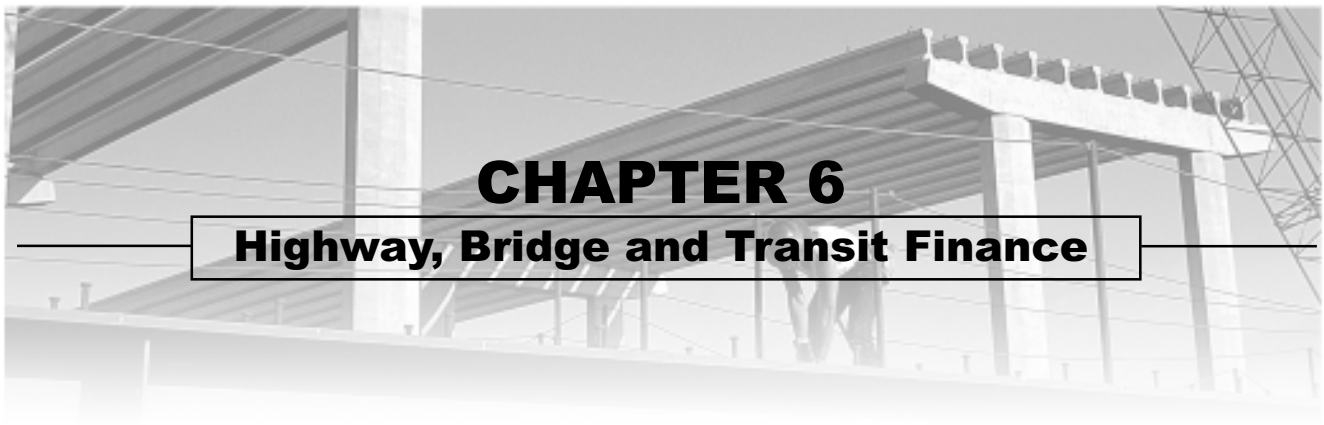


CHAPTER 6
Highway, Bridge and Transit Finance

Introduction

The surface transportation system is jointly funded by the Federal, State and local governments, and the private sector. Each level of government has a different role in the operation of the surface transportation system, and different methods for raising revenue. This chapter documents the sources and uses of public funds expended for highways and transit.

The chapter starts with a summary table comparing key highway and transit statistics with the values shown in the last report. The 1995 highway finance data in the 1997 Conditions and Performance (C&P) report included estimates of local government expenditures. These data have been revised to reflect the actual values. The 1997 highway finance data in this report also contain estimates for local government expenditures, and will be revised in the next version of the report. In some cases, the 1995 transit data has been revised as well.

The highway and bridge finance section of this chapter begins with a discussion of the sources of public sector highway funding. The data are broken down by level of government and source of funds, including both 1997 data and an analysis of historical trends. Next is a discussion of the types of highway expenditures currently being made, and trends in current and constant dollar highway expenditures. A more detailed analysis of highway capital expenditures follows, including analyses of the current distribution of capital outlay by functional class and improvement type. The section concludes with a discussion of historic trends in the capital improvement type distribution and the share of capital expenditures funded by the Federal Government.

The transit section begins with a discussion of public funding sources, followed by an analysis of all funding for transit. Next is a discussion of transit capital funding by level of government, and expenditures by mode and type. The section concludes with a discussion of transit operating expenditures, broken down by mode and function.

Summary

Exhibit 6-1 highlights the key highway and transit statistics discussed in this chapter with the values shown in the last report. The first data column contains the values reported in the 1997 C&P report, which were based on 1995 data. Where the 1995 data have been revised, updated values are shown in the second column. The third column contains comparable values, based on 1997 data.

Exhibit 6-1

Comparison of Highway and Transit Finance Statistics with those in the 1997 C&P Report

Statistic	1995 Data		1997 Data
	1997 Report	Revised	
Total Highway Expenditures (all govts.)	$92.5 bil	$93.5 bil	$101.3 bil
Total Transit Expenditures	$23.2 bil	$23.8 bil	$25.1 bil
Total Funding for Highways (all govts.)	$95.3 bil	$96.3 bil	$106.5 bil
Total Funding for Transit	$24.2 bil	---	$26.0 bil
Total Public Funding for Transit (all govts.)	$16.5 bil	$17.0 bil	$17.5 bil
Percent of total Highway Expenditures Funded by Federal Government	21.6%	21.3%	20.8%
Percent of Public Funding for Transit Funded by Federal Government	25%	24%	27%
Total Highway Capital Outlay (all govts.)	$43.1 bil	$44.2 bil	$48.7 bil
Total Transit Capital Outlay	$7.0 bil	---	$7.6 bil
Percent of total Highway Capital Outlay funded by Federal Government	44.5%	42.6%	41.1%
Percent of total Transit Capital Outlay funded by Federal Government	47%	---	54%
Percent of total Highway Capital Outlay Used for System Preservation	50%	48.2%	47.6%
Percent of total Transit Capital Outlay used for Rail	70%	---	66%
Total Highway-User Charges (motor-fuel taxes, motor-vehicle taxes and fees, and tolls)	$84.1 bil	$83.9 bil	$89.9 bil
Total Transit Fares and Other System-Generated Revenue	$7.0 bil	---	$8.4 bil
Percent of highway-user charges used for roads	70.8%	70.6%	71.9%
Percent of highway-user charges used for transit	not reported	7.9%	7.3%
Ratio of total highway-user charges to total highway expenditures	91%	89.9%	88.6%

In 1997, all levels of government spent $101.3 billion for highways and bridges. An additional $5.2 billion was placed in reserves for future highway expenditures, so a total of $106.5 billion of funding was provided by all levels of government for highways in 1997. A total of $25.1 billion was expended for transit in 1997. An additional $0.9 billion was placed in reserve, so a total of $26.0 billion of funding was provided for transit in 1997. Of this total, $8.4 billion came from fare box and other transit system generated revenue; total public funding for transit was $17.5 billion.

Highway expenditures increased 8.3 percent over 1995, while transit expenditures increased 5.5 percent. Highway funding (including amounts placed in reserves) increased 10.6 percent over 1995, while public funding for transit increased 2.9 percent. Highway expenditures grew more

quickly than inflation since 1995, increasing 2.0 percent in constant dollar terms. Transit expenditure growth has also outpaced inflation since 1995, but public funding for transit did not keep pace with inflation.

The Federal Government contributed $21.1 billion for highway programs in 1997, and $4.7 billion for transit. This represented 20.8 percent of total highway expenditures, and 27 percent of public funding for transit. The Federal share of highway funding has fallen steadily in recent years, as non-capital expenditures have grown more quickly than capital expenditures traditionally eligible for Federal-aid. After reaching a high of 43 percent in 1980, the Federal portion of transit funding fell steadily until about 1994. Since that time, the Federal portion has rebounded, up to 27 percent in 1997. Most of the Federal funding for highways and transit is in the form of grants to States, local governments, and individual transit operators that make the actual expenditures.

Since 1995, highway capital outlay grew 10.2 percent to $48.7 billion in 1997. Transit capital outlay grew 8.6 percent to $7.6 billion in 1997. The Federal Government contributed $19.8 billion or 41.1 percent of total highway capital outlay, and $4.1 billion, or 54 percent of total transit funding. Federal funding for highway capital outlay has grown at a similar rate as State and local funding in recent years, so the Federal share of highway capital outlay has remained in a range of 41 to 46 percent since 1987. Federal capital assistance for transit remained relatively stable between 1990 and 1994, while the level of State and local contributions increased, so the Federal share of capital funds decreased from 58 to 45 percent over this period. Since 1994, Federal funding for transit capital outlay has increased sharply, so the Federal share has climbed back up to 54 percent.

In 1997, 47.6 percent of highway capital outlay was used for system preservation, down from 50.0 percent in 1995. Of total transit capital outlay, 66 percent was used for rail, down from 70 percent in 1995.

Highway user revenues (the total amount generated from motor fuel taxes, motor vehicle taxes and fees, and tolls) rose 7.0 percent from $84.1 billion in 1995 to $89.9 billion in 1997. Of this total, $64.7 billion (71.9 percent) went for highway programs, $6.6 billion (7.3 percent) went for transit programs, while the remaining $18.6 billion went for other purposes. The $64.7 billion used for highways made up 60.8 percent of total funding for highways. If all highway user revenues had been used for highways, they would have been sufficient to cover 88.6 percent of all highway expenditures. This ratio has declined from 89.9 percent in 1995.

Public Sector Highway Funding - 1997

In 1997, all levels of government spent $101.3 billion for highway programs and placed an additional $5.2 billion in reserves for future expenditures. *[See Exhibit 6-2]* Of the total 1997 expenditures for highways, the Federal Government funded $21.1 billion (20.8 percent), and the States funded $52.7 billion (52.0 percent). Counties, cities, and other local governments funded the remaining $27.5 billion (27.2 percent).

Exhibit 6-2

Revenue Sources for Highways, 1997 (Billions of Dollars)

	Federal	State	Local	Total	Percent
User Charges					
Motor-Fuel Taxes	$17.1	$25.8	$0.8	$43.7	41.0%
Motor-Vehicle Taxes and Fees	$2.6	$13.0	$0.6	$16.3	15.3%
Tolls	$0.0	$3.9	$0.8	$4.7	4.4%
Subtotal	**$19.7**	**$42.7**	**$2.2**	**$64.7**	**60.8%**
Other					
Property Taxes and Assessments	$0.0	$0.0	$5.3	$5.3	5.0%
General Fund Appropriations	$0.9	$3.0	$11.7	$15.6	14.7%
Other Taxes and Fees	$0.2	$2.5	$1.8	$4.4	4.2%
Investment Income and Other Receipts	$0.8	$2.4	$4.0	$7.2	6.8%
Bond Issue Proceeds	$0.0	$5.9	$3.2	$9.2	8.6%
Subtotal	**$1.9**	**$13.9**	**$26.0**	**$41.8**	**39.2%**
Total Revenues	**$21.6**	**$56.6**	**$28.3**	**$106.5**	**100.0%**
Funds Drawn from or (Placed in) Reserves	($0.5)	($3.9)	($0.8)	($5.2)	-4.9%
Total Expenditures Funded During 1997	**$21.1**	**$52.7**	**$27.4**	**$101.3**	**95.1%**

Source: FHWA Highway Funding Bulletin dated 3/16/99.

Of the $106.5 billion in total revenues generated for highways in 1997 ($101.3 billion spent in 1997 plus $5.2 billion placed in reserves), 60.8 percent came from highway-user charges, including motor-fuel taxes, motor-vehicle taxes and fees, and tolls. The remaining 39.2 percent originated from a number of sources, including local property taxes and assessments, other dedicated taxes, general funds, bond issues, and miscellaneous sources such as investment income, miscellaneous fees, development fees, and special district assessments. The degree to which highway programs are funded by highway-user charges differs widely between the various levels of government.

