22.3 percent for all state and local government employees in the United States. Lower employer retirement contributions and health and disability expenditures were responsible for the lower ratio of fringe benefits to payroll costs.

Actuarial valuations indicate that contributions to public employee pension funds in Minnesota will have to increase in order to eliminate the unfunded liabilities of the funds by 2020. We estimate that additional annual contributions of $17 million per year would be required for the 14 retirement funds covering most of Minnesota's public employees. This is a significant amount of money, but it represents only about 0.12 percent of the state and local government taxes collected in Minnesota during 1995. As a result, it is not likely to be one of the major factors driving future spending in Minnesota.

Elementary-Secondary Education

CHAPTER 5

Elementary-secondary education is the largest single activity funded by state and local governments. In Minnesota, 37 percent of employees and 24 percent of state and local spending are in elementary-secondary education. As a result, trends in education spending can have a significant impact on overall state and local government spending.

In this chapter, we examine elementary-secondary education spending in Minnesota and other states. In particular, we address the following questions:

- **What have been the trends in elementary-secondary education spending in Minnesota and other states?**
- **What factors are responsible for spending trends?**
- **How does spending in Minnesota compare with other states?**

We first analyze the trends in education spending since 1957 using spending data from the Census Bureau and enrollment and staffing data from the National Center for Education Statistics (NCES) in the United States Department of Education. Second, we look at Minnesota's trends in greater detail using expenditure, salary, and staffing data from the Minnesota Department of Children, Families, and Learning. Expenditure data were available from 1981 to 1994. We were able to analyze salary and staffing trends in detail for teachers and other professional staff from the mid-1970s through 1995. Finally, this chapter compares spending, staffing, and salaries in Minnesota with other states using data from the Census Bureau, NCES, and the National Education Association.

OVERALL TRENDS

Spending

Spending trends for elementary-secondary education have been influenced by changes in both spending per student and enrollment. Spending in Minnesota increased 111 percent in constant dollars from 1957 to 1972, as enrollment increased 48 percent. From 1972 to 1985, however, spending decreased 1 percent, while en-

rollment dropped 23 percent. Expenditures increased again from 1985 to 1992 as enrollment increased. As in previous periods, the increase in spending of 39 percent was greater than the increase in enrollment of 10 percent.

Clearly, enrollment has been a significant factor in education spending trends. However, a more significant factor has been spending per student. From 1957 to 1992, expenditures grew 179 percent in constant dollars, while enrollment increased only 25 percent. Spending per student increased 123 percent.

On a per capita basis, elementary-secondary education spending in Minnesota increased significantly from 1957 to the early 1970s. Spending per capita declined from 1971 to 1981, but has increased since then. By 1992, inflation-adjusted spending per capita was $1,062 in Minnesota, compared with $520 in 1957.

Table 5.1 shows that:

- **The most important reason why education spending per capita has doubled since 1957 is the strong growth in spending per student.**

Spending per student has more than doubled over a 35-year period.

Table 5.1: Elementary-Secondary Education Expenditures and Enrollment, Minnesota and the United States, 1957-92

	1957-72	1972-85	1985-92	1957-92
MINNESOTA				
Expenditures per Student[a]	42%	29%	21%	123%
Enrollment per Capita	25	(-29)	3	(-8)
Expenditures per Capita	78%	(-8)%	25%	104%
UNITED STATES				
Expenditures per Student	44%	29%	25%	132%
Enrollment per Capita	20	(-25)	0	(-10)
Expenditures per Capita	72%	(-4)%	25%	107%

Sources: U. S. Census Bureau and National Center for Education Statistics.

[a]In 1992 dollars.

Since 1957, spending per student has increased 123 percent in Minnesota according to data from the U.S. Census Bureau. Although enrollment has increased, the state's population has increased faster. As a result, enrollment per capita decreased 8 percent and is not a factor in explaining the growth in spending per capita over the 35-year period.

Table 5.1 also shows how spending per student and enrollment per capita have influenced spending per capita over three different periods of time. During each of the periods, there was strong growth in spending per student. The first period (1957-72) is a period of strong enrollment growth. Growth in spending per student, however, accounted for more than half of the 78 percent growth in spending per capita. From 1972 to 1985, enrollment per capita declined 29 percent in Min-

nesota. Spending per capita only declined 8 percent, because spending per student increased 29 percent. Over the final period (1985-92), there was modest enrollment growth relative to population. Enrollment per capita grew 3 percent. A 21 percent increase in spending per student was largely responsible, however, for the 25 percent increase in spending per capita.

The annual rate of growth in spending per student was roughly the same during each of these three time periods. As Table 5.2 shows, spending per student increased about 2.3 percent annually from 1957 to 1992. The rate of growth was highest from 1985 to 1992 and lowest from 1972 to 1985. This difference probably reflects the higher inflation rates of the 1970s and early 1980s. Education revenues have generally had more difficulty keeping up with inflation in periods of high inflation.

Table 5.2: Average Annual Growth Rates in Total Elementary-Secondary Education Spending per Student, Minnesota and the United States, 1957-92

	Minnesota	United States
1957-72	2.4%	2.5%
1972-85	2.0	2.0
1985-92	2.8	3.2
Overall: 1957-92	2.3%	2.4%

Sources: U. S. Census Bureau and the National Center for Education Statistics.

National spending trends have been similar to those in Minnesota, although spending per student has grown a little faster nationally, particularly since 1985. Over the entire 35-year period, spending per student increased 132 percent, compared with 123 percent in Minnesota. Enrollment per capita declined a little more than in Minnesota. Spending per capita grew 107 percent nationwide from 1957 to 1992, compared with 104 percent in Minnesota.

Elementary-secondary education spending in Minnesota increased from 4.5 percent of personal income in 1957 to 5.6 percent in 1992. The 1992 figure is, however, down from 6.8 percent in 1971. Nationally, education spending has risen from 3.5 percent of personal income in 1957 to 4.7 percent in 1992. The national peak of 5.3 percent was reached in 1972.

The Census data used above do not include certain retirement contributions made by employers. Because Minnesota has changed the way in which retirement fund contributions were made, the use of Census data may yield biased results over the third period of time (1985-92) we examined.[1] As a result, we also calculated the

1 Census data do not include state contributions to state retirement funds or local contributions to local pension funds. In Minnesota, the state previously made retirement contributions to the Teachers Retirement Fund on behalf of local school districts. Since 1987, however, schools have been responsible for making those required employer contributions. The Census Bureau did not count these retirement contributions until they were made by local school districts to a state fund. As a result, Census data may overstate the increase in spending over periods which span the change in state payments.

growth in spending per student using data from the National Center for Education Statistics (NCES). These data, which do not include capital spending, show the same rate of growth in spending per student in Minnesota as the Census data show from 1972 to 1985 (See Table 5.3.). From 1985 to 1992, current spending per student in Minnesota grew at an annual rate of 1.7 percent-- lower than the 2.8 percent rate indicated by Census data.

Spending per student grew faster nationally.

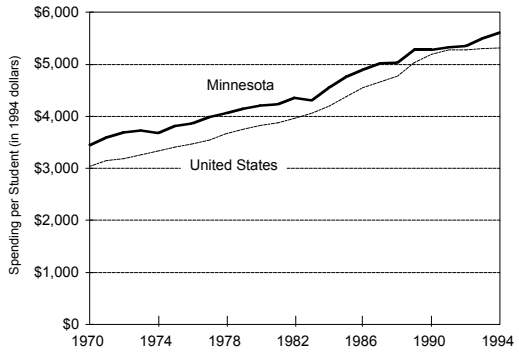
Table 5.3: Average Annual Growth Rates in Current Expenditures per Student, Minnesota and the United States, 1972-92

	Minnesota	United States
1972-85	2.0%	2.5%
1985-92	1.7	2.7

Source: National Center for Education Statistics.

NCES data also show a narrowing of the gap in spending per student between Minnesota and other states (See Figure 5.1.). The annual rate of growth was 2.5 percent nationally from 1972 to 1985, compared with 2.0 percent in Minnesota. The difference in growth rates was even larger from 1985 to 1992. Spending per student grew 2.7 percent annually throughout the nation and 1.7 percent per year in Minnesota.

Figure 5.1: Current Elementary-Secondary Education Expenditures per Student, Minnesota and the United States, 1970-94



Source: National Center for Education Statistics.

The most likely sources of increased spending in elementary-secondary education are:

- Growth in staffing levels,
- Salary growth,
- Fringe benefit growth, and
- Increased spending on particular programs such as special education.

Unfortunately, all the data necessary to analyze trends in spending per student are not available. The data are sometimes incomplete or only available for certain years. In the rest of this section, we focus on the impact of staffing and salary growth on spending per student. In the next section, we analyze Minnesota spending data from 1981 to 1994 to see whether other factors, such as fringe benefits and special education, have affected spending per student in Minnesota.

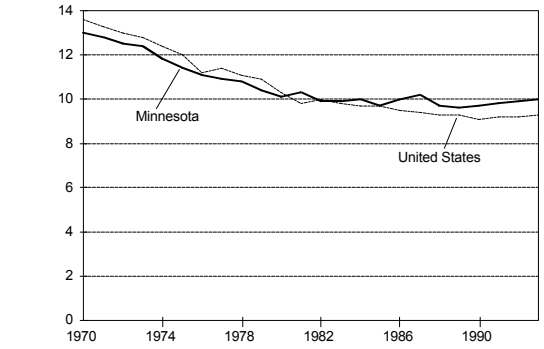
Staffing

Data from the National Center for Education Statistics suggest that:

- **Growth in the number of teachers and other staff relative to enrollment is responsible for some of the growth in spending per student between 1957 and 1980.**

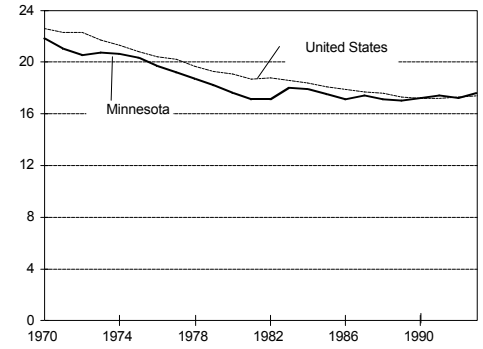
In Minnesota, the student-teacher ratio decreased from 24.5 in 1957 to 20.7 in 1972 and 17.6 in 1980. Since 1980, the ratio has fluctuated and by 1993 was back at 17.6. The ratio of students to all elementary-secondary staff has also dropped but has declined little from its 1980 levels (See Figures 5.2 and 5.3.).

Figure 5.2: Pupil-Staff Ratios, Minnesota and the United States, 1970-93



Source: National Center for Education Statistics.

Figure 5.3: Pupil-Teacher Ratios, Minnesota and the United States, 1970-93



Source: National Center for Education Statistics.

Staffing growth was a factor in spending growth prior to the 1980s.

Teacher staffing levels, measured by the number of teachers per 1,000 students, increased 20 percent in Minnesota from 1957 to 1972 and 17 percent from 1972 to 1985. As Table 5.4 shows, there has been only a small amount of growth since then. Data on overall staffing levels show significant growth during the 1970s, but little growth since 1980.[2]

For the most part, the national trends run parallel to trends in Minnesota. However, student-teacher and student-staff ratios have fallen faster nationally than in Minnesota since about 1980. National student-teacher ratios have declined from 26.3 in 1957 to 19.1 in 1980 and 17.4 in 1993. Student-staff ratios fell from 10.3 in 1980 to 9.3 in 1993, while declining from 10.1 to 10.0 in Minnesota. While staffing levels in Minnesota appear to have had little or no effect on spending per student since 1980, trends in staffing levels had a modest effect on spending per student in other states.

2 While we believe the NCES data on the numbers of teachers to be relatively accurate, there are questions regarding the accuracy of the data on the overall number of full-time equivalent (FTE) staff. Since the Minnesota Department of Children, Families, and Learning does not have good data on the number of unlicensed FTE staff, it is unclear how accurate the NCES data on all staff can be.

Table 5.4: Percentage Change in Staffing per 1,000 Students in Elementary-Secondary Education, Minnesota and the United States, 1957-92

	Percentage Change in Teachers per 1,000 Students		Percentage Change in All Staff per 1,000 Students	
	Minnesota	United States	Minnesota	United States
1957-72	20%	18%	NA	NA
1972-85	17	23	29%	35%
1985-92	2	5	(-2)	5

Source: National Center for Education Statistics.

Average Salaries

Available salary data suggest that:

- **Growth in average salaries was a significant factor in spending growth in the 1960s and was also a factor during much of the 1980s and the early 1990s.**

Table 5.5 shows the trends in average teacher salaries from 1962 to 1992. Over the 30-year period, average salaries increased 50 percent in constant dollars. Much of this growth, however, occurred from 1962 to 1972. During the high-inflation years of the 1970s, the growth in average salaries did not keep up with inflation. Since 1982, average teacher salaries in Minnesota grew 16 percent. While little of the spending growth since the early 1980s is due to changes in staffing levels, some of the growth resulted from increased salaries.

Average teacher salaries grew significantly during the 1960s.

The national trends in average teacher salaries are similar. The key differences are that national growth was weaker from 1962 to 1972 and has been a little stronger from 1982 to 1992. Over the entire 30-year period, teacher salaries grew slightly

Table 5.5: Trends in Average Teacher Salaries

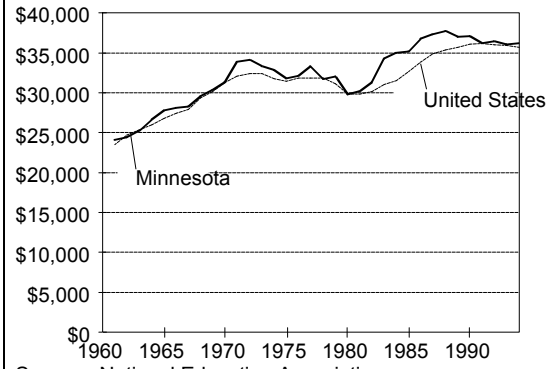
	Percentage Change in Average Salary[a]	
	Minnesota	United States
1962-72	40%	31%
1972-82	(-8)	(-7)
1982-92	16	19
30-Year Period	50%	46%

[a]Average salaries in constant dollars.

Source: National Education Association.

less in other states than in Minnesota. Figure 5.4 tracks the changes in average teacher salaries in Minnesota and other states.

Figure 5.4: Average Teacher Salaries (in 1994 Dollars), Minnesota and the United States, 1961-94



Source: National Education Association.

ANALYSIS OF MINNESOTA TRENDS

In this section, we more closely examine Minnesota trends using data available from the Minnesota Department of Children, Families, and Learning. We focus on expenditure trends from 1981 to 1994, because comparable spending data were not available for years prior to 1981. We also examine trends in staffing and average salaries for licensed elementary-secondary staff. Licensed staff include teachers, administrators, librarians, counselors, and other professional staff. About two-thirds of all full-time equivalent staff are licensed. Data on licensed staff were available from the mid-1970s to 1995.

Spending per student grew 14 percent from 1981 to 1994.

Spending

From 1981 to 1994, spending per student in Minnesota schools increased from $5,660 to $6,474 in 1994 dollars, or 14 percent. Table 5.6 provides a breakdown of spending by category or type of expenditure. The data show that the fastest growth occurred in exceptional education programs and community education.[3] Spending per student increased 90 percent or more in each of these two categories. Strong spending growth also occurred in the instructional support and district support categories.[4] Spending per student declined dramatically for vocational instruction, while administrative spending decreased slightly.[5]

3 Exceptional education includes special education for handicapped students, programs such as Title I for the educationally disadvantaged, the Assurance of Mastery Program for students who have not mastered the learner outcomes in communications and mathematics, and programs for the gifted and talented.

4 Instructional support includes expenditures for assistant principals, curriculum development, libraries and media centers, audio visual support, staff development, and computer assisted instruction. District support includes spending for central office operations such as business services, data processing, legal services, personnel functions, printing, and the school census. District support does not include expenditures for the school board, the superintendent's office, principals, and any other line administrators who supervise staff. These latter expenditures are in the administration category.

5 Some districts place all their fringe benefit costs in the "other" category, instead of allocating them across all relevant categories. As a result, these data may overstate "other" spending while understating spending elsewhere. Trends could also be affected to the extent that districts changed how they classified fringe benefits over the time period we studied.

Table 5.6: Elementary-Secondary Education Expenditures per Student by Category, Minnesota, 1981-94

Category	Expenditures per Student (in 1994 Dollars) 1981	1994	Percentage Change	Share of Growth
Regular Instruction	$2,094	$2,406	15%	38%
Exceptional Instruction	463	878	90	51
Vocational Instruction	373	130	(-65)	(-30)
Instructional Support	169	245	45	9
Pupil Support	684	721	5	5
Administration	353	329	(-7)	(-3)
District Support	198	262	33	8
Community Education	113	221	96	13
Facilities and Equipment	615	678	10	8
Debt Service/Other	599	602	1	0
TOTAL	$5,660	$6,474	14%	100%

Source: Minnesota Department of Children, Families, and Learning.

The data suggest that:

- **Growth in exceptional instruction was responsible for about half of the growth in spending per student since 1981.**

Strong growth occurred in fringe benefits and special education.

In addition, growth in regular instruction expenditures accounted for 38 percent of the overall growth, while community education was responsible for 13 percent.

Growth in exceptional education was mostly due to increased expenditures for special education, but spending on other exceptional education programs increased as well. About 36 percent of the overall growth in spending per student was due to special education programs serving handicapped students. Another 15 percent of the growth came from programs serving the educationally disadvantaged, the gifted and talented, and students who have not mastered learner outcomes. Table 5.7 provides details on the growth in spending for the various programs in the exceptional education category.

Spending data can also be analyzed by object of expenditure. Table 5.8 shows that spending on fringe benefits grew the fastest, while capital expenditures and debt service payments also increased significantly. Expenditures per student on supplies and materials decreased 29 percent. Overall, we found that:

- **Increased spending on salaries and wages accounted for 54 percent of the growth in spending per student, while fringe benefits were responsible for 41 percent.**

Table 5.7: Exceptional Education Expenditures per Student by Program, Minnesota, 1982-94

Program	Expenditures per Student (in 1994 Dollars) 1982	1994	Percentage Change	Share of Growth
Special Education	$473	$716	51%	71%
Educationally Disadvantaged	56	112	98	16
Assurance of Mastery	0	18	NA	5
Gifted and Talented	6	32	453	8
TOTAL	$535	$878	64%	100%

Source: Minnesota Department of Children, Families, and Learning.

Table 5.8: Elementary-Secondary Education Expenditures per Student by Object of Expenditure, Minnesota, 1981-94

Object	Expenditures per Student (in 1994 Dollars) 1981	1994	Percentage Change	Share Growth
Salaries and Wages	$3,226	$3,666	14%	54%
Fringe Benefits	579	912	58	41
Purchased Services	578	597	3	2
Supplies and Materials	543	385	(-29)	(-19)
Capital Expenditures	235	330	40	12
Debt Service	323	438	36	14
Other	176	147	(-16)	(-3)
TOTAL	$5,660	$6,474	14%	100%

Source: Minnesota Department of Children, Families, and Learning.

Increased costs for health insurance and Social Security caused much of the growth in fringe benefits.

Spending per student on salaries and wages increased only 14 percent--slower than for fringe benefits and capital-related expenditures. Salary growth resulted in more than half of the overall spending growth, because salaries account for more than half of all spending in elementary-secondary education.

Most of the fringe benefit growth was in two categories: 1) health and dental insurance and 2) the employer's contribution for Social Security. From 1981 to 1994, the cost of family health insurance more than tripled in constant dollars, and the portion of the cost paid by school districts increased an estimated 170 percent. Also, the percentage of districts paying for individual dental insurance grew from 11 percent to 37 percent. Social security contributions also rose due to increased tax rates and increases in the salary base to which the tax rate is applied.

Staffing

From 1976 to 1995, licensed staffing levels grew 12 percent relative to enrollment. The number of licensed FTE staff per 1,000 students increased from 59 to 66. Most of this growth occurred between 1976 and 1981. Since 1981, staffing levels have varied some but in 1995 were slightly below 1981 levels.

The growth has not occurred across all categories of licensed staff. In fact, the data in Table 5.9 show that:

- **The most significant growth in staffing levels was in special education and in certain support staff categories.**

Since the mid-1970s, professional staffing levels have grown 12 percent.

Table 5.9: Licensed Elementary-Secondary Education Staff per 1,000 Students, Minnesota, 1976-95

	Percentage Change in Staffing Ratio		
	1976-85	1985-95	Entire Period
Superintendents and Assistants	16%	(-33)%	(-23)%
Principals and Assistants	7	(-11)	(-5)
Secondary Vocational	2	(-56)	(-55)
Other Administrators	(-4)	(-6)	(-10)
Administrators except Special Education	5%	(-14)%	(-10)%
Special Education Administrators	88	(-8)	74
All Administrators	7%	(-14)%	(-7)%
Counselors	1%	(-6)%	(-6)%
Librarians/Media Generalists	(-2)	(-6)	(-8)
Other Support Staff	25	38	73
All Support Staff	7%	9%	17%
Teachers (except Special Education)	3%	0%	3%
Special Education Teachers	109	9	129
All Teachers	12%	2%	14%
All Licensed Staff	11%	1%	12%

Source: Minnesota Department of Children, Families, and Learning.

From 1976 to 1995, staffing levels grew 129 percent for special education teachers and 74 percent for special education administrators. Staffing levels for other support staff--including psychologists, social workers, nurses, and others--increased 73 percent. Unlike special education, staffing levels for other support staff showed strong growth after 1985, as well as before 1985. Staffing levels for administrators, counselors, and librarians all declined from 1976 to 1995, particularly over the last ten years.

Table 5.10 shows that:

- **Three-fourths of the growth in licensed staffing levels since 1976 has been in special education.**

Most of the staffing growth was in special education.

Table 5.10: Analysis of Changes in Licensed Elementary-Secondary Education Staff per 1,000 Students, Minnesota, 1976-95

	Percentage of Licensed Staff		Share of Growth in Staff per 1,000 Students
	1976	1995	
Administrators (except Special Education)	6.6%	5.3%	(-5)%
Teachers (except Special Education)	79.9	73.4	22
Special Education Teachers and Administrators	7.4	14.9	75
Counselors and Librarians	4.3	3.6	(-2)
Other Support Staff	1.9	2.9	11
TOTAL	100.0%	100.0%	100%

Source: Minnesota Department of Children, Families, and Learning.

Despite only a 3 percent growth, the increase in staffing levels for classroom (non-special education) teachers accounted for 22 percent of the overall growth in staffing levels. The percentage of licensed staff who are classroom teachers declined from 80 percent to 73 percent, while the percentage who are special education staff grew from 7 percent to 15 percent.

Since 1981, the growth in licensed special education staffing levels has mostly been due to lower student-staff ratios in special education. This factor accounted for about three-fourths of the growth in special education staffing levels. About one-fourth of the growth came because the percentage of all students in special education rose from 10.7 percent in 1981 to 11.2 percent in 1992.[6]

During the 1970s and early 1980s, much of the growth in special education was in services to learning disabled students. Since 1981, most of the growth in special education students has been in services to emotionally/behaviorally disturbed (EBD) students and early childhood education. The percentage of students served in EBD programs has grown from 0.6 percent to 1.9 percent since 1981, while the percentage in early childhood special education programs from zero to 1.0 percent. The number of FTE staff in EBD programs increased 92 percent from 1989 to 1995, and the number of early childhood staff increased 27 percent. The

6 Public-funded special education programs serve students in both public and private schools. As a percentage of combined public and private enrollment, the number of students receiving special education increased from 9.5 percent in 1981 to 10.2 percent in 1994.

growth in early childhood programs largely reflects the implementation of a state mandate to serve handicapped children from birth.

In recent years, there has also been a substantial increase in the number of non-licensed staff working in special education. For example, from 1989 to 1995, the number of FTE paraprofessionals serving special education students grew from 3,645 to 6,442, or 77 percent. This trend reflects the growing tendency of school districts to serve handicapped students in the regular classroom whenever possible.

Average Salaries

We also examined the growth in average salaries for licensed staff in Minnesota from 1975 to 1995. Although the average salary for all licensed staff has grown 214 percent over the last 20 years, this increase represents only a 13 percent increase in constant dollars. The average salary for all licensed staff in 1995 was $37,345.[7] Average salaries ranged from $62,443 for superintendents, principals, and their assistants to $35,949 for teachers. Other administrators earned $47,921, while professional support staff had average salaries of $38,919.

Average salaries for licensed staff have increased 13 percent since the mid-1970s.

