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16. Abstract This report is a summary of selected national transportation statistics from a wide variety of government and private sources. Included are cost, inventory, and performance data describing the passenger and cargo operations of the following modes: air carrier, general aviation, automobile, bus, truck, local transit, rail, water, oil pipeline, and gas pipeline. The report includes basic descriptors of U.S. transportation, such as operating revenues and expenses, number of vehicles and employees, vehicle miles and passenger miles, etc. A supplementary section includes Transportation and the Economy and Energy in Transportation. Energy in Transportation is divided into four parts: Energy Consumption, Energy Transport, Energy Intensiveness, and Energy Supply and Demand. Also included are the operating costs of automobiles of different sizes. In this edition, the selected data cover the period 1970 through 1980/1981.					
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CONTENTS

	Page
Introduction	1
Tree Displays	5
Modal Profiles	13
Modal Profile Source References and Percent Change Calculation	13
Air Carrier Profile	14
General Aviation Profile	17
Highway Profile	18
Automobile Profile	19
Bus Profile	21
Truck Profile	23
Local Transit Profile	25
Water Transport Profile	26
Rail Profile, A. Class I Railroads	30
Rail Profile, B. Amtrak	32
Oil Pipeline Profile	33
Natural Gas Pipeline Profile	34
Selected Passenger and Cargo Performance Indicators by Mode	35
Transportation Trends	41
Supplementary Data	61
Section I: Transportation and the Economy	61
Section II: Energy in Transportation	75
Part 1. Energy Consumption	77
Part 2. Energy Intensiveness	105
Part 3. Energy Transport	117
Part 4. Energy Supply and Demand	133

LIST OF ILLUSTRATIONS

Figure	Page
1. Organization of the Data	3
2. Modal Structure	4
3. Expenditures and Revenues (\$ Millions) - 1980	6
4. Vehicle-Miles (Millions) - 1980	7
5. Passenger-Miles (Millions) - 1980	8
6. Cargo Ton-Miles (Millions) - 1980	9
7. Number of Vehicles - 1980	10
8. Number of Fatalities - 1980	11
9. Energy Consumed in Transportation - 1980	12
10. Average Passenger Revenue per Passenger-Mile, 1970- 1980	43
11. Average Freight Revenue per Ton-Mile, 1970- 1980	45
12. Average Passenger Fare, 1970- 1980	47
13. Total Operating Revenues, 1970- 1980	49
14. Vehicle-Miles, 1970- 1980	51
15. Passenger-Miles, 1970- 1980	53
16. Cargo Ton-Miles, 1970- 1980	55
17. Basic Intercity Mileage Within the Continental United States, 1970- 1980	57
18. Passenger Fatalities per 100,000,000 Passenger Miles, 1970- 1980	60
19. Personal Consumption Expenditures by Transportation Sector, 1970- 1980	63
20. Personal Consumption Expenditures by Type of Product, 1970 and 1980	65
21. National Income by Transportation Sector, 1970- 1980	67
22. Average Annual Earnings per Full-Time Employee by Transportation Sector, 1970 and 1980	69
23. Wages and Salaries by Transportation Sector, 1970 and 1980	71
24. Energy Consumption: Transportation Sector, 1950-1980	80

LIST OF TABLES

Table	Page
1. Average Passenger Revenue per Passenger-Mile, 1970- 1980	42
2. Average Freight Revenue per Ton-Mile, 1970- 1980	44
3. Average Passenger Fare, 1970- 1980	46
4. Total Operating Revenues, 1970- 1980	48
5. Vehicle-Miles, 1970- 1980	50
6. Passenger-Miles, 1970- 1980	52
7. Cargo Ton-Miles, 1970- 1980	54
8. Basic Intercity Mileage Within the Continental United States, 1970- 1980	56
9. Number of Vehicles, 1970- 1980	58
10. Number of New Vehicles Purchased by Mode, 1970- 1980	59
11. Passenger Fatalities per 100,000,000 Passenger Miles, 1970- 1980	60
12. Personal Consumption Expenditures by Transportation Sector, 1970- 1980	62
13. Personal Consumption Expenditures by Type of Product, 1970- 1980	64
14. National Income by Transportation Sector, 1970- 1980	66
15. Average Annual Earnings per Full-Time Employee by Transportation Sector, 1970- 1980 .	68
16. Wages and Salaries by Transportation Sector, 1970- 1980	70
17. Employment in Transportation and Related Industries, 1970- 1980	72
18. National Transportation and Economic Trends, 1970- 1980	73
19. Expenditures and Overseas Travel by U.S. Residents and Foreign Visitors, 1970- 1980 ...	74
20. Consumption of Energy by End-Use Sector	78
21. U.S. Energy Consumption by the Transportation Sector	79
22. Fuel Consumption by Mode of Transportation, 1970- 1980	81
23. Total Motor Vehicle Fuel Consumption and Travel, 1970- 1980	82
24. Fuel Consumption and Travel by Personal Passenger Vehicles, 1970- 1980	83
25. Fuel Consumption and Travel by Buses, 1970- 1980	84
26. Fuel Consumption and Travel by Motor Trucks, 1970- 1980	85
27. Fuel Consumption by Certificated Air Carriers, 1970- 1980	86
28. Motor Fuel and Energy Consumption by the U.S. Transit Industry	87

LIST OF TABLES (Cont'd)

Table	Page
51. Energy Intensiveness of Class I Railroad Freight, 1970- 1980	112
52. Energy Intensiveness of Amtrak Service, 1972- 1980	113
53. Energy Transported by Foreign and Domestic Waterborne Commerce, by Type of Traffic and Commodity, Calendar Year 1980	118
54. Crude Petroleum and Petroleum Products Transported in the U.S. by Method of Transportation	120
55. Crude Oil Transported in the U.S. by Method of Transportation	122
56. Refined Petroleum Products Transported in the U.S. by Method of Transportation	123
57. Petroleum Products Transported by Pipeline, 1979-1980	124
58. U.S. Petroleum Pipeline Mileage	125
59. U.S. Gas Utility Industry Miles of Pipeline and Main, by Type	126
60. World Tanker Fleet at End of 1980 by Flag and Ownership	127
61. World Tanker Fleet at End of 1980 by Age, Size and Propulsion	127
62. World Tanker Fleet at End of 1980 by Employment	128
63. World Tanker Fleet by Flag, 1970- 1980	128
64. U.S. Tank Ship Fleet	130
65. Number and Mileage of Privately Owned U.S. Railroad Tank Cars	131
66. Imports and Exports, Crude Oil and Products, 1980	134
67. Petroleum Supply and Disposition	135
68. Domestic Supply and Demand for Motor Gasoline, 1965- 1981	136
69. Domestic Supply and Demand for Naphtha Type Jet Fuel, 1965- 1981	137
70. Domestic Supply and Demand for Kerosine Type Jet Fuel, 1965- 1981	138
71. Bituminous Coal and Lignite Supply and Disposition	139
72. Anthracite Coal Supply and Disposition	140
73. Natural Gas Supply and Disposition	141
74. Domestic Demand for Gasoline	142
75. Domestic Demand for Naphtha and Kerosine-Type Jet Fuel, 1965- 1981	142

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.

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 to go directly to the given source for any additional information or explanation regarding the data in this Publication.

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, two supplemental data sections detail the role of transportation in the economy and the relation of energy to transportation. Time series transportation statistics are presented for the period 1970-1980. Energy consumption and supply-and-demand data cover the same period and extend back to 1950.

TREE DISPLAYS

Figure 2 illustrates the interrelations of the various modes via a tree display. This format presents the relationship between and within each transportation mode for the following areas:

- Expenditures and Revenues
- Vehicle-Miles
- Passenger-Miles
- Ton-Miles
- Number of Vehicles
- 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 is shaded and no data are shown. Dotted lines indicate alternate groupings, e.g., "LIGHT RAIL" is contained in both "LOCAL TRANSIT" and "RAIL PASSENGER."

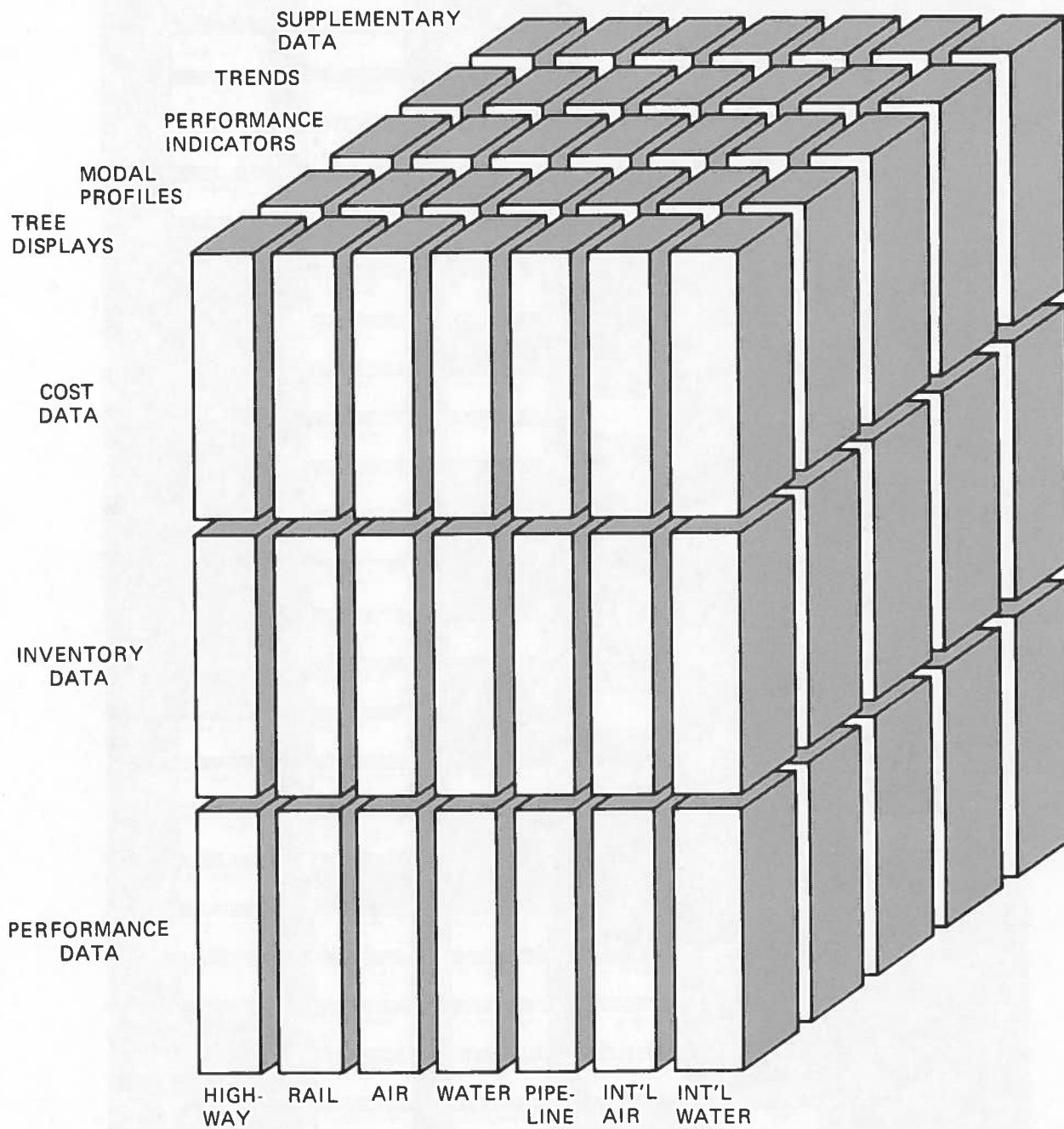
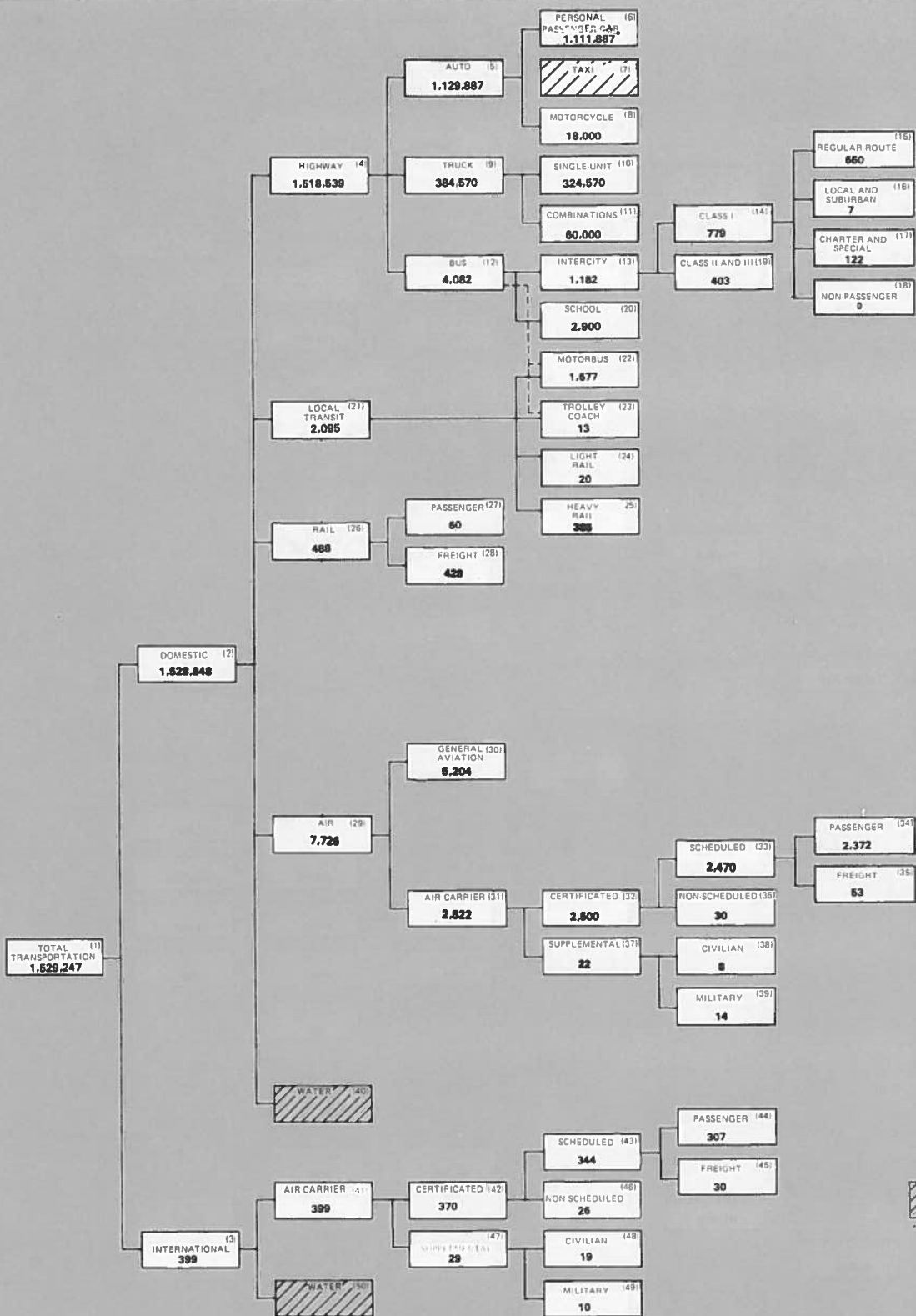


Figure 1. Organization of the Data

TREE DISPLAYS 1980

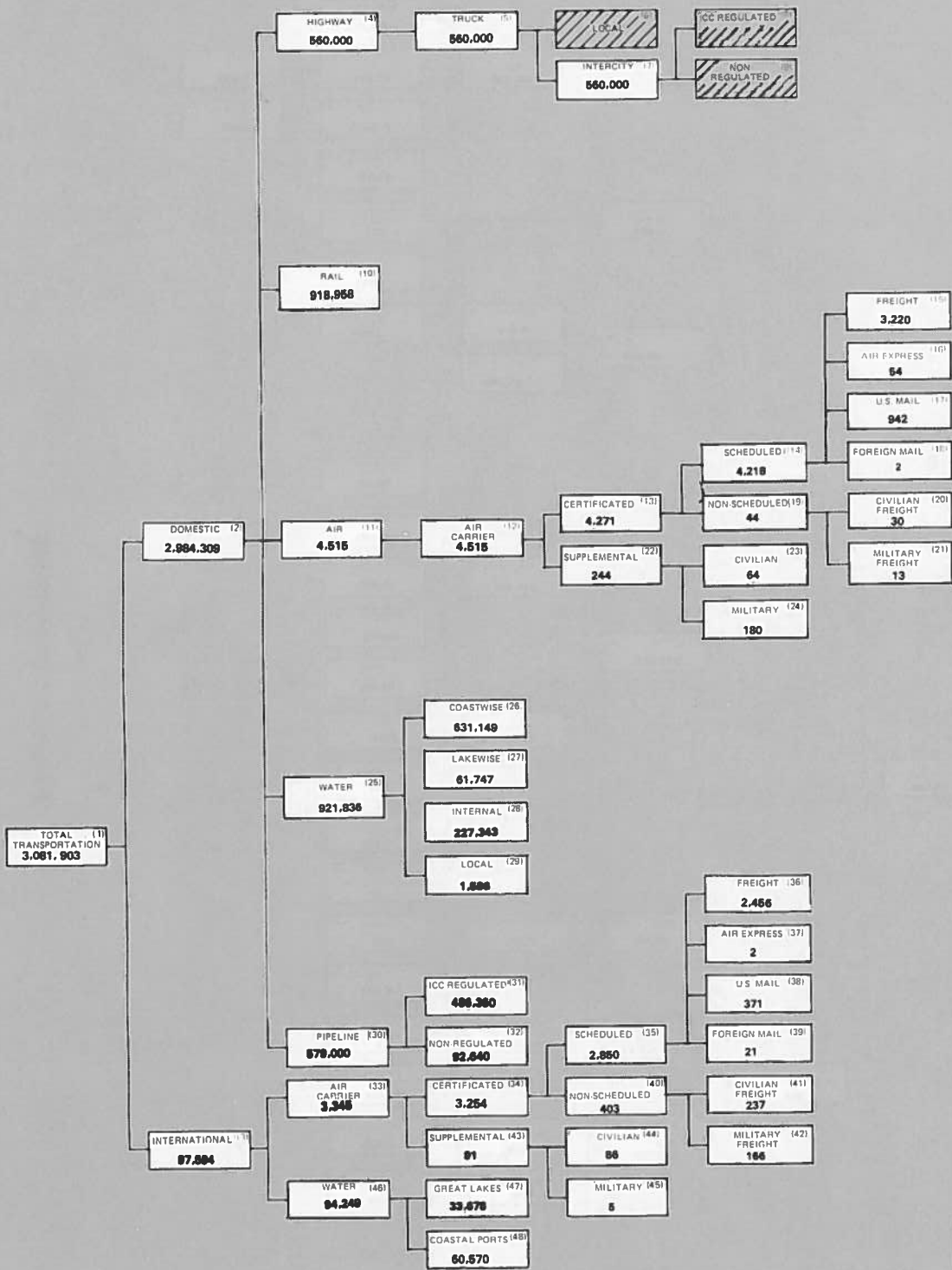


DATA NOT AVAILABLE

*INCLUDES TAXI

Source: See Appendix A, p. 146.

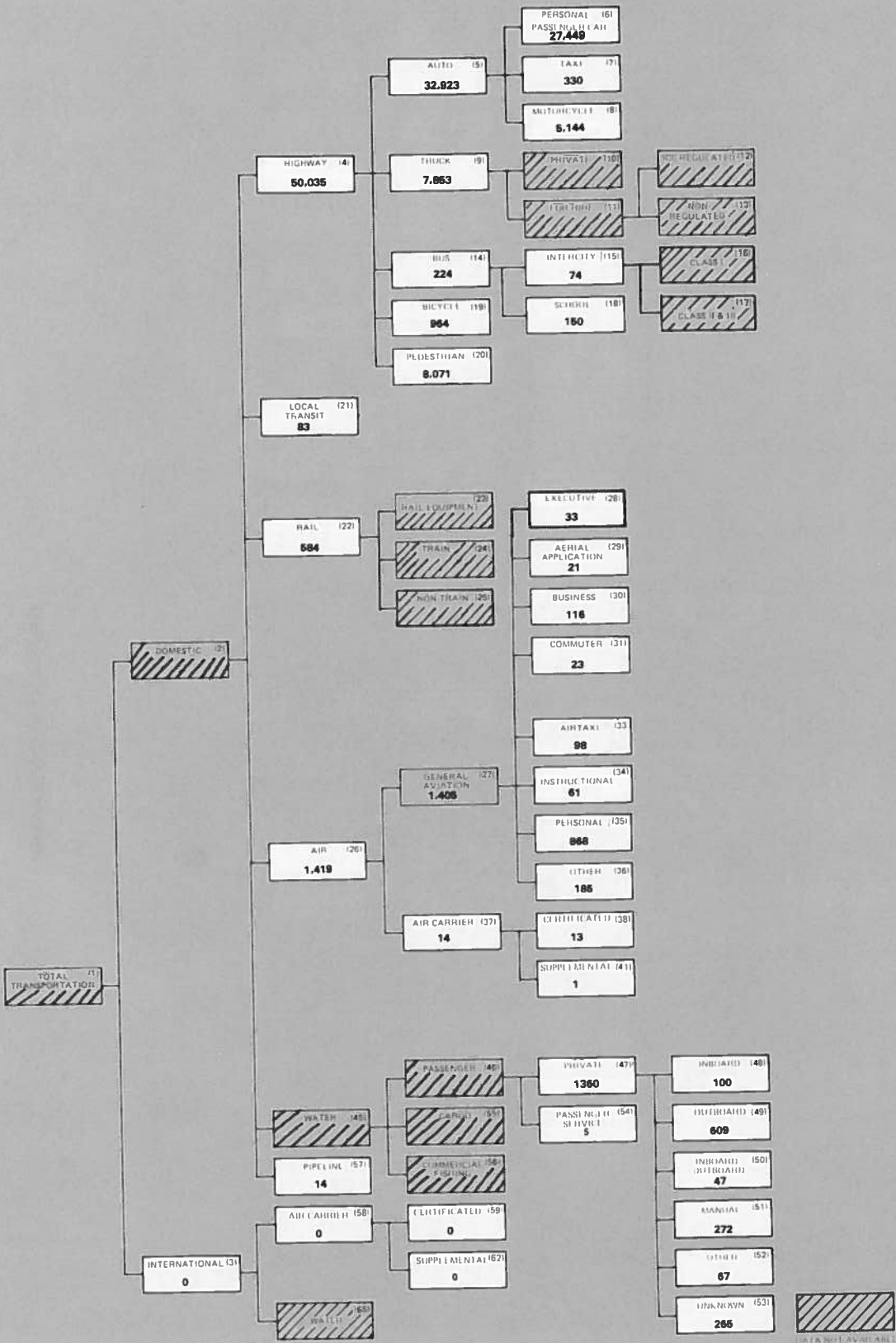
Figure 4. Vehicle-Miles (Millions) — 1980



DATA NOT AVAILABLE

Source: See Appendix A, p 150.

Figure 6. Cargo Ton-Miles (Millions) - 1980



Source: See Appendix A, p. 155.

Figure 8. Number of Fatalities - 1980

MODAL PROFILES 1970, 1979 and 1980

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.

Air Carrier Profile

For example:

<u>1979</u>	
11,041.0k	← reference letter k also applies to the two subsequent data elements
504.1	
11,545.1	
3,056.6m	← reference letter m 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 Percent Change 1979- 1980 column refers to the usual percent difference between 1979 data and 1980 data. The average annual percent change 1970- 1980 is equal to $C \times 100$, where C is obtained from the following relationship: $D^{80} = D^{70} (1 + C)^{10}$. (Note D^{70} and D^{80} refer to 1970 and 1980 data, respectively; C is the change; and the relationship is derived from the compound interest formula.)

AIR CARRIER PROFILE (Cont.)

	1970	1979	1980	1970-1980	
				Average Annual % Change	1979-1980 % Change
Aircraft Revenue-Hours (thousands)					
Domestic					
Certificated, all services	5,133.2n*	6,090.3q*	6,165.4q*	1.9	1.2
Scheduled service	5,035.2	5,991.1	6,088.9	1.9	1.6
Nonscheduled service	98.0	99.2	76.5	-2.5	-22.9
Supplemental	94.3h	71.8	69.9s	-3.0	-2.6
International					
Certificated, all services	977.3t*	788.6u*	693.0u*	-3.4	-12.1
Scheduled service	811.0	722.0	639.5	-2.4	-11.4
Nonscheduled service	166.3	66.6	53.5	-10.7	-19.7
Supplemental	122.9h	84.0s	66.4s	-6.0	-21.0
Total	6,327.7	7,034.7*	6,994.7*	1.0	-0.6
Revenue Passenger-Miles (Millions)					
Domestic					
Certificated, all services	108,442.0n*	212,701.0q	203,177.2q	6.5	-4.5
Scheduled service	104,146.8	208,890.9	200,086.6	6.8	-4.2
Nonscheduled service	4,295.2	3,810.1	3,090.6	-3.2	-18.9
Supplemental	1,056.8h	870.7s	432.7s	-8.5	-50.3
International					
Certificated, all services	39,695.4t*	57,017.9u	57,238.9u	3.7	0.4
Scheduled service	27,563.2	53,132.5	54,093.4	7.0	1.8
Nonscheduled service	12,132.2	3,885.4	3,145.4	-12.6	-19.0
Supplemental	9,232.0h	7,719.7s	5,663.9s	-4.8	-26.6
Total	158,426.2*	278,309.3*	266,572.6*	5.3	-4.2
Revenue Passenger Enplanements (millions)					
Domestic					
Certificated, all services	n/a	295.2q*	274.9q*	-	-6.9
Scheduled service	153.7n	292.7	272.8	5.9	-6.8
Nonscheduled service	n/a	2.5	2.1	-	-16.0
International					
Certificated, all services	n/a	25.4u*	24.9u*	-	-2.0
Scheduled service	16.3t	24.2	24.0	3.9	-0.8
Nonscheduled service	n/a	1.2	0.9	-	-25.0
Total	n/a	320.6*	299.8*	-	-6.5
Revenue Passenger Load Factor (%)					
Domestic					
Certificated scheduled service	48.9n	62.8q	58.0q	1.7	-7.6
International					
Certificated scheduled service	53.0t	63.8u	62.8u	1.7	-1.6
Total	49.7v	63.0w	59.0w	1.7	-6.4
Revenue Ton-Miles of Freight (millions)					
Domestic					
Certificated, all services	2,474.7n*	3,738.4q*	3,508.5q*	3.6	-6.1
Scheduled service	2,189.3	3,498.9*	3,264.1*	4.1	-6.7
Nonscheduled service	2,109.5	3,410.8	3,220.4	4.3	-5.6
Supplemental	79.8	88.1*	43.7*	-5.8	-50.4
Scheduled service	285.4h	239.5s	244.4s	-1.5	2.1
International					
Certificated, all services	1,672.1t*	2,892.0u*	2,950.4u*	5.8	2.0
Scheduled service	1,566.1	2,800.1*	2,859.2*	6.2	2.1
Nonscheduled service	1,298.1	2,496.9	2,456.2	6.6	-1.6
Supplemental	268.0	303.2*	403.0*	4.2	32.9
Scheduled service	106.0h	91.9s	91.2s	-1.5	-0.8
Total	4,146.8*	6,630.4*	6,458.9*	4.5	-2.6

GENERAL AVIATION PROFILE

1970- 1980
Average
Annual 1979- 1980
% Change % Change

	<u>1970</u>	<u>1979</u>	<u>1980</u>		
I. FINANCIAL					
Expenditures (\$ millions)					
Total	2,629a	6,836 ^r a	7,619a	11.2	11.5
Aircraft	354	2,085	2,306	20.6	10.6
Operating Costs	2,275	4,751 ^r	5,313	8.9	11.8
II. INVENTORY					
Number of Active Aircraft					
Business	n/a	49,658h	49,391h	-	-0.5
Commercial	n/a	28,664	27,680	-	-3.4
Instructional	n/a	15,456	14,862	-	-3.8
Personal	n/a	94,427	96,222	-	1.9
Other	n/a	22,134	22,889	-	3.4
Total	131,743c	210,339	211,045	4.8	0.3
III. PERFORMANCE					
Number of Miles Flown (millions)					
Total	3,207.1m	5,470.5m	5,203.8m	5.0	-4.9
Number of Hours Flown (millions)					
Personal	6.9e	9.5j	8.9j	2.6	-6.3
Business	7.2	9.0	8.4	1.6	-6.7
Air Taxi	n/a	4.6	4.5	-	-2.2
Instructional	6.8	6.5	5.7	-1.8	-12.3
Executive	n/a	5.0	5.3	-	6.0
Rental	n/a	4.2	3.9	-	-7.1
Industrial Special	n/a	1.1	1.1	-	0.0
Aerial Application	n/a	2.4	2.0	-	-16.7
Other	0.6	1.1	1.0	5.2	-9.1
Total	26.0	43.3	41.0	4.7	-5.3
Number of Fatalities					
Instructional	93f	81n	61n	-4.1	-24.7
Personal	726	820	868	1.8	5.9
Business	148	169	116	-2.4	-31.4
Executive	28	27	33	1.7	22.2
Aerial Application	41	29	21	-6.5	-27.6
Air Taxi	100	70	98	-0.2	40.0
Commuter	n/a	43	23	-	-46.5
Other	174	120	185	0.6	54.2
Total	1,310	1,359	1,405	0.7	3.4
Accidents					
Fatal	641b	682b	677b	0.6	-0.7
Total	4,712	4,051	3,799	-2.1	-6.2
Accident Rate per 100,000 Aircraft Hours Flown					
Fatal	2.5	1.6	1.6	-4.4	0.0
Total	18.1	9.3	9.2	-6.5	-1.1
Accident Rate per Million Aircraft Miles Flown					
Fatal	0.2m	0.1m	0.1m	-6.7	0.0
Total	1.5	0.7	0.7	-7.3	0.0

n/a = not available, r = revised

The following date references are listed in Appendix A, p. 174.

