



U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

# National Transportation Statistics

Annual Report

July 1986

- ★ Air Carrier
- ★ General Aviation
- ★ Modal Profiles
- ★ Passenger Miles



- ★ Truck ★ Highway
- ★ Bus ★ Transportation Energy
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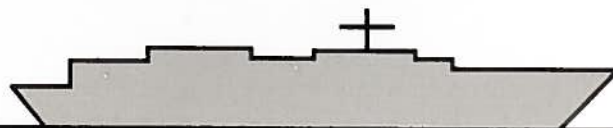
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Transportation Systems Center



U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

# **NATIONAL TRANSPORTATION STATISTICS**

*Annual Report, 1986*

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**Secretary of Transportation**

*Elizabeth H. Dole*

**Research and Special Programs Administrator**

*M. Cynthia Douglass*

Technical Report Documentation Page

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## INTRODUCTION

Developing and maintaining vital transportation statistics is one of the missions of the U.S. Department of Transportation's Transportation Systems Center (TSC). This publication is produced to support this mission and is intended to disseminate national transportation and energy statistics to the transportation and energy communities.

The compilation of statistical materials is usually a tedious and time consuming process. Consequently, reliable sources often represent a 1-2 years time lag. This report incorporates the latest available information at the time of publication.

While most of these statistics are available from various sources such as government agencies and trade associations, they are presented here in one convenient and comprehensive report. Particular attention has been taken in documenting the sources of all data. These sources are noted either on the same page as the data or in Appendix A -- Source Information.

The reader is urged to utilize the Source Information, and those who may want additional information or an explanation regarding the data in this publication, should check with the source(s).

Four different formats are used -- 1) Tree Displays, 2) Modal Profiles, 3) Performance Indicators, and 4) Transportation Trends -- to spotlight various aspects of the major transportation modes. In addition, three supplemental data sections detail the role of transportation in the economy, the relationship of energy to transportation, and the results of a nationwide personal transportation study. Time series transportation statistics are presented for the period 1974-1984/1985. Energy consumption and supply-and-demand data cover the same period and extend back to 1955.

### TREE DISPLAYS

The interrelationships of the various modes are presented via tree displays. These displays present the relationship between and within each transportation mode for the following areas:

- Expenditures and Revenues
- Vehicle-Miles
- Passenger-Miles
- Revenue Ton-Miles of Freight
- Number of Vehicles
- Number of Fatalities
- Energy Consumed

Because of the variety of data sources, the totals may not always equal the sums of the subordinate data. Sources for each statistic may be found by tracing its parenthetical reference number to Appendix A. Where data are not available or not applicable, the block contains the letters "n/a".

### MODAL PROFILES

The Modal Profiles present cost, inventory, and performance data comparisons for 1974, 1983, and 1984. In some cases, not all of the types of data in these profiles are available for every mode, nor are they always applicable.

The following list indicates the type of data usually included in each group:

# TREE DISPLAYS 1984



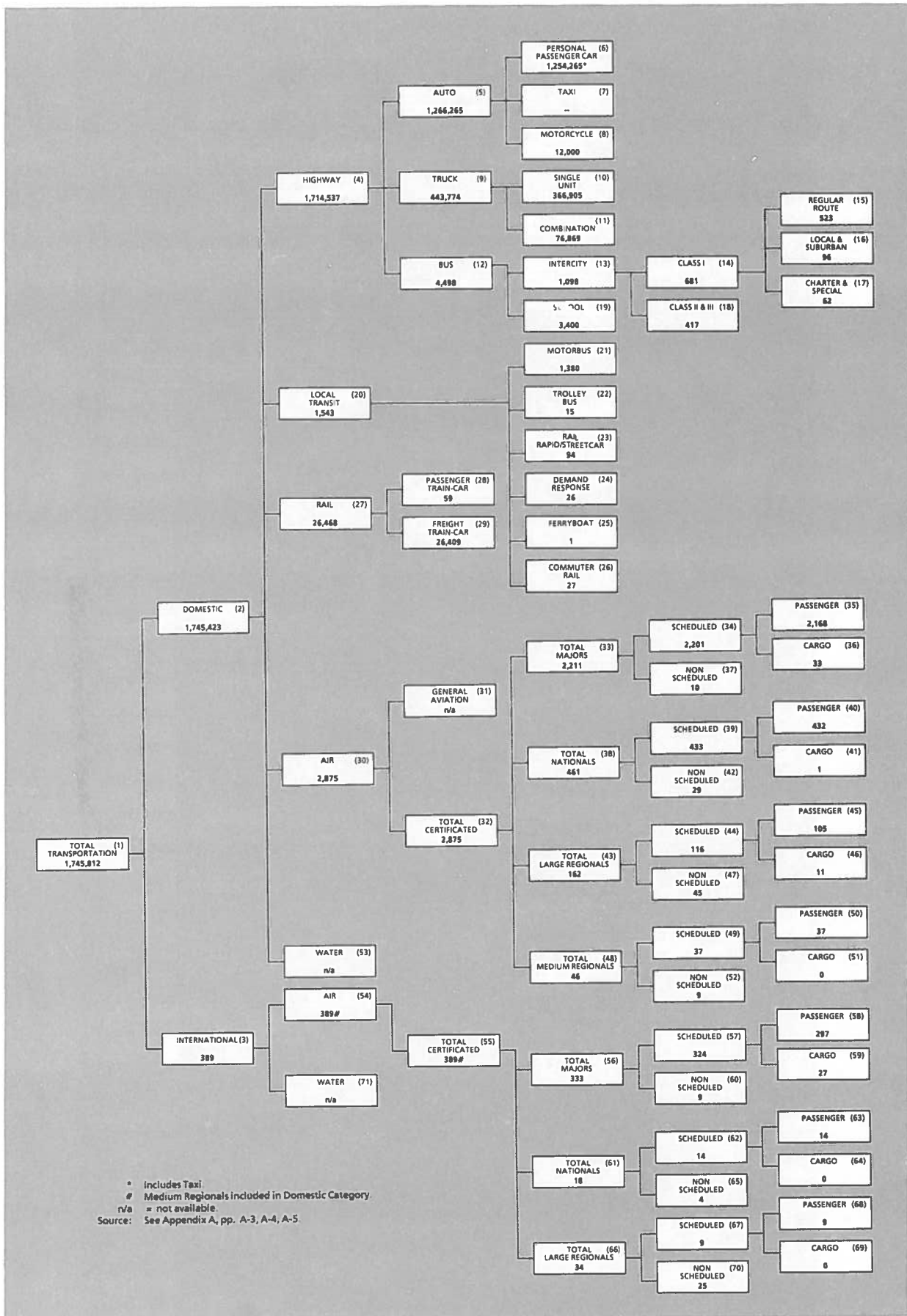


Figure 2. Vehicle-Miles (millions) - 1984

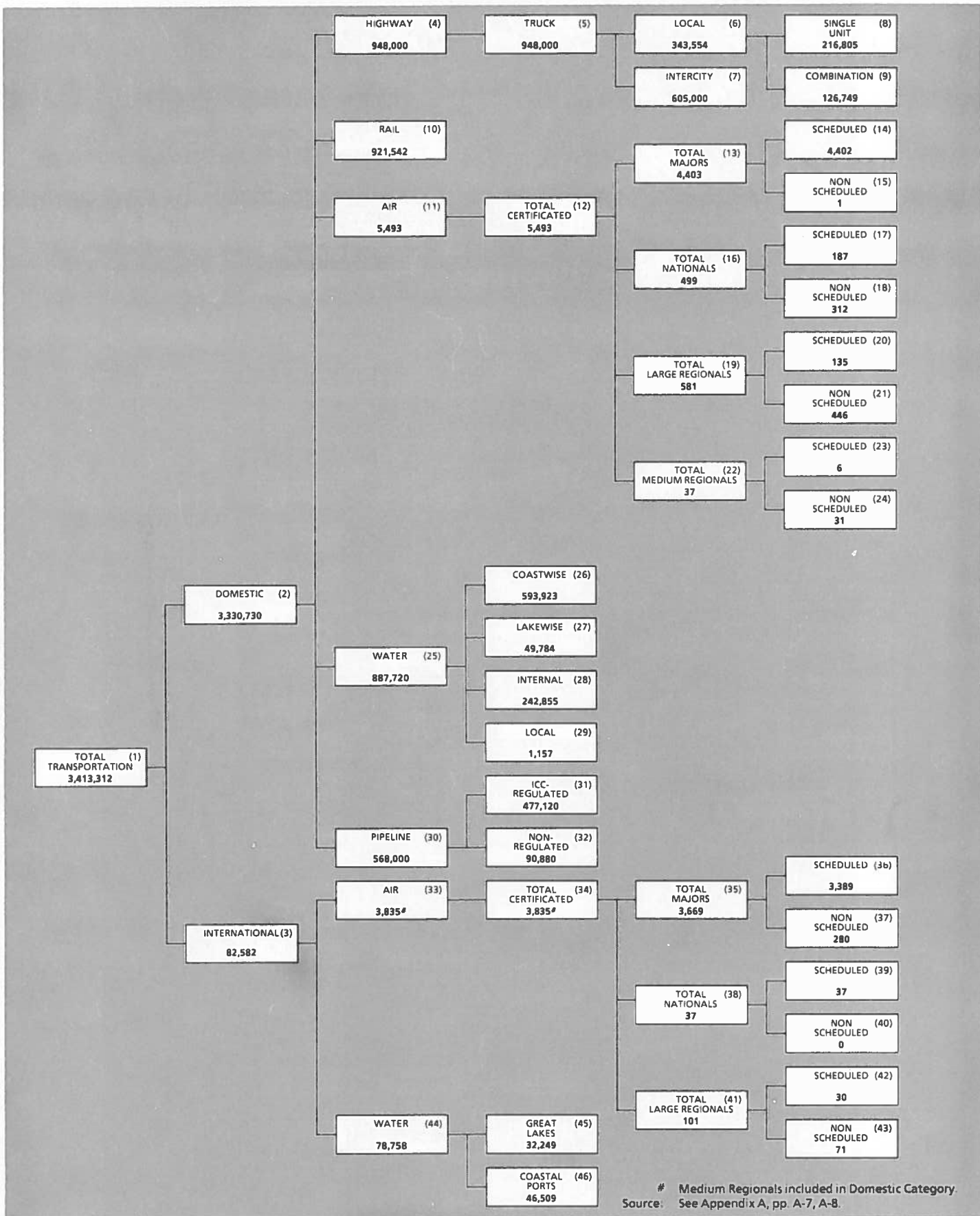


Figure 4. Revenue Ton-Miles of Freight (millions) - 1984

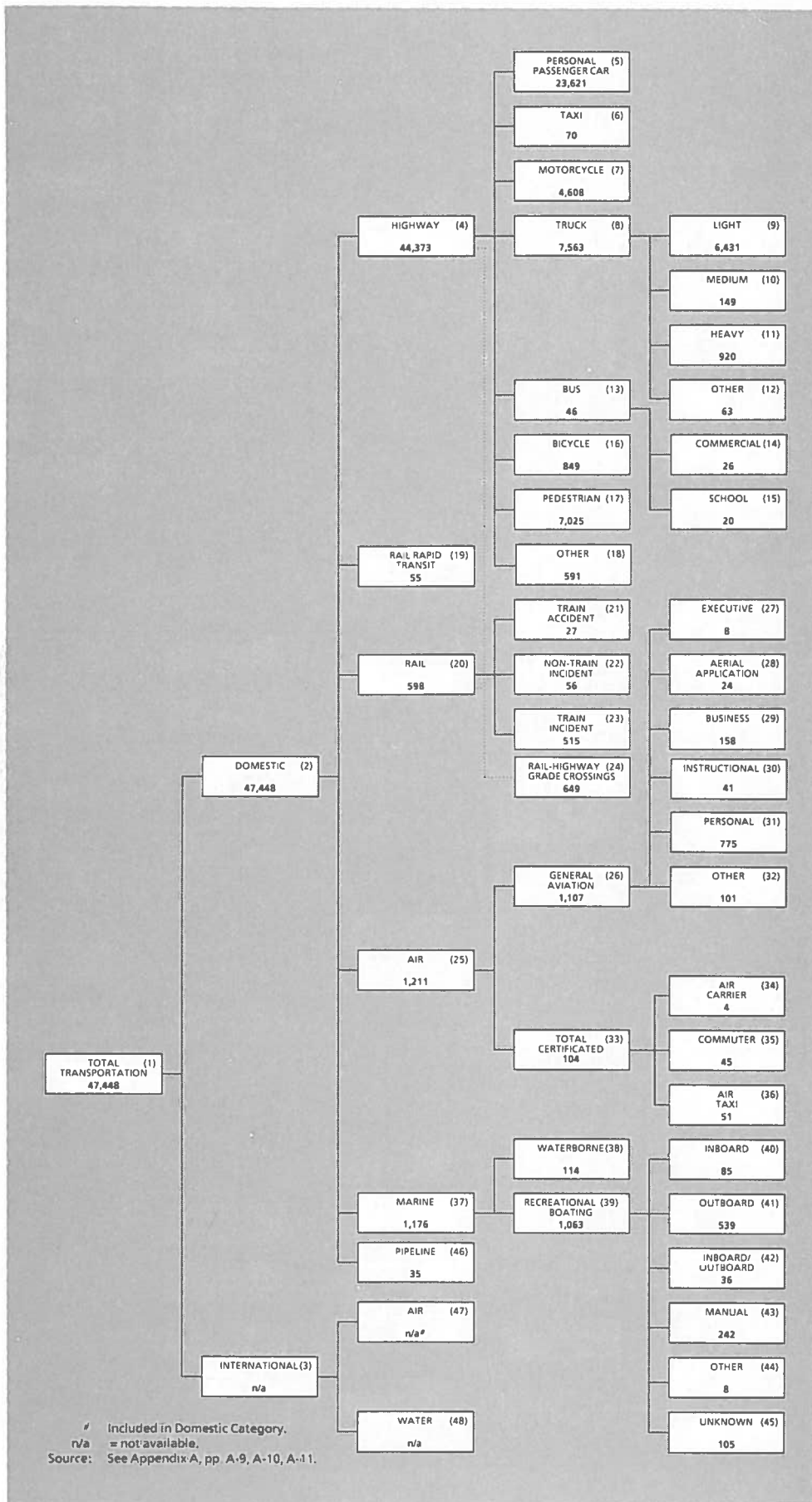


Figure 6. Number of Fatalities - 1984

# MODAL PROFILES 1974, 1983 and 1984

## MODAL PROFILE SOURCE REFERENCES AND PERCENT CHANGE CALCULATION

Specific source references are obtained as follows: the letter directly to the right of the data element applies to all subsequent data elements in that column until the next letter appears. In some cases, data are shown which may not appear directly in the sources listed. These were obtained by addition/subtraction of referenced data or of other data in its column, and are marked with an asterisk.

For example:

### Air Carrier Profile

#### 1984

28,282.6b	reference letter b
26,936.5	also applies to the three
113.4	subsequent data elements
1,232.7	
6,067.3c	reference letter c refers to
	a different data source

The specific source number and page or table reference may then be found at the end of each modal profile. All sources are listed in Appendix A--Source Information.

The 1983-1984 percent change column refers to the usual percent difference between 1983 data and 1984 data. The 1974-1984 average annual percent change is equal to  $C \times 100$ , where C is obtained from the following relationship:  $D^{84} = D^{74}(1 + C)^{11}$ . (Note  $D^{74}$  and  $D^{84}$  refer to 1974 and 1984 data, respectively; C is the change, and the relationship is derived from the compound interest formula.)

## AIR CARRIER PROFILE (cont'd)

III. PERFORMANCE	<u>1974</u>	<u>1983<sup>1</sup></u>	<u>1984<sup>1</sup></u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
Aircraft Revenue-Miles (millions)					
Domestic					
Certificated, all services*	1,938.0 <sup>a</sup>	2,553.0 <sup>j</sup>	2,875.4 <sup>j</sup>	3.7	12.6
Scheduled services	1,900.5	2,482.6	2,786.2	3.5	12.2
Nonscheduled services	37.5	70.4	89.2	8.2	26.7
Majors, all services*	1,619.0	1,968.4 <sup>k</sup>	2,211.1 <sup>k</sup>	2.9	12.3
Scheduled services	1,589.1	1,960.1	2,200.9	3.0	12.3
Nonscheduled services	29.9	8.3	10.2	-9.3	22.9
Nationals, all services*	269.0	462.0 <sup>l</sup>	461.4 <sup>l</sup>	5.0	-0.1
Scheduled services	264.5	437.3	432.5	4.6	-1.1
Nonscheduled services	4.5	24.7	28.9	18.4	17.0
Large Regionals, all services*	50.0	108.8 <sup>m</sup>	161.5 <sup>m</sup>	11.3	48.4
Scheduled services	46.9	77.4	116.3	8.6	-78.9
Nonscheduled services	3.1	31.4	45.2	27.6	44.0
International					
Certificated, all services*	412.8	357.2 <sup>n</sup>	388.8 <sup>n</sup>	-0.5	8.9
Scheduled services	357.6	326.0	347.4	-0.3	6.6
Nonscheduled services	55.2	31.2	41.4	-2.6	32.7
Majors, all services*	376.3	288.3 <sup>o</sup>	332.8 <sup>o</sup>	-1.1	15.4
Scheduled services	330.2	282.1	323.6	-0.2	14.7
Nonscheduled services	46.1	6.2	9.2	-13.6	48.4
Nationals, all services*	36.5	47.7 <sup>p</sup>	18.0 <sup>p</sup>	-6.2	-62.3
Scheduled services	27.4	36.3	14.4	-5.7	-60.3
Nonscheduled services	9.1	11.4	3.6	-8.1	-68.4
Large Regionals, all services*	n/a	29.6 <sup>q</sup>	33.9 <sup>q</sup>	-	14.5
Scheduled services	n/a	7.4	9.3	-	25.7
Nonscheduled services	n/a	22.2	24.6	-	10.8
Medium Regionals, all services					
Domestic and International*	n/a	17.8 <sup>r</sup>	45.6 <sup>r</sup>	-	156.2
Total Certificated*	2,350.8	2,928.0	3,309.8	3.2	13.0
Aircraft Revenue-Hours (thousands)					
Domestic					
Certificated, all services*	4,820.9	6,175.0 <sup>j</sup>	6,970.9 <sup>j</sup>	3.4	12.9
Scheduled services	4,731.0	5,985.3	6,736.6	3.3	12.6
Nonscheduled services	89.9	189.7	234.3	9.1	23.5
Majors, all services*	3,759.0	4,571.9 <sup>k</sup>	5,179.4 <sup>k</sup>	3.0	13.3
Scheduled services	3,695.5	4,553.8	5,156.5	3.1	13.2
Nonscheduled services	63.5	18.1	22.9	-8.9	26.5
Nationals, all services*	897.5	1,209.0 <sup>l</sup>	1,187.5 <sup>l</sup>	2.6	-1.8
Scheduled services	886.3	1,141.7	1,112.3	2.1	-2.6
Nonscheduled services	11.2	67.3	75.2	18.9	11.7
Large Regionals, all services*	164.4	339.8 <sup>m</sup>	460.4 <sup>m</sup>	9.8	35.5
Scheduled services	149.2	251.9	337.6	7.7	34.0
Nonscheduled services	15.2	87.9	122.8	20.9	-76.2
International					
Certificated, all services*	856.8	740.9 <sup>n</sup>	792.7 <sup>n</sup>	-0.7	7.0
Scheduled services	743.8	663.7	701.9	-0.5	5.8
Nonscheduled services	113.0	77.2	90.8	-2.0	17.6
Majors, all services*	780.8	582.3 <sup>o</sup>	668.8 <sup>o</sup>	-1.4	14.9
Scheduled services	686.7	569.3	649.8	-0.5	14.1
Nonscheduled services	94.1	13.0	19.0	-13.5	46.2
Nationals, all services*	76.0	94.2 <sup>p</sup>	36.0 <sup>p</sup>	-6.6	-61.8
Scheduled services	57.1	71.9	28.7	-6.1	-60.1
Nonscheduled services	18.9	22.3	7.3	-8.3	-67.3

## AIR CARRIER PROFILE (cont'd)

	<u>1974</u>	<u>1983<sup>1</sup></u>	<u>1984<sup>1</sup></u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
Majors, all services	19.6 <sup>a</sup>	20.9 <sup>o</sup>	22.4 <sup>o</sup>	1.2	7.2
Scheduled services	17.7	20.3	22.0	2.0	8.4
Nonscheduled services	1.9	0.6	0.4	-13.2	-33.3
Nationals, all services	0.1	2.0 <sup>p</sup>	1.4 <sup>p</sup>	27.1	-30.0
Scheduled services	0.0	1.3	1.1	23.3	-15.4
Nonscheduled services	0.1	0.7	0.3	10.5	-57.1
Large Regionals, all services	n/a	1.9 <sup>q</sup>	2.5 <sup>q</sup>	-	31.6
Scheduled services	n/a	0.3	0.6	-	100.0
Nonscheduled services	n/a	1.6	1.9	-	18.8
Medium Regionals, all services					
Domestic and International*	n/a	1.0 <sup>r</sup>	3.5 <sup>r</sup>	-	250.0
Total Certificated*	211.4	324.2	355.0	4.8	9.5
Revenue Passenger Load Factor (%)					
Domestic					
Certificated, scheduled services	55.5	59.8 <sup>j</sup>	57.7 <sup>i</sup>	0.4	-3.5
Majors, scheduled services	55.7	59.9 <sup>k</sup>	57.6 <sup>k</sup>	0.3	-3.8
Nationals, scheduled services	52.7	59.2 <sup>l</sup>	58.8 <sup>l</sup>	1.0	-0.7
Large Regionals, scheduled services	n/a	61.4 <sup>m</sup>	51.6 <sup>m</sup>	-	-16.0
International					
Certificated, scheduled services	52.6	64.3 <sup>n</sup>	66.2 <sup>n</sup>	2.1	3.0
Majors, scheduled services	52.6	63.8 <sup>o</sup>	65.9 <sup>o</sup>	2.1	3.3
Nationals, scheduled services	n/a	72.6 <sup>p</sup>	71.5 <sup>p</sup>	-	-1.5
Large Regionals, scheduled services	n/a	64.6 <sup>q</sup>	67.1 <sup>q</sup>	-	4.6
Medium Regionals, all services					
Domestic and International*	n/a	35.1 <sup>r</sup>	62.3 <sup>r</sup>	-	77.5
Total Certificated*	108.1	159.2	186.2	5.1	17.0
U.S. International Passenger Travel					
Total Passenger-Arrivals (thousands)	13,559.0 <sup>s</sup>	20,840.0 <sup>s</sup>	23,212.0 <sup>s</sup>	5.0	11.4
Flag of Carrier:					
United States	7,334.0	10,698.0	11,623.0	4.3	8.7
Foreign	6,225.0	10,142.0	11,588.0	5.8	14.3
Total Passenger-Departures (thousands)	12,491.0	19,724.0	21,608.0	5.1	9.5
Flag of Carrier:					
United States	6,521.0	9,888.0	10,531.0	4.5	6.5
Foreign	5,977.0	9,837.0	11,706.0	6.3	19.0
Total Revenue Ton-Miles (millions)					
Domestic					
Certificated, all services	16,999.2 <sup>a</sup>	29,401.5 <sup>j</sup>	30,561.4 <sup>j</sup>	5.5	4.0
Scheduled services	16,553.4	28,271.5	29,096.2	5.3	2.9
Nonscheduled services	445.8	1,130.0	1,465.3	11.4	29.7
Majors, all services	15,076.8	22,513.1 <sup>k</sup>	24,668.9 <sup>k</sup>	4.6	9.6
Scheduled services	14,699.0	22,393.1	24,545.5	4.8	9.6
Nonscheduled services	377.8	120.0	123.4	-9.7	2.5
Nationals, all services	1,211.8	5,215.2 <sup>l</sup>	4,249.3 <sup>l</sup>	12.1	-18.5
Scheduled services	1,189.8	4,710.4	3,635.4	10.7	-22.8
Nonscheduled services	22.0	504.8	613.9	35.3	21.6
Large Regionals, all services	533.1	950.6 <sup>m</sup>	1,345.1 <sup>m</sup>	8.8	41.5
Scheduled services	490.6	569.3	726.1	3.6	27.5
Nonscheduled services	42.5	381.3	619.0	27.6	62.3
International					
Certificated, all services	6,901.1	9,539.6 <sup>n</sup>	10,716.5 <sup>n</sup>	4.1	12.3
Scheduled services	5,871.9	8,614.2	9,600.8	4.6	11.5
Nonscheduled services	1,029.2	925.4	1,115.7	0.7	20.6

## AIR CARRIER PROFILE (cont'd)

	<u>1974</u>	<u>1983<sup>1</sup></u>	<u>1984<sup>1</sup></u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
<b>Fatal Air Carrier Accidents</b>					
Operating under 14 CFR 121					
All scheduled services	7.0 <sup>t</sup>	4.0 <sup>t</sup>	1.0 <sup>t</sup>	-16.2	-75.0
Nonscheduled services	0.0	1.0	0.0	0.0	0.0
Operating under 14 CFR 135					
All scheduled services	n/a	2.0	7.0	-	250.0
Nonscheduled (On-demand Air Taxis)	n/a	28.0	22.0	-	-21.4
<b>Total*</b>	<b>7.0</b>	<b>35.0</b>	<b>30.0</b>	<b>14.1</b>	<b>-14.3</b>
<b>Air Carrier Fatalities</b>					
Operating under 14 CFR 121					
All scheduled services	460.0	15.0	4.0	-36.0	-73.3
Nonscheduled services	0.0	7.0	0.0	0.0	0.0
Operating under 14 CFR 135					
All scheduled services	n/a	11.0	45.0	-	309.1
Nonscheduled (On-demand Air Taxis)	n/a	62.0	51.0	-	-17.7
<b>Total*</b>	<b>460.0</b>	<b>95.0</b>	<b>100.0</b>	<b>-13.0</b>	<b>5.3</b>

n/a = not available.

\* Data derived by addition/subtraction and may not appear directly in the data source.

# Regionals include both large and medium regionals.

<sup>1</sup> Domestic encompasses operations within and between the 50 states of the United States, the District of Columbia, Puerto Rico and the Virgin Islands. It also encompasses Canadian and Mexican transborder operations. All other operations are considered International.

<sup>2</sup> Includes scheduled and nonscheduled (charter) operators. By Sec. 2 of the Airline Deregulation Act of 1978 "charter air carrier" and "charter air transportation" replaced supplemental air carriers and supplemental air transportation which were formerly Sec. 101(36) and (37) of the Act. The 24 pre-deregulation supplemental carriers all now have scheduled service authority.

<sup>3</sup> Scheduled includes total of freight, air express, U.S. mail and foreign mail. Nonscheduled includes total of civilian freight and other revenue; also military freight and other revenue.

The following data references are listed in Appendix A, pp. A-13, A-14.

<u>Source</u>	<u>Reference Number/Location</u>
a	21) personal communication
b	11) p. 3
c	11) p. 25
d	11) p. 45
e	11) p. 4
f	11) p. 28
g	11) p. 1
h	40) personal communication
j	12/39) p. 2
k	12/39) p. 5
l	12/39) p. 51
m	12/39) p. 85
n	12/39) p. 3
o	12/39) p. 6
p	12/39) p. 52
q	12/39) p. 86
r	12/39) p. 158
s	42) Tables IIa and IId
t	33) pp. 159, 162, 165, 167, 169

## GENERAL AVIATION PROFILE (cont'd)

n/a = not available.

# In 1974, Classified as "Industrial Special".

Source: The following data references are listed in Appendix A, pp. A-13, A-14.

<u>Source</u>	<u>Reference Number/Location</u>
a	20) p. 5
b	22) p. 5
c	33) Table 8.1
d	34) Tables 2-4, 2-9
e	33) Table 8.3
f	18) personal communication



## HIGHWAY PROFILE (cont'd)

	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
Minor arterial	50,677.0 <sup>d</sup>	133,421.0 <sup>d</sup>	136,885.0 <sup>d</sup>	9.5	2.6
Major collector	103,147.0	156,786.0	159,908.0	4.1	2.0
Minor collector	18,268.0	43,806.0	43,694.0	8.3	-0.3
Local	86,585.0	81,825.0	86,034.0	-0.1	5.1
<b>Total</b>	<b>583,474.0</b>	<b>700,533.0</b>	<b>718,849.0</b>	<b>1.9</b>	<b>2.6</b>
<b>Urban</b>					
Interstate	127,673.0	191,149.0	203,572.0	4.3	6.5
Other freeways and expressways	66,736.0	86,790.0	93,645.0	3.1	7.9
Other principal arterial	211,876.0	255,327.0	270,916.0	2.3	6.1
Minor arterial	173,028.0	188,467.0	195,329.0	1.1	3.6
Collector	55,335.0	86,593.0	87,788.0	4.3	1.4
Local	71,523.0	140,247.0	146,669.0	6.8	4.6
<b>Total</b>	<b>706,171.0</b>	<b>948,573.0</b>	<b>997,919.0</b>	<b>3.2</b>	<b>5.2</b>
<b>Total Rural and Urban</b>	<b>1,289,645.0</b>	<b>1,649,106.0</b>	<b>1,716,768.0</b>	<b>2.6</b>	<b>4.1</b>

n/a = not available.

\* Figures obtained by addition/subtraction and may not appear directly in data source.

\*\* 1983 and 1984 now based on merged Highway Performance Monitoring System (HPMS) data and may vary from previous years.

† Mileage in Federal parks, forests, and reservations that are not a part of the state and local highway system.

Source: The following data references are listed in Appendix A, p. A-14.

<u>Source</u>	<u>Reference Number/Location</u>
a	36) Table HF-10
b	36) Table M-1
c	36) Table HM-10
d	36) Table VM-2

## AUTOMOBILE PROFILE (cont'd)

	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
<b>Average Fuel Consumption per Vehicle (gallons)</b>					
Passenger cars and taxis	704.0 <sup>h</sup>	578.0 <sup>h</sup>	579.0 <sup>h</sup>	-1.8	0.2
Motorcycles	90.0	43.0	44.0	-6.3	2.3
Total	676.0	555.0	557.0	-1.7	0.4
<b>Average Miles Traveled Per Gallon of Fuel Consumed</b>					
Passenger cars and taxis	14.0	17.0	17.0	1.8	0.0
Motorcycles	50.0	50.0	50.0	0.0	0.0
Total	14.0	17.0	17.0	1.8	0.0
<b>Number of Vehicles in All Accidents</b>					
Motorcycles	360,000.0 <sup>i</sup>	480,000.0 <sup>i</sup>	530,000.0 <sup>i</sup>	3.6	10.4
Passenger cars	20,600,000.0	23,500,000.0	25,200,000.0	1.9	7.2
Taxis	150,000.0	140,000.0	110,000.0	-2.8	-21.4
<b>Number of Vehicles in Fatal Accidents</b>					
Motorcycles	3,000.0	4,400.0	4,600.0	4.0	4.6
Passenger cars	40,700.0	36,000.0	37,300.0	-0.8	3.6
Taxis	240.0	300.0	300.0	2.1	0.0
<b>Number of Occupant &amp; Non Occupant Fatalities</b>					
Motor vehicles	45,196.0 <sup>j</sup>	42,589.0 <sup>j</sup>	44,257.0 <sup>j</sup>	-0.2	3.9
Passenger cars	27,040.0	22,979.0	23,621.0	-1.2	2.8
Taxis	150.0 <sup>i</sup>	70.0 <sup>i</sup>	70.0 <sup>i</sup>	-6.7	0.0
Motorcycles, total	3,370.0 <sup>j</sup>	4,265.0 <sup>j</sup>	4,608.0 <sup>j</sup>	2.9	8.0
Motorcycles	n/a	4,104.0	4,431.0	-	8.0
Mopeds	n/a	91.0	95.0	-	4.4
Other and unknown	n/a	70.0	82.0	-	17.1
Bicycles <sup>5</sup>	1,040.0	839.0	849.0	-1.8	1.2
Pedestrians <sup>5</sup>	7,540.0	6,826.0	7,025.0	-0.6	2.9
<b>Fatalities in Vehicular Accidents<sup>6</sup></b>					
Passenger cars	n/a	30,486.0	31,524.0	-	3.4
Motorcycles	n/a	4,418.0	4,763.0	-	7.8
<b>Occupant Fatality Rate</b>					
<b>Per 100 million vehicle-miles</b>					
Passenger cars	2.7	1.9	1.9	-3.1	0.0
Motorcycles	15.1	35.5	36.9	8.5	3.9
<b>Per 10,000 registered vehicles</b>					
Passenger cars	2.6	1.8	1.8	-3.3	0.0
Motorcycles	6.8	7.6	8.3	1.8	9.2
<b>Vehicle Involvement Rate</b>					
<b>Per 100 million vehicle-miles</b>					
Passenger cars	3.9	2.7	2.8	-3.0	3.7
Motorcycles	15.3	36.0	38.8	8.8	7.8
<b>Per 10,000 registered vehicles</b>					
Passenger cars	3.7	2.6	2.7	-2.8	3.9
Motorcycles	6.9	7.7	8.5	1.9	10.4

n/a = not available.

\* Figures obtained by addition/subtraction and may not appear directly in data source.

\*\* In 1974, interstate rural was categorized as main rural and other rural was categorized as local rural.

\*\*\* Figure included in Interstate rural.

1 Includes passenger cars, taxis, and motorcycles. Also, 1983/1984 data reflect changes in FHWA reporting methods and may not be comparable to previous years.

2 Urban consists of travel on all roads and streets in urban places of 5,000 or greater population.

3 Derived by multiplying passenger car and taxi vehicle-miles by an average occupancy rate of 2.3.

4 Derived by multiplying motorcycle vehicle-miles by an average occupancy rate of 1.1.

5 Involvement only with motor vehicle.

6 Includes all fatalities in the accident in which the vehicle types were listed.

Source: The following data references are listed in Appendix A, pp. A-13, A-14.

## BUS PROFILE

	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
<b>I. FINANCIAL</b>					
Expenditures (\$ millions)					
School bus	1,858.0 <sup>a</sup>	5,200.0 <sup>b</sup>	5,300.0 <sup>b</sup>	10.0	1.9
Operating Revenues (\$ millions)					
Intercity bus, total	1,151.9 <sup>d</sup>	2,211.3 <sup>d</sup>	2,279.7 <sup>d</sup>	6.4	3.1
Intercity bus, Class I*	932.6 <sup>i</sup>	1,276.5 <sup>i</sup>	1,254.8 <sup>i</sup>	2.7	-1.7
Operating Expenses (\$ millions)					
Intercity bus, total	1,070.0 <sup>d</sup>	2,167.1 <sup>d</sup>	2,240.8 <sup>d</sup>	7.0	3.4
Intercity bus, Class I*	858.8 <sup>i</sup>	1,283.2 <sup>i</sup>	1,254.3 <sup>i</sup>	3.5	-2.3
Taxes Assignable to Operations (\$ millions) <sup>1</sup>					
Intercity bus, total	94.8 <sup>d</sup>	n/a	n/a	-	-
Intercity bus, Class I*	74.4	88.5 <sup>d</sup>	n/a	-	-
<b>II. INVENTORY</b>					
Number of Operating Companies					
Intercity bus, total	950.0 <sup>i</sup>	2,300.0 <sup>i</sup>	3,000.0 <sup>i</sup>	11.0	30.4
Intercity bus, Class I*	81.0	45.0	43.0	-5.6	-4.4
Number of Vehicles					
Intercity bus, total	21,000.0	23,500.0	25,000.0	1.6	6.4
School bus	354,634.0 <sup>f</sup>	470,727.0 <sup>f</sup>	471,461.0 <sup>f</sup>	2.6	0.2
Intercity bus, Class I*	9,885.0 <sup>i</sup>	7,143.0 <sup>i</sup>	5,707.0 <sup>i</sup>	-4.9	-20.1
Number of Employees of Operating Companies					
Intercity bus, total	49,400.0	50,000.0	51,000.0	0.3	2.0
Intercity bus, Class I*	32,644.0	25,020.0	24,674.0	-2.5	-1.4
Miles of Highway Served					
Intercity bus, total	271,000.0 <sup>d</sup>	249,000.0 <sup>d</sup>	264,000.0 <sup>d</sup>	-0.2	6.0
Intercity bus, Class I*	205,000.0	172,000.0	182,000.0	-1.1	5.8
<b>III. PERFORMANCE</b>					
Vehicle Miles (millions)**					
Commercial bus					
Rural					
Interstate rural	965.0 <sup>g</sup>	322.0 <sup>g</sup>	293.0 <sup>e</sup>	-10.3	-9.0
Other arterial rural	n/a	470.0	426.0	-	-9.4
Other rural	90.0	461.0	418.0	15.0	-9.3
All rural	1,055.0	1,253.0	1,137.0	0.7	-9.3
Urban <sup>2</sup>					
Interstate urban	n/a	385.0	352.0	-	-8.6
Other urban	n/a	2,016.0	1,840.0	-	-8.7
All urban	1,555.0	2,401.0	2,192.0	3.2	-8.7
Total Rural and Urban	2,610.0	3,648.0	3,329.0	2.2	-8.7
School bus and nonrevenue bus					
Rural					
Interstate rural	920.0	184.0	202.0	-12.9	9.8
Other arterial rural	n/a	617.0	678.0	-	9.9
Other rural	1,010.0	1,022.0	1,128.0	1.0	10.4
All rural	1,930.0	1,823.0	2,008.0	0.4	10.2
Urban <sup>2</sup>					
Interstate urban	n/a	232.0	255.0	-	9.9
Other urban	n/a	1,037.0	1,137.0	-	9.6
All urban	520.0	1,269.0	1,392.0	9.4	9.7
Total Rural and Urban	2,450.0	3,098.0	3,400.0	3.0	9.8

## BUS PROFILE (cont'd)

n/a = not available.

\* Effective January 1, 1977, the average annual gross revenue for Class I carriers was increased to \$4 million.

\*\* Beginning in 1980, vehicle data based on Highway Performance Monitoring System, thus 1974 data is not comparable.

<sup>1</sup> Excludes income taxes.

<sup>2</sup> Urban consists of travel on all roads and streets in urban places of 5,000 or greater population.

