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PB97150098

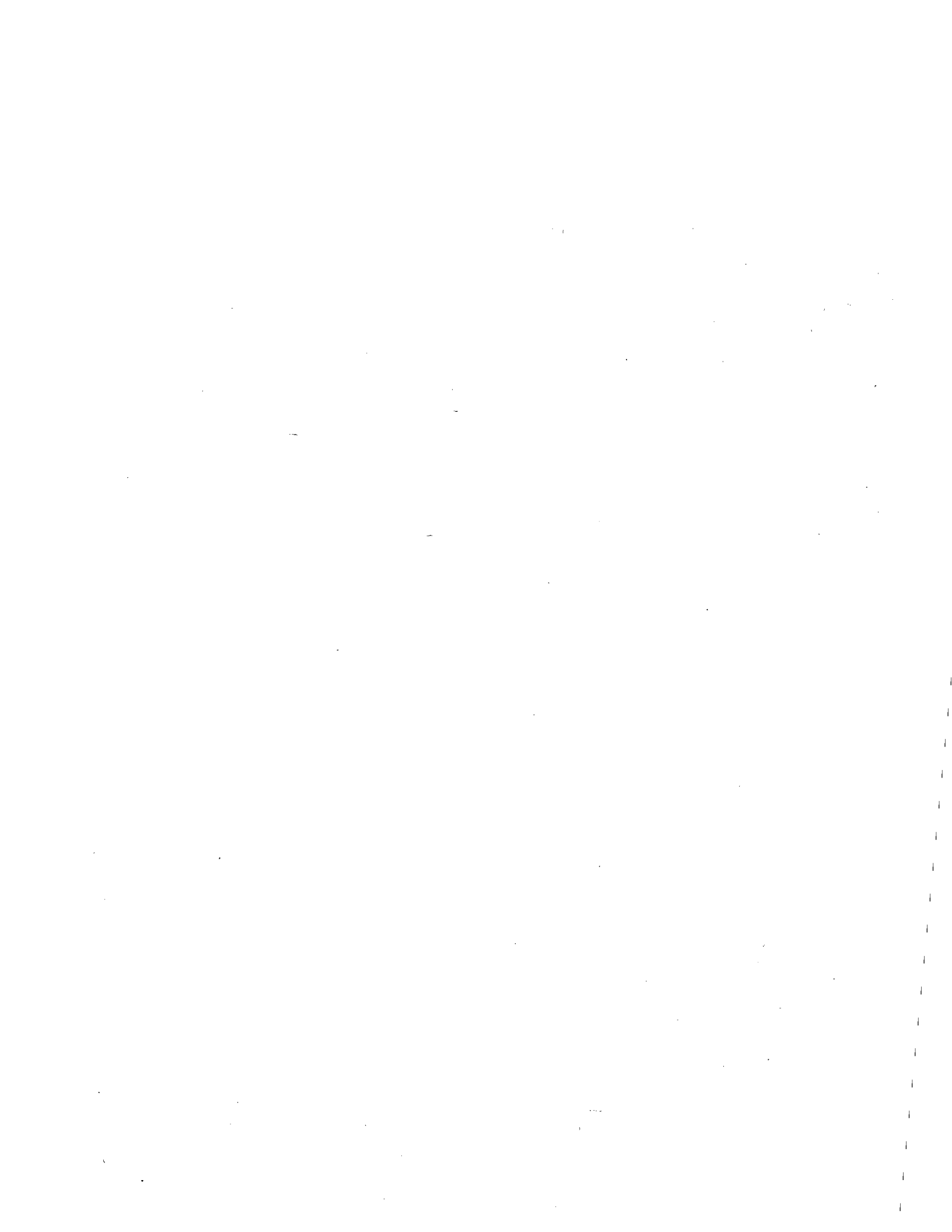


# National Transportation Statistics

1996



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# ACKNOWLEDGEMENTS



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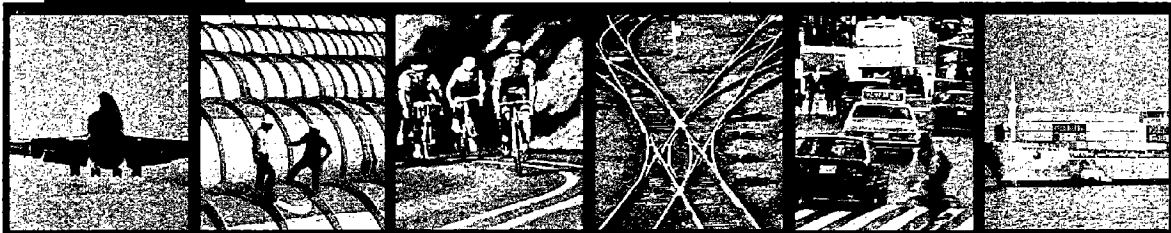
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# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington, DC 20503.



PB97-150098

k)

