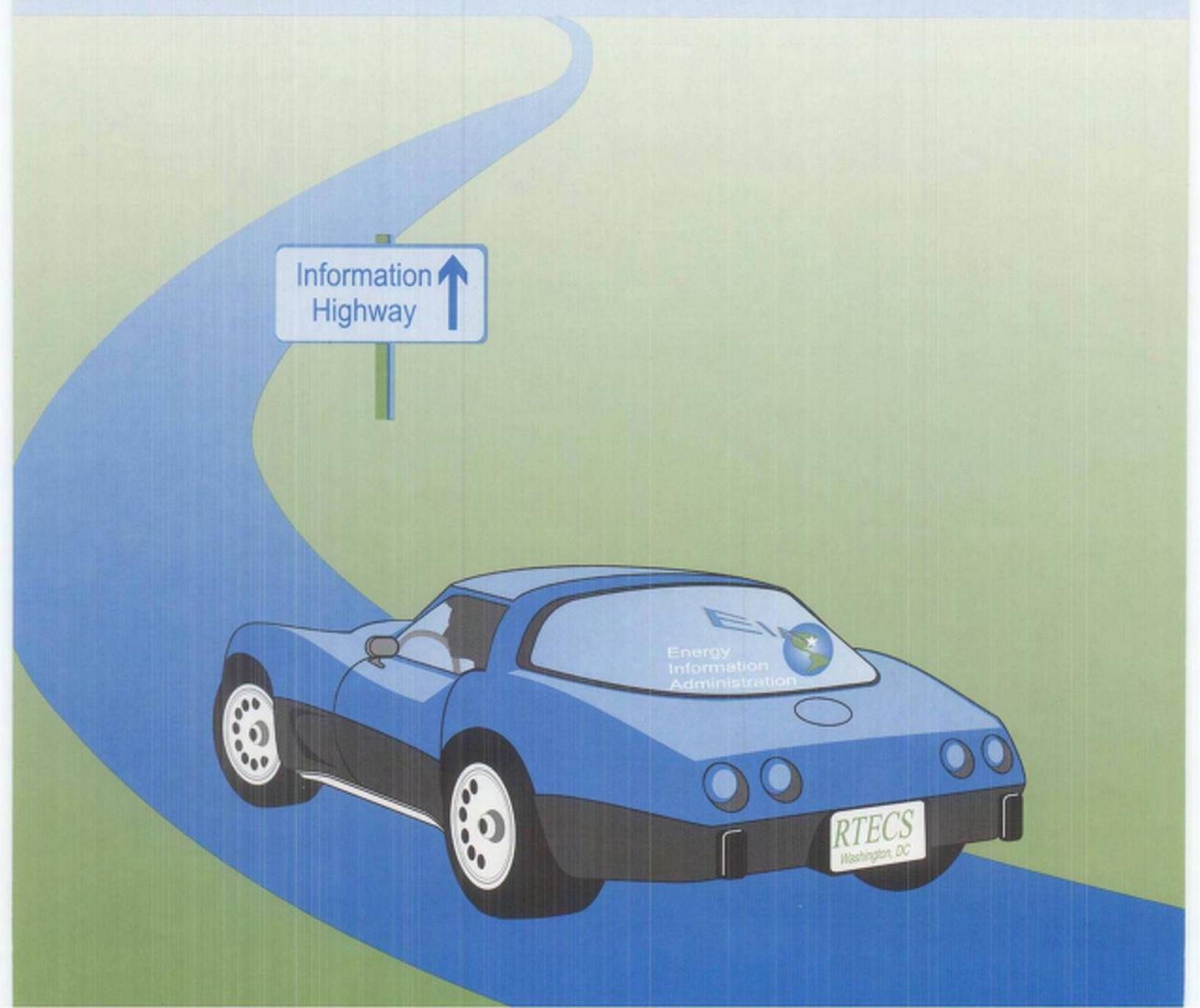
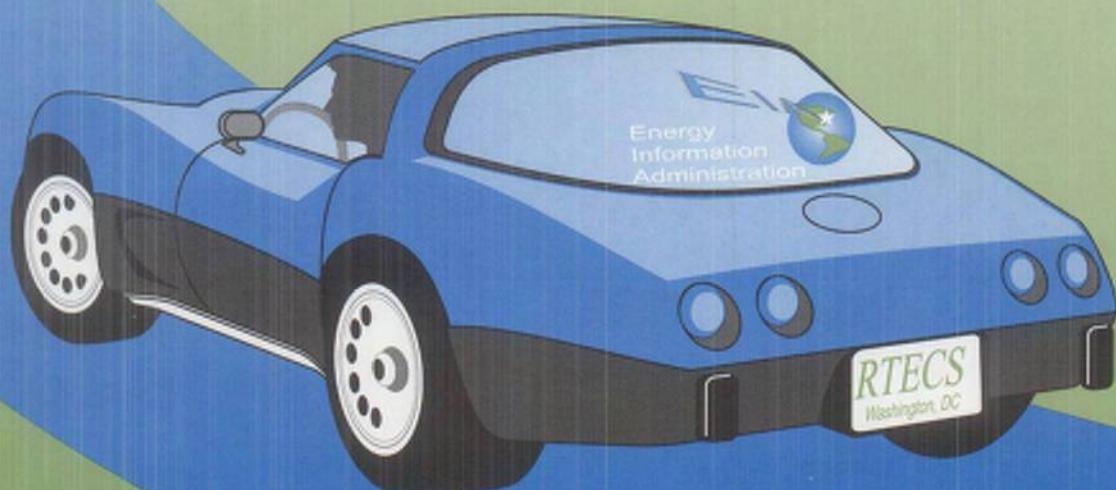


# Household Vehicles Energy Consumption 1994



Information Highway ↑



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## Household Vehicles Energy Consumption 1994

August 1997

**Energy Information Administration**  
Office of Energy Markets and End Use  
U.S. Department of Energy  
Washington, DC 20585



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EEUISD would like to thank Bethany Dickerson for verifying data in this report.

### A Note to the Reader

The Residential Transportation Energy Consumption Survey (RTECS) was fielded for the last time in 1994. This final RTECS report emphasizes changes in residential transportation from 1988, the earliest year for which consistent data are available, through 1994. During the 1988-to-1994 period, minivans and sport-utility vehicles became much more prevalent in the residential fleet and accounted for an increasing share of vehicle-miles traveled. The first section of this report illustrates those and other changes in residential transportation during the period. Chapters 1 through 4 explore trends in residential transportation and Chapter 5 presents detailed tables.

### For More Information

As part of the Energy Information Administration's (EIA) mission to provide meaningful data from end-use energy surveys, EIA conducts ongoing user needs efforts to ascertain users' data requirements. Although the RTECS will not be fielded again, EIA is exploring alternative sources of residential vehicle data. If you have questions or suggestions about residential vehicle data, please contact Ron Lambrecht, RTECS Manager, at 202-586-4962 or at the address below.

If you have any data or report-related requirements or suggestions regarding any of the other EIA consumption surveys, please contact the appropriate survey manager directly, or use the address below.

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Manufacturing Energy Consumption Survey (MECS): Mark Schipper, Survey Manager, at 202-586-1136.

Residential Energy Consumption Survey (RECS): Robert Latta, Survey Manager, at 202-586-1385.

You are encouraged to provide your comments to the survey managers. Your feedback is important to us.

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Washington, DC 20585

Fax: 202-586-0018

# Contents

Residential Transportation At a Glance, 1988-1994 .....	ix
1. Introduction .....	1
2. Vehicle Characteristics .....	5
Changes in the Composition of the Residential Fleet .....	5
Residential Vehicles at the Household Level .....	10
Changes in Residential Vehicle Technology .....	10
3. Vehicle-Miles Traveled .....	15
The Number of Vehicle-Miles Traveled Continued To Rise .....	15
Inside the Average U.S. Household: Who Drives the Most? .....	18
4. Fuel Economy, Consumption, and Expenditures .....	25
Fuel Economy Increased a Small Amount .....	25
Fuel Consumption Increased in 1994 .....	30
Fuel Expenditures Varied by Household Characteristics .....	33
Text Notes and Sources .....	37
5. Detailed Tables .....	39
Table Organization .....	39
Quick-Reference Guide .....	39
Row and Column Factors .....	40
Glossary .....	107

## Tables

### Chapter 1

1.1.	Household Characteristics, Vehicle-Miles Traveled, Fuel Consumption, and Fuel Expenditures per Household, 1994 .....	3
------	--	---

### Chapter 5

5.1.	U.S. Number of Vehicles, Vehicle Miles, Motor Fuel Consumption and Expenditures, 1994 .....	43
5.2.	U.S. per Household Vehicle-Miles Traveled, Vehicle Fuel Consumption and Expenditures, 1994 .....	47
5.3.	U.S. per Vehicle Miles Traveled, Vehicle Fuel Consumption and Expenditures, 1994 .....	49
5.4.	U.S. Vehicles by Model Year, 1994 .....	53
5.5.	U.S. Vehicle Fuel Efficiency by Model Year, 1994 .....	57
5.6.	U.S. Average Vehicle Fuel Consumption by Model Year, 1994 .....	61
5.7.	U.S. Vehicle-Miles Traveled by Family Income, 1994 .....	65
5.8.	U.S. Vehicle Fuel Consumption by Family Income, 1994 .....	69
5.9.	U.S. Average Vehicle-Miles Traveled by Family Income, 1994 .....	73
5.10.	U.S. Average Vehicle Fuel Consumption by Family Income, 1994 .....	75
5.11.	U.S. Vehicles by Household Composition, 1994 .....	77
5.12.	U.S. Average Vehicle-Miles Traveled by Household Composition, 1994 .....	81
5.13.	U.S. Average Vehicle-Miles Traveled by Vehicle Fuel Efficiency Category, 1994 .....	83
5.14.	U.S. Vehicle Fuel Consumption by Vehicle Type, 1994 .....	87
5.15.	U.S. Average Vehicle-Miles Traveled by Vehicle Type, 1994 .....	91
5.16.	U.S. Number of Vehicles by Vehicle Type, 1994 .....	95
5.17.	U.S. Number of Households by Vehicle Fuel Expenditures, 1994 .....	99
5.18.	U.S. Average Household and Vehicle Energy Expenditures, 1994 .....	102

## **Figures**

### **Chapter 2**

2.1.	Number of Vehicles, 1983, 1985, 1988, 1991, and 1994 .....	6
2.2.	Number of Residential Vehicles by Type, 1988 and 1994 .....	6
2.3.	Change in Number of Residential Vehicles by Type, 1988 to 1994 .....	7
2.4.	Sales of New Passenger Cars and New Light Trucks for Model Years 1980 - 1995 .....	8
2.5.	Number of Pre-1983 Residential Vehicles by Type, 1988, 1991, and 1994 .....	9
2.6.	Light Trucks' Share of Each Region's Residential Fleet, 1994 .....	9
2.7.	Average Engine Size for Residential Vehicles for Model Years 1980 - 1995 .....	12
2.8.	Number of Cylinders in Residential Vehicle Engines, 1988 and 1994 .....	12
2.9.	Vehicle Performance for Model Years 1980 - 1995 .....	13

### **Chapter 3**

3.1.	Residential Vehicle-Miles Traveled by Type of Vehicle, 1988, 1991, and 1994 .....	16
3.2.	Residential Vehicle-Miles Traveled per Household and per Vehicle by Survey Year, 1988, 1991, and 1994 .....	16
3.3.	Residential Vehicle-Miles Traveled per Vehicle by Region, 1994 .....	19
3.4.	Residential Vehicle-Miles Traveled per Vehicle by Vehicle Age, 1994 .....	19
3.5.	Residential Vehicle-Miles Traveled per Household by Household Size and Survey Year, 1988 and 1994 .....	20
3.6.	Residential Vehicle-Miles Traveled per Household by Number of Drivers and Survey Year, 1988 and 1994 .....	21
3.7.	Residential Vehicle-Miles Traveled per Household by Household Composition and Survey Year, 1988 and 1994 .....	21
3.8.	Residential Vehicle-Miles Traveled per Vehicle by Age of Primary Driver, 1994 .....	22
3.9.	Residential Vehicle-Miles Traveled per Household by Annual Household Income, 1994 .....	23
3.10.	Average Number of Vehicles per Household by Household Income, 1994 .....	23

### **Chapter 4**

4.1.	Average Fuel Economy of Residential Vehicles for Model Years Through 1995 .....	26
4.2.	Average Fuel Economy of Residential Vehicles by Type of Vehicle, 1988 and 1994 .....	27
4.3.	Number of Residential Vehicles by Fuel Economy, 1988 and 1994 .....	27
4.4.	Average Fuel Economy of Residential Vehicles by Household Composition, 1994 .....	29
4.5.	Average Fuel Economy of Residential Vehicles by Annual Household Income, 1994 .....	29
4.6.	Total Residential Vehicle Fuel Consumption, 1983, 1985, 1988, 1991, and 1994 .....	30
4.7.	Total Residential Vehicle Fuel Consumption by Type of Vehicle, 1988 and 1994 .....	31
4.8.	Average Residential Vehicle Fuel Consumption by Type of Vehicle, 1988 and 1994 .....	32
4.9.	Average Residential Vehicle Fuel Consumption per Vehicle for Model Years Through 1995 .....	32
4.10.	Average Annual Residential Vehicle Fuel Consumption by Region, 1994 .....	33
4.11.	Average Fuel Expenditures per Residential Vehicle by Survey Year, 1980, 1983, 1985, 1988, 1991, and 1994 .....	34
4.12.	Average Vehicle Fuel Expenditures per Household, 1994 .....	34
4.13.	Average Vehicle Fuel Expenditures and Household Energy Expenditures by Household Income, 1994 .....	35



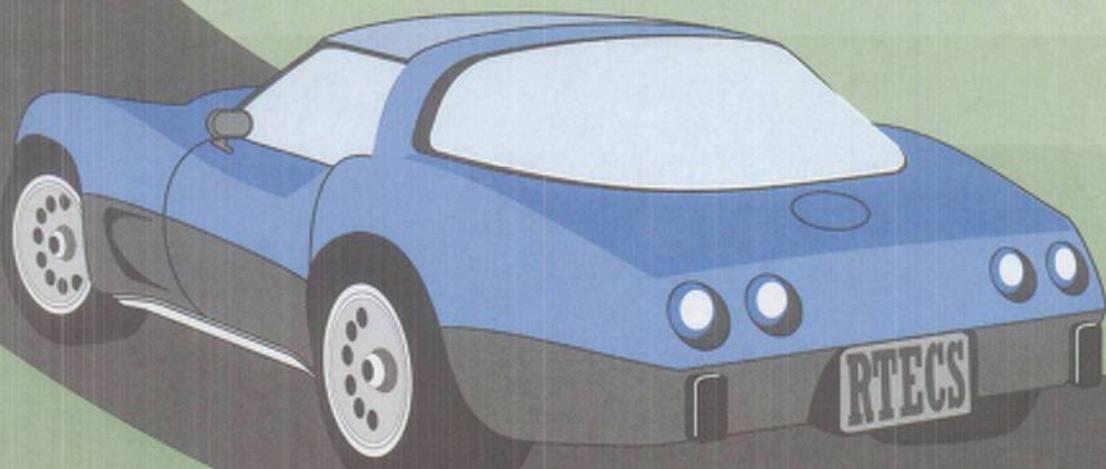
# Residential Transportation At A Glance, 1988-1994

Information  
Highway ↑

Exit 3  
Vehicle Fuel Economy,  
Consumption, and Expenditures

Exit 2  
Vehicle-Miles  
Traveled

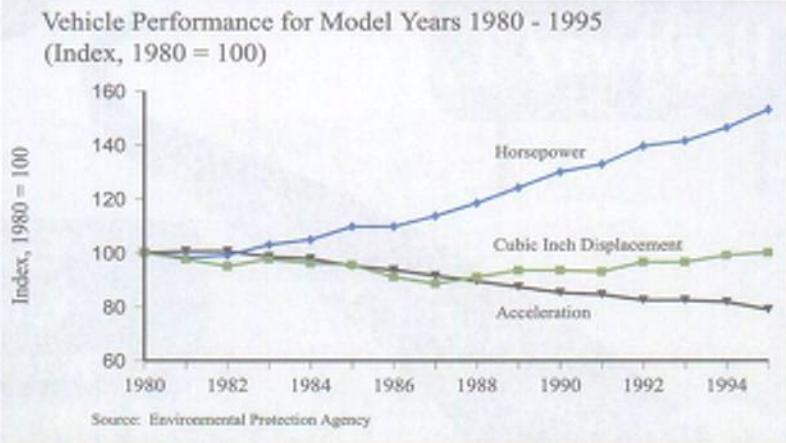
Exit I  
Vehicle  
Characteristics



*Household Vehicles Energy Consumption 1994* presents statistics about energy-related characteristics of highway vehicles available for personal use by members of U.S. households. The data were collected in the 1994 Residential Transportation Energy Consumption Survey, the final cycle in a series of nationwide energy consumption surveys conducted during the 1980's and 1990's by the Energy Information Administration.

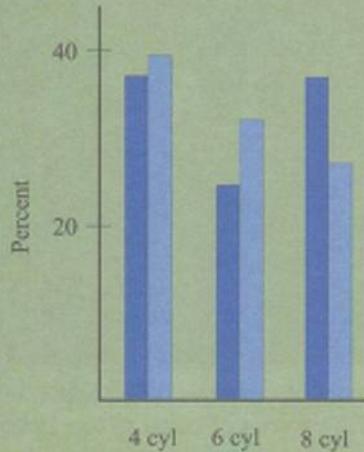
# Residential Exit 1 Vehicle Characteristics

Engines Became  
More Powerful . . .

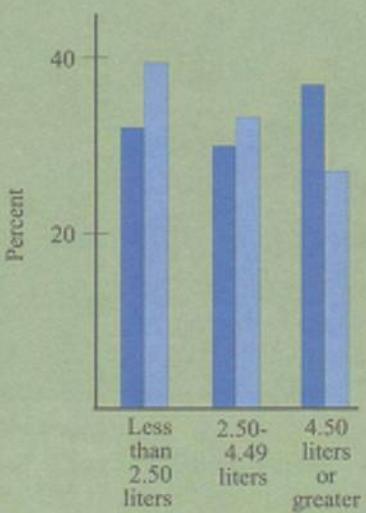


Exit 1

Percent Distribution of Total Residential Vehicle Fleet by Number of Cylinders, 1988 and 1994

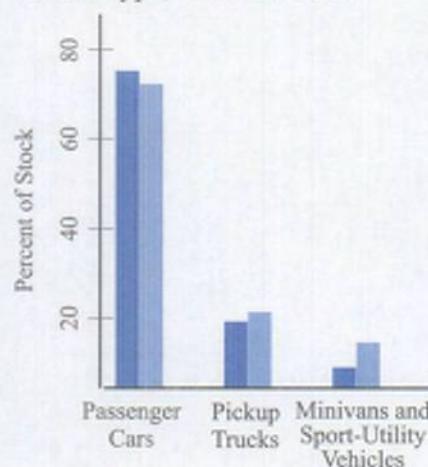


Percent Distribution of Vehicle Fleet by Engine Size, 1988 and 1994

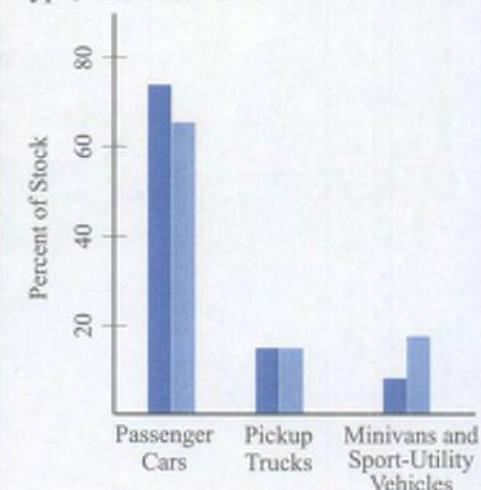


## Minivans and Sport-Utility Vehicles Became More Popular.

Percent Distribution of Total Residential Vehicle Fleet by Vehicle Type, 1988 and 1994



Percent Distribution of Newer Vehicles (2 model years old or less) by Vehicle Type, 1988 and 1994

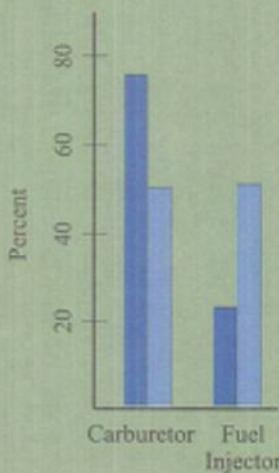


INFO ON  
VEHICLE  
CHARACTERISTICS  
■ 1988 ■ 1994



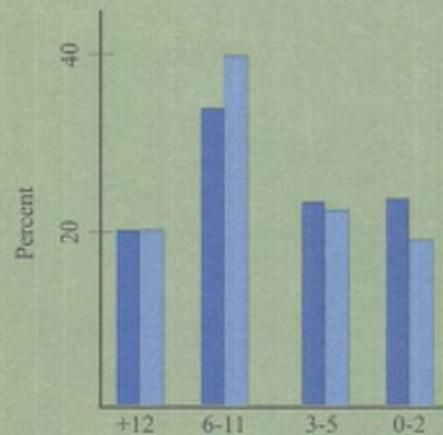
Fuel Injection Replaced  
Carburetion . . .

Percent Distribution of Total Residential Vehicle Fleet with Carburetors and Fuel Injection, 1988 and 1994



And the Vehicle  
Fleet Stock Aged.

Percent Distribution of Total Residential Vehicle Fleet by Vehicle Age, 1988 and 1994

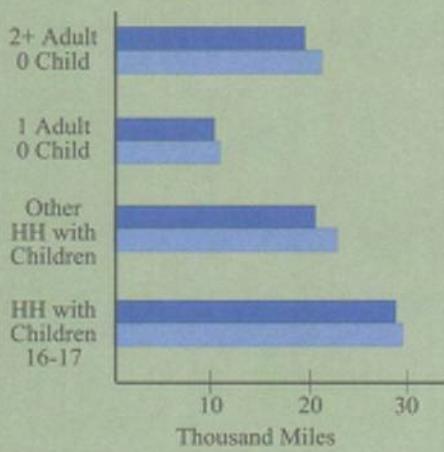


# Residential Vehicle-Miles **Exit 2** Traveled

**Exit 2**

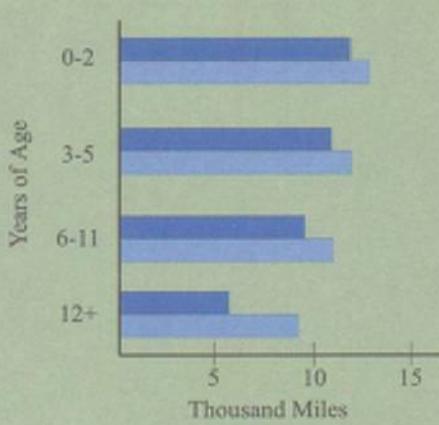
Everyone Drove More,  
but Families with Driving-Age  
Children Traveled the Most.

Vehicle-Miles Traveled per Household by  
Household Composition, 1988 and 1994



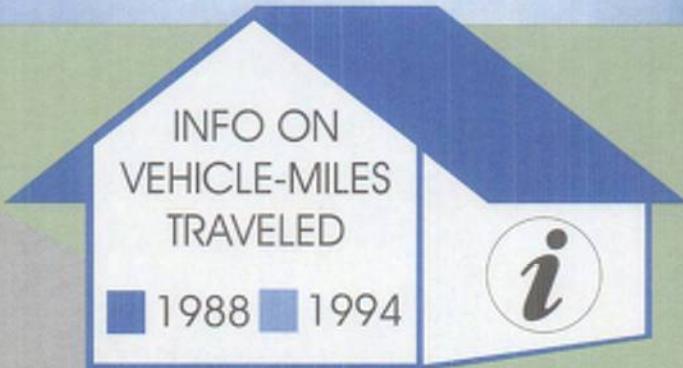
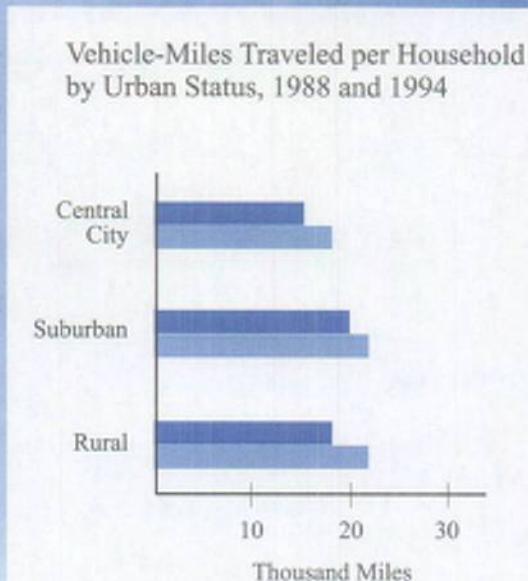
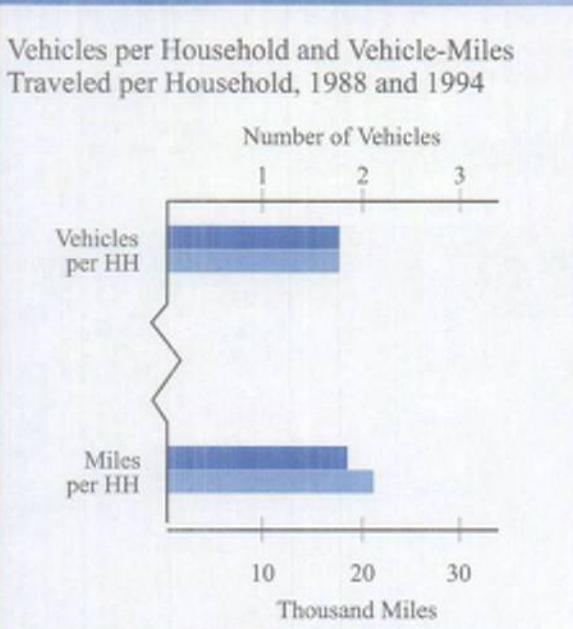
Older Vehicles Were  
Used the Least.

Vehicle-Miles Traveled per Vehicle by  
Vehicle Age, 1988 and 1994



## Vehicles per Household Remained Steady, While Driving Increased . . .

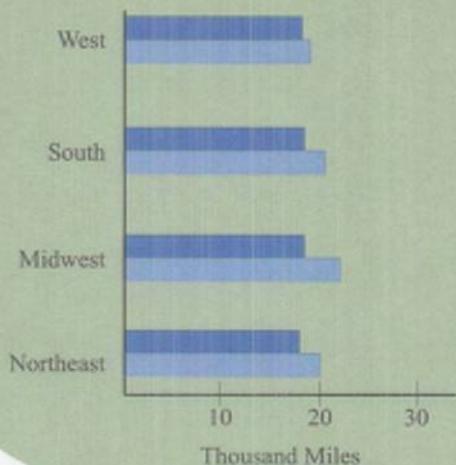
Especially Outside of the Suburbs.



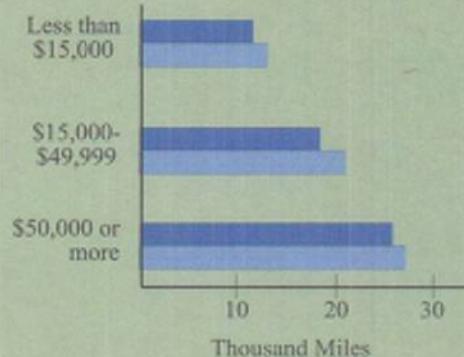
## Households in the "Wide-Open West" Did Not Drive More Than Others . . .

But Higher-Income Households Did.

Vehicle-Miles Traveled per Household by Census Region, 1988 and 1994



Vehicle-Miles Traveled per Household by Household Income, 1988 and 1994



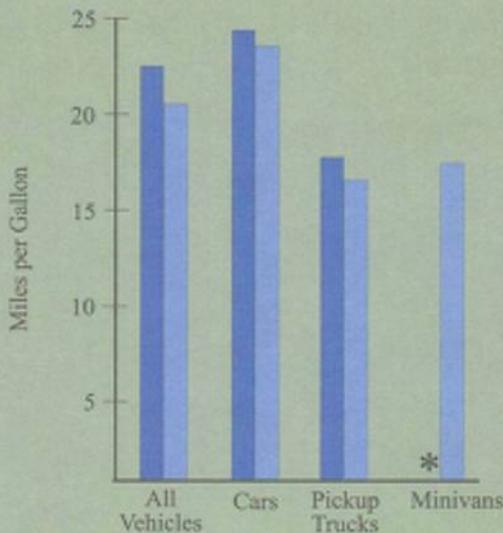
# Residential Vehicle Fuel Economy, Consumption, and Expenditures

## Exit 3

Exit 3

Newer Vehicle On-Road Fuel Economy Fell Slightly . . .

On-Road Average Fuel Economy of Newer Household Vehicles (2 or less model years old) by Vehicle Type, 1988 and 1994



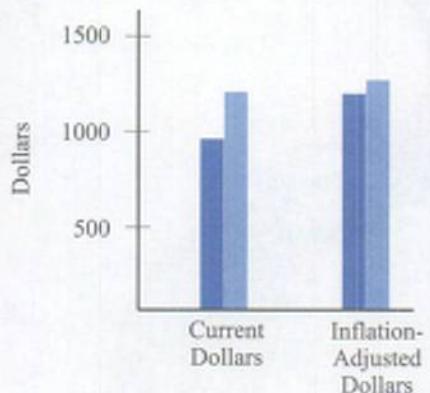
Fuel Costs Added Up!

In 1994, U.S. households paid \$104.7 billion for their vehicle fuel, almost half of their total energy expenditures.

\*Data for 1988 were insufficient.

## Households Paid More For Vehicle Fuel in 1994 than They Did in 1988.

Final Average Expenditures per Household for Vehicle Fuel, 1988 and 1994

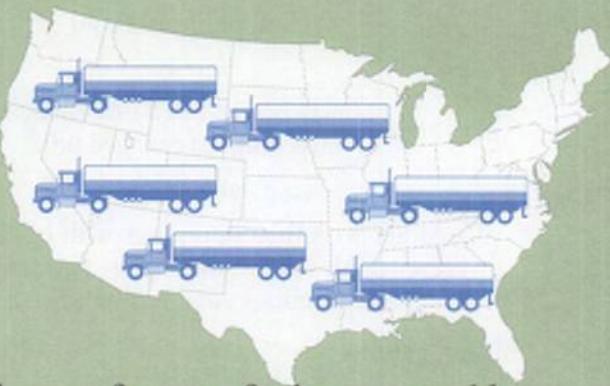
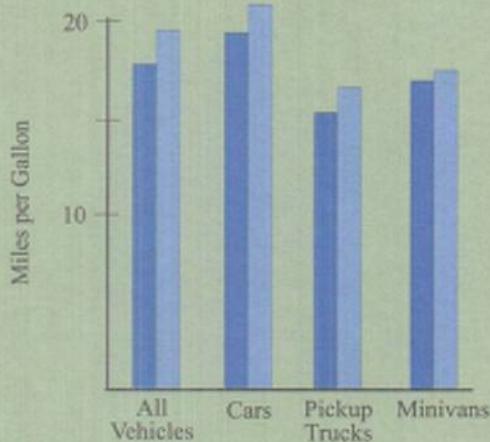


INFO ON FUEL ECONOMY,  
CONSUMPTION,  
& EXPENDITURES  
■ 1988 ■ 1994



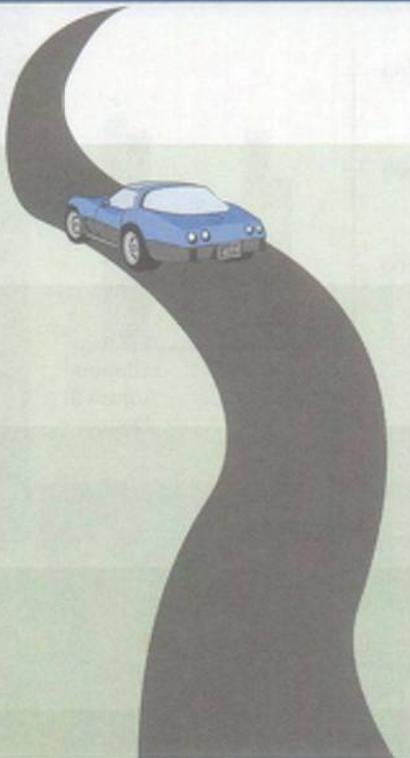
But the Fuel Economy of the Total Fleet Continued To Rise Slowly.

On-Road Average Fuel Economy of Household Vehicle Fleet by Vehicle Type, 1988 and 1994



The volume of motor fuel consumed by residential vehicles in 1994 would have filled about 9 million tank trucks. If placed end to end, that number of tank trucks would stretch across the United States nearly 40 times.

# In Summary



From 1988.....To 1994

The total number of residential vehicles increased from 147.5 million to 156.8 million, while the number of vehicles per vehicle-operating household remained constant at 1.8 vehicles and 1.8 vehicles. Average miles traveled per vehicle jumped from 10.2 thousand to 11.4 thousand, and fuel economy improved from 18.3 mpg to 19.8 mpg, so that fuel use per vehicle remained fairly constant at 559 gallons and 578 gallons.

From 1988.....To 1994

Higher nominal prices per gallon, \$0.984 versus \$1.156, led to higher nominal expenditures per vehicle, \$550 versus \$668, and per household, \$998 versus \$1,234, but, when adjusted for inflation, expenditures changed little: \$1,218 versus \$1,234.

Together with the ongoing growth of the country, these trends caused the higher national demand for residential vehicle fuel to rise from 82.4 billion gallons to 90.6 billion gallons, and corresponding fuel costs to rise substantially, from

\$81.1 billion to \$104.7 billion, although the inflation-adjusted total cost was \$98.9 billion versus \$104.7 billion.

## **Chapter 1. Introduction**

*Household Vehicles Energy Consumption 1994* reports on the results of the 1994 Residential Transportation Energy Consumption Survey (RTECS). The RTECS is a national sample survey that has been conducted every 3 years since 1985. For the 1994 survey, more than 3,000 households that own or use some 6,000 vehicles provided information to describe vehicle stock, vehicle-miles traveled, energy end-use consumption, and energy expenditures for personal vehicles. The survey results represent the characteristics of the 84.9 million households that used or had access to vehicles in 1994 nationwide. (An additional 12 million households neither owned nor had access to vehicles during the survey year.) To be included in the RTECS survey, vehicles must be either owned or used by household members on a regular basis for personal transportation, or owned by a company rather than a household, but kept at home, regularly available for the use of household members. Most vehicles included in the RTECS are classified as "light-duty vehicles" (weighing less than 8,500 pounds). However, the RTECS also includes a very small number of "other" vehicles, such as motor homes and larger trucks that are available for personal use.

### **What Are the Major Findings of the Survey?**

Members of U.S. households drove more miles and consumed more fuel in 1994 than in 1988. Vehicle-miles traveled per household increased by 13 percent and the average fuel consumption per household increased by 5 percent. Household expenditures for motor gasoline, when adjusted for inflation, rose by 6 percent between 1988 and 1994. Fuel economy, as measured in miles per gallon (mpg), increased by 8 percent over the 6-year period.

The average number of vehicles per household remained constant between 1988 and 1994 at approximately 1.8, while the number of households with vehicles reported in the 1988 survey was 81.3 million, compared with 84.9 million in 1994. The total number of vehicles nationwide rose from 148 million to 157 million, an increase of 6 percent.

The composition of the vehicle stock continued its shift away from passenger cars toward minivans and sport-utility vehicles. In 1988, passenger cars comprised nearly three-quarters of the total vehicle stock, but by 1994, that share had dropped to 68 percent. The number of minivans and sport-utility vehicles grew by 42 percent, increasing their share from 5 percent of the total vehicle stock in 1988 to 11 percent in 1994. Pickup trucks made up 18 percent of the vehicle stock in 1994, the same as in 1988. Aside from passenger cars, only large vans decreased in both number and share of total stock, dropping from 3 percent of the total vehicle stock to 2 percent over the 6-year period.

### **What is the Significance of the Findings?**

The survey results have implications for the overall fuel economy in the United States and the amount of motor gasoline consumed. The increase in the number of minivans, sport-utility vehicles, and pickup trucks may depress overall fleet fuel economy, because these vehicles are subject to the fuel economy standards for light trucks and consume more fuel per mile traveled. Fuel economy is increased, however, by the retirement of older vehicles that are less fuel efficient than newer models. Passenger cars built after 1979 showed a dramatic increase in fuel economy, which rose 3 miles per gallon between 1979 and 1980 and then increased steadily—though less dramatically—throughout the 1980's.<sup>1</sup> Fuel economy has leveled off in the 1990's. In 1991, 35 million vehicles, or 23 percent of the total vehicle stock, were from model year 1979 or earlier. By 1994, that number had dropped to 20 million, or 13 percent of the vehicle stock. Those older vehicles tend to be driven fewer miles than the new vehicles that replaced them, according to the survey data. Therefore, although older vehicles tend to consume more fuel per mile, their effect on the fleet average is mitigated by the fact that they are driven fewer miles.

*Household Vehicles Energy Consumption 1994* examines the effects of household size, household income, age of primary driver, vehicle characteristics, and Census region on household vehicle stock, miles traveled, fuel economy, and fuel consumption (Table 1.1). In general, the size of the household, composition of the household, and household income had a large effect on those variables.

### **What is the Purpose of the Survey Report?**

The purpose of this report is to provide information on the use of energy in residential vehicles in the 50 States and the District of Columbia. Included are data about the number and types of vehicles in the residential sector, the characteristics of those vehicles, the total annual vehicle-miles traveled, per-household and per-vehicle vehicle-miles traveled, vehicle fuel consumption and expenditures, and vehicle-fuel economy.

The Energy Information Administration (EIA) is mandated by Congress to collect, analyze, and disseminate impartial, comprehensive data about energy: how much is produced, who uses it, and the purposes for which it is used. To comply with this mandate, EIA collects energy data from a variety of sources covering a wide range of topics.<sup>2</sup>

### **How Was the Survey Conducted?**

The data for this report are based on personal interviews and telephone interviews with householders from the 1993 Residential Energy Consumption Survey (RECS) and the 1994 RTECS, conducted from 1993 through early 1995. The 1994 RTECS represents 96.6 million households, of which 84.9 million owned or had access to 156.8 million household motor vehicles in the 50 States and the District of Columbia.

The beginning-of-year data collection for the RTECS was combined with the 1993 RECS personal interviews in the fall of 1993. In 1994 and 1995, further data about the vehicle stock and vehicle-miles traveled were collected by telephone interviews. Mail questionnaires were sent to households that could not be contacted by telephone. Mid-year data collection during 1994 was conducted to identify vehicles acquired or disposed of during the first half of the year and to obtain estimated beginning or final odometer readings on those vehicles. The end-of-year data collection was conducted in the first 4 months of 1995. At that time final odometer readings and changes in vehicle stock were collected.

The survey was used to collect data on actual vehicle-miles traveled for each vehicle in a household by obtaining the odometer reading at two points in time. Vehicle characteristic information (type of vehicle, engine size, number of cylinders, type of fuel system, etc.) was collected directly from respondents and from decoded Vehicle Identification Numbers. Vehicle fuel consumption and expenditures were estimated using vehicle fuel economies as calculated (and adjusted) by the Environmental Protection Agency and presented in miles per gallon and by motor fuel prices collected by the Bureau of Labor Statistics.

### **Are the Survey Results Statistically Significant?**

Because the statistics published in this report are based on a sample of all residential housing units in the 50 States and the District of Columbia as of November 1993, the values are estimates rather than exact measures for the population. Certain estimates in these tables are suppressed due to large error levels or few sample observations. (See table footnotes for explanation.) Each table in the "Detailed Tables" section includes row and column relative standard error (RSE) factors to be used in calculating RSEs for individual table entries.

Unless stated otherwise, all comparisons reported in the text are statistically significant, based on a standard test made at the 0.05 significance level. These tests were made using the actual RSE's computed by EIA. No adjustments were made for simultaneous inference.

**Table 1.1. Household Characteristics, Vehicle-Miles Traveled, Fuel Consumption, and Fuel Expenditures per Household, 1994**

<i>Household Characteristics</i>	Average Number of Vehicles per Household	Average Vehicle-Miles Traveled per Household (thousands)	Motor Fuel Consumption per Household (gallons)	Motor Fuel Expenditures per Household (dollars)
<b>Household Size</b>				
1 person	1.2	11.6	566	657
2 persons	1.8	20.0	1,016	1,171
3 persons	2.1	25.2	1,257	1,455
4 persons	2.2	26.6	1,357	1,570
5 persons	2.2	26.3	1,359	1,571
6 or more persons	2.3	30.9	1,566	1,829
<b>Household Composition</b>				
Households with Children	2.0	24.8	1,257	1,453
Households with No Children	1.7	18.9	951	1,100
<b>Family Income</b>				
Less than \$5,000	1.4	16.1	781	923
\$5,000-\$9,999	1.2	12.2	631	719
\$10,000-14,999	1.4	14.3	739	854
\$15,000-19,000	1.7	17.8	937	1,073
\$20,000-24,999	1.7	18.4	931	1,079
\$25,000-34,999	1.8	21.6	1,102	1,269
\$35,000-49,999	2.0	23.6	1,182	1,366
\$50,000-74,999	2.3	27.0	1,325	1,528
\$75,000 or more	2.3	28.5	1,443	1,692

Source: Table 5.2 in this report.

## **How Is This Report Organized?**

A discussion of the highlights of survey findings, featuring tables and figures that present information of special interest or that provide a finer analysis than is contained in the detailed tables, follows this section. The "Detailed Tables" section that follows the main text contains extensive cross-tabulations of household characteristics, vehicle characteristics, and vehicle fuel consumption and expenditures. Definitions of the terms used in this report are located in the Glossary.

### **How Can the Appendices Be Obtained?**

The appendices for this report are available electronically on the EIA web site at <http://eia.doe.gov> under "End Use Consumption". Printed copies are available from the National Energy Information Center at 202-586-8800 or for the hearing impaired by TTY: 202-586-1181.

**Appendix A:** "How the Survey Was Conducted" contains information about how the data were collected and processed.

**Appendix B:** "Estimation Methodologies" describes the estimation procedures used.

**Appendix C:** "Quality of the Data" includes information on how to calculate RSEs for data in the tables.

**Appendix D:** "Survey Forms" presents the forms on which data for the RTECS were collected—Forms EIA-457A, EIA-457B, and EIA-876A-D.

**Appendix E:** Presents maps showing climate zones and Census Regions and Divisions.

**Appendix F:** Lists related EIA publications on energy consumption.

## **Thank You . . .**

EIA gratefully acknowledges the cooperation of the respondents in supplying the information used to produce the estimates presented here.

## Chapter 2. Vehicle Characteristics

U.S. households used a fleet of nearly 157 million vehicles in 1994. Despite remarkable growth in the number of minivans and sport-utility vehicles, passenger cars continued to predominate in the residential vehicle fleet. This chapter looks at changes in the composition of the residential fleet in 1994 compared with earlier years and reviews the effect of technological changes on fuel efficiency (how efficiently a vehicle engine processes motor fuel) and fuel economy (how far a vehicle travels on a given amount of fuel). Using data unique to the Residential Transportation Energy Consumption Survey, it also explores the relationship between residential vehicle use and family income.

### Changes in the Composition of the Residential Fleet

The number of vehicles in U.S. households rose from 148 million in 1988 to 157 million in 1994, an increase of 9 million vehicles. During the same period, the U.S. population grew by almost 15 million persons to 260 million.<sup>3</sup> The average annual growth rates of both residential vehicles and population equaled 1.0 percent. The number of licensed drivers grew<sup>4</sup> at an average annual rate of 1.2 percent, and, in 1994, there were 1.1 licensed drivers per residential vehicle, slightly more than in 1988.

Residential vehicles continued to account for the majority of all U.S. vehicles. Not surprisingly, the rate of increase in vehicles available for use in households was approximately the same as the rate of increase for the U.S. total vehicle stock (Figure 2.1).

#### A Growing Number of Passenger Cars Were Replaced by Light Trucks

The number of passenger cars in U.S. households was 106 million in 1994 (Figure 2.2). At a 68-percent share, passenger cars continued to dominate the residential fleet, but not to the same extent as in 1988, when their share was 74 percent.

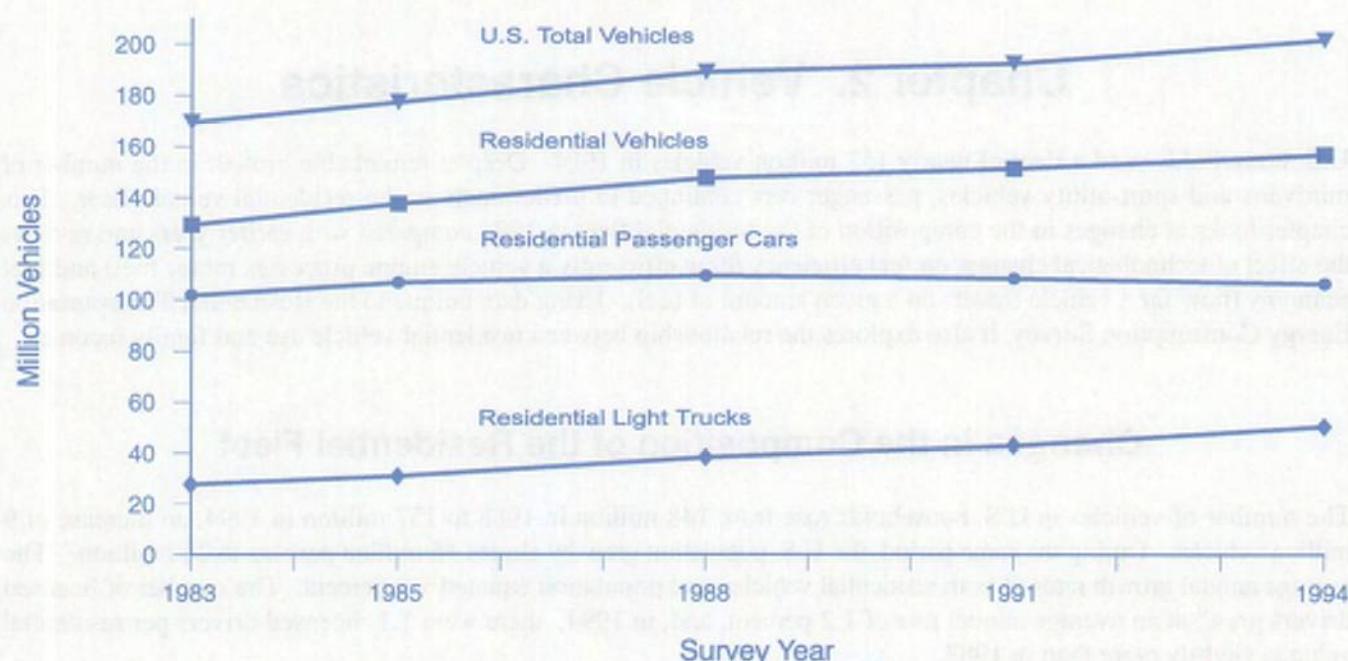
In contrast, there was remarkable growth in the number of household vehicles categorized as light trucks, particularly minivans. From 1988 through 1994, the number of light trucks in the residential fleet increased by an estimated 12 million, which more than compensated for the apparent decline in the number of passenger cars.

The number of minivans grew dramatically. It rose from 2.2 million in 1988 to 8.1 million in 1994, an increase of 268 percent (Figure 2.3). Minivans, introduced into the market in the mid-1980's, accounted for nearly 1 in 20 residential vehicles in 1994.

#### How Do Passenger Cars Differ from Light Trucks?

All light-duty vehicles are classified as passenger cars or light trucks for fuel economy purposes. Passenger cars must meet a corporate average fuel economy (CAFE) requirement (unadjusted for actual on-road performance) that has been set at 27.5 miles per gallon, unchanged since 1990. Light trucks, which comprise pickup trucks, sport-utility vehicles, minivans, and large vans, are subject to a much lower unadjusted fuel economy requirement. In 1996 and 1997, the requirement for light trucks was set at 20.7 miles per gallon.

Figure 2.1 Number of Vehicles, 1983, 1985, 1988, 1991, and 1994

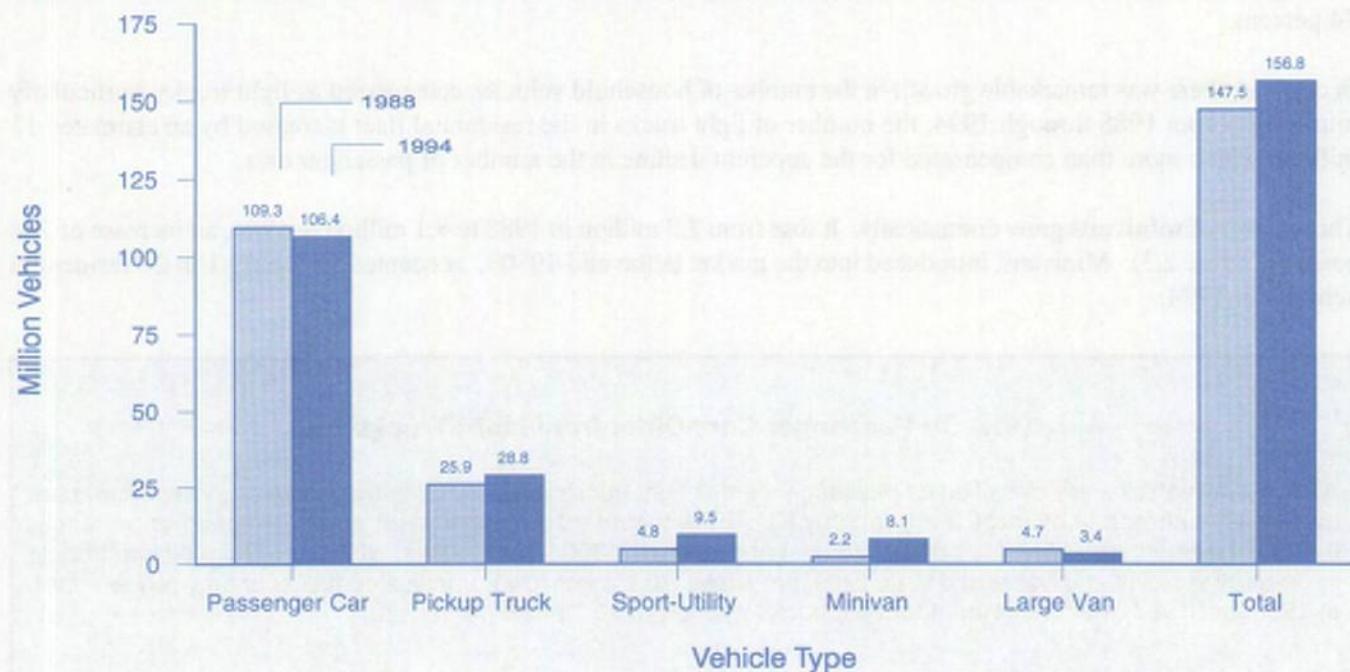


Note: U.S. total vehicles include motorcycles and buses, as well as other nonresidential vehicles, which are excluded from the Residential Transportation Energy Consumption Survey.

Sources: U.S. Total Vehicles: Energy Information Administration (EIA), *Annual Energy Review 1995*, DOE/EIA-0384(95) (Washington, DC, July 1996), Table 2.16. Residential Vehicles: • 1983—EIA, *Consumption Patterns of Household Vehicles 1983*, DOE/EIA-0464(83) (Washington, DC, January 1985), Table 11. • 1985—EIA, *Consumption Patterns of Household Vehicles 1985*, DOE/EIA-0464(85) (Washington, DC, April 1987), Table 8. • 1988—EIA, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 6. • 1991—EIA, *Household Vehicles Energy Consumption 1991*, DOE/EIA-0464(91) (Washington, DC, December 1993), Table 8. • 1994—Table 5.1 in this report.

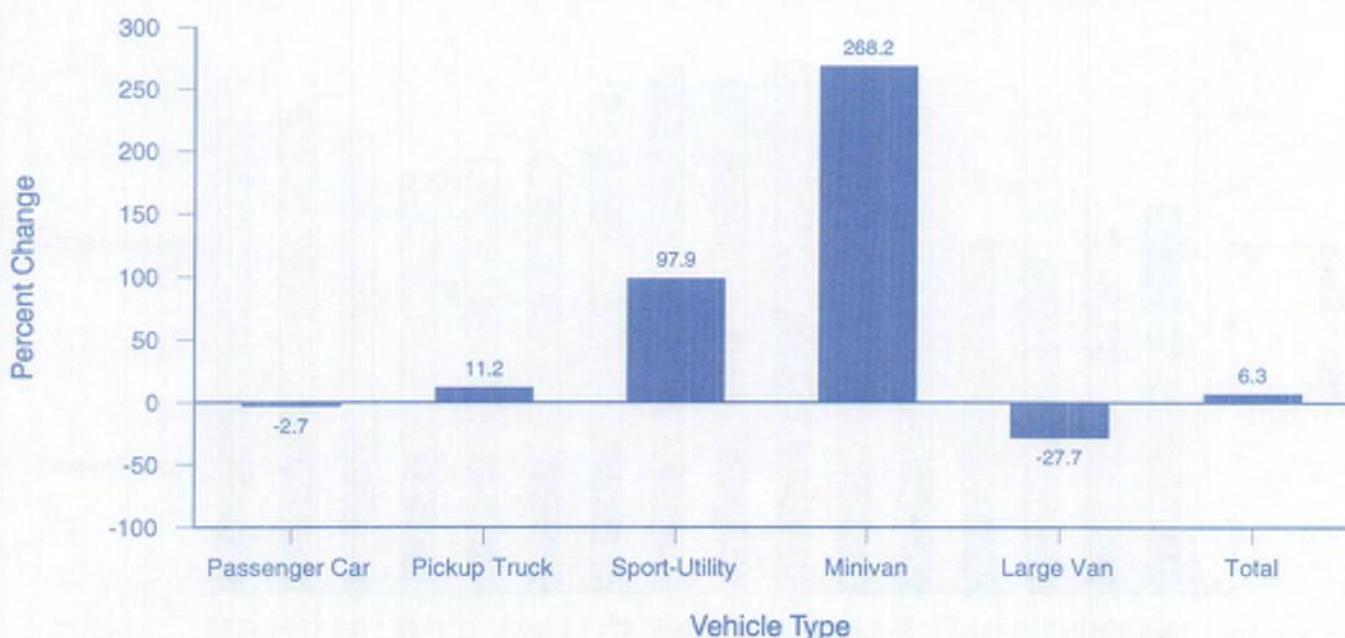
Note: Totals may not equal sum of components due to independent rounding.

Figure 2.2 Number of Residential Vehicles by Type, 1988 and 1994



Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 6. • 1994—Table 5.1 in this report.

Figure 2.3 Change in Number of Residential Vehicles by Type, 1988 to 1994



Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 6. • 1994—Table 5.1 in this report.

**Sport-utility vehicles**, termed "jeep-like" vehicles in the 1988 survey, also increased in number at a remarkable rate. From 1988 through 1994, they rose 98 percent to 9.5 million.

