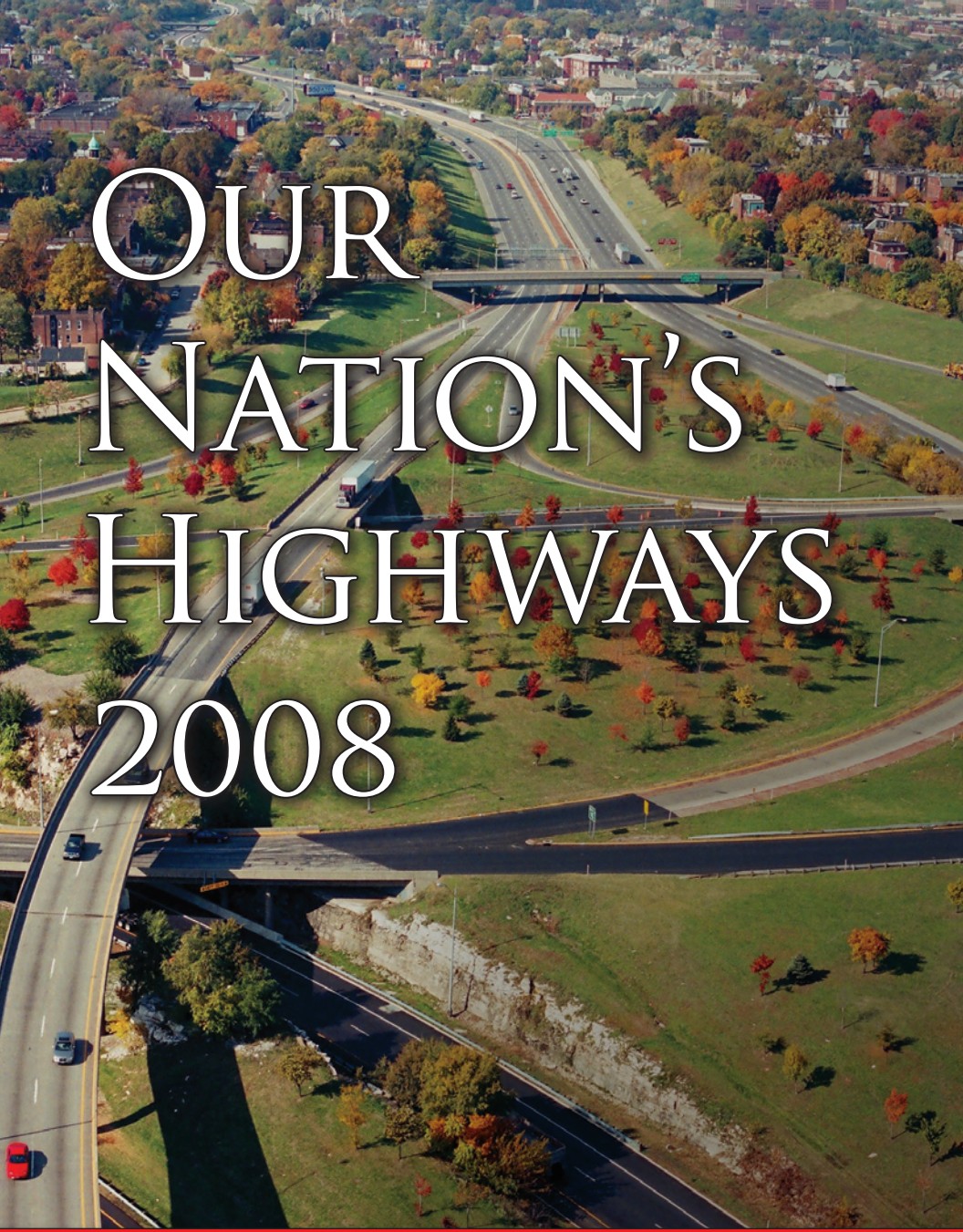


Our Nation's Highways 2008

U.S. Department of Transportation
Federal Highway Administration

THIS PUBLICATION PROVIDES a condensed overview of facts and figures about the Nation's highways. It is designed to be of interest to the average citizen. The Federal Highway Administration (FHWA) is the source of the data except where noted. State Governments collect and provide these data to FHWA each year. Unless otherwise stated, 2006 data are displayed in this publication.

For more detailed data on many of the subjects covered, and for other publications relating to highway policy, visit the Office of Highway Policy Information at Web site:

www.fhwa.dot.gov/policy/ohpi

QUALITY ASSURANCE STATEMENT: The Federal Highway Administration (FHWA) provides high-quality information to serve Government, industry, and the public in a manner that promotes public understanding. Standards and policies are used to ensure and maximize the quality, objectivity, utility, and integrity of its information. FHWA periodically reviews quality issues and adjusts its programs and processes to ensure continuous quality improvement.

COVER PHOTO: Interstate 55 south of St. Louis, MO. *Cathy Morrison, Missouri Department of Transportation*

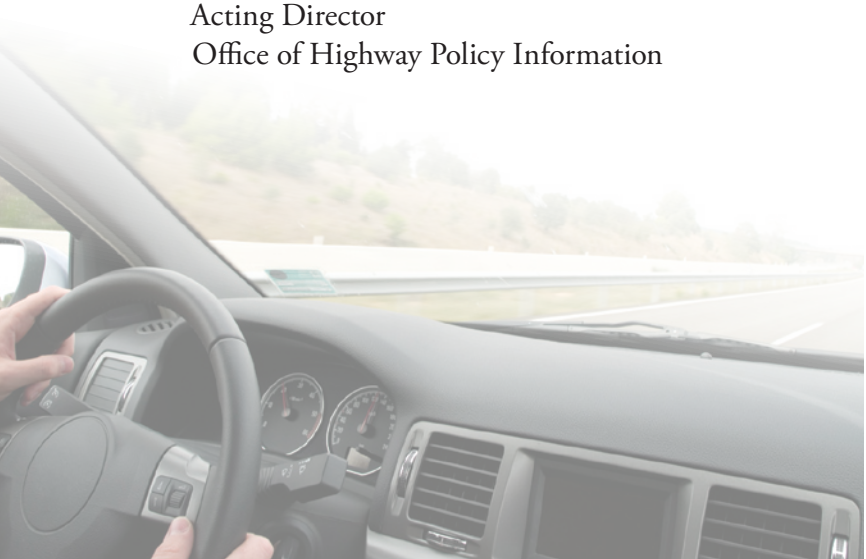
PHOTO, P.21: State Highway 179, Jefferson City, MO. *Cathy Morrison, Missouri Department of Transportation*

BACK COVER PHOTO: I-395, Washington, DC. *Tom Roff, U.S.DOT*

The Federal Highway Administration's Office of Highway Policy Information (OHPI) establishes travel monitoring policy and guidelines, facilitates the application of technology, and collects and analyzes highway-related data from throughout the United States. These data include information about highway financing, motor fuel use, driver's licensing, vehicle registration, traffic, and travel data. OHPI's various publications provide information on the current state of highway operation as well as historical perspectives on our highway system.

Our Nation's Highways highlights the latest key facts on the U.S. highway system. This 2008 edition is reorganized to help readers locate information more easily. We hope this edition will continue to be a valuable resource for not only elected and appointed officials but also the public.

David Winter
Acting Director
Office of Highway Policy Information



Contents

1 Highway Infrastructure

"In large measure, America's history is a history of her transportation." So said President Lyndon B. Johnson in 1966, during the signing ceremony for the legislation creating the U.S. Department of Transportation. Since the introduction of the interstate system to Congress in 1939, the Nation has devoted significant resources to the creation of a roadway system that connects every population center. With the interstate system acting as the system's backbone, we have enjoyed freedom of travel and efficiency of commerce as never before.

THE FUNCTIONAL CLASSIFICATION schema developed by the Federal Highway Administration classifies roadways by their function within the State's network of public roads. The three basic categories of functional classification are local roads, collectors, and arterials. Local roads serve homes, businesses, farms, and small communities, and provide access to collector roadways. Collectors channel traffic from the local roads to the arterials, which provide safe, reliable, and efficient travel between larger towns and major cities.

The key purposes of all roadways are to provide access and mobility. Local roads chiefly provide access, while mobility is the primary function of arterials. Figures 1 and 2 illustrate the relationships between classes of roadways and their relative functions.

Data Source: Figures 1-1 and 1-2 are redrawn from Figure II-1 and II-4 of FHWA Functional Classification Guidelines, 1989, Office of Planning, Federal Highway Administration, U.S. Department of Transportation (www.fhwa.dot.gov/planning/fcsec2_1.htm).

Figure 1-1. **Hierarchy of Our Highway System**

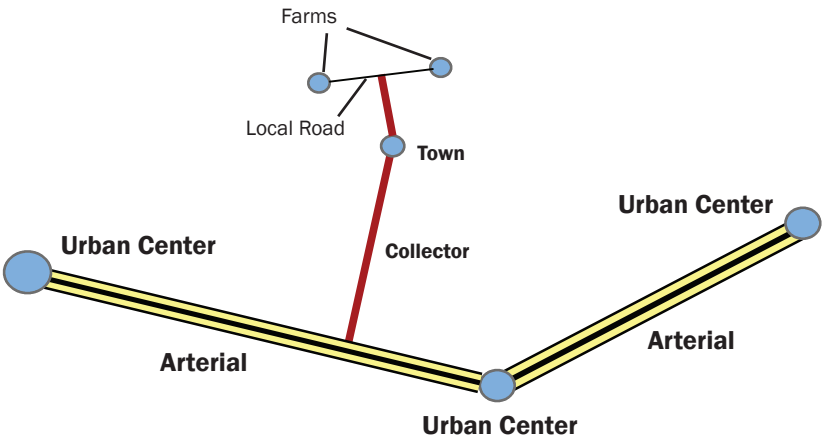


Figure 1- 2. **Access and Mobility**

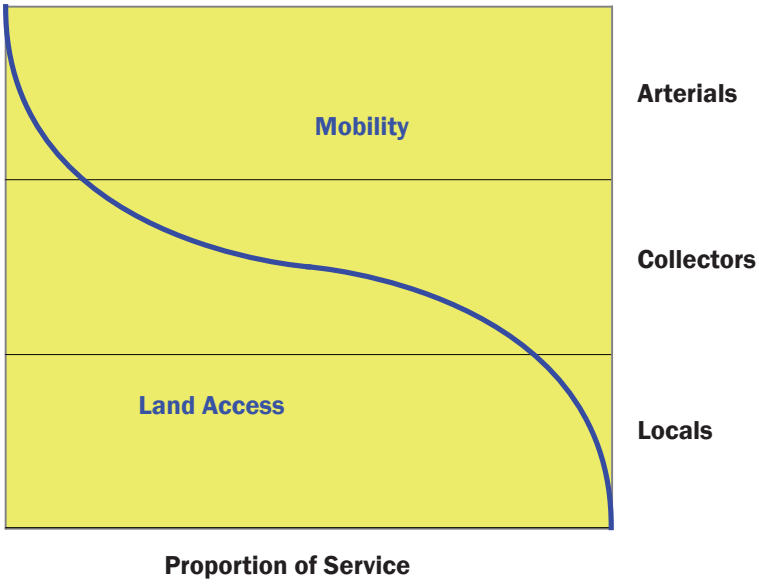
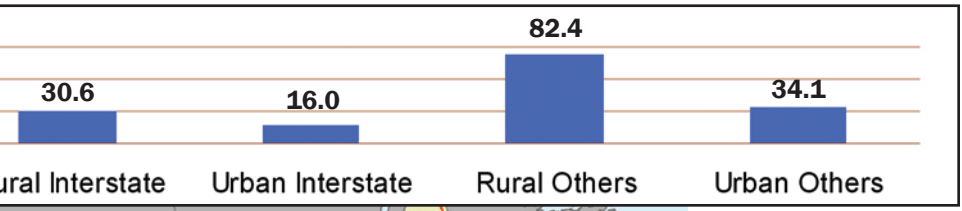
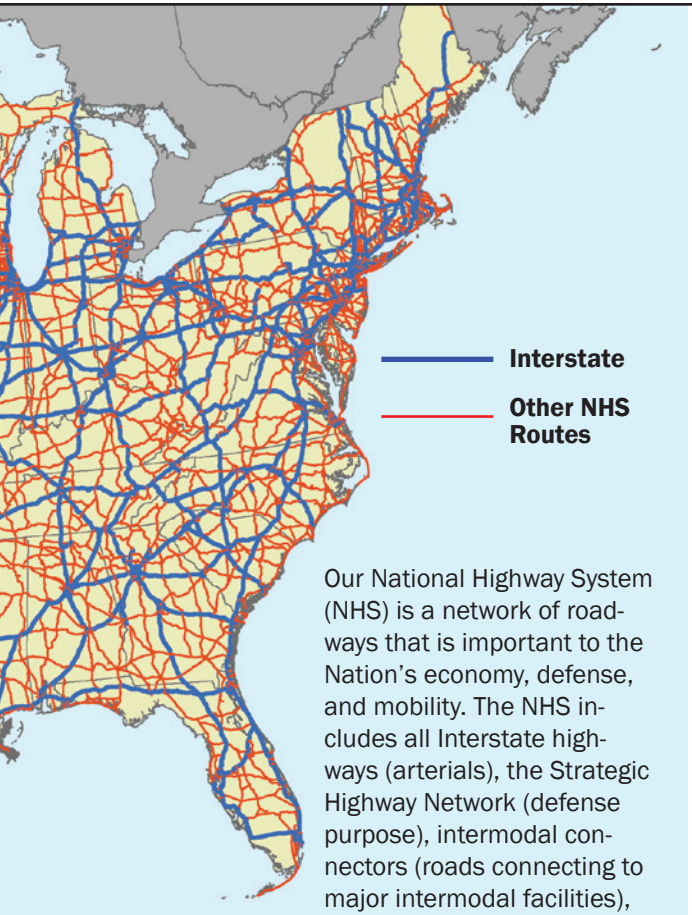