Average salaries grew more over the last 10 years than from 1975 to 1985. Since 1985, average salaries in constant dollars increased 10 percent, compared with 3 percent during the 10 previous years (See Table 5.11.). A significant exception to this general rule was special education salaries, which showed much stronger growth from 1975 to 1985. The exception was probably the result of special education teachers having been more recently hired and benefiting from significant pay hikes early in their careers. In addition, few special education staff were retiring and being replaced by younger staff at lower salaries.

Table 5.11: Average Salaries for Licensed Elementary-Secondary Education Staff, Minnesota, 1975-95

	Percentage Change in Average Salaries (in 1995 Dollars)		
	1975-85	1985-95	Entire Period
Superintendents and Principals	5%	7%	13%
Other Administrators	5	(-6)	(-1)
Support Staff	11	(-4)	7
Special Education Teachers	21	5	28
All Other Teachers	0	14	15
All Licensed Staff	3%	10%	13%

Source: Minnesota Department of Children, Families, and Learning.

7 These data only include base pay. Teachers, for example, may earn additional pay for longevity, supervision of extra-curricular activities, and additional duties beyond those required by their contract.

Average salary trends are affected not only by the rates of salary increase but also by the changes in the composition of the work force. Average salaries will tend to grow as the work force becomes more experienced and decline relative to inflation if the work force becomes younger and less experienced through retirements. For most government employees, there are no data on their training and years of experience. For teachers, however, these data exist because teachers are paid according to their training and experience and, until recently, the state used this information to provide training and experience aid to local school districts.[8]

We examined the extent to which teacher salaries adjusted for both inflation and changes in average training and experience changed from 1975 to 1995 (See Table 5.12.). We found that:

- **The 15 percent increase in teacher salaries since 1975 is the result of a more experienced and more highly trained work force and a salary system which rewards additional experience and training.**

Increased experience and training levels explain the rise in teacher salaries since the mid-1970s.

Table 5.12: Analysis of the Growth in Average Teacher Salaries, Minnesota, 1975-95

	1975	1995	Percentage Change
Average Teacher Salary	$11,222	$35,949	220%
Price Levels (CPI-U-X1)	54.1	150.4	178
Average Salary (1995 Dollars)	$31,198	$35,949	15
Average Training and Experience Level	1.000	1.189	19
Average Salary Adjusted for Training and Experience	$37,104	$35,949	(-3)

Sources: Minnesota Department of Children, Families, and Learning and House Research.

Over the last 20 years, while the average teacher salary has increased 15 percent in inflation-adjusted dollars, the average training and experience level of Minnesota teachers has increased 19 percent. This increase is probably in part due to the aging of those teachers who were hired since the early 1960s but have not yet reached retirement age. As a result, the 15 percent increase in average teacher salaries was entirely due to increased training and experience levels of Minnesota's teacher work force. We estimate that rates of pay on teacher salary schedules decreased about 3 percent in constant dollars over the 20-year period.

8 Generally, a teacher's base salary depends on the number of years of teaching experience up to a certain limit and the degrees or number of credits toward a degree which a teacher has achieved. School districts vary on the maximum number of years of experience and the maximum level of training for which they provide additional pay.

NATIONAL COMPARISONS

As shown in Figure 5.5, available data from the Census Bureau indicate that:

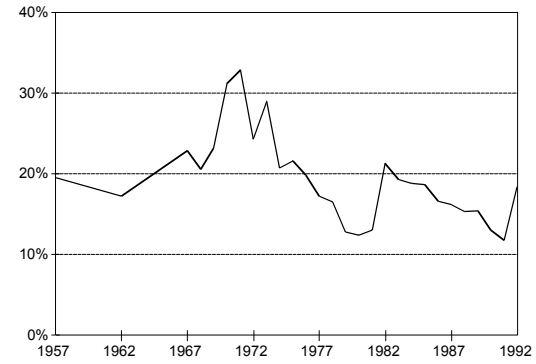
- **Minnesota spends more per capita than the national average for elementary-secondary education.**

Spending per capita has ranged from 12 percent to 33 percent above average over a 35-year period. There are two general reasons for Minnesota's higher than average spending:

- **Minnesota spends more per student.**
- **Minnesota has more students per capita enrolled in elementary-secondary education.**

Minnesota has a greater share of its population in schools than the national average.

Figure 5.5: Percentage Difference Between Minnesota's Elementary-Secondary Education Spending per Capita and the National Average, 1957-92



Source: U.S. Census Bureau.

In 1992, according to Census data, Minnesota spent 18 percent more per capita than the national average. Minnesota spent 13 percent more per student and had 5 percent more students per capita than the national average.

As Table 5.13 shows, however, national sources do not entirely agree on the extent to which Minnesota's spending per student is higher than the national average. According to data from the National Center for Education Statistics, spending per student in Minnesota was 6 percent above the national average in 1992 rather than 13 percent. It is not possible to reconcile these two sources entirely. Some of the difference between the two sources, however, is apparently due to the fact that the Census Bureau data does not include certain employer retirement contributions. Including the omitted retirement contributions might reduce the percentage difference in spending per student between Minnesota and the national average from 13 percent to about 11 percent and reduce the difference in spending per capita from 18 percent to 16 percent.[9]

Table 5.14 shows how various categories of expenditures per student differed from the national average in 1992.[10] Minnesota's spending per student was con-

9 This estimate is based on data from 1991.

10 NCES data are used to examine particular types of education expenditures, since Census data do not provide this level of detail.

Table 5.13: Elementary-Secondary Education Spending and Enrollment, Minnesota Compared with the National Average, 1992

	Percentage Difference from National Average	
	Census Data[a]	NCES Data
Spending per Student	13%	6%
Students per Capita	5	5
Spending per Capita	18%	11%

Sources: U. S. Census Bureau and National Center for Education Statistics.

[a]Excludes retirement fund contributions made by state governments to a state fund and by local governments to local retirement funds.

Minnesota has higher than average expenditures, particularly for capital projects and student transportation.

Table 5.14: Elementary-Secondary Expenditures per Student by Type of Expenditure, Minnesota and the United States, 1992

	Percentage Difference from the National Average
Instruction	4%
Administration	(-18)
Operation and Maintenance	(-18)
Transportation	31
Food Services	(-4)
Other Student and Support Services	(-1)
Current Public Elementary-Secondary	0%
Other Current	88
Total Current	2%
Capital	39
All Expenditures	6%

Source: National Center for Education Statistics.

siderably higher than average for student transportation, capital expenditures, and "other current expenditures."[11] In addition, spending was higher than average for instruction, while lower than average for administration, operation and maintenance, and other support functions. Minnesota's higher than average transportation costs per student are in part due to Minnesota's lower than average population density.

Minnesota's higher than average expenditures per student for instruction may be largely due to higher than average spending on special education. Table 5.15 shows that:

11 Other current expenditures include expenditures for pre-kindergarten students, adult and community education, and private schools.

Table 5.15: Special Education Staffing and Students, Minnesota and the United States, 1992

	Percentage Difference from National Average
Special Education Staff per 100 Special Education Students	47%
Special Education Students as a Percentage of All Students	(-9)
Special Education Staff per 1,000 Students	34%
Special Education Teachers per 100 Special Education Students	38
Special Education Students as a Percentage of All Students	(-9)
Special Education Teachers per 1,000 Students	26%

Source: U. S. Department of Education.

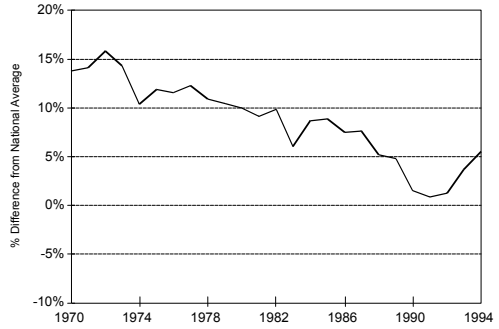
Minnesota has more special education staff than the national average, but fewer special education students.

- **Minnesota has 34 percent more special education staff per student than average.**

This difference is entirely the result of higher staffing levels within special education itself. National data suggest that the number of FTE special education staff per 100 special education students is 47 percent higher in Minnesota than in other states. In contrast, Minnesota has fewer special education students than the national average. The ratio of special education students to all students is 9 percent lower in Minnesota than elsewhere.

Figure 5.6 shows how current spending per student in Minnesota has varied from the national average over the last 25 years. In general, Minnesota's spending per student has been above the national average. In recent years, however, spending per student has grown faster in other states and, consequently, has gotten closer to spending per student in Minnesota.[12]

Figure 5.6: Percentage Difference Between Minnesota's Current Elementary-Secondary Education Spending per Student and the National Average, 1970-94



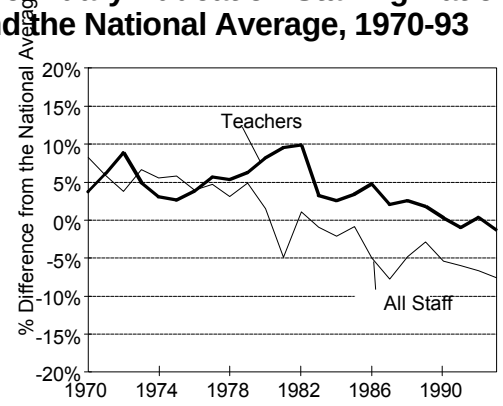
Source: National Center for Education Statistics.

12 Figure 5.6 only includes current spending for public elementary-secondary education as defined by NCES. As a result, it shows Minnesota to be closer to the national average than the NCES figure cited in Table 5.13.

Teacher salaries in Minnesota are close to the national average.

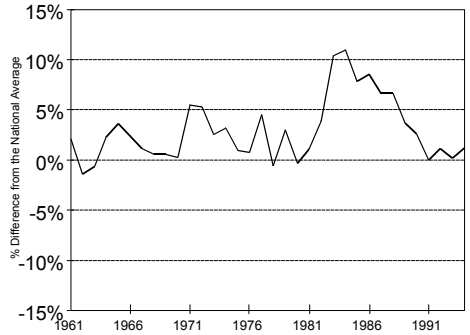
National data show that Minnesota's teacher staffing levels and overall staffing levels are now below the national average (See Figure 5.7.). However, the data on overall staffing levels may not be accurate.[13] Figure 5.8 shows that teacher salaries are now only slightly above the national average. Unfortunately, national data do not provide comparisons of fringe benefits or non-base pay, which might shed some light on Minnesota's relative spending. The lack of these data and the questionable accuracy of the overall staffing level data impede a more complete understanding of why Minnesota's spending per student is higher than the national average.

Figure 5.7: Percentage Difference Between Minnesota's Elementary-Secondary Education Staffing Ratio and the National Average, 1970-93



Source: National Center for Education Statistics.

Figure 5.8: Percentage Difference Between Minnesota's Average Teacher Salary and the National Average, 1961-94



Source: National Center for Education Statistics.

SUMMARY

Spending on elementary-secondary education grew 179 percent in Minnesota from 1957 to 1992. Enrollment growth of 25 percent explains a portion of the increase, but most of the growth is due to a 123 percent increase in spending per student. In fact, enrollment growth explains none of the growth in spending per capita, since enrollment per capita declined over this period.

Growth in spending per student from 1957 to 1972 is probably explained by increases in both average salaries and staffing levels. From 1972 to 1985, overall spending declined 1 percent, while spending per student increased 29 percent. The growth in spending per student during this period was driven by increases in staffing levels and fringe benefits. Substantial increases in staffing levels occurred in special education and for certain types of professional support staff. Since 1985, most of the increase in spending per student came from increased salaries and fringe benefits and growth in exceptional education, including special education.

13 It is not possible to obtain accurate estimates of the number of full-time equivalent non-licensed staff from the Minnesota Department of Children, Families, and Learning. Given that accurate information for Minnesota is not available, we question whether national comparisons of overall staffing levels are accurate. Comparisons of teacher staffing levels are more likely to be accurate.

Growth in special education reflects, in part, federal and state mandates.

To some extent, the increases in spending per student are due to external factors or government mandates. Since 1981, fringe benefit growth has largely been due to high rates of growth in the price of health insurance and increases in the mandated employer contributions for Social Security. Staffing and spending increases in special education reflect in part the implementation of federal and state mandates to provide and increase services to handicapped students. In addition, average teacher salaries have increased modestly over the last 20 years. All of the increase appears to be due to an increased level of training and experience in Minnesota's teacher work force.

In 1992, Minnesota spent between 11 and 16 percent more per capita than the national average on elementary-secondary education. This was the result of both higher than average spending per student and a higher than average number of students per capita. Minnesota appears to spend more per student on special education, transportation, and capital projects. Spending per student has been growing faster in other states in recent years. As a result, Minnesota's spending per student is closer to the national average than it has been historically.

Human Services

CHAPTER 6

As we discussed in Chapter 2, health and welfare has been the fastest growing major spending category in Minnesota, accounting for 34 percent of overall spending growth between 1957 and 1992. In this chapter we focus on large health and welfare programs, including means-tested health programs, income maintenance programs, and social service programs. Unlike the Census health and welfare category, we exclude energy assistance, air and water pollution control spending, veterans programs, and spending by public hospitals and health departments unless it is financed by one of the three major means-tested health programs (Medical Assistance, General Assistance Medical Care, and MinnesotaCare). In this chapter, we refer to the collection of programs that we examine as human service programs. Specifically, we address the following questions:

- **What have been the spending trends for human service programs?**
- **What factors explain the growth in these programs?**
- **How does spending in Minnesota compare with human service spending in other states?**
- **What factors explain the differences in per capita spending between Minnesota and other states?**

To analyze spending trends for Minnesota's programs, we used data from the Minnesota Department of Human Services. To make comparisons with other states, we used various national data sources. For example, we obtained comparative Medical Assistance spending data from the U.S. Health Care Financing Administration. We do not rely on Census data in this chapter because it does not break down human service spending by program.

This chapter begins by examining trends for human service programs. Then, it focuses on trends for Medical Assistance, the largest human service program. Finally, it compares Minnesota's human service spending with the national average.

HUMAN SERVICES SPENDING, 1995

In fiscal year 1995, Minnesota state and local governments spent $4.4 billion on the human service programs listed in Figure 6.1. The largest portion of human service spending was for medical services for the needy. As Table 6.1 and Figure 6.2 show, Medical Assistance was the largest program, accounting for 59 percent of human services spending in 1995. Social service programs were the second largest spending category (20 percent). Social service programs include child care, children's services (such as child protection), mental health services, adult services, and developmentally disabled services. Aid to Families with Dependent Children (AFDC) was the third largest category (7 percent), followed by Administration (6 percent), General Assistance Medical Care (4 percent), General

Figure 6.1: Human Service Programs

Income Maintenance Programs

Aid to Families with Dependent Children (AFDC): A federal/state program that provides cash assistance to low-income families with dependent children and a single parent, an unemployed parent, or an incapacitated parent.

General Assistance/Work Readiness: General assistance is a state program that provides cash assistance to needy people who are unable to work. It also funds certain group residential facilities, including battered women shelters. Work Readiness is a state program that provides cash assistance and employment services to needy people who are employable.

Minnesota Supplemental Aid (MSA): A state program that provides cash assistance to needy aged, blind, and disabled people. It also funds group residential housing for eligible MSA recipients.

Health Programs

Medical Assistance: A federal/state program that provides medical services to needy elderly, blind, and disabled people, pregnant women and children, and adults from AFDC-type families.

General Assistance Medical Care (GAMC): A state program that provides medical services to needy people who are not eligible for Medical Assistance.

Minnesota Care: A state program that subsidizes medical care for low-income people who do not qualify for Medical Assistance or GAMC.

Social Service Programs

Social service programs include (1) children's services such as adoption and child protection activities, (2) child care, (3) chemical dependency services, (4) mental health services, (5) services for the developmentally disabled, and (6) other adult services. These programs are funded by federal, state, and county governments. Social services funded by Medical Assistance are included with Medical Assistance expenditures rather than social service expenditures.

Table 6.1: Minnesota Human Service Expenditures by Program, 1995

	Expenditures (in Millions)	Per Capita	Percent
Medical Assistance	$2,588	$561	59%
Social Services	859	186	20
AFDC[1]	312	68	7
General Assistance/Work Readiness	65	14	1
General Assistance Medical Care	158	34	4
Minnesota Supplemental Aid	55	12	1
Minnesota Care	43	9	1
Child Support Enforcement Administration	49	11	1
Medical Assistance	151	33	3
AFDC	73	16	2
General Assistance/GAMC	15	3	< 1
Minnesota Supplemental Aid	5	1	< 1
Subtotal	244	53	6
Total	$4,373	$948	100%

Notes:
(1) All expenditures are for state fiscal year 1995 except social service expenditures, which are preliminary estimates for calendar year 1994.

(2) Figures for AFDC and General Assistance include expenditures for cases transferred to the Minnesota Family Investment Program.

(3) Figures for General Assistance and Minnesota Supplemental Aid include expenditures for cases transferred to the Group Residential Housing Program.

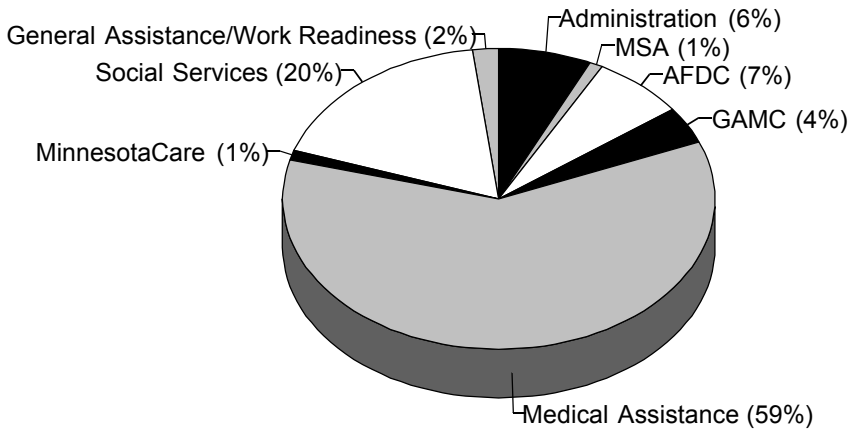
(4) Social services funded by Medical Assistance are included with Medical Assistance and not with Social Services.

Source: Minnesota Department of Human Services.

[1]AFDC expenditures include Emergency Assistance expenditures. They are net of AFDC child support collections.

A significant share of human service spending is for programs which are regulated and partially funded by the federal government.

Figure 6.2: Human Service Spending, Minnesota, 1995



Source: Minnesota Department of Human Services.

Assistance/ Work Readiness (2 percent), Minnesota Supplemental Aid (1 percent), Child Support Enforcement (1 percent), and MinnesotaCare (1 percent).

The federal government funds a significant share of human service spending. In fiscal year 1995, it funded about 54 percent of spending under the Medical Assistance and AFDC programs. The federal government did not help fund General Assistance, General Assistance Medical Care, Minnesota Supplemental Aid, or MinnesotaCare.

HUMAN SERVICE SPENDING TRENDS

Between 1980 and 1995, Minnesota's human service spending nearly doubled.

Comparable expenditure data were not available for social services prior to 1979 nor for program administration prior to 1981. As a result of these data limitations, our analysis of human service programs focuses on the 1980-95 time period. Later in this chapter, we discuss some of the earlier trends for Medical Assistance.

Overall, human service spending increased from $1.0 billion in fiscal year 1980 to $4.4 billion in 1995, more than a four-fold increase. Per capita, it grew from $270 to $948. After adjusting for inflation, human service spending grew by 95 percent, or 4.6 percent per year. Tables 6.2 and 6.3 show that spending for all of the

Table 6.2: Minnesota Human Service Expenditures per Capita (in Constant 1995 Dollars), 1967-95

Year	1967	1970	1975	1980	1985	1990	1995
Medical Assistance	$ 95	$121	$186	$262	$333	$371	$561
Social Services	N/A	N/A	N/A	80	102	139	186
AFDC[1]	43	67	92	82	90	80	68
General Assistance Medical Care	0	0	0	19	19	28	34
General Assistance/Work Readiness	8	9	11	9	26	19	14
Minnesota Supplemental Aid	0	0	4	5	6	11	12
Minnesota Care	0	0	0	0	0	1	9
Child Support Enforcement[2]	N/A	N/A	N/A	5	6	8	11
Administration[3]	N/A	N/A	N/A	24	26	36	53
Total[4]	$146	$196	$293	$485	$607	$693	$948

Notes:

(1) All expenditures are for state fiscal years except that social service expenditures are for calendar years ending in the same state fiscal year.

(2) Figures for AFDC and General Assistance include expenditures for cases transferred to the Minnesota Family Investment Program.

(3) Figures for General Assistance and Minnesota Supplemental Aid include expenditures for cases transferred to the Group Residential Housing Program.

Source: Minnesota Department of Human Services.

[1]AFDC expenditures include Emergency Assistance expenditures, they are net of AFDC child support collections.

[2]1980 child support enforcement expenditures are estimates based on 1983 expenditures. We assumed that they increased at the rate of inflation between 1980 and 1983.

[3]Includes administrative expenditures for Medical Assistance, AFDC, GAMC, General Assistance, Work Readiness, and Minnesota Supplemental Aid. 1980 administrative expenditures are estimates based on 1981 expenditures (except AFDC administrative expenditures, which are based on 1982 expenditures).

[4]Total expenditures are low for earlier years because expenditure data were not available for all programs.

Table 6.3: Percent Change in Human Service Expenditures per Capita (in Constant Dollars) by Program, Minnesota, 1980-95

	1980	1995	Percent Change	Percent of Growth
Medical Assistance	$262	$561	114%	65%
Social Services	80	186	133	23
AFDC[1]	82	68	-17	-3
General Assistance/Work Readiness	9	14	65	1
General Assistance Medical Care	19	34	82	3
Minnesota Supplemental Aid	5	12	163	2
Minnesota Care	0	9		2
Child Support Enforcement[2]	5	11	101	1
Administration[3]				
Medical Assistance	10	33	217	5
AFDC	9	16	74	1
General Assistance/GAMC	4	3	-19	-0
Minnesota Supplemental Aid	1	1	21	0
Subtotal	24	53	118	6
Total	$485	$948	95%	100%

Notes:
(1) Expenditures are adjusted for inflation based on the PGSL.

(2) Figures for AFDC and General Assistance include expenditures for cases transferred to the Minnesota Family Investment Program.

(3) Figures for General Assistance and Minnesota Supplemental Aid include expenditures for cases transferred to the Group Residential Housing Program.

Source: Minnesota Department of Human Services.

[1]AFDC expenditures include Emergency Assistance expenditures. They are net of AFDC child support collections.

[2]1980 child support enforcement expenditures are estimates based on 1983 expenditures. We assumed that they increased at the rate of inflation between 1980 and 1983.

[3]1980 administration expenditures are estimates based on 1981 expenditures (except AFDC administrative expenditures, which are based on 1982 expenditures).

About two-thirds of the spending growth was in Medical Assistance.

human service program categories, except AFDC, grew much faster than inflation. Between 1980 and 1995, eight of the nine program categories grew by at least 65 percent, after adjusting for inflation. Medical Assistance, the largest human service program, grew by 114 percent, or an annual increase of 5.2 percent. The fastest growing program was Minnesota Supplemental Aid, which grew by 6.7 percent per year. AFDC declined by 17 percent, or an annual decrease of 1.2 percent. Table 6.3 also shows that:

- **Medical Assistance explained 70 percent of the growth in human service spending between 1980 and 1995.**

This includes 65 percent from payments to health providers and 5 percent from administrative expenditures. Medical assistance explained most of the growth in human service spending because of its size and its faster than average growth.

Social services explained 23 percent. No other program explained more than 3 percent of the growth.

Increased caseloads explain much of the increase in human service spending.

We analyzed whether the growth in spending was due to increases in enrollment or payments per beneficiary for five major human service programs: Medical Assistance, AFDC, General Assistance, General Assistance Medical Care (GAMC), and Minnesota Supplemental Aid (MSA). Since a program's new enrollees may be different than those already enrolled, estimated impacts of enrollment growth on spending may not be precise. Nevertheless, it is useful to examine changes in enrollment and average expenditures per recipient. Overall, we found that enrollment growth appears to explain most of the growth in human service spending between 1980 and 1995, though increases in average cost was also a significant factor for some programs, particularly Medical Assistance. Table 6.4 shows that each of the five programs had strong enrollment growth between 1980 and 1995. The proportion of the population receiving General Assistance or Minnesota Supplemental Aid more than doubled between 1980 and 1995. Medical Assistance enrollment grew from 50 enrollees per 1,000 population to 92, an increase of 82 percent. Enrollment in GAMC and AFDC increased by 41 and 22 percent, respectively.