<sup>3</sup> Calculated by dividing revenue passenger-miles by revenue passengers carried.

<sup>4</sup> Includes all fatalities in the accident in which the vehicle types listed were involved.

Source: The following data references are listed in Appendix A, pp. A-13, A-14.

<u>Source</u>	<u>Reference Number/Location</u>
a	20) p. 15
b	22) pp. 5, 11
d	1) personal communication
e	21) personal communication
f	36) Table MV-10
g	36) Table VM-1
h	38) personal communication
i	14) personal communication

## TRUCK PROFILE (cont'd)

	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
<b>Average Miles Traveled per Vehicle</b>					
Single-unit trucks	8,985.0 <sup>h</sup>	9,704.0 <sup>h</sup>	9,974.0 <sup>h</sup>	1.0	2.8
Combination trucks	51,968.0	57,767.0	61,031.0	1.5	5.7
All trucks	10,846.0	11,355.0	11,664.0	0.7	2.7
<b>Ton-Miles (millions)</b>					
Intercity	495,000.0 <sup>b</sup>	575,000.0 <sup>b</sup>	605,000.0 <sup>b</sup>	1.8	5.2
<b>Fuel Consumed</b>					
Single-unit trucks	21,116.0 <sup>h</sup>	27,650.0 <sup>h</sup>	28,588.0 <sup>h</sup>	2.8	3.4
Combination trucks	10,083.0	14,012.0	14,726.0	3.5	5.1
All trucks	31,199.0	41,662.0	43,314.0	3.0	4.0
<b>Average Fuel Consumption per Vehicle (gallons)</b>					
Single-unit trucks	898.0	772.0	777.0	-1.3	0.7
Combination trucks	9,471.0	11,003.0	11,692.0	1.9	6.3
All trucks	1,269.0	1,123.0	1,138.0	-1.0	1.3
<b>Average Miles Traveled per Gallon of Fuel Consumed</b>					
Single-unit trucks	10.0	13.0	13.0	2.4	0.0
Combination trucks	5.0	5.0	5.0	0.0	0.0
All trucks	9.0	10.0	10.0	1.0	0.0
<b>Taxes Assignable to Operations (\$ millions)</b>					
State highway-user taxes	4,632.0 <sup>i</sup>	8,046.0 <sup>i</sup>	8,716.0 <sup>i</sup>	5.9	8.3
Federal highway-user taxes	2,518.0	3,219.0	4,844.0	6.1	50.5
Total highway-user taxes	7,150.0	11,265.0	13,560.0	6.0	20.4
<b>Average Length of Haul (statute miles)</b>					
<b>Class I Intercity motor carriers</b>					
Common	324.0 <sup>j</sup>	330.0 <sup>j</sup>	324.0 <sup>j</sup>	0.0	-1.8
<b>Total Fatalities, Motor Carriers of Property</b>					
Private	n/a	541.0	594.0	-	9.8
Authorized	n/a	1,851.0	2,009.0	-	8.5
Exempt	n/a	111.0	79.0	-	-28.8
Others	n/a	25.0	39.0	-	56.0
Total Accidents	23,358.0	31,628.0	36,854.0	4.2	16.5
Private	n/a	5,781.0	6,152.0	-	6.4
Authorized	n/a	24,849.0	29,549.0	-	18.9
Exempt	n/a	851.0	932.0	-	9.5
Others	n/a	147.0	221.0	-	50.3
Total Injuries	26,911.0	26,692.0	29,149.0	0.7	9.2
Private	n/a	5,117.0	4,976.0	-	-2.8
Authorized	n/a	20,754.0	23,273.0	-	12.1
Exempt	n/a	692.0	728.0	-	5.2
Others	n/a	129.0	172.0	-	33.3
<b>Property Damage (\$ millions)</b>					
Private	n/a	343.0	404.0	-	17.8
Authorized	n/a	68.0	79.0	-	16.2
Exempt	n/a	263.0	311.0	-	18.3
Others	n/a	10.0	11.0	-	10.0
Others	n/a	2.0	3.0	-	50.0
<b>Occupant Fatalities</b>					
All trucks, total	4,950.0 <sup>m</sup>	6,415.0 <sup>m</sup>	6,842.0 <sup>m</sup>	3.0	6.7
Light trucks	n/a	5,395.0	5,710.0	-	5.8
Medium trucks	n/a	172.0	153.0	-	11.1
Heavy trucks	n/a	807.0	920.0	-	14.0
Other	n/a	41.0	59.0	-	43.9
<b>Fatalities in Vehicular Accidents<sup>3</sup></b>					
All trucks, total	n/a	15,343.0	16,274.0	-	6.1
Light trucks	n/a	10,602.0	11,347.0	-	7.0
Medium trucks	n/a	788.0	778.0	-	-1.3
Heavy trucks	n/a	4,735.0	4,908.0	-	3.7

## LOCAL TRANSIT PROFILE

I. FINANCIAL	<u>1979<sup>1</sup></u>	<u>1983</u>	<u>1984</u>	<u>1979-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
<b>Operating Revenues (\$ millions)</b>					
<b>Passenger Revenue</b>					
Single mode motor bus properties	533.4 <sup>a</sup>	460.9 <sup>c</sup>	534.9 <sup>c</sup>	0.1	16.1
All properties	2,152.6 <sup>d</sup>	3,182.0 <sup>f</sup>	3,724.3 <sup>f</sup>	9.6	17.0
<b>Federal Cash Grants and Reimbursements</b>					
Single mode motor bus properties	316.6 <sup>a</sup>	182.7 <sup>c</sup>	188.1 <sup>c</sup>	-8.3	3.0
All properties	1,177.3 <sup>d</sup>	891.7 <sup>f</sup>	903.5 <sup>f</sup>	-4.3	1.3
<b>Total Operating Revenues</b>					
Single mode motor bus properties	1,559.6 <sup>a</sup>	1,405.2 <sup>c</sup>	1,635.7 <sup>c</sup>	0.8	16.4
All properties	5,771.0 <sup>d</sup>	8,741.7 <sup>f</sup>	10,038.5 <sup>f</sup>	9.7	14.8
<b>Operating Expenses (\$ millions)</b>					
<b>All Systems</b>					
<b>Motor Bus</b>					
Vehicle operations	2,236.3 <sup>g</sup>	3,035.4 <sup>i</sup>	3,210.6 <sup>i</sup>	6.2	5.8
Vehicle maintenance	771.4	1,153.4	1,243.6	8.3	7.8
Other	700.9	959.4	1,062.7	7.2	10.8
Total expenses**	3,708.6	5,242.5	5,652.5	7.3	7.8
<b>Rail Rapid</b>					
Vehicle operations	466.8	663.6	773.1	8.8	16.5
Vehicle maintenance	247.0	441.6	479.9	11.7	8.7
Other	792.1	1,127.6	1,341.2	9.2	18.9
Total expenses**	1,505.9	2,241.8	2,594.2	9.5	15.7
<b>Streetcar</b>					
Vehicle operations	36.2	47.0	53.7	6.8	14.3
Vehicle maintenance	24.5	30.3	33.6	5.4	10.9
Other	36.7	42.7	40.1	1.5	-6.1
Total expenses**	97.4	119.9	127.3	4.6	6.2
<b>Trolley Bus</b>					
Vehicle operations	25.9	46.3	48.3	11.0	4.3
Vehicle maintenance	6.0	14.4	15.6	17.3	8.3
Other	9.9	19.7	19.5	12.0	0.0
Total expenses**	41.9	80.5	83.2	12.1	3.7
<b>Demand Response</b>					
Vehicle operations	15.0	37.9	47.5	21.2	25.0
Vehicle maintenance	3.7	9.5	11.0	19.9	10.0
Other	22.1	14.9	67.2	20.4	351.0
Total expenses**	40.7	125.6	126.7	20.8	0.9
<b>Ferryboat</b>					
Vehicle operations	4.4	49.8	74.7	60.3	50.0
Vehicle maintenance	1.9	13.4	17.6	44.9	31.3
Other	2.3	18.8	25.4	49.2	35.1
Total expenses**	8.5	85.5	121.1	55.7	41.6
<b>Commuter Rail</b>					
Vehicle operations	n/a	4.5	229.9	-	5,008.9
Vehicle maintenance	n/a	6.2	99.1	-	1,498.4
Other	n/a	132.7	176.7	-	33.2
Total expenses**	n/a	410.7	566.4	-	37.9
<b>Other</b>					
Vehicle operations	0.4	1.8	1.5	24.6	-16.7
Vehicle maintenance	0.1	1.4	0.8	41.4	-42.9
Other	58.3	2.1	3.1	-38.7	47.6
Total expenses**	58.8	5.3	5.6	-32.4	5.7
<b>Total All Modes</b>					
Vehicle operations	2,785.5	3,891.4	4,448.8	8.1	14.3
Vehicle maintenance	1,054.1	1,673.7	1,906.6	10.4	13.9
Other	1,622.1	2,318.1	2,663.7	8.6	14.9
Total expenses**	5,461.7	8,368.6	9,346.3	9.4	11.7

## LOCAL TRANSIT PROFILE (cont'd)

n/a = not available.

\* Figures obtained by addition/subtraction and may not appear directly in data source.

\*\* Sum of components may not equal total due to rounding.

# San Francisco MUNI did not report any passenger-mile data for 1984.

<sup>1</sup> Data covers fiscal year between 7/01/79 and 6/30/80. Beginning in 1983, data is reported on a calendar year basis.

Source: The following data references are listed in Appendix A, p. A-14.

<u>Source</u>	<u>References Number/Location</u>	<u>Source</u>	<u>Reference Number/Location</u>
a	43) Table 001.2.1	j	43) Table 001.17.1
c	44) Table 2.01.1	l	44) Table 2.14
d	43) Table 002.2.1	m	43) Table 001.14.1
f	44) Table 2.01.2	o	44) Table 2.12
g	43) Table 001.07.1	p	44) Table 3.14
i	44) Table 2.06	q	43) Tables 001.15.1 and 001.16.1
		s	46) Table 2.13

## WATER TRANSPORT PROFILE (cont'd)

	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
<b>III. PERFORMANCE</b>					
Ton-Miles (millions)					
Domestic waterfreight					
Coastwise	322,802.0 <sup>i</sup>	649,749.0 <sup>i</sup>	593,923.0 <sup>i</sup>	5.7	-8.6
Internal	183,203.0	225,628.0	242,855.0	2.6	7.6
Lakewise	78,880.0	43,088.0	49,784.0	-4.1	15.5
Local	1,460.0	1,100.0	1,157.0	-2.1	5.2
Total	586,345.0	919,566.0	887,720.0	3.8	-3.5
Tons of Freight Hauled (millions)					
Domestic water					
Coastwise	233.0	313.0	308.0	2.6	-1.6
Internal	511.0	487.0	543.0	0.6	11.5
Lakewise	146.0	83.0	98.0	-3.6	18.1
Local	88.0	73.0	81.0	-0.8	11.0
Total	979.0	957.0	1,029.0	0.5	7.5
Exports					
Great Lakes ports*	28.0	32.0	41.0	3.5	28.1
Coastal ports	239.0	331.0	335.0	3.1	1.2
Total	267.0	363.0	376.0	3.2	3.6
Imports					
Great Lakes ports*	23.0	16.0	18.0	-2.2	12.5
Coastal ports	474.0	372.0	409.0	-1.3	10.0
Total	497.0	388.0	427.0	-1.4	10.0
Tons of Freight, Intraterritorial (millions)					
	4.0	3.0	3.0	-2.6	0.0
Average Haul, Domestic System (miles-per-ton)					
Coastwise	1,383.0	2,098.0	1,931.0	3.1	-8.0
Internal	359.0	463.0	448.0	2.0	-3.2
Lakewise	540.0	516.0	508.0	-0.6	-1.6
Local	17.0	15.0	14.0	-1.8	-6.7
Total	599.0	965.0	863.0	3.4	-10.6
Cargo Capacity (net tons)					
Total non-self-propelled vessels					
Dry cargo barges and scows	33,727,557.0 <sup>k</sup>	**	49,146,905.0 <sup>k</sup>	3.5	-
Tankers	22,647,076.0	**	38,720,522.0	5.0	-
Total self-propelled vessels	8,201,561.0	**	10,426,383.0	2.2	-
Dry cargo/passenger	16,762,039.0	**	24,088,428.0	3.4	-
Tankers	7,936,187.0	**	7,968,013.0	0.0	-
Sailing Vessels	8,825,852.0	**	16,116,015.0	5.6	-
Sailing Vessels	0.0	**	4,400.0	0.0	-
Total Number of Marine Accidents in Waterborne Transport <sup>3</sup>					
	3,373.0 <sup>n</sup>	4,704.0 <sup>n</sup>	3,275.0 <sup>n</sup>	-0.3	-30.4
Total Number of Fatalities in Waterborne Transport <sup>4</sup>					
	140.0 <sup>m</sup>	258.0 <sup>m</sup>	154.0 <sup>m</sup>	0.9	-40.3
Freight	16.0	32.0	42.0	9.2	31.3
Tankship	3.0	1.0	0.0	0.0	0.0
Passenger Vessel	2.0	1.0	9.0	14.7	800.0
Tug/Towboat	24.0	26.0	8.0	-9.5	-69.2
Offshore Supply	0.0	2.0	4.0	0.0	100.0
Fishing Vessel	52.0	73.0	43.0	-1.7	-41.1
State Numbered MODU <sup>5</sup>	11.0	24.0	17.0	4.0	-29.2
Platform	1.0	85.0	4.0	13.4	-95.3
Freight Barge	0.0	0.0	3.0	0.0	0.0
Tank Barge	0.0	0.0	0.0	0.0	0.0
Tank Barge	3.0	1.0	2.0	-3.6	100.0
Miscellaneous	28.0	13.0	22.0	-2.2	69.2



## RAIL PROFILE

### A. CLASS I RAILROADS

	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
<b>I. FINANCIAL<sup>1</sup></b>					
Operating Revenues, Class I Line-Haul Railroads (\$ millions)					
Passenger	290.0 <sup>a</sup>	109.0 <sup>a</sup>	101.0 <sup>a</sup>	-9.1	-7.3
Freight	15,766.7	25,835.5	28,471.8	5.5	10.2
Other	866.0	785.0	880.0	0.2	12.1
Total Operating Revenues	16,922.8	26,729.4	29,453.4	5.2	10.2
Operating Expenses, Class I Line-Haul Railroads <sup>2</sup> (\$ millions)	15,782.7	24,106.3	25,800.5	4.6	7.0
<b>II. INVENTORY</b>					
Number of Vehicles, Class I Railroads					
Freight-carrying cars <sup>3</sup>	1,720,573.0	1,542,278.0	1,486,282.0	-1.3	-3.6
Passenger train cars <sup>4</sup>	6,848.0	2,610.0	2,580.0	-8.5	-1.2
Locomotives	28,084.0	25,838.0	24,506.0	-1.2	-5.2
Number of Companies, Class I Railroads	67.0 <sup>b</sup>	31.0 <sup>b</sup>	28.0 <sup>b</sup>	-7.6	-9.7
Number of Employees, Class I Railroads	525,177.0 <sup>a</sup>	322,030.0 <sup>a</sup>	323,030.0 <sup>a</sup>	-4.3	0.3
Line Mileage, Class I Line-Haul Railroads	192,991.0	155,879.0	151,998.0	-2.2	-2.5
<b>III. PERFORMANCE</b>					
Car Mileage, Class I Railroads (millions)					
Freight	30,719.0	24,358.0	26,409.0	-1.4	8.4
Passenger	196.0	19.4 <sup>g</sup>	19.6 <sup>g</sup>	-18.9	1.0
Total*	30,915.0	24,377.4	26,428.6	-1.4	8.4
Train Mileage, Class I Railroads (millions)					
Freight	469.3	345.9 <sup>a</sup>	369.4 <sup>a</sup>	-2.2	6.8
Passenger	34.3	n/a	n/a	-	-
Total*	503.6	n/a	n/a	-	-
Locomotive Mileage, Class I Railroads (millions)					
Freight	1,439.5 <sup>g</sup>	1,242.0 <sup>g</sup>	1,326.5 <sup>g</sup>	-0.7	6.8
Passenger	353.0	n/a	n/a	-	-
Total*	1,792.5	n/a	n/a	-	-
Revenue Passengers Carried, Class I Railroads (millions)					
Commutation	197.4 <sup>d</sup>	216.1 <sup>d</sup>	220.4 <sup>d</sup>	1.0	2.0
Non-Commutation <sup>4</sup>	76.9	87.9	90.2	1.5	2.6
Total <sup>4</sup>	274.3	304.0	310.6	1.1	2.2
Revenue Passenger Miles, Class I Railroads (millions)					
Commutation	4,533.0	5,196.0	5,352.0	1.5	3.0
Non-Commutation <sup>4</sup>	5,820.0	5,871.0	6,149.0	0.5	4.7
Total <sup>4</sup>	10,333.0	11,067.0	11,501.0	1.0	3.9

## RAIL PROFILE B. AMTRAK

I. FINANCIAL	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
	Operating Revenues (\$ thousands)				
Passenger	222,703.4 <sup>b</sup>	450,333.0 <sup>b</sup>	482,749.0 <sup>b</sup>	7.3	7.2
Other*	34,317.0	155,156.0	175,912.0	16.0	13.4
Total Operating Revenues	256,909.9	605,489.0	658,661.0	8.9	8.8
Operating Expenses	462,932.1	1,303,128.0	1,399,867.0	10.6	7.4
II. INVENTORY					
Number of Vehicles					
Passenger Train Cars	1,941.0	1,880.0	1,844.0	-0.5	-1.9
Locomotives	442.0	388.0	387.0	-1.2	-0.3
Number of Companies	1.0 <sup>a</sup>	1.0 <sup>a</sup>	1.0 <sup>a</sup>	0.0	0.0
Number of Employees	8,089.0	20,384.0 <sup>c</sup>	21,634.0 <sup>c</sup>	9.4	6.1
Line Mileage	n/a	23,159.0 <sup>b</sup>	23,356.0 <sup>b</sup>	-	0.9
III. PERFORMANCE					
Car Mileage (millions)					
Passenger	258.1 <sup>b</sup>	223.5	234.6	-0.9	5.0
Train Mileage (millions)					
Passenger	29.1	29.1	28.8	-0.1	-1.0
Locomotive Mileage (millions)					
Passenger	51.0 <sup>c</sup>	41.0 <sup>c</sup>	40.0 <sup>c</sup>	-2.2	-2.4
Revenue Passengers Carried (millions)					
Non-commutation	18.3 <sup>b</sup>	18.9 <sup>b</sup>	19.5 <sup>b</sup>	0.6	3.2
Revenue Passenger Miles (millions)					
Non-commutation	4,258.8	4,227.5	4,426.7	0.4	4.7
Average Revenue per Passenger (dollars)	12.2	23.8	24.8	6.7	4.2
Average Revenue per Passenger-Mile (cents)	5.2	10.7	10.9	7.0	1.9
Average Passenger Trip Length (miles)					
Non-commutation	233.3	223.2	227.5	-0.2	1.9

n/a = not available.

\* Figures obtained by addition/subtraction and may not appear directly in data source.

Source: The following data references are listed in Appendix A, p. A-13.

<u>Source</u>	<u>Reference Number/Location</u>
a	9) pp. 16, 17
b	6) p. 61
c	5) personal communication

## NATURAL GAS PIPELINE PROFILE

I. FINANCIAL <sup>1</sup>	<u>1974</u>	<u>1983</u>	<u>1984</u>	<u>1974-1984 Average Annual % Change</u>	<u>1983-1984 % Change</u>
Transmission Pipeline Companies					
Operating Revenues (\$ millions)					
Total Operating Revenues	9,085.0 <sup>a</sup>	53,577.0 <sup>b</sup>	53,319.0 <sup>b</sup>	17.5	-0.5
Operating Expenses (\$ millions)					
Operating expenses	6,078.0	46,496.0	46,269.0	20.3	-0.5
Maintenance expenses	164.0	523.0	499.0	10.7	-4.6
Total Operating and Maintenance Expenses	6,242.0	47,019.0	46,768.0	20.1	-0.5
Taxes					
Federal taxes*	579.0	1,636.0	1,762.0	10.7	7.7
State and local taxes*	234.0	546.0	591.0	8.8	8.2
Total taxes	813.0	2,182.0	2,353.0	10.1	7.8
Total Operating Expenses	7,852.0	50,784.0	50,586.0	18.5	-0.4
Distribution Pipeline Companies					
Operating Revenues (\$ millions)					
Total Operating Revenues	4,874.0 <sup>c</sup>	16,743.0 <sup>d</sup>	17,366.0 <sup>d</sup>	12.2	3.7
Operating Expenses (\$ millions)					
Operating expenses	3,484.0	14,064.0	14,370.0	13.8	2.2
Maintenance expenses	142.0	271.0	294.0	6.8	8.5
Total Operating and Maintenance Expenses	3,625.0	14,335.0	14,664.0	13.6	2.3
Taxes					
Federal taxes*	194.0	417.0	517.0	9.3	24.0
State and local taxes*	361.0	818.0	884.0	8.5	8.1
Total taxes	555.0	1,235.0	1,401.0	8.8	13.4
Total Operating Expenses	4,397.0	15,942.0	16,462.0	12.8	3.3
II. INVENTORY					
Transmission Pipeline Companies					
Number of Employees	36,200.0 <sup>e</sup>	46,800.0 <sup>f</sup>	47,200.0 <sup>f</sup>	2.4	0.9
Miles of Transmission Pipeline	262,000.0 <sup>g</sup>	273,500.0 <sup>g</sup>	271,800.0 <sup>g</sup>	0.3	-0.6
Distribution Pipeline Companies					
Number of Employees	52,300.0 <sup>e</sup>	45,800.0 <sup>f</sup>	46,200.0 <sup>f</sup>	-1.1	0.9
Miles of Distribution Pipeline	645,600.0 <sup>g</sup>	729,700.0 <sup>g</sup>	736,600.0 <sup>g</sup>	1.2	1.0
Number of Interstate Natural Gas Pipeline Companies	105.0 <sup>l</sup>	102.0 <sup>h</sup>	137.0 <sup>h</sup>	2.5	34.3
III. PERFORMANCE					
Total Marketed Production <sup>2</sup> (million cubic feet)	21,600,522.0 <sup>i</sup>	16,822,144.0 <sup>i</sup>	18,229,638.0 <sup>i</sup>	-1.5	8.4
Total Delivered to Consumers <sup>3</sup> (million cubic feet)	19,076,955.0 <sup>j</sup>	15,366,621.0 <sup>j</sup>	16,344,893.0 <sup>j</sup>	-1.4	6.4
Total Consumed (million cubic feet)	21,223,133.0	16,834,914.0	17,950,528.0	-1.5	6.6
Total Gas Used as a Pipeline Fuel (million cubic feet)	668,792.0	490,042.0	528,754.0	-2.1	7.9
Total Fatalities*	34.0 <sup>k</sup>	18.0 <sup>k</sup>	35.0 <sup>k</sup>	0.3	94.4
Gas Pipeline	24.0	12.0	35.0	3.5	191.7
Liquid Pipeline	10.0	6.0	0.0	0.0	0.0

**SELECTED PASSENGER  
AND CARGO PERFORMANCE  
INDICATORS BY MODE  
1974, 1983 and 1984**

**SELECTED PASSENGER AND CARGO PERFORMANCE  
INDICATORS BY MODE, 1974, 1983 and 1984 (cont'd)**

	<u>1974</u>	<u>1983</u>	<u>1984</u>
<b>AUTOMOBILE (cont'd)</b>			
Vehicle-miles of travel per capita, passenger cars, taxis, motorcycles			
Rural			
Interstate rural	1,475.5	431.7	435.8
Other arterial rural	n/a	821.4	832.8
Other rural	531.3	816.3	817.7
All rural	2,006.8	2,069.3	2,086.2
Urban			
Interstate urban	n/a	643.1	668.3
Other urban	n/a	2,542.2	2,607.5
All urban	2,764.4	3,185.3	3,275.8
Total rural and urban	4,771.2	5,254.6	5,361.9
Passenger-miles per capita			
Passenger cars and taxis, total travel	10,496.6	11,447.3	11,684.5
Motorcycles, total travel	115.2	56.4	55.9
Vehicle-miles of travel per vehicle, passenger cars, taxis			
All rural	4,107.6	3,821.3	3,853.0
All urban	5,658.2	5,882.2	6,050.0
Total rural & urban	9,765.8	9,703.4	9,903.0
Passenger-miles per vehicle			
Passenger cars and taxis	21,484.8	21,139.3	21,580.1
Motorcycles	4,974.7	2,363.4	2,408.8
<b>BUS</b>			
U.S. population per intercity bus	10,159.1	9,958.4	9,446.3
Vehicle-miles per capita			
Commercial bus			
Rural			
Interstate rural	4.5	1.4	1.2
Other arterial rural	n/a	2.0	1.8
Other rural	0.4	2.0	1.8
All rural	4.9	5.4	4.8
Urban			
Interstate urban	n/a	1.6	1.5
Other urban	n/a	8.6	7.8
All urban	7.3	10.3	9.3
Total rural and urban	12.2	15.6	14.1

**SELECTED PASSENGER AND CARGO PERFORMANCE  
INDICATORS BY MODE, 1974, 1983 and 1984 (cont'd)**

	<u>1979</u>	<u>1983</u>	<u>1984</u>
<b>LOCAL TRANSIT</b>			
Total vehicle operating expenses (dollars) per vehicle-mile			
Motorbus	2.8	3.8	4.1
Rail rapid/Streetcar	21.7	32.5	28.8
Trolley bus	3.5	5.6	5.6
Demand response	n/a	4.1	4.9
Ferryboat	58.7	94.0	106.9
Total annual passenger-miles per vehicle (thousands)			
Motorbus	364.2	307.5	348.3
Rail rapid/Streetcar	338.3	914.4	1,057.4
Trolley bus	303.3	471.8	141.4
Demand response	n/a	19.1	17.5
Ferryboat	1.6	4.8	3.1
Commuter Rail	n/a	1.2	1.4
Total revenue vehicle-miles per vehicle			
Motorbus	27.1	22.3	25.3
Rail rapid/Streetcar	7.1	6.6	9.6
Trolley bus	16.8	21.0	22.2
Demand response	n/a	12.2	10.4
Ferryboat	14.5	19.8	15.7
Commuter Rail	n/a	6.2	6.6
<b>WATER TRANSIT</b>			
Ton-miles per capita, domestic water			
Coastwise	1,513.1	2,776.4	2,514.9
Internal	858.7	964.1	1,028.4
Lakewise	369.7	184.1	210.8
Local	6.8	4.7	4.9
Total	2,748.4	3,929.4	3,759.0
Tons of freight hauled per capita, domestic water			
Coastwise	1.1	1.3	1.3
Internal	2.4	2.1	2.3
Lakewise	0.7	0.3	0.4
Local	0.4	0.3	0.3
Total	4.6	4.1	4.4
<b>CLASS I RAILROADS</b>			
Revenue passenger-miles per capita			
Commutation	21.2	22.2	22.7
Non-commutation	27.3	25.1	26.0
Total	48.4	47.3	48.7

# **TRANSPORTATION TRENDS**

## **Section I: Performance**

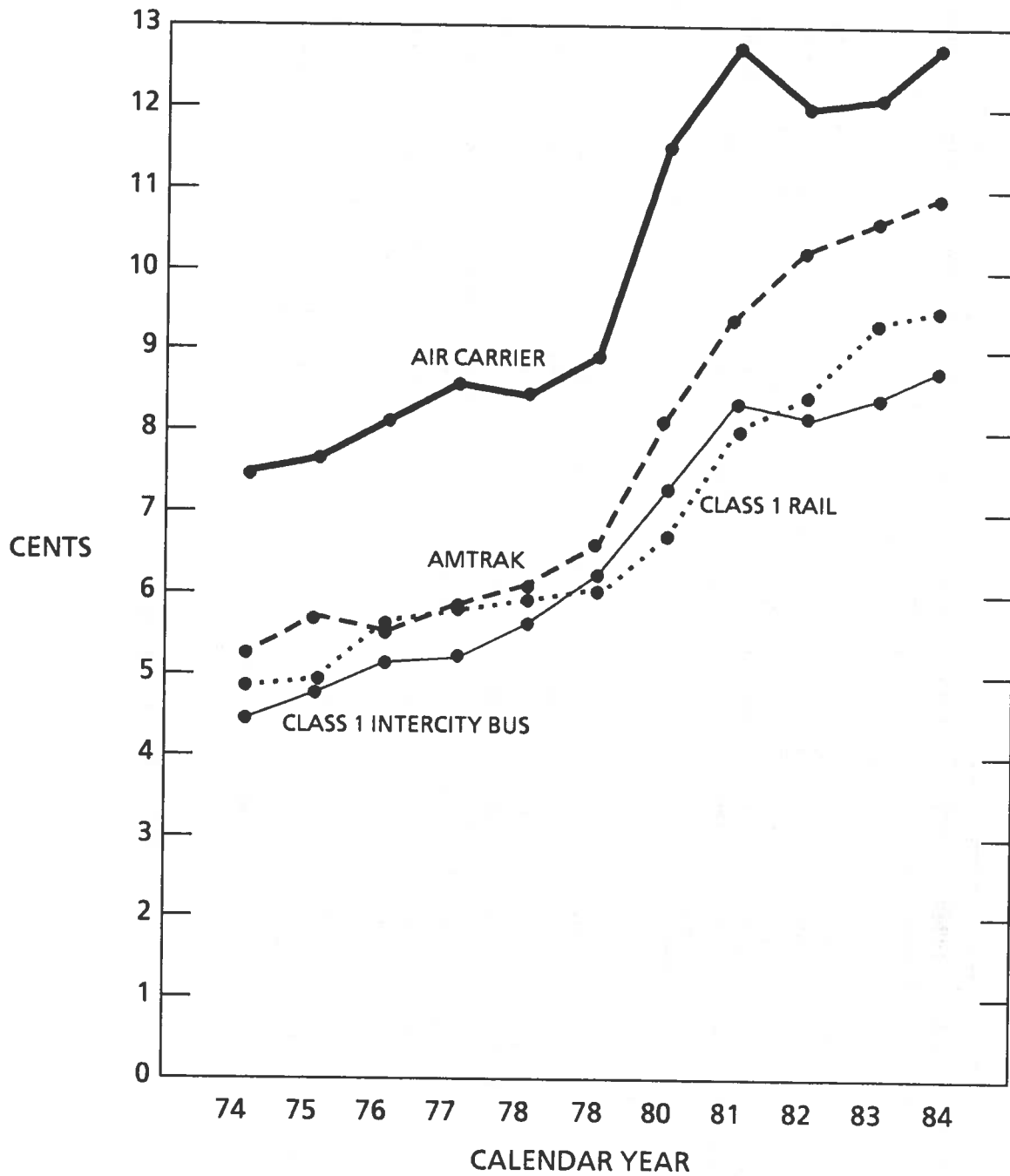


Figure 8. Average Passenger Revenue per Passenger-Mile, 1974-1984



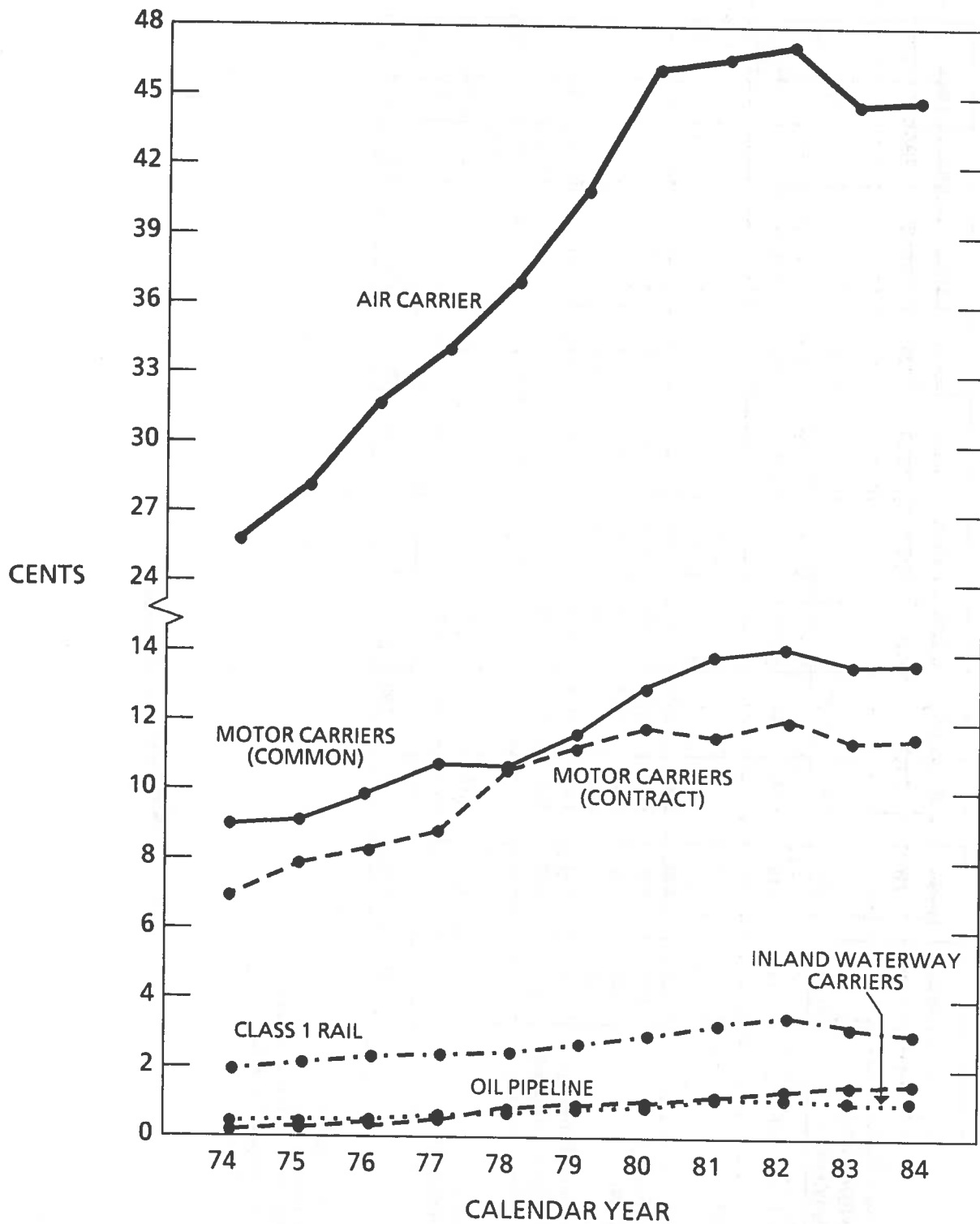


Figure 9. Average Freight Revenue per Ton-Mile, 1974-1984

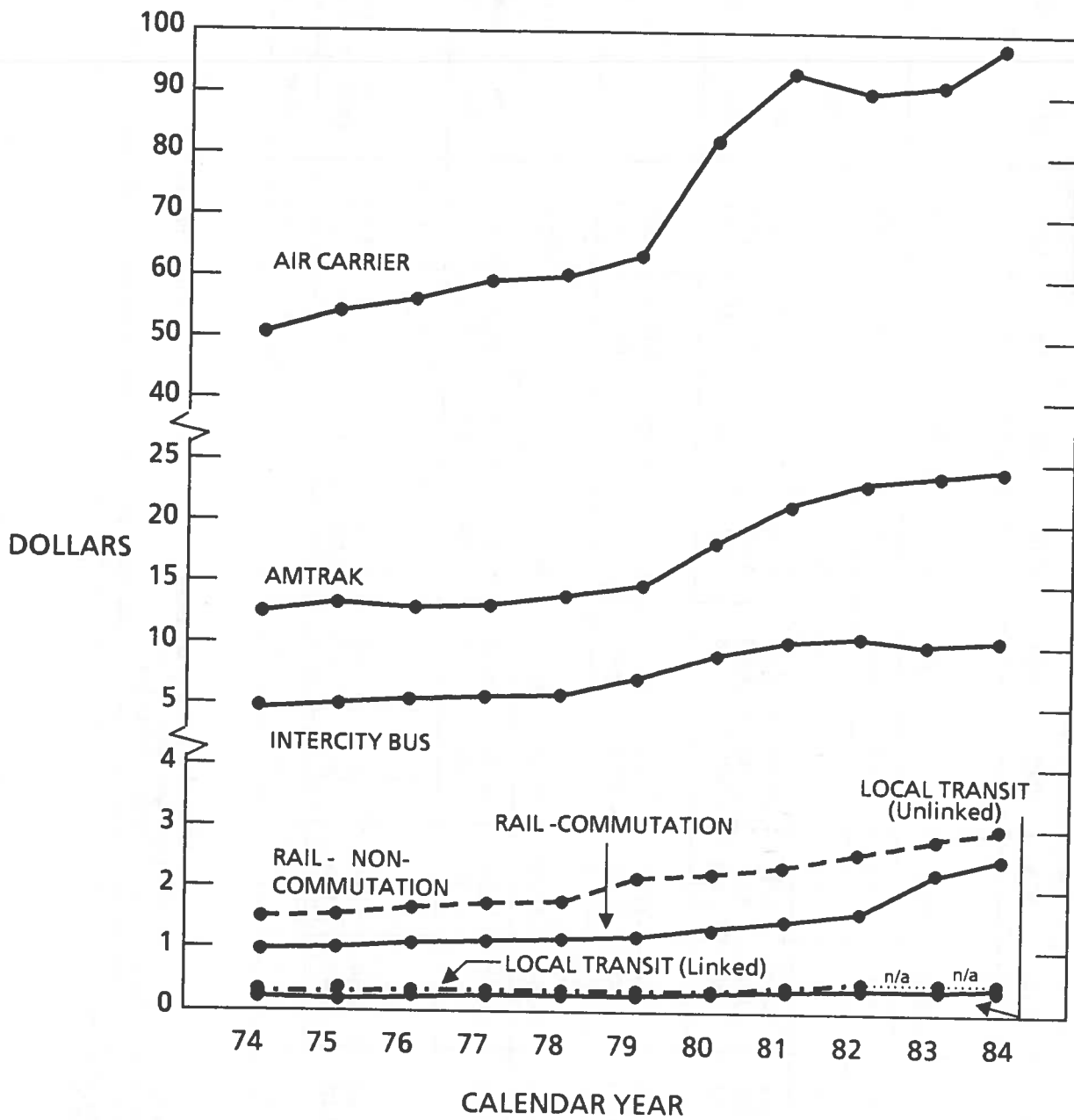


Figure 10. Average Passenger Fare, 1974-1984

n/a = not available.