2. REPORT DATE  
November 1995

3. REPORT TYPE AND DATES COVERED  
1960 - 1993/94

4. TITLE AND SUBTITLE National Transportation Statistics 1996		5. FUNDING NUMBERS KB601/K6004	
6. AUTHORS Marilyn Gross (617) 494-2088 Richard N. Feldman (617) 494-2272			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. DOT/Research and Special Programs Administration Volpe National Transportation Systems Center Cambridge, MA 02142		8. PERFORMING ORGANIZATION REPORT NUMBER DOT-BTS-VNTSC-95-4	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. DOT/Bureau of Transportation Statistics 400 7th Street, S.W., Room 3430 Washington, DC 20590		10. SPONSORING/MONITORING AGENCY REPORT NUMBER DOT-BTS-VNTSC-95-4	
11. SUPPLEMENTARY NOTES			
12a. DISTRIBUTION/AVAILABILITY STATEMENT U.S. DOT/Bureau of Transportation Statistics 400 7th Street, S.W., Room 3430 Washington, DC 20590 Telephone: (202) 366-3282		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) National Transportation Statistics is a compendium of selected national transportation and transportation-related statistics from a wide variety of government and private sources. The data illustrate transportation activity for the major transportation modes - air, automobile, bus, truck, transit, rail, water, and pipeline. Basic descriptors such as operating revenues/expenses, number of vehicles and employees, vehicle- and passenger-miles, and passenger and freight operations, are included. The State of Transportation identifies trends in transportation performance and safety. Transportation and its Costs illustrates the interrelationship between transportation and the economy. Transportation and energy consumption, intensiveness, transport, and supply and demand; as well as the effect transportation has on the environment, are shown in Transportation, Energy, and the Environment. Additionally, selected preliminary statistics from the 1993 Commodity Flow Survey are presented in Transportation - Special Focus.  Summary statistics, in five year increments, are provided for the years 1960-1993 and 1994, where available. In some instances, data extend back to 1955 and are forecast through 1998.			
14. SUBJECT TERMS Transportation, Statistics, Safety, Energy, Inventory, Performance, Passenger/Freight Operations, Operating Expenses/Revenues, Employees, Number of Vehicle-/Passenger-Miles, Commodity Flow Survey, Metric Conversion		15. NUMBER OF PAGES 370	16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT



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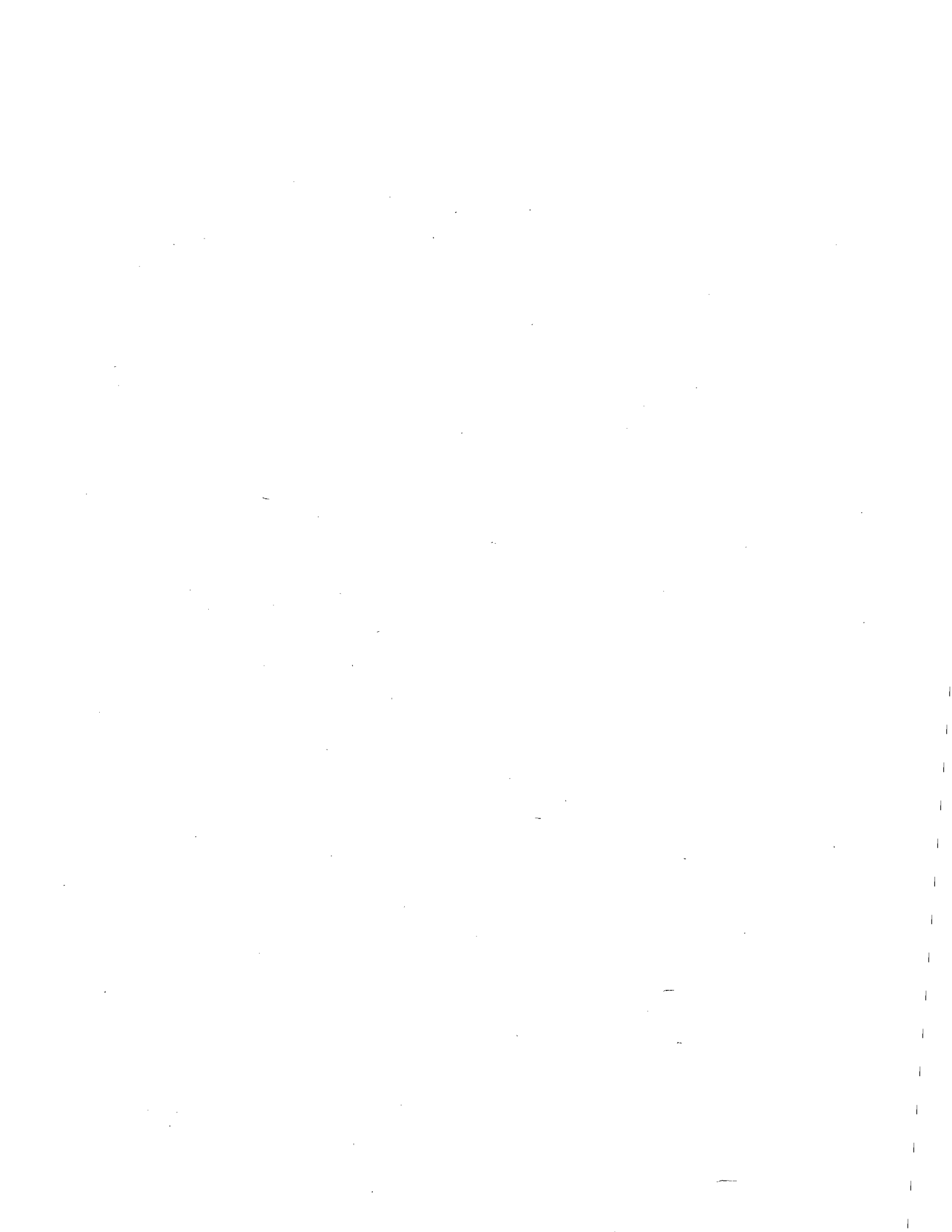
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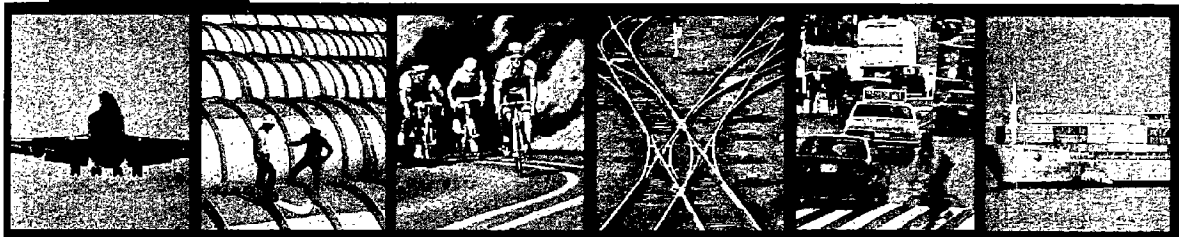
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# INTRODUCTION

ENTS



1996



## INTRODUCTION

*National Transportation Statistics* (NTS) is published by the Bureau of Transportation Statistics (BTS) of the U.S. Department of Transportation to compile and make accessible basic information on the Nation's transportation system. This twenty-fourth edition of the NTS also includes information on energy, environmental, and other categories of transportation at the national scale.