Table 6.4: Trends in Recipients and Cost per Recipient by Program, Minnesota, 1980-95

	Recipients Per 1,000 Population			Cost Per Recipient		
	1980	1995	Percent Change	1980	1995	Percent Change
Medical Assistance	50.3	91.8	82%	$5,205	$6,107	17%
AFDC	32.3	39.4	22	2,477	1,718	-31
General Assistance/Work Readiness	4.7	11.1	136	3,971	3,070	-23
General Assistance Medical Care	3.2	4.5	41	2,694	3,300	22
Minnesota Supplemental Aid	2.6	5.8	123	1,728	1,915	11

Source: Minnesota Department of Human Services.

Increases in average costs per enrollee explain some of the growth in Medical Assistance spending.

For Medical Assistance, most of the enrollment growth was by families and children, who cost much less on average than aged and disabled recipients. As a result, average cost per recipient grew much faster within each eligibility category than it did overall. We estimate that about 41 percent of the growth in Medical Assistance spending can be attributed to increases in average cost per enrollee. We examine trends for Medical Assistance in more detail below.

The average cost per recipient for MSA and GAMC grew by 11 and 22 percent, respectively. For two programs (AFDC and General Assistance), average benefits have not increased as fast as inflation. The average AFDC benefit per recipient declined by 31 percent, while the number of AFDC recipients grew by 22 percent. As a result, inflation-adjusted AFDC expenditures per capita declined by 17 percent. The average benefit per recipient under the General Assistance/Work Readi-

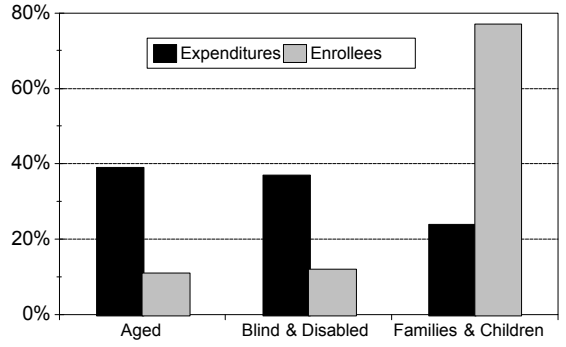
ness program declined by 23 percent, but this was more than offset by its enrollment growth of 136 percent.

MEDICAL ASSISTANCE

Most Medical Assistance enrollees are families or children, but most of the spending is for the aged and disabled.

In 1993, about 388,000 Minnesotans were enrolled in Medical Assistance, of whom 77 percent were low-income families or children, 12 percent were blind or disabled, and 11 percent were aged. The average cost varies greatly among these groups. On average, Minnesota spent $19,500 per aged enrollee, $17,800 per blind or disabled enrollee, and $1,800 per family or child enrollee. Because the average cost per recipient varies, spending is not proportional to the number of recipients. While low-income families and children make up 77 percent of enrollees, they account for only 24 percent of the cost. As Figure 6.3 shows, Minnesota spends most of its Medical Assistance dollars on the aged, blind, and disabled.

Figure 6.3: Share of Medical Assistance Expenditures by Eligibility Category, Minnesota, FY 1993



Source: Minnesota Department of Human Services.

Table 6.5 shows how Minnesota's Medical Assistance spending is distributed by type of service. In 1995, long-term care accounted for 57 percent of Medical Assistance spending and acute care made up 43 percent. Minnesota spent $1.46 billion on long-term care, including $1.13 billion for institutional facilities (including nursing homes, intermediate care facilities for the mentally retarded, and state residential facilities), and $0.34 billion for alternatives to institutional care (including home care and waivered services). Minnesota spent $1.12 billion on acute care services, including $0.27 billion on health maintenance organizations.

Medical Assistance Spending Trends

A variety of factors affect spending trends for Medical Assistance. First, federal and state governments have made numerous changes in eligibility criteria that have increased enrollment in Medical Assistance. For example, the program expanded eligibility for pregnant women and children who are not AFDC recipients during the late 1980s and early 1990s. Generally, Minnesota chose to expand coverage whenever the federal government gave states the option to do so. Subsequently, the federal government made some of these optional changes mandatory. As a result, under current law, states can not go back to the eligibility criteria that existed in the 1970s. In addition, the federal government has changed eligibility criteria for the disabled under the federal Supplemental Security Income

Table 6.5: Medical Assistance Expenditures by Type of Service, Minnesota, FY1995

	Expenditures (in Millions)	Percent Share
Long-Term Care		
Nursing Homes	$819	32%
ICF-MR Facilities	285	11
State Facility MI/CD	22	1
Nursing Home Waivers	23	1
ICF-MR Waivers	171	7
Home Care (Nursing and Home Health)	143	6
Subtotal	1,463	57
Acute Care		
Health Maintenance Organizations	268	10
Fee For Service Providers	857	33
Subtotal	1,125	43
Total	$2,588	100%

Source: Minnesota Department of Human Services.

Growth in Medical Assistance spending has resulted from state and federal eligibility expansions, increased health care costs, and growth in elderly and AFDC populations.

(SSI) program. These changes affect Medical Assistance because many people qualify for Medical Assistance based on SSI eligibility.

Second, demographic changes affect the need for Medical Assistance services. For example, the number of Minnesota residents aged 65 and over grew by 14.1 percent between 1980 and 1990, nearly twice as fast as the growth for the general population (7.3 percent). Furthermore, the population aged 85 or older grew by 33 percent, much more than other age categories. The number of AFDC recipients, who are automatically eligible for Medical Assistance, increased by 40 percent between 1980 and 1995.

Third, according to some health care analysts, rapid change in medical technology and United States policies that encourage its diffusion explains much of the increase in health care costs.[1] Fourth, medical inflation exceeded the rate of inflation for state and local governments, placing pressure on medical assistance rates. For example, between 1980 and 1995, medical costs (as measured by the medical component of the consumer price index) increased by 204 percent, considerably more than the rate of inflation for state and local governments (89 percent). While Medical Assistance reimbursement rates are regulated by the state, some analysts contend that lowering the reimbursement rates leads to greater utilization of medical services or shifts to more expensive forms of care.[2] Finally, the state has attempted to control long-term care expenditures by imposing moratoria on nursing

1 U.S. Congressional Budget Office, *Rising Health Care Costs: Causes, Implications, and Strategies*, (Washington: 1991). p 24-26.

2 U.S. Congressional Budget Office, *Rising Health Care Costs: Causes, Implications, and Strategies*, (Washington: 1991), p.21, 41-42. Analysts cite evidence that reductions in Medicare's prices led to increased utilization, offsetting some of the savings. They argue that since consumers typically do not pay for Medicare services, much of the increased utilization is due to actions by physicians.

homes and intermediate care facilities for the mentally retarded (ICF-MR), downsizing state hospitals, and by promoting home and community based alternatives to institutionalized care.

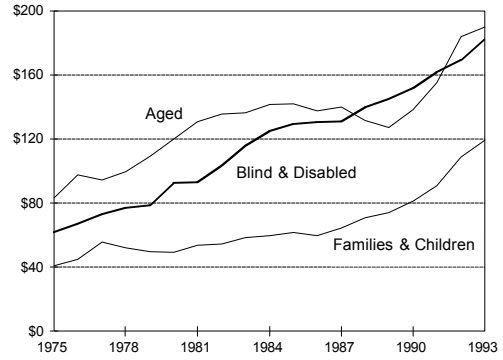
In this section, we examine trends in expenditures and enrollment by eligibility category (aged, blind and disabled, and low-income families and children) and type of service (long-term care and acute care). The factors driving growth in Medical Assistance spending vary among these categories.

Growth by Eligibility Category

Medical Assistance spending grew fastest for the disabled and families and children.

Table 6.6 and Figure 6.4 show that Medical Assistance spending per capita has grown considerably in each of the three eligibility categories since 1975. The fastest growing spending category was the blind and disabled category, which grew by 195 percent between 1975 and 1993. Spending on low-income families and children grew by almost the same rate (192 percent). These categories explained 39 and 26 percent of the per capita spending growth, respectively. The aged is the largest spending category, but grew at a slower rate (128 percent). It accounted for 35 percent of Medical Assistance's spending growth between 1975 and 1993.

Figure 6.4: Medical Assistance Expenditures per Capita (in Constant 1995 Dollars) by Eligibility Category, Minnesota, 1975-93



Source: Minnesota Department of Human Services.

Within each eligibility category, we analyzed how much of the growth was due to enrollment changes and how much was due to changes in average cost per

Table 6.6: Growth in Medical Assistance Expenditures per Capita by Eligibility Category, 1975-93

	Expenditures Per Capita (in Constant FY1995 Dollars)			
Eligibility Category	1975	1993	Percent Change	Percent of Growth
Aged	$83	$190	128%	35%
Blind and Disabled	62	182	195	39
Families and Children	41	119	192	26
Total	$186	$491	164%	100%

Source: Department of Human Services.

recipient. Since each program's new enrollees may have different medical needs than those already enrolled, we cannot precisely calculate how many additional dollars were spent because of the enrollment growth. Nevertheless, enrollment growth rates indicate the general magnitude of the effect on spending. As Table 6.7 shows,

- **Enrollment growth was a significant factor driving the increases in Medical Assistance spending for the blind and disabled and families and children, but not for the aged.**

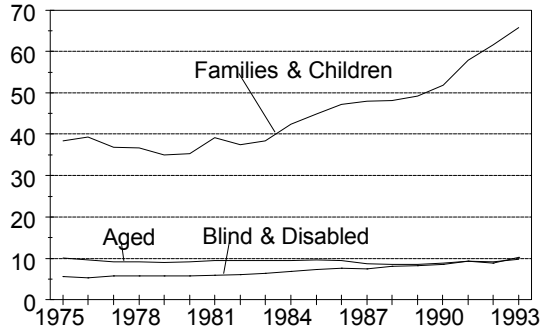
Table 6.7: Growth in Medical Assistance Enrollment and Inflation-Adjusted Expenditures by Eligibility Category, 1975-93

	Average Annual Growth Rates			
	1975-85	1985-89	1989-93	1975-93
Aged				
Expenditures per Enrollee	6.0%	0.3%	7.0%	4.9%
Enrollment per Capita	-0.5	-3.1	3.3	-0.2
Expenditures per Capita	5.5	-2.7	10.5	4.7
Blind and Disabled				
Expenditures per Enrollee	4.8	-0.2	0.2	2.6
Enrollment per Capita	2.8	3.1	5.7	3.5
Expenditures per Capita	7.7	2.9	5.9	6.2
Families and Children				
Expenditures per Enrollee	2.6	2.3	4.8	3.0
Enrollment per Capita	1.6	2.3	7.5	3.0
Expenditures per Capita	4.2	4.7	12.7	6.1

Source: Minnesota Department of Human Services.

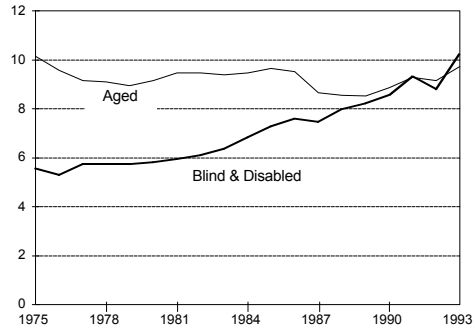
Between 1975 and 1993, as a fraction of the state's population, enrollment in the disabled category grew by an average of 3.5 percent per year and enrollment of families and children increased by 3.0 percent per year. However, enrollment in the aged category declined by 0.2 percent per year. Figures 6.5 and 6.6 illustrate the growth in enrollment between 1975 and 1993.

Figure 6.5: Medical Assistance Enrollees per 1,000 Population by Eligibility Category, Minnesota, 1975-93



Source: Minnesota Department of Human Services.

Figure 6.6: Medical Assistance Aged and Disabled Enrollees per 1,000 Population, Minnesota, 1975-93



Source: Minnesota Department of Human Services.

Eligibility changes explain most of the growth in enrollment of families and children.

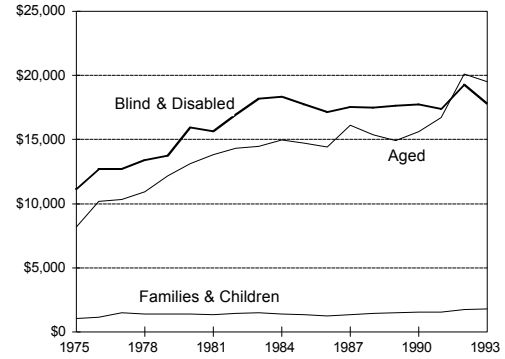
As a fraction of the general population, Medical Assistance enrollment of families and children did not grow between 1975 and 1983, but grew by 71 percent between 1983 and 1993. The enrollment of families and children grew rapidly after 1983 because the number of AFDC recipients increased and because the federal and state governments broadened eligibility for low-income families and children. Approximately 35 percent of this enrollment growth was due to the growth in AFDC caseload. The remainder is due primarily to changes in eligibility. The number of non-AFDC families and children enrolled in Medical Assistance grew by 626 percent between 1983 and 1993. The percentage of children in Minnesota who are in families below the poverty level went from 10.2 percent in 1979 to 12.4 percent in 1989, an increase of 22 percent. This suggests that demographic factors explain some of the enrollment growth of non-AFDC families and children, but their effect is small relative to the effect of changes in eligibility criteria. Previously, eligibility was restricted to AFDC-type families (families with a dependent child and a parent who is single, unemployed, or incapacitated). During the late 1980s and early 1990s, the federal and state governments extended coverage by loosening restrictions on the type of family eligible for Medical Assistance and by raising income limits. For example, pregnant women and children may now qualify based on income and assets regardless of their families' structure. On July 1, 1988, Minnesota raised the income limits for pregnant women and children age one or under from 133 percent to 185 percent of the federal poverty level.

Officials from the Department of Human Services cited several reasons for the large enrollment increase for the blind and disabled category. First, many disabled people qualified for Medical Assistance because the federal government changed the eligibility criteria for disabled under the federal SSI program. Second, disabled people may be more willing to participate in Medical Assistance. In addition, medical improvements allow disabled people to live longer. Finally, there has been an increase in certain diseases such as AIDS.

- **The average cost per enrollee increased faster than inflation for each eligibility group, particularly for the aged.**

After adjusting for inflation, the average cost per enrollee increased between 1975 and 1993 at average annual rates of 4.9 percent for the aged, 3.0 percent for families and children, and 2.6 percent for the disabled. Note that average costs reflect both changes in rates charged for care and changes in utilization. Figure 6.7 shows how the average cost changed between 1975 and 1993.

Figure 6.7: Medical Assistance Expenditures per Enrollee by Eligibility Category (in Constant 1995 Dollars), Minnesota, 1975-93

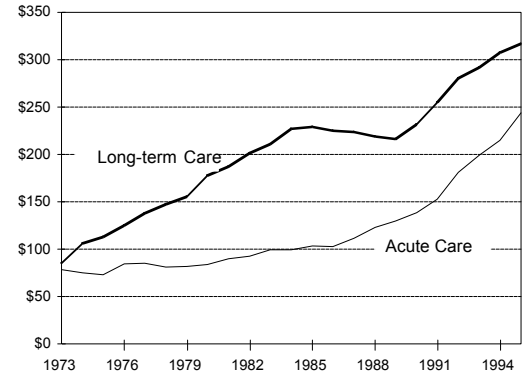


Source: Minnesota Department of Human Services.

Growth by Type of Service

Figure 6.8 shows the trends in Medical Assistance spending for long-term care and acute care. In 1973, Minnesota spent about the same amount on long-term and acute care under the Medical Assistance program. But thereafter, long-term care and acute-care expenditures followed different spending trends. Long-term care expenditures increased by 8.6 percent per year from 1973 to 1985, declined by 1.4 percent per year between 1985 and 1989, and increased by 6.6 percent per year between 1989 and 1995. In contrast, acute care expenditures grew slowly at first, but grew rapidly after 1985, particularly during the 1990s. Acute care expenditures grew by 2.3 percent per year between 1973 and 1985, much slower than long-term care's growth rate (8.6 percent). But between 1985 and 1995, acute care grew by 9.0 percent per year, much faster than long-term care (3.3 percent per year).

Figure 6.8: Medical Assistance Expenditures per Capita by Type of Service (in Constant 1995 Dollars), Minnesota, 1973-95



Source: Minnesota Department of Human Services.

After moratoria were established for long-term care facilities in 1985, long-term care expenditures declined until 1989, after which they grew rapidly.

Prior to 1985, long-term care expenditures rose rapidly because the average cost increased considerably faster than inflation and the number of Medical Assistance recipients living in institutional facilities increased faster than the general population. As Table 6.8 shows, constant-dollar institutional expenditures per recipient increased by 6.2 percent per year between 1975 and 1985 and institutionalized recipients per capita increased by 1.0 percent per year.

Long-term care expenditures under Medical Assistance declined between 1985 and 1989 for several reasons. First, moratoria on the construction of additional nursing homes and ICF-MR facilities restricted the supply of institutional facilities, the most expensive form of care. The 1983 Legislature enacted a moratorium on the certification of additional nursing home beds for Medical Assistance reimbursement. The 1985 Legislature extended the moratorium to all nursing home beds regardless of whether they were certified for Medical Assistance reimbursement. The 1983 Legislature also established a moratorium for the licensure of additional ICF-MR beds and established a cap on the number of ICF-MR beds that could be reimbursed by Medical Assistance.

Second, increases in the number of nursing home residents reimbursed through Medicare reduced the number of nursing home residents financed by Medical Assistance. This reduced the direct cost of nursing homes to Minnesota because the federal government finances all of Medicare, but only 54 percent of Medical Assistance. As Figure 6.9 shows, the percent of nursing home residents financed by

Table 6.8: Growth in Institutional Medical Assistance Inflation-Adjusted Expenditures by Eligibility Category, 1975-93

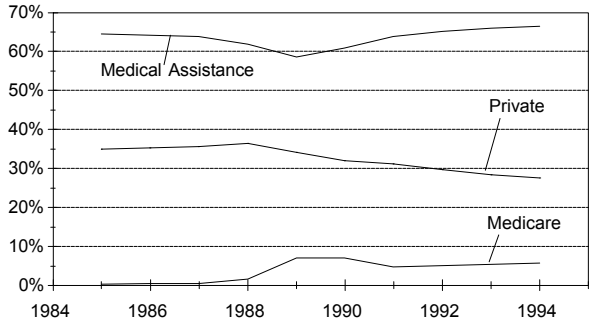
	Average Annual Growth Rates			
	1975-85	1985-89	1989-93	1975-93
Aged				
Expenditures per Recipient	5.1%	1.2%	4.8%	4.2%
Recipients per Capita	1.6	-4.2	4.5	0.9
Expenditures per Capita	6.9	-3.1	9.5	5.1
Blind and Disabled				
Expenditures per Recipient	7.3	2.4	5.3	5.8
Recipients per Capita	1.5	-6.2	-5.4	-1.8
Expenditures per Capita	8.9	-3.9	-0.3	3.9
Total Institutional				
Expenditures per Recipient	6.2	1.4	3.6	4.5
Recipients per Capita	1.0	-4.8	1.8	-0.2
Expenditures per Capita	7.3	-3.5	5.5	4.4

Source: Minnesota Department of Human Services.

Medicare increased from 0.4 percent to 7.1 percent between 1985 and 1989. During the same time period, the share of nursing home days of care reimbursed by Medical Assistance declined from 64.6 to 58.7 percent. The share financed by private-pay residents declined from 35.0 to 34.3 percent.

Finally, the average rates charged by institutional facilities increased much slower during the late 1980s than they did previously. Table 6.8 shows that the average cost per Medical Assistance recipient increased by only 1.4 percent per year between 1985 and 1989, considerably lower than the 6.2 percent annual growth rate between 1975 and 1985.

Figure 6.9: Source of Payment for Minnesota Nursing Home Residents, 1985-94



Source: Minnesota Department of Human Services.

After 1989, long-term care expenditures again grew much faster than inflation. One reason that long-term care expenditures grew rapidly after 1989 is that the average cost per institutional recipient (in constant dollars) grew by 3.6 percent per year between 1989 and 1993. The average cost increased faster than inflation in part because residents living in long-term care facilities were using more services. For example, according to Department of Human Services data, the average number of nursing hours has increased from 2.58

hours per resident day in 1989 to 2.92 hours in 1993. The reason for this may be that as the state restricts nursing home care to those who need it most, the level of care required by those who remain is greater than before. Trends in nursing home resident assessments made under the state's rate-setting system suggest that residents' needs are increasing. This may be due to the rapid growth in the number of individuals who are age 85 or older.

Nursing home expenditures increased because more nursing home residents are over 85 years old and fewer paid for their own care.

Another reason that Medical Assistance long-term care expenditures increased is that fewer nursing home residents are paying for their own care. The percentage of private-paying residents declined from 34.3 percent in 1989 to 27.7 percent in 1994. During the same time period, the percentage of residents covered by Medicare declined from 7.1 to 5.8 percent. As a result, the percentage reimbursed by Medical Assistance increased from 58.7 to 66.6 percent. Thus, even though the moratoria continued to restrict the supply of long-term care beds, the number of Medical Assistance recipients living in nursing homes increased.

Finally, long-term care expenditures increased because of the rapid rise in the expenditures for alternatives to institutional care under federally approved waiver programs. Table 6.9 shows that expenditures for long-term care alternatives increased more than three-fold between 1989 and 1995 (from $22 to $73 per capita). While long-term care alternatives are less expensive than institutional care, overall long-term care expenditures increased because the overall number of people receiving long-term care services increased during the 1990s. While the number of nursing home residents remained stable (though the percent covered by Medical Assistance has changed), the number receiving alternative care (through Medical Assistance's elderly waiver or the state alternative care program) increased by about 5,200, about 20 percent of the number of elderly nursing home residents covered by Medical Assistance.

Table 6.9: Medical Assistance Long-Term-Care Expenditures per Capita (in Constant FY1995 Dollars), 1973-95

	1973	1980	1985	1989	1995
Long-Term-Care Facilities					
Nursing Homes	$83	$121	$148	$126	$177
ICF-MR	N/A	50	73	65	62
State Facility MI/CD	2	5	4	4	5
Subtotal	85	176	224	195	244
Long-Term-Care Alternatives					
Nursing Home Waivers	N/A	N/A	1	2	5
ICF-MR Waivers	N/A	N/A	0	13	37
Home Care (Nursing and Home Health)	1	2	4	7	31
Subtotal	1	2	5	22	73
Total Long-Term Care	$85	$178	$229	$217	$317

Source: Minnesota Department of Human Services.

The number of developmentally disabled individuals served by institutional facilities under Medical Assistance declined by about 1,200 between 1990 and 1995, but the number served by less intensive care (under waivers for developmentally disabled people) increased by about 2,300 during the same time period. Thus, the overall number of developmentally disabled persons receiving long-term care services increased by about 1,100, an increase of 14 percent. Since the average cost of community-based care for people with developmental disabilities was $41,600 per person, compared with $68,600 for institutionalized care, the growth in total recipients appears to more than offset the savings due to placing people in less restrictive settings.[3] The growth in waivered services for persons with developmental disabilities is managed by the Minnesota Department of Human Services. Department officials expect growth to continue since there are waiting lists for these waivered services.

NATIONAL COMPARISONS

As we showed in Chapter 2, the Census data indicate that, in 1992, Minnesota's state and local governments spent nearly 30 percent more per capita on health and welfare than the national average of state and local governments. In fact, Minnesota's health and welfare spending has been consistently higher than the national average by at least 20 percent since 1975. In this section, we examine how Minnesota's spending compares with the national average for Medical Assistance and AFDC. Comparative spending data are not available for other human service programs.

Minnesota's above average human service spending is largely due to programs other than Medical Assistance and AFDC.

Federal government data indicate that in federal fiscal year 1993, Minnesota spent about 3 percent less per capita than the national average on Medical Assistance and about 4 percent less on AFDC. Since Minnesota's overall spending per capita for Medical Assistance and AFDC were close to the national average, the difference between Minnesota and other states must be due to other programs such as social services, general assistance, energy assistance, health programs, and supplemental benefits for the aged, blind, and disabled. However, because of the lack of comparative expenditure data for these programs, we cannot determine how much of the difference between Minnesota and the national average is explained by each program.