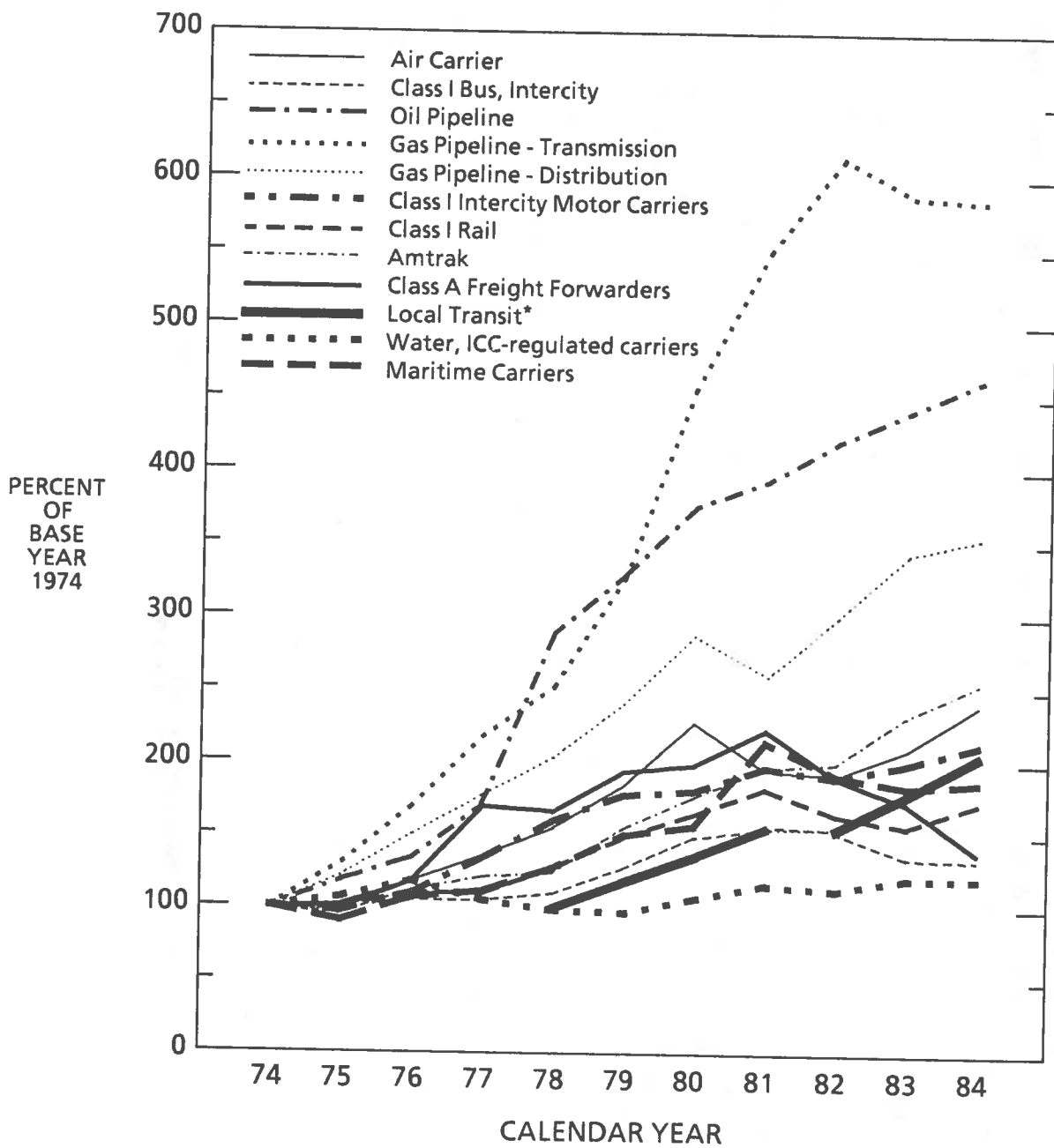


Figure 11. Total Operating Revenues, 1974-1984

\* Base year equals 1978, figure for 1982 not available.

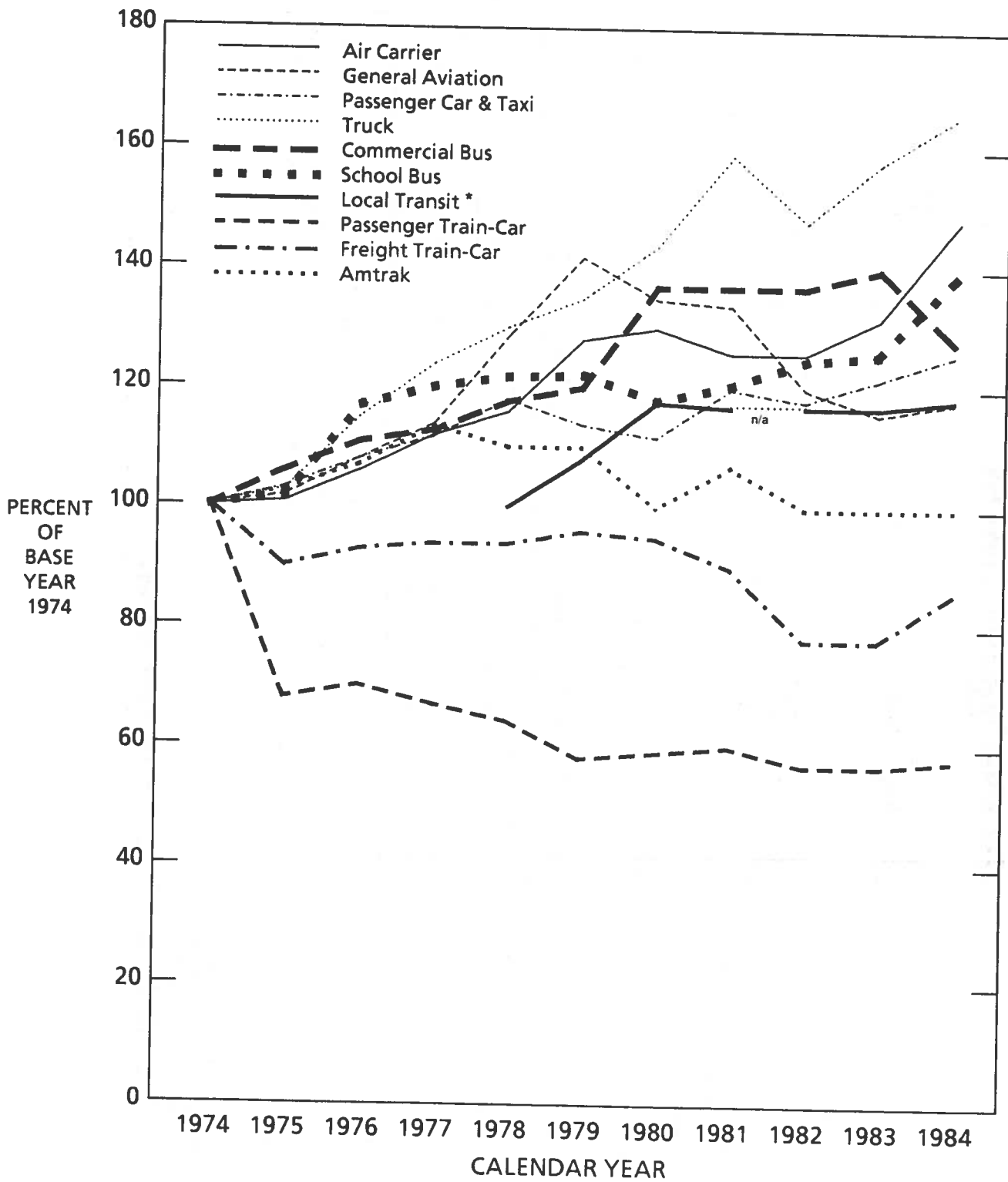
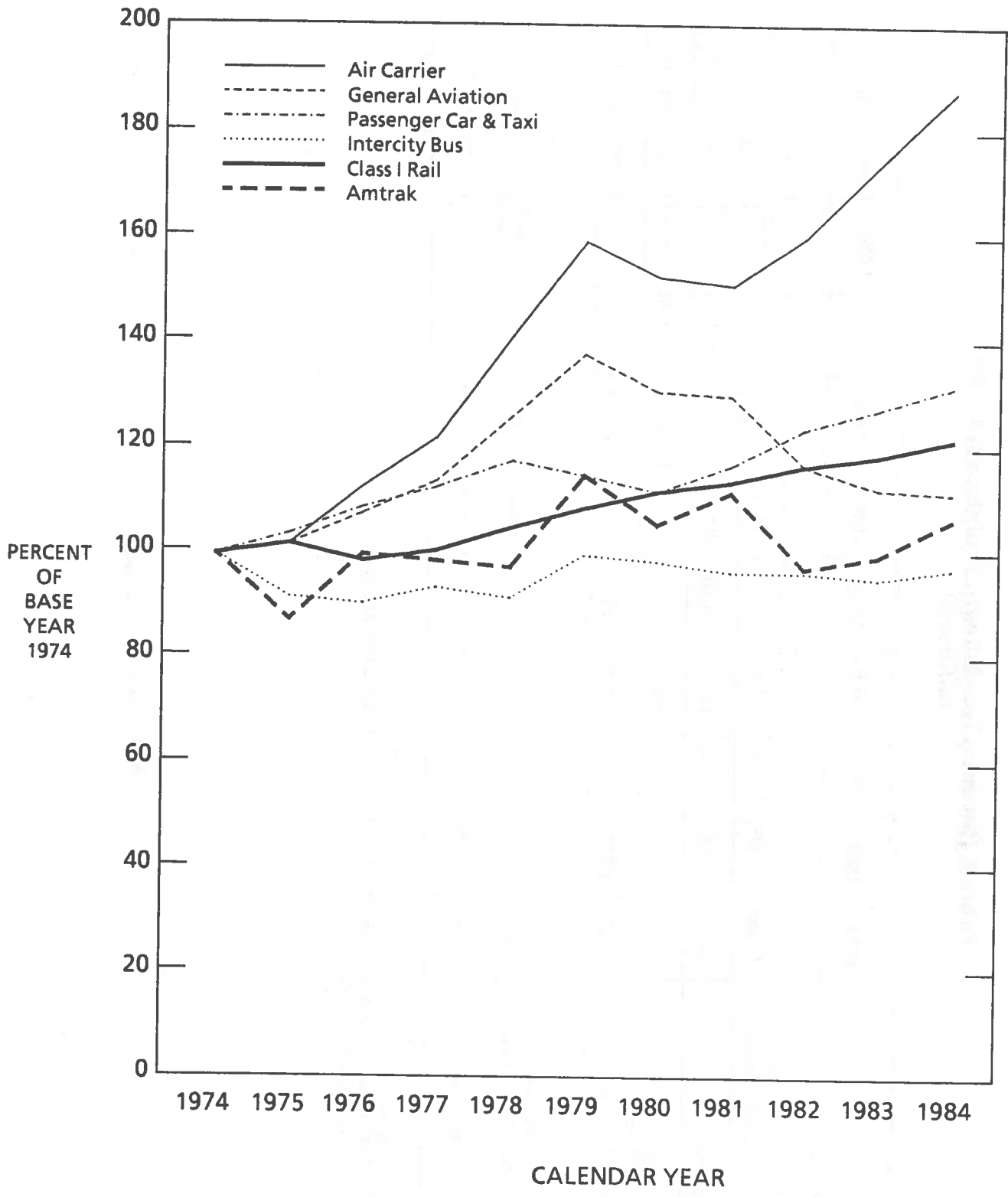
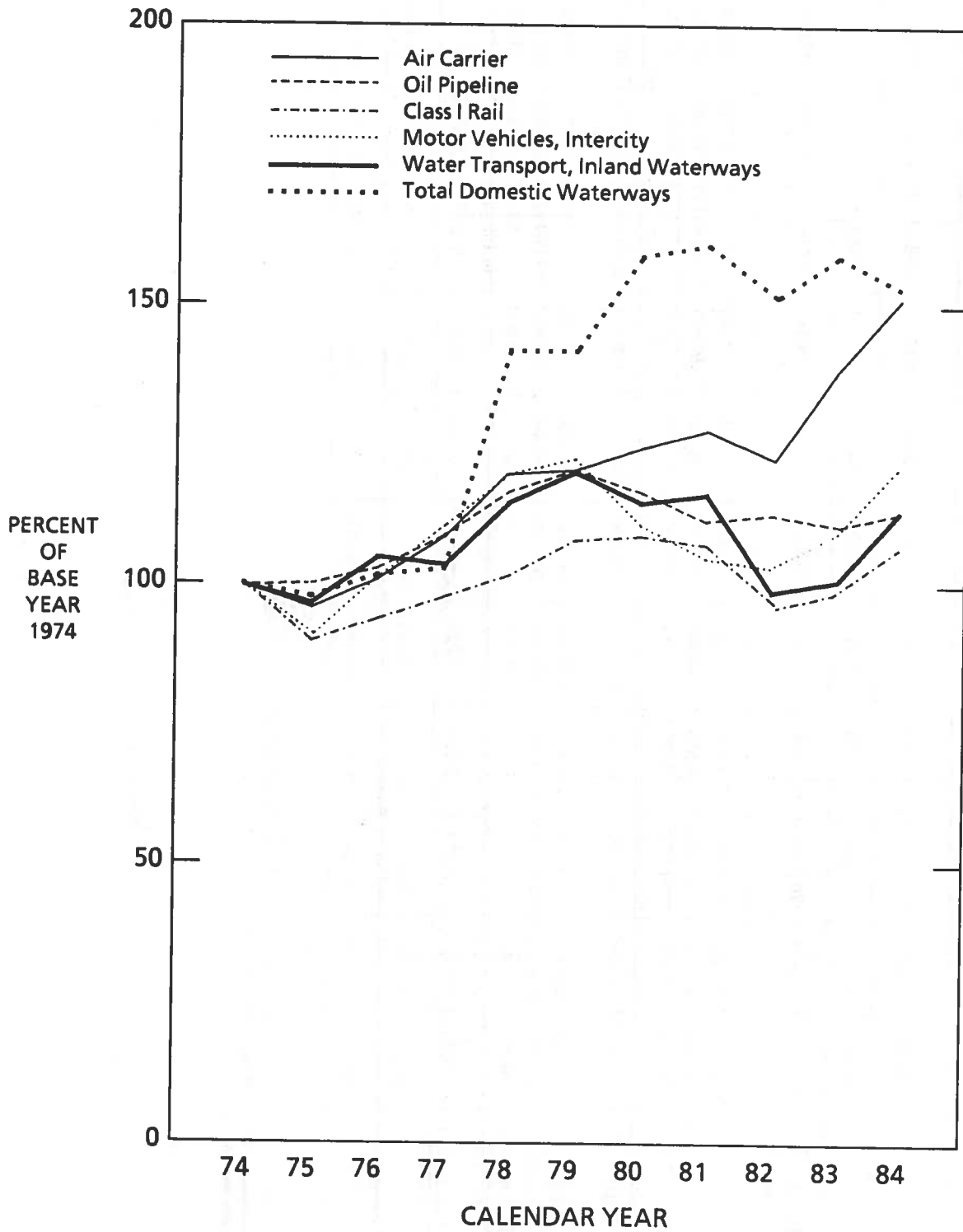


Figure 12. Vehicle-Miles, 1974-1984

\* Base year equals 1978.  
 n/a = not available.



**Figure 13. Passenger Miles, 1974-1984**



**Figure 14. Revenue Ton-Miles of Freight, 1974-1984**

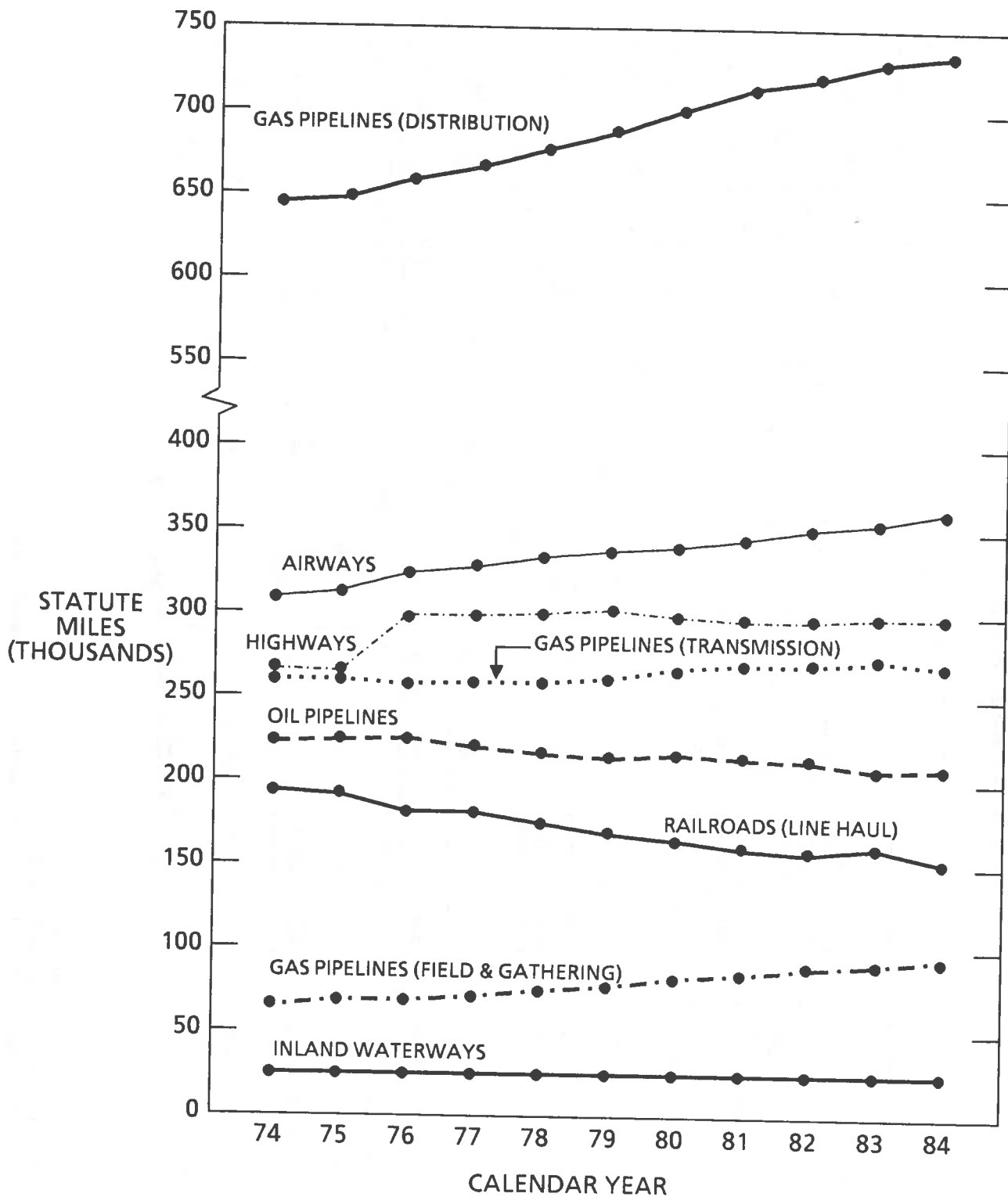


Figure 15. Basic Intercity Mileage Within the Continental United States, 1974-1984

Table 10. Number of New Vehicles Purchased by Mode, 1974-1984

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Air Carrier (all services) Fixed-Wing	332	315	222	155	241	376	387	387	232	262	229
General Aviation	14,261	14,248	15,820	17,175	18,049	16,883	11,777	10,114	4,055	2,784	2,635
Passenger car & taxi**	8,871,000	8,640,000	10,110,000	11,185,000	11,312,000	10,558,800	8,980,000	8,535,000	7,980,000	9,179,000	10,394,000
Motorcycles	1,580,000	990,000	740,000	970,000	1,015,000	1,010,000	1,250,000	1,350,000	1,290,000	1,040,000	1,310,000
Mopeds	13,000	32,000	78,000	190,000	350,000	130,000	180,000	67,000	18,000	22,000	33,000
Bicycles	14,100,000	7,300,000	8,100,000	9,400,000	9,400,000	10,800,000	9,000,000	8,900,000	6,800,000	9,000,000	10,100,000
Truck (domestic)	2,511,000	2,351,000	3,040,000	3,500,600	6,920,860	3,120,159	2,231,500	1,972,200	2,247,800	2,709,400	3,538,000
Intercity bus (Class I)	626	733	619*	709	635	680	800	2,200 †	2,000 †	476	n/a
Local transit											
Motor bus	4,818	5,261	4,475	2,437	3,805	3,440	4,572	4,059	2,962	4,081	3,250
Light rail	0	0	4	62	35	70	32	188	10	30	27
Heavy rail	92	127	472	506	172	94	130	274	126	88	153
Trolley coach	0	1	260	198	0	141	98	0	0	0	0
Total	4,910	5,389	5,481	3,203	4,012	3,745	4,832	4,523	3,098	4,199	3,430
Class I railroad											
Freight cars	36,315	40,986 <sup>r</sup>	31,757 <sup>r</sup>	29,478 <sup>r</sup>	29,067 <sup>r</sup>	31,986 <sup>r</sup>	31,006 <sup>r</sup>	19,963 <sup>r</sup>	6,420 <sup>r</sup>	1,486 <sup>r</sup>	1,318
Locomotives	1,018	772	438	820	1,214	1,709	1,466	470	323	200	428
Passenger train-cars	85	166	44	20	42	43	44	0	1	n/a	n/a
Total	37,418 <sup>r</sup>	41,914 <sup>r</sup>	32,239 <sup>r</sup>	30,318 <sup>r</sup>	30,323 <sup>r</sup>	33,738 <sup>r</sup>	32,516 <sup>r</sup>	20,433 <sup>r</sup>	6,744 <sup>r</sup>	1,686 <sup>r</sup>	1,746
Amtrak											
Passenger train-cars	0	109	305	133	1	56	108	119	101	31	0
Locomotives	362	30	58	4	75	39	17	43	35	0	0
Total	362	139	363	137	76	95	125	162	136	31	0
Water											
Merchant vessels	20	15	16	18	14	15	23	12	11	14	12
Gross tonnage	697,000	452,000	616,000	920,198	911,791	1,148,530	693,200	427,979	342,000	409,100	389,900

n/a = not available.

r = revised.

\* Change in Class I definition.

\*\* Includes domestic and imported vehicles.

† 1981 and 1982 data include all carriers.

Source: See Appendix A, pp. A-21, A-22.



**Table 12. Air Travel Arrivals Between the United States and Foreign Countries, 1975 to 1985 (thousands)**

Arrivals											
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<b>Flag of Carrier and Country</b>											
Total Passengers	12,646	13,964	14,701	16,955	19,268	20,262	20,881	20,216	20,840	23,212	24,154
Flag of Carrier:											
United States	6,502	7,124	7,487	8,551	9,864	10,031	10,265	10,163	10,698	11,623	11,797
Foreign	6,144	6,840	7,214	8,404	9,404	10,231	10,615	10,054	10,142	11,588	12,357
Country of embarkation <sup>1</sup>											
Australia	106	124	127	147	208	227	229	254	242	277	277
Bahamas, The	758	790	799	993	1,078	1,123	1,053	1,153	1,344	1,373	1,503
Barbados	76	85	104	117	139	135	123	115	167	211	216
Belgium	144	140	113	113	187	242	249	299	250	242	281
Bermuda	398	452	441	426	469	497	451	441	439	441	434
Brazil	212	183	186	219	253	300	311	308	308	321	352
China/Taiwan	50	57	67	92	96	113	138	148	154	187	206
Colombia	173	188	212	232	281	315	334	314	309	285	279
Denmark	222	238	238	248	260	267	251	243	230	239	241
Dominican Republic	336	367	416	429	465	468	495	501	532	575	606
France	512	602	611	656	707	689	686	695	705	795	955
Germany, Fed. Rep. of	622	815	863	963	1,053	1,175	1,182	1,174	1,223	1,404	1,582
Grand Cayman	25	63	68	81	96	121	129	132	144	170	173
Greece	121	161	198	220	231	208	206	198	234	265	187
Haiti	91	97	101	120	142	133	148	146	159	175	192
Hong Kong	98	123	91	112	187	228	230	197	217	295	270
Ireland	220	239	251	244	263	220	229	250	222	256	274
Israel	84	109	134	139	190	189	190	189	233	255	294
Italy	431	447	471	530	572	537	493	529	572	649	662
Jamaica	457	388	327	427	492	429	479	587	682	712	707
Japan	1,095	1,180	1,213	1,308	1,579	1,624	1,705	1,819	1,896	2,267	2,435
Korea, Rep. of	105	119	117	118	169	234	228	245	249	290	390
Mexico	1,626	1,661	1,647	2,118	2,611	2,886	3,091	2,456	2,691	2,901	2,719
Netherlands	312	314	322	371	460	427	450	482	467	558	583
Netherlands Antilles	213	272	269	307	353	327	359	332	370	426	407
Panama Republic	97	119	122	127	154	150	151	146	146	169	180
Philippines	108	148	136	175	163	194	244	212	158	165	145
Spain	306	279	299	335	333	312	310	337	376	418	419
Switzerland	236	308	345	339	321	312	321	332	314	427	452
United Kingdom	1,549	1,869	2,102	2,596	2,689	2,973	3,092	2,694	2,812	3,222	3,460
Venezuela	205	225	282	355	431	533	577	581	312	255	248
Other	1,658	1,802	2,029	2,298	2,636	2,674	2,747	2,707	2,683	2,987	3,027

Covers passengers on international commercial flights arriving at U.S. airports. Excludes traffic between U.S. and Canada, border crossers, crewmen, and military personnel. Travelers between U.S. ports in the 50 States, Puerto Rico, Guam, or the Virgin Islands, and any other outlying area are included. Data compiled from flight reports of U.S. Immigration and Naturalization Service. Selection of countries based on minimum of 150,000 arrivals in 1984.

<sup>1</sup> Country where passenger boarded/deboarded a direct flight to/from the U.S.

Note: Sum of components may not equal total due to independent rounding.

Source: U.S. DOT/Transportation Systems Center, Center for Transportation Information, Cambridge, MA, U. S. *International Air Travel Statistics*, annual.

# **TRANSPORTATION TRENDS**

## **Section II: Safety**

**Table 14. Alcohol Involvement by Vehicle Body Types (cont'd)**  
**1982-1984**

	Other Non-occupant		Pedestrians		Pedal-cyclists		
	1982	1983	1982	1983	1982	1983	
Number of Accidents in which one or more Vehicles/Persons were involved	n/a	174	215	7,183	6,959	853	851
Number of Fatally Injured Persons <sup>1</sup>	n/a	81	99	7,274	7,022	851	849
14 and Under	n/a	19	30	1,036	1,077	321	400
Over 14 Years Old	n/a	61	69	6,106	5,826	525	462
The following is based on data from the 15 states* that routinely test fatalities.							
Percent of Accidents with any Alcohol Involvement <sup>2</sup>	n/a	56.3	57.7	57.9	48.5	29.2	29.9
Percent of Tested Fatally Injured Drivers/Pedestrians <sup>3</sup> Alcohol Involved <sup>4</sup>	n/a	n/a	n/a	50.2	49.2	28.9	25.2
Impaired <sup>5</sup>	n/a	n/a	n/a	46.6	43.7	22.9	22.3
Intoxicated <sup>6</sup>	n/a	n/a	n/a	42.7	40.4	16.9	19.4
							7.4

n/a = not available.

\* Includes the fifteen states (California, Colorado, Delaware, District of Columbia, Hawaii, Nevada, New Hampshire, New Jersey, New Mexico, Oregon, Rhode Island, Vermont, Virginia, Washington and Wisconsin) that routinely test fatally injured drivers for the presence of alcohol. Legally intoxicating blood alcohol levels are 0.10 percent in most states.

<sup>1</sup> Eighty to ninety percent of all fatally injured drivers in those states were tested. Generally, tests are not performed on drivers who died more than four hours after their accident, received blood transfusions or had other factors that would invalidate the results of tests to detect the presence or concentration of alcohol in their blood. The drivers tested and the states that routinely conduct those tests appear to provide an unbiased sample which can be used to make reasonably sound national estimates.

<sup>2</sup> 252 Persons with unknown age are included in these totals.

<sup>3</sup> Either a positive alcohol test result or an indication from police of any alcohol involvement.

<sup>4</sup> Pedestrians and pedal cyclists over fourteen only.

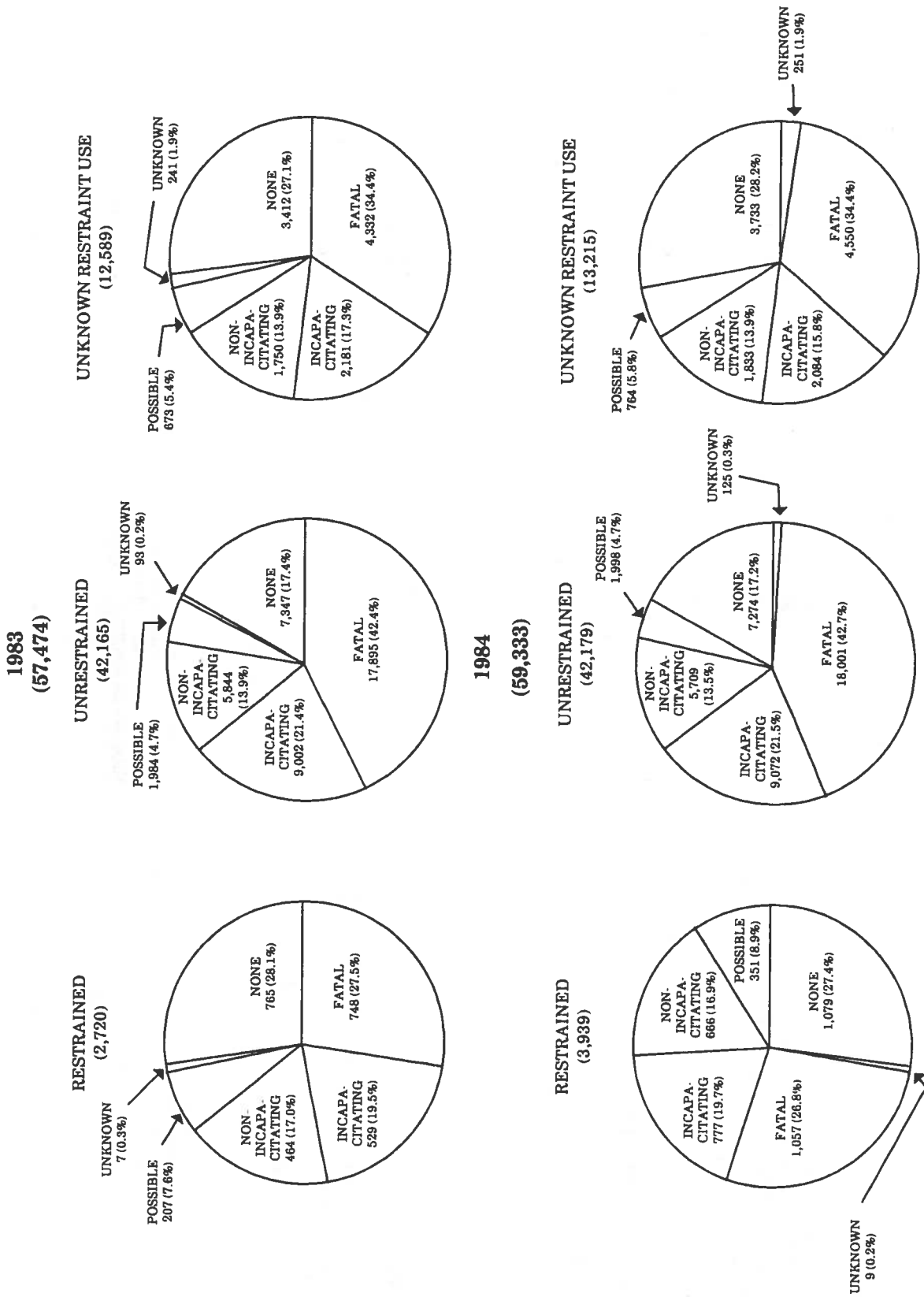
<sup>5</sup> Blood Alcohol Content at least 0.01%.

<sup>6</sup> Blood Alcohol Content at least 0.05%.

<sup>7</sup> Blood Alcohol Content at least 0.10%.

Source: U.S. DOT/NHTSA, *Fatal Accident Reporting System*, annual issues, Table 2-3 and similar table in earlier editions.

Figure 16. Injury Severity of Passenger Car Occupants in Fatal Accidents, 1981-1984 (cont'd)



Source: U.S. DOT/NHTSA, *Fatal Accident Reporting System*, annual issues, Figure 2-6 and similar figure in earlier editions.

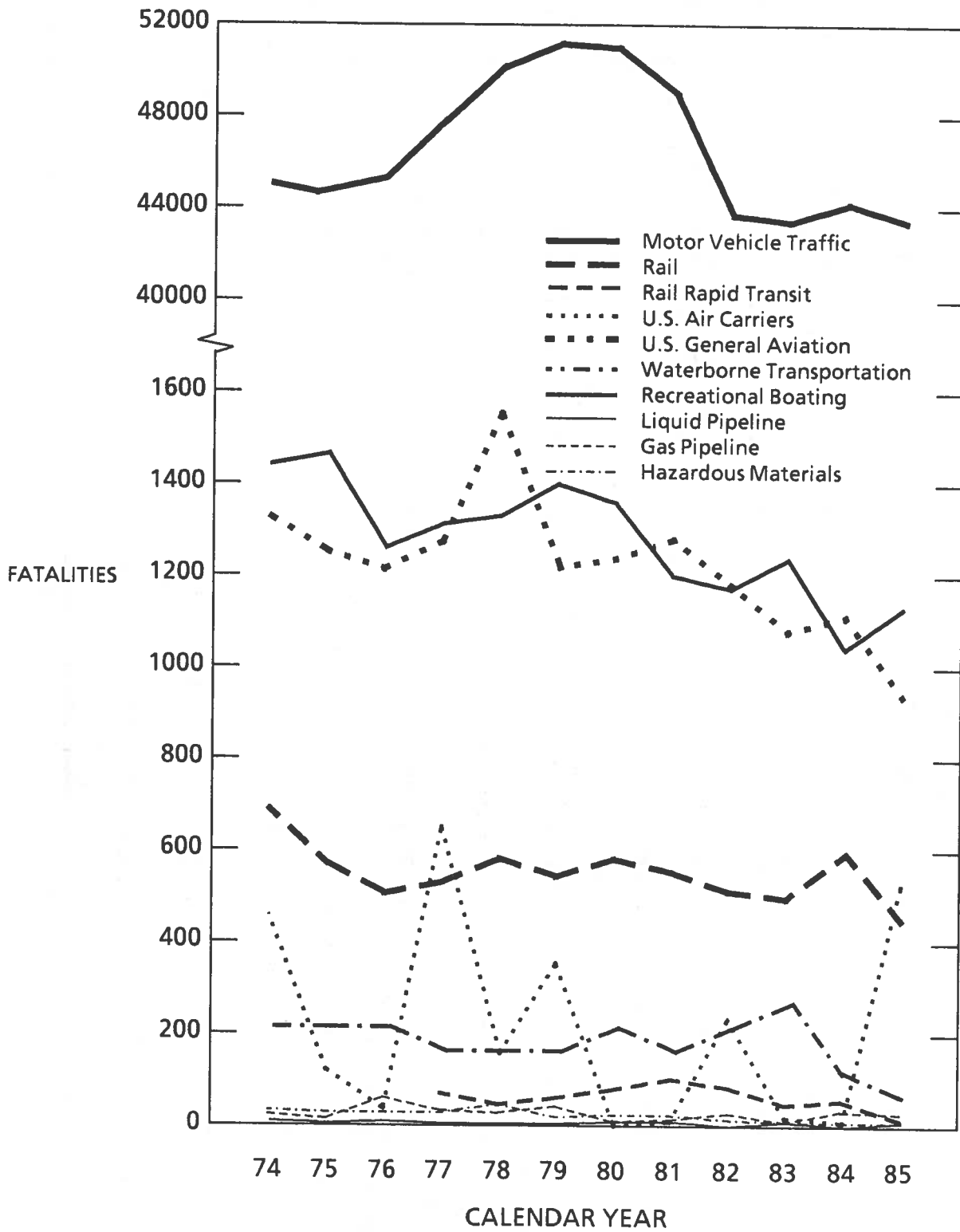


Figure 17. Number of Fatalities by Mode, 1974-1985

# **TRANSPORTATION TRENDS**

## **Section III: Sales and Production**

**Table 18. World Motor Vehicle Production, 1984  
(thousands)**

Country	Passenger Cars	Trucks and Buses	Total
Argentina	137	30	167
Australia	340	35	375
Austria	6	5	11
Belgium	212	38	249
Brazil	538	326	865
Canada	1,022	808	1,829
Czechoslovakia	180	50	230
France	2,713	349	3,062
Germany, East	190	41	231
Germany, West	3,754 <sup>a</sup>	255	4,009
Hungary	n/a	12	12
India	64	117	181
Italy	1,439	162	1,601
Japan	7,073	4,392	11,465
Korea	159	107	265
Mexico	232	112	344
Netherlands, The	109	14	122
Poland	277	55	332
Romania	100	60	160
Spain	1,177	132	1,309
Sweden	353	59	412
United Kingdom	909	225	1,134
United States	7,773	3,151	10,925
U.S.S.R.	1,330	879	2,209
Yugoslavia	235	36	272
Total	30,321	11,451	41,772

n/a = not available.