At the Federal level, 91.4 percent of highway revenues come from motor-fuel and motor-vehicle taxes. The remainder comes from general fund appropriations, timber sales, lease of Federal lands, oil and mineral royalties, and investment income. Note that on October 1, 1998, interest accrual to the Highway Trust Fund (HTF) ceased.

Highway-user charges also provide the largest share, 75.5 percent, of highway funds at the State level. Bond issue proceeds are another significant source of funding, providing 10.5 percent of highway funds at the State level. The remaining 14.0 percent of State highway funding comes from general fund appropriations, other State taxes and fees, investment income, and other miscellaneous sources.

Many States do not permit local governments to impose motor-fuel and motor-vehicle taxes, or cap them at relatively low levels. Therefore, at the local government level, only 7.9 percent of highway funding is provided by highway-user charges. Local general funds, property taxes, and other taxes and fees are the source of 66.7 percent of local highway funding. Bond issues proceeds provide 11.4 percent of local highway funding, while investment income and miscellaneous receipts provide the remaining 14.0 percent.

Public Sector Highway Funding - Trends

Federal support for highways increased dramatically following the passage of the Federal-Aid Highway Act of 1956 and the establishment of the HTF. During this period, the Federal share of total highway funding peaked in 1965 at 30.1 percent. From 1965 to 1991 there was a gradual downward trend in the Federal share, to a low of 20.0 percent in 1991. Since 1991 the Federal percentage of total spending has somewhat stabilized. Since 1995, the Federal share has dropped from 21.3 percent to 20.8 percent in 1997. *[See Exhibit 6-4]*

The State share of funding for total highway expenditures dropped as the Federal share grew in the late 1950s. The graph in Exhibit 6-4 also indicates that

Q. **Were all revenues generated by motor-fuel taxes, motor vehicle taxes and fees, and tolls in 1997 used for highways?**

A. No. As shown in Exhibit 6-3, highway-user revenues—the total revenues generated by motor-fuel taxes, motor-vehicle taxes and tolls—totaled $89.9 billion in 1997. The $64.7 billion identified as highway user charges in Exhibit 6-2 includes only those revenues from these sources that were used for highways. This represents only 71.9 percent of the total highway-user-revenues. In 1997, $6.6 billion (7.3 percent) was used for transit and $18.6 billion (21.8 percent) was used for other purposes, such as ports, schools, deficit reduction, collections costs, and general governmental activities.

Exhibit 6-3

Disposition of Highway-User Revenue by Level of Government, 1997 (Billions of Dollars)

	Fed.	State	Local	Total
Portion used for:				
Highways	$19.7	$42.7	$2.2	$64.7
Transit	$4.0	$2.1	$0.5	$6.6
Other	$8.2	$10.4	$0.1	$18.6
Total Collected	**$31.9**	**$55.2**	**$2.8**	**$89.9**

Source: 3/16/99 Highway Funding Bulletin.

The $18.6 billion of highway-user-revenues used for purposes other than highway or transit, consists of $10.4 billion of State and local revenue and $8.2 billion of Federal revenue. Note that the Federal amount will be much lower in 1998 and future years. Starting in Fiscal Year 1998, motor-fuel tax revenue that was formerly credited to the general fund for deficit reduction will instead be credited to the HTF.

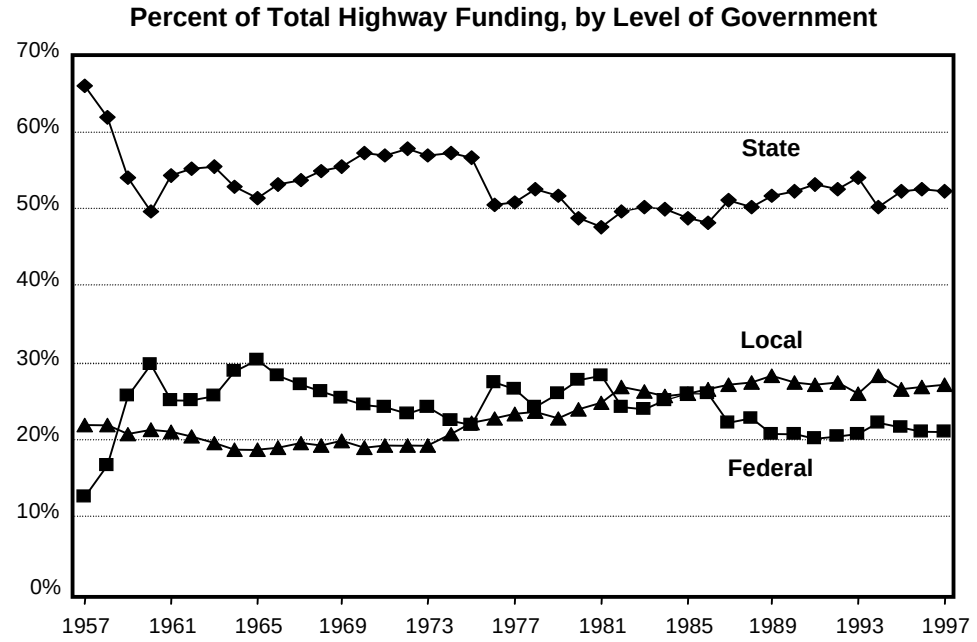
The $6.6 billion of highway-user-revenues used for mass transit includes $2.6 billion of State and local revenue and $4.0 billion of Federal revenue. The Federal amount includes $3.3 billion deposited into the Mass Transit Account of the HTF, and $0.7 billion that was deposited in the Highway Account of the HTF that States elected to use for mass transit purposes.

Q. **Have State governments always contributed the largest share of funding for total highway expenditures?**

A. No. Before 1933, local governments contributed the largest share.

Exhibit 6-4

Funding for Highways by Level of Government, 1957-1997



	Billions of Dollars				Percent of Total			
Year	Federal	State	Local	Total	Federal	State	Local	Total
1957	$1.1	$6.1	$2.0	$9.3	12.2%	66.0%	21.8%	100.0%
1961	$2.9	$6.2	$2.4	$11.5	24.8%	54.2%	20.9%	100.0%
1965	$4.3	$7.3	$2.7	$14.3	30.1%	51.3%	18.5%	100.0%
1969	$4.7	$10.4	$3.7	$18.8	25.1%	55.3%	19.6%	100.0%
1973	$5.8	$13.8	$4.6	$24.2	24.1%	56.9%	19.0%	100.0%
1977	$7.8	$15.1	$6.9	$29.8	26.3%	50.6%	23.1%	100.0%
1981	$11.9	$20.1	$10.4	$42.4	28.1%	47.4%	24.5%	100.0%
1985	$14.7	$27.9	$14.9	$57.5	25.7%	48.5%	25.8%	100.0%
1989	$14.5	$36.4	$19.9	$70.9	20.5%	51.4%	28.1%	100.0%
1990	$15.5	$39.4	$20.5	$75.4	20.6%	52.3%	27.2%	100.0%
1991	$15.7	$41.8	$21.1	$78.6	20.0%	53.1%	26.9%	100.0%
1992	$16.8	$43.9	$22.9	$83.6	20.1%	52.5%	27.4%	100.0%
1993	$17.6	$46.5	$22.3	$86.4	20.4%	53.8%	25.8%	100.0%
1994	$19.9	$45.1	$25.3	$90.2	22.0%	50.0%	28.0%	100.0%
1995	$19.9	$48.8	$24.7	$93.5	21.3%	52.2%	26.4%	100.0%
1996	$20.5	$51.5	$26.1	$98.1	20.9%	52.5%	26.6%	100.0%
1997	$21.1	$52.7	$27.4	$101.3	20.8%	52.1%	27.1%	100.0%

Sources: Highway Statistics Summary to 1995 Table HF-210; Highway Statistics 1996 Table HF-10A; Highway Funding Bulletin dated 3/16/99.

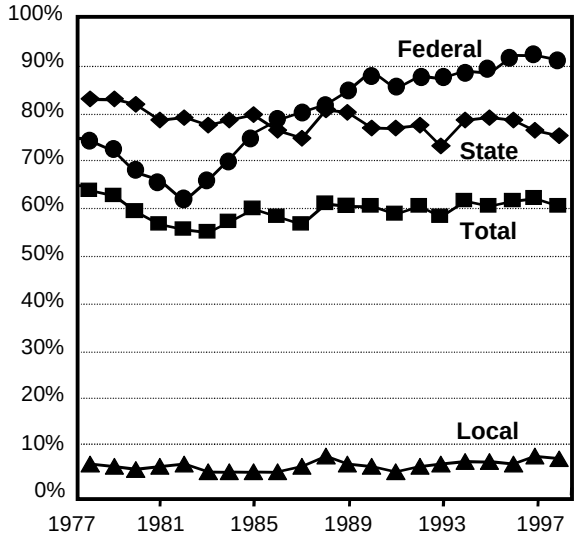
the local share of funding declined to its lowest level (18.4 percent) in 1964, but increased in subsequent years. Since 1982, the local share has varied within a range from 25 to 28 percent, while the State share has varied within a range from 48 to 54 percent.

The sources of highway revenue for each level of government have changed over time. In 1965, 73.5 percent of revenues for highways was derived from highway user charges. Exhibit 6-5 shows the percentage of highway revenue derived from user charges for each level of government over the last 20 years. The graph in Exhibit 6-5 shows that this percentage declined to its lowest level in 1982 (55.3 percent). Since that time, the percentage has since rebounded and stabilized in a range of about 60 to 62 percent.

During the early years of the HTF, over 90 percent of highway revenues at the Federal level came from fuel and vehicle taxes. From the late 1960s to the early 1980s, this percentage declined, to a low of 61.55 percent in 1981. Federal motor-fuel taxes did not increase during this period, and the percentage of Federal highway funding derived from general fund revenues increased. In 1981, general fund revenues of $2.6 billion provided 25.1 percent of total Federal highway funding.

Exhibit 6-5

Percent of Highway Revenue Derived from User Charges, for Each Level of Government, 1977-1997



Year	Federal	State	Local	Total
1977	74.3%	83.2%	6.4%	63.8%
1981	61.5%	79.1%	6.4%	55.6%
1985	78.8%	76.2%	4.7%	58.3%
1989	89.0%	77.2%	6.1%	60.7%
1993	89.0%	78.5%	6.9%	61.6%
1994	88.7%	79.0%	7.3%	60.7%
1995	92.1%	78.5%	6.6%	61.6%
1996	92.2%	76.7%	8.0%	62.3%
1997	91.4%	75.5%	7.9%	60.8%

Sources: Highway Statistics Summary to 1995 Table HF-210; Highway Statistics 1996 Table HF-10A; Highway Funding Bulletin dated 3/16/99.

