

The information in this publication provides a condensed overview of facts and figures about our Nation's highways. It is considered to be of interest to the average citizen. Except where noted, the Federal Highway Administration is the source of the data provided by the States. For more detailed data on many of the subjects covered, refer to the publication, Highway Statistics, published annually by the Office of Highway Information Management, Federal Highway Administration.

## Cover Photo

The I-295 Varina-Enon Bridge spans the James River near Richmond, Virginia. The final closure of the main span was made on May 16, 1989.

Photo courtesy of Figg and Muller Engineers, Inc., Tallahassee, Florida.

## Contents

The highway system is vital to the Nation's economy. Twenty-nine percent of total revenue ton-miles of freight moves by highways.

The United States has 3.9 million miles of roadway, of which 3.1 million miles are rural roads. The interstate System accounts for only 1.2 percent of total mileage but carries 21.7 percent of total travel.

Pavement conditions on approximately 71 percent of the 44,629-mile Interstate System are rated good or better.

There are 188.7 million motor vehicles: 144.4 million automobiles and 44.3 million trucks and buses.

There are 165 million licensed drivers: 52 percent are men and 48 percent are women.
131.1 billion gallons of fuel per year are consumed for highway use, averaging about 704 gallons per motor vehicle.

Annual travel by motor vehicles has reached 2 trillion vehicle-miles, an increase of 32.6 percent since 1980 . Automobiles are responsible for 70.5 percent of this travel.

Although expenditures for highways now exceed $\$ 68$ billion a year, this amounts to less than 3.4 cents per vehicle-mile traveled.

| Motor Fuel Use | 20 |
| :--- | :--- |
| Travel |  |

## Transportation Expenditures at the Household Level

After housing ( 31.0 percent), transportation (18.9 percent) accounts for the largest single household expenditure, and 63.8 percent of transportation expenditures at the household level are for personal vehicles, gas, and oil.
Source: U.S. Bureau of Labor Statistics, Consumer Expenditures Survey: Results from 1987.


## Personal Travel by Mode of Transportation



The personal motor vehicle (automobile, light truck, van, and motorcycle) is the predominant form of personal transportation: Privately owned vehicles are used for 86 percent of all personal travel. Air transportation (commercial and general aviation) accounts for 8.5 percent of personal travel, and public transportation accounts for 2.8 percent.

Source: Federal Highway Administration, Nationwide Personal Transportation Survey, 1983-1984.

Freight Transportation by Mode
The Nation's highway system carries 29 percent of the total revenue ton-miles of freight.
Source: U. S. Department of Transportation, National Transportation Statistics, Annual Report, August 1989.


## Gross National Product and Travel Relationship

There is a strong relationship between the Vation's economy and travel on the Vation's highway system. Since the 1930's, Jrowth in the Gross National Product GNP) and vehicle-miles of travel (VMT) eflect strikingly similar patterns (with the
exception of the World War II period), including the periods of energy disruptions during the 1970's. Since the early 1980's, VMT has grown at a sligntly higher rate than the GNP.


## Vehicle-Miles of Travel per Capita

Highway travel by Americans, expressed as vehicle-miles of travel per capita, far exceeds highway travel by citizens of other
major countries. In 1988, VMT per capita in the United States reached 8,241, a 22 percent increase compared to 1980.
(Thousands)


Source: International Road Federation. World Road Statistics 1983-1987


## Percent of Household-Based Motor-Vehicle Travel by Purpose and Trip Length

Earning a living is the primary purpose of and recreational purposes also account for household-based motor-vehicle travel; but family and personal business, and social
major shares of household-based travel.


Source: Federal Highway Administration, Nationwide Personal Transportation Study, 1983-1984.

## State Gasoline Tax Rates

Despite significant increases in State motor-fuel tax rates during the 1980 's, the weighted average gasoline tax rate expressed in constant 1972 cents has
actually decreased by 35 percent from 7.33 cents per gallon to 4.75 cents per gallon.

Weighted Average Gasoline Tax
(Cents per Gallon)



## Highway Indicators

Annual vehicle-miles of travel and motorvehicle registrations have nearly doubled since 1968, but highway capital outlay
expressed in constant 1968 dollars has actually decreased by 17.6 percent.


## Highway Expenditures per Vehicle-Mile of Travel

In 1988, capital outlay, expressed in cents per vehicle-mile of travel (VMT), was 1.62 compared to 1.02 in 1968 - a 59.5 percent increase. Accounting for inflation, however, capital outlay per VMT was 0.42 - a 58.7 percent decrease. In 1988, total highway expenditures, expressed in cents per VMT, were 3.38 compared to 1.77 in

1968 - a 91 percent increase. Again when inflation is taken into account, total highway expenditures per VMT were 0.89 - a 49.7 percent decrease. In effect. expenditures by all units of government in relation to travel are about one half what they were 20 years ago.
(Cents per Vehicle-Mile of Travel)