**Pickup trucks** were the most prevalent of the light trucks on the road. Almost 1 in 5 residential vehicles in 1994 was a pickup truck. In 1994, the number of pickup trucks totaled 29 million.

The only type of light truck estimated to have declined over the period was the **large van**. The large van share of the residential fleet fell from 3 percent in 1988 to 2 percent in 1994 when large vans numbered 3.4 million.

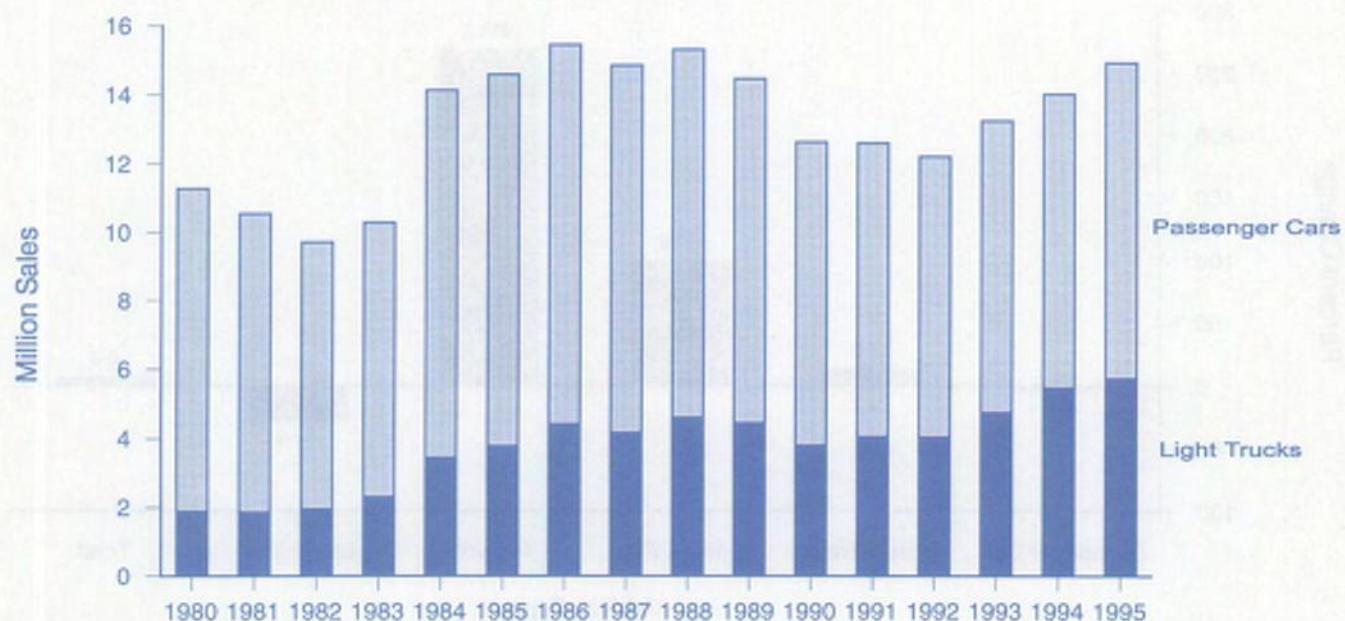
Throughout the 7-year period of 1988 through 1994, inflation-adjusted prices of motor fuel (motor gasoline and diesel fuel) were well below the peak prices of the early 1980's. For example, at its peak in 1981, the adjusted price (in chained [1992] dollars<sup>5</sup> and including taxes) of unleaded regular motor gasoline was \$2.09 per gallon, whereas in 1994 the comparable price was \$1.06.<sup>6</sup>

When motor fuel prices are relatively low, consumers have less incentive for choosing vehicles with higher fuel economy ratings. And, in fact, consumer preference for light trucks, which have significantly lower fuel economy ratings than do passenger cars, was one factor leading to the decline in the number of passenger cars. A second factor contributing to the increase in light trucks' share of the residential fleet was the continuing tendency of householders to keep older light trucks in operation while retiring older passenger cars. Those factors had their greatest effect in the West, where light trucks make up a higher percentage of the residential vehicle fleet than in other regions.

#### Consumer Preference for Light Trucks Increased

Total sales of new light trucks to all sectors rose during the 1980's and 1990's (Figure 2.4). For model year 1995, 5.7 million light trucks were sold, more than ever before and nearly three times the number of sales for model year 1980. Although sales of new passenger cars fluctuated and rose as high as 11 million for model year 1986, for model year

Figure 2.4 Sales of New Passenger Cars and New Light Trucks for Model Years 1980 - 1995



Source: Federal Highway Administration, *Summary of Fuel Economy Performance* (Washington, DC, April 1996), p. 3.

1995 sales of 9.2 million were about the same as they had been for model year 1980 (9.4 million). For model year 1995, therefore, light trucks accounted for slightly more than one-third of total sales.

Sales data disaggregated by sector are not available, but changes in the composition of the residential fleet, as noted above, clearly reflect householders' growing preference for light trucks. That preference restrained the increase in the fuel economy of the residential fleet as a whole (see Chapter 4).

### Light Trucks Were Kept in Operation Longer

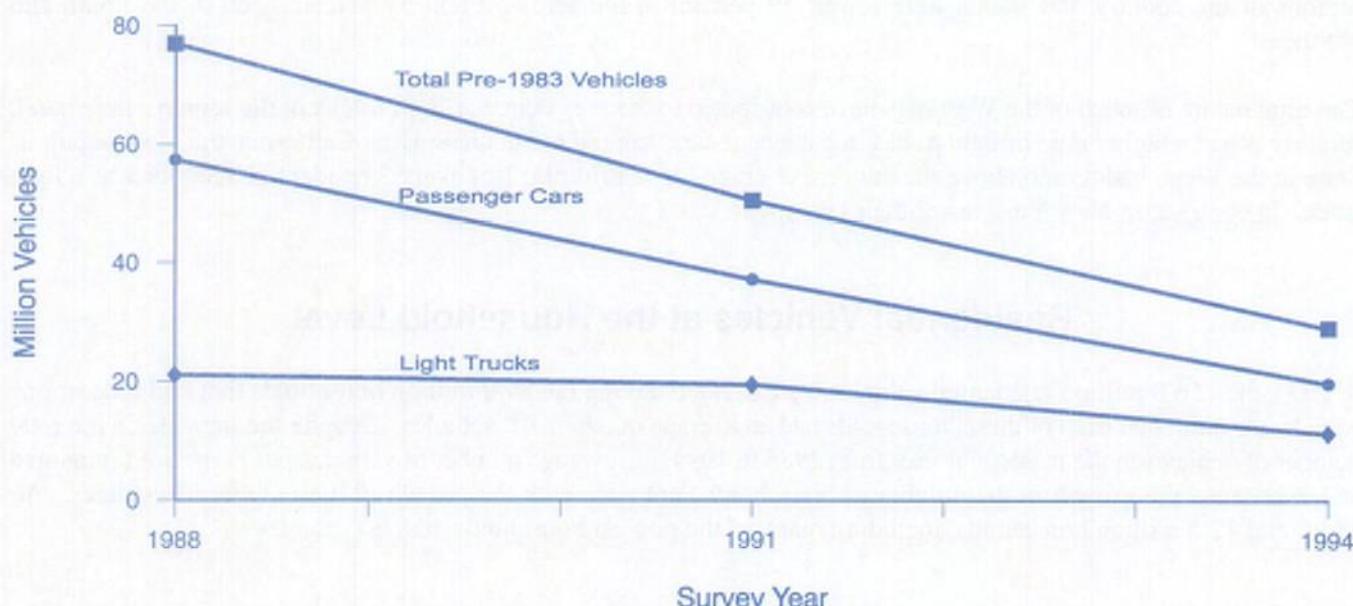
Although the number of old passenger cars in the residential fleet declined rapidly from 1988 through 1994, old light trucks, particularly pickup trucks and large vans, were taken out of service at a slower rate. For example, the number of passenger cars of model year 1982 or earlier fell from 57 million in 1988 to 20 million in 1994, meaning that about two-thirds of those older passenger cars were retired from the residential fleet over the 7-year period (Figure 2.5). By comparison, the number of pre-1983 light trucks fell from 21 million to 11 million, meaning that only about one-half were retired.

The tendency to retain old light trucks led to a difference in the average age of light trucks and passenger cars. In the 1994 fleet, the average age of passenger cars was 8.1 years. Light trucks as a group averaged 8.5 years, but there was wide variation in the average age of different types of light trucks. For example, pickup trucks and large vans were, on average, 9.9 years old, whereas sport-utility vehicles averaged 6.6 years and minivans averaged 4.8 years.

### Light Trucks Were Most Prevalent in the West

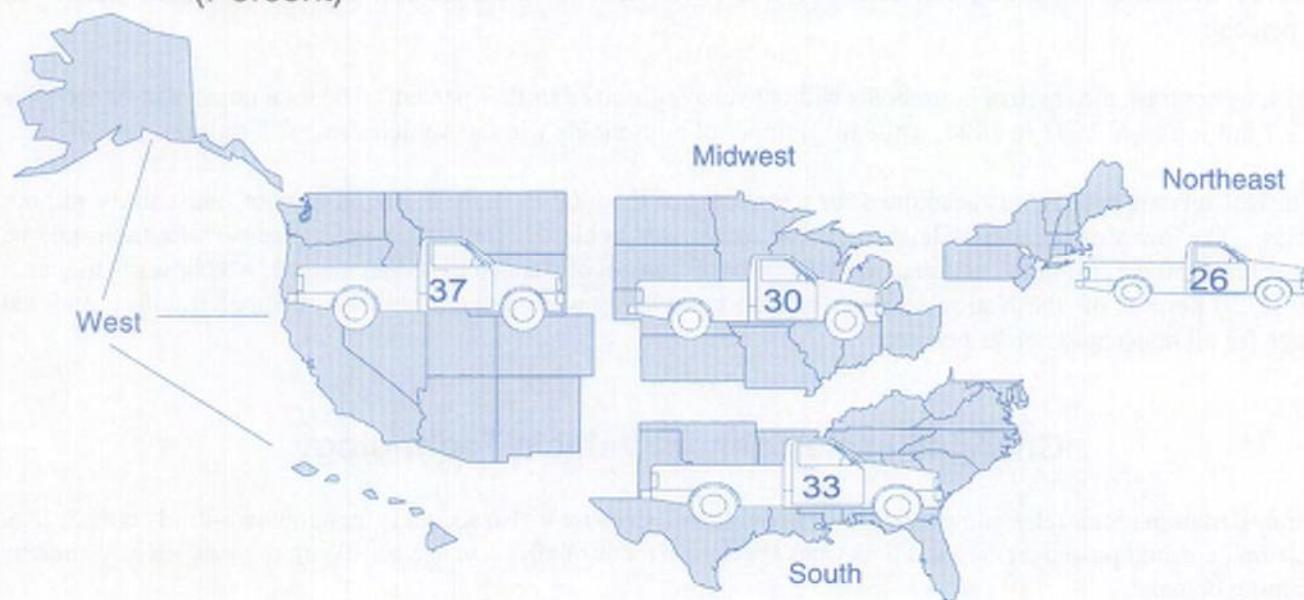
In 1994, the western fleet had a high ratio of light trucks to passenger cars. Light trucks made up 37 percent of the residential fleet in the West, compared with 33 percent in the South, 30 percent in the Midwest, and 26 percent in the Northeast (Figure 2.6).

Figure 2.5 Number of Pre-1983 Residential Vehicles by Type, 1988, 1991, and 1994



Sources: • 1988—Energy Information Administration (EIA), *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 9. • 1991—EIA, *Household Vehicles Energy Consumption 1991*, DOE/EIA-0464(91) (Washington, DC, December 1993), Table 11. • 1994—Table 5.4 in this report.

Figure 2.6 Light Trucks' Share of Each Region's Residential Fleet, 1994 (Percent)



Source: Table 5.16 in this report.

The national tendency to keep old trucks in service longer than old cars meant that in the West old residential vehicles as a whole were taken out of service at a slower rate than in the other regions of the country. For example, vehicles of model year 1988 or earlier accounted for a 64-percent share of all of the residential vehicles in the West. In the other regions of the country, the shares were lower: 59 percent in the Midwest and 57 percent each in the South and Northeast.

The rural nature of much of the West may have contributed to the prevalence of light trucks in the region. In general, rural areas had a higher ratio of light trucks to passenger cars than did urban areas. Even California, the most populous State in the West, had a ratio above the national average. In California, 1 of every 3 residential vehicles was a light truck. In contrast, in New York fewer than 1 in 4 was.

## Residential Vehicles at the Household Level

In 1994, the 156.8 million residential vehicles were divided among the 84.9 million households that had at least one vehicle, meaning that each of those households had an average of about 1.8 vehicles. Despite the increase in the total number of vehicles in the residential fleet from 1988 to 1994, the average number of vehicles per household remained at 1.8 because the growth in the number of households kept pace with the growth in the number of vehicles. An additional 12.5 million households, including many of the poorest households, had no vehicles.

### Lower-Income Households Had Fewer Vehicles in 1994

Lower-income households—those with annual family incomes below \$25,000—had, on average, 1.5 vehicles in 1994. Not surprisingly, households with annual family incomes of \$25,000 or above had more vehicles—2.1, on average.

### More Households in 1994 Had No Vehicles

In 1988 and 1991, the number of households without vehicles remained at about 10 million, even though the total number of households rose 3.0 million from 1988 to 1991. In 1991, the share of households without vehicles was 10.6 percent.

In 1994, by contrast, the share of households without vehicles jumped to 12.7 percent. The total number of households rose 2.7 million from 1991 to 1994, while the number of households without vehicles rose 2.5 million.

The lowest-income households accounted for 83 percent of the total increase in the number of households without vehicles. (The lowest-income households are those categorized as eligible for Federal assistance because their income is lower than 150 percent of the national poverty line or 60 percent of statewide median income, whichever is higher.<sup>7</sup>) In 1994, 30 percent of the Nation's lowest-income households were without vehicles, compared with a national average for all households of 13 percent.

## Changes in Residential Vehicle Technology

The transportation sector relies almost entirely on petroleum. Because it also accounts for about two-thirds of U.S. total petroleum demand,<sup>8</sup> passenger cars and light trucks became a focus of efforts to use petroleum more efficiently, thereby restraining demand.

The Energy Policy and Conservation Act of 1975 required passenger car and light truck manufacturers to meet corporate average fuel economy (CAFE) standards applied on a fleet-wide basis for each manufacturer.<sup>9</sup> The CAFE standards, higher fuel prices in the 1970's and 1980's, and environmental quality initiatives such as the Clean Air Act Amendments of 1990 all contributed to increasing the demand for more fuel-efficient vehicles.

In turn, the demand for more fuel-efficient vehicles spurred improvements in existing technologies and the development of new technologies. For example, using lighter-weight materials and reducing the size of vehicles led to lighter vehicles that consumed less fuel per mile.

Many improvements occurred in engine technology. Increasing the number of valves per cylinder resulted in increased performance from smaller, more fuel-efficient engines. Increasing the number of gears in manual and automatic transmissions allowed engines to operate at peak efficiency more of the time. Similarly, using lockup torque converters to allow direct drive under some driving conditions also increased fuel economy.

One of the most far-reaching improvements in engine technology concerned fuel injection, which was available but not widely used prior to the mid-1980's. Valued for its greater fuel economy, as well as for its ability to control carbon monoxide emissions and to improve engine performance, fuel injection technology began to penetrate the fleet during the 1980's, and it was improved to such an extent that after 1990 virtually all new light-duty vehicles were equipped with fuel injection instead of carburetors. By 1994, the trend toward the use of fuel injection rather than carburetors for fuel metering had brought the share of residential vehicles using fuel injection to nearly half of the total residential fleet. That share will increase rapidly in future years as older vehicles are retired.

### **Engine Size Shrank and Then Increased Slowly**

For model year 1975 (the year in which CAFE standards were first mandated), residential vehicle engine size averaged 293 cubic inches of displacement.<sup>10</sup> Twelve years later, the engines were much smaller. Model year 1987 engines averaged 175 cubic inches (Figure 2.7). Thereafter, engine size trended upward, reaching an average of 198 cubic inches of displacement for model year 1995.

As is generally the case, changes in the residential vehicle fleet as a whole lagged the changes by model year. Of the 3 years for which fleet data are available, 1991 had the lowest average engine size (despite an upward trend in the 4 preceding model years). In 1994, the fleet average was 227 cubic inches, while the 1994 model year average was 196.

### **Engines Averaged Fewer Cylinders**

Meanwhile, the average number of cylinders in residential vehicle engines was decreasing. In 1988, 55 million vehicles, over one-third of the total residential fleet, had 8-cylinder engines. In 1994, 8-cylinder engines were found in only about 42 million vehicles, just over one-fourth of the total (Figure 2.8).

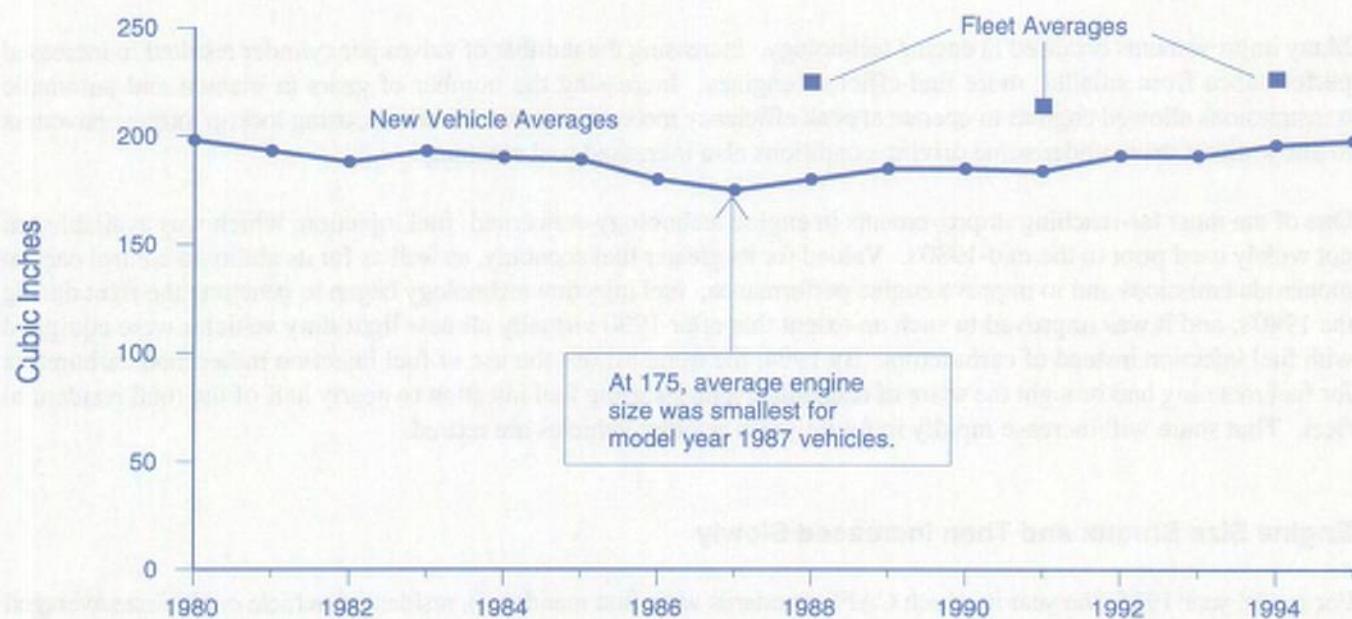
The trend over the 7-year period was toward more 4- and 6-cylinder engines. In 1994, 4-cylinder engines were the most common (62 million out of a total of 157 million), but the 52 million 6-cylinder engines represented the greatest increase (45 percent) relative to the 1988 level.

### **Power and Performance Improved but Fuel Economy Stagnated**

The improvements in residential vehicle technology allowed for improvements in performance despite shrinking or relatively stable engine size. However, improved performance came at the expense of improvements in fuel economy. For example, technical improvement in the efficiency of engines can be used to provide increased acceleration or smaller, lighter engines with better fuel economy.

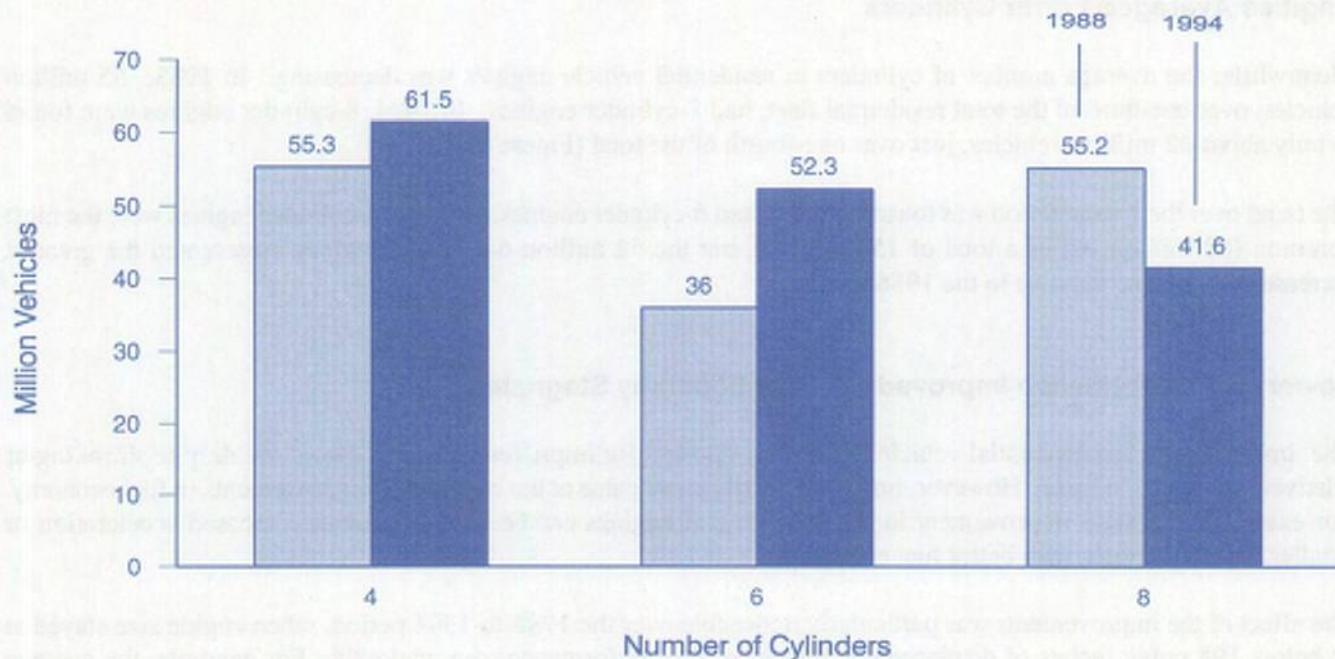
The effect of the improvements was particularly noticeable over the 1988-to-1994 period, when engine size stayed at or below 198 cubic inches of displacement but power and performance rose markedly. For example, the average horsepower of new vehicles rose from 123 in 1988 to 159 in 1994, an increase of 29 percent (Figure 2.9). Vehicles manufactured in 1994, with an average of 159 horsepower, had the highest horsepower rating in at least 20 years, a rating markedly higher than the 20-year low-point of 102 horsepower in 1981.

Figure 2.7 Average Engine Size for Residential Vehicles for Model Years 1980 - 1995



Sources: **New Vehicle Averages:** Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends Through 1996*, EPA/AA/TDSG/96-01 (Washington, DC, August 1996), Table 1. **Fleet Averages:** Energy Information Administration calculations made on the basis of data from the Residential Transportation Energy Consumption Survey 1988, 1991, and 1994, March 17, 1997.

Figure 2.8 Number of Cylinders in Residential Vehicle Engines, 1988 and 1994

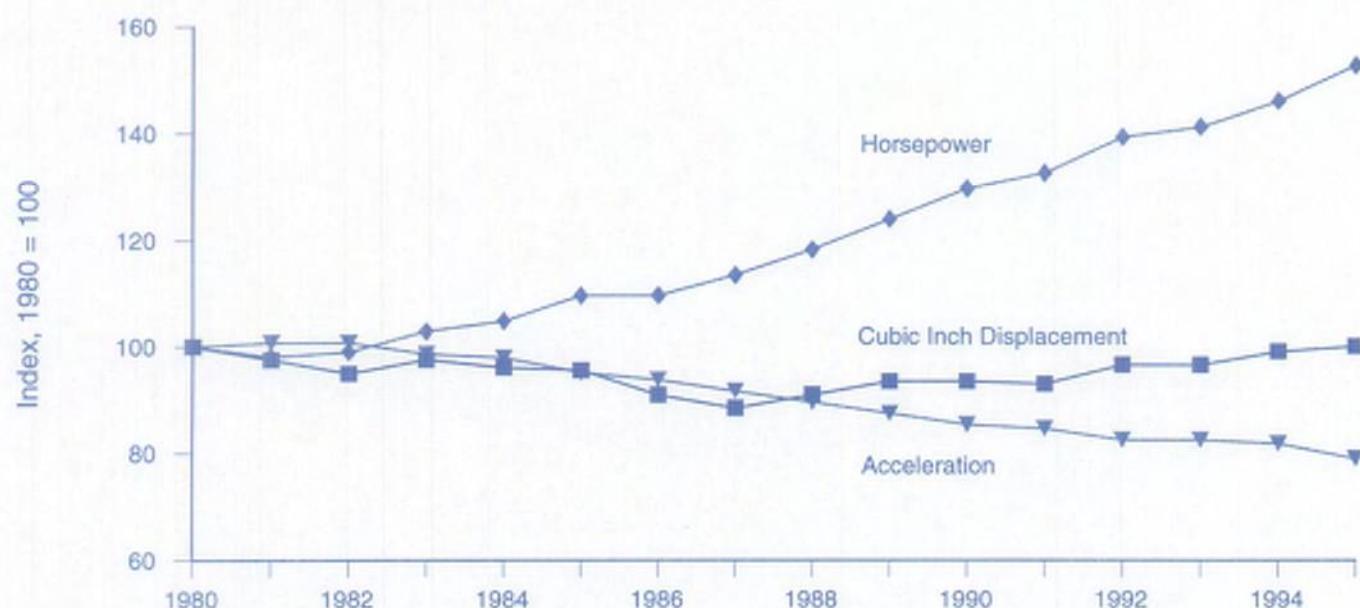


Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 6. • 1994—Table 5.1 in this report.

Similarly, the time required for the average residential vehicle to accelerate from 0 miles per hour to 60 miles per hour was reduced by 1.1 seconds, from 12.8 seconds in 1988 to 11.7 seconds in 1994. The 11.7 seconds time was the fastest in at least 20 years.<sup>11</sup>

Over the same 7 years, however, the average fuel economy of new vehicles stagnated. Nevertheless, the average fuel economy of the residential fleet rose somewhat, as new, more fuel-economic vehicles replaced older, less fuel-economic vehicles (see Chapter 4).

Figure 2.9 Vehicle Performance for Model Years 1980 - 1995  
(Index, 1980 = 100)



Source: Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends Through 1996*, EPA/AA/TDSG/96-01 (Washington, DC, August 1996), Table 1.



## **Chapter 3. Vehicle-Miles Traveled**

Vehicle-miles traveled—the number of miles that residential vehicles are driven—is probably the most important information collected by the Residential Transportation Energy Consumption Survey. Using the data on vehicle-miles traveled allows analysts to answer such questions as:

- “Are minivans driven more than passenger cars?”
- “Do people in the West drive more than people elsewhere?”
- “Do people conserve their new cars by driving them less?”
- “Who drives more—people in households with children, or other people?”
- “At what ages do people drive the most?”
- “How does growing income affect the amount of driving?”

In addition to answering those kinds of questions, analysts also use the number of vehicle-miles traveled to compute estimated, on-road vehicle fuel consumption, economy, and expenditures, all of which have important implications for U.S. energy policy and national security (see Chapter 4).

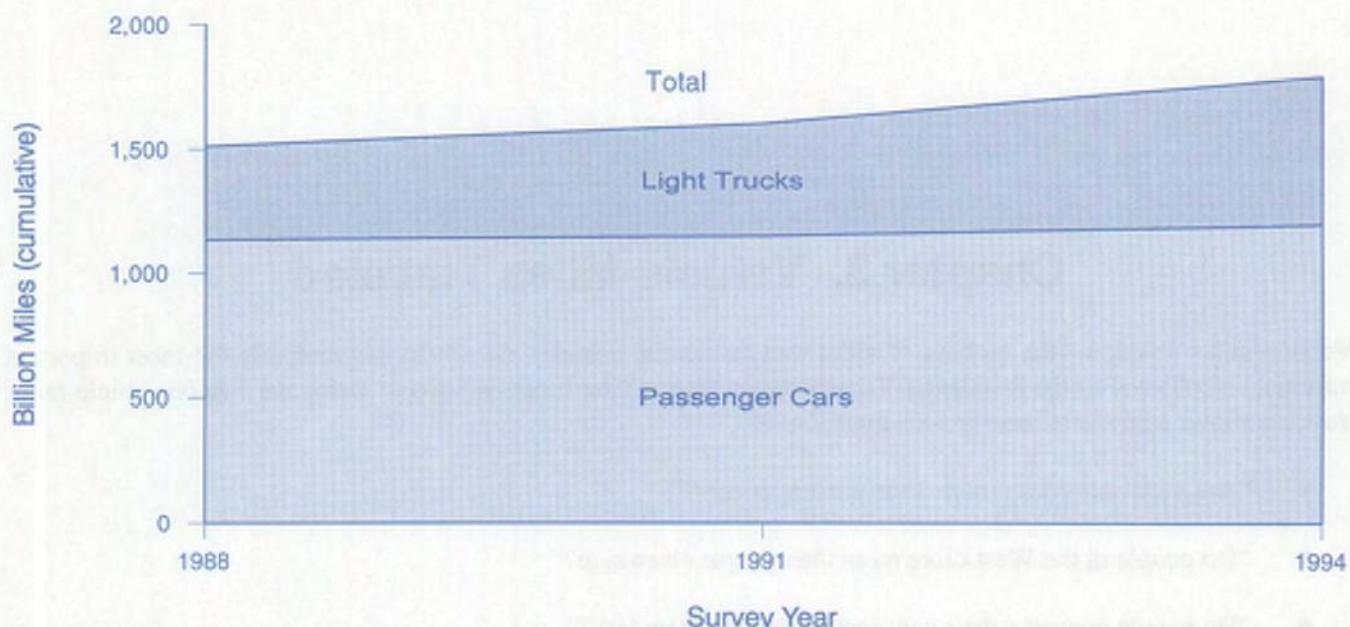
### **The Number of Vehicle-Miles Traveled Continued To Rise**

In 1994, U.S. residential vehicles traveled 1,793 billion miles (Figure 3.1), a distance equal to more than 70 million trips around the world. The amount of travel in 1994 was 282 billion miles more than in 1988. From 1988 through 1994, the average annual growth in the number of miles traveled was 2.9 percent, almost 3 times the rate of growth in the number of residential vehicles during that period.

An average vehicle, therefore, traveled farther in 1994 than in 1988: 11,400 miles per year compared with 10,200 miles per year (Figure 3.2). Because the number of vehicles per household remained steady at about 1.8 from 1988 through 1994, per-vehicle and per-household mileage grew at about same rate. The per-household average rose from 18,600 miles in 1988 to 21,100 miles in 1994.

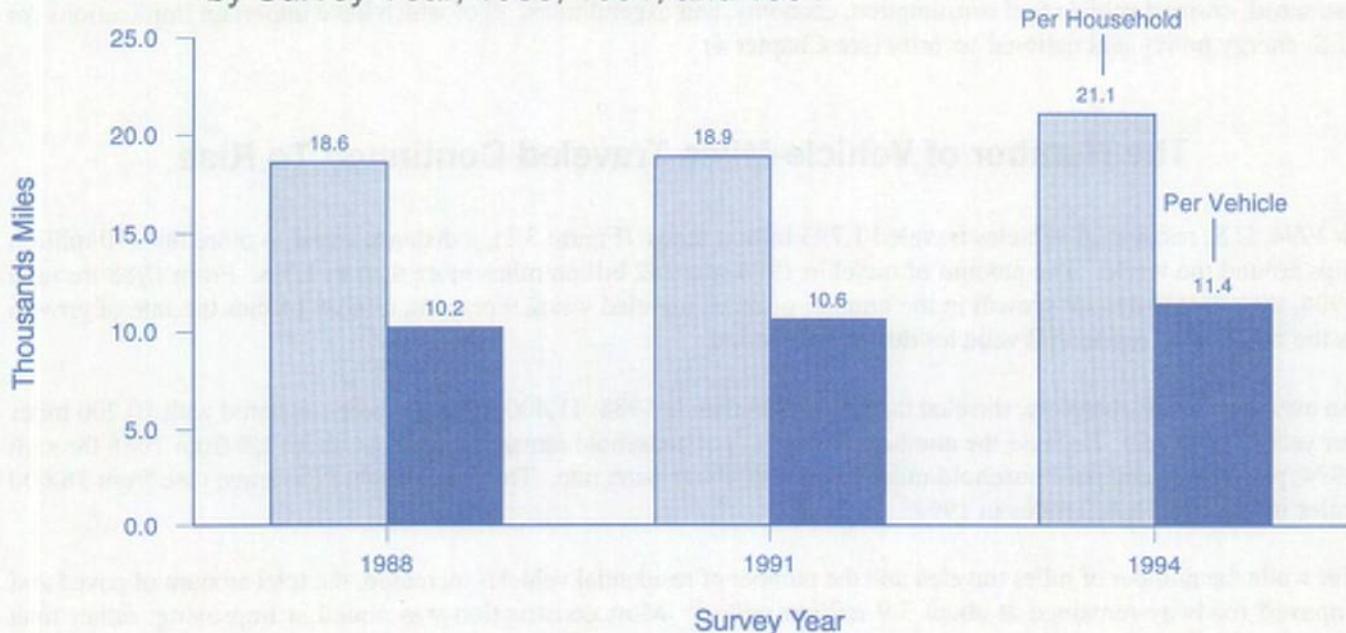
But while the number of miles traveled and the number of residential vehicles increased, the total amount of paved and unpaved roadway remained at about 3.9 million miles.<sup>12</sup> Most construction was aimed at improving, rather than extending, the existing roadway system, about 40 percent of which was unpaved as of 1994. In 1988, the average mile of roadway was traveled by residential vehicles 1,066 times per day. In 1994, the number was 1,257, about 18 percent higher. (Because residential vehicles make up only about four-fifths of the U.S. total fleet, there was, in fact, substantially more total travel per mile of roadway.) These figures provide some indication of the increase in traffic congestion over the period.

Figure 3.1 Residential Vehicle-Miles Traveled by Type of Vehicle, 1988, 1991, and 1994



Sources: • 1988—Energy Information Administration (EIA), *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 12 • 1991—EIA, *Household Vehicles Energy Consumption 1991*, DOE/EIA-0464(91) (Washington, DC, December 1993), Table 14. • 1994—Table 5.7 in this report.

Figure 3.2 Residential Vehicle-Miles Traveled per Household and per Vehicle by Survey Year, 1988, 1991, and 1994



Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Tables 14 and 18. • 1991—EIA, *Household Vehicles Energy Consumption 1991*, DOE/EIA-0464(91) (Washington, DC, December 1993), Tables 16 and 20. • 1994—Tables 5.9 and 5.15 in this report.

## How Are Vehicle-Miles Traveled Measured?

The number of vehicle-miles traveled per year for each vehicle in the Residential Transportation Energy Consumption Survey was obtained in one of two ways.

**1. Calculations based on odometer readings.** For each vehicle in the sample, the survey collected a beginning-of-year and an end-of-year odometer reading. The number of vehicle-miles traveled annually is equal to the difference between the two readings, adjusted to reflect a 365-day year. The mileage for vehicles that were in the household less than a full year was adjusted to reflect the amount of time the vehicle was in the household.

**2. Imputations using a regression estimate.** For vehicles for which one or both odometer readings were missing, a regression estimate was used to estimate the annual mileage. As was done for the odometer reading calculations, the mileage for vehicles that were in the household less than a full year was adjusted to reflect the amount of time the vehicle was in the household.

The total number of vehicle-miles traveled, representing the number of miles traveled nationally by all residential vehicles, is equal to the weighted sum of the number of vehicle-miles traveled by each vehicle in the survey sample. (Each vehicle in the sample represents several thousand vehicles in the national residential fleet.)

## Miles Traveled by Light Trucks Increased the Fastest

Largely because light trucks' share of the residential fleet increased from 1988 to 1994, the number of miles traveled by light trucks, rather than passenger cars, accounted for most of the increase in residential vehicle-miles traveled. Light trucks traveled 56 percent more miles in 1994 than they had in 1988, attaining an average growth rate of 7.8 percent per year. By comparison, the number of vehicle-miles traveled by passenger cars did not show a statistically significant change.

Light trucks' share of total vehicle-miles traveled rose from one-fourth in 1988 to one-third in 1994. The increase was the result of two factors. Light trucks comprised a larger share of the residential fleet in 1994. In addition, two segments of the light truck fleet—minivans and sport utility-vehicles—were driven more miles per year per vehicle than were passenger cars.

## Minivans Were Driven the Most

Minivans, which are owned primarily by families with children, tend to be driven more than other types of vehicles. In 1994, the average minivan was driven 13,400 miles, substantially more than the number of miles traveled, average, by passenger cars, pickup trucks, and large vans. In general, households with children reported a higher number of vehicle-miles traveled than did other households (see section on "Inside the Average U.S. Household: Who Drives Most?").

Similarly, of the two types of passenger cars, station wagons were used more on average than were sedans. The average station wagon covered 12,100 miles in 1994, compared with 11,200 miles traveled by the average sedan.

## Vehicles in the West Were Not Driven More Than in Other Regions

It seems reasonable that people living in the "wide-open spaces" of the West would drive more than people living in urban areas of the West and in other regions of the country. However, the average number of miles traveled per vehicle in the West, 10,900 miles, was comparable to the average for the rest of the United States (Figure 3.3).

average was slightly lower than the averages in the South and the Midwest, but not statistically different from the average in the Northeast. The national average was 11,400 miles per vehicle in 1994.

However, the vehicle-miles-traveled averages may have masked significant variations in State and local areas, such as the less populous States located in the West. Other Energy Information Administration data sources, most notably, State-level motor gasoline consumption estimates, suggest wide variability in fuel use per capita. For example, motor gasoline consumption in the most fuel-intensive State (Wyoming) is more than twice that of consumption in the least-intensive State (New York). However, even in sparsely populated States such as Wyoming, most of the population lives in urban areas, so that a large part of personal travel could be local. Why then would motor gasoline use per capita vary so widely?

There are good reasons why per capita motor gasoline consumption may not be directly correlated with per capita vehicle-miles traveled. Estimates of total motor gasoline consumption could be greatly influenced by tourists visiting the State in numbers that are many times the size of the resident population. In addition, some western States with small populations have major cross-country interstate highways passing through. Vehicles traveling on such highways consume motor gasoline that is then counted in that State's consumption. Tourists and through traffic, largely unassociated with travel by State residents, would have the greatest relative effect on per capita ratios in States with large geographic areas and small populations. As an example, in 1994 over 7 million people visited Wyoming with its population of 476 thousand, according to the Wyoming Department of Tourism. In order for tourism to have had the same relative effect in California, almost everyone in the United States would have had to have visited California nearly two times in 1994.

### New Vehicles Are Driven More than Older Vehicles

Vehicle age is closely correlated with the number of miles traveled: the newer the vehicle, the more miles it is driven, on average (Figure 3.4). In 1994, the newest vehicles (model years 1994 and 1995<sup>13</sup>) were driven 14,300 miles, about 1.7 times as much as were the oldest vehicles (model years earlier than 1980, that is, vehicles at least 14 years old in 1994).

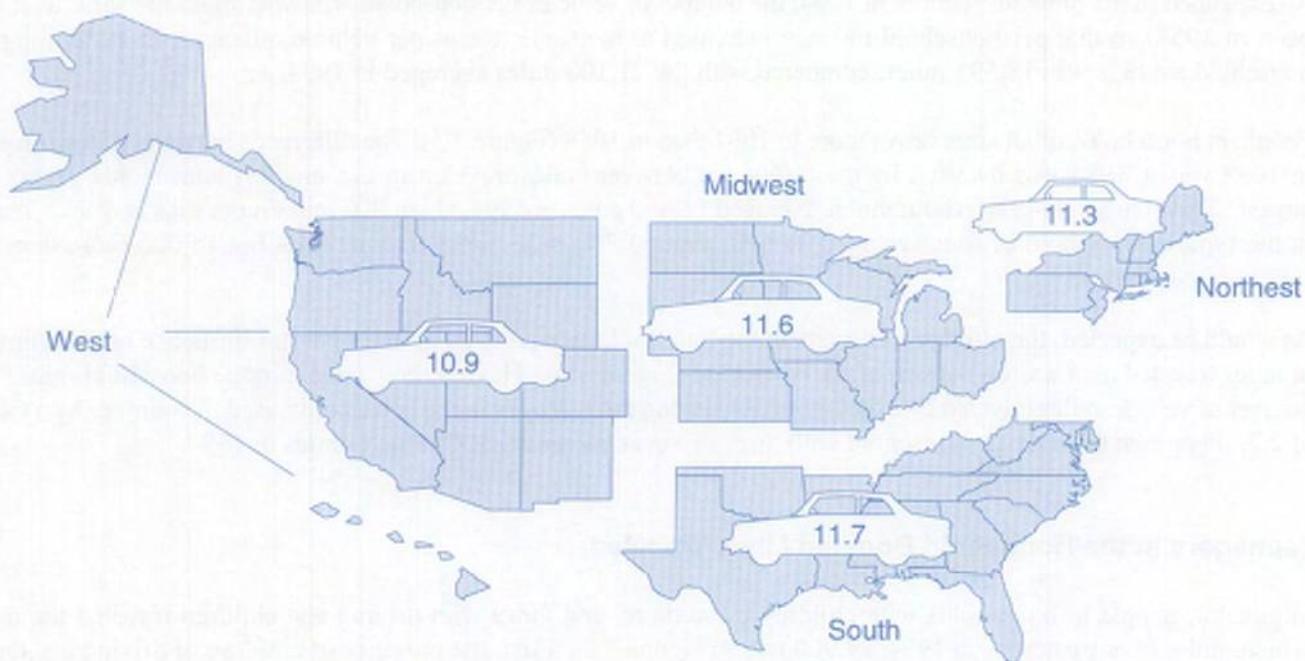
However, the difference between the number of miles traveled by the oldest and newest vehicles became much less pronounced in 1994 than it had been in 1988. In 1988, the newest vehicles were driven 12,900 miles, more than twice as much as were the oldest vehicles (those more than 14 years old in 1988). The likely explanation for this trend is that the oldest vehicles remaining in the residential fleet in 1994 were relatively newer, more fuel efficient, and probably more reliable than were the oldest vehicles in the 1988 fleet.

### Inside the Average U.S. Household: Who Drives the Most?

People in the average U.S. household in 1994 drove their vehicles 21,100 miles, far enough to travel from New York<sup>14</sup> to San Francisco seven times. That number, however, represents the average of about 85 million U.S. households with vehicles in 1994, and the average masks significant variation. For example, typical householder A, an older person whose children had left home, drove only 8,600 miles in 1994. That same year, people in typical household B, which included teenagers of driving age, drove 29,900 miles. And people in household C, which also included teenagers of driving age and which had an income of \$50,000 or more, drove 40,200 miles.

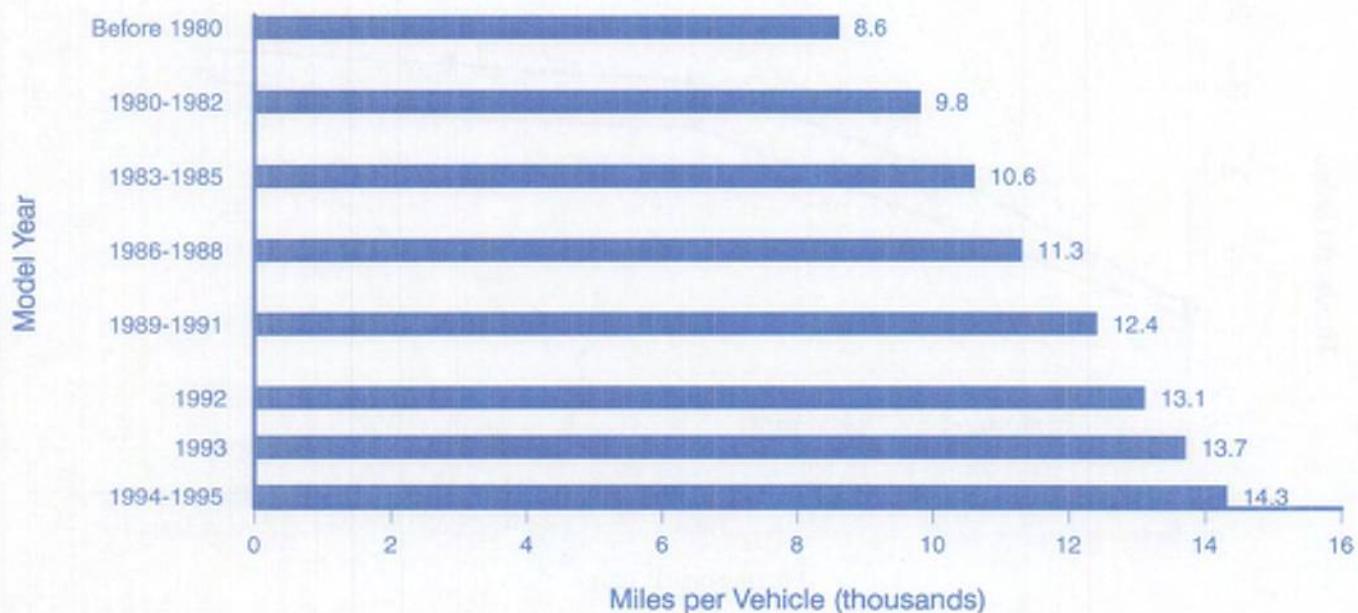
Comparing data on vehicle-miles traveled per household with details about household size, composition, and income,<sup>15</sup> analysts can correlate the number of miles driven per household with factors such as how many people make up the household, how many children live in the household, and how much money the household earns. The Residential Transportation Energy Consumption Survey is the only source of that information.

Figure 3.3 Residential Vehicle-Miles Traveled per Vehicle by Region, 1994  
(Miles in Thousands)



Source: Table 5.15 in this report.

Figure 3.4 Residential Vehicle-Miles Traveled per Vehicle by Vehicle Age, 1994



Source: Table 5.15 in this report.

## Miles Driven Per Household Increased

As explained in the previous section, in 1994, the number of vehicles per household, 1.8, was about the same as it had been in 1988, so that per-household mileage increased at the same rate as per-vehicle mileage. In 1988, the per-household average was 18,595 miles, compared with the 21,100 miles averaged in 1994.

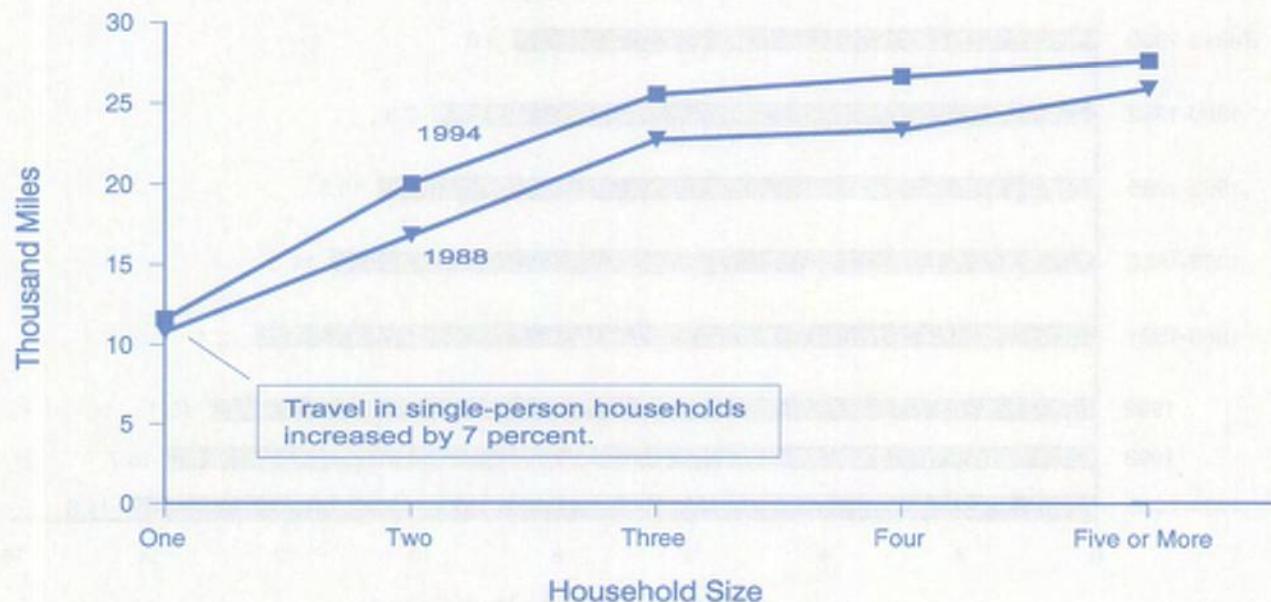
People in households of all sizes drove more in 1994 than in 1988 (Figure 3.5). The difference between miles traveled in 1988 versus 1994 was dwarfed by the difference between miles traveled in the smallest households versus the largest. Travel in single-person households averaged 11,600 miles in 1994, about 800 miles more than in 1988. Travel in the typical household of four averaged 26,600, about 3,300 miles more than in 1988 but 15,000 more than the smallest households.

As would be expected, the number of drivers in the household was an even more important influence on the number of miles traveled than was the size of the household (Figure 3.6). Having three people in the household raised the number of vehicle-miles traveled by a factor of 2.2. Having three drivers in the household raised the number by a factor of 2.7. People in the average household with three drivers covered 33,100 vehicle-miles in 1994.

## Teenagers in the Household Boosted Miles Traveled

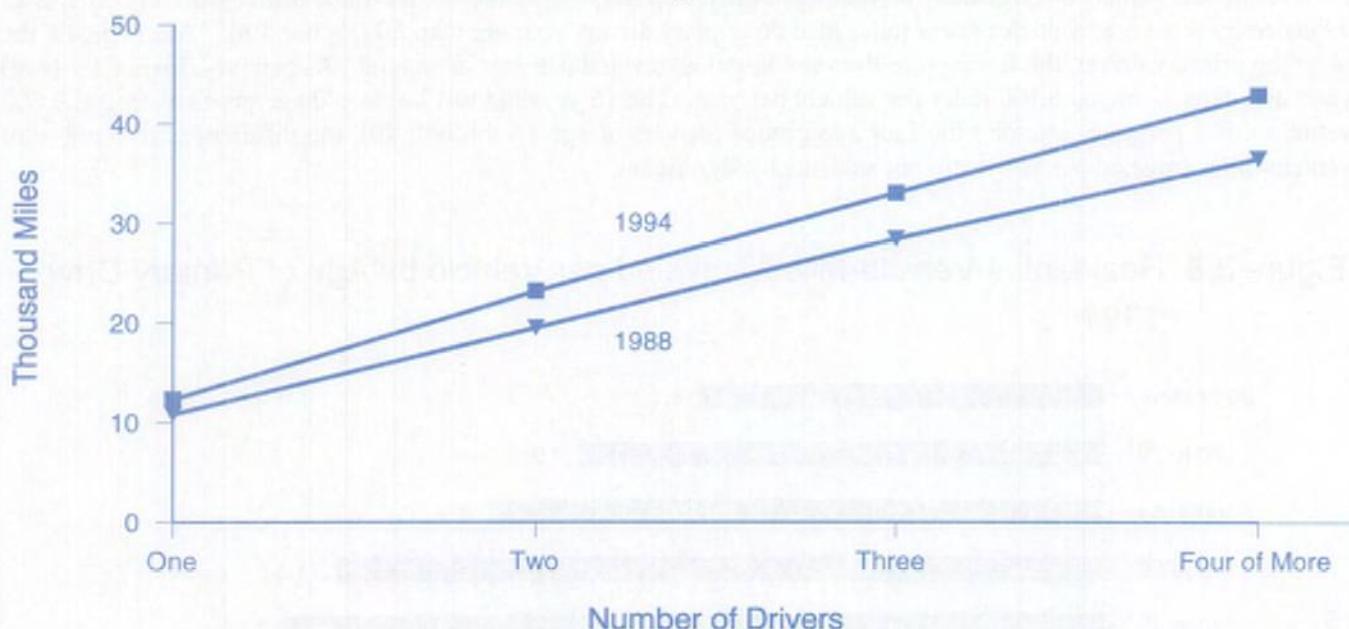
In general, people in households with children drive more, and those with driving-age children traveled the most vehicle-miles of any category in 1994: 29,900 miles (Figure 3.7). First, the presence of children of driving age tends to increase the number of drivers in the household and, therefore, to increase the number of vehicle-miles traveled. Secondly, older children may create additional travel demands than do younger children. In households with younger children, the number of vehicle-miles driven is similar to the number of miles driven in households with two or more adults with no children and in which the householder is younger than 60. In fact, households with two adults or more registered the greatest 1988-to-1994 increase in the number of vehicle-miles traveled.

Figure 3.5 Residential Vehicle-Miles Traveled per Household by Household Size and Survey Year, 1988 and 1994



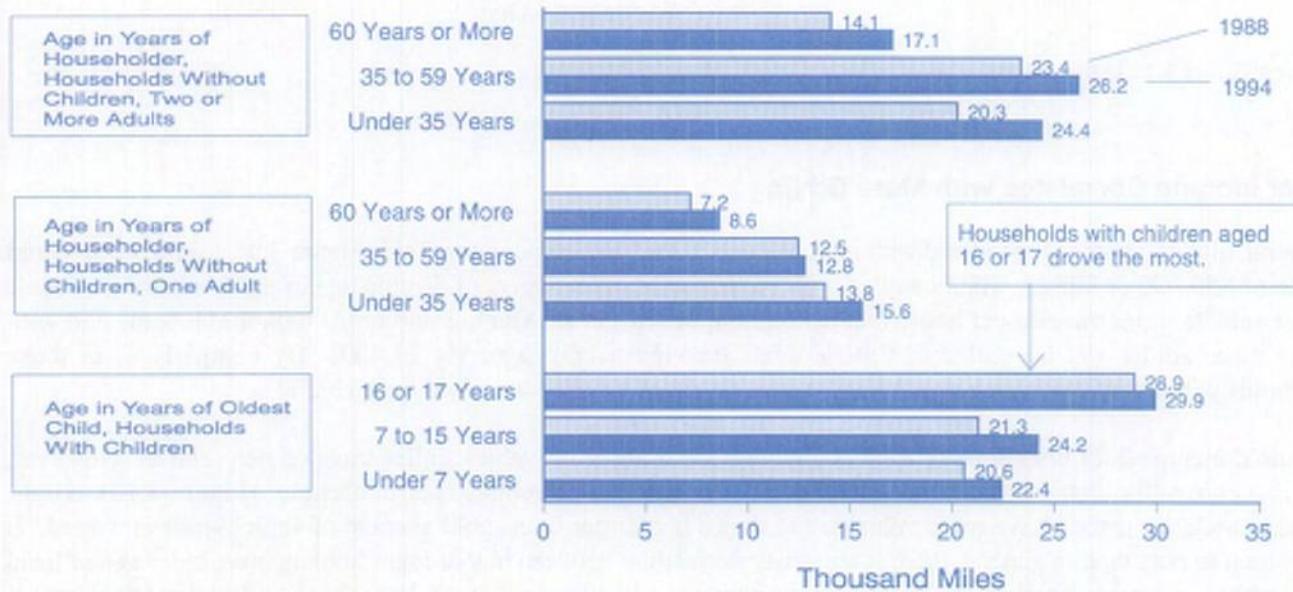
Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 7. • 1994—Table 5.2 in this report.