Since 1981, Federal general fund revenues used for highways have declined by two-thirds, and the portion of Federal highway revenue derived from highway user charges has increased. In 1995, 92.1 percent of Federal highway revenues were derived from fuel and vehicle taxes, the first time this percentage exceeded the 90 percent level since 1965.

Under TEA-21, motor-fuel and motor-vehicle tax revenue will comprise an even larger share of total Federal revenues for highways. Highway Account expenditures will increase significantly under TEA-21, while the level of general revenues used by various Federal agencies for highway-related activities not covered under TEA-21 are expected to grow more slowly. This will make the HTF's share of total Federal funding for highways larger. Also, as indicated earlier, beginning in Federal fiscal year 1999 the HTF will no longer be credited with investment income. In 1997, 3.7 percent of total Federal revenues for highways came from investment income credited to the highway account. With this revenue source eliminated, all expenditures from the HTF will be financed solely by motor-fuel and motor-vehicle revenues.

Q. If all "highway-user revenues" collected were used for highways, would they be sufficient to cover all highway expenditures?

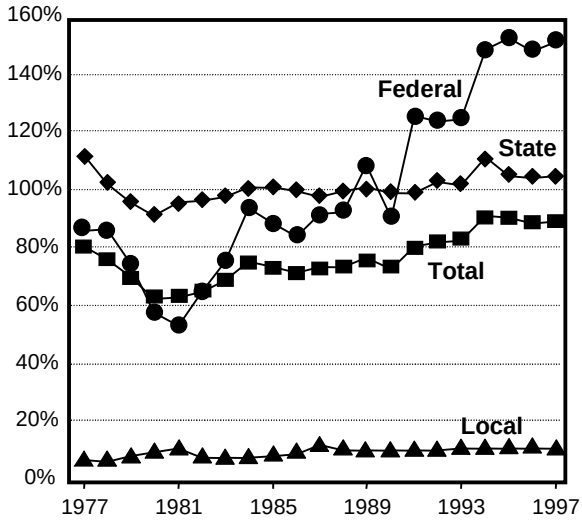
A. No. As shown in Exhibit 6-6, if the full $89.9 billion collected from motor fuel taxes, motor vehicle taxes, and tolls had been used for highways in 1997, it would have been sufficient to cover only 88.8 percent of the total highway expenditures of $101.3 billion. This ratio is down from 89.9 percent in 1995 but up from a low of 62.3 percent in 1980.

The most dramatic change in recent years has occurred at the Federal level. Since 1981, the ratio of Federal highway-user revenues to Federally-funded highway expenditures has climbed from 52.9 percent to 151.1 percent. In 1981, all Federal highway-user-revenues were used for highways, but generated only $6.3 billion in revenue for the HTF, while cash expenditures from the HTF totaled $9.2 billion. The difference was covered by HTF investment income and by drawing down on the invested balance of the HTF. An additional $2.8 billion of Federal expenditures for highways was financed from sources other than the HTF.

Since 1981, the Federal gasoline tax has increased from 4 cents to 18.4 cents, and is now used for mass transit and other purposes as well as for highway purposes. Also, Federal expenditures for highways financed from sources other than the HTF have declined by two-thirds since 1981. Together, these two factors help explain why the ratio of Federal highway-user revenues to Federally-funded highway expenditures has increased so dramatically. In 1997, $31.9 billion was collected from Federal fuel and vehicle taxes, while cash expenditures for highways by the Federal government totaled $21.1 billion, resulting in a ratio of 151.1 percent. Under TEA-21, this ratio is expected to decline somewhat, as Federal highway expenditures increase and motor-fuel tax revenue that was formerly used for deficit reduction is credited to the Highway Trust Fund.

Exhibit 6-6

Ratio: Total Highway User Revenue Collected Compared to Total Highway Expenditures for Each Level of Government, 1977-1997



Year	Federal	State	Local	Total
1977	85.5%	111.7%	6.8%	80.6%
1981	52.9%	95.3%	10.4%	62.6%
1985	88.2%	100.7%	7.6%	73.4%
1989	108.5%	100.6%	9.6%	76.6%
1993	124.1%	101.3%	10.7%	82.6%
1994	148.2%	111.1%	10.2%	91.0%
1995	152.2%	104.6%	10.5%	89.9%
1996	147.4%	104.1%	10.5%	88.2%
1997	151.1%	104.7%	10.3%	88.8%

Sources: Highway Statistics Summary to 1995 Table HF-210; Highway Statistics 1996 Table HF-10A; Highway Funding Bulletin dated 3/16/99.

Note that the revenue and expenditure figures shown in Exhibit 6-6 and elsewhere in this report are on a cash basis. The ratio of highway user revenues to highway expenditures will tend to fluctuate from year to year, since revenues collected in one year may not be spent immediately.

Total Highway Expenditures - 1997

When discussing the roles of each level of government in highway funding, this chapter focuses primarily on which level of government provides the revenues, rather than on the level of government that ultimately makes the expenditure. However, there are significant intergovernmental transfers of funds occurring from the Federal Government to State and local governments ($19.8 billion in 1997), from State governments to local governments ($11.6 billion), and from local governments to State governments ($1.4 billion). Depending on the specific grant program involved, State and local recipients of transfer payments from other governments have a varying degree of autonomy and discretion in how they use the funds. The implication of this is that the relative degree of influence that each level of government has on what individual projects are funded and what types of highway expenditures are made is not necessarily consistent with the share of highway funding that each level of government provides.

While the Federal Government funded $21.1 billion (20.8 percent) of the total highway expenditures of $101.3 billion in 1997, the majority of the Federal Government's contribution to highways consists of grants to State and local governments. Direct Federal spending on capital outlay, maintenance, administration and research amounted to only $1.3 billion (1.3 percent). State governments combined $19.0 billion of Federal funds with $41.1 billion of State funds and $1.4 billion of local funds to make direct expenditures of $61.5 billion (60.8 percent). Local governments combined $0.8 billion of Federal funds with $11.6 billion of State funds and $26.1 billion of local funds to make direct expenditures of $38.4 billion (37.9 percent). (Note that all figures cited as expenditures, spending, or outlays in this report all represent cash expenditures, rather than authorizations or obligations.) *[See Exhibit 6-7].*

Exhibit 6-7

Direct Expenditures for Highways, by Expending Agencies and by Type, 1997
(Billions of Dollars)

	Federal	State	Local	Total	Percent
Current Expenditures					
Capital Outlay					
Funded by Federal Government	$0.3	$19.0	$0.8	$20.0	19.8%
Funded by State or Local Govt	$0.0	$16.7	$12.0	$28.7	28.3%
Subtotal	**$0.3**	**$35.7**	**$12.7**	**$48.7**	**48.1%**
Non-Capital Expenditures					
Maintenance	$0.1	$8.0	$12.8	$20.9	20.6%
Highway and Traffic Services	$0.0	$3.3	$2.1	$5.5	5.4%
Administration	$1.0	$4.6	$2.5	$8.1	8.0%
Highway Patrol and Safety	$0.0	$4.9	$4.4	$9.3	9.2%
Interest on Debt	$0.0	$2.5	$1.6	$4.1	4.0%
Subtotal	**$1.1**	**$23.3**	**$23.4**	**$47.8**	**47.2%**
Total Current Expenditures	**$1.3**	**$59.0**	**$36.1**	**$96.5**	**95.3%**
Bond Retirement	**$0.0**	**$2.5**	**$2.3**	**$4.8**	**4.7%**
Total All Expenditures					
Funded by Federal Government	$1.3	$19.0	$0.8	$21.1	20.8%
Funded by State Governments	$0.0	$41.1	$11.6	$52.7	52.1%
Funded by Local Governments	$0.0	$1.4	$26.1	$27.4	27.1%
Grand Total	**$1.3**	**$61.5**	**$38.4**	**$101.3**	**100.0%**

Source: FHWA Highway Funding Bulletin dated 3/16/99.

Types of Highway Expenditures

Current highway expenditures can be divided into two broad categories: non-capital and capital. Non-capital highway expenditures include maintenance of highways, highway and traffic services, administration, highway law enforcement, highway safety, and interest on debt. Highway capital outlay consists of those expenditures associated with highway improvements, including land acquisition and other right-of-way costs; preliminary and construction engineering; new construction, reconstruction, resurfacing, rehabilitation, and restoration costs of roadways, bridges, and other structures; installation of traffic service facilities such as guard rails, fencing, signs, and signals. Bond retirement is not part of current expenditures, but is included in the figures cited for total highway expenditures in this report.

In 1997, all levels of government spent $48.7 billion on capital outlay, 48.1 percent of total highway expenditures. Current non-capital expenditures consumed $47.8 billion (47.2 percent), while the remaining $4.8 billion (4.7 percent) went for bond redemption. Most Federal funding for highways goes for capital items. Non-capital expenditures are funded primarily by State and local governments. In 1997, State and local non-capital expenditures were roughly equal, as State governments spent $23.3 billion, while local governments spent $23.4 billion. The majority of spending on highway maintenance occurred at the local government level, which expended $12.8 billion, 61.2 percent of the $20.9 billion total.

Highway capital outlay expenditures are discussed in more detail later in this chapter.

Total Highway Expenditures - Trends

The composition of highway expenditures has changed over time. The percentage of total highway expenditures that went for capital outlay peaked at 61.3 percent in 1958. Subsequently, capital outlay's share of total spending gradually declined to a low of 43.8 percent in 1983. Since 1993 this percentage has risen each year. The 48.1 percent figure for 1997 is the highest since 1980. *[See Exhibit 6-8].*

Q. **How are "Maintenance" and "Highway and Traffic Services" defined in this report?**

A. Maintenance in this report includes routine and regular expenditures required to keep the highway surface, shoulders, roadsides, structures and traffic control devices in usable condition. This includes spot patching and crack sealing of roadways and bridge decks, and the maintenance and repair of highway utilities and safety devices such as route markers, signs, guard rails, fence, signals, and highway lighting.

Highway and Traffic Services include activities designed to improve the operation and appearance of the roadway. This includes items such as operation of traffic control systems, snow and ice removal, highway beautification, litter pickup, mowing, toll collection, and air quality monitoring.

