GAO
Accountability * Integrity * Reliability

United States General Accounting Office
Washington, D.C. 20548

June 18, 2003

The Honorable Harry Reid
Ranking Member, Subcommittee on Transportation
and Infrastructure
Committee on Environment and Public Works
United States Senate

Subject: *Trends in Federal and State Capital Investment in Highways*

Amid projections that freight traffic will increase 65 percent by 2020 and that traffic congestion will worsen, many transportation officials are concerned about the challenge of maintaining and improving the condition and performance of the nation's highway infrastructure. In 1998, the Transportation Equity Act for the 21st Century (TEA-21) increased funding for highways by 27 percent in real terms over the previous surface transportation authorization act--the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).[1] Nevertheless, the Federal Highway Administration (FHWA) estimates that the nation will need to spend about $76 billion—or 18 percent more than it spent in 2000—each year through 2020 to maintain the average conditions and performance of the nation's highways and bridges, and about $107 billion or 65 percent more than it spent in 2000 to efficiently improve the highway system.[2] These projections raise concerns because both the federal government and state governments are facing budget deficits in the years ahead, totaling hundreds of billions of dollars.

As you prepare to reauthorize TEA-21 and establish funding levels for the next several years, you asked us to provide historical information on the nation's investment in its highway infrastructure. In particular, you asked that we (1) identify overall trends in the nation's capital investment in its highway system over the past 20 years, particularly since the enactment of TEA-21 in 1998—and compare the trends in federal spending with the trends in state and local government spending; (2) determine how these trends in highway capital investment compare with the fiscal capacity of both the nation and individual states to fund these programs, particularly

[1]Based on a comparison of authorization levels for Title 1 programs in ISTEA and TEA-21 shown in FHWA's *Financing Federal-Aid Highways*. We adjusted the authorizations to 2001 dollars using gross domestic product (GDP) deflators.

[2]FHWA projections are based in 2000 dollars.

since the enactment of TEA-21 in 1998; and (3) provide information on sources of funds used by states for their highway programs. On June 10, 2003, we briefed your office on the results of our work. Enclosure I presents our briefing slides. This report summarizes the briefing, and a subsequent report will discuss your request to analyze the fiscal effects of federal highway grants on state and local highway investment. In addition, a special publication entitled *Trends in State Capital Investment in Highways*, providing spending trends by state, is available on the Internet at http://www.gao.gov/cgi-bin/getrpt?gao-03-915sp.

To respond to your request, we reviewed data from FHWA's *Highway Statistics* for the period from 1982 through 2001, adjusting expenditures to 2001 dollars. We also compared expenditures with the nation's gross domestic product (GDP) and the gross state products (GSP) of individual states[3] and interviewed transportation officials in 10 states. We performed our work from August 2002 through May 2003 in accordance with generally accepted government auditing standards. Our scope and methodology is discussed in more detail later in this report.

Background

Although the states, with support from localities, are primarily responsible for capital projects on the nation's highways, federal funding provides a significant amount of the financing for these capital investments. Federal funding is made available to the states through apportionments from FHWA at the start of each fiscal year, based on formulas provided in law.[4] With few exceptions, the funds that the federal government provides for highways must be matched by funds from other sources—usually state and local governments. The funding requirement for most federal highway programs is 80 percent federal and 20 percent state funding. In addition to

[3]GDP is a measure of all income earned within the domestic economy, providing a convenient measure of the nation's aggregate purchasing power, including the ability to fund public services such as highways. GSP provides a similar measure of income earned within individual state economies. In evaluating other "formula-based" programs, GAO has used the Department of Treasury's Total Taxable Resources (TTR) as a measure of states' funding ability because it provides a more comprehensive measure of potentially taxable income by including both state GSP and income earned by state residents from out-of-state sources. However, we did not use Treasury's TTR because it was not consistently available for all the years in our trend analysis.

[4]For highway programs that do not have apportionment formulas, funds are distributed through allocations to states with qualifying projects.

matching federal funds, states and localities raise funds to invest in highway capital projects as well as to maintain existing roadways.

Summary

The following summarizes our results.

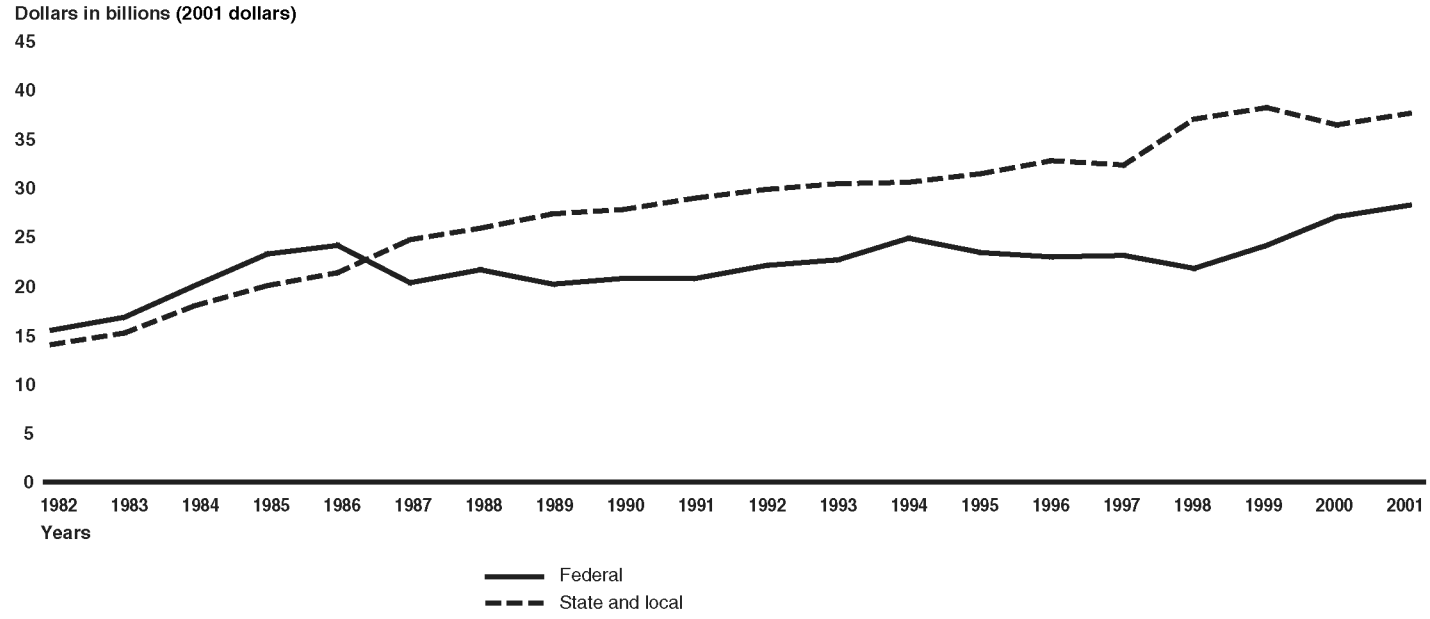
Capital Investment in the Highway System

- The nation's capital investment in its highway system has more than doubled in real terms over the past 20 years.
  - From 1982 through 2001, federal and state and local government investment increased 123 percent from $29.6 billion to about $66.0 billion in 2001 dollars.[5] During the period following enactment of TEA-21 in 1998, total capital investment increased 19 percent, from $55.5 billion in 1997, the last year under ISTEA, to $66.0 billion in 2001.
  - While the nation's total capital investment more than doubled, state and local highway capital investment increased at twice the rate of federal investment over the past 20 years. Specifically, state and local investment increased 166 percent from $14.1 billion to $37.6 billion in real terms, whereas the federal investment increased 83 percent from $15.5 billion to $28.3 billion.[6] (See fig. 1).

[5]All dollar figures cited in this report are in 2001 dollars unless otherwise noted.

[6]Unless otherwise noted, investment represents outlays or spending on highway capital investment.

Figure 1: Federal and State and Local Highway Capital Investment, 1982-2001

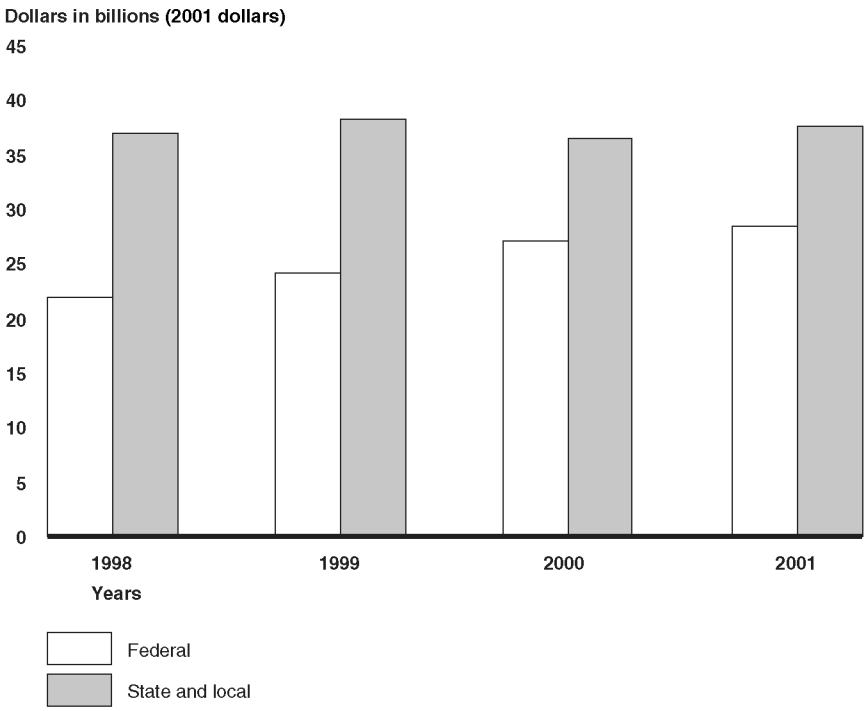


Source: GAO analysis of FHWA data.

- During the period following enactment of TEA-21 in 1998, federal investment increased faster than state and local investment. Federal investment increased 23 percent in real terms from $23.1 billion in 1997, the last year under ISTEA, to $28.3 billion in 2001, while state and local investment increased 16 percent from $32.4 billion to $37.6 billion during this time.

- However spending patterns were not consistent over this period. Federal expenditures declined in 1998 despite the substantial increase in TEA-21 authorizations because TEA-21 was enacted in June 1998, and most of the federal funding authorized under TEA-21 was not expended until 1999 or later. As a consequence, federal spending in 2001 was 29 percent higher than its 1998 level of $21.9 billion. As shown in figure 2, state and local investment remained relatively constant during this time—increasing 2 percent in real terms from $37.0 billion in 1998 to $37.6 billion in 2001.

Figure 2: Annual Federal and State and Local Highway Capital Investment during TEA-21



Source: GAO analysis of FHWA data.

- The slower rate of increase in state and local investment during recent years may continue. The National Governors Association and the National Conference of State Legislatures recently reported that states face estimated budget shortfalls ranging from $65 billion to $80 billion (in current dollars) for fiscal year 2004. Transportation officials from most of our 10 selected states said that their state's declining financial condition could result in decreased spending on highways. In addition, a January 2003 survey done for the National Association of Counties, found that the local governments are also facing revenue shortfalls. Seventy-two percent of the 715 counties responding to the survey are experiencing shortfalls in revenues, and of that 72 percent, one in four are considering cutbacks in highway construction spending to address those shortfalls. Highway construction was cited by more counties as a candidate for budget

reductions than any other category of spending, including health care, schools, law enforcement, and parks.

Investment Compared to Fiscal Capacity

- Although the nation's highway investment has increased, the nation's "level of effort" on highway capital spending—that is, investment relative to fiscal capacity, as measured by GDP—has remained relatively steady.

  - This relatively constant level of effort is due to increases in state and local investment that offset decreases in federal investment per GDP over the past 20 years. As noted previously, however, during the TEA-21 period, federal investment increased faster than state and local investment.

  - There is considerable variation in the level of effort among states. During the 1982 to 1986 time period[7], state and local governments spent an average of $2.96 per $1,000 of GSP on highways, but individual state spending ranged from a high of $7.73 to a low of $1.21, per $1,000 of GSP. By the 1997 to 2000 time period, the average state and local government spending increased to $3.76 per $1,000 of GSP, while the range across individual states also widened—to a high of $9.96 and a low of $1.11 per $1,000 of GSP.