Figure 3.6 Residential Vehicle-Miles Traveled per Household by Number of Drivers and Survey Year, 1988 and 1994



Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 7. • 1994—Table 5.2 in this report.

Figure 3.7 Residential Vehicle-Miles Traveled per Household by Household Composition and Survey Year, 1988 and 1994

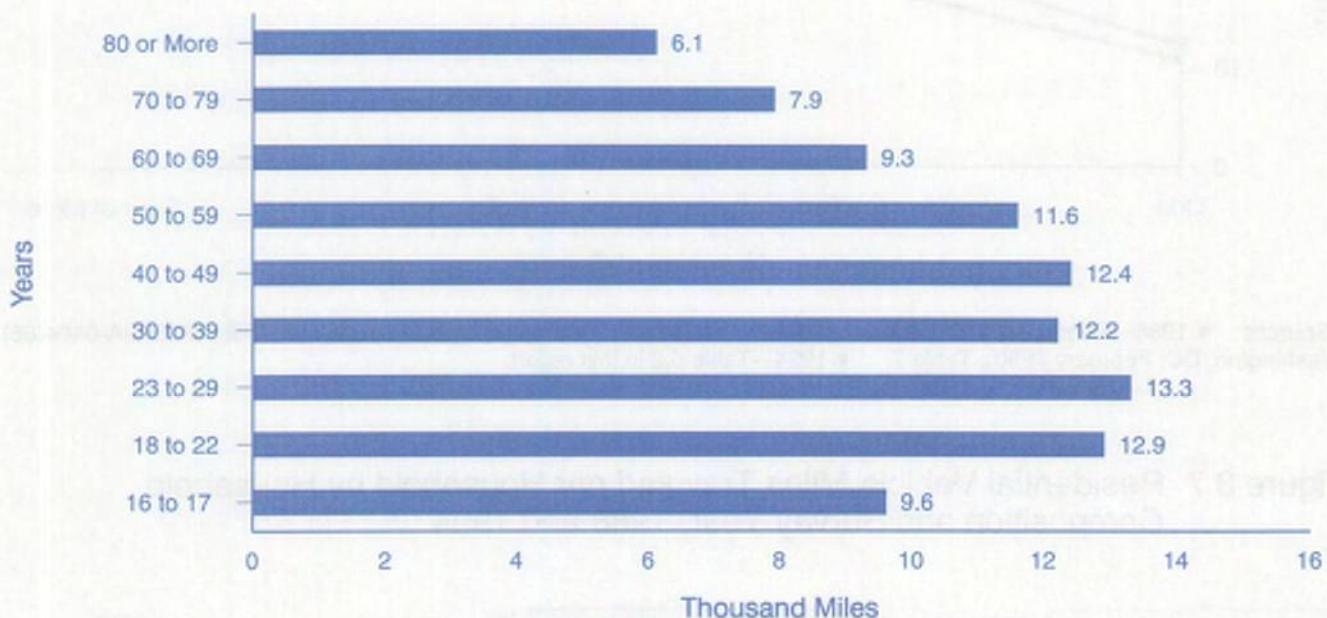


Note: Household composition refers to the number and ages of people in the household.  
 Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 14. • 1994—Table 5.9 in this report.

## Older Drivers Cover Fewer Miles

Each residential vehicle has a primary driver. With the exception of 16- and 17-year-olds, primary drivers older than 49 generally drive their vehicles fewer miles than do primary drivers younger than 50 (Figure 3.8). After age 49, the older the primary driver, the fewer were the vehicle-miles traveled per year in general. As primary drivers, those 80 years and older averaged 6,100 miles per vehicle per year. The 16-year-old to 17-year-old age group averaged 9,600 vehicle-miles per year. Among the four age groups (drivers of age 18 through 49), the differences in number of vehicle-miles traveled per year were not statistically significant.

Figure 3.8 Residential Vehicle-Miles Traveled per Vehicle by Age of Primary Driver, 1994



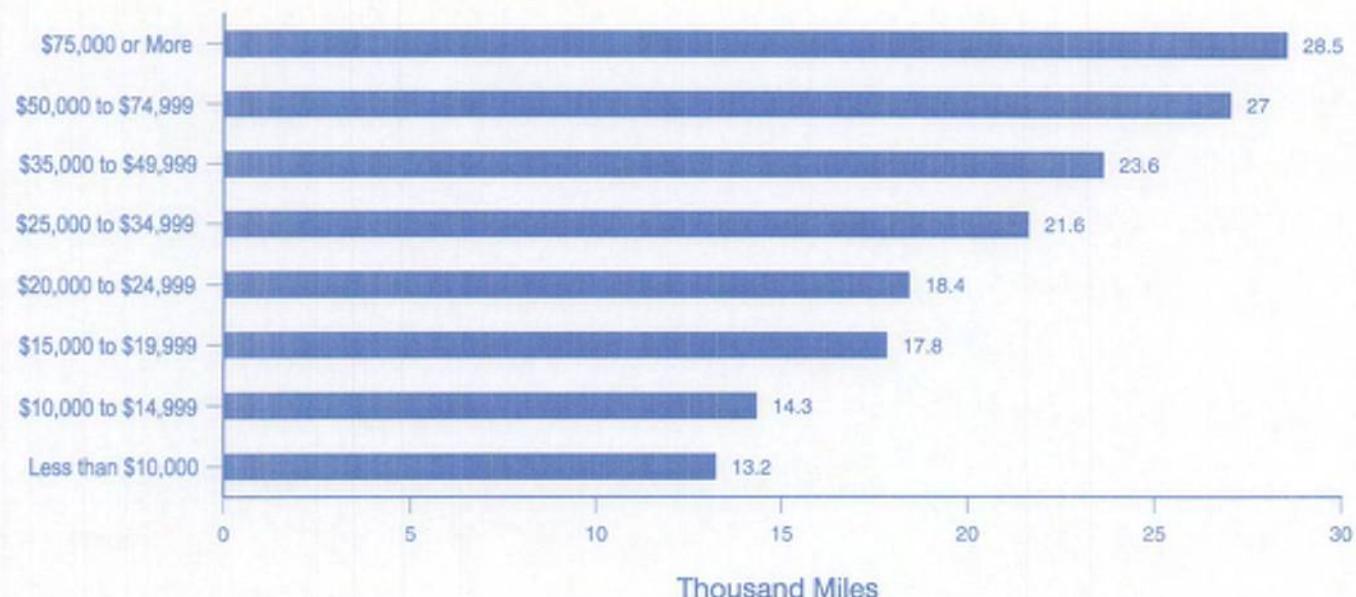
Source: Table 5.15 in this report.

## Higher Income Correlates with More Driving

In general, higher income is correlated with more vehicle-miles traveled per household (Figure 3.9). Annual household income of \$50,000 or higher, when coupled with the presence of teenagers of driving age in the household, boosted average vehicle-miles traveled per household to 40,200 miles in 1994. And in households with that income and with two or more adults and no children, vehicle-miles traveled averaged nearly 27,400. By comparison, in those households with annual income below \$10,000, vehicle-miles traveled averaged only 13,200.

Household income does *not* correlate appreciably with the number of vehicle-miles traveled *per vehicle*. However, there is a correlation between household income and the number of vehicles per household (Figure 3.10). High-income households tend to have more vehicles and thus a higher per-household average of vehicle-miles traveled. It is important to note that, in general, there is a positive correlation between higher household income, older age of head of household, a greater number of drivers, and an increased likelihood that the household will include children of driving age—all factors associated with a higher number of vehicle-miles per household. Households that include children 16 or 17 years old tend to have an older head of household. Older householders tend to have been in the work force longer, to have a correspondingly higher income, and to have more vehicles. For example, households with annual incomes of \$50,000 or higher have nearly twice as many vehicles as do households with annual incomes below \$10,000.

Figure 3.9 Residential Vehicle-Miles Traveled per Household by Annual Household Income, 1994



Source: Tables 5.2 in this report.

Figure 3.10 Average Number of Vehicles per Household by Household Income, 1994



Source: Table 5.2 in this report.



## Chapter 4. Fuel Economy, Consumption, and Expenditures

This chapter analyzes trends in fuel economy, fuel consumption, and fuel expenditures, using data unique to the Residential Transportation Energy Consumption Survey, as well as selected data from other sources. Analysis topics include the following:

- Following the oil supply and price disruptions caused by the Arab oil embargo of 1973-1974, motor gasoline price increases, the introduction of corporate average fuel economy standards, and environmental quality initiatives helped to spur major changes in vehicle technology. But have the many advances in vehicle technology resulted in measurable gains in the **fuel economy** of the residential vehicle fleet?
- Despite national concerns about dependence on foreign oil and the deleterious effect on the environment of fossil fuel combustion, residential vehicle fleet **fuel consumption** was almost 8 billion gallons higher in 1994 than it had been in 1988. What factors led to the increase?
- Residential expenditures for energy averaged \$2,571 per household per year in 1994.<sup>16</sup> How much of the total was attributed to residential **vehicle fuel expenditures**? And how did those expenditures compare with other vehicle-related operating expenses, such as insurance, financing, licensing, and depreciation?

### Fuel Economy Increased a Small Amount

During the 1983-to-1991 period, the overall fuel economy of the residential fleet increased by nearly 28 percent (about 3.5 percent per year), which helped to hold down total consumption. However, for the 1991-to-1994 period, the overall increase in fuel economy from 19.3 miles per gallon (mpg) to 19.8 mpg was less than 3 percent (less than 1 percent per year). The large increase in the fleet fuel economy in the 1983-to-1991 period was due primarily to two factors: vehicles manufactured after 1982 had better fuel economy, and large numbers of pre-1983, lower fuel-economy vehicles were taken out of service. Each year, there are fewer pre-1983 vehicles to be replaced by newer vehicles, thus diminishing the opportunity for further increases in overall fleet fuel economy through replacement of older, lower fuel-economy vehicles with newer, higher fuel-economy vehicles.

The average fuel economy for the residential fleet was 19.8 mpg in 1994, an 8-percent increase over 1988, when household vehicles averaged 18.3 mpg. Average fuel economy would have increased by a greater amount if all technological improvements had been devoted solely to that purpose rather than to increasing vehicle size and performance. Passenger cars, averaging 21.9 mpg, had the highest fuel economy. Large vans, averaging 13.8 mpg, exhibited the worst fuel economy.

#### What is the Difference Between Fuel Economy and Fuel Efficiency?

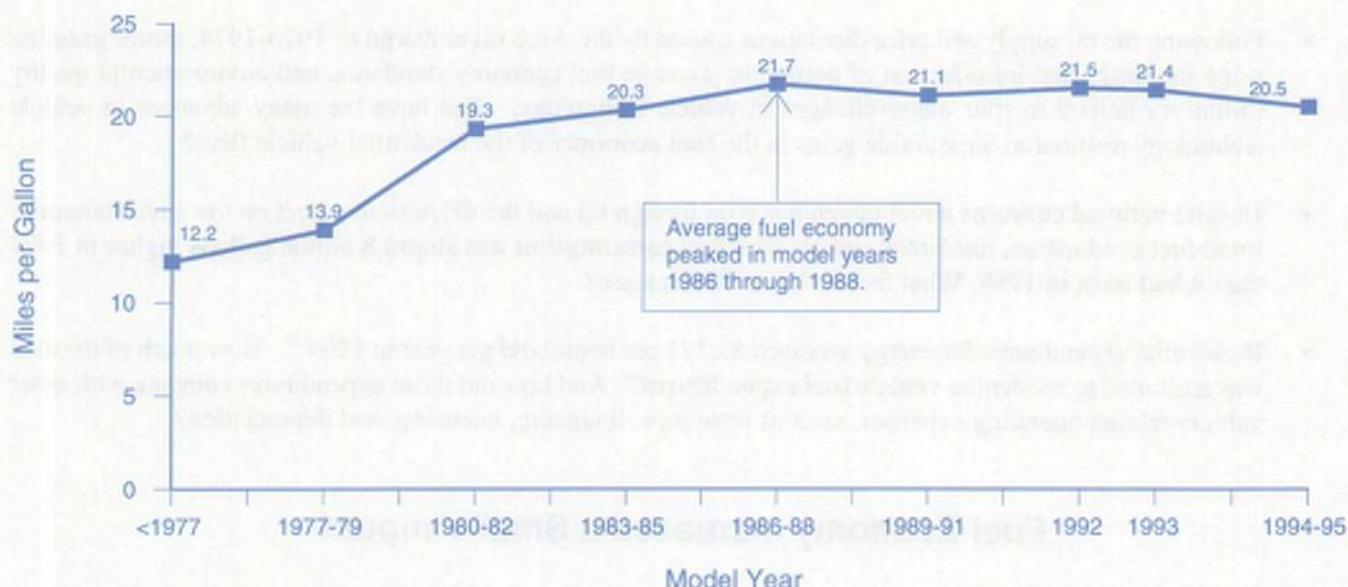
*Fuel economy* is a measure of how many miles a vehicle actually travels using a given amount of fuel. It is affected by factors such as the size of the engine and the shape and weight of the vehicle. For example, the heavier the vehicle, the less fuel economic it will be, all other things being equal.

*Fuel efficiency*, as technically defined, is a straight-forward measure of how efficiently a vehicle engine processes motor fuel. A large, heavy car might have an engine that is as efficient as the engine in a small, light car, but it would probably have a lower fuel economy rating.

## On Average, Newer Residential Vehicles Showed Little Improvement in Fuel Economy

In general, fuel economy varies considerably by age and type of vehicle. However, there was relatively little variation for model years 1980 and later (Figure 4.1), which represented nearly 90 percent of all household vehicles. If all vehicles of model years 1979 and earlier were removed from the residential fleet, the overall fuel economy would only increase from 19.8 mpg to 21.0 mpg. Any major increase in future years must therefore derive not from the retirement of older vehicles but from improvements in technology, and buying patterns of consumers.

**Figure 4.1 Average Fuel Economy of Residential Vehicles for Model Years Through 1995**



Source: Table 5.3 in this report.

## Federal Government Set Lower Fuel Economy Standards for Light Trucks

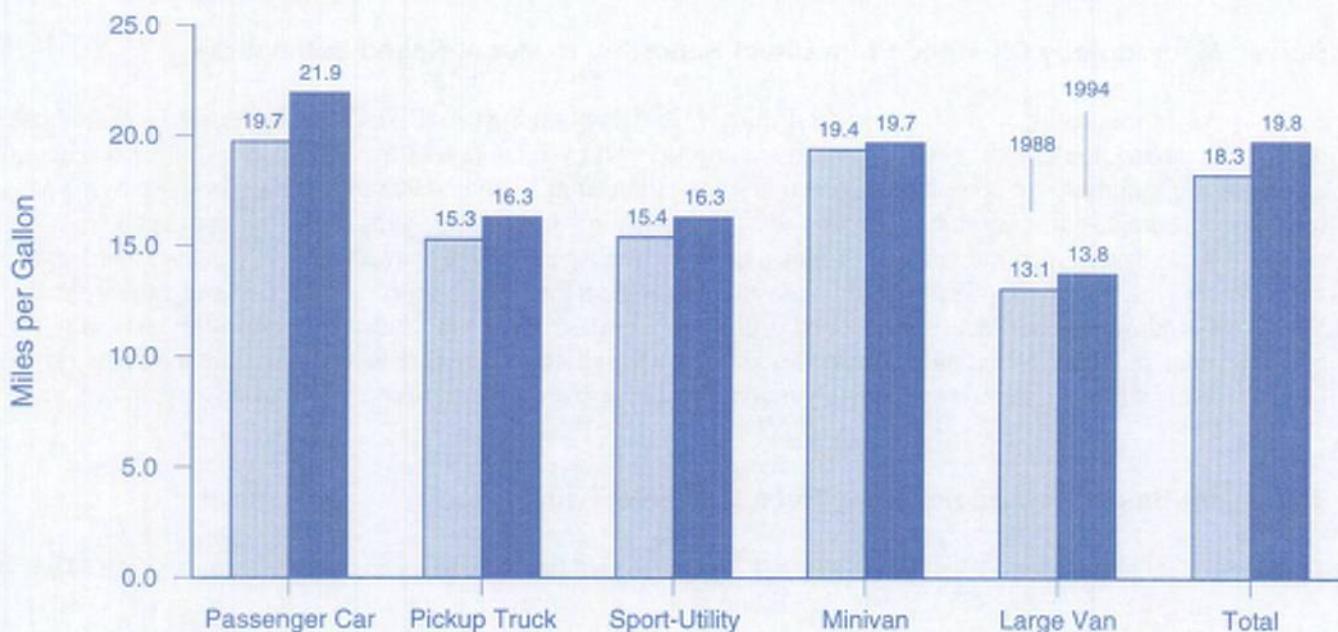
One of the major factors affecting the average fuel economy is the composition of the vehicle fleet. New passenger cars in 1994 were subject to CAFE standards of 27.5 mpg (unadjusted) and the overall passenger fleet averaged 21.9 mpg, compared with 19.7 mpg in 1988 (Figure 4.2). New vehicles not classified as passenger cars—pickup trucks, sport-utility vehicles, minivans, and large vans, all classified as light-duty trucks—were subject to lower CAFE standards of 20.5 mpg (unadjusted) and the overall fleet averaged 16.8 mpg in 1994. That average compares with 15.3 mpg in 1988. In 1994, large vans had the lowest mpg average of any category of light-duty truck and minivans had the highest. In addition to having lower CAFE standards, those vehicles were also exempt from the “gas guzzler” tax, which may have an effect on encouraging consumers to switch from larger, less fuel economic passenger cars to vehicles like minivans and sport utility vehicles which are even less fuel economic.

The number of vehicles getting less than 13 miles per gallon decreased rapidly from 1988 to 1994 (Figure 4.3). Residential vehicles getting 22 or more mpg increased by nearly 38 percent between 1988 and 1994. The number of vehicles in the range between 13 and 21.9 mpg increased, especially in the 16 to 18.9 miles per gallon category. Those intermediate ranges are where many new minivans, sport-utility vehicles, pickup trucks, and large vans fall.

## Household Composition and Income Had Little Effect on Residential Vehicle Fuel Economy

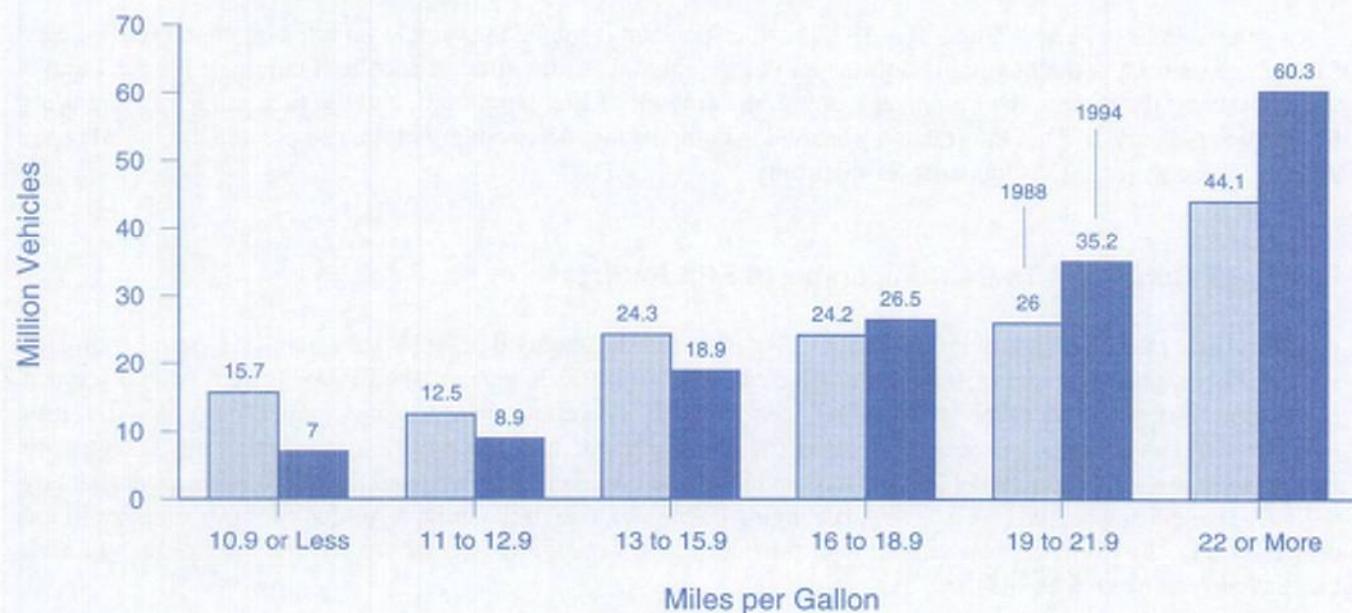
The fuel economy of vehicles in residential households showed little variation by household characteristics. Households without children did show an improvement in the fuel economy of their vehicles when the oldest adult was

Figure 4.2 Average Fuel Economy of Residential Vehicles by Type of Vehicle, 1988 and 1994



Sources: • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 8. • 1994—Table 5.3 in this report.

Figure 4.3 Number of Residential Vehicles by Fuel Economy, 1988 and 1994



Sources • 1988—Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 6 • 1994—Table 5.1 in this report.

## Approaches to Providing Fuel Economy Information

### Survey Methodology Changed From Direct Reporting to Model-Based Estimation

Early cycles of the Residential Transportation Energy Consumption Survey (RTECS) measured vehicle fuel use directly, by having households record odometer readings to report vehicle-miles traveled (VMT) while also keeping a diary of fuel purchases to compute on-road miles per gallon (mpg). In the 1988 and subsequent surveys, VMT reporting was kept, but diary data collection was discontinued. In its place, vehicle mpg is estimated for each sample vehicle by first identifying its Environmental Protection Agency (EPA) new car test values, measured under simulated driving conditions. The test values are adjusted using a three-stage process. The first stage incorporates EPA's on-road adjustment factors developed in the early 1980's — a 22-percent reduction to the test value for highway mpg, and a 10-percent reduction to the test value for city mpg (these reduced values are the ones shown on new vehicle stickers). Later stages are regression-based adjustments that reflect amount of driving and climate.

### The Model-Based Methodology Has Been Validated Twice

This adjustment process was developed in the mid-1980's. At that time, the adjusted mpg data were compared with log-based mpg data from the RTECS and were found to be within a few percent of each other for broad classes of vehicles and households. The closeness of the two methods suggested that the less-expensive adjustment process was a viable alternative to fuel-purchase logs.

After that time, vehicle and driving environment characteristics such as engine and fuel-system technology, level of congestion, ratio of city and open highway travel, and vehicle type and vintage mix drastically changed. Because of those changes, the validity of the decade-old adjustment process came into question. In 1995, EIA studied vehicles from a 500-household subsample of the 1993 Residential Energy Consumption Survey (RECS) in order to compare fuel-log data with miles-per-gallon estimates used in the survey. The 1995 study allowed assessment of the effect of these changes on the relationship between log-based and EIA-estimated measures of fuel economy for the 1994 vehicle stock.

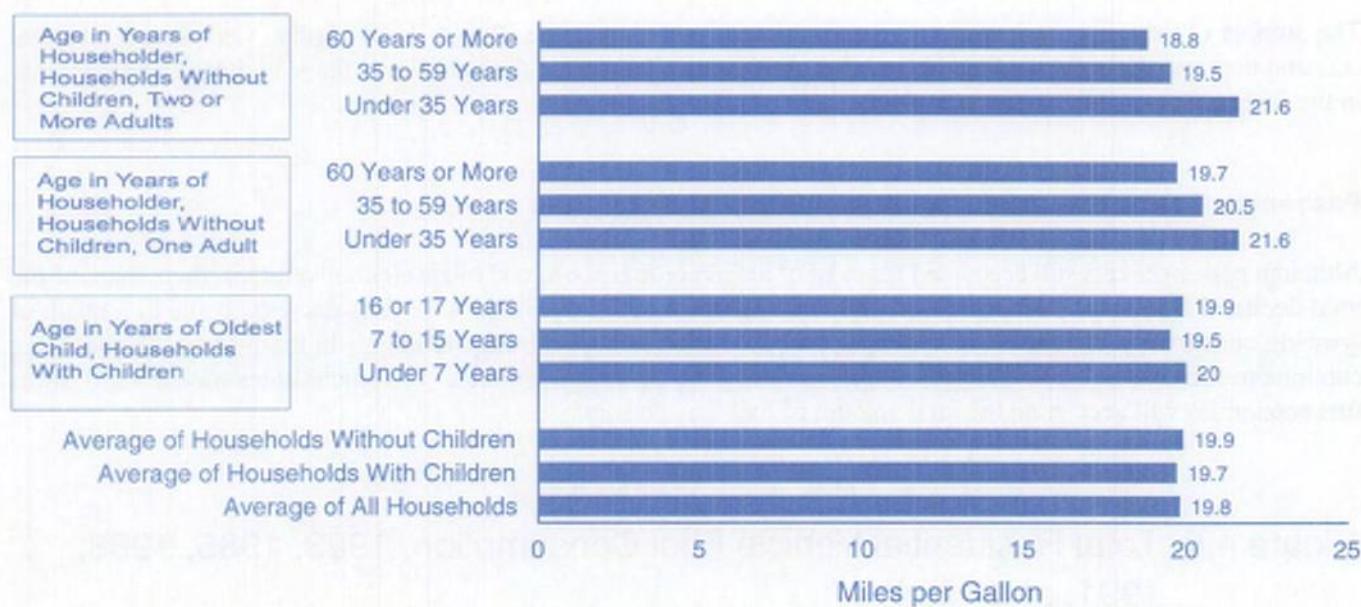
During the months of February and May 1995, each respondent recorded the sample vehicle's odometer reading and fuel-gauge reading at the beginning and the end of the month. At the time of each fuel purchase for the sample vehicle during the month, the odometer reading, the amount of fuel purchased, and the fuel gauge reading *after* fueling were recorded. That information was used to compute the fuel economy of the sample vehicle in miles per gallon. There were 492 respondents for this study.

### Fuel Logs Continued To Be Comparable to EPA Ratings

A comparison of the results of the two methods showed that for the total vehicle stock, the EPA-based estimates were slightly higher (by 3 percent) than log-based estimates in 1995. In general, the EPA-adjusted method seemed to be doing essentially the same job as it had been in 1985. Therefore, there was no compelling reason to return to log-based data collection in subsequent RTECS. Further research is needed to assess whether any changes are warranted in the regression model that reflects the individual driving adjustment, and, in fact, it is not clear that any definitive conclusions could be made about changing the model, due to the relatively small number of cases in the research study. Any official change in the shortfall adjustment would have to come from EPA; there is no indication that a change is needed at this time.

under 35 years of age, as compared with households in which the oldest adult was 60 years old or more (Figure 4.4). Household income appears to have had even less effect on the fuel economy of vehicles in the household than did household composition. Interestingly (although not statistically significant), households with less than \$5,000 of annual income had the most fuel-economic vehicles (Figure 4.5).

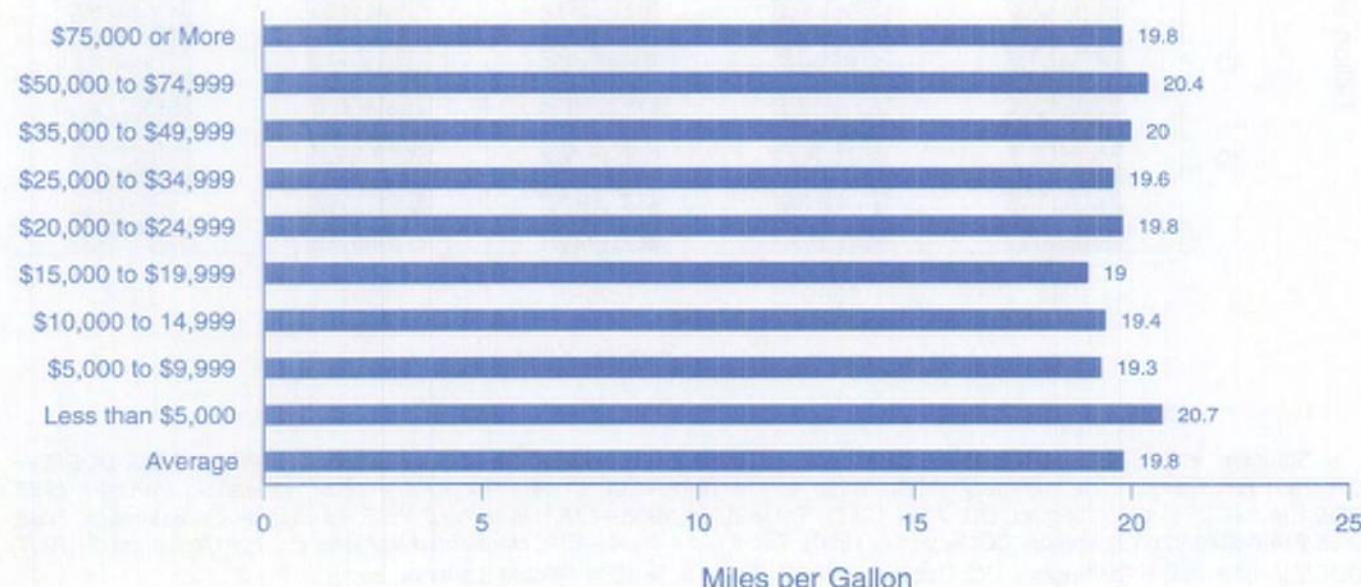
**Figure 4.4 Average Fuel Economy of Residential Vehicles by Household Composition, 1994**



Note: Household composition refers to the number and ages of people in the household.

Source: Table 5.3 in this report.

**Figure 4.5 Average Fuel Economy of Residential Vehicles by Annual Household Income, 1994**



Sources: Table 5.3 in this report.

## Fuel Consumption Increased in 1994

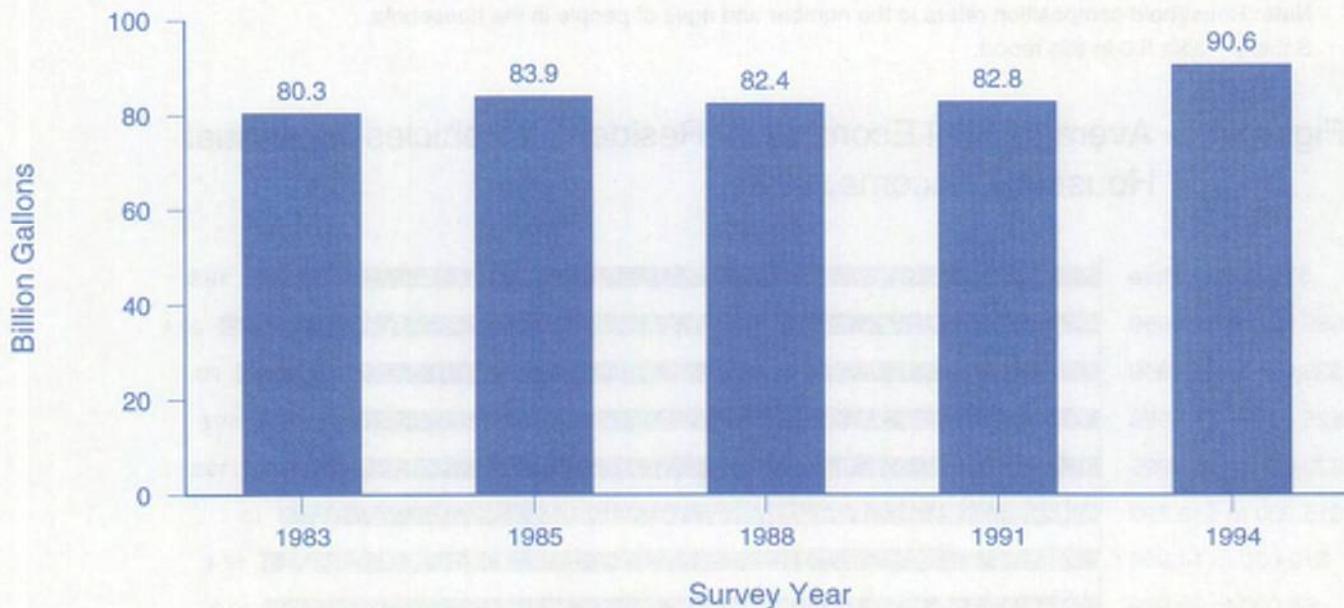
In 1991, 82.8 billion gallons of motor fuel were consumed by the passenger cars, minivans, sport-utility vehicles, pickup trucks, and large vans that comprise the residential vehicle fleet (Figure 4.6). That level of consumption was not significantly different from the 1988 level of 82.4 billion gallons. But in 1994, consumption totaled 90.6 billion gallons, a 9-percent increase. The nearly 8-billion-gallon increase was roughly the equivalent of motor fuel imports of half a million barrels per day for a year.

The number of vehicle-miles traveled showed steady growth during the 1991-to-1994 period. One reason that total consumption rose more rapidly than the number of miles traveled during the period was the slowdown in the increase in the fuel economy of the residential fleet.

### Passenger Cars Consumed the Largest Share of Motor Fuel

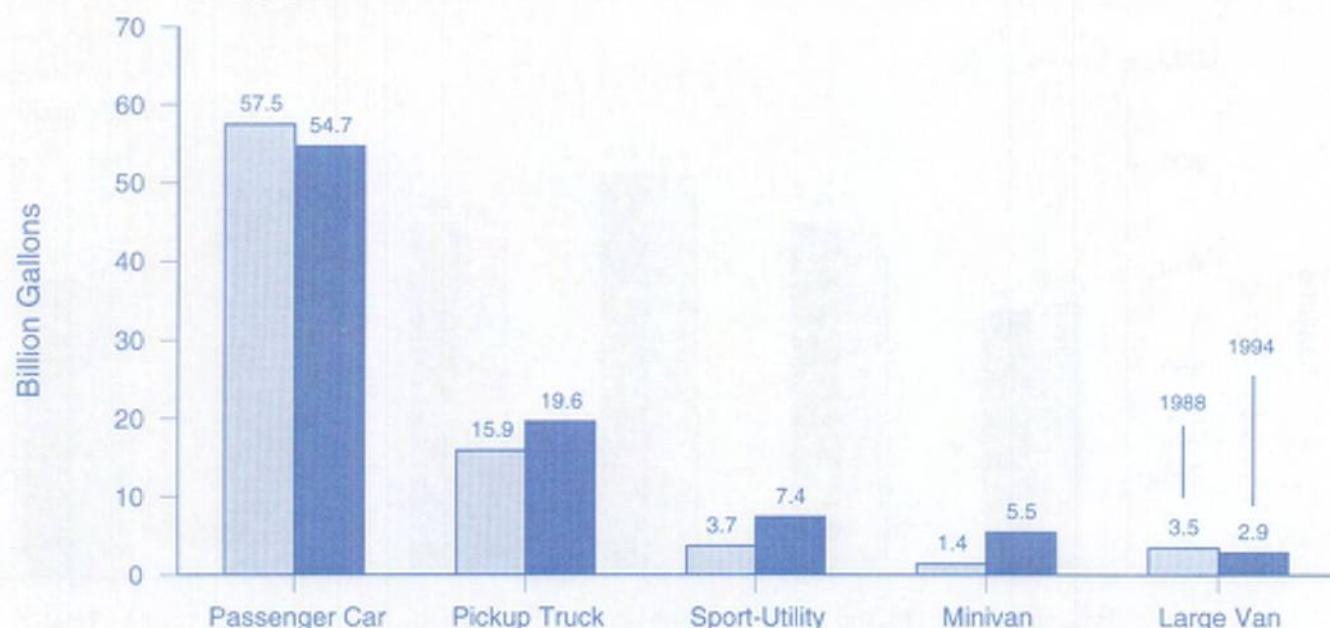
Although passenger cars still accounted for most of the motor fuel consumed by residential vehicles, their share of the total declined from nearly 70 percent in 1988 to 60 percent in 1994 (Figure 4.7). The decrease came as a result of growing consumer preferences for minivans, pickup trucks, and sport-utility vehicles. In the future, as light trucks continue to increase as a percentage of the residential fleet, their higher number of vehicle-miles traveled and lower fuel economies will accelerate the total amount of fuel they consume.

Figure 4.6 Total Residential Vehicle Fuel Consumption, 1983, 1985, 1988, 1991, and 1994



Sources: • 1983—Energy Information Administration (EIA), *Consumption Patterns of Household Vehicles 1983*, DOE/EIA-0464(83) (Washington, DC, January 1985), Table 11. • 1985—EIA, *Consumption Patterns of Household Vehicles 1985*, DOE/EIA-0464(85) (Washington, DC, April 1987), Table 8. • 1988—EIA, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 6. • 1991—EIA, *Household Vehicles Energy Consumption 1991*, DOE/EIA-0464(91) (Washington, DC, December 1993), Table 8. • 1994—Table 5.1 in this report.

Figure 4.7 Total Residential Vehicle Fuel Consumption by Type of Vehicle, 1988 and 1994



Sources: ●—1988 Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 6. ● 1994—Table 5.1 in this report.

#### **Passenger Cars Averaged the Least Motor Fuel Consumption per Vehicle**

At 514 gallons per year, passenger cars registered the smallest fuel consumption per vehicle of all vehicle types in the residential fleet (Figure 4.8). That amount was similar to the 526-gallon average reported in 1988. Light-duty residential trucks (that is, all residential vehicles other than passenger cars) showed an increase in average consumption from 652 gallons per year in 1988 to 712 gallons per year in 1994. Fuel consumption by pickup trucks, the most prevalent of light trucks in the residential fleet, increased nearly 11 percent.

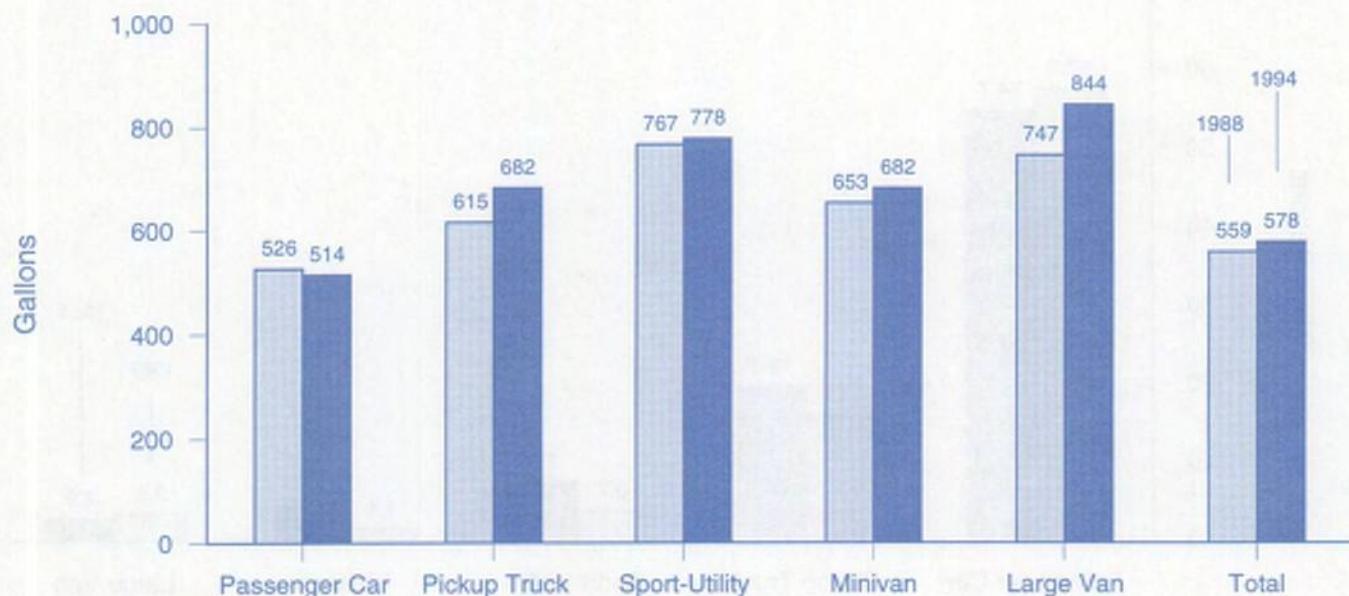
#### **The Newest Vehicles Consumed the Most Fuel Because They Were Driven More**

The newest vehicles in 1994 (model years 1993 and later) were driven more than 60 percent farther than the oldest vehicles (model years 1979 and earlier). Nevertheless, the oldest vehicles, because of their lower fuel economies, consumed nearly as much fuel on average as did the newest vehicles. Motor fuel consumption by vehicles of model years 1994 and 1995 averaged 697 gallons per year in 1994 (Figure 4.9). By comparison, vehicles of model years 1980 through 1982 consumed an average of 510 gallons per year in 1994. Although, as would be expected, the number of vehicles older than model year 1980 decreases over time, in 1994 there were still about 20 million of them in the residential fleet.

#### **Vehicles in the South Consumed the Most Fuel**

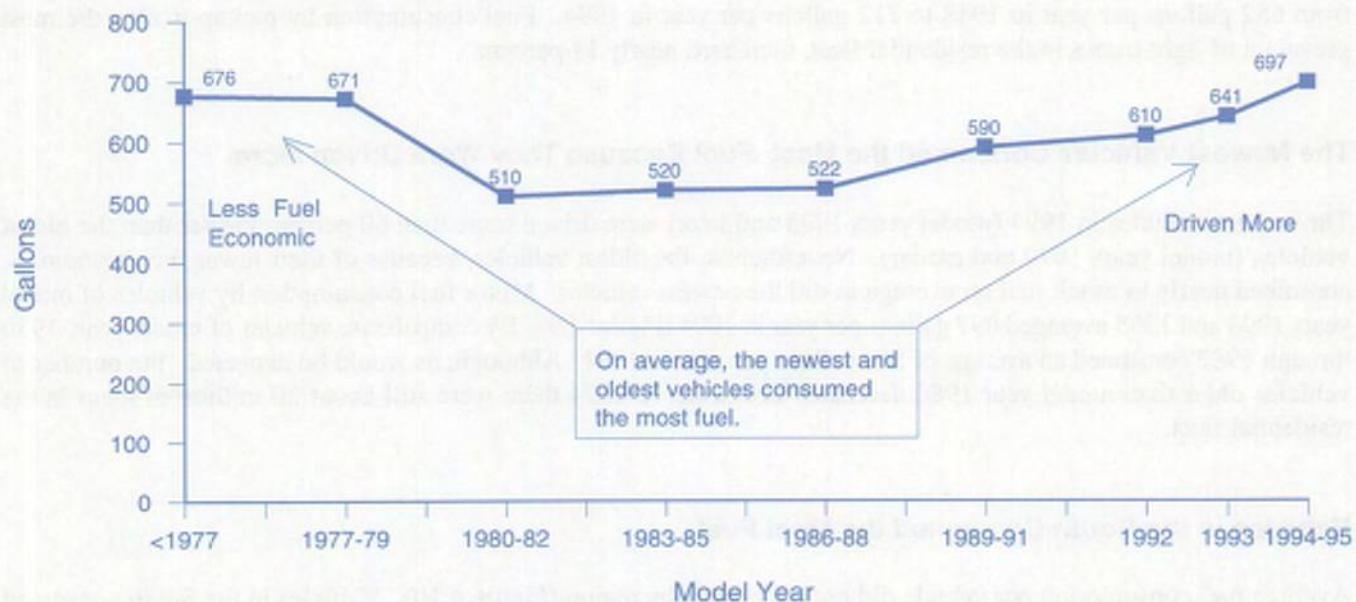
Average fuel consumption per vehicle did not vary much by region (Figure 4.10). Vehicles in the South consumed an average of 598 gallons per year. Vehicles in the Midwest and West averaged 580 gallons per year and 568 gallons per year, respectively. In the Northeast, vehicles consumed 545 gallons per year, the lowest average of the four regions.

Figure 4.8 Average Residential Vehicle Fuel Consumption by Type of Vehicle, 1988 and 1994



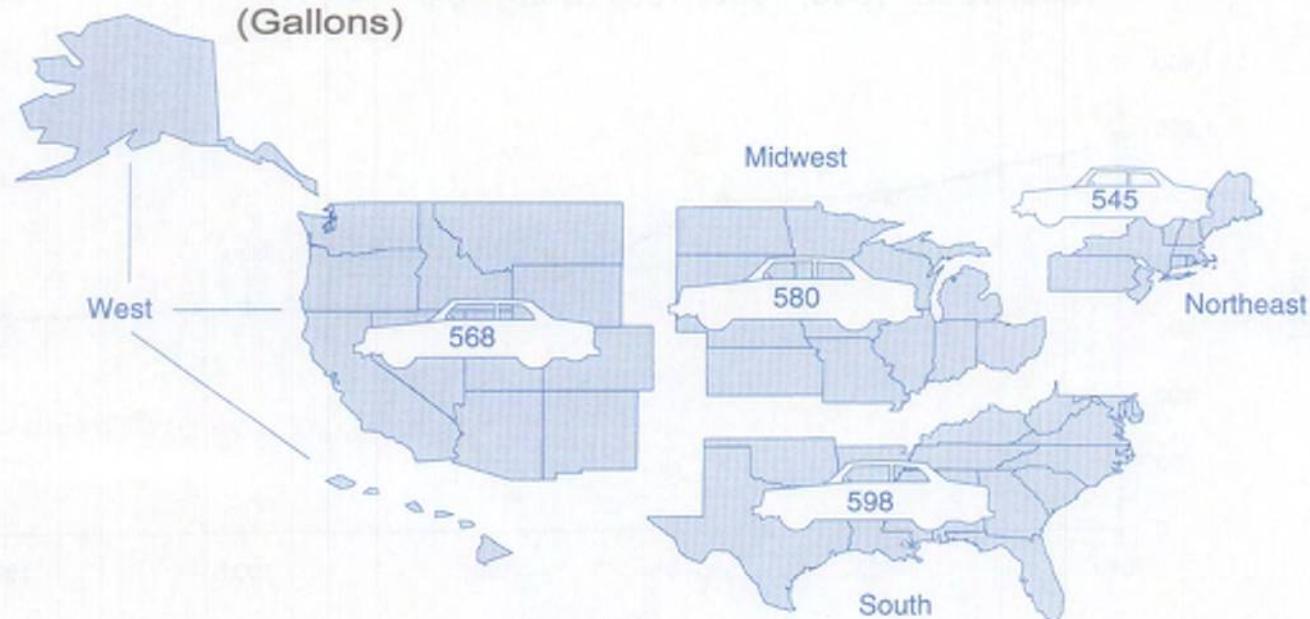
Sources: ●—1988 Energy Information Administration, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 8. ● 1994—Table 5.3 in this report.

Figure 4.9 Average Residential Vehicle Fuel Consumption per Vehicle for Model Years Through 1995



Source: Table 5.3 in this report.

**Figure 4.10 Average Annual Residential Vehicle Fuel Consumption by Region, 1994  
(Gallons)**



Source: Table 5.3 in this report.

## Fuel Expenditures Varied by Household Characteristics

In households reporting owning or having access to at least one vehicle in 1994, residential expenditures for energy for transportation averaged \$1,234. Which households were likely to spend more than the average? And how did average residential expenditures compare with residential expenditures for energy for all other uses, including space heating?

### Inflation-Adjusted Expenditures for Vehicle Fuel Varied Very Little Over Time

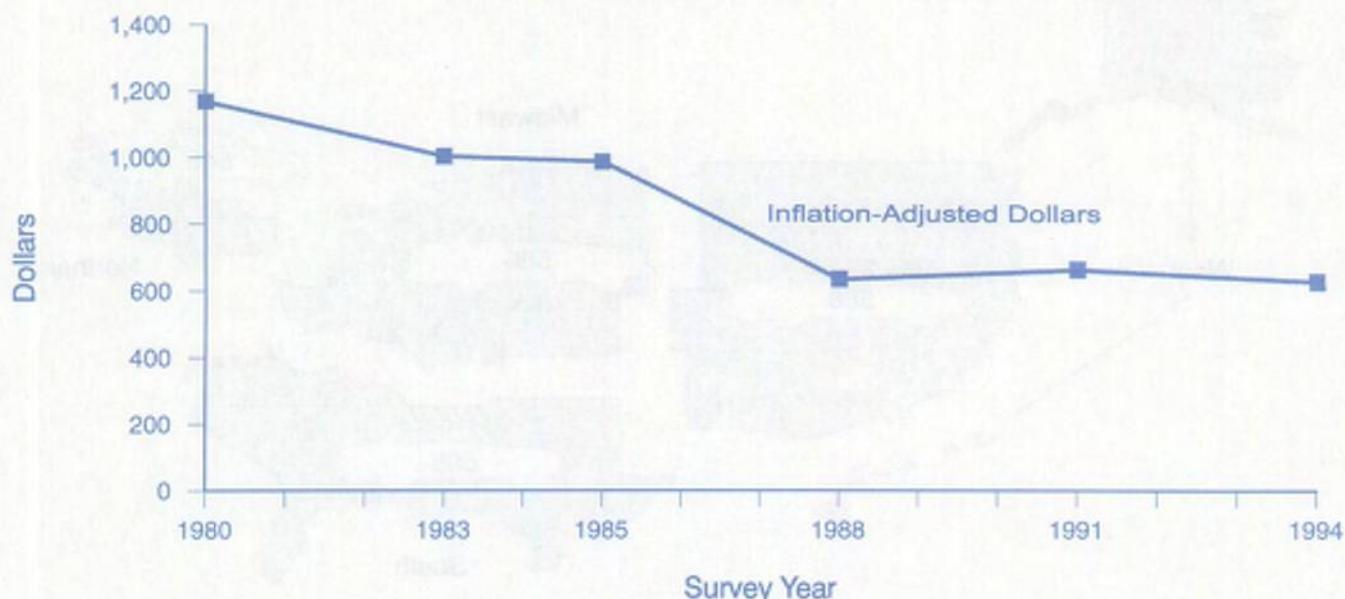
The inflation-adjusted cost of purchasing fuel for residential vehicles remained relatively constant from 1988 through 1994 (Figure 4.11). During that period, the average fuel consumption per vehicle also changed little. The improvement in fuel economy for the residential vehicle fleet helped to keep expenditures and consumption nearly unchanged.

### Household Composition and Income Affected Fuel Expenditures

Household composition influenced motor fuel expenditures and average fuel expenditures per household varied widely. Households with a single adult aged 60 years old or more spent on average only \$498 per year, while households with children aged 16 or 17 years spent on average \$1,727 per year (Figure 4.12).

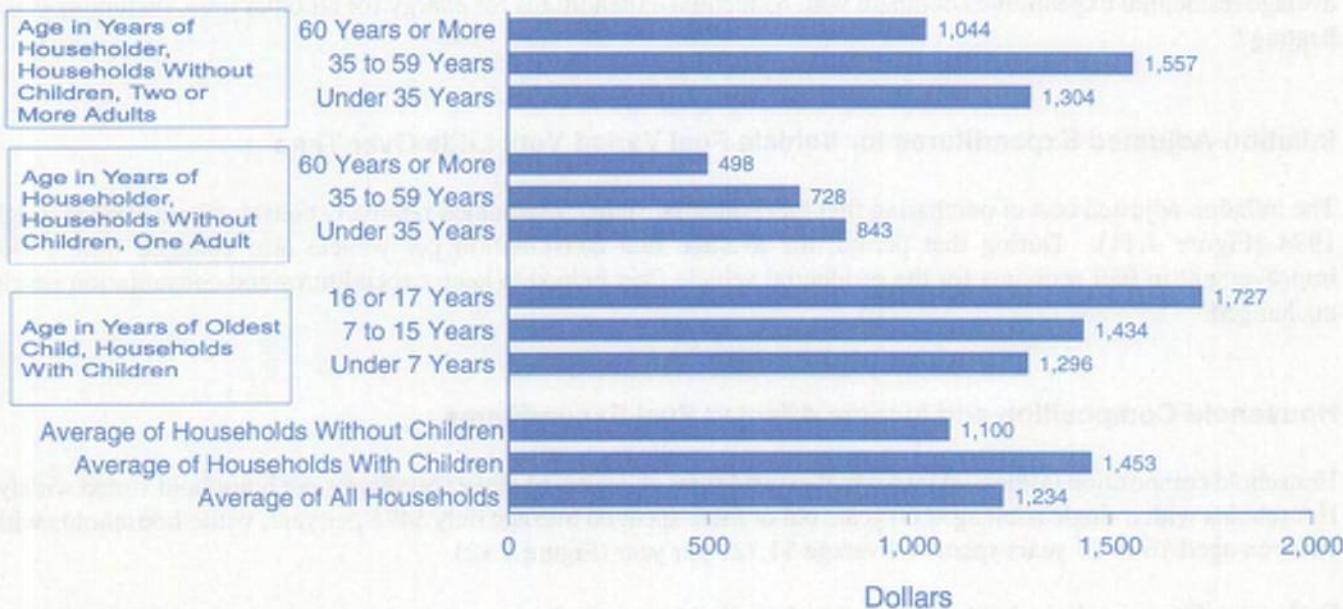
Fuel expenditures per household also varied by household income. In general, higher-income households had higher expenditures for vehicle fuel (Figure 4.13). For example, householders with annual incomes of \$75,000 or more

Figure 4.11 Average Fuel Expenditures per Residential Vehicle by Survey Year, 1980, 1983, 1985, 1988, 1991, and 1994



Sources: Fuel Expenditures: • 1983—Energy Information Administration (EIA), *Consumption Patterns of Household Vehicles 1983*, DOE/EIA-0464(83) (Washington, DC, January 1985), Table 7. • 1985—EIA, *Consumption Patterns of Household Vehicles 1985*, DOE/EIA-0464(85) (Washington, DC, April 1987), Table 8. • 1988—EIA, *Household Vehicles Energy Consumption 1988*, DOE/EIA-0464(88) (Washington, DC, February 1990), Table 8. • 1991—EIA, *Household Vehicles Energy Consumption 1991*, DOE/EIA-0464(91) (Washington, DC, December 1993), Table 10. • 1994—Table 5.3 in this report. Implicit Price Deflators: EIA, *Annual Energy Review 1995*, DOE/EIA-0384(95) (Washington, DC, July 1996), Table E1.