Figure 1-3. **The National Highway System**

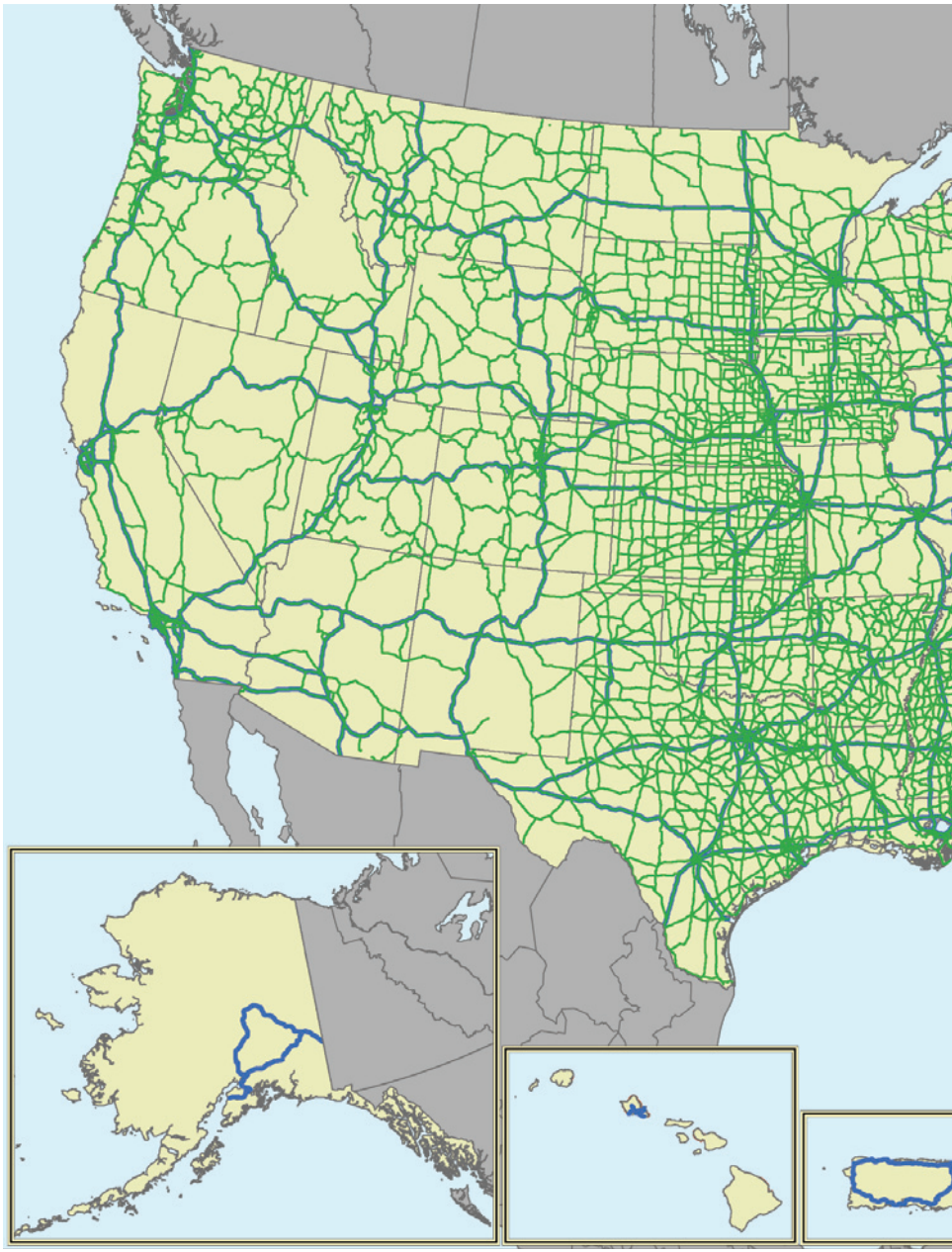


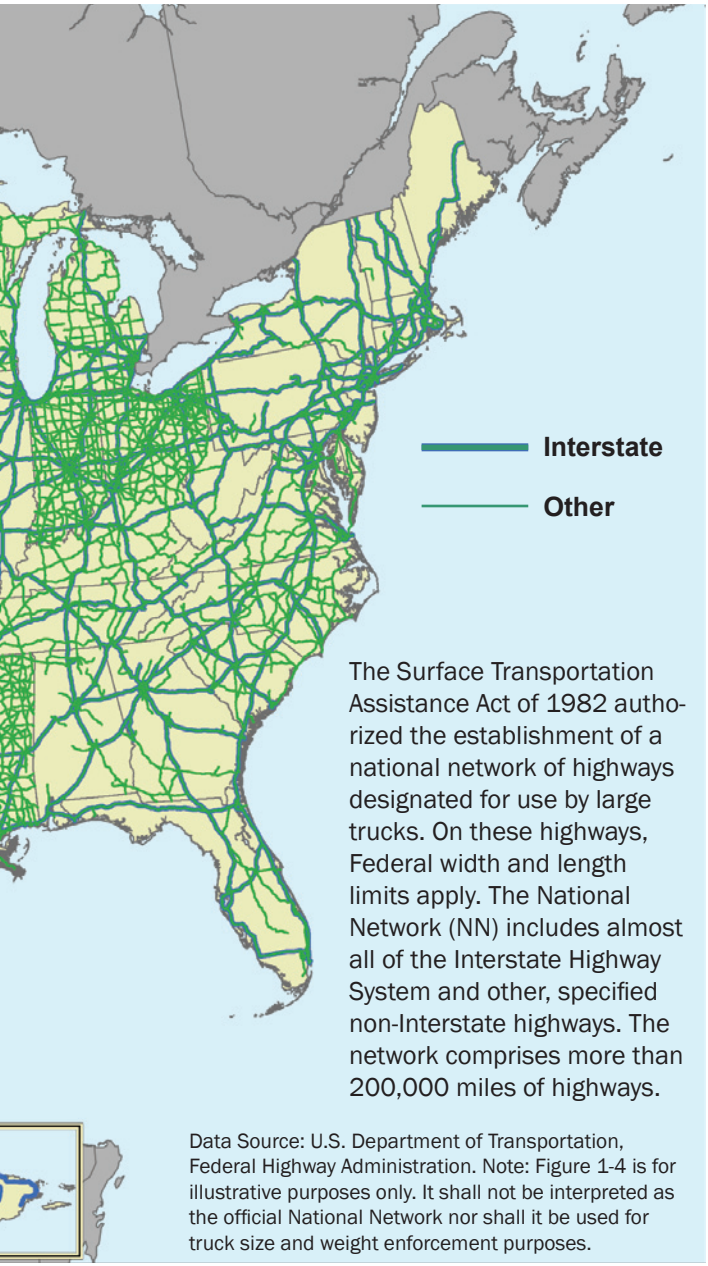


Our National Highway System (NHS) is a network of roadways that is important to the Nation's economy, defense, and mobility. The NHS includes all Interstate highways (arterials), the Strategic Highway Network (defense purpose), intermodal connectors (roads connecting to major intermodal facilities), and other principal arterials. Currently, the NHS includes more than 160,000 miles of highway.

Data Source: U.S. Department of Transportation, Federal Highway Administration

Figure 1-4. **National Truck Network**

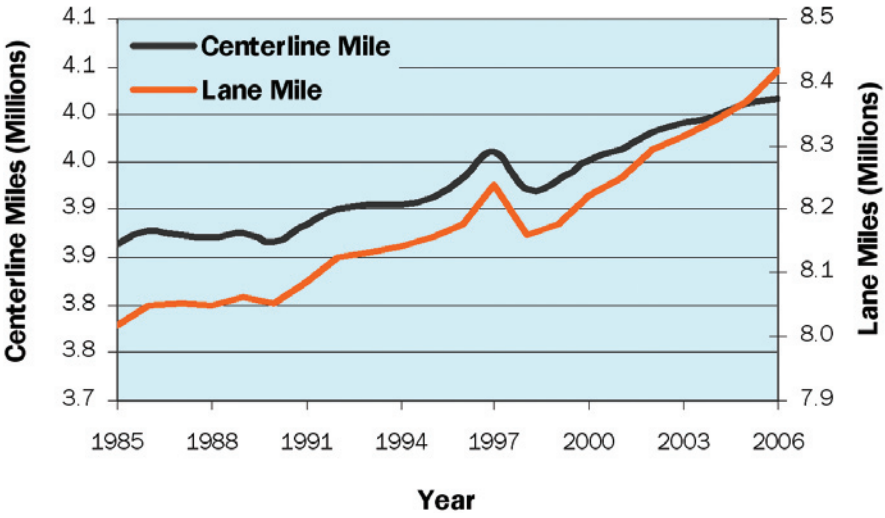




The Surface Transportation Assistance Act of 1982 authorized the establishment of a national network of highways designated for use by large trucks. On these highways, Federal width and length limits apply. The National Network (NN) includes almost all of the Interstate Highway System and other, specified non-Interstate highways. The network comprises more than 200,000 miles of highways.

Data Source: U.S. Department of Transportation, Federal Highway Administration. Note: Figure 1-4 is for illustrative purposes only. It shall not be interpreted as the official National Network nor shall it be used for truck size and weight enforcement purposes.

Figure 1-5. Public Road Measured in Centerline Length and Lane Length (Miles)

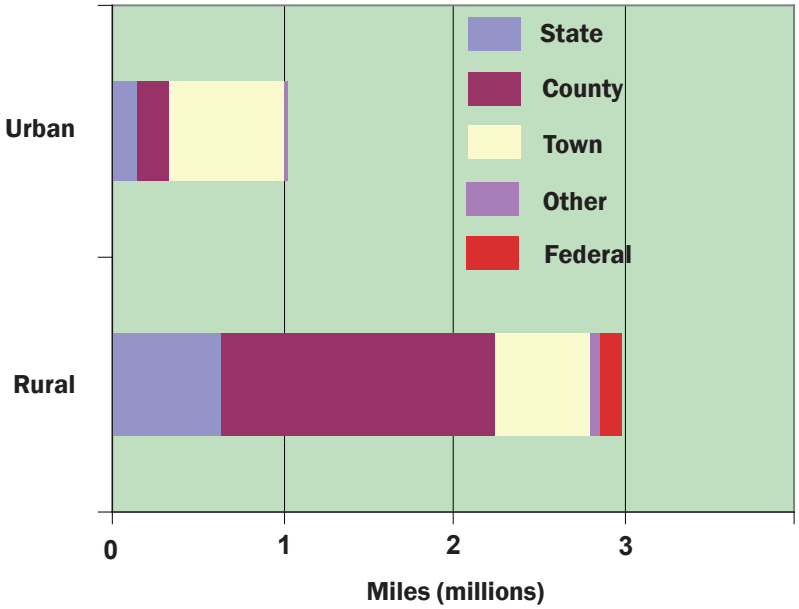


BY THE LATE 1980s, the U.S. highway network was near completion. Now, virtually all population centers are linked by paved roadways. Although there has been little construction of new roads and highways since 1980, the number of lane miles has been increasing as highways are widened with additional lanes to carry more vehicles. That is to say, for the most part, that we are adding capacity to existing highways rather than building new ones.