<u>Source</u>	<u>Reference Number/Location</u>	<u>Source</u>	<u>Reference Number/Location</u>	<u>Source</u>	<u>Reference Number/Location</u>
a	27) p. 5	e	44) Table 9.9	j	45) Table 2-4
b	54) Charts 17/18/19	f	23) Personal communication	k	45) Table 2-9
c	44) Tables 8.3/8.6	g	54) Charts 25/26/27/28	m	24) Table 13
d	44) Table 8.2	h	45) Table 2-9	n	46) Personal communication

AUTOMOBILE PROFILE

	<u>1970</u>	<u>1979</u>	<u>1980</u>	1970-1980	
				Average	1979-1980
				% Change	% Change
I. FINANCIAL					
Expenditures (\$ millions)					
New and used cars	32,668a*	78,593b*	70,752b*	8.0	-10.0
Tires, tubes, accessories and parts	5,396	16,860	19,178	13.5	13.8
Gasoline and oil	29,329	68,371	89,018	11.7	30.2
Tolls	756	982	946	2.3	-3.7
Insurance premiums less claims paid	4,335	8,782	10,019	8.7	14.1
Auto registration fees	1,668c	2,796c	2,892c	5.7	3.4
Driver's license fees	222	332	370	5.2	11.4
Repair, greasing, washing, parking, storage, rental	13,233a	32,186b	34,371b	10.0	6.8
Total	92,270	208,902*	228,446*	9.5	9.4
Expenditures (\$ millions)					
Taxi	1,411	2,453	2,822	7.2	15.0
II. INVENTORY					
Number of Vehicle Registrations					
Passenger cars and taxis	89,243,557e	119,435,556f	120,865,799f	3.1	1.2
Motorcycles	2,824,098d	5,473,078	5,694,353	7.3	4.0
Motor Vehicle Licensed					
Drivers (thousands)	111,543s	143,284t	145,299t	2.7	1.4
Number of Employees					
Taxis	106,400g	64,400i	58,500i	-5.8	-9.2
III. PERFORMANCE					
Vehicle-Miles (millions) ¹					
Urban Streets	494,543j	684,396j	670,681j	3.1	-2.0
Main rural roads	307,047	405,704	390,081	2.4	-3.9
Local rural roads	99,402	72,428	69,125	-3.6	-4.6
Total travel	900,992	1,162,528	1,129,887	2.3	-2.8
Vehicle-Miles (millions)					
Motorcycles	10,148	22,010	18,000	5.9	-18.2
Passenger car and taxis	890,844	1,140,518	1,111,887	2.2	-0.6
Total	900,792	1,162,528	1,129,887	2.3	-2.5
Passenger-Miles (millions)					
Total travel, passenger cars and taxis ²	1,959,857	2,623,191	2,557,340	2.7	-2.5
Total travel, motorcycles ³	11,163	24,211	19,800	5.9	-18.2
Average Miles Travelled per Vehicle					
Motorcycles	3,605	4,000	3,144	-1.4	-21.4
Passenger cars and taxis	9,978	9,485	9,135	-0.9	-3.7
Total	9,783	9,245	8,865	-1.0	-4.1
Number of Vehicles in All					
Accidents					
Motorcycles	n/a	450,000n	510,000n	-	13.3
Passenger cars	n/a	22,900,000	22,800,000	-	-0.4
Taxis	n/a	220,000	230,000	-	4.5
Number of Vehicles in Fatal					
Accidents					
Motorcycles	n/a	4,916h	5,194h	-	5.7
Passenger cars	n/a	39,999	39,059	-	-2.4
Taxis	n/a	400n	500n	-	25.0

BUS PROFILE

	1970	1979	1980	1970- 1980	
				Average Annual % Change	1979- 1980 % Change
I. FINANCIAL					
Expenditures (\$ millions)					
School bus	1,219a	3,196 ^r a	3,484a	11.1	9.0
Operating Revenues (\$ millions)					
Intercity bus, total	901.4 ^r b	1,654.8 ^r b	1,946.5 ^p b	8.0	17.6
Intercity bus, Class I*	721.7	1,205.2	1,393.9 ^p	6.8	15.7
Operating Expenses (\$ millions)					
Intercity bus, total	812.2	1,564.6 ^r	1,813.0 ^p	8.4	15.9
Intercity bus, Class I*	639.0	1,147.0	1,312.8 ^p	7.5	14.5
Taxes Assignable to Operations (\$ millions) ¹					
Intercity bus, total	76.7	101.2 ^r	112.6 ^p	3.9	11.3
Intercity bus, Class I*	60.3	75.2	82.8 ^p	3.2	10.1
II. INVENTORY					
Number of Operating Companies					
Intercity bus, total	1,000	1,200 ^r	1,330	2.9	10.8
Intercity bus, Class I*	71	46	46	-4.3	0.0
Number of Vehicles					
Intercity bus, total	22,000	20,680 ^r	21,900 ^p	-0.1	5.9
School bus	288,750d	411,313d	418,225d	3.8	1.7
Intercity bus, Class I*	10,158b	8,330 ^r b	8,400b	-1.9	0.8
Number of Employees of Operating Companies					
Intercity bus, total	49,500	47,000 ^r	49,600 ^p	0.0	5.5
Intercity bus, Class I*	34,383	29,978	31,190	1.0	4.0
Miles of Highway Served					
Intercity bus, total	267,000	280,000	280,000 ^p	0.5	0.0
Intercity bus, Class I*	194,000	195,000	194,000	0.0	-0.5
III. PERFORMANCE					
Vehicle Miles (millions)					
Commercial bus ²					
Urban streets	1,810g	1,935g	2,235g	2.1	15.5
Main rural roads	939	1,100	1,175	2.3	6.8
Local rural roads	194	90	90	-7.4	0.0
Total travel	2,943	3,125	3,500	1.8	12.0
School and nonrevenue bus					
Urban streets	414	923	865	7.7	-6.3
Main rural roads	784	1,411 ¹	1,425	6.2	1.0
Local rural roads	962	646	610	-4.5	-5.6
Total travel	2,160	2,980	2,900	3.0	-2.7
All buses					
Urban streets	2,224	2,858	3,100	3.4	8.5
Main rural roads	1,723	2,511	2,600 ¹	4.2	3.5
Local rural roads	1,096	736	700	-4.4	-4.9
Total travel	5,043	6,105	6,400	2.4	4.8
Revenue Passenger-Miles (millions)					
Intercity bus, total	25,300b	27,200b	27,700 ^p b	0.9	1.8
Intercity bus, Class I*	17,900	17,300	17,300	-0.3	0.0
Number of Revenue Passengers (millions)					
Intercity bus, total	401	359 ^r	373 ^p	-0.7	3.9
Intercity bus, Class I*	174	133.0	134.2 ^p	-2.6	0.9

TRUCK PROFILE

	1970	1979	1980	1970- 1980	
				Average Annual % Change	1979- 1980 % Change
I. FINANCIAL					
Revenues (\$ millions)					
Local	28,819a	52,281 ^r a	58,155a	7.3	11.2
Intercity					
ICC-regulated	14,585	41,200	43,000	11.4	4.4
Non-ICC-regulated	18,968	48,963	47,384	9.6	-3.2
Operating Revenues of Class I					
Intercity Motor Carriers (millions)					
Freight, intercity, common carriers	10,147b	26,638c	26,691 ^p c	10.2	0.2
Freight, intercity, contract carriers	332	939	1,139 ^p	13.1	21.3
Freight, local cartage	458	337	340 ^p	-2.9	0.9
Trans. for other Classes I and II carriers	91	246	187 ^p	7.5	-24.0
Others	108	1,698	1,981 ^p	33.8	16.7
Total	11,137	29,858	30,338 ^p	10.5	1.6
Operating Expenses of Class I					
Intercity Motor Carriers (\$ millions)					
	10,763d	28,788	29,012 ^p	10.4	0.8
II. INVENTORY					
Number of Truck Registrations					
Private and commercial	17,789,980e	31,991,750e	32,238,223e	6.1	0.8
Federal	142,498f	213,295f	209,101f	3.9	-2.0
State, county, municipal	815,943	1,144,697	1,189,917	3.9	4.0
Total	18,748,421e	33,349,742e	33,637,241e	6.0	0.9
Total Number of Employees					
Trucking and Trucking Terminals	998,500i	1,248,800 ^r j	1,186,500j	1.7	-5.0
Number of Companies, Class I					
Intercity Carriers of Property	1,376b	872c	835c	-4.9	-4.2
Number of Employees, Class I					
Intercity Carriers of Property	500,445d	554,811	471,458 ^p	-0.6	-15.0
III. PERFORMANCE					
Vehicle-Miles (millions)					
Urban streets	80,606k	171,800k	173,350k	8.0	0.9
Main rural roads	103,823	176,750*	197,270*	6.8	11.6
Local rural roads	30,241	11,950	13,950	-7.4	16.7
Total travel	214,670	360,500	384,570	6.0	6.7
Average Miles Travelled per Vehicle					
Single-unit trucks	9,807	9,184	10,070	0.3	9.6
Combination trucks	41,903	49,664	42,705	0.2	-14.0
All trucks	11,450	10,810	11,433	0.0	5.8
Ton-Miles (millions)					
Intercity	412,000n	608,000 ^r n	560,000n	3.1	-7.9
Taxes Assignable to Operations (\$ millions)					
State highway-user taxes	3,429u	6,617u	6,731u	7.0	1.7
Federal highway-user taxes	2,202	3,532	3,157	3.7	-10.6
Total highway-user taxes	5,632	10,149	9,888	5.8	-2.6
Average Length of Haul (miles)					
Class I Intercity motor carriers					
Common	263s	n/a	n/a	-	-

LOCAL TRANSIT PROFILE

	1970	1979	1980	1970- 1980	
				Average Annual % Change	1979- 1980 % Change
I. FINANCIAL					
Passenger Revenue (\$ millions)					
Motorbus	1,193.6a	1,713.8 ^r a	1,791.1a	4.2	4.5
Subway and elevated - heavy rail	368.5	675.9 ^r	717.4	6.9	6.1
Surface rail - light rail	46.6	27.9	30.7	-4.1	10.0
Trolley coach	30.4	15.7 ^r	26.0	-1.6	65.6
Total +	1,639.1	2,436.3 ^r	2,568.2 ^p	4.6	5.4
Operating Revenue (\$ millions)					
Motorbus	1,236.3c	1,781.8 ^r c	1,898.9c	4.4	6.6
Subway and elevated - heavy rail	384.4	694.6 ^r	735.3	6.7	5.9
Surface rail - light rail	55.2	28.9	31.8	-5.4	10.0
Trolley coach	31.5	15.9 ^r	26.5	-1.7	66.7
Total +	1,707.4	2,524.2 ^r	2,695.6 ^p	4.7	6.8
II. INVENTORY					
Number of Systems					
Motorbus	n/a	1,024b	1,022b	-	-0.2
Heavy rail only	n/a	11	11	-	0.0
Light rail only	n/a	9	9	-	0.0
Other*	n/a	13	13	-	0.0
Total	n/a	1,057	1,055	-	-0.2
Number of Vehicles					
Motorbus	49,700d	54,490d	59,411d	1.8	9.0
Subway and elevated - heavy rail	9,338	9,522	9,693	0.4	1.8
Surface rail - light rail	1,262	959	1,013	-2.2	5.6
Trolley coach	1,050	725 ^r	823	-2.4	13.5
Total +	61,350	65,696	70,983 ^p	1.5	8.0
Number of Employees					
Motorbus, surface rail, trolley coach, subway and elevated	138,040e	177,000 ^r e	184,700 ^p e	3.0	4.4
III. PERFORMANCE					
Revenue Vehicle-Miles (millions)					
Motorbus	1,409.3f	1,633.6 ^r f	1,677.2f	1.8	2.7
Subway and elevated - heavy rail	407.1	380.5	384.7	-0.6	1.1
Surface rail - light rail	33.7	19.1	19.5	5.3	2.1
Trolley coach	33.0	11.7	13.0	-8.9	11.1
Total +	1,833.1	2,045.5 ^r	2,095.0 ^p	1.1	2.4
Revenue Passengers Carried ** (millions)					
Motorbus	4,058g	4,746 ^r g	4,774g	1.6	0.6
Subway and elevated - heavy rail	1,574	1,474	1,420	-1.0	-3.7
Surface rail - light rail	172	83	81	-7.3	-2.4
Trolley coach	128	45	71	-5.7	57.8
Total +	5,932	6,370	6,358 ^p	0.7	-0.2

+Includes cable car and inclined plane beginning in 1975.

r = revised

p = preliminary

n/a = not available

*Other includes combined systems (heavy, light, trolley, etc.) urban ferry, commuter railroads, etc.

** 1970 data is "Revenue Passenger Rides," 1979 & 1980 are "Linked Transit Passenger Trips."

Source: The following data references are listed in Appendix A, p. 174.

Source	References		Source	References	
	Number/Location			Number/Location	
a	4) Table 8		e	4) Table 18	
b	4) Table 1		f	4) Table 13	
c	4) Table 7		g	4) Table 11	
d	4) Table 15				

WATER TRANSPORT PROFILE

	1970	1979	1980	1970- 1980	
				Average Annual % Change	1979- 1980 % Change
Number of Employees					
Maritime carriers	14,848b	8,192c	n/a	-	-
Class A and B carriers by inland and coastal waterways	8,324	7,219	n/a	-	-
Mileage of Commercially Navigable Inland Waterways	25,543v	25,543v	25,543v	0.0	0.0
Number of Vessels					
Total non-self-propelled	n/a	29,492m	31,662m	-	7.4
Dry cargo barges and scows	n/a	25,420	27,426	-	7.9
Tank barges	n/a	4,000	4,166	-	4.2
Railroad car floats	n/a	72	70	-	-2.9
Total self-propelled	n/a	6,772	7,130	-	5.3
Dry cargo/passenger	n/a	1,920	2,036	-	6.0
Ferries, railroad car	n/a	37	67	-	81.1
Tankers	n/a	319	330	-	3.4
Towboats/tugs	n/a	4,492	4,693	-	4.5
Sailing vessels	n/a	4	4	-	0.0
U.S. Merchant Marine (over 1,000 gross tons)					
Total U.S. Flag	1,579w	865w	864w	-5.9	-0.1
Passenger/cargo	n/a	68	65	-	-4.4
Freighters	n/a	325	310	-	-4.6
Bulk carriers	n/a	18	17	-	-5.6
Tankers	n/a	291	289	-	-0.7
Intermodal	n/a	144	161	-	11.8
Tug/barge	n/a	8	9	-	12.5
LNG	n/a	11	13	-	18.2
Privately Owned	793	569	578	-	1.6
Government Owned	786	296	286	-	-3.4
Number of Recreational Boats (millions)	7.4n	13.9n	14.3n	6.8	2.9
III. PERFORMANCE					
Ton-Miles (millions)					
Domestic waterfreight					
Coastwise	359,784j	532,290j	631,149m	5.8	18.6
Internal	155,816	217,090	227,343	3.9	4.7
Lakewise	79,416	77,970	61,747	-2.5	-20.8
Local	1,179	1,410	1,596	3.1	13.2
Total	596,195	828,760	921,836	4.5	11.2
Tons of Freight Hauled (millions)					
Domestic water					
Coastwise	238j	305j	330m	3.3	8.2
Internal	472	535	535	1.3	0.0
Lakewise	157	144	115	-3.1	-20.1
Local	81	93	94	1.5	1.1
Total	948	1,077	1,074	1.3	-0.3
Exports					
Great Lakes ports	361*	49i*	45i*	2.3	-8.2
Coastal ports	206	311	359	5.7	15.4
Total	242	360	404	5.3	12.2
Imports					
Great Lakes	26	25*	16*	-4.7	-36.0
Coastal ports	313	607	502	4.8	-17.3
Total	339	632	518	4.3	-18.0
Tons of Freight, Intraterritorial (millions)	1.5	4.0	3.6	9.2	-10.0

WATER TRANSPORT PROFILE (Cont.)

	<u>1970</u>	<u>1979</u>	<u>1980</u>	1970- 1980	
				Average Annual % Change	1979- 1980 % Change
Number of Fatalities in Recreational Boating					
Inboard	119x*	109y*	100y*	-1.7	-8.3
Outboard	774	660	609	-2.4	-7.7
Inboard/outboard.....	28	65	47	5.3	-27.7
Jet	n/a	9	10	-	11.1
Sail	n/a	29	43	-	48.3
Manual (oars and paddle)	n/a	240	272	-	13.3
Other.....	278	55	14	-25.8	-74.5
Propulsion Unknown	219	233	265	1.9	13.7
Total	1,418	1,400	1,360	-0.4	-2.9

¹Revenues paid by American travelers to U.S. and foreign flag carriers.

²Does not include Great Lakes and coastal harbors.

³Privately owned vessels with a passenger capacity greater than 125.

⁴Casualties to commercial vessels under USCG jurisdiction.

⁵Fatalities/injuries are on a fiscal year basis due to vessel casualties.

+This data is also included in the Domestic Coastwise figure above.

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

p = preliminary, r = revised, n/a = not available.

Source: The following data references are listed in Appendix A, p. 174.

<u>Source</u>	<u>Reference Number/Location</u>
a	27) pp. 2, 5
b	18) pp. 137, 138
c	19) Table 10, 11, pp. 128, 129
d	37) p. 6
e	33) Personal communication
g	43) p. 60
h	8) Tables, 6, 7, 8, 9,
i	30) Part 5, Sec. 1. Table 1A/1B
j	30) Part 5, Sec. 3. Table 1
k	33) p. 230
m	30) Personal communication
n	54) p. 46
q	33) p. 169
s	42) p. 63
t	54) Chart 20
u	33) p. 232
v	7) pp. 1, 2, 3
w	51) Personal communication
x	31) p. 41
y	32) p. 21
z	43) p. 133/253

RAIL PROFILE

A. CLASS I RAILROADS (Cont.)

	<u>1970</u>	<u>1979</u>	<u>1980</u>	1970-1980	
				Average Annual % Change	1979-1980 % Change
Average Passenger Trip Length, Class I Railroads (miles)					
Commutation ¹	22.3q	23.5q	23.6q	0.6	0.4
Other than Commutation	79.3	71.2	69.2	-1.4	-2.8
Average Passenger Load Factor, Class I Railroads	36.7s	53.1s	n/a	-	-
Revenue Ton-Miles, Class I Railroads (millions)					
Freight	764,809.0j	902,058.5j	918,958.1t	1.9	1.9
Average Haul, Class I Railroads (miles)					
Freight	292.4	371.1	337.5j	1.4	-9.1
Number of Fatalities, Railroads and Grade Crossings					
Passengers on trains	n/a	6k	4k	-	-33.3
Employees on duty	n/a	101	97	-	-4.0
Employees not on duty	n/a	1	4	-	300.0
Contractor employees	n/a	9	7	-	-22.2
Trespassers	n/a	516	566	-	9.7
Non-Trespassers	n/a	796	739	-	-7.2
Total Railroad and Grade Crossing	2,225m	1,429	1,417	-4.4	-0.8
Grade Crossing only	1,440	883	833	-5.3	-5.7
Railroad only	785	546	584	-2.9	7.0

+Amtrak figures subtracted from data given in source reference. As of 1978 Auto-Train is no longer Class I.

*Figure obtained by addition and may not appear directly in data source.

¹Includes Amtrak and Auto-Train.

²Operating expenses include equipment, joint facility rents, leased roads and equipment, and all taxes except Federal income.

Source: The following data references are listed in Appendix A, p. 174.

<u>Source</u>	<u>Reference Number/Location</u>	<u>Source</u>	<u>Reference Number/Location</u>
a	9) pp. 8, 18	m	54) Chart 7
b	9) p. 1	n	10) pp. 3, 4, 5
c	9) p. 10	q	9) p. 8
d	9) p. 11	s	26) p. 15
e	9) p. 9	t	11) p. 6
f	10) Preface	u	11) p. 7
g	9) p. 5	v	10) p. 9/10
h	10) p. 46	w	9) Personal communication
i	9) p. 12	x	11) p. 1/2
j	9) p. 6	y	11) p. 37
k	54) Table 10	z	11) p. 8
		aa	10) p. 13

OIL PIPELINE PROFILE

	<u>1970</u>	<u>1979</u>	<u>1980</u>	1970- 1980	
				Average Annual % Change	1979- 1980 % Change
I. FINANCIAL					
Operating Revenues (\$ millions)					
ICC-regulated.....	1,188a	5,585 ^r a	6,141a	17.9	10.0
Non-regulated	208	621	682	12.6	9.8
Total	1,396	6,206	6,823	17.2	9.9
Operating Expenses (\$ millions)					
ICC-regulated.....	672b	n/a	n/a	-	-
II. INVENTORY					
Number of ICC-regulated Companies	101	123t	128t	2.4	4.1
Number of Employees ICC-regulated Companies	15,017	20,100 ^r k	21,400k	3.6	6.5
Miles ICC-regulated pipeline	n/a	169,794j	169,349j	-	-0.3
Total mileage ¹	218,671f	234,480f	n/a	-	-
III. PERFORMANCE					
Intercity Ton-Miles (millions)					
ICC-regulated.....	366,800g	510,500m	n/a	-	-
Non-regulated	64,200*	97,800*	n/a	-	-
Total	431,000	608,300e	579,000c	3.0	-4.8
Tons Transported (millions) ²					
Crude petroleum ³	n/a	441h*	415h*	-	-5.9
Petroleum products (delivered from lines).....	n/a	542i*	508i*	-	-6.3
Total	n/a	983	923	-	-6.1
Average Length of Haul (statute miles)					
Crude petroleum	300d	n/a	n/a	-	-
Petroleum products	357	n/a	n/a	-	-

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

¹Regulated plus unregulated mileage of crude oil trunk and gathering lines, plus refined oil trunk lines.

²Data has been converted from barrels to short tons per Table 2, Section XV, Basic Petroleum Data Book, American Petroleum Institute.

³Excludes crude oil imported for direct burning for fuel use by pipeline.

n/a = not available, r = revised

Source: The following data references are listed in Appendix A, p. 174.

<u>Source</u>	<u>Reference Number/Location</u>	<u>Source</u>	<u>Reference Number/Location</u>
a	27) p. 2	h	39) Table 13
b	18) p. 140	i	39) Table 28
c	27) p. 3	j	25) p. 101
d	26) p. 14	k	43) p. 253
e	12) Personal communication	m	6) p. 36
f	28) p. 13	t	41) Personal communication
g	18) pp. 132, 133		

SELECTED PASSENGER AND CARGO PERFORMANCE INDICATORS BY MODE 1970, 1979 and 1980

Mode	1970	1979	1980
AIR CARRIER			
Passenger miles	1,000,000,000	1,500,000,000	1,800,000,000
Freight ton miles	100,000,000	150,000,000	180,000,000
Passenger load factor (%)	75	78	80
Freight load factor (%)	65	68	70
On-time delivery (%)	95	96	97
Incidents per million passenger miles	0.5	0.4	0.3
Incidents per million freight ton miles	0.8	0.7	0.6
Cost per passenger mile	\$0.15	\$0.12	\$0.10
Cost per freight ton mile	\$0.20	\$0.18	\$0.16
GENERAL AVIATION			
Passenger miles	500,000,000	600,000,000	700,000,000
Freight ton miles	50,000,000	60,000,000	70,000,000
Passenger load factor (%)	80	82	85
Freight load factor (%)	70	72	75
On-time delivery (%)	90	92	95
Incidents per million passenger miles	0.6	0.5	0.4
Incidents per million freight ton miles	1.0	0.9	0.8
Cost per passenger mile	\$0.25	\$0.22	\$0.20
Cost per freight ton mile	\$0.30	\$0.28	\$0.26
STATIONARY			
Passenger miles	100,000,000	120,000,000	140,000,000
Freight ton miles	10,000,000	12,000,000	14,000,000
Passenger load factor (%)	90	92	95
Freight load factor (%)	85	88	90
On-time delivery (%)	98	99	100
Incidents per million passenger miles	0.2	0.2	0.2
Incidents per million freight ton miles	0.3	0.3	0.3
Cost per passenger mile	\$0.10	\$0.09	\$0.08
Cost per freight ton mile	\$0.12	\$0.11	\$0.10

**SELECTED PASSENGER AND CARGO PERFORMANCE
INDICATORS BY MODE, 1970, 1979 AND 1980 (Cont.)**

	<u>1970</u>	<u>1979</u>	<u>1980</u>
AUTOMOBILE (Cont.)			
Passenger-miles per capita			
Passenger cars and taxis, total travel	9,640.1	11,455.7	11,290.4
Motorcycles, total travel	54.9	107.8	87.4
Vehicle-miles of travel per vehicle, passenger cars, taxis			
Urban streets	5,541.5	5,730.3	5,549.0
Main rural roads	3,440.6	3,396.8	3,227.4
Local rural roads	1,113.8	606.4	571.9
Total travel	10,095.8	9,733.5	9,348.3
Passenger-miles per vehicle			
Passenger cars and taxis	21,960.8	21,539.4	21,158.5
Motorcycles	3,952.8	4,423.7	3,477.1
BUS			
U.S. population per intercity bus	9,241.0	10,859.1	10,342.7
Vehicle-miles per capita			
commercial buses	14.5	13.9	15.5
School and non-revenue buses	10.6	13.3	12.8
All buses	24.7	27.2	28.3
Vehicle-miles per capita, all buses			
Urban Streets	10.9	12.7	13.7
Main rural roads	8.5	11.2	11.5
Local rural roads	5.4	3.3	3.1
Total travel	24.8	27.2	28.3
Revenue passenger-miles per capita			
Total intercity bus	124.4	121.1	122.3
Revenue passenger-miles per vehicle			
Total intercity bus (millions)	1.2	1.3	1.3
TRUCK			
Vehicle-miles per capita, all trucks			
Urban streets	396.5	765.0	765.3
Main rural roads	510.7	787.0	870.9
Local rural roads	148.7	53.2	61.6
Total travel	1,055.9	1,605.3	1,697.8
Vehicle-miles per truck registration			
Urban streets	4,299.3	5,151.5	5,153.5
Main rural roads	5,537.8	5,299.9	5,864.6
Local rural roads	1,613.0	358.3	114.7
Total travel	11,540.0	10,809.7	11,429.9
Intercity ton-miles per capita	2,026.5	2,707.4	2,472.4

**SELECTED PASSENGER AND CARGO PERFORMANCE
INDICATORS BY MODE, 1970, 1979 AND 1980 (Cont.)**

	<u>1970</u>	<u>1979</u>	<u>1980</u>
OIL PIPELINE			
Intercity ton-miles per mile of line (millions)	2,120.0	2,708.8	n/a
Tons of petroleum transported per capita	n/a	4.4	n/a
GAS PIPELINE			
Cubic feet of gas consumed per capita (thousands)	-	90.1	87.8
Cubic feet of gas consumed per mile of transmission pipeline (millions)	-	76.8	75.8
Cubic feet of gas produced per capita (thousands)	-	91.1	87.8
Cubic feet of gas produced per mile of transmission pipeline (millions)	-	77.7	75.8
Operation expense per mile of transmission pipeline	16,233.1	94,584.4	137,414.2
Maintenance expense per mile of transmission pipeline	536.1	1,275.1	1,544.6

n/a = not available

Source: Per capita figures were based on 1970, 1979 and 1980 total resident populations of 203,806,000; 224,567,000; and 226,505,000, respectively (excluding Armed Forces abroad). Data was obtained from the Statistical Abstract of the United States 1981, Table 8, p. 9.

All other figures were taken directly from the "Modal Profiles" section of this book.