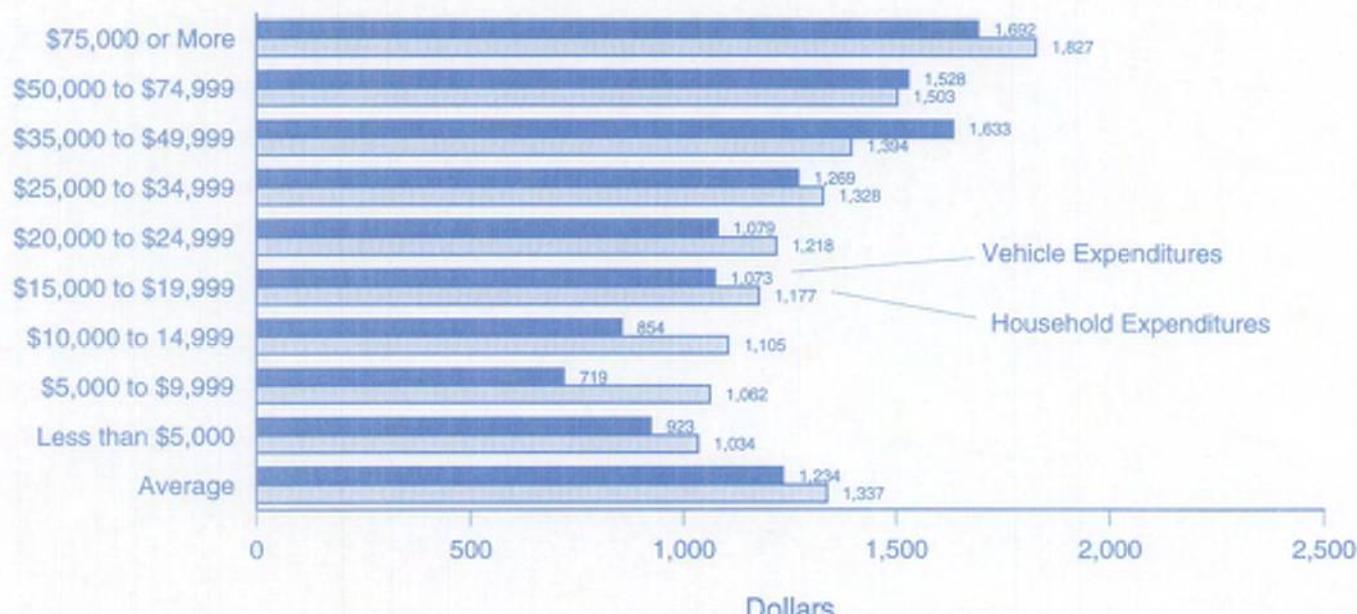
Figure 4.12 Average Vehicle Fuel Expenditures per Household, 1994



Source: Table 5.2 in this report.

reported expenditures of \$1,692 per year, whereas the poorest households (those with incomes of less than \$5,000) reported expenditures of \$923. Energy expenditures for residential transportation were close to half of the average household's total energy expenditures. Expenditures for non-transportation-related energy needs, such as heating, air-conditioning, lighting, and cooking, were \$1,337, only slightly higher than the \$1,234 spent for vehicle fuel.

Figure 4.13 Average Vehicle Fuel Expenditures and Household Energy Expenditures by Household Income, 1994



Note: Household energy expenditures exclude household vehicle fuel expenditures.

Source: Table 5.18 in this report.



# Text Notes and Sources

## Chapter 1

1. U.S. Department of Transportation, *Summary of Fuel Economy Performance, April 1996*, (Washington, DC, April 1996), p. 4.
2. EIA conducts numerous energy-related surveys. In general, the surveys can be divided into two broad groups: supply surveys, directed to the suppliers and marketers of specific energy sources, that measure the quantities of specific fuels produced for and/or supplied to the market; and consumption surveys, which gather information on the types of energy used by the end users along with the characteristics of those end users that are associated with energy use. The RTECS belongs to the consumption group because it collects information directly from the end user, the household.

## Chapter 2

3. Energy Information Administration, *Annual Energy Review 1995*, DOE/EIA-0384(95) (Washington, DC, July 1996), Table 1.5.
4. **1988**—Federal Highway Administration (FHA), *Highway Statistics 1988*, FHWA-PL-89-003 (Washington, DC, September 1989), Table DL-1B. **1994**—FHA, *Highway Statistics 1994*, FHWA-PL-95-042 (Washington, DC, October 1995), Table DL-1B.
5. “Chained dollars” is a measure used to express real prices. Real prices are those that have been adjusted to remove the effect of changes in the purchasing power of the dollar; they usually reflect buying power relative to a reference year (in this case, 1992). Prior to 1996, real prices were expressed in constant dollars, a measure based on the weights of goods and services in a single year, usually a recent year. In 1996, the U.S. Department of Commerce introduced the chained-dollar measure. The new measure is based on the average weights of goods and services in successive pairs of years. It is “chained” because the second year in each pair, with its weights, becomes the first year of the next pair. The advantage of using the chained-dollar measure is that it is more closely related to any given period covered and is therefore subject to less distortion over time.
6. Energy Information Administration, *Annual Energy Review 1995*, DOE/EIA-0384(95) (Washington, DC, July 1996), Table 5.21.
7. Energy Information Administration, *Household Energy Consumption and Expenditures 1993*, DOE/EIA-0321(93) (Washington, DC, October 1995), p. 296.
8. Energy Information Administration, *Annual Energy Review 1995*, DOE/EIA-0384(95) (Washington, DC, July 1996), Table 5.12b.
9. International Trade Association, “Corporate Average Fuel Economy Explained.” Online. (<http://www.ita.doc.gov/industry/basic/cafe.html>) (March 5, 1997).
10. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends Through 1996*, EPA/AA/TDSG/96-01 (Washington, DC, August 1996), Table 1.
11. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends Through 1996*, EPA/AA/TDSG/96-01 (Washington, DC, August 1996), Table 1.

## **Chapter 3**

12. **1988**—Federal Highway Administration (FHA), *Highway Statistics 1988*, FHWA-PL-98-003 (Washington, DC, September 1989), Table DL-1B. **1994**—FHA, *Highway Statistics 1994*, FHWA-PL-95-042 (Washington, DC, October 1995), Table DL-1B.

13. The 1994 residential vehicle fleet included a small number of 1995 model year vehicles.

14. Energy Information Administration calculation based on mileage from New York City to San Francisco of 2,946, as cited in Rand McNally & Company, *Rand McNally Motor Carriers' Road Atlas 1991*, p. 148.

15. The 1993 household data used in this report are collected by the Residential Energy Consumption Survey, another end-use consumption survey conducted by the Energy Information Administration.

## **Chapter 4**

16. Table 5.18 in this report.

# Chapter 5. Detailed Tables

The following tables present detailed characteristics of vehicles in the residential sector. Data are from the 1994 Residential Transportation Energy Consumption Survey.

## Table Organization

The "Detailed Tables" section consists of three types of tables: (1) Tables of totals such as number of vehicle-miles traveled (VMT) or gallons consumed; (2) tables of per household statistics such as VMT per household; and (3) tables of per-vehicle statistics, such as vehicle fuel consumption per vehicle. The tables have been grouped together by specific topics such as model-year data or family-income data to facilitate finding related information. The Quick-Reference Guide to the detailed tables indicates major topics of each table.

## Quick-Reference Guide

Topic	Table Number
<b>Summary</b>	
Totals	5.1
Per Household	5.2
Per Vehicle	5.3
<b>Vehicle Model Year</b>	
Total Vehicles	5.4
Miles per Gallon	5.5
Gallons per Vehicle	5.6
<b>Family Income</b>	
Total Miles Traveled	5.7
Total Gallons	5.8
Miles per Household	5.9
Gallons per Household	5.10
<b>Household Composition</b>	
Total Vehicles	5.11
Miles per Household	5.12
<b>Miles per Gallon</b>	
Per Vehicle	5.13
<b>Vehicle Type</b>	
Total Gallons	5.14
Miles per Vehicle	5.15
Total Vehicles	5.16
<b>Number of Households by Vehicle Fuel Expenditures</b>	
Number of Households	5.17
<b>Household and Vehicle Energy Expenditures</b>	
Dollars per Household	5.18

## Row and Column Factors

These tables present estimates of characteristics, vehicle fuel consumption, miles driven, and fuel efficiencies for all vehicles used for personal transportation in the United States. Since the estimates are based on a sample survey, they are subject to error. To help the reader compute an approximate relative standard error (RSE) for each of the estimates in the detailed tables, row and column factors are displayed on the top line and in the far-right column of each table. To calculate the RSE for a specific estimate, multiply the row factor by the column factor.

### Using Row and Column Factors to Estimate the Standard Error

RSEs were calculated for all statistics in this publication, although they cannot be presented due to space limitations. However, the RSEs are presented in a generalized form. The method of presenting generalized RSEs of statistics uses sets of row and column factors inserted in the top row and right-most column of figures in each table. This method of presentation allows the readers to calculate an approximate RSE for each statistic. To estimate the RSE of a statistic

$$RSEA_{ij} = R_i \times C_j$$

in the  $i^{\text{th}}$  row and  $j^{\text{th}}$  column of a particular table, the approximation  $RSEA_{ij}$  for the original  $RSE_{ij}$  is given by: Where:  $R_i$  is the RSE row factor given at the right-most margin of row  $i$  in the tables, and  $C_j$  is the RSE column factor given at the top of column  $j$ .

Total Vehicle-Miles Traveled in the Northeast Census Region = 299 billion miles

R (Northeast Census Region) = 5.7  
C (Vehicle-Miles Traveled) = 1.1

Approximate RSE  
(Total Vehicle-Miles Traveled in the Northeast Census Region) =  $(5.7) \times (1.1) = 6.27 \text{ percent}$

Approximate Standard Error  
(Total Vehicle-Miles Traveled in the Northeast Census Region) =  $(5.7) \times (1.1) \times 299/100$   
 $= 18.75 \text{ billion miles}$

Approximate 2 Standard Errors  
(95 percent confidence interval) =  $(1.96) \times (18.75) = 36.74 \text{ billion miles}$

Therefore, with approximately 95 percent confidence, the total vehicle-miles traveled in the Northeast Census Region in 1994 was between 262.26 billion and 335.74 billion miles ( $299 \pm 36.74$ )

The following example illustrates this procedure:

Referencing the second row of Table 5.1 labeled "Northeast," and the third column labeled "Vehicle-Miles Traveled (billion)," yields an estimate of 299 billion miles driven. The RSE row factor is  $R_2 = 5.7$ , and the RSE column factor is  $C_3 = 1.1$ . The approximate RSE for the estimate is, therefore,

$$RSEA_{2,3} = 5.7 \times 1.1 = 6.27 \text{ percent}$$

The standard error derived from row and column factors can be used to construct confidence intervals and to perform hypothesis tests by standard statistical methods. However, because the generalized variance procedure gives only

approximate RSEs, such confidence intervals and statistical tests must also be regarded as only approximate. For the example above, the RSE determined directly by the half-sample method is actually 3.9 percent, not 6.27 percent.

### Determination of the Standard Error of the Difference Between Two Statistics

The procedure used to compute the standard error of the difference between two statistics follows:

$$SE(x_1 - x_2) = \sqrt{[SE(x_1)]^2 + [SE(x_2)]^2}.$$

This procedure assumes the two statistics are not correlated. The following example illustrates this procedure. Households with children drove an average of 24,800 miles per household in 1994. Households without children drove an average of 18,900 miles, for a difference of 5,900 miles. The RSEs for households with and without children are 2.7 and 4.6, respectively. The corresponding standard errors are 670 miles and 869 miles, respectively. Therefore, the standard error for the difference is:

$$SE(5,900) = \sqrt{[670]^2 + [869]^2} = 1,097 \text{ miles.}$$

If 1.96 times the standard error is greater than the difference between the statistics, the difference is not statistically significant at the .05 level of significance (the level used to test significance of inferences in this report). In this example, 1.96 times the standard error equals 1,494 miles, while the difference is 6,300 miles. Therefore, the conclusion is that, in 1994, there was a significant difference in average mileage driven per household between households with and without children.



**Table 5.1. U.S. Number of Vehicles, Vehicle-Miles, Motor Fuel Consumption and Expenditures, 1994**

1993 Household and 1994 Vehicle Characteristics	Number of Vehicles		Vehicle-Miles Traveled		Motor Fuel Consumption			Motor Fuel Expenditures		RSE Row Factor:
	(million)	(percent)	(billion)	(percent)	(billion gallons)	(gallon percent)	(quadril- lion Btu)	(billion dollars)	(percent)	
	RSE Column Factor:	0.9	0.8	1.1	1.0	1.1	1.0	1.1	1.0	
<i>Household Characteristics</i>										
Total .....	156.8	100.0	1,793	100.0	90.6	100.0	11.2	104.7	100.0	2.8
<i>Census Region and Division</i>										
Northeast .....	26.6	17.0	299	16.7	14.5	16.0	1.8	17.2	16.4	5.7
New England .....	7.6	4.8	84	4.7	4.1	4.5	0.5	4.8	4.6	13.8
Middle Atlantic .....	19.0	12.1	215	12.0	10.4	11.4	1.3	12.4	11.8	5.8
Midwest .....	41.1	26.2	479	26.7	23.8	26.3	2.9	26.5	25.3	4.5
East North Central .....	29.0	18.5	335	18.7	16.7	18.4	2.1	18.5	17.7	5.6
West North Central .....	12.1	7.7	144	8.0	7.2	7.9	0.8	8.0	7.6	8.3
South .....	56.0	35.7	655	36.6	33.5	36.9	4.2	37.7	36.0	5.0
South Atlantic .....	28.4	18.1	345	19.2	17.1	18.8	2.1	19.2	18.3	5.7
East South Central .....	11.1	7.1	121	6.7	6.3	7.0	0.8	7.2	6.9	6.0
West South Central .....	16.4	10.5	190	10.6	10.1	11.1	1.2	11.3	10.8	14.8
West .....	33.1	21.1	360	20.1	18.8	20.7	2.4	23.4	22.3	6.7
Mountain .....	9.8	6.2	105	5.8	5.9	6.5	0.7	7.2	6.9	12.0
Pacific .....	23.3	14.9	255	14.2	12.9	14.3	1.6	16.2	15.4	8.2
<i>Largest Populated States</i>										
California .....	17.0	10.8	188	10.5	9.5	10.5	1.2	11.9	11.4	10.2
Florida .....	8.8	5.6	104	5.8	5.1	5.6	0.6	5.8	5.6	5.3
New York .....	7.8	5.0	89	5.0	4.3	4.7	0.5	5.0	4.8	9.2
Texas .....	11.0	7.0	124	6.9	6.6	7.3	0.8	7.3	7.0	16.6
<i>Urban Status</i>										
Urban .....	119.4	76.2	1,360	75.9	67.5	74.5	8.4	78.6	75.0	2.7
Central City .....	40.1	25.6	434	24.2	21.4	23.6	2.7	25.1	24.0	8.8
Suburban .....	79.3	50.6	927	51.7	46.1	50.9	5.8	53.4	51.0	4.5
Rural .....	37.4	23.8	433	24.1	23.1	25.5	2.8	26.1	25.0	5.1
<i>Household Size</i>										
1 Person .....	19.5	12.5	197	11.0	9.6	10.6	1.2	11.1	10.6	6.4
2 Persons .....	55.4	35.3	602	33.6	30.6	33.8	3.8	35.3	33.7	4.2
3 Persons .....	31.7	20.2	379	21.1	18.9	20.9	2.4	21.9	20.9	6.7
4 Persons .....	29.5	18.8	355	19.8	18.1	20.0	2.2	21.0	20.0	6.7
5 Persons .....	14.4	9.2	176	9.8	9.1	10.0	1.1	10.5	10.0	12.2
6 or More Persons .....	6.3	4.0	84	4.7	4.2	4.7	0.5	5.0	4.7	18.2
<i>Household Composition</i>										
Households with Children .....	64.6	41.2	796	44.4	40.4	44.6	5.0	46.7	44.6	4.5
Age of Oldest Child										
Under 7 Years .....	17.1	10.9	206	11.5	10.3	11.4	1.3	12.0	11.4	10.1
7 to 15 Years .....	32.3	20.6	399	22.2	20.5	22.6	2.5	23.7	22.6	6.3
16 or 17 Years .....	15.2	9.7	191	10.7	9.6	10.6	1.2	11.1	10.6	10.8
Households Without Children .....	92.2	58.8	997	55.6	50.2	55.4	6.2	58.0	55.4	3.4
One Adult .....	19.5	12.5	197	11.0	9.6	10.6	1.2	11.1	10.6	6.4
Age of Householder										
Under 35 Years .....	4.1	2.6	53	2.9	2.4	2.7	0.3	2.9	2.7	15.7
35 to 59 Years .....	7.6	4.8	85	4.7	4.1	4.6	0.5	4.8	4.6	11.1
60 Years or More .....	7.9	5.0	60	3.3	3.0	3.4	0.4	3.5	3.3	9.4
Two or More Adults .....	72.6	46.3	800	44.6	40.6	44.8	5.0	46.9	44.8	3.9
Age of Householder										
Under 35 Years .....	13.8	8.8	174	9.7	8.1	8.9	1.0	9.3	8.9	12.6
35 to 59 Years .....	33.9	21.6	393	21.9	20.2	22.3	2.5	23.3	22.3	6.9
60 Years or More .....	24.9	15.9	232	13.0	12.4	13.6	1.5	14.2	13.6	7.3

See footnotes at end of table.

**Table 5.1. U.S. Number of Vehicles, Vehicle-Miles, Motor Fuel Consumption and Expenditures, 1994 (Continued)**

1993 Household and 1994 Vehicle Characteristics	Number of Vehicles		Vehicle-Miles Traveled		Motor Fuel Consumption			Motor Fuel Expenditures		RSE Row Factor:
	(million)	(percent)	(billion)	(percent)	(billion gallons)	(gallon percent)	(quadril- lion Btu)	(billion dollars)	(percent)	
	RSE Column Factor:	0.9	0.8	1.1	1.0	1.1	1.0	1.1	1.1	1.0
<b>Race of Householder</b>										
White .....	138.6	88.4	1,592	88.8	80.5	88.9	10.0	92.9	88.7	2.4
Black .....	11.2	7.1	125	7.0	6.3	7.0	0.8	7.3	7.0	13.1
Other .....	7.0	4.5	77	4.3	3.7	4.1	0.5	4.5	4.3	20.1
<b>Hispanic Descent</b>										
Yes .....	10.7	6.8	122	6.8	6.2	6.8	0.8	7.3	7.0	14.4
No .....	146.1	93.2	1,671	93.2	84.4	93.2	10.4	97.4	93.0	2.9
<b>1993 Family Income</b>										
Less than \$5,000 .....	3.1	1.9	35	2.0	1.7	1.9	0.2	2.0	1.9	21.9
\$5,000 to \$9,999 .....	7.8	5.0	77	4.3	4.0	4.4	0.5	4.6	4.3	14.8
\$10,000 to \$14,999 .....	12.5	8.0	128	7.1	6.6	7.3	0.8	7.6	7.3	9.9
\$15,000 to \$19,999 .....	14.2	9.1	152	8.5	8.0	8.8	1.0	9.1	8.7	10.1
\$20,000 to \$24,999 .....	14.4	9.2	158	8.8	8.0	8.9	1.0	9.3	8.9	9.3
\$25,000 to \$34,999 .....	24.1	15.4	287	16.0	14.7	16.2	1.8	16.9	16.2	6.4
\$35,000 to \$49,999 .....	33.6	21.4	390	21.7	19.5	21.5	2.4	22.6	21.5	6.2
\$50,000 to \$74,999 .....	28.0	17.9	331	18.5	16.2	17.9	2.0	18.7	17.9	7.0
\$75,000 or More .....	19.1	12.2	234	13.1	11.9	13.1	1.5	13.9	13.3	9.7
<b>Below Poverty Line</b>										
100 Percent .....	12.4	7.9	133	7.4	6.9	7.6	0.9	8.0	7.7	11.2
125 Percent .....	18.2	11.6	199	11.1	10.3	11.4	1.3	11.9	11.4	10.4
150 Percent .....	25.7	16.4	285	15.9	14.7	16.3	1.8	17.0	16.3	9.8
<b>Eligible for Federal Assistance<sup>1</sup></b> .....	31.8	20.3	347	19.4	17.9	19.7	2.2	20.7	19.7	8.6
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>										
1 .....	32.4	20.6	334	18.6	16.5	18.2	2.0	19.2	18.3	5.4
2 .....	91.6	58.5	1,061	59.2	54.3	59.9	6.7	62.8	59.9	3.3
3 .....	22.2	14.2	267	14.9	13.4	14.8	1.7	15.5	14.8	9.3
4 or More .....	9.7	6.2	124	6.9	6.0	6.6	0.7	6.9	6.6	14.0
<b>Age of Primary Driver</b>										
16 to 17 Years .....	1.1	0.7	11	0.6	0.5	0.6	0.1	0.6	0.5	32.4
18 to 22 Years .....	4.4	2.8	56	3.1	2.5	2.8	0.3	2.9	2.8	14.7
23 to 29 Years .....	8.4	5.3	111	6.2	5.1	5.6	0.6	5.9	5.6	9.8
30 to 39 Years .....	22.6	14.4	276	15.4	14.0	15.4	1.7	16.3	15.5	6.0
40 to 49 Years .....	22.3	14.2	276	15.4	14.0	15.5	1.7	16.3	15.6	5.9
50 to 59 Years .....	14.9	9.5	174	9.7	9.0	10.0	1.1	10.5	10.0	7.9
60 to 69 Years .....	10.6	6.8	99	5.5	5.3	5.8	0.7	6.2	5.9	9.5
70 to 79 Years .....	8.6	5.5	68	3.8	3.7	4.1	0.4	4.2	4.1	9.7
80 Years and Over .....	2.6	1.6	16	0.9	0.9	1.0	0.1	1.0	1.0	18.5
Don't Know .....	61.3	39.1	707	39.4	35.6	39.3	4.4	40.9	39.0	7.3
<b>Sex of Primary Driver</b>										
Female .....	43.4	27.7	506	28.2	23.5	26.0	2.9	27.3	26.1	2.8
Male .....	52.2	33.3	581	32.4	31.5	34.7	3.9	36.5	34.9	3.1
Don't Know .....	61.2	39.0	706	39.4	35.6	39.3	4.4	40.9	39.0	7.2

See footnotes at end of table.

**Table 5.1. U.S. Number of Vehicles, Vehicle-Miles, Motor Fuel Consumption and Expenditures, 1994 (Continued)**

1993 Household and 1994 Vehicle Characteristics	Number of Vehicles		Vehicle-Miles Traveled		Motor Fuel Consumption			Motor Fuel Expenditures		RSE Row Factor:
	(million)	(percent)	(billion)	(percent)	(billion gallons)	(gallon percent)	(quadril- lion Btu)	(billion dollars)	(percent)	
	0.9	0.8	1.1	1.0	1.1	1.0	1.1	1.1	1.0	
<b>Average Number of Vehicles per Household During the Year</b>										
Part-Year Vehicle .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
Only 1 .....	28.6	18.2	306	17.1	14.8	16.4	1.8	17.3	16.5	6.0
Between 1 and 2 .....	8.4	5.4	107	6.0	5.4	6.0	0.7	6.3	6.0	13.6
Only 2 .....	56.9	36.3	659	36.7	32.9	36.4	4.1	38.1	36.4	4.5
Between 2 and 3 .....	13.5	8.6	163	9.1	8.5	9.4	1.1	9.8	9.4	8.7
Only 3 .....	25.2	16.1	274	15.3	14.5	16.0	1.8	16.8	16.0	7.9
Between 3 and 4 .....	7.9	5.1	100	5.6	4.9	5.5	0.6	5.6	5.4	14.8
4 or More .....	14.8	9.5	169	9.4	8.7	9.6	1.1	10.1	9.6	12.5
<b>Vehicle Characteristics</b>										
<b>Model Year</b>										
1994 to 1995 .....	7.2	4.6	103	5.7	5.0	5.5	0.6	5.8	5.5	9.8
1993 .....	10.4	6.6	142	7.9	6.6	7.3	0.8	7.7	7.4	7.3
1992 .....	11.4	7.3	149	8.3	6.9	7.7	0.9	8.0	7.7	7.1
1989 to 1991 .....	35.0	22.3	436	24.3	20.7	22.8	2.6	23.9	22.8	4.1
1986 to 1988 .....	36.3	23.1	411	22.9	19.0	20.9	2.4	22.0	21.0	5.0
1983 to 1985 .....	25.6	16.3	270	15.1	13.3	14.7	1.7	15.3	14.6	6.5
1980 to 1982 .....	10.9	7.0	107	6.0	5.6	6.1	0.7	6.4	6.1	10.5
1977 to 1979 .....	9.5	6.0	88	4.9	6.3	7.0	0.8	7.3	7.0	12.9
1976 or Earlier .....	10.6	6.8	87	4.9	7.2	7.9	0.9	8.2	7.8	13.9
<b>Type of Vehicle</b>										
Passenger Car .....	106.4	67.9	1,200	66.9	54.7	60.4	6.8	63.3	60.4	2.5
Minivan .....	8.1	5.2	108	6.0	5.5	6.1	0.7	6.3	6.0	8.5
Sport Utility .....	9.5	6.1	121	6.7	7.4	8.2	0.9	8.7	8.3	8.9
Large Van .....	3.4	2.2	40	2.2	2.9	3.2	0.4	3.3	3.1	14.9
Pickup Truck .....	28.8	18.4	320	17.8	19.6	21.7	2.4	22.6	21.6	5.4
Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Fuel Efficiency (miles per gallon)</b>										
10.9 or Less .....	7.0	4.5	39	2.2	4.1	4.6	0.5	4.7	4.5	13.0
11 to 12.9 .....	8.9	5.7	79	4.4	6.5	7.2	0.8	7.6	7.3	12.0
13 to 15.9 .....	18.9	12.0	183	10.2	12.6	13.9	1.6	14.5	13.9	7.2
16 to 18.9 .....	26.5	16.9	278	15.5	15.9	17.5	2.0	18.4	17.6	6.0
19 to 21.9 .....	35.2	22.4	423	23.6	20.8	22.9	2.6	24.2	23.1	5.1
22 to 24.9 .....	28.2	18.0	361	20.1	15.5	17.1	1.9	17.8	17.0	6.1
25 to 29.9 .....	24.9	15.9	324	18.1	12.0	13.3	1.5	13.8	13.2	5.2
30 or More .....	7.2	4.6	105	5.9	3.2	3.5	0.4	3.6	3.5	13.5
<b>Engine Size (liters)</b>										
2.49 or Less .....	59.8	38.2	699	39.0	27.4	30.3	3.4	31.7	30.2	3.9
2.50 to 3.49 .....	30.1	19.2	364	20.3	17.5	19.3	2.2	20.3	19.4	4.6
3.50 to 4.49 .....	24.0	15.3	283	15.8	15.1	16.6	1.9	17.3	16.5	6.5
4.50 or Greater .....	42.8	27.3	448	25.0	30.6	33.8	3.8	35.5	33.9	4.8

See footnotes at end of table.

**Table 5.3. U.S. per Vehicle Miles Traveled, Vehicle Fuel Consumption and Expenditures, 1994 (Continued)**

1993 Household and 1994 Vehicle Characteristics	Number of Vehicles (million)	Average per Vehicle			Miles per Gallon	RSE Row Factor:
		Vehicle-Miles Traveled (thousands)	Consumption (gallons)	Expenditures (dollars)		
RSE Column Factor:	1.8	1.0	1.0	1.0	0.5	
<b>Race of Householder</b>						
White .....	138.6	11.5	581	670	19.8	1.4
Black .....	11.2	11.2	564	655	19.8	5.5
Other .....	7.0	10.9	531	645	20.5	7.6
<b>Hispanic Descent</b>						
Yes .....	10.7	11.4	579	687	19.7	6.2
No .....	146.1	11.4	578	667	19.8	1.4
<b>1993 Family Income</b>						
Less than \$5,000 .....	3.1	11.5	558	659	20.7	10.4
\$5,000 to \$9,999 .....	7.8	9.9	510	581	19.3	9.7
\$10,000 to \$14,999 .....	12.5	10.2	529	611	19.4	4.8
\$15,000 to \$19,999 .....	14.2	10.7	562	644	19.0	4.7
\$20,000 to \$24,999 .....	14.4	11.0	558	647	19.8	5.1
\$25,000 to \$34,999 .....	24.1	11.9	610	703	19.6	3.7
\$35,000 to \$49,999 .....	33.6	11.6	580	671	20.0	2.7
\$50,000 to \$74,999 .....	28.0	11.8	579	668	20.4	3.0
\$75,000 or More .....	19.1	12.3	620	727	19.8	4.2
<b>Below Poverty Line</b>						
100 Percent .....	12.4	10.7	558	647	19.2	6.8
125 Percent .....	18.2	10.9	568	655	19.2	5.4
150 Percent .....	25.7	11.1	574	664	19.3	5.0
<b>Eligible for Federal Assistance<sup>1</sup></b> .....	31.8	10.9	562	651	19.4	4.2
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>						
1 .....	32.4	10.3	511	593	20.2	3.0
2 .....	91.6	11.6	592	685	19.6	1.8
3 .....	22.2	12.0	604	696	19.9	4.3
4 or More .....	9.7	12.8	615	709	20.8	5.7
<b>Age of Primary Driver</b>						
16 to 17 Years .....	1.1	9.6	453	510	21.2	15.8
18 to 22 Years .....	4.4	12.9	581	664	22.1	7.4
23 to 29 Years .....	8.4	13.3	605	704	22.0	4.3
30 to 39 Years .....	22.6	12.2	618	719	19.7	3.0
40 to 49 Years .....	22.3	12.4	629	732	19.7	2.9
50 to 59 Years .....	14.9	11.6	605	703	19.2	3.8
60 to 69 Years .....	10.6	9.3	498	580	18.7	4.4
70 to 79 Years .....	8.6	7.9	427	493	18.5	4.8
80 Years and Over .....	2.6	6.1	345	395	17.7	12.1
Don't Know .....	61.3	11.5	580	667	19.9	4.1
<b>Sex of Primary Driver</b>						
Female .....	43.4	11.7	542	629	21.5	1.8
Male .....	52.2	11.1	603	700	18.5	2.0
Don't Know .....	61.2	11.5	581	668	19.9	4.1

See footnotes at end of table.

**Table 5.3. U.S. per Vehicle Miles Traveled, Vehicle Fuel Consumption and Expenditures, 1994 (Continued)**

1993 Household and 1994 Vehicle Characteristics	Number of Vehicles (million)	Average per Vehicle			Miles per Gallon	RSE Row Factor:
		Vehicle-Miles Traveled (thousands)	Consumption (gallons)	Expenditures (dollars)		
	1.8	1.0	1.0	1.0	0.5	
<b>Average Number of Vehicles per Household During the Year</b>						
Part-Year Vehicle .....	Q	Q	Q	Q	Q	NF
Only 1 .....	28.6	10.7	518	605	20.7	3.2
Between 1 and 2 .....	8.4	12.6	642	740	19.7	5.3
Only 2 .....	56.9	11.6	579	670	20.0	2.3
Between 2 and 3 .....	13.5	12.0	630	724	19.1	4.1
Only 3 .....	25.2	10.9	576	664	18.9	4.0
Between 3 and 4 .....	7.9	12.7	623	708	20.3	7.1
4 or More .....	14.8	11.4	588	679	19.5	4.6
<b>Vehicle Characteristics</b>						
<b>Model Year</b>						
1994 to 1995 .....	7.2	14.3	697	809	20.5	4.4
1993 .....	10.4	13.7	641	746	21.4	3.8
1992 .....	11.4	13.1	610	706	21.5	3.6
1989 to 1991 .....	35.0	12.4	590	682	21.1	2.4
1986 to 1988 .....	36.3	11.3	522	606	21.7	2.7
1983 to 1985 .....	25.6	10.6	520	598	20.3	3.6
1980 to 1982 .....	10.9	9.8	510	588	19.3	6.3
1977 to 1979 .....	9.5	9.3	671	773	13.9	8.0
1976 or Earlier .....	10.6	8.2	676	776	12.2	8.1
<b>Type of Vehicle</b>						
Passenger Car .....	106.4	11.3	514	595	21.9	1.5
Minivan .....	8.1	13.4	682	782	19.7	3.5
Sport Utility .....	9.5	12.7	778	911	16.3	4.3
Large Van .....	3.4	11.7	844	966	13.8	9.3
Pickup Truck .....	28.8	11.1	682	786	16.3	2.9
Other .....	Q	Q	Q	Q	Q	NF
<b>Fuel Efficiency (miles per gallon)</b>						
10.9 or Less .....	7.0	5.6	586	675	9.5	7.5
11 to 12.9 .....	8.9	8.8	733	856	12.0	8.0
13 to 15.9 .....	18.9	9.7	666	770	14.6	4.2
16 to 18.9 .....	26.5	10.5	599	694	17.5	3.2
19 to 21.9 .....	35.2	12.0	590	688	20.4	2.6
22 to 24.9 .....	28.2	12.8	550	630	23.3	2.4
25 to 29.9 .....	24.9	13.0	483	554	27.0	2.5
30 or More .....	7.2	14.7	443	508	33.3	4.5
<b>Engine Size (liters)</b>						
2.49 or Less .....	59.8	11.7	458	529	25.5	2.3
2.50 to 3.49 .....	30.1	12.1	580	673	20.8	2.3
3.50 to 4.49 .....	24.0	11.7	626	720	18.8	3.6
4.50 or Greater .....	42.8	10.5	716	829	14.6	2.6

See footnotes at end of table.

**Table 5.3. U.S. per Vehicle Miles Traveled, Vehicle Fuel Consumption and Expenditures, 1994 (Continued)**

1993 Household and 1994 Vehicle Characteristics	Number of Vehicles (million)	Average per Vehicle			Miles per Gallon	RSE Row Factor:
		Vehicle-Miles Traveled (thousands)	Consumption (gallons)	Expenditures (dollars)		
RSE Column Factor:	1.8	1.0	1.0	1.0	0.5	
<b>Number of Cylinders</b>						
4 .....	61.5	11.6	460	530	25.2	2.1
6 .....	52.3	12.1	618	714	19.5	2.2
8 .....	41.6	10.5	706	818	14.8	2.7
Other .....	1.3	10.6	411	507	25.9	14.8
<b>Type of Transmission</b>						
Automatic .....	117.5	11.4	594	686	19.1	1.6
Manual Shift .....	39.3	11.6	528	615	22.0	3.0
<b>Type of Drive</b>						
Front-Wheel .....	74.9	11.9	509	588	23.4	1.4
Rear-Wheel .....	64.3	10.8	618	713	17.4	2.6
4-Wheel .....	17.6	11.9	722	846	16.5	3.4
<b>Type of Fuel System</b>						
Carburetor .....	76.4	10.5	574	662	18.3	2.5
Fuel Injection .....	78.2	12.4	579	670	21.3	1.4
Diesel Engine .....	2.2	11.5	652	812	17.6	12.4
<b>Type of Fuel Purchased</b>						
Motor Gasoline .....	153.4	11.4	575	665	19.8	1.4
Unleaded .....	151.5	11.5	574	664	19.9	1.4
Regular Grade .....	104.2	11.5	575	637	20.0	1.7
Intermediate Grade .....	20.6	11.5	567	690	20.3	3.0
Premium Grade .....	26.7	11.2	577	750	19.3	3.2
Leaded .....	Q	Q	Q	Q	Q	NF
Gasohol .....	1.4	11.7	663	718	17.7	12.8
Diesel Fuel .....	1.8	12.0	673	838	17.8	13.7
<b>Type of Primary Service</b>						
Full-Service Pumps .....	13.8	9.9	492	584	20.2	6.0
Self or Mini-Service Pumps .....	139.8	11.6	587	677	19.8	1.5
Both Equally .....	2.9	10.3	546	648	18.8	12.5
Bulk Sales/Other .....	Q	Q	Q	Q	Q	NF
<b>Vehicle Used for Commuting to and from Work</b>						
Yes .....	95.3	12.3	611	706	20.2	1.6
No .....	61.5	10.0	527	609	19.1	2.4

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.4. U.S. Vehicles by Model Year, 1994**  
(Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
	RSE Column Factor:	0.3	1.6	1.4	1.2	0.7	0.7	0.9	1.2	1.4	1.4
<i>Household Characteristics</i>											
Total .....	156.8	7.2	10.4	11.4	35.0	36.3	25.6	10.9	9.5	10.6	4.0
<i>Census Region and Division</i>											
Northeast .....	26.6	1.3	1.8	2.3	6.1	6.9	4.7	1.5	1.2	0.8	10.1
New England .....	7.6	Q	Q	0.8	1.5	2.2	1.4	Q	Q	Q	11.7
Middle Atlantic .....	19.0	0.9	1.4	1.5	4.6	4.7	3.2	1.1	0.9	0.6	12.4
Midwest .....	41.1	2.3	2.6	3.1	8.7	9.7	7.2	2.9	2.6	2.0	7.5
East North Central .....	29.0	1.7	1.6	2.2	6.4	7.1	4.9	1.9	1.8	1.3	9.3
West North Central .....	12.1	0.6	1.0	1.0	2.2	2.7	2.2	1.0	0.8	0.7	12.1
South .....	56.0	2.8	3.8	4.0	13.6	12.1	8.5	3.7	3.5	4.2	6.4
South Atlantic .....	28.4	1.6	2.2	2.0	7.5	5.9	4.2	1.7	1.7	1.7	8.5
East South Central .....	11.1	0.5	0.5	0.7	2.2	2.7	1.8	0.8	0.8	1.1	10.5
West South Central .....	16.4	0.7	1.1	1.3	3.9	3.5	2.4	1.1	1.0	1.4	13.1
West .....	33.1	0.9	2.2	2.0	6.7	7.5	5.3	2.8	2.2	3.5	8.3
Mountain .....	9.8	Q	0.7	0.8	2.1	1.5	1.6	0.7	0.6	1.5	13.7
Pacific .....	23.3	0.7	1.5	1.2	4.6	6.0	3.6	2.2	1.5	2.0	9.9
<i>Largest Populated States</i>											
California .....	17.0	Q	1.0	0.9	3.6	4.5	2.7	1.5	1.1	1.3	10.9
Florida .....	8.8	0.6	0.7	0.9	1.8	2.1	1.3	0.5	0.6	Q	13.9
New York .....	7.8	0.4	0.7	0.6	1.6	2.4	1.3	Q	Q	Q	15.1
Texas .....	11.0	0.4	0.8	0.8	2.5	2.2	1.9	0.8	0.7	1.0	15.8
<i>Urban Status</i>											
Urban .....	119.4	5.9	8.5	8.8	27.2	28.3	18.9	8.1	6.2	7.6	4.9
Central City .....	40.1	1.5	2.5	3.0	9.2	9.4	6.9	2.8	2.3	2.5	9.9
Suburban .....	79.3	4.4	6.0	5.8	18.0	18.9	12.0	5.3	3.9	5.1	6.9
Rural .....	37.4	1.3	1.9	2.6	7.8	8.0	6.7	2.8	3.2	3.0	9.0
<i>Household Size</i>											
1 Person .....	19.5	0.9	1.6	1.1	4.7	4.9	2.8	1.3	1.2	1.1	11.4
2 Persons .....	55.4	2.6	3.3	4.5	12.6	12.4	9.1	3.4	3.4	4.2	7.3
3 Persons .....	31.7	1.4	2.1	2.2	6.8	7.8	4.8	2.3	2.0	2.3	10.1
4 Persons .....	29.5	1.4	2.2	2.0	6.8	6.9	5.1	2.0	1.6	1.4	10.6
5 Persons .....	14.4	0.8	0.8	1.1	3.1	3.0	2.4	1.3	0.7	1.2	16.1
6 or More Persons .....	6.3	Q	Q	Q	1.1	1.3	1.3	0.5	0.6	Q	23.4
<i>Household Composition</i>											
Households with Children .....	64.6	3.0	4.5	4.8	13.2	14.5	11.4	5.0	4.0	4.2	7.0
Age of Oldest Child											
Under 7 Years .....	17.1	0.8	1.3	1.4	3.6	3.7	2.9	1.2	1.0	1.2	13.0
7 to 15 Years .....	32.3	1.5	2.3	2.5	6.6	7.0	5.7	2.6	2.0	2.1	10.5
16 or 17 Years .....	15.2	0.7	0.9	0.9	3.0	3.8	2.8	1.2	0.9	0.9	15.5
Households Without Children .....	92.2	4.2	5.9	6.5	21.8	21.8	14.2	5.9	5.5	6.4	5.5
One Adult .....	19.5	0.9	1.6	1.1	4.7	4.9	2.8	1.3	1.2	1.1	11.4
Age of Householder											
Under 35 Years .....	4.1	Q	Q	Q	1.0	1.0	0.5	Q	Q	Q	27.9
35 to 59 Years .....	7.6	Q	Q	Q	1.9	2.3	1.0	Q	Q	Q	19.1
60 Years or More .....	7.9	Q	0.6	0.5	1.8	1.6	1.2	0.7	0.6	0.5	18.3
Two or More Adults .....	72.6	3.3	4.3	5.5	17.1	17.0	11.4	4.6	4.3	5.2	6.3
Age of Householder											
Under 35 Years .....	13.8	0.9	0.9	0.9	3.8	3.1	2.0	0.8	0.7	0.8	16.5
35 to 59 Years .....	33.9	1.5	2.2	2.8	7.6	7.9	5.5	2.1	1.8	2.4	9.7
60 Years or More .....	24.9	0.9	1.2	1.8	5.7	5.9	3.9	1.7	1.8	2.0	11.8

See footnotes at end of table.

**Table 5.4. U.S. Vehicles by Model Year, 1994 (Continued)**

(Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
		RSE Column Factor:	0.3	1.6	1.4	1.2	0.7	0.7	0.9	1.2	1.4
<b>Type of Fuel Purchased</b>											
Motor Gasoline .....	153.4	6.9	10.1	11.2	34.6	35.9	24.7	10.3	9.3	10.4	4.0
Unleaded .....	151.5	6.9	10.1	11.2	34.5	35.9	24.6	10.2	9.1	9.1	4.0
Regular Grade .....	104.2	4.3	6.5	7.2	22.9	24.4	17.6	7.7	6.6	7.0	5.0
Intermediate Grade .....	20.6	0.9	1.6	1.7	5.8	4.8	3.1	1.3	0.9	0.6	12.6
Premium Grade .....	26.7	1.6	2.0	2.2	5.9	6.7	3.9	1.3	1.6	1.6	10.2
Leaded .....	1.9	Q	Q	Q	Q	Q	Q	Q	Q	1.3	28.1
Gasohol .....	1.4	Q	Q	Q	Q	Q	Q	Q	Q	Q	82.0
Diesel Fuel .....	1.8	Q	Q	Q	Q	Q	0.7	Q	Q	Q	38.2
<b>Type of Primary Service</b>											
Full-Service Pumps .....	13.8	0.7	0.8	1.0	3.1	3.3	2.5	0.9	0.8	0.7	18.4
Self or Mini-Service Pumps .....	139.8	6.2	9.4	10.2	31.3	32.4	22.6	9.8	8.4	9.5	4.5
Both Equally .....	2.9	Q	Q	Q	0.6	0.6	0.5	Q	Q	Q	36.7
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Vehicle Used for Commuting to and from Work</b>											
Yes .....	95.3	4.8	6.7	7.3	22.5	22.7	15.3	6.1	5.1	4.9	5.2
No .....	61.5	2.3	3.7	4.1	12.6	13.6	10.3	4.8	4.4	5.7	7.1

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.5. U.S. Vehicle Fuel Efficiency by Model Year, 1994**  
 (Miles per Gallon)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
		RSE Column Factor:	0.5	1.4	1.2	1.1	0.8	0.8	0.9	1.3	1.1
<i>Household Characteristics</i>											
Total .....	19.8	20.5	21.4	21.5	21.1	21.7	20.3	19.3	13.9	12.2	1.1
<i>Census Region and Division</i>											
Northeast .....	20.7	20.7	21.5	21.9	21.5	22.1	21.0	20.3	14.4	12.2	2.7
New England .....	20.4	Q	Q	23.1	21.1	22.1	19.9	Q	Q	Q	3.3
Middle Atlantic .....	20.8	21.5	22.0	21.3	21.6	22.1	21.5	20.4	14.6	11.9	3.3
Midwest .....	20.1	21.3	21.9	22.6	21.1	21.8	20.2	19.2	14.3	11.7	2.0
East North Central .....	20.1	21.1	22.3	22.2	21.3	21.8	19.7	19.4	14.3	11.9	2.4
West North Central .....	20.0	21.8	21.2	23.7	20.4	21.6	21.5	19.0	14.3	11.4	3.2
South .....	19.6	20.3	21.4	20.4	21.0	21.6	19.6	18.7	13.8	12.4	1.9
South Atlantic .....	20.2	20.5	21.6	20.2	21.6	21.9	20.5	19.3	14.1	13.0	2.6
East South Central .....	19.0	21.0	20.5	20.9	21.5	22.1	18.7	17.7	13.6	11.5	4.2
West South Central .....	18.9	19.4	21.5	20.3	19.8	20.9	18.8	18.7	13.6	12.6	3.4
West .....	19.1	19.1	21.0	21.3	20.8	21.2	21.1	19.6	13.3	12.2	2.6
Mountain .....	17.9	Q	18.6	20.1	19.0	20.7	19.8	18.5	13.9	12.0	5.2
Pacific .....	19.7	18.4	22.1	22.3	21.9	21.3	21.7	19.9	13.0	12.4	2.7
<i>Largest Populated States</i>											
California .....	19.8	Q	23.5	22.0	22.2	21.1	21.8	19.1	13.1	11.9	2.8
Florida .....	20.3	21.6	21.3	20.6	21.1	20.7	20.8	19.7	14.2	Q	3.3
New York .....	20.9	21.5	21.8	21.0	22.2	22.4	20.1	Q	Q	Q	3.9
Texas .....	18.8	19.7	21.8	20.3	19.3	20.9	19.0	19.3	13.7	13.3	3.9
<i>Urban Status</i>											
Urban .....	20.1	20.7	21.8	21.6	21.4	21.9	20.5	19.7	14.0	12.3	1.3
Central City .....	20.2	21.4	21.4	21.8	21.5	22.1	20.9	20.0	14.3	12.1	2.3
Suburban .....	20.1	20.4	22.0	21.5	21.3	21.8	20.3	19.6	13.8	12.4	1.7
Rural .....	18.8	20.0	20.0	21.0	20.2	20.9	19.7	18.0	13.6	11.9	2.3
<i>Household Size</i>											
1 Person .....	20.5	22.1	23.5	21.7	21.8	21.6	21.3	19.5	14.6	12.6	3.4
2 Persons .....	19.7	20.0	21.2	21.5	21.4	21.6	19.7	18.9	13.7	12.3	1.9
3 Persons .....	20.1	20.4	21.7	21.6	21.5	21.9	20.8	19.9	14.2	12.7	2.5
4 Persons .....	19.6	20.2	20.6	20.6	20.1	21.3	20.0	19.8	13.6	11.4	2.5
5 Persons .....	19.4	20.6	20.7	21.3	20.7	21.9	21.5	18.2	13.3	11.7	3.6
6 or More Persons .....	19.7	Q	Q	Q	20.6	22.3	20.0	19.6	14.1	Q	4.4
<i>Household Composition</i>											
Households with Children .....	19.7	20.7	20.9	21.4	20.5	21.8	20.6	19.4	14.0	12.0	1.7
Age of Oldest Child											
Under 7 Years .....	20.0	20.0	21.6	22.4	21.0	21.4	21.6	20.6	13.7	11.5	3.1
7 to 15 Years .....	19.5	20.2	20.6	21.0	20.1	21.9	20.2	19.3	14.2	11.9	2.4
16 or 17 Years .....	19.9	22.9	20.9	21.5	20.7	22.2	20.3	18.6	13.8	12.9	3.6
Households Without Children .....	19.9	20.4	21.9	21.5	21.5	21.5	20.1	19.2	13.8	12.3	1.5
One Adult .....	20.5	22.1	23.5	21.7	21.8	21.6	21.3	19.5	14.6	12.6	3.4
Age of Householder											
Under 35 Years .....	21.6	Q	Q	Q	24.1	21.3	23.0	Q	Q	Q	6.9
35 to 59 Years .....	20.5	Q	Q	Q	20.5	21.7	21.3	Q	Q	Q	5.3
60 Years or More .....	19.7	Q	22.1	20.6	22.2	21.8	20.3	18.1	14.1	11.6	4.1
Two or More Adults .....	19.7	19.9	21.3	21.4	21.5	21.5	19.9	19.1	13.6	12.2	1.7
Age of Householder											
Under 35 Years .....	21.6	21.1	23.1	23.7	23.2	23.2	21.9	21.1	14.9	12.8	4.2
35 to 59 Years .....	19.5	19.2	21.1	21.0	21.3	21.3	19.5	19.1	13.7	12.1	2.5
60 Years or More .....	18.8	20.1	20.6	20.8	20.5	20.6	19.3	18.1	13.1	12.1	2.4
<i>Race of Householder</i>											
White .....	19.8	20.4	21.3	21.3	21.0	21.6	20.2	19.2	14.0	12.2	1.3
Black .....	19.8	Q	23.1	22.5	22.3	22.5	21.6	18.4	13.5	11.3	3.5
Other .....	20.5	Q	Q	Q	21.5	22.2	20.9	21.9	Q	Q	5.0

See footnotes at end of table.

**Table 5.5. U.S. Vehicle Fuel Efficiency by Model Year, 1994 (Continued)**  
 (Miles per Gallon)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
		RSE Column Factor:	0.5	1.4	1.2	1.1	0.8	0.8	0.9	1.3	1.1
<b>Hispanic Descent</b>											
Yes .....	19.7	Q	21.0	21.7	20.7	21.7	20.1	19.7	13.3	13.4	4.1
No .....	19.8	20.4	21.5	21.4	21.1	21.7	20.3	19.2	13.9	12.1	1.2
<b>1993 Family Income</b>											
Less than \$5,000 .....	20.7	Q	Q	Q	23.2	Q	23.9	Q	Q	Q	8.5
\$5,000 to \$9,999 .....	19.3	Q	Q	Q	24.0	23.5	21.5	17.7	13.5	11.9	4.7
\$10,000 to \$14,999 .....	19.4	Q	Q	24.2	22.7	21.7	21.1	20.1	13.4	12.4	3.4
\$15,000 to \$19,999 .....	19.0	Q	Q	22.1	19.9	22.2	19.6	19.8	13.6	11.8	3.0
\$20,000 to \$24,999 .....	19.8	20.6	23.2	21.5	21.6	22.5	20.5	19.6	13.4	12.2	3.9
\$25,000 to \$34,999 .....	19.6	21.5	21.4	21.6	20.9	21.8	20.2	19.3	14.7	12.5	2.8
\$35,000 to \$49,999 .....	20.0	21.0	22.4	21.1	20.5	21.1	20.1	18.8	13.9	12.4	2.6
\$50,000 to \$74,999 .....	20.4	19.6	21.3	21.8	21.4	21.8	20.1	18.5	13.9	11.8	2.7
\$75,000 or More .....	19.8	19.6	20.2	20.1	20.6	20.8	19.6	20.2	Q	11.6	3.2
<b>Below Poverty Line</b>											
100 Percent .....	19.2	Q	Q	22.7	22.4	22.0	22.4	20.1	13.4	12.4	3.4
125 Percent .....	19.2	Q	20.2	22.7	22.2	22.4	21.4	20.1	13.9	12.2	3.1
150 Percent .....	19.3	21.6	21.0	23.6	22.0	22.8	20.8	19.9	13.6	11.9	2.9
<b>Eligible for Federal Assistance<sup>1</sup></b> .....											
19.4	21.6	21.4	23.1	22.1	22.4	21.1	19.6	13.6	11.9	2.5	
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>											
1 .....	20.2	21.7	22.8	21.7	21.6	22.1	21.3	19.7	14.0	12.8	2.4
2 .....	19.6	19.8	20.9	21.4	20.8	21.4	19.9	19.1	13.9	11.9	1.5
3 .....	19.9	22.6	21.2	21.2	21.2	22.1	20.4	19.4	13.3	12.6	3.2
4 or More .....	20.8	Q	23.1	22.8	21.7	22.1	21.1	19.0	Q	Q	4.6
<b>Age of Primary Driver</b>											
16 to 17 Years .....	21.2	Q	Q	Q	Q	Q	Q	Q	Q	Q	9.2
18 to 22 Years .....	22.1	Q	Q	Q	24.2	24.9	22.4	Q	Q	Q	5.2
23 to 29 Years .....	22.0	22.0	24.0	25.3	22.9	22.4	21.6	Q	Q	Q	4.2
30 to 39 Years .....	19.7	20.7	21.8	21.9	20.5	21.7	19.5	18.5	13.3	11.5	3.4
40 to 49 Years .....	19.7	20.0	20.2	20.5	20.6	22.0	18.9	18.1	14.6	12.5	3.0
50 to 59 Years .....	19.2	19.9	21.5	21.9	20.2	19.9	19.6	18.5	13.6	11.7	3.4
60 to 69 Years .....	18.7	20.6	20.4	20.4	20.4	20.1	18.6	18.3	13.0	10.4	4.3
70 to 79 Years .....	18.5	Q	21.1	21.5	19.5	20.4	18.6	18.3	12.4	11.3	4.0
80 Years and Over .....	17.7	Q	Q	Q	21.2	Q	Q	Q	Q	Q	6.6
Don't Know .....	19.9	20.4	21.4	21.1	21.5	21.9	21.3	19.9	14.2	12.6	1.9
<b>Sex of Primary Driver</b>											
Female .....	21.5	22.4	22.2	22.4	22.2	22.3	20.8	18.4	14.9	12.5	2.0
Male .....	18.5	18.9	20.6	20.8	19.6	20.9	18.7	18.5	13.1	11.7	2.0
Don't Know .....	19.9	20.4	21.4	21.1	21.5	21.9	21.3	19.9	14.2	12.6	1.9

See footnotes at end of table.