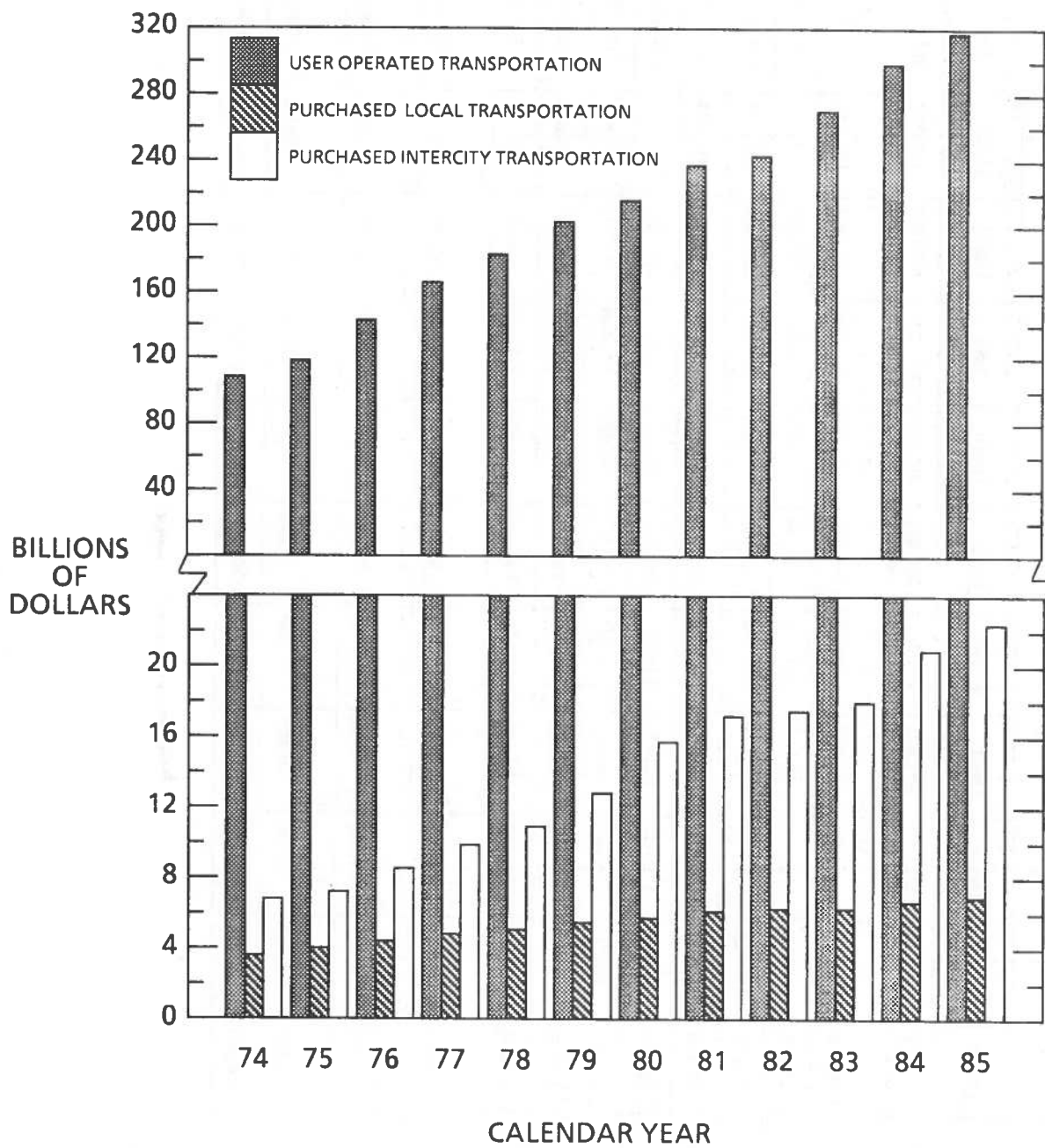
<sup>a</sup> Includes 284,437 micro-buses.

Note: As far as possibly can be determined, production in this table refers to vehicles locally manufactured.

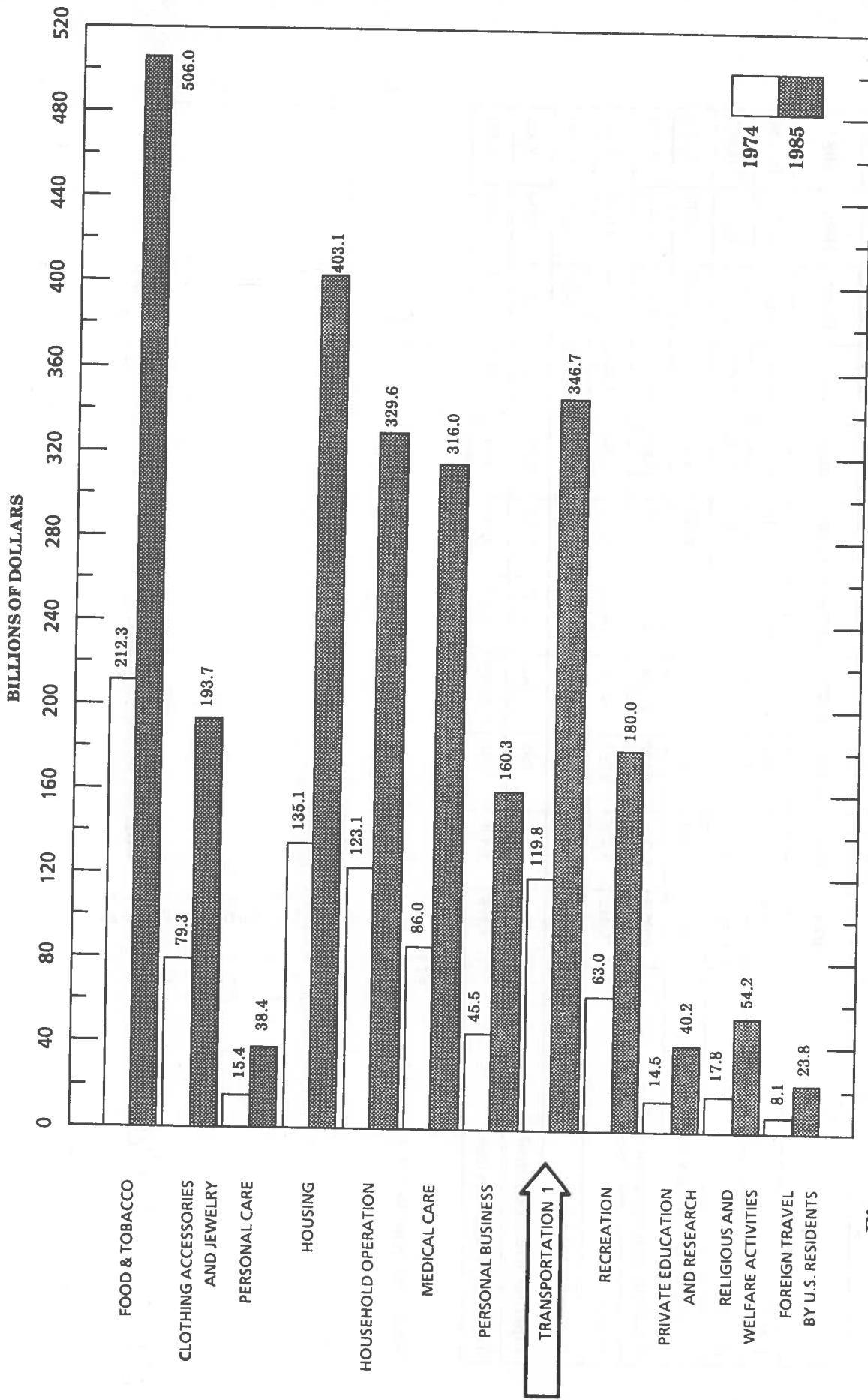
Source: Motor Vehicle Manufacturers Association of the U.S., Inc., *Facts & Figures*, 1985, p. 29.

**SUPPLEMENTARY DATA**  
**Section I: Transportation and the Economy**  
**1974 - 1985**





**Figure 18. Personal Consumption Expenditures by Transportation Sector, 1974-1985**



**Figure 19. Personal Consumption Expenditures by Type of Product, 1974 and 1985**

<sup>1</sup> Excluding Foreign Travel

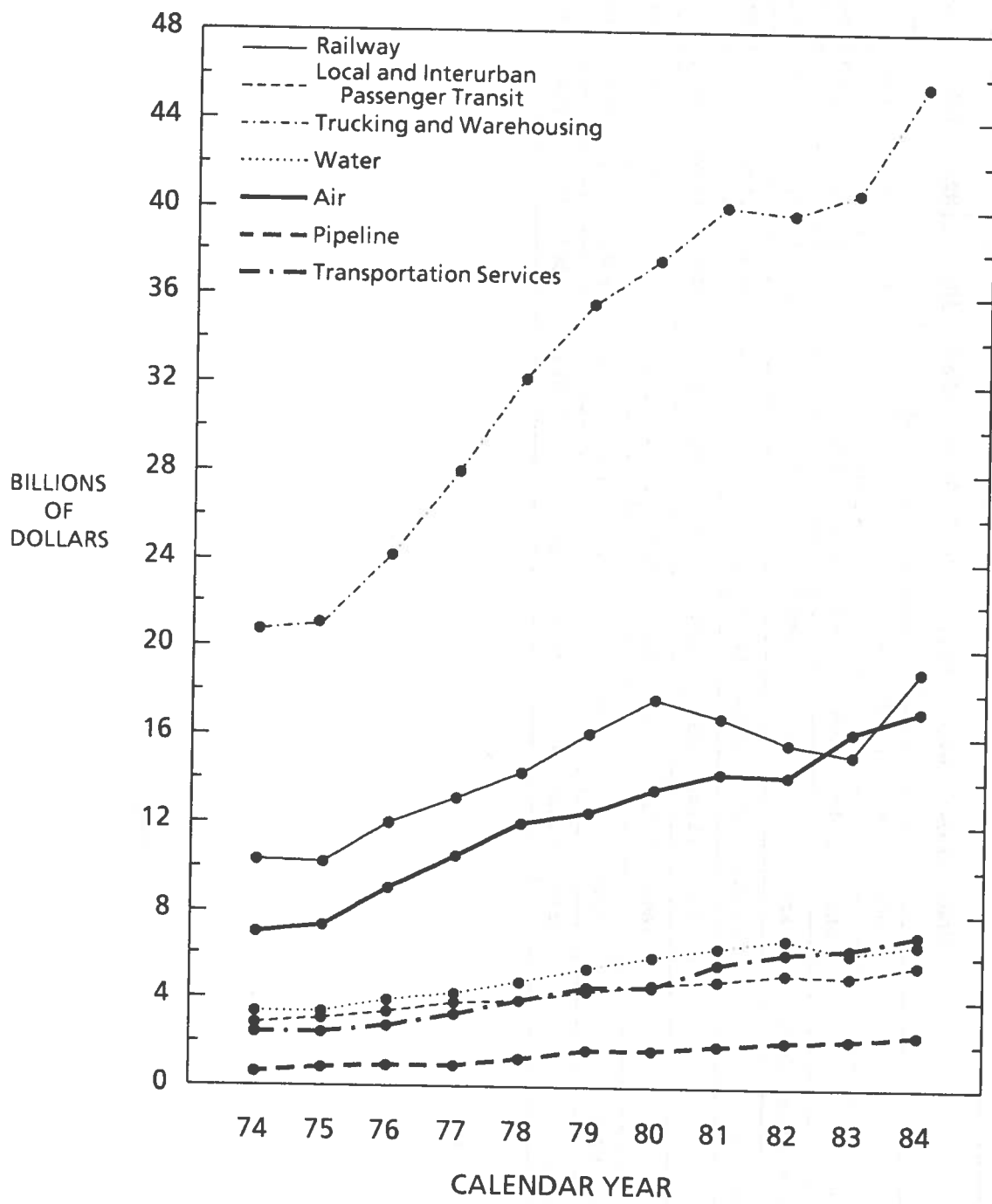


Figure 20. National Income by Transportation Sector, 1974 - 1984

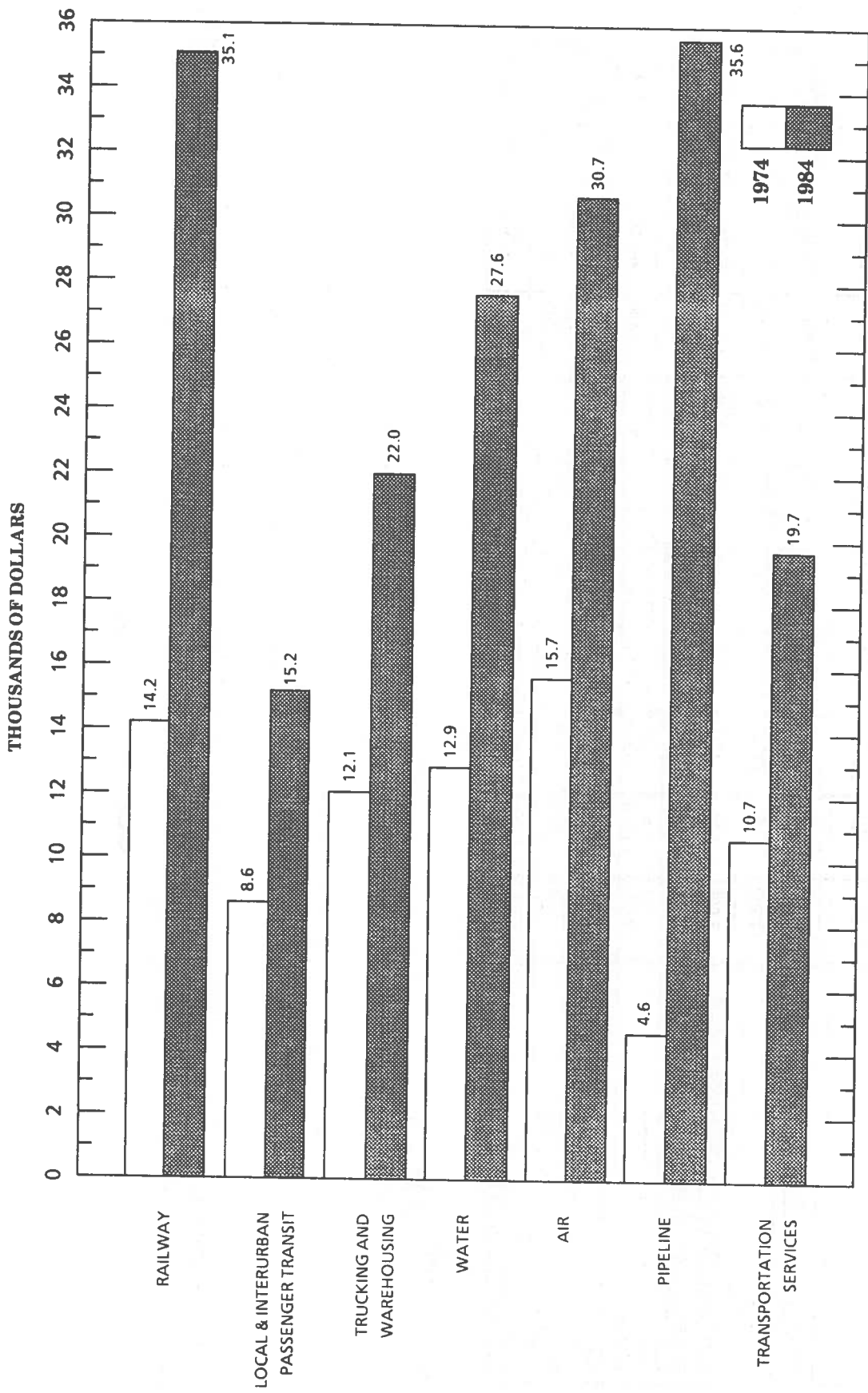


Figure 21. Average Annual Earnings per Full-Time Employee by Transportation Sector, 1974 and 1984

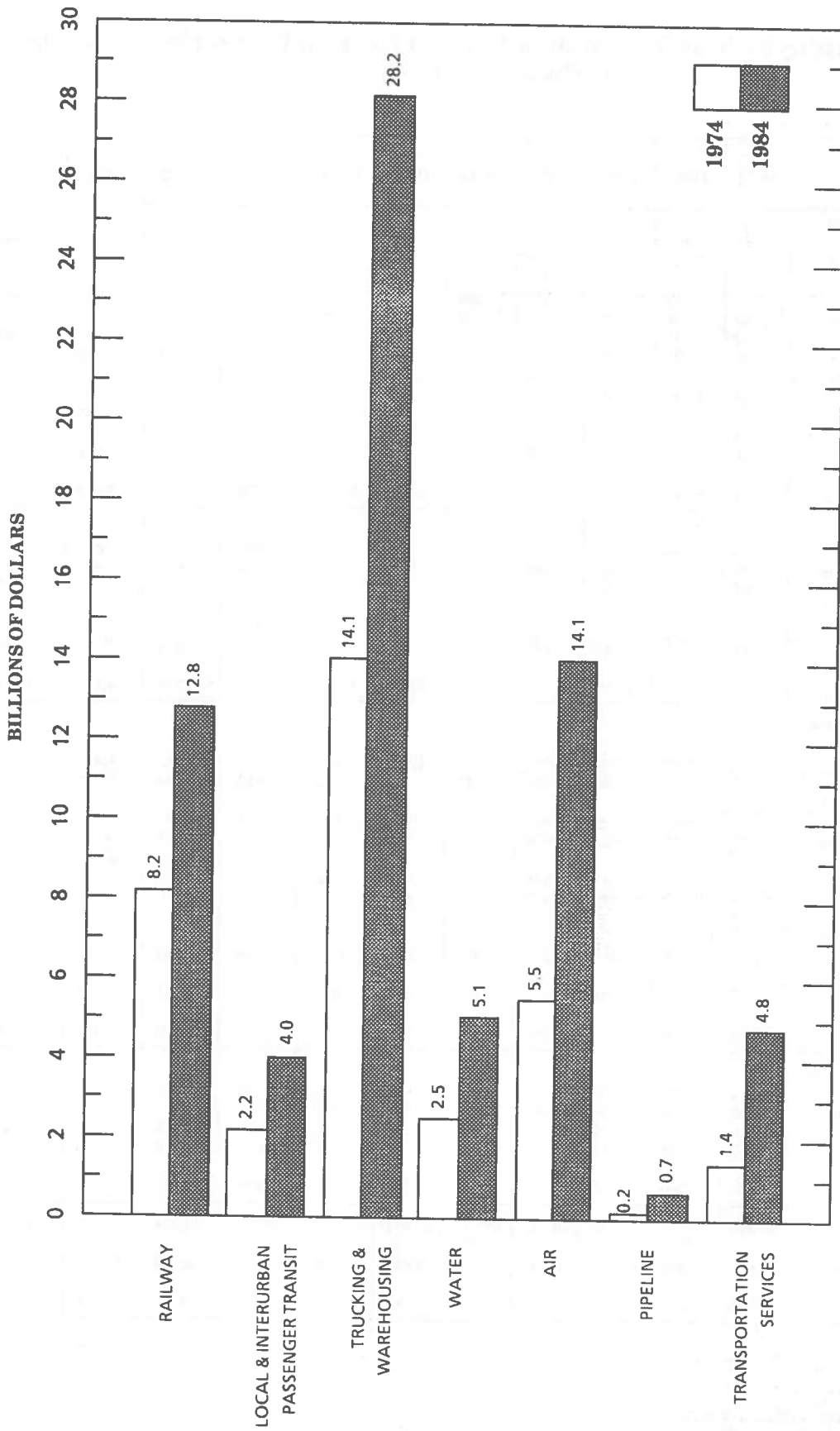


Figure 22. Wages and Salaries by Transportation Sector, 1974 and 1984

Table 25. National Transportation and Economic Trends, 1974-1984  
(billions)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Total passenger-miles Index*	2,368 130	2,449 135	2,570 141	2,674 147	2,815 155	2,777 153	2,704 149	2,807 155	2,977 158	3,083 <sup>r</sup> 170	3,186 175
Total revenue ton-miles Index*	2,797 123	2,627 116	2,787 123	2,899 128	3,284 145	3,387 149	3,395 150	3,345 147	3,126 138	3,243 <sup>r</sup> 143	3,387 149
Population (millions) Index*	213 107	215 108	218 110	220 111	222 112	225 113	227 114	230 116	232 117	234 118	236 119
Industrial production Index*	93 <sup>r</sup>	85 <sup>r</sup>	93 <sup>r</sup>	100 <sup>r</sup>	107 <sup>r</sup>	111 <sup>r</sup>	109 <sup>r</sup>	111 <sup>r</sup>	103 <sup>r</sup>	109 <sup>r</sup>	122
Gross national product (current dollars) Index*	1,473 <sup>r</sup> 186	1,598 <sup>r</sup> 201	1,783 <sup>r</sup> 225	1,991 <sup>r</sup> 251	2,250 <sup>r</sup> 283	2,508 <sup>r</sup> 316	2,732 <sup>r</sup> 344	3,053 <sup>r</sup> 385	3,166 <sup>r</sup> 399	3,402 <sup>r</sup> 428	3,775 475

<sup>r</sup> = revised.

\* Index = 100 in 1967.

Source: See Appendix A, p. A-26.

Table 27. Expenditures and Overseas Travel by U.S. Residents and Foreign Visitors, 1974-1984

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
U.S. residents- Overseas travelers (thousands)	6,467	6,354	6,897	7,390	7,790	7,835	8,163	8,040	8,510	10,179 <sup>r</sup>	12,062
Average expenditures Overseas (dollars)	478	533	533	543	624	672	726	802	827	798 <sup>r</sup>	820
Total travel and passenger fare transactions (millions of dollars)	8,075	8,680	9,424	10,199	11,371	12,597	14,004	15,966	17,166	19,481 <sup>r</sup>	22,516
Travel payments in foreign countries (millions of dollars)	5,980	6,417	6,856	7,451	8,475	9,413	10,397	11,479	12,394	13,997 <sup>r</sup>	16,008
Passenger fare payments to foreign countries (millions of dollars)	2,095	2,263	2,568	2,748	2,896	3,184	3,607	4,487	4,772	5,484 <sup>r</sup>	6,508
Foreign visitors to U.S. (thousands)	3,700	3,674	4,456	4,509	5,764	7,230	8,200	9,069	8,761	7,873	7,535
Average expenditures of visitors (dollars)	450	497	537	595	604	605	679	713	761	799	846
Total travel and passenger fare transactions (millions of dollars)	4,845	5,464	6,679	7,175	8,421	10,118	10,650	13,488	13,085	13,932	13,919
Travel receipts in U.S. (millions of dollars)	4,032	4,697	5,742	6,150	7,183	8,441	10,588	12,913	12,393	11,408	11,386
Passenger fare receipts in U.S. (millions of dollars)	813	767	937	1,025	1,238	1,677	2,062	2,575	2,692	2,524	2,533

<sup>r</sup> = revised.

Source: See Appendix A, pp. A-26, A-27.

# **SUPPLEMENTARY DATA**

## **Section II: Energy in Transportation**



# Part 1. Energy Consumption

**Table 30. Coal Consumption by End-Use Sector  
(at 5-Year Intervals 1955-1965 and Annually 1966-1985)  
(million short tons)**

Year	Industry and Miscellaneous					Residential and Commercial	Total
	Electric Utilities	Coke Plants	Other Industry and Miscellaneous	Total	Transportation		
1955	143.8	107.7	110.1	217.8	17.0	68.4	447.0
1960	176.7	81.4	96.0	177.4	3.0	40.9	398.1
1965	244.8	95.3	105.6	200.8	0.7	25.7	472.0
1966	266.5	96.4	108.7	205.1	0.6	25.6	497.7
1967	274.2	92.8	101.8	194.6	0.5	22.1	491.4
1968	297.8	91.3	100.4	191.6	0.4	20.0	509.8
1969	310.6	93.4	93.1	186.6	0.3	18.9	516.4
1970	320.2	96.5	90.2	186.6	0.3	16.1	523.2
1971	327.3	83.2	75.6	158.9	0.2	15.2	501.6
1972	351.8	87.7	72.9	160.6	0.2	11.7	524.3
1973	389.2	94.1	68.0	162.1	0.1	11.1	562.6
1974	391.8	90.2	64.9	155.1	0.1	11.4	558.4
1975	406.0	83.6	63.6	147.2	*	9.4	562.6
1976	448.4	84.7	61.8	146.5	*	8.9	603.8
1977	477.1	77.7	61.5	139.2	*	9.0	625.3
1978	481.2	71.4	63.1	134.5	*	9.5	625.2
1979	527.1	77.4	67.7	145.1	*	8.4	680.5
1980	569.3	66.7	60.3	127.0	*	6.5	702.7
1981	596.8	61.0	67.4	128.4	*	7.4	732.6
1982	593.7	40.9	64.1	105.0	*	8.2	706.9
1983	625.2	37.0	66.0	103.0	*	8.4	736.7
1984 <sup>r</sup>	664.4	44.0	73.7	117.8	*	9.1	791.3
1985 <sup>p</sup>	693.5	40.9	76.3	117.2	*	7.9	818.6

<sup>r</sup> = revised.

<sup>p</sup> = preliminary, except for Electric Utilities which is final.

\* = less than 0.05 million short tons. Quantities are included in the Other Industry and Miscellaneous category.

Note: Sum of components may not equal total due to independent rounding.

Source: U.S. DOE/EIA, *Annual Energy Review 1985*, Table 74.

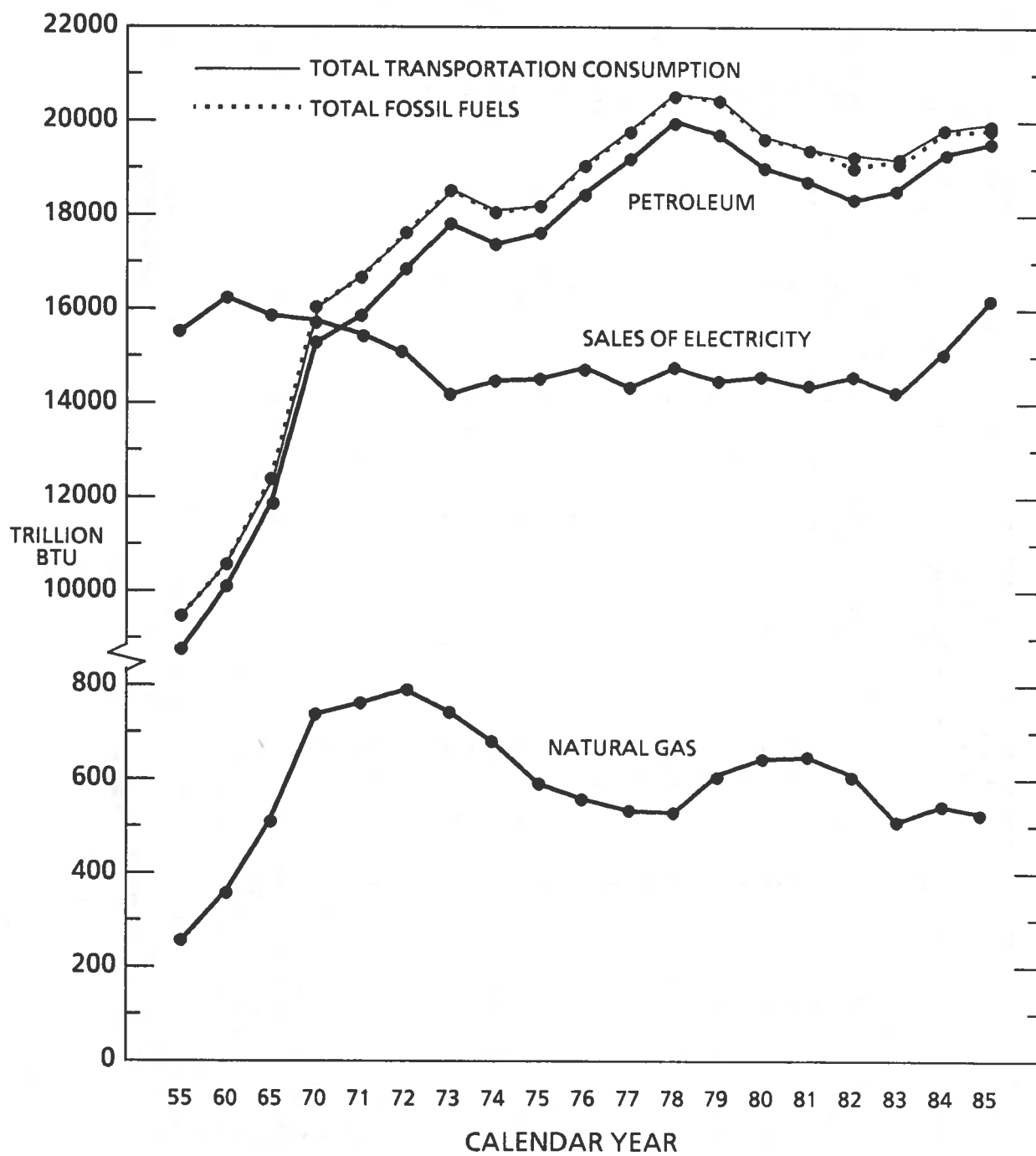


Figure 23. U.S. Energy Consumption by the Transportation Sector, 1955-1985

**Table 33. U.S. Government Energy Use by Agency, by Source, Fiscal Years 1975 and 1985  
(trillion Btu)**

	Petroleum						Electricity	Natural Gas	Coal and Other <sup>2</sup>	Total
	Motor Gasoline	Distillate and Residual Fuel Oils		Other <sup>1</sup>	Total					
1975										
Defense	34.9	326.5	725.5	1,086.8	296.3	119.9	55.1	1,558.1		
Energy	1.3	5.2	0.3	6.8	49.2	9.8	19.4	85.2		
Postal Service	10.3	4.6	0.7	15.6	40.5	2.5	0.6	59.2		
General Services Administration	0.2	2.6	0	2.7	29.3	4.9	6.1	43.0		
Veterans Administration	0.6	5.6	*	6.2	16.6	14.6	1.8	39.2		
Transportation	1.5	7.8	4.7	14.0	12.9	1.3	0.3	28.5		
NASA	0.4	1.8	1.2	3.4	17.9	3.9	1.2	26.4		
Agriculture	4.6	1.4	0.5	6.6	3.4	2.0	*	11.9		
Interior	2.6	2.9	0.7	6.1	4.1	2.0	0.1	12.3		
Health and Human Services	0.7	2.8	0.1	3.7	3.9	1.6	0.1	9.3		
Justice	2.0	0.8	0	2.8	1.9	2.1	0.4	7.1		
Other <sup>3</sup>	4.3	2.8	0.2	7.3	5.3	1.6	0.4	14.8		
Total	63.4	364.7	733.9	1,162.0	481.2	164.3	85.5	1,895.0		
1985 <sup>P</sup>										
Defense	25.5	297.1	702.2	1,024.7	343.6	106.3	51.3	1,525.8		
Energy	1.4	3.6	0.7	5.7	63.3	6.5	21.4	96.9		
Postal Service	9.9	3.1	0.2	13.2	32.6	4.5	0.7	50.9		
General Services Administration	0.1	0.6	0	0.7	28.2	3.1	3.3	35.4		
Veterans Administration	0.5	2.2	*	2.8	22.7	13.9	1.3	40.6		
Transportation	1.4	8.1	5.0	14.5	13.2	1.2	0.3	29.2		
NASA	0.3	0.8	1.6	4.6	17.5	2.6	0.5	23.3		
Agriculture	4.0	0.7	0.4	5.0	4.0	1.2	*	10.2		
Interior	2.2	1.5	0.8	4.6	3.2	1.3	0.2	9.3		
Health and Human Services	0.4	2.6	0.1	3.1	6.3	1.5	*	10.8		
Justice	1.8	0.4	0.1	2.3	3.5	2.7	0.4	8.9		
Other <sup>4</sup>	3.1	2.7	0.4	6.1	10.3	1.9	0.5	18.6		
Total	50.3	323.4	711.5	1,085.2	548.8	146.7	80.0	1,859.9		

<sup>P</sup> = preliminary.

\* Less than 50 billion Btu.

<sup>1</sup> Includes aviation gasoline, jet fuel, and liquefied petroleum gases.

<sup>2</sup> Includes purchased steam.

<sup>3</sup> Includes Department of Commerce, Panama Canal Commission, Tennessee Valley Authority, Department of Labor, National Science Foundation, Department of Treasury, Federal Communications Commission, and Environmental Protection Agency.

<sup>4</sup> Includes Department of Commerce, Panama Canal Commission, Tennessee Valley Authority, National Science Foundation, Department of Treasury, and Environmental Protection Agency.

Note: Sum of components may not equal total due to independent rounding.

These data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. However, other energy used by U.S. agencies that produce electricity or enrich uranium is included.

Source: U.S. DOE/EIA, *Annual Energy Review 1985*, Table 9.

**Table 35. Fuel Consumption by Certificated Air Carriers, 1974-1984**  
(scheduled and nonscheduled service)  
(thousands of gallons)

Year	Total Certificated Route Air Carriers	Domestic Operations					International Operations		
		Passenger/Cargo Carriers					Total Int'l Operations	Majors <sup>4</sup>	Other
		Total Domestic Operations	Majors <sup>1</sup>	Nationals <sup>2</sup>	Other <sup>3</sup>	Total Int'l Operations			
1974	9,553,792	7,508,899	6,612,145	720,372	174,264	2,044,893	1,864,685	180,208	
1975	9,506,600	7,557,700	6,650,000	725,800	181,900	1,948,900	1,756,700	192,200	
1976	9,808,051	8,008,306	7,043,139	766,019	109,149	1,799,745	1,635,266	164,479	
1977	10,268,024	8,416,730	7,373,856	828,195	214,679	1,851,294	1,683,513	167,781	
1978	10,639,227	8,726,033	7,527,587	918,531	279,915	1,913,194	1,741,918	171,276	
1979	11,368,702	9,376,064	7,848,761	1,017,118	510,185	1,992,638	1,830,001	162,637	
1980	11,034,038	9,096,323	7,424,555	1,094,678	577,090	1,937,715	1,764,506	173,209	
1981	10,587,769	8,555,248	7,263,415	1,119,021	172,812	2,032,520	1,654,395	378,125	
1982	10,405,726	8,438,672	6,936,089	1,231,483	271,101	1,967,054	1,589,285	377,769	
1983	10,670,863	8,672,574	7,136,444	1,162,543	373,586	1,998,289	1,670,922	327,367	
1984	11,910,302	9,623,895	7,439,082	1,702,290	482,523	2,286,407	1,833,195	453,212	

<sup>1</sup> Prior to 1981, categorized as domestic trunk.

<sup>2</sup> Prior to 1981, categorized as local service.

<sup>3</sup> Prior to 1981, included helicopter carriers.

<sup>4</sup> Prior to 1981, categorized as international trunk.

Note: Sum of components may not equal total due to independent rounding.

Source: 1974-1975: CAB, *Handbook of Airline Statistics, 1975*, Part II, Table 57, and advance information based on CAB Form 41, Schedule T-2(b), Quarterly Reports.

1976-1980: *Ibid.*, *Fuel Cost and Consumption, Twelve Months Ended December 31, 1980 and 1979*, Tables 1, 2, 3, 4, 6, 7, and similar tables in earlier editions.

1981: *Ibid.*, *Twelve Months Ended December 31, 1982 and 1981*.

1982-1983: *Ibid.*, *Twelve Months Ended December 31, 1983 and 1982*.

1984: *Ibid.*, *Twelve Months Ended December 31, 1984*.

Table 37. Fuel Consumption and Travel by Personal Passenger Vehicles<sup>1</sup>, 1974-1984

Year	Number Registered (thousands)	Total <sup>2</sup> Vehicle Miles Traveled (millions)	Average Miles Traveled per vehicle			Average Miles Traveled per Gallon			Total Fuel Consumed (millions of gallons)			Average Gallons Consumed per Vehicle		
			Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles
1974	109,823	1,013,068	9,448	4,500	9,225	13.43	50	13.65	73,770	447	74,217	704	90	676
1975	111,679	1,050,472	9,634	4,500	9,406	13.53	50	13.74	76,010	447	76,457	712	90	685
1976	115,170	1,098,179	9,763	4,500	9,535	13.72	50	13.93	78,398	448	78,847	711	90	685
1977	118,711	1,141,215	9,839	4,500	9,613	13.94	50	14.15	80,225	451	80,677	706	90	680
1978	132,717	1,194,231	10,046	4,500	9,812	14.06	50	14.26	83,312	463	83,775	715	90	688
1979	125,750	1,162,528	9,485	4,000	9,245	14.29	50	14.49	79,793	440	80,233	664	80	638
1980	127,448	1,129,887	9,135	3,144	8,865	15.15	50	15.32	73,375	360	73,735	603	63	579
1981	129,123	1,124,843	9,002	2,573	8,711	15.54	50	15.68	71,419	300	71,718	579	51	555
1982	129,499	1,191,623	9,533	2,086	9,202	16.25	50	16.36	72,608	240	72,848	587	42	563
1983	131,723	1,229,697	9,654 <sup>r</sup>	2,149	9,335 <sup>r</sup>	16.70	50	16.81	72,916 <sup>r</sup>	240	73,156 <sup>r</sup>	578 <sup>r</sup>	43	555
1984	133,347	1,266,265	9,809	2,190	9,496	16.94	50	17.05	74,042	240	74,282	579	44	557

r = revised.

<sup>1</sup> For the 50 states and District of Columbia.

<sup>2</sup> Includes motorcycles.

Source: U.S. DOT/FHWA, *Highway Statistics*, annual issues, Table VM-1.