TRANSPORTATION TRENDS 1970 - 1980

Category	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Trucks	1,150	1,160	1,170	1,180	1,190	1,200	1,210	1,220	1,230	1,240	1,250
Tractors	400	410	420	430	440	450	460	470	480	490	500
Trailers	350	360	370	380	390	400	410	420	430	440	450
Other	1,200	1,250	1,300	1,350	1,400	1,450	1,500	1,550	1,600	1,650	1,700
Motorcycles	150	160	170	180	190	200	210	220	230	240	250
Other	1,000	1,050	1,100	1,150	1,200	1,250	1,300	1,350	1,400	1,450	1,500
Trucks	1,300	1,350	1,400	1,450	1,500	1,550	1,600	1,650	1,700	1,750	1,800
Tractors	450	460	470	480	490	500	510	520	530	540	550
Trailers	400	410	420	430	440	450	460	470	480	490	500
Other	1,450	1,500	1,550	1,600	1,650	1,700	1,750	1,800	1,850	1,900	1,950
Motorcycles	160	170	180	190	200	210	220	230	240	250	260
Other	1,100	1,150	1,200	1,250	1,300	1,350	1,400	1,450	1,500	1,550	1,600
Total	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800

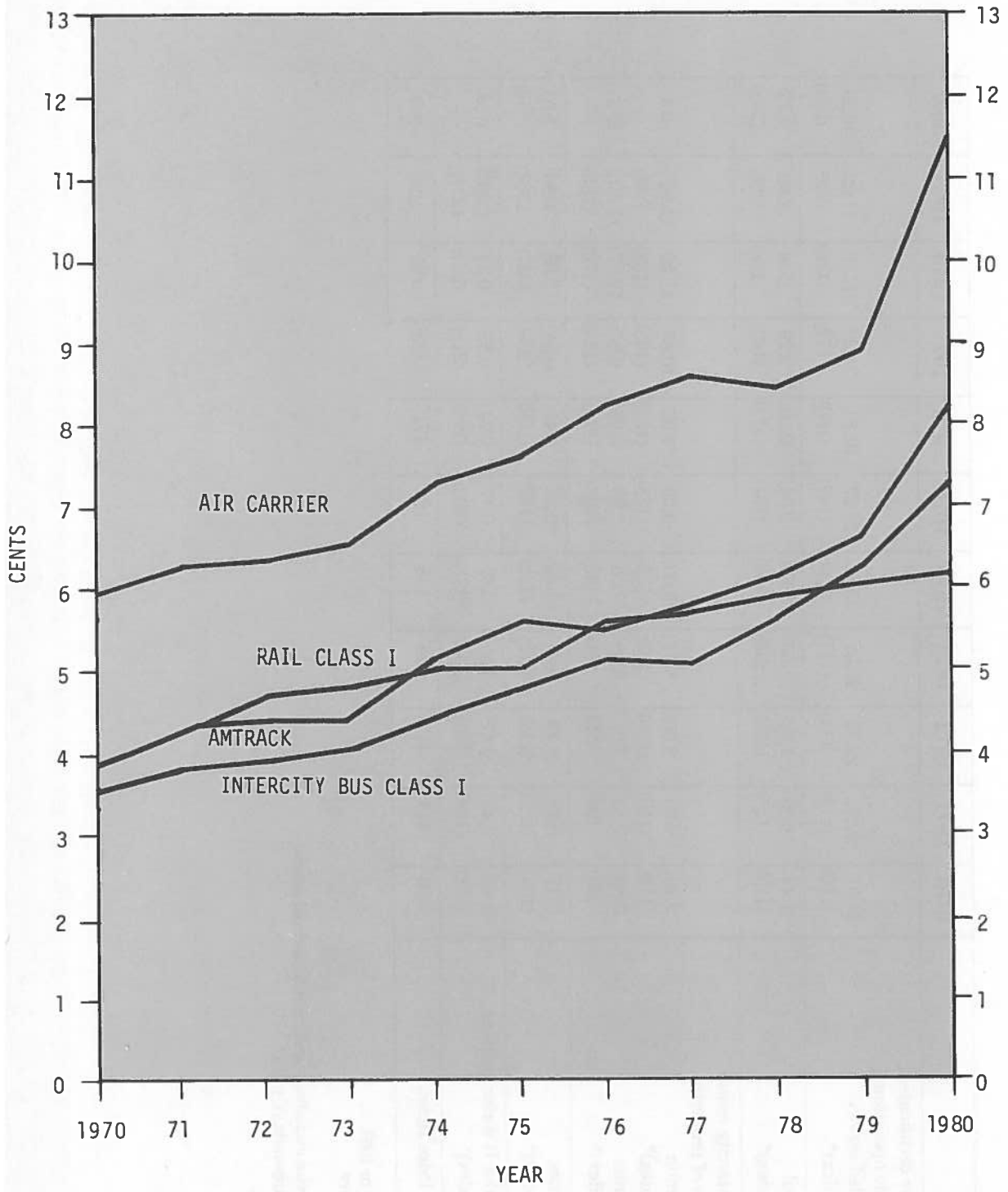


Figure 10. Average Passenger Revenue per Passenger-Mile, 1970- 1980

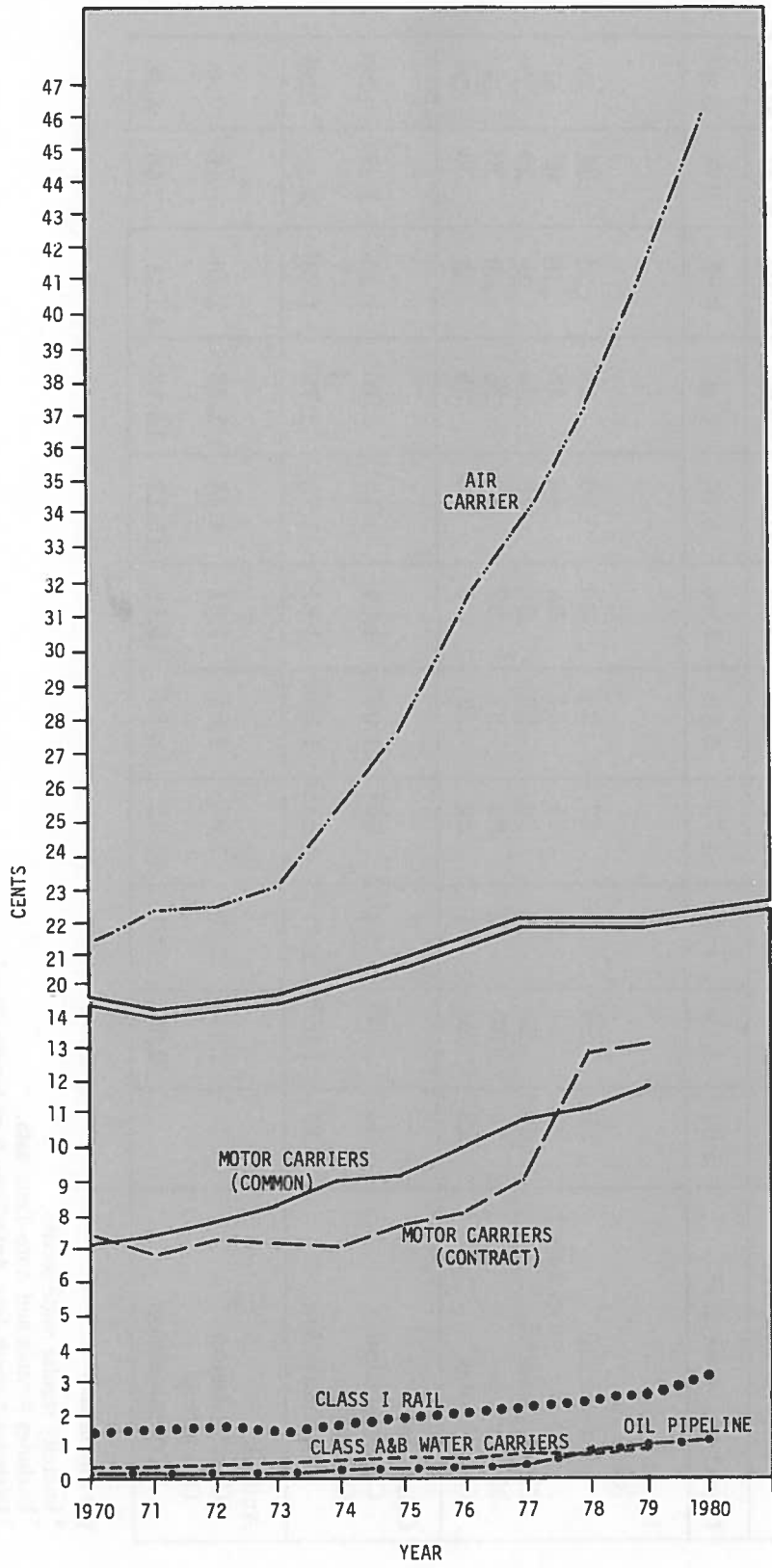


Figure 11. Average Freight Revenue per Ton-Mile, 1970- 1980

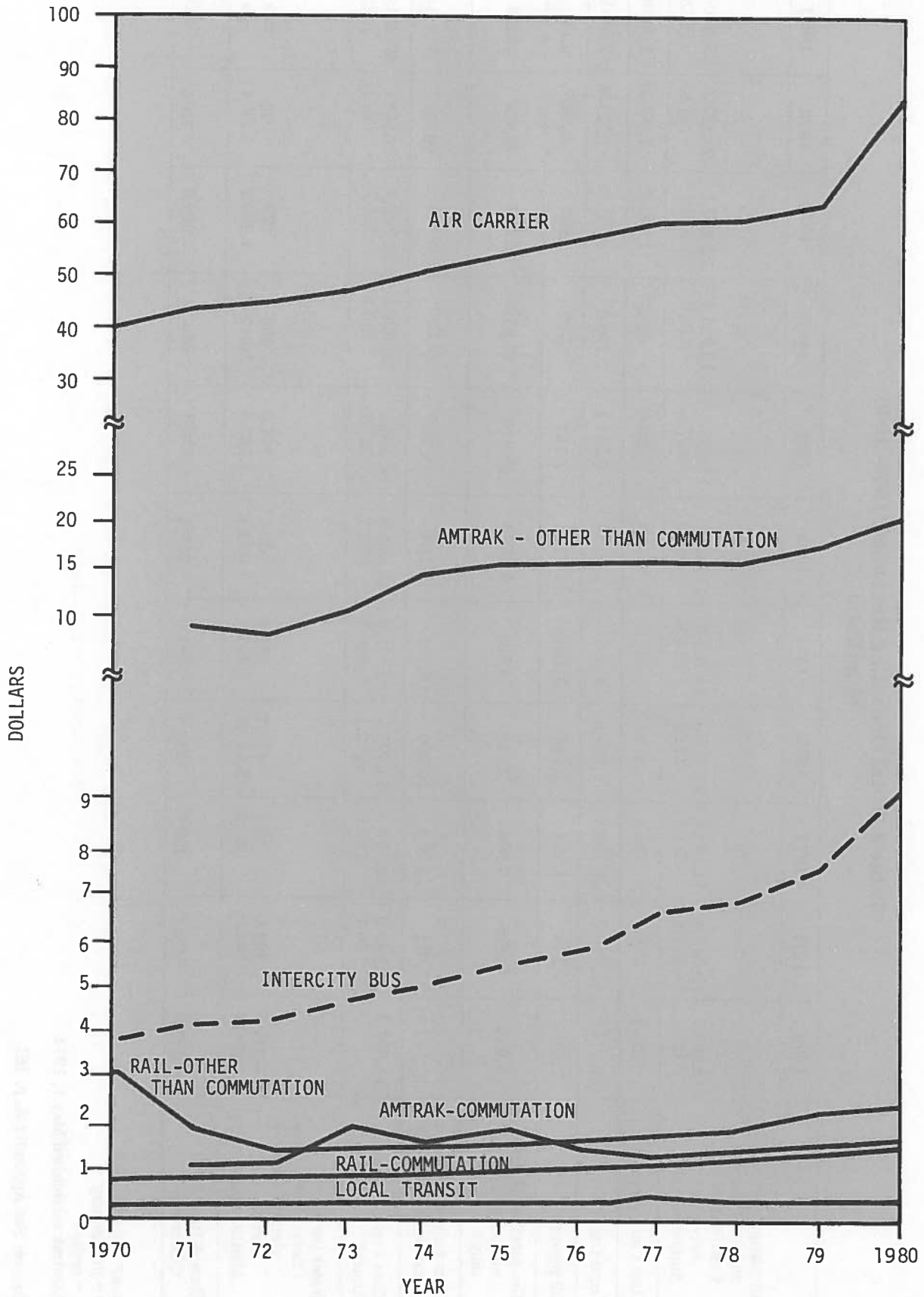


Figure 12. Average Passenger Fare, 1970- 1980

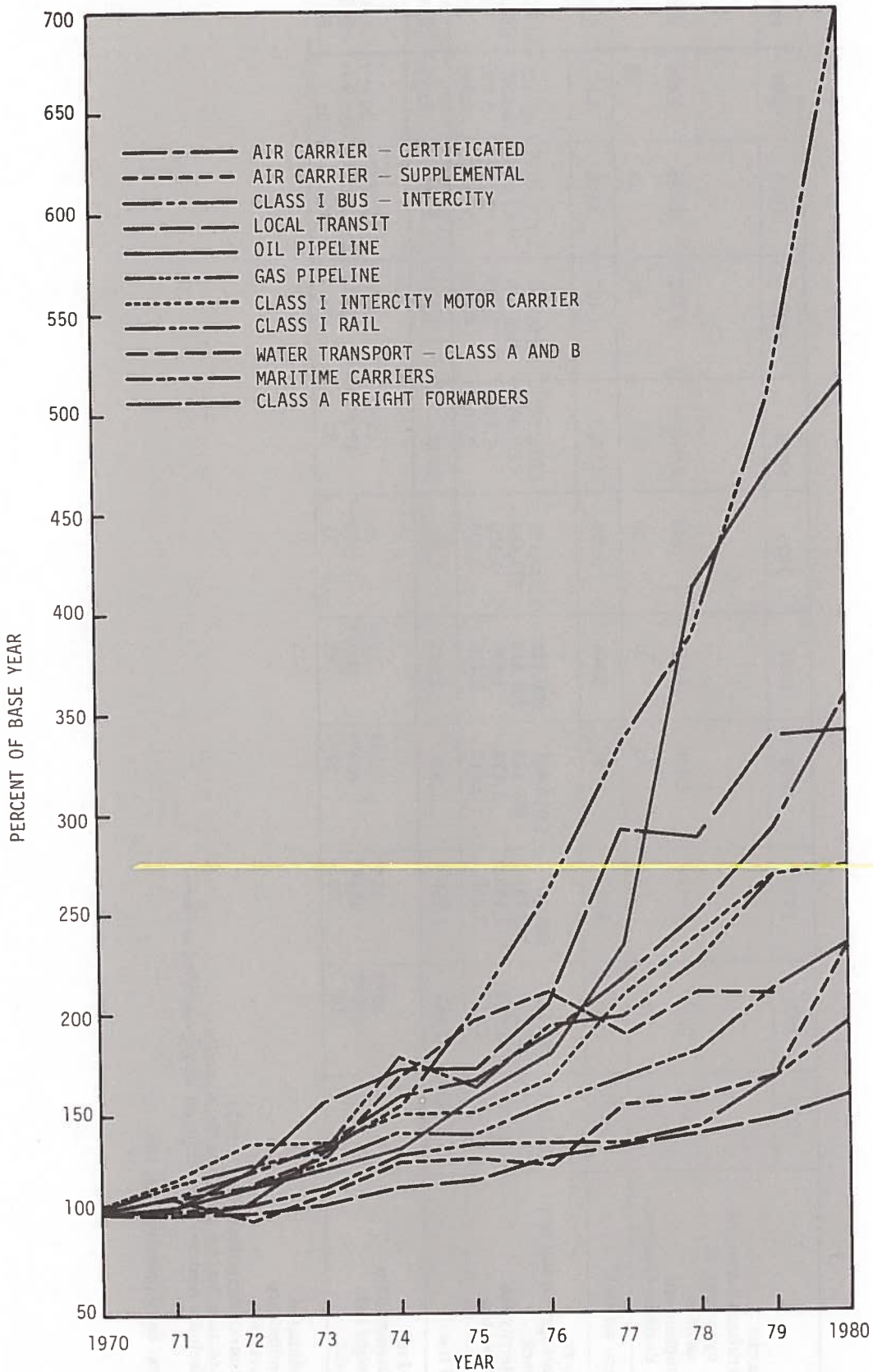


Figure 13. Total Operating Revenues, 1970- 1980

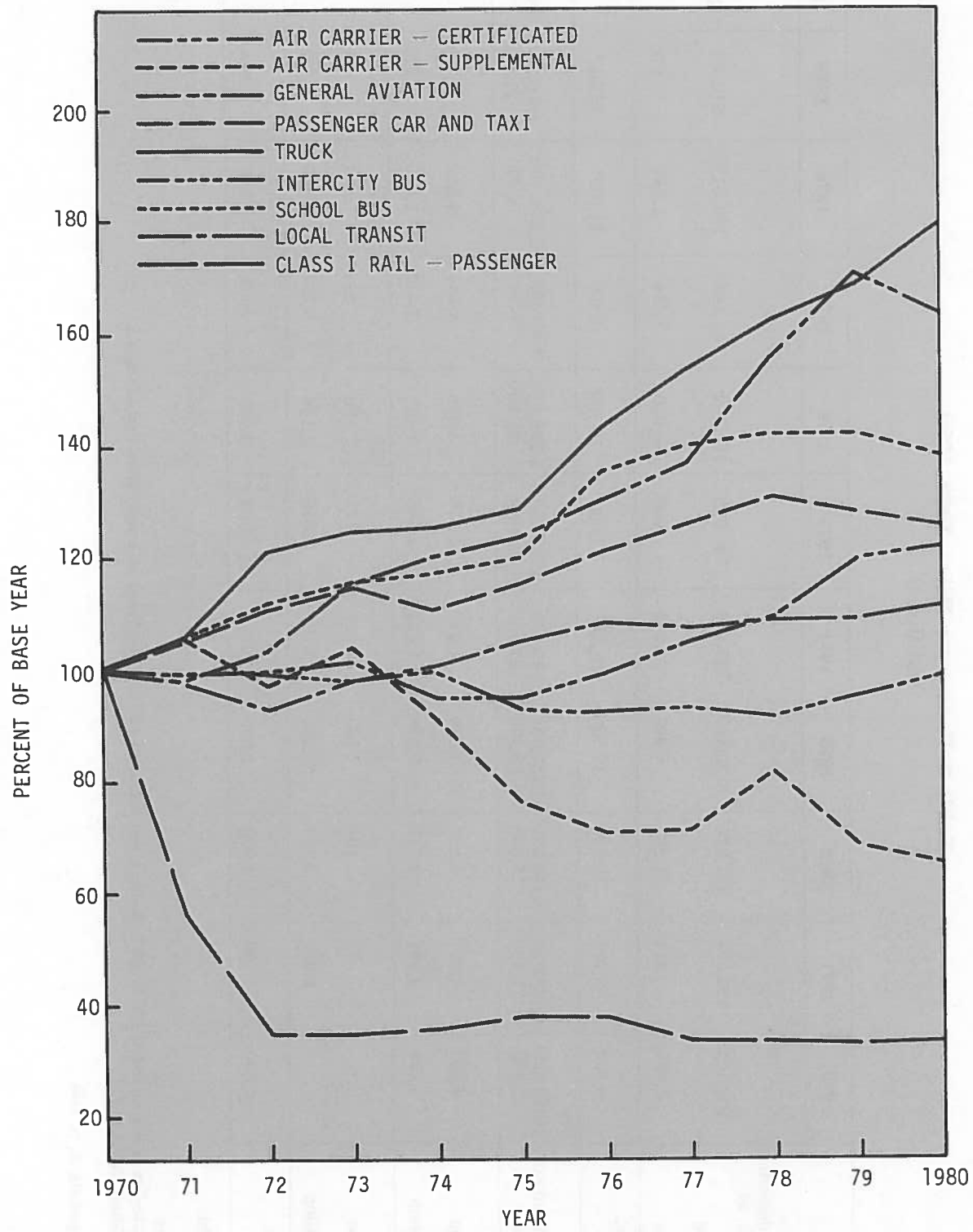


Figure 14. Vehicle-Miles, 1970- 1980

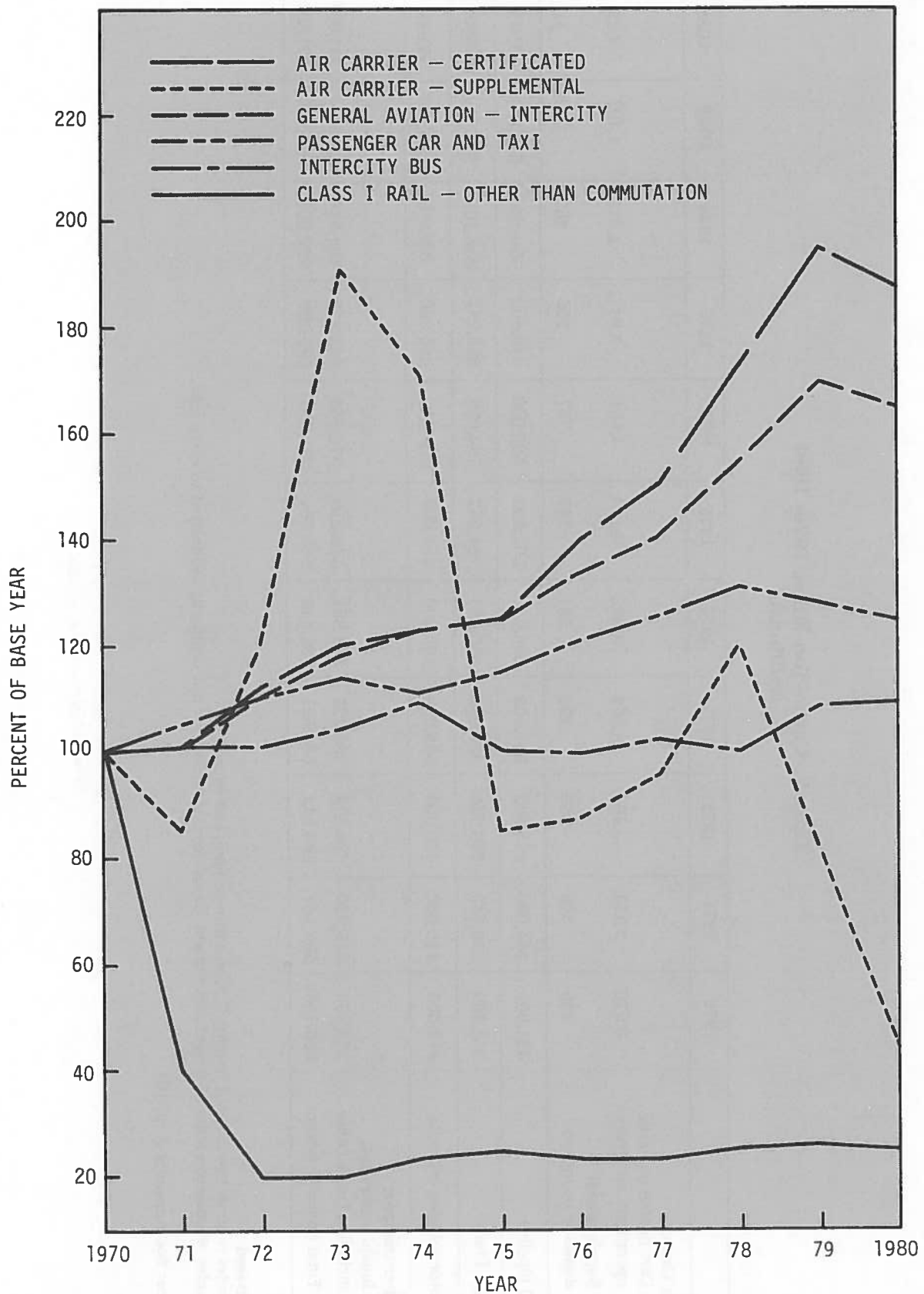


Figure 15. Passenger Miles, 1970- 1980

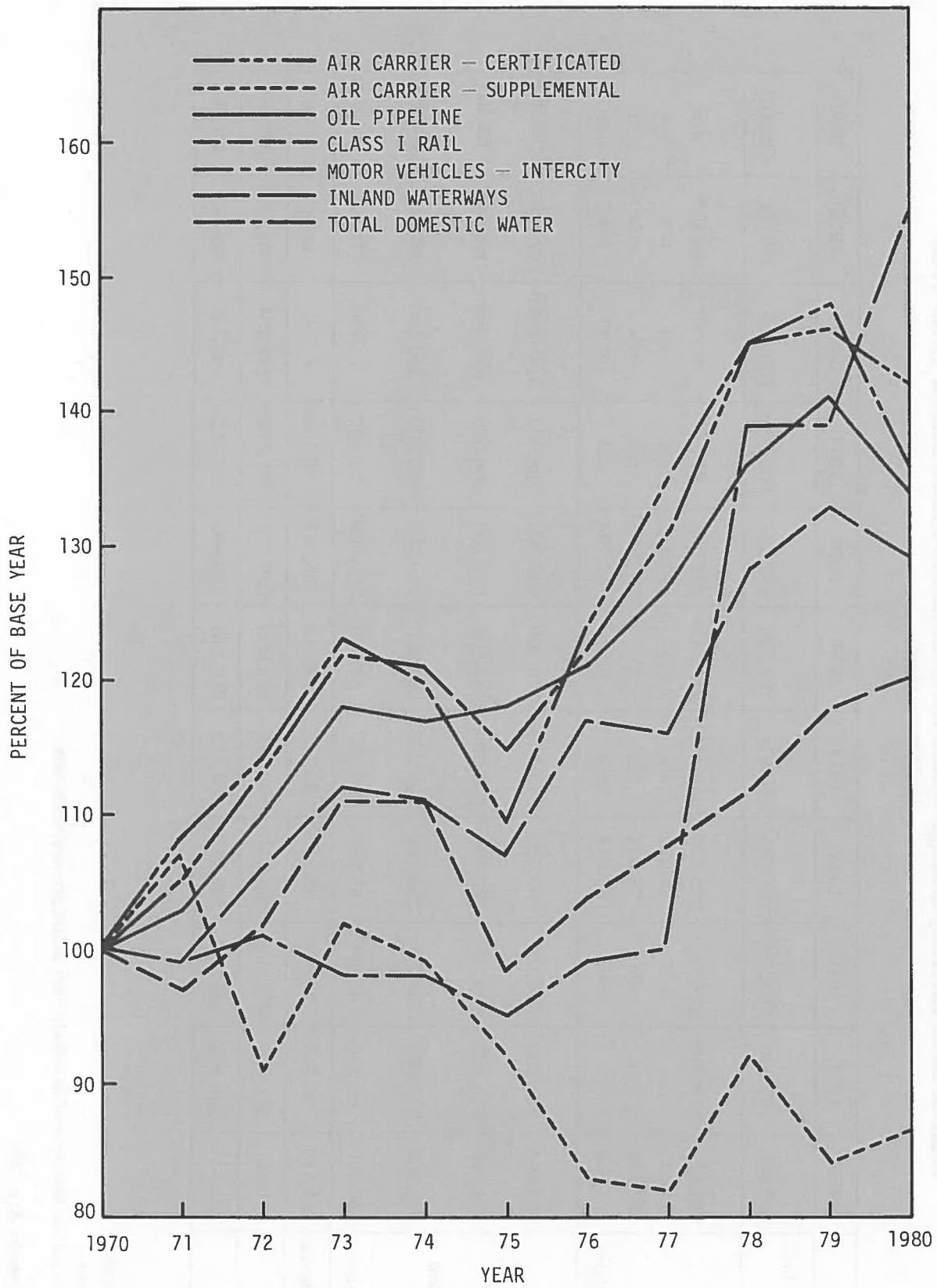


Figure 16. Cargo Ton-Miles, 1970- 1980

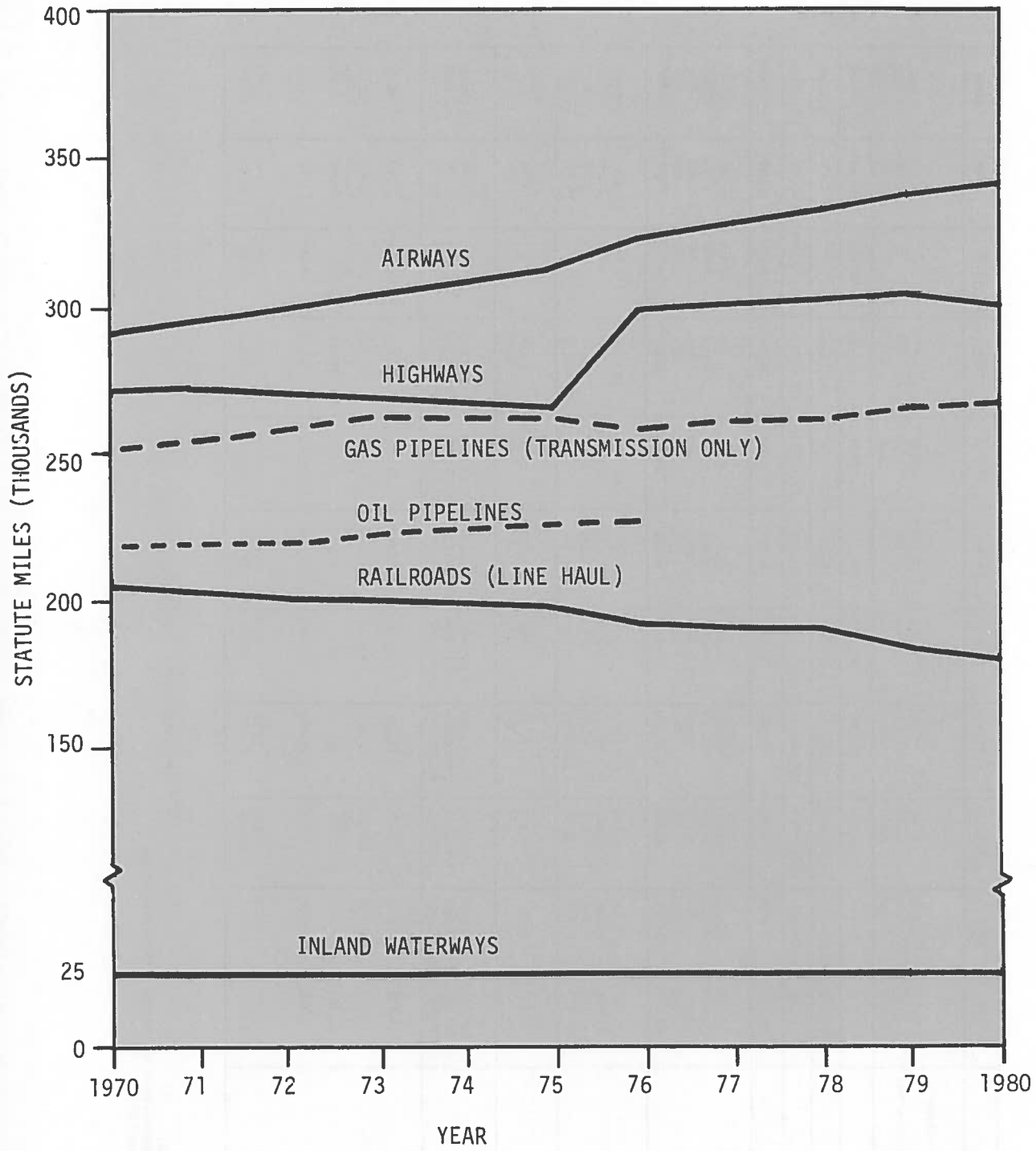


Figure 17. Basic Intercity Mileage Within the Continental United States, 1970- 1980

Table 10. Number of New Vehicles Purchased, By Mode, 1970-1980

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Air Carrier (All Services)											
Fixed-Wing Transports	311	230	230	295	263	314	238	180	225	160	n/a
General Aviation	7,384	7,450	9,765	13,671	14,026	14,043	15,648	16,624	16,456	17,048	n/a
Passenger Car and Taxi**	8,988,000	10,250,000	10,949,000	11,439,000	8,871,000	8,640,000	10,110,000	11,185,000	11,312,000	10,558,800	8,980,000
Motorcycles	1,125,000	1,565,000	1,725,000	1,255,000	1,580,000	990,000	740,000	970,000	1,015,000	1,010,000	1,250,000
Mopeds	-	-	-	-	13,000	32,000	78,000	190,000	350,000	130,000	180,000
Bicycles**	6,900,000	8,900,000	13,900,000	15,200,000	14,100,000	7,300,000	8,100,000	9,400,000	9,400,000	10,800,000	9,000,000
Truck (Domestic)	1,746,000	2,011,000	2,486,000	2,915,000	2,511,000	2,248,000	2,944,000	3,353,000	6,920,880	3,120,159	2,231,500
Intercity Bus (Class I)	867	831	917	833	626	733	619*	709	635	680	800*
Local Transit											
Motor Bus	1,424	2,514	2,904	3,200	4,818	5,261	4,745	2,437 ^p	3,805	3,410	4,572 ^p
Subway and Elevated	0	0	0	0	0	0	4	62 ^p	35	70	32 ^p
Surface Rail	308	250	360	238	92	127	472	506 ^p	172	94	130 ^p
Trolley Coach	0	1	1	1	0	1	260	198 ^p	0	141	98 ^p
Total	1,732	2,764	3,265	3,439	4,910	5,389	5,481	3,203 ^p	4,012	3,745	4,832 ^p
Class I Railroad											
Freight Cars	56,031	45,408	37,931	34,171	36,315	41,692	30,836	27,098	28,003	28,640	31,193
Locomotives	1,029	1,179	1,377	1,165	1,018	772	438	820	1,214	1,709	1,466
Passenger Car and Pullman	302	281	334	73	85	156	44	20	42	43	44
Total	57,362	46,868	35,409	35,419	37,418	42,620	31,318	27,938	29,259	30,392	32,703
Amtrak (established 1971)											
Passenger Car and Pullman	-	-	0	10	0	109	305	133	1	56	108
Locomotives	-	-	0	67	382	30	58	4	75	39	17
Total	-	-	0	77	382	139	363	137	76	95	125
Water											
Merchant Vessels	13	15	15	30	20	15	16	18	14	15	23
Gross Tonnage	342,000	419,000	439,000	987,000	697,000	452,000	616,000	920,198	911,791	1,148,530	693,200

n/a = not available

e=estimate

*Change in Class I definition.