**Table 5.5. U.S. Vehicle Fuel Efficiency by Model Year, 1994 (Continued)**  
 (Miles per Gallon)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
		0.5	1.4	1.2	1.1	0.8	0.8	0.9	1.3	1.1	1.4
<b>Average Number of Vehicles per Household During the Year</b>											
Part-Year Vehicle .....	21.1	Q	Q	Q	Q	23.2	21.6	Q	Q	Q	6.1
Only 1 .....	20.7	20.8	23.0	21.6	22.3	22.5	21.4	19.8	14.1	12.7	2.5
Between 1 and 2 .....	19.7	22.2	20.7	23.8	21.4	20.7	20.8	18.7	13.6	12.5	3.9
Only 2 .....	20.0	20.1	21.7	21.4	21.1	21.7	20.0	19.7	13.9	12.0	2.0
Between 2 and 3 .....	19.1	20.6	19.2	21.7	19.9	21.0	19.8	18.7	13.3	12.1	3.7
Only 3 .....	18.9	20.3	20.7	20.6	20.1	20.7	19.9	18.7	13.8	11.8	2.8
Between 3 and 4 .....	20.3	20.2	21.2	22.6	21.8	22.3	18.8	16.5	14.5	Q	5.2
4 or More .....	19.5	18.9	21.5	20.6	21.5	21.8	20.8	19.7	14.0	12.7	4.3
<b>Vehicle Characteristics</b>											
<b>Type of Vehicle</b>											
Passenger Car .....	21.9	23.8	24.1	23.8	23.8	23.7	22.1	20.6	14.9	13.0	1.2
Minivan .....	19.7	20.1	20.0	19.0	19.6	19.7	19.6	Q	Q	Q	1.5
Sport Utility .....	16.3	16.8	17.4	17.0	17.0	16.5	16.1	Q	Q	11.2	2.8
Large Van .....	13.8	Q	Q	Q	15.2	14.7	14.1	Q	Q	Q	4.0
Pickup Truck .....	16.3	16.7	17.2	17.8	17.4	18.7	17.8	17.3	12.8	11.3	2.2
Other .....	8.8	Q	Q	Q	Q	Q	Q	Q	Q	Q	10.2
<b>Engine Size (liters)</b>											
2.49 or Less .....	25.5	26.6	26.5	26.2	25.6	25.5	25.7	24.4	20.2	19.5	1.8
2.50 to 3.49 .....	20.8	21.4	21.1	21.1	21.2	20.8	20.2	19.6	16.1	Q	1.6
3.50 to 4.49 .....	18.8	19.1	19.2	18.9	19.5	20.2	18.5	17.4	15.9	14.1	1.5
4.50 or Greater .....	14.6	16.2	16.4	16.6	15.8	16.4	16.0	15.1	12.9	11.4	1.7
<b>Number of Cylinders</b>											
4 .....	25.2	26.5	26.5	25.9	25.1	25.3	25.6	24.4	19.7	17.5	1.7
6 .....	19.5	20.2	20.2	19.8	20.3	20.3	19.2	18.0	15.8	13.3	1.4
8 .....	14.8	16.0	16.5	16.9	16.1	16.7	16.1	15.5	12.9	11.3	1.7
Other .....	25.9	Q	Q	Q	Q	Q	Q	Q	Q	Q	12.8
<b>Type of Transmission</b>											
Automatic .....	19.1	20.2	20.6	21.0	20.6	20.8	19.2	17.9	13.6	11.9	1.1
Manual Shift .....	22.0	21.8	24.9	23.2	22.9	24.3	23.7	22.6	15.0	13.1	2.7
<b>Type of Drive</b>											
Front-Wheel .....	23.4	23.2	23.6	23.4	23.7	24.2	23.8	23.2	14.8	12.7	1.9
Rear-Wheel .....	17.4	18.3	20.2	19.3	19.2	19.9	18.4	18.1	14.0	12.3	1.7
4-Wheel .....	16.5	16.0	17.4	17.4	16.5	17.5	17.6	16.9	11.9	10.8	2.5
<b>Type of Fuel System</b>											
Carburetor .....	18.3	21.4	21.0	20.8	20.8	21.7	19.7	19.2	13.8	12.1	1.9
Fuel Injection .....	21.3	20.8	21.7	21.6	21.2	21.7	22.0	18.7	14.4	Q	2.1
Diesel Engine .....	17.6	Q	Q	Q	Q	Q	22.8	24.2	Q	Q	8.7
<b>Type of Fuel Purchased</b>											
Motor Gasoline .....	19.8	21.0	21.6	21.4	21.1	21.7	20.3	19.2	13.9	12.2	1.2
Unleaded .....	19.9	21.0	21.6	21.5	21.1	21.7	20.3	19.2	13.9	12.3	1.2
Regular Grade .....	20.0	21.1	21.7	21.6	21.3	22.3	20.4	19.5	13.9	12.3	1.4
Intermediate Grade .....	20.3	23.2	21.0	21.9	20.7	21.2	20.1	18.7	14.4	13.3	3.2
Premium Grade .....	19.3	19.5	21.5	20.8	20.8	20.2	20.1	17.7	13.7	11.6	2.4
Leaded .....	13.1	Q	Q	Q	Q	Q	Q	Q	Q	11.9	5.7
Gasohol .....	17.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	8.0
Diesel Fuel .....	17.8	Q	Q	Q	Q	Q	20.5	Q	Q	Q	13.8

See footnotes at end of table.

**Table 5.5. U.S. Vehicle Fuel Efficiency by Model Year, 1994 (Continued)**  
 (Miles per Gallon)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
	RSE Column Factor:	0.5	1.4	1.2	1.1	0.8	0.8	0.9	1.3	1.1	1.4
<b>Type of Primary Service</b>											
Full-Service Pumps .....	20.2	22.4	22.1	21.3	21.3	21.7	21.4	20.2	13.5	11.3	3.4
Self or Mini-Service Pumps .....	19.8	20.3	21.4	21.4	21.1	21.7	20.2	19.3	13.9	12.3	1.2
Both Equally .....	18.8	Q	Q	Q	19.6	19.9	20.7	Q	Q	Q	8.0
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Vehicle Used for Commuting to and from Work</b>											
Yes .....	20.2	20.7	21.9	21.7	21.4	21.9	20.6	19.2	14.0	12.1	1.4
No .....	19.1	20.1	20.5	20.9	20.5	21.3	19.9	19.4	13.7	12.3	1.9

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.6. U.S. Average Vehicle Fuel Consumption by Model Year, 1994**  
 (Gallons per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
		0.6	0.9	0.8	0.8	1.4	0.6	0.8	1.4	1.8	1.9
<i>Household Characteristics</i>											
Total .....	578	697	641	610	541	522	520	510	671	676	5.1
<i>Census Region and Division</i>											
Northeast .....	545	693	588	584	546	477	502	468	Q	Q	10.2
New England .....	542	Q	Q	Q	622	418	Q	Q	Q	Q	16.0
Middle Atlantic .....	545	618	569	591	522	504	500	465	Q	Q	12.1
Midwest .....	580	657	671	615	596	531	525	463	657	775	8.3
East North Central .....	574	654	634	620	567	516	545	452	690	Q	10.1
West North Central .....	592	668	735	603	680	571	483	Q	Q	Q	12.2
South .....	598	733	653	628	485	543	561	538	653	640	9.1
South Atlantic .....	601	746	616	614	444	558	578	547	669	592	12.5
East South Central .....	571	722	Q	Q	618	501	529	Q	Q	Q	14.9
West South Central .....	612	712	711	664	488	549	556	Q	Q	Q	20.1
West .....	568	Q	629	595	580	520	461	545	757	622	11.4
Mountain .....	599	Q	Q	359	497	507	Q	Q	578	578	14.5
Pacific .....	555	Q	603	550	683	526	441	Q	Q	656	14.9
<i>Largest Populated States</i>											
California .....	559	Q	Q	Q	677	547	431	Q	Q	Q	17.1
Florida .....	580	Q	Q	Q	614	541	Q	Q	Q	Q	18.5
New York .....	545	Q	Q	Q	761	511	478	Q	Q	Q	15.1
Texas .....	598	Q	Q	Q	466	548	563	Q	Q	Q	26.3
<i>Urban Status</i>											
Urban .....	565	684	613	594	534	513	510	505	676	662	6.1
Central City .....	535	634	565	571	488	477	478	508	682	615	11.9
Suburban .....	581	701	633	606	557	531	528	504	672	685	6.7
Rural .....	617	753	769	663	567	555	547	522	662	710	9.5
<i>Household Size</i>											
1 Person .....	492	576	537	499	499	482	403	436	Q	Q	13.8
2 Persons .....	553	674	639	577	483	492	505	479	650	612	8.1
3 Persons .....	596	701	682	628	626	542	519	551	733	665	11.1
4 Persons .....	615	783	666	675	565	555	584	482	682	Q	11.7
5 Persons .....	630	Q	605	656	533	547	514	Q	Q	Q	16.0
6 or More Persons .....	673	Q	Q	Q	Q	Q	Q	Q	Q	Q	30.1
<i>Household Composition</i>											
Households with Children .....	625	761	685	678	607	555	555	546	748	708	7.6
Age of Oldest Child											
Under 7 Years .....	606	Q	646	620	578	566	536	Q	Q	Q	15.3
7 to 15 Years .....	633	809	697	713	581	553	559	544	727	699	10.6
16 or 17 Years .....	630	Q	709	Q	701	549	565	Q	Q	Q	15.3
Households Without Children .....	545	650	608	559	501	501	491	479	615	654	6.8
One Adult .....	492	576	537	499	499	482	403	436	Q	Q	13.8
Age of Householder											
Under 35 Years .....	601	Q	Q	Q	Q	Q	Q	Q	Q	Q	26.6
35 to 59 Years .....	547	Q	Q	Q	629	538	Q	Q	Q	Q	20.5
60 Years or More .....	384	Q	Q	Q	307	343	348	Q	Q	Q	18.4
Two or More Adults .....	559	670	635	571	502	506	513	491	657	641	7.5
Age of Householder											
Under 35 Years .....	585	659	Q	Q	477	575	543	Q	Q	Q	18.3
35 to 59 Years .....	594	728	676	583	555	533	541	488	664	741	10.8
60 Years or More .....	495	582	590	507	446	433	459	465	653	508	13.3
<i>Race of Householder</i>											
White .....	581	704	644	612	532	526	521	505	669	683	5.2
Black .....	564	Q	Q	Q	618	477	532	Q	Q	Q	20.2
Other .....	531	Q	Q	Q	654	Q	Q	Q	Q	Q	28.1

See footnotes at end of table.

**Table 5.6. U.S. Average Vehicle Fuel Consumption by Model Year, 1994 (Continued)**  
 (Gallons per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
		0.6	0.9	0.8	0.8	1.4	0.6	0.8	1.4	1.8	1.9
<b>Hispanic Descent</b>											
Yes .....	579	Q	Q	Q	688	536	503	Q	Q	Q	21.7
No .....	578	700	642	613	533	521	521	502	662	677	5.1
<b>1993 Family Income</b>											
Less than \$5,000 .....	558	Q	Q	Q	Q	Q	Q	Q	Q	Q	35.8
\$5,000 to \$9,999 .....	510	Q	Q	Q	448	467	467	Q	Q	Q	31.5
\$10,000 to \$14,999 .....	529	Q	Q	496	687	512	547	444	571	Q	16.2
\$15,000 to \$19,999 .....	562	Q	Q	Q	552	481	523	Q	Q	Q	16.4
\$20,000 to \$24,999 .....	558	605	542	Q	594	473	481	Q	Q	Q	16.0
\$25,000 to \$34,999 .....	610	716	729	674	618	549	530	571	728	754	11.6
\$35,000 to \$49,999 .....	580	669	582	630	543	536	521	502	620	673	10.4
\$50,000 to \$74,999 .....	579	732	682	632	484	528	513	Q	Q	Q	10.0
\$75,000 or More .....	620	752	698	627	491	559	573	Q	Q	Q	14.5
<b>Below Poverty Line</b>											
100 Percent .....	558	Q	Q	Q	467	472	519	Q	Q	Q	24.3
125 Percent .....	568	Q	Q	Q	594	487	540	494	702	Q	13.8
150 Percent .....	574	Q	Q	569	566	514	554	498	672	713	13.6
<b>Eligible for Federal Assistance<sup>1</sup></b> .....	562	Q	Q	546	579	496	537	513	662	688	12.8
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>											
1 .....	511	586	594	519	514	473	443	479	584	610	10.8
2 .....	592	733	646	628	549	532	533	515	692	677	6.4
3 .....	604	644	700	658	490	509	536	Q	Q	796	12.8
4 or More .....	615	Q	Q	Q	694	618	599	Q	Q	Q	16.9
<b>Age of Primary Driver</b>											
16 to 17 Years .....	453	Q	Q	Q	Q	Q	Q	Q	Q	Q	55.3
18 to 22 Years .....	581	Q	Q	Q	Q	506	569	Q	Q	Q	20.0
23 to 29 Years .....	605	747	643	Q	481	596	Q	Q	Q	Q	15.6
30 to 39 Years .....	618	741	683	614	569	534	556	493	738	Q	10.2
40 to 49 Years .....	629	770	729	747	561	556	579	448	699	594	10.3
50 to 59 Years .....	605	758	670	610	568	581	491	Q	Q	757	12.7
60 to 69 Years .....	498	594	Q	495	467	413	470	Q	693	Q	17.1
70 to 79 Years .....	427	Q	Q	Q	273	342	357	Q	Q	Q	17.7
80 Years and Over .....	345	Q	Q	Q	Q	Q	Q	Q	Q	Q	31.9
Don't Know .....	580	Q	610	593	576	538	529	566	693	716	12.5
<b>Sex of Primary Driver</b>											
Female .....	542	655	619	645	441	472	480	410	629	Q	7.1
Male .....	603	778	701	590	614	549	534	462	661	656	7.3
Don't Know .....	581	Q	611	593	573	540	530	567	693	716	12.5

See footnotes at end of table.

**Table 5.6. U.S. Average Vehicle Fuel Consumption by Model Year, 1994 (Continued)**  
 (Gallons per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
	RSE Column Factor:	0.6	0.9	0.8	0.8	1.4	0.6	0.8	1.4	1.8	1.9
<b>Average Number of Vehicles per Household During the Year</b>											
Part-Year Vehicle .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
Only 1 .....	518	Q	559	554	504	476	494	500	597	Q	12.0
Between 1 and 2 .....	642	693	626	Q	495	615	Q	Q	Q	Q	19.6
Only 2 .....	579	687	645	651	569	503	512	508	685	720	8.2
Between 2 and 3 .....	630	695	665	686	593	603	551	Q	717	Q	13.7
Only 3 .....	576	729	658	546	443	506	510	500	600	686	13.5
Between 3 and 4 .....	623	Q	Q	Q	744	635	536	Q	Q	Q	25.4
4 or More .....	588	Q	653	Q	586	569	559	Q	Q	530	16.1
<b>Vehicle Characteristics</b>											
<b>Type of Vehicle</b>											
Passenger Car .....	514	585	553	545	525	476	477	492	642	634	6.0
Minivan .....	682	813	798	837	363	570	Q	Q	Q	Q	13.4
Sport Utility .....	778	Q	809	Q	629	787	678	Q	Q	Q	18.3
Large Van .....	844	Q	Q	Q	Q	Q	Q	Q	Q	Q	25.0
Pickup Truck .....	682	889	806	702	635	598	595	508	701	748	10.5
Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Fuel Efficiency (miles per gallon)</b>											
10.9 or Less .....	586	Q	Q	Q	Q	Q	Q	Q	434	683	11.1
11 to 12.9 .....	733	Q	Q	Q	504	452	498	Q	828	877	21.4
13 to 15.9 .....	666	842	765	Q	644	634	604	565	747	578	13.5
16 to 18.9 .....	599	774	714	700	456	501	556	579	Q	Q	12.4
19 to 21.9 .....	590	699	669	623	634	570	574	494	Q	Q	9.4
22 to 24.9 .....	550	674	619	625	456	518	448	Q	Q	Q	10.1
25 to 29.9 .....	483	552	541	513	533	459	464	Q	Q	Q	9.5
30 or More .....	443	Q	Q	Q	Q	457	Q	Q	Q	Q	20.2
<b>Engine Size (liters)</b>											
2.49 or Less .....	458	546	530	489	536	446	427	414	Q	Q	7.4
2.50 to 3.49 .....	580	678	640	655	475	540	484	Q	Q	Q	9.8
3.50 to 4.49 .....	626	727	699	709	457	567	526	578	Q	Q	12.4
4.50 or Greater .....	716	873	858	701	726	680	671	571	730	706	9.3
<b>Number of Cylinders</b>											
4 .....	460	554	521	501	532	446	424	414	Q	Q	7.1
6 .....	618	702	689	689	484	569	536	592	603	630	8.9
8 .....	706	881	811	658	699	662	646	570	721	728	9.7
Other .....	411	Q	Q	Q	Q	Q	Q	Q	Q	Q	42.4
<b>Type of Transmission</b>											
Automatic .....	594	708	663	627	519	529	537	542	683	729	5.8
Manual Shift .....	528	657	561	548	621	504	474	448	628	568	10.4
<b>Type of Drive</b>											
Front-Wheel .....	509	635	584	567	439	463	450	439	Q	Q	6.5
Rear-Wheel .....	618	766	673	664	726	566	564	531	666	675	8.3
4-Wheel .....	722	821	802	725	614	699	612	Q	Q	Q	13.0
<b>Type of Fuel System</b>											
Carburetor .....	574	693	587	631	1299	516	539	519	672	680	8.6
Fuel Injection .....	579	683	644	605	345	524	467	Q	Q	Q	6.1
Diesel Engine .....	652	Q	Q	Q	Q	Q	Q	Q	Q	Q	33.5

See footnotes at end of table.

**Table 5.6. U.S. Average Vehicle Fuel Consumption by Model Year, 1994 (Continued)**  
(Gallons per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Model Years	Model Year									RSE Row Factor:
		1994 to 1995	1993	1992	1989 to 1991	1986 to 1988	1983 to 1985	1980 to 1982	1977 to 1979	1976 or Earlier	
RSE Column Factor:	0.6	0.9	0.8	0.8	1.4	0.6	0.8	1.4	1.8	1.9	
<b>Type of Fuel Purchased</b>											
Motor Gasoline .....	575	674	631	607	541	521	520	517	673	670	5.2
Unleaded .....	574	674	631	607	541	521	519	517	667	675	5.2
Regular Grade .....	575	669	637	619	551	516	518	504	683	693	6.1
Intermediate Grade .....	567	624	615	580	431	525	510	Q	Q	Q	12.0
Premium Grade .....	577	719	625	587	615	539	531	553	647	612	12.8
Leaded .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
Gasohol .....	663	Q	Q	Q	Q	Q	Q	Q	Q	Q	43.5
Diesel Fuel .....	673	Q	Q	Q	Q	Q	Q	Q	Q	Q	37.5
<b>Type of Primary Service</b>											
Full-Service Pumps .....	492	Q	Q	Q	469	447	421	Q	Q	Q	19.7
Self or Mini-Service Pumps .....	587	711	646	617	550	530	532	521	682	674	5.4
Both Equally .....	546	Q	Q	Q	Q	Q	Q	Q	Q	Q	46.7
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Vehicle Used for Commuting to and from Work</b>											
Yes .....	611	709	684	656	547	542	553	539	711	786	5.9
No .....	527	672	563	526	531	490	470	473	625	583	8.9

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.7. U.S. Vehicle-Miles Traveled by Family Income, 1994**  
(Billion Miles)

1993 Household and 1994 Vehicle Characteristics	Total	1993 Family Income							Below Poverty Line		Eligible for Fed- eral Assis- tance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent		
	RSE Column Factor:	0.4	2.4	1.8	1.2	0.9	0.8	0.8	0.7	1.4	1.1	0.9
<i>Household Characteristics</i>												
Total .....	1,793	35	77	128	310	287	390	566	133	199	347	8.7
<i>Census Region and Division</i>												
Northeast .....	299	Q	Q	16	40	44	75	109	18	26	49	19.6
New England .....	84	Q	Q	Q	Q	Q	17	35	Q	Q	13	31.6
Middle Atlantic .....	215	Q	Q	12	29	31	59	73	Q	20	36	23.2
Midwest .....	479	Q	18	41	93	76	109	137	30	56	92	13.5
East North Central .....	335	Q	14	25	61	50	71	111	23	38	65	17.5
West North Central .....	144	Q	Q	16	32	26	38	25	Q	18	27	18.7
South .....	655	Q	37	38	117	117	139	197	46	70	124	15.5
South Atlantic .....	345	Q	Q	22	62	53	71	112	23	33	70	20.6
East South Central .....	121	Q	Q	Q	21	29	25	31	Q	16	23	27.4
West South Central .....	190	Q	Q	Q	35	35	43	54	Q	20	32	24.4
West .....	360	Q	15	33	59	50	65	123	39	47	82	21.2
Mountain .....	105	Q	Q	Q	28	15	11	30	Q	Q	24	37.8
Pacific .....	255	Q	Q	24	31	35	54	93	Q	32	58	26.5
<i>Largest Populated States</i>												
California .....	188	Q	Q	Q	22	23	41	73	Q	Q	38	32.3
Florida .....	104	Q	Q	Q	18	18	28	28	Q	Q	Q	26.8
New York .....	89	Q	Q	Q	Q	13	21	38	Q	Q	Q	29.1
Texas .....	124	Q	Q	Q	26	22	30	33	Q	Q	22	28.7
<i>Urban Status</i>												
Urban .....	1,360	31	54	84	215	199	294	484	96	132	241	10.7
Central City .....	434	Q	20	40	86	64	87	125	47	54	98	19.6
Suburban .....	927	Q	34	44	129	135	207	359	49	78	144	14.4
Rural .....	433	Q	24	44	95	88	95	82	37	67	106	14.7
<i>Household Size</i>												
1 Person .....	197	Q	23	24	52	47	27	18	18	25	48	18.7
2 Persons .....	602	Q	28	45	123	87	133	175	28	41	85	15.4
3 Persons .....	379	Q	Q	22	61	56	76	145	25	37	70	20.1
4 Persons .....	355	Q	Q	17	42	53	95	137	24	36	64	22.6
5 Persons .....	176	Q	Q	Q	23	29	44	57	Q	37	50	28.1
6 or More Persons .....	84	Q	Q	Q	Q	15	Q	35	Q	Q	30	43.0
<i>Household Composition</i>												
Households with Children .....	796	Q	22	53	114	134	188	272	76	116	193	13.8
Age of Oldest Child												
Under 7 Years .....	206	Q	Q	Q	35	27	49	74	Q	25	44	26.7
7 to 15 Years .....	399	Q	Q	33	52	75	91	131	42	64	109	16.9
16 or 17 Years .....	191	Q	Q	Q	27	32	48	67	Q	27	40	29.6
Households Without Children .....	997	23	55	75	196	153	201	294	56	82	155	11.3
One Adult .....	197	Q	23	24	52	47	27	18	18	25	48	18.7
Age of Householder												
Under 35 Years .....	53	Q	Q	Q	16	16	Q	Q	Q	Q	Q	36.3
35 to 59 Years .....	85	Q	Q	Q	22	19	17	Q	Q	Q	Q	29.4
60 Years or More .....	60	Q	13	13	14	12	Q	Q	8	13	24	22.6
Two or More Adults .....	800	Q	31	51	144	106	174	276	38	57	107	14.2
Age of Householder												
Under 35 Years .....	174	Q	Q	Q	32	20	38	46	Q	Q	Q	34.2
35 to 59 Years .....	393	Q	Q	Q	53	50	89	178	Q	19	32	20.4
60 Years or More .....	232	Q	10	25	59	36	48	52	Q	18	40	20.4

See footnotes at end of table.

**Table 5.7. U.S. Vehicle-Miles Traveled by Family Income, 1994 (Continued)**  
 (Billion Miles)

1993 Household and 1994 Vehicle Characteristics	Total	1993 Family Income							Below Poverty Line		Eligible for Fed- eral Assist- ance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent		
		0.4	2.4	1.8	1.2	0.9	0.8	0.8	0.7	1.4	1.1	0.9
<b>Race of Householder</b>												
White .....	1,592	27	60	105	272	255	358	514	97	155	280	9.4
Black .....	125	Q	Q	Q	24	21	19	33	Q	24	40	35.0
Other .....	77	Q	Q	Q	Q	Q	13	19	Q	Q	27	48.2
<b>Hispanic Descent</b>												
Yes .....	122	Q	Q	Q	23	20	22	30	Q	Q	36	36.2
No .....	1,671	33	70	110	287	268	367	536	112	171	311	8.9
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>												
1 .....	334	Q	41	52	84	69	46	29	54	70	112	13.4
2 .....	1,061	Q	28	64	188	171	251	349	54	90	176	13.1
3 .....	267	Q	Q	Q	30	34	64	122	Q	Q	37	27.7
4 or More .....	124	Q	Q	Q	Q	Q	28	66	Q	Q	18	38.2
<b>Age of Primary Driver</b>												
16 to 17 Years .....	11	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	94.0
18 to 22 Years .....	56	Q	Q	Q	Q	Q	13	24	Q	Q	Q	34.6
23 to 29 Years .....	111	Q	Q	Q	26	23	19	26	Q	Q	25	24.9
30 to 39 Years .....	276	Q	Q	10	38	48	72	100	13	25	45	17.1
40 to 49 Years .....	276	Q	Q	9	36	44	64	118	8	19	34	18.3
50 to 59 Years .....	174	Q	Q	Q	26	27	42	66	Q	Q	10	23.3
60 to 69 Years .....	99	Q	Q	10	23	20	22	19	Q	10	17	23.6
70 to 79 Years .....	68	Q	6	10	23	8	9	10	Q	8	18	24.8
80 Years and Over .....	16	Q	Q	6	Q	Q	Q	Q	Q	Q	5	41.2
Don't Know .....	707	Q	Q	70	124	103	146	198	81	108	175	22.8
<b>Sex of Primary Driver</b>												
Female .....	506	Q	20	34	86	77	114	169	32	51	89	10.4
Male .....	581	Q	15	24	100	108	130	198	20	41	84	12.6
Don't Know .....	706	Q	Q	70	123	103	146	198	81	107	174	22.9
<b>Average Number of Vehicles per Household During the Year</b>												
Part-Year Vehicle .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
Only 1 .....	306	Q	36	52	70	57	46	32	52	69	114	14.9
Between 1 and 2 .....	107	Q	Q	Q	26	22	22	20	Q	16	27	35.4
Only 2 .....	659	Q	19	40	123	113	142	211	40	67	116	14.6
Between 2 and 3 .....	163	Q	Q	Q	22	24	47	61	Q	13	19	26.8
Only 3 .....	274	Q	Q	16	36	38	78	99	13	19	33	24.6
Between 3 and 4 .....	100	Q	Q	Q	13	Q	23	46	Q	Q	Q	38.9
4 or More .....	169	Q	Q	Q	16	27	30	95	Q	Q	Q	36.7
<b>Vehicle Characteristics</b>												
<b>Model Year</b>												
1994 to 1995 .....	103	Q	Q	Q	15	15	27	41	Q	Q	Q	26.8
1993 .....	142	Q	Q	Q	17	21	34	62	Q	Q	Q	24.1
1992 .....	149	Q	Q	11	16	22	34	62	Q	Q	22	22.2
1989 to 1991 .....	436	Q	Q	20	68	62	101	161	26	37	67	15.0
1986 to 1988 .....	411	Q	Q	28	73	67	90	130	22	40	71	14.7
1983 to 1985 .....	270	Q	16	25	55	44	58	64	28	41	76	18.0
1980 to 1982 .....	107	Q	Q	13	24	19	21	19	Q	24	35	29.8
1977 to 1979 .....	88	Q	Q	11	21	20	13	13	Q	20	30	36.2
1976 or Earlier .....	87	Q	Q	Q	21	18	13	14	Q	26	26	37.5

See footnotes at end of table.

**Table 5.7. U.S. Vehicle-Miles Traveled by Family Income, 1994 (Continued)**  
 (Billion Miles)

1993 Household and 1994 Vehicle Characteristics	Total	1993 Family Income							Below Poverty Line		Eligible for Fed- eral Assis- tance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent		
	RSE Column Factor:	0.4	2.4	1.8	1.2	0.9	0.8	0.8	0.7	1.4	1.1	0.9
<b>Type of Vehicle</b>												
Passenger Car .....	1,200	29	61	96	217	186	244	367	103	148	257	9.9
Minivan .....	108	Q	Q	Q	14	19	29	40	Q	Q	Q	24.8
Sport Utility .....	121	Q	Q	Q	16	17	29	54	Q	Q	Q	27.8
Large Van .....	40	Q	Q	Q	Q	Q	Q	13	Q	Q	Q	11
Pickup Truck .....	320	Q	Q	21	57	59	78	90	Q	30	56	42.6
Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Fuel Efficiency (miles per gallon)</b>												
10.9 or Less .....	39	Q	Q	5	8	6	5	10	Q	Q	13	34.2
11 to 12.9 .....	79	Q	Q	Q	20	16	15	15	Q	11	20	32.5
13 to 15.9 .....	183	Q	9	12	31	34	43	49	16	22	37	22.7
16 to 18.9 .....	278	Q	12	18	51	39	62	94	18	32	51	15.8
19 to 21.9 .....	423	Q	Q	26	62	71	92	153	24	35	68	17.9
22 to 24.9 .....	361	Q	Q	20	56	54	79	128	25	36	63	16.7
25 to 29.9 .....	324	Q	Q	28	67	51	71	86	Q	41	73	15.0
30 or More .....	105	Q	Q	Q	Q	Q	22	31	Q	Q	23	34.3
<b>Engine Size (liters)</b>												
2.49 or Less .....	699	Q	35	54	123	109	145	212	62	89	148	13.0
2.50 to 3.49 .....	364	Q	Q	22	51	59	84	129	19	29	59	15.7
3.50 to 4.49 .....	283	Q	Q	18	47	43	63	99	18	27	47	20.6
4.50 or Greater .....	448	Q	22	34	89	76	97	125	33	54	93	14.8
<b>Number of Cylinders</b>												
4 .....	713	Q	33	56	124	116	149	216	60	88	147	12.0
6 .....	631	Q	20	40	95	99	146	220	38	59	107	12.8
8 .....	435	Q	22	31	88	70	94	124	34	52	91	15.8
Other .....	14	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	70.9
<b>Type of Transmission</b>												
Automatic .....	1,337	24	60	99	239	204	280	430	104	153	270	9.2
Manual Shift .....	456	Q	Q	29	71	83	110	136	29	45	77	17.8
<b>Type of Drive</b>												
Front-Wheel .....	891	20	42	64	145	136	192	290	71	100	179	10.6
Rear-Wheel .....	693	Q	30	51	132	118	146	202	52	80	141	14.8
4-Wheel .....	209	Q	Q	12	32	33	51	73	Q	18	27	22.6
<b>Type of Fuel System</b>												
Carburetor .....	802	Q	49	74	159	138	159	203	84	121	201	12.8
Fuel Injection .....	966	Q	27	53	147	146	225	353	47	75	142	10.9
Diesel Engine .....	25	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	55.1
<b>Type of Fuel Purchased</b>												
Motor Gasoline .....	1,752	34	76	124	302	280	380	555	130	192	339	9.0
Unleaded .....	1,736	33	75	123	297	277	379	552	127	189	334	9.0
Regular Grade .....	1,199	Q	59	89	206	193	252	379	93	135	240	10.5
Intermediate Grade .....	238	Q	Q	15	35	36	62	79	Q	20	37	20.5
Premium Grade .....	299	Q	Q	18	55	48	65	94	21	34	58	18.6
Leaded .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
Gasohol .....	17	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	70.3
Diesel Fuel .....	22	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	61.1

See footnotes at end of table.

**Table 5.7. U.S. Vehicle-Miles Traveled by Family Income, 1994 (Continued)**  
(Billion Miles)

1993 Household and 1994 Vehicle Characteristics	Total	1993 Family Income							Below Poverty Line		Eligible for Fed- eral Assist- ance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent		
	RSE Column Factor:	0.4	2.4	1.8	1.2	0.9	0.8	0.8	0.7	1.4	1.1	0.9
<b>Type of Primary Service</b>												
Full-Service Pumps .....	137	Q	Q	11	18	20	33	41	Q	18	33	33.2
Self or Mini-Service Pumps .....	1,624	31	66	114	285	263	349	516	116	179	308	9.4
Both Equally .....	30	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	77.9
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Vehicle Used for Commuting to and from Work</b>												
Yes .....	1,175	Q	39	67	187	187	258	420	74	109	199	10.7
No .....	618	17	38	61	123	101	132	146	59	89	148	12.3

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.8. U.S. Vehicle Fuel Consumption by Family Income, 1994**  
(Billion Gallons)

1993 Household and 1994 Vehicle Characteristics	Total	1993 Family Income							Below Poverty Line		Eligible for Fed- eral Assis- tance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent		
	RSE Column Factor:	0.4	2.4	1.7	1.2	0.9	0.8	0.8	0.7	1.4	1.2	0.9
<i>Household Characteristics</i>												
Total .....	90.6	1.7	4.0	6.6	16.0	14.7	19.5	28.1	6.9	10.3	17.9	8.8
<i>Census Region and Division</i>												
Northeast .....	14.5	Q	Q	0.8	2.0	2.2	3.6	5.2	0.8	1.2	2.4	19.0
New England .....	4.1	Q	Q	Q	Q	1.5	2.8	3.5	Q	Q	0.7	32.6
Middle Atlantic .....	10.4	Q	Q	0.6	1.5	1.6	2.8	3.5	Q	0.9	1.7	22.2
Midwest .....	23.8	Q	1.0	2.0	4.8	3.8	5.4	6.6	1.6	2.9	4.7	14.7
East North Central .....	16.7	Q	0.8	1.2	3.0	2.6	3.5	5.4	1.2	1.9	3.3	19.0
West North Central .....	7.2	Q	Q	0.8	1.8	1.2	1.9	1.2	Q	0.9	1.4	20.9
South .....	33.5	Q	1.9	2.0	6.0	6.0	7.2	9.9	2.5	3.7	6.4	15.2
South Atlantic .....	17.1	Q	Q	1.1	3.1	2.6	3.6	5.5	1.3	1.8	3.4	21.1
East South Central .....	6.3	Q	Q	Q	1.1	1.5	1.4	1.6	Q	0.9	1.3	27.5
West South Central .....	10.1	Q	Q	Q	1.8	1.9	2.3	2.9	Q	1.0	1.7	24.5
West .....	18.8	Q	0.8	1.8	3.2	2.7	3.3	6.3	2.1	2.6	4.4	21.1
Mountain .....	5.9	Q	Q	Q	1.6	0.9	0.7	1.6	Q	Q	1.3	37.3
Pacific .....	12.9	Q	Q	1.4	1.6	1.8	2.6	4.7	Q	1.7	3.1	26.6
<i>Largest Populated States</i>												
California .....	9.5	Q	Q	Q	1.1	1.2	2.0	3.7	Q	Q	2.0	32.1
Florida .....	5.1	Q	Q	Q	0.9	0.9	1.4	1.3	Q	Q	Q	24.6
New York .....	4.3	Q	Q	Q	Q	0.6	1.0	1.8	Q	Q	Q	31.3
Texas .....	6.6	Q	Q	Q	1.4	1.3	1.5	1.8	Q	Q	1.1	27.8
<i>Urban Status</i>												
Urban .....	67.5	1.4	2.7	4.2	10.7	10.1	14.5	23.9	4.9	6.7	12.1	10.7
Central City .....	21.4	Q	1.0	2.0	4.2	3.2	4.2	6.2	2.3	2.7	4.9	19.8
Suburban .....	46.1	Q	1.7	2.2	6.5	6.9	10.2	17.7	2.6	4.0	7.2	14.2
Rural .....	23.1	Q	1.2	2.4	5.3	4.6	5.0	4.2	2.0	3.7	5.8	15.0
<i>Household Size</i>												
1 Person .....	9.6	Q	1.2	1.2	2.5	2.2	1.3	0.8	0.9	1.3	2.4	18.4
2 Persons .....	30.6	Q	1.4	2.4	6.4	4.4	6.7	8.8	1.5	2.2	4.3	14.9
3 Persons .....	18.9	Q	Q	1.1	3.0	3.0	3.7	7.1	1.3	1.9	3.5	19.9
4 Persons .....	18.1	Q	Q	0.8	2.3	2.7	4.7	6.9	1.2	1.8	3.3	22.5
5 Persons .....	9.1	Q	Q	Q	1.2	1.6	2.3	2.7	Q	1.9	2.7	28.8
6 or More Persons .....	4.2	Q	Q	Q	Q	0.8	Q	1.7	Q	Q	1.6	43.8
<i>Household Composition</i>												
Households with Children .....	40.4	Q	1.2	2.7	5.9	7.0	9.4	13.6	4.0	6.1	10.0	14.3
Age of Oldest Child												
Under 7 Years .....	10.3	Q	Q	Q	1.8	1.4	2.5	3.6	Q	1.3	2.2	27.3
7 to 15 Years .....	20.5	Q	Q	1.7	2.7	4.0	4.5	6.7	2.2	3.4	5.7	17.0
16 or 17 Years .....	9.6	Q	Q	Q	1.4	1.6	2.4	3.3	Q	1.4	2.1	30.8
Households Without Children .....	50.2	1.1	2.8	3.9	10.1	7.7	10.2	14.5	2.9	4.3	7.9	11.2
One Adult .....	9.6	Q	1.2	1.2	2.5	2.2	1.3	0.8	0.9	1.3	2.4	18.4
Age of Householder												
Under 35 Years .....	2.4	Q	Q	Q	0.7	0.7	Q	Q	Q	Q	Q	37.0
35 to 59 Years .....	4.1	Q	Q	Q	1.1	0.9	0.8	Q	Q	Q	Q	29.2
60 Years or More .....	3.0	Q	0.7	0.7	0.7	0.6	Q	Q	0.4	0.7	1.3	22.5
Two or More Adults .....	40.6	Q	1.6	2.7	7.5	5.5	8.8	13.7	2.0	3.0	5.5	14.0
Age of Householder												
Under 35 Years .....	8.1	Q	Q	Q	1.5	0.9	1.8	2.1	Q	Q	Q	33.1
35 to 59 Years .....	20.2	Q	Q	Q	2.7	2.6	4.6	9.0	Q	1.1	1.7	21.8
60 Years or More .....	12.4	Q	0.6	1.4	3.2	2.0	2.5	2.6	Q	1.1	2.3	20.3

See footnotes at end of table.

**Table 5.8. U.S. Vehicle Fuel Consumption by Family Income, 1994 (Continued)**  
 (Billion Gallons)

1993 Household and 1994 Vehicle Characteristics	Total	1993 Family Income								Below Poverty Line		Eligible for Fede- ral Assist- ance <sup>1</sup>	RSE Row Factor:	
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent				
	RSE Column Factor:	0.4	2.4	1.7	1.2	0.9	0.8	0.8	0.7	1.4	1.2	0.9		
<b>Race of Householder</b>														
White .....	80.5	1.3	3.0	5.4	14.1	13.2	17.9	25.6	5.0	8.0	14.3	9.5		
Black .....	6.3	Q	Q	Q	1.2	0.9	1.0	1.6	Q	1.4	2.2	34.9		
Other .....	3.7	Q	Q	Q	Q	Q	0.6	0.9	Q	Q	1.4	48.7		
<b>Hispanic Descent</b>														
Yes .....	6.2	Q	Q	Q	1.1	1.1	1.1	1.5	Q	Q	1.8	37.2		
No .....	84.4	1.6	3.6	5.7	14.9	13.6	18.4	26.6	5.9	8.9	16.1	9.0		
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>														
1 .....	16.5	Q	2.1	2.6	4.2	3.2	2.2	1.5	2.7	3.4	5.6	13.9		
2 .....	54.3	Q	1.4	3.3	9.9	8.9	12.7	17.6	2.9	4.9	9.1	12.8		
3 .....	13.4	Q	Q	Q	1.5	1.9	3.2	5.9	Q	Q	2.0	27.5		
4 or More .....	6.0	Q	Q	Q	Q	Q	1.3	3.2	Q	Q	0.8	39.6		
<b>Age of Primary Driver</b>														
16 to 17 Years .....	0.5	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	93.8		
18 to 22 Years .....	2.5	Q	Q	Q	Q	Q	0.6	1.0	Q	Q	Q	35.7		
23 to 29 Years .....	5.1	Q	Q	Q	1.2	1.0	0.9	1.2	Q	Q	1.1	25.5		
30 to 39 Years .....	14.0	Q	Q	0.6	2.0	2.6	3.6	4.9	0.7	1.3	2.4	17.5		
40 to 49 Years .....	14.0	Q	Q	0.4	1.8	2.2	3.2	6.1	0.4	0.9	1.7	18.2		
50 to 59 Years .....	9.0	Q	Q	Q	1.4	1.5	2.1	3.4	Q	Q	1.0	23.9		
60 to 69 Years .....	5.3	Q	Q	0.5	1.2	1.2	1.1	0.9	Q	Q	0.6	1.0	23.8	
70 to 79 Years .....	3.7	Q	0.3	0.6	1.2	0.4	0.4	0.5	Q	Q	0.5	1.0	24.6	
80 Years and Over .....	0.9	Q	Q	Q	0.4	Q	Q	Q	Q	Q	0.3	40.1		
Don't Know .....	35.6	Q	Q	3.6	6.4	5.1	7.3	9.9	4.1	5.5	8.9	22.5		
<b>Sex of Primary Driver</b>														
Female .....	23.5	Q	1.0	1.6	3.9	3.7	5.2	7.9	1.6	2.4	4.1	10.5		
Male .....	31.5	Q	0.9	1.4	5.7	5.9	7.0	10.2	1.3	2.4	4.9	13.3		
Don't Know .....	35.6	Q	Q	3.6	6.4	5.1	7.3	9.9	4.1	5.5	8.9	22.6		
<b>Average Number of Vehicles per Household During the Year</b>														
Part-Year Vehicle .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF		
Only 1 .....	14.8	Q	1.9	2.5	3.4	2.6	2.2	1.6	2.6	3.4	5.7	15.0		
Between 1 and 2 .....	5.4	Q	Q	Q	1.3	1.1	1.1	1.0	Q	0.8	1.4	35.2		
Only 2 .....	32.9	Q	1.1	2.1	6.4	5.8	6.9	10.3	2.1	3.6	6.2	15.0		
Between 2 and 3 .....	8.5	Q	Q	Q	1.2	1.2	2.5	3.1	Q	0.8	1.1	27.0		
Only 3 .....	14.5	Q	Q	1.0	2.0	2.1	4.1	5.0	0.8	1.1	1.8	24.8		
Between 3 and 4 .....	4.9	Q	Q	Q	0.6	Q	1.2	2.4	Q	Q	Q	40.0		
4 or More .....	8.7	Q	Q	Q	0.9	1.4	1.5	4.8	Q	Q	Q	36.2		
<b>Vehicle Characteristics</b>														
<b>Model Year</b>														
1994 to 1995 .....	5.0	Q	Q	Q	0.7	0.7	1.3	2.1	Q	Q	Q	26.6		
1993 .....	6.6	Q	Q	Q	0.7	1.0	1.5	3.0	Q	Q	Q	23.7		
1992 .....	6.9	Q	Q	0.5	0.7	1.0	1.6	2.9	Q	Q	0.9	22.4		
1989 to 1991 .....	20.7	Q	Q	0.9	3.2	2.9	4.9	7.6	1.2	1.7	3.0	15.1		
1986 to 1988 .....	19.0	Q	0.8	1.3	3.3	3.1	4.3	6.1	1.0	1.8	3.2	15.3		
1983 to 1985 .....	13.3	Q	0.8	1.2	2.8	2.2	2.9	3.2	1.2	1.9	3.6	17.8		
1980 to 1982 .....	5.6	Q	Q	0.6	1.2	1.0	1.1	1.0	Q	1.2	1.8	28.3		
1977 to 1979 .....	6.3	Q	Q	0.8	1.5	1.4	0.9	1.0	Q	1.4	2.2	34.6		
1976 or Earlier .....	7.2	Q	Q	Q	1.8	1.5	1.0	1.2	Q	Q	2.2	36.8		

See footnotes at end of table.

**Table 5.8. U.S. Vehicle Fuel Consumption by Family Income, 1994 (Continued)**  
(Billion Gallons)

1993 Household and 1994 Vehicle Characteristics	Total	1993 Family Income							Below Poverty Line		Eligible for Fed- er- al Assis- tance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent		
	RSE Column Factor:	0.4	2.4	1.7	1.2	0.9	0.8	0.8	0.7	1.4	1.2	0.9
<b>Type of Vehicle</b>												
Passenger Car .....	54.7	1.3	2.9	4.6	10.1	8.6	10.8	16.5	4.9	7.0	12.1	9.9
Minivan .....	5.5	Q	Q	Q	0.7	0.9	1.5	2.0	Q	Q	Q	24.7
Sport Utility .....	7.4	Q	Q	Q	1.0	1.1	1.8	3.2	Q	Q	Q	27.5
Large Van .....	2.9	Q	Q	Q	Q	Q	Q	0.9	Q	Q	Q	42.2
Pickup Truck .....	19.6	Q	Q	1.3	3.6	3.6	4.8	5.3	Q	2.0	3.6	17.1
Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Fuel Efficiency (miles per gallon)</b>												
10.9 or Less .....	4.1	Q	Q	0.5	0.9	0.6	0.6	1.1	Q	Q	1.4	33.8
11 to 12.9 .....	6.5	Q	Q	Q	1.6	1.3	1.2	1.2	Q	1.0	1.7	32.3
13 to 15.9 .....	12.6	Q	0.6	0.8	2.1	2.3	3.0	3.4	1.1	1.5	2.5	22.6
16 to 18.9 .....	15.9	Q	0.7	1.0	2.9	2.3	3.5	5.3	1.0	1.8	2.9	15.8
19 to 21.9 .....	20.8	Q	Q	1.3	3.1	3.5	4.5	7.5	1.2	1.7	3.3	17.8
22 to 24.9 .....	15.5	Q	Q	0.9	2.4	2.3	3.4	5.5	1.1	1.5	2.7	16.6
25 to 29.9 .....	12.0	Q	Q	1.1	2.5	1.9	2.6	3.2	Q	1.5	2.7	14.8
30 or More .....	3.2	Q	Q	Q	Q	Q	0.7	0.9	Q	Q	0.7	34.9
<b>Engine Size (liters)</b>												
2.49 or Less .....	27.4	Q	1.4	2.1	4.8	4.3	5.7	8.5	2.5	3.5	5.7	12.5
2.50 to 3.49 .....	17.5	Q	Q	1.1	2.4	2.9	4.0	6.2	0.9	1.4	2.9	15.3
3.50 to 4.49 .....	15.1	Q	Q	1.0	2.6	2.3	3.3	5.2	1.0	1.5	2.6	20.2
4.50 or Greater .....	30.6	Q	1.6	2.4	6.2	5.3	6.5	8.2	2.5	3.9	6.7	14.7
<b>Number of Cylinders</b>												
4 .....	28.3	Q	1.4	2.2	4.9	4.6	5.9	8.7	2.4	3.5	5.8	11.5
6 .....	32.3	Q	1.1	2.1	4.9	5.2	7.3	11.2	2.0	3.1	5.6	12.6
8 .....	29.4	Q	1.5	2.3	6.1	4.8	6.3	8.0	2.5	3.7	6.4	15.6
Other .....	0.5	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	71.9
<b>Type of Transmission</b>												
Automatic .....	69.8	1.3	3.3	5.3	12.6	10.9	14.6	22.0	5.6	8.2	14.5	9.5
Manual Shift .....	20.7	Q	Q	1.3	3.4	3.8	5.0	6.1	1.3	2.1	3.4	17.9
<b>Type of Drive</b>												
Front-Wheel .....	38.1	0.8	1.9	2.7	6.2	5.8	8.2	12.5	3.1	4.3	7.7	10.6
Rear-Wheel .....	39.7	Q	1.8	3.1	7.8	6.9	8.2	11.2	3.2	4.9	8.4	14.2
4-Wheel .....	12.7	Q	Q	0.7	2.0	2.1	3.1	4.4	Q	1.1	1.7	22.6
<b>Type of Fuel System</b>												
Carburetor .....	43.9	Q	2.7	4.2	8.9	7.7	8.5	10.7	4.7	6.8	11.2	12.8
Fuel Injection .....	45.3	Q	1.2	2.4	6.8	6.8	10.7	16.8	2.1	3.4	6.5	10.9
Diesel Engine .....	1.4	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	56.9
<b>Type of Fuel Purchased</b>												
Motor Gasoline .....	88.3	1.7	3.9	6.4	15.5	14.3	19.0	27.5	6.8	9.9	17.4	9.2
Unleaded .....	87.0	1.6	3.8	6.3	15.0	14.1	18.9	27.3	6.6	9.7	17.0	9.2
Regular Grade .....	59.9	Q	3.0	4.6	10.5	9.8	12.5	18.4	4.9	7.0	12.2	10.6
Intermediate Grade .....	11.7	Q	Q	0.7	1.7	1.8	3.1	3.9	Q	1.0	1.8	20.4
Premium Grade .....	15.4	Q	Q	1.0	2.8	2.6	3.3	4.9	1.1	1.7	3.1	18.3
Leaded .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
Gasohol .....	0.9	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	73.9
Diesel Fuel .....	1.2	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	63.7

See footnotes at end of table.

**Table 5.8. U.S. Vehicle Fuel Consumption by Family Income, 1994 (Continued)**  
(Billion Gallons)

1993 Household and 1994 Vehicle Characteristics		Total	1993 Family Income							Below Poverty Line		Eligible for Fed- eral Assist- ance <sup>1</sup>	RSE Row Factor:
			Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per- cent	125 Per- cent		
	RSE Column Factor:	0.4	2.4	1.7	1.2	0.9	0.8	0.8	0.7	1.4	1.2	0.9	
<b>Type of Primary Service</b>													
Full-Service Pumps .....		6.8	Q	Q	0.6	1.0	1.0	1.5	2.0	Q	0.9	1.7	31.7
Self or Mini-Service Pumps .....		82.0	1.5	3.4	5.9	14.6	13.4	17.6	25.6	6.1	9.2	15.7	9.6
Both Equally .....		1.6	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	79.3
Bulk Sales/Other .....		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	NF
<b>Vehicle Used for Commuting to and from Work</b>													
Yes .....		58.2	Q	2.0	3.4	9.4	9.3	12.8	20.6	3.7	5.5	10.0	10.9
No .....		32.4	0.8	2.0	3.2	6.6	5.4	6.8	7.5	3.2	4.8	7.9	12.3

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.9. U.S. Average Vehicle-Miles Traveled by Family Income, 1994**  
 (Thousand Miles per Household)

1993 Household Characteristics	Total	1993 Family Income								Below Poverty Line		Eli- gible for Fed- eral Assist- ance <sup>1</sup>	RSE Row Factor:	
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Percent	125 Percent				
		RSE Column Factor:	0.3	2.8	1.9	1.2	0.9	0.8	0.7	0.6	1.4	1.2	0.9	
<i>Household Characteristics</i>														
Total .....	21.1	16.1	12.2	14.3	18.1	21.6	23.6	27.6	14.7	15.3	16.1	5.4		
<i>Census Region and Division</i>														
Northeast .....	20.3	19.5	Q	11.9	16.7	21.2	22.3	24.2	15.3	15.6	15.4	11.3		
New England .....	20.5	Q	Q	15.1	26.9	23.9	24.2	Q	Q	12.5	14.6			
Middle Atlantic .....	20.2	20.7	Q	11.9	17.4	19.5	21.8	24.2	16.4	16.5	16.8	12.1		
Midwest .....	22.2	Q	12.7	16.2	19.3	20.9	24.8	31.1	17.2	17.7	16.8	9.1		
East North Central .....	22.2	Q	14.4	15.0	18.5	21.0	23.2	31.8	18.4	18.6	16.9	12.1		
West North Central .....	22.2	Q	9.0	18.6	20.9	20.8	28.3	28.3	14.3	16.1	16.5	11.9		
South .....	21.7	12.2	12.3	12.6	18.8	23.1	25.6	29.7	12.1	13.3	15.7	8.4		
South Atlantic .....	22.4	11.2	17.2	12.7	20.4	22.3	24.5	30.1	12.6	13.5	17.7	11.0		
East South Central .....	22.2	Q	Q	19.1	24.4	25.7	33.1	15.5	15.9	16.3	20.1			
West South Central .....	20.3	Q	8.5	12.5	16.5	23.3	27.5	27.2	9.7	11.5	12.2	15.5		
West .....	19.6	Q	11.8	16.1	16.2	19.7	20.0	25.0	16.8	16.0	16.4	13.6		
Mountain .....	19.6	Q	11.3	16.5	17.6	24.0	19.6	24.4	16.0	15.4	15.1	21.8		
Pacific .....	19.6	Q	12.2	16.0	15.2	18.3	20.1	25.2	17.3	16.4	17.1	18.3		
<i>Largest Populated States</i>														
California .....	19.8	Q	Q	14.9	16.0	17.4	21.3	24.7	17.8	16.5	16.0	24.6		
Florida .....	20.9	Q	Q	18.7	21.3	24.0	25.9	Q	Q	19.7				
New York .....	18.7	Q	Q	12.0	14.6	19.9	17.7	23.6	Q	13.5	13.9	20.3		
Texas .....	20.3	Q	Q	14.2	16.4	23.7	26.9	24.8	Q	13.0	14.0	19.9		
<i>Urban Status</i>														
Urban .....	20.7	17.6	12.7	13.4	17.2	20.4	22.2	27.1	15.0	14.9	15.9	6.6		
Central City .....	18.0	16.8	11.1	12.6	16.6	17.7	20.3	23.3	14.7	13.5	14.3	10.9		
Suburban .....	22.3	18.3	13.9	14.3	17.6	22.0	23.1	28.8	15.3	16.1	17.3	8.2		
Rural .....	22.5	10.4	11.2	16.5	20.7	24.7	29.3	31.2	14.1	16.0	16.4	9.4		
<i>Household Size</i>														
1 Person .....	11.6	10.7	7.9	8.9	12.4	15.1	12.2	14.6	8.8	8.3	8.9	12.5		
2 Persons .....	20.0	15.1	17.3	14.4	17.6	19.2	22.4	24.3	13.9	13.9	14.9	8.7		
3 Persons .....	25.2	17.1	14.7	17.8	22.8	26.6	26.1	29.9	15.4	16.6	18.1	11.2		
4 Persons .....	26.6	Q	12.7	21.1	23.9	25.8	26.8	30.7	17.1	19.3	21.2	11.6		
5 Persons .....	26.3	Q	Q	18.3	22.5	25.7	30.4	30.1	20.0	20.5	21.0	13.7		
6 or More Persons .....	30.9	Q	Q	Q	18.1	39.3	30.7	40.5	20.0	20.4	23.7	27.9		
<i>Household Composition</i>														
Households with Children .....	24.8	17.1	13.5	17.3	21.5	26.5	26.2	29.7	16.6	17.7	19.5	7.3		
Age of Oldest Child														
Under 7 Years .....	22.4	13.4	Q	17.2	20.7	21.9	22.9	26.6	15.4	16.6	17.7	13.8		
7 to 15 Years .....	24.2	Q	12.4	17.5	21.0	27.1	26.6	27.7	16.2	17.6	19.4	8.5		
16 or 17 Years .....	29.9	Q	17.1	16.8	24.0	30.4	29.9	40.2	19.5	18.9	22.2	16.5		
Households Without Children .....	18.9	15.7	11.7	12.8	16.6	18.5	21.6	26.0	12.8	12.8	13.2	6.9		
One Adult .....	11.6	10.7	7.9	8.9	12.4	15.1	12.2	14.6	8.8	8.3	8.9	12.5		
Age of Householder														
Under 35 Years .....	15.6	Q	Q	Q	17.4	20.6	14.2	Q	Q	Q	11.3	34.0		
35 to 59 Years .....	12.8	Q	9.8	9.9	12.4	14.3	12.9	16.6	11.1	10.3	10.8	19.0		
60 Years or More .....	8.6	8.4	7.1	7.5	9.4	11.8	7.3	Q	7.0	7.3	7.5	16.7		
Two or More Adults .....	22.4	19.2	18.2	16.1	18.8	20.6	24.5	27.4	16.4	17.0	16.8	8.6		
Age of Household														
Under 35 Years .....	24.4	Q	Q	20.8	24.5	24.0	23.3	25.9	Q	19.7	23.2	21.4		
35 to 59 Years .....	26.2	Q	13.2	22.7	21.1	23.2	27.2	30.7	15.9	19.0	18.2	13.3		
60 Years or More .....	17.1	Q	14.0	12.7	15.4	16.7	21.4	20.8	13.7	13.5	13.0	14.6		

See footnotes at end of table.