Readers should note the many data revisions in this edition of NTS. These revisions are a result of figure and category changes in source materials, and adjustments to data discrepancies printed in earlier editions. Also, during research, we discovered some original source material are no longer available. Thus, there are instances where time series data have been completely revised with new source information. Additionally, every attempt has been made to reconcile the data across the various sections of this document.

Summary statistics, in five year increments, are provided for the years 1960-1990 and annually for 1990-1993, and 1994 where available. In some instances, data extend back to 1955 or are forecast through 1998. As the compilation of statistical material is usually a time-consuming process, reliable sources often represent a one to two year time lag. We have worked closely with the data specialists behind the source materials and, consequently, this report incorporates the latest available information at the time of publication.

While most of these statistics are available from various sources such as government agencies and trade associations (see Appendix D), 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 the Tree Display, Modal Profile, or Table References located in the back of the document. The reader is urged to utilize these references and those who may want additional information or an explanation regarding the data in this publication should check with the source(s).

NTS 1996 is also available from the Bureau of Transportation Statistics on diskette in Excel format. Readers who require annual time series data dating back to 1960 will find this information in the 1993 edition of the *National Transportation Statistics*, which is also available from BTS.

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FTP Site:	<a href="ftp://ftp.bts.gov">ftp.bts.gov</a>
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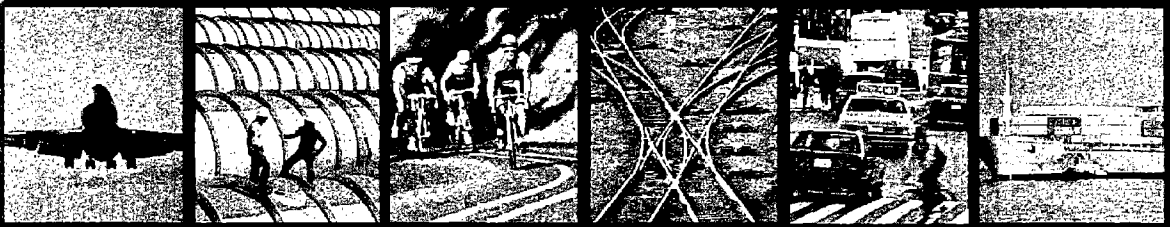


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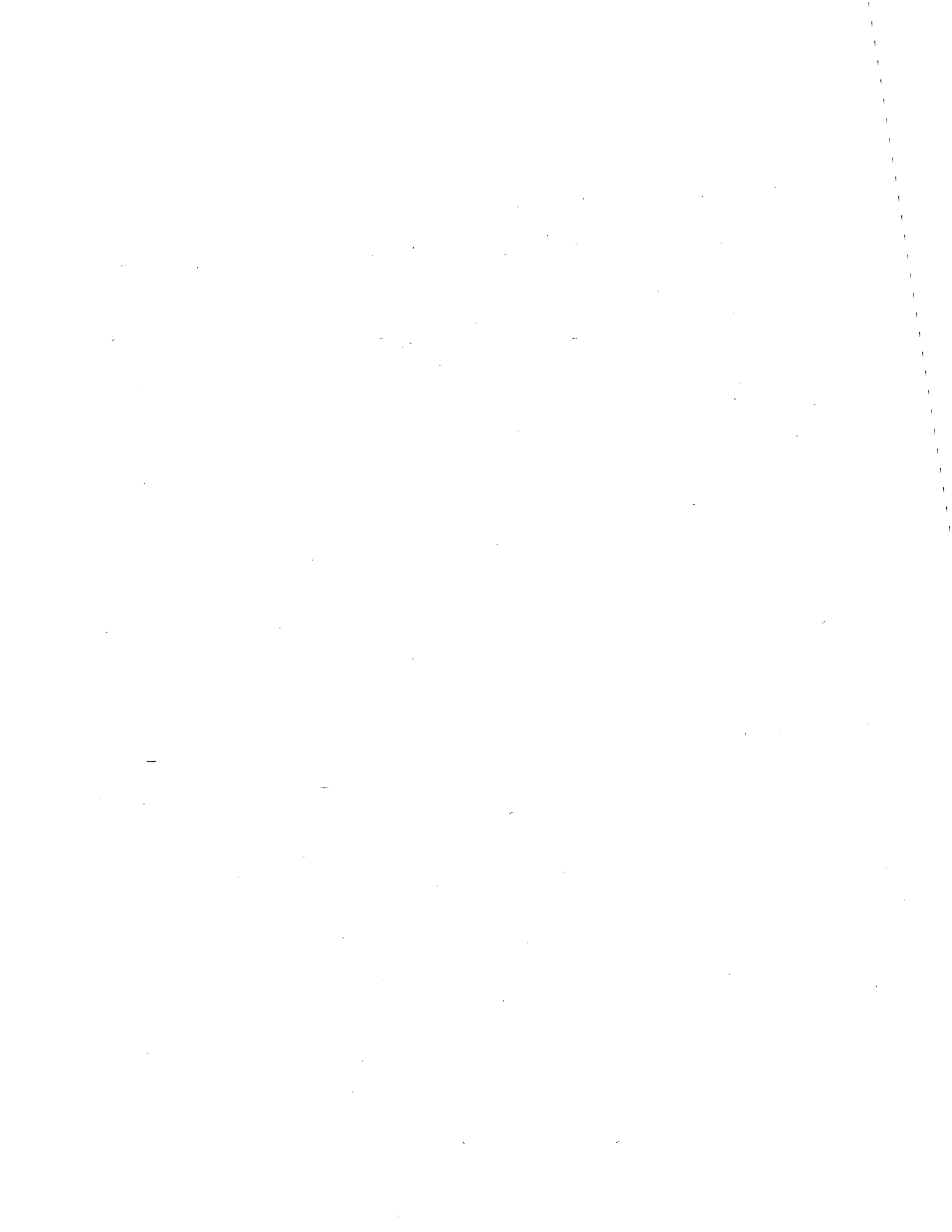
# TREE DISPLAYS