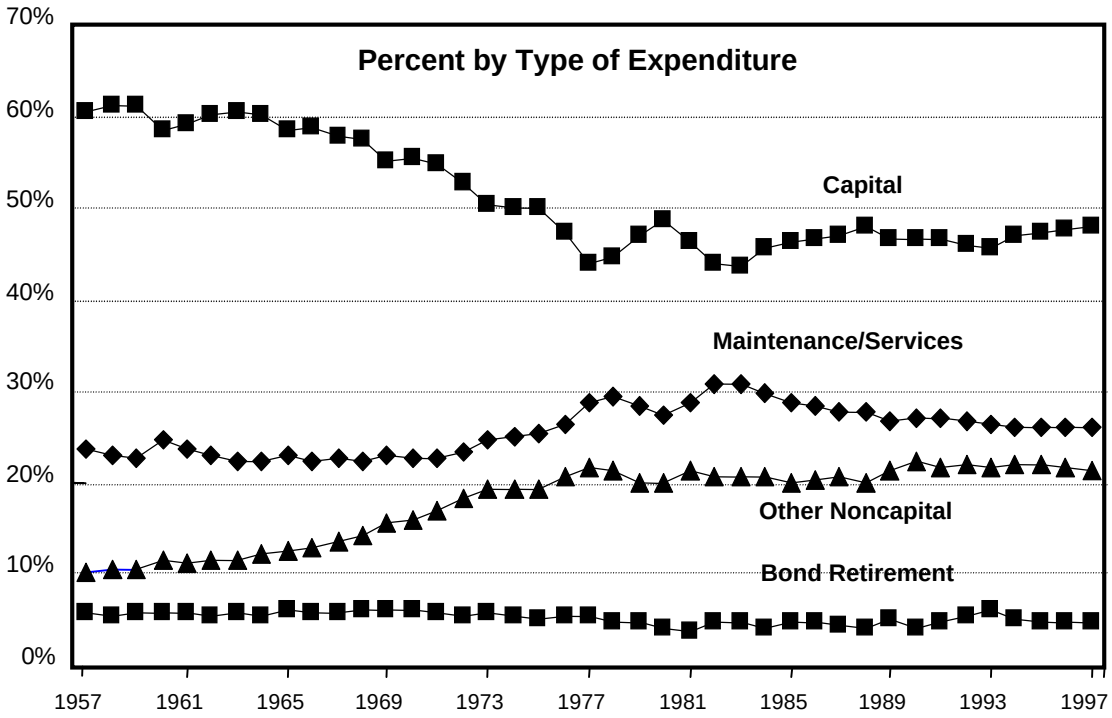
Q. **What basis is used for distinguishing between capital expenditures and maintenance expenditures?**

A. The classification of the revenue and expenditure items in this report are based on definitions contained in "A Guide to Reporting Highway Statistics", the instructional manual for States providing financial data for the "Highway Statistics" publication. This manual indicates that the classification of highway construction and maintenance expenditures should be based on criteria provided in the American Association of State Highway And Transportation Officials publication "AASHTO Maintenance Manual - 1987".

Other definitions of maintenance are used by different organizations. Some resurfacing, restoration, and rehabilitation projects that meet this report's definition of capital outlay might be classified as maintenance activities in internal State or local accounting systems.

Exhibit 6-8

Expenditures for Highways by Type, All Units of Government 1957-1997



Billions of Dollars

Year	Capital Outlay	Maint. and Services	Other Non-Capital: Adminis-tration	Other Non-Capital: Highway Patrol & Safety	Other Non-Capital: Interest on Debt	Other Non-Capital: Total Other Non-Capital	Debt Retirement	Total
1957	$5.6	$2.2	$0.4	$0.3	$0.3	$0.9	$0.5	$9.3
1961	$6.8	$2.7	$0.5	$0.3	$0.4	$1.3	$0.7	$11.5
1965	$8.4	$3.3	$0.8	$0.5	$0.5	$1.8	$0.9	$14.3
1969	$10.4	$4.3	$1.1	$1.1	$0.7	$2.9	$1.2	$18.8
1973	$12.2	$5.9	$1.7	$1.9	$1.0	$4.7	$1.4	$24.2
1977	$13.1	$8.6	$2.4	$2.8	$1.3	$6.5	$1.6	$29.8
1981	$19.7	$12.2	$3.4	$3.9	$1.7	$9.0	$1.6	$42.4
1985	$26.6	$16.6	$4.2	$5.2	$2.1	$11.5	$2.8	$57.5
1989	$33.1	$19.0	$5.7	$6.6	$2.8	$15.2	$3.6	$70.9
1990	$35.2	$20.4	$6.5	$7.2	$3.2	$16.9	$3.0	$75.4
1991	$36.6	$21.2	$6.9	$7.0	$3.1	$17.0	$3.7	$78.6
1992	$38.3	$22.2	$7.7	$7.1	$3.6	$18.4	$4.6	$83.6
1993	$39.5	$22.9	$7.9	$7.2	$3.7	$18.8	$5.2	$86.4
1994	$42.4	$23.6	$8.4	$7.7	$3.7	$19.7	$4.5	$90.2
1995	$44.2	$24.3	$8.4	$8.2	$3.8	$20.4	$4.5	$93.5
1996	$46.8	$25.6	$8.4	$8.9	$3.8	$21.1	$4.6	$98.1
1997	$48.7	$26.3	$8.1	$9.3	$4.1	$21.5	$4.8	$101.3

Sources: Highway Statistics Summary to 1995 Table HF-210; Highway Statistics 1996 Table HF-10A; Highway Funding Bulletin dated 3/16/99.

The percentage of total highway expenditures devoted to maintenance and traffic services has declined from its recent-year peak of 30.9 percent in 1983, but that has stabilized in recent years, remaining between 26 and 27 percent since 1988. In 1997, 26.0 percent of total highway expenditures went for maintenance and traffic services, the same percentage as in 1995.

In this report, "other non-capital expenditures" refers to amounts used for highway law enforcement and safety, administration and research, or interest payments. Other non-capital expenditures grew steadily as a percentage of total expenditures for a number of years, peaking at 22.5 percent in 1990. Other non-capital expenditure's share of total spending fell from 21.9 percent in 1995 to 21.2 percent in 1997.

Over the years, an increasing percentage of total highway expenditures has been devoted to the regulation of the existing highway system through highway law enforcement and safety programs. This includes such activities as enforcement of traffic laws, supervision and direction of traffic, crash investigation, vehicle inspection, vehicle size and weight enforcement, driver education, safety awareness campaigns and motorcycle safety programs. The highway law enforcement and safety component of other non-capital expenditures grew 13.4 percent between 1995 and 1997, rising from $8.2 billion to $9.3 billion.

The administrative component of other non-capital expenditures has also grown. As the extent and complexity of the highway system and highway programs increased over time, the relative resources required for planning, research and general administration of highway programs also grew. However, total expenditures for administration have stabilized since 1994, and actually declined in 1997, down $0.3 billion to $8.1 billion. Part of this decline may stem from improved administrative efficiency. However, some of it may be the result of improved accounting procedures on the part of State and local governments; improved cost-accounting systems are allowing some States to assign some costs directly to the specific capital outlay and maintenance projects they relate to instead of lumping them into administrative overhead.

Constant Dollar Expenditures

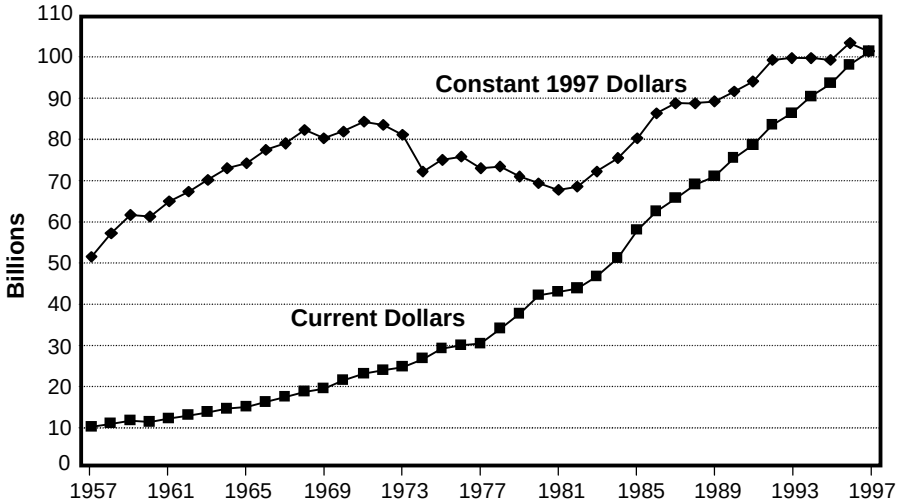
Highway expenditures grew more quickly than inflation between 1995 and 1997. Total expenditures increased at an average annual rate of 4.1 percent, from $93.5 billion to $101.3 billion. Over the same period, it is estimated that highway construction costs increased at an annual rate of 3.5 percent, and other costs rose at an annual rate of 2.6 percent. In constant dollar terms, total highway expenditures increased 2.0 percent between 1995 and 1997.

Exhibit 6-9 shows that highway expenditures have grown steadily in current dollar terms since 1957. In constant dollar terms, total highway expenditures by all levels of government reached a plateau in 1971. From 1972 to 1981, highway spending did not keep pace with inflation. Since 1981, highway expenditures have grown faster than inflation; constant dollar spending in 1996 exceeded the 1971 mark for the first time, and constant dollar spending reached an all time high in 1996. In constant dollar terms, total highway expenditures in 1997 were 2.0 percent higher than 1995 levels, 50.2 percent higher than the low point in 1981, and 20.2 percent higher than the 1971 mark. Constant dollar expenditures in 1997 dipped 2.0 percent below 1996 levels. This occurred in part because in 1996 construction costs fell 1.4 percent, driving up constant dollar expenditures, and in 1997 construction costs rose 8.7 percent, driving down constant dollar expenditures. Historically, construction costs have generally been more volatile than other components of highway spending.

Much of the increase in constant dollar spending since 1981 has been driven by highway capital outlay expenditures, which have grown more quickly than maintenance and other non-capital expenditures in both current and constant dollar terms. Over this 16-year period highway capital outlay expenditures grew at an average annual rate of 5.8 percent, from $19.7 billion to $48.7 billion, while total highway spending increased an average annual rate of 5.6 percent. In constant dollar terms, this equates to a 78.4 percent increase. Over this same period, maintenance and services grew by 22.6 percent in constant dollars, and other non-capital expenditures grew by 35.2 percent in constant dollars. Highway construction costs grew much more slowly than the CPI during this period, so the purchasing power of funds used for capital outlay expenditures has not eroded as quickly. Highway construction costs grew at an average annual rate of rate of 2.1 percent since 1981, compared to an average annual increase in the CPI of 3.6 percent. *[See Exhibit 6-10].*

Exhibit 6-9

Total Highway Expenditures in Current and Constant 1997 Dollars, All Units of Government 1957-1997



Q. **What indices are used to convert current dollars to constant dollars in this report?**

A. For capital outlay expenditures, the FHWA Construction Bid Price Index is used. For all other types of highway expenditures, the Consumer Price Index (CPI) is used.