**Table 5.9. U.S. Average Vehicle-Miles Traveled by Family Income, 1994 (Continued)**  
 (Thousand Miles per Household)

1993 Household Characteristics	Total	1993 Family Income								Below Poverty Line		Eli-gible for Fed-er-al Assis-tance <sup>1</sup>	RSE Row Factor:	
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Percent	125 Percent				
		RSE Column Factor:	0.3	2.8	1.9	1.2	0.9	0.8	0.7	0.6	1.4	1.2	0.9	
<b>Race of Householder</b>														
White .....	21.7	16.2	12.6	14.6	18.6	21.6	24.0	28.0	15.1	16.2	16.9	5.7		
Black .....	17.1	13.8	10.1	11.5	14.9	21.3	20.4	25.8	12.3	11.6	12.8	20.0		
Other .....	17.8	Q	Q	Q	15.4	Q	18.5	22.2	Q	14.8	14.6	29.9		
<b>Hispanic Descent</b>														
Yes .....	19.5	Q	Q	18.3	16.7	22.2	21.0	23.6	Q	16.8	17.0	19.8		
No .....	21.3	16.4	12.1	13.8	18.2	21.5	23.8	27.9	14.5	15.1	16.0	5.6		
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>														
1 .....	12.3	12.6	9.4	10.4	12.2	15.6	12.9	14.9	11.4	10.8	10.8	9.2		
2 .....	23.2	16.8	20.4	19.1	21.2	23.2	24.3	25.3	17.6	18.6	20.0	6.4		
3 .....	33.1	Q	Q	29.0	29.6	29.7	32.5	37.0	28.2	29.4	29.4	17.1		
4 or More .....	43.0	Q	Q	Q	Q	41.1	44.5	47.6	Q	31.0	35.7	25.1		
<b>Average Number of Vehicles per Household During the Year</b>														
Part-Year Vehicle .....	5.9	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	114.6		
Only 1 .....	10.7	11.2	9.1	10.1	10.1	12.6	11.2	11.9	10.7	10.3	10.2	8.3		
Between 1 and 2 .....	19.5	Q	16.1	17.6	18.1	20.1	22.8	21.3	16.9	17.6	18.5	18.1		
Only 2 .....	23.2	24.6	19.9	20.7	21.6	24.1	23.5	24.3	22.2	22.7	21.7	6.9		
Between 2 and 3 .....	29.1	Q	Q	Q	28.7	27.9	30.6	29.5	Q	30.0	29.2	10.8		
Only 3 .....	32.6	Q	Q	29.0	31.4	33.7	32.7	33.1	30.3	32.6	33.3	11.7		
Between 3 and 4 .....	44.3	Q	Q	Q	Q	38.0	46.7	Q	Q	Q	Q	13.1		
4 or More .....	50.0	Q	Q	Q	49.2	53.7	45.3	50.8	Q	Q	Q	16.8		

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.10. U.S. Average Vehicle Fuel Consumption by Family Income, 1994**  
 (Gallons per Household)

1993 Household Characteristics	Total	1993 Family Income							Below Poverty Line		Eli-gible for Fed-er-al Assis-tance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Per-cent	125 Per-cent		
	RSE Column Factor:	0.3	2.5	2.0	1.3	0.9	0.8	0.7	0.6	1.4	1.2	0.9
<i>Household Characteristics</i>												
<b>Total</b>	1,067	781	631	739	934	1,102	1,182	1,372	769	795	828	5.9
<b>Census Region and Division</b>												
Northeast .....	982	791	Q	556	839	1,052	1,073	1,164	674	703	742	11.7
New England .....	1,006	Q	Q	509	780	1,327	1,172	1,189	Q	Q	631	18.6
Middle Atlantic .....	973	836	Q	574	865	971	1,047	1,151	733	746	795	12.6
Midwest .....	1,104	Q	691	793	997	1,047	1,218	1,506	904	912	856	10.1
East North Central .....	1,102	Q	809	729	923	1,074	1,138	1,550	991	952	869	13.4
West North Central .....	1,110	Q	419	916	1,154	996	1,399	1,334	695	837	827	13.6
South .....	1,109	627	626	664	963	1,189	1,322	1,486	651	715	807	8.5
South Atlantic .....	1,111	614	787	654	1,026	1,099	1,233	1,466	689	717	868	11.8
East South Central .....	1,167	Q	666	Q	973	1,252	1,392	1,668	875	905	932	16.3
West South Central .....	1,073	Q	461	613	869	1,282	1,446	1,436	478	599	648	16.3
West .....	1,023	Q	621	905	861	1,050	1,010	1,289	904	866	883	13.8
Mountain .....	1,093	Q	657	920	987	1,385	1,128	1,341	866	860	828	21.6
Pacific .....	994	Q	599	899	765	939	984	1,272	925	869	909	18.6
<b>Largest Populated States</b>												
California .....	1,000	Q	Q	855	800	880	1,041	1,242	947	871	833	25.1
Florida .....	1,030	Q	Q	Q	871	1,059	1,207	1,243	Q	Q	Q	20.4
New York .....	898	Q	Q	570	709	982	860	1,116	Q	630	666	19.5
Texas .....	1,076	Q	Q	619	890	1,387	1,378	1,308	Q	686	732	20.4
<b>Urban Status</b>												
Urban .....	1,029	835	650	671	853	1,032	1,093	1,338	767	756	799	7.2
Central City .....	888	817	569	621	808	891	995	1,151	730	676	717	11.9
Suburban .....	1,111	849	711	721	885	1,115	1,139	1,418	803	821	865	9.1
Rural .....	1,196	574	591	898	1,154	1,294	1,544	1,607	773	880	895	9.6
<b>Household Size</b>												
1 Person .....	566	517	410	442	606	709	593	701	442	416	449	11.8
2 Persons .....	1,016	742	867	759	915	957	1,139	1,225	731	734	760	9.3
3 Persons .....	1,257	885	764	885	1,128	1,426	1,274	1,460	787	838	905	11.6
4 Persons .....	1,357	Q	670	1,027	1,336	1,327	1,341	1,549	846	990	1,098	12.3
5 Persons .....	1,359	Q	Q	983	1,171	1,441	1,556	1,448	1,104	1,092	1,138	14.9
6 or More Persons .....	1,566	Q	Q	Q	1,011	2,034	1,538	1,963	1,086	1,117	1,255	27.7
<b>Household Composition</b>												
Households with Children .....	1,257	841	717	884	1,126	1,391	1,303	1,477	871	922	1,011	8.4
Age of Oldest Child												
Under 7 Years .....	1,119	682	Q	868	1,072	1,139	1,150	1,290	759	845	893	15.1
7 to 15 Years .....	1,240	Q	640	907	1,103	1,455	1,303	1,414	860	923	1,012	9.3
16 or 17 Years .....	1,500	Q	Q	819	1,258	1,515	1,510	1,968	1,071	1,001	1,171	17.5
Households Without Children .....	951	751	600	663	848	926	1,088	1,287	661	666	673	7.2
One Adult .....	566	517	410	442	606	709	593	701	442	416	449	11.8
Age of Householder												
Under 35 Years .....	720	Q	Q	Q	796	967	696	Q	Q	Q	494	34.5
35 to 59 Years .....	627	Q	558	507	604	665	627	782	572	536	575	18.6
60 Years or More .....	435	483	357	381	491	569	346	Q	374	375	390	16.0
Two or More Adults .....	1,134	917	928	853	980	1,056	1,241	1,356	856	892	861	9.1
Age of Householder												
Under 35 Years .....	1,126	Q	Q	1,023	1,185	1,032	1,093	1,206	Q	884	1,016	20.8
35 to 59 Years .....	1,344	Q	701	1,230	1,083	1,218	1,405	1,547	829	1,037	962	15.3
60 Years or More .....	907	Q	898	684	843	905	1,111	1,024	831	791	729	14.4

See footnotes at end of table.

**Table 5.10. U.S. Average Vehicle Fuel Consumption by Family Income, 1994 (Continued)**  
(Gallons per Household)

1993 Household Characteristics	Total	1993 Family Income								Below Poverty Line		Eligible for Federal Assistance <sup>1</sup>	RSE Row Factor:
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 or More	100 Percent	125 Percent			
	RSE Column Factor:	0.3	2.5	2.0	1.3	0.9	0.8	0.7	0.6	1.4	1.2	0.9	
<b>Race of Householder</b>													
White .....	1,099	777	640	751	963	1,117	1,204	1,395	778	833	862	6.3	
Black .....	865	708	592	612	758	967	1,049	1,264	689	655	695	20.2	
Other .....	867	Q	624	Q	760	Q	886	1,038	Q	746	747	28.9	
<b>Hispanic Descent</b>													
Yes .....	990	Q	Q	917	830	1,212	1,073	1,157	Q	853	860	21.3	
No .....	1,073	793	623	717	942	1,094	1,189	1,386	758	787	824	6.1	
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>													
1 .....	606	606	492	515	606	734	628	768	569	534	543	9.9	
2 .....	1,187	894	1,005	995	1,112	1,205	1,230	1,271	955	1,000	1,040	6.6	
3 .....	1,667	Q	Q	1,698	1,490	1,644	1,629	1,780	1,596	1,688	1,602	17.6	
4 or More .....	2,071	Q	Q	Q	Q	1,999	2,146	2,282	Q	1,376	1,622	26.3	
<b>Average Number of Vehicles per Household During the Year</b>													
Part-Year Vehicle .....	281	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	106.3	
Only 1 .....	518	531	475	487	492	587	526	580	531	507	507	8.1	
Between 1 and 2 .....	990	Q	850	873	914	1,022	1,131	1,071	933	936	941	17.5	
Only 2 .....	1,158	1,198	1,100	1,082	1,119	1,225	1,141	1,182	1,157	1,202	1,151	7.8	
Between 2 and 3 .....	1,522	Q	Q	Q	1,584	1,429	1,615	1,491	Q	1,772	1,678	11.2	
Only 3 .....	1,726	Q	Q	1,774	1,696	1,887	1,727	1,664	1,782	1,873	1,811	11.3	
Between 3 and 4 .....	2,183	Q	Q	Q	Q	Q	1,936	2,379	Q	Q	Q	15.0	
4 or More .....	2,571	Q	Q	Q	2,815	2,904	2,277	2,556	Q	Q	Q	15.6	

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately 0.5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 years old unless the member is the householder or spouse. • To obtain the Relative Standard Error (RSE) percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal transportation. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D of the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.11. U.S. Vehicles by Household Composition, 1994**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	Households with Children				Households Without Children						RSE Row Factor:	
	Total	Age of Oldest Child			Total	One Adult-- Age of Householder			Two or More Adults-- Age of Householder			
		Under 7 Years	7 to 15 Years	16 or 17 Years		Under 35 Years	35 to 59 Years	60 Years or Over	Under 35 Years	35 to 59 Years	60 Years or Over	
	RSE Column Factor:	0.6	1.0	0.8	1.3	0.5	1.8	1.4	1.2	1.3	0.9	1.0
<i>Household Characteristics</i>												
Total .....	64.6	17.1	32.3	15.2	92.2	4.1	7.6	7.9	13.8	33.9	24.9	5.6
<b>Census Region and Division</b>												
Northeast .....	10.9	3.2	4.9	2.7	15.7	0.7	1.3	1.3	2.1	5.7	4.6	11.6
New England .....	3.3	1.1	1.6	0.6	4.3	Q	Q	0.6	0.7	1.4	1.3	23.4
Middle Atlantic .....	7.6	2.1	3.3	2.2	11.4	0.6	1.0	0.7	1.4	4.3	3.3	12.9
Midwest .....	17.1	4.3	8.5	4.3	24.0	1.3	1.8	2.3	3.6	8.1	6.9	12.3
East North Central .....	12.2	2.9	5.9	3.4	16.8	0.8	1.3	1.6	2.4	6.4	4.3	14.3
West North Central .....	4.9	1.4	2.6	0.9	7.2	0.5	0.5	0.6	1.2	1.7	2.7	22.3
South .....	23.2	5.9	11.6	5.7	32.8	1.3	2.7	2.8	5.1	12.3	8.5	9.6
South Atlantic .....	10.6	3.1	4.8	2.7	17.9	0.5	1.5	1.4	3.0	6.9	4.5	14.6
East South Central .....	4.5	0.6	2.8	1.1	6.6	Q	0.5	0.5	1.1	2.3	2.0	18.0
West South Central .....	8.1	2.2	4.0	2.0	8.3	0.6	0.7	1.0	0.9	3.0	2.0	14.6
West .....	13.4	3.6	7.3	2.5	19.7	0.7	1.8	1.5	3.0	7.8	4.9	12.7
Mountain .....	4.5	1.3	2.7	0.5	5.3	Q	0.3	0.6	1.0	1.7	1.5	23.0
Pacific .....	8.9	2.3	4.6	2.0	14.4	0.5	1.5	0.9	2.0	6.2	3.4	14.9
<b>Largest Populated States</b>												
California .....	7.0	1.9	3.5	1.5	10.0	Q	0.9	0.5	1.3	4.1	2.8	18.4
Florida .....	3.5	1.3	1.4	0.7	5.3	Q	0.4	0.5	0.9	1.9	1.5	23.9
New York .....	3.2	1.0	1.4	0.8	4.6	Q	0.6	0.3	0.5	1.6	1.4	18.6
Texas .....	5.1	1.3	2.5	1.3	5.9	0.5	0.5	0.6	0.6	2.1	1.7	17.8
<b>Urban Status</b>												
Urban .....	49.1	13.6	24.1	11.5	70.3	3.3	6.4	5.0	11.7	25.9	17.9	6.8
Central City .....	15.8	5.3	7.7	2.8	24.2	1.6	2.4	1.9	4.3	8.2	6.0	11.9
Suburban .....	33.3	8.2	16.4	8.7	46.0	1.7	4.0	3.2	7.4	17.8	12.0	9.5
Rural .....	15.5	3.5	8.2	3.8	21.9	0.8	1.2	2.9	2.1	8.0	7.0	12.1
<b>Household Size</b>												
1 Person .....	Q	Q	Q	Q	19.5	4.1	7.6	7.9	Q	Q	Q	5.4
2 Persons .....	2.0	0.5	1.1	0.5	53.3	Q	Q	Q	11.4	21.3	20.6	12.6
3 Persons .....	18.6	7.7	7.2	3.6	13.2	Q	Q	Q	1.0	8.7	3.4	13.1
4 Persons .....	25.0	6.2	13.2	5.6	4.5	Q	Q	Q	0.7	3.0	0.8	17.4
5 Persons .....	13.0	1.8	8.1	3.0	1.4	Q	Q	Q	0.6	0.7	Q	24.2
6 or More Persons .....	6.1	0.8	2.7	2.6	Q	Q	Q	Q	Q	Q	Q	23.2
<b>Race of Householder</b>												
White .....	54.8	14.4	27.6	12.8	83.7	3.2	6.7	7.2	12.5	31.0	23.2	6.1
Black .....	5.8	1.5	3.0	1.3	5.4	0.5	0.5	0.5	0.7	1.7	1.4	21.5
Other .....	4.0	1.1	1.8	1.1	3.1	0.4	0.4	Q	0.6	1.2	Q	24.9
<b>Hispanic Descent</b>												
Yes .....	6.2	1.9	2.8	1.5	4.5	0.3	0.3	Q	1.0	1.7	0.9	22.2
No .....	58.5	15.2	29.5	13.7	87.6	3.7	7.2	7.7	12.8	32.2	24.0	5.9

See footnotes at end of table.

**Table 5.11. U.S. Vehicles by Household Composition, 1994 (Continued)**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	Households with Children				Households Without Children						RSE Row Factor:	
	Total	Age of Oldest Child			Total	One Adult— Age of Householder			Two or More Adults-- Age of Householder			
		Under 7 Years	7 to 15 Years	16 or 17 Years		Under 35 Years	35 to 59 Years	60 Years or Over	Under 35 Years	35 to 59 Years	60 Years or Over	
		0.6	1.0	0.8	1.3	0.5	1.8	1.4	1.2	1.3	0.9	1.0
<b>1993 Family Income</b>												
Less than \$5,000 .....	1.0	0.4	0.3	Q	2.0	Q	Q	0.3	1.0	Q	Q	32.7
\$5,000 to \$9,999 .....	1.9	0.4	1.2	0.4	5.9	0.3	0.8	2.0	1.2	0.6	1.1	24.2
\$10,000 to \$14,999 .....	4.4	1.0	2.8	0.6	8.0	0.4	0.6	1.8	0.9	1.4	3.0	16.9
\$15,000 to \$19,999 .....	5.1	1.5	2.4	1.1	9.1	0.5	0.8	1.1	1.1	2.1	3.5	18.6
\$20,000 to \$24,999 .....	4.3	1.4	1.9	1.0	10.1	0.7	1.4	0.7	1.4	2.7	3.1	17.4
\$25,000 to \$34,999 .....	10.7	2.2	6.1	2.5	13.3	1.2	1.5	1.3	1.5	4.1	3.9	14.8
\$35,000 to \$49,999 .....	15.6	4.3	7.1	4.1	18.1	0.6	1.5	0.4	3.1	7.8	4.7	13.4
\$50,000 to \$74,999 .....	14.0	3.7	7.3	2.9	14.1	Q	0.7	Q	2.2	8.1	2.6	15.2
\$75,000 or More .....	7.6	2.1	3.3	2.2	11.5	Q	Q	Q	1.4	6.9	2.8	18.8
<b>Below Poverty Line</b>												
100 Percent .....	6.6	1.6	3.6	1.3	5.8	0.3	0.7	1.1	1.5	0.9	1.4	17.2
125 Percent .....	9.6	2.1	5.4	2.2	8.6	0.3	0.8	1.9	1.7	1.7	2.1	15.3
150 Percent .....	13.7	3.1	7.5	3.1	11.9	0.5	1.1	2.3	2.7	2.5	2.9	13.9
<b>Eligible for Federal Assistance<sup>1</sup></b> .....	15.8	3.7	9.0	3.1	16.0	0.8	1.3	3.5	2.8	3.0	4.7	12.1
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>												
1 .....	6.6	1.6	3.9	1.2	25.7	4.0	7.4	7.6	0.7	2.0	4.1	10.2
2 .....	41.5	14.1	24.1	3.4	50.1	Q	Q	Q	11.1	21.0	17.9	7.3
3 .....	11.6	0.9	3.7	7.0	10.7	Q	Q	Q	0.9	7.8	2.0	18.7
4 or More .....	4.7	Q	0.6	3.7	4.9	Q	Q	Q	1.0	3.1	0.8	30.2
<b>Age of Primary Driver</b>												
16 to 17 Years .....	1.1	Q	0.4	0.7	Q	Q	Q	Q	Q	Q	Q	29.3
18 to 22 Years .....	2.2	Q	0.3	1.7	2.2	Q	Q	Q	0.7	1.3	Q	23.5
23 to 29 Years .....	2.8	1.6	1.1	Q	5.6	1.2	Q	Q	2.5	1.4	0.4	19.1
30 to 39 Years .....	15.7	4.9	9.6	1.2	6.9	0.9	0.7	Q	2.7	1.9	0.7	15.1
40 to 49 Years .....	13.8	1.6	7.6	4.7	8.4	Q	1.8	Q	Q	5.8	0.4	14.3
50 to 59 Years .....	3.0	0.4	1.4	1.2	12.0	Q	1.5	Q	Q	9.3	0.9	19.1
60 to 69 Years .....	0.7	Q	0.4	Q	9.9	Q	Q	1.6	Q	1.2	6.9	22.0
70 to 79 Years .....	0.3	Q	Q	Q	8.3	Q	Q	2.2	Q	Q	5.8	17.6
80 Years and Over .....	Q	Q	Q	Q	2.5	Q	Q	0.8	Q	Q	1.7	20.5
Don't Know .....	25.0	8.4	11.4	5.3	36.3	1.7	3.4	2.9	7.5	12.8	8.1	8.3
<b>Sex of Primary Driver</b>												
Female .....	18.3	3.8	9.8	4.8	25.1	0.6	2.0	3.7	2.6	9.6	6.5	8.5
Male .....	21.3	4.9	11.3	5.1	30.9	1.7	2.1	1.4	3.6	11.6	10.5	9.3
Don't Know .....	25.0	8.4	11.3	5.3	36.1	1.7	3.4	2.8	7.5	12.8	8.0	8.3
<b>Average Number of Vehicles per Household During the Year</b>												
Part-Year Vehicle .....	0.3	0.1	0.1	Q	1.0	Q	0.3	0.2	0.2	0.2	0.1	33.6
Only 1 .....	7.4	2.1	3.9	1.4	21.2	2.5	5.1	5.4	1.4	2.6	4.2	8.7
Between 1 and 2 .....	3.7	1.1	2.2	0.4	4.7	0.3	0.6	0.5	1.0	1.3	1.0	21.2
Only 2 .....	25.3	8.9	13.3	3.1	31.5	0.6	1.0	1.2	6.6	10.6	11.5	10.9
Between 2 and 3 .....	6.6	1.6	3.6	1.3	7.0	Q	Q	Q	1.3	3.3	1.9	18.9
Only 3 .....	10.4	1.8	4.8	3.8	14.8	Q	Q	Q	1.7	8.0	4.6	17.1
Between 3 and 4 .....	2.9	Q	1.4	1.3	5.0	Q	Q	Q	Q	3.4	0.8	30.8
4 or More .....	7.9	1.2	2.9	3.8	6.9	Q	Q	Q	0.9	4.7	0.9	27.8

See footnotes at end of table.

**Table 5.11. U.S. Vehicles by Household Composition, 1994 (Continued)**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	Households with Children				Households Without Children						RSE Row Factor:	
	Total	Age of Oldest Child			Total	One Adult— Age of Householder			Two or More Adults-- Age of Householder			
		Under 7 Years	7 to 15 Years	16 or 17 Years		Under 35 Years	35 to 59 Years	60 Years or Over	Under 35 Years	35 to 59 Years	60 Years or Over	
	RSE Column Factor:	0.6	1.0	0.8	1.3	0.5	1.8	1.4	1.2	1.3	0.9	1.0
<i>Vehicle Characteristics</i>												
<b>Model Year</b>												
1994 to 1995 .....	3.0	0.8	1.5	0.7	4.2	Q	0.3	0.3	0.9	1.5	0.9	19.7
1993 .....	4.5	1.3	2.3	0.9	5.9	0.4	0.5	0.6	0.9	2.2	1.2	15.7
1992 .....	4.8	1.4	2.5	0.9	6.5	Q	0.4	0.5	0.9	2.8	1.8	15.3
1989 to 1991 .....	13.2	3.6	6.6	3.0	21.8	1.0	1.9	1.8	3.8	7.6	5.7	9.7
1986 to 1988 .....	14.5	3.7	7.0	3.8	21.8	1.0	2.3	1.6	3.1	7.9	5.9	9.5
1983 to 1985 .....	11.4	2.9	5.7	2.8	14.2	0.5	1.0	1.2	2.0	5.5	3.9	11.3
1980 to 1982 .....	5.0	1.2	2.6	1.2	5.9	Q	0.4	0.7	0.8	2.1	1.7	14.4
1977 to 1979 .....	4.0	1.0	2.0	0.9	5.5	Q	0.4	0.6	0.7	1.8	1.8	17.6
1976 or Earlier .....	4.2	1.2	2.1	0.9	6.4	Q	Q	0.5	0.8	2.4	2.0	20.3
<b>Type of Vehicle</b>												
Passenger Car .....	39.9	11.2	18.9	9.8	66.6	3.0	5.6	7.0	10.2	22.6	18.1	6.0
Minivan .....	6.1	1.3	3.8	1.1	2.0	Q	Q	Q	Q	0.7	0.8	16.8
Sport Utility .....	4.8	1.5	2.5	0.9	4.7	Q	Q	Q	1.2	2.2	0.8	15.8
Large Van .....	1.7	Q	1.0	0.4	1.7	Q	Q	Q	Q	0.7	0.6	25.6
Pickup Truck .....	12.0	2.9	6.0	3.0	16.8	0.7	1.2	0.8	2.1	7.6	4.5	10.5
Other .....	Q	Q	Q	Q	0.4	Q	Q	Q	Q	Q	Q	74.5
<b>Fuel Efficiency (miles per gallon)</b>												
10.9 or Less .....	2.8	0.8	1.5	0.5	4.3	Q	Q	0.5	0.3	1.6	1.4	20.1
11 to 12.9 .....	3.4	0.7	1.9	0.7	5.5	Q	Q	0.4	0.5	2.1	2.1	19.1
13 to 15.9 .....	7.7	2.1	3.8	1.8	11.1	0.3	0.9	1.3	0.9	3.9	3.9	12.5
16 to 18.9 .....	10.7	2.2	5.9	2.6	15.8	0.5	1.3	1.4	2.1	6.0	4.6	11.4
19 to 21.9 .....	14.8	3.7	7.5	3.6	20.4	0.6	1.5	1.5	2.8	7.7	6.3	10.0
22 to 24.9 .....	11.7	3.4	5.6	2.8	16.5	0.8	1.7	1.6	2.6	5.8	4.0	10.3
25 to 29.9 .....	10.6	3.0	5.0	2.7	14.3	1.1	1.5	1.1	3.0	5.2	2.4	10.2
30 or More .....	2.9	1.1	1.1	0.6	4.3	0.4	Q	Q	1.5	1.6	0.3	19.9
<b>Engine Size (liters)</b>												
2.49 or Less .....	24.7	7.5	11.5	5.7	35.1	2.2	3.4	2.8	7.2	12.5	6.9	7.6
2.50 to 3.49 .....	12.9	3.1	6.5	3.2	17.3	0.6	1.3	1.6	2.5	6.7	4.6	10.8
3.50 to 4.49 .....	10.1	2.1	5.5	2.5	14.0	0.4	0.9	1.2	1.7	5.1	4.7	11.7
4.50 or Greater .....	17.0	4.3	8.8	3.8	25.8	0.8	1.9	2.3	2.4	9.6	8.8	9.9
<b>Number of Cylinders</b>												
4 .....	25.8	7.6	12.1	6.1	35.8	2.2	3.5	3.1	7.1	12.6	7.2	7.5
6 .....	22.5	5.1	12.0	5.3	29.8	1.0	2.3	2.5	4.1	11.2	8.6	8.3
8 .....	15.9	4.2	8.1	3.6	25.7	0.8	1.7	2.3	2.3	9.8	8.9	9.9
Other .....	0.4	Q	Q	Q	0.9	Q	Q	Q	Q	0.4	Q	44.8
<b>Type of Transmission</b>												
Automatic .....	47.3	12.2	23.8	11.3	70.2	2.2	5.6	7.1	8.3	25.6	21.4	6.2
Manual Shift .....	17.4	4.9	8.5	4.0	21.9	1.9	1.9	0.8	5.4	8.3	3.6	9.8
<b>Type of Drive</b>												
Front-Wheel .....	31.0	8.8	15.1	7.1	43.8	2.3	3.8	4.3	7.1	15.0	11.3	6.8
Rear-Wheel .....	25.9	6.0	13.1	6.7	38.4	1.1	3.1	3.3	4.7	14.3	11.8	8.1
4-Wheel .....	7.7	2.2	4.1	1.4	9.9	0.7	0.6	Q	2.0	4.6	1.8	13.6

See footnotes at end of table.

**Table 5.11. U.S. Vehicles by Household Composition, 1994 (Continued)**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	Households with Children				Households Without Children						RSE Row Factor:	
	Total	Age of Oldest Child			Total	One Adult-- Age of Householder			Two or More Adults-- Age of Householder			
		Under 7 Years	7 to 15 Years	16 or 17 Years		Under 35 Years	35 to 59 Years	60 Years or Over	Under 35 Years	35 to 59 Years	60 Years or Over	
		0.6	1.0	0.8	1.3	0.5	1.8	1.4	1.2	1.3	0.9	1.0
<b>Type of Fuel System</b>												
Carburetor .....	32.2	8.5	16.6	7.2	44.2	2.0	3.6	4.1	6.1	15.6	12.8	7.4
Fuel Injection .....	31.6	8.4	15.4	7.7	46.7	2.1	3.9	3.7	7.6	17.4	11.9	7.0
Diesel Engine .....	0.9	Q	0.4	0.3	1.3	Q	Q	Q	Q	0.9	Q	30.3
<b>Type of Fuel Purchased</b>												
Motor Gasoline .....	63.4	16.8	31.7	14.9	90.0	4.0	7.5	7.7	13.7	33.1	24.1	5.7
Unleaded .....	62.5	16.6	31.1	14.8	89.0	3.9	7.4	7.6	13.6	32.7	23.9	5.7
Regular Grade .....	43.1	11.4	21.4	10.3	61.1	2.2	4.7	5.3	9.0	22.6	17.2	6.8
Intermediate Grade .....	8.5	2.0	4.3	2.2	12.1	0.7	1.3	1.1	2.1	4.2	2.8	13.3
Premium Grade .....	10.9	3.2	5.4	2.3	15.8	1.1	1.4	1.2	2.4	5.9	3.9	11.5
Leaded .....	0.9	Q	0.5	Q	1.0	Q	Q	Q	Q	0.4	Q	40.1
Gasohol .....	0.5	Q	Q	Q	1.0	Q	Q	Q	Q	Q	0.6	45.7
Diesel Fuel .....	0.7	Q	0.3	Q	1.1	Q	Q	Q	Q	0.6	Q	36.4
<b>Type of Primary Service</b>												
Full-Service Pumps .....	4.2	1.5	1.8	0.9	9.6	Q	0.7	2.6	0.4	3.0	2.8	21.0
Self or Mini-Service Pumps .....	59.4	15.3	30.2	13.9	80.4	3.9	6.7	5.0	13.2	30.3	21.4	6.3
Both Equally .....	0.9	Q	0.3	Q	2.0	Q	Q	0.3	Q	0.6	0.6	34.7
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Vehicle Used for Commuting to and from Work</b>												
Yes .....	44.5	12.1	22.1	10.3	50.8	3.3	5.5	1.6	10.8	22.7	6.8	7.3
No .....	20.1	5.0	10.2	4.9	41.4	0.7	2.1	6.3	2.9	11.2	18.1	8.2

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.12. U.S. Average Vehicle-Miles Traveled by Household Composition, 1994**  
 (Thousand Miles per Household)

1993 Household and 1994 Vehicle Characteristics	Households with Children				Households without Children						RSE Row Factor:	
	Total	Age of Oldest Child			Total	One Adult-- Age of Householder			Two or More Adults-- Age of Householder			
		Under 7 Years	7 to 15 Years	16 or 17 Years		Under 35 Years	35 to 59 Years	60 Years or Over	Under 35 Years	35 to 59 Years	60 Years or Over	
	RSE Column Factor:	0.5	1.1	0.6	1.1	0.5	2.2	1.3	1.3	1.5	0.8	1.0
<i>Household Characteristics</i>												
Total .....	24.8	22.4	24.2	29.9	18.9	15.6	12.8	8.6	24.4	26.2	17.1	4.8
<b>Census Region and Division</b>												
Northeast .....	24.8	22.3	25.0	28.1	17.6	Q	11.0	8.1	24.1	23.6	16.7	10.3
New England .....	26.6	22.9	27.5	Q	16.9	Q	Q	8.7	23.7	25.0	15.5	20.8
Middle Atlantic .....	24.1	21.9	24.0	26.9	17.9	Q	11.3	7.8	24.4	23.1	17.1	12.3
Midwest .....	26.1	23.8	25.6	30.2	19.8	18.7	13.0	9.5	23.1	29.5	17.7	7.9
East North Central .....	26.3	24.4	25.6	29.8	19.6	21.0	12.3	8.8	22.4	30.0	16.7	10.9
West North Central .....	25.5	22.6	25.4	31.6	20.2	16.0	15.6	11.4	24.7	27.9	19.5	12.7
South .....	25.5	22.6	24.6	31.4	19.4	14.4	13.8	8.3	26.6	26.7	17.2	8.3
South Atlantic .....	25.1	23.1	23.8	30.9	21.0	15.9	13.5	9.5	27.5	28.7	18.0	11.5
East South Central .....	28.5	28.0	26.9	34.4	18.8	Q	14.2	8.0	28.0	24.3	16.4	14.2
West South Central .....	24.6	20.7	24.5	30.7	16.8	12.1	14.1	6.6	22.7	24.0	16.5	17.6
West .....	22.0	20.4	21.3	27.9	18.1	13.5	12.6	8.1	22.6	24.4	16.3	10.5
Mountain .....	22.1	20.1	22.7	Q	17.7	Q	Q	9.7	20.2	24.3	15.4	18.0
Pacific .....	22.0	20.6	20.6	28.6	18.3	13.0	12.2	7.3	23.8	24.4	16.6	13.0
<b>Largest Populated States</b>												
California .....	21.7	21.1	20.0	28.3	18.6	Q	12.1	7.9	25.1	24.1	16.8	17.9
Florida .....	25.0	21.3	25.2	33.2	18.7	Q	Q	9.3	21.5	25.5	16.2	23.0
New York .....	20.7	18.6	20.5	24.1	17.5	Q	13.5	Q	Q	22.4	17.8	15.8
Texas .....	24.6	20.4	24.0	31.6	17.1	10.7	Q	6.6	Q	24.4	18.0	17.7
<b>Urban Status</b>												
Urban .....	24.4	22.5	23.6	29.2	18.5	15.0	12.7	8.3	24.7	25.1	16.3	5.7
Central City .....	20.0	19.1	21.1	19.1	16.8	13.9	11.8	8.3	21.3	23.1	14.9	9.3
Suburban .....	26.9	25.0	25.0	33.9	19.6	16.0	13.3	8.2	27.0	26.1	17.1	6.8
Rural .....	26.0	21.7	25.7	32.0	20.2	18.7	13.8	9.2	22.6	30.1	19.2	9.0
<b>Household Size</b>												
1 Person .....	Q	Q	Q	Q	11.6	15.6	12.8	8.6	Q	Q	Q	6.4
2 Persons .....	14.8	11.4	15.9	16.6	20.3	Q	Q	Q	24.0	23.4	15.6	9.7
3 Persons .....	23.6	23.4	22.3	27.2	28.0	Q	Q	Q	21.6	30.6	24.7	11.9
4 Persons .....	25.5	22.0	25.4	31.4	35.1	Q	Q	Q	Q	39.0	Q	10.4
5 Persons .....	25.4	21.4	25.1	29.2	Q	Q	Q	Q	Q	Q	Q	9.9
6 or More Persons .....	30.7	Q	26.3	37.2	Q	Q	Q	Q	Q	Q	Q	20.7
<b>Race of Householder</b>												
White .....	26.0	23.2	25.2	32.6	19.3	16.4	13.3	8.5	24.7	27.0	17.3	4.9
Black .....	19.1	18.7	20.5	16.9	15.3	Q	Q	8.5	Q	19.5	14.8	22.6
Other .....	19.0	17.8	16.7	26.1	16.3	Q	Q	Q	17.2	21.1	Q	29.6
<b>Hispanic Descent</b>												
Yes .....	21.8	18.8	22.5	24.7	16.8	12.9	Q	Q	17.6	23.2	14.8	22.1
No .....	25.1	22.8	24.3	30.5	19.0	15.9	13.0	8.5	24.9	26.4	17.1	4.9

See footnotes at end of table.

**Table 5.12. U.S. Average Vehicle-Miles Traveled by Household Composition, 1994 (Continued)**  
 (Thousand Miles per Household)

1993 Household and 1994 Vehicle Characteristics	Households with Children				Households without Children						RSE Row Factor:	
	Total	Age of Oldest Child			Total	One Adult— Age of Householder			Two or More Adults— Age of Householder			
		Under 7 Years	7 to 15 Years	16 or 17 Years		Under 35 Years	35 to 59 Years	60 Years or Over	Under 35 Years	35 to 59 Years	60 Years or Over	
	0.5	1.1	0.6	1.1	0.5	2.2	1.3	1.3	1.5	0.8	1.0	
<b>1993 Family Income</b>												
Less than \$5,000 .....	17.1	13.4	Q	Q	15.7	Q	Q	8.4	Q	Q	Q	42.9
\$5,000 to \$9,999 .....	13.5	Q	12.4	17.1	11.7	Q	9.8	7.1	Q	13.2	14.0	25.2
\$10,000 to \$14,999 .....	17.3	17.2	17.5	16.8	12.8	Q	9.9	7.5	20.8	22.7	12.7	17.8
\$15,000 to \$19,999 .....	22.8	21.5	21.8	27.6	15.5	Q	11.8	9.0	20.7	18.4	16.1	18.7
\$20,000 to \$24,999 .....	20.3	19.9	20.0	21.2	17.6	18.1	12.7	10.0	28.1	23.8	14.6	15.7
\$25,000 to \$34,999 .....	26.5	21.9	27.1	30.4	18.5	20.6	14.3	11.8	24.0	23.2	16.7	10.6
\$35,000 to \$49,999 .....	26.2	22.9	26.6	29.9	21.6	14.2	12.9	7.3	23.3	27.2	21.4	10.3
\$50,000 to \$74,999 .....	29.0	27.5	27.2	38.4	25.2	Q	18.2	Q	26.4	29.7	18.4	10.6
\$75,000 or More .....	30.8	25.1	28.9	42.6	27.1	Q	Q	Q	25.2	31.8	23.3	13.7
<b>Below Poverty Line</b>												
100 Percent .....	16.6	15.4	16.2	19.5	12.8	Q	11.1	7.0	Q	15.9	13.7	19.2
125 Percent .....	17.7	16.6	17.6	18.9	12.8	Q	10.3	7.3	19.7	19.0	13.5	16.5
150 Percent .....	19.0	17.4	18.6	22.0	13.6	Q	10.3	7.4	24.2	18.2	13.0	13.7
<b>Eligible for Federal Assistance<sup>1</sup></b> .....	19.5	17.7	19.4	22.2	13.2	11.3	10.8	7.5	23.2	18.2	13.0	12.9
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>												
1 .....	14.3	12.7	15.1	14.2	11.7	15.7	13.0	8.5	13.9	15.4	9.7	12.0
2 .....	24.6	23.9	25.2	23.1	22.1	Q	Q	Q	24.7	24.2	18.1	5.0
3 .....	33.5	Q	34.2	34.4	32.7	Q	Q	Q	26.1	34.2	30.7	13.8
4 or More .....	45.2	Q	Q	45.4	40.8	Q	Q	Q	43.2	Q	Q	13.4
<b>Average Number of Vehicles per Household During the Year</b>												
Part-Year Vehicle .....	Q	Q	Q	Q	5.9	Q	Q	4.7	Q	Q	4.2	47.6
Only 1 .....	12.3	11.9	12.3	13.0	10.2	13.0	11.4	7.2	12.3	12.5	8.7	8.8
Between 1 and 2 .....	20.7	18.9	21.7	Q	18.6	Q	18.1	13.3	19.0	21.8	16.4	16.3
Only 2 .....	25.0	24.8	24.9	26.1	21.7	Q	20.9	15.2	25.9	23.9	17.9	6.4
Between 2 and 3 .....	31.2	29.2	32.6	29.4	27.1	Q	Q	Q	29.7	28.3	23.5	9.5
Only 3 .....	34.9	33.6	35.3	35.0	30.9	Q	Q	Q	31.5	32.6	28.2	10.7
Between 3 and 4 .....	45.2	Q	43.1	47.0	43.8	Q	Q	Q	Q	40.8	Q	14.2
4 or More .....	50.5	Q	45.3	56.1	49.4	Q	Q	Q	Q	48.4	Q	11.6

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.13. U.S. Average Vehicle-Miles Traveled by Vehicle Fuel Efficiency Category, 1994**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Fuel- Efficiency Categories	Fuel Efficiency (miles per gallon)								RSE Row Factor:
		10.9 or Less	11 to 12.9	13 to 15.9	16 to 18.9	19 to 21.9	22 to 24.9	25 to 25.9	30 or More	
		0.4	2.7	2.5	1.3	0.9	0.7	0.7	0.7	
<i>Household Characteristics</i>										
Total .....	11.4	5.6	8.8	9.7	10.5	12.0	12.8	13.0	14.7	3.9
<i>Census Region and Division</i>										
Northeast .....	11.3	Q	8.8	8.9	9.7	11.5	12.5	12.4	14.0	8.0
New England .....	11.1	Q	Q	Q	10.3	11.8	12.4	Q	Q	17.1
Middle Atlantic .....	11.3	Q	Q	8.8	9.4	11.4	12.5	12.6	Q	8.5
Midwest .....	11.6	6.2	8.2	9.3	10.3	12.2	13.3	13.6	15.0	6.6
East North Central .....	11.6	6.1	7.7	9.3	10.5	12.0	13.3	13.3	Q	8.8
West North Central .....	11.8	Q	9.1	9.5	9.8	12.7	13.3	14.4	Q	10.3
South .....	11.7	5.3	8.7	10.1	11.0	12.5	13.1	13.4	15.4	6.6
South Atlantic .....	12.1	Q	8.7	10.1	11.4	12.3	13.6	13.5	16.0	8.7
East South Central .....	10.9	Q	Q	8.8	9.8	12.5	11.9	13.2	Q	18.2
West South Central .....	11.6	4.7	Q	10.6	11.2	12.8	12.8	13.5	Q	11.9
West .....	10.9	5.2	9.4	9.9	10.4	11.4	11.8	12.3	Q	9.7
Mountain .....	10.7	Q	Q	10.7	11.1	10.7	11.4	13.5	Q	14.4
Pacific .....	10.9	4.6	9.5	9.5	10.1	11.7	12.0	12.0	Q	13.2
<i>Largest Populated States</i>										
California .....	11.1	Q	Q	9.2	10.2	12.2	12.3	12.2	Q	17.9
Florida .....	11.8	Q	Q	Q	11.3	12.8	13.4	Q	Q	7.8
New York .....	11.4	Q	Q	Q	9.3	11.4	13.4	12.6	Q	13.9
Texas .....	11.3	Q	Q	10.9	11.1	11.8	Q	12.8	Q	12.9
<i>Urban Status</i>										
Urban .....	11.4	5.4	9.0	9.5	10.5	12.0	12.5	12.7	14.6	4.8
Central City .....	10.8	5.6	8.4	8.9	10.1	11.4	11.6	12.3	13.0	8.1
Suburban .....	11.7	5.2	9.2	9.7	10.7	12.2	13.0	12.9	15.4	5.6
Rural .....	11.6	6.0	8.6	10.2	10.5	12.2	14.0	14.5	Q	6.7
<i>Household Size</i>										
1 Person .....	10.1	5.0	Q	6.9	8.9	10.5	11.3	12.4	Q	12.3
2 Persons .....	10.9	5.0	8.6	8.5	9.7	11.4	12.7	13.0	15.5	6.5
3 Persons .....	11.9	5.2	8.8	11.0	11.2	12.1	13.2	13.3	15.2	7.9
4 Persons .....	12.0	5.5	9.6	11.4	11.4	13.1	13.1	12.3	Q	9.3
5 Persons .....	12.2	Q	8.6	10.5	11.8	12.9	13.7	13.2	Q	11.9
6 or More Persons .....	13.3	Q	Q	Q	Q	13.8	Q	15.3	Q	16.3
<i>Household Composition</i>										
Households with Children .....	12.3	6.4	9.2	11.3	11.6	13.2	13.5	13.3	14.5	5.7
Age of Oldest Child										
Under 7 Years .....	12.1	Q	Q	11.4	12.0	12.7	13.2	12.4	Q	11.5
7 to 15 Years .....	12.3	5.7	9.0	11.7	11.7	13.2	13.9	13.3	14.7	7.9
16 or 17 Years .....	12.5	Q	Q	10.5	10.9	13.7	13.0	14.4	Q	10.8
Households Without Children .....	10.8	5.0	8.6	8.6	9.8	11.2	12.4	12.8	14.9	5.4
One Adult .....	10.1	5.0	Q	6.9	8.9	10.5	11.3	12.4	Q	12.3
Age of Householder										
Under 35 Years .....	13.0	Q	Q	Q	Q	Q	Q	14.3	Q	22.7
35 to 59 Years .....	11.2	Q	Q	Q	10.5	10.7	12.5	13.3	Q	17.7
60 Years or More .....	7.6	Q	Q	4.0	7.2	8.4	9.7	Q	Q	15.9

See footnotes at end of table.

**Table 5.13. U.S. Average Vehicle-Miles Traveled by Vehicle Fuel Efficiency Category, 1994 (Continued)**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Fuel-Efficiency Categories	Fuel Efficiency (miles per gallon)								RSE Row Factor:
		10.9 or Less	11 to 12.9	13 to 15.9	16 to 18.9	19 to 21.9	22 to 24.9	25 to 25.9	30 or More	
RSE Column Factor:	0.4	2.7	2.5	1.3	0.9	0.7	0.7	0.7	1.2	
<b>Household Composition</b>										
Two or More Adults .....	11.0	5.1	8.7	9.0	10.0	11.4	12.7	12.9	15.2	5.9
Age of Householder										
Under 35 Years .....	12.7	Q	Q	Q	10.9	12.3	13.0	14.2	Q	15.7
35 to 59 Years .....	11.6	6.5	10.4	9.4	10.9	11.7	13.2	13.0	15.3	7.8
60 Years or More .....	9.3	3.1	7.0	7.9	8.3	10.5	11.8	11.0	Q	9.8
Race of Householder										
White .....	11.5	5.6	8.8	9.7	10.5	12.1	12.9	13.1	14.9	4.1
Black .....	11.2	Q	Q	Q	10.2	11.6	12.1	13.6	Q	15.2
Other .....	10.9	Q	Q	Q	Q	Q	Q	11.1	Q	16.9
Hispanic Descent										
Yes .....	11.4	Q	Q	Q	10.3	11.9	12.0	Q	Q	18.4
No .....	11.4	5.5	8.9	9.6	10.5	12.0	12.9	13.0	14.8	4.0
1993 family Income										
Less than \$5,000 .....	11.5	Q	Q	Q	Q	Q	Q	Q	Q	22.4
\$5,000 to \$9,999 .....	9.9	Q	Q	7.7	9.3	Q	Q	Q	Q	22.4
\$10,000 to \$14,999 .....	10.2	5.3	Q	7.4	9.3	11.5	11.3	13.2	Q	13.9
\$15,000 to \$19,999 .....	10.7	Q	Q	9.0	9.5	11.4	12.0	12.2	Q	14.4
\$20,000 to \$24,999 .....	11.0	Q	8.2	8.7	11.0	10.9	11.9	13.5	Q	14.7
\$25,000 to \$34,999 .....	11.9	4.7	10.8	10.6	10.8	12.6	12.5	14.2	Q	8.8
\$35,000 to \$49,999 .....	11.6	4.5	9.4	10.7	10.4	11.8	13.1	12.8	14.9	7.6
\$50,000 to \$74,999 .....	11.8	Q	6.4	9.3	11.2	12.7	13.6	13.2	14.1	8.4
\$75,000 or More .....	12.3	Q	Q	11.4	10.8	12.8	13.9	12.7	Q	10.7
Below Poverty Line										
100 Percent .....	10.7	Q	Q	8.8	10.2	10.9	12.0	Q	Q	18.6
125 Percent .....	10.9	Q	8.3	9.2	10.3	11.3	12.2	12.6	Q	12.3
150 Percent .....	11.1	7.1	8.6	9.4	10.3	11.6	12.3	12.9	Q	11.0
Eligible for Federal Assistance <sup>1</sup> .....										
10.9	6.6	8.4	8.9	10.2	11.4	12.1	12.8	15.5	10.4	
Number of Drivers <sup>2</sup> (Fall 1993)										
1 .....	10.3	5.2	8.1	7.2	8.9	11.2	11.4	13.0	Q	9.3
2 .....	11.6	5.4	8.9	10.2	10.8	12.2	13.2	12.9	15.1	5.0
3 .....	12.0	Q	10.7	11.1	10.9	12.3	13.1	12.8	15.2	10.0
4 or More .....	12.8	Q	Q	Q	12.4	12.4	14.1	14.6	Q	15.8
Age of Primary Driver										
16 to 17 Years .....	9.6	Q	Q	Q	Q	Q	Q	Q	Q	56.2
18 to 22 Years .....	12.9	Q	Q	Q	Q	Q	12.1	14.7	Q	16.6
23 to 29 Years .....	13.3	Q	Q	Q	8.4	14.5	13.6	16.7	Q	12.5
30 to 39 Years .....	12.2	6.1	8.6	11.7	11.2	12.6	13.9	13.2	16.1	8.1
40 to 49 Years .....	12.4	3.8	9.6	10.8	11.5	13.6	13.8	13.4	Q	7.6
50 to 59 Years .....	11.6	6.1	10.4	8.6	9.8	12.0	15.3	13.8	Q	11.0
60 to 69 Years .....	9.3	3.7	4.5	10.0	8.4	10.7	11.5	10.7	Q	12.4
70 to 79 Years .....	7.9	2.7	Q	4.9	7.4	9.8	9.1	11.8	Q	13.4
80 Years and Over .....	6.1	Q	Q	2.9	Q	Q	Q	Q	Q	26.7
Don't Know .....	11.5	Q	9.0	10.6	11.3	11.7	12.1	12.3	Q	10.5

See footnotes at end of table.

**Table 5.13. U.S. Average Vehicle-Miles Traveled by Vehicle Fuel Efficiency Category, 1994 (Continued)**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Fuel- Efficiency Categories	Fuel Efficiency (miles per gallon)								RSE Row Factor:
		10.9 or Less	11 to 12.9	13 to 15.9	16 to 18.9	19 to 21.9	22 to 24.9	25 to 25.9	30 or More	
		0.4	2.7	2.5	1.3	0.9	0.7	0.7	0.7	
<b>Sex of Primary Driver</b>										
Female .....	11.7	Q	6.2	8.0	9.6	11.5	13.2	13.7	16.3	6.3
Male .....	11.1	4.7	9.4	9.7	10.2	13.0	13.4	13.4	15.6	5.4
Don't Know .....	11.5	Q	9.0	10.6	11.4	11.7	12.2	12.3	Q	10.4
<b>Average Number of Vehicles per Household During the Year</b>										
Part-Year Vehicle .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	100.0
Only 1 .....	10.7	Q	Q	6.9	9.5	11.4	11.8	12.7	Q	9.9
Between 1 and 2 .....	12.6	Q	Q	11.9	11.0	13.7	14.1	13.3	Q	14.8
Only 2 .....	11.6	6.0	8.9	10.2	10.6	11.9	12.9	12.7	14.6	6.5
Between 2 and 3 .....	12.0	Q	8.2	10.3	11.7	12.4	13.8	14.8	Q	10.2
Only 3 .....	10.9	5.2	9.4	9.8	9.4	12.1	12.9	12.5	Q	9.0
Between 3 and 4 .....	12.7	Q	Q	Q	14.2	12.1	13.5	Q	Q	18.1
4 or More .....	11.4	Q	Q	10.0	10.3	12.4	12.7	14.6	Q	12.0
<b>Vehicle Characteristics</b>										
<b>Model Year</b>										
1994 to 1995 .....	14.3	Q	Q	12.0	13.3	14.2	15.8	15.1	Q	12.1
1993 .....	13.7	Q	Q	11.4	12.5	13.8	14.5	14.7	Q	12.1
1992 .....	13.1	Q	Q	Q	12.3	12.8	14.5	13.7	Q	10.2
1989 to 1991 .....	12.4	Q	11.6	10.6	11.0	12.2	13.3	13.3	Q	7.3
1986 to 1988 .....	11.3	Q	5.4	9.4	9.0	11.6	12.0	12.4	15.1	8.7
1983 to 1985 .....	10.6	Q	5.9	8.7	9.8	11.6	10.5	12.5	Q	10.4
1980 to 1982 .....	9.8	Q	Q	8.4	10.1	10.0	Q	Q	Q	17.6
1977 to 1979 .....	9.3	4.2	9.8	10.7	Q	Q	Q	Q	Q	10.7
1976 or Earlier .....	8.2	6.5	10.5	8.2	Q	Q	Q	Q	Q	12.2
<b>Type of Vehicle</b>										
Passenger Car .....	11.3	4.9	7.4	7.2	8.6	11.2	12.7	12.9	14.8	5.3
Minivan .....	13.4	Q	Q	Q	11.2	15.2	Q	Q	Q	7.1
Sport Utility .....	12.7	4.1	Q	12.5	13.5	15.8	Q	Q	Q	9.9
Large Van .....	11.7	Q	Q	12.5	Q	Q	Q	Q	Q	11.7
Pickup Truck .....	11.1	5.6	9.8	11.1	12.5	12.1	13.1	15.0	Q	8.1
Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	100.0
<b>Engine Size (liters)</b>										
2.49 or Less .....	11.7	Q	Q	2.8	6.2	9.3	11.3	12.9	14.7	7.2
2.50 to 3.49 .....	12.1	Q	Q	5.1	9.7	12.3	14.5	Q	Q	7.4
3.50 to 4.49 .....	11.7	Q	4.9	8.1	11.4	12.9	17.0	Q	Q	9.4
4.50 or Greater .....	10.5	5.8	9.6	11.1	11.3	14.3	Q	Q	Q	5.5
<b>Number of Cylinders</b>										
4 .....	11.6	Q	Q	3.3	6.8	9.2	11.3	13.0	14.8	6.7
6 .....	12.1	3.6	6.5	7.7	11.2	12.7	15.5	Q	Q	6.9
8 .....	10.5	5.9	9.4	11.2	10.8	14.1	Q	Q	Q	5.6
Other .....	10.6	Q	Q	Q	Q	Q	Q	Q	Q	51.8

See footnotes at end of table.