**Includes domestic and imported vehicles.

Source: See Appendix A, p. 167.

SUPPLEMENTARY DATA

Section I: Transportation and the Economy

1970 — 1980

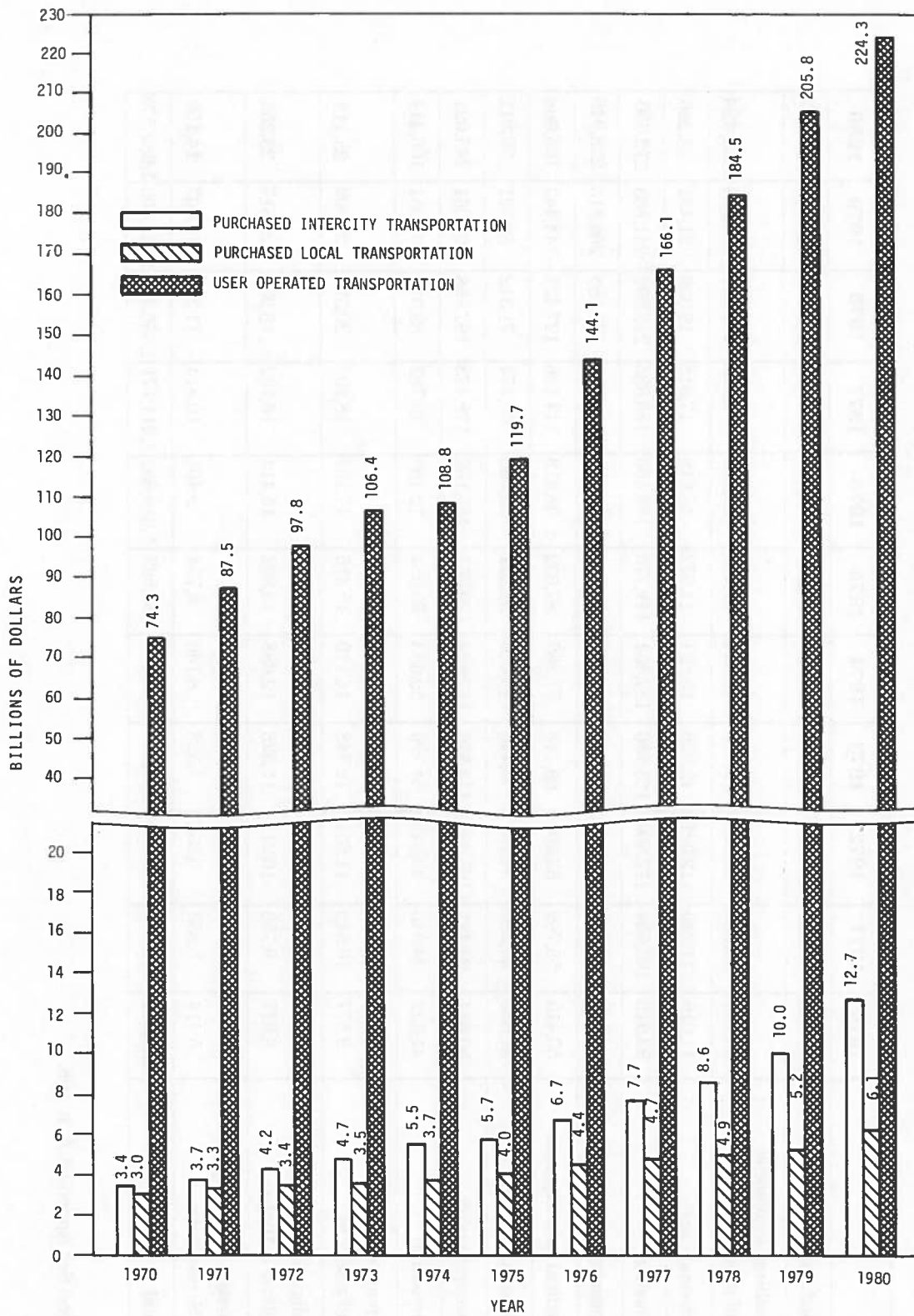


Figure 19. Personal Consumption Expenditures by Transportation Sector, 1970- 1980

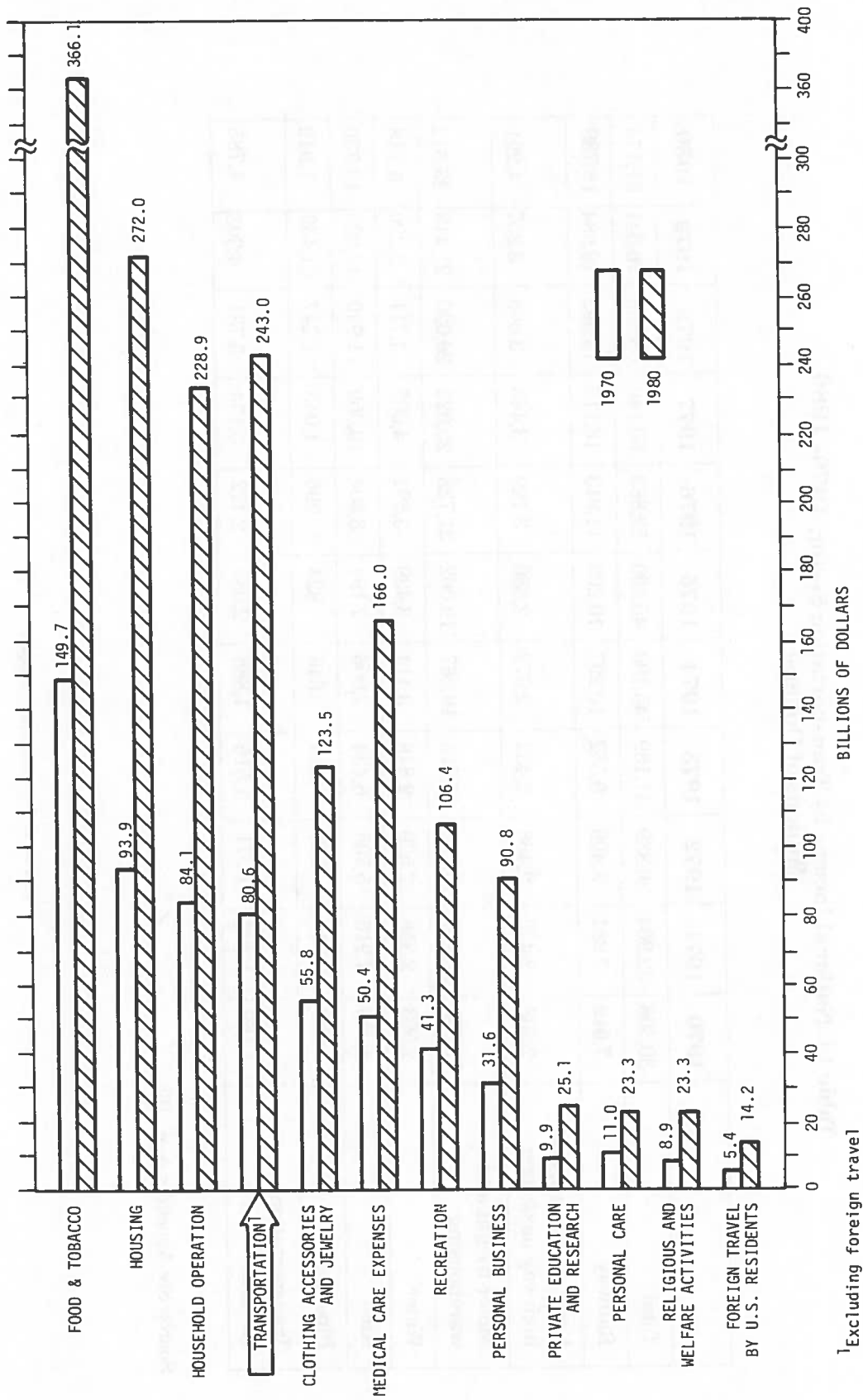


Figure 20. Personal Consumption Expenditures by Type of Product, 1970 and 1980

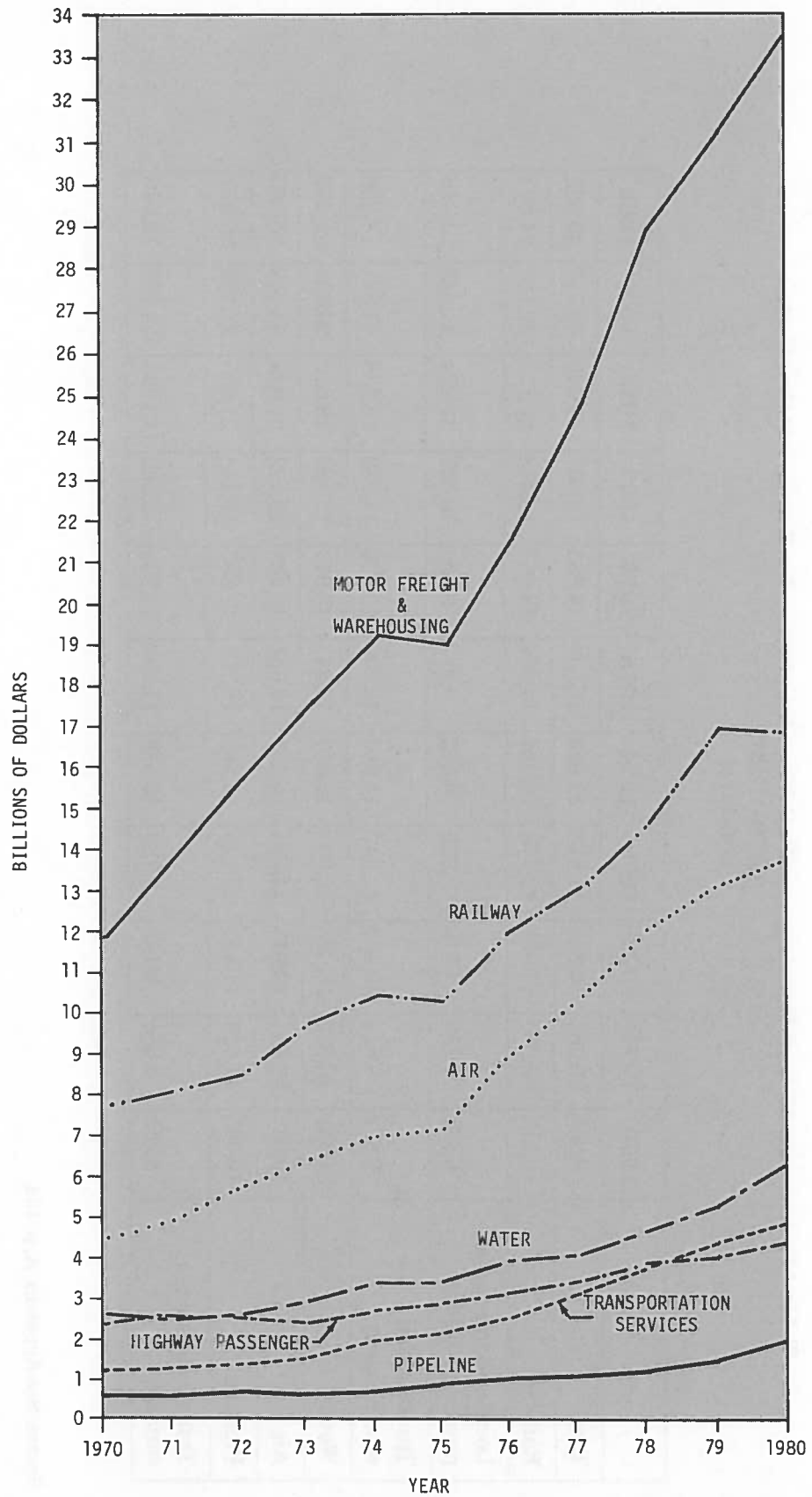


Figure 21. National Income by Transportation Sector, 1970-1980

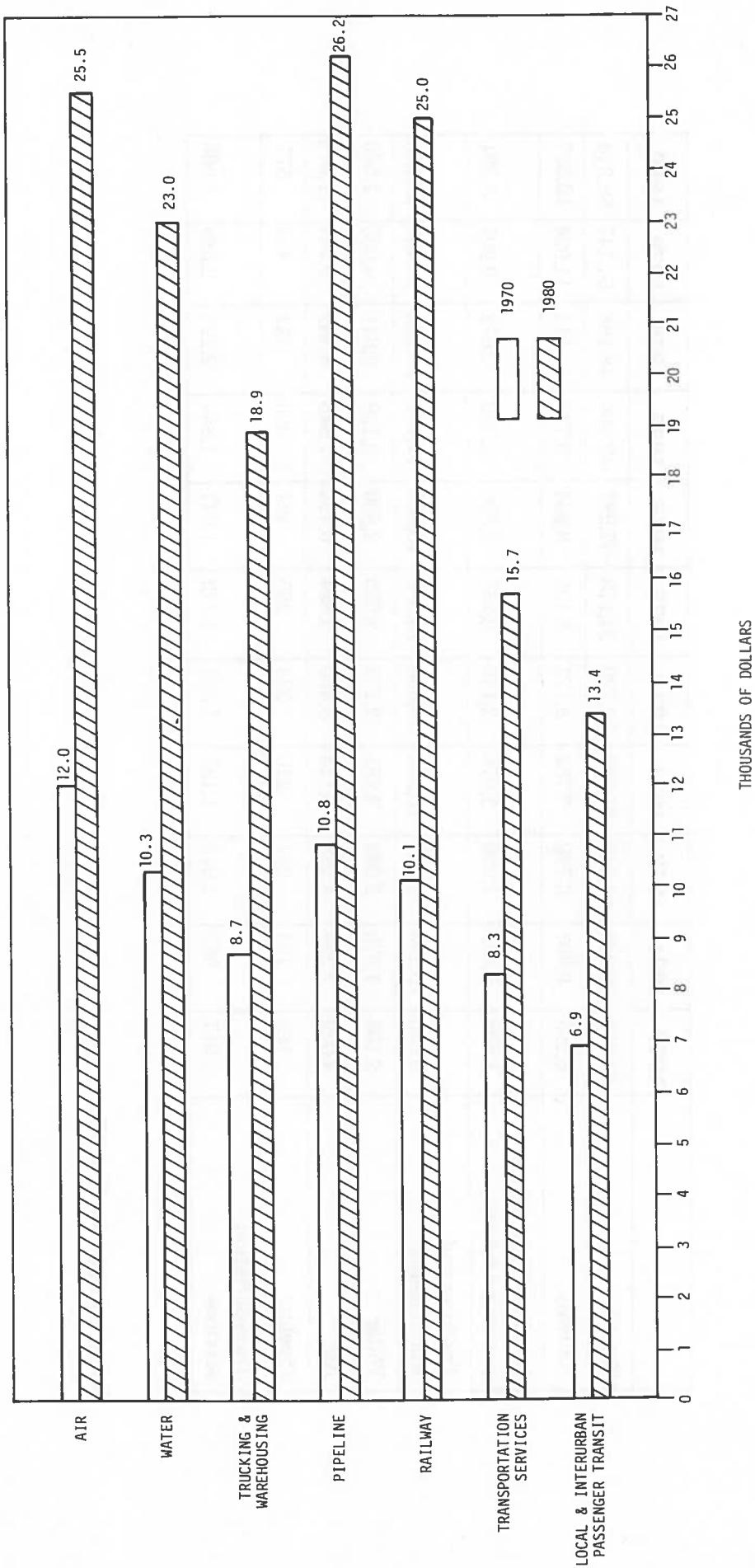


Figure 22. Average Annual Earnings per Full-Time Employee by Transportation Sector, 1970 and 1980

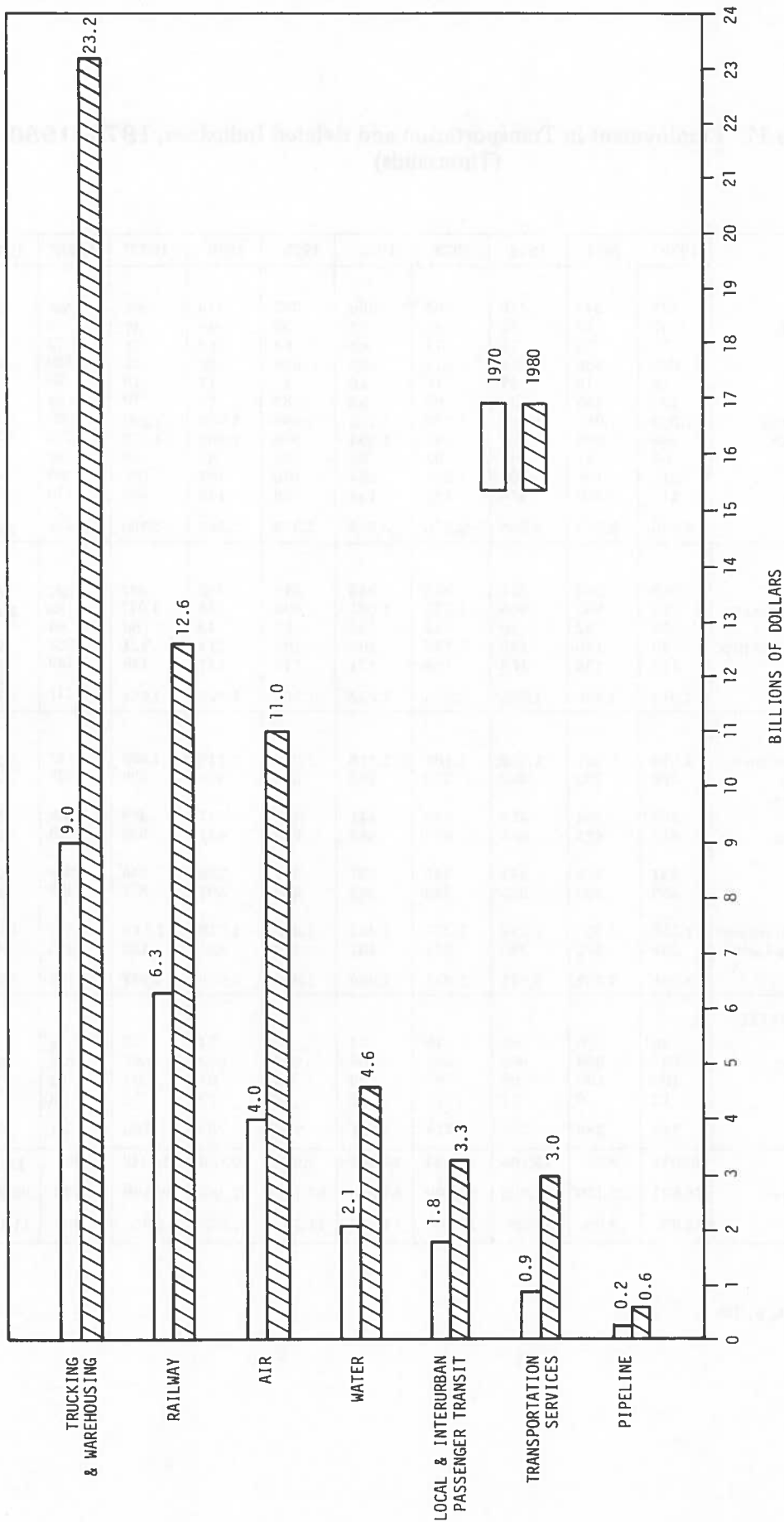


Figure 23. Wages and Salaries by Transportation Sector, 1970 and 1980

Table 18. National Transportation and Economic Trends, 1970-1980
(billions)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total Passenger-Miles Index	2,119 117	2,224 122	2,341 129	2,420 133	2,368 130	2,449 135	2,570 141	2,674 147	2,815 155	2,777 153	2,704 149
Total Cargo Ton-Miles Index	2,207 111	2,225 112	2,330 117	2,452 123	2,442 123	2,285 115	2,423 122	2,531 127	2,875 145	2,952 ^r 149	2,984 150
Population (millions) Index	203 103	207 105	209 106	211 107	213 108	215 109	218 110	220 111	222 112	225 114	227 115
Industrial Production Index	108	110	120	130	129	118	131	138	146	153	147
Gross National Product (current dollars) Index	977 123	1,055 133	1,158 146	1,307 165	1,413 178	1,529 193	1,700 214	1,887 238	2,128 ^r 268	2,414 ^r 304	2,626 331

r = revised

Index = 100 in 1967.

Source: See Appendix A, p. 171.

SUPPLEMENTARY DATA
Section II: Energy in Transportation

Table 21. U.S. Energy Consumption by the Transportation Sector
(at 5-Year Intervals 1950-1965 and Annually 1966-1980)

Year	Coal ¹		Petroleum		Natural Gas ²		Total Fossil Fuels	Sales of Electricity ³		Total Transportation Consumption		Total Gross Energy Consumption
	Million Short Tons	Trillion ⁴ Btu	Million Barrels	Trillion ⁴ Btu	Trillion Cubic Feet	Trillion ⁴ Btu		Million Kilowatt-Hours	Trillion ⁴ Btu	Trillion Btu	% of Total Gross Energy Consumption	
1950	63.0	1,651	1,248.3	7,053	0.13	135	8,839	5,881	20.1	8,859	26.4	33.62
1955	17.0	439	1,690.0	9,452	0.25	259	10,150	4,563	15.6	10,166	25.9	39.18
1960	3.0	80	1,862.9	10,041	0.35	362	10,483	4,770	16.3	10,499	23.8	44.08
1965	0.7	19	2,182.7	11,765	0.50	516	12,300	4,652	15.9	12,316	23.2	52.99
1966	0.6	16	2,314.1	12,473	0.54	558	13,047	4,514	15.4	13,062	23.3	55.99
1967	0.5	13	2,427.3	13,095	0.58	599	13,707	4,572	15.6	13,723	23.7	57.89
1968	0.4	11	2,627.9	14,185	0.59	608	14,804	4,540	15.5	14,820	24.2	61.32
1969	0.3	8	2,737.5	14,772	0.63	650	15,430	4,531	15.5	15,446	23.9	64.53
1970	0.3	8	2,832.4	15,284	0.72	742	16,034	4,633	15.8	16,050	24.0	66.83
1971	0.2	5	2,945.6	15,886	0.74	763	16,654	4,537	15.5	16,670	24.4	68.30
1972	0.2	5	3,122.0	16,831	0.77	791	17,627	4,440	15.1	17,642	24.6	71.63
1973	0.1	3	3,288.7	17,752	0.73	745	18,500	4,186	14.3	18,514	24.8	74.61
1974	0.1	3	3,208.4	17,313	0.67	686	18,002	4,258	14.5	18,017	24.8	72.76
1975	*	**	3,252.2	17,546	0.58	592	18,138	4,273	14.6	18,153	25.7	70.71
1976	*	**	3,422.1	18,479	0.55	560	19,039	4,338	14.8	19,054	25.6	74.51
1977	*	**	3,544.2	19,153	0.53	540	19,693	4,212	14.4	19,707	25.8	76.33
1978	*	**	3,704.8	20,050	0.53	538	20,588	4,336	14.8	20,603	26.4	78.15
1979	*	**	3,566.1	19,310	0.60	611	19,921	4,243	14.5	19,936	25.2	78.97
1980 ^p	*	**	3,323.3 ^e	17,976	0.59	601	18,577	4,288	14.6	18,592	24.4	76.27

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

p = preliminary e = estimated r = revised

**Less than 0.05 millions short tons.

*Less than 1 trillion Btu's.

¹Bituminous Coal and Lignite only.

²Pipeline fuel.

³Includes only energy used by Railroads and Railways.

⁴Btu's derived by multiplying by conversion factors on p. 231 for bituminous coal and lignite consumption by Non-Utility, p. 230 for Natural Gas consumption by Non-Utility, p. 228 for petroleum in Transportation Use, and p. 227 for Electricity consumption, DOE, 1980 Annual Report to Congress, Volume Two.

Source: U.S. Department of Energy, 1980 Annual Report to Congress, Volume Two.

Coal: Table 54; Petroleum: Table 29; Natural Gas: Table 46; Total Gross Energy Consumption: Table 4.

Edison Electric Institute, Statistical Year Book, 1978, 1971 and Historical Statistics Through the Year 1970.

Sales of Electricity: 1950-1978: Ibid., Section IV, Table 19s; 1979-1980: Ibid., Source and Disposition of Electricity, Dec. 1980.

Table 22. Fuel Consumption by Mode of Transportation, 1970- 1980

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Class I Railroads											
Locomotives											
Diesel Oil, gals × 10 ⁶	3,800	3,819	3,999	4,141	4,112	3,732	3,890	3,982	3,966	4,069	3,942
Electricity, KWH × 10 ⁶	578	534	435	346	467	422	353	417	331	309	190
Coal, tons	1,238	1,191	1,400	1,202	1,160	1,160	1,421	1,569	1,275	1,421	908
Motor Cars											
Diesel Oil, gals × 10 ⁶	8	4	3	3	4	4	5	3	2	3	2
Electricity, KWH × 10 ⁶	763	756	715	901	847	857	790	986	991	1,062	968
Air											
Certified Carriers											
Aviation Gasoline, gals × 10 ⁶	14	12	13	11	7	6	n/a	n/a	n/a	n/a	n/a
Jet Fuel, gals × 10 ⁶	10,085	10,140	10,302	10,671	9,546	9,507	9,808†	10,268†	10,639†	11,369†	11,034†
General Aviation ³											
Aviation Gasoline, gals × 10 ⁶	551	508	584	411	443	412	432	456	518	570	520
Jet Fuel, gals × 10 ⁶	208	226	245	304	357	453	495	536	763	736	766
Highway											
Gasoline, gals × 10 ⁶											
Pass. Cars + Taxis	65,649	69,213	73,121	77,619	73,770	76,010	78,398	80,225	83,312	79,793	73,375
Motorcycles	135	301	342	392	447	447	448	451	463	440	360
Diesel + Gasoline, gals × 10 ⁶											
Commercial Buses ²	644	631	561	520	525	553	574	583	615	618	696
School Buses	300	316	320	327	333	342	390	401	407	405	380
Single-unit Trucks ¹	17,237	18,221	22,118	22,755	21,125	21,868	24,914	26,255	27,780	28,544	29,241
Combination Trucks	8,363	8,865	8,600	8,860	10,101	9,764	10,975	11,709	12,491	12,315	10,909
Water Transport											
Residual Fuel Oil, gals × 10 ⁶	3,774	3,307	3,273	3,881	3,824	4,060	4,933	5,417	6,615	8,003	8,952
Distillate Fuel Oil, gals × 10 ⁶	819	880	929	1,125	1,040	1,098	1,190	1,408	1,579	1,631	1,183
Gasoline, gals × 10 ⁶	598	645	687	717	697	730	764	774	812	780	1,052
Transit											
Electricity, KWH × 10 ⁶											
Rapid Transit	2,261	2,262	2,149	2,098	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Surface Rail	157	153	146	140	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Trolley	143	141	133	93	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total	2,561	2,556	2,428	2,331	2,630	2,646	2,576	2,303	2,223	2,473	2,446
Gallons of Motor Fuel, gals × 10 ⁶											
Gasoline	37	29	20	12	7	5	5	8	9	9	11
Diesel Oil	271	257	253	283	316	365	389	403	422	423 ^r	441
Propane	31	27	24	15	3	3	1	1	0	0	0
Pipelines											
Natural Gas, cu. ft. × 10 ⁶	722,166	712,592	766,156	728,177	668,834	582,963	548,323	532,669	530,151	600,964	634,622
Total⁴											
Non-Highway Use of Gasoline × 10 ⁶	4,003	3,913	3,824	3,896	3,623	3,642	3,778	3,725	3,577	3,645	3,655

r = revised

p = preliminary

n/a = not available

¹ Includes non-freight truck movements.