  - In addition, there is wide movement in the states' relative levels of effort over time. For example, no state consistently ranks highest in level of effort over time. The state with the highest level of effort in terms of state and local funding as related to gross state product in the 1982 to 1986 time period ranked 12th in the 1997 to 2000 time period. The changes in states' levels of effort occurred, in part, because of fluctuations in the funding available for each state's highway program. Factors affecting fluctuations in the funding available for individual state highway programs include rapid changes in revenues stemming from increases in gas tax rates, changes in available funds resulting from issuing or retiring debt, and

[7]To analyze 50 states over a 19-year period, we broke down the 19 years from 1982 through 2000 into four time periods. The early part of the time period covers 1982 through 1986. The most current time period covers 1997 through 2000. This analysis does not include 2001 data because 2001 local expenditure data are not yet available at the state level.

the beginning or completion of large capital projects. For example, Utah moved from 28th place in the 1982 to 1986 time period to 1st place in the 1997 to 2000 time period. The funding that the state invested in its reconstruction of I-15 for the 2002 Winter Olympics likely influenced this large increase in level of effort.

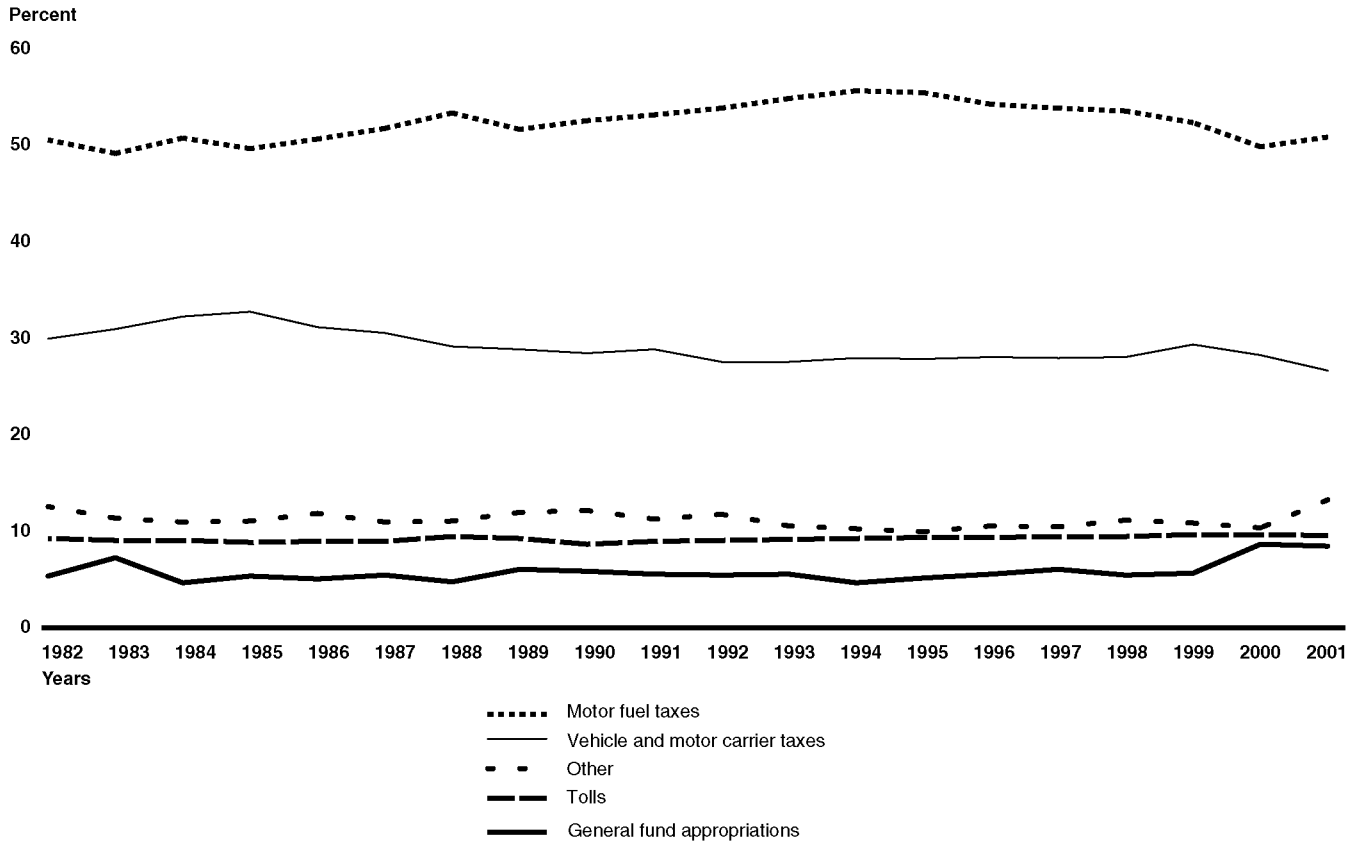
- We have begun to examine what factors, including state demographic and other characteristics and the level of federal grants, may affect states' levels of effort. For example, our initial analysis comparing state characteristics to levels of effort indicates that, over roughly the last 20 years, certain characteristics, such as motor fuel tax revenues, may be generally related to states' levels of effort, while other characteristics, such as the number of licensed drivers and registered vehicles, do not appear to be related to states' levels of effort.[8] Our subsequent report will more closely examine the relationship between states' levels of effort and selected demographic and other state characteristics, as well as the fiscal effects of federal grants.

State Sources of Funding for Highways

- Taxes on motor fuels, such as gasoline and diesel, have been the primary source of state highway funding. In addition to motor fuel taxes, states use revenues from other sources for highway projects, including vehicle and motor carrier taxes, tolls, and general fund appropriations. (See fig. 3).

[8]See scope and methodology section for a more complete explanation of the correlation analysis we performed.

Figure 3: Percentage of State Highway Funding by Source - National Totals

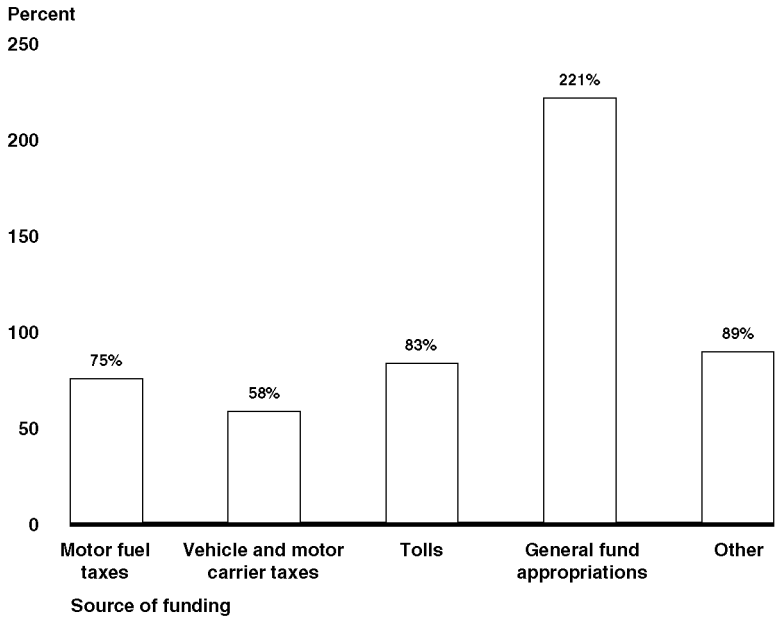


Source: GAO analysis of FHWA data.

Note: Excludes federal grants, bond proceeds, and sinking fund interest earned.

- Over the past 20 years, state revenues for highways have increased 78 percent from $33.4 billion to $59.4 billion in real terms. State motor fuel tax revenues increased 75 percent from $16.4 billion in 1982 to $28.7 billion in 2001. Revenues from other funding sources increased at a greater rate than motor fuel taxes during this period. For example, the use of general funds for highways increased over 220 percent, from $1.3 billion to $4.1 billion, while toll revenues increased 83 percent, from $2.6 billion to $4.7 billion over the 20-year period. (See fig. 4).[9]

Figure 4: Percentage Increases in Funding Sources for Highways, from 1982 through 2001



Source: GAO analysis of FHWA data.

Note: Excludes federal grants, bond proceeds, and sinking fund interest earned.

- Although gas tax rates are not a complete measure of what a state invests in its highways, these rates illustrate the variation that occurs over time in a state's sources of highway funding, as well as in a state's highway expenditures. Between 1982 and 2001, gas tax rates for 39 states increased in real terms, while gas tax rates for 12 states decreased in real terms—ranging from an increase of 140 percent, to a decrease of 40 percent. During this time the federal gas tax rate increased 176 percent—a greater percentage increase than any of the states' increases. However, this information should be viewed with caution because results could be different depending on the years selected. For example, by selecting 1983 instead of 1982 as the first year of the analysis, the federal gas tax rate increase would be about 28 percent—less than the increases of 14 states—because the federal

[9]We did not include debt financing in this figure because bonds are not a source of additional funds; rather, they are repaid from the sources of funds shown in this figure.

gas tax rate more than doubled in April 1983. These results should also be viewed with caution because some states that increased their rates substantially may have had low gas tax rates in 1982. For example, while Texas had the largest percentage increase among the states, having more than doubled its gas tax rate in real terms from 1982 to 2001, Texas also had the lowest tax rate in 1982.

- Although states primarily pay for highway projects with federal grants and state revenues, states have increasingly used debt financing to fund highway projects from 1982 through 2001. The funding for highways available from bonds increased over 270 percent from about $2.5 billion to almost $9.4 billion in real terms during this 20-year period.

Scope and Methodology

To identify trends in highway capital investment for federal, state, and local governments, we used data on expenditure and vehicle miles traveled from FHWA's Highway Statistics for the period 1982 through 2001,[10] adjusting expenditures to 2001 dollars using the state and local highway price index estimated by the Bureau of Economic Analysis (BEA) of the Department of Commerce. The adjusted expenditures using the BEA index will be slightly different from expenditures calculated by FHWA using its bid-price index because BEA adjusts the FHWA bid-price index. We used BEA's index because it uses a 12-quarter phasing pattern that more consistently captures expenditure patterns for capital highway projects. We assessed the reliability of the data by electronic testing and by reviewing documentation and reports. Although transportation officials consider FHWA's Highway Statistics as the best available national source of highway capital expenditure data for statistical purposes, it does have some reported limitations. For example, according to FHWA officials, states are required to provide data for their local governments' highway funding every other year and are encouraged to use sampling in developing reported data. Thus local data are estimated to some degree by either states estimating reported local data or FHWA estimating local data when they are not reported by the states. In addition, there is not a standard reporting year. Therefore, states report data for different types of years—for example,

[10]In a few instances, FHWA's *Highway Statistics* does not provide capital expenditure data for state or local governments for certain states and years. In these instances, we estimated capital expenditures based on the trend in expenditures over time for those state or local governments.

calendar years and state fiscal years. Finally, the types of projects that the federal government classifies as capital projects have changed over time; hence, there may not be consistency in the data. However, we concluded that the data were sufficiently reliable for our purposes. Although not a limitation of the collected data, direct state and local capital expenditures are not reported separately. We therefore subtracted federal funding from total capital expenditures to approximate state and local expenditures. In addition, although we examined investment or expenditure trends, we did not examine what improvements in the condition or performance of the highway system resulted from these expenditures.

To compare trends in capital investment with the fiscal capacity of the nation and individual states, we compared expenditures with GDP and GSP for 1982 through 2001, adjusting expenditures and GSP as appropriate. We also used data from the Bureau of the Census on state and local government finances to compare highway expenditures with other state expenses. FHWA officials state that the Census Bureau uses a narrower definition of what is included in highway expenditures than the FHWA. However, Census data provides a basis for comparing state and local governments' highway expenditures to their other program expenditures over time. To obtain examples of how state departments of transportation determine their highway expenditures levels, we conducted telephone interviews with officials from 10 state highway transportation offices—Alaska, California, Illinois, Montana, Nevada, New Mexico, Oklahoma, Vermont, West Virginia and Wisconsin. We selected these states on the basis of a variety of factors, including their level of highway capital expenditures per gross state product, geographic location, population, vehicle miles traveled, and percentage of federally owned land area. Furthermore, to identify state characteristics that are linked with levels of effort across all states, we performed a correlation analysis that examined the linear relationship between level of effort and individual state characteristics in concurrent years. Our analysis considered these associations singly. However, there may be more complex interactions that exist when considering the relationships simultaneously.

Finally, to identify state sources of funds used for highway investments from 1982 through 2001, we reviewed data from FHWA's *Highway Statistics* on sources of revenue and adjusted the revenues to 2001 dollars using the general GDP index estimated by the BEA of the Department of Commerce.

We performed our work from August 2002 through May 2003 in accordance with generally accepted government auditing standards.

Agency Comments and Our Evaluation

We provided a draft of this report to DOT for its review and comment. DOT officials generally agreed with the information in the report, and they also provided technical comments, which we incorporated in the report as appropriate.

This is the first of two reports responding to your request concerning federal and state and local investment in our nation's surface transportation system. We plan to issue a second report in early 2004 addressing your remaining question on how federal funding influences state and local investment in our nation's highway system.