**Table 5.13. U.S. Average Vehicle-Miles Traveled by Vehicle Fuel Efficiency Category, 1994 (Continued)**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Fuel-Efficiency Categories	Fuel Efficiency (miles per gallon)								RSE Row Factor:
		10.9 or Less	11 to 12.9	13 to 15.9	16 to 18.9	19 to 21.9	22 to 24.9	25 to 25.9	30 or More	
	RSE Column Factor:	0.4	2.7	2.5	1.3	0.9	0.7	0.7	1.2	
<b>Type of Transmission</b>										
Automatic .....	11.4	5.6	8.7	9.8	10.5	12.2	13.1	13.0	Q	4.4
Manual Shift .....	11.6	5.5	9.2	9.3	10.2	11.3	11.7	13.0	14.6	8.6
<b>Type of Drive</b>										
Front-Wheel .....	11.9	Q	Q	6.0	7.9	11.3	12.8	12.9	14.4	5.4
Rear-Wheel .....	10.8	5.9	8.7	9.8	10.4	12.7	12.9	13.2	Q	6.6
4-Wheel .....	11.9	4.5	10.0	12.2	13.1	13.1	Q	Q	Q	7.0
<b>Type of Fuel System</b>										
Carburetor .....	10.5	5.4	9.3	9.5	10.3	11.5	11.8	12.3	14.2	6.2
Fuel Injection .....	12.4	Q	6.3	9.9	10.7	12.4	13.3	13.6	15.6	5.1
Diesel Engine .....	11.5	Q	Q	Q	Q	Q	Q	Q	Q	28.8
<b>Type of Fuel Purchased</b>										
Motor Gasoline .....	11.4	5.5	8.7	9.5	10.5	12.0	12.8	13.0	14.8	4.1
Unleaded .....	11.5	5.4	8.7	9.5	10.5	12.0	12.8	13.0	14.8	4.1
Regular Grade .....	11.5	5.6	9.1	9.7	10.5	11.9	12.8	13.0	15.1	5.0
Intermediate Grade .....	11.5	Q	6.6	8.6	11.3	12.1	12.7	13.1	Q	9.0
Premium Grade .....	11.2	4.6	8.7	9.6	10.0	12.3	12.7	12.9	Q	9.2
Leaded .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	100.0
Gasohol .....	11.7	Q	Q	Q	Q	Q	Q	Q	Q	26.7
Diesel Fuel .....	12.0	Q	Q	Q	Q	Q	Q	Q	Q	31.6
<b>Type of Primary Service</b>										
Full-Service Pumps .....	9.9	Q	Q	7.0	8.8	10.2	11.9	11.8	Q	16.4
Self or Mini-Service Pumps .....	11.6	5.5	9.2	10.0	10.7	12.2	12.9	13.1	14.8	4.2
Both Equally .....	10.3	Q	Q	Q	Q	Q	Q	Q	Q	36.3
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
<b>Vehicle Use for Commuting to and from Work</b>										
Yes .....	12.3	6.6	10.0	10.9	11.4	12.6	13.4	13.4	15.1	4.6
No .....	10.0	4.8	7.8	8.2	9.3	11.1	11.8	12.1	13.9	7.0

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.14. U.S. Vehicle Fuel Consumption by Vehicle Type, 1994**  
(Billion Gallons)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle							RSE Row Factor:		
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck			
		All	Sedan	Station Wagon							
RSE Column Factor:	0.4	0.5	0.5	1.4	1.2	1.2	1.9	0.8	3.9		
<i>Household Characteristics</i>											
<b>Total</b>	90.6	54.7	51.3	3.4	5.5	7.4	2.9	19.6	0.4	8.0	
<b>Census Region and Division</b>											
Northeast .....	14.5	9.7	8.7	1.0	0.8	1.3	Q	2.3	Q	16.2	
New England .....	4.1	2.5	2.2	0.3	Q	0.4	Q	0.9	Q	29.7	
Middle Atlantic .....	10.4	7.2	6.5	0.7	0.6	0.9	Q	1.5	Q	18.5	
Midwest .....	23.8	15.1	14.3	0.8	1.8	1.0	1.2	4.8	Q	13.4	
East North Central .....	16.7	10.5	10.0	0.5	1.3	0.7	1.0	3.2	Q	16.7	
West North Central .....	7.2	4.6	4.3	0.3	0.4	Q	Q	1.6	Q	20.1	
South .....	33.5	19.5	18.6	0.9	1.9	3.0	0.9	8.0	Q	13.0	
South Atlantic .....	17.1	10.5	9.9	0.6	1.0	1.7	0.4	3.4	Q	16.0	
East South Central .....	6.3	3.6	3.5	Q	0.3	0.4	Q	1.7	Q	12.3	
West South Central .....	10.1	5.4	5.2	Q	0.6	0.9	Q	2.8	Q	31.9	
West .....	18.8	10.4	9.7	0.7	1.0	2.0	0.5	4.6	Q	17.8	
Mountain .....	5.9	2.7	2.5	Q	Q	0.7	Q	1.7	Q	24.7	
Pacific .....	12.9	7.7	7.2	0.5	0.7	1.3	Q	2.9	Q	23.4	
<b>Largest Populated States</b>											
California .....	9.5	5.7	5.3	0.4	0.6	0.9	Q	2.1	Q	28.8	
Florida .....	5.1	3.2	2.9	Q	0.3	0.6	Q	0.9	Q	18.8	
New York .....	4.3	3.1	2.7	0.3	Q	Q	Q	0.5	Q	23.8	
Texas .....	6.6	3.6	3.4	Q	Q	0.7	Q	1.7	Q	31.3	
<b>Urban Status</b>											
Urban .....	67.5	42.6	39.8	2.8	4.4	5.8	2.3	12.1	Q	9.2	
Central City .....	21.4	14.1	13.1	0.9	1.3	1.7	0.8	3.3	Q	18.8	
Suburban .....	46.1	28.5	26.6	1.9	3.1	4.1	1.5	8.8	Q	11.6	
Rural .....	23.1	12.1	11.5	0.6	1.1	1.6	0.5	7.5	Q	15.0	
<b>Household Size</b>											
1 Person .....	9.6	7.1	6.7	0.3	Q	0.5	Q	1.6	Q	21.7	
2 Persons .....	30.6	19.5	18.7	0.9	0.8	2.2	0.7	7.1	Q	12.9	
3 Persons .....	18.9	11.4	10.5	0.9	0.9	1.8	0.5	4.2	Q	17.1	
4 Persons .....	18.1	9.5	8.8	0.6	1.9	1.7	0.8	4.3	Q	18.1	
5 Persons .....	9.1	4.8	4.2	0.5	1.3	1.0	Q	1.5	Q	25.9	
6 or More Persons .....	4.2	2.5	2.3	Q	0.5	Q	Q	0.8	Q	42.8	
<b>Household Composition</b>											
Households with Children .....	40.4	22.1	20.3	1.8	4.3	3.8	1.5	8.5	Q	12.0	
Age of Oldest Child											
Under 7 Years .....	10.3	6.0	5.5	0.4	0.8	1.2	Q	2.2	Q	22.5	
7 to 15 Years .....	20.5	10.5	9.5	1.0	2.7	2.0	0.9	4.3	Q	15.7	
16 or 17 Years .....	9.6	5.7	5.3	0.4	0.8	0.6	Q	2.1	Q	26.2	
Households Without Children .....	50.2	32.6	31.0	1.6	1.2	3.6	1.4	11.1	Q	10.6	
One Adult .....	9.6	7.1	6.7	0.3	Q	0.5	Q	1.6	Q	21.7	
Age of Householder											
Under 35 Years .....	2.4	1.6	1.6	Q	Q	Q	Q	0.5	Q	40.5	
35 to 59 Years .....	4.1	2.8	2.6	Q	Q	Q	Q	0.8	Q	32.5	
60 Years or More .....	3.0	2.6	2.5	Q	Q	Q	Q	0.3	Q	27.4	

See footnotes at end of table.

**Table 5.14. U.S. Vehicle Fuel Consumption by Vehicle Type, 1994 (Continued)**  
(Billion Gallons)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle							RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck		
		All	Sedan	Station Wagon						
RSE Column Factor:	0.4	0.5	0.5	1.4	1.2	1.2	1.9	0.8	3.9	
<b>Household Composition</b>										
Two or More Adults .....	40.6	25.5	24.2	1.3	1.1	3.2	1.1	9.5	Q	11.7
Age of Householder										
Under 35 Years .....	8.1	5.4	5.2	Q	Q	0.9	Q	1.5	Q	30.2
35 to 59 Years .....	20.2	11.8	11.1	0.7	0.4	1.6	Q	5.5	Q	18.1
60 Years or More .....	12.4	8.3	8.0	0.4	0.5	0.6	0.4	2.5	Q	20.8
<b>Race of Householder</b>										
White .....	80.5	47.5	44.4	3.1	5.1	6.8	2.4	18.3	0.4	8.3
Black .....	6.3	4.8	4.6	Q	Q	Q	Q	0.8	Q	38.8
Other .....	3.7	2.5	2.3	Q	Q	Q	Q	0.6	Q	48.4
<b>Hispanic Descent</b>										
Yes .....	6.2	3.6	3.3	Q	0.3	0.6	Q	1.4	Q	33.4
No .....	84.4	51.1	47.9	3.2	5.2	6.9	2.5	18.2	0.4	8.4
<b>1993 Family Income</b>										
Less than \$5,000 .....	1.7	1.3	1.3	Q	Q	Q	Q	Q	Q	49.9
\$5,000 to \$9,999 .....	4.0	2.9	2.7	Q	Q	Q	Q	0.8	Q	38.8
\$10,000 to \$14,999 .....	6.6	4.6	4.3	0.3	Q	Q	Q	1.3	Q	24.8
\$15,000 to \$19,999 .....	8.0	5.3	5.0	0.3	Q	0.5	Q	1.8	Q	27.3
\$20,000 to \$24,999 .....	8.0	4.8	4.5	0.4	0.5	0.5	Q	1.9	Q	26.1
\$25,000 to \$34,999 .....	14.7	8.6	7.9	0.7	0.9	1.1	0.4	3.6	Q	18.4
\$35,000 to \$49,999 .....	19.5	10.8	10.2	0.6	1.5	1.8	0.7	4.8	Q	15.5
\$50,000 to \$74,999 .....	16.2	9.4	8.9	0.5	1.3	1.8	0.4	3.2	Q	18.0
\$75,000 or More .....	11.9	7.0	6.6	0.4	0.7	1.4	Q	2.0	Q	23.6
<b>Below Poverty Line</b>										
100 Percent .....	6.9	4.9	4.6	0.3	Q	Q	Q	1.2	Q	30.9
125 Percent .....	10.3	7.0	6.5	0.5	0.5	0.4	Q	2.0	Q	27.5
150 Percent .....	14.7	9.9	9.2	0.7	0.7	0.6	0.5	3.0	Q	24.7
<b>Eligible for Federal Assistance<sup>1</sup></b> .....										
17.9	12.1	11.2	0.9	0.8	0.7	0.5	3.6	Q	22.9	
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>										
1 .....	16.5	11.9	11.2	0.7	0.5	0.7	0.5	2.8	Q	19.3
2 .....	54.3	30.9	29.1	1.9	4.1	5.4	1.4	12.3	Q	9.5
3 .....	13.4	7.7	7.1	0.7	0.7	1.0	0.8	3.1	Q	22.8
4 or More .....	6.0	3.8	3.6	Q	Q	Q	Q	1.4	Q	35.6
<b>Age of Primary Driver</b>										
16 to 17 Years .....	0.5	0.3	0.3	Q	Q	Q	Q	Q	Q	76.8
18 to 22 Years .....	2.5	1.9	1.8	Q	Q	Q	Q	0.5	Q	40.1
23 to 29 Years .....	5.1	3.1	2.9	Q	Q	0.5	Q	1.1	Q	25.5
30 to 39 Years .....	14.0	7.3	6.5	0.8	1.5	1.6	Q	3.1	Q	15.7
40 to 49 Years .....	14.0	7.4	6.9	0.5	1.3	1.6	0.8	3.0	Q	15.4
50 to 59 Years .....	9.0	5.3	4.9	Q	0.4	0.4	Q	2.5	Q	22.4
60 to 69 Years .....	5.3	3.3	3.2	Q	Q	Q	Q	1.2	Q	24.9
70 to 79 Years .....	3.7	2.7	2.6	Q	Q	Q	Q	0.5	Q	27.5
80 Years and Over .....	0.9	0.6	0.6	Q	Q	Q	Q	Q	Q	36.6
Don't Know .....	35.6	22.7	21.4	1.3	1.5	2.7	1.1	7.5	Q	21.0

See footnotes at end of table.

**Table 5.14. U.S. Vehicle Fuel Consumption by Vehicle Type, 1994 (Continued)**  
(Billion Gallons)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
		0.4	0.5	0.5	1.4	1.2	1.2	1.9	0.8	3.9	
<b>Sex of Primary Driver</b>											
Female .....	23.5	17.0	16.0	1.1	2.9	1.8	0.6	1.2	Q	11.7	
Male .....	31.5	15.0	14.0	1.1	1.1	3.0	1.2	10.9	Q	11.9	
Don't Know .....	35.6	22.6	21.3	1.3	1.5	2.7	1.1	7.5	Q	20.9	
<b>Average Number of Vehicles per Household During the Year</b>											
Part-Year Vehicle .....	0.7	0.6	0.6	Q	Q	Q	Q	Q	Q	102.4	
Only 1 .....	14.8	11.2	10.5	0.6	0.7	0.7	Q	1.9	Q	19.0	
Between 1 and 2 .....	5.4	3.4	3.2	0.2	0.4	0.4	Q	1.0	Q	32.1	
Only 2 .....	32.9	18.8	17.6	1.2	2.5	3.2	1.2	7.2	Q	12.7	
Between 2 and 3 .....	8.5	4.7	4.5	0.2	0.6	1.1	Q	1.9	Q	22.2	
Only 3 .....	14.5	8.0	7.4	0.6	0.7	1.0	0.6	4.0	Q	21.2	
Between 3 and 4 .....	4.9	2.9	2.7	Q	Q	0.4	Q	1.3	Q	37.4	
4 or More .....	8.7	5.1	4.8	0.3	0.4	0.6	Q	2.2	Q	27.3	
<b>Vehicle Characteristics</b>											
<b>Model Year</b>											
1994 to 1995 .....	5.0	2.4	2.3	Q	0.7	0.6	Q	1.3	Q	25.3	
1993 .....	6.6	3.8	3.5	0.3	0.8	0.8	Q	1.1	Q	22.0	
1992 .....	6.9	4.3	4.1	Q	0.7	0.8	Q	1.1	Q	21.5	
1989 to 1991 .....	20.7	11.8	11.4	0.4	2.0	2.1	0.7	4.0	Q	14.5	
1986 to 1988 .....	19.0	12.4	11.7	0.8	1.1	1.6	Q	3.3	Q	15.1	
1983 to 1985 .....	13.3	8.7	7.7	1.0	0.3	0.8	0.7	2.8	Q	19.7	
1980 to 1982 .....	5.6	4.0	3.6	0.4	Q	Q	Q	1.1	Q	29.8	
1977 to 1979 .....	6.3	3.6	3.4	Q	Q	Q	Q	2.2	Q	38.0	
1976 or Earlier .....	7.2	3.8	3.6	Q	Q	Q	Q	2.6	Q	34.9	
<b>Fuel Efficiency (miles per gallon)</b>											
10.9 or Less .....	4.1	1.0	0.9	Q	Q	0.3	Q	1.9	0.4	25.7	
11 to 12.9 .....	6.5	2.3	2.1	Q	Q	0.9	Q	2.9	Q	34.8	
13 to 15.9 .....	12.6	3.8	3.6	Q	Q	1.5	1.5	5.7	Q	20.9	
16 to 18.9 .....	15.9	6.8	6.2	0.5	1.7	3.2	Q	3.8	Q	16.0	
19 to 21.9 .....	20.8	13.2	12.5	0.7	3.3	1.3	Q	2.9	Q	15.2	
22 to 24.9 .....	15.5	13.3	12.4	0.9	0.4	Q	Q	1.7	Q	17.2	
25 to 29.9 .....	12.0	11.3	10.6	0.7	Q	Q	Q	0.7	Q	16.1	
30 or More .....	3.2	3.1	2.9	Q	Q	Q	Q	Q	Q	33.0	
<b>Engine Size (liters)</b>											
2.49 or Less .....	27.4	22.9	21.2	1.7	0.7	0.4	Q	3.4	Q	14.8	
2.50 to 3.49 .....	17.5	10.4	9.8	0.6	3.3	1.6	Q	2.0	Q	13.5	
3.50 to 4.49 .....	15.1	8.1	7.8	0.4	1.5	3.1	Q	2.0	Q	18.2	
4.50 or Greater .....	30.6	13.2	12.5	0.7	Q	2.3	2.5	12.1	0.4	14.5	
<b>Number of Cylinders</b>											
4 .....	28.3	22.8	21.1	1.7	1.1	0.6	Q	3.8	Q	12.9	
6 .....	32.3	17.4	16.4	1.0	4.4	4.6	0.6	5.3	Q	12.4	
8 .....	29.4	14.0	13.3	0.7	Q	2.2	2.3	10.5	0.4	14.4	
Other .....	0.5	0.5	0.5	Q	Q	Q	Q	Q	Q	60.1	

See footnotes at end of table.

**Table 5.14. U.S. Vehicle Fuel Consumption by Vehicle Type, 1994 (Continued)**  
(Billion Gallons)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.4	0.5	0.5	1.4	1.2	1.2	1.9	0.8	3.9		
<b>Type of Transmission</b>											
Automatic .....	69.8	45.0	42.4	2.6	5.1	5.8	2.7	10.8	0.4	8.9	
Manual Shift .....	20.7	9.7	8.9	0.8	0.4	1.7	Q	8.8	Q	16.7	
<b>Type of Drive</b>											
Front-Wheel .....	38.1	32.7	30.9	1.8	3.4	Q	Q	1.4	Q	10.6	
Rear-Wheel .....	39.7	21.2	19.8	1.3	1.6	1.6	2.7	12.3	0.3	12.9	
4-Wheel .....	12.7	0.9	0.5	0.3	Q	5.4	Q	5.9	Q	24.5	
<b>Type of Fuel System</b>											
Carburetor .....	43.9	25.7	23.4	2.3	0.9	2.7	2.1	12.3	Q	13.0	
Fuel Injection .....	45.3	28.6	27.4	1.2	4.7	4.7	0.8	6.4	Q	10.4	
Diesel Engine .....	1.4	0.4	0.4	Q	Q	Q	Q	0.9	Q	54.8	
<b>Type of Fuel Purchased</b>											
Motor Gasoline .....	88.3	53.8	50.4	3.4	5.5	7.3	2.9	18.4	0.4	8.1	
Unleaded .....	87.0	53.1	49.7	3.4	5.5	7.3	2.9	17.9	0.4	8.1	
Regular Grade .....	59.9	35.7	33.4	2.4	3.9	4.7	2.1	13.2	Q	9.3	
Intermediate Grade .....	11.7	7.2	6.7	0.5	0.7	1.3	Q	2.1	Q	18.7	
Premium Grade .....	15.4	10.2	9.7	Q	0.8	1.4	Q	2.6	Q	18.4	
Leaded .....	1.2	Q	Q	Q	Q	Q	Q	Q	Q	97.7	
Gasohol .....	0.9	0.6	0.6	Q	Q	Q	Q	Q	Q	63.8	
Diesel Fuel .....	1.2	0.3	0.3	Q	Q	Q	Q	0.9	Q	59.3	
<b>Type of Primary Service</b>											
Full-Service Pumps .....	6.8	5.0	4.7	0.3	0.4	0.5	Q	0.8	Q	35.2	
Self or Mini-Service Pumps .....	82.0	48.7	45.6	3.0	5.1	6.7	2.7	18.4	0.4	8.4	
Both Equally .....	1.6	1.0	0.9	Q	Q	Q	Q	Q	Q	62.3	
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	
<b>Vehicle Use for Commuting to and from Work</b>											
Yes .....	58.2	34.7	32.4	2.3	3.5	5.4	1.6	13.0	Q	9.5	
No .....	32.4	20.0	18.9	1.2	2.0	2.1	1.2	6.6	0.4	12.6	

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.15. U.S. Average Vehicle-Miles Traveled by Vehicle Type, 1994**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.3	0.4	0.4	1.4	0.9	1.2	2.4	0.8	5.4		
<i>Household Characteristics</i>											
Total .....	11.4	11.3	11.2	12.1	13.4	12.7	11.7	11.1	7.1	4.2	
<i>Census Region and Division</i>											
Northeast .....	11.3	11.0	10.9	12.2	12.5	12.5	Q	11.4	Q	8.1	
New England .....	11.1	10.5	10.4	11.1	Q	12.0	Q	12.3	Q	10.3	
Middle Atlantic .....	11.3	11.2	11.1	12.9	12.5	12.7	Q	10.9	Q	10.0	
Midwest .....	11.6	11.6	11.6	11.6	14.0	11.0	13.1	10.8	Q	6.2	
East North Central .....	11.6	11.5	11.5	10.8	13.9	10.7	13.1	10.9	Q	7.1	
West North Central .....	11.8	12.0	11.9	13.0	14.5	Q	Q	10.6	Q	9.5	
South .....	11.7	11.4	11.4	12.5	13.8	14.7	11.4	11.4	Q	7.5	
South Atlantic .....	12.1	11.9	11.8	13.6	12.7	15.0	10.6	12.1	Q	10.1	
East South Central .....	10.9	10.7	10.7	Q	14.4	13.9	Q	10.2	Q	20.9	
West South Central .....	11.6	11.0	11.0	Q	15.6	14.6	Q	11.4	Q	14.1	
West .....	10.9	10.8	10.7	12.0	12.6	11.3	9.4	10.8	Q	11.0	
Mountain .....	10.7	10.5	10.3	Q	Q	11.0	Q	10.7	Q	19.4	
Pacific .....	10.9	10.9	10.9	11.6	12.4	11.5	Q	10.9	Q	12.6	
<i>Largest Populated States</i>											
California .....	11.1	11.1	11.0	13.0	12.6	11.2	Q	11.5	Q	15.3	
Florida .....	11.8	11.0	10.9	Q	12.2	15.5	Q	13.8	Q	13.3	
New York .....	11.4	11.4	11.2	13.4	Q	Q	Q	10.7	Q	11.6	
Texas .....	11.3	10.6	10.7	Q	Q	14.6	Q	11.0	Q	11.7	
<i>Urban Status</i>											
Urban .....	11.4	11.2	11.1	12.3	13.2	12.5	11.5	11.2	Q	4.7	
Central City .....	10.8	10.7	10.6	11.7	12.1	12.4	10.7	10.5	Q	9.3	
Suburban .....	11.7	11.5	11.4	12.6	13.7	12.6	12.0	11.5	Q	5.6	
Rural .....	11.6	11.5	11.6	11.1	14.3	13.3	12.3	10.9	Q	7.6	
<i>Household Size</i>											
1 Person .....	10.1	9.9	10.0	9.5	Q	12.0	Q	10.6	Q	16.2	
2 Persons .....	10.9	10.8	10.7	12.7	12.8	12.4	10.1	10.7	Q	7.9	
3 Persons .....	11.9	12.0	11.9	12.5	13.0	13.8	12.5	11.0	Q	9.0	
4 Persons .....	12.0	11.6	11.7	11.0	14.0	12.3	11.5	12.5	Q	9.7	
5 Persons .....	12.2	12.2	11.9	14.6	13.4	12.0	14.4	11.2	Q	13.0	
6 or More Persons .....	13.3	14.1	14.3	Q	14.4	Q	Q	10.1	Q	18.8	
<i>Household Composition</i>											
Households with Children .....	12.3	12.3	12.2	12.7	13.8	12.7	12.5	11.6	Q	6.1	
Age of Oldest Child											
Under 7 Years .....	12.1	12.0	12.0	12.2	12.7	12.7	Q	12.0	Q	12.2	
7 to 15 Years .....	12.3	12.1	12.1	12.9	14.4	13.0	12.3	11.4	Q	8.4	
16 or 17 Years .....	12.5	12.8	12.7	12.9	13.3	11.8	Q	11.5	Q	12.9	
Households Without Children .....	10.8	10.7	10.6	11.5	12.1	12.7	10.8	10.8	Q	6.2	
One Adult .....	10.1	9.9	10.0	9.5	Q	12.0	Q	10.6	Q	16.2	
Age of Householder											
Under 35 Years .....	13.0	13.2	13.2	Q	Q	Q	Q	11.5	Q	25.8	
35 to 59 Years .....	11.2	11.2	11.2	Q	Q	Q	Q	12.0	Q	17.7	
60 Years or More .....	7.6	7.6	7.6	Q	Q	Q	Q	7.7	Q	18.6	

See footnotes at end of table.

**Table 5.15. U.S. Average Vehicle-Miles Traveled by Vehicle Type, 1994 (Continued)**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Minivan	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.3	0.4	0.4	1.4	0.9	1.2	2.4	0.8	5.4		
<b>Household Composition</b>											
Two or More Adults .....	11.0	10.9	10.9	12.2	12.5	12.8	10.8	10.8	Q	6.5	
Age of Householder											
Under 35 Years .....	12.7	12.5	12.5	Q	Q	13.1	Q	12.6	Q	17.8	
35 to 59 Years .....	11.6	11.5	11.5	11.4	12.7	12.6	11.9	11.5	Q	10.0	
60 Years or More .....	9.3	9.3	9.2	12.2	11.3	12.7	9.1	8.8	Q	10.7	
<b>Race of Householder</b>											
White .....	11.5	11.3	11.3	12.1	13.6	12.5	12.1	11.2	7.1	4.3	
Black .....	11.2	11.1	11.1	Q	Q	Q	Q	10.7	Q	18.5	
Other .....	10.9	11.0	10.8	Q	Q	Q	Q	10.0	Q	24.3	
<b>Hispanic Descent</b>											
Yes .....	11.4	11.4	11.2	Q	11.5	12.4	Q	11.1	Q	19.2	
No .....	11.4	11.3	11.2	11.9	13.5	12.7	11.7	11.1	7.3	4.3	
<b>1993 Family Income</b>											
Less than \$5,000 .....	11.5	11.7	11.6	Q	Q	Q	Q	Q	Q	26.1	
\$5,000 to \$9,999 .....	9.9	9.8	9.7	Q	Q	Q	Q	9.5	Q	29.9	
\$10,000 to \$14,999 .....	10.2	10.3	10.3	10.8	Q	Q	Q	9.6	Q	13.1	
\$15,000 to \$19,999 .....	10.7	10.6	10.6	11.1	Q	10.8	Q	11.0	Q	16.8	
\$20,000 to \$24,999 .....	11.0	11.1	11.0	12.4	12.7	11.1	Q	10.6	Q	17.1	
\$25,000 to \$34,999 .....	11.9	11.9	11.8	12.2	14.9	12.8	11.7	11.4	Q	9.5	
\$35,000 to \$49,999 .....	11.6	11.3	11.3	12.3	13.8	12.5	12.6	11.3	Q	7.9	
\$50,000 to \$74,999 .....	11.8	11.7	11.7	13.0	13.0	13.9	10.4	11.0	Q	8.9	
\$75,000 or More .....	12.3	11.8	11.8	12.5	13.5	13.2	Q	13.3	Q	11.9	
<b>Below Poverty Line</b>											
100 Percent .....	10.7	10.8	10.8	11.9	Q	Q	Q	9.5	Q	18.7	
125 Percent .....	10.9	11.0	11.0	11.4	12.5	10.7	Q	9.9	Q	14.5	
150 Percent .....	11.1	11.2	11.2	11.5	13.1	10.5	11.2	10.3	Q	13.0	
<b>Eligible for Federal Assistance<sup>1</sup> .....</b>											
10.9	11.1	11.0	11.7	12.6	10.0	11.2	10.2	Q		12.4	
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>											
1 .....	10.3	10.2	10.2	10.6	10.8	11.8	10.8	10.3	Q	13.1	
2 .....	11.6	11.4	11.3	12.5	13.8	12.9	10.7	11.2	Q	5.1	
3 .....	12.0	12.0	11.9	13.3	14.9	12.8	15.4	10.7	Q	10.8	
4 or More .....	12.8	12.9	12.9	Q	Q	11.3	Q	13.6	Q	16.4	
<b>Age of Primary Driver</b>											
16 to 17 Years .....	9.6	10.1	10.1	Q	Q	Q	Q	Q	Q	64.0	
18 to 22 Years .....	12.9	12.8	12.9	Q	Q	Q	Q	14.0	Q	17.0	
23 to 29 Years .....	13.3	13.0	13.0	Q	Q	15.9	Q	12.8	Q	13.5	
30 to 39 Years .....	12.2	12.3	12.3	12.5	12.6	12.4	Q	11.6	Q	8.4	
40 to 49 Years .....	12.4	12.2	12.1	12.8	15.6	12.7	13.6	11.6	Q	8.4	
50 to 59 Years .....	11.6	11.9	11.7	Q	12.4	11.7	Q	11.1	Q	12.1	
60 to 69 Years .....	9.3	9.1	9.1	Q	Q	Q	Q	9.1	Q	14.1	
70 to 79 Years .....	7.9	8.2	8.0	Q	Q	Q	Q	6.0	Q	17.1	
80 Years and Over .....	6.1	5.4	5.4	Q	Q	Q	Q	Q	Q	32.6	
Don't Know .....	11.5	11.4	11.4	11.7	12.8	12.9	11.8	11.4	Q	11.5	

See footnotes at end of table.

**Table 5.15. U.S. Average Vehicle-Miles Traveled by Vehicle Type, 1994 (Continued)**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.3	0.4	0.4	1.4	0.9	1.2	2.4	0.8	5.4		
<b>Sex of Primary Driver</b>											
Female .....	11.7	11.2	11.2	12.2	14.1	14.0	15.4	11.0	Q	6.4	
Male .....	11.1	11.1	11.0	12.5	12.7	11.8	10.3	10.9	Q	6.3	
Don't Know .....	11.5	11.4	11.4	11.7	12.8	12.9	11.8	11.4	Q	11.5	
<b>Average Number of Vehicles per Household During the Year</b>											
Part-Year Vehicle .....	10.9	10.9	11.0	Q	Q	Q	Q	Q	Q	80.4	
Only 1 .....	10.7	10.5	10.4	11.3	12.5	12.6	Q	11.7	Q	12.0	
Between 1 and 2 .....	12.6	12.5	12.5	12.8	15.6	12.4	Q	12.7	Q	17.3	
Only 2 .....	11.6	11.3	11.3	11.9	13.7	12.9	13.3	11.0	Q	6.8	
Between 2 and 3 .....	12.0	11.9	11.7	14.5	14.3	14.7	Q	11.1	Q	12.3	
Only 3 .....	10.9	10.8	10.7	13.1	13.9	12.2	10.5	10.4	Q	11.9	
Between 3 and 4 .....	12.7	12.5	12.5	Q	Q	12.6	Q	13.7	Q	22.2	
4 or More .....	11.4	12.0	12.1	10.9	11.3	10.1	Q	10.3	Q	14.1	
<b>Vehicle Characteristics</b>											
<b>Model Year</b>											
1994 to 1995 .....	14.3	13.9	13.8	Q	16.3	13.2	Q	14.8	Q	12.6	
1993 .....	13.7	13.3	13.4	13.0	16.0	14.1	Q	13.9	Q	11.4	
1992 .....	13.1	13.0	12.8	Q	15.9	13.6	Q	12.5	Q	11.5	
1989 to 1991 .....	12.4	11.8	11.8	12.6	13.2	14.6	16.0	13.3	Q	7.2	
1986 to 1988 .....	11.3	11.3	11.2	11.7	11.2	13.0	11.0	11.2	Q	9.1	
1983 to 1985 .....	10.6	10.5	10.4	11.8	10.0	10.9	11.8	10.6	Q	12.2	
1980 to 1982 .....	9.8	10.1	10.0	11.9	Q	Q	Q	8.8	Q	22.4	
1977 to 1979 .....	9.3	9.6	9.7	Q	Q	Q	Q	8.9	Q	31.1	
1976 or Earlier .....	8.2	8.3	8.1	Q	Q	Q	Q	8.4	Q	26.5	
<b>Fuel Efficiency (miles per gallon)</b>											
10.9 or Less .....	5.6	4.9	4.8	Q	Q	4.1	Q	5.6	7.1	21.4	
11 to 12.9 .....	8.8	7.4	7.1	Q	Q	11.0	Q	9.8	Q	27.3	
13 to 15.9 .....	9.7	7.2	7.3	Q	Q	12.5	12.5	11.1	Q	12.1	
16 to 18.9 .....	10.5	8.6	8.4	11.8	11.2	13.5	Q	12.5	Q	8.8	
19 to 21.9 .....	12.0	11.2	11.1	12.6	15.2	15.8	Q	12.1	Q	7.6	
22 to 24.9 .....	12.8	12.7	12.8	12.0	15.8	Q	Q	13.1	Q	7.0	
25 to 29.9 .....	13.0	12.9	12.9	13.6	Q	Q	Q	15.0	Q	8.2	
30 or More .....	14.7	14.8	14.8	Q	Q	Q	Q	Q	Q	12.8	
<b>Engine Size (liters)</b>											
2.49 or Less .....	11.7	11.7	11.6	12.2	11.6	13.3	Q	11.5	Q	8.6	
2.50 to 3.49 .....	12.1	11.6	11.6	12.3	13.9	12.5	Q	11.7	Q	8.2	
3.50 to 4.49 .....	11.7	11.1	11.2	10.7	13.3	13.4	Q	11.6	Q	11.1	
4.50 or Greater .....	10.5	10.1	10.0	12.3	Q	11.6	11.7	10.7	6.8	8.2	
<b>Number of Cylinders</b>											
4 .....	11.6	11.6	11.5	12.2	11.8	11.9	Q	11.5	Q	7.9	
6 .....	12.1	11.6	11.6	12.3	13.9	13.1	11.3	11.6	Q	7.4	
8 .....	10.5	10.1	10.1	11.2	Q	11.9	11.8	10.6	6.7	8.4	
Other .....	10.6	10.6	10.6	Q	Q	Q	Q	Q	Q	50.1	

See footnotes at end of table.

**Table 5.15. U.S. Average Vehicle-Miles Traveled by Vehicle Type, 1994 (Continued)**  
 (Thousand Miles per Vehicle)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.3	0.4	0.4	1.4	0.9	1.2	2.4	0.8	5.4		
<b>Type of Transmission</b>											
Automatic .....	11.4	11.1	11.0	12.1	13.5	13.2	11.8	11.1	7.4	4.8	
Manual Shift .....	11.6	12.0	12.0	12.0	12.5	11.3	Q	11.1	Q	9.2	
<b>Type of Drive</b>											
Front-Wheel .....	11.9	11.8	11.7	12.5	13.7	Q	Q	11.8	Q	5.4	
Rear-Wheel .....	10.8	10.4	10.4	11.5	12.4	13.4	11.8	11.0	6.6	7.5	
4-Wheel .....	11.9	11.6	11.4	11.9	Q	12.4	Q	11.3	Q	12.4	
<b>Type of Fuel System</b>											
Carburetor .....	10.5	10.6	10.4	11.8	10.9	11.0	10.6	10.3	Q	7.6	
Fuel Injection .....	12.4	11.9	11.9	12.6	14.0	13.8	15.0	12.7	Q	4.7	
Diesel Engine .....	11.5	11.3	11.3	Q	Q	Q	Q	11.6	Q	32.8	
<b>Type of Fuel Purchased</b>											
Motor Gasoline .....	11.4	11.3	11.2	12.1	13.4	12.7	11.7	11.0	7.0	4.3	
Unleaded .....	11.5	11.3	11.2	12.1	13.4	12.8	11.9	11.1	6.9	4.2	
Regular Grade .....	11.5	11.5	11.4	12.0	13.4	12.8	11.9	10.8	Q	5.3	
Intermediate Grade .....	11.5	11.2	11.0	12.9	13.0	12.4	Q	12.3	Q	10.1	
Premium Grade .....	11.2	10.8	10.8	11.8	13.4	13.0	Q	11.4	Q	10.9	
Leaded .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	100.0	
Gasohol .....	11.7	12.3	12.3	Q	Q	Q	Q	Q	Q	32.5	
Diesel Fuel .....	12.0	10.4	10.5	Q	Q	Q	Q	13.4	Q	40.6	
<b>Type of Primary Service</b>											
Full-Service Pumps .....	9.9	9.9	9.9	10.5	10.4	11.0	Q	8.7	Q	19.9	
Self or Mini-Service Pumps .....	11.6	11.5	11.4	12.3	13.8	12.8	11.6	11.3	7.1	4.3	
Both Equally .....	10.3	10.2	10.1	Q	Q	Q	Q	Q	Q	36.1	
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	
<b>Vehicle Use for Commuting to and from Work</b>											
Yes .....	12.3	12.2	12.2	12.8	14.2	13.1	13.0	11.9	Q	4.8	
No .....	10.0	9.9	9.8	10.9	12.2	11.6	10.2	9.8	7.1	7.4	

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.16. U.S. Number of Vehicles by Vehicle Type, 1994**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
	RSE Column Factor:	0.4	0.4	0.5	1.4	1.3	1.2	2.0	0.8	4.0	
<i>Household Characteristics</i>											
Total .....	156.8	106.4	100.3	6.2	8.1	9.5	3.4	28.8	0.6	6.7	
<i>Census Region and Division</i>											
Northeast .....	26.6	19.7	17.9	1.9	1.3	1.7	Q	3.5	Q	12.4	
New England .....	7.6	5.3	4.6	0.7	Q	0.6	Q	1.2	Q	27.1	
Middle Atlantic .....	19.0	14.4	13.3	1.2	0.9	1.1	Q	2.3	Q	12.9	
Midwest .....	41.1	28.7	27.1	1.6	2.5	1.5	1.3	7.1	Q	11.1	
East North Central .....	29.0	20.2	19.2	1.0	1.8	1.1	1.1	4.7	Q	13.3	
West North Central .....	12.1	8.5	7.9	0.6	0.6	Q	Q	2.4	Q	18.0	
South .....	56.0	37.3	35.7	1.5	2.7	3.4	1.1	11.3	Q	12.3	
South Atlantic .....	28.4	19.7	18.7	1.0	1.5	1.9	0.6	4.7	Q	15.3	
East South Central .....	11.1	7.2	7.0	Q	0.4	0.5	Q	2.7	Q	19.0	
West South Central .....	16.4	10.4	10.1	Q	0.7	1.0	Q	3.9	Q	28.4	
West .....	33.1	20.8	19.6	1.2	1.6	2.9	0.7	6.8	Q	14.7	
Mountain .....	9.8	5.5	5.3	Q	Q	1.0	Q	2.3	Q	19.1	
Pacific .....	23.3	15.3	14.3	1.0	1.1	1.8	Q	4.6	Q	19.5	
<i>Largest Populated States</i>											
California .....	17.0	11.1	10.5	0.6	0.9	1.3	Q	3.2	Q	24.2	
Florida .....	8.8	6.3	5.9	Q	0.5	0.7	Q	1.1	Q	18.4	
New York .....	7.8	6.0	5.5	0.5	Q	Q	Q	0.8	Q	16.8	
Texas .....	11.0	7.1	6.9	Q	Q	0.8	Q	2.4	Q	35.5	
<i>Urban Status</i>											
Urban .....	119.4	84.1	79.1	5.0	6.5	7.5	2.7	18.1	Q	7.9	
Central City .....	40.1	29.2	27.5	1.6	2.2	2.3	1.0	5.3	Q	15.9	
Suburban .....	79.3	55.0	51.6	3.4	4.4	5.3	1.8	12.7	Q	10.0	
Rural .....	37.4	22.3	21.2	1.2	1.5	2.0	0.6	10.7	Q	12.9	
<i>Household Size</i>											
1 Person .....	19.5	15.6	14.8	0.8	Q	0.6	Q	2.7	Q	16.7	
2 Persons .....	55.4	39.2	37.7	1.5	1.3	2.9	0.9	10.6	Q	11.9	
3 Persons .....	31.7	21.3	19.8	1.5	1.4	2.2	0.5	6.3	Q	15.7	
4 Persons .....	29.5	18.0	16.7	1.3	2.6	2.2	1.0	5.7	Q	15.1	
5 Persons .....	14.4	8.5	7.7	0.7	1.9	1.3	0.4	2.2	Q	23.2	
6 or More Persons .....	6.3	3.9	3.5	Q	0.7	Q	Q	1.3	Q	39.1	
<i>Household Composition</i>											
Households with Children .....	64.6	39.9	36.8	3.1	6.1	4.8	1.7	12.0	Q	10.3	
Age of Oldest Child											
Under 7 Years .....	17.1	11.2	10.4	0.8	1.3	1.5	Q	2.9	Q	21.4	
7 to 15 Years .....	32.3	18.9	17.3	1.7	3.8	2.5	1.0	6.0	Q	13.3	
16 or 17 Years .....	15.2	9.8	9.1	0.7	1.1	0.9	Q	3.0	Q	24.3	
Households Without Children .....	92.2	66.6	63.5	3.1	2.0	4.7	1.7	16.8	Q	9.3	
One Adult .....	19.5	15.6	14.8	0.8	Q	0.6	Q	2.7	Q	16.7	
Age of Householder											
Under 35 Years .....	4.1	3.0	2.9	Q	Q	Q	Q	0.7	Q	37.6	
35 to 59 Years .....	7.6	5.6	5.3	Q	Q	Q	Q	1.2	Q	28.8	
60 Years or More .....	7.9	7.0	6.6	Q	Q	Q	Q	0.8	Q	22.8	

See footnotes at end of table.

**Table 5.16. U.S. Number of Vehicles by Vehicle Type, 1994 (Continued)**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.4	0.4	0.5	1.4	1.3	1.2	2.0	0.8	4.0		
<b>Household Composition</b>											
Two or More Adults .....	72.6	51.0	48.7	2.3	1.7	4.1	1.4	14.2	Q	10.3	
Age of Householder											
Under 35 Years .....	13.8	10.2	9.8	Q	Q	1.2	Q	2.1	Q	27.2	
35 to 59 Years .....	33.9	22.6	21.4	1.2	0.7	2.2	0.7	7.6	Q	16.7	
60 Years or More .....	24.9	18.1	17.4	0.7	0.8	0.8	0.6	4.5	Q	18.4	
<b>Race of Householder</b>											
White .....	138.6	92.3	86.7	5.6	7.3	8.9	2.8	26.7	0.6	6.9	
Black .....	11.2	9.1	8.8	Q	Q	Q	Q	1.1	Q	32.4	
Other .....	7.0	5.0	4.8	Q	Q	Q	Q	1.0	Q	49.0	
<b>Hispanic Descent</b>											
Yes .....	10.7	7.0	6.6	Q	0.5	0.8	Q	2.1	Q	29.7	
No .....	146.1	99.5	93.6	5.8	7.6	8.8	3.0	26.7	0.5	7.0	
<b>1993 Family Income</b>											
Less than \$5,000 .....	3.1	2.5	2.4	Q	Q	Q	Q	Q	Q	50.8	
\$5,000 to \$9,999 .....	7.8	6.2	5.8	Q	Q	Q	Q	1.3	Q	31.4	
\$10,000 to \$14,999 .....	12.5	9.3	8.8	0.5	Q	Q	Q	2.2	Q	21.8	
\$15,000 to \$19,999 .....	14.2	10.3	9.8	0.6	Q	0.7	Q	2.5	Q	25.0	
\$20,000 to \$24,999 .....	14.4	9.7	9.0	0.6	0.8	0.7	Q	2.8	Q	22.1	
\$25,000 to \$34,999 .....	24.1	15.7	14.5	1.2	1.3	1.3	0.5	5.2	Q	16.0	
\$35,000 to \$49,999 .....	33.6	21.5	20.3	1.2	2.1	2.3	0.8	6.9	Q	14.5	
\$50,000 to \$74,999 .....	28.0	18.2	17.3	0.9	2.0	2.3	0.6	4.9	Q	16.8	
\$75,000 or More .....	19.1	13.0	12.3	0.7	1.0	1.7	Q	2.7	Q	21.8	
<b>Below Poverty Line</b>											
100 Percent .....	12.4	9.5	8.9	0.5	Q	Q	Q	1.8	Q	27.7	
125 Percent .....	18.2	13.4	12.3	1.0	0.8	0.5	Q	3.0	Q	23.3	
150 Percent .....	25.7	18.6	17.3	1.3	1.0	0.8	0.5	4.5	Q	19.9	
<b>Eligible for Federal Assistance<sup>1</sup></b> .....	31.8	23.3	21.5	1.8	1.2	1.1	0.6	5.5	Q	17.6	
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>											
1 .....	32.4	25.3	23.8	1.5	0.8	1.0	0.6	4.5	Q	16.0	
2 .....	91.6	59.3	56.0	3.3	5.8	6.7	1.9	17.6	Q	8.7	
3 .....	22.2	14.3	13.4	1.0	1.0	1.3	0.7	4.8	Q	19.8	
4 or More .....	9.7	6.7	6.4	Q	Q	0.5	Q	1.8	Q	32.7	
<b>Age of Primary Driver</b>											
16 to 17 Years .....	1.1	0.8	0.8	Q	Q	Q	Q	Q	Q	67.0	
18 to 22 Years .....	4.4	3.5	3.3	Q	Q	Q	Q	0.7	Q	32.7	
23 to 29 Years .....	8.4	5.8	5.6	Q	Q	0.6	Q	1.5	Q	22.2	
30 to 39 Years .....	22.6	13.4	12.1	1.3	2.3	2.0	Q	4.3	Q	13.8	
40 to 49 Years .....	22.3	13.5	12.6	0.9	1.7	2.0	0.8	4.2	Q	13.9	
50 to 59 Years .....	14.9	9.7	9.2	Q	0.7	0.6	Q	3.4	Q	19.6	
60 to 69 Years .....	10.6	7.4	7.0	Q	Q	Q	Q	2.2	Q	21.5	
70 to 79 Years .....	8.6	6.6	6.4	Q	Q	Q	Q	1.1	Q	22.5	
80 Years and Over .....	2.6	2.2	2.1	Q	Q	Q	Q	Q	Q	34.5	
Don't Know .....	61.3	43.4	41.0	2.4	2.3	3.5	1.2	10.8	Q	19.2	

See footnotes at end of table.

**Table 5.16. U.S. Number of Vehicles by Vehicle Type, 1994 (Continued)**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.4	0.4	0.5	1.4	1.3	1.2	2.0	0.8	4.0		
<b>Sex of Primary Driver</b>											
Female .....	43.4	34.8	32.7	2.1	4.0	2.1	0.6	1.9	Q	9.9	
Male .....	52.2	28.5	26.8	1.7	1.7	4.0	1.6	16.1	Q	9.8	
Don't Know .....	61.2	43.2	40.8	2.4	2.3	3.5	1.2	10.8	Q	19.3	
<b>Average Number of Vehicles per Household During the Year</b>											
Part-Year Vehicle .....	1.3	1.2	1.1	Q	Q	Q	Q	Q	Q	88.4	
Only 1 .....	28.6	23.5	22.2	1.3	1.1	0.9	Q	2.7	Q	15.8	
Between 1 and 2 .....	8.4	5.9	5.5	0.4	0.5	0.6	Q	1.3	Q	28.2	
Only 2 .....	56.9	37.0	34.7	2.3	3.5	4.0	1.2	11.1	Q	11.1	
Between 2 and 3 .....	13.5	8.6	8.2	0.4	0.9	1.2	Q	2.6	Q	20.4	
Only 3 .....	25.2	15.9	15.0	0.9	1.0	1.3	0.8	6.1	Q	17.8	
Between 3 and 4 .....	7.9	5.2	4.9	Q	Q	0.5	Q	1.7	Q	32.3	
4 or More .....	14.8	9.3	8.6	0.6	0.7	1.0	Q	3.3	Q	25.2	
<b>Vehicle Characteristics</b>											
<b>Model Year</b>											
1994 to 1995 .....	7.2	4.1	4.0	Q	0.8	0.8	Q	1.5	Q	21.8	
1993 .....	10.4	6.9	6.3	0.5	1.0	1.0	Q	1.4	Q	20.2	
1992 .....	11.4	7.8	7.6	Q	0.8	1.0	Q	1.6	Q	20.0	
1989 to 1991 .....	35.0	23.6	23.0	0.7	2.9	2.5	0.7	5.2	Q	12.7	
1986 to 1988 .....	36.3	26.1	24.6	1.5	1.9	2.0	Q	5.6	Q	12.8	
1983 to 1985 .....	25.6	18.2	16.3	1.9	0.5	1.1	0.8	4.7	Q	15.8	
1980 to 1982 .....	10.9	8.1	7.4	0.7	Q	Q	Q	2.1	Q	23.5	
1977 to 1979 .....	9.5	5.6	5.2	Q	Q	Q	Q	3.2	Q	24.0	
1976 or Earlier .....	10.6	6.0	5.8	Q	Q	0.6	Q	3.5	Q	29.3	
<b>Fuel Efficiency (miles per gallon)</b>											
10.9 or Less .....	7.0	1.9	1.9	Q	Q	0.7	0.6	3.3	0.6	21.1	
11 to 12.9 .....	8.9	3.7	3.6	Q	Q	1.0	Q	3.5	Q	22.4	
13 to 15.9 .....	18.9	7.7	7.2	Q	Q	1.8	1.8	7.5	Q	15.2	
16 to 18.9 .....	26.5	13.9	13.1	0.8	2.8	4.2	Q	5.2	Q	14.2	
19 to 21.9 .....	35.2	24.2	23.1	1.1	4.4	1.6	Q	4.9	Q	13.5	
22 to 24.9 .....	28.2	24.4	22.7	1.7	0.6	Q	Q	3.1	Q	15.9	
25 to 29.9 .....	24.9	23.6	22.2	1.4	Q	Q	Q	1.2	Q	14.8	
30 or More .....	7.2	7.0	6.6	Q	Q	Q	Q	Q	Q	29.5	
<b>Engine Size (liters)</b>											
2.49 or Less .....	59.8	51.3	47.7	3.6	1.1	0.6	Q	6.7	Q	12.7	
2.50 to 3.49 .....	30.1	19.4	18.4	1.0	4.8	2.3	Q	3.5	Q	12.6	
3.50 to 4.49 .....	24.0	14.5	13.8	0.7	2.1	3.9	Q	3.1	Q	15.9	
4.50 or Greater .....	42.8	21.2	20.2	0.9	Q	2.6	2.9	15.4	0.5	12.2	
<b>Number of Cylinders</b>											
4 .....	61.5	51.3	47.7	3.6	1.9	1.0	Q	7.4	Q	11.3	
6 .....	52.3	31.3	29.7	1.6	6.2	6.1	0.8	8.0	Q	10.8	
8 .....	41.6	22.6	21.6	1.0	Q	2.5	2.6	13.4	0.5	12.5	
Other .....	1.3	1.3	1.3	Q	Q	Q	Q	Q	Q	56.6	

See footnotes at end of table.

**Table 5.16. U.S. Number of Vehicles by Vehicle Type, 1994 (Continued)**  
 (Million Vehicles)

1993 Household and 1994 Vehicle Characteristics	All Vehicle Types	Type of Vehicle								RSE Row Factor:	
		Passenger Cars			Mini- van	Sport Utility	Large Van	Pickup Truck	Other		
		All	Sedan	Station Wagon							
RSE Column Factor:	0.4	0.4	0.5	1.4	1.3	1.2	2.0	0.8	4.0		
<b>Type of Transmission</b>											
Automatic .....	117.5	84.8	80.3	4.5	7.5	7.0	3.2	14.6	0.5	7.5	
Manual Shift .....	39.3	21.7	19.9	1.7	0.6	2.5	Q	14.2	Q	15.0	
<b>Type of Drive</b>											
Front-Wheel .....	74.9	66.9	63.5	3.5	5.1	Q	Q	2.2	Q	9.6	
Rear-Wheel .....	64.3	37.8	35.8	2.0	2.5	2.0	3.1	18.4	0.5	10.4	
4-Wheel .....	17.6	1.7	1.0	0.7	Q	7.1	Q	8.3	Q	21.2	
<b>Type of Fuel System</b>											
Carburetor .....	76.4	49.6	45.5	4.0	1.6	3.6	2.6	18.7	Q	10.0	
Fuel Injection .....	78.2	55.9	53.8	2.1	6.5	5.9	0.8	8.8	Q	9.2	
Diesel Engine .....	2.2	0.9	0.9	Q	Q	Q	Q	1.2	Q	48.0	
<b>Type of Fuel Purchased</b>											
Motor Gasoline .....	153.4	104.8	98.6	6.2	8.0	9.4	3.4	27.3	0.5	6.8	
Unleaded .....	151.5	103.7	97.6	6.1	8.0	9.3	3.3	26.7	0.5	6.8	
Regular Grade .....	104.2	69.8	65.5	4.3	5.8	5.9	2.4	19.9	Q	7.5	
Intermediate Grade .....	20.6	14.4	13.5	0.9	1.1	1.7	Q	3.0	Q	16.4	
Premium Grade .....	26.7	19.5	18.6	0.9	1.2	1.7	Q	3.8	Q	16.2	
Leaded .....	1.9	Q	Q	Q	Q	Q	Q	Q	Q	77.9	
Gasohol .....	1.4	0.9	0.9	Q	Q	Q	Q	Q	Q	61.7	
Diesel Fuel .....	1.8	0.7	0.7	Q	Q	Q	Q	1.0	Q	54.5	
<b>Type of Primary Service</b>											
Full-Service Pumps .....	13.8	10.8	10.0	0.8	0.7	0.7	Q	1.5	Q	30.1	
Self or Mini-Service Pumps .....	139.8	93.6	88.3	5.3	7.3	8.6	3.2	26.5	0.6	7.3	
Both Equally .....	2.9	2.0	1.9	Q	Q	Q	Q	Q	Q	55.5	
Bulk Sales/Other .....	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	
<b>Vehicle Use for Commuting to and from Work</b>											
Yes .....	95.3	63.8	59.9	3.9	4.8	6.7	1.8	18.1	Q	8.5	
No .....	61.5	42.6	40.3	2.3	3.2	2.9	1.6	10.6	0.6	10.0	

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.17. U.S. Number of Households by Vehicle Fuel Expenditures, 1994**  
 (Million Households)

1993 Household and 1994 Vehicle Characteristics	All Expenditure Categories	Motor Fuel Expenditures (dollars per household)					Percent of Income for Motor Fuel					RSE Row Factor:
		\$500 or Less	\$501 to \$1,000	\$1,001 to \$1,500	\$1,501 to \$2,000	\$2,001 or More	Less than 2	2 to 3.9	4 to 5.9	6 to 7.9	8 or More	
		RSE Column Factor:	0.5	1.1	0.9	1.1	1.2	1.1	1.0	0.9	1.1	1.6
<i>Household Characteristics</i>												
Total .....	84.9	15.2	24.8	18.7	13.0	13.2	23.2	26.5	14.6	8.1	12.5	5.6
<i>Census Region and Division</i>												
Northeast .....	14.7	2.9	4.7	3.0	2.1	2.0	5.1	4.8	2.2	1.3	1.4	13.9
New England .....	4.1	0.7	1.4	0.9	0.7	Q	1.2	1.4	0.9	Q	Q	24.4
Middle Atlantic .....	10.7	2.2	3.3	2.1	1.5	1.5	3.9	3.3	1.3	1.0	1.1	15.4
Midwest .....	21.6	3.5	6.5	5.2	3.1	3.3	5.1	7.3	4.3	1.8	3.0	10.0
East North Central .....	15.1	2.5	4.6	3.6	2.1	2.3	3.8	5.4	2.8	1.2	1.9	13.5
West North Central .....	6.5	1.0	1.9	1.7	1.0	0.9	1.3	1.9	1.5	0.6	1.2	12.9
South .....	30.2	5.8	8.0	6.8	4.7	4.9	7.2	9.4	5.7	3.1	4.9	9.7
South Atlantic .....	15.4	2.6	4.4	3.7	2.2	2.5	3.8	4.7	3.1	1.2	2.5	12.9
East South Central .....	5.4	0.7	1.6	1.0	1.1	1.0	1.0	1.6	1.2	0.7	1.0	18.1
West South Central .....	9.4	2.5	2.0	2.0	1.4	1.5	2.4	3.0	1.5	1.1	1.4	19.0
West .....	18.4	2.9	5.6	3.7	3.1	3.0	5.7	5.0	2.5	1.9	3.2	12.5
Mountain .....	5.4	0.7	1.4	1.1	1.4	0.8	1.0	1.4	0.8	0.7	1.4	20.8
Pacific .....	13.0	2.2	4.2	2.6	1.8	2.2	4.7	3.6	1.7	1.1	1.8	15.6
<i>Largest Populated States</i>												
California .....	9.5	1.4	3.3	1.8	1.3	1.7	3.5	2.8	1.1	0.8	1.3	17.3
Florida .....	4.9	0.9	1.4	1.3	0.7	0.7	1.3	1.4	1.2	Q	Q	16.9
New York .....	4.7	1.0	1.7	1.1	0.6	Q	1.9	1.5	0.6	Q	Q	18.5
Texas .....	6.1	1.6	1.3	1.3	1.0	0.9	1.7	1.9	0.9	Q	1.0	21.5
<i>Urban Status</i>												
Urban .....	65.6	11.9	19.7	14.8	9.9	9.3	20.2	21.5	10.5	5.3	8.1	6.8
Central City .....	24.1	5.6	8.1	5.1	3.1	2.2	7.7	7.9	3.4	2.1	3.1	13.8
Suburban .....	41.5	6.3	11.7	9.7	6.8	7.1	12.6	13.5	7.2	3.2	5.0	8.7
Rural .....	19.3	3.2	5.1	3.9	3.1	3.9	3.0	5.0	4.1	2.8	4.4	11.0
<i>Household Size</i>												
1 Person .....	17.0	7.7	6.5	1.9	0.6	Q	6.3	4.8	2.6	1.3	2.0	13.0
2 Persons .....	30.1	5.0	9.4	7.4	4.7	3.6	8.9	9.4	4.9	3.0	3.9	9.0
3 Persons .....	15.0	1.2	3.7	4.1	2.7	3.4	3.2	4.9	2.7	1.5	2.7	14.1
4 Persons .....	13.3	0.8	3.1	3.4	2.7	3.3	2.9	4.7	2.4	1.2	2.1	15.1
5 Persons .....	6.7	Q	1.6	1.3	1.6	1.7	1.3	2.1	1.4	0.8	1.1	21.3
6 or More Persons .....	2.7	Q	Q	Q	0.6	0.8	Q	0.7	0.6	Q	0.7	32.5
<i>Household Composition</i>												
Households with Children .....	32.1	2.8	8.2	8.2	6.1	6.8	6.8	10.6	6.0	3.2	5.5	9.8
Age of Oldest Child												
Under 7 Years .....	9.2	1.0	2.6	2.7	1.8	1.3	2.4	3.3	1.5	0.8	1.3	21.4
7 to 15 Years .....	16.5	1.4	4.3	4.1	3.1	3.5	3.4	5.4	3.2	1.6	2.9	13.1
16 or 17 Years .....	6.4	Q	1.3	1.4	1.2	2.1	1.0	1.9	1.3	0.9	1.3	20.8
Households Without Children .....	52.7	12.4	16.6	10.5	6.9	6.4	16.4	15.9	8.6	4.9	7.0	7.3
One Adult .....	17.0	7.7	6.5	1.9	0.6	Q	6.3	4.8	2.6	1.3	2.0	13.0
Age of Householder												
Under 35 Years .....	3.4	1.2	1.2	Q	Q	Q	1.1	1.0	Q	Q	Q	27.3
35 to 59 Years .....	6.6	2.1	3.2	0.9	Q	Q	2.8	1.7	0.9	Q	0.8	20.8
60 Years or More .....	7.0	4.4	2.1	Q	Q	Q	2.5	2.0	1.2	Q	0.8	16.5

See footnotes at end of table.