Medical Assistance

We compared Minnesota's Medical Assistance spending with the national average based on data from the Health Care Financing Administration for the federal fiscal year ending September 30, 1993. While Minnesota's overall Medical Assistance spending per capita is close to the national average, there are a number of important differences between Minnesota's and the nation's Medical Assistance spending. One difference is that Minnesota makes much less disproportionate share

3 The average cost per recipient of waivered services for the developmentally disabled includes about $2,000 in additional costs under Minnesota Supplemental Aid and $39,600 in Medical Assistance costs. These figures do not include additional costs under the federal SSI program.

hospital (DSH) payments per capita than the rest of the nation. Since most of these payments are not compensation for serving Medical Assistance recipients, it is useful to make national comparisons disregarding most of these payments. DSH payments were originally designed to compensate hospitals for losses due to treating a disproportionately large percentage of Medical Assistance patients. However, DSH payments became controversial after states greatly increased DSH payments from less than $1 billion in 1989 to about $17 billion in 1992, or one in every seven Medical Assistance dollars. A study of DSH payments found that they were not used primarily to help hospitals care for the poor, but rather "as a strategy to increase federal payments to States."[4] The study found that only one sixth of DSH payments was used to increase compensation for hospitals that treated Medical Assistance recipients, suggesting that most DSH payments should be disregarded when making spending comparisons. While Minnesota's Medical Assistance spending per capita is close to the national average, it would be 10 percent higher than average if all disproportionate share payments were disregarded. If one sixth of DSH payments were included (based on the study's results), Minnesota's spending would have been about 8 percent higher than the national average. The comparisons by eligibility category presented in this section do not include DSH payments because national data does not break down DSH payments by eligibility category. The study's results suggest that disregarding DSH payments underestimates overall national spending on Medical Assistance enrollees by about 2 percent.

Minnesota has fewer Medical Assistance enrollees and higher average costs than the national average.

Another difference between Minnesota and the nation is that for each eligibility category, Minnesota had fewer enrollees per capita than the national average. Table 6.10 shows that Minnesota had 18 percent fewer enrollees per capita than the national average for both the aged and families and children. It had 38 percent fewer blind and disabled enrollees per capita than average. Poverty statistics suggest that Minnesota would be expected to have fewer enrollees in a means tested program such as Medical Assistance. The 1990 Census found that 10.2 percent of persons and 7.3 percent of families in Minnesota were below the poverty level, compared with 13.1 percent of persons and 10.0 percent of families in the nation.

Minnesota's Medical Assistance spending per capita (disregarding DSH payments) exceeded the national average even though it had fewer enrollees. The reason is that:

- **Minnesota spent more per Medical Assistance recipient than the national average for all three major eligibility categories, particularly for the aged and disabled categories.**

4 Ku, Leighton and Teresa A. Coughlin, "Medicaid Disproportionate Share and Other Special Financing Programs", Health Care Financing Review, Spring 1995 (Vol. 16, No. 3). Several states made large DSH payments to hospitals at the same time they taxed hospitals or obtained transfer payments from state hospitals. The federal government paid their normal Medical Assistance matching rate for the DSH payments, but did not receive any of the revenue obtained from the hospitals. As a result, states and hospitals gained at the expense of the federal government. The study found that only about one sixth of DSH payments actually were used to increase compensation for hospitals. About half was used to compensate providers who were taxed or made contributions, and one third was used to help states balance their budgets.

Table 6.10: Medical Assistance Enrollees and Expenditures by Eligibility Category, Minnesota vs. the United States, 1993

	Minnesota	United States	Percent Difference
Enrollees per 1,000 Population			
Aged	13	15	-18%
Blind and Disabled	13	21	-38
Families and Children	93	114	-18
Cost per Enrollee			
Aged	$14,223	$8,656	64
Blind and Disabled	12,481	7,273	72
Families and Children	1,384	1,211	14
Cost per Capita			
Aged	$178	$132	35
Blind and Disabled	165	154	7
Families and Children	129	138	-6

Note: HCFA data does not break down Medical Assistance HMO and Health Insurance payments by eligibility category. We allocated HMO payments and health insurance payments for Minnesota and the United States based on the distribution of payments in Minnesota. The data excludes Disproportionate Share Payments.

Source: U. S. Health Care Financing Administration (HCFA), *Medicaid Statistics, Program and Financial Statistics, Fiscal Year 1993* .

Minnesota has higher than average spending for long-term care and lower than average spending for acute care.

Minnesota's average payment was 64 percent higher for aged enrollees, 72 percent higher for blind and disabled enrollees, and 14 percent higher for families and children than the national average. Compared with national Medical Assistance spending per capita in 1993, Minnesota spent 35 percent more on the aged, 7 percent more on the blind and disabled, and 6 percent less on families and children.

Table 6.11 summarizes how Minnesota compares with the nation for long-term care and acute care spending under the Medical Assistance program.

Table 6.11: Medical Assistance Expenditures per Capita by Type of Service, Minnesota vs. the United States, 1993

	Minnesota	United States	Percent Difference
Acute Care	$185	$260	-29%
Long-Term Care			
Institutional	227	137	66
Home and Community	53	26	103
Subtotal	281	164	71
Total	$466	$423	10%

Note: Figures do not include Disproportionate Share Payments. These payments are made (in addition to normal fee for service payments) to hospitals that serve a disproportionate share of Medical Assistance recipients.

Source: U. S. Health Care Financing Administration, *Medicaid Statistics* .

- **In 1993, Minnesota spent 29 percent less per capita than the national average on acute care, but 71 percent more than average on long-term care.**

Minnesota spent substantially more on institutional care (66 percent more per capita) and home and community alternatives to institutional care (103 percent). Minnesota spent more on institutional care because a higher percentage of its population live in institutional facilities and because it paid higher facility rates. As Table 6.12 shows,

- **The primary reason that Minnesota's long-term care expenditures are higher than the national average is that the proportion of Minnesota's population receiving Medical Assistance in nursing homes and ICF-MR facilities is 48 percent higher than the national average.**

Minnesota has greater than average rates of institutionalization.

Table 6.12: Medical Assistance Institutional Long-Term-Care Costs, Minnesota vs. the United States, 1993

	Minnesota	United States	Percent Difference
Days of Care per Capita			
Nursing Homes	2.35	1.64	43%
ICF/MR Facilities	0.32	0.17	85
Total	2.67	1.81	48
Cost per Day			
Nursing Homes	$ 70	$ 62	13
ICF/MR Facilities	198	207	-4
Total	$85	$ 76	13
Payments per Capita			
Nursing Homes	$164	$101	62
ICF/MR Facilities	64	36	77
Total	$228	$137	66%

Source: U. S. Health Care Financing Administration, *Medicaid Statistics*.

Minnesota's Medical Assistance program pays for 43 percent more days of care in nursing homes per capita and 85 percent more days of care in ICF-MR facilities than other states. Minnesota's average facility rates per day of care were 13 percent higher in nursing homes and 4 percent lower in ICF-MR facilities.

It is not clear why Minnesota serves proportionately so many more than average. There is evidence that Minnesota has a much greater supply of nursing home beds than the rest of the nation, but it is not clear that we have a much greater need for institutional services. In 1992, Minnesota had about 51 percent more licensed nursing home beds per 1000 persons 65 and over than the nation. Neighboring states (including Wisconsin, Iowa, South Dakota, and North Dakota) also have between 40 and 54 percent more beds than the national average.[5]

5 Richard DuNah, Jr., et. al., *Variations and Trends in Licensed Nursing Home Capacity in the States, 1978 through 1992* (University of California, San Francisco: 1993).

One reason that a higher percentage of Minnesota's residents live in nursing homes under Medical Assistance is that Minnesota's senior citizens are older, on average, than in other states. In 1990, the percentage of Minnesota's population that was 65 or older was about the same as the national average, but the percentage 85 or older was about 28 percent higher in Minnesota. We estimate that the percentage of Minnesota's residents who live in nursing homes in 1990 would have been about 14 percent higher than the national average if within each age category, the nation had the same percentage living in nursing homes as was the case in Minnesota. Thus, we estimate that differences in age distribution explain about a third of the difference in nursing home utilization between Minnesota and the nation.

AFDC

Aid to Families with Dependent Children is Minnesota's largest income-maintenance program. In 1993, Minnesota spent $85 per capita on AFDC, four percent less than the national average. As Table 6.13 shows, Minnesota paid benefits that were 34 percent higher per case than the national average, but had 27 percent fewer cases per capita. Higher child support collections helped reduce Minnesota's relative cost, while higher administrative expenses increased its relative cost.

Minnesota pays higher than average AFDC benefits, but has fewer recipients.

Table 6.13: AFDC Recipients and Expenditures, Minnesota vs. the United States, 1993

	Minnesota	United States	Percent Difference from United States
AFDC Expenditures per Capita			
AFDC Payments	$85	$86	-2%
AFDC Child Support Collections	12	9	32
Net AFDC Payments	73	77	-6
AFDC Administrative Cost[1]	13	11	11
Net Total Expenditures	85	89	-4
AFDC Recipients per 1,000 population			
Average Monthly Recipients	42	55	-23
Average Monthly Cases	14	19	-27
AFDC Expenditures per Case			
Gross Payments per Case	$6,000	$4,474	34
Child Support Collections per Case	875	485	80
Net Payments per Case	5,125	3,989	28
Administrative Cost per Case	898	593	51
Total Cost per Case	$6,023	$4,582	31

Source: Committee on Ways and Means, U.S. House of Representatives, *1993 Greenbook, Overview of Entitlement Programs* (Washington, 1994).

[1]Excludes administrative costs for child support collection.

SUMMARY

Human services spending is the fastest growing major spending category in Minnesota. Per capita spending for all of the large human service programs except AFDC grew by at least 65 percent (in constant dollars) between 1980 and 1995. Medical Assistance, the largest human service program, grew by 114 percent and accounted for 70 percent of the growth in human service spending. Social service programs accounted for 23 percent. AFDC expenditures declined by 17 percent because average benefits declined by 31 percent (in constant dollars).

Large enrollment increases explain much of the growth in human service spending. As a percentage of population, the number of General Assistance/Work Readiness and Minnesota Supplemental Aid recipients more than doubled between 1980 and 1995. Enrollment (as a percent of population) in Medical Assistance increased by 83 percent and accounted for nearly 60 percent of the spending growth.

Medical Assistance spending more than doubled (in constant dollars per capita) between 1975 and 1993 for each of the major eligibility categories: the aged, the blind and disabled, and families and children. The blind and disabled category was the fastest growing category and accounted for 39 percent of the overall growth. The aged constitute the largest, but slowest growing spending category, explaining 35 percent of the growth. Families and children accounted for 26 percent of the growth.

Growing enrollment explained much of the Medical Assistance spending growth for families and children and the blind and disabled, but not for the aged. Increases in AFDC caseloads were responsible for 35 percent of the growth in Medical Assistance enrollment of families and children. Most of the remaining growth was due to expanded eligibility for low-income families and children. The average cost per enrollee increased considerably faster than inflation for each category, particularly for the aged.

After 1989, long-term care expenditures increased even though state moratoria restricted the supply of beds in nursing homes and ICF-MR facilities and the state promoted alternatives to institutional care. Long-term care expenditures rose because nursing home rates increased faster than inflation, fewer nursing home residents are paying for their own care, and the overall number of Medical Assistance recipients receiving long-term care services (either institutional facilities or their alternatives) increased.

In 1992, Minnesota's state and local governments spent almost 30 percent more per capita on health and welfare than the national average. Minnesota's per capita spending for Medical Assistance and AFDC were close to the national average. However, Minnesota spent considerably more per recipient than the national average for both Medical Assistance and AFDC. The main reason that Minnesota spent more per recipient under Medical Assistance was that a higher percentage of Minnesota's population receives Medical Assistance in nursing homes, state hospitals, or intermediate care facilities for the mentally retarded.

Higher Education

CHAPTER 7

In Chapter 2, we learned that Minnesota's spending per capita on higher education peaked in 1972. In contrast, Chapter 4 suggested that the fastest employment growth in Minnesota state and local governments between 1972 and 1992 occurred in higher education. This apparent contradiction was largely the result of substantial spending for higher education buildings in the late 1960s and early to mid-1970s. Capital costs, which were 35 percent of higher education expenditures in 1972, accounted for only 8 percent of higher education spending in 1992.

In this chapter, we focus on spending changes since 1978. This period of time was selected for two reasons. First, it enables us to focus on spending changes occurring after the building boom for higher education in Minnesota. Second, data for analyzing Minnesota spending trends in detail and making certain national comparisons were not generally available for years prior to 1978.

This chapter addresses the following questions:

- **What have been the trends in higher education spending?**
- **How has the financing of higher education changed?**
- **What factors are responsible for spending trends?**
- **How does Minnesota's spending on higher education compare with other states?**
- **What factors explain the difference between spending per capita in Minnesota and spending in other states?**

We first examine spending data from the Census Bureau and analyze that data using enrollment and other data published by Research Associates of Washington for the period 1978-92.[1] These data enable us to track the effects of growing enrollment, as well as increases in spending per student, on trends in spending per capita. In addition, we can look at how the shares of revenue from student tuition and public appropriations have changed over time. We also use data from the Higher Education Services Office to review trends in Minnesota through 1994. Second,

1 Research Associates of Washington, *State Profiles: Financing Public Higher Education, 1978 to 1994*, (Washington, D.C., 1994).

we examine in detail the factors which explain the growth in spending per student from 1978 to 1992 at the University of Minnesota and Minnesota's state universities, community colleges, and technical colleges. Finally, we compare higher education spending per capita in Minnesota with other states and identify the key factors which explain why Minnesota spends more per capita than the national average.

TRENDS

Overall Spending Trends

From 1978 to 1992, inflation-adjusted spending per capita on higher education increased 19 percent in Minnesota and 24 percent nationwide. Growth in spending per student was lower. Spending per student increased 8 percent in Minnesota and 18 percent nationally. As Table 7.1 indicates:

- **From 1978 to 1992, more than half of the growth in Minnesota's spending per capita on higher education was the result of increased enrollments.**

Higher education spending increased slower in Minnesota than throughout the nation.

Table 7.1: Higher Education Spending and Enrollment, Minnesota and the United States, 1978-92

	Minnesota	United States
Percentage Change in:		
Spending per Student	8%	18%
Enrollment per Capita	10	5
Spending per Capita[a]	19%	24%

Sources: U.S. Census Bureau and Research Associates of Washington.

[a]Spending was adjusted for inflation using the PGSL.

Higher education enrollment per capita rose 10 percent in Minnesota and 5 percent nationwide. Thus, less than one-fourth of the national growth in spending per capita was due to increased enrollments.

These results for spending by higher education institutions do not include financial aid. If financial aid is included, the results are somewhat similar. Spending per capita increased 21 percent in Minnesota and 24 percent nationally, while spending per student rose 10 percent in Minnesota and 18 percent nationwide. The spending growth in Minnesota is a little greater if financial aid is included, because financial aid in Minnesota grew faster than other higher education spending.

Financial aid spending per capita rose 55 percent in Minnesota and 20 percent nationally during this period.[2]

It should be noted, however, that these results may be sensitive to the time period examined and the price deflator we used. Using data from the Higher Education Services Office (HESO), we also examined Minnesota higher education spending from 1978 to 1994. During this period, instructional expenditures per capita rose 14 percent, while spending per student increased 12 percent and enrollment per capita grew only 1 percent. By examining two additional years, we change the conclusion about how much of the growth was due to increases in enrollment. For the period 1978-94, less than 10 percent of the growth in spending per capita was due to enrollment increases, while more than half the spending growth from 1978 to 1992 was the result of enrollment growth. This reversal occurred because higher education enrollment declined about 5 percent over the last two years while spending increased slightly in constant dollars.[3]

The results are also sensitive to the deflator used to adjust for inflation. Consistent with the remainder of this report, the main results were calculated using the price deflator for all state and local government services. It could be argued, however, that higher education spending has experienced higher rates of inflation during the time period examined because instructional salaries have risen faster nationwide than other types of salaries. Consequently, we also used the Higher Education Price Index (HEPI) produced by Research Associates of Washington to deflate higher education expenditures. Using the HEPI, spending per capita increased only 6 percent in Minnesota and 11 percent nationally from 1978 to 1992. Spending per student declined 3 percent in Minnesota, while increasing 6 percent nationwide. All of the growth from 1978 to 1992 in Minnesota's spending per capita can be attributed to enrollment growth, if the HEPI is used to adjust for inflation.

Overall Financing Trends

Tuition has grown significantly.

Both in Minnesota and other states, student tuition is financing an increasing share of the costs of instruction at higher education institutions. Table 7.2 shows that:

- **State appropriations per student for instructional purposes declined 6 percent in constant dollars from 1978 to 1992, while net tuition revenue per student rose 79 percent in Minnesota.**

On a per capita basis, state and local appropriations increased 3 percent and net tuition revenue grew 96 percent in constant dollars.[4] Nationally, appropriations grew

2 Trends in financial aid spending were calculated using the Census Bureau's category of "educational assistance and subsidies." This category does not include federal Pell grants and college work-study programs and may include some financial aid to private and parochial schools providing elementary-secondary education.

3 The difference in conclusions does not result from the use of the HESO data which, unlike the Census data, does not include non-instructional operating expenditures and capital expenditures. For the period 1978-92, the HESO data also indicate that more than half of the growth in spending per capita was due to enrollment growth.

4 Net tuition is tuition revenues less state appropriated financial aid and the amount of tuition waived by higher education institutions.

Table 7.2: Higher Education Appropriations and Net Tuition, 1978-92

	Minnesota	United States
Percentage Change in:		
State and Local Appropriations per Student	(-6)%	3%
Net Tuition Revenue per Student	79	57
Appropriations and Tuition per Student	7%	13%
State and Local Appropriations per Capita	3%	8%
Net Tuition Revenue per Capita	96	65
Appropriations and Tuition per Capita	17%	19%

Sources: Research Associates of Washington and U.S. Census Bureau.

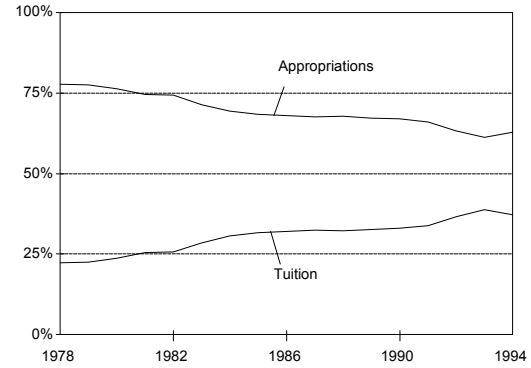
a little faster than in Minnesota and tuition revenue grew slower. Appropriations per student increased 3 percent nationally, and tuition per student rose 57 percent. Appropriations and tuition revenue on a per capita basis were up 8 percent and 65 percent respectively. [5]

Tuition has financed an increasing share of higher education spending.

There has been significant growth in Minnesota in the share of instructional spending financed by tuition. As Figure 7.1 shows:

- **Tuition financed 37 percent of instructional spending in 1994, compared with 22 percent in 1978.**

Figure 7.1: Share of Instructional Expenditures Financed by State Appropriations and Tuition Revenue, Minnesota, 1978-94



Source: Higher Education Services Office.

At the University of Minnesota, the percentage of instructional spending financed by tuition has increased from 28 to 41 percent. Tuition's share at state universities rose from 23 to 38 percent, while increasing from 24 to 38 percent at Minnesota's community colleges. The largest increase occurred at the technical colleges, which once charged no tuition to state residents under the age of 21. The share of instructional spending financed by tuition increased from 9 to 30 percent at the technical colleges.

This increased reliance on tuition to finance higher education spending has, for the most part, been the direct result of state policy set by the Legislature and various

5 The growth rates for combined appropriation and tuition revenues differ somewhat from those in Table 7.1 because the figures in Table 7.2 do not include capital costs and current operating costs for certain non-instructional purposes.

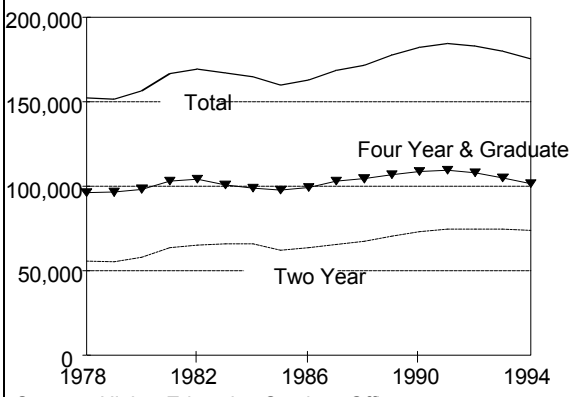
administrations. In a 1994 report, we examined the growth in tuition in greater detail. We found that about 85 to 90 percent of the tuition growth from 1978 to 1992 was due to either inflation or the increased reliance on tuition to fund instructional activities. [6]

Spending Trends by Type of Institution

As we noted earlier, spending growth can occur because enrollments are increasing or spending per student grows. Figure 7.2 shows how enrollment in Minnesota's higher education institutions changed between 1978 and 1994. Total enrollment increased 15 percent, while instructional expenditures per student increased 12 percent. Statewide, instructional expenditures increased 30 percent in constant dollars.

Higher education enrollment has been growing until recently.

Figure 7.2: Full-Year Equivalent Enrollment in Minnesota's Public Colleges and Universities, 1978-94



Source: Higher Education Services Office.

The various types of higher education institutions were affected differently. At the University of Minnesota, enrollment fell 10 percent, while instructional spending per student rose 24 percent. Total instructional spending grew 12 percent. As Table 7.3 shows, other institutions experienced enrollment growth and slower rates of growth in spending per student. However, because of enrollment growth,

Table 7.3: Trends in Enrollment and Instructional Expenditures by Type of Institution, 1978-94

	Percentage Change in:		
	Enrollment	Instructional Expenditures Per Student[a]	Total Instructional Expenditures
University of Minnesota	(-10)%	24%	12%
State Universities	28	17	49
Community Colleges	72	13	94
Technical Colleges	10	8	19
Total	15%	12%	30%

Source: Higher Education Services Office.

[a]Expenditures were adjusted for inflation using the PGSL.

6 Office of the Legislative Auditor, *Higher Education Tuition and State Grants*, February 1994.

total instructional spending rose more at these institutions than at the University of Minnesota. At the state universities, enrollment grew 28 percent, spending per student was up 17 percent, and total instructional spending increased 49 percent. Enrollment grew 10 percent at the technical colleges, while spending per student and total instructional spending increased 8 and 19 percent respectively. The community colleges experienced the greatest enrollment growth (72 percent) and total instructional spending growth (94 percent). Instructional spending per student increased 13 percent at the state's community colleges.

In the remainder of this section, we examine in greater detail the changes in instructional and non-instructional spending at the various types of institutions. Our focus is on those types or objects of expenditure which explain the real changes in spending between 1978 and 1992. All expenditures (or revenues) were adjusted using the PGSL and are expressed in 1992 dollars.

University of Minnesota

Expenditures per student increased at the University of Minnesota from $8,886 in 1978 to $11,121 in 1992, or about 25 percent. Table 7.4 shows that:

- **About 57 percent of the growth in spending per student came from non-instructional activities, particularly research and financial aid.**

Instructional activities accounted for 43 percent of the growth. Both instructional and non-instructional activities in Table 7.4 include a share of overhead costs such as physical plant, administration, academic support, student services, and libraries.

Instructional, research, and financial aid spending increased at the University of Minnesota.

Table 7.4: State-Funded Expenditures at the University of Minnesota, 1978-92

	Expenditures per Student[a]		
	1978	1992	Percentage of Overall Growth
Instruction	$6,142	$7,095	43%
Research	1,381	2,225	38
Financial Aid	89	465	17
Continuing Education and Extension[b]	249	420	8
Public Service and Other	626	530	(-4)
University Hospital	378	317	(-3)
Support Services	23	68	2
Non-Instruction	$2,744	$4,026	57%
TOTAL	$8,886	$11,121	100%

Source: University of Minnesota.

[a]Expenditures are in constant 1992 dollars, adjusted using the PGSL. Expenditures for each activity include an appropriate share of overhead costs, as well as the direct costs of the activity.

[b]Includes non-credit continuing education only.

If these overhead costs are separately examined, they would account for about 20 percent of the real growth in spending per student. Direct instructional costs accounted for 42 percent of the growth, while direct non-instructional costs constituted 38 percent of the growth in spending per student.

Table 7.5 shows that total revenues from state appropriations and tuition grew from $515 million in 1978 to $603 million in 1992, or 17 percent. Tuition and state appropriations for non-instructional purposes were significant sources of additional revenue for the University of Minnesota. In contrast, state appropriations for instructional activities declined 14 percent in constant dollars from $254 million to $219 million.