Note: After 1998, forest development roads ceased being treated as public roads. This is why Figure 1-5 (above) indicates significant drops in both centerline and lane mileage in 1999.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

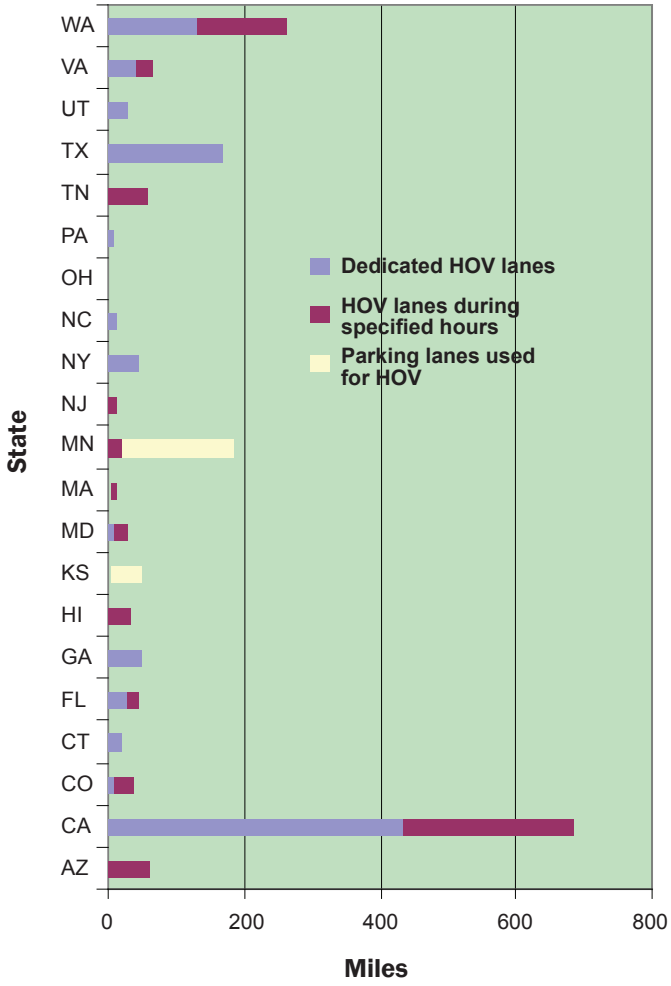
Figure 1-6. **Public Road Ownership, 2006**



NOT SURPRISINGLY, THE majority of public roads (about 76 percent) are owned by local governments. The approximately 3 percent of roadways owned by the Federal government are located mainly in national parks and forests, military garrisons, and Indian reservations. State governments own the remaining 21 percent of public roads, including most of the interstate highways.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

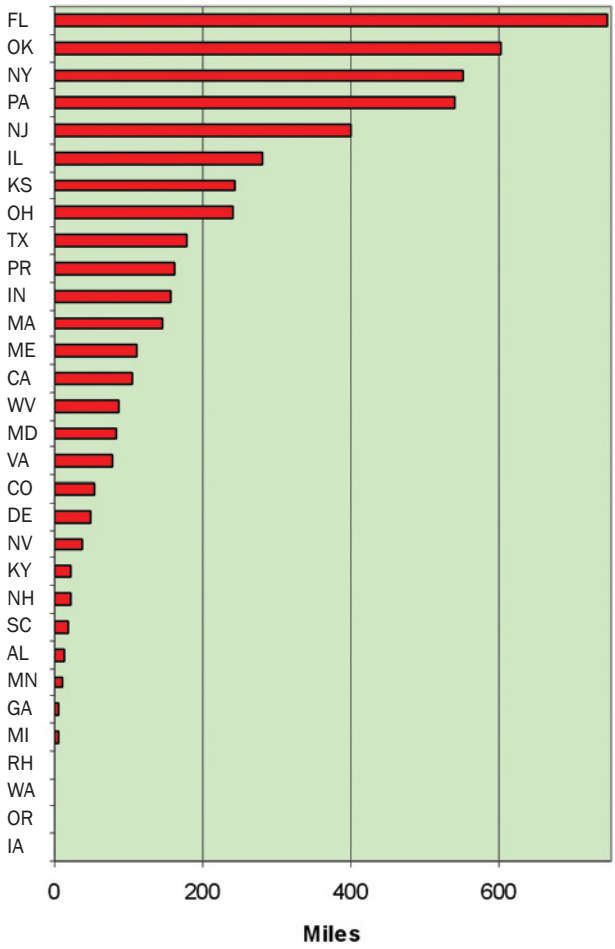
Figure 1-7. High Occupancy Vehicle Facilities by Type and State, 2006



BY REDUCING TRAVEL time and increasing reliability, high occupancy vehicle (HOV) lanes increase the number of people who can move through a congested corridor. While carpoolers, vanpoolers, and bus patrons benefit directly from a time-saving standpoint, we all share the benefits of cleaner air and lower energy use that are linked to HOV operations.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System

Figure 1-8. Toll Road Centerline Miles, 2006



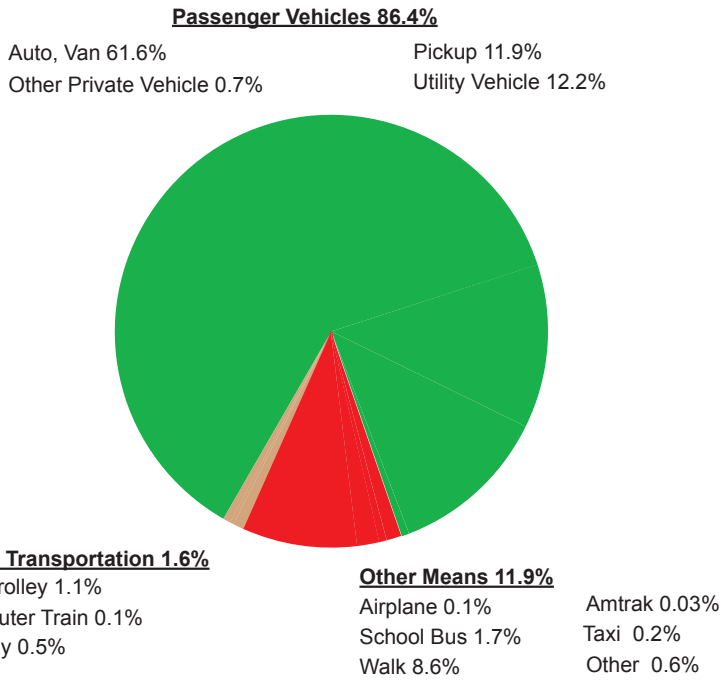
A TOLL HIGHWAY is a road that drivers pay fees to use. Toll roads may also be known as turnpikes or toll ways. The fees collected are used to repay money borrowed for construction of the road. As the debt is repaid, the toll is also used for ongoing operations and maintenance.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System

2 Highway Travel

While motor vehicles—automobiles, light trucks, vans, sports utility vehicles, and motorcycles—are the predominant forms of personal transportation, freight-carrying trucks predominate among all modes of freight movement in terms of tonnage and dollar value. The following figures and diagrams are snapshots of vehicle travel statistics on our highway system.

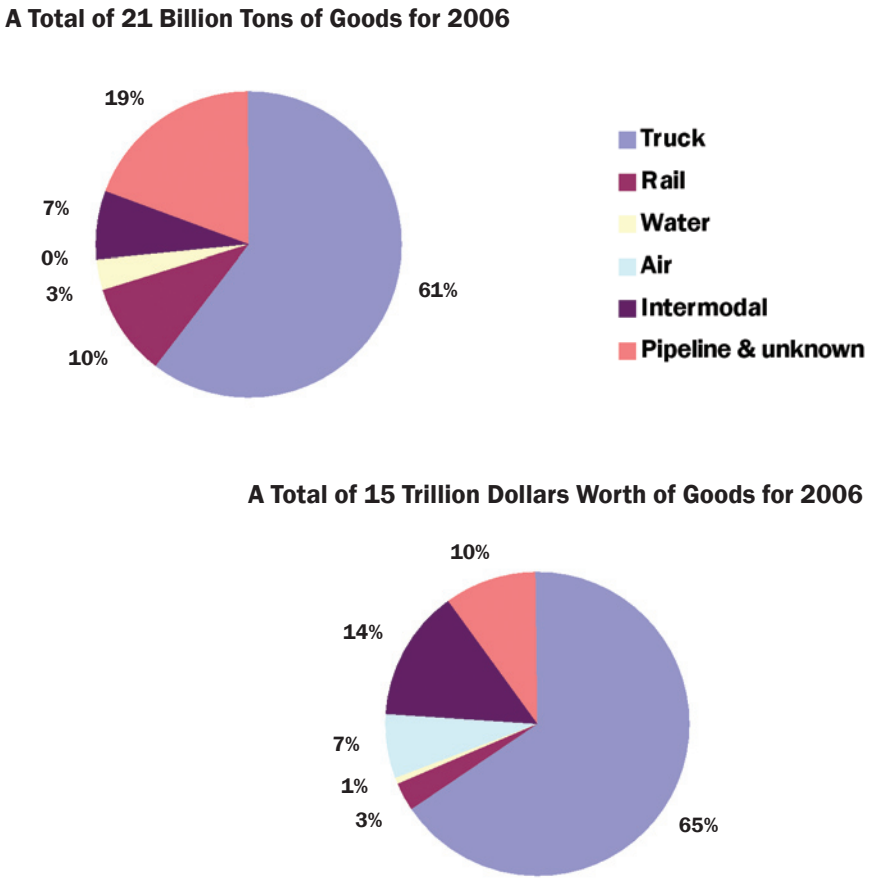
Figure 2-1. Passenger Travel Modal Choice



AMONG ALL MODES of travel in the United States—rail, air, water, highway—highway travel by personal motor vehicle (automobile, light truck, van, and motorcycle) is predominant.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, National Household Travel Survey

Figure 2-2. Freight Movement Modal Share by Tonnage and Dollar Value, 2006



THE LATEST COMPREHENSIVE goods movement data indicate that the U.S. transportation system moved nearly 21 billion tons of freight worth close to $15 trillion in 2006. Trucks alone moved over 60 percent in weight and over 65 percent of dollar value.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework

Figure 2-3. Interstate Annual Average Daily Traffic, 2006

THE MOST WIDELY used parameter of measuring traffic activity on a highway or highway segment is annual average daily traffic (AADT). AADT can also be used to assess how serious congestion is by comparing the highway's capacity with AADT at peak times and directions. These calculations help transportation agencies decide whether highway infrastructure is adequate to the demand.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System