² Includes intercity and urban buses.

³ Data for 1970-1972 calculated by method different from that used for 1973-1980 data.

⁴ Private, commercial, and public non-highway use of gasoline.

† Includes Aviation Gasoline.

Source: See Appendix A, p. 172.

Table 24. Fuel Consumption and Travel by Personal Passenger Vehicles², 1970-1980

Year	Number ¹ Registered (thousands)	Total ¹ 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
1970	92,095	900,992	9,978	3,605	9,783	13.57	75	13.70	65,649	135	65,784	735	48	714
1971	96,144	954,155	10,121	4,500 ³	9,926	13.57	50 ³	13.73	69,213	301	69,514	746	90 ³	723
1972	100,658	1,003,498	10,184	4,500	9,969	13.49	50	13.67	73,121	342	73,463	755	90	730
1973	106,119	1,036,455	9,992	4,498	9,767	13.10	50	13.29	77,619	392	78,011	763	90	736
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	121,717	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

¹ Includes motorcycles.

² For the 50 states and District of Columbia.

³ Significant differences in values for 1971 and the corresponding values for 1970 represents a change in the basic assumptions of miles per vehicle and miles per gallon, not a shift in the trend.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

Table 26. Fuel Consumption and Travel by Motor Trucks, 1970-1980

Year	Number Registered (thousands)	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					
			Single-unit Trucks	Combi-nations Trucks	Single-unit Trucks	Combi-nations Trucks	Single-unit Trucks	Combi-nations Trucks	Single-unit Trucks	Combi-nations Trucks				
1970	18,748	214,670	9,807	41,903	11,450	10.12	4.81	8.39	17,237	8,363	25,600	969	8,711	1,365
1971	19,802	227,037	9,794	43,779	11,465	10.12	4.81	8.38	18,221	8,865	27,086	968	9,102	1,368
1972	21,239	259,735	10,525	47,084	12,229	9.63	5.42	8.46	22,118	8,600	30,718	1,092	8,687	1,446
1973	23,233	267,147	9,868	46,716	11,538	9.63	5.42	8.45	22,755	8,860	31,615	1,025	8,620	1,361
1974	24,630	267,519	8,981	51,667	10,861	10.01	5.55	8.57	21,125	10,101	31,226	897	9,310	1,269
1975	25,776	274,454	8,882	49,125	10,648	10.01	5.69	8.68	21,868	9,764	31,632	887	8,633	1,227
1976	27,779	307,950	9,369	48,297	11,086	9.99	5.39	8.58	24,914	10,975	35,890	938	8,961	1,292
1977	29,562	329,465	9,400	50,206	11,145	10.13	5.42	8.68	26,255	11,709	37,964	928	9,263	1,284
1978	31,703	347,906	9,249	49,267	10,974	10.10	5.39	8.64	27,780	12,491	40,271	916	9,141	1,270
1979	33,350	360,500	9,184	49,664	10,810	10.30	5.40	8.82	28,544	12,315	40,859	892	9,197	1,225
1980	33,637	384,570	10,070	42,705	11,433	11.10	5.50	9.58	29,241	10,909	40,150	907	7,764	1,194

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Table VM-1, annual issues.

**Table 28. Motor Fuel and Energy Consumption by the U.S. Transit Industry
(at 5-Year Intervals 1950-1965 and Annually 1966- 1980)**

Year	Kilowatt Hours Consumed (In Millions)				Gallons of Motor Fuel Used (In Thousands)		
	Heavy Rail	Light Rail	Trolley Coach	Total	Gasoline	Diesel Oil	Propane
1950	2,000	2,410	841	5,251	430,000	98,600	*
1955	1,900	910	720	3,530	246,000	172,600	30,300
1960	2,098	393	417	2,908	153,600	208,100	38,300
1965	2,185	218	181	2,584	91,500	248,400	32,700
1966	2,075	226	166	2,467	76,000	256,000	33,600
1967	2,194	180	157	2,531	57,800	270,300	33,000
1968	2,250	179	157	2,586	45,700	274,200	32,200
1969	2,291	173	154	2,618	40,000	273,800	31,600
1970	2,261	157	143	2,561	37,200	270,600	31,000
1971	2,262	153	141	2,556	29,400	256,800	26,500
1972	2,149	146	133	2,428	19,647	253,250	24,400
1973	2,098	140	93	2,331	12,333	282,620	15,152
1974	n/a	n/a	n/a	2,630	7,457	316,360	3,142
1975	n/a	n/a	n/a	2,646	5,017	365,060	2,559
1976	n/a	n/a	n/a	2,576	5,203	389,187	960
1977	n/a	n/a	n/a	2,303	8,077	402,842	1,196
1978	n/a	n/a	n/a	2,223	9,318	422,017	13
1979	n/a	n/a	n/a	2,473	8,961	423,212 ^r	12
1980 ^p	n/a	n/a	n/a	2,446	11,400	441,300	n/a

n/a = not available

p = preliminary

r = revised

*Propane included with gasoline

Source: American Public Transit Association, *Transit Fact Book*, 1981 edition, Table 17.

**Table 30. Domestic Demand for Refined Petroleum Products by End-Use Sector
(Trillion Btu's per Day)¹
(at 5-Year Intervals 1950-1965 and Annually 1966- 1980**

Year	Residential and Commercial	Industrial	Transportation	Transportation as % of Total	Electric Utilities ²	Total
1950	8.14	7.35	19.32	52.9	1.64	36.50
1955	10.63	9.51	25.90	54.7	1.23	47.32
1960	13.92	11.52	27.44	50.4	1.57	54.45
1965	15.74	13.63	32.23	50.6	2.07	63.67
1966	15.88	14.32	34.17	51.1	2.51	66.83
1967	16.39	14.23	35.88	51.8	2.83	69.27
1968	16.91	14.76	38.76	52.6	3.32	73.70
1969	17.32	15.36	40.47	52.1	4.45	77.66
1970	17.76	15.45	41.87	51.8	5.81	80.89
1971	17.75	15.46	43.52	52.0	6.99	83.72
1972	18.33	17.07	45.99	51.1	8.58	90.04
1973	18.48	18.32	48.64	51.0	10.08	95.46
1974	16.82	17.82	47.43	51.8	9.57	91.64
1975	15.89	16.87	48.07	53.6	8.85	89.66
1976	17.21	19.00	50.49	52.5	9.41	96.10
1977	17.11	21.10	52.47	51.6	11.03	101.70
1978	17.16	21.48	54.93	52.8	10.46	104.03
1979	13.76	25.73	52.90	52.0	9.31	101.69
1980 ³	12.00	24.26	49.11	52.5	8.18	93.56

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

¹Data derived by multiplying figures on source page by conversion factors in Consumption of Petroleum Products column by each end-use sector column on page 228 in D.O.E.'s 1980 Annual Report to Congress, Volume Two.

²These data are deliveries to electric utilities and do not equate to consumption by electric utilities.

³Estimated.

Source: U.S. Department of Energy, EIA, 1980 Annual Report to Congress, Volume Two, Table 29.

Table 32. Deliveries of Distillate Fuel Oil by Use
(Thousand Barrels)
(at 5-Year Intervals 1950-1970 and Annually 1966-1980)

Year	Heating Oils	Industrial Use	Oil Company Fuel	Electric Utility	Railroads	Vessel Bunkering	Military Use	Diesel Type			All Other	Total
								On Highway	Off Highway	Total		
1950	235,740	37,121	5,692	13,207	48,703	12,872	6,553	1	1	21,333	14,085	395,306
1955	356,589	43,606	8,597	5,884	84,668	16,675	10,945	23,446	20,769	44,215	9,948	581,127
1960 ²	438,010	34,271	8,347	4,742	86,490	18,730	10,793	36,467	38,095	74,562	7,380	683,325
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 ³	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	13,633	63,420	93,191	26,138	18,004	217,906	48,977	266,883	10,096	1,043,746
1976	540,895	79,956	14,523	60,570	97,467	28,330	17,574	242,820	54,429	297,249	11,365	1,150,929
1977	537,530	104,244	19,954	76,881	99,306	33,512	18,137	264,412	62,823	327,235	14,394	1,230,993
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	1	97,325	20,065	46,579	106,652	38,826	17,810	327,402	63,102	390,504	33,784	1,208,456
1980	1	79,092	18,071	31,812	105,841	28,166	20,152	323,431	45,025	368,456	18,417	1,048,975

¹ Data not available.

² Included Alaska and Hawaii.

³ Includes gas turbine plants in 1970 and subsequent years.

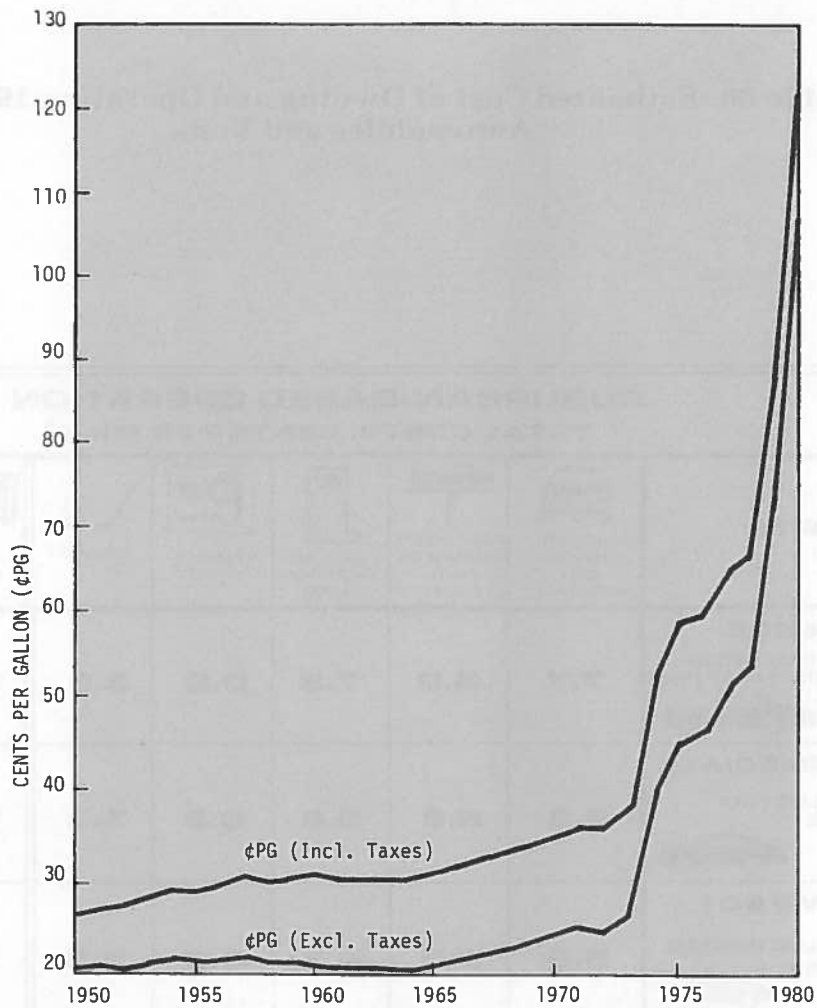
Source: 1950-1978: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 11, 11a.
 1979-1980: U.S. Department of Energy, *Energy Data Reports*, Deliveries of Fuel Oil and Kerosene in 1980, annual issues, Table 12.

**Table 34. Price Trend of Gasoline vs. Other Consumer Goods and Services
(at 5-Year Intervals 1950-1970 and Annually 1971-1980)**

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*	
1950	20.08	6.68	26.76	72.1	74.5	70.4	79.0	71.8	74.4	
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	35.69	116.3	114.9	110.1	116.1	105.6	113.4	
1971	25.20	11.23	36.43	121.3	118.4	115.2	119.8	106.3	119.3	
1972	24.46	11.67	36.13	125.3	123.5	119.2	122.3	107.6	122.8	
1973	26.88	11.94	38.82	133.1	141.4	124.3	126.8	118.1	125.9	
1974	40.41	12.00	52.41	147.7	161.7	130.6	136.2	159.9	139.8	
1975	45.44	11.77	57.22	161.2	175.4	137.3	142.3	170.8	144.4	
1976	47.44	12.03	59.47	170.5	180.8	144.7	147.6	177.9	151.2	
1977	50.70	12.37	63.07	181.5	192.2	153.5	154.2	188.2	157.9	
1978	53.09	12.62	65.71	195.4	211.4	164.0	159.6	196.3	176.6	
1979	74.38	13.48	87.76	217.4	234.5	176.0	166.6	265.6	188.5	
1980	107.35	14.37	121.72	246.8	254.6	191.6	178.4	369.1	205.3	

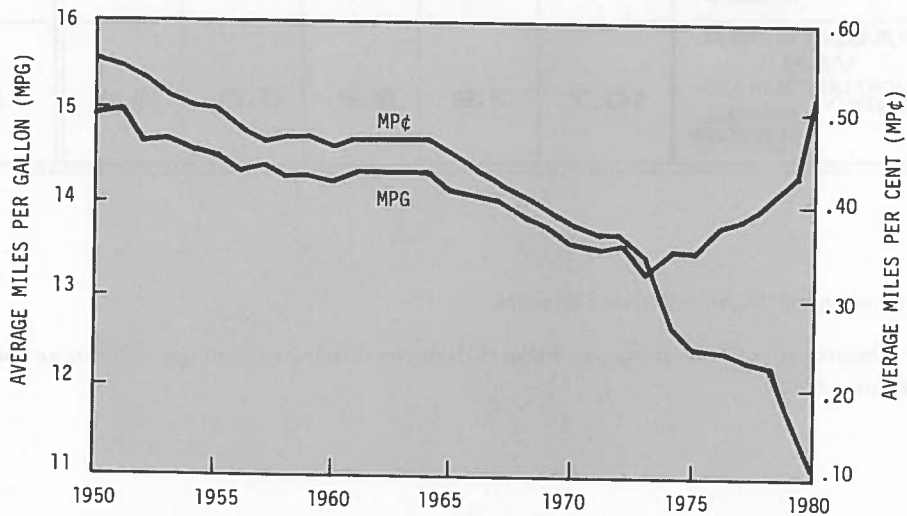
* Includes reading materials, sporting goods, toys and hobbies, and entertainment services.

Source: Price of Gasoline and CPI: 1950-1980: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4/4a.
Price Indexes of Gasoline: 1950-1977: Bureau of Labor Statistics, *Handbook of Labor Statistics*, 1978, Table 122, p. 422.
1978-1980: *Ibid.*, personal communication.



Source: 1950-1980: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 4, 4a.

Figure 25. Price Trend of Regular Grade Gasoline Prices, 1950-1980



Source: MPG, FHWA, *Highway Statistics*, annual issues, Table VM-1.
 MP¢, U.S. DOT, Transportation Systems Center computation.

Figure 26. Average Fuel Efficiency of U.S. Passenger Cars, 1950-1980
 (Average Miles per Gallon and Average Miles per Cent Cost of Gasoline)

Table 37. Estimated Cost of Owning and Operating a Large Size 1981 Model Automobile, Including Fuel
(Total costs in dollars, costs per mile in cents)¹

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	2,457.00	16.94	1,421.00	10.37	9,232.00	7.69
Scheduled Maintenance	(98.85)	(.68)	(194.95)	(1.42)	(1,918.21)	(1.60)
Nonscheduled Repairs and Maintenance	(66.75)	(.46)	(117.55)	(.86)	(4,314.13)	(3.60)
Total Repairs and Maintenance	165.60	1.14	312.50	2.28	6,232.34	5.20
Replacement Tires	21.01	.14	19.80	.14	868.20	.72
Accessories	11.89	.08	11.37	.08	154.67	.13
Gasoline	1,039.69	7.17	982.39	7.17	8,604.80	7.17
Oil	11.25	.08	20.25	.15	207.00	.17
Insurance	461.00	3.18	445.00	3.25	3,991.00	3.33
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	4,281.12	29.51	3,319.41	24.22	30,229.49	25.19
Taxes and Fees:						
State:						
Gasoline	76.76	.53	72.53	.53	635.30	.53
Registration	20.00	.14	20.00	.15	240.00	.20
Titling	461.60	3.18	-	-	461.60	.38
Operating Cost Sales Tax ²	(.09)	-	(.72)	(.01)	(106.26)	(.09)
Nonoperating Cost Sales Tax	(.90)	(.01)	(2.29)	(.02)	(22.87)	(.02)
Total Sales Tax	.99	.01	3.01	.03	129.13	.11
Subtotal	559.35	3.86	95.54	.71	1,466.03	1.22
Federal:						
Gasoline	34.12	.24	32.24	.24	282.36	.24
Oil ²	.08	-	.14	-	1.42	-
Tires	4.83	.03	4.57	.03	37.60	.03
Subtotal	39.03	.27	36.95	.27	321.38	.27
Total Taxes	598.38	4.13	132.49	.98	1,787.41	1.49
Operating Costs	3,511.24	24.21	2,094.61	15.29	15,996.55	13.33
Ownership Costs	1,368.26	9.43	1,357.29	9.91	16,020.35	13.35
Total of All Costs	4,879.50	33.64	3,451.90	25.20	32,016.90	26.68

¹This estimate covers the total cost of a medium priced, large size four-door sedan, purchased for \$9,232 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

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

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans*, 1982.

Table 39. Estimated Cost of Owning and Operating a Compact Size 1981 Model Automobile, Including Fuel
(Total costs in dollars, costs per mile in cents)¹

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	1,206.00	8.32	984.00	7.18	7,111.00	5.93
Scheduled Maintenance	(66.10)	(.46)	(172.10)	(1.26)	(1,495.92)	(1.25)
Nonscheduled Repairs and Maintenance	(67.00)	(.46)	(117.80)	(.86)	(3,739.92)	(3.12)
Total Repairs and Maintenance	133.10	.92	289.90	2.12	5,235.84	4.37
Replacement Tires	13.85	.10	13.05	.10	572.50	.48
Accessories	14.44	.10	13.78	.10	175.79	.15
Gasoline	736.52	5.08	695.81	5.08	6,095.13	5.08
Oil	11.25	.08	20.25	.15	207.00	.17
Insurance	461.00	3.18	445.00	3.25	3,991.00	3.33
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	2,689.84	18.56	2,568.89	18.76	24,327.74	20.29
Taxes and Fees:						
State:						
Gasoline	54.38	.38	51.37	.37	450.02	.38
Registration	20.00	.14	20.00	.15	240.00	.20
Titling	355.55	2.45	-	-	355.55	.30
Operating Cost Sales Tax ²	(.10)	-	(.73)	(.01)	(81.61)	(.07)
Nonoperating Cost Sales Tax	(1.00)	(.01)	(1.27)	(.01)	(17.41)	(.01)
Total Sales Tax	1.10	.01	2.00	.02	99.02	.08
Subtotal	431.03	2.98	73.37	.54	1,144.59	.96
Federal:						
Gasoline	24.17	.17	22.83	.17	200.01	.17
Oil ²	.08	-	.14	-	1.42	-
Tires	2.99	.02	2.83	.02	27.72	.02
Subtotal	27.24	.19	25.80	.19	229.15	.19
Total Taxes	458.27	3.17	99.17	.73	1,373.74	1.15
Operating Costs	1,024.02	7.07	1,031.91	7.54	12,314.81	10.27
Ownership Costs	2,124.09	14.66	1,636.15	11.95	13,386.67	11.17
Total of All Costs	3,148.11	21.73	2,668.06	19.49	25,701.48	21.44

¹This estimate covers the total cost of a medium priced, compact size sedan, purchased for \$7,111 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

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

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982.*

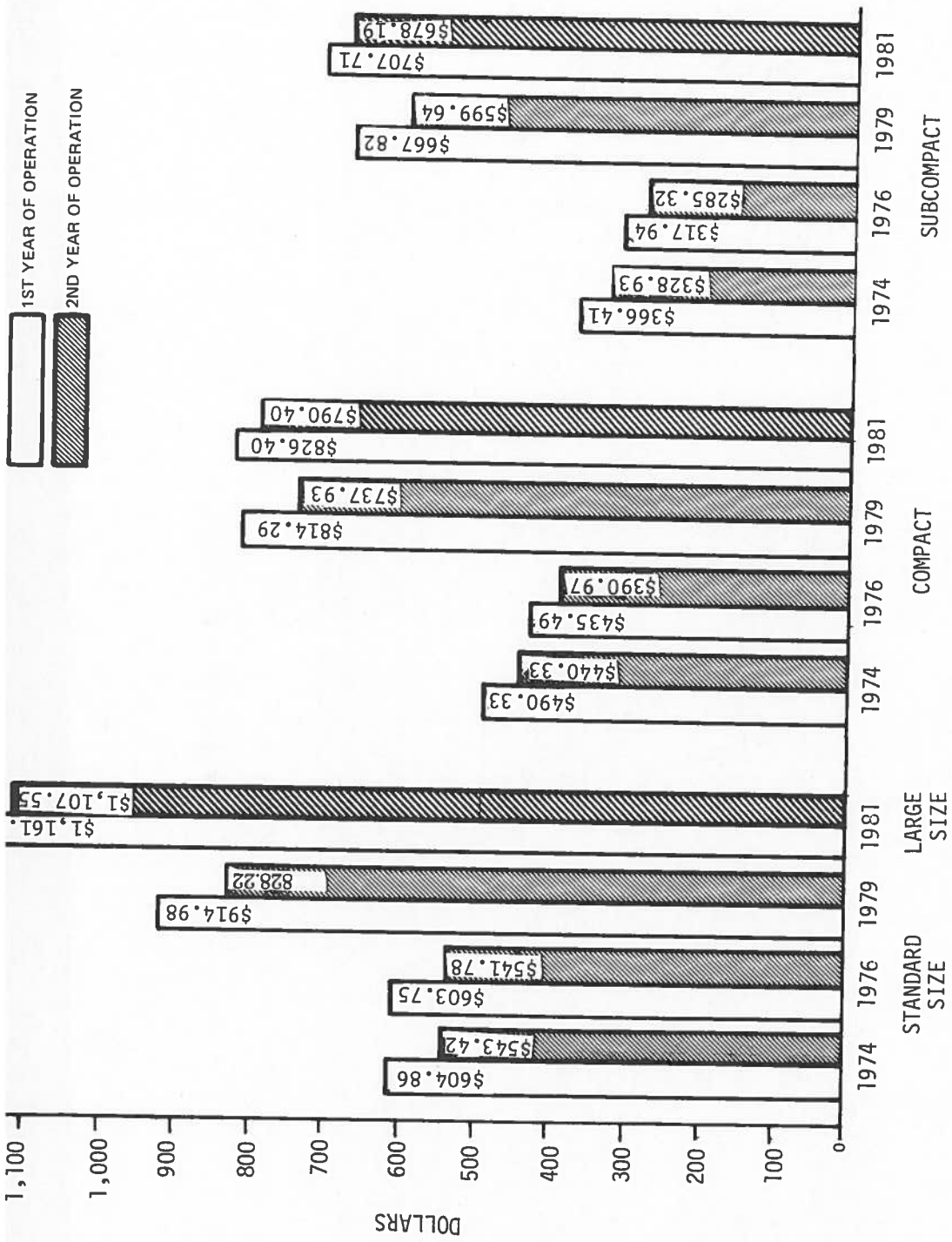
Table 41. Estimated Cost of Owning and Operating a 1981 Model Passenger Van, Including Fuel
(Total costs in dollars, costs per mile in cents)¹

Item	First Year (14,500 Miles)		Second Year (13,700 miles)		Totals & Averages for Ten Years (120,000 miles)	
	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile	Total Cost	Cost Per Mile
Cost Excluding Taxes:						
Depreciation	3,983.00	27.47	1,846.00	13.47	12,877.00	10.73
Scheduled Maintenance	(96.85)	(.67)	(177.85)	(1.30)	(1,555.62)	(1.30)
Nonscheduled Repairs and Maintenance	(67.50)	(.47)	(161.53)	(1.18)	(5,069.15)	(4.22)
Total Repairs and Maintenance	164.35	1.14	339.38	2.48	6,624.77	4.22
Replacement Tires	15.12	.10	14.24	.10	874.58	.73
Accessories	18.09	.12	17.28	.13	345.17	.29
Gasoline	1,262.52	8.71	1,192.91	8.71	10,448.54	8.71
Oil	13.50	.09	24.75	.18	240.75	.20
Insurance	585.00	4.03	567.00	4.14	5,327.00	4.44
Parking and Tolls	113.68	.78	107.10	.78	939.48	.78
Total	6,155.26	42.44	4,108.66	29.99	37,677.29	31.40
Taxes and Fees:						
State:						
Gasoline	93.21	.64	88.07	.64	771.42	.64
Registration	30.00	.21	30.00	.22	360.00	.30
Titling	643.85	4.44	-	-	643.85	.54
Operating Cost Sales Tax ²	(.13)	-	(1.65)	(.01)	(110.84)	(.09)
Nonoperating Cost Sales Tax	(1.21)	(.01)	(1.82)	(.01)	(24.75)	(.02)
Total Sales Tax	1.34	.01	3.47	.02	135.59	.11
Subtotal	768.40	5.30	121.54	.88	1,910.86	1.59
Federal:						
Gasoline	41.43	.29	39.14	.29	342.86	.29
Oil ²	.09	-	.17	-	1.65	-
Tires	6.53	.05	6.18	.05	60.84	.05
Subtotal	48.05	.34	45.49	.34	405.35	.34
Total Taxes	816.45	5.64	167.03	1.22	2,316.21	1.93
Operating Costs	1,613.71	11.13	1,635.74	11.94	18,860.11	15.72
Ownership Costs	5,358.00	36.95	2,639.95	19.27	21,133.39	17.61
Total of All Costs	6,971.71	48.08	4,275.69	31.21	39,993.50	33.33

¹This estimate covers the total cost of a passenger van purchased for \$12,877 and operated 120,000 miles over a 12-year period. Baltimore area prices, considered to be in the middle range, were used.

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

Source: U.S. DOT, FHWA, *Cost of Owning and Operating Automobiles and Vans, 1982*.



Source: 1974, 1976: U.S. DOT, FHWA, *Cost of Operating an Automobile, 1974, 1976.*
 1979, 1981: *Ibid.*, *Cost of Owning and Operating Automobiles and Vans, 1979, 1982.*

Figure 27. Estimated Annual Automobile Gasoline and Oil Costs, Including Taxes, by Size and Year of Operation

Part 2. Energy Intensiveness

Table 2.1. Energy Intensity (EIT) by Sector, 1980-2000. EIT is defined as the amount of energy consumed per unit of output. The units are kilowatt-hours per dollar of output. The data are presented in the following table.

Year	Total	Manufacturing	Construction	Transportation	International	Electricity	Gas	Oil	Coal	Other
1980	1.25	1.15	1.05	1.10	1.12	1.18	1.10	1.15	1.20	1.10
1985	1.15	1.05	1.00	1.05	1.08	1.12	1.05	1.10	1.15	1.05
1990	1.05	0.95	0.90	0.95	0.98	1.02	0.95	1.00	1.05	0.95
1995	0.95	0.85	0.80	0.85	0.88	0.92	0.85	0.90	0.95	0.85
2000	0.85	0.75	0.70	0.75	0.78	0.82	0.75	0.80	0.85	0.75
2005	0.75	0.65	0.60	0.65	0.68	0.72	0.65	0.70	0.75	0.65
2010	0.65	0.55	0.50	0.55	0.58	0.62	0.55	0.60	0.65	0.55
2015	0.55	0.45	0.40	0.45	0.48	0.52	0.45	0.50	0.55	0.45
2020	0.45	0.35	0.30	0.35	0.38	0.42	0.35	0.40	0.45	0.35
2025	0.35	0.25	0.20	0.25	0.28	0.32	0.25	0.30	0.35	0.25
2030	0.25	0.15	0.10	0.15	0.18	0.22	0.15	0.20	0.25	0.15
2035	0.15	0.05	0.00	0.05	0.08	0.12	0.05	0.10	0.15	0.05
2040	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 45. Energy Intensiveness of Certificated All-Cargo Carriers (All Services), 1970- 1980*

Year	Overall Revenue Ton-Miles (millions)			Fuel Consumed** (million gal.)			Btu/Overall Revenue Ton-Mile		
	Domestic Operations	International Operations	Total Operations	Domestic Operations	International Operations	Total Operations	Domestic Operations	International Operations	Total Operations
	1970	302	1,123	1,425	60	229	289	26,821	27,529
1971	311	1,264	1,575	59	240	299	25,611	27,633	25,629
1972	379	1,333	1,712	68	249	317	24,222	25,218	24,997
1973	534	1,139	1,673	91	202	293	23,006	23,942	23,643
1974	533	1,112	1,645	85	180	265	21,529	21,852	21,748
1975	464	1,149	1,613	74	192	266	21,530	22,559	22,263
1976	463	1,183	1,646	75	186	261	21,868	21,226	21,406
1977	519	1,273	1,792	103	168	271	26,792	17,816	20,416
1978	870	1,316	2,186	164	171	335	25,448	17,542	20,688
1979	972	1,302	2,274	171	163	333 ^r	23,750	16,901	19,770
1980	975	1,446	2,421	157	173	331	21,738	16,151	18,457

*Note: Btu/ton-mile data excludes passenger/cargo (belly freight) operations, which, if considered, would make overall air freight operations even more efficient.
 **Includes aviation gasoline and jet fuel.