Table 7.5: State Appropriations and Tuition Revenue for the University of Minnesota, 1978-92

	Revenues (in 1992 dollars)		Percentage of Overall Growth
	1978	1992	
Tuition Revenue	$102,500,000	$166,000,000	72%
State Appropriations for Instruction	253,400,000	218,700,000	(-39)
Revenues for Instruction	$355,800,000	$384,700,000	33%
State Appropriations for Non-Instruction	159,000,000	218,300,000	67
Total	$514,800,000	$603,000,000	100%

Source: University of Minnesota.

State Universities

From 1978 to 1992, enrollment at Minnesota's state universities grew 40 percent. As a result, the state universities were probably able to achieve some economies of scale by more fully utilizing previously underutilized classrooms and other facilities. In fact, the number of staff employed by the state university system per 1,000 students declined 18 percent.

In addition, spending per student declined 2 percent. As Table 7.6 shows, spending per student declined largely because spending per student on physical plant operations declined 48 percent. Student services and institutional support had substantial increases (36 percent and 22 percent respectively), while instructional and department research expenditures per student rose only 2 percent.

As Table 7.7 indicates:

- **Fringe benefits experienced the most significant growth in spending per student at Minnesota's state universities.**

Table 7.6: State University Expenditures by Type of Expenditure, 1978-92

	Expenditures per Student[a]		
	1978	1992	Percentage Change
Instruction and Department Research	$2,699	$2,761	2%
Project Research	19	16	(-16)
Public Service	46	25	(-46)
Academic Support	588	526	(-11)
Student Services	274	373	36
Institutional Support	728	885	22
Physical Plant	696	364	(-48)
Total	$5,050	$4,950	(-2)%

Source: State University System.

[a]In 1992 dollars.

Fringe benefit costs grew significantly at the state universities and community colleges.

Table 7.7: State University Expenditures by Object of Expenditure, 1978-92

	Expenditures per Student[a]		
	1978	1992	Percentage Change
Salaries	$3,428	$3,185	(-7)%
Fringe Benefits	551	896	63
Non-Personnel	1,071	869	(-19)
Total	$5,050	$4,950	(-2)%

Source: State University System.

[a]In 1992 dollars.

From 1978 to 1992, fringe benefits per student increased 63 percent, while salaries per student declined 7 percent. Non-personnel expenditures per student fell 19 percent.

The decline in salary expenditures per student does not mean that salaries per staff member decreased. Average salaries, in fact, increased 14 percent after inflation, while average fringe benefits per full-time equivalent staff member increased 100 percent. The drop in salary expenditures per student resulted because the number of staff per student declined 18 percent.

Community Colleges

Community colleges may also have been able to take advantage of some economies of scale, as their enrollment grew 66 percent from 1978 to 1992. Staffing per

1,000 students declined 8 percent, and spending per student rose only 4 percent. Table 7.8 shows that:

- **The most significant category of growth was institutional support, which increased 63 percent.**

Table 7.8: Community College Expenditures by Type of Expenditure, 1978-92

	Expenditures per Student[a]		
	1978	1992	Percentage Change
Instruction	$2,025	$2,020	0%
Community Education	125	137	10
Academic Support	478	535	12
Student Support	782	616	(-21)
Institutional Support[b]	536	874	63
Plant Operations	503	456	(-9)
Total	$4,449	$4,638	4%

Source: Community College System.

[a]In 1992 dollars.

[b]Expenditures for 1992 include about $70 per student in early retirement incentives and severance pay and $21 per student in unemployment compensation and workers' compensation, which should be distributed across all affected types of expenditures.

This category accounted for all of the growth in spending per student.[7] Instructional spending per student declined slightly.

Table 7.9 examines community college expenditures by object of expenditure. From this perspective:

- **Increased spending on fringe benefits accounted for all of the growth in community college spending per student.**

Fringe benefit expenditures per student rose 39 percent from 1978 to 1992. Salary expenditures per student increased only 1 percent, while non-personnel spending per student declined 6 percent.

Average salaries per full-time equivalent staff member increased 10 percent after inflation. The 8 percent decline in staff-student ratios resulted in a 1 percent increase in salary expenditures per student. Also, fringe benefits per staff member increased 51 percent from 1978 to 1992.

7 Institutional support includes top management, institutional services, marketing and pulic relations, and development personnel.

Table 7.9: Community College Expenditures by Object of Expenditure, 1978-92

	Expenditures per Student[a]		
	1978	1992	Percentage Change
Salaries	$2,873	$2,913	1%
Fringe Benefits	536	746	39
Non-Personnel	1,040	979	(-6)
Total	$4,449	$4,638	4%

Source: Community College System.

[a]In 1992 dollars.

Technical Colleges

Comparable expenditure data are not available on technical colleges for the entire period 1978-92. However, most of the real growth in spending per student during that period occurred from 1985 to 1992. As a result, we examined spending at the technical colleges during that latter period.

Non-instructional spending accounted for most of the growth in technical college spending.

Table 7.10 shows that:

- **Most of the real growth in technical college spending per student from 1985 to 1992 was due to non-instructional activities.**

Table 7.10: Technical College Expenditures by Type of Expenditure, 1985-92

	Net Expenditures per Student[a]		
	1985	1992	Percentage Change
Continuous Instruction	$2,944	$2,820	(-4)%
Extension Instruction	230	378	64
Management Programs	78	180	131
Media/Library	87	104	20
Farm-Based Management Programs	62	69	11
Research and Other	48	5	(-90)
Instruction	$3,448	$3,555	3%
Student Support	544	661	22
Institutional Support	764	966	26
Fixed Costs	61	132	116
Plant Operations and Repairs	680	663	(-2)
Non-Instruction	$2,048	$2,423	18%
Total	$5,496	$5,978	9%

Source: Technical College System.

[a]In 1992 dollars.

Non-instructional spending per student increased 18 percent, while instructional spending rose only 3 percent. The overall increase in spending per student was 9 percent. Non-instructional activities showing the largest amount of growth include institutional support, student support, and fixed costs.

Table 7.11 shows the growth in technical college expenditures per student by object of expenditure. Salary expenditures per student grew only 8 percent but accounted over half of the overall real growth in spending per student. Fringe benefit expenditures per student increased 22 percent and accounted for about 30 percent of the overall growth.

Table 7.11: Technical College Expenditures by Object of Expenditure, 1985-92

	Expenditures per Student[a]		
	1985	1992	Percentage Change
Salaries	$3,331	$3,614	8%
Fringe Benefits	665	813	22
Travel	59	84	42
Purchased Services	605	756	25
Other Expenses	53	86	62
Less: Other Revenue	(142)	(303)	113
Net Staff Budget	$4,570	$5,050	11%
Net Supplies Budget	459	414	(-10)
Net Equipment Budget	465	514	11
Total	$5,496	$5,978	9%

Source: Technical College System.

[a]In 1992 dollars.

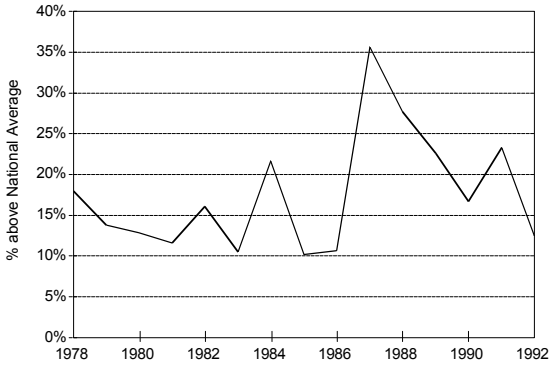
The number of staff per 1,000 students increased 5 percent, primarily due to a 21 percent increase in non-licensed staff. Average salaries per staff member rose 3 percent after inflation, while average fringe benefits increased 15 percent.

NATIONAL COMPARISONS

In 1992, Minnesota spent $372 per capita on higher education, or 12 percent more than the national average of $331.[8] Minnesota has also spent more on higher education in each of the years we examined from 1978 to 1992. Minnesota's spending per capita has ranged from 10 to 36 percent above the national average over this period (See Figure 7.3).

8 If financial aid is included, Minnesota spending on higher education was 15 percent above the national average.

Figure 7.3: Percentage Difference Between Minnesota Higher Education Spending per Capita and the National Average, 1978-92



Source: U.S. Census Bureau.

As Table 7.12 demonstrates:

- **Minnesota's above average spending on higher education is largely due to its larger enrollments in higher education.**

In 1992, Minnesota's higher education enrollment per capita was 20 percent above the national average, while its spending per student was about 6 percent below average. Larger enrollment relative to population also explains most of the higher than average spending in other years since 1978. Between 1978 and 1992, Minnesota's enrollment per capita has been between 15 and 28 percent greater than the national average. Spending per student has ranged from 11 percent below to 6 percent above the national average.[9]

Minnesota spends more than average on higher education because it has more students.

Table 7.12: Higher Education Spending and Enrollment in Minnesota Compared with National Averages, 1992

	Percentage Difference From National Average
Spending per Student	(-6)%
Enrollment per Capita	20
Spending per Capita	12%

Sources: U.S. Census Bureau and Research Associates of Washington.

Minnesota's greater than average enrollments can be further analyzed. We found that:

- **Minnesota's above average higher education enrollments and spending are largely due to the higher than average number of high school graduates per capita.**

9 Data from the Research Associates of Washington suggest that instructional spending per student may be larger relative to the national average than indicated by Census data on overall spending. These data indicate that, for Minnesota, instructional revenues per student were 6 percent above the national average in 1992. This finding suggests that capital and non-instructional spending per student was lower than average.

Table 7.13 indicates that Minnesota produced 15 percent more high school graduates per capita than the national average in 1992. The larger number of graduates explained about three-fourths of the difference in higher education enrollments per capita. The remainder was explained by a greater participation ratio in higher education. Enrollment per high school graduate was 4 percent above the national average.[10]

Minnesota produces more high school graduates than the national average and has a greater participation rate in higher education.

Table 7.13: High School Graduates per Capita and Higher Education Participation Ratio in Minnesota Compared with National Averages, 1992

	Percentage Difference From National Average
High School Graduates per Capita	15%
Participation Ratio[a]	4
Higher Education Enrollment per Capita	20%

Sources: Research Associates of Washington and the U.S. Census Bureau.

[a]Higher education enrollment per high school graduate.

The above average number of high school graduates in Minnesota is the result of lower than average dropout rates and a higher than average share of school-age population for elementary-secondary education. Secondary education dropout rates have historically been lower in Minnesota than in other states. The number of school age children per capita in Minnesota was 7 percent above the national average in 1992.

SUMMARY

Higher education spending per capita grew 19 percent in Minnesota from 1978 to 1992. Roughly half of that growth was due to increased enrollment, although that conclusion appears sensitive to the time period we chose to examine. Tuition is financing an increasing share of spending in higher education. Net tuition revenue per student rose 79 percent in Minnesota, while state appropriations for instructional purposes declined 6 percent in constant dollars.

The national trends are similar, but other states appear to have increased spending more. Spending per capita grew 24 percent nationally between 1978 and 1992. The rate of increase in spending per student was 18 percent, compared with 8 percent in Minnesota. Tuition growth was also a little slower nationally (57 percent), while state and local appropriations per student increased 3 percent.

10 According to Research Associates of Washington, Minnesota has produced between 11 and 18 percent more high school graduates per capita than the national average during the years from 1978 to 1994.

In Minnesota, the factors affecting spending vary somewhat by type of institution. For example, there has been considerable variation in enrollment growth since 1978. Enrollment increased significantly at community colleges and state universities, while declining at the University of Minnesota.

The factors affecting spending per student vary as well. At the University of Minnesota, more than half of the real growth in spending per student between 1978 and 1992 was due to increases in non-instructional spending on activities such as research and financial aid. Fringe benefits, as well as institutional support and student services, showed substantial growth at the state universities. Fringe benefits and institutional support also grew fast at Minnesota's community colleges. Meanwhile, spending per student on plant operations declined at both the state universities and community colleges. Non-instructional expenditures also accounted for most of the growth in spending per student at Minnesota's technical colleges from 1985 to 1992.

Minnesota has generally spent more per capita than other states on higher education. In 1992, Minnesota's spending was 12 percent above the national average. However, most of the difference in spending has resulted from Minnesota's higher than average number of high school graduates per capita and higher participation rates in higher education. The higher number of high school graduates is due to Minnesota's lower than average dropout rates and a higher than average number of school-age children per capita.

Transportation

CHAPTER 8

In 1992, state and local governments in Minnesota spent about $2.0 billion on transportation-related activities. This chapter examines highway and transit expenditures, which represented more than 90 percent of the spending.[1] We focus mostly on expenditures for streets and highways, which accounted for $1.7 billion, or 83 percent of transportation spending in 1992. In this chapter, we address the following questions:

- **What have been the trends in highway and transit spending in Minnesota and other states?**
- **What factors have influenced spending trends?**
- **How does Minnesota's spending on highways and transit compare with other states?**
- **What factors explain the difference in spending between Minnesota and other states?**

We use spending data from the Census Bureau to analyze spending trends and make national comparisons between 1977 and 1992. More recent data are also used to review Minnesota trends. It is somewhat more difficult to identify the factors affecting spending trends in transportation than for other government functions. Unlike education and human services, more than half of the spending in transportation is for capital expenditures. In addition, it is more difficult to measure transportation workload than it is for most other government functions. In education and human services, enrollment and caseload are good indicators of workload. For highway spending, traffic is a potential workload measure, but it is less clear how this measure precisely influences spending. As a result, it was more difficult to reach definitive conclusions about the factors responsible for spending trends and differences among states in the area of transportation.

1 Other transportation functions not covered in this chapter include air transportation, local parking facilities, and water transport and terminals. About $187 million was spent on these activities in 1992.

BACKGROUND

Highway and transit spending were about 9 percent of state and local government spending in Minnesota in 1992. Funding for highways at the state level comes primarily from the motor fuel tax, motor vehicle registration fees, and federal funds. Local governments fund highway expenditures using state and federal aid, as well as local revenues. Transit funding is supported by state and local revenues, federal aid, and fares.

Minnesota has a street and highway system of almost 130,000 miles. As Table 8.1 shows, about 11 percent of the roads are in urban areas of the state, but these roads carry 52 percent of the traffic. Interstates and freeways account for less than 1 percent of the roads and 27 percent of the traffic. Local roads in rural areas carry only 6 percent of the traffic but represent 59 percent of all road miles in Minnesota.

Table 8.1: Miles of Road and Traffic by Type of Road, Minnesota, 1993

	Percentage of Road Miles	Percentage of Traffic
Interstate	0.2%	13.4%
Other Freeways and Expressways	0.1	5.5
Other Principal Arterials	0.5	7.9
Minor Arterials	1.5	13.8
Collectors	1.2	4.8
Local	8.0	6.5
URBAN	11.5%	51.9%
Interstate	0.5%	8.0%
Other Principal Arterials	2.7	13.6
Minor Arterials	4.8	9.7
Major Collectors	12.3	7.9
Minor Collectors	9.0	2.7
Local	59.2	6.2
RURAL	88.5%	48.1%
Total	100.0%	100.0%

Source: Federal Highway Administration.

Almost 60 percent of the state's traffic is on 10 percent of the roads.

Table 8.2 presents a breakdown of miles and traffic by jurisdiction. The state's trunk highway system of about 12,000 miles carries 59 percent of all traffic. City and county roads which are part of a state-aid system have 25 percent of the road miles and 29 percent of the traffic. Other city and county roads have 22 percent of the mileage and 10 percent of the traffic. Only 2 percent of the traffic is on township roads, which account for 44 percent of all mileage.

Regular transit service in the Twin Cities metropolitan area is provided by Metropolitan Council Transit Operations, "opt-out" providers in some of the suburbs, and a few private companies receiving public subsidies. Additional transit services are provided by Metro Mobility and numerous small urban and rural systems.

Table 8.2: Miles of Road and Traffic by Jurisdiction, Minnesota

	Percentage of Road Miles	Percent of Traffic
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	44	2
Total	100%	100%

Source: Minnesota Planning.

Efforts to increase transit use or to reduce automobile traffic also include park and ride lots, ridesharing and commuter van programs, and high occupancy vehicle (HOV) lanes.

Several large cities outside the Twin Cities area also have regular transit service and ridesharing programs. These services are provided in Duluth, Moorhead, Rochester, and St. Cloud. Some other portions of Greater Minnesota also receive services, although services are not provided in 20 of the 80 counties outside the Twin Cities metropolitan area.

TRENDS

State and Local Government Spending

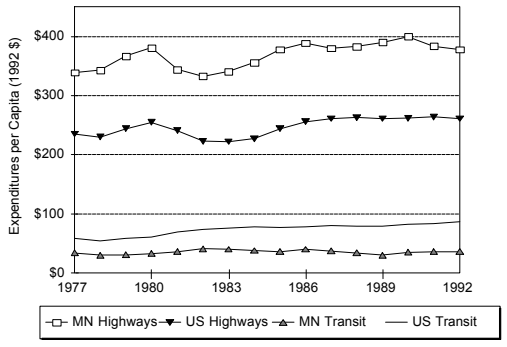
Highway and transit spending increased modestly in Minnesota between 1977 and 1992.

Census data indicate that in Minnesota:

- **There has been modest growth in highway and transit spending over the period 1977-92.**

Per capita spending on highways (in constant dollars) grew 12 percent from $339 in 1977 to $378 in 1992. As Figure 8.1 illustrates, spending declined during the last two years of this period and is now back at its 1985 level. Current operating expenditures per capita

Figure 8.1: Trends in State and Local Government Highway and Transit Spending per Capita, Minnesota and the United States, 1977-92



Source: U.S. Census Bureau.

declined 11 percent over the 15-year period, while capital expenditures per capita grew 32 percent in constant dollars. [2]

Table 8.3 shows that transit spending per capita increased only 4 percent. Spending (in constant dollars) grew from about $34 per capita to $36 per capita. Transit spending was about 9 percent of all spending on highways and transit in Minnesota.

Minnesota's transit spending grew slower than the national average.

Table 8.3: Growth in State and Local Government Highway and Transit Spending per Capita, Minnesota and the United States, 1977-92

	Percentage Change (in 1992 Dollars)	
	Minnesota	United States
Highways	12%	11%
Transit	4	49
Total	11%	19%

Source: U.S. Census Bureau.

Highway spending in other states also grew a little faster than inflation. Spending per capita increased 11 percent nationwide during the 15-year period. Expenditures grew from $235 per capita to $261 per capita. Nationally, most of that growth occurred between 1977 and 1987. Spending per capita has not changed much since 1987.

In contrast to Minnesota, transit spending nationwide increased substantially from 1977 to 1992. Spending grew 49 percent from $59 per capita to $86 per capita. The share of highway and transit spending going to transit increased nationally from 20 percent in 1977 to 25 percent in 1992.

Overall, spending on highways and transit increased faster in other states, because of the larger increases for transit functions. Spending per capita increased 11 percent in Minnesota and 19 percent nationally. As a percentage of personal income, however, overall spending declined in both Minnesota and other states. In Minnesota, highway and transit spending as a percentage of personal income declined from 2.6 percent in 1977 to 2.2 percent in 1992. The national percentage fell from 2.0 percent to 1.8 percent.

All of the above trends were calculated using the implicit price deflator for state and local government services (PGSL) to convert spending to constant dollars. We also calculated the trends in highway spending using a Federal Highway Administration price index for highway construction. This index increased less than the PGSL over this period, suggesting that prices for construction labor and materi-

2 Spending on "highways" generally includes maintenance, operation, repair, and construction of all streets, roads, highways, bridges, tunnels, and related structures. For purposes of this chapter, transit spending includes the operation, maintenance, and construction of all public mass transit systems, as well as public subsidies to privately-owned and operated transit utilities.

als did not increase as much as other state and local government salaries and materials. As a result, highway spending per capita increased 36 percent in constant dollars using the FH WA price index, compared with 12 percent using the PGSL. This suggests that growth in highway spending from 1977 to 1992 may have been more substantial than indicated earlier in this chapter.

Spending by Jurisdiction

Minnesota Planning has analyzed highway and transit spending for Minnesota by jurisdiction and fund using data from the Department of Finance and the State Auditor's Office.[3] According to Minnesota Planning, spending by the state from the Trunk Highway Fund increased 38 percent in constant dollars from 1983 to 1993. Nearly all of the increase occurred between 1983 and 1986, with little growth occurring after 1986. Overall highway expenditures by the Minnesota Department of Transportation (MN/DOT) increased 23 percent with most of the increase coming before 1986.

Municipal road expenditures, funded through local revenues and the Municipal State-Aid Street Fund, increased 28 percent from 1983 to 1992. City expenditures from the fund increased 50 percent in constant dollars from 1983 to 1993. Overall county highway spending increased 12 percent from 1983 to 1992, while county spending from the County State-Aid Fund increased 24 percent from 1983 to 1993.

These figures are somewhat difficult to compare with Census data due to the difference in years. However, the trends seem consistent with the Census data. The 23 percent increase in MN/DOT spending from 1983 to 1993 is approximately a 13 percent increase in spending per capita. Census data, which are not yet available for 1993, show an increase of about 11 percent from 1983 to 1992. Overall city and county spending per capita increased about 19 percent and 4 percent respectively from 1983 to 1992.

Factors Influencing Spending

Highway spending has been tied to certain revenue sources.

There are a number of factors which have affected highway and transit needs and spending trends. Perhaps the most significant factor is available revenue sources. State spending and state aid to local governments for highways depend on revenues from the motor fuel tax, motor vehicle registration fees, driver's license fees, and federal aid. With funding tied to particular revenue sources, trends in highway spending generally reflect the growth in those revenue sources. While some of these sources have grown as fast or faster than the inflation rate, others have not grown as fast. Between 1977 and 1992, motor fuel tax revenue per capita declined 6 percent in constant dollars, and federal aid per capita decreased 23 percent. Increases in other revenue sources such as the motor vehicle license tax (51 percent) enabled highway spending in Minnesota to grow 12 percent per capita over a 15-year period.

3 Minnesota Planning, *Working Paper, Budget 2001: Transportation*, October 1994.

Transit spending in Minnesota has been supported by general state revenues, local property taxes, and federal aid. In some other states, transit has received funding from sources that are designated for highway spending in Minnesota. Other states have also been able to get additional federal aid for new mass transit systems, while Minnesota has not approved implementation of a new system and has seen declining federal aid for transit. As a result of these factors, transit spending per capita has grown much faster nationally than in Minnesota.

According to a 1991 report by the Transportation Study Board, a number of factors have affected transportation needs. They include increasing congestion particularly in the Twin Cities metropolitan area, declining automobile occupancy rates, increasing use of the highway system for commercial transportation, increased costs due to an aging infrastructure, and a growing need for transit services to maintain personal mobility throughout the state.[4] The report concluded that future funding levels would have to be 30 percent higher than current funding levels in order to meet an acceptable level of service.

While it is beyond the scope of this report to assess highway and transit needs, it is clear that these factors have affected past spending trends and are likely to affect future spending decisions. Annual vehicle miles of travel per capita grew 30 percent in Minnesota just from 1982 to 1992. The number of miles of congested highways has also increased significantly, particularly in the Twin Cities metropolitan area. Interstates and freeways in the metropolitan area and highways outside the metropolitan area have aged and have needed, and will need, greater repairs and reconstruction. As elderly and low-income individuals become an increasing share of the population, transit services may also be in greater demand.

NATIONAL COMPARISONS

In this section, we first use spending data from the Census Bureau to make comparisons between highway and transit spending in Minnesota and spending in other states. We then use spending data from the Federal Highway Administration (FHWA) to more closely analyze highway spending differences. It should be recognized that FHWA data show Minnesota's highway spending per capita to be higher compared with the national average than do the Census data.[5]

4 Minnesota Transportation Study Board, *Study of Minnesota's Surface Transportation Needs: Report to the Governor and the Legislature*, January 1991.

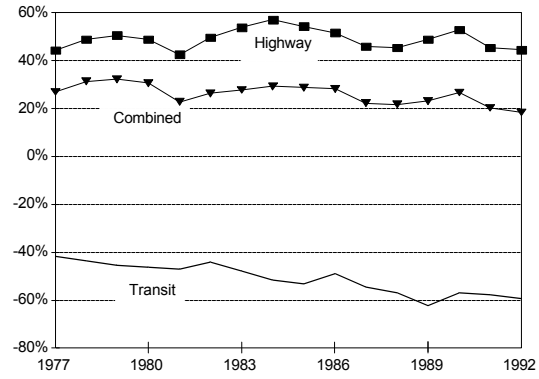
5 In 1992, according to Census data, Minnesota's spending per capita on highways was 45 percent above the national average. FHWA data show Minnesota's spending per capita to be about 59 percent above average. Some difference between the two data sources is to be expected because of differences in the definition of expenditures and the use of calendar year data by FHWA. However, the use of different reporting periods is probably not a major factor, since FHWA data have consistently shown Minnesota's spending to be higher relative to the national average than have the Census data.