As we agreed with your office, unless you publicly announce the contents of this report earlier, we plan no futher distribution of it until 30 days from the date of this letter. We will send copies of this report to cognizant congressional committees; the Secretary of Transportation; and the FHWA Administrator. The report will also be available on GAO's home page at http://www.gao.gov. In addition, a special publication entitled *Trends in State Capital Investment in Highways*, providing spending trends by state, is available on the Internet at http://www.gao.gov/cgi-bin/getrpt?gao-03-915sp.

If you or your staff have any questions about this report, please contact me at heckerj@gao.gov or Steve Cohen at cohens@gao.gov. Alternatively, we can be reached at (202) 512-2834. Major contributors to this report were

Jay Cherlow, Catherine Colwell, Gregory Dybalski, Jerry Fastrup, Donald Kittler, Alexander Lawrence, John Mingus, Sara Ann Moessbauer, and Eric Tempelis.

Sincerely yours,

JayEtta Z. Hecker
Director, Physical Infrastructure Issues

Enclosure

Enclosure

Federal and State Highway Funding Trends and Levels of Effort

Briefing for the Ranking Member,
Senate Committee on Environment
and Public Works, Subcommittee on
Transportation and Infrastructure
June 10, 2003

Objectives

- Identify trends in capital investment in the nation's highway system, and compare federal trends with state and local trends over the past 20 years, particularly since the enactment of TEA-21.
- Determine how these trends in highway capital investment compare with the fiscal capacity of both the nation and individual states to fund these programs, particularly since the enactment of TEA-21.
- Provide information on sources of funds for state highway programs.

2

GAO
Accountability * Integrity * Reliability

Scope and Methodology

- Reviewed federal, state, and local highway capital investments over the 20-year period (1982-2001).
  - Obtained historical expenditure and funding data, primarily from FHWA's *Highway Statistics,* and adjusted data to 2001 dollars.
  - Obtained other relevant trend data, including vehicle miles traveled from *Highway Statistics*.
  - Obtained Census Bureau data on state and local government expenditures, in order to relate highway expenditures to state and local government spending.
- Interviewed transportation officials from 10 states.
  - The selected states are Alaska, California, Illinois, Montana, Nevada, New Mexico, Oklahoma, Vermont, West Virginia, and Wisconsin.
  - Factors used to select these states included their level of highway capital expenditures relative to gross state product, geographic location, population, vehicle miles traveled, and percentage of federally owned land area.
- Examined investment trends, but not the effect of the trends on performance of the highway system.

Summary

- Total highway capital funding in the country has increased over the past 20 years.
- States and localities are investing more than the federal government, although growth in state and local investment has slowed since TEA-21 was enacted.
- The nation's level of effort (highway investment related to fiscal capacity) has remained relatively steady; however, the levels of investment by different levels of government and individual states have varied over time.

4

GAO

Accountability * Integrity * Reliability

Investment in Highway Infrastructure by Levels of Government

This section

- Summarizes trends in capital investment in the nation's highway system, including expenditures and expenditures relative to vehicle miles traveled over the past 20 years, particularly during the TEA-21 period, and

- Compares federal trends with state and local trends over the past 20 years, particularly during the TEA-21 period.

Total Highway Capital Investment

As shown in the following chart:

- The nation has more than doubled its investment in highways—an increase of 123 percent or $36.4 billion in real terms over the 20-year period, from 1982 to 2001.

- While investment has trended upward throughout the 20-year period, there have been periods of larger increases—during the early 1980s and the late 1990s.

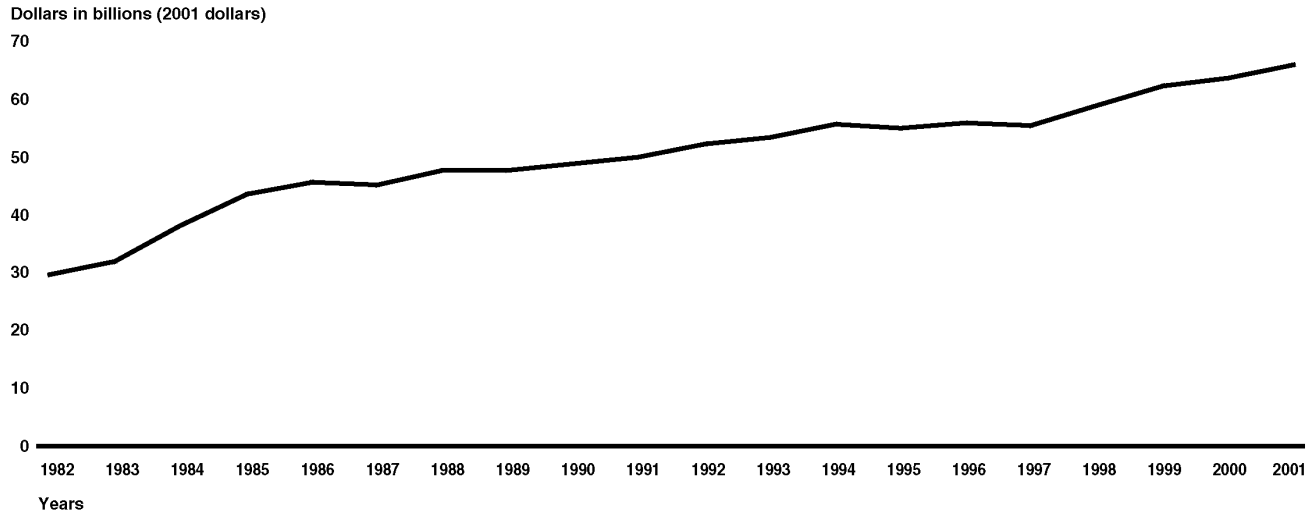
- During the TEA-21 period, 1998 through 2001, total highway capital investment increased 19 percent, from $55.5 billion in 1997, the last year of ISTEA to $66.0 billion in 2001.

  Note: The calculation of percent change over the TEA-21 period is compared to 1997 expenditures.

6

GAO
Accountability * Integrity * Reliability

Total Highway Capital Expenditures by All Levels of Government



Source: GAO analysis of FHWA data.

7

GAO
Accountability * Integrity * Reliability

Highway Capital Expenditures by Levels of Government

As shown in the following chart:

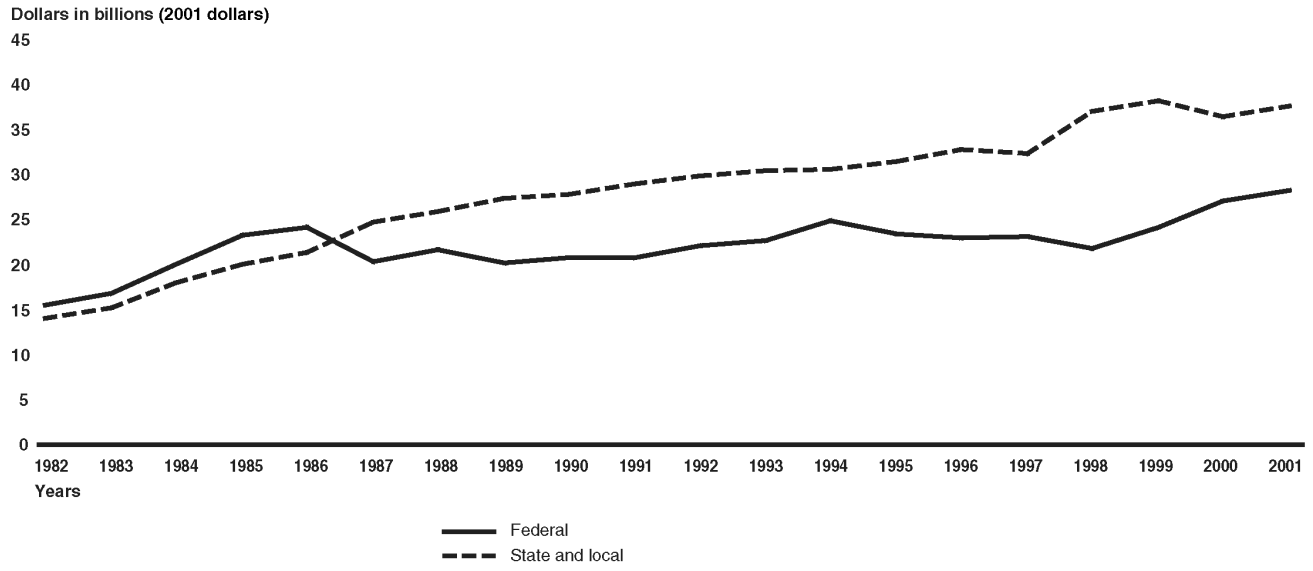
- States and localities together are investing more in highways than the federal government.
- From 1982 though 1986, the federal government spent more than state and local governments on highway capital projects; however, state and local governments' capital spending began to exceed federal spending in 1987.
- In real terms, state and local capital spending increased at a much greater rate (166 percent) than federal capital spending (83 percent) from 1982 through 2001. State and local capital spending increased from $14.1 billion to $37.6 billion in real terms, while federal capital spending increased from $15.5 billion to $28.3 billion in real terms.

Note: The roles and responsibilities of localities for highway capital investment vary among states, according to the relationship with its localities. Since localities contribute different levels of funding in different states, our analyses combine state and local expenditures for uniformity.

8

GAO
Accountability * Integrity * Reliability

Highway Capital Expenditures by Levels of Government



Source: GAO analysis of FHWA data.

9

Annual Federal and State and Local Highway Capital Investment During TEA-21

- During the TEA-21 period (1998-2001), federal investment increased faster than state and local investment in real terms.

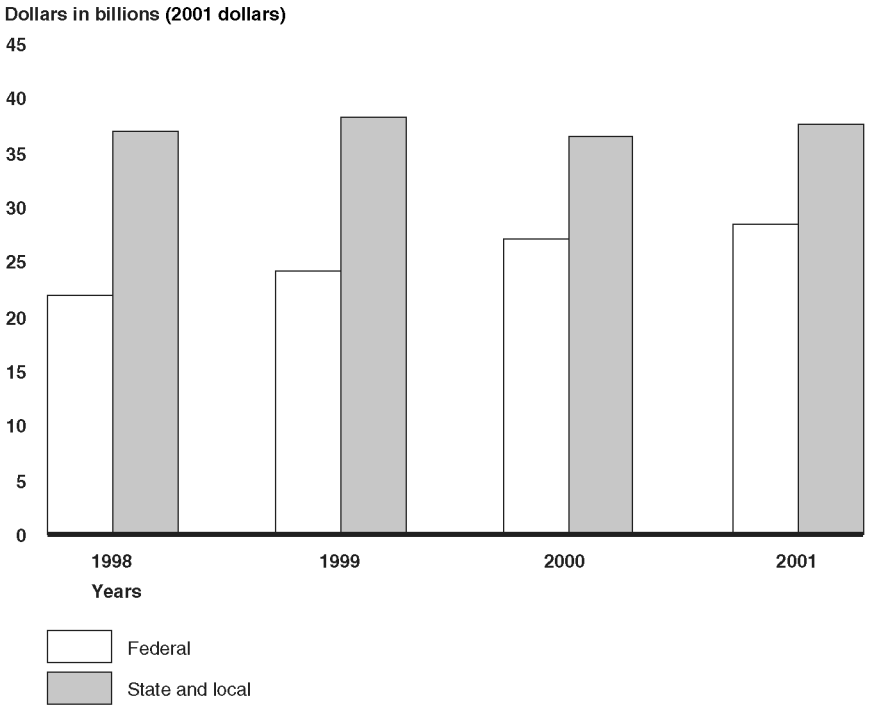
- During the TEA-21 period from 1998 through 2001,
  - Federal investment increased 23 percent, from $23.1 billion in 1997--the last year of ISTEA--to $28.3 billion in 2001, while
  - State and local investment increased 16 percent from $32.4 billion in 1997 to $37.6 billion in 2001.

- However, spending trends have not been consistent since TEA-21 was enacted. Federal expenditures decreased from 1997 to1998, despite the large increase in funding authorized by TEA-21. This decrease was likely due to the midyear passage of TEA-21 in June 1998 and the amount of time it takes states to obligate and spend capital project funds.

- As a result, as shown in the following chart,
  - Federal investment was 29 percent higher in 2001 than its 1998 level of $21.9 billion, while
  - State and local investment increased 2 percent from its 1998 level.

GAO
Accountability * Integrity * Reliability

Annual Federal and State and Local Highway Capital Investment during TEA-21



Source: GAO analysis of FHWA data.

11

Future Expenditure Trends

- States may face difficulties maintaining their levels of investment, given poor economic conditions.
  - The National Governors Association and the National Conference of State Legislatures estimate that states will face between $65 billion and $80 billion current dollars in budget shortfalls in fiscal year 2004.
  - State transportation officials from 6 of 10 selected states said that their states' financial condition may result in decreases in their highway funding levels and their ability to complete highway projects.
  - A survey done for the National Association of Counties in 2003 found that local governments are also facing revenue shortfalls. One in four of the 72 percent of the counties experiencing shortfalls are considering cutbacks in highway construction spending to address those shortfalls.