Note: Heat equivalent factor used in Btu conversion is 5,670,000 Btu/bbl.

Source: Overall Revenue Ton-Miles:

1969-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 116 and p. 119.

1973-1980: CAB, *Air Carrier Traffic Statistics*, December 1980, p. 14 and p. 18, and similar tables in earlier editions.

Fuel Consumed:

1969-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 65, Table 57.

1973-1975: CAB, *Handbook of Airline Statistics Supplement*, 1975, 1977, p. 5, Table 2.

1976-1980: CAB, *Fuel Cost and Consumption*, 12 months ended Dec. 31, 1980 and 1979, Table 4 and similar tables in earlier editions.

Table 47. Energy Intensiveness of Automobiles and Motorcycles, 1970- 1980

Year	Auto Pass.-Miles (millions)	Motorcycle Pass.-Miles (millions)	Fuel Consumed (million gal.)		Autos (Btu/pass.- miles)	Motorcycle (Btu/pass.- miles)
			Autos	Motorcycles		
1970	1,959,857	11,163	65,649	135	4,187	1,512
1971	2,066,024	16,558	69,213	301	4,188	2,272
1972	2,170,095	18,800	73,121	342	4,212	2,274
1973	2,237,094	21,553	77,619	392	4,337	2,274
1974	2,179,586	24,582	73,770	447	4,231	2,273
1975	2,261,866	24,586	76,010	447	4,201	2,273
1976	2,366,676	24,659	78,398	448	4,141	2,271
1977	2,461,028	24,823	80,226	451	4,075	2,271
1978	2,693,512	25,453	83,312	463	3,866	2,274
1979	2,623,191	24,211	79,793	440	3,802	2,272
1980	2,557,340	19,800	73,375	360	3,586	2,273

Note: Passenger-Mile data is based on vehicle-miles obtained from the FHWA and an average occupancy rate of 2.2 (2.3 as of 1978) for automobiles and 1.1 for motorcycles.

The heat equivalent factor used for Btu conversion is 125,000 Btu/gal.

Source: Passenger-Miles and Fuel Consumed:
FHWA, *Highway Statistics*, annual issues, Table VM-1.

Table 49. Energy Intensiveness of Local Transit and School Buses, 1970- 1980

Year	Vehicle-Miles (millions)					Fuel Consumed				Btu/Vehicle-Mile		
	Trolley Coach	Heavy Rail	Light Rail	Combined Rail & Trolley	Transit Bus	School Bus	Combined Rail & Trolley (kWh)(10 ⁶)	Transit Bus (Diesel) (million gal.)	School Bus (Gasoline) (million gal.)	Combined Rail & Trolley†	Transit Bus	School Bus
1970	33.0	407.1	33.7	473.8	1,409	2,100	2,561	271	300	18,443	26,677	17,857
1971	30.8	407.4	32.7	470.9	1,376	2,212	2,556	257	316	18,520	25,905	17,857
1972	29.8	386.2	31.6	447.6	1,308	2,359	2,428	253	320	18,508	26,828	16,956
1973	25.7	407.3	31.2	464.2	1,370	2,412	2,331	283	327	17,134	28,651	16,946
1974	17.6	431.9	26.9	476.4	1,431	2,450	2,630	316	333	18,836	30,628	16,990
1975	15.3	423.1	23.8	463.7*	1,526	2,500	2,646	365	342	19,470	33,175	17,100
1976	15.3	407.0	21.1	444.9*	1,581	2,862	2,576	389	390	19,756	34,127	17,034
1977	14.8	361.3	20.4	398.0*	1,623	2,950	2,303	403	401	19,743	34,440	16,991
1978	13.3	363.5	19.5	397.8*	1,631	2,991	2,223	422	407	19,067	35,887	17,009
1979	11.7	380.5	19.1	411.9*	1,634	2,980	2,473	423	405	20,485	35,906	16,988
1980	13.0	384.7	19.5	417.8*	1,617	2,900	2,446	441	380	19,975	36,474	16,379

*Includes Cable Car and Inclined Plane.

†Does not include electric power generation and distribution losses, which, if included, would more than triple the Btu figures shown.

Note: The heat equivalent factors used for Btu conversion are:
 1 kWh = 3412 Btu (Combined Rail and Trolley Coach)
 Automotive gasoline = 125,000 Btu/gal. (School Bus)
 Distillate oil = 138,700 Btu/gal. (Motor Bus)

Source: School Bus: FHWA, *Highway Statistics*, annual issues, Table VM-1.
 Local Transit: APTA, *Transit Fact Book*, 1981 edition, Table 13 and 17.

Table 52. Energy Intensiveness of Amtrak Service, 1972-1980

Year	Revenue Passenger-Miles (10 ⁶)	Fuel Consumed (million gal.)				Total Fuel Consumed (10 ⁹ Btu)*	Btu/Revenue Passenger-Mile*
		Locomotive		Rail Motor Car			
		Diesel	Electric*	Diesel	Electric*		
1972	3,039	n/a	n/a	n/a	n/a	n/a	n/a
1973	3,809	75.6	181.5	0.4	92.9	11,477	3,013
1974	4,259	64.8	182.3	0.7	94.8	10,030	2,355
1975	3,753	63.1	180.3	6.7	94.0	10,617	2,829
1976	4,268	67.1	183.3	9.8	87.6	11,590	2,716
1977	4,204	66.9	187.4	14.9	76.3	12,245	2,913
1978	4,154	69.6	197.4	17.7	64.7	13,003	3,130
1979	4,867	70.0	247.9	7.4	79.9	11,854	2,436
1980	4,503	63.5	253.8	5.6	43.9	10,600	2,354

n/a = not available

*Does not include electric power generation and distribution losses, which, if included, would increase figures shown by about 20%.

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

Diesel = 138,700 Btu/gal.

Electric = 3,412 Btu/k Wh.

Source: Revenue Passenger-Miles:

1972-1979: AAR, *Statistics of Railroads of Class I*, 1969-1979, 64th Edition, November 1980, p. 18.

1980: AAR, *Operating and Traffic Statistics*, August 1981, p. 8.

Fuel Consumed:

1972-1980: AAR, personal communication.

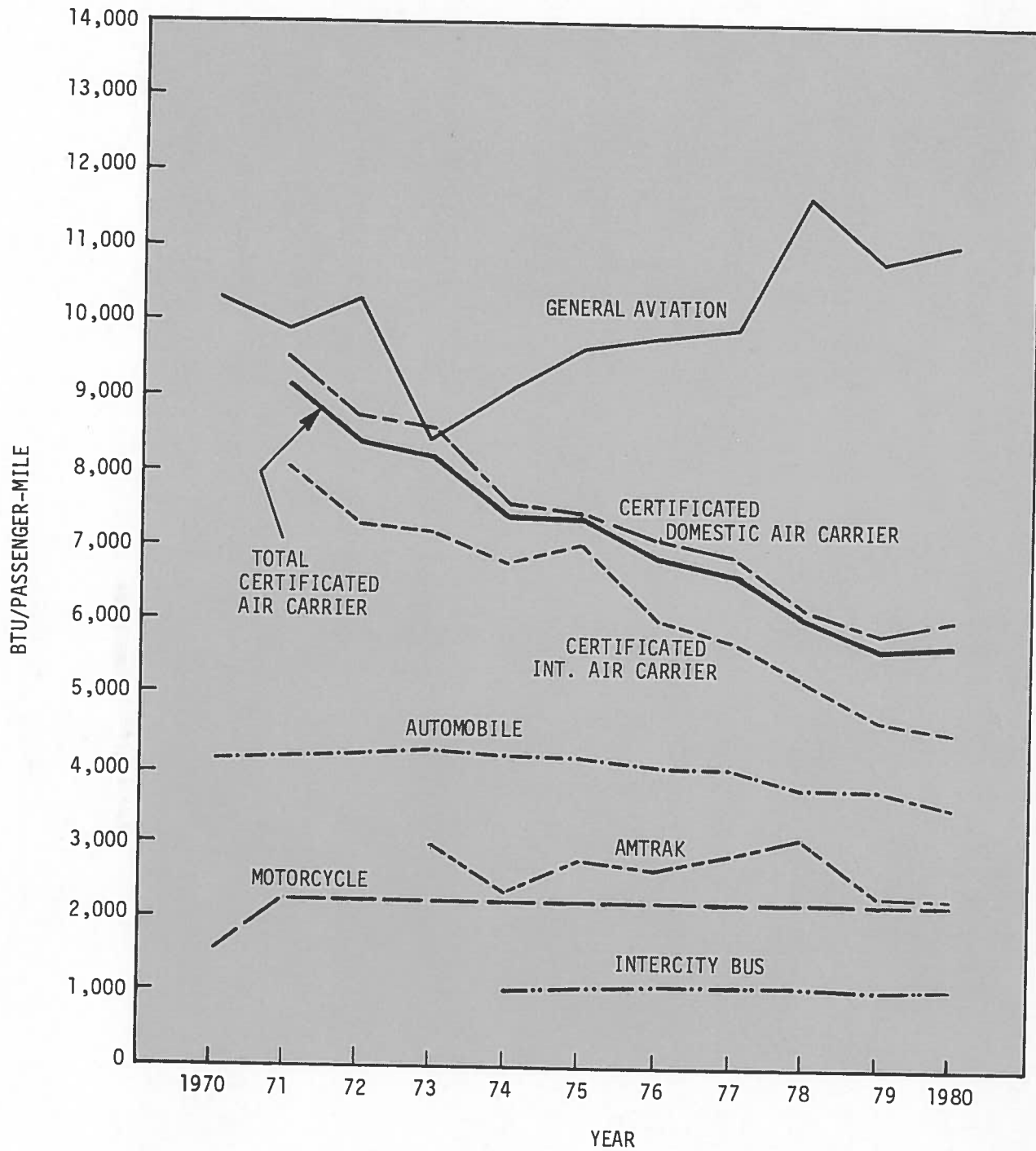
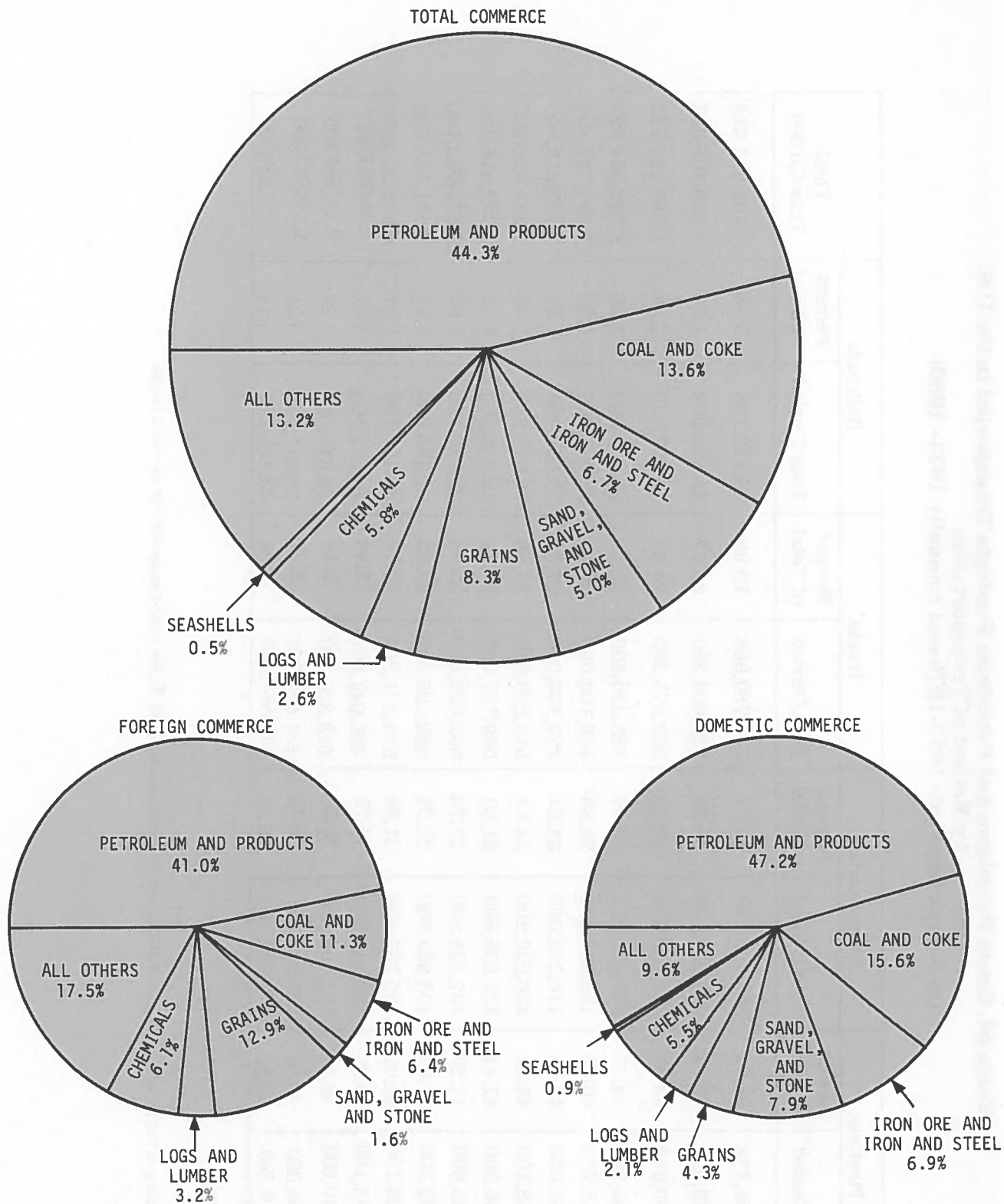


Figure 29. Energy Intensiveness by Passenger Mode, 1970- 1980 (Btu/Passenger-Mile)



Source: Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, 1980.

FIGURE 30. PRINCIPAL COMMODITIES CARRIED BY WATER, CALENDAR YEAR 1979

Figure 30. Principal Commodities Carried by Water, Calendar Year 1980

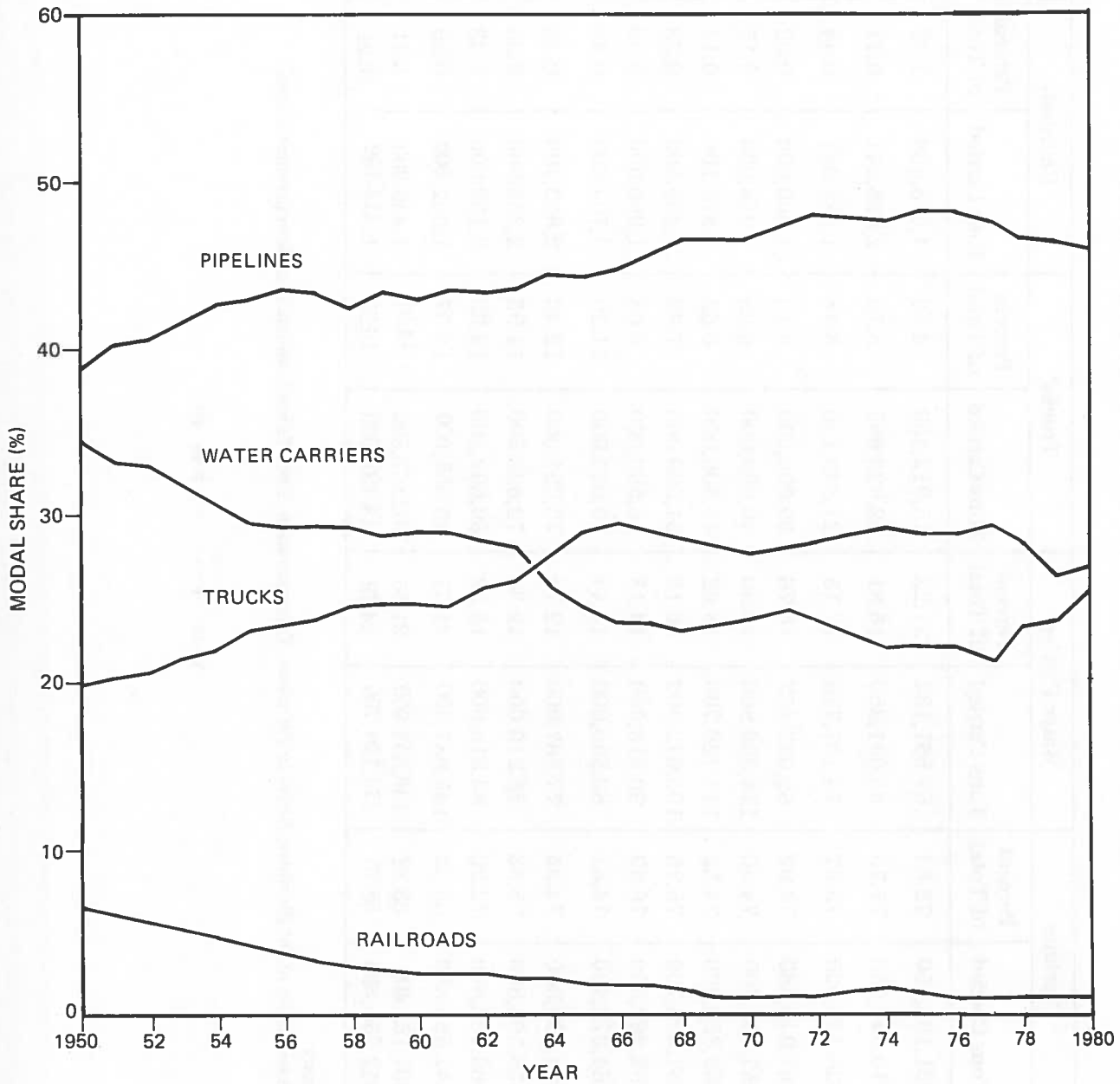


Figure 31. Crude Petroleum and Petroleum Products Transported in the U.S. by Modal Share, 1950- 1980

**Table 56. Refined Petroleum Products Transported in the U.S.
by Method of Transportation
(at 5-Year Intervals 1950- 1970 and Annually 1971- 1980)**

Year	Pipelines ¹		Water Carriers		Trucks ²		Railroads		Total Tons Carried
	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	Tons Carried	Percent of Total	
1950	52,655,233	12.75	185,214,617	44.85	130,768,527	31.66	44,363,662	10.74	413,002,039
1955	102,490,445	18.24	220,925,284	39.32	199,680,665	35.53	38,834,961	6.91	561,931,355
1960	139,960,682	21.31	244,157,879	37.17	242,532,133	36.93	30,168,753	4.59	656,819,447
1965	220,746,000	26.50	241,588,552	29.01	345,784,000	41.51	24,796,000	2.98	832,914,552
1970	333,085,000	31.12	286,367,000	26.75	425,200,000	39.72	25,816,000	2.41	1,070,468,000
1971	346,810,800	31.43	302,071,300	27.37	429,900,000	38.96	24,773,800	2.24	1,103,555,900
1972	388,641,400	32.39	322,930,400	26.92	462,500,000	38.55	25,638,700	2.14	1,199,710,500
1973	419,827,600	32.74	330,687,300	25.78	504,177,000	39.31	27,835,300	2.17	1,282,527,200
1974	420,375,600	33.54	323,868,200	25.84	481,993,000	38.45	27,225,700	2.17	1,253,462,500
1975	424,759,300	34.82	326,077,900	26.73	444,398,000	36.43	24,633,900	2.02	1,219,899,100
1976	475,600,300	36.58	349,947,400	26.18	486,615,700	36.41	24,440,600	1.83	1,336,604,000
1977	525,950,300	36.05	361,732,900	25.59	505,350,400 ^r	36.60	26,449,200	1.86	1,419,482,800 ^r
1978	534,357,700	37.15	356,809,200	24.80	523,770,400 ^r	35.41	23,627,100	1.64	1,438,564,400 ^r
1979	540,950,700	38.48	342,661,900	24.38	498,105,700	35.44	23,951,200	1.70	1,405,664,600 ^r
1980 ^p	507,743,200	39.36	335,113,400	25.99	424,386,000	32.90	22,700,900	1.75	1,289,943,500

¹Products in pipelines carry light products only — gasoline, heating and fuel oils, liquid petroleum gas, kerosene and jet fuel.

²Estimates

r = revised

p = preliminary

Source: Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1980, Table 3, and same table in previous issues.

(At 3-Year Intervals 1950-1970 and Annually 1971-1980)

Year	Crude-Oil Trunk Lines		Refined-Oil Trunk Lines		Total Trunk Lines		Crude-Oil Gathering Lines		Total Petroleum Pipelines	
	ICC Lines	All Lines ¹	ICC Lines	All Lines ¹	ICC Lines	All Lines ¹	ICC Lines	All Lines ¹	ICC Lines	All Lines ⁴
1950	64,622	71,373	16,374	20,881	80,996	92,254	47,593	60,560	128,589	152,814
1953	63,408	75,228	20,462	27,236	83,870	102,464	50,030	68,040	133,900	170,504
1956	61,885	78,594	29,465	36,420	91,350	115,014	51,336	73,526	142,686	188,540
1959	61,860	70,317	37,732	44,483	99,592	114,800	49,567	75,182	149,159	189,982
1962	61,702	70,355	45,288	53,200	106,990	123,555	48,063	76,988	155,053	200,543
1965	63,981	n/a	50,791	n/a	114,772	n/a	46,640	n/a	161,412	213,765
1970	63,030	75,143	59,335	72,396	122,365	147,539	46,587	71,132	175,735 ²	218,671
1971	60,946	n/a	61,525	n/a	122,471	n/a	45,759	n/a	174,722 ²	219,899
1972	59,757	n/a	64,701	n/a	124,458	n/a	42,893	n/a	173,532 ²	221,127
1973	57,435	76,250	64,919 ³	78,038	122,354 ³	154,288	41,655	69,247	170,691 ²	223,535
1974	57,602	n/a	68,609 ³	n/a	126,211 ³	n/a	41,577	n/a	173,341 ²	224,712
1975	54,658	n/a	66,620 ³	n/a	121,278 ³	n/a	42,582 ^r	n/a	172,680 ²	225,889
1976	58,544	77,972 ⁴	67,913 ³	81,296 ⁴	126,457 ³	159,268 ⁴	39,235	67,798 ⁴	174,072 ²	227,066
1977	59,739	n/a	60,099	n/a	119,838	n/a	34,703	n/a	154,541	229,380
1978	59,981 ^r	n/a	65,114	n/a	125,095 ^r	n/a	36,539	n/a	161,634 ^r	231,647
1979	58,606 ^r	n/a	74,261	n/a	132,867 ^r	n/a	36,927	n/a	169,794	234,480
1980	59,560	n/a	74,510	n/a	134,070	n/a	35,279	n/a	169,349	n/a

n/a = not available

r = revised

¹ Triennial Data.

² Total mileage includes pipelines classified as "other than owned" by the ICC. In 1967 "other than owned" pipeline mileage was 6,255 miles.

³ Includes 273 miles of coal slurry pipeline.

⁴ Date of data is January 1, of each year.

ICC Lines are now Federal Energy Regulatory Commission.

Source: ICC Lines: 1950-1976: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 6, Pipelines, December 31, 1976, Table 2 and equivalent tables in earlier editions.

1977-1980: Penn Well Publishing Co., *Oil and Gas Journal*, Aug. 13, 1979, p. 90; Aug. 11, 1980, p. 86; Nov. 23, 1981, p. 101.

All Lines: 1950-1978: Department of Energy, *Energy Data Reports*, Crude Oil and Product Pipelines, Triennial, January 1, 1977, Table 1.

Total Petroleum (All Lines)

1950-1979: Transportation Association of America, *Transportation Facts and Trends*, July 1978, p. 31, Dec. 1981, p. 13.

Table 60. World Tanker Fleet at End of 1980¹
(10,000 D.W. Tons and Over)
by Flag and Ownership
(In Million Long Tons Deadweight)

Flag	Ownership						Change 1980 over 1979	Share of Total %
	Oil Company	Private	Government	Other	Total 1980	Total 1979		
Liberia	36.0	61.8	-	2.5	100.3	102.5	-2.2	30.9
Norway	0.5	22.6	-	0.9	24.0	24.4	-0.4	7.4
U.K.	17.3	6.8	0.1	0.6	24.8	24.8	-	7.6
Japan	3.5	20.5	-	6.0	30.0	30.0	-	9.3
U.S.A.	8.0	6.9	1.3	-	16.2	15.7	+0.5	5.0
Panama	4.9	7.0	-	0.3	12.2	11.7	+0.5	3.8
France	10.6	4.1	0.1	0.2	15.0	15.4	-0.4	4.6
Greece	-	22.5	-	0.3	22.8	22.0	+0.8	7.0
Other Western Europe	15.7	21.4	-	-	37.1	39.4	-2.3	11.4
Other Western Hemisphere	8.1	0.4	0.3	0.1	8.9	8.2	+0.7	2.7
U.S.S.R., E. Europe and China	-	-	10.2	-	10.2	9.9	+0.3	3.1
Other Eastern Hemisphere	11.5	10.9	-	0.9	23.3	23.9	-0.6	7.2
TOTAL	116.1	184.9	12.0	11.8	324.8	327.9	-3.1	100.0
Fleet as at end 1979	114.9	194.9	11.6	6.5	327.9			
Net change 1980	+1.2%	-10.0%	+0.4%	+5.3%	-3.1%			

¹Excluding 46.8 million D.W.T. Combined Carriers.

Source: British Petroleum Co., *BP Statistical Review of the World Oil Industry*, 1980, p. 14.

Table 61. World Tanker Fleet at End of 1980
by Age, Size and Propulsion
(Million Long Tons Deadweight)

Size in '000 D.W.T.	Year of Construction								Propulsion		New Building In Progress and on Order at End 1980*
	Up to end 1950	1951- 1955	1956- 1960	1961- 1965	1966- 1970	1971- 1975	1976- 1980	Total	Motor	Other	
10- 25	1.3	1.3	3.6	1.8	2.4	2.2	1.5	14.1	11.6	2.5	1.0
25- 45	1.0	1.0	4.9	2.9	1.3	7.1	6.4	24.6	17.2	7.4	5.6
45- 65	-	0.3	1.0	9.1	1.7	0.6	3.4	16.1	9.3	6.8	3.6
65-125	-	-	0.2	7.8	18.5	13.9	12.1	52.5	42.8	9.7	5.3
125-205	-	-	-	-	6.4	13.1	13.0	33.0	24.0	9.0	0.7
205-285	-	-	-	-	20.3	98.3	20.5	139.1	13.2	125.9	1.0
285 and over	-	-	-	-	1.0	18.3	26.1	45.4	0.3	45.1	1.2
TOTAL	2.3	2.6	9.7	21.6	52.1	153.5	83.0	324.8	118.4	206.4	18.4
Motor	0.2	1.0	4.6	12.7	22.9	42.2	34.8	118.4	*Excludes 3.3 million D.W.T. combined carriers		
Other	2.1	1.6	5.1	8.9	29.2	111.3	48.2	206.4			

Source: British Petroleum Co., *BP Statistical Review of the World Oil Industry*, 1980, p. 14.