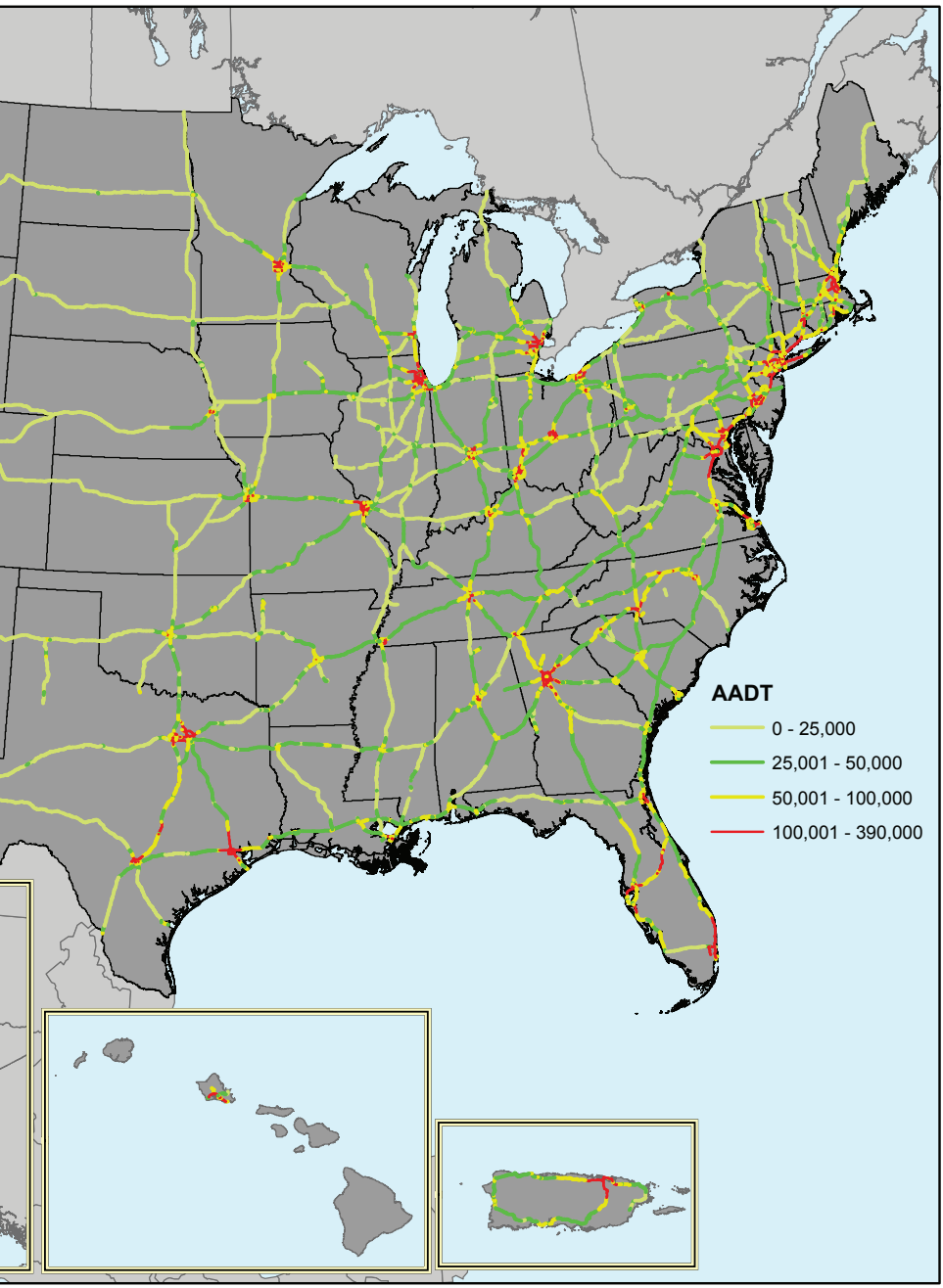
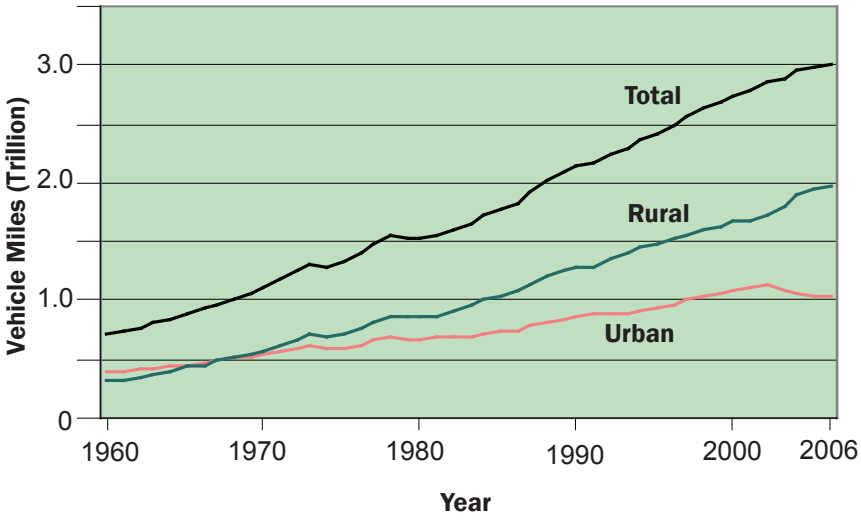

AADT
0 - 25,000
25,001 - 50,000
50,001 - 100,000
100,001 - 390,000

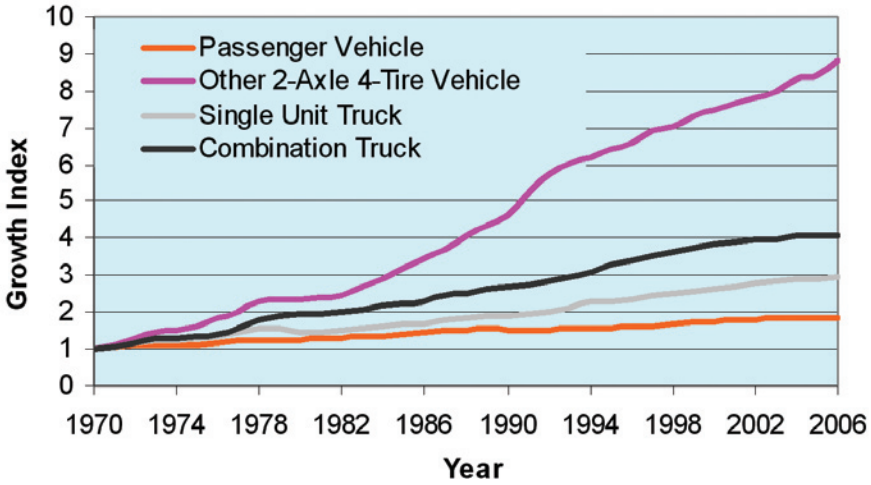
Figure 2-4. Vehicle Miles Traveled on Rural and Urban Public Roads, 1960–2006



VEHICLE MILES TRAVELED (VMT) is one of the most widely used measures of travel intensity. For a given segment of roadway, the VMT is obtained by multiplying AADT by the length of the roadway segment. For example, on a 5-mile highway segment traveled by 5,000 vehicles daily (an average obtained over a year), the VMT would be 25,000. VMT is a measure of total vehicle activity.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 2-5. Vehicle Miles Traveled on Public Roads by Vehicle Type, 1970–2006



THE AMOUNT OF use of different types of vehicles varies from year to year because of ownership trends and utility needs. As a result, VMTs for the vehicle types also change. During the last decade, truck VMT has been increasing at a much higher rate than passenger VMT.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 2-6. Toll Road Vehicle Miles Traveled, 1993–2006

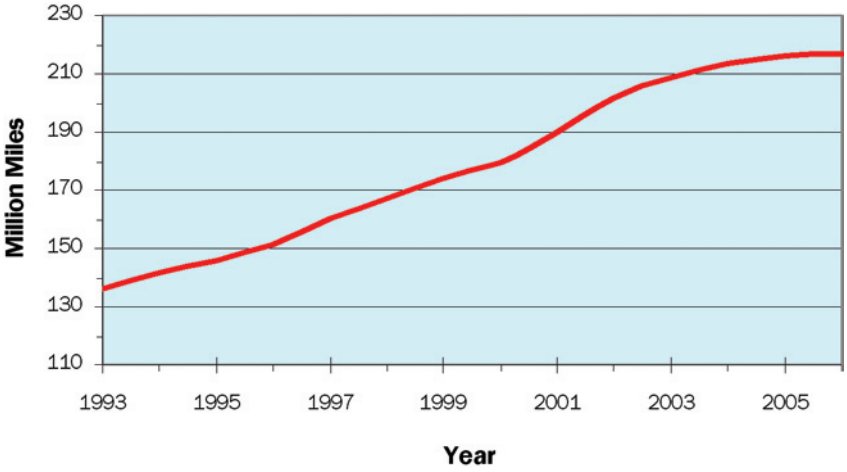


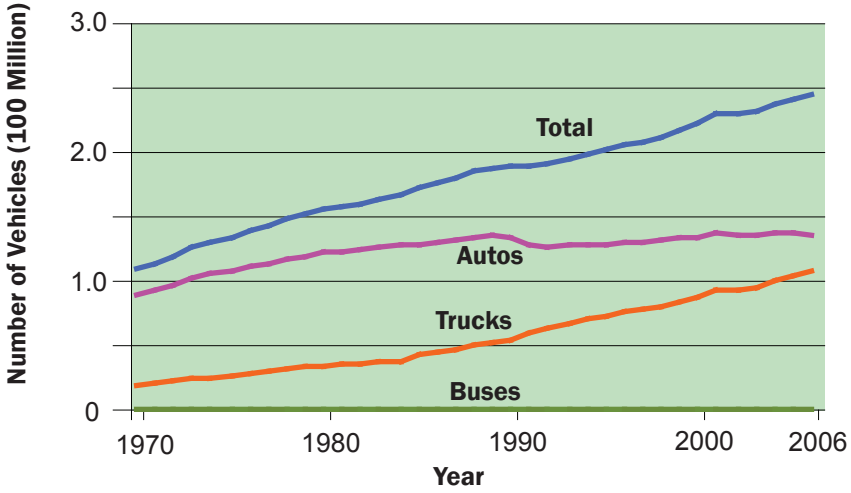
FIGURE 2-6 INDICATES that the annual average vehicle miles traveled (VMT) growth rate for toll roads exceeds 3.6 percent compared with the 2.1 percent average of all roadway types over the last 14 years. Although VMT from all roadway types is still growing, VMT growth rates have been declining since 2003, with the growth rate of toll VMT declining at a much slower pace than the national average.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System, 1993–2006

3 Vehicles

While vehicle ownership is one of many indicators related to income and wealth, it also has strong implications for energy use and for the environment. The following figures show the status of vehicle ownership in 2006 as well as historical trends.

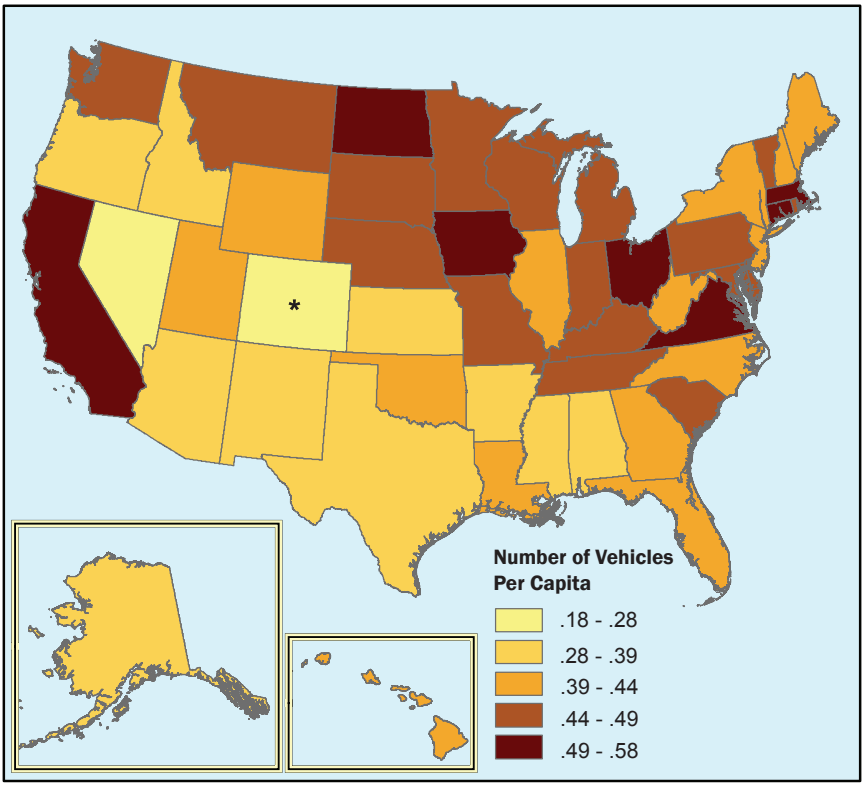
Figure 3-1. **Numbers of Registered Vehicles—Automobiles, Trucks, and Buses,1970–2006**



THE NUMBER OF registered vehicles in the country has been growing since recordkeeping started, and the number of registered vehicles as compared to the number of licensed drivers has also been growing. Before 1975, the country had roughly 1.0 vehicle per licensed driver. Since then, the ownership of vehicles on a licensed driver basis has been increasing at an accelerating rate, reaching 1.2 at the end of 2006.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 3-2. **Rate of Vehicle Ownership by State, 2006**



THE RATE OF vehicle ownership per capita varies markedly from State to State. We see in these maps that a State's rate of vehicle ownership ranges from 0.27 vehicles per capita in Nevada to 0.58 vehicles per capita in Iowa.

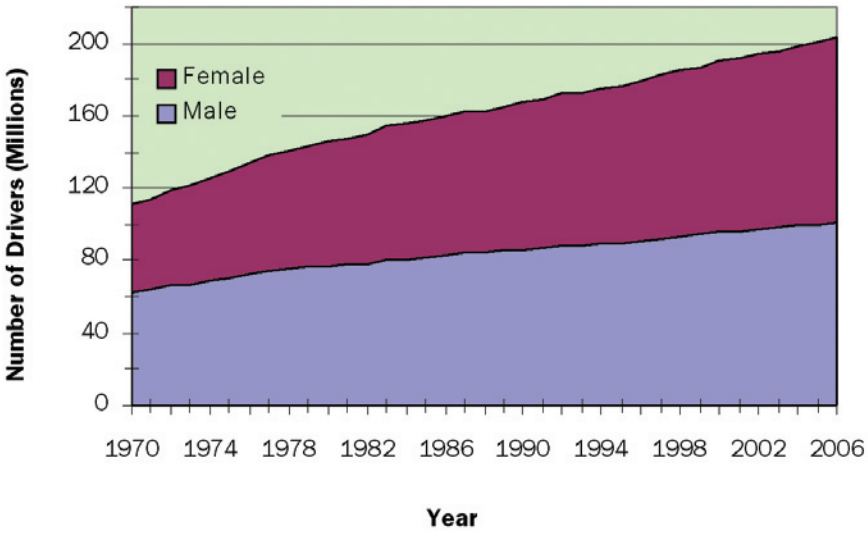
*Note: Colorado did not submit the 2006 vehicle registration data.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

4 Drivers

The 2000 Census revealed that the United States had 281.4 million people, an increase of 33 million people in 10 years. By 2010, the population is projected to approach 310 million. The growth in numbers of licensed drivers is following the trend of population growth very closely. The illustrations in this section provide a brief overview of licensed drivers by State, age, sex, and rate per population.