## Jurisdictional Control of U. S. Roads and Streets

The vast majority ( 95.2 percent) of all roads and streets in the United States are under the jurisdiction of the State and local governments. Only 184,336 miles
(4.8 percent) are under the jurisdiction of the Federal Government and include roads in national forests and parks and roads on military and Indian reservations.

| Jurisdiction | Rural <br> Mileage | Percent | Urban <br> Mileage | Percent | Total <br> Mileage | Percent |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| State | 704,151 | 22.5 | 96,008 | 13.0 | 800,159 | 20.7 |
| Local | $2,244,155$ | 71.7 | 642,493 | 86.9 | $2,886,648$ | 74.5 |
| Federal | 183,363 | 5.8 | $\frac{973}{0.1}$ | $\frac{184,336}{4.8}$ | 4.8 |  |
| Total | $3,131,669$ | 100.0 | $\frac{739,474}{100.0}$ | $3,871,143$ | 100.0 |  |

## Total Road and Street Mileage by Surface Type

Currently, about 57 percent of all roads and streets are paved, compared with about 23 percent in 1949. Total road and street
mileage has increased only 16.7 percent since 1949; however, paved mileage has increased 198 percent.
(Millions)


## Federal-Aid Systems Mileage and Travel

The Federal-aid systems are segments of State and local mileage eligible for funding hrough the Federal-aid highway program.

The Federal-aid systems include 22 percent of total road and street mileage but carry 81 percent of total travel.

| Mileage |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Federal Aid Systems | Rural | Urban | Total | Percent of Total Mileage | $\begin{aligned} & \text { Percent Change } \\ & 1980 \text { to } 1988 \end{aligned}$ |
| Interstate (Arterials) | 33,303 | 11,326 | 44.629 | 1.2 | + 8.3 |
| Primary (Arterials) | 225,724 | 33,345 | 259,069 | 6.7 | -0.1 |
| Urban (Arterials \& Collectors) | - | 147.035 | 147,035 | 3.8 | +18.5 |
| Secondary (Collectors) | 400,081 | $\underline{-}$ | 400,081 | 10.3 | $+0.5$ |
| Total FederalAid Systems | 659,108 | 191,706 | 850,814 | 22.0 | + 3.4 |
| Not On FederalAid Systems | 2,472,561 | 547,768 | 3,020,329 | 78.0 | -0.5 |
| Total All Roads and Streets | 3,131,669 | 739,474 | 3,871,143 | 100.0 | + 0.4 |

Travel on the Federal-aid systems has increased 35.1 percent since 1980. The greatest growth ( 60.4 percent) occurred on
segments of the Interstate System in urban areas. Travel on all roads and streets has increased 32.6 percent since 1980.

| Annual Vehicle-Miles of Travel (Millions) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Federal Aid Systems | Rural | Percent Change 1980 to 1988 | Urban | Percent Change 1980 to 1988 | Total | Percent of Total Travel | Percent Change 1980 to 1988 |
| Interstate (Arterials) | 181.284 | 34.2 | 258.662 | 60.4 | 439,946 | 21.7\% | 48.5 |
| Primary (Arterials) | 308,413 | 19.0 | 272,160 | 41.2 | 580,573 | 28.7\% | 28.5 |
| Urban (Arterials \& Collectors) | - | - | 444.492 | 35.5 | 444,492 | 21.9\% | 35.5 |
| Secondary (Collectors) | 175,429 | 27.4 | - | - | 175,429 | 8.7\% | 27.4 |
| Total Federal- |  |  |  |  |  |  |  |
| Aid Systems | 665,126 | 25.0 | 975,314 | 43.0 | 1,640,440 | 81.0\% | 35.1 |
| Not On Federal Aid Systems | 152,431 | 8.8 | 232,715 | 34.2 | 385,146 | 19.0\% | 22.9 |
| Total All Roads and Streets | 817.557 | 21.7 | 1,208,029 | 41.2 | 2,025,586 | 100.0\% | 32.6 |

## Total Road Mileage and Travel by Functional Classification

Roads and streets are grouped into functional classes according to the type of service they provide. The arterial system (including the Interstate System) accounts for about 10.5 percent of the Nation's total roads and streets but carries 70.1 percent of total travel.

The Interstate System accounts for only 1.2 percent of the Nation's total miles of roadway; however, 21.7 percent of total travel occurs on this system. Conversely, local roads account for 68.6 percent of the Nation's total road and street mileage but only 13.6 percent of total travel.
(Percent)


Roads and streets in urban areas account for 19.1 percent of total mileage but 59.6 percent of total travel.



## Functional Classification

Arterial (including interstate and other freeways) - The highest classification of roads and streets. Arterials provide the highest level of mobility, at the highest speed, for a long uninterrupted distance.

Collector - Provides a lower level of mobility than arterials at lower speeds and for a shorter distance. Collectors connect local roads with arterials and provide some access to abutting land.

Local - The lowest classification of roads and streets. Local roads provide a high level of access to abutting land, but limited mobility.