Table 39. Fuel Consumption and Travel by Motor Trucks<sup>1</sup>, 1974-1984

Year	Total Vehicle Miles Traveled (millions)		Average Miles Traveled per Vehicle		Average Miles Traveled per Gallon		Total Fuel Consumed (millions of gallons)		Average Gallons of Fuel Consumed per Vehicle				
	Number Registered (thousands)	Miles Traveled	Single-unit Trucks	Combi-nations Trucks	Single-unit Trucks	Combi-nations Trucks	Single-unit Trucks	Combi-nations Trucks	Single-unit Trucks	Combi-nations Trucks			
1974	24,630	267,519	8,981	51,667	10,861	10,861	10.01	5.55	8.57	8.57	897	9,310	1,269
1975	25,776	274,454	8,882	49,125	10,648	10,648	10.01	5.69	8.68	8.68	887	8,633	1,227
1976	27,779	307,950	9,369	48,297	11,086	11,086	9.99	5.39	8.58	8.58	938	8,961	1,292
1977	29,562	329,465	9,400	50,206	11,145	11,145	10.13	5.42	8.68	8.68	928	9,263	1,284
1978	31,703	347,906	9,249	49,267	10,974	10,974	10.10	5.39	8.64	8.64	916	9,141	1,270
1979	33,350	360,500	9,184	49,664	10,810	10,810	10.30	5.40	8.82	8.82	892	9,197	1,225
1980	33,637	384,570	10,070	42,705	11,433	11,433	11.10	5.50	9.58	9.58	907	7,764	1,194
1981	34,451	425,127	11,028	47,023	12,340	12,340	11.84	5.50	10.21	10.21	931	8,550	1,209
1982	35,143	394,219	9,805	50,075	11,217	11,217	11.79	5.50	10.00	10.00	831	9,106	1,122
1983 <sup>r</sup>	37,089	421,126	9,704	57,767	11,355	11,355	12.57	5.25	10.11	10.11	772	11,003	1,123
1984	38,047	443,774	9,974	61,031	11,664	11,664	12.83	5.22	10.25	10.25	777	11,692	1,138

<sup>r</sup> = revised.

<sup>1</sup> For the 50 States and District of Columbia.

Source: U.S. DOT/FHWA, *Highway Statistics*, annual issues, Table VM-1.

Table 41. Average Retail Price of Transportation Fuel (¢/gal.), 1974-1985

Year	Aviation Fuels		Highway Fuels				Railroad Fuel	Marine
	Aviation Gasoline	Jet Fuel Naphtha* Kerosene	Motor Gasoline		Truck No. 2 Diesel	Diesel	Bunker 'C' Fuel	
			Regular	Premium	Unleaded			
1974	n/a	n/a	53.2	56.9	n/a	26.59	n/a	
1975	41.1	30.7	56.7	60.9	57.1	30.00	24.66	
1976	43.1	31.5	59.0	63.6	61.4	32.38	24.83	
1977	47.7	35.0	62.2	67.4	65.6	36.38	27.74	
1978	51.6	37.5	62.6	69.4	67.0	37.90	25.74	
1979	68.9	52.3	85.7	92.2	90.3	57.58	35.91	
1980	108.4	88.2	119.1	128.1	124.5	83.00	47.11	
1981	130.3	105.7	131.1	147.0	137.8	100.23	62.66	
1982	131.2	97.7	122.2	141.5	129.6	95.43	56.21	
1983	125.5	n/a	115.7	138.3	124.1	82.73	51.43	
1984	123.4	n/a	112.9	136.6	121.2	82.59	55.40	
1985	120.1	n/a	111.5	134.0	120.2	n/a	n/a	

n/a = not available.

\* Naphtha jet fuel data is no longer collected by the U.S. DOE after 1982.

Source: Railroad Fuel, Diesel: 1974-1984: *Ibid., Railroad Ten-Year Trends, 1985, Table II-A-6.*

1985: not available.

1974: not available.

1975-1978: U.S. DOE/EIA, *Monthly Energy Review*, December 1980.

1979-1984: *Platt's Oil Price Handbook*; estimated by Transportation Policy Associates.

1985: not available.

1974: U.S. DOE/EIA, *Monthly Energy Review*, December 1984.

1975-1985: *Ibid., Monthly Energy Review*, December issues, pp. 96 and 99.

Other data:



**Table 43. Price Trend of Gasoline vs. Other Consumer Goods and Services  
(at 5-Year Intervals 1955-1970 and Annually 1971-1985)**

Year	Retail Price of Regular Grade Gasoline (Cents Per Gallon)			Price Indexes of Regular and Premium Gasoline and Other Consumer Items (Index: 1967 = 100)						
	Service Station Price Excl. Taxes	State and Federal Taxes	Service Station Price Incl. Taxes	All Items	Food	Rent	Apparel and Upkeep	Regular and Premium Gasoline	Entertainment*	
1955	21.42	7.65	29.07	80.2	81.6	84.3	84.1	83.6	76.7	
1960	20.99	10.14	31.13	88.7	88.0	91.7	89.6	92.5	87.3	
1965	20.70	10.45	31.15	94.5	94.4	96.9	93.7	94.9	95.9	
1970	24.55	11.14	36.69	116.3	114.9	110.1	116.1	105.6	116.7	
1971	25.20	11.23	36.43	121.3	118.4	115.2	119.8	106.3	122.9	
1972	24.46	11.67	36.13	125.3	123.5	119.2	122.3	107.6	126.5	
1973	26.88	11.94	38.83	133.1	141.4	124.3	126.8	118.1	130.0	
1974	41.20	12.00	53.20	147.7	161.7	130.6	136.2	159.9	139.8	
1975	44.93	11.77	56.70	161.2	175.4	137.3	142.3	170.8	152.2	
1976	47.44	12.03	59.47	170.5	180.8	144.7	147.6	100.0	159.8	
1977	49.83	12.37	62.20	181.5	192.2	153.5	154.2	106.9	167.7	
1978	49.98	12.62	62.60	195.4	211.4	164.0	159.6	111.8	176.6	
1979	72.24	13.46	85.70	217.4	234.5	176.0	166.6	150.4	188.5	
1980	107.35	14.37	119.10	246.8	254.6	191.6	178.4	210.0	205.3	
1981	122.33 <sup>e</sup>	12.97 <sup>e</sup>	131.10	272.4	274.6	208.2	186.9	234.4	221.4	
1982	108.11 <sup>e</sup>	14.09 <sup>e</sup>	122.20	289.1	285.7	224.0	191.8	224.9	235.8	
1983	95.50 <sup>e</sup>	20.23 <sup>e</sup>	115.73	298.4	291.7	236.9	196.5	217.8	246.0	
1984	n/a	n/a	112.90	311.1	302.9	249.3	200.2	216.3	255.1	
1985	n/a	n/a	111.50	322.2	309.8	264.6	206.0	215.1	265.0	

n/a = not available.

<sup>e</sup> = estimated by Transportation Policy Associates.

\* Includes reading materials, sporting goods, toys and hobbies, and entertainment services.

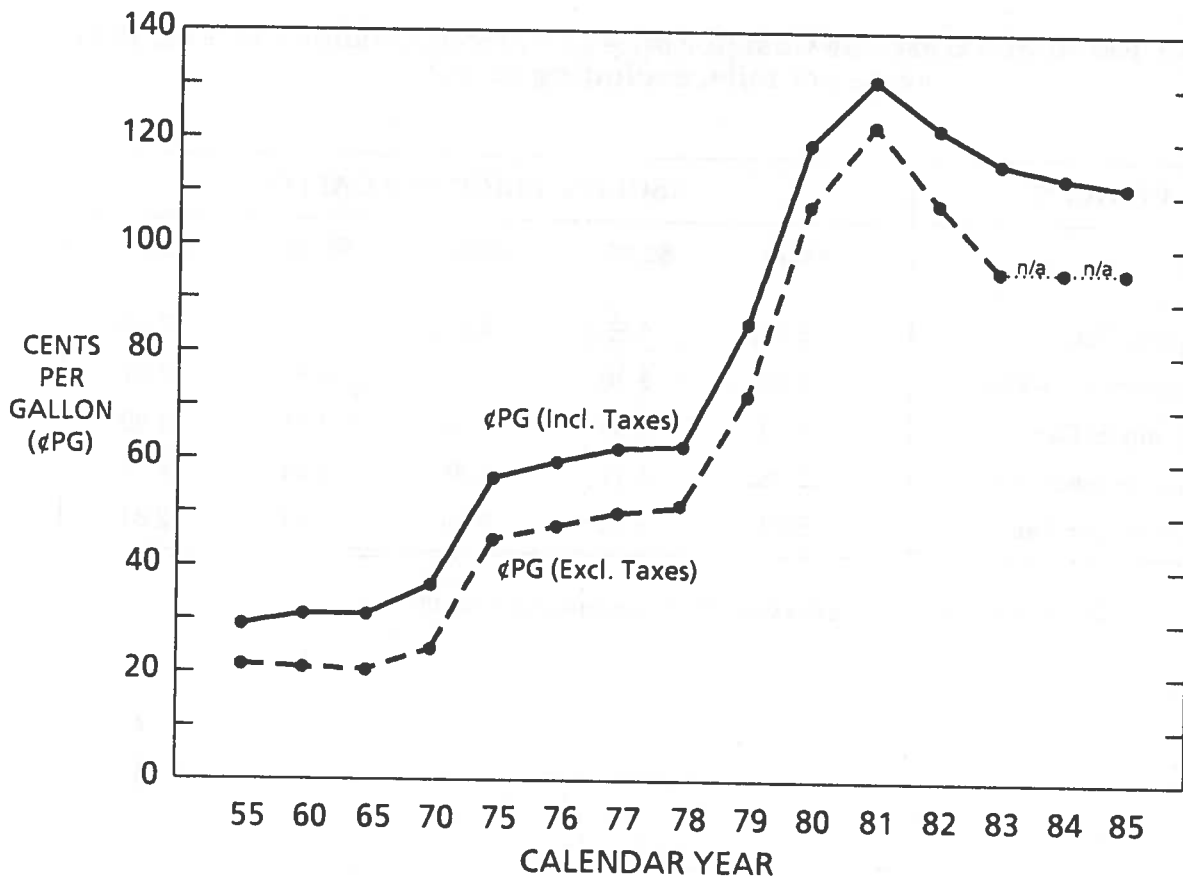
Note: In 1976, regular and premium gasoline reverted to an index of 100.

Price of Regular Grade Gasoline:

1955-1980: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4/4a.

1981-1985: U.S. DOL: Bureau of Labor Statistics, personal communication.

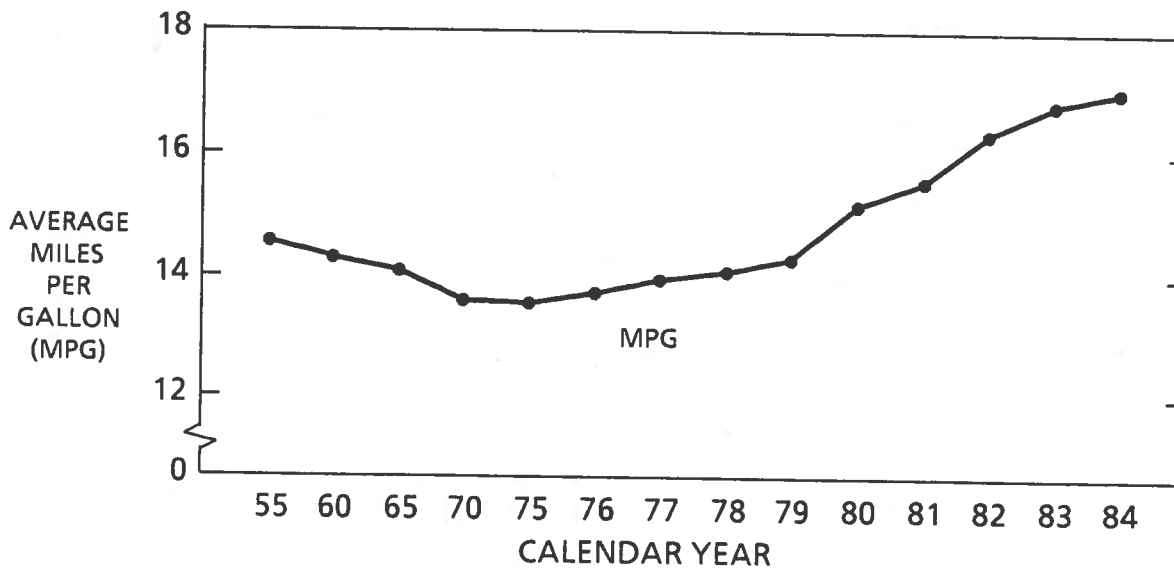
Price Indexes of Gasoline/Consumer Items: 1955-1985: U.S. DOL: Bureau of Labor Statistics, *Consumer Price Index, All Urban Consumers*, U.S. City Averages.



**Figure 24. Price Trend of Regular Grade Gasoline Prices, 1955-1985**

n/a = not available.

Source: See Appendix A, p. A-12.



**Figure 25. Average Fuel Efficiency of U.S. Passenger Cars, 1955-1984**

Source: See Appendix A, p. A-12.

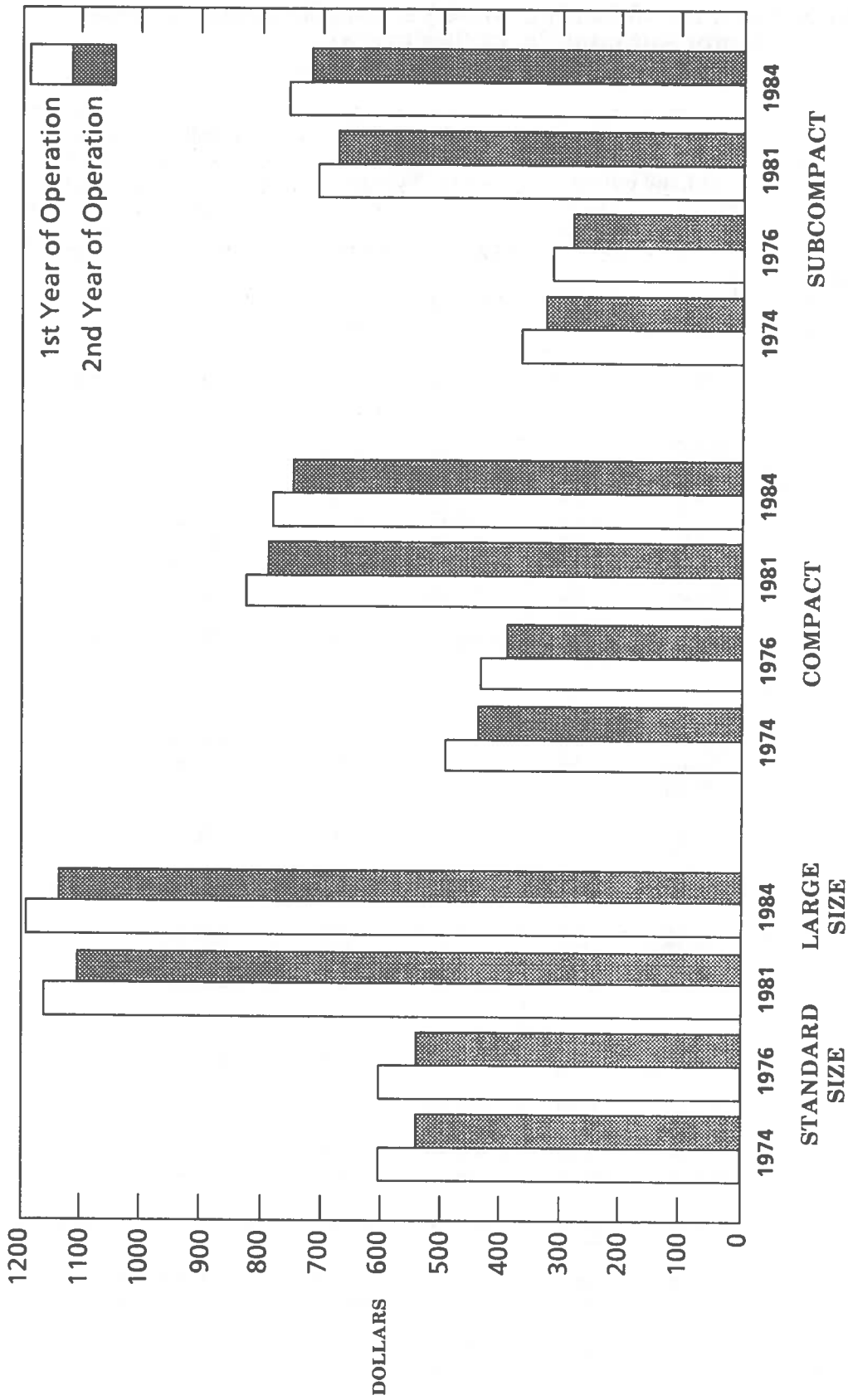


Figure 26. Estimated Annual Automobile Gasoline and Oil Costs, Including Taxes, by Size and Year of Operation

See Appendix A, p. A-12.

**Table 47. Estimated Cost of Owning and Operating an Intermediate Size 1984 Model Automobile, Including Fuel**  
**(Total costs in dollars, costs per mile in cents)<sup>1</sup>**

Item	First Year (14,500 miles)		Second Year (13,700 miles)		Totals & Averages for Twelve Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
<b>Cost Excluding Taxes:</b>						
Depreciation	2,385.00	16.45	1,401.00	10.23	10,320.00	8.60
Scheduled Maintenance	(65.85)	(.45)	(108.75)	(.79)	(1,169.40)	(.97)
Nonscheduled Repairs and Maintenance	<u>(11.34)</u>	<u>(.08)</u>	<u>(47.79)</u>	<u>(.35)</u>	<u>(4,254.55)</u>	<u>(3.55)</u>
<b>Total Repairs and Maintenance</b>	77.19	.53	156.54	1.14	5,423.95	4.52
Replacement Tires	15.43	.11	14.54	.11	637.58	.53
Accessories	14.09	.10	13.45	.10	197.88	.16
Gasoline	803.62	5.54	759.28	5.54	6,650.64	5.54
Oil	8.75	.06	15.75	.12	161.00	.13
Insurance	732.00	5.05	732.00	5.34	6,691.00	5.58
Parking and Tolls	<u>136.56</u>	<u>.94</u>	<u>128.66</u>	<u>.94</u>	<u>1,128.60</u>	<u>.94</u>
<b>Total</b>	4,172.64	24.78	3,221.22	23.52	31,210.65	26.00
<b>Taxes and Fees:</b>						
<b>State:</b>						
Gasoline	93.20	.64	88.06	.64	771.34	.64
Registration	20.00	.14	20.00	.14	240.00	.20
Titling	516.00	3.56	-	-	516.00	.43
Operating Cost Sales Tax <sup>2</sup>	(.10)	-	(.68)	(.01)	(129.92)	(.11)
Nonoperating Cost Sales Tax	<u>(1.34)</u>	<u>(.01)</u>	<u>(3.16)</u>	<u>(.02)</u>	<u>(32.54)</u>	<u>(.02)</u>
<b>Total Sales Tax</b>	<u>1.44</u>	<u>.01</u>	<u>3.84</u>	<u>.03</u>	<u>162.46</u>	<u>.14</u>
<b>Subtotal</b>	630.64	4.35	111.90	.82	1,689.80	1.41
<b>Federal:</b>						
Gasoline	<u>62.14</u>	<u>.43</u>	<u>58.71</u>	<u>.43</u>	<u>514.20</u>	<u>.43</u>
<b>Total Taxes</b>	692.78	4.78	170.61	1.24	2,204.00	1.84
Operating Costs	1,131.14	7.80	1,113.47	8.13	14,247.83	11.87
Ownership Costs	3,734.28	25.76	2,278.36	16.63	19,166.82	15.97
<b>Total of All Costs</b>	4,865.42	33.56	3,391.83	24.76	33,414.65	27.84

<sup>1</sup> This estimate covers the total cost of a medium priced, large size four-door sedan, purchased for \$11,554 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

<sup>2</sup> Where costs per mile are less than .005 cent, a dash (-) appears.

Source: U.S. DOT/FHWA, *Cost of Owning and Operating Automobiles and Vans, 1984*.

**Table 49. Estimated Cost of Owning and Operating a Subcompact Size 1984 Model Automobile, Including Fuel  
(Total costs in dollars, costs per mile in cents)<sup>1</sup>**












Item	First Year (14,500 miles)		Second Year (13,700 miles)		Totals & Averages for Twelve Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
<b>Cost Excluding Taxes:</b>						
Depreciation	903.00	6.23	888.00	6.48	7,024.00	5.85
Scheduled Maintenance	(27.65)	(.19)	(73.30)	(.54)	(939.84)	(.78)
Nonscheduled Repairs and Maintenance	<u>(8.50)</u>	<u>(.06)</u>	<u>(39.95)</u>	<u>(.29)</u>	<u>(4,440.00)</u>	<u>(3.70)</u>
<b>Total Repairs and Maintenance</b>	36.15	.25	113.25	.83	5,379.84	4.48
Replacement Tires	11.67	.08	11.00	.08	483.20	.40
Accessories	14.62	.10	13.95	.10	202.21	.17
Gasoline	625.07	4.31	590.61	4.31	5,172.70	4.31
Oil	7.00	.05	14.00	.10	147.00	.12
Insurance	635.00	4.38	635.00	4.64	5,933.00	4.95
Parking and Tolls	<u>136.56</u>	<u>.94</u>	<u>128.66</u>	<u>.94</u>	<u>1,128.60</u>	<u>.94</u>
<b>Total</b>	2,369.07	16.34	2,394.47	17.48	25,470.55	21.22
<b>Taxes and Fees:</b>						
<b>State:</b>						
Gasoline	72.50	.50	68.50	.50	599.93	.50
Registration	20.00	.14	20.00	.15	240.00	.20
Titling	351.20	2.42	-	-	351.20	.29
Operating Cost Sales Tax <sup>2</sup>	(.13)	-	(1.70)	(.01)	(159.06)	(.13)
Nonoperating Cost Sales Tax	<u>(1.33)</u>	<u>(.01)</u>	<u>(1.66)</u>	<u>(.01)</u>	<u>(38.76)</u>	<u>(.03)</u>
<b>Total Sales Tax</b>	<u>1.46</u>	<u>.01</u>	<u>3.36</u>	<u>.02</u>	<u>197.82</u>	<u>.17</u>
<b>Subtotal</b>	445.16	3.07	91.86	.67	1,388.95	1.16
<b>Federal:</b>						
Gasoline	<u>48.33</u>	<u>.33</u>	<u>45.67</u>	<u>.33</u>	<u>399.96</u>	<u>.33</u>
<b>Total Taxes</b>	493.49	3.40	137.53	1.00	1,788.91	1.49
Operating Costs	909.76	6.27	900.09	6.57	12,530.45	10.44
Ownership Costs	1,952.80	13.47	1,631.91	11.91	14,729.01	12.27
<b>Total of All Costs</b>	2,862.56	19.74	2,532.00	18.48	27,259.46	22.71

<sup>1</sup> This estimate covers the total cost of a medium priced, large size four-door sedan, purchased for \$11,554 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

<sup>2</sup> Where costs per mile are less than .005 cent, a dash (-) appears.

Source: U.S. DOT/FHWA, *Cost of Owning and Operating Automobiles and Vans, 1984*.

**Table 51. Estimated Cost of Owning and Operating 1984 Model Automobiles and Vans, Including Fuel**

<b>SUBURBAN-BASED OPERATION</b>							
<b>TOTAL COSTS: CENTS PER MILE*</b>							
<b>SIZE</b>	 ORIGINAL VEHICLE COST DEPRECIATED	 MAINTENANCE, ACCESSORIES, PARTS & TIRES	 GAS & OIL (EXCLUDING TAXES)	 PARKING & TOLLS	 INSURANCE	 STATE & FEDERAL TAXES	<b>TOTAL COST</b>
<b>LARGE</b> WITH STANDARD EQUIP- MENT, WEIGHT MORE THAN 3,500 LBS. EMPTY 	9.6	6.0	7.0	0.9	4.9	2.2	30.6
<b>INTERMEDIATE</b> WEIGHT LESS THAN 3,500 LBS. EMPTY 	8.6	5.2	5.7	0.9	5.6	1.8	27.8
<b>COMPACT</b> WEIGHT LESS THAN 3,000 LBS. EMPTY 	7.3	4.6	4.6	0.9	4.3	1.6	23.3
<b>SUBCOMPACT</b> WEIGHT LESS THAN 2,500 LBS. EMPTY 	5.9	5.1	4.4	0.9	5.0	1.4	22.7
<b>PASSENGER VAN</b> WEIGHT LESS THAN 5,000 LBS. EMPTY 	10.7	6.9	9.1	0.9	8.9	2.7	39.2

\* Based on operations of 120,000 miles over 12 years.

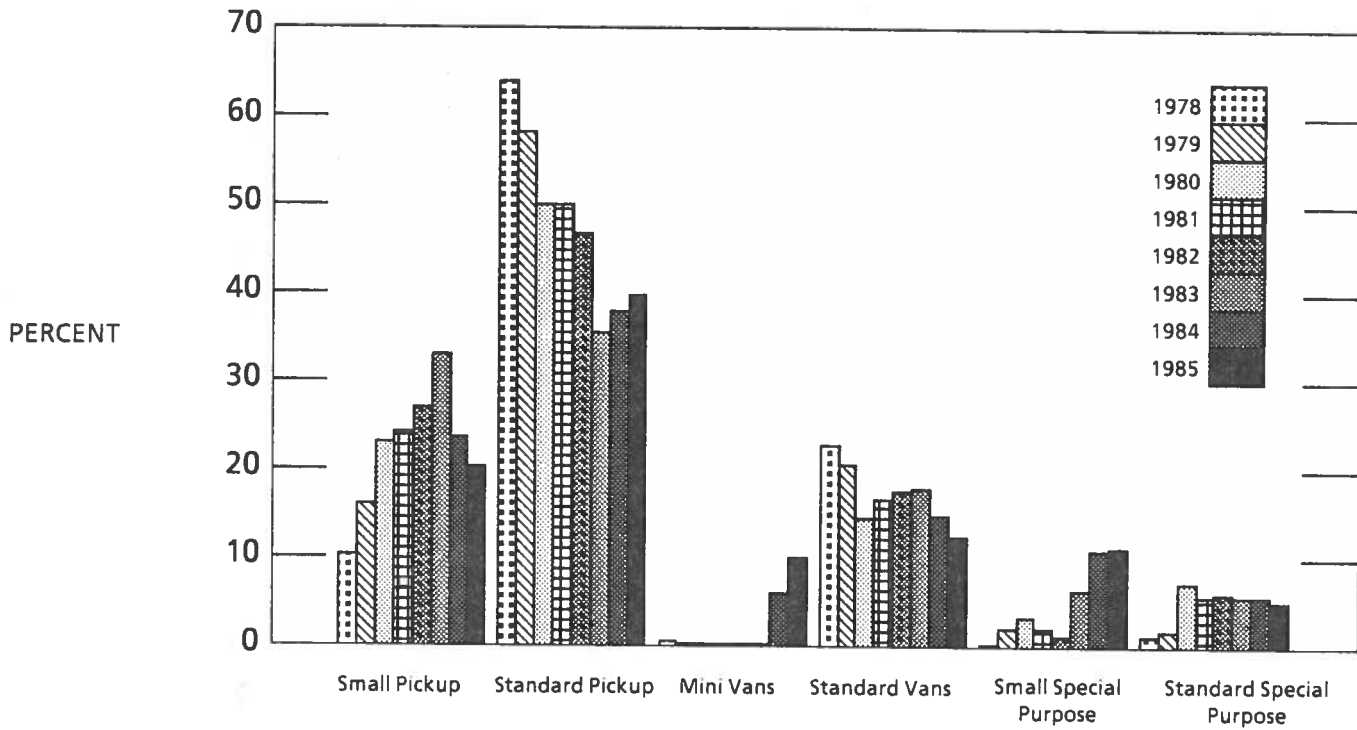
Source: U.S. Department of Transportation, Federal Highway Administration, *Cost of Owning and Operating Automobiles and Vans, 1984*.

**Table 53. Model Year Sales, Market Shares, and Sales-Weighted Fuel Economies of Domestic and Import Trucks, Model Years 1978-1985<sup>a</sup>**

	1978	1979	1980	1981	1982	1983	1984	1985
<b>SMALL PICKUP</b>								
Total sales, units	308,790	451,548	516,412	472,611	579,263	894,432	857,804	863,584
Market share, %	10.5	16.1	23.3	24.4	27.2	33.3	23.7	20.4
Fuel economy, mpg	26.9	23.6	25.5	28.1	28.1	27.2	27.0	26.8
<b>STANDARD PICKUP</b>								
Total sales, units	1,886,782	1,635,745	1,115,248	967,242	1,000,772	958,408	1,375,948	1,690,931
Market share, %	64.2	58.4	50.3	50.0	46.9	35.7	38.1	39.9
Fuel economy, mpg	16.6	15.8	17.0	18.5	18.6	18.3	18.3	19.0
<b>MINI VAN</b>								
Total sales, units	19,476	18,153	13,649	11,007	11,964	13,716	222,798	437,660
Market share, %	0.7	0.6	0.6	0.6	0.6	0.5	6.2	10.3
Fuel economy, mpg	19.5	17.9	19.6	18.8	22.5	21.0	25.0	24.3
<b>STANDARD VAN</b>								
Total sales, units	670,453	580,883	328,065	327,730	379,110	484,349	545,595	536,242
Market share, %	22.8	20.7	14.8	16.9	17.8	18.0	15.1	12.7
Fuel economy, mpg	16.4	14.9	16.3	17.4	17.0	17.2	16.3	16.4
<b>SMALL SPECIAL PURPOSE</b>								
Total sales, units	11,588	61,796	79,776	42,813	31,226	174,982	399,611	477,706
Market share, %	0.4	2.2	3.6	2.2	1.5	6.5	11.1	11.3
Fuel economy, mpg	15.7	17.0	16.7	19.5	20.0	22.6	22.8	22.1
<b>STANDARD SPECIAL PURPOSE</b>								
Total sales, units	40,091	53,038	163,387	114,013	130,505	161,412	211,178	229,242
Market share, %	1.5	1.9	7.4	5.9	6.1	6.0	5.8	5.4
Fuel economy, mpg	15.3	15.2	14.6	16.1	17.0	16.9	15.7	16.6
<b>FLEET</b>								
Total sales, units	2,941,180	2,801,163	2,216,537	1,935,416	2,132,840	2,687,299	3,612,934	4,235,365
Market share, %	100.0	100.0	10.0	100.0	100.0	100.0	100.0	100.0
Fuel economy, mpg	17.2	16.5	18.1	19.8	20.0	20.5	20.1	20.4

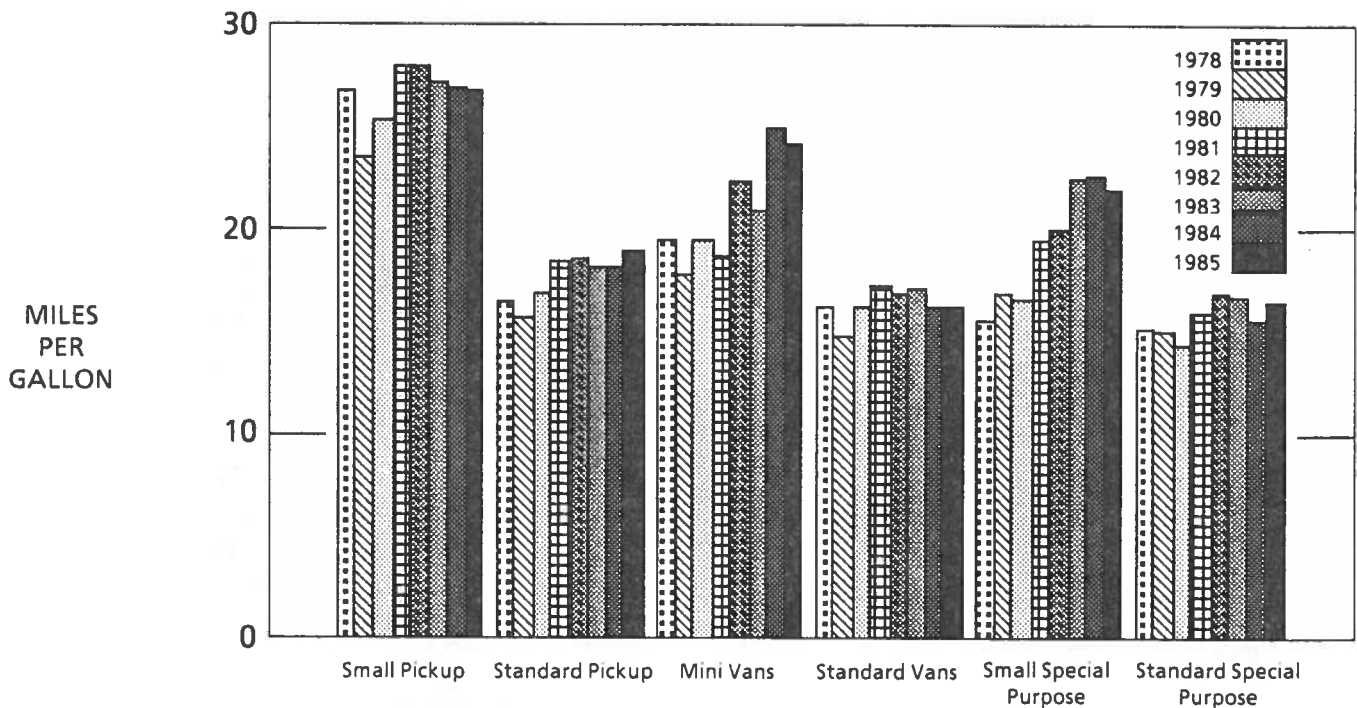
<sup>a</sup> These figures represent only those sales that could be matched to corresponding EPA fuel economy values. Source: Oak Ridge National Laboratory, *Motor Vehicle MPG and Market Shares Report*, 1985, Table 27.

**Figure 29. Market Shares of Domestic and Import Light Trucks by EPA Size Classification, 1978-1985**



Source: Oak Ridge National Laboratory, *Motor Vehicle MPG and Market Shares Report*, 1985, p. 61.

**Figure 30. Fuel Economies of Domestic and Import Light Trucks by EPA Size Classification, 1978-1985**



Source: Oak Ridge National Laboratory, *Motor Vehicle MPG and Market Shares Report*, 1985, p. 62.



## **Part 2. Energy Intensiveness**

**Table 55. Energy Intensiveness of General Aviation, 1974-1984**

Fuel Consumption (million gal.)				
Year	Intercity Passenger-Miles (10 <sup>6</sup> )	AVGAS	Jet Fuel	Btu/Passenger Miles
1974	11,200	443	357	9,057
1975	11,400	412	453	9,709
1976	12,100	432	495	9,814
1977	12,800	456	536	9,935
1978	14,100	518	763	11,723
1979	15,500	570	736	10,830
1980	14,700	520	766	11,286
1981	14,600	489	759	11,044
1982	13,100	448	887	13,252
1983	12,700	428	613	10,566
1984	12,500	462	739	12,423

Note: The heat equivalent factors used in Btu conversion are:

AVGAS = 5,048,000 Btu/bbl.

Jet Fuel (kerosene) = 5,670,000 Btu/bbl.

Source: Passenger-Miles Flown:

1974-1984: TPA, *Transportation In America*, March, 1986, p. 8.

Fuel Consumed:

1974-1979: U.S. DOT/FAA, personal communication.

1980-1984: *Ibid.*, Office of Management Systems, *General Aviation Activity and Avionics Survey*, 1980-1985 editions, Tables 2-21 and similar table in earlier editions.

Table 57. Energy Intensiveness of Trucks, 1974-1984

Year	<u>Vehicle Miles (millions)</u>			<u>Fuel Consumed (million gal.)</u>			<u>Btu/Vehicle-Mile</u>		
	Single-Unit Trucks	Combinations	All Trucks	Single-Unit Trucks	Combinations	All Trucks	Single-Unit Trucks	Combinations	All Trucks
1974	211,460	56,059	267,519	21,125	10,101	31,226	12,488	24,992	15,108
1975	218,894	55,560	274,454	21,868	9,764	31,632	12,488	24,375	14,894
1976	248,795	59,155	307,950	24,915	10,975	35,890	12,518	25,733	15,056
1977	266,000	63,465	329,465	26,255	11,709	37,964	12,338	25,590	14,890
1978	280,578	67,328	347,906	27,780	12,491	40,271	12,376	25,732	14,961
1979	294,000	66,500	360,500	28,544	12,315	40,859	12,136	25,686	14,635
1980	324,570	60,000	384,570	29,241	10,909	40,150	11,261	25,218	13,439
1981	366,090	59,037	425,127	30,903	10,734	41,637	10,552	25,218	12,242
1982	332,509	61,700	394,219	28,195	11,221	39,416	10,599	25,225	12,498
1983 <sup>r</sup>	347,564	73,562	421,126	27,650	14,012	41,662	9,944	26,419	12,366
1984	366,905	76,869	443,774	28,588	14,726	43,314	9,739	26,571	12,200

<sup>r</sup> = revised.

Note: The heat equivalent factors used for Btu conversions are:

Automotive gasoline = 125,000 Btu/gal (single-unit trucks)

Distillate fuel = 138,700 Btu/gal (combinations)

Source: U.S. DOT/FHWA, *Highway Statistics*, annual issues, Table VM-1.

**Table 59. Energy Intensiveness of Class I Intercity Buses, 1974-1984**

Year	Revenue Passenger-Miles (10 <sup>6</sup> )	Fuel Consumed (million gal.)	Btu/ Passenger-Mile
1974	19,500	140.7	1,001
1975	18,200	135.1	1,030
1976	16,440	134.8	1,049
1977	17,100	126.4	1,025
1978	16,230	121.9	1,042
1979	17,330	127.4	1,020
1980	17,080	132.2	1,074
1981	15,830	123.0	1,078
1982	15,890	123.1	1,075
1983	15,370	103.4	933
1984	15,447	109.6	984

Note: The heat equivalent factor used in Btu conversion is 138,700 Btu/gal.

Source: Revenue Passenger-Miles:

1974 - 1980: ABA, *Bus Facts*, 1982, p.5.

1981 - 1982: ABA, personal communication.

1983 - 1984: TPA, personal communication.

Fuel Consumed:

1974 - 1982: ABA, personal communication.

1983 - 1984: TPA, personal communication.

**Table 60. Energy Intensiveness of Class I Railroad Freight, 1974-1984**

Year	Revenue Freight Ton-Miles (millions)	Fuel Consumed* (million gal.)	Btu/ Revenue Freight Ton-Mile
1974	850,961	3,643	594
1975	754,252	3,314	609
1976	794,059	3,460	605
1977	826,292	3,537	594
1978	858,105	3,508	567
1979	913,669 <sup>r</sup>	3,637	559
1980	918,621 <sup>r</sup>	3,567	538
1981	910,169	3,429	523
1982	797,759	2,872	499
1983	828,275	2,872	481
1984	921,542	3,104	467

\* Diesel fuel only. Does not include electrically powered locomotives.