12

Total Highway Capital Expenditures by All Levels of Government, per Vehicle Miles Traveled

Comparing capital expenditures to vehicle miles traveled (VMT) provides one possible measure of whether highway capital expenditures are keeping pace with highway use.

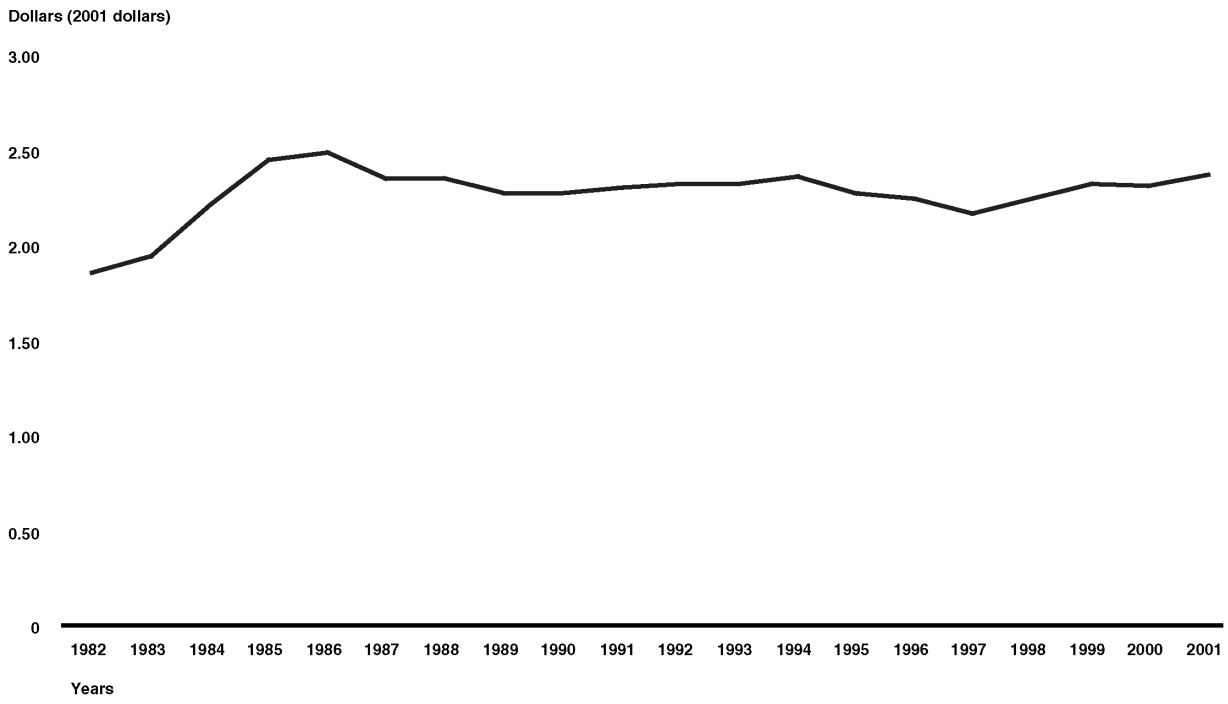
As shown in the following chart:

- Highway capital spending by all levels of government in real terms kept pace with the volume of vehicle traffic nationwide over 20 years and increased after the passage of TEA-21.
- In 2001, the nation spent $2.37 on highways for every 100 VMT.
- Over the 20-year period there was over a 27 percent increase.
- During the TEA-21 period there was a 9 percent increase.

13

GAO
Accountability * Integrity * Reliability

Total Highway Capital Spending by All Levels of Government, per 100 VMT



Source: GAO analysis of FHWA data.

14

Capital Expenditures for Highways, per VMT, by Level of Government

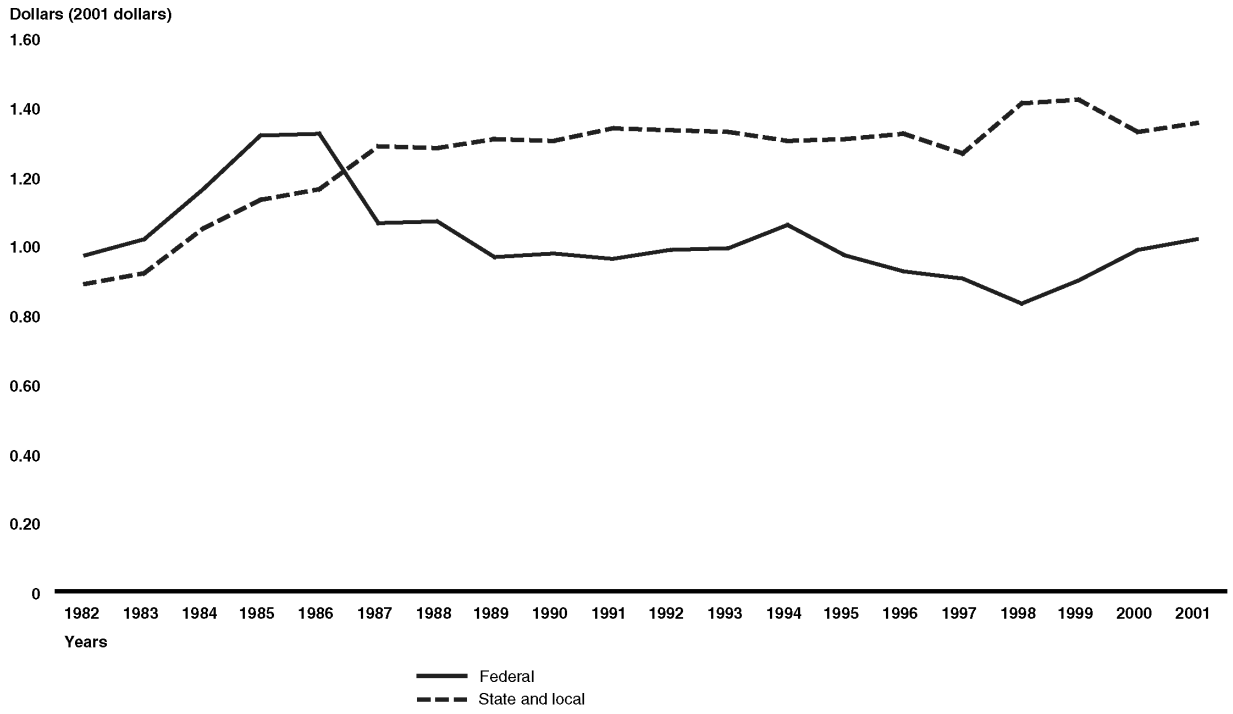
As shown in the following chart:

- States and localities spent more on highway capital per VMT in real terms than the federal government over most of the past 20 years.
  - Beginning in 1986, federal highway capital expenditures per VMT began to sharply decline, while state and local spending per VMT increased. In each year since 1987, states and localities have invested more per VMT than the federal government.
  - Since the passage of TEA-21, both federal capital spending, and state and local spending per VMT have trended upwards,
    - Federal funding per 100 VMT increased 13 percent making up much of the decline of federal investment per VMT over the 1990s.
    - State and local spending per VMT increased at a slower rate—7 percent.

15

GAO
Accountability * Integrity * Reliability

Capital Expenditures for Highways, per 100 VMT



Source: GAO analysis of FHWA data.

16

GAO

Accountability * Integrity * Reliability

Level of Effort by Federal, State, and Local Governments

Another way of measuring governments' contribution to a program is "level of effort." Level of effort is defined as expenditures, as related to taxing capacity. We defined level of effort as expenditures divided by gross domestic product (GDP) at the national level and gross state product (GSP) at the state level.

This section:

- Summarizes trends of the nation's capital investment in its highway system compared with the nation's GDP,
- Compares federal trends with state and local trends, and
- Compares total state and local highway spending with other state expenditures.

The Nation's Level of Effort: Total Highway Capital Expenditures As a Percentage of GDP

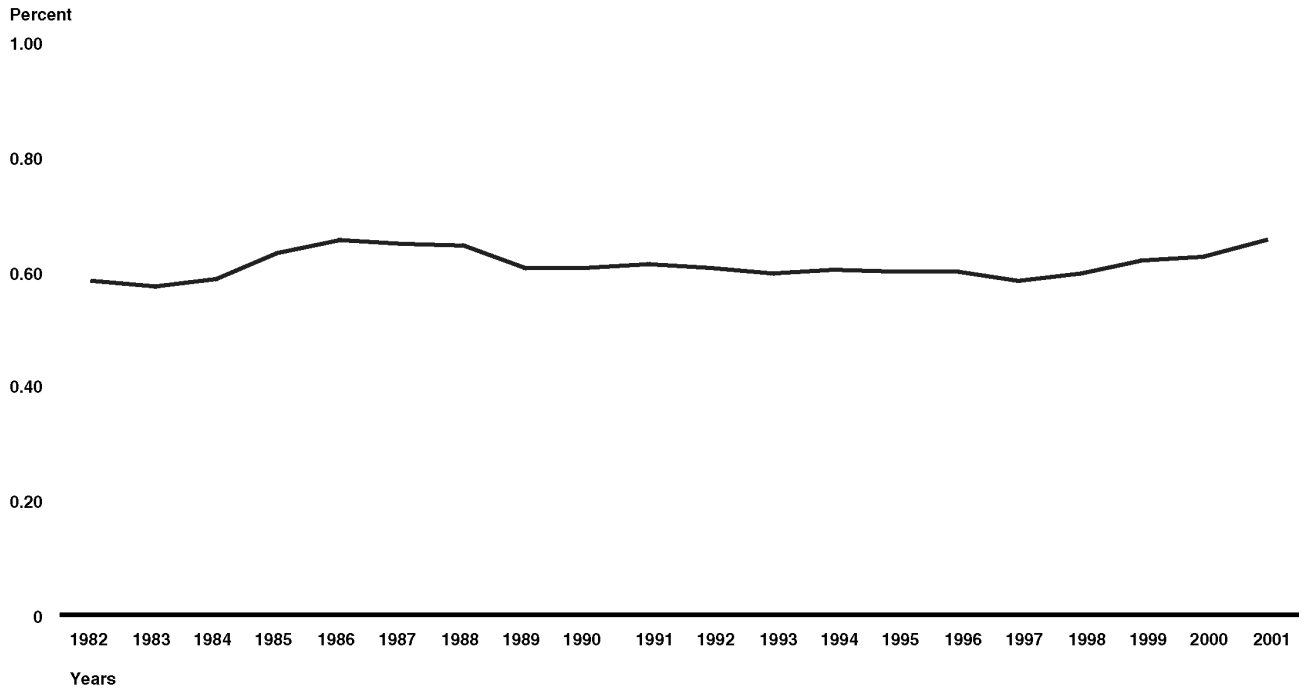
As shown in the following chart:

- Highway capital expenditures by all levels of government as a percentage of GDP remained relatively steady throughout the 1982 through 2001 period, increasing slightly (7/100^{ths} of 1 percent) as a percentage of national GDP from 1982 through 2001.

18

GAO
Accountability * Integrity * Reliability

The Nation's Level of Effort: Total Highway Capital Spending As a Percentage of GDP



Source: GAO analysis of FHWA data.