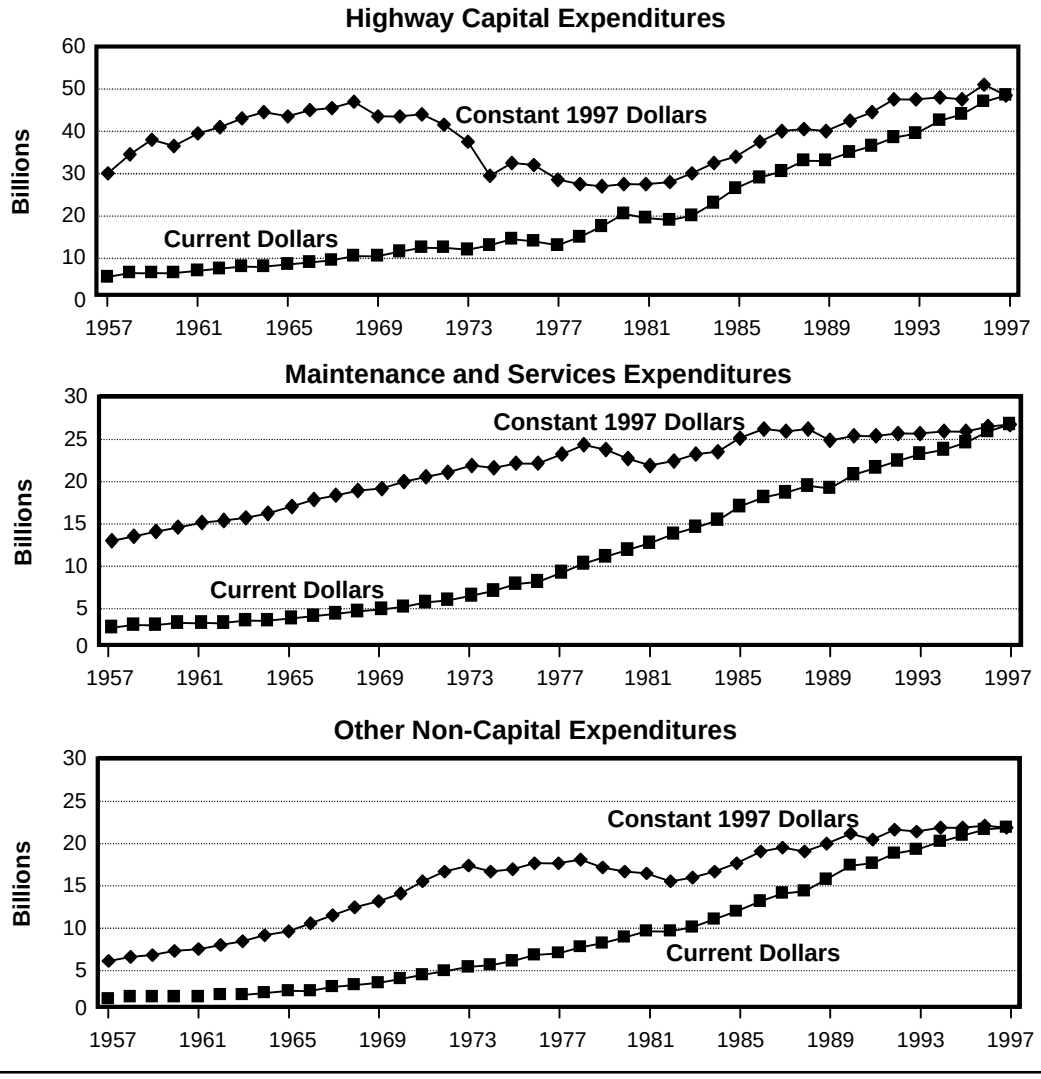
Constant Dollar Expenditures per VMT

While all types of highway expenditures would not necessarily be expected to grow proportionally to vehicle miles traveled (VMT), increases in VMT do increase the wear and tear on existing roads, leading to higher capital and maintenance costs. As the extent of the system has grown to accommodate additional traffic, costs have risen since these new lanes and roads also need to be constructed and maintained. Traffic supervision and safety costs also are related in part to traffic volume. As the highway system has grown and become more complex, the cost of administering the system has grown as well.

In current dollar terms, total expenditures per VMT have grown steadily. Since 1995, expenditures per VMT increased from 3.8 cents to 4.0 cents. However, in constant dollar terms, expenditures have not kept pace with travel growth. During the 1960s and 1970s total expenditures per VMT declined steadily in constant dollar terms, but the rate of decline slowed during the 1980s and 1990s. Since 1982, highway expenditures per VMT dropped only 7.3 percent in constant dollar terms. Over this period, highway capital outlay expenditures per VMT increased 8.2 percent in constant dollar terms, but this was offset by declines in maintenance and other non-capital expenditures. *[See Exhibit 6-11]*

Exhibit 6-10

Highway Capital, Maintenance, and Other Non-Capital Expenditures in Current and Constant 1997 Dollars, All Units of Government 1957-1997



Highway Capital Outlay Expenditures - 1997

Federal agencies directly spent $0.3 billion on highway capital outlay in 1997, 0.5 percent of the $48.7 billion spent on capital outlay by all levels of government. Federal grants to State and local governments for highways totaled $19.8 billion, the equivalent of an additional 40.6 percent of total capital spending. Since most Federal highway grants are restricted to being used for capital outlay, it is estimated that the Federal share of total funding for capital outlay was 41.1 percent in 1997.

State governments directly spent $35.7 billion on highway capital outlay in 1997, which was partially financed by the $19.0 billion States received in grants from the Federal Government for highways. State government capital outlay is concentrated on the higher-order functional systems, and State direct expenditures comprise a majority of all capital outlay on each functional class except rural minor collectors, rural local, and urban local. Local governments control most of the mileage on these lower-ordered functional systems and make most of the capital improvements on them. *[See Exhibit 6-12]*.

Exhibit 6-11

Highway Expenditures per Vehicle Mile of Travel, All Units of Government 1957-1997 (Constant 1997 Cents)

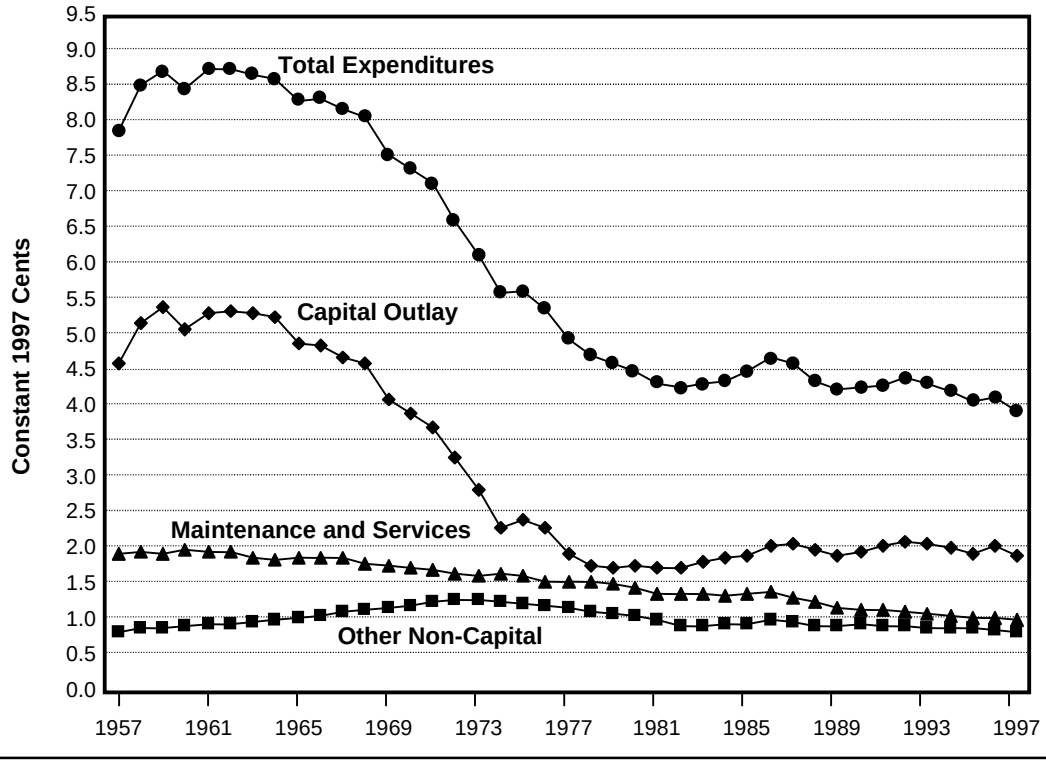


Exhibit 6-12

Highway Capital Outlay by Functional System, 1997

Functional Class	Direct State Capital Outlay ($Billions)	Capital Outlay, All Jurisdictions		
		Total ($Billions)	Per Lane-Mile (Dollars)	Per VMT (Cents)
Rural Arterials and Collectors				
Interstate	$3.2	$3.2	$23,971	1.3
Other Principal Arterial	$6.3	$6.4	$25,603	2.8
Minor Arterial	$2.8	$3.1	$10,840	1.9
Major Collector	$1.9	$2.9	$3,365	1.5
Minor Collector	$0.3	$0.9	$1,687	1.8
Subtotal	**$14.6**	**$16.5**	**$7,919**	**1.9**
Urban Arterials and Collectors				
Interstate	$7.8	$7.8	$108,283	2.2
Other Freeway & Expressway	$2.7	$2.9	$70,367	1.8
Other Principal Arterial	$4.5	$5.8	$31,808	1.5
Minor Arterial	$2.0	$3.8	$16,801	1.3
Collector	$0.5	$1.9	$10,327	1.5
Subtotal	**$17.5**	**$22.3**	**$31,294**	**1.7**
Subtotal, Rural and Urban	$32.1	$38.9	$13,872	1.7
Rural and Urban Local	$3.6	$9.9	$1,812	2.9
Total All Systems	**$35.7**	**$48.7**	**$5,914**	**1.9**
Funded by Federal Government	$19.0	$20.0	$2,428	0.8

Source: Highway Statistics 1997 and unpublished FHWA data.