Note: The heat equivalent factor used for Btu conversion is 138,700 Btu/gal.

Source: Revenue Freight Ton-Miles:

1974-1984: *Railroad Ten-Year Trends*, 1985, Table III-D-3.

Fuel Consumed:

1974-1984: *Railroad Ten-Year Trends*, 1985, Table III-D-2.

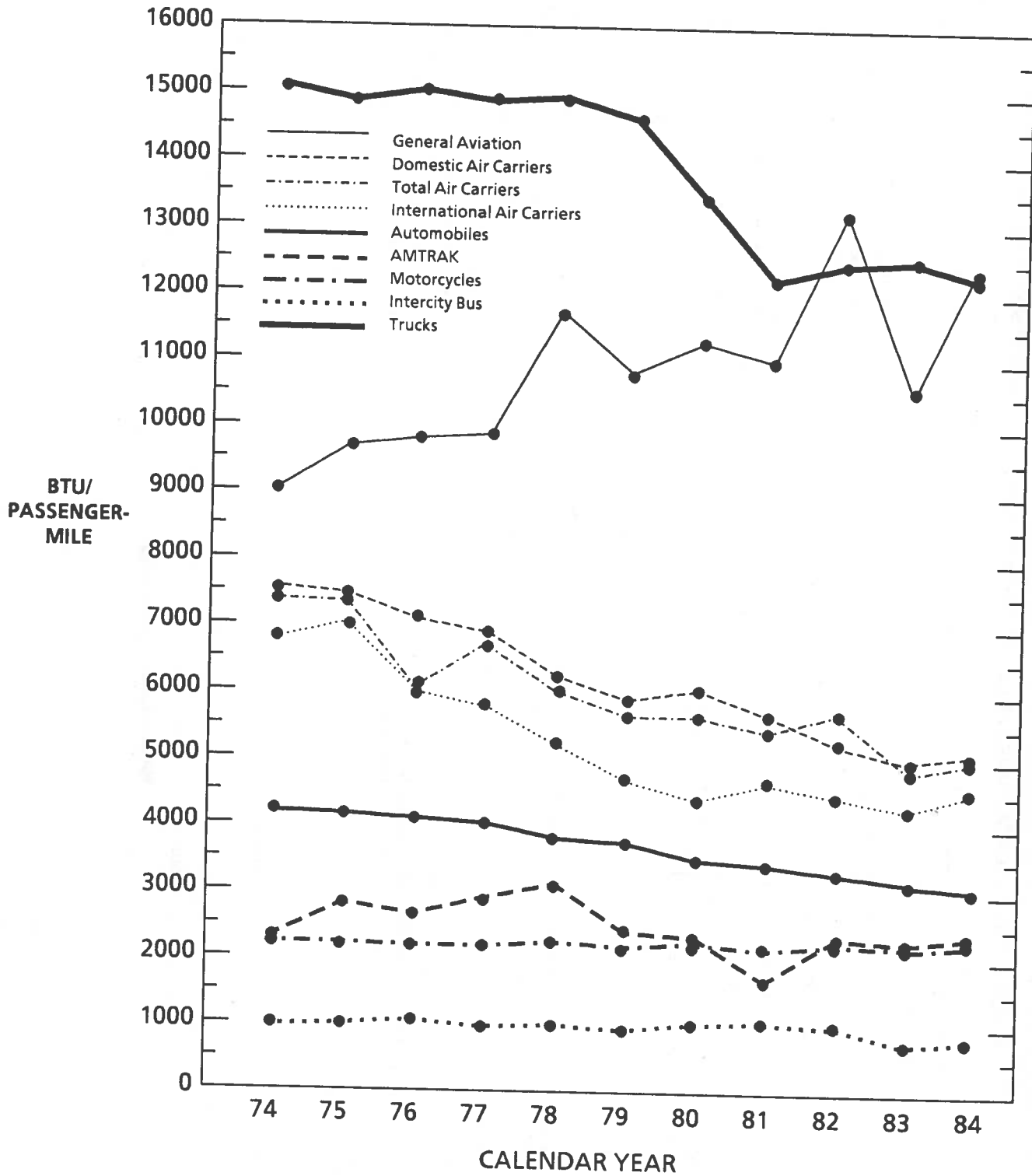
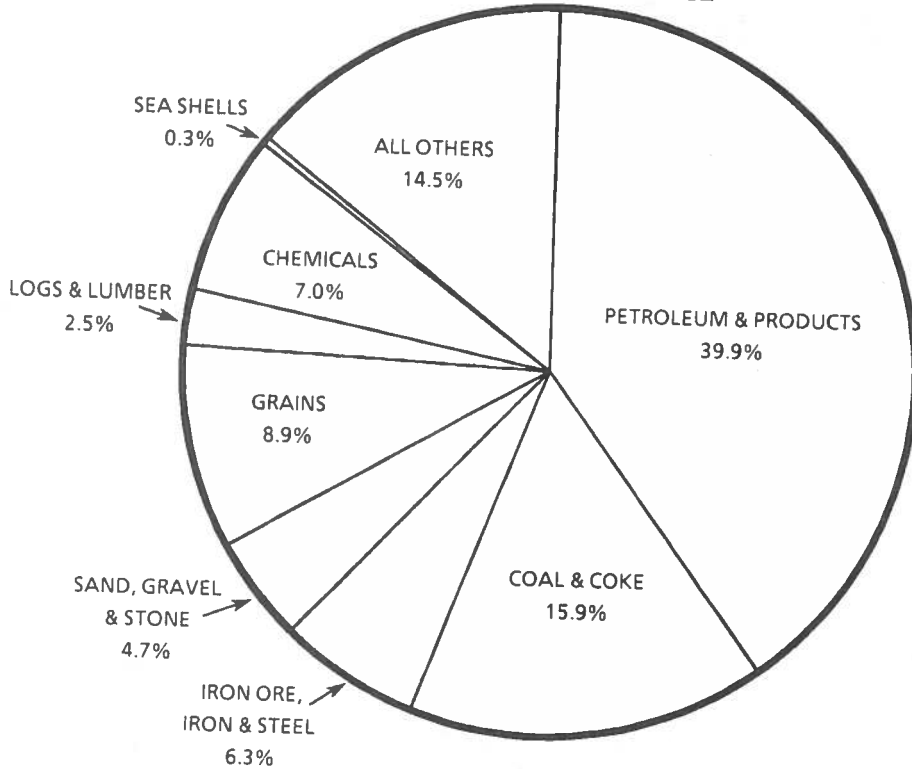


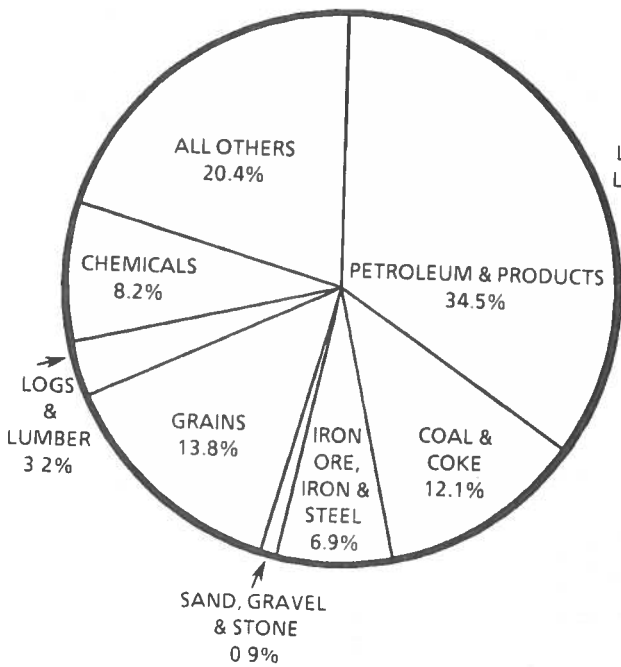
Figure 31. Energy Intensiveness by Passenger Mode, 1974-1984

## **Part 3. Energy Transport**

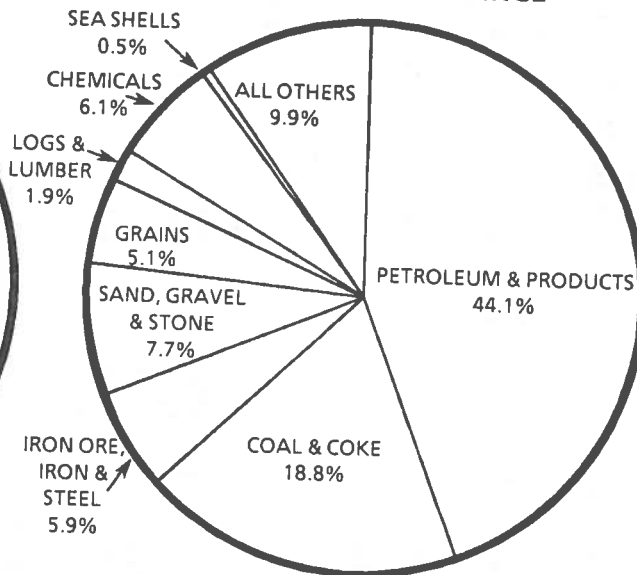
### TOTAL COMMERCE



### FOREIGN COMMERCE



### DOMESTIC COMMERCE



**Figure 32. Principal Commodities Carried by Water, 1984**

Source: See Appendix A, p. A-12

Table 64. Refined Petroleum Products Transported in the U.S., 1974-1984  
(billions of ton-miles)

Year	Pipelines <sup>1</sup>		Water Carriers		Motor Carriers <sup>e</sup>		Railroads		Total Ton-Miles
	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	
1974	203.0	41.5	244.0	49.9	27.7	5.7	14.1	2.9	488.8
1975	219.0	42.5	257.4	50.0	26.2	5.1	12.6	2.4	515.2
1976	212.0	40.5	269.1	51.4	30.4	5.8	12.4	2.3	523.9
1977	219.4	41.3	270.2	50.9	27.6	5.2	13.7	2.6	530.9
1978	226.3	42.2	269.3	50.2	28.6	5.3	12.5	2.3	536.7
1979	236.1	44.2	257.4	48.2	27.8	5.2	12.9	2.4	534.2
1980	225.6	45.8	230.4	46.8	24.3	5.0	12.0	2.4	492.3
1981	230.6	48.3	212.3	44.4	22.7	4.8	12.1	2.5	477.7
1982	230.6	51.5	184.2	41.1	20.7	4.6	12.5	2.8	448.0
1983	223.7	53.6 <sup>r</sup>	159.3	38.2 <sup>r</sup>	23.1 <sup>r</sup>	5.5 <sup>r</sup>	11.3	2.7	417.4 <sup>r</sup>
1984	235.1	54.4	158.1	36.6	27.0 <sup>p</sup>	6.3	11.6	2.7	431.8

p = preliminary.

r = revised.

e = estimate.

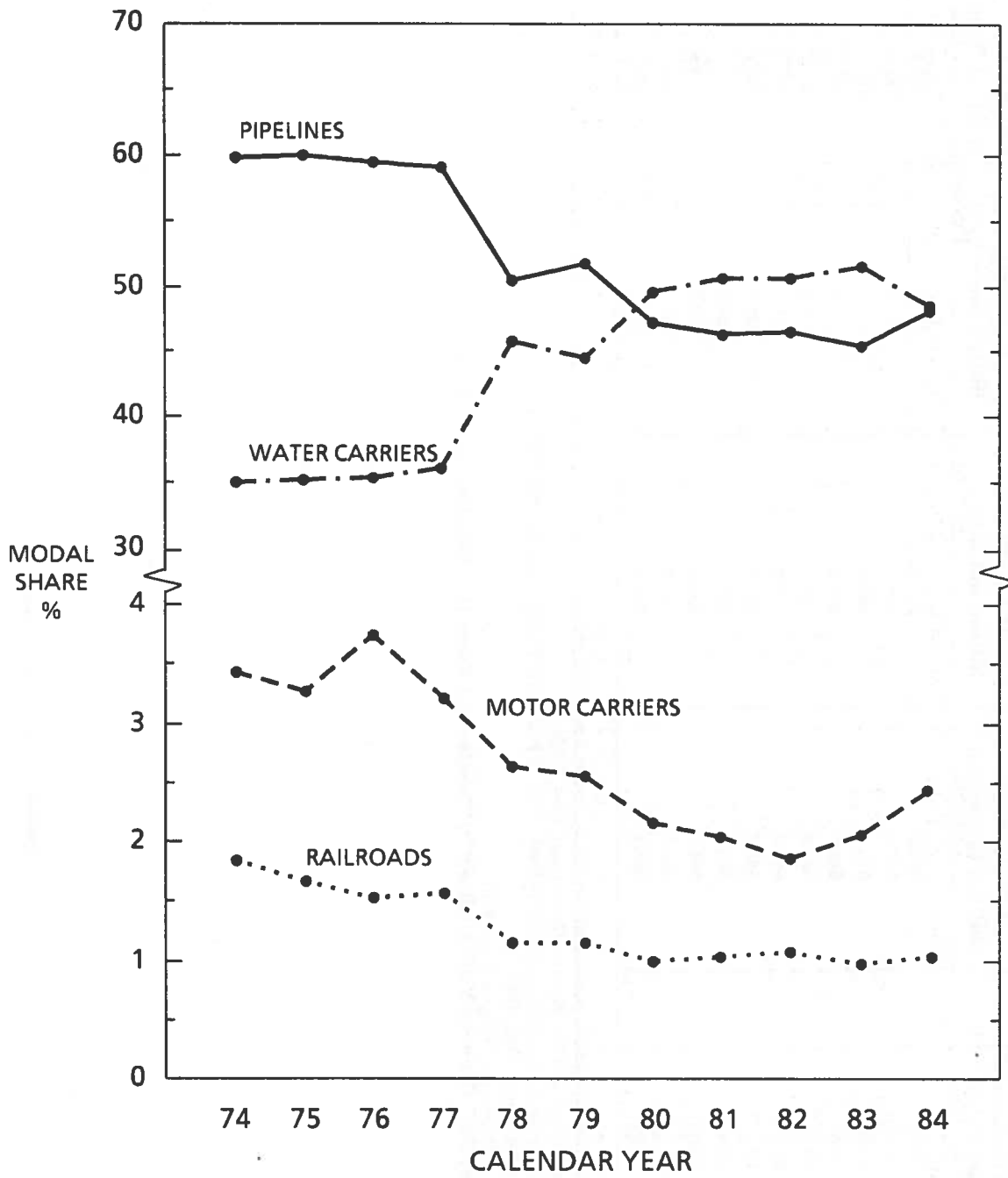
1

The amounts carried by pipeline are based on ton-miles of crude and petroleum products for Federally regulated pipelines (84 percent) plus an estimated breakdown of crude and petroleum products for the ton-miles for pipelines not Federally regulated (16 percent).

Source:

Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1986, Table 3.





**Figure 33. Crude Petroleum and Petroleum Products Transported in the U.S. by Modal Share, 1974-1984**

Table 67. U.S. Petroleum Pipeline Mileage, 1970-1984

Year <sup>1</sup>	Crude-Oil Trunk Lines		Refined-Oil Trunk Lines		Total Trunk Lines		Crude-Oil Gathering Lines		Total Petroleum Pipelines	
	FERC* Lines	All Lines <sup>2</sup>	FERC* Lines	All Lines <sup>2</sup>	FERC* Lines	All Lines <sup>2</sup>	FERC* Lines	All Lines <sup>2</sup>	FERC* Lines	All Lines
1970	63,030	75,143	59,335	72,396	122,365	147,539	46,587	71,132	175,735 <sup>3</sup>	218,671
1971	60,946	75,512	61,525	74,277	122,471	149,789	45,759	70,110	174,722 <sup>3</sup>	219,899
1972	59,757	75,881	64,701	76,158	124,458	152,039	42,893	69,088	173,532 <sup>3</sup>	221,127
1973	57,435	76,250	64,919 <sup>4</sup>	78,038	122,354 <sup>4</sup>	154,288	41,655	69,247	170,691 <sup>3</sup>	223,535
1974	57,602	76,824	68,609 <sup>4</sup>	79,124	126,211 <sup>4</sup>	155,948	41,577	68,764	173,341 <sup>3</sup>	224,712
1975	54,658	77,398	66,620 <sup>4</sup>	80,210	121,278 <sup>4</sup>	157,608	42,582	68,281	172,680 <sup>3</sup>	225,889
1976	58,544	77,972	67,913 <sup>4</sup>	81,296	126,457 <sup>4</sup>	159,268	39,235	67,798	174,072	227,066
1977	59,739	78,483	60,099	74,995	119,838	153,478	34,703	66,580	154,541	220,058
1978	59,981	75,483	65,114	77,314	125,095	152,797	36,539	65,368	161,634	218,165
1979	58,606	71,876	74,261	85,905	132,867	157,781	36,927	58,179	169,794	215,960
1980	59,560	71,568	74,510	88,562	134,070	160,130	35,279	58,263	169,349	218,393
1981	57,904	68,486	76,353	89,456	134,257	157,942	38,558	57,099	172,815	215,041
1982	59,567	69,529	77,402	90,727	131,969	160,256	35,580	53,421	172,549	213,677
1983	57,466	67,077	79,387	93,054	136,853	160,131	30,966	47,688	167,819	207,819
1984	56,975	66,540	80,875	94,822	137,850	161,362	36,072	47,288	173,922	208,650

\* Data is for Federal Energy Regulatory Commission lines, prior to 1976, they were regulated by the ICC.

<sup>1</sup> As of December 31.

<sup>2</sup> Triennial Data.

<sup>3</sup> Total mileage includes pipelines classified as "other than owned" by the ICC. In 1967 "other than owned" pipeline mileage was 6,255 miles.

<sup>4</sup> Includes 273 miles of coal slurry pipeline.

Source: FERC Lines:

1970-1976:

1977-1981:

1982:

1983-1984:

1970-1976:

1977-1984:

1970-1984:

1970-1984:

Interstate Commerce Commission, *Transport Statistics in the United States*, 1976, Table 2 and equivalent tables in earlier editions.

Penn Well Publishing Co., *Oil and Gas Journal*, 1979-1982.

Federal Energy Regulatory Commission, personal communication.

Penn Well Publishing Co., *Oil and Gas Journal*, 1985.

U.S. DOE, *Energy Data Reports, Crude Oil and Product Pipelines, Triennial, 1977, Table 1*.

Penn Well Publishing Co., *Oil and Gas Journal*, 1985 and previous issues.

TPA, *Transportation in America*, 1986, p. 21.

**Table 69. World Tanker Fleet By Size, 1974-1984**  
(million d.w.t.)

Size	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
10 - 25,000 d.w.t.	21.9	19.7	17.5	16.1	14.8	14.2	14.1	13.8	13.5	13.0	12.8
25 - 45,000 d.w.t.	30.5	28.8	27.3	26.6	24.6	24.2	24.6	26.0	27.2	27.4	26.3
45 - 65,000 d.w.t.	22.6	21.9	19.9	18.2	16.1	15.3	16.1	16.6	16.1	15.3	15.7
65 - 125,000 d.w.t.	46.4	51.2	54.4	54.2	50.8	51.2	52.5	55.4	51.8	48.4	46.2
125 - 205,000 d.w.t.	18.0	23.6	28.7	32.3	33.3	33.4	33.0	31.2	30.2	28.8	28.9
200 - 320,000 d.w.t.	110.0 <sup>r</sup>	130.1 <sup>r</sup>	144.8 <sup>r</sup>	156.6 <sup>r</sup>	157.4 <sup>r</sup>	157.7 <sup>r</sup>	155.4 <sup>r</sup>	146.5 <sup>r</sup>	134.5 <sup>r</sup>	120.4 <sup>r</sup>	111.6
320,000 d.w.t. and over	6.4 <sup>r</sup>	16.1 <sup>r</sup>	28.1 <sup>r</sup>	28.5 <sup>r</sup>	31.5 <sup>r</sup>	31.9 <sup>r</sup>	29.1 <sup>r</sup>	30.7 <sup>r</sup>	30.4 <sup>r</sup>	29.9 <sup>r</sup>	28.2
<b>Total</b>	<b>255.8</b>	<b>291.4</b>	<b>320.7</b>	<b>332.5</b>	<b>328.5</b>	<b>327.9</b>	<b>324.8</b>	<b>320.2</b>	<b>303.7</b>	<b>283.2</b>	<b>269.7</b>

<sup>r</sup> = revised.

d.w.t. = deadweight tons.

Source: British Petroleum Co., *BP Statistical Review of World Energy*, 1985, p. 18.

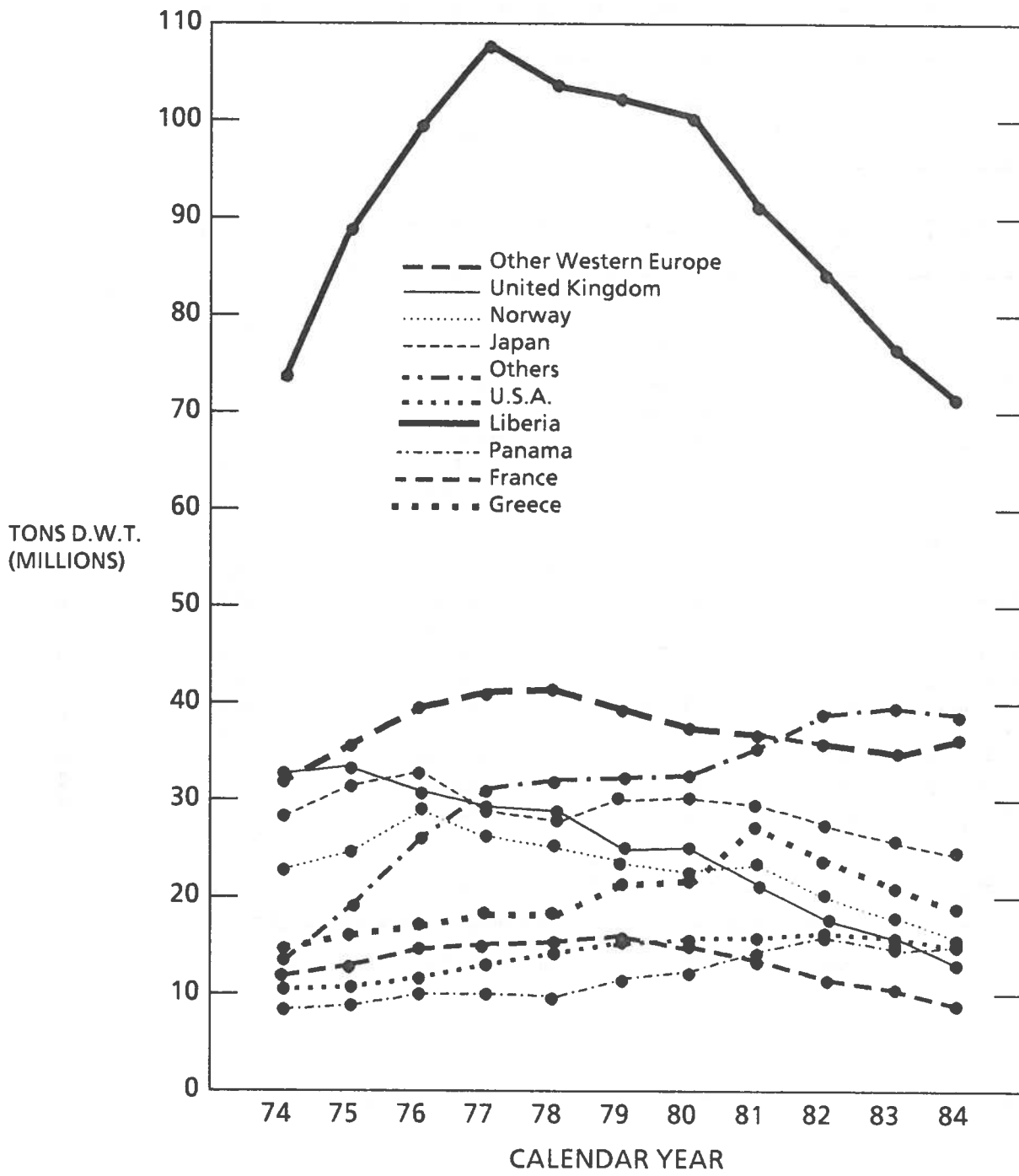


Figure 34. World Tanker Fleet by Flag, 1974 - 1984

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## Part 4. Energy Supply and Demand

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**Table 73. Domestic Demand for Refined Petroleum  
Products Supplied to End-Use Sectors  
(at 5-Year Intervals 1955-1965 and Annually 1966-1985)  
(trillion Btu's per day)<sup>1</sup>**

Year	Residential and Commercial	Industrial	Transportation	Transportation as % of Total	Electric Utilities <sup>2</sup>	Total
1955	7.85	14.02	24.12	51.0	1.31	47.30
1960	9.53	15.72	27.69	50.9	1.50	54.44
1965	10.57	18.61	32.49	51.0	2.01	63.67
1966	10.71	19.50	34.23	51.2	2.44	66.83
1967	11.06	19.59	35.87	51.8	2.76	69.27
1968	11.45	20.24	38.76	52.6	3.26	73.70
1969	11.66	21.15	40.53	52.2	4.32	77.66
1970	11.78	21.38	41.60	51.6	5.81	80.89
1971	11.75	21.59	43.57	52.0	6.81	83.72
1972	12.08	23.35	46.08	51.2	8.48	90.03
1973	12.01	24.99	48.84	51.2	9.62	95.46
1974	10.97	23.81	47.68	52.0	9.23	91.64
1975	10.45	22.33	48.26	53.8	8.69	89.70
1976	11.41	24.64	50.56	52.6	9.50	96.10
1977	11.53	26.82	52.67	51.8	10.69	101.70
1978	11.42	27.06	54.83	52.6	10.94	104.03
1979	9.46	28.98	54.30	53.4	9.01	101.69
1980	8.31	26.02	51.95	55.6	7.19	93.47
1981	7.19	22.73	51.51	58.9	6.01	87.49
1982	6.69	21.36	50.43	60.9	4.32	82.85
1983	7.03 <sup>r</sup>	20.35 <sup>r</sup>	49.67	61.3	4.25	82.33
1984	7.05 <sup>r</sup>	21.55 <sup>r</sup>	52.71	62.2	3.50	84.72
1985 <sup>e</sup>	7.14	21.14	53.26	63.0	3.00	84.54

<sup>r</sup> = revised.

<sup>e</sup> = estimate.

<sup>1</sup> Data derived by multiplying figures on source page by conversion factors in each end-user sector column on page 261 in U.S. DOE's *Annual Energy Review 1985*.

<sup>2</sup> These data are deliveries to Electric Utilities and do not equate to consumption by Electric Utilities.

Note: Sum of components may not equal total due to independent rounding.

Source: U.S. DOE/EIA, *Annual Energy Review 1985*, Table 56.

**Table 75. Petroleum Supply and Disposition  
(At 5-Year Intervals 1955-1965 and Annually 1966-1985)  
(million barrels per day)**

Year	Production					Supply					Disposition				
	Crude Oil <sup>1</sup>	Natural Gas Plant Liquids	Total Production	Crude Oil <sup>2</sup>	Petroleum Products <sup>3</sup>	Total Imports	Change in Stocks <sup>4</sup>	Other			Exports	Crude Oil Losses	Refined Petroleum Products Supplied	Total Disposition	
								Other Supply <sup>5</sup>	Total Supply	Total Supply					
1955	6.81	0.77	7.58	0.78	0.47	1.25	*	0.04	8.86	0.37	0.04	8.46	8.86		
1960	7.04	0.93	7.96	1.02	0.80	1.81	0.08	0.15	10.01	0.20	0.01	9.80	10.01		
1965	7.80	1.21	9.01	1.24	1.23	2.47	0.01	0.22	11.71	0.19	0.01	11.51	11.71		
1966	8.30	1.28	9.58	1.22	1.35	2.57	-0.10	0.25	12.29	0.20	0.01	12.08	12.29		
1967	8.81	1.41	10.22	1.13	1.41	2.54	-0.17	0.29	12.88	0.31	0.01	12.56	12.88		
1968	9.10	1.50	10.60	1.29	1.55	2.84	-0.15	0.35	13.64	0.23	0.01	13.39	13.64		
1969	9.24	1.59	10.83	1.41	1.76	3.17	0.05	0.34	14.38	0.23	0.01	14.14	14.38		
1970	9.64	1.66	11.30	1.32	2.10	3.42	-0.10	0.35	14.97	0.26	0.01	14.70	14.97		
1971	9.46	1.69	11.16	1.68	2.25	3.93	-0.07	0.44	15.45	0.22	0.01	15.21	15.45		
1972	9.44	1.74	11.18	2.22	2.53	4.74	0.23	0.44	16.60	0.22	0.01	16.37	16.60		
1973	9.21	1.74	10.95	3.24	3.01	6.26	-0.14	0.49	17.55	0.23	0.01	17.31	17.55		
1974	8.77	1.69	10.46	3.48	2.64	6.11	-0.18	0.49	16.89	0.22	0.01	16.65	16.89		
1975	8.37	1.63	10.01	4.10	1.95	6.06	-0.03	0.51	16.54	0.21	0.01	16.32	16.54		
1976	8.13	1.60	9.74	5.29	2.03	7.31	0.06	0.59	17.70	0.22	0.01	17.46	17.70		
1977	8.24	1.62	9.86	6.61	2.19	8.81	-0.55	0.57	18.69	0.24	0.02	18.43	18.69		
1978	8.71	1.57	10.27	6.36	2.01	8.36	0.09	0.49	19.22	0.36	0.02	18.85	19.22		
1979	8.55	1.58	10.14	6.52	1.94	8.46	-0.15	0.56	19.00	0.47	0.02	18.51	19.00		
1980	8.60	1.57	10.17	5.26	1.65	6.91	-0.14	0.68	17.61	0.54	0.01	17.06	17.61		
1981	8.57	1.61	10.18	4.40	1.60	6.00	-0.16	0.64	16.66	0.59	*	16.06	16.66		
1982	8.65	1.55	10.20	3.49	1.63	5.11	0.15	0.65	16.11	0.82	*	15.30	16.11		
1983	8.69	1.56	10.25	3.33	1.72	5.05	0.02	0.65	15.97	0.74	*	15.23	15.97		
1984	8.88 <sup>r</sup>	1.63	10.51 <sup>r</sup>	3.43 <sup>r</sup>	2.01 <sup>r</sup>	5.44 <sup>r</sup>	-0.28	0.78 <sup>r</sup>	16.45 <sup>r</sup>	0.72	*	15.73 <sup>r</sup>	16.45 <sup>r</sup>		
1985P	8.92	1.62	10.54	3.22	1.83	5.05	0.11	0.79	16.48	0.78	*	15.70	16.48		

<sup>r</sup> = revised.

<sup>p</sup> = preliminary.

\* Less than 5,000 barrels per day.

Note: Sum of components may not equal total due to independent rounding.

<sup>1</sup> Includes lease condensate.

<sup>2</sup> Includes imports for the Strategic Petroleum Reserve which began in 1977.

<sup>3</sup> For 1981 and forward, includes motor gasoline blending components, and aviation gasoline blending components.

<sup>4</sup> Negative numbers denote a net addition to stocks or a reduction in supply. Positive numbers denote a net withdrawal from stocks or an addition to supply.

<sup>5</sup> Includes benzol, other hydrocarbons, hydrogen, alcohol, processing gains and unaccounted for crude oil.

Source: U.S. DOE/EIA, *Annual Energy Review 1985*, Table 45.

**Table 77. Domestic Demand for Gasoline  
(at 5-Year Intervals 1955-1970 and Annually 1971-1984)  
(thousands of gallons)**

Year	Total Demand	Highway	NonHighway				Total
			Agriculture	Aviation	Marine	Other <sup>1</sup>	
1955	52,566,255	47,731,734	2,156,434	999,440	25,885	1,652,762	4,834,521
1960	63,221,243	57,879,908	2,291,666	1,323,769	60,633	1,656,267	5,332,335
1965	75,312,613	71,104,430	1,963,432	501,339	96,336	1,647,076	4,208,183
1970	96,331,909	92,329,056	1,931,966	393,012	598,159	1,079,713	4,002,850
1971	101,471,956	97,558,586	1,864,708	359,549	645,428	1,043,865	3,913,370
1972	108,886,206	105,062,178	1,698,185	355,178	686,763	1,083,902	3,824,028
1973	114,368,632	110,472,881	1,749,776	395,018	716,990	1,033,967	3,895,751
1974	109,923,280	106,300,765	1,605,809	394,806	696,906	924,994	3,622,515
1975	112,626,656	108,984,347	1,564,882	409,713	729,718	937,996	3,642,309
1976	119,478,018	115,700,146	1,472,272	529,238	763,803	1,012,559	3,777,872
1977	123,350,479	119,625,280	1,360,220	552,615	774,066	1,038,298	3,725,199
1978	115,816,431	112,239,066	1,228,772	457,372	811,850	1,079,371	3,577,365
1979	111,771,026	108,125,994	1,152,097	502,977	780,171	1,209,787	3,645,032
1980	104,837,657	101,183,014	1,059,044	412,883	1,052,185	1,130,531	3,654,643
1981	103,111,410	99,596,671	962,149	376,708	1,092,982	1,082,900	3,514,739
1982	101,738,767	98,478,881	912,062	372,637	1,061,931	913,256	3,259,886
1983	103,180,290	99,964,516	735,919	407,110	1,069,072	1,003,673	3,215,774
1984	105,300,798	101,415,509	1,152,912	382,976	1,325,012	1,024,389	3,885,289

<sup>1</sup> Other includes state, county, and municipal use, industrial, commercial, construction, miscellaneous and unclassified users.

Source: 1955-1975: U.S. DOT/FHWA, *Highway Statistics*, annual issues, Tables MF-24 and MF-26.

1976: *Ibid.*, 1976, Table MF-21; Table MF-24, unpublished.

1977-1984: *Ibid.*, annual issues, Tables MF-21A and MF-24.



**Table 79. Domestic Supply and Demand for Kerosene-Type Jet Fuel,  
1965-1985**  
(daily averages in thousands of barrels)

Year	Supply			Stocks as of Dec. 31 (barrels x 10 <sup>3</sup> )	Demand			
	Production	Imports	New Supply		Change in Stocks	Total Demand	Exports	Domestic Demand
1965	298	37	335	10,361	*	335	1	334
1966	345	52	397	13,139	5	392	1	391
1967	448	74	522	13,174	3	519	1	518
1968	529	86	615	15,373	6	609	*	609
1969	594	111	705	19,517	11	694	*	694
1970	597	125	722	20,989	4	718	*	718
1971	601	150	751	20,747	1	752	1	751
1972	638	162	800	19,346	3	803	*	803
1973	679	176	855	22,945	10	845	3	842
1974	641	135	776	23,906	3	773	2	771
1975	691	105	796	25,158	3	793	2	791
1976	731	61	792	25,590	1	791	2	789
1977	787	53	840	28,263	7	833	2	831
1978	791	67	858	27,707	2	859	1	858
1979	835	56	891	32,921	14	877	1	876
1980	811	50	861	35,723	8	853	1	852
1981	775	31	806	34,011	-5	810	1	809
1982	777	22	799	31,176	8	801	5	796
1983	817	26	843	32,368	-1	837	5	832
1984	919	44	963	35,118	-8	956	7	949
1985	962	28	990	33,494	4	994	12	982

\* Less than 1,000 barrels.

Source: 1965-1975: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 15.  
1976-1980: U.S. DOE, *Petroleum Supply Monthly*, December issues 1977-1980, Table 2 (converted to daily averages using column 6).  
1981-1982: *Ibid.*, December 1981, Tables 2a and 3a; December 1982, Tables 3 and 5.  
1983-1985: *Ibid.*, December issues, pp. 25, 27.

**Table 81. Natural Gas Production  
(at 5-Year Intervals 1955-1965 and Annually 1966-1985)  
(trillion cubic feet)**

Year	Gross Withdrawals			Reservoir Repressuring	Non-hydrocarbon Gases Removed	Vented and Flared	Marketed Production	Extraction Loss <sup>1</sup>	Dry Natural Gas Production
	From Gas Wells	From Oil Wells	Total						
1955	7.84	3.88	11.72	1.54	n/a	0.77	9.41	0.38	9.03
1960	10.85	4.23	15.09	1.75	n/a	0.56	12.77	0.54	12.23
1965 <sup>2</sup>	13.52	4.44	17.96	1.60	n/a	0.32	16.04	0.75	15.29
1966	13.89	5.14	19.03	1.45	n/a	0.38	17.21	0.74	16.47
1967	15.35	4.91	20.25	1.59	n/a	0.49	18.17	0.78	17.39
1968	16.54	4.79	21.32	1.49	n/a	0.52	19.32	0.83	18.49
1969	17.49	5.19	22.68	1.46	n/a	0.53	20.70	0.87	19.83
1970	18.59	5.19	23.79	1.38	n/a	0.49	21.92	0.91	21.01
1971	18.93	5.16	24.09	1.31	n/a	0.28	22.49	0.88	21.61
1972	19.04	4.97	24.02	1.24	n/a	0.25	22.53	0.91	21.62
1973	19.37	4.70	24.07	1.17	n/a	0.25	22.65	0.92	21.73
1974	18.67	4.18	22.85	1.08	n/a	0.17	21.60	0.89	20.71
1975	17.38	3.72	21.10	0.86	n/a	0.13	20.11	0.87	19.24
1976	17.19	3.75	20.94	0.86	n/a	0.13	19.95	0.85	19.10
1977	17.42	3.68	21.10	0.93	n/a	0.14	20.03	0.86	19.16
1978	17.39	3.91	21.31	1.18	n/a	0.15	19.97	0.85	19.12
1979	18.03	3.85	21.88	1.25	n/a	0.17	20.47	0.81	19.66
1980	17.57	4.30	21.87	1.37	0.20	0.13	20.18	0.78	19.40
1981	17.34	4.25	21.59	1.31	0.22	0.10	19.96	0.77	19.18
1982	15.80	4.41	20.21	1.39	0.21	0.09	18.52	0.76	17.76
1983	14.15	4.45	18.60	1.46	0.22	0.09	16.82	0.79	16.03
1984 <sup>r</sup>	15.51	- 4.69	19.19	1.63	0.22	0.11	18.23	0.84	17.39
1985 <sup>p</sup>	14.36	4.71	19.06	1.59	0.23	0.08	17.17	0.79	16.38

n/a = not available.

r = revised.

p = preliminary.