## Pavement Conditions of Interstate and Other

## Arterial Highways ${ }^{1}$

The physical condition of the Nation's highways is a priority at all levels of government. The percentage of pavements in poor condition (in need of capital improvements) declined steadily across all functional systems in the years immediately following the passage of the Surface Transportation Act of 1982. For the period

1985 through 1988, pavement conditions on the Interstate System have remained somewhat stable with a slight decline in conditions on rural Interstate segments. For the same period, pavement conditions on the arterial and collector systems continue to show some improvements.

Interstate (Rural and Urban)


Other Arterials (Rural and Urban)

${ }^{1}$ More complete information on condition and performance may be abtained from the report of the Secretary of Transportation to the United States Congress: The Status of the Nation's Highways: Condition and Performance and Highway Bridge Replacement and Rehabilitation Program.


## Travel Congestion on Urban Interstates ${ }^{1}$

Travel congestion on urban segments of the Interstate System is increasing dramatically. In 1988, 68 percent of peak hour
travel on the urban Interstate occurred under congested conditions compared to 47 percent in 1978.
\% of Peak Hour Vehicle-Miles of Travel


## Bridge Conditions ${ }^{1}$

Forty percent of the Nation's estimated 578,218 bridges are structurally deficient or functionally obsolete. Twenty-seven percent of the 276,243 bridges on the Federal-aid systems are structurally deficient or functionally obsolete.

A structurally deficient bridge is closed or restricted to light vehicles only because of deteriorated structural components. Structurally deficient bridges are not necessarily unsafe. Strict observance of
signs limiting traffic or speed on bridges will generally provide adequate safeguards for those using the bridges.

A functionally obsolete bridge is one that cannot safely service the volume or type of traffic using it. These bridges are not unsafe for all vehicles, but have older design features that prevent them from accommodating current traffic volumes and modern vehicle sizes and weights.

|  | Federal-Aid Systems |  | $\frac{\text { Off Federal-Aid }}{\text { Systems }}$ |  | Total Federal-Aid Systems <br> Number Percent |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Structurally Deficient | 36,796 | 13.3 | 93,594 | 31.0 | 130,390 | 22.5 |
| Functionally Obsolete | 39,081 | 14.2 | 61,918 | 20.5 | 100,999 | 17.5 |
| All Other Bridges | $\underline{200.366}$ | 72.5 | 146,463 | 48.5 | 346,829 | 60.0 |
| Total Bridges in Inventory | 276,243 | 100.0 | 301,975 | 100.0 | 578,218 | 100.0 |

See footnote 1, page 10.


## Motor-Vehicle Fatalities

After a series of declines from 1979 to 1983, highway fatalities increased in four of the last five years. In 1988, there were 47,093 highway fatalities in 42,119 fatal accidents. Of the 47,093 fatalities, 5,110 or 11 percent occurred on the interstate System. An estimated 50 percent of
Fatalities (Thousands)
highway fatalities in 1988 were alcohol related.

The reported use of seat belts continues to rise dramatically. Seat belt use in States that have use laws now averages about 50 percent.


## Fatality Rates

The fatality rate - fatalities per 100 million vehicle-miles of travel (VMT) - on all highway systems continues to decline. In 1988 the fatality rate reached 2.3 - a 56.6 percent decrease compared to 1968. The decrease in the fatality rate occurred
despite a 99 percent increase in highway travel and an 88 percent increase in motorvehicle registrations during the period 1968 to 1988 . The fatality rate on the Interstate System is about one-half the rate on all highway systems.
(Fatalities per 100 Million VMT)



## Fatality Rate by Age Group

Younger and older drivers have the highest fatality rates among drivers of all age groups. The fatality rate among drivers 80 years of age and older (12.2) is 1,255 percent greater than the rate for
drivers $40-59$ years of age (0.9). The fatality rate for drivers 16-19 years of age (5.6) is 522 percent greater than the rate for drivers $40-59$ years of age.
(Fatalities Per 100 Million VMT)


Source: National Highway Traffic Safety Administration, Older Drivers: The Age Factor in Traffic Safety, February 1989.

## Fatalities Involving Heavy Trucks

There were 4,960 fatalities in accidents involving heavy trucks in 1988. Occupants
in other vehicles accounted for 3,737 or 75 percent of the fatalities involving heavy trucks.


[^0]

## Motor-Vehicle Registrations

The number of registered motor vehicles continues to increase steadily. Automobile registrations have increased 16.2 percent ( 22.8 million) since 1980 while truck registrations have increased 26.3 percent
( 8.9 million). Light single-unit trucks have seen a phenomenal growth in popularity since 1980 and now account for 19.1 percent of total registered motor vehicles.


Private and commercial.


## Motor-Vehicle Retail Sales

Total motor-vehicle retail sales averaged 15,500,000 units for the period 1984 through 1988 and reached an all-time peak of $16,323,000$ units in 1986. Retail sales of automobiles accounted for 67.4 percent of total sales in 1988 compared to
78.3 percent in 1980 . This decrease reflects the growing popularity of light trucks as personal vehicles. Retail sales of trucks reached a record $5,149,000$ units in 1988, an increase of 107 percent compared to 1980.
(Millions of Units)


Source: Motor Vehicle Manufacturers Association of the United States, Inc., Economic indicators - The Motor Vehicle's Role in the U.S. Economy, 3rd Quarter 1989.