Comparisons Using Census Data

Figure 8.2 illustrates that:

- **Minnesota has generally spent substantially more per capita on highways than the national average and substantially less on transit.**

Figure 8.2: Percentage Difference Between Minnesota Highway and Transit Spending per Capita and the National Average, 1977-92



Source: U.S. Census Bureau.

Minnesota spends more per capita on highways and less on transit than the nation as a whole.

From 1977 to 1992, state and local governments in Minnesota spent between 43 and 57 percent more per capita than the national average for highways. In 1992, highway spending per capita was 45 percent higher in Minnesota.

In contrast, Minnesota spent between 42 and 62 percent less than the national average on transit. In 1992, Minnesota's transit spending was 59 percent below the national average. Although Minnesota's transit spending is well below the national average, it should be recognized that the majority of transit spending is concentrated among a handful of states with some of the nation's largest metropolitan areas. As Table 8.4 shows, only eight states and the District of Columbia had transit spending above the national average in 1992. The top six states and the District of Columbia accounted for 77 percent of all transit spending and 34 percent of the U.S. population. Despite being 59 percent below the national average, Minnesota is ranked 17th highest and spends more per capita than 34 other states.[6]

Overall spending per capita on highways and transit has generally been higher in Minnesota than the national average, due to Minnesota's higher than average highway spending. Combined highway and transit spending per capita was $414 in Minnesota and $349 nationwide in 1992, or 19 percent higher in Minnesota. Over the 15-year period, Minnesota's combined spending was between 19 and 32 percent higher than the national average.

Analysis of Highway Spending Differences

There are two principal reasons why Minnesota spends more per capita on highways than other states:

6 Population density of large metropolitan areas probably is an important factor in transit funding. The Twin Cities area, while ranked 16th in 1990 among metropolitan areas in population, is one of the least densely populated major metropolitan areas. In addition, Minnesota ranks 32nd highest in population density among the 50 states and the District of Columbia.

Table 8.4: Transit Spending per Capita, 1992

Rank	State	Transit Spending per Capita	Rank	State	Transit Spending per Capita
1	District of Columbia	$1,620	25	Utah	26
2	New York	405	26	Wisconsin	26
3	Massachusetts	208	27	Delaware	22
4	Illinois	140	28	Arizona	18
5	New Jersey	128	29	Indiana	17
6	California	122	30	Kentucky	16
7	Pennsylvania	99	31	Iowa	15
8	Hawaii	97	32	Tennessee	13
9	Washington	89	33	Nebraska	12
			34	Nevada	11
	U.S. Average	87	35	Vermont	11
			36	Montana	10
10	Maryland	84	37	West Virginia	9
11	Connecticut	68	38	North Carolina	9
12	Rhode Island	65	39	New Mexico	8
13	Colorado	54	40	Alabama	7
14	Oregon	54	41	Oklahoma	6
15	Georgia	47	42	South Carolina	5
16	Texas	40	43	New Hampshire	4
17	**MINNESOTA**	**36**	44	North Dakota	4
18	Ohio	35	45	South Dakota	4
19	Virginia	34	46	Maine	3
20	Michigan	33	47	Kansas	3
21	Missouri	31	48	Arkansas	3
22	Florida	31	49	Mississippi	2
23	Alaska	28	50	Idaho	2
24	Louisiana	26	51	Wyoming	0

Source: U.S. Census Bureau.

- **Minnesota spends more per mile of road than the national average, especially on city and state roads.**
- **Minnesota has more miles of road than all but four states.**

Minnesota has an extensive system of roads.

Table 8.5 shows how Minnesota compared with other states in spending and road miles for state, city, and rural roads in 1990.[7] Minnesota spends 20 percent more per mile of road than the national average for state roads and 108 percent more for municipal roads administered by local governments. Minnesota's spending per mile is close to the national average for rural roads administered locally.

Ironically, overall spending per road mile is 15 percent lower than the national average. This result is entirely due to Minnesota having many more rural roads than other states. Many of these rural roads are unpaved and cost less to build and

7 More recent data from FHWA does not provide a breakdown in spending among these three different types of roads. However, the overall comparisons of Minnesota with the national average have not changed much.

Minnesota spends more per road mile than the national averages for municipal and state roads.

Table 8.5: Expenditures per Road Mile by Type of Road, Minnesota Compared with the National Average, 1990

	Percentage Difference from National Average			
	State-Administered Roads	Locally Administered Roads		
		Municipal	Rural	All Roads
Expenditures per Road Mile[a]	20%	108%	3%	(-15)%
Road Miles per Capita[b]	(-5)	12	157	96
Expenditures per Capita	14%	133%	164%	68%

Sources: Federal Highway Administration and the U.S. Census Bureau.

[a]Includes capital, maintenance, and administrative/miscellaneous expenditures.

[b]Excludes roads under the direct control of the federal government and expenditures on those roads.

maintain than other types of roads. According to the FH WA, expenditures per mile in Minnesota are about 10 times higher on state roads and 8 times higher on city roads than on rural roads. With many more low-cost roads, Minnesota's overall cost per mile is less than the national average, even though Minnesota spends more per mile for each type of road shown in Table 8.5.

Compared with other states, Minnesota has 96 percent more miles of road per capita. As mentioned above, the difference is largely due to the number of rural roads. In 1993, with almost 130,000 miles of road, Minnesota had the 5th largest road system in the nation. Only Texas, California, Illinois, and Kansas had more miles of roads. About 89 percent of the roads were in rural areas of the state, and about 78 percent of the roads were locally administered rural roads. Only Texas and Kansas had more miles of rural roads and more rural roads under local administration.

We estimated that almost 60 percent of the difference between Minnesota and the national average for highway spending per capita was due to Minnesota's higher than average spending per mile. The rest of the difference was explained by Minnesota's larger network of roads. In the next two sections, we examine factors which may explain why Minnesota's spending per mile and road miles per capita differ from other states.

The size of Minnesota's road system is related to its population density and rural characteristics.

Road Miles

Two factors contributing to Minnesota's large network of roads are Minnesota's 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.

However, Minnesota also has considerably more miles of road per square mile of land than other states. Minnesota's road miles per square mile exceed the national average by 53 percent. This fact may, in part, be the result of Minnesota's above average number of farms and below average size of farms. In rural areas, roads are needed to provide access to and from farms. Minnesota has 88,000 farms, or 138 percent more farms per capita than the national average. Minnesota's farms are also about 27 percent below the national average in size. Connecting a larger number of smaller farms may require more roads per square mile in rural areas of Minnesota than in rural areas of other states.[8]

Spending per Mile

It is difficult to precisely account for Minnesota's higher than average spending per mile of road. Differences in expenditures on snow and ice control explain only about 15 to 20 percent of the overall difference in spending per mile between Minnesota and the national average. It is possible that climate may be an important factor affecting the frequency with which roads need maintenance, repair, and construction. In addition, Minnesota may be building roads to higher specifications and standards than other states. Available data indicate that Minnesota's roads tend to have wider lanes than the national average. About 79 percent of the most heavily traveled roads in Minnesota have lane widths of 12 feet or more, compared with 55 percent nationwide.

Differences in spending per mile may be related to climate and road standards.

Comparative data on lane width is only available, however, for about one-fourth of Minnesota's roads. In addition, this factor is somewhat offset by a smaller number of lanes per road mile and a higher percentage of unpaved roads in Minnesota. The number of lanes per road mile is about 2 percent lower in Minnesota than nationally. About 60 percent of all road miles are unpaved in Minnesota, compared with a national average of 42 percent.

It is unclear how the relative amount of traffic on Minnesota's roads affects relative spending. Minnesota tends to have more traffic per capita and less traffic per road mile than other states. Annual vehicle-miles of travel per capita were 5 percent higher in Minnesota than in other states in 1993. Vehicle-miles of travel per mile of road were, however, 45 percent lower in Minnesota than the national average. Traffic per mile of road was lower on every type of road except non-interstate freeways and expressways in urban areas, on which traffic was 11 percent higher in Minnesota. This factor would tend to cause Minnesota's spending per mile of road to be lower than the national average, except for non-interstate urban freeways, rather than higher. Another way to examine the impact of traffic is by examining the percentage of congested roads in Minnesota and other states. Table 8.6 indicates that the percentage of more heavily traveled roads which are congested is lower in Minnesota than in other states.

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8 We also compared Minnesota with the continental United States. Minnesota's road miles per capita are still 96 percent above the national average, even if Alaska and Hawaii are excluded. However, Minnesota's population density is 34 percent below average, and the number of road miles per square mile of land is only 29 percent above average. The comparisons of the number and size of farms are not appreciably affected by excluding Alaska and Hawaii.

Table 8.6: Percentage of Highways Experiencing Congestion, Minnesota and the National Average, 1993

	Minnesota			United States		
Type of Roads	Total Miles	Congested Miles	Percent Congested	Total Miles	Congested Miles[a]	Percent Congested
Interstate	233	107	45.9%	12,878	5,839	45.3%
Other Freeway	130	61	46.9	8.857	2,788	31.5
Other Principal Arterial	623	124	19.9	52,835	13,626	25.8
Minor Arterial	1,896	290	15.3	85,822	11,629	13.6
Collector	1,623	79	4.9	85,378	4,638	5.4
Urban	4,505	661	14.7%	245,770	38,520	15.7%
Interstate	681	96	14.1%	32,652	2,858	8.8%
Other Principal Arterial	3,569	178	5.0	96,201	2,048	2.1
Minor Arterial	6,190	84	1.4	137,928	1,650	1.2
Major Collector	15,967	0	0.0	432,675	1,004	0.2
Rural	26,407	358	1.4%	699,456	7,560	1.1%
Total	30,912	1,019	3.3%	945,226	46,080	4.9%

[a]Congestion is defined as a volume-to-service flow ratio of 0.80 or more.

Source: Federal Highway Administration.

It is difficult to tell if Minnesota is keeping its roads in better or worse condition than other states and what the relative condition of roads suggests about Minnesota's relative spending. Available data from the FH WA on pavement condition suggest that Minnesota roads, which a few years earlier were in better condition than those in other states, are now in worse condition. However, these data are very suspect and may not provide a valid comparison among states. In addition, even if valid comparisons could be made, it is unclear how the comparisons should be interpreted. Having roads in worse condition could indicate that Minnesota is not getting an adequate return on its higher than average spending. Alternatively, it could mean that, despite spending more per mile, Minnesota cannot keep its roads in as good condition as other states because of the effects of climate on the need for maintenance and repairs.

SUMMARY

There was modest real growth in highway and transit spending between 1977 and 1992. Highway spending per capita increased 12 percent in Minnesota and 11 percent nationally. Transit spending per capita grew 4 percent in Minnesota but 49 percent nationwide. The growth in highway spending was more significant (36 percent), if the FH WA price index for construction is used to convert spending to constant dollars instead of the PGSL. Spending trends have been influenced by available revenues, as well as increasing traffic and congestion, aging infrastruc-

ture, increasing use of the highway system for commercial transportation, and growing transit needs.

In 1992, Minnesota spent considerably more per capita on highways (45 percent) than the national average and much less per capita on transit (59 percent). Overall highway and transit spending per capita was about 19 percent above the national average. Minnesota's above average highway spending is the result of higher spending per road mile, particularly on locally administered roads not in rural areas, and a significantly larger network of roads, particularly in rural areas. Minnesota's large network of rural roads is, in part, the result of the state's relatively low population density and its relatively large number of small farms. It was not possible to rigorously explain Minnesota's higher than average spending per mile, but it may be related to the state's climate and its road construction standards.

Public Safety Expenditures

CHAPTER 9

As we saw in Chapter 2, public safety spending accounts for about 6 percent of all state and local government spending in Minnesota. Unlike other major spending categories, Minnesota spends significantly less per capita on public safety than the national average. While public safety spending in Minnesota has not increased much faster than the state's overall spending between 1982 and 1992, the public safety category includes corrections, one of the fastest growing categories of spending in both Minnesota and other states.

This chapter presents an analysis of the growth in spending in public safety. In particular, we address the following questions:

- **How has public safety spending in Minnesota changed over time?**
- **How do public safety spending patterns in Minnesota differ from those for the nation overall?**
- **What are the major factors causing changes in corrections spending?**

We examined data from federal and state authorities. National data are drawn largely from two sources: (1) the U.S. Bureau of Justice Statistics (BJS) and (2) the Bureau of the Census. The BJS reports present detailed information addressing almost every aspect of the criminal justice system but have the drawback of not being very timely. Census data are available on an annual basis but do not support a detailed analysis of the individual components of public safety spending. We used Census data to describe trends, and the more detailed BJS data to explain and interpret trends indicated by the Census data. For more up-to-date information on issues relating to workload in Minnesota, we also used data from the Minnesota Department of Corrections, the Minnesota Sentencing Guidelines Commission, and the Criminal Justice Statistical Analysis Center of Minnesota Planning.

SPENDING TRENDS

Public safety, as defined by the U.S. Census Bureau, includes police protection, corrections, fire protection, and protective inspection and regulation services.[1] In Minnesota, police protection was the largest single category with $510 million in expenditures in 1992. This category alone accounted for 46 percent of total public safety spending. Corrections was the second largest category at $298 million, or 27 percent of the total. Fire protection totaled $171 million, or 16 percent of the total, and protective inspection was the smallest category with $122 million, or 11 percent of total public safety expenditures.

Between 1982 and 1992, overall public safety spending per capita rose 34 percent in constant dollars in Minnesota.[2] This increase was only slightly higher than the 31 percent increase for all state and local government expenditures in Minnesota. Table 9.1 shows that:

- **Most of the public safety expenditure growth since 1982 was due to increases in spending on corrections and police protection.**

Much of the spending growth for public safety has been for corrections and police protection.

Table 9.1: Public Safety Expenditures per Capita, Minnesota and the United States, 1982 and 1992

	1982[a]	1992	Dollar Growth	Percentage Growth
MINNESOTA				
Corrections	$43	$67	$24	56%
Police Protection	92	114	22	24
Fire Protection	33	38	5	15
Protective Inspection and Regulation	15	27	12	80
Total	$183	$246	$63	34%
UNITED STATES				
Corrections	$55	$113	$58	105%
Police Protection	106	135	29	27
Fire Protection	45	56	11	24
Protective Inspection and Regulation	18	24	6	33
Total	$224	$328	$104	46%

Source: U.S. Census Bureau.

[a]Spending was adjusted for inflation using the PGSL.

1 These categories will be familiar to the reader with the possible exception of protective inspections and regulation, which is defined to include "regulations and inspection of private establishments for the protection of the public or to prevent hazardous conditions not classified under another major function." Examples include building codes and inspections, bank regulations, licensing of taxicabs and professional occupations, and enforcement of liquor laws.

2 Trends in spending relative to personal income were investigated and found to be similar. Exceptions are noted.

Together, these two areas accounted for 73 percent of Minnesota's growth in spending per capita in the public safety category from 1982 to 1992. Spending per capita on corrections rose 56 percent in constant dollars over this 10-year period and alone accounted for about 38 percent of the growth in public safety spending. The 24 percent growth in police protection spending per capita was lower than the average growth in public safety spending in Minnesota. However, police protection accounted for a little more than one-third of the growth in public safety spending, because it has been the largest component of the public safety category.

In Minnesota, the fastest growing component of public safety was protective inspections and regulation. Minnesota's per capita expenditures on protective inspections and regulation increased 80 percent in constant dollars between 1982 and 1992. However, this relatively small component accounted for only 19 percent of growth in public spending spending per capita, because it was only about one-tenth of all public safety spending in Minnesota. Fire protection increased the slowest of the four public safety components and accounted for only 8 percent of the growth in spending per capita on public safety.

Corrections and overall public safety spending grew faster nationally than in Minnesota.

Public safety spending increased faster nationwide than in Minnesota between 1982 and 1992. Spending per capita grew 46 percent throughout the nation compared with 34 percent in Minnesota. As Table 9.1 shows:

- **The nation's faster growth in public safety spending was largely due to higher increases in corrections spending than experienced in Minnesota.**

While Minnesota's per capita corrections expenditure increased 56 percent between 1982 and 1992, corrections spending per capita more than doubled nationwide. Corrections accounted for more than half of the public safety spending growth for state and local governments throughout the nation.

Judicial and legal services is a Census category containing some spending that is closely related to the criminal justice aspects of the public safety category. Judicial and legal services spending includes expenditures for criminal and civil courts, public defenders, probate activities, and prosecuting and district attorneys. Table 9.2 shows that judicial and legal expenditures per capita doubled both in Minnesota and throughout the nation between 1982 and 1992. Unfortunately, it is not possible to separately analyze the criminal justice portion of this category and compare that growth with the increases in corrections and police protection spending.

NATIONAL COMPARISONS

In 1992, Minnesota's expenditures in the four categories of public safety totaled $1.1 billion, or an average of $246 per capita. As shown in Table 9.3:

Table 9.2: Judicial and Legal Expenditures per Capita, Minnesota and the United States, 1982-92

Year	Minnesota	United States
1982	$30	$31
1983	41	42
1984	44	44
1985	45	46
1986	48	48
1987	48	50
1988	51	53
1989	53	57
1990	56	60
1991	59	63
1992	60	64
Growth	100%	106%

Note: Includes both civil and criminal case related expenditures. Spending was adjusted for inflation using the PGSL.

Source: U.S. Census Bureau.

Minnesota spends 25 percent less than average on public safety.

Table 9.3: Public Safety Expenditures per Capita, Minnesota and United States, 1992

			Difference from National Average	
	Minnesota	United States	Dollars	Percentage
Corrections	$67	$113	$(-46)	(-41)%
Police Protection	114	135	(-21)	(-16)
Fire Protection	38	56	(-18)	(-32)
Protective Inspection and Regulation	27	24	3	12
Total	$246	$328	$(-82)	(-25)%

Source: U.S Census Bureau.

- **Minnesota's spending per capita on public safety was 25 percent below the national average.**

Minnesota spent 41 percent less than average on corrections and 16 percent less than average on police protection. Minnesota's spending on fire protection was 32 percent below the national average, while spending on protective inspection and regulation was the only component of public safety spending which was above the national average.

Overall, we found:

- **More than half of the difference between Minnesota's spending on public safety and the national average was accounted for by differences in corrections expenditures.**

Minnesota's lower corrections spending accounted for about 56 percent of the overall difference between Minnesota's spending per capita and the national average for public safety. Police protection and fire protection spending each explained more than 20 percent of the difference.

We also found that:

- **The principal source of Minnesota's lower than average spending on corrections appears to be its lower than average percentage of population in prisons and jails.**

Table 9.4 shows that Minnesota had 72 percent fewer adults per capita in prison than the national average for state and local governments in 1993. In addition, Minnesota had less than half the number of adults in jail per capita when compared with the national average. In contrast, Minnesota had a significantly larger percentage of its population on probation.

Minnesota has fewer inmates in prison and jail than the nation as a whole.

Table 9.4: Adult Correctional Populations per 10,000 Population, Minnesota and the United States, 1993

	Minnesota	United States	Percentage Difference from National Average
Prison	9.0	32.1	(-72)%
Jail	8.0	17.7	(-55)
Probation	164.0	108.6	51
Parole	4.6	24.3	(-81)
Total	185.5	182.8	2%

Note: Based on one-day inmate counts.

Source: Bureau of Justice Statistics and U.S. Census Bureau.

Overall, Minnesota had slightly more adults per capita under the control of the correctional system. However, Minnesota had a significantly lower number of adults in higher-cost institutional settings and a higher number under less expensive probation supervision in communities. Only 9 percent of Minnesota's correctional population was incarcerated in prisons and jails, compared with 27 percent nationally.

It is difficult to make national comparisons of the average correctional costs per individual under the control of the correctional system. Data are not available on the correctional costs for jail, probation, or parole by state. Available data suggest that operating costs per prison inmate are twice as high in Minnesota as the

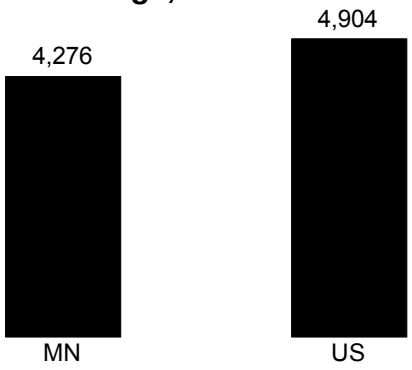
national average.[3] This comparison is, however, difficult to interpret. Some of the difference in average prison costs may be due to differences in policies about how many prisoners are placed in a cell. But, Minnesota correctional officials suggest that much of the difference is due to the type of prisoners. Minnesota's prisons only house offenders serving more than one year, while prisons elsewhere house some less serious offenders who would be more likely to be in jail in Minnesota.[4] As a result, Minnesota prisons have higher than average security features and more costly programs for long-term incarceration.

Minnesota has lower than average crime rates.

Minnesota's lower than average spending on corrections and police protection reflect Minnesota's low crime rates. Figures 9.1 and 9.2 show that:

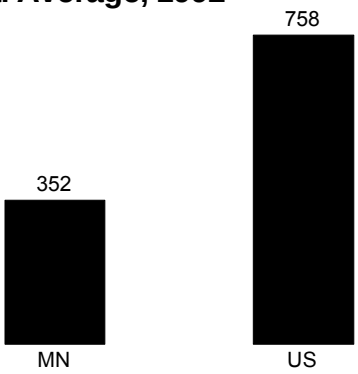
- **Minnesota's rate of serious property crimes was 13 percent lower than the national average in 1992.**
- **The violent crime rate was 54 percent lower in Minnesota than throughout the nation.**

Figure 9.1: Part I Property Crimes per 100,000 Population, Minnesota vs. the National Average, 1992



Source: Minnesota Planning.

Figure 9.2: Part I Violent Crimes per 100,000 Population, Minnesota vs. the National Average, 1992



Source: Minnesota Planning.

Minnesota's crime rates have generally been below national averages. Since 1980, the number of property offenses per capita has been about 10 to 15 percent lower in Minnesota than the national average. Property offenses include burglary, larceny, auto theft, and arson. The violent crime rate in Minnesota has, however, been substantially less than the national average. Since 1980, the violent crime rate has been about 50 to 65 percent lower in Minnesota than nationally. Violent crimes include murder, rape, robbery, and aggravated assault.[5]

3 In 1990, Minnesota spent $30,300 in operating costs per prison inmate, compared with a national average of $15,500.

4 Data from BJS indicate that a smaller share of correctional spending in Minnesota occurs at the state level than elsewhere. In 1988, state government directly accounted for 45 percent of Minnesota's correctional spending, while the average share nationwide was 65 percent.

5 Together, serious property offenses and violent crimes are referred to as Part I crimes. Lesser offenses are referred to as Part II crimes. We do not present comparisons of Part II crime rates, because data were not available for all states.

Lower crime rates explain, in part, Minnesota's lower corrections and police protection spending. The substantial difference in violent crime rates also suggest why there is a bigger difference between Minnesota and the national average for corrections than there is for police protection. Furthermore, the difference in violent crime rates provides an explanation for Minnesota's much smaller incarcerated populations. Minnesota's historical preference for community-based responses such as probation may also explain Minnesota's lower rates of incarceration.

CORRECTIONS TRENDS

For the most part, it appears that the increase in corrections spending in Minnesota has been primarily the result of an increase in the number of individuals under the control of correctional authorities. Table 9.5 shows that adult correctional populations per capita doubled between 1985 and 1993. The strongest growth was in probation populations, although prison and jail inmates per capita increased at least 60 percent. Since correctional spending per capita increased 56 percent between 1982 and 1992, these data on correctional populations suggest that much of the spending increase was due to growth in correctional populations rather than in the cost per person under correctional control.[6]

Adult correctional populations doubled between 1985 and 1993.

Table 9.5: Adult Correctional Populations per 10,000 Population, Minnesota, 1985-93

	1985	1993	Percentage Change
Prison	5.6	9.0	60%
Jail	4.6	8.0	72
Probation	78.8	164.0	108
Parole	3.3	4.6	42
Total	92.3	185.5	101%

Note: Based on one-day inmate counts.

Source: Bureau of Justice Statistics and U.S. Census Bureau.