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NTS



1996



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# TREE DISPLAYS

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## 1993

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

- Revenues
- Vehicle-Miles
- Passenger-Miles
- Ton-Miles of Freight
- Number of Vehicles
- Number of Fatalities
- Fuel Consumed in Transportation

Because of the variety of data sources, the totals may not always equal the sum of the subordinate data. Sources for each statistic may be found by locating its parenthetical reference number in the Tree Display References on page 249.

**NOTE:** In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.

In this section of NTS, due to space constraints, we have left the original categories in place. For Single-Unit Trucks we are showing data for what are now considered Other 2-Axle 4-Tire Vehicles; likewise, the Other Single-Unit Truck category contains data for what are now classified as Single-Unit 2-Axle 6-Tire or More Trucks; Combination Trucks remain the same.



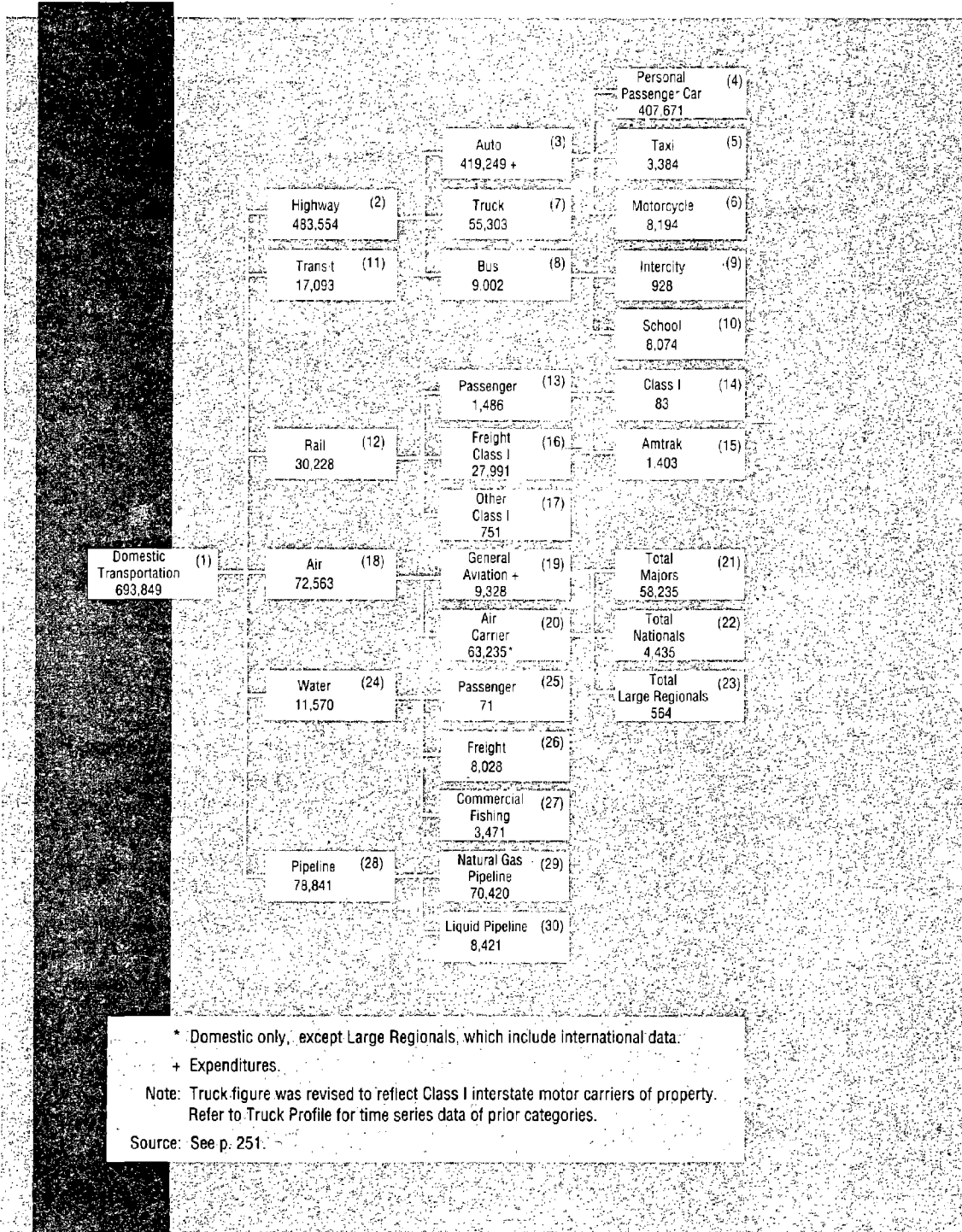


# TREE DISPLAY - 1

## Revenues

(Million Dollars)

1993



\* Domestic only, except Large Regionals, which include international data.

+ Expenditures.

Note: Truck figure was revised to reflect Class I interstate motor carriers of property. Refer to Truck Profile for time series data of prior categories.