## Average New-Car Selling Price

The average price of a new car reached $\$ 14,485$ in 1988, an increase of 6.4 percent over the 1987 average price of $\$ 13,613$
and a 127 percent increase compared to the 1978 average price of $\$ 6,379$.
(Thousands of Dollars)


Source: U.S. Department of Commerce, Bureau of Economic Analysis, Average Transaction Price Per New Car.

## Passenger Cars in Use by Age (as of July 1)

The average age of passenger cars in use 6.6 years in 1980, 6.0 years in 1975, and in 1988 was 7.6 years compared to 5.6 years in 1970.


[^1]
## Cost of Ownership and Operation

(4-year, 60,000-mile cycle)


Large
8-Cylinder 4-door Model

Medium
6-Cylinder
4-Door Model
Small
4-Cylinder
4-Door Hatchback

Cost (Cents per Mile) ${ }^{1}$
34.9
31.5

Average

Source: American Automobile Association, Your Driving Costs, 1988. Primary source of the data is Runzheimer International, Rochester, Wisconsin.
${ }^{1}$ Includes fuel, oil. tires, maintenance, insurance, depreciation, finance charges, and taxes.

## Ownership and Operating Costs by Category

 (Based on Average Cost of 30.6 Cents per Mile)The Federal Highway Administration estimates that combined Federal and State motor-fuel taxes currently account for
only about 3.4 percent of the cost per mile of owning and operating an automobile compared to 6.4 percent in 1968.


[^2]
## Licensed Drivers by Age

There were an estimated 164,912,000 licensed drivers in the United States in 1989. Although the 20-39 age groups contain the largest percentage of licensed drivers, the average age of licensed drivers
is shifting upward as older drivers continue to hold licenses. Drivers age 60 and older now represent 18.4 percent of total licensed drivers compared with 16.3 percent in 1980.


Licensed Drivers by Sex

Forty-eight percent $(79,697,000)$ of the estimated 165 million licensed drivers in 1989 were women. The number of female
drivers has increased 17 percent since 1980 compared with a 10.4 percent increase in male drivers.
(Millions)


## Licensed Drivers, Population, and Motor Vehicles

In 1950, 57 percent of the driving age population was licensed to drive a motor vehicle. By 1988,86 percent of the driving age population was licensed drivers. There were 1.26 licensed drivers for every
registered motor vehicle in 1950. In 1972 the ratio was about one to one, and by 1989 it had fallen to 0.87 or 1.1 vehicles per licensed driver.


## Total Highway-Fuel Consumption

Total highway motor-fuel use reached an all-time peak of 131.1 billion gallons in 1989, an increase of 15.6 percent compared to 1982 - the lowest point in highway motor-fuel use since 1975. Highway use of gasoline increased 12.1 percent during the period 1982 to 1989, but leveled off at 110 billion gallons in 1988 and 1989.
increased 38.9 percent during the period 1982 to 1989, an annual increase of 4.8 percent.

Gasohol sales increased dramatically from 500 million gailons in 1980 to 7.807 billion gallons in 1985. Since 1985, gasohol sales have remained relatively constant at the 8 billion gallon level.

On the other hand, private and commercial highway use of special fuel (diesel)
(Billions of Gallons)


## Vehicle-Miles of Travel, Motor-Fuel Consumption, and Miles-per-Gallon of Fuel for All Vehicles

Indices for vehicle-miles of travel, motorfuel consumption, and average vehicle fuel efficiency (miles-per-gallon) reflect significant increases during the 1980's. Annual vehicle-miles of travel have increased by 60.8 percent since 1972 and by 32.6 percent since 1980 . Motor-fuel con-
sumption has increased 23.6 percent since 1972 and by 13 percent since 1980. The average miles-per-gallon for all motor vehicles has increased by 30.1 percent from 11.99 in 1972 to 15.6 in 1988 and by 17.4 percent since 1980.


## Vehicle-Miles of Travel

Annual travel on the Nation's highways reached an estimated 2.026 trillion vehiclemiles in 1988, an increase of 5.4 percent over 1987 and an increase of 32.6 percent compared to 1980. Total travel for 1988 equates to an average of approximately 10,985 miles-per-vehicle annually.

Annual travel on roads and streets in urban areas accounted for 1.208 trillion vehiclemiles or 59.6 percent of total travel - an increase of 41.2 percent compared to 1980. Annual travel on roads and streets in rural areas increased by a more modest 21.7 percent compared to 1980.


## Rural Interstate Travel by Vehicle Type

On rural Interstate routes in 1988, combination trucks with 5 or more axles accounted for 15 percent of average daily traffic volumes but 92 percent of equivalent axle loads ${ }^{1}$. All other vehicles accounted for 85 percent of traffic volumes but only

8 percent of axle loads. Traffic volumes on rural Interstate routes by combination trucks with 5 or more axles increased by approximately 26.2 percent and equivalent axle loads increased by approximately 35.3 percent compared to 1980.