Total 1997 highway capital expenditures by all levels of government amounted to $5,914 per lane-mile and 1.9 cents per VMT. Capital outlay per lane mile was highest for the higher-ordered systems, and was higher on urban roads than rural roads. Capital outlay per VMT ranged from 1.3 cents on urban minor arterials, to 2.8 cents on rural other principal arterials, to 2.9 cents on rural and urban local. On a cents per VMT basis, capital outlay for rural roads is 12 percent higher than on urban roads.

Capital Outlay by Improvement Type

States provide detailed data on direct State capital outlay on arterials and collectors, classifying expenditures on each functional system into 17 improvement types. These capital improvement types are combined in this report into three major groupings, System Preservation, System Expansion, and System Enhancement. Exhibit 6-13 shows how the $32.1 billion of direct State expenditures on arterials and collectors were assigned to these categories.

The Federal Government and local governments spent an estimated $6.8 billion on arterials and collectors. Detailed data on these expenditures are not available, so the combined $38.9 billion of capital outlay on arterials and collectors by all levels of government, was classified based on the State government expenditure patterns.

There is little information available on the types of improvement that are being made with the $9.9 billion invested by all levels of government in 1997 on local functional class roads. For the purposes of developing an estimate for the improvement type breakdown for the total $48.7 billion invested in 1997 on all systems, it was assumed that the expenditure patterns on the local functional class were roughly equivalent to those observed for arterials and collectors.

Q. **How are System Preservation, System Expansion, and System Enhancement defined?**

A. System preservation consists of capital improvements on existing roads and bridges, intended to preserve the existing pavement and bridge infrastructure. This would include reconstruction, resurfacing, pavement restoration or rehabilitation, widening of narrow lanes or shoulders, bridge replacement, and bridge rehabilitation. Also included is the portion of widening projects estimated to be related to reconstructing or improving the existing lanes. System preservation does not include routine maintenance costs.

System Expansion includes the construction of new roads and new bridges, as well as those costs associated with adding lanes to existing roads. This includes all "New Construction," "New Bridge," "Major Widening," and most of the costs associated with "Reconstruction-Added Capacity," except for the portion of these expenditures estimated to be related to improving the existing lanes of a facility. As used in this report, "System Expansion" is the functional equivalent to "Capacity Expansion" used in the 1997 C&P report. The term was modified, because some system preservation and system enhancement improvements may result in added capacity, without adding new lanes.

System Enhancement is equivalent to the "Other Improvements" category used in the 1997 C&P report. It includes safety enhancements, traffic operations improvements such as the installation of intelligent transportation systems, and environmental enhancements.

In 1997 an estimated $23.2 billion was spent on system preservation, 47.6 percent of total capital outlay on all systems. System preservation as defined in this report does not include routine maintenance. An additional $26.3 billion was expended during 1997 on maintenance and traffic services.

An estimated $7.6 billion (15.6 percent) of total capital outlay went for new roads and bridges in 1997. An additional $14.0 billion (28.8 percent) is estimated to have been used to add lanes to existing roadways. Frequently, when roads are widened, the existing lanes are repaired and enhanced as well. The portion of widening projects estimated to be attributable to work on the existing lanes is not included as part of system expansion in this report.

Exhibit 6-13

Highway Capital Outlay by Improvement Type, 1997 (Billions of Dollars)

	System Preservation	System Expansion		System Enhancement	Total
		New Roads & Bridges	Existing Roads		
Direct State Expenditures on Arterials and Collectors					
Right-of Way		0.9	1.5		2.4
Engineering	2.6	0.8	1.3	0.4	5.1
New Construction		3.1			3.1
Relocation			1.7		1.7
Reconstruction-Added Capacity	1.1		2.6		3.7
Reconstruction-No Added Capacity	1.0				1.0
Major Widening			1.8		1.8
Minor Widening	0.8				0.8
Restoration & Rehabilitation	2.5				2.5
Resurfacing	3.4				3.4
New Bridge		0.6			0.6
Bridge Replacement	1.7				1.7
Major Bridge Rehabilitation	1.5				1.5
Minor Bridge Work	0.7				0.7
Safety				1.2	1.2
Traffic Management/Engineering				0.4	0.4
Environmental and Other				0.5	0.5
Total, State Arterials & Collectors	**15.2**	**5.4**	**8.9**	**2.5**	**32.1**
Total, Arterials and Collectors, All Jurisdictions (estimated)*					
Highways and Other	13.7	5.3	11.2	3.1	33.2
Bridge	4.9	0.8			5.6
Total, Arterials and Collectors	**18.5**	**6.0**	**11.2**	**3.1**	**38.9**
Total Capital Outlay on all Systems (estimated)*					
Highways and Other	17.1	6.6	14.0	3.9	41.7
Bridges	6.1	1.0			7.0
Total, All Systems	**23.2**	**7.6**	**14.0**	**3.9**	**48.7**
Percent of Total	**47.6%**	**15.6%**	**28.8%**	**8.0%**	**100.0%**

*Improvement type distribution was estimated based on State Arterial and Collector data.

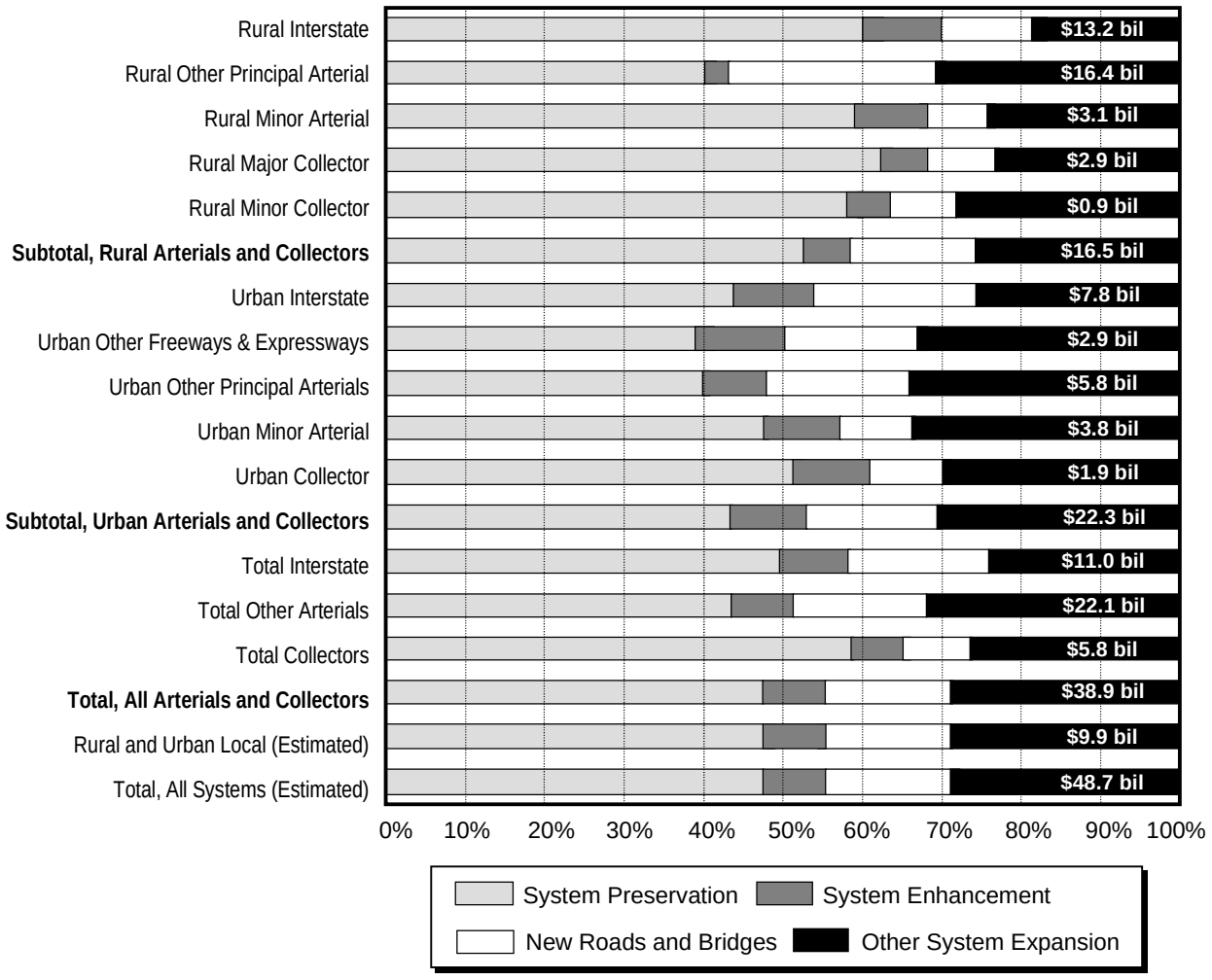
Sources: Highway Statistics 1997, Table SF12-A and unpublished FHWA data.

Capital Outlay by Functional Class and Improvement Type

Exhibit 6-14 shows there are significant variations in the types of capital expenditures made by States on different functional classes. The portion of capital outlay devoted to system preservation ranges from 39.0 percent on "other urban freeways and expressways" to 62.8 percent on rural major collectors. System preservation's share is generally higher on rural arterials and collectors (52.9 percent) than on those in urban areas (43.7 percent). The portion of capital outlay used for construction of new roads and bridges is highest on rural other principal arterials, at 24.9 percent. The portion of capital outlay used for other system expansion is highest on urban other principal arterials (34.8 percent). On other arterials generally, other systems expansion's share of total capital outlay is 32.0 percent, higher than its share on Interstate (23.9 percent) and collectors (26.3 percent).

Exhibit 6-14

Distribution of Capital Outlay by Improvement Type and Functional Class, 1997

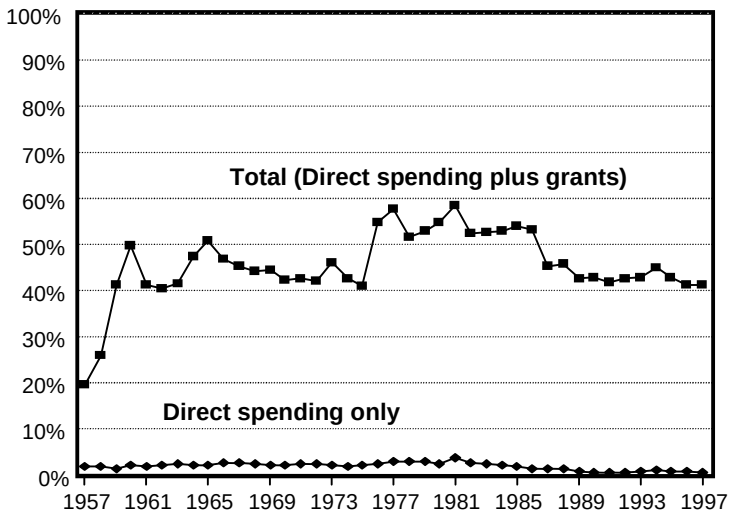


Highway Capital Outlay Expenditures - Trends

The Federal share of capital outlay exceeded 40 percent in 1959. It has remained above this level ever since, peaking at 58.3 percent in 1981. Since 1987, the Federal share has remained in a range of 41 to 46 percent. Since 1995, the Federal share has fallen from 42.6 percent to 41.1 percent. *[See Exhibit 6-15].*

Exhibit 6-15

Federal Share of Highway Capital Outlay, 1957-1997



The Federal share of capital outlay is expected to increase during the middle years of TEA-21, as Federal funding will rise significantly. Due to the nature of the Federal-aid highway program as a multiple-year reimbursable program, the impact of increases in obligation levels phases in gradually over a number of years. The largest percentage increases in cash expenditures for highways by the Federal Government are expected to occur in 1999, 2000, and 2001. Federal cash expenditures for highways are projected to increase in 2002 and 2003 as well, but at a slower pace. Based on these projections, the Federal share of capital outlay is likely to increase from 1998 through 2001, and then decline somewhat. The Federal share in 2003 may be higher than that of 1997, but that increase will depend on how quickly States and local governments elect to increase their own highway capital funding.