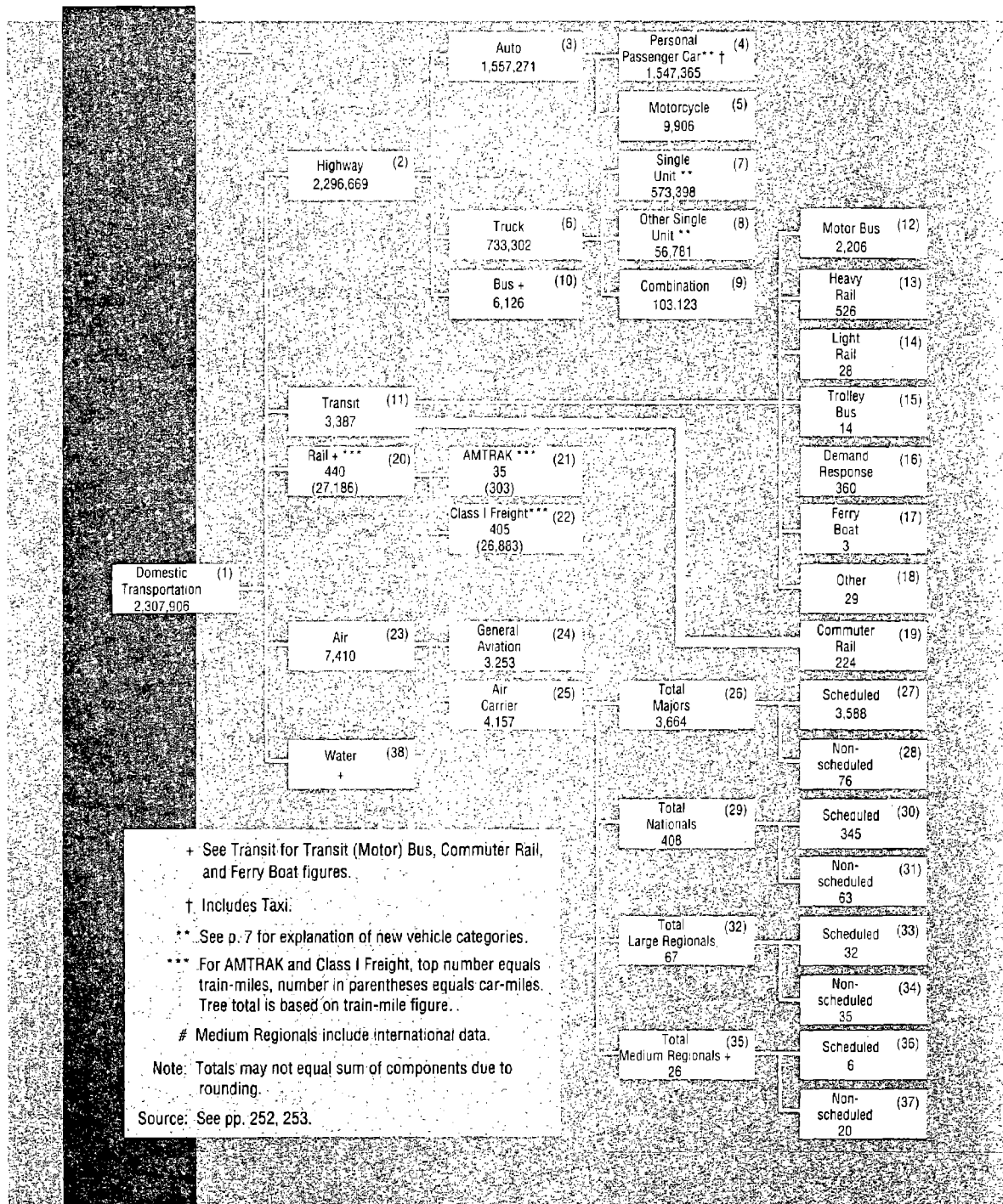
Source: See p. 251.

## TREE DISPLAY - 2

### Vehicle-Miles

(Millions)

1993



# TREE DISPLAY - 3

## Passenger-Miles

(Millions)