${ }^{1}$ Equivalent axle loads provide a means of measuring vehicle wear on pavements based on a common denominator for all vehicles.
${ }^{2}$ All 2-ax|e, 4 -tire trucks. Includes pick-up trucks; panel trucks, vans, and other vehicles (such as campers, motor homes, etc.).
${ }^{3}$ All vehicies on a single frame have either 2 axles and 6 tires or 3 or more axles (including camping and recreational vehicles and motor homes).
Source: Highway Statistics 1988 (from data collected at truck weight sites).

## 24 Travel

## Travel by Vehicle Type

Travel by 2-axle, 4 -tire trucks has increased over 250 percent compared to 1970 and now represents 21.4 percent of tota annual vehicle-miles of travel versus 11.1 percent in 1970. Travel by combination trucks has increased over 150 percent compared to 1970 and now accounts for 4.5 percent of total annual travel versus
3.2 percent in 1970 . Although travel by passenger cars has increased 55.9 percent compared to 1970, the percentage of annual travel by passenger cars in relation to travel by all vehicles has decreased from 82.6 percent in 1970 to 70.6 percent in 1988.

Travel Index (1970 a 100)


## Annual Miles Driven by Age Group



Source: Federal Highway Administration, Nationwide Personal Transportation Study, 1983-1984.

## Annual Miles Driven by Sex

(Annual Miles Driven)


Source: Federal Highway Administration, Nationwide Personal Transportation Study, 1983 - 1984.

## 26 Financing Our Highways

## Federal Highway Trust Fund Receipts

Federal Highway Trust Fund (HTF) receipts, including interest and receipts credited to the Mass Transit Account, reached $\$ 16.873$ billion in fiscal year 1989. Motor-fuel tax receipts, the largest source of income for the HTF, accounted for
86.1 percent or $\$ 13.460$ billion. Receipts from other taxes accounted for $\$ 2.167$ billion. Interest on investments accounted for $\$ 1.245$ billion, or 7.4 percent of total HTF receipts.
(Billions of Dollars)


[^3]
## Federal Highway Trust Fund Balance and Commitments

The balance in the Highway Trust Fund has grown from $\$ 9.581$ billion at the end of fiscal year (FY) 1983 to $\$ 16.608$ billion at the end of FY 1989. During this period, the balance in the Mass Transit Account has increased from $\$ 519$ million to $\$ 6.057$ billion while the balance in the Highway Trust Fund for highway programs has increased from $\$ 9.062$ billion to $\$ 10.551$ billion. Unpaid commitments for highway
programs were $\$ 31.685$ billion at the end of FY 1989, or $\$ 21.134$ billion greater than the balance available. (Unpaid commitments which exceed the balance available will be paid by future highway user fees accruing to the Highway Trust Fund.) Unpaid commitments for the Mass Transit Account were $\$ 4.144$ billion at the end of FY 1989, or $\$ 1.913$ billion less than the balance available.

## Billions of Dollars)



Note: The Highway Trust Fund was established July 1, 1956: the Mass Transit Account was established April 1, 1983.

## Federal-Aid Highway Obligations by the Type of Improvement (1984-1988)

Obligations of Federal-aid highway funds totaled $\$ 71.4$ billion for the 5 -year period 1984 through 1988 - an average of
$\$ 14.3$ billion per year. Resurfacing and rehabilitation work represented the largest portion of obligations during the period.


## 28 Financing Our Highways

## Highway Receipts by Category Highway Expenditures by Function

Total receipts for highways by all units of government reached $\$ 69$ billion in 1988 a 270 -percent increase compared to 1968. Highway-user fees, which make up the largest share of receipts, account for 60.3 percent compared to 69.3 percent in 1968. General fund appropriations make up a growing share of highway receipts and now account for 16.5 percent of the total compared to 9.7 percent in 1968.

Capital outlay currently accounts for 48.1 percent of highway expenditures compared to 57.5 percent in 1968; maintenance accounts for 27.6 percent compared to 22.3 percent in 1968. Expenditures for administration, highway patrol, and bond interest also account for an increasing share of total expenditures - 20.5 percent in 1988 versus 14.3 percent in 1968.

Highway Receipts
by Category
(1978-1988)

Highway Expenditures
by Function
(1978-1988)
(Billions of Dollars)


## Highway Receipts and Expenditures

 by Governmental UnitState governments account for the largest shares of highway receipts and expenditures, but the shares attributed to local units of government have increased significantly compared to 1968. Municipalities and counties now account for 27.9 percent of total receipts and 38 percent of total expenditures compared
to 19.0 percent and 29.5 percent, respectively, in 1968. Receipts collected by the Federal Government for highways have increased over 200 percent compared to 1968; however, the relative share of total receipts has decreased from 27.2 percent in 1968 to 22.4 percent in 1988.

Highway Receipts
(Billions of Dollars)


Note: Expenditures by the Federal Government only reflect direct expenditures by Federal agencies. Federal-aid expenditures are included with amounts shown for State and local governments.