This finding is similar to one reached at the national level and reported by the Center for the Study of the States. The Center's report concluded: "States are spending more on corrections because they have more prisoners, not because it costs more to house them."[7]

6 A definitive conclusion cannot be reached, since the data do not include other aspects of correctional spending such as programs for juvenile offenders. In addition, the years for which spending data are available are not the same as the years for which data are available on the number of adult offenders.

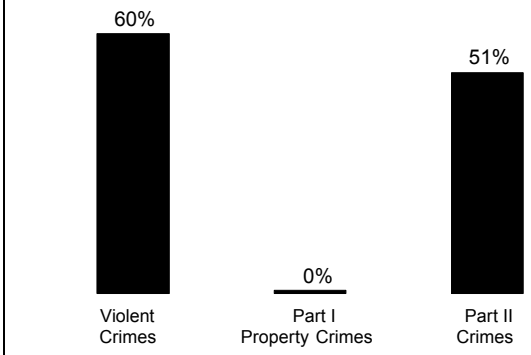
7 State University of New York, Center for the Study of the States, *Analyzing the Growth of State-Local Corrections Spending* (July, 1995).

There are many factors that have contributed to the growth of correctional populations, including:

- **Increased crime rates, particularly for violent crimes;**
- **Tougher sentencing policies; and**
- **Increased arrest rates.**

Increased crime rates and tougher sentencing policies have resulted in significant spending growth.

Figure 9.3: Percentage Growth in Crimes per 100,000 Population, Minnesota, 1982-92



Source: Minnesota Planning.

The overall crime rate increased 27 percent in Minnesota between 1982 and 1992. However, the growth in crime rates varied depending on the type of crime (See Figure 9.3.). Violent crimes, which constitute less than 8 percent of all crimes but probably account for a much larger share of incarcerations, increased the fastest. The number of violent crimes per capita grew 60 percent, while the crime rate for serious property offenses was virtually unchanged. There was a 51 percent increase in the crime rate for Part II offenses, which include drug offenses and less serious crimes.

Tougher sentencing policies have also played a role in the growth in Minnesota's corrections spending. There has been an increase in the frequency with which incarceration is used and a lengthening of the average sentences served by convicted offenders. Between 1982 and 1992, the incarceration ratio increased 28 percent for Part I arrests. [8] Simply stated, more of those arrested are serving time behind bars. In addition, as Table 9.6 shows, the average pronounced felony sentence rose from 41 months to almost 49 months, or about 19 percent. Convicted felons are serving longer sentences as a result of changes in sentencing policies and criminal laws.

Another factor in the growth in correctional spending has been an increase in arrest rates. [9] Between 1982 and 1992, the overall arrest rate increased modestly (9 percent), but arrest rates for violent crimes increased faster. As Figure 9.4 shows, arrest rates for Part I violent crimes rose 24 percent. Arrest rates for Part I property crimes grew 9 percent, while Part II arrest rates decreased a little.

8 The Part I incarceration ratio is the ratio of the number of persons sentenced to prison or jail in connection with a Part I offense divided by the number of arrests for Part I crimes. Increases in the incarceration ratio can reflect an increase in the percentage of arrests which result in convictions, as well as an increase in the percentage of convicted offenders who receive prison or jail sentences.

9 As used in this report, the arrest rate is the share of crimes which result in arrests.

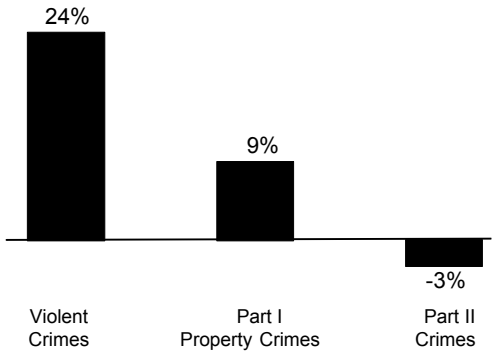
Table 9.6: Average Pronounced Felony Sentences, Minnesota, 1982-92

Year	Average Pronounced Felony Prison Sentence (Months)
1982	41.0
1983	36.5
1984	36.2
1985	38.4
1986	35.4
1987	36.3
1988	38.1
1989	37.7
1990	45.7
1991	45.2
1992	48.6

Source: Minnesota Sentencing Guidelines Commission.

Arrest rates have also increased, particularly for violent crimes.

Figure 9.4: Percentage Change in Arrest Rates, Minnesota, 1982-92



Source: Minnesota Planning.

SUMMARY

This chapter analyzed spending trends for public safety and compared Minnesota expenditures per capita to national averages. We found that public safety expenditures per capita increased faster than inflation between 1982 and 1992, due largely to increases in spending on corrections and police protection. Public safety spending increased slower in Minnesota than throughout the nation, because Minnesota's 56 percent growth in corrections spending per capita was less than the national increase of 105 percent.

In 1992, Minnesota spent 25 percent less per capita than the national average for public safety. Minnesota's spending was lower than average for corrections, police protection, and fire protection. Below average spending on corrections and police protection was probably related to Minnesota's lower crime rates, particularly for violent crimes. When compared with the nation, Minnesota has had significantly fewer offenders in prison or jail.

The growth in corrections spending in Minnesota since 1982 has resulted from a variety of factors. Crime rates have increased, particularly for violent crimes. Laws and policies have become tougher, resulting in longer sentences and a

greater percentage of convicted offenders receiving prison or jail sentences. In addition, arrest rates have increased, particularly for violent crimes.

Environment and Natural Resources

CHAPTER 10

Minnesota has a reputation for having a relatively clean environment and considerable park and outdoor recreational opportunities. In 1992, state and local governments spent $1.3 billion on environmental and natural resource activities, or about 6 percent of all state and local expenditures. This chapter examines spending on the environment and natural resources in greater detail. In particular, the chapter addresses the following questions:

- **What have been the trends in environmental and natural resource spending in Minnesota and other states?**
- **What factors appear to be responsible for spending trends?**
- **How does spending in Minnesota compare with other states, and what factors contribute to the differences in spending?**

For the most part, we relied on Census data in examining state and local government expenditures. Unlike other data sources, Census data provides comprehensive spending information on both state and local governments, as well as comparative data on other states. Census data provide spending information on four activities: 1) parks and recreation, 2) sewerage, 3) natural resources, and 4) solid waste management. One possible drawback is that Census data split the expenditures of several Minnesota agencies among different categories. For example, spending by the Department of Natural Resources would appear in both the natural resource category and the parks and recreation category.[1]

SPENDING TRENDS

Of the $1.3 billion spent on environmental and natural resource activities in 1992, the largest category of spending was parks and recreation. State and local governments in Minnesota spent $404 million on parks and recreation, or 32 percent of the total. This category includes public expenditures on state and local parks and recreational facilities, stadiums, museums, zoos, and cultural activities. Spending on sewerage was $359 million in 1992, or about 28 percent of total spending. This category includes construction, operation and maintenance of sanitary and

1 For a more detailed analysis of state agency spending, see Minnesota Planning, *Working Paper, Budget 2001: Environment*, October 1994.

storm sewer systems, as well as sewage disposal and treatment facilities. The third largest category is natural resources, which accounted for about 24 percent of the spending examined in this chapter. The $304 million spent on natural resources went for a variety of governmental activities, including fish and game, forestry, soil and water resources, and certain agricultural programs. About $213 million, or close to 17 percent, was spent on solid waste management. This latter category includes the costs of garbage collection, landfills, and recycling, as well as hazardous waste cleanup and disposal activities.[2]

Expenditures on environmental and natural resource activities increased 477 percent from 1972 to 1992. After adjusting for inflation, the overall increase was 73 percent. Tables 10.1 and 10.2 show that:

- **Environmental and natural resource spending per capita grew 49 percent from 1972 to 1992, while spending grew only 9 percent relative to personal income.**

Expenditures per Capita

In 1992 dollars, spending increased from $192 to $286 per Minnesota resident. Table 10.1 shows that:

Overall environmental and natural resources spending increased about the same in Minnesota as nationally.

Table 10.1: Environmental Expenditures per Capita, Minnesota and United States, 1972 and 1992

	1972[a]	1992	Difference	Percentage Change
MINNESOTA				
Natural Resources	$50	$68	$18	36%
Parks and Recreation	42	90	48	114
Sewerage	88	80	(-8)	(-9)
Solid Waste Management	12	48	36	300
Total	$192	$286	$94	49%
UNITED STATES				
Natural Resources	$50	$51	$1	2%
Parks and Recreation	37	62	25	68
Sewerage	52	80	28	54
Solid Waste Management	25	47	22	88
Total	$164	$240	$76	46%

Source: U.S. Census Bureau.

[a]In 1992 dollars.

2 In Chapter 2, spending on housing and community development programs was included along with spending on the environment and natural resources in a larger category, which the Census Bureau calls "environment and housing." In addition, Chapter 2 combined sewerage and solid waste management into one category called sanitation. In this chapter, we do not examine spending on housing and community development programs, and we separately analyze spending on sewerage and solid waste management.

- **Half of the growth in spending per capita was in the parks and recreation category, while another 38 percent of the growth came from solid waste management expenditures.**

Most of Minnesota's spending growth was for parks and recreation activities and solid waste management.

Spending per capita grew 114 percent for parks and recreation and 300 percent for solid waste management. The rest of the growth came from natural resource spending, which grew 36 percent per capita. Sewerage expenditures per capita fell 9 percent.

The overall national trend was similar, but trends for individual categories differed from Minnesota trends. National spending per capita rose 46 percent, or slightly slower than in Minnesota. The national rate of growth was lower in all categories except sewerage. Sewerage expenditures per capita rose 54 percent nationally while falling in Minnesota. Nationally, sewerage and solid waste management spending accounted for almost two-thirds of the growth in spending per capita but only 30 percent of the growth in Minnesota. Expenditures on natural resources, parks, and recreational facilities experienced stronger growth in Minnesota than throughout the nation.

There are several possible reasons for the difference in spending trends for sewerage. First, there has been greater population growth in the United States than in Minnesota. Population growth tends to result in the construction of additional sewerage treatment facilities. Second, some sewer systems in other states may have been older and needed more extensive repairs and reconstruction than those in Minnesota cities. Census data indicate that capital expenditures on sewerage in Minnesota have been declining despite some major sewer separation projects. In contrast, capital expenditures nationwide have grown faster than inflation.

Expenditures Relative to Income

From 1972 to 1992, as Table 10.2 shows, environmental and natural resource expenditures grew only 9 percent relative to personal income both in Minnesota and throughout the United States. Natural resource spending in Minnesota grew at the same pace as personal income, while spending on parks and recreation grew 56 percent relative to personal income. Sewerage spending did not increase as fast as personal income, but:

- **Expenditures on solid waste management increased 193 percent relative to personal income.**

Nationally, the trends relative to personal income were similar to those for spending per capita. Spending growth relative to personal income was lower nationally than in Minnesota in all categories except sewerage. Nationally, the only category which did not grow as fast as personal income was natural resources. Natural resource spending declined 23 percent relative to personal income.

The fastest growth for both Minnesota and other states occurred in the solid waste management category, although Minnesota's growth in this category was substantially greater than national growth. This trend may be the result of a significant in-

Table 10.2: Environmental Expenditures per $1,000 Personal Income, Minnesota and United States, 1972 and 1992

	1972	1992	Difference	Percentage Change
MINNESOTA				
Natural Resources	$3.56	$3.57	$0.01	0%
Parks and Recreation	3.03	4.74	1.71	56
Sewerage	6.27	4.21	(-2.06)	(-33)
Solid Waste Management	0.85	2.50	1.65	193
Total	$13.71	$15.01	$1.30	9%
UNITED STATES				
Natural Resources	$3.52	$2.70	$(-0.82)	(-23)%
Parks and Recreation	2.61	3.25	0.64	24
Sewerage	3.67	4.20	0.53	15
Solid Waste Management	1.79	2.49	0.70	39
Total	$11.58	$12.64	$1.05	9%

Source: U.S. Census Bureau.

crease in hazardous waste cleanup activities, as well as growth in recycling. In addition, some local governments in Minnesota are now operating waste incineration plants.

FINANCING

State and local governments have significantly increased the share of environmental and natural resource expenditures financed by fees. From 1977 to 1992, the inflation-adjusted amount of fees per capita collected for these activities increased 149 percent in Minnesota and 136 percent nationwide. During this same period, overall spending per capita on environmental and natural resource programs increased 12 percent in Minnesota and 28 percent nationally. As a result:

Fees financed an increased share of spending.

- **There has been a dramatic increase in the share of environmental and park spending financed by fees.**

Table 10.3 shows that the share of Minnesota's expenditures financed by fees grew from 19 percent in 1977 to 42 percent in 1992. Similarly, the share financed by fees increased from 24 percent to 45 percent nationwide. In Minnesota, fees collected for solid waste management increased the fastest, growing 651 percent per capita after adjusting for inflation.

The increase has been dramatic in all categories except natural resources, which has seen only a slight increase in the share of spending financed by fees. In Minnesota, the share financed by fees rose from 23 percent to 67 percent for sewerage, and from 41 percent to 72 percent for solid waste management. The share of parks and recreation spending financed by fees increased from 16 percent to 28 percent.

Table 10.3: Share of Environmental and Natural Resource Spending Financed by Fees and Charges, Minnesota and the United States, 1977 and 1992

	Minnesota		United States	
	1977	1992	1977	1992
Natural Resources	10%	11%	13%	14%
Parks and Recreation	16	28	17	24
Sewerage	23	67	35	75
Solid Waste Management	41	72	27	53
Total	19%	42%	24%	45%

Source: U.S. Census Bureau.

The trend in fees is open to different interpretations. On the one hand, most of the growth in spending per capita has been financed by increased fees rather than taxes. State and local government tax support for these programs, calculated on a per capita basis, has increased only slightly since 1977. On the other hand, this trend suggests that the ability to increase fees may drive future spending. Whether that tendency results in good public policy and sound programs is debatable.

NATIONAL COMPARISONS

Minnesota spends more than average on natural resources and parks and recreation.

Minnesota has generally spent more per capita on environmental and natural resource programs than other states. From 1972 to 1992, Minnesota spending per capita exceeded spending in other states by an average of 23 percent. Similarly, spending as a percentage of personal income was, on average, 27 percent higher in Minnesota than nationally over the same time period. Table 10.4 shows that:

- **In 1992, Minnesota state and local governments spent 19 percent more per capita on environmental and natural resource programs than the national average.**

Minnesota's spending was, however, very close to the 1992 national averages for sewerage and solid waste management. The main areas of higher than average spending were the categories of natural resources and parks and recreational facilities. Minnesota's spending per capita on parks and recreation was 45 percent above the national average, while spending per capita on natural resource programs was 33 percent above average.[3]

Figure 10.1 lists a number of factors which may help in understanding differences between Minnesota and other states, as well as spending trends. The list, which was compiled by Minnesota Planning, shows that Minnesota has the fourth largest

3 Similar conclusions can be drawn when comparing Minnesota spending as a percentage of personal income to national data.

Table 10.4 Environmental Expenditures per Capita, Minnesota and United States, 1992

	Minnesota	United States	Difference (Dollars)	Percentage Above National Average
Natural Resources	$68	$51	$17	33%
Parks and Recreation	90	62	28	45
Sewerage	80	80	0	0
Solid Waste Management	48	47	1	2
Total	$286	$240	$46	19%

Source: U.S. Census Bureau.

state park system and the ninth largest amount of park land per capita, as well as the largest state trail system and the largest system of scientific and natural areas. In addition, Minnesota sells more fishing licenses per capita and is home to more snowmobiles than any other state. Minnesota also has the second highest participation rate in outdoor wildlife-related recreation in the country and is also second in the number of recreational watercraft per capita. Minnesota's abundant outdoor resources and our relatively high interest in outdoor activities undoubtedly contribute to our higher than average spending on parks and natural resources.

SUMMARY

Minnesota's environmental and natural resource spending per capita increased 49 percent from 1972 to 1992 but grew only 9 percent relative to personal income. Half of the spending growth per capita came from parks and recreation spending, which rose 114 percent in constant dollars. Most of the rest of the growth was in the solid waste management category, which increased 300 percent. Growth in recycling, hazardous waste cleanup, and local government spending on waste incineration plants may explain the significant growth in solid waste management expenditures.

Very little of the increased growth in spending has been financed by increased state and local taxes. Increased fees and charges have paid for nearly all the growth between 1977 and 1992. Overall, the share of environmental and natural resource spending financed by fees rose from 19 percent in 1977 to 42 percent in 1992. Significant growth in the share paid by fees occurred in the categories of sewerage treatment, solid waste management, and parks and recreation. The growth in the natural resources category was minimal. The tendency to fund spending growth with fees has minimized the need to raise taxes but raises some concerns that new programs or program growth are being seriously considered only if they can generate additional fee revenues.

Minnesota has a large park system and a high participation rate in outdoor activities.

Figure 10.1: Environmental and Natural Resource Rankings and Trends

Natural Resources

- 67 state parks (1993); only three states had more park land (1993)
- Ranked 9th in state park land per 100 citizens (5.15 acres) (1993)
- Park attendance increased 48% from 1985 to 1989, to nearly 8 million in 1992
- Nation's largest system of Scientific and Natural Areas (1991)
- Largest state trail system in country (1992)
- 2nd highest amount of public land open to hunting (1993)

Tourism

- Ranked 19th in business receipts from tourism, and 21st in per capita business receipts from tourism (1990)
- Sold more fishing licenses per capita than any other state (1993)
- Has second highest rate of participation in outdoor wildlife-related recreation in the nation (1993)
- Ranks first in number of snowmobiles (1993) and second after Michigan in recreational watercraft per capita (1994)

Pollution Control

- Reduced air quality violations from 597 in 1971 to nine in 1991
- Went from 1,500 open dumps in 1967 to 49 permit-control landfills in 1992
- Adopted state hazardous waste cradle-to-grave regulatory system in 1979, ahead of the national program
- Eliminated tire dumps; received national innovation award for waste tire program

Source: Minnesota Planning.

Overall national spending trends have been similar to those in Minnesota. Increased use of fees has also been a national trend. Spending per capita grew 46 percent nationwide from 1972 to 1992, while spending grew 9 percent relative to personal income. Spending growth has been stronger in Minnesota in the categories of natural resources, parks and recreation, and solid waste management. Sewerage expenditures per capita, however, grew by more than 50 percent nationally, while declining in constant dollars in Minnesota.

Minnesota has generally spent more per capita on environmental and natural resource programs than other states. In 1992, Minnesota spent 19 percent more per capita on environmental and natural resource activities. Nearly all of the difference between Minnesota and other states was in spending on parks and recreation spending and natural resource spending, which were 45 percent and 33 percent above the national average respectively. Minnesota's large amount of park land and extensive trail system, as well as Minnesotans' high participation rate in outdoor activities, help to explain our higher spending in these areas.

Spending Projections

CHAPTER 11

Most of this report has focused on past spending trends. Analyses of trends and national comparisons have provided useful insights into state and local government finance here in Minnesota and across the United States. It is also important to consider how future spending trends may differ from past trends and how future trends may be affected by demographic and economic changes.

It is equally important to recognize that forecasting future trends is extremely difficult and subject to considerable uncertainty. The future always has surprises that even the most astute analyst will not foresee. Few analysts in the late 1970s, for example, projected the significant increase in higher education enrollment which resulted from increased participation rates in higher education. Instead, most focused on the projected decreases in the number of high school graduates.

This chapter examines the future budget scenarios presented in two recent reports. One of these scenarios was largely prepared by Minnesota Planning and appeared in a January 1995 report entitled *Within Our Means*. The second scenario appeared in *An Agenda for Reform*, also known as the Brandl- Weber report.[1] The latter scenario was prepared by the Department of Finance at the direction of the report authors and with assistance from Minnesota Planning. In this chapter, we focus on the following questions:

- **What are the future spending and revenue scenarios developed for *Within Our Means* and the Brandl-Weber report?**
- **What future budget deficits are projected in these reports?**
- **What rates of growth in spending are projected?**
- **What factors are expected to contribute to future budget gaps?**
- **How much of the projected growth in spending must be avoided in order to avoid budget gaps and to keep revenue growth consistent with the Legislature's "price of government" resolution?**

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1 Minnesota Planning, *Within Our Means: Tough Choices for Government Spending* (January 1995); and John Brandl and Vin Weber, *An Agenda for Reform: Competition, Community, Concentration (A Report to Governor Arne H. Carlson)* (November 1995).

We first present and compare the future scenarios which appeared in these two reports. Second, we examine the sources of projected spending growth and the assumptions used to project future spending. Finally, we compare projected spending with revenue projections using the Legislature's targets for future revenue growth.

FUTURE BUDGET SCENARIOS

Within Our Means

Table 11.1 shows the scenario presented by Minnesota Planning in *Within Our Means* for the fiscal years 1996 through 2005. During the first biennium (1996-97), projected state and local spending of $39.7 billion equals state and local revenues.[2] During fiscal year 1998, spending is expected to increase from $20.3 billion to $21.6 billion, while revenues grow to $21.3 billion. The scenario assumes spending must be reduced to $21.3 billion in order to balance the budget. In each subsequent year, the scenario similarly assumes the estimated budget shortfall must be eliminated by reducing spending. Despite these reductions in spending:

- **In *Within Our Means*, Minnesota Planning projected that cumulative budget deficits of $2.5 billion would occur over an eight-year period from 1998 to 2005.**

Minnesota Planning has projected future budget deficits of $2.5 billion through the year 2005.

Table 11.1: Future State and Local Government Budget Deficits (in Millions of Dollars) Estimated by Minnesota Planning in January 1995

Fiscal Years	Revenues[a]	Spending	Deficits[b]
1996	$19,400	$19,400	$ 0
1997	20,300	20,300	0
1998	21,300	21,600	300
1999	22,500	22,800	300
2000	23,600	23,700	200
2001	24,800	25,100	300
2002	26,100	26,300	200
2003	27,400	27,800	400
2004	28,900	29,200	300
2005	30,400	30,900	500
Cumulative Deficits			$2,500

Source: Minnesota Planning.

[a]Assumes revenues are equal to 18.4 percent of personal income.

[b]Assumes that the deficit is eliminated each fiscal year by reducing spending.

2 Spending excludes expenditures financed by federal aid and expenditures from certain local enterprise funds. Revenues exclude similar categories of revenues and thus may be characterized as "own source" revenues.

These deficits represent about 1.2 percent of the projected "own source" revenues over the next four bienniums. Cumulatively, the deficits represent about a 10 percent cut in state and local spending phased in over eight years.

Brandl-Weber Report

The scenarios presented in the Brandl- Weber report are for a shorter period of time and include the impact of possible federal budget cuts. These cuts were passed by Congress but, for the most part, have been vetoed by the President.[3] Table 11.2 shows that:

- **The Brandl-Weber report projected cumulative budget gaps of $5.1 billion through the year 2001 without reductions in federal aid and $8.3 billion with federal aid reductions.**

The Brandl-Weber estimate of future budget gaps appears larger than Planning's estimate.

Table 11.2: Future State and Local Government Budget Deficits (in Millions of Dollars) Estimated in the Brandl-Weber Report in November 1995

	Without Federal Aid Reductions			With Federal Aid Reductions	
Fiscal Year	Revenues	Spending	Deficits[a]	Estimated Aid Reductions	Deficits
1996	$19,400	$19,400	$ 0	$100	$100
1997	20,100	20,200	100	300	400
1998	20,800	21,700	900	400	1,300
1999	21,600	22,800	1,200	600	1,800
2000	22,600	24,000	1,400	800	2,200
2001	23,700	25,200	1,500	1,000	2,500
Cumulative Deficits			$5,100		$8,300

Source: Department of Finance.

[a]Assumes that the deficit is not eliminated and continues to grow.

Even without federal budget cuts, this scenario projects substantial gaps between expenditures and revenues for state and local governments in Minnesota. The projected deficit quickly grows from only $0.1 billion in 1997 to $0.9 billion in 1998. By 2001, the annual budget deficiency is $1.5 billion, and the cumulative budget gaps are $5.1 billion.

The difference in the two estimates in Table 11.2 reflects the projection that federal aid to state and local governments in Minnesota would be reduced by a total of $3.2 billion during the six-year period. This is not an actual reduction in federal aid but rather a reduction in the expected rate of growth in federal aid. According to the projections used by the Department of Finance, federal aid

3 Planning did not include changes in federal aid in its scenario, since Congressional legislation had not yet been passed when Planning made its projections.

would still grow faster than state and local revenue from other sources. However, the reduction in the rate of growth in federal aid contributes to the budget gap, since spending on federally supported programs such as Medicaid is expected to grow faster than spending on other state and local programs. The budget gap created by federal budget cuts could be addressed with reduced spending on federally supported programs, reduced spending on other programs, increased state and local taxes or other revenues, or a combination of these options.