**Table 5.17. U.S. Number of Households by Vehicle Fuel Expenditures,  
1994 (Continued)**  
(Million Households)

1993 Household and 1994 Vehicle Characteristics	All Expenditure Categories	Motor Fuel Expenditures (dollars per household)					Percent of Income for Motor Fuel					RSE Row Factor:	
		\$500 or Less	\$501 to \$1,000	\$1,001 to \$1,500	\$1,501 to \$2,000	\$2,001 or More	Less than 2	2 to 3.9	4 to 5.9	6 to 7.9	8 or More		
		RSE Column Factor:	0.5	1.1	0.9	1.1	1.2	1.1	1.0	0.9	1.1	1.6	1.2
<b>Household Composition</b>													
Two or More Adults .....	35.8	4.7	10.2	8.6	6.2	6.1	10.1	11.1	6.0	3.6	5.0	<b>8.6</b>	
Age of Householder													
Under 35 Years .....	7.2	0.6	2.0	1.9	1.6	1.0	1.6	2.2	1.0	0.7	1.6	<b>26.0</b>	
35 to 59 Years .....	15.0	1.1	3.4	3.7	2.9	3.9	4.2	4.8	2.8	1.6	1.6	<b>14.7</b>	
60 Years or More .....	13.6	3.0	4.7	3.0	1.8	1.2	4.3	4.0	2.2	1.3	1.8	<b>13.6</b>	
<b>Race of Householder</b>													
White .....	73.3	12.0	21.2	16.4	11.7	11.9	19.9	23.4	12.7	6.9	10.3	<b>5.9</b>	
Black .....	7.3	2.2	2.1	1.4	0.8	0.8	1.9	2.3	1.2	Q	1.4	<b>23.2</b>	
Other .....	4.3	0.9	1.5	0.8	0.6	Q	1.4	0.8	0.8	Q	Q	<b>34.6</b>	
<b>Hispanic Descent</b>													
Yes .....	6.3	1.1	2.1	1.2	1.1	0.8	1.5	1.6	1.0	0.8	1.3	<b>28.2</b>	
No .....	78.6	14.1	22.7	17.5	11.9	12.4	21.7	24.9	13.6	7.3	11.2	<b>5.9</b>	
<b>1993 family Income</b>													
Less than \$5,000 .....	2.2	Q	1.1	Q	Q	Q	Q	Q	Q	Q	2.0	<b>35.5</b>	
\$5,000 to \$9,999 .....	6.3	2.7	2.2	0.8	Q	Q	0.7	0.7	1.0	1.1	2.9	<b>24.3</b>	
\$10,000 to \$14,999 .....	8.9	3.0	3.0	1.6	0.7	0.6	0.8	2.2	1.9	1.5	2.6	<b>19.4</b>	
\$15,000 to \$19,999 .....	8.5	1.9	3.0	1.7	1.0	0.8	1.0	2.2	2.0	1.3	2.1	<b>18.8</b>	
\$20,000 to \$24,999 .....	8.6	2.1	2.8	1.5	1.3	0.9	1.7	2.7	1.6	1.2	1.4	<b>18.4</b>	
\$25,000 to \$34,999 .....	13.3	2.2	3.6	3.6	2.0	1.9	2.7	4.8	3.2	1.4	1.2	<b>13.7</b>	
\$35,000 to \$49,999 .....	16.5	1.9	4.3	4.0	3.0	3.3	4.9	6.6	3.5	1.3	Q	<b>12.8</b>	
\$50,000 to \$74,999 .....	12.3	Q	3.0	3.4	2.7	2.7	5.3	5.5	1.1	Q	Q	<b>14.6</b>	
\$75,000 or More .....	8.2	Q	1.7	1.9	1.7	2.6	6.1	2.0	Q	Q	Q	<b>16.7</b>	
<b>Below Poverty Line</b>													
100 Percent .....	9.0	2.5	3.6	1.3	1.0	0.6	Q	0.6	1.2	1.4	5.3	<b>24.2</b>	
125 Percent .....	13.0	3.9	4.7	2.1	1.3	1.1	0.8	1.4	2.0	2.2	6.7	<b>18.6</b>	
150 Percent .....	17.4	4.6	6.4	2.8	2.0	1.7	1.0	2.4	2.9	2.9	8.2	<b>15.9</b>	
<b>Eligible for Federal Assistance<sup>1</sup></b> .....	21.6	6.0	7.9	3.8	2.1	1.9	1.4	3.8	4.1	3.4	8.9	<b>13.6</b>	
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>													
1 .....	27.3	11.0	10.8	3.5	1.3	0.7	9.3	7.6	4.1	2.5	3.7	<b>11.6</b>	
2 .....	45.7	3.3	12.2	13.5	9.2	7.6	12.0	14.9	8.2	4.3	6.4	<b>7.8</b>	
3 .....	8.0	Q	1.1	1.4	2.1	3.2	1.3	3.1	1.4	0.9	1.4	<b>18.7</b>	
4 or More .....	2.9	Q	Q	Q	Q	1.7	Q	0.7	0.8	Q	0.6	<b>27.5</b>	

See footnotes at end of table.

**Table 5.17. U.S. Number of Households by Vehicle Fuel Expenditures,  
1994 (Continued)**  
(Million Households)

1993 Household and 1994 Vehicle Characteristics	All Expenditure Categories	Motor Fuel Expenditures (dollars per household)					Percent of Income for Motor Fuel					RSE Row Factor:
		\$500 or Less	\$501 to \$1,000	\$1,001 to \$1,500	\$1,501 to \$2,000	\$2,001 or More	Less than 2	2 to 3.9	4 to 5.9	6 to 7.9	8 or More	
		RSE Column Factor:	0.5	1.1	0.9	1.1	1.2	1.1	1.0	0.9	1.1	1.6
<b>Average Number of Vehicles per Household During the Year</b>												
Part-Year Vehicle .....	2.4	2.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	56.5
Only 1 .....	28.6	11.6	13.9	2.5	Q	Q	11.0	8.2	4.4	2.1	3.0	10.8
Between 1 and 2 .....	5.5	Q	2.4	1.6	0.8	Q	1.1	1.7	1.0	0.6	1.0	23.8
Only 2 .....	28.4	0.7	7.2	11.4	6.2	2.9	6.8	10.0	4.6	2.9	4.1	10.6
Between 2 and 3 .....	5.6	Q	Q	1.6	1.8	1.6	0.9	2.1	1.2	Q	1.0	17.4
Only 3 .....	8.4	Q	Q	1.2	3.0	3.7	1.4	2.1	1.8	1.3	1.8	16.0
Between 3 and 4 .....	2.3	Q	Q	Q	Q	1.5	Q	0.6	0.8	Q	Q	26.1
4 or More .....	3.4	Q	Q	Q	Q	3.0	Q	1.1	0.7	Q	0.9	21.4

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

**Table 5.18. U.S. Average Household and Vehicle Energy Expenditures, 1994**  
(Dollars per Household)

1993 Household Characteristics	All Households		Households Without Vehicles		Households with Vehicles				RSE Row Factor:
	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Number of Households (millions)	Household Energy Expenditures (dollars)	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Household Energy Expenditures (dollars)	Motor Fuel Expenditures (dollars)	
	RSE Column Factor:	1.1	0.7	2.3	1.1	1.4	0.6	0.7	0.9
<i>Household Characteristics</i>									
Total .....	97.3	2,365	12.5	962	84.9	2,571	1,337	1,234	2.1
<i>Energy Used in the Home—January 1993 Through December 1993</i>									
(million Btu per household)									
50 or Less .....	20.0	1,415	4.7	569	15.3	1,677	715	962	4.6
51 to 75 .....	17.4	2,083	2.1	858	15.3	2,251	1,069	1,182	4.8
76 to 100 .....	16.0	2,362	1.8	1,019	14.2	2,536	1,275	1,260	5.0
101 to 125 .....	13.8	2,566	1.4	1,260	12.4	2,713	1,429	1,284	5.2
126 to 150 .....	10.0	2,692	0.7	1,259	9.2	2,807	1,530	1,277	5.2
151 or Over .....	20.1	3,256	1.7	1,770	18.5	3,389	1,964	1,425	4.4
<i>Expenditures for Energy Used in the Home—January 1993 Through December 1993</i>									
(dollars per household)									
600 or Less .....	10.5	998	3.4	430	7.1	1,273	453	820	6.4
601 to 800 .....	10.8	1,450	2.3	702	8.5	1,648	701	947	5.2
801 to 1,000 .....	13.4	1,830	2.0	910	11.4	1,989	905	1,084	5.6
1,001 to 1,200 .....	14.2	2,115	1.5	1,094	12.7	2,232	1,101	1,131	4.1
1,201 to 1,600 .....	23.2	2,554	1.8	1,354	21.4	2,655	1,392	1,263	3.2
1,601 or Over .....	25.3	3,576	1.5	2,017	23.7	3,676	2,116	1,561	3.2
<i>Measured Heated Area of Residence (square feet)</i>									
Fewer than 600 .....	8.0	1,099	3.5	636	4.5	1,459	711	748	10.1
600 to 999 .....	22.0	1,730	4.8	892	17.1	1,965	972	993	5.1
1,000 to 1,599 .....	26.9	2,338	2.5	1,239	24.3	2,453	1,247	1,205	4.0
1,600 to 1,999 .....	12.8	2,604	0.7	1,361	12.1	2,681	1,417	1,264	6.2
2,000 to 2,399 .....	9.9	2,848	Q	Q	9.6	2,899	1,576	1,323	5.6
2,400 to 2,999 .....	8.1	3,224	Q	Q	7.9	3,256	1,707	1,549	5.5
3,000 or More .....	9.8	3,385	0.4	1,652	9.4	3,461	1,878	1,583	6.8
<i>Main Heating Fuel</i>									
Natural Gas .....	52.1	2,331	7.0	1,013	45.1	2,536	1,343	1,193	3.2
Electricity .....	25.0	2,264	2.7	763	22.3	2,445	1,219	1,226	5.3
Fuel Oil or Kerosene .....	11.6	2,528	2.0	1,075	9.6	2,828	1,594	1,233	5.6
Wood .....	3.1	2,757	Q	Q	2.9	2,903	1,184	1,719	8.6
Liquefied Petroleum Gas .....	4.4	2,840	0.4	1,197	4.0	3,002	1,571	1,431	9.1
Other/None .....	1.2	1,589	Q	Q	1.0	1,791	731	1,060	25.3

See footnotes at end of table.

**Table 5.18. U.S. Average Household and Vehicle Energy Expenditures, 1994 (Continued)**  
(Dollars per Household)

1993 Household Characteristics	All Households		Households Without Vehicles		Households with Vehicles				RSE Row Factor:
	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Number of Households (millions)	Household Energy Expenditures (dollars)	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Household Energy Expenditures (dollars)	Motor Fuel Expenditures (dollars)	
	1.1	0.7	2.3	1.1	1.4	0.6	0.7	0.9	
<b>Census Region and Division</b>									
Northeast .....	19.5	2,381	4.7	1,095	14.7	2,794	1,628	1,166	3.7
New England .....	5.0	2,450	1.0	1,103	4.1	2,766	1,586	1,180	6.6
Middle Atlantic .....	14.4	2,357	3.8	1,092	10.7	2,805	1,644	1,161	4.3
Midwest .....	23.4	2,473	1.8	993	21.6	2,598	1,371	1,226	4.5
East North Central .....	16.5	2,490	1.4	989	15.1	2,627	1,401	1,225	5.7
West North Central .....	6.9	2,432	0.4	1,005	6.5	2,530	1,301	1,229	6.4
South .....	34.1	2,437	3.9	951	30.2	2,629	1,380	1,249	3.8
South Atlantic .....	17.6	2,407	2.3	945	15.4	2,622	1,372	1,250	5.0
East South Central .....	6.1	2,415	0.7	892	5.4	2,614	1,291	1,323	5.3
West South Central .....	10.3	2,502	0.9	1,012	9.4	2,650	1,445	1,204	7.9
West .....	20.4	2,105	2.0	640	18.4	2,264	993	1,271	5.6
Mountain .....	5.7	2,301	0.3	835	5.4	2,395	1,052	1,344	10.4
Pacific .....	14.7	2,028	1.7	599	13.0	2,210	969	1,241	6.6
<b>Largest Populated States</b>									
California .....	10.8	2,052	1.3	585	9.5	2,259	1,005	1,254	7.3
Florida .....	5.5	2,210	0.5	833	4.9	2,355	1,180	1,175	9.0
New York .....	7.0	2,302	2.2	1,070	4.7	2,881	1,818	1,062	6.7
Texas .....	6.6	2,481	0.5	824	6.1	2,617	1,415	1,203	10.5
<b>Census Region by 1993 Family Income</b>									
Northeast									
Less than \$5,000 .....	0.9	1,585	0.5	1,040	0.4	2,378	1,447	932	18.7
\$5,000 to \$9,999 .....	2.2	1,268	1.5	1,035	0.6	1,840	1,214	627	17.7
\$10,000 to \$14,999 .....	2.3	1,679	0.9	1,071	1.4	2,090	1,433	657	12.0
\$15,000 to \$19,999 .....	1.4	2,055	Q	Q	1.1	2,256	1,304	952	19.5
\$20,000 to \$24,999 .....	1.8	2,114	0.4	1,195	1.3	2,419	1,379	1,039	14.9
\$25,000 to \$34,999 .....	2.4	2,677	Q	Q	2.1	2,906	1,653	1,253	14.0
\$35,000 to \$49,999 .....	3.7	2,747	Q	Q	3.4	2,897	1,621	1,275	9.8
\$50,000 to \$74,999 .....	3.0	2,896	Q	Q	2.7	3,085	1,714	1,371	8.7
\$75,000 or More .....	2.0	3,436	Q	Q	1.8	3,602	2,203	1,399	15.0
Midwest									
Less than \$ 5,000 .....	0.6	1,573	Q	Q	0.4	1,984	1,224	Q	42.3
\$ 5,000 to \$ 9,999 .....	2.1	1,645	0.7	1,000	1.4	1,952	1,199	753	16.4
\$10,000 to \$14,999 .....	3.1	1,882	0.5	1,013	2.5	2,065	1,192	873	9.0
\$15,000 to \$19,999 .....	2.5	2,320	Q	Q	2.4	2,358	1,229	1,130	12.5
\$20,000 to \$24,999 .....	2.4	2,358	Q	Q	2.4	2,386	1,291	1,095	11.8
\$25,000 to \$34,999 .....	3.6	2,552	Q	Q	3.6	2,552	1,387	1,165	7.0
\$35,000 to \$49,999 .....	4.5	2,737	Q	Q	4.4	2,764	1,414	1,350	7.4
\$50,000 to \$74,999 .....	3.0	3,041	Q	Q	2.9	3,132	1,553	1,578	10.2
\$75,000 or More .....	1.6	3,498	Q	Q	1.5	3,570	1,714	1,856	11.0

See footnotes at end of table.

**Table 5.18. U.S. Average Household and Vehicle Energy Expenditures, 1994 (Continued)**  
(Dollars per Household)

1993 Household Characteristics	All Households		Households Without Vehicles		Households with Vehicles				RSE Row Factor:
	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Number of Households (millions)	Household Energy Expenditures (dollars)	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Household Energy Expenditures (dollars)	Motor Fuel Expenditures (dollars)	
	RSE Column Factor:	1.1	0.7	2.3	1.1	1.4	0.6	0.7	
<b>South</b>									
Less than \$ 5,000 .....	1.5	1,379	0.7	1,010	0.8	1,712	1,000	712	19.5
\$ 5,000 to \$ 9,999 .....	4.7	1,463	1.7	871	3.0	1,798	1,102	697	9.5
\$10,000 to \$14,999 .....	3.6	1,662	0.6	832	3.0	1,828	1,081	747	11.8
\$15,000 to \$19,999 .....	3.4	2,289	Q	Q	3.3	2,337	1,283	1,054	10.5
\$20,000 to \$24,999 .....	3.2	2,272	Q	Q	3.0	2,406	1,290	1,116	13.0
\$25,000 to \$34,999 .....	5.3	2,688	Q	Q	5.1	2,735	1,396	1,339	8.1
\$35,000 to \$49,999 .....	5.6	2,882	Q	Q	5.4	2,930	1,433	1,497	7.5
\$50,000 to \$74,999 .....	4.0	3,203	Q	Q	3.9	3,253	1,600	1,653	8.4
\$75,000 or More .....	2.8	3,545	Q	Q	2.7	3,587	1,893	1,694	11.0
<b>West</b>									
Less than \$ 5,000 .....	0.8	Q	Q	Q	Q	Q	Q	Q	36.9
\$ 5,000 to \$ 9,999 .....	2.3	1,099	1.0	557	1.3	1,527	751	776	18.0
\$10,000 to \$14,999 .....	2.4	1,746	0.3	598	2.0	1,931	815	1,117	17.7
\$15,000 to \$19,999 .....	1.9	1,781	Q	Q	1.7	1,930	822	1,108	16.1
\$20,000 to \$24,999 .....	2.0	1,918	Q	Q	1.9	1,934	905	1,029	16.5
\$25,000 to \$34,999 .....	2.7	2,064	Q	Q	2.6	2,134	844	1,290	13.3
\$35,000 to \$49,999 .....	3.3	2,334	Q	Q	3.3	2,334	1,069	1,265	10.8
\$50,000 to \$74,999 .....	2.8	2,540	Q	Q	2.7	2,557	1,105	1,452	10.2
\$75,000 or More .....	2.2	3,298	Q	Q	2.2	3,329	1,519	1,810	12.5
<b>Urban Status</b>									
Urban .....	76.2	2,308	10.6	951	65.6	2,528	1,330	1,198	2.6
Central City .....	31.1	1,976	6.9	941	24.1	2,274	1,232	1,042	4.5
Suburban .....	45.1	2,537	3.7	970	41.5	2,675	1,386	1,289	3.8
Rural .....	21.1	2,569	1.9	1,025	19.3	2,718	1,363	1,355	4.3
<b>Household Size</b>									
1 Person .....	23.6	1,380	6.6	804	17.0	1,605	949	657	4.0
2 Persons .....	33.0	2,328	2.9	998	30.1	2,456	1,284	1,171	3.3
3 Persons .....	16.2	2,778	1.2	1,198	15.0	2,905	1,450	1,455	4.8
4 Persons .....	14.5	3,028	1.1	1,422	13.3	3,162	1,592	1,570	5.5
5 Persons .....	7.0	3,094	0.3	1,208	6.7	3,189	1,618	1,571	8.4
6 or More Persons .....	3.0	3,374	0.3	1,170	2.7	3,618	1,789	1,829	12.9

See footnotes at end of table.

**Table 5.18. U.S. Average Household and Vehicle Energy Expenditures, 1994 (Continued)**  
(Dollars per Household)

1993 Household Characteristics	All Households		Households Without Vehicles		Households with Vehicles				RSE Row Factor:
	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Number of Households (millions)	Household Energy Expenditures (dollars)	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Household Energy Expenditures (dollars)	Motor Fuel Expenditures (dollars)	
	RSE Column Factor:	1.1	0.7	2.3	1.1	1.4	0.6	0.7	0.9
<b>Household Composition</b>									
Households with Children .....	35.2	2,809	3.1	1,173	32.1	2,966	1,513	1,453	3.4
Age of Oldest Child									
Under 7 Years .....	10.3	2,526	1.0	1,208	9.2	2,675	1,379	1,296	6.6
7 to 15 Years .....	17.9	2,824	1.4	1,127	16.5	2,970	1,536	1,434	4.7
16 or 17 Years .....	7.0	3,186	0.6	1,220	6.4	3,374	1,647	1,727	7.3
Households Without Children .....	62.1	2,113	9.4	893	52.7	2,330	1,230	1,100	2.6
One Adult .....	23.6	1,380	6.6	804	17.0	1,605	949	657	4.0
Age of Householder									
Under 35 Years .....	4.5	1,394	1.1	784	3.4	1,598	755	843	9.9
35 to 59 Years .....	7.8	1,487	1.2	705	6.6	1,633	904	728	6.8
60 Years or More .....	11.2	1,301	4.3	838	7.0	1,583	1,085	498	5.4
Two or More Adults .....	38.5	2,562	2.8	1,106	35.8	2,674	1,364	1,311	3.4
Age of Householder									
Under 35 Years .....	8.1	2,224	0.9	738	7.2	2,417	1,113	1,304	8.2
35 to 59 Years .....	15.5	2,953	0.5	1,134	15.0	3,017	1,461	1,557	5.1
60 Years or More .....	14.9	2,338	1.3	1,357	13.6	2,432	1,388	1,044	5.6
<b>Race of Householder</b>									
White .....	81.2	2,457	7.9	926	73.3	2,621	1,354	1,267	2.3
Black .....	10.7	1,959	3.4	1,126	7.3	2,352	1,347	1,005	6.9
Other .....	5.5	1,799	1.2	717	4.3	2,089	1,035	1,053	12.0
<b>Hispanic Descent</b>									
Yes .....	8.2	1,958	2.0	932	6.3	2,280	1,106	1,174	8.3
No .....	89.1	2,402	10.5	968	78.6	2,594	1,356	1,238	2.2
<b>1993 Family Income</b>									
Less than \$5,000 .....	3.8	1,531	1.7	972	2.2	1,957	1,034	923	13.1
\$5,000 to \$9,999 .....	11.3	1,384	4.9	874	6.3	1,781	1,062	719	7.2
\$10,000 to \$14,999 .....	11.3	1,743	2.4	932	8.9	1,959	1,105	854	5.9
\$15,000 to \$19,999 .....	9.2	2,157	0.7	1,034	8.5	2,250	1,177	1,073	7.9
\$20,000 to \$24,999 .....	9.4	2,190	0.8	1,050	8.6	2,297	1,218	1,079	7.5
\$25,000 to \$34,999 .....	13.9	2,530	0.6	1,077	13.3	2,597	1,328	1,269	5.9
\$35,000 to \$49,999 .....	17.0	2,709	0.5	904	16.5	2,761	1,394	1,366	5.5
\$50,000 to \$74,999 .....	12.8	2,949	0.5	1,119	12.3	3,031	1,503	1,528	5.8
\$75,000 or More .....	8.5	3,447	0.3	1,676	8.2	3,519	1,827	1,692	8.6
<b>Below Poverty Line</b>									
100 Percent .....	14.7	1,600	5.7	935	9.0	2,022	1,132	890	6.6
125 Percent .....	19.9	1,669	6.9	938	13.0	2,060	1,142	918	5.7
150 Percent .....	25.2	1,770	7.8	925	17.4	2,149	1,169	979	5.0
<b>Eligible for Federal Assistance<sup>1</sup> .....</b>	<b>30.7</b>	<b>1,775</b>	<b>9.1</b>	<b>946</b>	<b>21.6</b>	<b>2,125</b>	<b>1,168</b>	<b>957</b>	<b>4.5</b>

See footnotes at end of table.

**Table 5.18. U.S. Average Household and Vehicle Energy Expenditures, 1994 (Continued)**  
(Dollars per Household)

1993 Household Characteristics	All Households		Households Without Vehicles		Households with Vehicles				RSE Row Factor:
	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Number of Households (millions)	Household Energy Expenditures (dollars)	Number of Households (millions)	Household and Vehicle Energy Expenditures (dollars)	Household Energy Expenditures (dollars)	Motor Fuel Expenditures (dollars)	
	RSE Column Factor:	1.1	0.7	2.3	1.1	1.4	0.6	0.7	0.9
<b>Number of Drivers<sup>2</sup> (Fall 1993)</b>									
None .....	11.0	962	10.0	918	1.0	1,413	951	462	10.9
1 .....	28.9	1,709	1.6	986	27.3	1,751	1,048	703	4.4
2 .....	46.3	2,778	0.5	1,296	45.7	2,795	1,422	1,373	3.8
3 .....	8.2	3,559	Q	Q	8.0	3,604	1,683	1,921	5.9
4 or More .....	3.0	4,217	Q	Q	2.9	4,281	1,894	2,387	8.9
<b>Average Number of Vehicles per Household During the Year</b>									
Part-Year Vehicle .....	2.4	1,434	Q	Q	2.4	1,434	1,110	324	31.3
Only 1 .....	28.6	1,715	Q	Q	28.6	1,715	1,109	605	3.8
Between 1 and 2 .....	5.5	2,440	Q	Q	5.5	2,440	1,297	1,142	7.3
Only 2 .....	28.4	2,740	Q	Q	28.4	2,740	1,399	1,341	2.9
Between 2 and 3 .....	5.6	3,262	Q	Q	5.6	3,262	1,514	1,749	5.0
Only 3 .....	8.4	3,625	Q	Q	8.4	3,625	1,635	1,991	5.0
Between 3 and 4 .....	2.3	4,153	Q	Q	2.3	4,153	1,672	2,481	9.0
4 or More .....	3.4	4,692	Q	Q	3.4	4,692	1,721	2,972	7.5

<sup>1</sup> Below 150 percent of poverty line or 60 percent of median State income.

<sup>2</sup> Approximately .5 percent of the vehicle stock was owned by households that had no drivers as of fall 1993.

NF = No applicable RSE row factor.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • "Households with Children" category includes members under age 18 unless the member is the householder or spouse. • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • Data in this table are for households with vehicles for personal use. • Percentages are calculated on unrounded numbers. • See Glossary for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Form EIA-457 A of the 1993 Residential Energy Consumption Survey and Forms EIA-876 A, B, C, and D for the 1994 Residential Transportation Energy Consumption Survey.

## Glossary

**Aggregate Ratio:** See **Mean and Ratio Estimate**.

**AMPD:** Average miles driven per day.

**Annual Vehicle-Miles Traveled:** See **Vehicle-Miles Traveled**.

**Automobile:** Includes standard passenger car, 2-seater car and station wagons; excludes passenger vans, cargo vans, motor homes, pickup trucks, and sport-utility or similar vehicles. See **Vehicle**.

**Average Household Energy Expenditures:** A ratio estimate defined as the total household energy expenditures for all RTECS households divided by the total number of households. See **Ratio Estimate**, and **Combined Household Energy Expenditures**.

**Average Number of Vehicles per Household:** The average number of vehicles used by a household for personal transportation during 1994. For this report, the average number of vehicles per household is computed as the ratio of the total number of vehicles to the total number of households within any subgroup or "table cell." The total number of vehicles used by a household is based on the number of days each vehicle is used. For example, a total of one vehicle may represent two vehicles, each used for half of the year. See **Vehicle**.

**Average Vehicle Fuel Consumption:** A ratio estimate defined as total gallons of fuel consumed by all vehicles, divided by: (1) the total number of vehicles (for average fuel consumption per vehicle) or (2) the total number of households (for average fuel consumption per household). See **Ratio Estimate**.

**Average Vehicle-Miles Traveled:** A ratio estimate defined as total miles traveled by all vehicles, divided by: (1) the total number of vehicles (for average miles traveled per vehicle) or (2) the total number of households (for average miles traveled per household). See **Ratio Estimate** and **Vehicle Miles Traveled**.

**BLS:** Bureau of Labor Statistics within the U.S. Department of Labor. See **Price**.

**British Thermal Unit (Btu):** The amount of energy required to raise the temperature of 1 pound of water 1 degree Fahrenheit (F) at or near 39.1 degrees F and 1 atmosphere of pressure. One Btu is about equal to the heat given off by a blue-tip match. See **Conversion Factor**.

**Btu:** See **British Thermal Unit**.

**Btu Conversion Factor:** See **Conversion Factor**.

**Bureau of Labor Statistics (BLS) Pump Price Series:** See **Price**.

**Carburetor:** A fuel delivery device for producing a proper mixture of gasoline and air, and delivering it to the intake manifold of an internal combustion engine. The efficiency of carburetors is more temperature dependent than fuel injection systems. See **Fuel Injection** and **Diesel Fuel System**.

**Census Division:** A geographic area consisting of several States as defined by the U.S. Department of Commerce, Bureau of the Census. The States are grouped into nine divisions and four regions:

Region	Division	States
Northeast	New England	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
	Middle Atlantic	New Jersey, New York, and Pennsylvania
Midwest	East North Central	Illinois, Indiana, Michigan, Ohio, and Wisconsin
	West North Central	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota
South	South Atlantic	Delaware, the District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia
	East South Central	Alabama, Kentucky, Mississippi, and Tennessee
West	West South Central	Arkansas, Louisiana, Oklahoma, and Texas
	Mountain	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming
	Pacific	Alaska, California, Hawaii, Oregon, and Washington

**Census Region:** See **Census Division**.

**Central City:** Usually one or more legally incorporated cities within the Metropolitan Statistical Area (MSA) that is significantly large by itself or large relative to the largest city in the MSA. Additional criteria for being classified “central city” include having at least 75 jobs for each 100 employed residents and having at least 40 percent of the resident workers employed within the city limits. Every MSA has at least one central city, which is usually the largest

city. Central cities are commonly regarded as relatively large communities with a denser population and a higher concentration of economic activities than the outlying or suburban areas of the MSA. "Suburban" are those parts of the MSA that are not designated as central city. (See **Metropolitan Statistical Areas, Urban, Suburban, and Rural.**)

**Certification Files:** See **Environmental Protection Agency (EPA) Certification Files.**

**Change in Vehicle Stock:** See **Vehicle Acquisition and Vehicle Disposition.**

**CID:** Cubic Inch Displacement. See **Engine Size.**

**Cold-Deck Imputation:** A statistical procedure that replaces a missing value of an item with a constant value from an external source such as a value from a previous survey.

**Combined Household Energy Expenditures:** The total amount of funds spent for energy consumed in, or delivered to, a housing unit during a given period of time; and for fuel used to operate the motor vehicles that are owned or used on a regular basis by the household. For this report, expenditures for energy consumed in the housing unit are presented on an annual basis for calendar year 1993 as collected during the 1993 Residential Energy Consumption Survey. All vehicle expenditure statistics calculated for this report are on an annual basis for calendar year 1994.

The total dollar amount for energy consumed in a housing unit includes State and local taxes but excludes merchandise repairs or special service charges. Electricity expenditures and natural gas expenditures are for the amount of those energy sources consumed. Fuel oil, kerosene, and LPG expenditures are for the amount of fuel purchased, which may differ from the amount of fuel consumed.

The total dollar amount of fuel spent for vehicles is the product of fuel consumption and price. In the 1994 survey, price data were obtained from the Bureau of Labor Statistics price data and the Lundberg Survey Inc. price series. See **Vehicle Fuel Expenditures, Average Household Energy Expenditures, and Price.**

**Conversion Factor:** A number that translates units of one system into corresponding values of another system. Conversion factors are used to translate physical units of measures for various fuels into Btu equivalents. Conversion factors used in this report are:

Motor Gasoline .....	0.125 million Btu per gallon
Diesel Fuel .....	0.139 million Btu per gallon
Propane .....	0.091 million Btu per gallon
Gasohol .....	0.121 million Btu per gallon
Gasohol = 90 percent motor gasoline and 10 percent ethanol	
1 barrel = 42 gallons	

**Diesel Fuel:** A fuel composed of distillates obtained in petroleum refining operation or blends of such distillates with residual oil used in motor vehicles. The boiling point and specific gravity are higher for diesel fuels than for gasoline. See **Diesel Fuel System.**

**Diesel Fuel System:** Diesel engines are internal combustion engines that burn diesel oil rather than gasoline. Injectors are used to spray droplets of diesel oil into the combustion chambers, at or near the top of the compression stroke. Ignition follows due to the very high temperature of the compressed in-take air, or to the use of "glow plugs," which retain heat from previous ignitions (spark plugs are not used). Diesel engines are generally more fuel economic than gasoline engines, but must be stronger and heavier due to high compression ratios. See **Diesel Fuel, Carburetor, and Fuel Injection.**

**Drivers:** Household members who drove a vehicle on a regular basis at the time of the 1993 RECS personal interviews.

**Electricity:** See **Main Heating Fuel.**

**Energy Used in the Home:** For electricity or natural gas, the quantity is the amount used by the household during the 365- or 366-day period. For fuel oil, kerosene, and liquefied petroleum gas (LPG), the quantity consists of fuel purchased, not fuel consumed. If the level of fuel in the storage tank was the same at the beginning and end of the annual period, then the quantity consumed would be the same as the quantity purchased. Information on the level of fuel in the storage tank was not included in the data collection. The time period for household consumption for energy used in the home is January 1993 through December 1993 and was collected during the 1993 Residential Energy Consumption Survey.

**Engine Size:** The total volume within all cylinders of an engine, when pistons are at their lowest positions. The engine is usually measured in "liters" or "cubic inches of displacement (CID)." Generally, larger engines result in greater engine power, but less fuel economy. There are 61.024 cubic inches in a liter. See **Number of Cylinders.**

**Environmental Protection Agency (EPA) Certification Files:** Computer files produced by EPA for analysis purposes. For each vehicle make, model, and year, the files contain the EPA test miles-per-gallon (mpg) values (city, highway, and 55/45 composite). These mpg values are associated with various combinations of engine and drive-train technologies (e.g., number of cylinders, engine size, gasoline or diesel fuel, and automatic or manual transmission). These files also contain information similar to that in the DOE/EPA *Gas Mileage Guide*, although the mpg values in that publication are adjusted for shortfall.

**EPA Certification Files:** See **Environmental Protection Agency (EPA) Certification Files.**

**EPA Composite Miles per Gallon (mpg):** The harmonic mean of the EPA city and highway mpg, weighted under the assumption of 55 percent city driving and 45 percent highway driving.

**Family Income:** The total combined annual income in 1993 of all members of the family from all sources before taxes and deductions as collected in the 1993 RECS. It includes wages, salaries, tips, commissions, income from Social Security, pensions, interest, dividends, rent, public assistance, and unemployment insurance. This includes the total income for all family members who lived in the household in 1993. Income of nonfamily members of the household is not included. "Family" includes the following types of relationships: mother, father, sister, brother, son, daughter, father-in-law, uncle, aunt, niece, grandchild, foster child, and similar relationships.

**Four-Wheel Drive:** See **Type of Drive.**

**Front-Wheel Drive:** See **Type of Drive.**

**Fuel Consumption:** See **Vehicle Fuel Consumption.**

**Fuel Economy:** See **Miles per Gallon.**

**Fuel Expenditures:** See **Vehicle Fuel Expenditures.**

**Fuel Injection:** A fuel delivery system whereby gasoline is pumped to one or more fuel injectors under high pressure. The fuel injectors are valves that, at the appropriate times, open to allow fuel to be sprayed or atomized into a throttle bore or into the intake manifold ports. The fuel injectors are usually solenoid operated valves under the control of the vehicle's on-board computer (thus the term "electronic fuel injection"). The efficiency of fuel-injection systems is less temperature dependent than carburetor systems. Diesel engines always use injectors. See **Carburetor** and **Diesel Fuel Systems.**

**Fuel Oil:** See **Main Heating Fuel.**

**Fuel Type:** See **Type of Vehicle Fuel Purchased.**

**Full Service:** See Type of Primary Service.

**GPMR (Gallons per Mile Ratio):** See Miles-per-Gallon (mpg) Shortfall.

**Gasohol:** A fuel used in motor vehicles that is a blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol, but sometimes methanol), limited to 10 percent alcohol by volume. See **Gasoline**.

**Gasoline:** A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, obtained by blending appropriate refinery streams to form a fuel suitable for use in spark ignition engines. Motor gasoline includes both leaded or unleaded grades of finished motor gasoline, blending components, and gasohol.

**Hispanic Descent:** This, as the question on origin, was self-determined by the respondent and is collected in the 1993 RECS. The respondent was asked, "Is the householder of Spanish or Hispanic descent?" and the respondent's answer was recorded. See **Origin**.

**Hot-Deck Imputation:** A statistical procedure for deriving a probable response to a questionnaire item concerning a household or vehicle, where no response was given during the survey. To perform the procedure, the households or vehicles are sorted by variables related to the missing item. Thus, a series of "sort categories" are formed, which are internally homogeneous with respect to the sort variables. Within each category, households or vehicles for which the questionnaire item is not missing are randomly selected to serve as "donors" to supply values for the missing item of "recipient" households or vehicles.

**Household:** A family, an individual, or a group of up to nine unrelated persons occupying the same housing unit at the time of the 1993 RECS interview. "Occupy" means the housing unit was the person's usual or permanent place of residence at the time of the first field contact. The household includes babies, lodgers, boarders, employed persons who live in the housing unit, and persons who usually live in the household but are away traveling or in a hospital. The household does not include persons who are normally members of the household but who were away from home as college students or members of the armed forces at the time of the contact. The household does not include persons temporarily visiting with the household if they have a place of residence elsewhere, persons who take their meals with the household but usually lodge or sleep elsewhere, domestic employees or other persons employed by the household who do not sleep in the same housing unit, or persons who are former members of the household, but have since become inmates of correction or penal institutions, mental institutions, homes for the aged or needy, homes or hospitals for the chronically ill or handicapped, nursing homes, convents or monasteries, or other places in which residents may remain for long periods of time. By definition, the number of households is the same as the number of occupied housing units. The number or households for a subgroup or table cell is estimated by summing the survey weights over all sample households in that subgroup.

**Householder:** The person (or one of the people) in whose name the home is owned or rented. If there is no lease or similar agreement, or if the person who owns the home or pays the rent does not live in the housing unit, the householder is the person responsible for paying the household bills, or whoever is generally in charge.

**Household Composition:** The configuration of the household members including number of children, number of household members, and age of household members. For this report, households were divided into households with children and households without children. Within the households with children, a further division was made depending on the age of the oldest child. Within households without children, a further division was made depending on the number of adults and then within that category, the age of the households. See **Household**, **Householder**, and **Housing Unit**.

**Household Energy Expenditures:** The total amount of funds spent for energy consumed in, or delivered to, a housing unit during a given period of time. See **Combined Household Energy Expenditures**.

**Household Size:** Number of individuals occupying a housing unit. See **Household**, and **Housing Unit**.

**Housing Unit:** A structure or part of a structure where a household lives. It has direct access from the outside of the building, either directly or through a common hall. Housing units do not include group quarters such as prisons or nursing homes where 10 or more unrelated persons live. Hotel and motel rooms are considered housing units if occupied as the usual or permanent place of residence.

**Imputation:** A group of statistical techniques for estimating probable responses to questionnaire items concerning households or vehicles, where no responses or poor quality responses were given during the survey. The three most common techniques employed in this survey were "hot-deck," "regression," and "predictive mean matching." See **Hot-Deck Imputation**, **Cold-Deck Imputation**, **Predictive Mean Matching**, and **Regression Imputation**.

**Intermediate-Grade Gasoline:** An increasingly common grade of unleaded gasoline with an octane rating intermediate between "regular" and "premium." Octane boosters are added to gasolines to control engine pre-ignition or "knocking" by slowing combustion rates. See **Regular-Grade Gasoline** and **Premium-Grade Gasoline**.

**In-Use Miles per Gallon (mpg):** A mpg value that was adjusted for seasonality and annual miles traveled.

**Jeep-like Vehicle:** These vehicles are now referred to as sport-utility. See **Sport-Utility Vehicle**.

**Kerosene:** See **Main Heating Fuel**.

**Large Van:** See **Van**.

**Leaded Gasoline:** A fuel that contains more than 0.05 gram of lead per gallon or more than 0.005 gram of phosphorus per gallon. See **Gasoline** and **Unleaded Gasoline**.

**Liquefied Petroleum Gas (LPG):** See **Main Heating Fuel**.

**Liters:** See **Engine Size**.

**Lundberg Survey Inc. Price Series:** See **Price**.

**Main Heating Fuel:** The primary fuel delivered to a residential site. It may be converted to some other form of energy at the site. The following are defined as primary fuels for this report:

*Electricity:* Metered electric power supplied by a central utility company to a residence via underground or above-ground power lines. It does not refer to electricity generated onsite for the exclusive use of a residence. When a residence has its own generating capability, the fuel used for the generator will be specified. The Btu equivalent for electricity is the energy value of electricity as received by the household (3,412 Btu per kilowatthour). For this report, energy losses that occur in generating and transmitting electricity are not included in the conversion of electricity into a Btu equivalent. If these losses were to be included, the conversion rate would generally be about 10,353 Btu per kilowatthour.

*Fuel Oil:* No. 1, No. 2, or No. 4 grade fuel oil or residual oil that is burned for space- or water-heating purposes. No. 1 distillate fuel oil is a form of heating oil used mostly as a blending stock to insure that heavier grades of fuel flow under severe cold weather conditions. No. 2 distillate refers to both No. 2 heating oil and No. 2 diesel fuel. Although these products are not identical, they are essentially interchangeable for most applications. No. 2 fuel oil is the most common form of heating oil. No. 4 distillate is a blend of No. 2 and No. 5 or No. 6 residual fuel oil, used in large stationary diesel engines and boilers equipped with fuel preheating equipment. Residual fuel oil refers to the heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations.

**Kerosene:** The generic name for a distilled product of oil or coal, having properties similar to those of No. 1 fuel oil. Kerosene is used for cooking stoves, for space heating or water heating, or for lighting equipment that uses wicks. It is sometimes sold under the names "range oil," "stove oil," or "coal oil."

**Liquefied Petroleum Gas (LPG):** Any fuel gas supplied to a residence in liquid form, such as propane or butane. It is usually delivered by tank truck and stored near the residence in a tank or cylinder until used. Propane was the most common liquefied petroleum gas supplied to RECS households. Household use of LPG solely for outdoor gas grills is not considered sufficient use to mark the household as a user of LPG.

**Natural Gas:** Utility gas supplied by underground pipeline to individual housing units by a central utility company. It does not refer to privately owned gas wells operated by the household, nor to LPG.

**Mean:** The simple arithmetic average for a population; that is, the sum of all the values in a population divided by the size of the population. For this report, population means are estimated by computing the weighted sum of the sample values, then dividing by the sum of the sample weights. The mean is, thus, an aggregate ratio whose denominator is the total number of households or vehicles. See **Ratio Estimate**.

**Measured Heated Area of Residence:** The floor area of the housing unit that is enclosed from the weather and heated as collected in the 1993 RECS. Basements are included whether or not they contain finished space. Garages are included if they have a wall in common with the house. Attics that have finished space and attics that have some heated space are included. Crawl spaces are not included even if they are enclosed from the weather. Sheds and other buildings that are not attached to the house are not included. "Measured" area means that the measurement of the dimensions of the home did not rely on the respondent's reports but was an actual measurement by the interviewer using a metallic, retractable, 50-foot tape measure. "Heated area" is that portion of the measured area that is heated during most of the season. Rooms that are shut off during the heating season to save on fuel are not counted. Attached garages that are unheated and unheated areas in the attics and basements are also not counted.

**Metropolitan:** See **Urban**.

**Metropolitan Statistical Area (MSA):** Areas defined by the U.S. Office of Management and Budget in 1992. An MSA is (1) a county or group of contiguous counties that contain at least one city of 50,000 inhabitants or more, or (2) an urbanized area of at least 50,000 inhabitants and a total MSA population of at least 100,000 (75,000 in New England). The contiguous counties are included in an MSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, MSAs consist of towns and cities, rather than counties. (See **Urban**, **Central City**, **Suburban**, and **Rural**.)

**Metropolitan Status:** Refers to the geographic location of the households in relationship to MSA's. See **Metropolitan**, **Nonmetropolitan**, and **Central City**.

**Miles per Gallon (mpg):** A measure of vehicle fuel economy. Miles per gallon (mpg) as presented in this report represents "fleet miles per gallon." For each subgroup or "table cell," mpg is computed as the ratio of the total number of miles traveled by all vehicles in the subgroup to the total number of gallons consumed. For the 1994 RTECS, mpg values were assigned to each vehicle using the EPA certification files and adjusted for on-road driving.

**Mini-Service Pumps:** See **Type of Primary Service**.

**Minivan:** New type of small van that first appeared with that designation in 1984. Any of the smaller vans built on an automobile-type frame. Earlier models such as the Volkswagen van are now included in this category.

**Model Year:** As determined by the manufacturer, the model year is the year that appears in the vehicle identification number.

**Motor Fuel Consumption:** See **Vehicle Fuel Consumption**.

**Motor Fuel Expenditures:** See **Vehicle Fuel Expenditures**.

**mpg:** See **Miles per Gallon**.

**Miles-per-Gallon (mpg) Shortfall:** The difference between actual on-road mpg and EPA laboratory test mpg. Miles-per-gallon (mpg) shortfall is expressed as gallons-per-mile ratio (GPMR).

**MSA:** See **Metropolitan Statistical Area (MSA)**.

**Multistage Area Probability Sample:** A sample design executed in stages with geographic “clusters” of sampling units selected at each stage. This procedure reduces survey expense while maintaining national coverage.

**Natural Gas:** See **Main Heating Fuel**.

**Nonmetropolitan:** Households not located within MSAs as defined by the U.S. Office of Management and Budget. See **Metropolitan Statistical Area (MSA)**.

**Number of Cylinders:** In a reciprocating engine, a cylinder is the chamber in which combustion of fuel occurs and the piston moves, ultimately delivering power to the wheels. Common engine configurations include 4, 6, and 8 cylinders. Generally, the more cylinders a vehicle has, the greater the amount of engine power it has. However, more cylinders often result in less fuel economy. See **Engine Size**.

**Number of Households:** The total number of households in the United States that are represented by the sample households. In this report, most statistics are shown for the number of households with vehicles, which is a subset of the total number of households.

**Number of Vehicles:** See **Vehicle and Vehicle Stock**.

**Occupied Housing Unit:** A unit someone was living in as his or her usual or permanent place of residence when the first field contact was made. See **Housing Unit**.

**On-Road Miles per Gallon (mpg):** A composite mpg that was adjusted to account for the difference between the test value and the fuel economy actually obtained on the road.

**Origin:** The primary ethnic background of the person considered to be the householder as self-determined by the respondent. Origin of householder was collected in the 1993 RECS. Each respondent was asked, “Which of the groups on this exhibit best describes the householder?” The groups included: white, black or Negro, American Indian, Alaskan native, Asian, and Pacific Islander. The word “race” was not used in either the questionnaire or the instructions. See **Hispanic Descent**.

**Outside Central City:** See **Central City**.

**Passenger Car:** See **Vehicle and Automobile**.

**Pickup Truck:** Includes compact and full-size pickup trucks. See **Vehicle**.

**Poverty:** Low-income classifications to which certain households are assigned based on the household's annual income reported in the 1993 RECS. “Below 100 percent of poverty” encompasses a group of households with incomes below the poverty level as defined by the Bureau of the Census. “Below 125 percent of poverty” includes a group of households with incomes below 125 percent of the poverty level. These groups of the poor and near-poor represent

alternative levels for defining poverty. The definitions of "poor" are based on the number of family members in the household and the income of the entire family.

**Premium-Grade Gasoline:** A grade of unleaded gasoline with a high octane rating, (approximately 92) designed to minimize preignition or engine "knocking" by slowing combustion rates. See **Regular-Grade Gasoline** and **Intermediate-Grade Gasoline**.

**Predictive Mean Matching:** A model-based procedure used to impute for item nonresponse. This method uses logistic models to compute predicted means that are used to statistically match each nonrespondent to a respondent with the closest predicted mean. The respondent's value is directly imputed to the nonrespondent.

**Price:** The dollar amount per gallon of fuel purchased. For the 1994 RTECS, fuel prices were not collected directly from the respondent. Instead fuel prices were estimated from the Bureau of Labor Statistics Retail Pump Price Survey and from the Lundberg Survey Inc. Prices

**Primary Sampling Unit (PSU):** A sampling unit selected at the first stage in multistage area probability sampling. A PSU typically consists of one to several contiguous counties--for example, a metropolitan area with surrounding suburban counties. The approximately 3,100 counties and independent cities of the contiguous United States were grouped into about 1,800 PSUs by a procedure similar to the one used by the Census Bureau for its Current Population Survey. PSUs can be composed of one or more MSAs or can be composed of rural counties.

**PSU:** See **Primary Sampling Unit**.

**Quadrillion:** The number 1,000,000,000,000,000 or  $10^{15}$ .

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**Type of Primary Service:** The dominant type of service the respondent uses at the service station. Response categories include “full-service pumps,” “self- or mini-service pumps,” or “both equally.” Mini-service is provided when attendants pump the vehicle fuel but do not provide any other service, such as checking the tire pressure.

**Urban:** Urban refers to a group of households located within Metropolitan Statistical Areas (MSAs) as defined by the U.S. Office of Management and Budget in 1993. For this report, urban is composed of central city and suburban areas. An MSA is (1) a county or group of contiguous counties that contain at least one city of 50,000 inhabitants or more, or (2) an urbanized area of at least 50,000 inhabitants and a total MSA population of at least 100,000 (75,000 in New England). The contiguous counties are included in an MSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, MSAs consist of towns and cities rather than counties. (See **Central City, Suburban, and Rural.**)

**Unleaded Gasoline:** Contains not more than 0.05 gram of lead per gallon and not more than 0.005 gram of phosphorus per gallon. Premium, regular and intermediate grades are included, depending on the octane rating. See **Gasoline, Leaded Gasoline, Regular-Grade Gasoline, Intermediate-Grade Gasoline, and Premium-Grade Gasoline.**

**Van:** Includes large vans. Generally, the distinction between large vans and minivans is made by the respondents' answers to “Type of Vehicle” question. Exceptions were: (1) Volkswagen vans were categorized as minivans, and (2) all other pre-1983 vans were categorized as vans.

**Vehicle:** For the RTECS, vehicles were any motorized vehicles used by U.S. households for personal transportation. Excluded were: motorcycles, mopeds, large trucks, and buses. Included were: automobiles, station wagons, passenger vans, cargo vans, motor homes, pickup trucks, and sport-utility or similar vehicles. In order to be included, vehicles must be: (1) owned by members of the household; (2) company cars not owned by household members but regularly available to household members for their personal use and are ordinarily kept at home; or (3) rented or leased for 1 month or more. See **Vehicle Stock, Vehicles Used on the Job, Automobile, Minivans, Vans, Pickup Trucks, and Sport-Utility Vehicles.**

**Vehicle Acquisition:** The number of vehicles a household acquires or obtains during the RTECS survey year. The average number of vehicles in the stock is computed using these data. See **Vehicle Disposition.**

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**Vehicle Fuel Consumption:** Vehicle fuel consumption is computed as the vehicle-miles traveled divided by the fuel economy reported in miles per gallon (mpg). For the 1994 RTECS, vehicle fuel consumption was derived from the actual vehicle mileage collected in the RTECS and the assigned mpg values were obtained from the EPA certification files and adjusted for on-road driving.

**Vehicle Fuel Economy:** See **Miles per Gallon (mpg).**

**Vehicle Fuel Expenditures:** The cost, including taxes, of the gasoline, gasohol or diesel fuel added to the vehicle's tank. Expenditures do not include the cost of oil or other items that may have been purchased at the same time as the vehicle fuel.

**Vehicle Identification Number (VIN):** A set of codes, usually alpha-numeric characters, assigned to a vehicle at the factory and inscribed on the vehicle. When decoded, the VIN provides vehicle characteristics. The VIN was used in the 1994 RTECS to help match vehicles to the EPA certification file for calculating miles-per-gallon values. See **Environmental Protection Agency (EPA) Certification Files.**

**Vehicle-Miles Traveled (VMT):** The number of miles traveled nationally by the RTECS vehicles for a period of 1 year. In the RTECS, VMT were either calculated using two odometer readings or, for vehicles with less than two odometer readings, imputed using a regression estimate. See **Average Vehicle-Miles Traveled**.

**Vehicle Stock:** The number of vehicles owned or used by a household for personal transportation. In the RTECS, with the exception of the statistics reported as of July 1994, a vehicle was defined in terms of a "vehicle year." If a vehicle was present in a household for the entire year, it was counted as one vehicle. If a vehicle was present in a household for one-half of the year, it was counted as only one-half of a vehicle. Therefore, the number of vehicles a sample household was considered as having during the survey year was computed as the days of possession summed over all vehicles in the household, divided by 366 days (1994 was a leap year). See **Average Number of Vehicles and Vehicles**.

**Vehicle Used on the Job:** A vehicle used by anyone in the household for job-related activities, excluding commuting to and from work. These vehicles are included in the RTECS. See **Vehicle**.

**VIN:** See **Vehicle Identification Number**.

**VMT:** See **Vehicle-Miles Traveled**.

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