1993

Domestic Transportation 4,266,103	Highway (2)	3,847,849	Auto (3)	2,703,314	Personal Passenger Car**† (4)	2,692,417	Motorcycle (5)	10,897	Truck (6)	1,025,735	Single Unit** (7)	865,831	Other Single Unit** (8)	56,781	Combination (9)	103,123	Bus + (10)	118,800	Motor Bus (14)	20,075	Intercity (11)	24,600	School (12)	94,200	Heavy Rail (15)	10,740	Light Rail (16)	705	Transit (13)	39,625	Trolley Bus (17)	188	Scheduled (28)	334,635	Demand Response (18)	504	Total Majors (27)	335,560	Non-scheduled (29)	925	Ferry Boat (19)	258	Other (20)	216	Total Nationals (30)	21,773	Non-scheduled (32)	4,364	Commuter Rail (21)	6,939	Scheduled (34)	1,675	Rail + (22)	6,199	AMTRAK (23)	6,199	Total Large Regionals (33)	3,906	Non-scheduled (35)	2,231	Air (24)	372,430	General Aviation (25)	10,200	Scheduled (37)	458	Water (39)	+	Air Carrier (26)	362,230	Total Medium Regionals # (36)	1,316	Non-scheduled (38)	858
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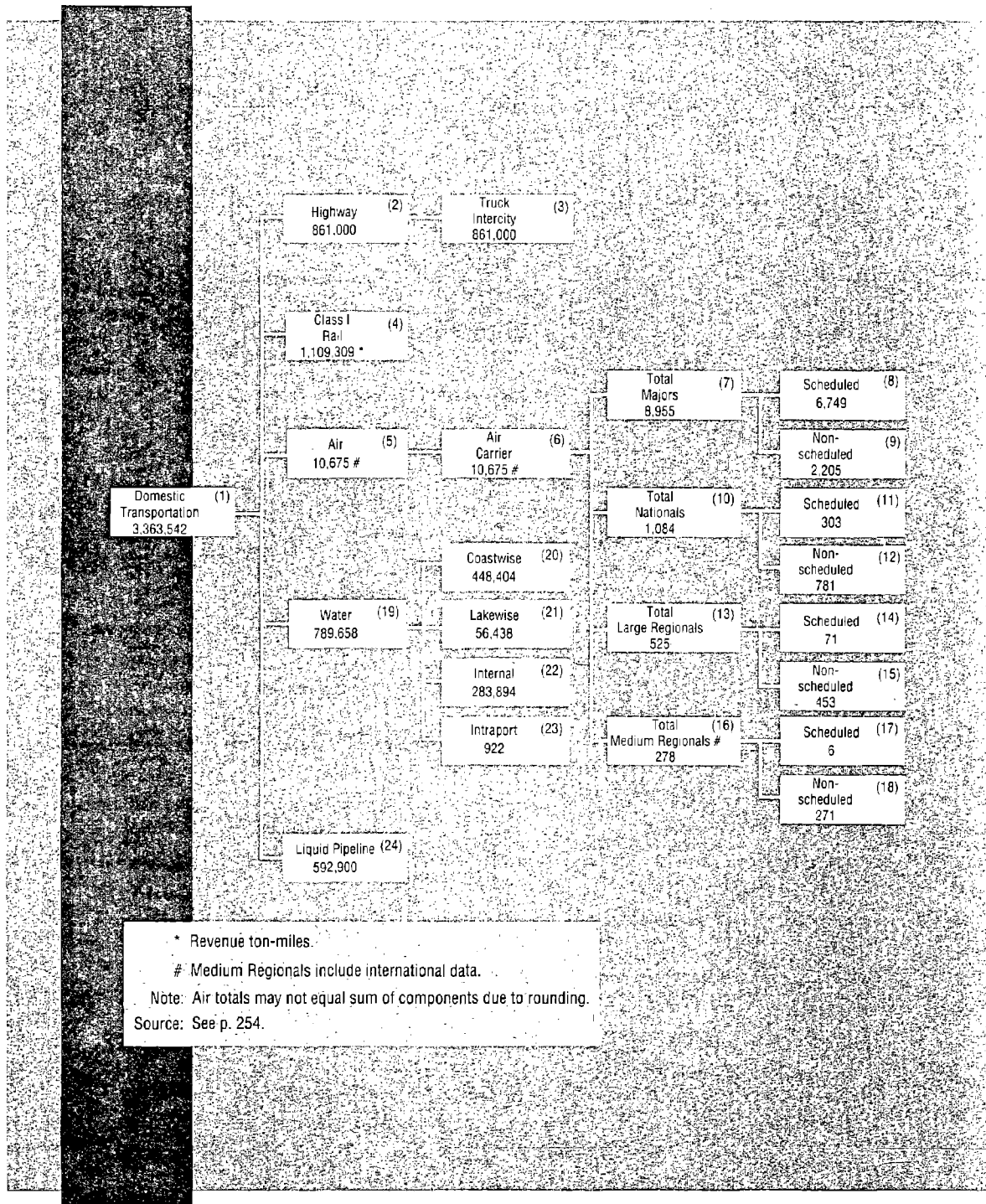
+ See Transit for Transit (Motor) Bus, Commuter Rail, and Ferry Boat figures.  
 † Includes Taxi.  
 \*\* See p. 7 for explanation of new vehicle categories.  
 # Medium Regionals include international data.  
 Source: See pp. 253, 254.

## TREE DISPLAY - 4

### Ton-Miles of Freight

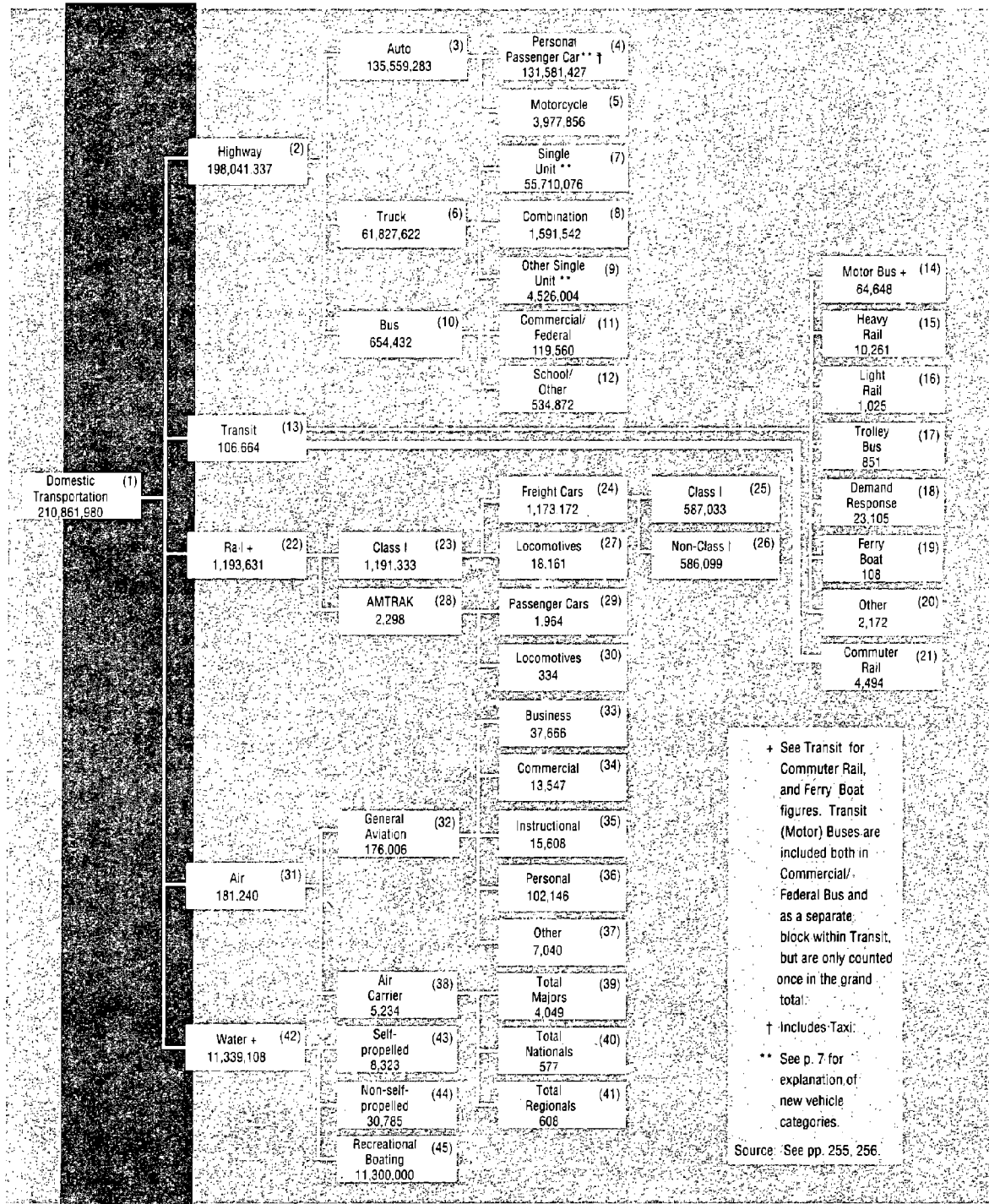
(Millions)