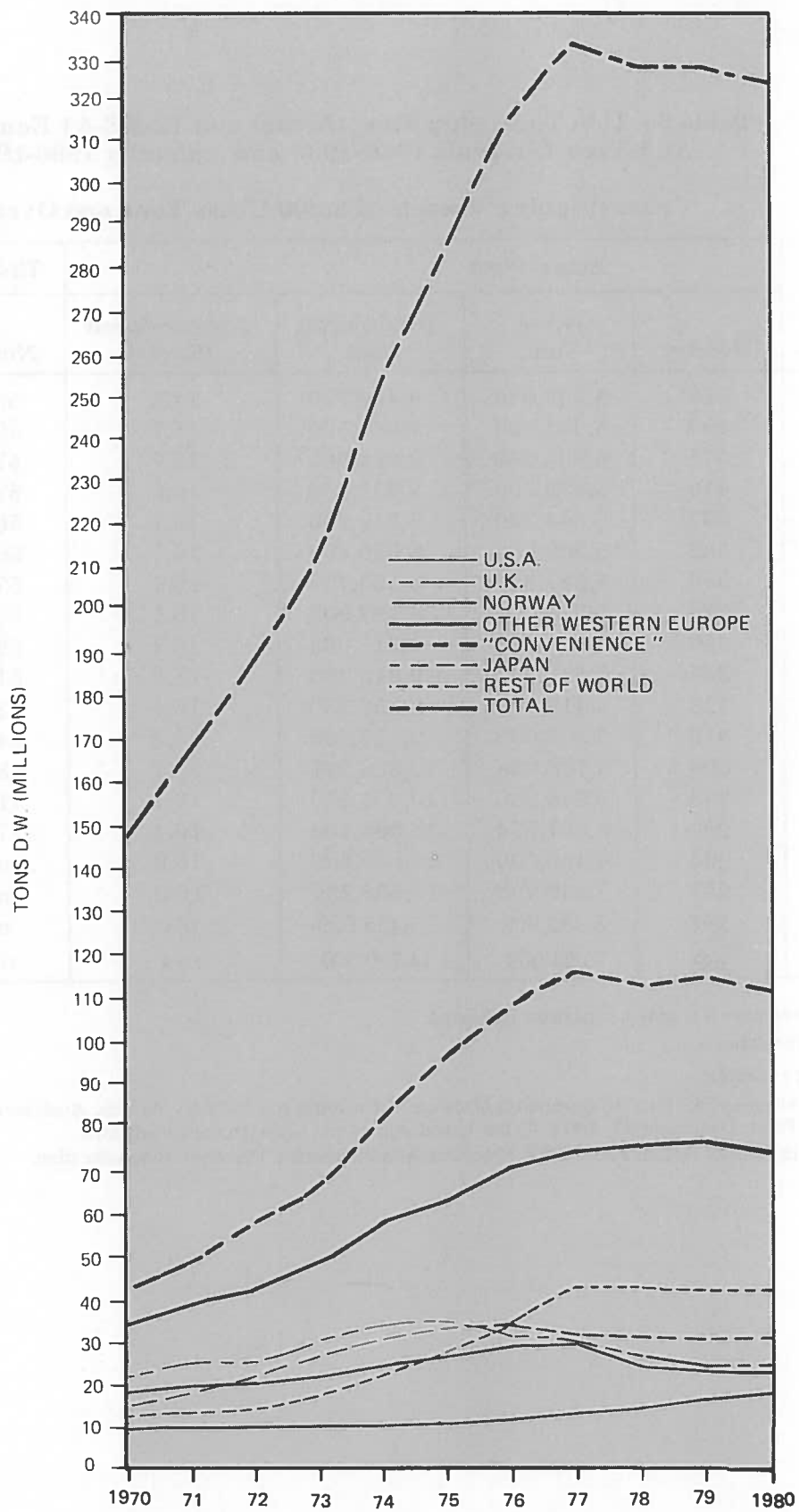


Figure 32. World Tanker Fleet by Flag, 1970- 1980

Table 65. Number and Mileage of Privately Owned U.S. Railroad Tank Cars
 (As of December 31)
 (At 5-Year Intervals 1950-1965 and Annually 1966-1979)

Year	Number			Mileage		
	Petroleum Tank Cars	Other Tank Cars	Total	Petroleum Tank Cars	Other Tank Cars	Total
1950	115,202	19,364	134,566	1,796,767,001	292,030,588	2,088,797,589
1955	121,405	24,372	145,777	1,818,573,349	343,450,999	2,162,024,348
1960	126,070	29,541	155,611	1,784,388,610	390,823,252	2,175,211,862
1965	123,738	31,488	155,226	1,324,976,232	310,989,383	1,635,965,615
1966 ¹	80,592	76,844	157,436	960,989,876	765,728,108	1,726,717,984
1967	74,973	69,749	144,722	890,942,715	566,944,276	1,457,886,991
1968	75,581	70,310	145,891	894,093,477	572,310,905	1,466,404,382
1969	76,217	71,187	147,404	902,041,283	565,623,358	1,467,664,641
1970	75,434	68,151	143,585	871,494,171	577,724,890	1,449,219,061
1971	72,815	65,380	138,195	831,561,636	560,666,789	1,392,228,425
1972	75,387	72,619	148,006	905,119,533	662,865,785	1,567,985,318
1973	75,878	73,548	149,426	985,628,840	748,616,769	1,734,240,609
1974	113,642	39,968	153,610	1,027,780,341	834,784,466	1,862,564,807
1975	101,298	40,083	141,381	1,209,334,628	285,278,275	1,494,612,903
1976	114,672	42,728	157,400	1,486,374,353	313,365,488	1,799,739,841
1977	115,695	43,842	159,537	1,497,026,704	348,881,029	1,845,907,733
1978	120,040	39,676	160,316	1,522,906,554	366,585,626	1,889,492,180
1979	104,772	43,941	148,713	1,384,998,317	391,100,719	1,776,099,036

¹One fleet previously included in the "petroleum" category has been reclassified as "other".

Source: Interstate Commerce Commission, *Transport Statistics in the United States*, Part 4, "Private Car Lines," December 31, 1979, p.2, and equivalent tables in earlier editions. As of 1980 this data is no longer available.

Part 4. Energy Supply and Demand

Source: U.S. Energy Information Administration, "Electricity Generation by Fuel Type," 2013. For more details, see EIA website: <http://www.eia.doe.gov>

Year	Coal	Natural Gas	Nuclear	Renewables	Other
2000	51.0	12.0	20.0	12.0	3.0
2001	50.0	13.0	20.0	12.0	3.0
2002	49.0	14.0	20.0	12.0	3.0
2003	48.0	15.0	20.0	12.0	3.0
2004	47.0	16.0	20.0	12.0	3.0
2005	46.0	17.0	20.0	12.0	3.0
2006	45.0	18.0	20.0	12.0	3.0
2007	44.0	19.0	20.0	12.0	3.0
2008	43.0	20.0	20.0	12.0	3.0
2009	42.0	21.0	20.0	12.0	3.0
2010	41.0	22.0	20.0	12.0	3.0
2011	40.0	23.0	20.0	12.0	3.0
2012	39.0	24.0	20.0	12.0	3.0
2013	38.0	25.0	20.0	12.0	3.0
2014	37.0	26.0	20.0	12.0	3.0
2015	36.0	27.0	20.0	12.0	3.0
2016	35.0	28.0	20.0	12.0	3.0
2017	34.0	29.0	20.0	12.0	3.0
2018	33.0	30.0	20.0	12.0	3.0
2019	32.0	31.0	20.0	12.0	3.0
2020	31.0	32.0	20.0	12.0	3.0

**Table 67. Petroleum Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1980)
(Million Barrels per Day)**

Year	Production					Supply					Disposition					
	Crude Oil	Lease Condensate	Natural Gas Plant Liquids	Total Production	Crude Oil ¹	Imports		Other Refinery Input ²	Unaccounted for Crude Oil	Processing Gains or Losses	Change in Stocks ³	Total Supply	Crude Oil Losses	Export	Domestic Refined Product Demand	Total Disposition
						Refined Products	Total Imports									
1950	5.41	- ⁴	0.50	5.91	0.49	0.36	0.85	*	n/a	*	0.06	6.81	0.05	0.30	6.46	6.81
1955	6.81	- ⁴	0.77	7.58	0.78	0.47	1.25	*	n/a	0.03	*	8.86	0.04	0.37	8.46	8.86
1960	7.04	- ⁴	0.93	7.96	1.02	0.80	1.81	*	n/a	0.15	0.08	10.01	0.01	0.20	9.80	10.01
1965	7.80	- ⁴	1.21	9.01	1.24	1.23	2.47	*	n/a	0.22	0.01	11.71	0.01	0.19	11.51	11.71
1966	8.30	- ⁴	1.28	9.58	1.22	1.35	2.57	*	n/a	0.25	-0.10	12.29	0.01	0.20	12.08	12.29
1967	8.81	- ⁴	1.41	10.22	1.13	1.41	2.54	*	n/a	0.29	-0.17	12.88	0.01	0.31	12.56	12.88
1968	8.66	0.44	1.50	10.60	1.29	1.55	2.84	0.01	0.02	0.32	-0.15	13.64	0.01	0.23	13.39	13.64
1969	8.78	0.46	1.59	10.83	1.41	1.76	3.17	0.01	-0.01	0.34	0.05	14.38	0.01	0.23	14.14	14.38
1970	9.18	0.46	1.66	11.30	1.32	2.10	3.42	0.02	-0.02	0.36	-0.10	14.97	0.01	0.26	14.70	14.97
1971	9.03	0.43	1.69	11.16	1.68	2.25	3.93	0.02	0.04	0.38	-0.07	15.45	0.01	0.22	15.21	15.45
1972	9.00	0.44	1.74	11.18	2.22	2.53	4.74	0.03	0.03	0.39	0.23	16.60	0.01	0.22	16.37	16.60
1973	8.78	0.42	1.74	10.95	3.24	3.01	6.26	0.03	*	0.45	-0.14	17.55	0.01	0.23	17.31	17.55
1974	8.38	0.40	1.69	10.46	3.48	2.64	6.11	0.04	-0.02	0.48	-0.18	16.89	0.01	0.22	16.65	16.89
1975	8.01	0.37	1.63	10.01	4.10	1.95	6.06	0.04	0.02	0.46	-0.03	16.54	0.01	0.21	16.32	16.54
1976	7.78	0.36	1.60	9.74	5.29	2.03	7.31	0.04	0.08	0.48	0.06	17.70	0.01	0.22	17.46	17.70
1977	7.87	0.37	1.62	9.86	6.61	2.19	8.81	0.05	-0.01	0.52	-0.55	18.69	0.02	0.24	18.43	18.69
1978	8.35	0.35	1.57	10.27	6.36	2.01	8.36	0.05	-0.06	0.50	0.09	19.22	0.02	0.36	18.85	19.22
1979	8.18	0.37	1.58	10.14	6.52	1.94	8.46	0.04	-0.01	0.53	-0.15	19.00	0.02	0.47	18.51	19.00
1980 ^P	8.21	0.39	1.57	10.16	5.20	1.59	6.79	0.05	0.09	0.59	-0.09	17.59	0.01	0.54	17.03	17.59

*Less than 5,000 Barrels per Day

p = preliminary

n/a = not available

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

¹ Includes imports for the Strategic Petroleum Reserve which began in 1977.

² Includes benzol, other hydrocarbons, and hydrogen.

³ 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.

⁴ Included in Crude Oil.

Source: U.S. Department of Energy, 1980 Annual Report to Congress, Volume Two, Table 21.

Table 69. Domestic Supply and Demand for Naphtha Type Jet Fuel, 1965- 1981
(Daily Averages in Thousands of Barrels)

Year	Supply			Stocks as of Dec. 31 (barrels x 10 ³)	Demand			
	Production	Imports	New Supply		Change in Stocks	Total Demand	Exports	Domestic Demand
1965	226	44	270	8,338	—	270	2	268
1966	245	35	280	7,235	-3	283	4	279
1967	300	15	315	9,037	+5	310	5	305
1968	332	19	351	8,904	—	351	5	346
1969	287	14	301	8,556	-1	302	5	297
1970	230	20	250	6,621	-5	255	6	249
1971	234	30	264	6,990	+1	263	3	260
1972	209	33	242	6,147	-2	244	2	242
1973	181	36	217	5,599	-2	219	2	217
1974	195	27	222	5,529	—	222	—	222
1975	180	28	208	5,222	-1	209	—	209
1976	187	15	202	6,495	+3	199	—	199
1977	186	21	207	6,285	-1	208	—	208
1978	182	19	201	5,960	-1	202	—	202
1979	176	22	198	5,599	-2	200	—	200
1980	188	31	219	6,308	+2	217	—	217
1981	193	7	200	6,925	-1	199	1	198

Source: 1965-1975: American Petroleum Institute, *Basic Petroleum Data Book*, Section VII, Table 14.

1976-1980: U.S. Department of Energy, *Energy Data Reports*, Petroleum Statement, Monthly.

December 1980, 1979, 1978, 1977, Table 2 (converted to daily averages, using column 6).

1981: *Ibid.*, December 1981, Table 2a, 3a.

Table 71. Bituminous Coal and Lignite Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1980)
(Million Short Tons)

Year	Production						Supply				Disposition		
	Underground	Surface	Total	Imports	Change in Consumer Stocks ¹ **	Losses and Unaccounted For ² **	Total	Exports	Consumption	Total	Disposition		
											Exports	Consumption	Total
1950	392.8	123.5	516.3	0.3	-27.4	-9.6	479.7	25.5	454.2	479.7	25.5	454.2	
1955	343.5	121.2	464.6	0.3	0.8	8.9	474.7	51.3	423.4	474.7	51.3	423.4	
1960	284.9	130.6	415.5	0.3	3.0	-1.8	416.9	36.5	380.4	416.9	36.5	380.4	
1965	332.7	179.4	512.1	0.2	-2.1	-1.0	509.3	50.2	459.1	509.3	50.2	459.1	
1966	338.5	195.4	533.9	0.2	2.9	-1.3	535.6	49.3	486.3	535.6	49.3	486.3	
1967	349.1	203.5	552.6	0.2	-18.7	-4.0	530.1	49.5	480.6	530.1	49.5	480.6	
1968	344.1	201.1	545.2	0.2	7.6	2.8	550.3	50.6	499.7	550.3	50.6	499.7	
1969	347.1	213.4	560.5	0.1	5.0	-1.8	563.8	56.2	507.6	563.8	56.2	507.6	
1970	338.8	264.1	602.9	*	-11.3	-5.7	585.9	70.9	515.0	585.9	70.9	515.0	
1971	275.9	276.3	552.2	0.1	2.1	-3.5	550.8	56.6	494.2	550.8	56.6	494.2	
1972	304.1	291.3	595.4	*	-26.1	5.0	574.3	56.0	518.3	574.3	56.0	518.3	
1973	299.4	292.4	591.7	0.1	12.3	5.6	609.8	52.9	556.9	609.8	52.9	556.9	
1974	277.3	326.1	603.4	2.1	7.9	-0.5	612.9	59.9	553.0	612.9	59.9	553.0	
1975	292.8	355.6	648.4	0.9	-31.7	5.5	623.2	65.7	557.5	623.2	65.7	557.5	
1976	294.9	383.8	678.7	1.2	-6.4	-15.3	658.2	59.4	598.8	658.2	59.4	598.8	
1977	266.0	425.4	691.3	1.6	-21.3	2.5	674.2	53.7	620.5	674.2	53.7	620.5	
1978	242.2	423.0	655.1	3.0	11.0	-18.2	661.2	39.8	621.3	661.2	39.8	621.3	
1979 ^r	320.3	456.0	776.3	2.1	-34.9	-1.4	742.1	64.8	677.3	742.1	64.8	677.3	
1980	336.9	486.7	823.6	1.2	-20.6	-15.2	789.0	89.0	699.1	789.0	89.0	699.1	

^r = revised

* Less than 0.05 million short tons.

** Note: Revised to exclude stocks on the Upper Great Lake docks.

¹ Changes of stocks at electric utility powerplants, coke plants, other industries, and retail dealers. Negative numbers denote a net addition to stocks or reduction in supply. Positive numbers denote a net withdrawal from stocks or an addition to supply.

² Difference between apparent demand (production plus imports less exports and less changes in consumers stocks) and reported consumption.

Source: U.S. Department of Energy, EIA, *Coal Data - A Reference*, July 1982.

**Table 73. Natural Gas Supply and Disposition
(At 5-Year Intervals 1950-1965 and Annually 1966-1980)
(Trillion Cubic Feet)**

Year	Supply			Disposition						Dry Natural Gas Production ³	
	Marketed Production	Imports	Withdrawal from Storage	Total Supply	Consumption	Extraction Loss ¹	Exports	Storage Injections	Adjustments ²		Total Disposition
1950	6.28	0.00	0.18	6.46	5.77	0.26	0.03	0.23	0.18	6.46	6.02
1955	9.41	0.01	0.44	9.85	8.69	0.38	0.03	0.51	0.25	9.85	9.03
1960	12.77	0.16	0.71	13.64	11.97	0.54	0.01	0.84	0.27	13.64	12.23
1965 ⁴	16.04	0.46	0.96	17.46	15.28	0.75	0.03	1.08	0.32	17.46	15.29
1966	17.21	0.48	1.14	18.83	16.45	0.74	0.02	1.21	0.40	18.83	16.47
1967	18.17	0.56	1.13	19.87	17.39	0.78	0.08	1.32	0.30	19.87	17.39
1968	19.32	0.65	1.33	21.30	18.63	0.83	0.09	1.43	0.33	21.30	18.49
1969	20.70	0.73	1.38	22.80	20.06	0.87	0.05	1.50	0.33	22.80	19.83
1970	21.92	0.82	1.46	24.20	21.14	0.91	0.07	1.86	0.23	24.20	21.01
1971	22.49	0.93	1.51	24.94	21.79	0.88	0.08	1.84	0.34	24.94	21.61
1972	22.53	1.02	1.76	25.31	22.10	0.91	0.08	1.89	0.33	25.31	21.62
1973	22.65	1.03	1.53	25.21	22.05	0.92	0.08	1.97	0.20	25.21	21.73
1974	21.60	0.96	1.70	24.26	21.22	0.89	0.08	1.78	0.29	24.26	20.71
1975	20.11	0.95	1.76	22.82	19.54	0.87	0.07	2.10	0.24	22.82	19.24
1976	19.95	0.96	1.92	22.84	19.95	0.85	0.06	1.76	0.22	22.84	19.10
1977	20.03	1.01	1.75	22.79	19.52	0.86	0.06	2.31	0.04	22.79	19.16
1978	19.97	0.97	2.16	23.10	19.63	0.85	0.05	2.28	0.29	23.10	19.12
1979	20.47	1.25	2.05	23.77	20.24	0.81	0.06	2.30	0.37	23.77	19.66
1980	20.09 ⁵	0.99 ^e	2.08	23.17 ^e	20.02 ^e	0.80 ^e	0.06 ^e	2.03	0.27 ^e	23.17 ^e	19.30 ⁵

e = estimated

¹ Quantity converted to natural gas plant liquids and transferred to petroleum supply and disposition.

² Includes transmission losses, changes in above ground storage, and unaccounted for gas.

³ Marketed production less losses due to the extraction of liquids.

⁴ Beginning with 1965 data, all volumes are shown on a pressure base of 14.73 psia at 60° F.

⁵ Estimate based on reported data through November.

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

Source: U.S. Department of Energy, 1980 Annual Report to Congress, Volume Two, Table 45.

Figure 3. Expenditures and Revenues, 1980 (Cont.)

- (20) Motorbus: *Ibid.* Operating revenues.
- (21) Trolley Coach: *Ibid.* Operating revenues.
- (22) Light Rail: *Ibid.* Operating revenues.
- (23) Heavy Rail: *Ibid.* Operating revenues.
- (24) Rail: Sum of Passenger and Cargo.
- (25) Rail, Passenger: Sum of Commuter and Intercity.
- (26) Rail, Commuter: AAR, *Yearbook of Railroad Facts*, 1981 edition, p.14. Includes Amtrak (NRPC).
- (27) Rail, Intercity: *Ibid.*, p.14. Sum of passenger revenues from coaches, parlor and sleeping cars, which includes Amtrak (NRPC).
- (28) Rail, Cargo: *Ibid.*, p.13. Class I freight revenue. Excludes Rock Island Railroad.
- (29) Air: Sum of General Aviation and Air Carrier.
- (30) General Aviation: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.5. Figure represents the sum of operating costs and total retail value of new general aviation aircraft.
- (31) Air Carrier: Sum of Certified and Supplemental.
- (32) Certificated: CAB, *Air Carrier Financial Statistics*, Dec. 1980, p. 2, column 7, line 19. Total operating revenues, domestic operations.
- (33) Passenger, Certificated: *Ibid.*; sum of lines 3 and 12. Total passenger revenues in scheduled and charter service.
- (34) Freight, Certificated: *Ibid.*; sum of lines 4, 5, 6, 7, 8, 9, and 13. Includes revenues from scheduled domestic service of freight, air express, priority U.S. mail, foreign mail, excess baggage, and charter freight.
- (35) Supplemental: *Ibid.*, p.103. Overall operating revenues of supplemental air carriers, total domestic and international operations. No separation of international and domestic revenues is available.
- (36) Passenger, Supplemental: *Ibid.* Sum of civilian (line 1) and military (line 2) passenger revenues. Total domestic and international operations.
- (37) Freight, Supplemental: *Ibid.* Sum of civilian (line 3) and military (line 4) property revenues.
- (38) Water: Sum of Passenger, Cargo, and Commercial Fishing.

Figure 4. Vehicle-Miles, 1980 (Cont.)

- (5) Auto: Sum of Personal Passenger Car and Motorcycle.
- (6) Personal Passenger Car: Federal Highway Administration, *Highway Statistics, 1980*, Table VM-1. Includes total rural and urban.
- (7) Taxi: Data for taxi are included in the Personal Passenger Car category.
- (8) Motorcycle: Federal Highway Administration, *Highway Statistics, 1980*, Table VM-1. Includes total rural and urban.
- (9) Truck: *Ibid.*
- (10) Single-Unit: *Ibid.*
- (11) Combinations: *Ibid.*
- (12) Bus: Sum of Intercity Bus and School Bus.
- (13) Intercity Bus: American Bus Association, *Bus Facts, 1981*, p.3. Includes Class I, II, and III carriers reporting to the ICC and Intrastate carriers. Preliminary figure.
- (14) Class I: *Ibid.*, p.19. Total vehicle-miles operated. Preliminary figure.
- (15) Regular-route: *Ibid.* Regular-route intercity service. Preliminary figure.
- (16) Local and Suburban: *Ibid.* Local and suburban service. Preliminary figure.
- (17) Charter and Special: *Ibid.* Charter and special service. Preliminary figure.
- (18) Non-Passenger: *Ibid.* Non-passenger service. Preliminary figure.
- (19) Class II and III: Figure derived by subtracting Class I from Intercity Bus.
- (20) School Bus. Federal Highway Administration, *Highway Statistics, 1980*, Table VM-1. Includes total rural and urban.
- (21) Local Transit: APTA, *Transit Fact Book, 1981* edition, Table 13. Total vehicle miles of Light Rail, Heavy Rail, Trolley Coach, and Motorbus.
- (22) Motorbus: *Ibid.*
- (23) Trolley Coach: *Ibid.*
- (24) Light Rail: *Ibid.*
- (25) Heavy Rail: *Ibid.*
- (26) Rail: Sum of Passenger and Freight.

Figure 5. Passenger-Miles, 1980

- (1) Total Transportation: Sum of Domestic and International.
- (2) Domestic: Sum of Highway, Local Transit, Rail, Air, and Water.
- (3) International: Sum of Air Carrier and Water.
- (4) Highway: Sum of Auto and Bus.
- (5) Auto: Sum of Personal Passenger Car, Taxi, and Motorcycle.
- (6) Personal Passenger Car: FHWA, *Highway Statistics*, 1980, 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: FHWA, *Highway Statistics*, 1980, 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: American Bus Association, *Bus Facts*, 1981, p.3. Includes Classes I, II, III carriers reporting to ICC plus Intrastate Carriers. Preliminary figure.
- (11) Class I: *Ibid.*, p.5.
- (12) Regular-Route: *Ibid.*, p.19.
- (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: Not available.
- (16) Rail: Passenger Rail only.
- (17) Passenger Rail: Sum of Commutation and other than Commutation.
- (18) Commutation: AAR, *Yearbook of Railroad Facts*, 1981 edition, p. 32.
- (19) Other than Commutation: *Ibid.*
- (20) Air: Sum of General Aviation and Air Carrier.
- (21) General Aviation: TAA, *Transportation Facts and Trends*, Dec. 1981, p.6.
- (22) Air Carrier: Sum of Certificated and Supplemental.
- (23) Certificated: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 1.

Figure 6. Cargo Ton-Miles, 1980 (Cont.)

- (3) International: Sum of Air Carrier and Water.
- (4) Highway: Figure represents total intercity ton-miles of motor vehicle transport. Local truck and intercity bus ton-miles are not available.
- (5) Truck: Intercity truck ton-miles only.
- (6) Local Truck: Not available.
- (7) Intercity: TAA, *Transportation Facts and Trends*, Seventeenth Edition, Dec. 1981, p.8., Total Intercity ton-miles.
- (8) ICC Regulated: Not available.
- (9) Non-Regulated: Not available.
- (10) Rail: AAR, *Operating and Traffic Statistics*, August 1981, p.6, column 65.
- (11) Air: Air Carrier only.
- (12) Air Carrier: Sum of Certificated and Supplemental.
- (13) Certificated: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 3.
- (14) Scheduled: Sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
- (15) Freight: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 18.
- (16) Air Express: *Ibid.*, line 19
- (17) U.S. Mail: *Ibid.*, line 20.
- (18) Foreign Mail: *Ibid.*, line 21.
- (19) Non-Scheduled: Sum of Civilian Freight and Military Freight.
- (20) Civilian Freight: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 5, column 5, line 44.
- (21) Military Freight: *Ibid.*, line 45.
- (22) Supplemental: CAB, *Air Carrier Traffic Statistics*, Dec. 1980, p. 151, line 13.
- (23) Civilian: *Ibid.*, line 11.
- (24) Military: *Ibid.*, line 12.
- (25) Water: U.S. Department of the Army, Corps of Engineers, *Waterborne Commerce of the United States, Calendar Year 1980, Part 5*, Section 3, Table 1, total domestic ton-miles.
- (26) Coastwise: *Ibid.*
- (27) Lakewise: *Ibid.*

Figure 7. Number of Vehicles, 1979 (Cont.)

- (4) Highway: Sum of Auto, Truck, and Bus.
- (5) Auto: Sum of Personal Passenger Car and Motorcycle.
- (6) Personal Passenger Car: FHWA, *Highway Statistics*, 1980, Table MV-1. This figure includes private and commercial automobiles (including taxi cabs) as well as publicly owned automobiles for the 50 states and the District of Columbia (Number of Motorized Vehicles Registered).
- (7) Taxi: Data for Taxi are included in the Personal Passenger Car category.
- (8) Motorcycle: FHWA, *Highway Statistics*, 1980, Table MV-1. This figure is the sum of the private, commercial, and publicly owned motorcycles (Number of Motorized Vehicles)
- (9) Truck: *Ibid.* Number of Motorized Vehicles.
- (10) Private: *Ibid.*
- (11) Public: *Ibid.*
- (12) Bus: Sum of Intercity Bus and School Bus.
- (13) Intercity Bus: American Bus Association, *Bus Facts*, 1981, p.3. This figure includes operations of Class I, II, and III carriers reporting to the ICC and the Intrastate carriers. Preliminary figure.
- (14) Class I: *Ibid.*, p.5.
- (15) Class II and III: Figure derived by subtracting Class I from Intercity.
- (16) School: FHWA, *Highway Statistics*, 1980, Table MV-10. (Total school and other non-revenue buses).
- (17) Local Transit: APTA, *Transit Fact Book*, 1981, Table 15. This figure includes the total number of motorbuses, trolley coaches, and light and heavy rail vehicles. This figure does not include commuter or suburban railroads. Preliminary figure.
- (18) Motorbus: *Ibid.*
- (19) Trolley Coach: *Ibid.*
- (20) Light Rail: *Ibid.*
- (21) Heavy Rail: *Ibid.*
- (22) Rail: Sum of passenger and freight.
- (23) Rail, Passenger: AAR, *Statistics of Railroads of Class I*, 1981, p. 11.
- (24) Rail, Freight: *Ibid.*, p. 10.

Figure 7. Number of Vehicles, 1980 (Cont.)

- (51) Water: U.S. Department of Commerce, Maritime Administration, personal communication.
- (52) Government: *Ibid.*
- (53) Private: *Ibid.*

Figure 8. Number of Fatalities, 1980

- (1) Total Transportation: Not available.
- (2) Domestic: Not available.
- (3) International: Sum of Air Carrier and Water.
- (4) Highway: Sum of Auto, Truck, Bus, Bicycle and Pedestrian.
- (5) Auto: Sum of Personal Passenger Car, Taxi, and Motorcycle.
- (6) Personal Passenger Car: U.S. DOT, NHTSA/NRD-30, Fatal Accident Reporting System (FARS), personal communication.
- (7) Taxi: National Safety Council, *Accident Facts*, 1981.
- (8) Motorcycle: U.S. DOT, NHTSA/NRD-30, FARS, personal communication.
- (9) Truck: *Ibid.*
- (10) Private: Not available.
- (11) For Hire: Not available.
- (12) ICC Regulated: Not available.
- (13) Non-Regulated: Not available.
- (14) Bus: Sum of intercity and school bus fatalities.
- (15) Intercity Bus: U.S. Department of Transportation, FHWA/BMCS, personal communication.
- (16) Class I: Not available.
- (17) Class II and III: Not available.

Figure 8. Number of Fatalities, 1980 (Cont.)

- (41) Supplemental: NTSB, *News Release 81-1*, January 13, 1981, Table 9.
- (45) Water: Not available.
- (46) Passenger: Not available.
- (47) Private: U.S. Coast Guard, *Boating Statistics, 1980*, p. 21. This figure represents total fatalities in recreational boating.
- (48) Inboard: *Ibid.* This figure is the sum of inboard gasoline and diesel powered boats.
- (49) Outboard: *Ibid.*
- (50) Inboard/Outboard: *Ibid.*
- (51) Manual: *Ibid.* This figure includes boats propelled by oars and paddles.
- (52) Other: *Ibid.* This figure includes boats propelled by jet, sail, and other methods.
- (53) Unknown: *Ibid.* This figure includes all boats in which the propulsion was unknown.
- (54) Passenger Service: Not available.
- (55) Cargo: Not available.
- (56) Commercial Fishing: Not available.
- (57) Pipeline: U.S. Department of Transportation, Research and Special Programs Administration, *Transportation Safety Information Report, 1980 Annual Summary*, Chart 28. This figure includes gas distribution and transmission lines (including gathering lines), and liquid transmission lines.
- (58) Air Carrier: Sum of International and Supplemental.
- (59) Certificated: NTSB, *New Release SB 81-1*, January 13, 1981, Table 7.
- (62) Supplemental: NTSB, *News Release SB 81-1*, January 13, 1981, Table 9.
- (65) Water: Not available.

Figure 9. Energy Consumed in Transportation (Converted to 10^{12} Btu), 1980 (Cont.)