<sup>1</sup> Volume reduction resulting from the removal of natural gas plant liquids. Natural gas plant liquids are transferred to petroleum supply.

<sup>2</sup> Beginning with 1965 data, all volumes are on a pressure base of 14.73 p.s.i.a at 60°F. For prior years, the pressure base is 14.65 p.s.i.a. at 60°F.

Note: Sum of components may not equal total due to independent rounding.

Source: U.S. DOE/EIA, *Annual Energy Review 1985*, Table 65.

**Table 83. Coal Supply and Disposition**  
**(at 5-Year Intervals 1955-1965 and Annually 1966-1985)**  
**(million short tons)**

Year	Supply			Disposition				
	Production	Imports	Change In Stocks, Losses and Unaccounted For <sup>1</sup>	Total	Exports	Anthracite Shipped Overseas to U.S. Armed Forces	Consumption	Total
1955	490.8	0.3	10.3	501.4	54.4	0	447.0	501.4
1960	434.3	0.3	1.5	436.1	38.0	0	398.1	436.1
1965	527.0	0.2	-3.0	524.1	51.0	1.13	472.0	524.1
1966	546.8	0.2	1.6	548.6	50.1	0.77	497.7	548.6
1967	564.9	0.2	-22.7	542.4	50.1	0.83	491.4	542.4
1968	556.7	0.2	4.9	561.8	51.2	0.82	509.8	561.8
1969	571.0	0.1	3.2	574.3	56.9	1.04	516.4	574.3
1970	612.7	*	-17.0	595.6	71.7	0.69	523.2	595.6
1971	560.9	0.1	-1.4	559.6	57.3	0.72	501.6	559.6
1972	602.5	*	-21.1	581.5	56.7	0.45	524.3	581.5
1973	598.6	0.1	17.9	616.6	53.6	0.44	562.6	616.6
1974	610.0	2.1	7.4	619.5	60.7	0.43	558.4	619.5
1975	654.6	0.9	-26.2	629.4	66.3	0.46	562.6	629.4
1976	684.9	1.2	-21.7	664.4	60.0	0.57	603.8	664.4
1977	697.2	1.6	-18.8	680.0	54.3	0.40	625.3	680.0
1978	670.2	3.0	-6.9	666.2	40.7	0.28	625.2	666.2
1979	781.1	2.1	-36.3	746.9	66.0	0.37	680.5	746.9
1980	829.7	1.2	-36.1	794.8	91.7	0.34	702.7	794.8
1981	823.8	1.0	20.7	845.5	112.5	0.37	732.6	845.5
1982	838.1	0.7	-25.4 <sup>r</sup>	813.5	106.3	0.22 <sup>r</sup>	706.9	813.5
1983	782.1	1.3	31.4	814.8	77.8	0.34	736.7	814.8
1984	895.9 <sup>r</sup>	1.3 <sup>r</sup>	-24.1 <sup>r</sup>	873.1 <sup>r</sup>	81.5	0.30	791.3 <sup>r</sup>	873.1 <sup>r</sup>
1985 <sup>p</sup>	886.1	2.0	23.4	911.5	92.7	0.24	818.6	911.5

<sup>r</sup> = revised.

<sup>p</sup> = preliminary.

\* Less than 0.05 million short tons.

<sup>1</sup> Includes changes in stocks at electric utilities, coke plants, other industries, retail dealers, and producers/distributors and the balancing item of losses and unaccounted for. Net additions to stocks are considered as negative numbers. Net withdrawals from stocks are considered as positive numbers. Sum of components may not equal total due to independent rounding.

Note: U.S. DOE/EIA, *Annual Energy Review 1985*, Table 72.

**Table 85. Deliveries of Distillate Fuel Oil by Use  
(at 5-Year Intervals 1955-1970 and Annually 1971-1984)  
(thousands of barrels)**

Year	Heating Oils	Industrial Use	Oil Company Fuel	Electric Utility	Railroads	Vessel Bunkering	Military Use <sup>1</sup>	Diesel Type			All Other	Total
								On Highway	Off Highway	Total		
1955	356,589	43,606	8,597	5,884	84,668	16,875	10,945	23,446	20,769	44,215	9,948	581,127
1960 <sup>2</sup>	438,010	34,271	8,347	4,742	86,490	18,730	10,793	36,467	38,095	74,562	7,380	633,325
1965	475,992	42,484	10,430	3,661	86,436	15,532	14,953	73,776	50,346	124,122	13,281	786,891
1970	521,135	43,668	11,518	24,770 <sup>3</sup>	88,416	19,503	12,447	148,796	46,123	194,919	10,874	927,250
1971	522,475	50,731	14,088	35,329	86,251	20,959	17,427	166,981	46,925	213,906	10,154	971,320
1972	543,337	60,388	13,405	68,334	97,001	22,125	20,187	189,055	50,186	239,241	10,852	1,074,870
1973	536,856	67,306	14,902	77,950	102,828	26,786	19,598	221,420	55,541	276,961	11,876	1,135,063
1974	493,223	64,036	13,805	84,661	102,949	24,757	17,748	221,033	48,743	269,776	10,131	1,081,086
1975	488,388	63,993 <sup>4</sup>	13,633	63,420	92,191	26,138	18,004	217,906	48,977	266,883	10,096	1,043,746
1976	543,895	79,956	14,523	60,570	97,467	28,330	17,574	242,820	54,429	297,249	11,365	1,150,929
1977	538,845	96,502	19,954	76,681	99,306	33,512	20,121	264,412	66,452	330,864	14,394	1,230,179
1978	533,069	94,797	19,410	77,175	99,841	37,591	20,320	290,943	69,856	360,799	14,059	1,257,061
1979	454,955 <sup>5</sup>	99,583	22,043	46,579	103,493	41,725	18,570	327,402	65,212	392,614	34,812	1,214,374
1980	393,122	86,089	24,205	31,812	102,022	35,201	19,138	323,431	51,705	375,136	19,994	1,086,709
1981	345,728	80,216	29,185	18,192	100,482	41,025	17,763	340,002	38,851	378,853	21,032	1,032,476
1982	324,912	71,340	29,482	12,134	93,150	33,885	15,201	338,006	37,118	375,124	19,639	974,864
1983 <sup>r</sup>	339,455	54,030	21,510	11,744	76,230	39,108	15,804	370,101	38,493	408,594	15,541	981,926
1984	352,127	56,114	21,623	16,405	82,308	40,287	16,579	399,939	39,847	439,786	15,988	1,041,217

<sup>r</sup> = revised.

<sup>1</sup> Includes imports by military.

<sup>2</sup> Includes Alaska and Hawaii.

<sup>3</sup> Includes gas turbine plants in 1970 and subsequent years.

<sup>4</sup> Beginning in 1975, excludes oil company use.

<sup>5</sup> Beginning in 1979, heating oils is no longer a separate category. The figure is derived by adding residential, commercial and farming.

Source: 1955-1984: American Petroleum Institute, *Basic Petroleum Data Book*, 1985, Section VII, Table 10, 10a.

**SUPPLEMENTARY DATA**  
**Section III: Results of Nationwide**  
**Personal Transportation Study**  
**(NPTS)**

**Table 87. Household Vehicle Trips, Vehicle Miles of Travel and Average Trip Length by Trip Purpose, 1983**

Trip Purpose <sup>1</sup>	Vehicle Trips Per Household		Vehicle Miles of Travel Per Household		Average Trip Length (Miles)
	Annual	Daily	Annual	Daily	
Earning a Living					
Home-to-Work	414	1.1	3,538	9.7	8.5
Work Related	44	0.1	496	1.4	11.4
Subtotal	458	1.2	4,034	11.1	8.8
Family and Personal Business					
Shopping	297	0.9	1,568	4.3	5.3
Doctor/Dentist	18	0.1	172	0.5	9.7
Other <sup>2</sup>	272	0.7	1,816	5.0	6.7
Subtotal	587	1.7	3,556	9.8	6.0
Civic, Educational and Religious	87	0.2	480	1.3	5.5
Social and Recreational					
Visiting Friends	147	0.4	1,590	4.4	10.8
Pleasure Driving	5	(3)	132	0.3	22.7
Vacation	2	(3)	250	0.7	113.9
Other <sup>4</sup>	181	0.5	1,562	4.3	8.7
Subtotal	335	0.9	3,534	9.7	10.6
Other <sup>5</sup>	19	0.1	135	0.3	7.2
All Purposes	1,486	4.1	11,739	32.2	7.9

<sup>1</sup> The 1983 data are not comparable to the 1977 data due to the large number of trips in 1977 which could not be coded to a specific purpose, and were, therefore, included in "other".

<sup>2</sup> Includes trips such as going to the bank, garage for car repair, etc.

<sup>3</sup> Less than 0.1 percent.

<sup>4</sup> Includes trips such as going out to dinner, movies, etc.

<sup>5</sup> Includes trips that cannot be classified in any of the other categories.

Source: U.S. DOT/FHWA, *Highway Statistics*, 1984.

**Table 89. Percent of Households by Number of Vehicles, 1983, 1977, and 1969**

Number of Household Vehicles	All Vehicles 1983 <sup>1</sup>	All Vehicles 1977 <sup>1</sup>	Autos 1969 <sup>2</sup>
One	33.7	34.7	48.4
Two	33.6	34.3	26.4
Three	12.8	10.6	4.6 <sup>3</sup>
Four or More	6.4	5.0	-
Subtotal	86.5	84.6	79.4
None	13.5	15.4	20.6
Total	100.0 <sup>4</sup>	100.0 <sup>5</sup>	100.0 <sup>6</sup>

<sup>1</sup> In the 1977 and 1983 surveys, includes all vehicles available to the household, e.g., automobiles, vans, pickups, campers, and motorcycles.

<sup>2</sup> In the 1969 survey, includes automobiles and passenger vans available to the household.

<sup>3</sup> Includes all households with three or more vehicles.

<sup>4</sup> 85.4 million households.

<sup>5</sup> 75.4 million households.

<sup>6</sup> 62.5 million households.

Source: U.S. DOT/FHWA, *Highway Statistics*, 1984.

**Table 90. Percent of Households by Number of Vehicles and Household Income, 1983**

Number of Household Vehicles	Household Income					All Households
	Under \$10,000	\$10,000-\$19,999	\$20,000-\$29,999	\$30,000-\$39,999	\$40,000 and over	
One	42.8	46.2	30.4	17.7	12.2	33.7
Two	13.6	31.6	44.8	49.7	43.8	33.6
Three	3.1	10.2	15.2	20.5	25.5	12.8
Four or More	1.0	3.2	7.3	10.6	17.4	6.4
Subtotal	60.5	91.2	97.7	98.5	98.9	86.5
None	39.5	8.8	2.3	1.5	1.1	13.5
Total	100.0	100.0	100.0	100.0	100.0	100.0 <sup>1</sup>
Distribution of Households	26.2	26.7	20.8	12.1	14.2	100.0 <sup>1</sup>

<sup>1</sup> 85.4 million households.

Source: DOT/FHWA, *Highway Statistics*, 1984.

**Table 93. Average Annual Miles Per Licensed Driver  
by Age and Sex, 1983, 1977, and 1969**

Age	Male			Female		
	1983	1977	1969	1983	1977	1969
16	1,362	2,461	n/a	1,229	1,943	n/a
17	3,294	5,070	n/a	2,500	2,725	n/a
18	7,141	7,416	n/a	4,544	3,980	n/a
19	10,322	11,069	n/a	5,568	6,065	n/a
(19 and Under)	5,933	7,045	5,461	3,788	4,038	3,586
20 - 24	13,418	13,803	11,425	7,114	6,475	5,322
25 - 29	17,014	15,753	13,931	6,969	6,621	5,539
30 - 34	17,167	16,235	14,496	7,265	6,645	5,752
35 - 39	19,503	17,172	13,035	7,801	7,046	6,232
40 - 44	18,844	16,618	13,133	7,465	6,774	5,950
45 - 49	15,782	15,428	12,818	7,526	6,280	6,271
50 - 54	16,031	15,003	12,345	6,295	5,965	5,454
55 - 59	13,041	13,764	11,495	5,741	5,647	5,439
60 - 64	13,845	10,843	9,710	5,051	4,452	5,291
65 - 69	9,020	7,975	6,915	4,154	3,919	4,173
70 and Over	5,804	5,800	5,302	2,692	3,217	3,183
All Ages	14,480	15,575	11,352	6,382	5,940	5,411

n/a = not available.

Source: U.S. DOT/FHWA, *Highway Statistics*, 1984.

**Table 94. Frequency of Seat Belt Usage by Age and Sex**

Age and Sex	Frequency of Seat Belt Usage <sup>1</sup>				
	Always	Most of the Time	Sometimes	Never	Total <sup>2</sup>
5-15					
Male	17.4	10.2	28.9	43.4	100.0
Female	19.0	11.2	29.6	40.2	100.0
16-19					
Male	9.8	6.2	24.1	59.5	100.0
Female	12.4	8.6	26.4	52.2	100.0
20-34					
Male	17.4	8.8	26.0	47.5	100.0
Female	18.3	9.9	26.8	44.7	100.0
35-64					
Male	18.0	9.8	24.2	47.6	100.0
Female	16.6	9.1	26.7	47.2	100.0
65 and Over					
Male	17.8	11.4	23.8	46.5	100.0
Female	17.5	11.5	22.9	47.6	100.0
All Ages					
Male	17.1	9.4	25.5	47.6	100.0
Female	17.3	9.9	26.8	45.7	100.0
Total	17.1	9.7	26.2	46.6	100.0

<sup>1</sup> Includes only trips of less than 75 miles.

<sup>2</sup> Includes "unknown" not listed separately.

Source: U.S. DOT/FHWA, *Highway Statistics*, 1984.



# **APPENDIX A**

## **Source Information**

### Figure 1. Expenditures and Revenues, 1984 (cont'd)

37. Freight: *Ibid.*, p. 45, sum of scheduled and nonscheduled freight service.
38. Water: Sum of Passenger, Cargo, and Commercial Fishing.
39. Passenger, Water: TPA, *Transportation In America*, 1986, p. 5. Figure represents revenues of ICC-regulated carriers. Expenditures for private boating are not available.
40. Cargo, Water: *Ibid.*, p. 4, domestic operations only.
41. Commercial Fishing: U.S. DOC, *Statistical Abstract of the U.S.*, 1986, Table 1215.
42. Pipeline: TPA, *Transportation In America*, 1986, p. 4, includes revenues of regulated and unregulated oil pipelines.
43. Air Carrier: Figure represents overall operating revenues of the certificated carriers, total international operations. Same as Total Certificated figure, block (44).
44. Total Certificated: CAB, *Air Carrier Financial Statistics*, 1984, p. 2, total operating revenues, international operations only.
45. Total International Majors: *Ibid.*, p. 4, total operating revenues in scheduled and nonscheduled service.
46. Passenger: *Ibid.*, p. 4, sum of scheduled and nonscheduled passenger service.
47. Freight: *Ibid.*, p. 4, sum of scheduled and nonscheduled freight service.
48. Total International Nationals: *Ibid.*, p. 28, total operating revenues in scheduled and nonscheduled service.
49. Passenger: *Ibid.*, p. 28, sum of scheduled and nonscheduled passenger service.
50. Freight: *Ibid.*, p. 28, sum of scheduled and nonscheduled freight service.
51. Water: Sum of Passenger and Cargo.
52. Passenger, Water: TPA, *Transportation In America*, 1986, p. 5.
53. Cargo, Water: *Ibid.*, p. 4.

### Figure 2. Vehicle-Miles, 1984

1. Total Transportation: Sum of Domestic and International.
2. Domestic: Sum of Highway, Local Transit, Rail, and Air; Water data not available.
3. International: Includes Total Certificated; Water data not available.
4. Highway: Sum of Auto, Truck, and Bus.
5. Auto: Sum of Personal Passenger Car and Motorcycle.
6. Personal Passenger Car: U.S. DOT/Federal Highway Administration (FHWA), *Highway Statistics*, 1984, Table VM-1, includes total rural and urban. This figure includes Taxi.
7. Taxi: Data for Taxi are included in the Personal Passenger Car category.
8. Motorcycle: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1, includes total rural and urban.
9. Truck: *Ibid.*
10. Single-Unit: *Ibid.*
11. Combination: *Ibid.*
12. Bus: Sum of Intercity Bus and School Bus.
13. Intercity Bus: TPA, personal communication. Includes Class I, II, and III carriers reporting to the ICC and Intrastate carriers. Preliminary figure.
14. Class I: *Ibid.*, total vehicle-miles operated.
15. Regular-route: *Ibid.*, regular-route intercity service.
16. Local and Suburban: *Ibid.*, local and suburban service.
17. Charter and Special: *Ibid.*, charter and special service.
18. Class II and III: Figure derived by subtracting Class I from Intercity Bus.
19. School Bus: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1, includes total rural and urban.
20. Local Transit: UMTA, *National Urban Mass Transportation Statistics, 1984 Section 15 Annual Report*, Table 2.13, total revenue vehicle miles for all modes.
21. Motorbus: *Ibid.*

### Figure 2. Vehicle-Miles, 1984 (cont'd)

63. Passenger: *Ibid.*, p. 52, line 25.
64. Cargo: *Ibid.*, p. 52, line 26.
65. Nonscheduled: *Ibid.*, p. 52, line 50.
66. Total International Large Regionals: *Ibid.*, p. 86, sum of scheduled, line 27, and nonscheduled, line 50, services.
67. Scheduled: *Ibid.*, p. 86, line 27.
68. Passenger: *Ibid.*, p. 86, line 25.
69. Cargo: *Ibid.*, p. 86, line 26.
70. Nonscheduled: *Ibid.*, p. 86, line 50.
71. Water: Not available.

### Figure 3. Passenger-Miles, 1984

1. Total Transportation: Sum of Domestic and International.
2. Domestic: Sum of Highway, Local Transit, Rail, and Air; Water data not available.
3. International: Includes Air; Water data not available.
4. Highway: Sum of Auto and Bus.
5. Auto: Sum of Personal Passenger Car, Taxi, and Motorcycle.
6. Personal Passenger Car: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1. Passenger miles derived by multiplying total rural and urban passenger car travel by an average occupancy level of 2.3.
7. Taxi: Included in Personal Passenger Car.
8. Motorcycle: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1. Passenger miles derived by multiplying total rural and urban motorcycle travel by an average occupancy level of 1.1.
9. Bus: Sum of Intercity Bus and School Bus passenger-miles.
10. Intercity Bus: TPA, personal communication, estimate. Revenue passenger-miles, includes Classes I, II, and III carriers reporting to ICC plus Intrastate Carriers.
11. Class I: *Ibid.*
12. Regular-Route: *Ibid.*
13. Class II and III: Figure derived by subtraction of Class I from Intercity.
14. School Bus: Best estimate by NHTSA, National Center for Statistics and Analysis.
15. Local Transit: UMTA, *National Urban Mass Transportation Statistics, 1984 Section 15 Annual Report*, Table 2.13, total for all modes.
16. Motor Bus: *Ibid.*
17. Rail Rapid/Streetcar: *Ibid.*
18. Trolley Bus: *Ibid.*
19. Demand Response: *Ibid.*
20. Ferryboat: *Ibid.*
21. Commuter Rail: *Ibid.*
22. Rail: TPA, *Transportation In America*, 1986, p. 36.
23. Class I: Sum of Commutation and Non-Commutation.
24. Commutation: TPA, *Transportation in America*, 1986, p. 36.
25. Non-Commutation: *Ibid.*
26. Amtrak: *Ibid.*
27. Air: Sum of General Aviation and Total Certificated.
28. General Aviation: TPA, *Transportation In America*, 1986, p. 8.
29. Total Domestic Certificated: U.S. DOT/RSPA/TSC, *Air Carrier Traffic Statistics, 1984/1985*, p. 2, revenue passenger miles, all services, line 1.

### Figure 3. Passenger-Miles, 1984 (cont'd)

73. Civilian: *Ibid.*, line 39.
74. Military: *Ibid.*, line 40.
75. Total International Large Regionals: *Ibid.*, p. 86, sum of scheduled, line 9, and nonscheduled, line 41, services.
76. Scheduled: *Ibid.*, line 9.
77. First Class: *Ibid.*, line 7.
78. Coach: *Ibid.*, line 8.
79. Nonscheduled: *Ibid.*, line 41.
80. Civilian: *Ibid.*, line 39.
81. Military: *Ibid.*, line 40.
82. Water: Not Available.

### Figure 4. Revenue Ton-Miles of Freight, 1984

1. Total Transportation: Sum of Domestic and International.
2. Domestic: Sum of Highway, Rail, Air, Water and Pipeline.
3. International: Sum of Air and Water.
4. Highway: Figure represents total intercity ton-miles of motor vehicle transport.
5. Truck: Sum of local and intercity ton-miles.
6. Local Truck: Sum of Single-Unit and Combination Trucks.
7. Intercity: TPA, *Transportation In America*, 1986, p. 6, total intercity ton-miles.
8. Single-Unit: TPA, personal communication, estimate.
9. Combination: *Ibid.*
10. Rail: AAR, *Railroad Ten-Year Trends*, 1985, Table III-E-8.
11. Air: Same as Total Domestic Certificated, block (12).
12. Total Domestic Certificated: U.S. DOT/RSPA/TSC, *Air Carrier Traffic Statistics*, 1984/1985, p. 2, Freight, Express, U.S. and Foreign Mail Revenue ton-miles, all services, line 3.
13. Total Domestic Majors: *Ibid.*, p. 5, line 3.
14. Scheduled: *Ibid.*, p. 5, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
15. Nonscheduled: *Ibid.*, p. 5, sum of Civilian Freight, line 44, and Military Freight, line 45.
16. Total Domestic Nationals: *Ibid.*, p. 51, line 3.
17. Scheduled: *Ibid.*, p. 51, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
18. Nonscheduled: *Ibid.*, p. 51, sum of Civilian Freight, line 44, and Military Freight, line 45.
19. Total Domestic Large Regionals: *Ibid.*, p. 85, line 3.
20. Scheduled: *Ibid.*, p. 85, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
21. Nonscheduled: *Ibid.*, p. 85, sum of Civilian Freight, line 44, and Military Freight, line 45.
22. Total Domestic Medium Regionals: *Ibid.*, p. 158, line 3, includes international operations.
23. Scheduled: *Ibid.*, p. 158, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
24. Nonscheduled: *Ibid.*, p. 158, sum of Civilian Freight, line 44, and Military Freight, line 45.
25. Water: U.S. Department of the Army, Corps of Engineers, *Waterborne Commerce of the United States*, 1984, Part 5, Section 3, Table 1, total domestic ton-miles.
26. Coastwise: *Ibid.*
27. Lakewise: *Ibid.*
28. Internal: *Ibid.*
29. Local: *Ibid.*
30. Pipeline: TPA, *Transportation In America*, 1986, p. 6, intercity ton-miles.

### Figure 5. Number of Vehicles, 1984 (cont'd)

22. Commuter Rail: *Ibid.*
23. Ferryboat: *Ibid.*
24. Demand Response: *Ibid.*
25. Rail: Sum of passenger and freight.
26. Rail, Passenger: AAR, *Railroad Facts*, 1985, p. 50.
27. Rail, Freight: *Ibid.*, p. 46.
28. Air: Sum of General Aviation and Total Certificated.
29. General Aviation: U.S. DOT/Federal Aviation Administration (FAA), Office of Management Systems, *General Aviation Activity and Avionics Survey*, 1985, Table 2-9.
30. Rental: *Ibid.*
31. Business: *Ibid.*, includes Business and Executive Transportation.
32. Commercial: *Ibid.*, includes Air Taxi, Commuter Carrier and Aerial Application.
33. Instructional: *Ibid.*
34. Personal: *Ibid.*
35. Other: *Ibid.*, includes Other Work.
36. Total Certificated: Includes domestic and international aircraft; sum of Major, National and Regional airlines.
37. Majors: U.S. DOT/RSPA/TSC, personal communication.
38. Nationals: *Ibid.*
39. Regionals: *Ibid.*, includes Large and Medium Regional airlines.
40. Water: U.S. Army, Corps of Engineers, *Summary of U.S. Flag Passenger & Cargo Vessels*, annual issues.
41. Self-Propelled: *Ibid.*
42. Dry Cargo/Passenger: *Ibid.*
43. Ferries, Railroad Car: *Ibid.*
44. Tankers: *Ibid.*
45. Towboats/Tugs: *Ibid.*
46. Sailing Vessels: *Ibid.*
47. Non-Self-Propelled: *Ibid.*
48. Barges/Scows: *Ibid.*
49. Tankers: *Ibid.*
50. Railroad Car Floats: *Ibid.*
51. Air: Not available, figure included in Domestic Total Certificated, block (36).
52. Water: U.S. DOT/Maritime Administration, *Merchant Fleets of the World*, 1985, p. 5.
53. Government: *Ibid.*
54. Private: *Ibid.*

### Figure 6. Number of Fatalities, 1984

1. Total Transportation: Includes domestic fatalities only.
2. Domestic: Sum of Highway, Rail Rapid Transit, Rail, Air, Marine and Pipeline.
3. International: Not available, Air included in domestic category.
4. Highway: Sum of Automobile, Motorcycle, Truck, Bus, Bicycle, Pedestrian, and Other includes 500 rail/highway grade crossing fatalities.
5. Personal Passenger Car: U.S. DOT/TSC, *Transportation Safety Information Report*, 1985 annual summary, Chart 8.
6. Taxi: National Safety Council, *Accident Facts*, 1985, p. 56.
7. Motorcycle: U.S. DOT/TSC, *Transportation Safety Information Report*, 1985 annual summary, Chart 8.

### Figure 6. Number of Fatalities, 1984 (cont'd)

46. Pipeline: U.S. DOT/TSC, *Transportation Safety Information Report*, 1985 annual summary, Chart 56B. This figure includes gas distribution and transmission lines (including gathering lines), and liquid transmission lines.
47. Air: Not available, figure is included in Total Certificated, block (33).
48. Water: Not available.

### Figure 7. Energy Consumed in Transportation (10<sup>12</sup> Btu), 1984

1. Total Transportation: Sum of Domestic and International.
2. Domestic: Sum of Highway, Rail, Air, Water, Pipeline and Local Transit.
3. International: Includes Total Certificated; Water data not available.
4. Highway: Sum of Personal Passenger Car, Truck, and Bus.
5. Personal Passenger: Sum of Personal Passenger Car, Taxi, and Motorcycle.
6. Personal Passenger Car (includes Taxi): U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1, multiplied by the conversion factor of motor gasoline (125,000 Btu/gallon).
7. Taxi: Included in Passenger Car.
8. Motorcycle: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1, multiplied by the conversion factor of motor gasoline (125,000 Btu/gallon).
9. Truck: Sum of Single-Unit and Combination.
10. Single-Unit: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1, multiplied by the conversion factor of motor gasoline (125,000 Btu/gallon).
11. Combination: *Ibid.*, multiplied by the conversion factor of distillate fuel oil (138,700 Btu/gallon).
12. Bus: Sum of Class I Intercity, School Bus and Local Bus.
13. Class I Intercity: TPA, personal communication, fuel consumed, multiplied by the conversion factor of distillate fuel oil (138,700 Btu/gallon).
14. School Bus: *Ibid.*, multiplied by the conversion factor of motor gasoline (125,000 Btu/gallon).
15. Local Bus: *Ibid.*
16. Local Transit: UMTA, *National Urban Mass Transportation Statistics, 1984 Section 15 Annual Report*, Table 2.10; figure multiplied by the conversion factor of electricity (1 kWh = 3412 Btu).
17. Rail: Sum of Passenger and Class I Rail Freight.
18. Passenger: Sum of Class I Rail Passenger and Amtrak.
19. Class I Rail Passenger: AAR, *Railroad Ten-Year Trends*, 1985, Table III-D-2, multiplied by the conversion factor of distillate fuel oil (138,700 Btu/gallon), excludes electricity.
20. Amtrak: Amtrak, Mechanical Department, personal communication.
21. Class I Rail Freight: AAR, *Railroad Ten-Year Trends*, 1985, Table III-D-2, multiplied by the conversion factor of distillate fuel oil (138,700 Btu/gallon).
22. Air: Sum of Total Certificated and General Aviation.
23. General Aviation: U.S. DOT/FAA, *General Aviation Activity and Avionics Survey*, 1984, Table 2-21. Figure derived by the addition of kerosene-type jet fuel and aviation gasoline, converted to Btu by their respective conversion factors.
24. Total Domestic Certificated: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1984*. Total Domestic Certificated figure converted into barrels and multiplied by the conversion factor of kerosene-type jet fuel (5,670,000 Btu/barrel).
25. Total Domestic Majors: *Ibid.*
26. Total Domestic Nationals: *Ibid.*
27. Total Domestic Large Regionals: *Ibid.*
28. Water: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table MF-24, multiplied by the conversion factor of motor gasoline (125,000 Btu/gallon).
29. Pipeline: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 1985*, Table 68, converted to Btu by thermal conversion factor for natural gas, p. 262.

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1. American Bus Association.
2. American Gas Association, *Gas Facts*, 1984, 1975.
3. American Trucking Association, Inc., *Truck Taxes and Highway Finance*, 1986.
4. *Ibid.*, Department of Publications and Statistics.
5. Amtrak, Intergovernmental Affairs Office.
6. Association of American Railroads.
7. *Ibid.*, *Railroad Facts*, 1985, 1975.
8. *Ibid.*, *Railroad Ten-Year Trends*, 1985.
9. *Ibid.*, *Statistics of Railroads of Class I in the U.S.*, 1983.
10. Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1986.
11. CAB, *Air Carrier Financial Statistics*, 1984.
12. *Ibid.*, *Air Carrier Traffic Statistics*, 1984.
13. Federal Energy Regulatory Commission (FERC).
14. Interstate Commerce Commission.
15. *Ibid.*, *99th/98th/89th Annual Report of the ICC*, 1985, 1984, 1975.
16. *Ibid.*, *Transport Statistics in the United States*, Part 2, 1974.
17. National Safety Council, *Accident Facts*, 1985, 1984, 1975.
18. National Transportation Safety Board (NTSB), Information Systems Division.
19. Penn Well Publishing Company, *Oil and Gas Journal*, 1985, 1984, 1981.
20. Transportation Association of America, *Transportation Facts and Trends*, 1975.
21. Transportation Policy Associates.
22. *Ibid.*, *Transportation In America*, 1986.
23. U.S. Army, Corps of Engineers, *Summary of U.S. Flag & Cargo Passenger Vessels*, annual issues.
24. *Ibid.*, *Waterborne Commerce of the United States*, 1984, Part 5.
25. U.S. Coast Guard, *Boating Statistics*, 1984, 1983, 1974.
26. *Ibid.*, Marine Safety Evaluation Branch, G-MM1-3.
27. U.S. Department of Commerce, Bureau of Economic Analysis.
28. *Ibid.*, *Survey of Current Business*, 1983, 1982.
29. *Ibid.*, Bureau of the Census, *Statistical Abstract of the United States*, 1986.
30. U.S. Department of Energy, *Natural Gas Annual*, Volume 1, 1984.
31. *Ibid.*, *Statistics of Interstate Natural Gas Pipeline Companies*, 1984.
32. U.S. Department of Labor (DOL), Bureau of Statistics, *Supplement to Employment and Earnings, Revised Establishment Data*, 1985.
33. U.S. DOT/Federal Aviation Administration (FAA), *FAA Statistical Handbook of Aviation*, annual issues.
34. *Ibid.*, Office of Management Systems, *General Aviation Activity and Avionics Survey*, 1985, 1984.

## TABLE REFERENCES

**Table 1. Average Passenger Revenue Per Passenger Mile, 1974-1984**

**Certificated Air Carrier, Domestic Operations, Scheduled Service:**

- 1974-1983: Civil Aeronautics Board (CAB), *Air Carrier Financial Statistics*, 1975-1984, annual issues, p. 2, lines 1, 2, and 3; *Air Carrier Traffic Statistics*, 1975-1984, annual issues, p. 4/5, lines 7, 8, and 9. To compute Total, First Class, and Coach plus economy figures, divide line 1 by line 7, line 2 by line 8, and line 3 by line 9. To compute the index for Total, divide Total figure by 1967 index of 5.64. Use the same method for First Class and Coach plus economy, however, change the 1967 index to 7.24 for First Class and 5.13 for Coach plus economy.
- 1984: CAB, *Air Carrier Financial Statistics*, annual issue, 1984, p. 1, lines 1, 2 and 3 and U.S. Department of Transportation (DOT) Research and Special Programs Administration (RSPA) Transportation Systems Center (TSC), *Air Carrier Traffic Statistics*, 1984/1985, annual issue, p. 2, lines 7, 8 and 9; calculated using same method as above.

**Class I Rail:**

- 1974-1979: Association of American Railroads (AAR), *Statistics of Railroads of Class I in the U.S.*, 1980, p. 8, lines 2, 3, and 4 and p. 18, lines 12, 13, and 14. All Class I average passenger revenue per passenger mile data was calculated by dividing passenger revenue by passenger miles and subtracting Amtrak and Auto-Train passenger revenue and revenue passenger mile data. As of 1978, Auto-Train is no longer Class I.
- 1980: *Ibid.*, Operating and Traffic Statistics, 1981.
- 1981-1984: Transportation Policy Associates (TPA), personal communication.

**Amtrak:**

- 1974-1979: AAR, *Statistics of Railroads of Class I in the U.S.*, 1982, p. 17, passenger revenue (Acct. 102) divided by passenger mile data, abstracted from Transportation Policy Associates, *Transportation in America*, 1983, p. 14.
- 1980-1984: *Ibid.*, *Railroad Facts*, annual issues, p. 61.

**Class I Bus, Intercity:**

- 1974-1979: American Bus Association (ABA), *Bus Facts*, 1981, p. 12.
- 1980-1981: *Ibid.*, 1982, p. 7.
- 1982-1983: *Ibid.*, personal communication.
- 1984: Interstate Commerce Commission (ICC), Bureau of Accounts, personal communication.

**Consumer Price Index:**

- 1974-1980: U.S. Department of Commerce (DOC), Bureau of Economic Analysis, *Survey of Current Business*, July issues, p. S-6.
- 1981-1983: *Ibid.*, July issues, p. S-5.
- 1984: U.S. Department of Labor (DOL), Bureau of Labor Statistics, *Consumer Price Index for All Urban Consumers*, annual issues.

**Table 2. Average Freight Revenue Per Ton-Mile, 1974-1984**

**Certificated Air Carrier, Domestic Operations, Scheduled Service:**

- 1974-1983: CAB, *Air Carrier Financial Statistics*, 1975-1984, annual issue, p. 2, line 4; *Air Carrier Traffic Statistics*, 1975-1984, annual issues, p. 4/5, line 18. Freight revenue (Financial Statistics) divided by revenue ton-miles of freight (Traffic Statistics).
- 1984: *Ibid.*, *Air Carrier Financial Statistics*, 1984, annual issue, p. 1, line 4; U.S. DOT/RSPA/TSC, *Air Carrier Traffic Statistics*, 1984/1985, annual issue, p. 2, line 18. Freight revenue (Financial Statistics) divided by revenue ton-miles of freight (Traffic Statistics).

**Class I Rail:**

- 1974: ICC, *Transport Economics*, 1976, p. 14.
- 1975-1976: *Ibid.*, 1978, p. 11.
- 1977-1980: AAR, *Operating and Traffic Statistics*, 1981.
- 1981-1984: TPA, *Transportation in America*, 1986, p. 11.



**Table 4. Total Operating Revenues, 1974-1984 (cont'd)**

**Local Transit:**

1974-1977: Not available.  
1978-1981: Urban Mass Transportation Association (UMTA), *1981/1982 Section 15 Annual Reports*, Tables 001.02.2 and 002.02.  
1982: Not available due to changes in Section 15 reporting procedures from fiscal year basis to calendar year basis.  
1983-1984: UMTA, *1983-1984 Section 15 Annual Reports*, Table 2.01.2.

**Oil Pipeline, ICC-Regulated only:**

1974-1976: TAA, *Transportation Facts and Trends*, 1978, p. 4.  
1977-1979: *Ibid.*, 1981, p. 2.  
1980-1984: TPA, *Transportation In America*, 1986, p. 4.

**Gas Pipeline:**

1974-1984: Transmission Companies: American Gas Association (AGA), *Gas Facts*, 1984, p. 146.  
1974-1984: Distribution Companies: *Ibid.*, p. 145.

**Class I Intercity Motor Carriers of Property:**

1974-1979: ICC, *95th Annual Report of the ICC*, 1981, Table 8 and similar table in earlier editions.  
1980-1984: *Ibid.*, *99th Annual Report of the ICC*, 1985, Appendix E, Table 6, and similar table in earlier editions.

**Class I Rail:**

1974-1984: AAR, *Railroad Ten-Year Trends*, 1985, Table II-A-1.

**Amtrak:**

1974-1982: AAR, *Statistics of Railroads of Class I in the U.S.*, 1983, p.16.  
1983-1984: *Ibid.*, *Railroad Facts*, annual issues, p. 61.

**Water Transport:**

**ICC-Regulated Carriers, Inland and Coastal Waterways:**

1974-1979: ICC, *94th Annual Report of the ICC*, 1980, Table 10 and similar table in earlier editions.  
1980-1984: TPA, *Transportation in America*, 1986, p. 10.

**Maritime Carriers:**

1974-1979: ICC, *94th Annual Report of the ICC*, 1980, Table 11 and similar table in earlier editions.  
1980-1984: U.S. DOT/Maritime Administration, personal communication.

**Class A Freight Forwarders:**

1974-1979: ICC, *94th Annual Report of the ICC*, 1980, Table 12 and similar table in earlier editions.  
1980-1984: TPA, *Transportation In America*, 1986, p. 4.