19

Level of Effort: State and Local Compared with Federal Capital Highway Expenditures As a Percentage of GDP

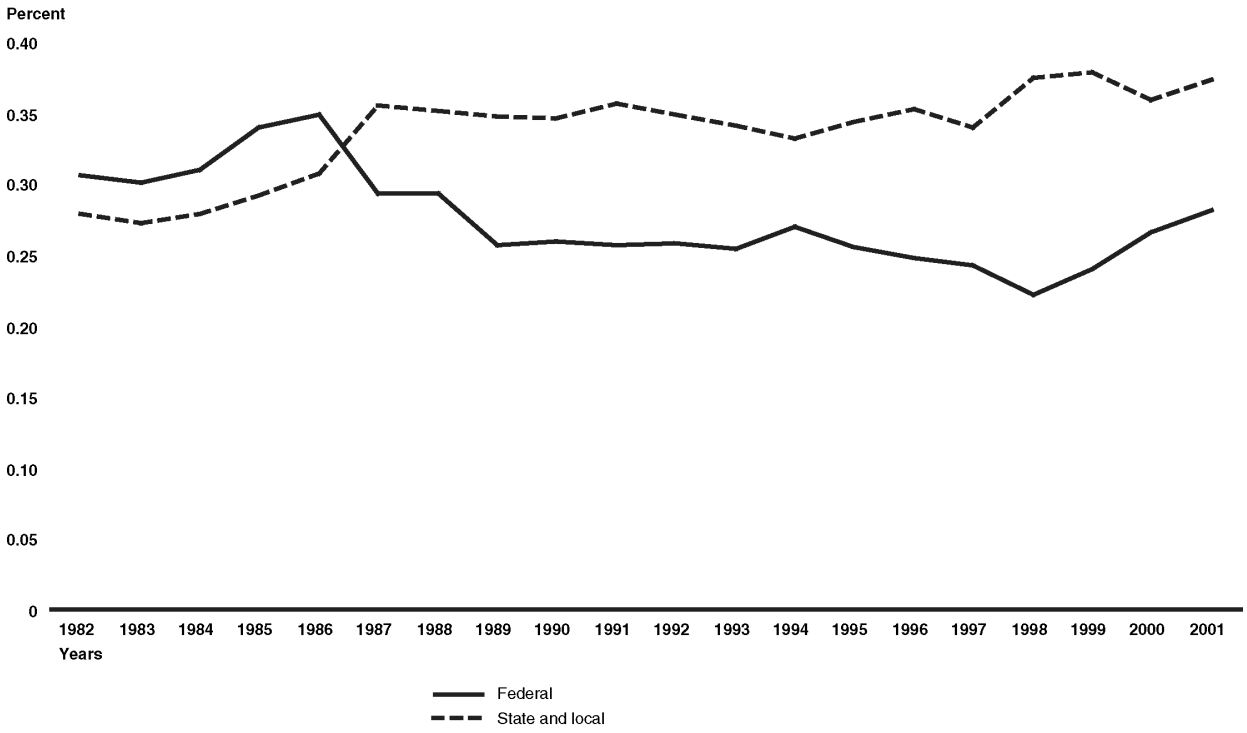
As shown in the following chart:

- The state and local levels of effort have exceeded the federal level of effort for the last 15 years. The percentage of GDP spent by state and local governments for highway capital projects surpassed the federal percentage, beginning in 1987.

20

GAO
Accountability * Integrity * Reliability

Level of Effort: State and Local Compared with Federal Capital Highway Expenditures As a Percentage of GDP



Source: GAO analysis of FHWA data.

21

Total State and Local Expenditures by Program Category - 2000

The following chart shows:

- How total state and local highway expenditures[1] compared with other competing demands in 2000.[2]
  - Highway spending made up about 6 percent of state and local outlays nationwide in 2000.
  - Expenditures for highways were less than expenditures for many programs, including education and public welfare.
  - Total expenditures for transportation, including transit and airports, were less than 9 percent of state and local budgets.

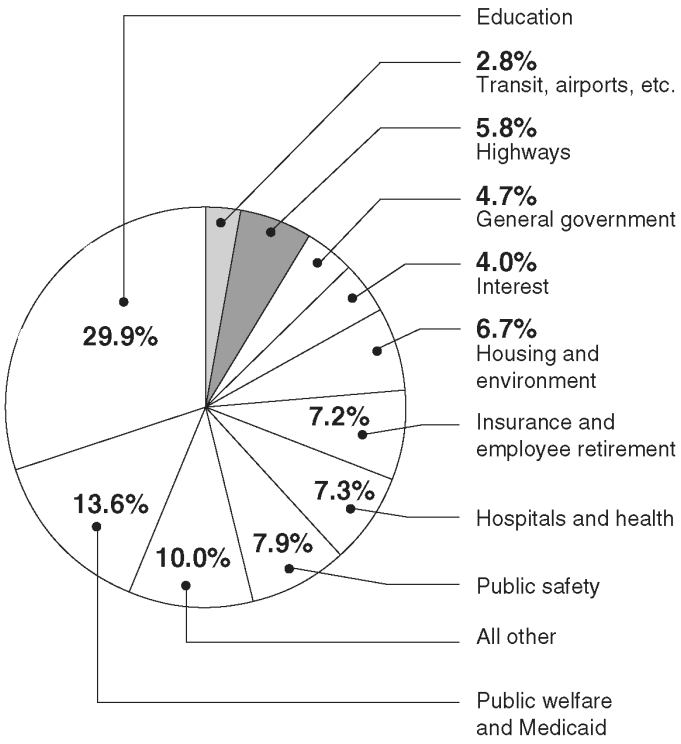
1 Includes capital and other expenditures, such as maintenance, from Census Bureau data. The Census Bureau's classification of highway expenditures excludes some costs (e.g., some highway law enforcement and safety expenditures) that are included in total highway expenditures by FHWA.

2 2000 is the most recent year for which these data were available.

22

GAO
Accountability * Integrity * Reliability

Total State and Local Expenditures by Program Category - 2000



Source: GAO analysis of Census Bureau data.

23

State and Local Expenditures for Major Program Categories, As a Percentage of Total Annual Expenditures

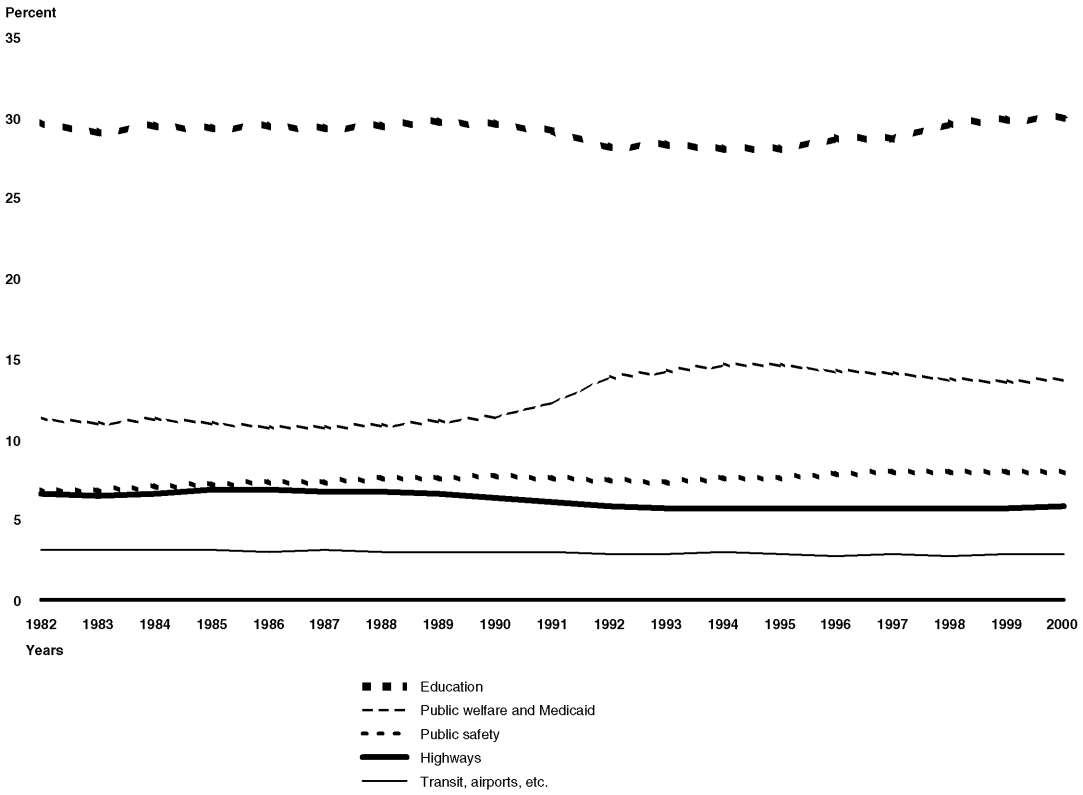
As shown in the following chart:

- Since 1982, total state and local expenditures for highways consistently fell below education and public welfare.
- Although state and local government highway expenditures have been increasing over time, their share of total state expenditures has declined from about 7 percent in 1982 to about 6 percent in 2000.

24

GAO
Accountability * Integrity * Reliability

State and Local Expenditures for Major Program Categories, As a Percentage of Total Annual Expenditures



Source: GAO analysis of Census Bureau data.

25

GAO

Accountability * Integrity * Reliability

Individual States' Level of Effort

This section provides information on states' level of effort.

- We show level of effort in terms of state and local funding per $1,000 of GSP including
    - changes in state levels of effort over time, and
    - factors that may contribute to differences among states.

Notes: This section does not include 2001 data because 2001 local expenditure data are not yet available at the state level.

The District of Columbia is not included in our state-level analysis since the federal government has placed unique restrictions on its taxing authority. Because of these restrictions, GSP does not provide a comparable measure of the District's ability to fund public services.

GAO
Accountability * Integrity * Reliability

Dollars of State and Local Highway Expenditures
(State and Local Funding per $1,000 GSP)
From 1997 through 2000

From 1997 through 2000, states and localities invested an average of $3.76 per $1,000 of GSP in capital highway projects in real terms.

The following map

- Shows the 25 states above and 25 states below the national average of $3.76 per $1,000 of GSP.

27

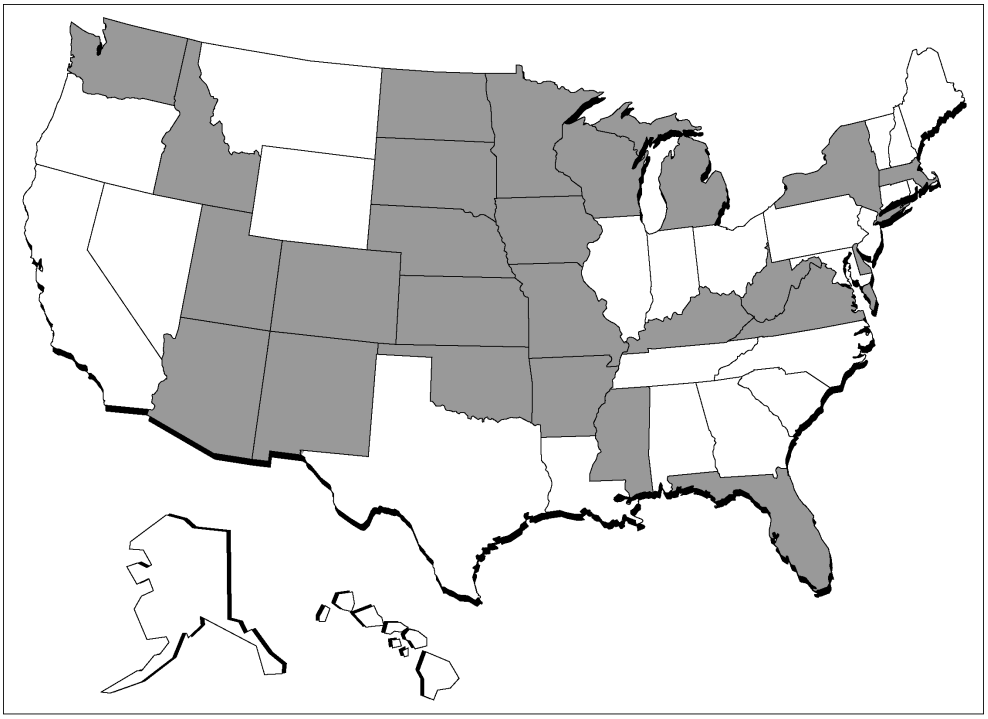
GAO

Accountability * Integrity * Reliability

Dollars of State and Local Highway Expenditures

(State and Local Funding per $1,000 GSP)

From 1997 through 2000



Spending per $1,000 of GSP

Below national average ($3.76)

Above national average ($3.76)

Source: GAO analysis of FHWA data.

Notes: The District of Columbia is not included in this state analysis. Dollars are in 2001 dollars.

28

GAO
Accountability * Integrity * Reliability

Change in Dollars of State and Local Highway Expenditures (State and Local Funding per $1,000 GSP) From (1982-1986) to (1997-2000)

To analyze trends for the 50 states from 1982 through 2000, we divided this 19-year time period into four periods – 1982 through 1986 being the first, and 1997 through 2000 being the last.

The $3.76 per $1,000 of GSP that states and localities invested in capital highway projects in the recent period, 1997 through 2000, is $0.80 more in real terms than the $2.96 per $1,000 of GSP they invested in the period from 1982 through 1986.