- (17) Rail: Sum of Passenger and Class I Freight.
- (18) Passenger: Sum of Class I Passenger and Amtrak.
- (19) Class I Rail Passenger: AAR, *Statistics of Railroads of Class I*, Nov. 1981, p. 16, Lines 3 and 10, multiplied by the conversion factor of distillate fuel oil, excludes electricity.
- (20) Amtrak: *Ibid.*, personal communication.
- (21) Class I Rail Freight: AAR, *Statistics of Railroads of Class I*, Nov. 1981, p. 16, Line 2, multiplied by the conversion factor of distillate fuel oil.
- (22) Air: Sum of Air Carrier and General Aviation.
- (23) General Aviation: *General Aviation Activity and Avionics Survey*, Dec. 1981, Table 2-18. Figure derived by the addition of jet fuel (kerosene type) and aviation gasoline, converted to Btu's by their respective conversion factors.
- (24) Air Carrier: Sum of Certificated and Supplemental.
- (25) Certificated: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1980 and 1979*, Table 2. Total Domestic Certificated Air Carrier, converted to Btu's and barrels.
- (26) Supplemental: *Ibid.*, Domestic Charter. Table 5.
- (27) Water: FHWA, *Highway Statistics*, 1980, Table MF-24, multiplied by the conversion factor of motor gasoline.
- (28) Pipeline: DOE, Energy Information Administration, *1981 Annual Report to Congress, Volume Two*, Table 47, p. 107, converted to Btu's by thermal conversion factor for natural gas.
- (29) Air Carrier. Sum of International Certificated Air Carrier and Supplemental (Charter).
- (30) Certificated: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1980 and 1979*, Total International Certificated Air Carrier, Table 2, multiplied by the conversion factor of jet fuel (kerosene-type).
- (31) Supplemental: *Ibid.*, Total International Charter, Table 5, multiplied by the conversion factor of jet fuel (kerosene-type).
- (32) Water: Not available.

Table 3. Average Passenger Fare, 1970- 1980

Producer Price Index:

1970- 1980: TAA, *Transportation Facts and Trends*, Dec. 1981, p.8.

Certificated Air Carrier, Domestic Operations, Scheduled service:

1970-1972: CAB, *Handbook of Airline Statistics*, 1973. Total passenger revenues (p. 216, line 3) divided by revenue passenger enplanements (p. 106, line 20).

1973-1980: CAB, *Air Carrier Financial Statistics*, Dec. 1974, 1976, 1978, and 1980, p. 2, line 3; *Air Carrier Traffic Statistics*, 1974-1980, December issues, p. 4/5, line 16. Total passenger revenue (*Financial Statistics*) divided by revenue passenger enplanements (*Traffic Statistics*).

Class I Bus, Intercity:

1970-1980: ABA, *Bus Facts*, 1981, p. 12.

Local Transit:

1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 14, p. 60.

Class I Rail:

1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 8, lines 19 and 20 and p. 18. The average passenger fare was calculated by dividing passenger revenue by revenue passengers carried, and after 1971 subtracting Amtrak and Auto-Train passenger revenue and revenue passengers carried data. As of 1978 Auto-Train is no longer Class I.

1980: AAR, *Operating & Traffic Statistics*, August 1981, p 7/8.

Amtrak:

1971-1979: AAR, *Statistics of Railroads of Class I*, Nov. 1980, p. 18. The average passenger fare was calculated by dividing passenger revenue by revenue passengers carried.

1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 7/8.

Table 4. Total Operating Revenues, 1970- 1980

Certificated Air Carriers:

1970-1972: CAB, *Handbook of Airline Statistics*, 1973. Sum of overall operating revenues in total domestic operations (p. 216) and total international and territorial operations (p. 227).

1973-1980: CAB, *Air Carrier Financial Statistics*, 1974-1980 December issues, p. 1, line 19.

Supplemental Air Carriers:

1970-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 69.

1973-1980: CAB, *Air Carrier Financial Statistics*, 1974-1980 December issues, Table 3, Sheet No. 1, line 9.

Intercity Bus, Class I:

1970-1980: ABA, *Bus Facts*, 1981, p. 5.

Local Transit:

1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 7, p. 50.

Oil Pipeline, ICC Regulated only:

1970-1980: TAA, *Transportation Facts and Trends*, Jan. 1971, Dec. 1974, April 1977, July 1978, Dec. 1981, p. 2/4.

Table 5. Vehicle-Miles, 1970- 1980 (Cont.)

Intercity Bus:

1970-1980: ABA, *Bus Facts*, 1981, p. 3.

Local Transit:

1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 13, p. 58.

Class I Rail:

Passenger Train:

1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 12, line 15.

1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 1.

Freight Train:

1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 12, line 15.

1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 1.

Amtrak:

1971-1979: AAR, *Statistics of Railroads of Class I*, Nov. 1980, p. 18. Train mileage includes Auto-Train miles except in 1978, 1979, and 1980.

1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 1.

Table 6. Passenger-Miles, 1970- 1980

Air Carrier:

Certificated:

1970-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 106. Sum of total domestic passenger miles in scheduled service (line 11) and non-scheduled service (line 47);

1973-1980: CAB, *Air Carrier Traffic Statistics*, 1974-1980, December issues, p. 4/5. Sum of lines 9 and 41.

Supplemental:

1970-1972: CAB, *Handbook of Airline Statistics*, 1973, p. 197, line 4;

1973-1980: CAB, *Air Carrier Traffic Statistics*, 1974-1980, December issues, Part III, sheet 1, line 4.

General Aviation:

1970-1980: TAA, *Transportation Facts and Trends*, December 1981, p. 6.

Highway:

Passenger Car and Taxi:

1970-1980: FHWA, *Highway Statistics*, 1980, Table VM-1 and equivalent tables in earlier editions. Vehicle-miles multiplied by a constant average occupancy of 2.2.

Intercity Bus:

1970-1980: ABA, *Bus Facts*, 1981, p. 3.

Class I Rail:

Commutation and other than Commutation:

1970-1979: AAR, *Statistics of Railroads Class I*, p. 8 and p. 18. Amtrak and Auto-Train data (p. 18) subtracted from Class I data (p. 8).

1980: AAR, *Operating & Traffic Statistics*, August 1981, p. 8.

Table 8. Basic Intercity Mileage Within the Continental United States, 1970- 1980

Railroads, All Line Haul:

1970-1979: AAR, *Yearbook of Railroad Facts*, 1981 Edition, p. 46. Data represent aggregate length of roadway of all line-haul railroads, excluding mileage of yard tracks or sidings. Jointly used track is counted only once.

1980: AAR, personal communication.

Oil Pipelines:

Total:

1970-1979: TAA, *Transportation Facts and Trends*, Dec. 1981, p. 13.

Crude Oil Products, and Gathering Lines:

1970-1976: DOE, *Energy Data Reports*, Crude Oil and Product Pipelines, Triennial, January 1, 1977, Table 1.

1977-1980: Not available.

Gas Pipelines:

Total Distribution Mains, Transmission Pipelines, and Field and Gathering Lines,

1970-1978: API, *Basic Petroleum Data Book*, May 1981, Section XII, Table 2.

1979-1980: AGA, *Gas Facts*, 1980, p. 53.

Inland Waterways:

1970-1980: American Waterways Operators, *Inland Waterborne Commerce Statistics*, 1979, and previous years, pp. 1, 2.

Highways:

1970-1975: FHWA, *Highway Statistics, Summary to 1975*, Table FM-210.

1976-1979: *Ibid.*, *Highway Statistics*, annual issues, Table FM-1/FM-2.

1980: *Ibid.*, 1980, Table HM-14.

Airways:

1970-1980: FAA, *FAA Statistical Handbook of Aviation*, 1980, Table 2.1. Mileage equals sum of VHF low altitude direct and VHF jet route mileages multiplied by 1.151 to convert from nautical miles.

Table 9. Number of Vehicles, 1970- 1980

Air Carrier:

1970-1972: CAB, *Handbook of Airline Statistics*, 1973, Part VII, Table 7a and similar tables in earlier editions or by special communication from CAB.

1973: CAB, Statistical Data Division, personal communication.

1974: CAB, Supplement to *Handbook of Airline Statistics*, Dec. 1975, p. 126.

1975: CAB, Bureau of Accounts and Statistics: Special communication based on CAB Form 41, Schedule T-2.

1976: CAB, Supplement to *Handbook of Airline Statistics*, Dec. 1977, Part VII, Table 7A.

1977-1980: CAB, Bureau of Carrier Accounts and Audits: Special communication based on CAB Form 41, Schedules B-7, B-8, and B-43.

General Aviation:

1970-1977: FAA, *FAA Statistical Handbook of Aviation*, 1978, Table 8.3 and equivalent tables in earlier editions.

1978-1980: FAA, *General Aviation Activity and Avionics Survey*, March 1980, January 1981, December 1981, Table 2-6.

Table 10. Number of New Vehicles Purchased, By Mode, 1970- 1980

Air Carrier:

1970-1978: FAA, *Statistical Handbook of Aviation*, Calendar Year 1978, p. 132, Table 9-2.
1979: *Ibid.*, personal communication.

General Aviation:

1970-1978: FAA, *Statistical Handbook of Aviation*, Calendar Year 1978, Table 9-2.
1979: General Aviation Manufacturers Association, personal communication.

Passenger Car and Taxi:

1970-1980: DOC, Bureau of Economic Analysis, *Survey of Current Business*, July issues, p. S-36/S-40.

Motorcycle:

1970-1980: Motorcycle Industry Council, Inc. *1981 Motorcycle Statistical Annual*, p. 12.

Mopeds:

1974-1980: Motorcycle Industry Council, Inc., *1981 Motorcycle Statistical Annual*, p. 12.

Bicycle:

1970-1980: Bicycle Mfg. Assoc. of America, personal communication.

Truck:

1970-1980: DOC, Bureau of Economic Analysis, *Survey of Current Business*, July issues, p. S-36/S-40.

Intercity Bus (Class I):

1970-1980: ABA, personal communication.

Local Transit (New Passenger Vehicles Delivered):

1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 16.

Class I Rail:

Freight Cars:

1970-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 10.
1980: AAR, personal communication.

Locomotives:

1970-1979: *Ibid.*, *Statistics of Railroads of Class I*, November 1980, p. 9, line 19.
1980: AAR, personal communication.

Passenger Cars and Pullman:

1970-1979: *Ibid.*, *Statistics of Railroads of Class I*, November 1980, p. 11, line 10.
1980: AAR, personal communication.

Amtrak:

1971-1979: AAR, *Statistics of Railroads of Class I*, November 1980, p. 18.
1980: AAR, personal communication.

Water: Merchant Vessels and Gross Tonnage:

1970-1977: DOC, *Merchants Fleets of the World*, 1977, p. 18; 1976, p. 44; 1975, p. 31; 1974, p. 19; 1973, p. 13; 1972, p. 13; 1971, p. 13; 1970, p. 12.
1978-1980: DOC, Maritime Administration, personal communication.

Table 17. Employment in Transportation and Related Industries, 1970- 1980

Transport Sector:

Air:

1970-1974: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings, United States, 1909-75*, p. 599.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 45.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 45.

Bus:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 595.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 413.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 413.

Local Transport:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 594.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 411.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 411.

Railroad:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 600.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 40.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 40.

Oil Pipeline:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 600.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1966, March 1977, Section B-2, SIC 46.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 46. ICC regulated companies employ approximately 85% of the total.

Taxi:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 595.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 412.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 412.

Trucking and Warehousing:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 596-598.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 42.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 42.

Trucking and Terminals:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 313.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 421,3.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 421,3.

Public Warehousing:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 313.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 422.

1977-1980: *ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 422.

Table 17. Employment in Transportation and Related Industries, 1970- 1980 (Cont.)

Automotive Services and Garages:

1970-1976: TAA, *Transportation Facts and Trends*, July issues, p. 22/23.

1977-1980: U.S. Department of Labor, Bureau of Labor Statistics, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 75.

Gasoline Service Stations:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 649.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 554.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 554.

Highway and Street Construction:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, p. 29.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, Section B-2, SIC 161.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 161.

Petroleum:

1970-1974: *Ibid.*, *Employment and Earnings, United States, 1909-75*, pp. 17, 563-619.

1975-1976: *Ibid.*, *Employment and Earnings*, March 1976, March 1977, 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.

1977-1980: *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981, SIC 13, 291, and 50.

Other Industries:

Truckdrivers and Deliverymen:

1970-1979: TAA, *Transportation Facts and Trends*, July issues, p. 22/23.

Shipping and Receiving Clerks:

1970-1979: *Ibid.*

Government Employees:

U.S.D.O.T.

1970-1980: DOC, *Statistical Abstract of the U.S.*, 102nd edition, Dec. 1981, Table 459 and similar tables in earlier editions.

State and Local Highway:

1970-1980: *Ibid.*, Table 507 and similar table in earlier editions.

Post Office:

1970-1980: *Ibid.*, Table 459 and similar table in earlier editions. Figures based on assuming 14% of postal workers are engaged in transport work.

Other:

1970-1980: *Ibid.*, Table 459 and similar table in earlier editions. Includes CAB, FMC, ICC, RRB, MarAd, and estimated percentage of USCG.

Total Civilian Labor Force:

1970-1980: *Ibid.*, Table 634.

Table 18. National Transportation and Economic Trends, 1970- 1980

Passenger-Miles:

1970-1980: Summation of all modes from Table 6, p. 52.

Table 22. Fuel Consumption by Mode of Transport, 1969-1979 (Cont.)

Air Carriers:

Certificated Carriers:

1970-1975: FAA, *FAA Statistical Handbook of Aviation*, 1975, Table 6.27.

1976-1980: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1980 and 1979*, Total of Tables 2, 3, 4, 6 and 7 and same table in earlier editions.

General Aviation:

1970-1972: FAA, *FAA Statistical Handbook of Aviation*, 1972, Table 9.12 and same table in earlier editions.

1973-1975: FAA, Information and Statistical Division, personal communication.

1976-1977: FAA, Office of Aviation Policy, personal communication.

1978-1980: FAA, *General Aviation Activity and Avionics Survey*, December 1981, Table 2-18, and same table in earlier editions.

Highway:

1970-1980: FHWA, *Highway Statistics, 1980*, Table VM-1 and same table in earlier editions.

Water Transport:

Residual and Distillate Fuel Oil:

1970-1974: Bureau of Mines, *Mineral Industry Surveys, Fuel Oil Sales-Annual*, Sept. 17, 1976, Table 2 and 3 and equivalent tables in earlier editions.

1975-1980: U.S. Department of Energy, *Energy Data Reports, Deliveries of Fuel Oil and Kerosene in 1980*, Table 12 and 13, and same table in earlier editions. Converted to gallons by multiplying by 42 gallons per barrel.

Gasoline:

1970-1980: FHWA, *Highway Statistics, 1980*, Table MF-24 and same table in earlier editions.

Transit:

1970-1980: APTA, *Transit Fact Book*, 1981 edition, Table 17.

Pipelines:

1970-1974: American Gas Association, *Gas Facts*, 1975, Table 53.

1975: U.S. Dept. of the Interior, Bureau of Mines, *Natural Gas, Annual*, 1975, Table 6.

1976-1980: U.S. Dept. of Energy, *Energy Data Reports, Natural Gas, Annual*, 1980, Table 10.

Total Non-Highway Use of Gasoline:

1970-1980: FHWA, *Highway Statistics, 1980*, Table MF-21 and same table in earlier editions.

Profile References (Cont.)

- (26) Transportation Association of America, *Transportation Facts and Trends*, 16th edition, July 1980.
- (27) *Ibid.*, 17th edition, December 1981.
- (28) *Ibid.*, Quarterly Supplements, July 1975, April 1979, January 1980, and October 1980.
- (29) U.S. Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, Calendar Year 1979.
- (30) *Ibid.*, Calendar Year 1980.
- (31) U.S. Coast Guard, *Boating Statistics*, 1970.
- (32) *Ibid.*, 1979, 1980.
- (33) *Ibid.*, *Proceedings of the Marine Safety Council*, December 1980.
- (34) U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts of the U.S., 1929-1979 Statistics*.
- (35) *Ibid.*, *Survey of Current Business*, July 1981.
- (36) *Ibid.*, *Fisheries of the U.S.*, 1980, April 1981.
- (37) *Ibid.*, Bureau of the Census, *Statistical Abstract of the United States*, 1981, 102nd edition.
- (38) U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1980.
- (39) *Ibid.*, *Energy Data Reports*, Petroleum Statement, Annual, 1979, 1980.
- (40) *Ibid.*, *Statistics of Interstate Natural Gas Pipeline Companies*, October 1980.
- (41) *Ibid.*, National Energy Information Center, personal communication.
- (42) U.S. Department of Labor, Bureau of Statistics, *Employment and Earnings*, 1909-1978 Bulletin 1312-11, July 1979.
- (43) *Ibid.*, *Supplement to Employment and Earnings, Revised Establishment Data*, August 1981.
- (44) U.S. Department of Transportation, Federal Aviation Administration, *FAA Statistical Handbook of Aviation*, 1972 edition.
- (45) *Ibid.*, Office of Management Systems, *General Aviation Activity and Avionics Survey*, January 1981, December 1981.
- (46) *Ibid.*, Federal Highway Administration, *Highway Statistics*, 1970, 1979, 1980.
- (47) *Ibid.*, *Highway Statistics Summary to 1975*, October 1977.
- (48) *Ibid.*, News Release, Table HF-11.
- (49) *Ibid.*, Federal Highway Administration, Bureau of Motor Carrier Safety, *Accidents of Motor Carriers of Property*, 1979.

APPENDIX B

Glossary

ALL OPERATIONS:

Refers to all flight operations including test, training, ferry, scheduled and nonscheduled passenger and cargo service, both revenue and nonrevenue.

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.

CERTIFICATED CARRIER:

One of a class of air carriers holding certificates of public convenience and necessity issued by the CAB, authorizing the performance of scheduled air transportation over specified routes and a limited amount of nonscheduled operations. This general carrier grouping includes the all purpose carriers (i.e., the so-called passenger/cargo carriers) and the all-cargo carriers, and comprise all of the airlines certificated by the Board, except the supplemental air carriers. Certificated route air carriers are often referred to as "scheduled airlines," although they also perform nonscheduled service.

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, "CC AND N":

A certificate issued to an air carrier under Section 401 of the Federal Aviation Act, by the Civil Aeronautics Board, authorizing the carrier to engage in air transportation.

COMMERCIAL OPERATOR:

A commercial operator is an air carrier certificated to engage in scheduled intrastate common carrier operations and private carriage in interstate operations. The intended interstate operations will not be in common carriage. A "CC and N" is not required of a commercial operator.

COMMUTER AIR CARRIERS:

Commuter air carriers are certificated air taxi operators who perform scheduled services, as defined by the CAB as "those operators who perform, pursuant to published schedules, at least five round trips per week between two or more points, or carry mail."

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.

FIXED-WING AIRCRAFT:

Aircraft having nonrotating wings fixed to the airplane fuselage and outspread in flight.

GENERAL AVIATION:

General Aviation refers to the operation of U.S. Civil Aircraft owned and operated by persons, corporations, etc., other than those engaged in U.S. air carrier operations. (U.S. air carrier operations include the certificated route air carriers, supplemental air carriers, and commercial operators of large aircraft.)

OTHER TRANSPORT REVENUES:

Miscellaneous revenues associated with air transportation performed by the air carrier, such as airline employees, officers and directors, or other persons, except ministers of religion who travel under reduced rate transportation; reservation cancellation fees; and other items not specified in other transport revenue accounts.

OVER-ALL OPERATING EXPENSES:

See "Operating Expenses."

OVER-ALL OPERATING REVENUES:

See "Operating Revenues."

OVER-ALL REVENUE LOAD FACTOR:

The percent that total revenue ton-miles (passenger plus nonpassenger) are of available ton-miles in revenue services, representing the proportion of the over-all capacity that is actually sold and utilized.

OVER-ALL REVENUE LOAD PER AIRCRAFT:

The average over-all tonnage carried per aircraft in revenue services derived by dividing the over-all revenue ton-miles by the over-all aircraft miles flown in revenue services.

OVER-ALL TRANSPORT REVENUES:

See "Transport Revenues."

PASSENGER-MILE:

One passenger transported 1 mile. Passenger-miles are computed by summation of the products of the aircraft miles flown on each interairport flight stage multiplied by the number of passengers carried on that flight stage.

PASSENGER ENPLANEMENTS:

The total number of revenue passengers boarding aircraft, including originating and stopover or on-line transfer passengers.

PASSENGER REVENUES:

Revenues from the transportation of passengers by air.

PASSENGER SERVICE EXPENSES:

Costs of activities contributing to the comfort, safety, and convenience of passengers while in flight and when flights are interrupted. Includes salaries and expenses of cabin attendants and passenger food expense.

PASSENGER REVENUE TON-MILE:

One ton of revenue passenger weight (including all baggage) transported 1 mile. The passenger weight standard for both "Domestic" and "International" operation is 200 pounds.

REVENUE PASSENGER ENPLANEMENTS:

The total number of passengers boarding aircraft derived from a standard number of passenger enplanements per on-line originating passenger.

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.

HIGHWAY TERMINOLOGY

FEDERAL EXPENDITURES:

Intergovernmental payments to the State, District of Columbia, and local governments plus direct expenditures for capital outlay, maintenance, administration, and research.

MUNICIPAL MILEAGE:

Roads inside city, municipal district, or urban boundaries: includes extensions of the state primary system, and state secondary roads within delimited incorporated and unincorporated places, and mileage under local control; e.g., local city streets, roads, and public ways not under State control within such places.

RURAL MILEAGE:

Roads outside city, municipal district, or urban boundaries.

STATE AND LOCAL EXPENDITURES:

Disbursements for capital outlay, maintenance and traffic surfaces, administration, and research, highway law enforcement and safety, and interest on debt.

STATE PRIMARY SYSTEM:

This refers to highways that have been so officially designated by States. They encompass the principal intercounty, intercity and interstate roads of all states.

STATE SECONDARY ROADS:

This mileage is reported in the tables for the States (taken from the Highway Statistics 1970 Bulletin) that have designated both a primary and secondary system.

AUTOMOBILE TERMINOLOGY

ACCIDENT:

An accident is an unintended event that produces injury or damage. The word "injury" includes "fatal injury."

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).

EXPENDITURES — SCHOOL BUS:

This is the total expenditure for operation, maintenance, insurance, depreciation, operating taxes, licenses, and operating rents for vehicles used as school buses.

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.

MOTORBUS:

Rubber-tired, self-propelled transit vehicle with fuel supply carried on board the vehicle.

REVENUE PASSENGERS:

Passengers on a commercial bus by or for whom a fare is paid.

REVENUE PASSENGER-MILES:

One revenue passenger carried 1 mile generates 1 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 1 mile generates 1 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.

LIGHT RAIL:

Streetcar, trolley car, or light surface rail operations, including private right-of-way operations, typified by low platform stations, one-man operations at all times, capability for on-board fare collection, and actual on-board fare collection most of the time.

MOTORBUS:

Rubber tired, self-propelled transit vehicle with fuel supply carried on board the vehicle.

OPERATING EXPENSES:

These expenditures include outlays for maintenance, wages, fuel, licensing, insurance, rent, safety, operating taxes, and station operations.

OPERATING REVENUE:

Includes passenger revenue and revenue from charter and contract services.

PASSENGER REVENUE:

The total of all moneys paid by passengers to ride on scheduled trips. This includes single trip fares, and charges for transfers, weekly, monthly, and other unlimited-usage tickets.

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, trolley car, subway car, etc.) traveling 1 mile while revenue passengers are on board generates 1 revenue vehicle-mile. The revenue vehicle-miles reported thus represent the total mileage traveled by vehicles in scheduled or unscheduled revenue-producing services.

TROLLEY COACH:

A vehicle with the steering capability of a motor bus, running on rubber tires, but drawing power from electric overhead wires.

WATER TRANSPORT TERMINOLOGY

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.

INTERNATIONAL (FOREIGN) FREIGHT:

Movements between the United States and foreign countries and between Puerto Rico, the Virgin Islands and foreign countries. Trade between U.S. territories and possessions (i.e., Guam, Wake, American Samoa, etc.) and foreign countries is excluded. Traffic to or from the Panama Canal Zone is included.

INTERNATIONAL PASSENGER:

Any person traveling on a waterborne public conveyance between the United States and foreign countries and between Puerto Rico and the Virgin Islands and foreign countries.

INTRATERRITORIAL TRAFFIC:

Traffic between ports in Puerto Rico and the Virgin Islands, which are considered as a single unit.

LAKELIKE OR GREAT LAKES:

These terms apply to traffic between U.S. ports on the Great Lakes system. The Great Lakes system is treated as a separate system rather than as a part of the inland system.

LOCAL:

Movements of freight within the confines of a port, whether the port has only one or several arms or channels, except car-ferry and general ferry, are termed "local." The term is also applied to marine products, sand, and gravel taken directly from the Great Lakes.

MARITIME CARRIERS:

Maritime carriers operate on the open sea; i.e., their operations must include a foreign or international component and may include a domestic component.

MARITIME REVENUE:

Revenue received for operations in international or foreign shipping.

NON-SELF PROPELLED:

Vessels not containing within themselves the means for their own propulsion.

PASSENGER-MILE, INTERCITY:

Moving one passenger 1 mile on a trip between two cities generates 1 intercity passenger mile.

SELF-PROPELLED TOWBOAT:

A compact, shallow-draft boat with a squared bow and towing "knees" for pushing tows of barges on inland waterways.

SCOWS:

Large, flat-bottomed non-self-propelled vessels used to transport sand, gravel, or refuse.

TANK BARGES:

Large, flat-bottomed non-self-propelled vessels used to transport fluids such as oils.

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 MILEAGE:

Movement of a locomotive unit 1 mile is a locomotive-mile.

LOCOMOTIVES:

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

MAIL REVENUE:

Revenue from the transportation of mail at established rates, and for services and facilities provided in connection with the handling of U.S. mail.

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 — OTHER THAN 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.

RAIL MOTOR CARS:

Self-propelled passenger rail cars which are driven by electric motors energized from an electrified roadway or by a generator driven by a diesel or gas turbine engine.

DISTILLATE FUEL OIL:

The lighter fuel oils distilled off during the refining process. Included are products known as ASTM grades Nos. 1 and 2 heating oils, diesel fuels, and No. 4 fuel oil. The major uses of distillate fuel oils include heating, fuel for on- and off-highway diesel engines, and railroad diesel fuel.

DISTILLATE OIL:

Fuel which may be used in diesel engines (i.e., water vessels, railroads, trucks, etc.).

ICC-REGULATED PIPELINE:

A pipeline company operating in interstate commerce under a grant of authorization from the Interstate Commerce Commission and subject to economic regulation by the Commission. Such a pipeline company is required to report relevant statistics to the ICC.

MIDDLE DISTILLATES:

A category of petroleum fuel that includes the diesel fuels burned by surface transportation carriers, as well as home heating oil.

NON-REGULATED PIPELINE:

A pipeline company not operating as a common carrier in interstate commerce, hence required neither to secure a grant of operating authority from the Commission nor to report to it.

NO. 2 DISTILLATE FUEL OIL:

A petroleum distillate which meets the specifications for No. 2 heating oil and/or the specifications for diesel fuel grade No. 2.

OIL SHALE:

A finely grained sedimentary rock composed mostly of clay that contains an organic material called kerogen. When the kerogen is heated to about 482 degrees C (900 degrees F), it is converted to shale oil and gas. The shale oil that is derived from kerogen is low in sulfur; and although it varies in some respects from conventional petroleum, it can be refined into most petroleum products.

OPEC:

Organization of Petroleum Exporting Countries including Saudi Arabia, Iran, Venezuela, Libya, Indonesia, United Arab Emirates, Algeria, Nigeria, Ecuador, Gabon, Iraq, Kuwait, and Qatar.

OPERATING EXPENSES:

Expenditures necessarily made while providing services by which operating revenue is earned.

OPERATING REVENUE:

Revenue from the transportation of oil and from services incidental to such transportation.

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.

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 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:

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.

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.

ENERGY TERMINOLOGY

BTU — BRITISH THERMAL UNIT:

The amount of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit.

COAL:

A solid, brittle, more or less distinctly stratified combustible carbonaceous rock formed by partial to complete decomposition of vegetation. It varies in color from dark brown to black, is not

SOLVENT REFINED COAL:

A coal liquefaction process in which the coal is mixed with a liquid solvent, then heated and passed to a high pressure reactor where hydrogen and hydrogen sulfide are separated from the mixture. It is then filtered, the solvent is distilled for reuse, and the final product is recovered either as a liquid or solid.

TRANSPORTATION TERMINOLOGY

CONSTANT DOLLARS:

A series is said to be expressed in "constant dollars" when the effect of change in the purchasing power of the dollar has been removed. Usually the data are expressed in terms of dollars of some selected year or the average of some set of years.

CURRENT DOLLARS:

Dollars current at the time designated or at the time the transaction listed took place. In most contexts, the same meaning would be conveyed by the simple term "dollars."

DIESEL ENGINE:

An internal combustion engine in which the fuel is sprayed directly into the combustion chamber and ignited by the high temperature to which the air in the combustion chamber has been heated during the compression process. There are approximately 400 different variations in size, number of cylinders, and power output of diesel engines. The engines are relatively costly, but they operate with high efficiency combined with a long life span.

ENERGY EFFICIENCY:

In reference to transportation, the inverse of energy intensiveness: the ratio of outputs from a process to the energy inputs; for example, passenger-miles traveled (PMT) per gallon of fuel.

GASOLINE:

A refined petroleum product which, by its composition, is suitable for use as a fuel in internal combustion engines.

GROSS NATIONAL PRODUCT (GNP):

Total value at market prices of all goods and services produced by the nation's economy. As calculated quarterly by the Department of Commerce, Gross National Product is the broadest available measure of the level of economic activity.

LOAD FACTOR:

The ratio of actual load to full capacity.

MILE (STATUTE):

5280 feet.

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