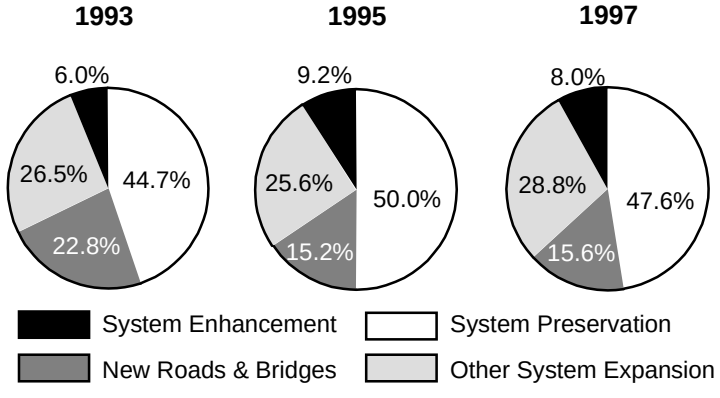
Cash expenditures from the Highway Account of the HTF were lower in 1998 than in 1997, so it appears that the Federal share of capital outlay will decline below the 41 to 46 percent range that has been observed since 1987. The Federal share is expected to return into that range for the 1999–2003 period.

Improvement Type Trends

The 1997 C&P report indicated that there had been a significant change in the distribution of capital improvements from 1993 to 1995, as capacity expansion declined as a percentage of the total, while the share used for system preservation and other improvements increased. This trend was partially reversed between 1995 and 1997, as expenditures for system expansion grew more quickly than those for system preservation or system enhancements. In 1997, 47.6 percent of capital outlay was used for system preservation, down from the 1995 level of 50.0 percent, but higher than the 44.7 percent in 1993. System enhancement's share (8.0 percent) declined from its 1995 peak (9.2 percent), but remains higher than the 1993 level (6.0 percent). *[See Exhibit 6-16]*

Exhibit 6-16

Distribution of Highway Capital Outlay by Improvement Type: 1993, 1995 and 1997



Expenditures for the construction of new roads and bridges had been falling steadily in recent years, both

in percentage terms and actual dollar amounts. The decline in actual dollar amounts stopped in 1996, and the decline in percentage terms stopped in 1997, as new construction's share of total capital outlay climbed to 15.6 percent from 15.2 percent in 1995. This is still well below the 22.8 percent in 1993. Expenditures for the expansion of existing roads increased to 28.8 percent of total capital outlay in 1997, up from 25.6 percent in 1995 and 26.6 percent in 1993.

Q. Do the changes seen between 1995 and 1997 signal the start of a new trend towards system expansion and away from system preservation?

A. This does not appear to be the case. Roadway preservation has grown as a percentage of total capital outlay. The decline in overall system preservation's share is caused by a decline in bridge preservation expenditures. The overall level of bridge expenditures was much higher in 1995 than in the preceding or following years. This appears to be the result of normal variation in the data, rather than the start of a new trend.

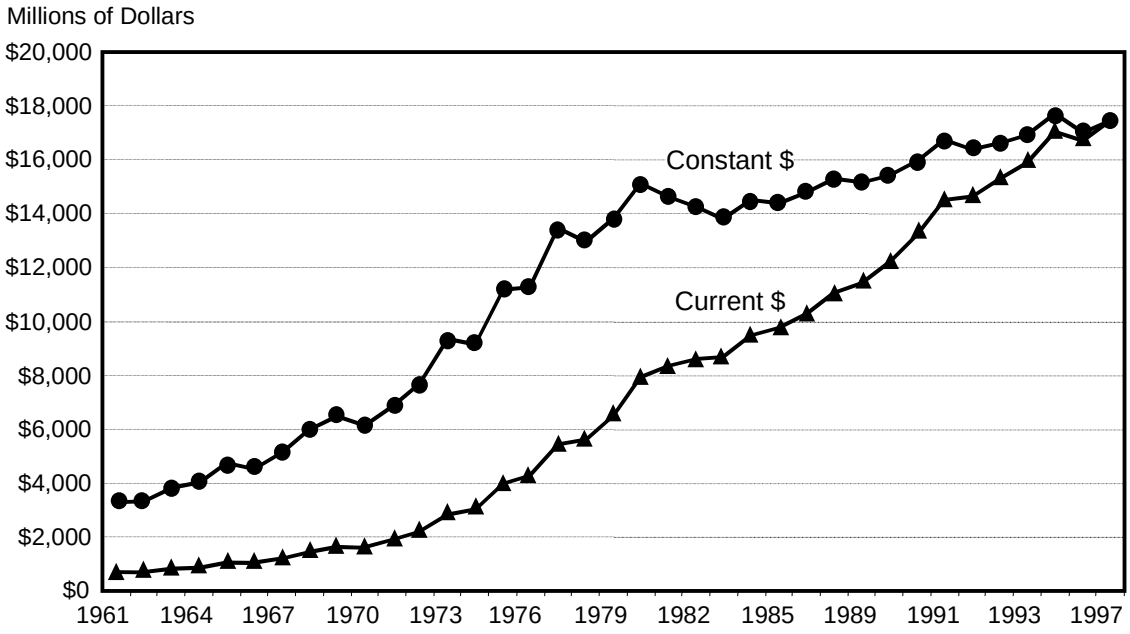
It is difficult to predict what changes in highway capital investment patterns may occur between 1997 and 2003 under the Transportation Equity Act for the 21st Century (TEA-21). This legislation gives States a great deal of flexibility to address their system deficiencies, and States are likely to pursue different investment strategies.

Public Funding

Public funding for mass transit in 1997 totaled $17.5 billion, representing a 2.4 percent increase in funding levels over 1995. From 1961 to 1997, public funding for transit increased at an average annual rate of 9.4 percent (4.8 percent in inflation-adjusted dollars); see Exhibit 6-17.

Exhibit 6-17

Public Transit Funding: Current and Constant (1997) Dollars, 1961-1997



As Exhibit 6-18 shows, however, this growth has not been constant over time, and has recently been lower than in the prior three decades (though it is higher than the 1980s when adjusted for inflation). As Exhibits 6-19 and 6-20 show, most of this increase in public spending over time has come at the State and local level, while Federal funding has remained relatively flat.

Exhibit 6-18

Average Annual Growth Rate in Public Funding for Transit

Years	Actual	Inflation-Adjusted
1960-69	10.2%	7.8%
1970-79	16.7%	9.4%
1980-89	4.9%	0.2%
1990-97	4.0%	1.3%