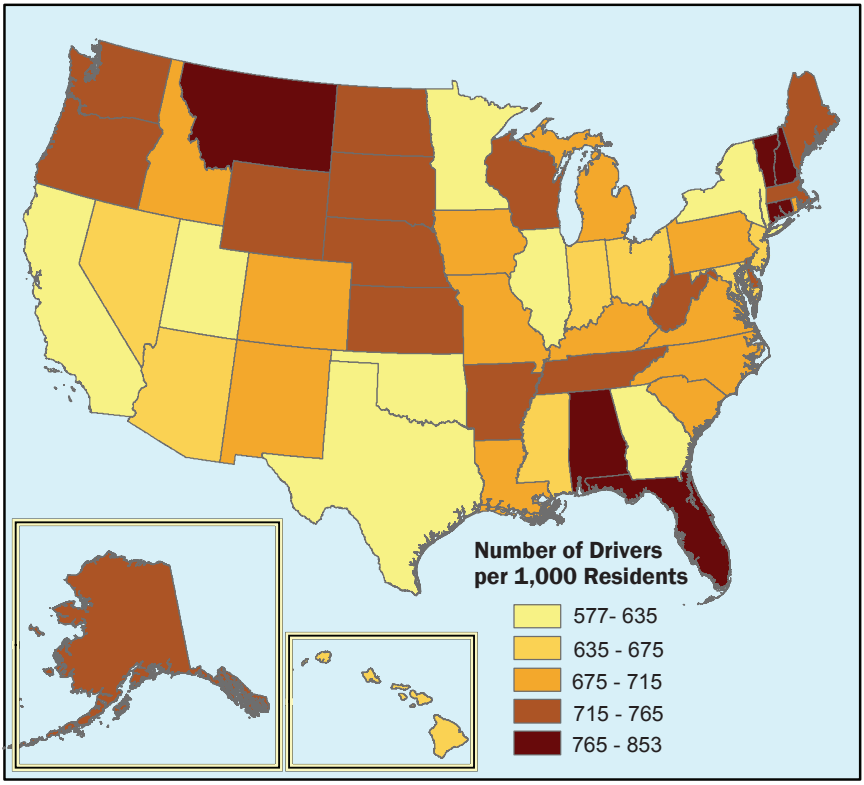
Figure 4-1. **Increase in Number of Licensed Drivers by Gender, 1970-2006**



In 2006, 87 percent of the driving-age population was licensed to drive a motor vehicle as compared to 57 percent in 1950. In 2005, for the first time, the number of licensed female drivers surpassed male drivers.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 4-2. Licensed Drivers per 1,000 Residents by State, 2006



THE NUMBER OF licensed drivers per 1,000 residents differs significantly from State to State. The average percentage of residents who are licensed drivers ranges from a low of 58 percent to more than 85 percent of State residents.

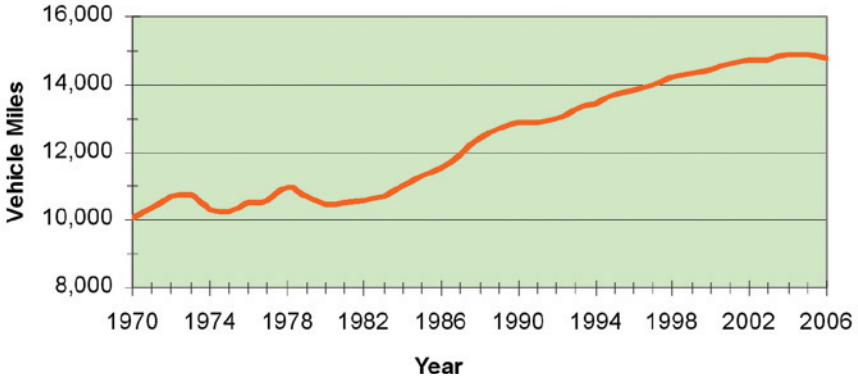
Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 4-3. **Licensed Drivers by Age and Gender, 2006**

In 2006, there were nearly 203 million licensed drivers in the United States. As the average age of the U.S. population shifts upward with the "baby boom" bulge, the trend in licensed drivers follows. In 2006, the 40–44 and 45–49 age groups contained the largest share of drivers.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

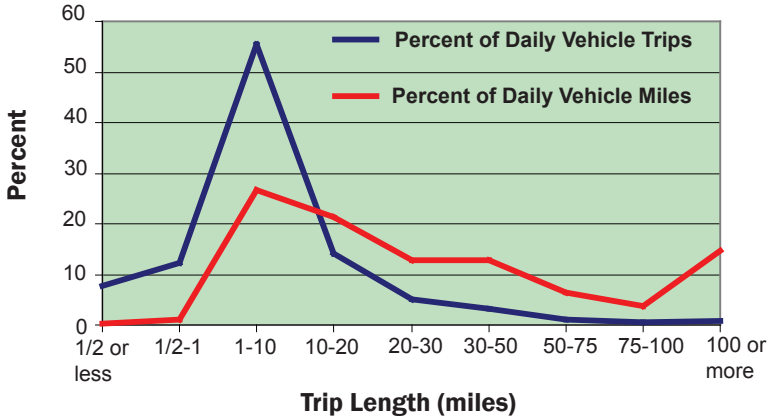
Figure 4-4. Annual Vehicle Miles Traveled per Licensed Driver, 1970–2006



TOGETHER, AMERICANS DROVE nearly 3 trillion miles in 2006. As indicated in this graph, the average annual VMT per licensed driver had been increasing since 1970. However, this trend switched in 2005. We now see the annual VMT per licensed driver decreasing.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 4-5. **Percent of Trips and Vehicle Miles by Trip Length**

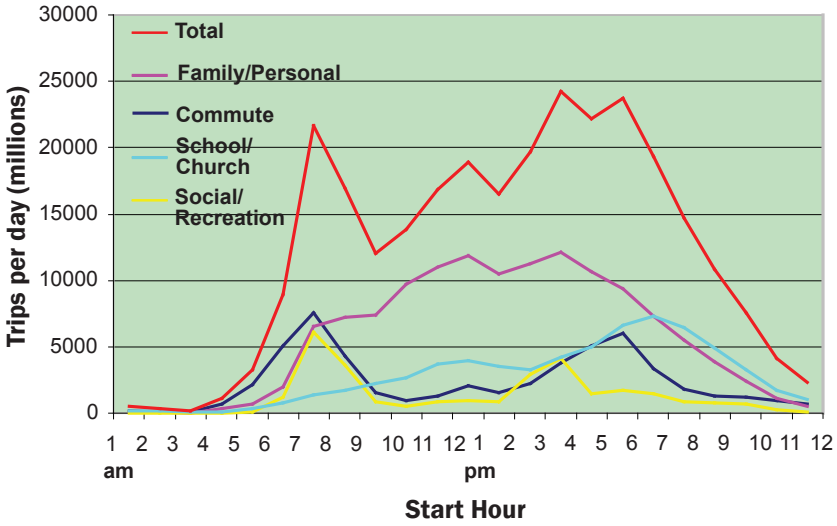


FOR HOUSEHOLD-BASED TRAVEL, short trips account for the vast majority of trips. Over half of all vehicle trips are between 1 and 10 miles. However, these short trips account for less than one-third (28.3 percent) of all household-based vehicle miles travelled.

Conversely, trips of 100 miles or more account for less than one percent of all vehicle trips, but nearly 15 percent of all household-based vehicle miles.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, National Household Travel Survey

Figure 4-6. **Start Time for Trips by Purpose**



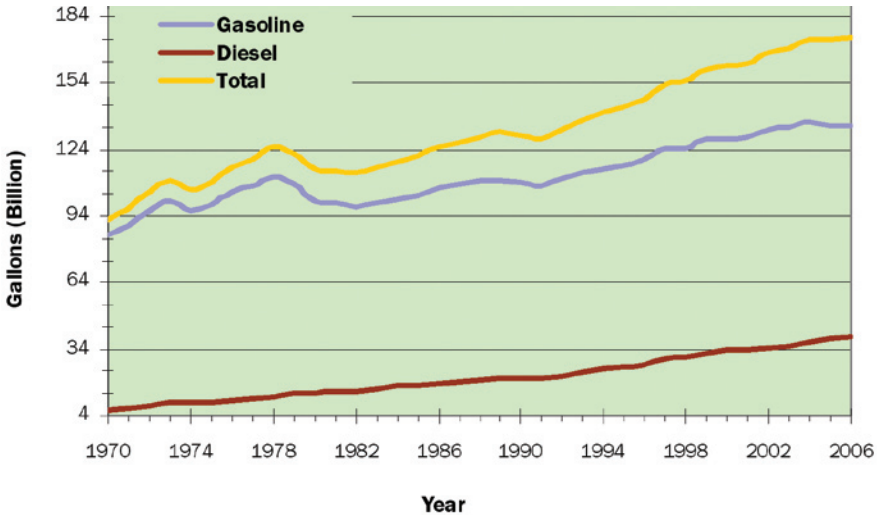
NATIONAL DATA ON travel by U.S. households shows that peak commute periods also include high levels of non-work travel for purposes such as family and personal, school and church, and social activities. Including trips by all modes of transportation, the number of non-work trips occurring in midday actually exceeds the number of commuting trips in peak travel periods. As most of the trips throughout the midday are local, short trips, they potentially have a greater impact on energy use and air quality than on highway congestion.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, National Household Travel Survey

5 Motor Fuel

The number of registered vehicles has increased each year of the last four decades, and the number of licensed drivers is also climbing. The result is more travel on the Nation's highways—the number of vehicle miles traveled has been increasing. One key ingredient which made the VMT growth possible is fuel—gasoline, diesel, and other less common fuels.

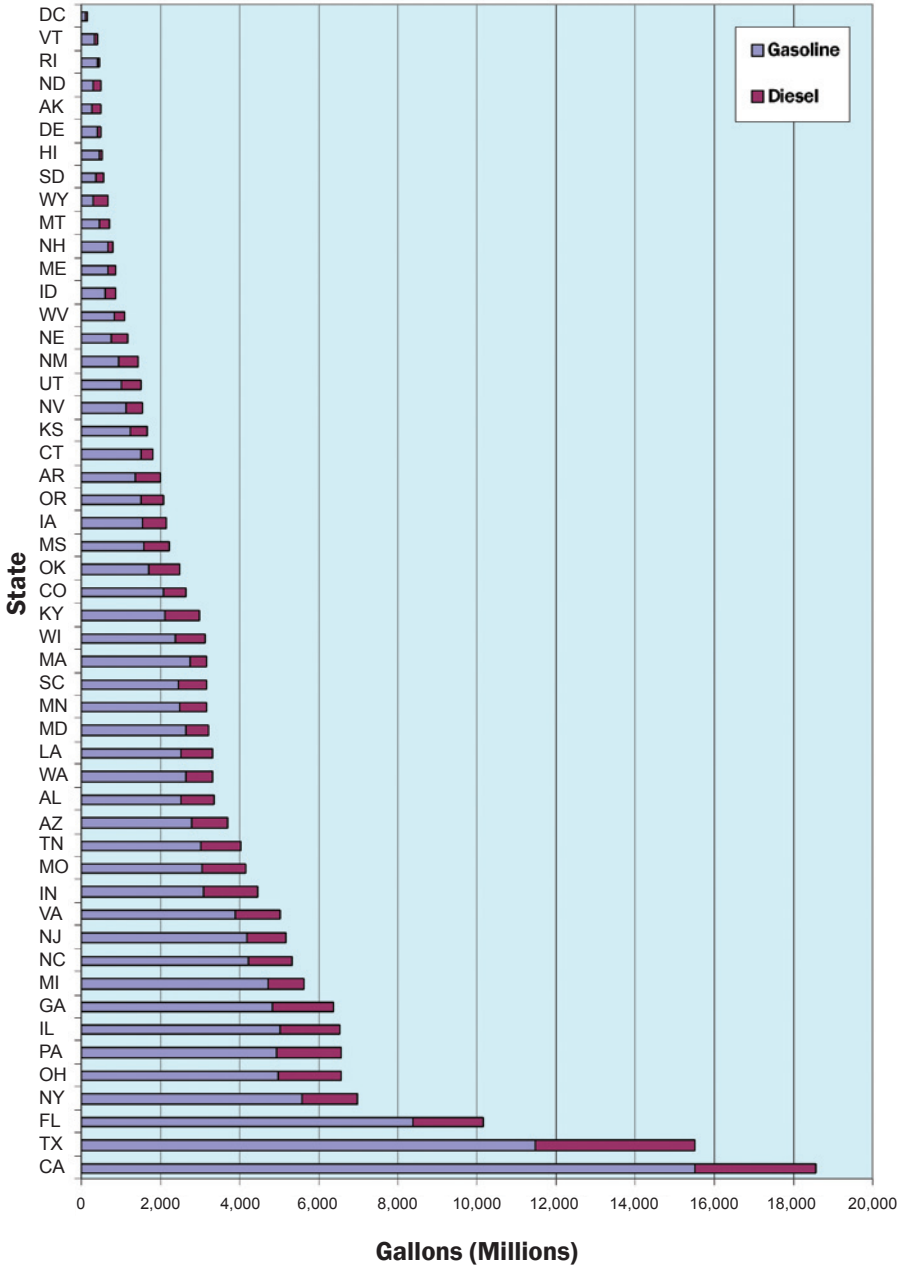
Figure 5-1. **Highway Fuel Usage, 1970–2006**



FROM 1970 TO 2006, total highway fuel consumption increased from 92 billion gallons to nearly 175 billion gallons.