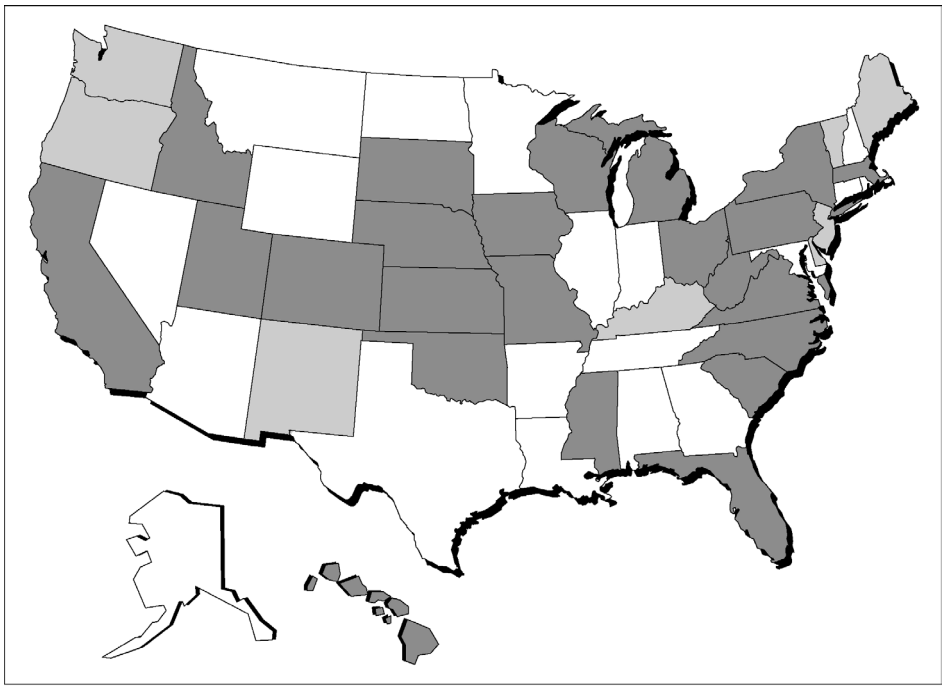
The following map shows that although the national level of effort increased in real terms, changes of effort in individual states varied. Compared with the average investment for 1982 through1986, the average investment for 1997 through 2000

- increased by more than the national average of $0.80 for 23 states,
- increased by less than the national average of $0.80 for 8 states, and
- decreased for 19 states.

29

GAO
Accountability * Integrity * Reliability

Change in Dollars of State and Local Highway Expenditures (State and Local Funding per $1,000 GSP) From (1982-1986) to (1997-2000)



Source: GAO analysis of FHWA data.

Notes: The District of Columbia is not included in this state analysis. Dollars are in 2001 dollars

30

GAO
Accountability * Integrity * Reliability

Level of Effort for Selected States

(State and Local Funding per $1,000 GSP)

For the Period 1982-1986

There appears to be no clear pattern, e.g., no state consistently ranks highest in level of effort over time.

The following two charts illustrate changes in levels of effort over time from a sample of 10 states we selected to represent a cross-section of states across the country.

- During the 1982 through 1986 time period, Alaska had the highest level of effort of our 10 sample states, while California had the lowest.

- During the 1997 through 2000 time period, West Virginia had the highest level of effort of our 10 sample states, while Vermont had the lowest.

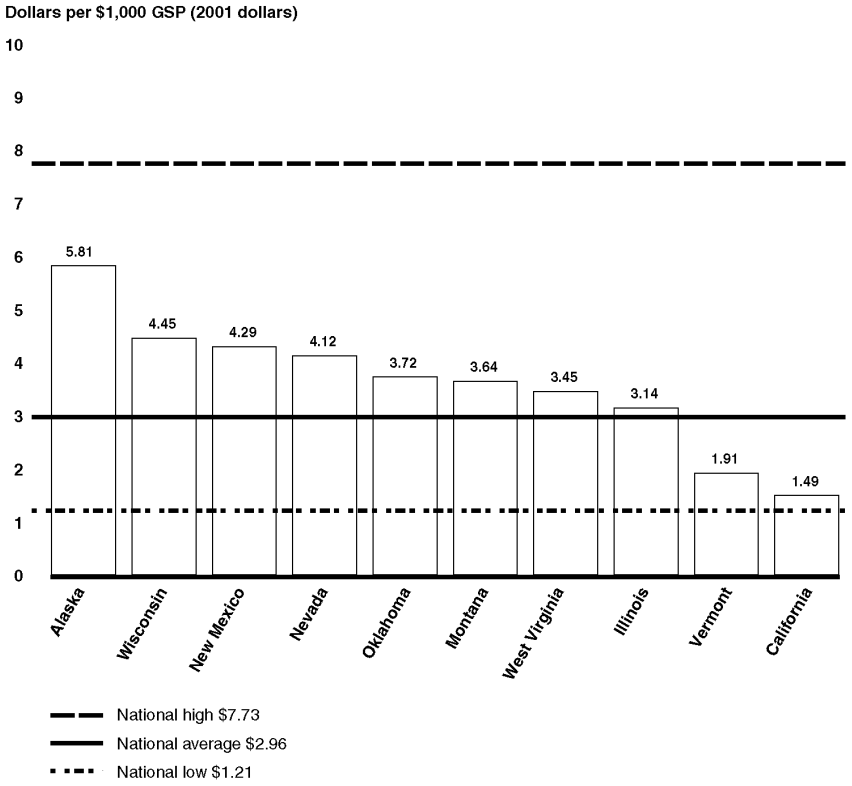
31

GAO
Accountability * Integrity * Reliability

Level of Effort for Selected States

(State and Local Funding per $1,000 GSP)

For the Period 1982-1986



Source: GAO analysis of FHWA data.

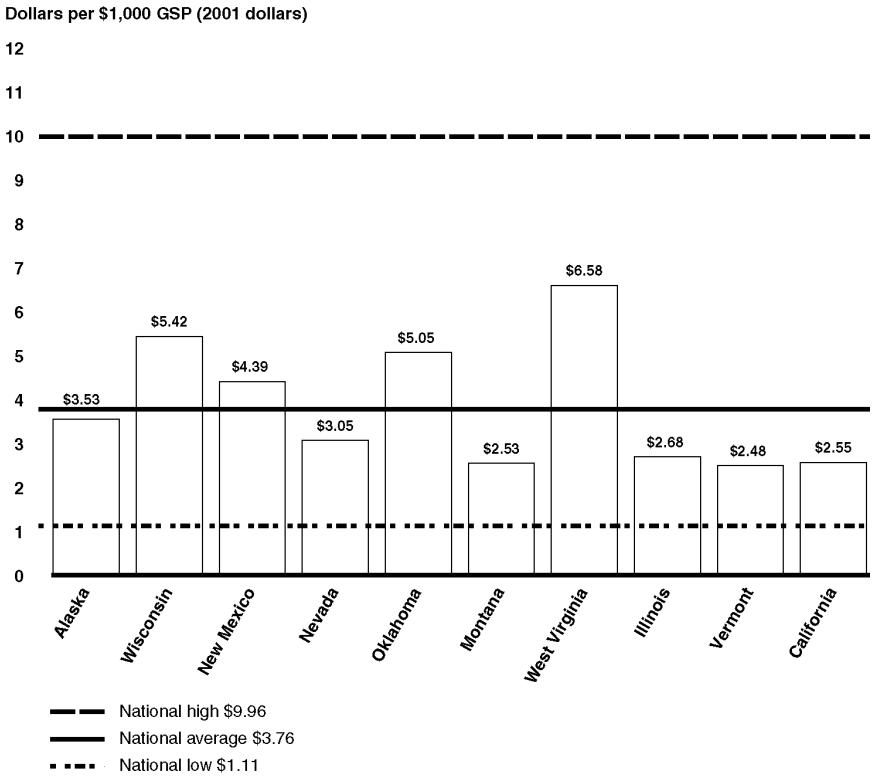
32

GAO
Accountability * Integrity * Reliability

Level of Effort for Selected States

(State and Local Funding per $1,000 GSP)

For the Period 1997-2000



Source: GAO analysis of FHWA data.

Factors Affecting Changes in States' Levels of Effort

Variations among state programs and within state programs over time can be affected by changes in a number of factors that influence the size of a state's highway program. For example,

- An increase in the gas tax rate may increase a state's total available funding significantly from the previous year.
- A large issue of bonds may significantly increase a state's available funds for highways for a few years; while retiring bonds may reduce available funds.
- A change in a state legislature's support for highways, as compared with other state financial needs, could increase or decrease available funds for highways.
- A change in the size of a state's highway construction program for a given period, e.g., a large construction project such as I-15 in Utah, could increase funds spent on highways for a number of years.

34

Factors Affecting Changes in States' Levels of Effort

For example, West Virginia's level of effort nearly doubled from the 1982 through1986 period to the 1997 through 2000 period. West Virginia transportation officials discussed many factors that may have affected that increase including

- a high (25.35 cents per gallon) gas tax rate indexed to inflation,
- strong legislative support for the state's highway program, and
- bonds issued in the late 1990s.

35

Factors Affecting Changes in States' Levels of Effort

In addition, Oklahoma moved from 23rd to 14th place among the 50 states.

- An Oklahoma transportation official said that their state's increased level of effort is likely due to a recent "$1 billion" construction program (so far about $860 million has been provided) for projects identified and supported by the state legislature.

- The state DOT official expects to see a drop in the level of effort in the future, when the construction program is completed.

36

GAO
Accountability * Integrity * Reliability

Level of Effort for Selected States

(State and Local Funding per $1,000 GSP)

Comparing (1982-1986) to (1997-2000)

Changes in states' levels of effort over time, and the effect of highway projects on states' levels of effort, are illustrated by four additional states.

As shown in the following chart:

- Arizona and Michigan show the extremes in the first time period and how they changed over time. Arizona was the highest ranked state in the 1982 through 1986 period of the 50 states, while Michigan was the lowest. For 1997 through 2000, Arizona ranked 12th and Michigan ranked 22nd.

- In addition, it seems that specific highway projects affected states' level of effort. For example, the "Big Dig" in Massachusetts and Utah's I-15 project for the 2002 Winter Olympics affected state funding in those states.

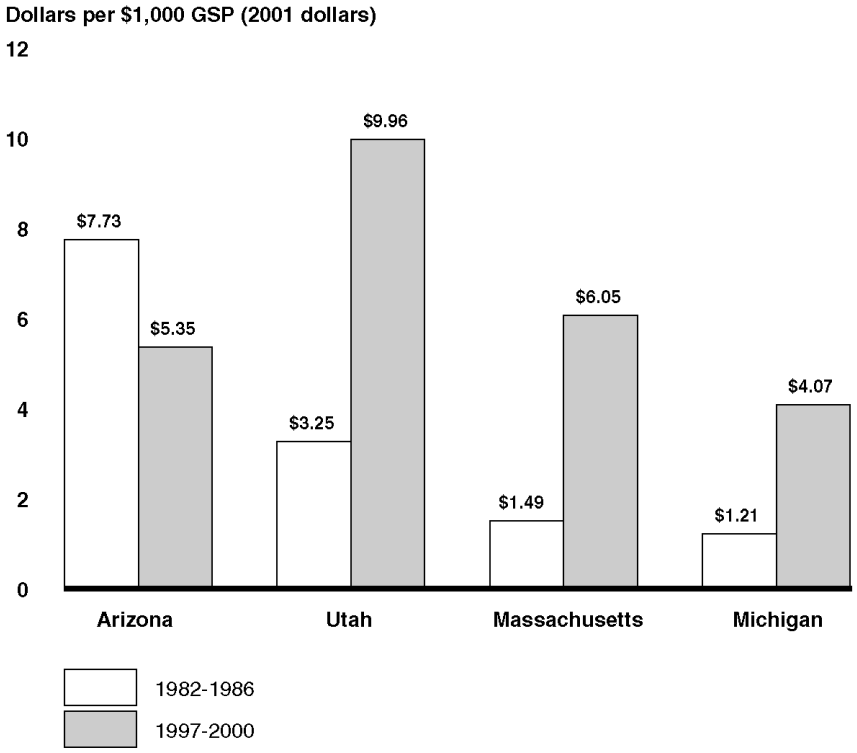
37

GAO
Accountability * Integrity * Reliability

Level of Effort for Selected States

(State and Local Funding per $1,000 GSP)

Comparing (1982-1986) to (1997-2000)



Source: GAO analysis of FHWA data.

38

States' Levels of Effort

- To examine what factors, including state demographic and other characteristics, may affect states' levels of effort, we compared a number of state characteristics to level of effort.[1]
  - Our initial analysis comparing state characteristics to levels of effort indicates that, over roughly the last 20 years, certain characteristics, such as motor fuel tax revenues, may be generally related to states' levels of effort.
  - Other characteristics, such as the number of licensed drivers and registered vehicles, do not appear to be related to states' levels of effort.
- Our following work will more closely examine the relationship across all states of states' levels of effort compared with selected demographic and other state characteristics, as well as the effect of fiscal grants on levels of effort.

[1] To identify state characteristics that are linked with states' levels of effort across all states, we performed a correlation analysis that examined the linear relationship between level of effort and individual state characteristics in concurrent years. Our analysis considered these associations singly. However, more complex interactions may exist when considering the relationships simultaneously.

39

GAO

Accountability * Integrity * Reliability

State Sources of Funding for Highways

This section addresses changes in

- state funding sources for highway programs,
- states' use of long-term debt, and
- state motor fuel tax rates.

GAO
Accountability * Integrity * Reliability

State Revenue Sources Used for Highways

(Excludes Bond Proceeds and Sinking Fund Interest Earned)

As shown in the following chart:

- Total state revenues for highways (e.g., gas taxes, tolls, general fund appropriations), in constant 2001 dollars, have generally increased since 1982.

Note: We did not include bonds because they are repaid out of the sources of funds shown in the chart.