**Table 5. Vehicle-Miles, 1974-1984**

**Air Carriers:**

**Certificated Domestic Operations, All services:**

1974-1978: CAB, *Air Carrier Traffic Statistics*, 1975-1979, annual issues, p. 4, line (27) plus line (50).  
1979: *Ibid.*, 1980, p. 5, line (27) plus line (50).  
1980-1983: *Ibid.*, 1981-1984, annual issues, p. 2, line (27) plus line (50).  
1984: U.S. DOT/RSPA/TSC, *Air Carrier Traffic Statistics*, 1984/1985, annual issue, p. 2, line (27) plus line (50).

**Total Majors, domestic operations:**

1974-1979: Not available.  
1980-1983: CAB, *Ibid.*, 1981-1984, annual issues, p. 5, line (27) plus line (50).  
1984: U.S. DOT/RSPA/TSC, *Ibid.*, 1984/1985, annual issue, p. 5, line (27) plus line (50).

**Total Nationals, domestic operations:**

1974-1979: Not available.  
1980-1983: CAB, *Ibid.*, 1981-1984, annual issues, p. 47, line (27) plus line (50).  
1984: U.S. DOT/RSPA/TSC, *Ibid.*, 1984/1985, annual issue, p. 51, line (27) plus line (50).

**Table 6. Passenger-Miles, 1974-1984 (cont'd)**

**Total Majors, domestic operations:**

1974-1979: CAB, *Ibid.*, 1975-1980.  
1980-1983: *Ibid.*, 1981-1984, annual issues, p. 5, line 1.  
1984: U.S. DOT/RSPA/TSC, 1984/1985, annual issue, p. 5, line 1.

**Total Nationals, domestic operations:**

1974-1979: CAB, *Ibid.*, 1975-1980.  
1980-1983: *Ibid.*, 1981-1984, annual issues, p. 47, line 1.  
1984: U.S. DOT/RSPA/TSC, 1984/1985, annual issue, p. 51, line 1.

**Total Large Regionals, domestic operations:**

1974-1979: CAB, *Ibid.*, 1975-1980.  
1980-1983: *Ibid.*, 1981-1984, annual issues, p. 83, line 1.  
1984: U.S. DOT/RSPA/TSC, 1984/1985, annual issue, p. 85, line 1.

**Total Medium Regionals, domestic and international operations.**

1974-1979: CAB, *Ibid.*, 1975-1980.  
1980-1983: *Ibid.*, 1981-1984, annual issues, p. 113, line 1.  
1984: U.S. DOT/RSPA/TSC, 1984/1985, annual issue, p.158, line 1.

**General Aviation:**

1974-1984: TPA, *Transportation In America*, 1986, p. 8.

**Highway:**

**Passenger Car and Taxi:**

1974-1984: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1 and similar table in earlier editions. Vehicle-miles multiplied by a constant average occupancy of 2.3.

**Intercity Bus:**

1974-1980: ABA, *Bus Facts*, 1982, p. 2.  
1981-1983: *Ibid.*, personal communication.  
1984: ICC, Bureau of Accounts, personal communication.

**Class I Rail:**

**Commutation and Non-Commutation:**

1974-1979: AAR, *Statistics of Railroads of Class I in the U.S.*, 1980, p. 8 and p. 18. Amtrak and Auto-Train data (p. 18) subtracted from Class I data (p. 8).  
1980: *Ibid.*, *Operating & Traffic Statistics*, 1981, p. 8.  
1981-1984: TPA, *Transportation in America*, 1986, p. 36.

**Amtrak:**

**Commutation and Non-Commutation:**

1974-1979: AAR, *Statistics of Railroads of Class I in the U.S.*, 1980, p. 18.  
1980: *Ibid.*, *Operating & Traffic Statistics*, 1981, p. 8.  
1981-1984: Amtrak, Marketing Department, personal communication.

**Table 7. Revenue Ton-Miles of Freight, 1974-1984**

**Certificated Air Carrier:**

1974-1979: CAB, *Air Carrier Traffic Statistics*, 1975-1980, annual issues, p. 4/5, line 3.  
1980-1983: *Ibid.*, 1981-1984, annual issues, p. 2, line 3.  
1984: U.S. DOT/RSPA/TSC, *Air Carrier Traffic Statistics*, 1984/1985, annual issue, p. 2, line 3.

**Oil Pipeline:**

1974-1984: TPA, *Transportation In America*, 1986, p. 6.

**Class I Rail:**

1974-1984: AAR, *Railroad Ten-Year Trends*, 1985, Table III-E-8.

**Table 9. Number of Vehicles, 1974-1984 (cont'd)**

**Passenger Car and Taxi:**

1974-1984: *Ibid.*

**Intercity Bus:**

1974-1980: ABA, *Bus Facts*, 1982, p. 2.

1981-1983: *Ibid.*, personal communication.

1984: ICC, Bureau of Accounts, personal communication.

**Local Transit:**

1974-1981: APTA, *Transit Fact Book*, 1981, Tables 13 and 15.

1982-1984: *Ibid.*, personal communication.

**Class I Rail:**

**Freight Cars:**

1974-1984: AAR, *Railroad Facts*, annual issues, p. 46.

**Locomotives:**

1974-1984: *Ibid.*, p. 44.

**Passenger Cars and Pullman:**

1974-1984: *Ibid.*, p. 50.

**Amtrak:**

**Passenger Cars and Pullman and Locomotives:**

1974-1984: *Ibid.*, p. 61.

**Truck:**

1974-1984: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1, and similar table in earlier editions.

**Water Transport:**

**Total Inland Water Vessels:**

1974-1984: Sum of Non-self-propelled vessels and Self-propelled vessels.

**Non-self propelled vessels and Self-propelled vessels:**

1974-1976: U.S. Army, Corps of Engineers, *Summary of U.S. Flag Passenger & Cargo Vessels*, annual issues. Data as of Jan. 1, 1974, 1975 and 1976, respectively.

1977-1979: *Ibid.*, Data as of Oct. 1, 1977, 1978 and 1979, respectively.

1980: *Ibid.*, Data as of Dec. 31, 1980.

1981-1982: *Ibid.*, Beginning in 1981 data are collected every 2 years and are shown in 1982 column.

1983-1984: *Ibid.*, Data shown in 1984 column.

**Oceangoing Steam and Motor Ships:**

1974: U.S. DOC, *Commerce News, Merchant Marine Data Sheet*, 1974.

1975-1978: *Ibid.*, *Merchant Fleets of the World*, annual issues.

1979: *Ibid.*, *A Statistical Analysis of the World's Merchant Fleets*, 1981.

1980: U.S. DOT, *Merchant Fleets of the World*, 1981, p. 2.

1981: *Ibid.*, Maritime Administration, MAR-371, personal communication.

1982-1984: *Ibid.*, *Merchant Fleets of the World*, annual issues.

**Table 10. Number of New Vehicles Purchased by Mode, 1974-1984**

**Air Carrier:**

1974-1984: Aerospace Industries Association, *1985 Aerospace Year-End Review and Forecast*, Table V.

**General Aviation:**

1974-1978: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1978, Table 9-2.

1979-1984: General Aviation Manufacturers Association, personal communication, data includes shipments of aircraft only.

**Table 15. Number of Fatalities by Mode, 1974-1985 (cont'd)**

Motor Carriers of Passengers:	
1974-1975:	<i>Ibid.</i> , annual issues, Table 5.
1976-1985:	<i>Ibid.</i> , annual issues, Table 7.
Rail-Highway Grade Crossing:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 10.
Rail:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 10.
Rail Rapid Transit:	
1974-1976:	Not available.
1977:	<i>Ibid.</i> , 1978 annual summary, Chart 15.
1978:	<i>Ibid.</i> , 1979 annual summary, Charts 15, 16, and 17.
1979:	<i>Ibid.</i> , 1980 annual summary, p. 26.
1980:	<i>Ibid.</i> , 1981 annual summary, Tables 11, 12 and 13.
1981-1985:	<i>Ibid.</i> , 1985 annual summary, Table 10.
U.S. Air Carriers:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 19.
Commuter Air Carriers:	
1974:	Not available.
1975-1985:	<i>Ibid.</i> , 1985 annual summary, Table 13.
On-Demand Air Taxi:	
1974:	Not available.
1975-1985:	<i>Ibid.</i> , 1985 annual summary, Table 14.
U.S. General Aviation:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 31.
Waterborne Transportation:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 41.
Recreational Boating:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 51.
Liquid Pipeline:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 56B.
Gas Pipeline:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 56B.
Hazardous Materials:	
1974-1985:	<i>Ibid.</i> , 1985 annual summary, Chart 64.

**Table 19. Personal Consumption Expenditures by Transportation Sector, 1974-1985**

1974-1985: U.S. DOC, Bureau of Economic Analysis, *Survey of Current Business*, 1985, Table 2.4.

**Table 20. Personal Consumption Expenditures by Type of Product, 1974-1985**

1974-1985: U.S. DOC, Bureau of Economic Analysis, *Survey of Current Business*, 1985, Table 2.4.

**Table 21. National Income by Transportation Sector, 1974-1984**

1974-1984: U.S. DOC, Bureau of Economic Analysis, *Survey of Current Business*, 1985, Table 6.3B.

**Table 24. Employment in Transportation and Related Industries, 1974-1984 (cont'd)**

**Motor Vehicles and Equipment:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 301 and 371, sum of motor vehicles and equipment and tires.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 301 and 371, sum of motor vehicles and equipment and tires.

**Railroad Equipment:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 374.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 374.

**Ships and Boat Building and Repair:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 373.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 373.

**Other:**

- 1974-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, sum of SIC 376 and SIC 379.

**Related Industries:**

**Automotive and Accessory Retailers:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 551, 2 and 553.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 551, 2 and 553, sum of new and used automobile dealers and other auto and home supply stores.

**Automotive Wholesalers:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 501.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 501.

**Automotive Services and Garages:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 75.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 75.

**Gasoline Service Stations:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 554.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 554.

**Highway and Street Construction:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, SIC 161.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, SIC 161.

**Petroleum:**

- 1974-1976: *Ibid.*, *Employment and Earnings, United States, 1909-78*, Section B-2, SIC 13, 291, and 50, sum of SIC 13, 291, and 4.5% of SIC 50 (to account for petroleum bulk stations and terminals.) The totals are adjusted for 56% transportation use.  
1977-1984: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data, 1985*, sum of SIC 13, p. 6, SIC 291 and 4.5% of SIC 50. The totals are adjusted for 56% transportation use.

**Other Industries:**

**Truckdrivers and Deliverymen:**

- 1974-1979: TAA, *Transportation Facts and Trends*, July issues, p. 22/23.  
1980-1984: TPA, *Transportation in America*, 1986, p. 18.

**Shipping and Receiving Clerks:**

- 1974-1979: TAA, *Transportation Facts and Trends*, July issues, p. 22/23.  
1980-1984: TPA, *Transportation In America*, 1986, p. 18.

**Government Employees:**

**U.S. DOT**

- 1974-1984: U.S. DOC, Bureau of the Census, *Statistical Abstract of the U.S.*, 1986, Table 530 and similar table in earlier editions.

**Table 27. Expenditures and Overseas Travel by U.S. Residents and Foreign Visitors, 1974-1984 (cont'd)**

**Total Travel and Passenger Fare Transactions:**

1974-1984: Sum of Travel Receipts in U.S. and Passenger Fare Receipts in U.S.

**Travel Receipts in U.S.:**

1974-1984: U.S. DOC, Bureau of the Census, *Statistical Abstract of the U.S.*, 1986, Table 407.

**Passenger Fare Receipts in U.S.:**

1974-1984: *Ibid.*, 1986, Table 407.

**Table 34. Fuel Consumption by Mode of Transportation, 1974-1984**

**Class I Rail:**

**Locomotives:**

1974-1984: Diesel Oil, AAR, *Railroad Ten-Year Trends*, 1985, Table III-D-2.  
 1974-1982: Electricity, AAR, *Statistics of Railroads of Class I in the U.S.*, 1983, p. 15.  
 1983-1984: *Ibid.*, Economics and Finance Department, personal communication.  
 1974-1979: Coal, Tons, AAR, *Statistics of Railroads of Class I in the U.S.*, 1983, p. 15  
 1980-1984: *Ibid.*, *Railroad Ten-Year Trends*, 1985, Table III-D-6.

**Motor Cars:**

1974-1984: Diesel Oil, *Ibid.*, Table III-D-2.  
 1974-1984: Electricity, *Ibid.*, Table III-D-5.

**Air Carriers:**

**Certificated Carriers, Domestic and International:**

1974-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975, Table 6.27.  
 1976-1979: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1980 and 1979*. Total of Tables 2, 3, 4, 6 and 7 and similar tables in earlier editions.  
 1980-1984: *Ibid.*, *Twelve Months Ended Dec. 31, 1984; 1983 and 1982; 1981 and 1980*, p. 1.

**General Aviation:**

1974-1975: U.S. DOT/FAA, Information and Statistical Division, personal communication.  
 1976-1977: *Ibid.*, Office of Aviation Policy, personal communication.  
 1978-1984: *Ibid.*, *General Aviation Activity and Avionics Survey*, 1985, Table 2-21, and similar table in earlier editions.

**Highway:**

1974-1984: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table VM-1 and similar table in earlier editions. Commercial and School bus figures for 1984 were calculated by the Transportation Policy Associates.

**Water Transport:**

**Residual and Distillate Fuel Oil:**

1974-1984: American Petroleum Institute, *Basic Petroleum Data Book*, annual issues, Tables 10, 10a, 12, and 12a.

**Gasoline:**

1974-1984: U.S. DOT/FHWA, *Highway Statistics*, 1984, Table MF-24 and similar table in earlier editions.

**Transit:**

**Electricity:**

1974-1977: Not available.  
 1978-1981: UMTA, *1981-1982 Section 15 Annual Reports*, Table 002.11.1. Section 15 Reporting System began in 1978, data reported on a fiscal year basis.  
 1982: Data for 1982 not available due to changes in Section 15 reporting procedures from fiscal year basis to calendar year basis.  
 1983-1984: UMTA, *Urban Mass Transportation Statistics, 1983-1984 Section 15 Annual Reports*, Table 2.10.

# **APPENDIX B**

## **Glossary**

**DOMESTIC OPERATIONS:** Operations within and between the 50 States and the District of Columbia. Includes domestic operations of the certificated trunk carriers, Pan American, local service, helicopter, intra-Alaska, intra-Hawaii, domestic all-cargo, and other carriers; also includes transborder operations conducted on the domestic route segments of U.S. air carriers.

**ECONOMY:** Transport services established for the carriage of passengers at fares and quality of service below that of coach service.

**FIRST-CLASS:** Transport service established for the carriage of passengers moving at either standard fares or premium fares, or at reduced fares not predicated upon the operation of specifically allocated aircraft space, and for whom standard or premium quality services are provided.

**FIXED-WING AIRCRAFT:** Aircraft having nonrotating wings fixed to the airplane fuselage and outspread in flight.

**INTERNATIONAL OPERATIONS:** Operations outside the territory of the United States, including operations between the United States and foreign countries and between the United States and its territories and possessions. Includes both the combination passenger/cargo carriers and the all-cargo carriers engaged in international and territorial operations.

**JET ENGINE:** An engine which converts fuel and air into a fast-moving stream of hot gases which effect propulsion of the device of which the engine is a part.

**JET FUEL:** Includes both naphtha-type and kerosene-type fuels meeting standards for use in aircraft turbine engines. Although most jet fuel is used in aircraft, some is used for other purposes such as for generating electricity in gas turbines.

**KEROSENE-BASE JET FUEL:** A quality kerosene product with an average gravity of 40.7 degrees API and 10 to 90% distillation temperatures of 217 to 261 degrees C. Used primarily as fuel for commercial turbojet and turboprop aircraft engines. It is a relatively low freezing point distillate of the kerosene type.

**LARGE REGIONALS:** Carrier groups with annual operating revenues of \$10,000,000-\$74,999,999. Included in this group are Air Atlanta, Airlift, Air National Air One, Airpac, Air Wisconsin, American International, Aspen, Britt, Buffalo, Cascade, Emerald, Empire, Evergreen, Five Star, Florida Express, Frontier Horizon, Global, Gulf Air Transport, Horizon Air, International Air Service, Interstate, Key, Markair, Midway Express, Midwest Express, Northern Air, Overseas, Pacific Interstate, Pilgrim, Reeve, Rich, Ryan, Sky World, Southern Air, Sun Country, Sunworld, Total Air and Tower. Airlines in this category are subject to periodic changes.

**MAJORS:** Carrier groups with annual operating revenues of \$1,000,000,000+. Included in this group are American, Continental, Delta, Eastern, Federal Express, Flying Tiger, Northwest, Pan American, Piedmont, Republic, Trans World, United, USAir, and Western. Airlines in this category are subject to periodic changes.

**MEDIUM REGIONALS:** Carrier groups with annual operating revenues of \$0-\$9,999,999 (or that operate only aircraft with 60 seats or less or 18,000 pounds maximum payload or less). Included in this group are Aerial, Aeron, Airmark, Air Midwest, All Star, Atlantic Gulf, Best, Challenge, Flight International, Galaxy, Great American, Independent Air, Jet Charter, Jet East, Jet Fleet, Millon, Northeastern, Rosenbalm, Royale, Samoa, Skybus, Skystar, Sky West, South Pacific, T-Bird, Trans Air Link, Trans International, and Worldwide. Airlines in this category are subject to periodic changes.

**NAPHTHA-BASE JET FUEL:** A fuel in the heavy naphtha boiling range with an average gravity of 52.8 degrees API and 10 to 90% distillation temperatures of 117 to 233 degrees C. Used for turbojet and turboprop aircraft engines, primarily by the military. Excludes ramjet and petroleum.

**NATIONALS:** Carrier groups with annual operating revenues of \$75,000,000-\$1,000,000,000. Included in this group are Air California, American West, American Trans Air, Air Florida, Alaska, Aloha, Arrow, Braniff, Inc., Capitol, Frontier, Hawaiian, Jet America, Midway, New York Air, Ozark, Pacific Southwest, People Express, Southwest, Transamerica, TranStar, Wien, World and Zantop. Airlines in this category are subject to periodic changes.

**NON-OPERATING INCOME AND EXPENSES:** Income and loss of commercial ventures not part of the common carrier air transport services of the accounting entity; other revenues and expenses attributable to financing or other activities that are extraneous to and not an integral part of air transportation or its incidental services.

**NON-REVENUE FLIGHTS:** Flights and flight stages involving training, test, technical, positioning for scheduled flights, ferry, company business, publicity and forced returns for which no remuneration is received.

**NON-SCHEDULED FREIGHT:** Property carried in charter operations.



**TRANSPORT REVENUES:** Revenues from transportation by air of all classes of traffic in scheduled and nonscheduled service, including the performance of charters.

**TURBOFAN AIRCRAFT:** Aircraft propelled by a turbojet engine whose thrust has been increased by the addition of a low-pressure compressor (fan). The turbofan engine can have an oversized low-pressure compressor at the front, with part of the flow by-passing the rest of the engine (front-fan or forward-fan), or it can have a separate fan driven by a turbine stage (aft-fan).

**TURBOJET AIRCRAFT:** Aircraft propelled by jet engines incorporating a turbine-driven air compressor to take in and compress the air for the combustion of fuel, the gases of combustion (or the heated air) being used both to rotate the turbine and to create a thrust-producing jet.

**TURBOPROP AIRCRAFT:** Aircraft in which the main propulsive force is supplied by a conventional propeller driven by a gas turbine. Additional propulsive force may be supplied from the discharged turbine exhaust gas.

\* As a result of the Airline Deregulation Act of 1978, the Civil Aeronautics Board (CAB) functions are now handled by the U.S. Department of Transportation's Research and Special Programs Administration.

### GENERAL AVIATION TERMINOLOGY

**ACTIVE AIRCRAFT:** All legally registered civil aircraft which flew one or more hours.

**AERIAL APPLICATION:** Any use of an aircraft for work purposes which concerns the production of foods, fibers, and health control in which the aircraft is used in lieu of farm implements or ground vehicles for the particular task accomplished. This includes fire fighting operations, the distribution of chemicals or seeds in agriculture, reforestation, or insect control.

**AIR-TAXI:** The classification of air carriers which transports persons, property, and mail using small aircraft (under 30 seats or a maximum payload capacity of less than 7,500 pounds). An air taxi does not hold a Certificate of Public Convenience and Necessity.

**AVIATION GASOLINE (AVGAS):** All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D 910. Includes all refinery products within the gasoline range that are to be marketed straight or in blends as aviation gasoline without further processing (i.e., any refinery operation except mechanical blending). Also includes finished components in the gasoline range which will be used for blending or compounding into aviation gasoline.

**BUSINESS:** Use of an aircraft not for compensation or hire by individuals for the purposes of transportation required by business in which they are engaged.

**COMMUTER AIR CARRIER:** An air-taxi that performs at least five scheduled round trips per week between two or more points or carries mail.

**DEMAND AIR-TAXI:** Use of an aircraft operating under Federal Aviation Regulations, Part 135, passenger and cargo operations, including charter and excluding commuter air carrier.

**EXECUTIVE:** Any use of an aircraft by a corporation, company, or other organization for the purposes of transporting its employees and/or property not for compensation or hire, and employing professional pilots for the operation of the aircraft.

**GENERAL AVIATION:** That portion of civil aviation which encompasses all facets of aviation except air carriers.

**INSTRUCTIONAL:** Any use of an aircraft for the purpose of formal instruction with the flying instructor aboard, or with the maneuvers on the particular flight(s) specified by the flight instructor; excludes proficiency flying.

**PERSONAL:** Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire. This includes maintenance of pilot proficiency.

**RENTAL:** Aircraft owned for the purpose of renting; commercial flying club, leased, and rental aircraft activity.

**OTHER:** Any other use of an aircraft not included in above, i.e., experimentation, R&D, testing, demonstration, government.

**OTHER WORK:** Any aircraft used for construction work (not included under Part 135), helicopter, hoist, towing gliders, or parachuting.

### BUS TERMINOLOGY

**COMMERCIAL BUS:** Any bus used to carry passengers at rates specified in tariffs; charges may be computed per passenger (as in regular route service) or per vehicle (as in charter service).

**INTERCITY BUS--CLASS I:** An interstate motor carrier of passengers with an average annual gross revenue of at least \$1,000,000 is defined by the ICC as a Class I carrier.

**INTERCITY BUS--TOTAL:** This figure includes Class I, II, and III interstate carriers, all of which report to the Interstate Commerce Commission, and intrastate carriers.

**REVENUE PASSENGERS:** Passengers on a commercial bus by or for whom a fare is paid.

**REVENUE PASSENGER-MILES:** One revenue passenger carried one mile (5,280 feet) generates one passenger-mile. The revenue passenger miles reported thus represent the total distance traveled by all bus passengers.

**SCHOOL AND NONREVENUE BUS:** Passengers using these are not directly charged for transportation, either on a "per passenger" or on a "per vehicle" basis.

**TAXES ASSIGNABLE TO OPERATIONS:** Includes the amount of federal, state, county, municipal, and other taxing district taxes which relate to motor carrier operations and property use therein (except income taxes on ordinary income).

**VEHICLE-MILE:** One vehicle traveling one mile (5,280 feet) generates one vehicle-mile. Thus, total vehicle-miles is the total mileage traveled by all vehicles.

### TRUCK TERMINOLOGY

**AVERAGE LENGTH OF HAUL (MILES):** The total number of ton-miles divided by the total number of tons carried.

**COMBINATION TRUCKS:** Consist of a power unit (a truck tractor) and one or two trailing units (a semi-trailer). The most frequently used combination is popularly referred to as a "tractor-semitrailer" or a "tractor trailer."

**GROSS VEHICLE WEIGHT (GVW):** The weight of the empty vehicle plus the maximum anticipated load weight.

**ICC-REGULATED CARRIER:** A motor common carrier operating in interstate commerce under a grant of authority from the Interstate Commerce Commission and subject to its economic regulation.

**NON-ICC-REGULATED CARRIER:** A motor carrier not subject to the economic regulation of the ICC. The category includes intrastate carriers, private carriers hauling only the goods of their owners, and carriers of commodities, the transportation of which is exempt from ICC economic regulation.

**OPERATING EXPENSES:** This includes expenditures for equipment maintenance, supervision, wages, fuel, equipment rental, terminal operations, insurance, safety, and administrative and general functions.

**OPERATING REVENUES OF CLASS I INTERCITY MOTOR CARRIERS:** This term is defined by the ICC to include the five categories of revenue listed in the text.

**REVENUE:** The total amounts received by carriers for transportation and other services.

**SINGLE-UNIT TRUCK:** A motor vehicle consisting primarily of a single motorized device designed for carrying a load of property weighing 4,409 pounds or more on or in the device.

**TON-MILES:** The transportation of one short ton (2,000 lbs) of freight a distance of one mile (5,280 feet) generates one ton-mile.

**VEHICLE-MILES:** This term includes miles operated by power units upon urban streets, main rural roads, and local rural roads.

### LOCAL TRANSIT TERMINOLOGY

**ACCIDENTS:** Incidents in which there is property damage or personal injury, involving revenue or non-revenue transit vehicles or stations. Accidents are classified as "collision," "non-collision," or "station."

**REVENUE PASSENGERS CARRIED:** The total number of transit rides from origin to destination taken by passengers. Thus, a multi-vehicle ride would be counted only once. A ride by a nonrevenue passenger would not be counted.

**REVENUE VEHICLE-MILES:** One vehicle (bus, trolleybus, streetcar, etc.) traveling one mile (5,280 feet) while revenue passengers are on board generates one revenue vehicle-mile. The revenue vehicle-miles reported thus represent the total mileage traveled by vehicles in scheduled or unscheduled revenue-producing services.

**SCHOOL BUSES:** Type I and Type II school vehicles as defined in Highway Safety Program Standard No. 17, used exclusively to transport students, personnel, and equipment.

**STREETCARS:** Relatively lightweight passenger rail cars operating singly or in short trains or fixed rails in right-of-way that is not always separated from other traffic for much of the way. Streetcars do not necessarily have the right-of-way at grade crossings with other traffic.

**TROLLEYBUSES:** Rubber-tired, electrically powered passenger vehicles operated on city streets drawing power from overhead lines with trolleys.

**UNLINKED PASSENGER TRIPS:** The number of passengers who board public transportation vehicles. Passengers are counted each time they board a vehicle, even though more than one vehicle may be used for a single journey from origin to destination.

**VEHICLE MILES:** The total distance traveled by revenue vehicles, including both revenue miles and deadhead miles.

**VEHICLE OPERATIONS EXPENSES:** The costs associated with operating vehicles, such as operators' wages and fringe benefits, fuel, tires, and vehicle licensing.

#### WATER TRANSPORT TERMINOLOGY

**BULK CARRIER:** Carries dry cargo in bulk, stowed in cargo holds within vessel hull. Cargo is poured aboard from elevator spouts, conveyor belts or slurry pipelines. It is unloaded using grab buckets, conveyor systems or vacuum equipment. Only nine vessels, mostly converted tankships are presently eligible for domestic service. Commonly referred to as "dry bulker."

**BUNKER C/NUMBER 6 FUEL OIL:** A high viscosity oil used mostly by ships, industry, and large-scale heating installations. This heavy fuel requires preheating in the storage tank to permit pumping and additional preheating to permit atomizing at the burners.

**CLASS A CARRIERS BY INLAND AND COASTAL WATERWAYS:** A Class A carrier by water is one with an average annual operation revenue that exceeds \$500,000.

**CLASS B CARRIERS BY INLAND AND COASTAL WATERWAYS:** A Class B carrier by water is one with an average annual operating revenue greater than \$100,000 but less than \$500,000.

**COASTWISE TRAFFIC:** Domestic traffic is coastwise when it moves over the ocean, or the Gulf of Mexico; i.e., between New Orleans and Baltimore, New York and Puerto Rico, San Francisco and Hawaii, Puerto Rico and Hawaii. Traffic between Great Lakes ports and seacoast ports, when having a carriage over the ocean, is also deemed to be coastwise. The Chesapeake Bay and Puget Sound are considered internal bodies of water rather than arms of the ocean; traffic confined to these areas is deemed to be "internal" rather than coastwise.

**CONTAINERSHIP:** Carries cargo in special intermodal cargo containers which are stowed below deck in specially fitted holds and stacked on deck several units high. Loading and unloading are accomplished by shoreside traveling crane or, occasionally, by shipboard gantry crane. Sometimes referred to as "lift-on/lift-off" vessel. Twenty-six are presently in domestic service.

**DOMESTIC FREIGHT:** All waterborne commercial movements between points in the United States, Puerto Rico and the Virgin Islands, excluding traffic with the Panama Canal Zone. Cargo moved for the military in commercial vessels is reported as ordinary commercial cargo; military cargo moved in military vessels is omitted.

**DOMESTIC PASSENGER:** Any person traveling on a public conveyance by water between points in the United States, Puerto Rico, and the Virgin Islands.

**DRY CARGO BARGES:** Large flat-bottomed, non-self-propelled vessels used to transport dry bulk materials such as coal and ore.

**TON-MILE:** Moving one ton one mile (5,280 feet) generates one ton-mile.

**TONS OF FREIGHT HAULED:** The figures for tons of freight hauled on domestic waterways include exports and imports.

**TUG:** A strongly built, self-propelled boat used for towing and pushing.

### RAILROAD TERMINOLOGY

**AMTRAK (AMERICAN RAILROAD TRACKS):** Operated by the National Railroad Passenger Corporation of Washington, D.C. This rail system was created by President Nixon in 1970 and was given the responsibility for the operation of intercity, as distinct from suburban, passenger trains between points designated by the Secretary of Transportation.

**AVERAGE HAUL:** The average distance in miles that one ton is carried. It is computed by dividing the number of ton-miles generated by the number of tons carried to generate that number of ton-miles.

**AVERAGE PASSENGER TRIP LENGTH:** Calculated by dividing the number of revenue passenger miles by the number of revenue passengers carried.

**CAR MILEAGE:** Movement of a car one mile (5,280 feet) is one car-mile.

**CLASS I RAILROAD:** A railroad with an annual operating revenue of greater than \$5,000,000. Effective January 1, 1976, the minimum annual operating revenue requirement was raised to \$10,000,000; on January 1, 1978, the requirement was raised to \$50,000,000.

**COMMUTATION TICKET:** A ticket intended for use by a person traveling on a daily basis, i.e., to and from work; such a ticket is typically valid for an extended time period (i.e., a week or a month); the charge for such a ticket reflects a discount from the sum of the one-way fares that would be paid by the ticket-holder for the period of validity in the absence of such a reduced-rate ticket.

**FREIGHT REVENUE:** Revenue from the transportation of freight and from the exercise of transit, stop-off, diversion, and reconsignment privileges, as provided for in tariffs.

**LINE MILEAGE:** The aggregate length of roadway of all line-haul railroads. It does not include the mileage of yard tracks or sidings, nor does it reflect the fact that a mile of railroad may include two or more parallel tracks. Jointly-used track is counted only once.

**LOCOMOTIVE:** Self-propelled units of equipment designed solely for moving other equipment.

**LOCOMOTIVE MILEAGE:** Movement of a locomotive unit one mile (5,280 feet) is one locomotive-mile.

**OPERATING EXPENSES:** Expenses of furnishing transportation service, including maintenance and depreciation.

**OTHER REVENUE:** This is a general heading that includes revenues from miscellaneous operations (i.e., dining and bar car services), income from lease of road and equipment, miscellaneous rent income, income from non-operating property, profit from separately operated properties, dividend income, interest income, income from sinking and other reserve funds, release or premium on funded debt, contributions from other companies, and other miscellaneous income.

**PASSENGER REVENUE--COMMUTATION:** Revenue from the sale of commutation tickets.

**PASSENGER REVENUE--NON-COMMUTATION:** Revenue from the transportation of paying passengers not holding commutation tickets; this classification includes basic one-way and round-trip fares, discounted fares offered for the clergy and military, special excursion fares offered to travelers meeting the requirements for eligibility for those fares, (i.e., origin/destination, time of travel, length of stay at destination), revenue from the extra charges made for occupancy of space in parlor and sleeping cars, and revenue from the transportation of corpses.

**PASSENGER TRAIN-CARS:** Cars typically found in passenger trains include coaches, sleeping cars (formerly called Pullman cars), parlor cars, dining cars, lounge cars, baggage cars, crew-dormitory cars, and observation cars.

**OTHER DISTILLATE FUEL OILS:** All other refined petroleum products not included in any other category and which, when produced in conventional distillation operations, have a boiling range from 10% point at 167 degrees C to 90% point at 375 degrees C. Included are products known as No. 1 and No. 4 distillate fuel oils and diesel oils.

**PETROLEUM:** A material occurring naturally in the earth and predominantly composed of mixtures of chemical compounds of carbon and hydrogen with or without other nonmetallic elements such as sulfur, oxygen, nitrogen, etc. Petroleum may contain, or be composed of, such compounds in the gaseous, liquid, and/or solid state, depending on the nature of these compounds and the existent conditions of temperature and pressure.

**PETROLEUM CONSUMPTION, ELECTRIC UTILITY SECTOR:** Domestic demand for all fuel oils at electric utilities.

**PETROLEUM CONSUMPTION, INDUSTRIAL SECTOR:** Domestic demand for petroleum products for use by establishments engaged in processing unfinished materials into another form or product. Excludes industrial space heating.

**PETROLEUM CONSUMPTION, "OTHER" SECTOR:** Domestic demand for miscellaneous products and for some agricultural uses.

**PETROLEUM CONSUMPTION, RESIDENTIAL AND COMMERCIAL:** Domestic demand for petroleum products by private households and non-manufacturing establishments. Includes industrial space heating and road paving.

**PETROLEUM CONSUMPTION, TRANSPORTATION SECTOR:** Domestic demand for petroleum products for on-highway use, aircraft and vessel bunkering, and railroad use.

**REFINED PRODUCT TRUNK LINES (PIPELINE SYSTEMS):** One of three types of pipeline network that is used to transport refined petroleum products (i.e., gasoline, kerosene, residual oil, etc.) from the refineries to local distribution centers near large market areas.

**RESIDUAL FUEL OIL:** The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations. Included are products known as ASTM grade Nos. 5 and 6 oil, heavy diesel oil, Navy Special Fuel Oil, Bunker C oil, and acid sludge and pitch used as refinery fuels. Residual fuel oil is used for the production of electric power, for heating, and for various industrial purposes.

### GAS PIPELINE TERMINOLOGY

**GAS TRANSMISSION COMPANY:** A company which obtains most of its gas operating revenues from the operation of a gas transmission pipeline and/or from main line sales to industrial customers.

**DISTRIBUTION MAINS:** Generally, mains which carry or control the supply of gas from the point of supply to the sales meters.

**FIELD AND GATHERING PIPELINES:** A network of pipelines transporting natural gas from individual wells to a compressor station, processing point, or main trunk pipeline.

**LIQUID PETROLEUM GAS (LPG):** Consists of propane and butane and is usually derived from natural gas. In locations where there is no natural gas and the gasoline consumption is low, naphtha is converted to LPG by catalytic reforming.

**NATURAL GAS:** A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

**NATURAL GAS LIQUIDS:** Those liquid hydrocarbon mixtures which are gaseous at reservoir temperatures and pressures but are recoverable by condensation or absorption. Natural gasoline and liquefied petroleum gas such as propane and butane are principal examples.

**TRANSMISSION PIPELINE:** Pipelines installed for the purpose of transmitting gas from a source of supply to one or more distribution centers, to one or more large-volume customers, or a pipeline installed to interconnect sources of supply.

**JET FUEL:** Includes both naphtha-type and kerosene-type jet fuel meeting standards for use in aircraft turbine engines or meeting ASTM Specification D1655. Although most jet fuel is used in aircraft, some is used for other purposes, such as fuel for turbines to produce electricity.

**KEROSENE:** A petroleum middle distillate having burning properties suitable for use as an illuminant when burned in wick lamps. Included are No. 1-K and No. 2-K recognized in ASTM Specification D3699 and grades of kerosene called range oil having properties similar to No. 1 fuel oil, and is used primarily in space heaters, cooking stoves, and water heaters.

**LEASE CONDENSATE:** A natural gas liquid recovered from gas-well gas (associated and non-associated) in lease separators or natural gas field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons. Generally, it is blended with crude oil for refining.

**LIQUEFIED GASES:** Propane, propylene, butane, butylene, ethane-propane mixtures, propane-butane mixtures, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw natural gas plant liquids. Excludes ethane and ethylene.

**LUBRICANTS:** Substances used to reduce friction between bearing surfaces. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. Lubricants include all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. The three categories include bright stock lubricants, and other lubricants, lubricating oil base stock used in finished lubricating oils and greases, including black, coastal, and red oils.

**MARKETED PRODUCTION:** This quantity is derived. It is gross withdrawals of natural gas from production reservoirs, less gas used for reservoir repressuring, quantities vented and flared, and nonhydrocarbon gases removed in treating and processing operations.

**MOTOR GASOLINE, FINISHED:** A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark-ignition engines and conforming to ASTM Specification D439. Included are finished leaded gasoline, finished unleaded gasoline, and gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

**MOTOR GASOLINE, REGULAR GRADE:** Finished motor gasoline (see above) that has an antiknock designation of 2 or less for unleaded motor gasoline and 3 or less for leaded motor gasoline.

**NATURAL GAS:** A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

**NATURAL GAS LIQUIDS:** Those liquid hydrocarbon mixtures which are gaseous at reservoir temperatures and pressures but are recoverable by condensation or absorption. Natural gasoline and liquefied petroleum gas such as propane and butane are principal examples.

**NATURAL GAS, WET:** Natural gas prior to the extraction of liquids and other miscellaneous products.

**PETROLEUM:** A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, refined petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

**PIPELINE:** A line of pipe with pumping machinery and apparatus for conveying a liquid or gas.

**PROVED RESERVES (ECONOMICALLY RECOVERABLE RESERVES):** Those resources (coal, oil, natural gas) that have actually been discovered and can be produced under current economic and technological conditions.

**PSI:** Pounds per square inch.

**REFINED PETROLEUM PRODUCTS:** Petroleum products are obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, naphtha less than 400° F. end-point, other oils over 400° F. end-point, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

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# **APPENDIX D**

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