Data Source for Figures 5-1 and 5-2: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 5-2. Fuel Consumption by State, 2006



6 Funding & Expenditures

Receipts from the Federal taxation of motor fuel, along with a number of other highway-related taxes, are deposited in the Federal Highway Trust Fund. The Trust Fund has two accounts, highway and mass transit, and is dedicated to funding Federal surface transportation programs. In this way, taxes on highway users are used to fund highway facilities. The Trust Fund has provided a stable funding source for highway programs since it was established in 1956.

Table 6-1. Federal Highway-User Fees

Motor Fuels	Cents per Gallon
Gasoline	18.4
Gasohol	18.4
Diesel and Kerosene Fuel	24.4
Special Fuels	18.3
Liquefied Petroleum Gas	13.6
Liquefied Natural Gas	11.9
Other Special Fuels	18.4

Other User Fees	Rate
Tires	Tax is imposed on tires sold by Manufacturers, Producers, or importers at the rate of $.0945 ($.04725 in the case of a bias ply or super single tire) for each 10 lbs of the maximum rated load capacity over 3,500 lbs.
Truck and Trailer Sales	12% of retailer's sales price for tractors and trucks over 33,000 lbs gross vehicle weight (GVW) and trailers over 26,000 lbs GVW. The tax applies to parts and accessories sold in connection with vehicle sales.
Heavy Use Vehicles	Trucks 55,000–75,000 lbs. GVW, $100 plus $22 for each 1,000 lbs (or fraction thereof) in excess of 55,000 lbs. Trucks over 75,000 GVW, $550.

REVENUE SOURCES OF the Federal Highway Trust Fund include the Federal fuel tax and a variety of other fees. The Federal gasoline tax rate has not changed since 1996.

Data Source for Table 6-1 and Figure 6-1: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 6-1. Ratio of Relative Trust Apportionments/Allocations to Relative Trust Fund Payments, 2006

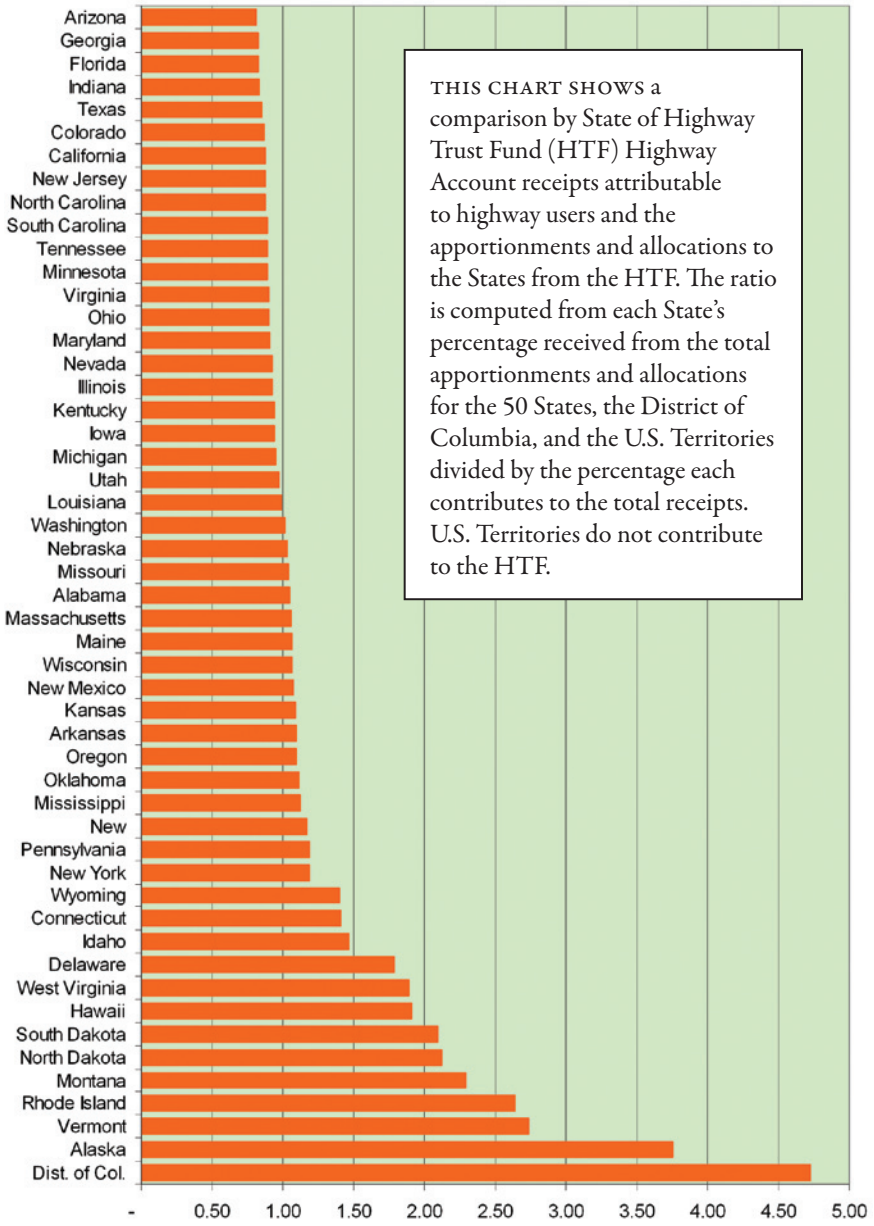
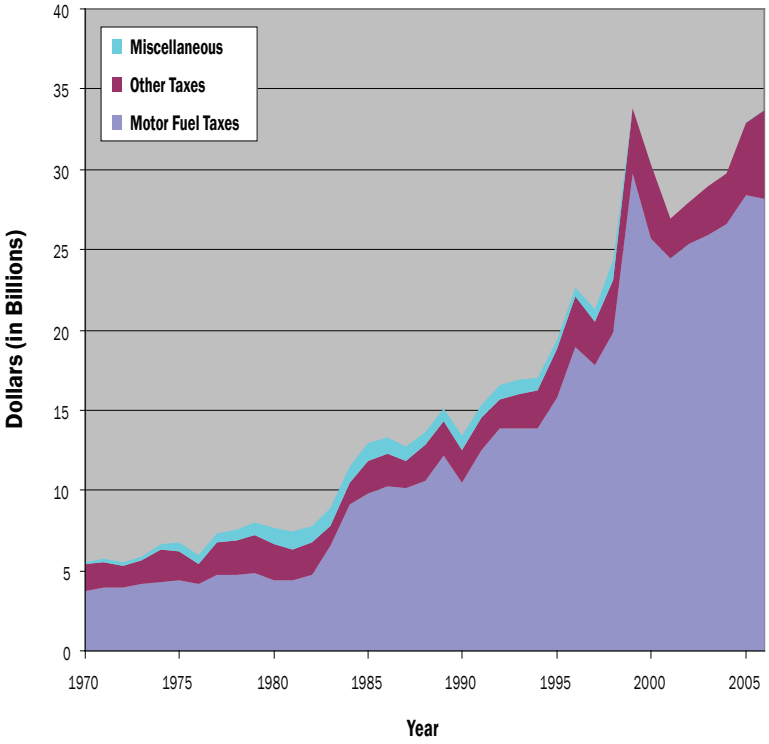


Figure 6-2. **Highway Trust Fund Receipts, 1970–2006**

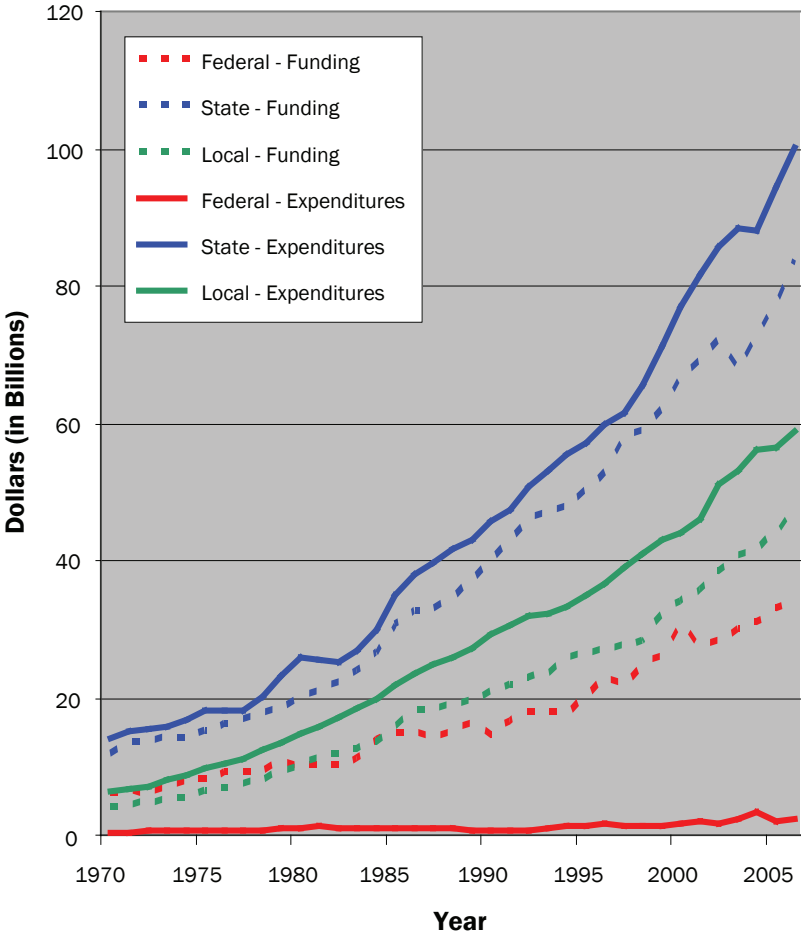


THE FUEL TAX rates have been changed several times since the highway trust fund was established. Variation in the amount of fuel sales also affects receipts. Fuel tax is collected by the Internal Revenue Service at the fuel refinery level.

Note: Under a Congressional mandate known as the Delayed Deposit Provision, about 5 billion dollars of FY 1998 Highway Trust Fund revenue was delayed until FY 1999.

Data Source for Figure 6-2, 6-3, 6-4, and 6-5: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 6-3. Highway Funding and Expenditures by Local, State, and Federal Governments, 1970–2006



TOTAL HIGHWAY FUNDING by all units of government—Federal, State, local—reached $161 billion in 2006. The Federal share has been declining, from roughly 2.0 percent in 1970 to less than 1.4 percent in 2006.