Comparison

The Brandl-Weber estimate of future budget gaps appears to be much larger than Planning's estimate. Through 2001, Minnesota Planning estimated a cumulative budget "deficit" of $1.1 billion. The Brandl- Weber report showed a cumulative budget "gap" of $5.1 billion, or almost five times as much as Planning's estimate, assuming no federal aid reductions.

These estimates were calculated, however, in significantly different ways. In estimating budget shortfalls, Minnesota Planning assumed that state and local budgets must be balanced each year. To the extent that spending tended to exceed revenues in any fiscal year, Planning assumed that spending would be reduced in order to balance the budget. Planning's estimate of budget shortfalls each year represents the amount of spending that state and local governments in Minnesota need to eliminate that year in order to balance state and local budgets.

In contrast, the Brandl- Weber projections did not assume that budgets would be balanced each fiscal year. Instead, it was assumed that spending would continue to grow faster than revenue and not be reduced. The Brandl- Weber estimate of future budget shortfalls represents the cumulative amount of deficit provided that state and local governments never address the deficits. As a result, the budget gaps calculated by Finance for the Brandl- Weber report grow much faster, and the cumulative deficits are much higher than Planning's estimates.

The two estimates are similar if the same definition of"budget deficit" is used.

Table 11.3 examines how the Brandl- Weber estimate of future budget shortfalls would change, if we assumed, like Minnesota Planning, that budgets must be balanced every year by reducing expenditures. The table shows that:

- **The Brandl-Weber estimate of future budget deficits would be close to Planning's estimate if the same method of calculating deficits were used.**

This revised estimate shows cumulative deficits of $1.3 billion for the years 1996 through 2001, compared with the $1.1 billion estimate made by Minnesota Planning.[4] The table also indicates that revised estimates of budget shortfalls expected

4 In deriving this estimate of cumulative deficits under the Brandl-Weber budget scenario, we had to deviate from Planning's methodology in one respect. Planning projected future spending by functional category, such as higher education and criminal justice, and made explicit assumptions about how much of the spending in each category was available for budget cuts when spending exceeded revenues. In preparing the Brandl-Weber projections, the Department of Finance made spending estimates by jurisdiction (state, local schools, and local non-school), not by function. As a result, we could not use Planning's specific assumptions and instead assumed that all spending was equally subject to budget cuts.

Federal aid changes would increase the size of the budget gaps.

Table 11.3: Brandl-Weber Projections of Future State and Local Government Budget Deficits (in Millions of Dollars), Using Minnesota Planning's Definition of Cumulative Deficits

	Without Federal Aid Reductions			With Federal Aid Reductions	
Fiscal Year	Revenues	Spending	Deficits[a]	Federal Gap	Overall Deficits[b]
1996	$19,400	$19,400	$ 0	$100	$100
1997	20,100	20,200	100	300	400
1998	20,800	21,600	800	100	900
1999	21,600	21,800	300	200	400
2000	22,600	22,700	100	100	300
2001	23,700	23,800	100	200	200
Cumulative Deficits			$1,300		$2,300

Source: Department of Finance.

[a]Assumes that the deficit is eliminated each fiscal year by reducing spending.

[b]Some totals do not sum due to rounding.

in the 2000-01 biennium are quite small. A significant shortfall of $800 million is expected in 1998, but the shortfalls in 2000 and 2001 are only expected to be about $100 million, absent federal budget reductions.

The additional budget gaps created by federal aid reductions must also be recalculated, since state and local government budgets are balanced each year. Table 11.3 shows that the estimated cumulative deficit grows from $1.3 billion to $2.3 billion using the Brandl-Weber budget scenario and $3.2 billion in federal aid reductions over six years. Federal aid changes would account for about 42 percent of the projected shortfall. [5]

Table 11.4 compares the annual rates of growth in spending and revenues projected in the two reports over the next two bienniums.[6] Both reports projected future budget shortfalls, since they both estimated that spending would grow at a faster rate than revenues. They differed, however, in how fast they expected spending and revenues to grow. From 1997 to 2001, the Brandl-Weber report projected average annual growth rates of 5.7 percent for spending and 4.2 percent for revenues. Planning estimated growth rates averaging 6.4 percent for spending and 5.1 percent for revenues.

5 At the time we prepared this report, the amount of federal aid reductions was not known, since the President and Congress had not yet agreed on federal budget legislation.

6 The growth rate for spending is the average annual rate at which spending is expected to grow absent any need to make budget cuts. If budgets are balanced each year, actual spending will grow at the same rate as revenues.

Table 11.4: Estimated Average Annual Growth Rates in Future Revenues and Spending, 1996-2001

	Revenues[a]		Spending	
Fiscal Year	Brandl-Weber Report	*Within Our Means* Report	Brandl-Weber Report	*Within Our Means* Report
1998-99	3.6%	5.3%	6.1%	6.7%
2000-01	4.8	5.0	5.3	6.1

Sources: Minnesota Planning and Department of Finance.

[a]Assuming no federal aid reductions.

It is clear why Planning's estimated growth rate for revenue is higher than the Brandl-Weber estimate. Planning assumed that revenues would grow as fast as personal income and would remain a constant 18.4 percent of the state's personal income. The Brandl-Weber report generally assumed a continuation of current tax law and included inflationary increases for some categories of revenue. In addition to inflation, real growth was projected for certain types of revenue based on historical trends. The Brandl-Weber projections of future revenues are lower than those made by Planning and result in a declining share of personal income going to state and local government own source revenues.

The source of differences in spending growth is less clear. The two reports used significantly different methods of projecting future spending. While Finance projected spending by jurisdiction for the Brandl-Weber report, Planning estimated future spending by government function for *Within Our Means*. As a result, it is not possible to directly compare all of their assumptions. However, it does appear that the Brandl-Weber assumptions about spending growth were more modest in several areas. The Brandl-Weber report assumed no growth in higher education enrollment and no real growth in higher education spending per student, while Planning assumed that inflation-adjusted spending on higher education would increase about 1.6 percent per year. The Brandl-Weber report also assumed lower rates of growth in elementary-secondary education expenditures. Planning assumed that inflation-adjusted spending per student would increase about 1.5 percent per year, while the Brandl-Weber report assumed no real growth in spending per student. Finally, the Brandl-Weber report also appears to have used lower rates of growth for spending on Medical Assistance.

It is important to recognize that the two overall spending and revenue estimates are not much different from one another. Planning's revenue and spending estimates for 2001 are only about 5 percent higher than our revised estimates based on the Brandl-Weber budget scenario. These are relatively small differences, given the difficulty of accurate forecasting even a few years into the future. The recent change in the state's budget forecast for the 1996-97 biennium is testimony to the difficulty of projecting revenues and spending only a year or two ahead.[7]

7 See Department of Finance, *November Forecast*, November 1995.

SOURCES OF FUTURE BUDGET GAPS

Revenue growth is expected to slow, while spending pressures continue in the future.

The key factors behind these projected future budget gaps are that:

- **The growth rate for government revenues is expected to slow, as growth in personal income slows.**
- **Pressure to increase spending will come from increased caseloads in Medical Assistance, growth in elementary-secondary education enrollments, and population growth among those age groups most likely to be arrested.**
- **Spending is expected to continue to increase faster than inflation in elementary-secondary education, higher education, transportation, and some other areas.**
- **Sentencing policy, if unchanged, will continue to result in increased prison, jail, and probation populations.**
- **Possible cuts in federal aid for Medical Assistance, education, transportation, and other programs will create additional pressure on state and local government budgets.**

Even using Minnesota Planning's higher revenue projections, revenue growth is expected to slow down. Planning used revenue projections showing an annual rate of growth generally between about 4 percent and 5 percent. These rates of growth were based on similar expected growth rates for personal income. The rate of growth in personal income has typically been higher. The annual rate of growth was 9.2 percent from 1974 to 1984 and 6.6 percent from 1984 to 1994. Over the last five years, personal income in Minnesota grew at an annual rate of 6.0 percent. The decline in income growth is expected in part because of changing demographics, including growth in the share of the state's population that is elderly or in school.

Revenue growth in the next biennium may also be affected by the "price of government" resolution passed during the 1995 legislative session. This resolution calls for "own source" revenues of state and local governments to be reduced from 18.2 percent of personal income during the 1996-97 biennium to 17.8 percent during the 1998-99 biennium.[8]

Continued strong growth in spending is projected for Medical Assistance and criminal justice. The growth in Medical Assistance comes from several sources:

8 Neither of these reports used this "price of government" assumption. Planning's revenue estimate was completed before the 1995 legislative session and assumed that the percentage of personal income going to own source revenue would remain constant at 18.4 percent. For the most part, the Brandl-Weber report projected revenues using current tax law and fee structures adjusted for inflation, demographic changes, and economic growth. Projections using the price of government resolution and the most current estimates of future personal income have revenues exceeding the Brandl-Weber estimates for 1996-2001 by only about $650 million. These projections are about $2.85 billion less than those used by Minnesota Planning.

1) increased caseloads particularly for the disabled and elderly, 2) growth in the average amount of services provided to a recipient, and 3) medical care inflation in excess of the general rate of inflation. The growth in corrections and police protection spending is likely to come from the continued impact of tougher sentencing policies and an increase in the number of Minnesotans between the ages of 10 and 24, the age group most likely to commit crimes.

Table 11.5 shows Minnesota Planning's assumptions about the growth rate for different types of spending from 2000 to 2005. The real growth rates represent the increase in spending over and above the general rate of inflation. The nominal growth rates also include the general rate of inflation. The fastest growth rates were projected for health care spending, which was expected to grow about 13 to 14 percent annually. [9] Health care access funds such as MinnesotaCare were expected to increase about 7 percent annually. Planning also projected spending

Table 11.5: Assumed Growth Rates in State and Local Spending and Revenues, 2000-05

Nominal Growth Rates[a]	2000	2001	2002	2003	2004	2005
Higher Education	4.72%	4.82%	4.92%	5.02%	5.02%	5.02%
Elementary-Secondary Education	5.12	4.99	5.09	5.08	4.84	4.83
Criminal Justice	4.57	13.53	5.37	13.45	6.08	13.23
Family Support	5.04	5.14	5.24	5.34	5.34	5.34
Health Care	13.42	13.53	13.64	13.75	13.75	13.75
Residential Health Facilities	3.10	3.20	3.30	3.40	3.40	3.40
Transportation	4.37	4.47	4.57	4.67	4.67	4.67
Health Care Access	6.71	6.81	6.92	7.02	7.02	7.02
Other Trust Funds	4.03	4.13	4.23	4.33	4.33	4.33
All Else	4.03	4.13	4.23	4.33	4.33	4.33
Revenues	4.98	5.08	5.18	5.28	5.28	5.28
Real Growth Rates[b]	2000	2001	2002	2003	2004	2005
Higher Education	1.57%	1.57%	1.57%	1.57%	1.57%	1.57%
Elementary-Secondary Education	1.96	1.73	1.73	1.62	1.39	1.38
Criminal Justice	1.43	10.01	2.00	9.72	2.59	9.51
Family Support	1.88	1.88	1.88	1.88	1.88	1.88
Health Care	10.01	10.01	10.01	10.01	10.01	10.01
Residential Health Facilities	0.00	0.00	0.00	0.00	0.00	0.00
Transportation	1.23	1.23	1.23	1.23	1.23	1.23
Health Care Access	3.50	3.50	3.50	3.50	3.50	3.50
Other Trust Funds	0.90	0.90	0.90	0.90	0.90	0.90
All Else	0.90	0.90	0.90	0.90	0.90	0.90
Revenues	1.82	1.82	1.82	1.82	1.82	1.82

Source: Minnesota Planning.

[a]Includes general inflation rate which grows from 3.1 percent in 2000 to 3.4 percent in 2003-05 .

[b]Does not include the general inflation rate.

9 Health care includes Medical Assistance, Alternative Care, General Assistance Medical Care, and the Chemical Assistance Medical Care Entitlement.

increases averaging 9 to 10 percent annually for criminal justice activities, or about 6 percent after adjusting for inflation.[10]

Enrollment in elementary-secondary schools was forecast to increase modestly until 2003 before declining slightly. In addition, Planning assumed that higher education enrollments would increase about 0.8 percent per year from 1995 to 2005. Most of the real increase in elementary-secondary education spending, and about half of the increase in higher education spending, was expected to come from increased spending per student. Planning assumed that inflation-adjusted spending per student would grow about 1.5 percent annually in elementary-secondary education and 0.7 percent annually in higher education.

Growth in excess of inflation was also projected for transportation, family support, and other spending. Based on historical trends, Planning assumed transportation spending would grow 1.2 percent annually in addition to an inflationary increase. Spending on family support programs such as Aid to Families with Dependent Children was expected to grow 1.9 percent annually in addition to inflation, based on the projected increase in the number of single-parent families. Spending for most other areas was expected to grow at the rate of inflation, plus an annual increase of 0.9 percent, based on the expected growth in the number of Minnesota households.

The growth in overall spending is coming from a variety of sources, including:

- **Growth in caseloads and enrollment,**
- **Inflationary increases,**
- **Increases in spending beyond inflation, and**
- **Medical inflation in excess of the general inflation rate.**

It is difficult, however, to be more explicit about the relative contribution of each factor, since Planning's data are not specific enough about the relative contribution of some spending areas such as health care.[11]

ANALYSIS

In this section, we examine the sensitivity of the two budget scenarios to alternative assumptions. In particular, we consider what sorts of budget cuts would be sufficient to eliminate any cumulative budget gaps in the foreseeable future. The

10 Within the criminal justice area, Planning assumed the following inflation-adjusted annual rates of growth: law enforcement (3.3 percent), judicial and legal (5.9 percent), local corrections (4.7 percent), and state corrections (11.1 percent). Specific allocations were also made for the costs of building facilities.

11 It is even more difficult to sort out the factors contributing to spending growth in the Brandl-Weber projections. The Department of Finance was not able to provide us with detailed enough data to permit such an analysis.

current Department of Finance forecast indicates that no budget shortfall is expected for the 1996-97 biennium. As a result, we started our analysis with 1998 and examined the potential for budget deficits through 2003.

On the revenue side, we used Finance's most recent estimates of future personal income. In addition, we used the "price of government" targets set by the 1995 Legislature. These targets set the percentage of personal income which is to be raised through taxes and other "own source revenue."[12] Our revenue projections are consequently based on the expressed policy of the Legislature and estimates of future growth in personal income.

On the expenditure side, we used assumptions similar to those used by Planning and displayed earlier in Table 11.5. For example, like Planning, we assumed that any budgets would be balanced each year by reducing spending.[13] Furthermore, we used Planning's assumptions about the portion of each type of spending which is available for budget reductions, when necessary. We used two different sets of assumptions about inflation rates. First, we used the projected increases in the PGSL, as provided to us by the Department of Finance. Using the PGSL resulted in lower rates of growth in spending than assumed in either of the two reports. However, since the PGSL is the deflator for all state and local government spending, we felt it was a more appropriate measure than the Consumer Price Index to use in projecting inflationary growth in Minnesota's state and local government spending. Second, we used Planning's assumptions about inflation rates to gauge the sensitivity of our results to different assumptions.

We examined three expenditure scenarios under each of the inflation rate assumptions. In the first scenario, the inflation-adjusted rates of growth in various spending categories were similar to those used by Planning. For example, we assumed health care spending would increase 10 percent annually in addition to the general rate of inflation.[14] We also used Planning's assumptions about enrollment growth in elementary-secondary education and higher education.

The second scenario was identical to the first scenario except for lower growth rates in health care and criminal justice spending. In this scenario, we assumed that health care spending would grow 7.0 percent annually in addition to the general rate of inflation. We used a 4.5 percent real growth rate for criminal justice spending.

The third scenario is the same as the second scenario except for lower rates of spending growth for elementary-secondary education, higher education, and

12 Although the price of government resolution covers revenues through 1999, we assumed that the price of government would remain unchanged in subsequent years from its level in 1998-99.

13 Unlike Planning, we also assumed that a budget surplus would be saved rather than spent.

14 We smoothed out the projected increases in criminal justice spending from those used by Planning. We assumed an annual growth rate of between 5.5 and 6.0 percent in addition to inflation.

transportation. Unlike Planning, in this scenario, we assumed no real growth in spending per student in education and a lower growth rate for transportation.[15]

The first budget scenario results in combined state and local government deficits which are similar in magnitude to those forecast in the two reports examined earlier in this chapter. Table 11.6 shows cumulative deficits of $1.3 billion from 1998 to 2001 using our first scenario and the expected growth in the PGSL as an indicator of future inflation pressures affecting spending. These deficits are nearly identical to the estimated deficits we obtained when we adjusted the Brandl- Weber projections to reflect the assumption that budgets are balanced each year. Planning's estimate of future deficits was slighter lower primarily because, unlike the other two projections presented in Table 11.6, it assumed that revenues would remain a constant percentage of personal income.

We made similar projections using legislative targets for future revenues.

Table 11.6: Projected Deficits for Minnesota State and Local Governments (in Millions), 1998-2001

Year	*Within Our Means* Report	Brandl-Weber Report	Alternative Scenario Based on "Price of Government" Revenue Targets
1998	$300	$800	$800
1999	300	300	300
2000	200	100	200
2001	300	100	100
Cumulative Deficits	$1,100	$1,300	$1,300

Notes:
(1) These projections do not include the impact of any federal aid changes.
(2) Some totals do not add due to rounding.
(3) We adjusted the original projections in the Brandl-Weber report so that all three sets of projections assumed that budgets must be balanced each year.

Table 11.7 displays the results of our three budget scenarios under the two different inflation assumptions. In general, we found that:

- **Even without federal aid reductions, eliminating future budget gaps appears likely to require significant constraints on state and local government spending and lower rates of spending growth than have been experienced in the past.**

Each of the scenarios would result in a substantial budget shortfall in 1998. The shortfalls would range from about $550 million to a little more than $800 million. The deficit is mostly due to the effect of the price of government resolution on revenues. From 1997 to 1998, the resolution suggests that state and local government revenues should be lowered from 18.2 percent to 17.8 percent of personal

15 We lowered the annual growth rate for transportation from 1.23 percent to 0.9 percent plus the general rate of inflation. The lower rate represents the projected annual rate of increase in the number of households in Minnesota.

Table 11.7: Projected Average Annual Surplus/Deficit in State and Local Governments (in Millions), 1999-2003[a]

		General Inflation Rate	
		PGSL	CPI-U Used by Planning
Scenario 1:	Real Growth Rates per Minnesota Planning	$(-160)	$(-290)
Scenarios 2:	Slower Growth in Health Care and Criminal Justice Spending	(-10)	(-170)
Scenario 3:	Slower Spending Growth in Education and Transportation as well as Health Care and Criminal Justice	+200	(-10)

Source: Office of the Legislative Auditor.

[a]There is a deficit of between $560 and $810 in 1998 for each scenario.

income. This is a reduction of about $470 million in revenues and accounts for more than half of the projected deficit for 1998.

The projected budget situation for subsequent years depends on spending and inflation assumptions. Using Planning's inflation assumptions, there are deficits under any of the three scenarios. However, if significant constraints are placed on spending growth (as under Scenario 3), the average annual deficit is only about $10 million from 1999 through 2003. Using the PGSL as the inflation rate for government spending results in a more optimistic outlook. The average deficit is minimal from 1999 to 2003 under Scenario 2, and significant surpluses may be expected if spending is further constrained as under Scenario 3.

From 1977 to 1992, inflation-adjusted state and local expenditures grew at an annual rate of 3.0 percent in Minnesota. As Table 11.8 shows, each of the three scenarios has a lower projected growth rate for spending. The annual growth rate of

Table 11.8: Projected Annual Real Growth Rates in Spending Compared with Past Experience

	Annual Real Growth Rate	
	Projected (1997-2003)	Actual
Scenario 1	2.8%	NA
Scenario 2	2.3	NA
Scenario 3	1.7	NA
1977-92	NA	3.0%

Source: Office of the Legislative Auditor.

1.7 percent under Scenario 3 is significantly less than past experience. Only the growth rate under Scenario 1 is close to the historical average.

As a result, in the absence of faster revenue increases, it appears that eliminating future budget gaps will require a slowing of historical growth rates in spending. In addition, eliminating future deficits will also probably require some constraints on health care and criminal justice spending, which are likely to increase the fastest of all categories of spending over the next six years. Additional spending constraints may also be necessary, depending on the general inflation rate.

Any reductions in expected federal aid will create additional budget problems beyond those outlined above. The extent of the budget problem created by federal aid reductions will depend on the level of cuts eventually enacted into law. In addition, state and local governments will be affected by the degree to which the federal government gives them the freedom to make changes in federally supported programs in response to reduced aid. We did not attempt to analyze the impact of federal aid changes in detail, because the President and Congress had not agreed upon the level and the nature of federal aid reductions at the time this report was written.

SUMMARY

Two recent reports have projected future budget deficits for state and local governments in Minnesota. The deficits arise, in large part, because of an expected slowing of the growth in personal income and government revenues. Spending pressures are also significant, particularly for health care and criminal justice programs, but projected spending increases are not higher than the historical rate of growth.

In *Within Our Means*, Minnesota Planning projected a cumulative budget deficit of $2.5 billion over a ten-year period (1996-2005). The Brandl-Weber report shows a $5.1 billion budget gap over a six-year period (1996-2001), but the cumulative deficit would only be $1.3 billion when calculated the same way as Planning's projected deficit. This adjusted figure is similar to the cumulative deficit of $1.1 billion projected by Planning over the same period.

We also made projections of future budget gaps based on the most recent estimates of future personal income and the "price of government" targets for state and local revenues set by the 1995 Legislature. These projections suggest a significant shortfall in 1998, primarily due to the targeted reduction in state and local revenues as a percentage of personal income. Shortfalls over the next five years (1999-2003) can be avoided if spending constraints lower the growth rate in spending below historical levels. The extent of spending constraints needed depends on the general rate of inflation in spending, as well as other factors. Possible federal aid reductions pose an additional budget problem for state and local governments, but have not yet been agreed to by the President and Congress.

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January 25, 1996

Mr. Roger Brooks
Deputy Legislative Auditor
Office of the Legislative Auditor
Centennial Office Building
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Dear Roger:

Thank you for an opportunity to respond to your report, *Trends in State and Local Spending*. It is clear that your office has put a great deal of effort into this project. While the Department of Finance is not in a position to comment either on the validity of your analysis or the accuracy of your conclusions, the report's observations concerning state spending and revenues from 1957 to 1992 reinforce commonly held perceptions about the trends over this historical period. Given the size of the report, the data sources relied upon for the majority of the historical information and the limited review time provided, we can offer only a few general comments.

National comparisons are difficult. The report appropriately notes the inherent difficulties in relying solely upon U.S. Department of Commerce Census for historical or interstate comparisons. There are many differences in state accounting and budgeting practices that distort data, rendering time series comparisons inaccurate. Reconciling actual state or local revenue or expenditure data reported by the Department of Commerce to actual data reported by state sources such as the State Auditor, State Department of Children, Families and Learning, Department of Revenue and our own agency is extremely difficult. Our experience with defining the Price of Government legislation data sources and your efforts to relate Minnesota specific data to national averages confirms this difficulty.

Minnesota-specific conclusions sound a warning. Chapter eleven of your report, *Future Spending Trends*, compares and contrasts two recent reports. Both reports were prepared by Minnesota Planning with the assistance of the Department of Finance. *Within Our Means*, was directed by a panel of outside expert advisors, while the second report - *An Agenda for Reform* - was the work of former Congressman Vin Weber and professor John Brandl. The objectives of the reports were fundamentally different.

Agenda for Reform was intended to address the cumulative financial impact of future program changes required because of state structural deficit problems, local expenditure patterns and pending state and local consequences of federal reductions. It also highlights the difficulty in assuming, as did *Within Our Means*, that permanent, ongoing reductions will be used each biennium to eliminate projected deficits. Twenty years of history of state tax increases and shifts run counter to such an assumption.

Both reports reach essentially the same conclusion. The state has built an expenditure expectation that is unaffordable. Demographic patterns are outrunning revenue expectations. Governor Carlson commissioned both reports in order to document the state's fiscal and program challenges and begin a public discussion concerning the state's future. His administration is committed to the development of innovative program solutions, and will continue its efforts to develop more efficient, targeted public services.

We are grateful for the assistance that your recent report provides in examining the source of the state's fiscal problems. The challenge for us all is the design of the solution.

Warmest regards,

Laura M. King
Commissioner

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