Exhibit 6-19

Public Funding for Transit by Government Jurisdiction, 1961-1997

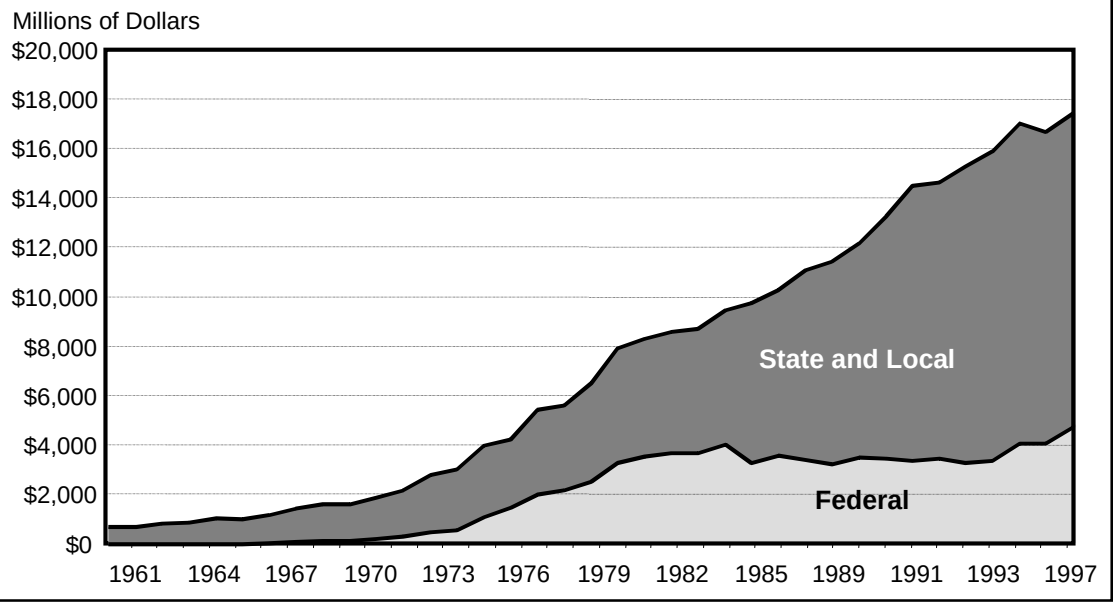


Exhibit 6-20

Public Funding for Transit by Government Jurisdiction Selected Years 1956-1997

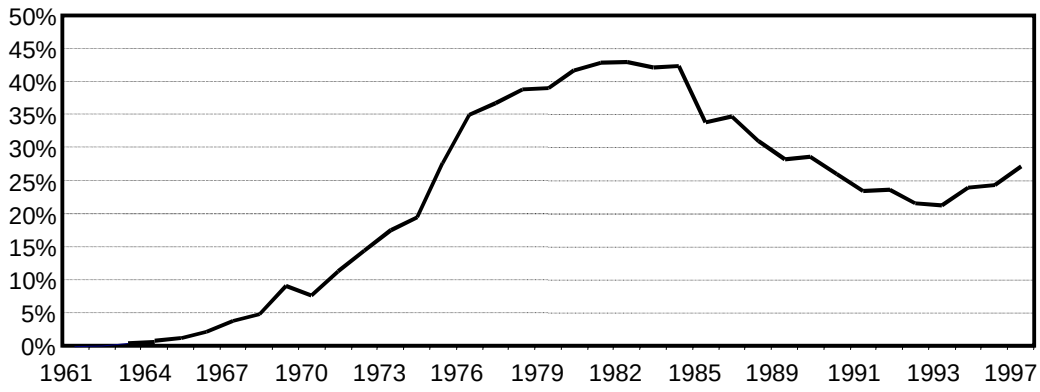
Year	Federal	State and Local	Total	Federal Share
1956	$0	$580	**$580**	0%
1960	$0	$683	**$683**	0%
1964	$6	$867	**$873**	1%
1968	$69	$1,384	**$1,453**	5%
1972	$316	$1,879	**$2,195**	14%
1976	$1,492	$2,780	**$4,272**	35%
1978	$2,177	$3,441	**$5,618**	39%
1980	$3,307	$4,617	**$7,924**	42%
1982	$3,693	$4,909	**$8,602**	43%
1984	$4,016	$5,469	**$9,485**	42%
1986	$3,589	$6,737	**$10,326**	35%
1988	$3,228	$8,220	**$11,448**	28%
1989	$3,491	$8,713	**$12,204**	29%
1990	$3,458	$9,823	**$13,281**	26%
1991	$3,395	$11,116	**$14,511**	23%
1992	$3,448	$11,195	**$14,643**	24%
1993	$3,297	$11,991	**$15,287**	22%
1994	$3,380	$12,522	**$15,902**	21%
1995	$4,082	$12,971	**$17,053**	24%
1996	$4,060	$12,643	**$16,703**	24%
1997	$4,742	$12,728	**$17,470**	27%

Source: Congressional Budget Office; National Transit Database.

Of the $17.5 billion in public funding in 1997, $4.7 billion, or 27 percent, came from the Federal government. This represented a slight increase from recent years, though it remains well below the peak of 43 percent reached in the early 1980s (Exhibit 6-21).

Exhibit 6-21

Federal Share of Public Funding for Transit, 1961-1997



Revenue Sources

Public funds continue to be the dominant source of funding for public transit, accounting for 67 percent of total revenues in 1997. The remainder is supplied by passenger fares (27 percent) and other system-generated revenues, such as advertising, concessions, and charter services (5 percent). Among public sources, general fund revenues continue to be the largest single source (19 percent), followed closely by motor fuel taxes and sales taxes. Smaller portions of revenue come from property, income, and other taxes, such as payroll or utility taxes. A significant portion of public funding continues to come from other non-tax sources, such as toll revenues and general transportation funds (Exhibit 6-22).

Exhibit 6-22

Revenue Sources for Transit Financing, 1997 (Millions of Dollars)

	Federal	State	Local	Total	Percent
Public Funds	**4,742**	**4,675**	**8,060**	**17,478**	**67.3%**
General Fund	901	1,871	2,086	4,858	18.7%
Fuel Tax	3,841	380	63	4,284	16.5%
Income Tax		129	71	199	0.8%
Sales Tax		552	3,275	3,827	14.7%
Property Tax		26	365	390	1.5%
Other Dedicated Taxes		667	295	962	3.7%
Other Public Funds		1,051	1,907	2,958	11.4%
System Generated Revenue				**8,477**	**32.7%**
Passenger Fares				7,127	27.5%
Other Revenue				1,350	5.2%
Total All Sources				**25,954**	**100.0%**

Source: Federal Transit Administration National Transit Database (NTD).

Capital Funding and Expenditures

Funding for capital projects for mass transit in the U.S. continues to come entirely from public sources. In 1997 these expenditures totaled $7.6 billion dollars, a sharp increase over 1995, which in turn was a substantial increase over prior years. Unlike the 1995 increase, however, which came about due to increases in both Federal and State funding, the 1997 increase was due primarily to an increase in Federal assistance for capital projects. This is reflected in an increase in the Federal share of capital funding to 54 percent, up strongly after falling from 58 percent to 42 percent from 1990 to 1993 (Exhibit 6-23).

Exhibit 6-23

Sources of Transit Capital Funds, 1990-1997 (Millions of Dollars)

	1990	1991	1992	1993	1994	1995	1996	1997
Federal	$2,636	$2,545	$2,599	$2,383	$2,518	$3,314	$3,506	$4,138
Federal Share	*58%*	*50%*	*49%*	*42%*	*45%*	*47%*	*50%*	*54%*
State	$645	$638	$778	$1,317	$1,006	$989	$895	$1,007
Local	$1,255	$1,914	$1,906	$2,033	$2,075	$2,706	$2,553	$2,492
Total	**$4,536**	**$5,097**	**$5,283**	**$5,733**	**$5,598**	**$7,008**	**$6,955**	**$7,636**

Source: Federal Transit Administration National Transit Database (NTD).

Types of capital expenditure include rolling stock (buses, rail cars, locomotives), facilities (maintenance facilities, terminals and stations, fixed guideway systems), and other expenditures (service vehicles, administrative facilities). Of the $7.6 billion in capital expenditures on transit in 1997, nearly two-thirds was spent on rail modes (commuter rail, heavy rail, light rail, etc.), with 30 percent going to bus systems and the remainder being spent on other modes. Among types of capital expenditures, facilities, including fixed guideway systems, were by far the largest expense, at roughly double the amount spent on rolling stock (buses, train cars, etc.). Differences do appear, however, in the type of capital expenditures made on different modes. For rail systems, facilities are by far the largest expense, at $3.6 billion, or 71 percent of total capital expenditures. For bus and other transit modes, however, expenditures on rolling stock are the dominant type of capital cost (Exhibit 6-24). These differences primarily reflect the reliance of rail modes on independent, fixed guideway systems, whereas buses, vanpools, and demand response vehicles are able to share the roadways with private vehicles.

Exhibit 6-24

Transit Capital Expenditures by Type of Expenditure, 1997 (Millions of Dollars)

	Rolling Stock	Facilities	Other Capital	Total Expenditure	Percent
Rail	$882	$3,556	$599	$5,037	66%
Bus	$1,154	$748	$380	$2,282	30%
Other	$201	$92	$24	$317	4%
Total	**$2,237**	**$4,395**	**$1,004**	**$7,636**	
Percent	29%	58%	13%		

Source: Federal Transit Administration National Transit Database (NTD).

Operations Expenditures

Total expenditures for transit operations in 1997 were $17.5 billion. This represents a 5.7 percent increase relative to 1995 levels (1.6 percent in inflation-adjusted dollars), and a continuation of the general upward trend in operating expenditures over the last decade. The recent increase was due primarily to sharp increases in operating costs for bus, demand response, and light rail (Exhibit 6-25). Bus transportation continues to be the largest generator of operating costs at $9.8 billion, or more than half of total operating expenditures. Heavy rail and commuter rail systems also continue to have high operating expenditures. In the interest of data comparability, it should be noted that the figures for 1995 reflect corrected expenditure numbers, and are thus slightly higher than those listed in the 1997 Conditions and Performance Report.

Exhibit 6-25

Mass Transit Operating Expenses by Mode, 1988-1997 (Millions of Dollars)

Year	Bus	Heavy Rail	Commuter Rail	Light Rail	Demand Response	Other	Total
1988	$6,995	$3,524	$1,889	$197	$252	$261	**$13,118**
1989	$7,295	$3,704	$2,068	$209	$323	$284	**$13,883**
1990	$7,779	$3,825	$2,157	$236	$386	$323	**$14,706**
1991	$8,330	$3,841	$2,175	$290	$443	$325	**$15,404**
1992	$8,625	$3,555	$2,170	$307	$500	$342	**$15,499**
1993	$8,866	$3,669	$2,203	$314	$561	$358	**$15,971**
1994	$9,168	$3,786	$2,353	$412	$712	$401	**$16,832**
1995	$9,247	$3,523	$2,211	$375	$757	$415	**$16,528**
1996	$9,324	$3,402	$2,294	$440	$849	$440	**$16,748**
1997	$9,777	$3,474	$2,278	$471	$1,009	$454	**$17,462**

Source: Federal Transit Administration National Transit Database (NTD).

Exhibit 6-26 breaks expenditures down by mode and function. Vehicle operations continue to be the largest expense category for each mode, and represent 50 percent of total operating costs. For rail modes, however, vehicle operations are just over 40 percent, while they are greater than 50 percent for each non-rail mode. Vehicle maintenance remains the second largest expenditure category, at 20 percent, while non-vehicle maintenance is 11 percent. The percentage expenditures on non-vehicle maintenance for rail modes is much higher than for other modes however, at 17 to 27 percent, reflect-

Exhibit 6-26

Disbursements for Transit Operations - All Modes by Function, 1997 (Millions of Dollars)

Mode	Vehicle Operations		Vehicle Maintenance		Non-Vehicle Maintenance		General Administration		Purchased Transportation		Total	
Bus	$5,328	54%	$2,008	21%	$394	4%	$1,691	17%	$355	4%	$9,777	100%
Heavy Rail	$1,448	42%	$570	16%	$921	27%	$534	15%	$0	0%	$3,474	100%
Commuter Rail	$927	41%	$549	24%	$395	17%	$403	18%	$3	0%	$2,278	100%
Light Rail	$195	41%	$106	23%	$92	20%	$78	17%	$0	0%	$471	100%
Demand Response	$550	55%	$111	11%	$19	2%	$192	19%	$137	14%	$1,009	100%
Other	$283	62%	$79	18%	$31	7%	$56	12%	$4	1%	$454	100%
Total	$8,731	50%	$3,424	20%	$1,853	11%	$2,956	17%	$499	3%	$17,462	100%

Source: Federal Transit Administration National Transit Database (NTD).

ing these modes' use of fixed guideways and their attendant maintenance needs. General maintenance expenditures capture 17 percent of operating costs in the aggregate, a figure that is generally consistent across modes.

Purchased transportation expenses are those incurred when a local transit authority contracts with an outside firm or agency to provide transit service. In past years, the National Transit Database reported these expenses as a separate category in the data tables. In the 1997 Database, however, purchased transportation expenses are disaggregated by expense category, allowing a more accurate accounting in this report. The figures presented here as "purchased transportation" are only for those contractors who file a separate report, and comprise just 3 percent of overall operating expenses. Overall, however, purchased transportation represents 10 percent of total operating expenses (including the amounts listed here by expense category). The percentage is especially high for demand response (68 percent of expenditures), reflecting the extensive use of contracting for such services.