Figure 6-4. State Disbursements for Highways by Type in Dollars, 2006

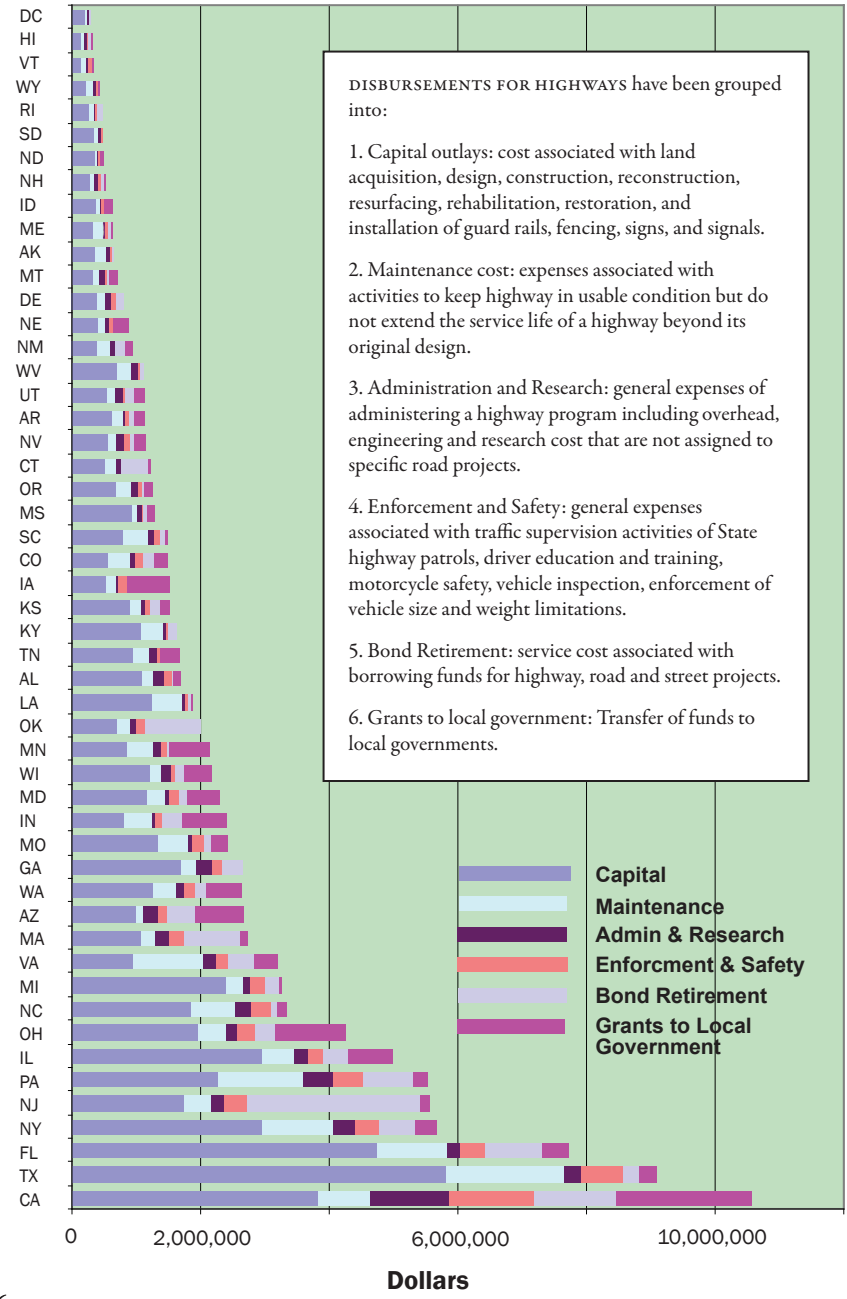


Figure 6-5. State Disbursements for Highways by Type as Percentage of Total, 2006

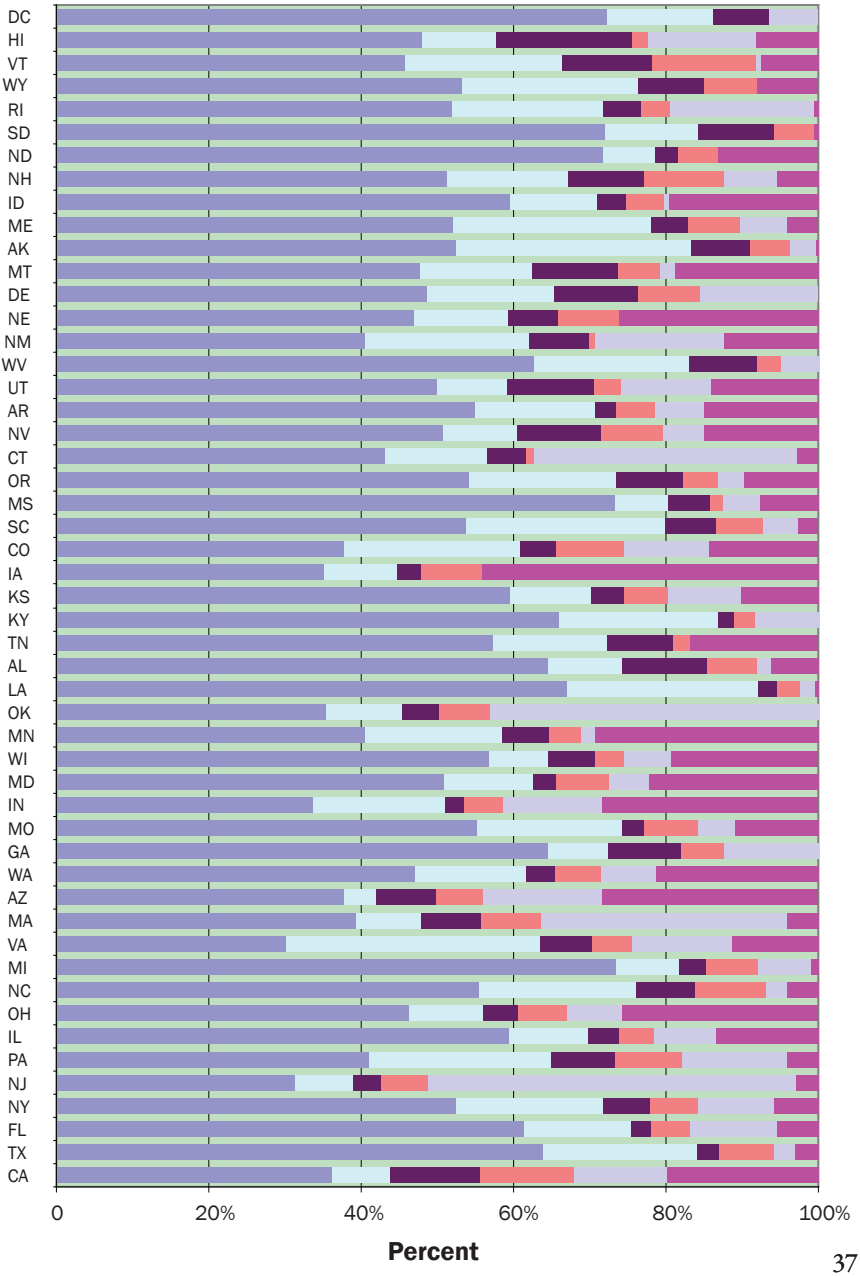
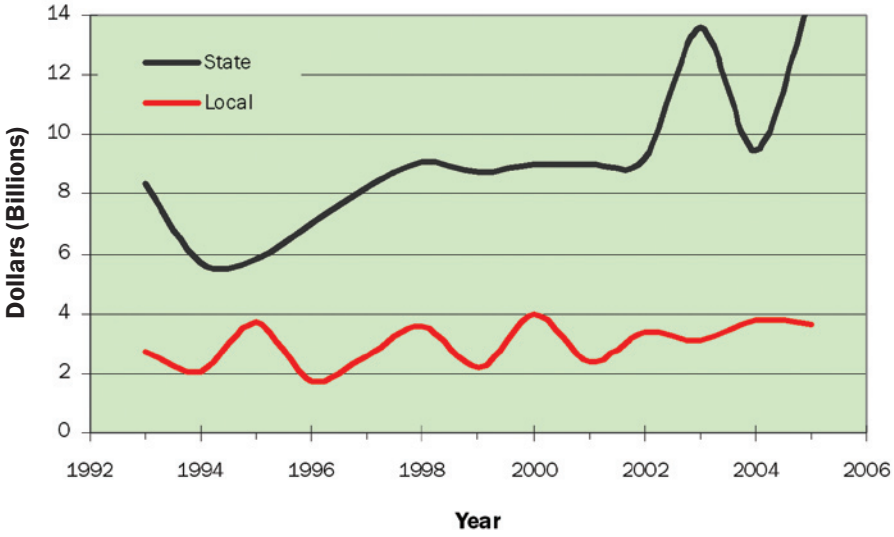


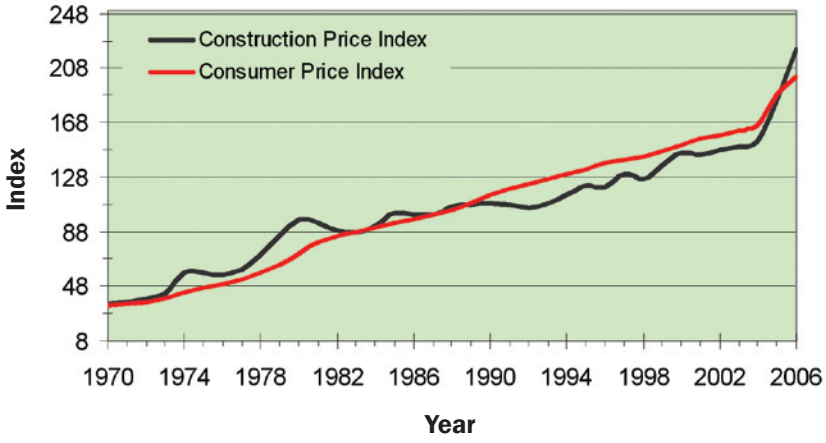
Figure 6-6. **Toll Facility Revenue**



REVENUE FROM TOLL is typically the only funding source for repaying money borrowed to construct a toll road and to provide for its ongoing maintenance and operations. Over the last 14 years, toll revenue has been increasing at an annual rate approaching 2 percent as compared with an annual 5 percent growth rate of the FHWA HTF.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

Figure 6-7. **Highway Construction Price Trends and Consumer Price Index**



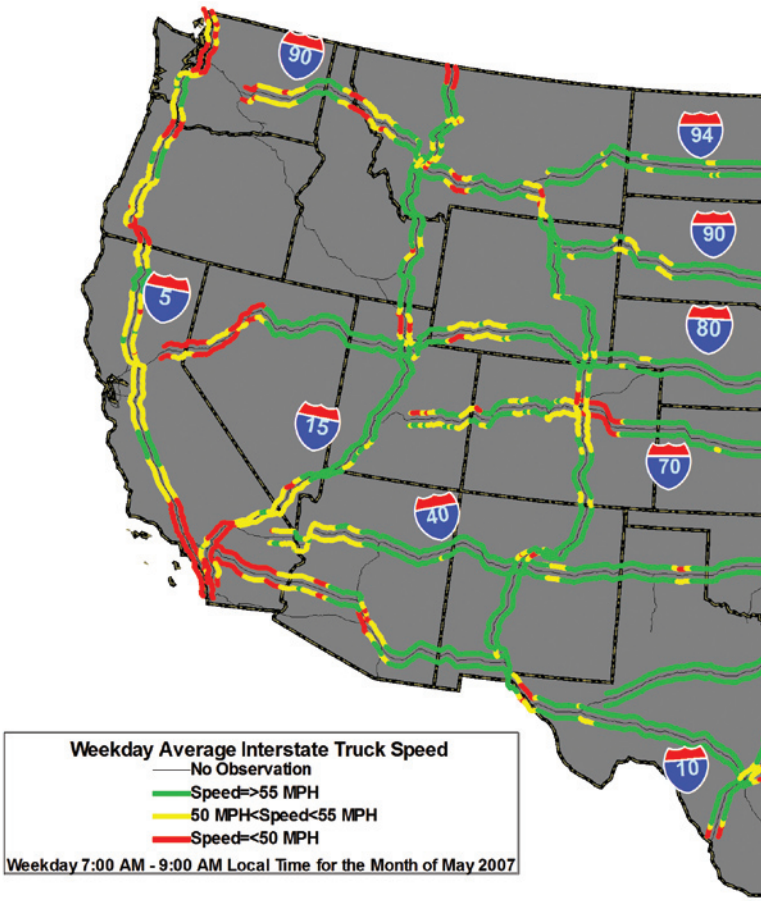
THE CONSUMER PRICE Index (CPI) measures the changes in the cost of purchasing products and services. The CPI is computed by the Bureau of Labor Statistics. The higher the number is, the faster the product or service rises in price over time. FHWA prepares a similar cost index for highway construction activities. The Federal-aid highway Construction Index (CI) is computed by FHWA's Office of Program Administration. It is a composite indicator covering the unit costs of excavation, resurfacing, and construction, and reflects cost changes for materials such as reinforcing steel, bituminous concrete, portland cement and other ingredients for highway projects across the country.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Statistics