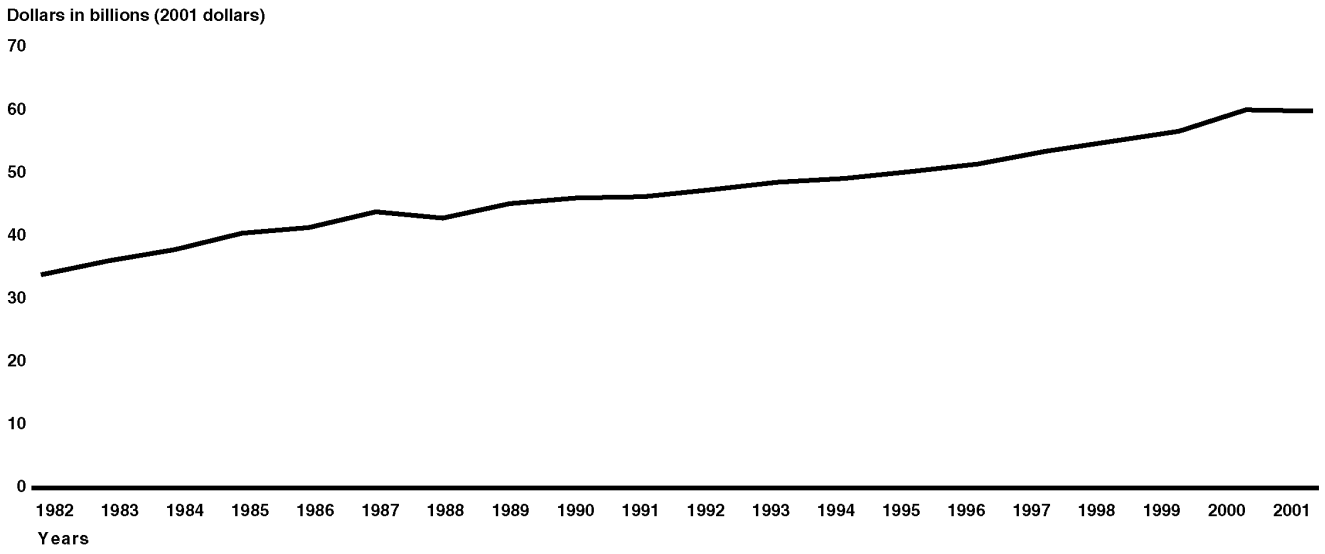
41

GAO

Accountability * Integrity * Reliability

State Revenue Sources Used for Highways

(Excludes Bond Proceeds and Sinking Fund Interest Earned)



Source: GAO analysis of FHWA data.

42

GAO
Accountability * Integrity * Reliability

Percentage of State Highway Funding by Source - National Totals

(Excludes Bond Proceeds and Sinking Fund Interest Earned)

This chart depicts state highway funding sources as percentages of total state highway revenues.

As shown in the following chart:

- Motor fuel taxes are the largest source of funds.

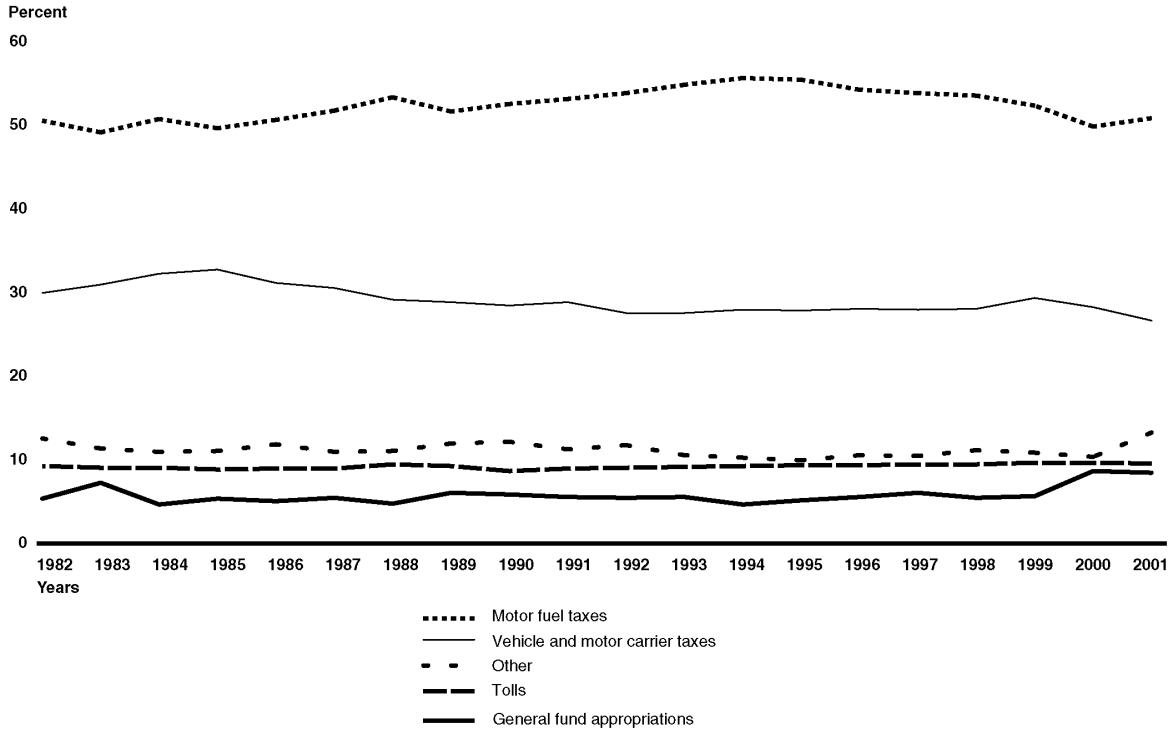
43

GAO

Accountability * Integrity * Reliability

Percentage of State Highway Funding by Source - National Totals

(Excludes Bond Proceeds and Sinking Fund Interest Earned)



Source: GAO analysis of FHWA data.

44

Percent Increases in State Funding Sources from 1982 through 2001

As the following chart shows:

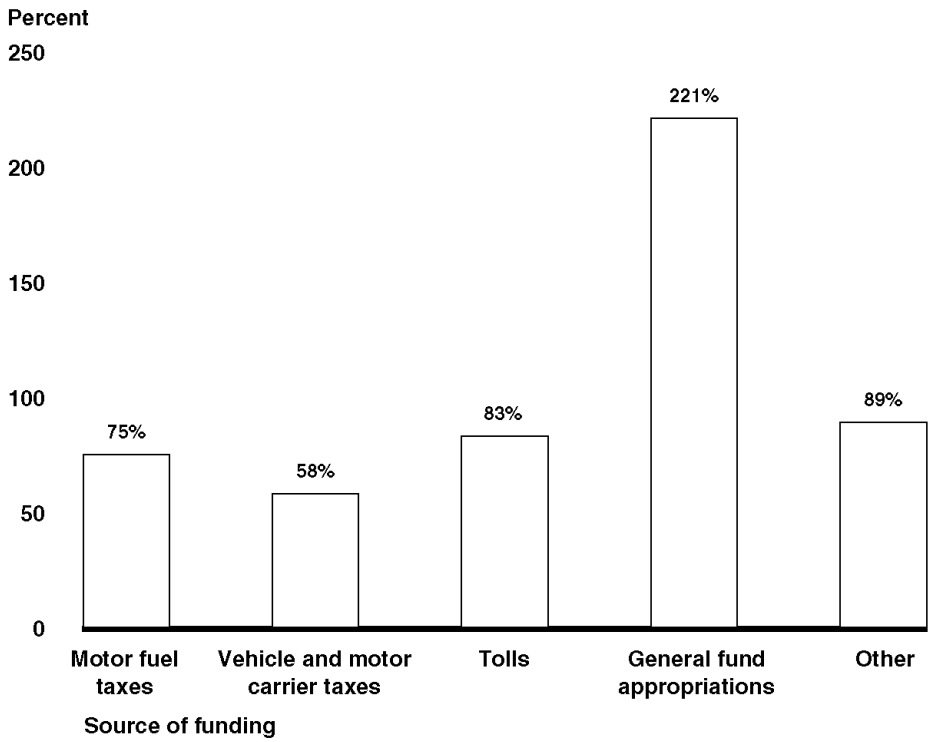
- Motor fuel taxes increased 75 percent in real terms, since 1982.

- Other funding sources have increased at a greater rate than motor fuel taxes, since 1982.
  - General fund appropriations increased over 220 percent, from 1982 through 2001.
  - Tolls increased over 80 percent, from 1982 through 2001.

45

GAO
Accountability * Integrity * Reliability

Percentage Increases in State Funding Sources For Highways from 1982 through 2001



Source: GAO analysis of FHWA data.

46

State Bond Proceeds

Debt financing is an increasingly important mechanism used by states to fund their highway programs.

Over this 20-year time period, funds that states generated for highways through issuing long-term debt increased 273 percent in real terms.

As shown in the following chart:

- The amount of funds states raise through bond issues can fluctuate significantly from year to year.

47

GAO
Accountability * Integrity * Reliability

State Bond Proceeds

Source: GAO analysis of FHWA data.

Notes: State bond proceeds do not include bonds issued to refund existing debt. Dollars are in 2001 dollars.

48

Total State Funding Used for Highways: Debt Service Versus Other Highway Uses

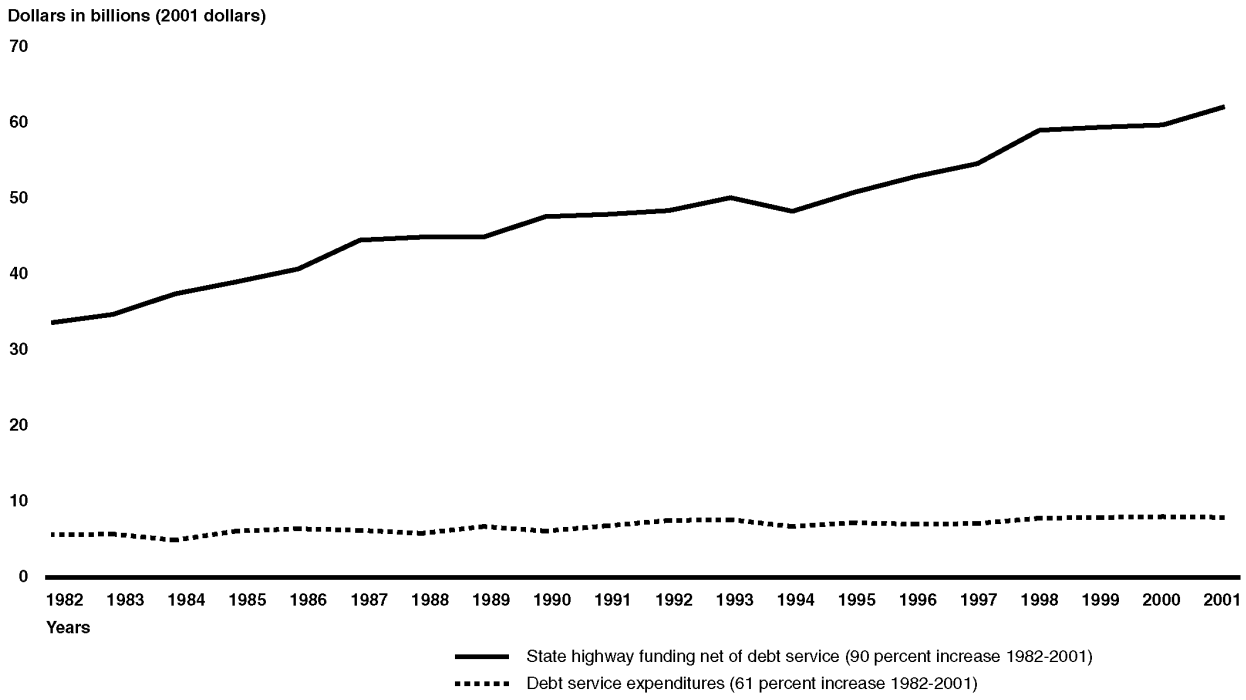
- The costs to the states of servicing debt, in constant 2001 dollars, were 61 percent higher in 2001 than in 1982.
- However, as the following chart shows, state funding for highways, from sources other than debt, increased at a much faster rate—90 percent over the same time period.

49

GAO

Accountability * Integrity * Reliability

Total State Funding Used for Highways: Debt Service Versus Other Highway Uses



Source: GAO analysis of FHWA data.

50

Percentage Change in Gas Tax Rates by State Compared to Federal Rate, 1982-2001

Although the rate of change in a state's gas tax rate is not a complete measure of a state's level of effort (e.g., not all gas tax revenue goes toward highways or even toward transportation in all states), it does provide some interesting information.