## 30 Financing Our Highways

## Highway Capital Outlay and Maintenance Expenditures by All Units of Government ${ }^{1}$

Highway capital outlay in 1988 increased 218 percent compared to 1968; however, due to inflation, capital outlay in 1988 (expressed in constant 1968 dollars) was actually 17.7 percent below the 1968 level.

Maintenance expenditures in 1988 increased 374 percent compared to 1968. Again, however, accounting for inflation, maintenance expenditures in 1988 were only 13.9 percent above the 1968 level.

${ }^{1}$ Capital outlay includes construction, engineering, and right-ot-way.

## Highway Price Trends



## Federal Highway-User Fees ${ }^{1}$

| User Fee Type | Rate on January 1, 1990 |
| :---: | :---: |
| Gasoline | \$.09/gallon ${ }^{2}$ |
| Gasohol | \$.03/gallon ${ }^{2}$ |
| Diesel Fuel | \$.15/gallon ${ }^{2}$ |
| Other Special Fuels | \$.09/gallon ${ }^{2}$ |
| Tires | 0-40 lbs.: No tax. <br> 40-70 lbs.: $\$ .15$ for every lb. over 40 lbs. <br> 70-90 lbs.: $\$ 4.50+\$ .30$ for every lb. over 70 lbs . <br> Over 90 lbs.: $\$ 10.50+\$ .50$ for every lb. over 90 lbs. |
| Truck and Trailer Sales | $12 \%$ of retailer's sales price for trucks over $33,000 \mathrm{lbs}$. gross vehicle weight (gvw) and trailers over 26,000 lbs. grw. |
| Heavy Vehicle Use (annual tax) | Trucks $55,000 \mathrm{ibs}$ g gww to $75,000 \mathrm{lbs}$. gvw: $\$ 100.00$ plus $\$ 22.00$ for each $1,000 \mathrm{lbs}$. (or fraction thereof) in excess of $55,000 \mathrm{lbs}$. <br> Trucks over 75,000 lbs. grw: $\$ 550.00$ |

See Table FE 101, Highway Statistics, for a more comblete description of Federal highway user lees
${ }^{2}$ Excludes the 0.1 cent per gallon tax on motor fuel dedicated to the Leaking Underground StorageTank Fund.

## Highway Trust Fund Authorizations ${ }^{1}$ for FY 1990 and $1991^{2}$ (in Millions of Dollars)

| Selected Programs | FY 1990 | FY 1991 |
| :---: | :---: | :---: |
| Interstate Construction ${ }^{3}$ | \$3,150 | \$3,150 |
| Interstate 4R ${ }^{3.4}$ | 2,815 | 2,815 |
| Interstate Substitute (Highway) | 740 | 740 |
| Primary ${ }^{5}$ | 2,375 | 2,375 |
| Secondary | 600 | 600 |
| Urban | 750 | 750 |
| Bridge Replacement and Rehabilitation | 1,630 | 1,630 |
| Hazard Elimination | 170 | 170 |
| Rail Highway Crossings | 160 | 160 |
| Minimum Allocation | 1,198 | 6 |
| Highway Salety (FHWA and NHTSA) | 172 | 177 |
| Motor Carrier Safety Assistance | 59 | 60 |
| Emergency Relief | 1,100 ${ }^{7}$ | 100 |
| Demonstration Projects | 220 | 178 |
| Other Programs, Projects, and Studies | 283 | 235 |
| Total\$ | 15,422 | \$13,140 ${ }^{\text {8 }}$ |

'Authorized by Surface Transportation and Uniform Relocation Assistance Act (STURAA) of 1987 and by the 1990 Appropriations Act for the Department of Transportation. Does not reflect amounts sequestered from funds authorized by the STURAA of 1987 . Excludes authorizations for mass transportation programs.
*Fiscal year staits October 1 and ends September 30.
Interstate and Interstate 4R funds are made available 1 year in advance of the year for which they are authorized
${ }^{4}$ Resurfacing, rehabilitation, restoration, and reconstruction.
${ }^{5}$ Includes primary minimum ( $\$ 50$ million)
Amounts are determined each year.
Authorization increased by FY 1990 Appropriations Act to repair damages to roads and streets resulting from Hurricane Hugo and the earthquake in Calitornia
${ }^{\text {B Excludes minimum allocation funds. }}$

|  | Vehicles | Licensed Drive |  | Road and Street Mileage | of Travel (Millions) |
| :---: | :---: | :---: | :---: | :---: | :---: |
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|  | 941,27 |  |  |  |  |
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| Massachu | 3,818.312 | 4,249,814 | 2,742,165 |  |  |
|  |  |  |  |  |  |
|  | 3.210 .357 | 2.478,925 | 2,279,037 | 129,644 | 36.447 |
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| Nebrask |  |  |  |  |  |
|  |  |  |  |  |  |
| w | 928.114 | 798.336 | 570.088 | 14.711 |  |
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| New |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Ohio |  |  |  |  |  |
|  |  |  |  |  |  |
| regon |  |  |  |  |  |
| Prinsy |  |  |  |  |  |
| Rhode |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Texas |  |  |  |  |  |
| Otabe |  |  |  |  |  |
| Verme | 452,846 | 406,194 | 324,340 | 14,089 |  |
|  |  |  |  |  |  |
| Wash | 3,887,314 | 3,198,02 | 2,431,11 |  |  |
| Wert | 1.20.634 - - -1.00421 |  |  |  |  |
| Wisconsin |  |  |  |  |  |
|  |  |  |  |  |  |
| U.S. TOTAL | 396,73 | 162,853,255 | 129,885,880 | 3,871,143 |  |