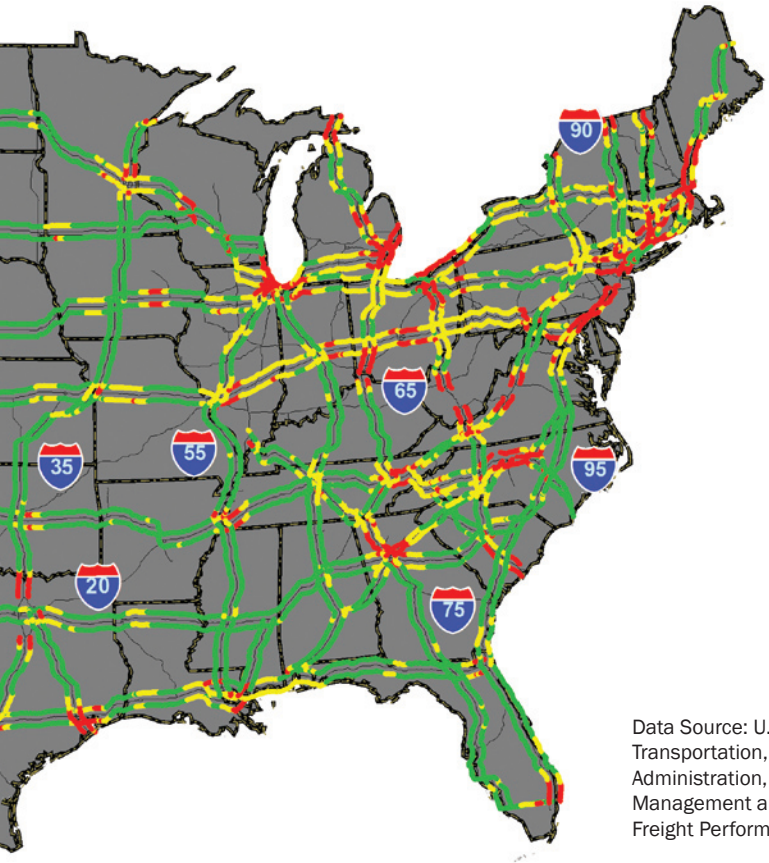
7 Condition, Performance, & Safety

Our reliance on highways to commute to work, to shop, vacation, and other activities, as well as their use for commerce, is creating significant demand on the system. Performance, reliability, safety, and asset preservation are key concerns for transportation agencies. Operating speeds, congestion, and pavement and bridge condition are some of the ways to measure the performance, condition, and safety of the Nation's highways.

Figure 7-1. **Interstate Truck Operating Speeds**

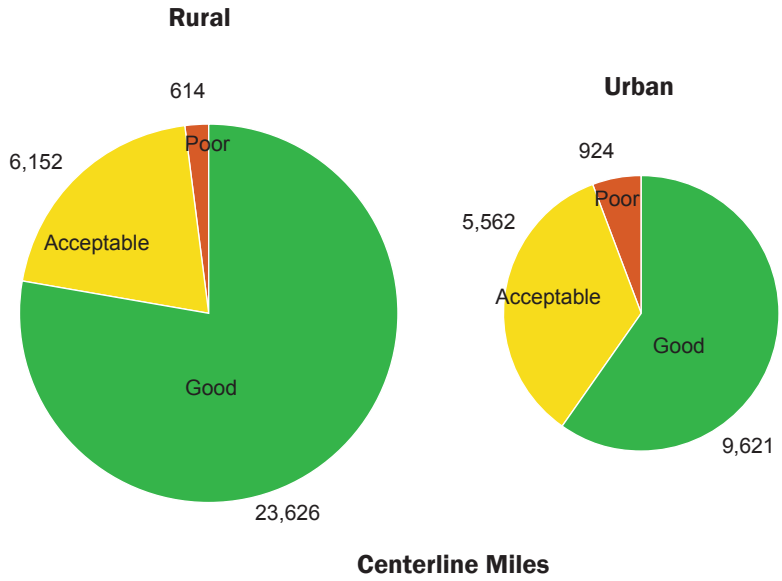


ONE OF MANY highway performance measures is travel speed. The Federal Highway Administration, Office of Freight Management and Operations, is working with the motor carrier and communications industries through American Trucking Research Institute to measure the speed and reliability of major truck routes based on the movements of more than 300,000 trucks. This map displays a snapshot of truck operating speeds that were observed at peak travel time (7:00–9:00 a.m. local time) during weekdays in May 2007.



Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Performance Measures

Figure 7-2. Pavement Surface Smoothness: Rural and Urban Interstate, 2006



THE INTERNATIONAL ROUGHNESS Index (IRI) is one of the most widely used measures of the quality of ride smoothness. Pavements with an IRI rating of less than 170 are considered to have an acceptable ride quality, while those with an IRI of less than 95 can be considered to have a good or very good ride quality.

Data Source for Figure 7-2 and Figure 7-3: U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System

Figure 7-3. Pavement Surface Smoothness by State: Rural and Urban Interstate, 2006

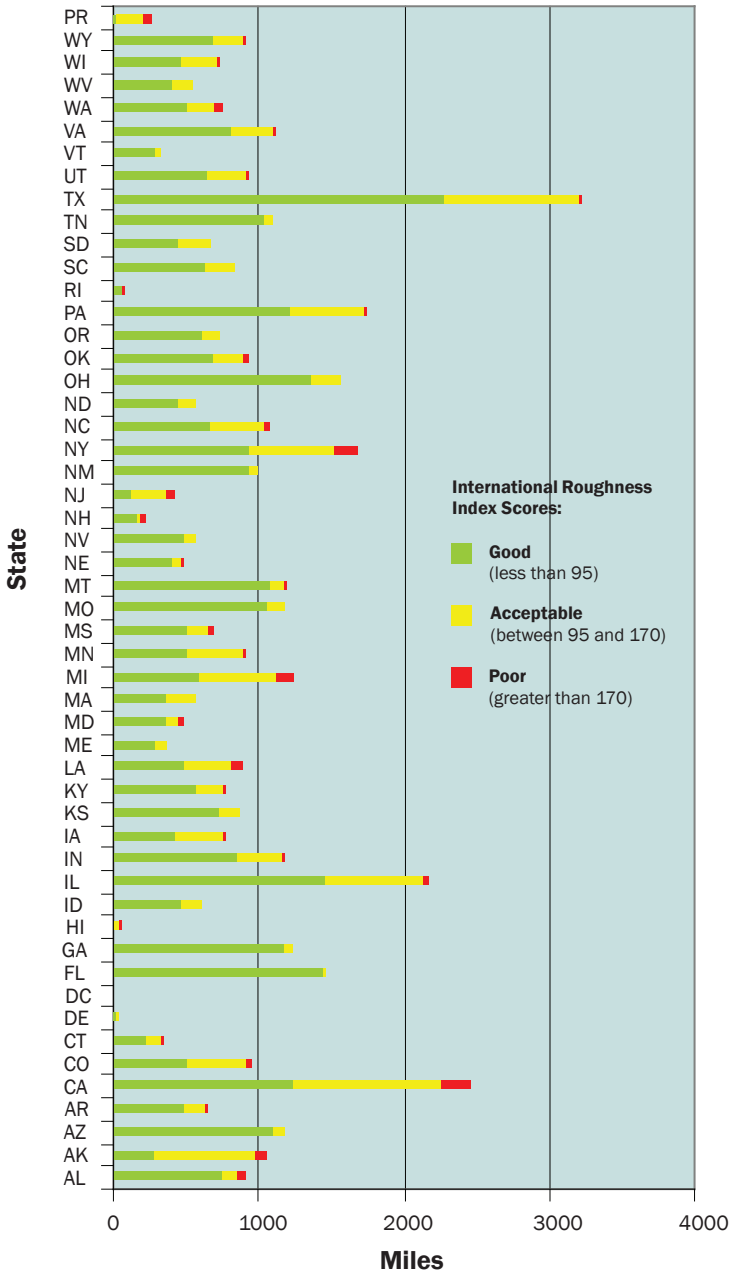
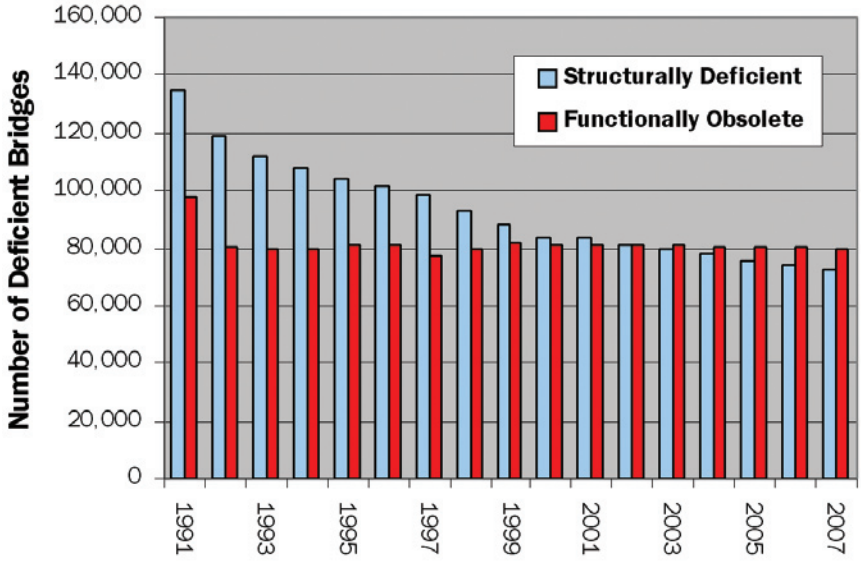


Figure 7-4. **Bridge Conditions, 1991–2007**

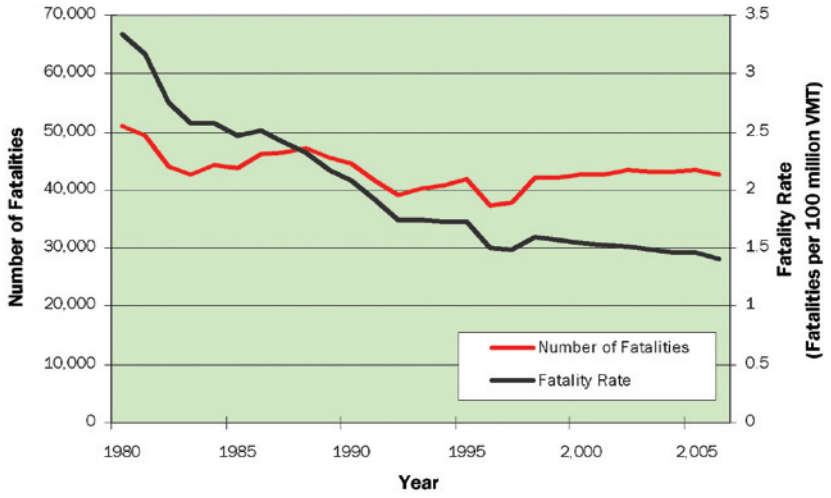


THE NATIONAL BRIDGE Inventory data documents the conditions of bridges on all public roads, regardless of their ownership. Bridges are evaluated and rated as "not deficient," "functionally obsolete," or "structurally deficient." A bridge rated "functionally obsolete" is not unsafe for all vehicles. Rather, it typically has an older design that lacks modern safety features such as adequate shoulder space, an appropriate railing system, or other features. A bridge rated "structurally deficient" is not necessarily unsafe either. Strict observance of signs limiting traffic or speed on the bridge will generally provide adequate safeguards for those who use the bridge.

As shown in Figure 7-4, the number of structurally deficient bridges has been declining since 1992. The number of functionally obsolete bridges has stayed relatively constant since 1992. As of December 2007, of the 599,766 bridges in the United States, 72,524 bridges were structurally deficient and 79,792 were functionally obsolete.

Data Source: U.S. Department of Transportation, Federal Highway Administration, Office of Bridge Technology, National Bridge Inventory

Figure 7-5. **Trend in Highway Fatality Rates, 1980–2006**



THE FATALITY RATE (fatalities per 100 million VMT) on the Nation's highways continues to decline. In 2006, the fatality rate reached 1.41, which is a historical low. Although the fatality rate is declining, there were still 42,642 fatalities in 2006.

The highway and transit authorization bill for 2005–2009, SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users), has authorized a new core safety program known as the Highway Safety Improvement Program. FHWA has been working with all other Federal, State, and local authorities and private organizations to develop new strategies and approaches to improve highway travel safety.

Data Source: U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System

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