As this chart shows:

- In real terms, the federal gas tax rate increased by a greater percentage than any of the states' rates since 1982.
- Thirty-nine states' gas tax rates increased in real terms; gas tax rates for 12 states decreased in real terms.

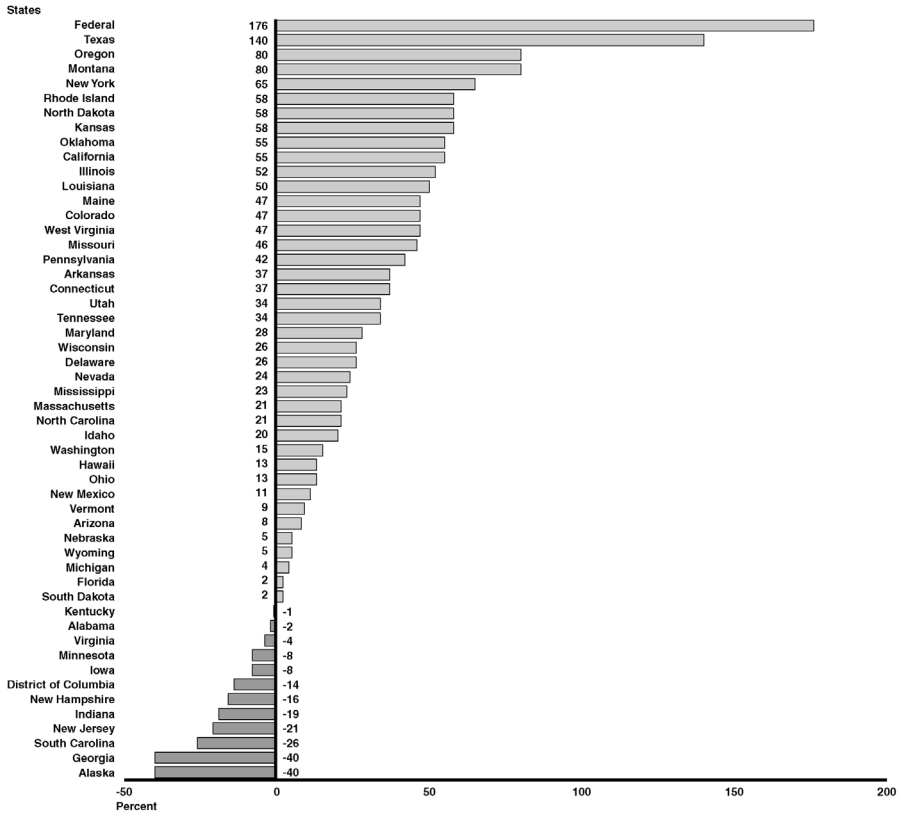
Note: The District of Columbia is included in the tax rate analysis.

51

GAO

Accountability * Integrity * Reliability

Percentage Change in Gas Tax Rates by State Compared to Federal Rate, 1982-2001



Source: GAO analysis of FHWA data.

52

Percentage Change in Gas Tax Rates by State Compared to Federal Rate, 1982-2001

However, these results should be viewed with caution because

- Results could be different depending on the beginning year (e.g., if we began with April of 1983, the federal tax rate would have been higher, and the percent increase between 1983 and 2001 would be about 28 percent).

- A state may have increased its rate by a high percentage, but may still have a relatively low tax rate when compared with other states.

53

GAO
Accountability * Integrity * Reliability

States Above/Below the Average Gas Tax Rate per Gallon, 1982

As the following chart shows:

- In 1982, the weighted average state gas tax, based on the net gallons taxed, was about 9 cents per gallon.[1]

- Texas provides an example of a state with a low gas tax rate that experienced a high percentage increase. In 1982, it had the lowest tax rate in the country but had the highest percentage increase from 1982 through 2001.

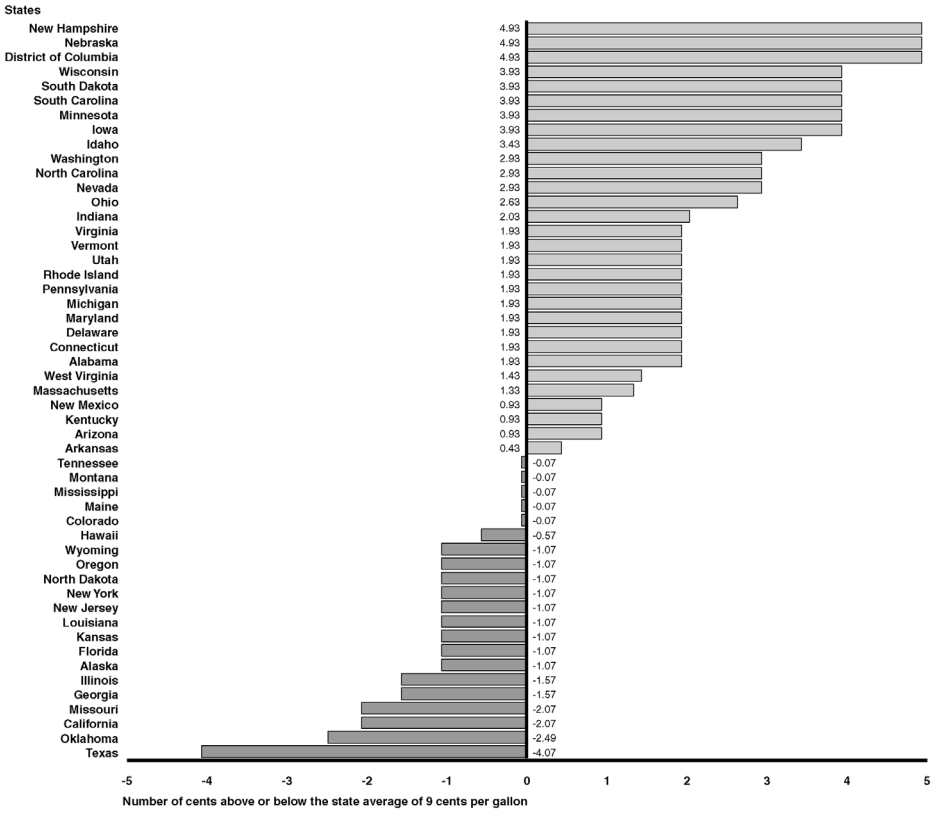
[1] The weighted average tax rate is computed by first multiplying each state's tax rate by the number of gallons taxed in each state, then adding these amounts together to get total state tax revenue nationwide, and finally dividing the total by the gallons taxed by all the states.

54

GAO

Accountability * Integrity * Reliability

States Above/Below the Average Gas Tax Rate per Gallon, 1982



Source: GAO analysis of FHWA data.

55

States Above/Below the Average Gas Tax Rate per Gallon, 2001

As the following chart shows:

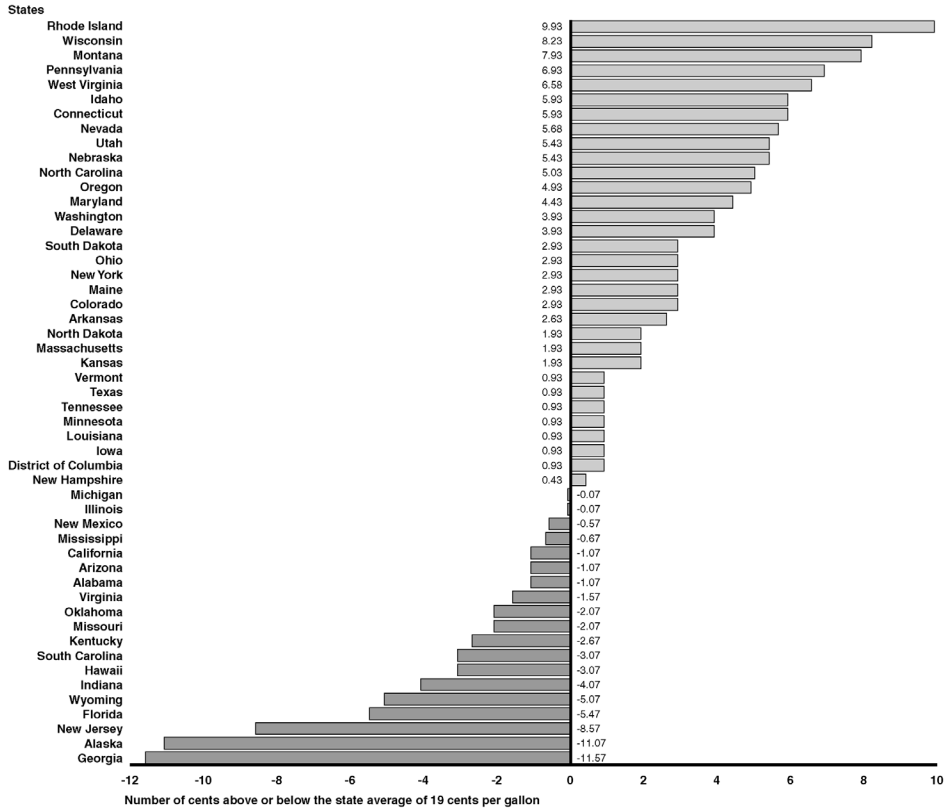
- As of 2001, 32 states had gas tax rates that were above the weighted average rate of 19 cents per gallon.
- Nineteen states had rates that were below the weighted average.

56

GAO

Accountability * Integrity * Reliability

States Above/Below the Average Gas Tax Rate per Gallon, 2001



Source: GAO analysis of FHWA data.

57

Percentage Change in Effective Fuel Tax Rates per Gallon, by State, 1982-2001

As the following chart shows:

- The rate of change of effective[1] motor fuel tax rates from 1982 through 2001 looks similar to the rate of change of gas tax rates, with a few differences.

- Fewer states—9--experienced a decrease in their real effective motor fuel tax rates, compared with the 12 states that had gas tax rates that decreased in real terms.

- The ranking of some states changed slightly. For example, Texas and the federal government changed places at the top of the chart, and Alaska and Georgia changed places at the bottom.

- Some states' ranking changed more substantially. For example, Nevada's gas tax rate increased 24 percent in real terms from 1982 through 2001, while its effective motor fuel tax rate increased 70 percent, increasing its rank.

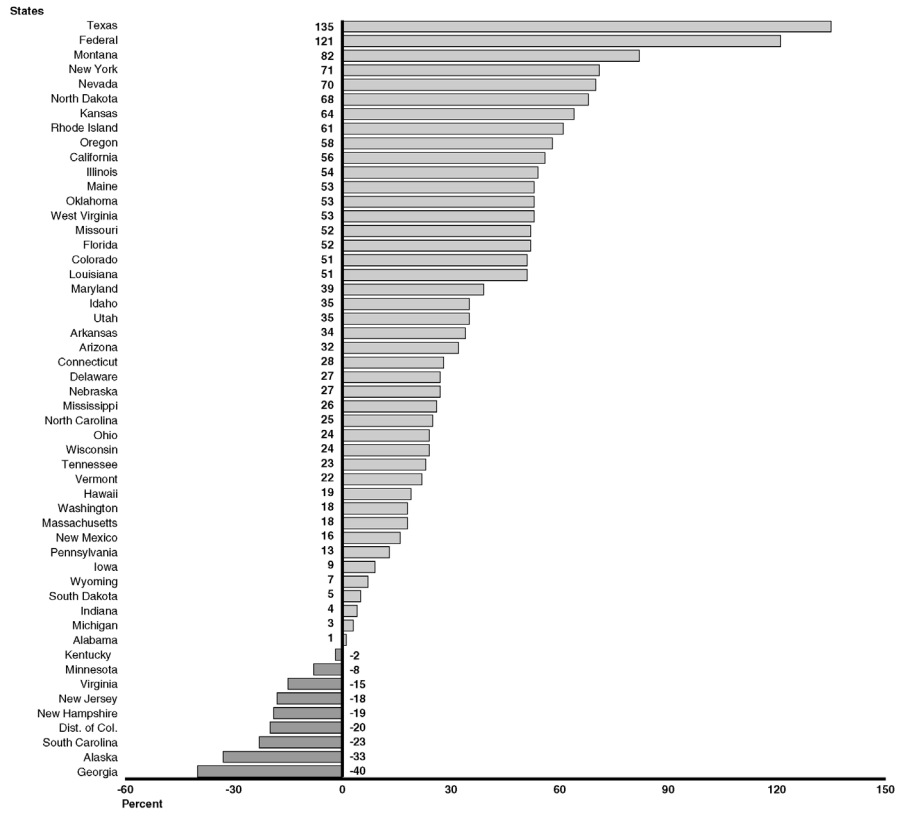
[1] To provide a slightly broader view of tax rates, we calculated an effective tax rate for each state by dividing total highway revenues from motor fuel taxes, including taxes on gas, diesel, etc., by the amount of gallons sold.

58

GAO

Accountability * Integrity * Reliability

Percentage Change in Effective Fuel Tax Rates per Gallon, by State, 1982-2001



Source: GAO analysis of FHWA data.

59