[^4]

[^5]1988 Relationships - Populatic

| State | Resident Population (Thousands) | Licensed Drivers per 1000 Population | Registered Motor Vehicles per 1000 Population | Licensed Drivers per Motor Vehicle | Persons per Registered Motor Vehicle |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| Alaska | 524 | 573 | 691 | 0.83 | 1.45 |
| Wianchlat | 3 Sk |  |  |  |  |
| Arkansas | 2,395 | 700 | 596 | 118 | 1.68 |
| Whallurxa | \% 142 |  |  |  |  |
| Colorado | 3,301 | 674 | 886 | 0.76 | 1.13 |
| Sommectut | 288 |  |  | 939 3 k 122 |  |
| Delaware | 660 | 710 | 776 | 0.92 | 1.29 |
| ste | 31\% |  |  | 148 |  |
| Florida | 12,335 | 713 | 890 | 0.80 | 1.12 |
| Wreotis | , 6 S | \% 8 | * |  |  |
| Hawaii | 1,098 | 578 | 642 | 0.90 | 1.56 |
| Wasko | 008 | 36 | 9\% | 0.5wdemmumax Lot |  |
| Illinois | 11,614 | 625 | 677 | 0.92 | 1.48 |
| Whamala | $5{ }^{5}$ |  |  |  |  |
| lowa | 2,834 | 686 | 906 | 0.73 |  |
| W6xasm | 354 | 6684 | 4xdist |  |  |
| Kentucky | 3,727 | 635 | 750 | 0.85 . 133 |  |
| \% coistiont | 4248 | 318 | 168 |  |  |
| Maine | 1.205 | 719 | 781 | 0.92 1.28 |  |
| Mandmdy | 1828 | \%em | Whty |  |  |
| Massachusetts | 5,889 | 722 | 648 | $1.11 \quad 1.54$ |  |
| Whabins | 9640 | 8 | 4ts |  |  |
| Minnesota | 4,307 | 576 | 745 | $0.77 \quad 1.34$ |  |
| 4 | 2 S 620 |  | 68 | $1615 \times 5$ |  |
| Missouri | 5,141 | 683 | 738 | $0.93 \quad 1.35$ |  |
| W |  |  | \%\%\% |  |  |
| Nebraska | 1,602 | 679 | 829 | $0.82 \quad 1.21$ |  |
| Nevataz | 10944 | 36 | 56 |  |  |
| New Hampshire | 1,085 | 736 | 855 | 0.86 - 1.17 |  |
| Netwersey | 73\% | 106 | 749 | 935 max -1.35 |  |
| New Mexico | 1,507 | 695 | 840 | $0.83-1.19$ |  |
| New Work | 17909 | 569 | 549 | 10, |  |
| North Carolina | 6,489 | 681 | 774 | 0.88 , 1.29 |  |
| Wwith |  | \% 64 | 488 |  |  |
| Ohio | 10,855 | 680 | 793 | $0.86 \quad 1.26$ |  |
| - Shlaboma | \% 3 \% 4 | +6\% | 4680 |  |  |
| Oregon | 2,767 | 784 | 837 | 0.94 1.19 |  |
| Wermbuchnia | 610 | \% | 2046 |  |  |
| Rhode Island | 993 | 671 | 676 | 0.98 - 1.48 |  |
|  | W3\% ${ }^{3}$ | W 2 S ${ }^{\text {a }}$ | Wust |  |  |
| South Dakota | 713 | 677 | 971 | $0.70 \quad 1.03$ |  |
| IWhested my | 44*85 |  | ktect |  |  |
| Texas | 16,841 | 658 | 737 | 0.89 1.36 |  |
| Why | W2ucke | 2 ym 8 | \%68\% |  |  |
| Vermont | 557 | 729 | 813 | $0.90 \quad 1.23$ |  |
| Wirshichem | \% 6016 | 49 |  |  |  |
| Washington | 4648 | 688 | 836 | $0.82 \quad 1.20$ |  |
| West viona | + 28 | 696 | 386 | 162 ${ }^{\text {a }}$, 1.46 |  |
| Wisconsin | 4,855 | 673 | 804 | $0.84 \quad 1.24$ |  |
| Wubmhts mex |  |  |  |  |  |
| U.S. TOTAL | 245,807 | 663 | 750 | $0.88 \quad 1.33$ |  |

${ }^{1}$ Vehicle relationships exclude motorcycles.

## ivers, Vehicles, Fuel, and Travel ${ }^{1}$



## Areas With Por

| d Ar | atio |  | Federal-Aid |  |  | $\begin{gathered} \text { Total } \\ \text { Highway } \\ \text { Mileage } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Prime State | $\begin{aligned} & \text { Other } \\ & \text { State } \end{aligned}$ | $\begin{aligned} & \text { Population } \\ & (1,000) \end{aligned}$ | $\begin{gathered} \text { Area } \\ \text { (Sq. Miles) } \end{gathered}$ | $\begin{gathered} \text { Square } \\ \text { Mile } \end{gathered}$ |  |
|  |  |  |  |  |  |  |
|  | CA Cut $^{\text {a }}$ |  |  |  |  |  |
| (throvert |  |  |  |  |  |  |  |
| ILADELPHIA |  |  |  |  |  |  |
| Borf |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Hincton |  |  |  |  |  |  |  |
| DALLAS FORT WO | TX |  |  |  |  |  |
| Fothetem tevt |  |  |  |  |  |  |
| OSTON |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Wriearet |  |  |  |  |  |  |  |
| bal timore |  |  |  |  |  |  |
| bnoenx: |  |  |  |  |  |  |  |
| MIAM | FL |  |  |  |  |  |
| -arssuit |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Evelemo |  |  |  |  |  |  |
| ATTLE-EV |  |  |  |  |  |  |  |
| fures |  |  |  |  |  |  |
| an JO |  |  |  |  |  |  |
| -9Buname |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Luratee |  |  |  |  |  |  |
| SAN ANTONIO |  |  |  |  |  |  |
| Chenemat |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| neworiea |  |  |  |  |  |  |  |
| BUFFALO |  |  |  |  |  |  |
| San been |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| STMEO |  |  |  |  |  |  |
| Mrneplis |  |  |  |  |  |  |
| dianapols |  |  |  |  |  |  |
| Provecme |  |  |  |  |  |  |  |
| columbus |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| omention | UT We wew |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Wrsismi |  |  |  |  |  |  |
| tampa |  |  |  |  |  |  |
| datul |  |  |  |  |  |  |
| BIRMINGHAM |  |  |  |  |  |  |
| - ROCHESTER |  |  |  |  |  |  |  |
| SHMES |  |  |  |  |  |  |
| Shi. |  |  |  |  |  |  |  |
| , | $\mathrm{CT}^{\text {c }}$, $0^{01}$ |  |  |  |  |  |
| OMAHA | 40ME ${ }_{\text {NE }}$ |  |  |  |  |  |
| 10st |  |  |  |  |  |  |
| l PASO |  |  |  |  |  |  |
| RINGEFI |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

* Annual average daily traffic.

NA - Data not available.
Source: All data, except rail, reported by States through the Highway Performance Monitoring Study. Rail data is from Urban Mass Transportation Administration 1987 Annual Report, Section 15. Table 3.16. and is the sum of Rail Rapid and Commuter Rail dati

## n Above 500,000

| Tota <br> Freeway xpresswa Mileag | Tolal Daily Highway Vehicle-miles $(1,000)$ | $\begin{array}{r} \text { Tola } \\ \text { Dail } \\ \text { Freewa } \\ \text { Vehicle-mile } \\ (1,000 \end{array}$ | $\begin{array}{r} \text { Rail } \\ \text { Passenger } \\ \text { Miles } \\ (1,000) \end{array}$ | VehicleMiles per Capita | verage AADT* <br> Total | Travel Served by reeways |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 40367 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 75,995 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 49,262 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 33.333 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 33,538 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 39,030 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 151 | 22.913 | 8.856 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  | 4,351 |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 21964 |  |  | 21.4 | 6,849 |  |  |
|  |  |  |  |  |  |  |  |
|  | 18,209 | 5,729 |  | 20.3 |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 7.743 |  |  | 4913 |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 7.846 |  | 177 |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 16,547 | 5.154 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 14.689 | 3.442 |  |  | 4578 |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 94 | 11.530 | 3,688 |  | 18.8 |  |  |  |
|  |  |  |  |  |  |  |  |
| 100 | 13,566 | 6,062 |  | 22.5 |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 8.645 | 1.961 |  | 14.8 | 3.752 |  |  |
|  |  |  |  |  |  |  |  |
|  | 8.899 | 2,605 |  | 16.6 | 3,509 | 29.2\% |  |
|  |  |  |  |  |  |  |  |
|  | 13,669 | 4,443 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |




[^0]:    Source: National Highway Traffic Safety Administration, Fatal Accident Reporting System, 1988.

[^1]:    Source:Compiled by the Motor Vehicle Manufacturers Association from R. L. Polk \& Co. data.

[^2]:    Source: American Automobile Association, Your Driving Costs, 1988.

[^3]:    Note: Includes Mass Transit Account. Transition quarter included with FY 1976.

[^4]:    All units of government. 1987 data. ${ }^{2}$ Fiscal year (October 1 - September 30)

[^5]:    ${ }^{3}$ Includes allocations.