1993



# TREE DISPLAY - 5

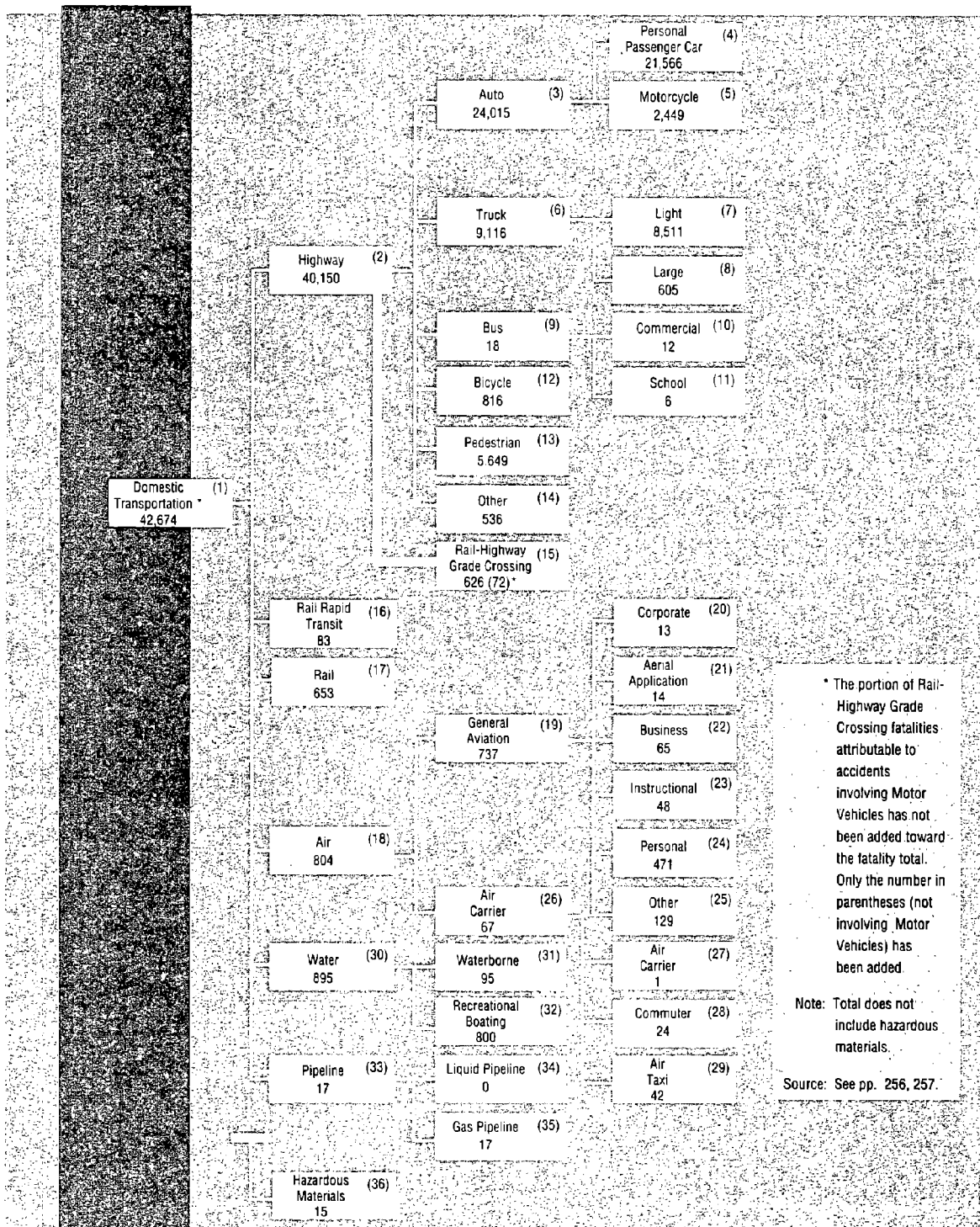
## Number of Vehicles 1993



## TREE DISPLAY - 6

### Number of Fatalities

1993

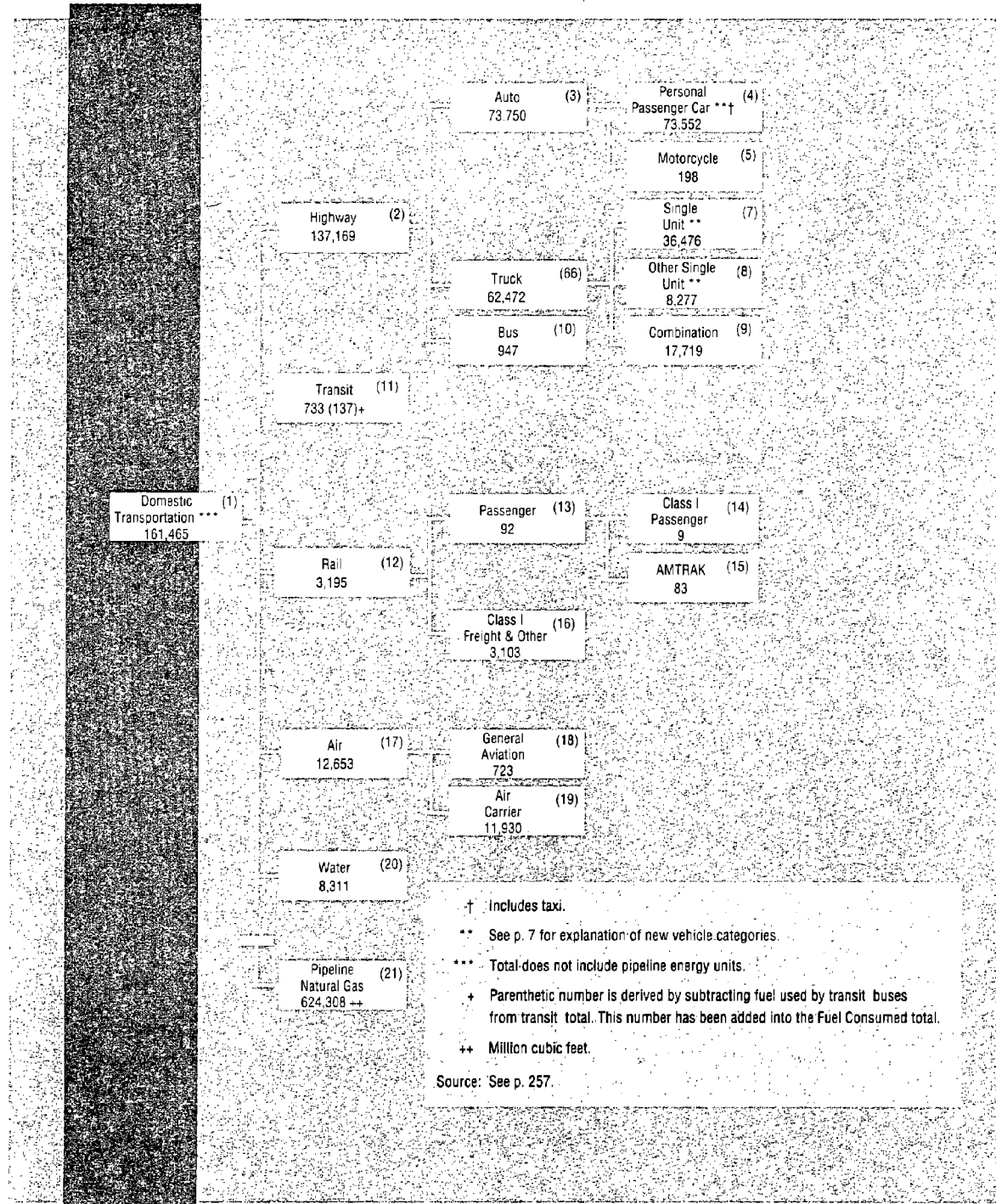


# TREE DISPLAY - 7

## Fuel Consumed in Transportation

(Million Gallons)

1993

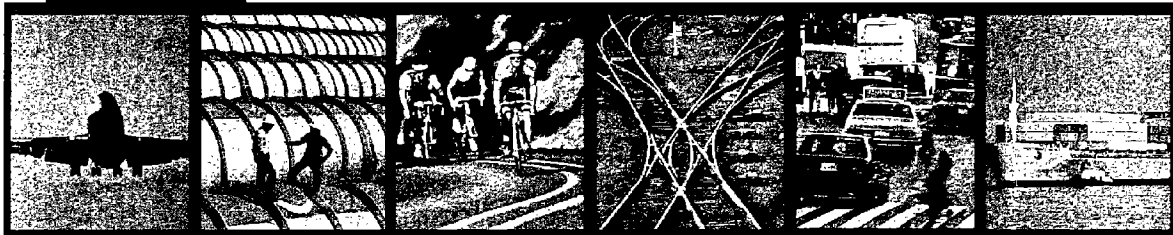






# MODAL PROFILES

NTS



1996



# MODAL PROFILES

1960, 1970, 1980, 1990, 1992,  
1993, and 1994

The Modal Profiles present financial, inventory, performance and safety data comparisons for 1960, 1970, 1980, 1990, 1992, 1993, and 1994, where available. In some cases, not all of the types of data in these profiles are available for every mode, nor are they always applicable. The following list indicates the type of data usually included in each group:

- I. Financial
  - A. Expenditures (Federal, State, Local and private modes)
  - B. Operating Revenue (for-hire modes)
  - C. Operating expenses
- II. Inventory
  - A. Number of Companies
  - B. Number of Vehicles
  - C. Number of Employees
  - D. Mileage
- III. Performance
  - A. Vehicle-Miles
  - B. Passenger-Miles
  - C. Number of Passengers Carried
  - D. Ton-miles
  - E. Tons of Freight Hauled
  - F. Average Passenger Trip Length
  - G. Average Length of Freight Hauled
  - H. Fatality and Accident Rates
- IV. Safety
  - A. Fatalities
  - B. Injuries
  - C. Accidents/Incidents
  - D. Fatality, Injury, and Accident Rates

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 that may not appear directly in the sources listed. These were obtained by addition/subtraction of referenced data or of other data in its column, and are marked with an asterisk.

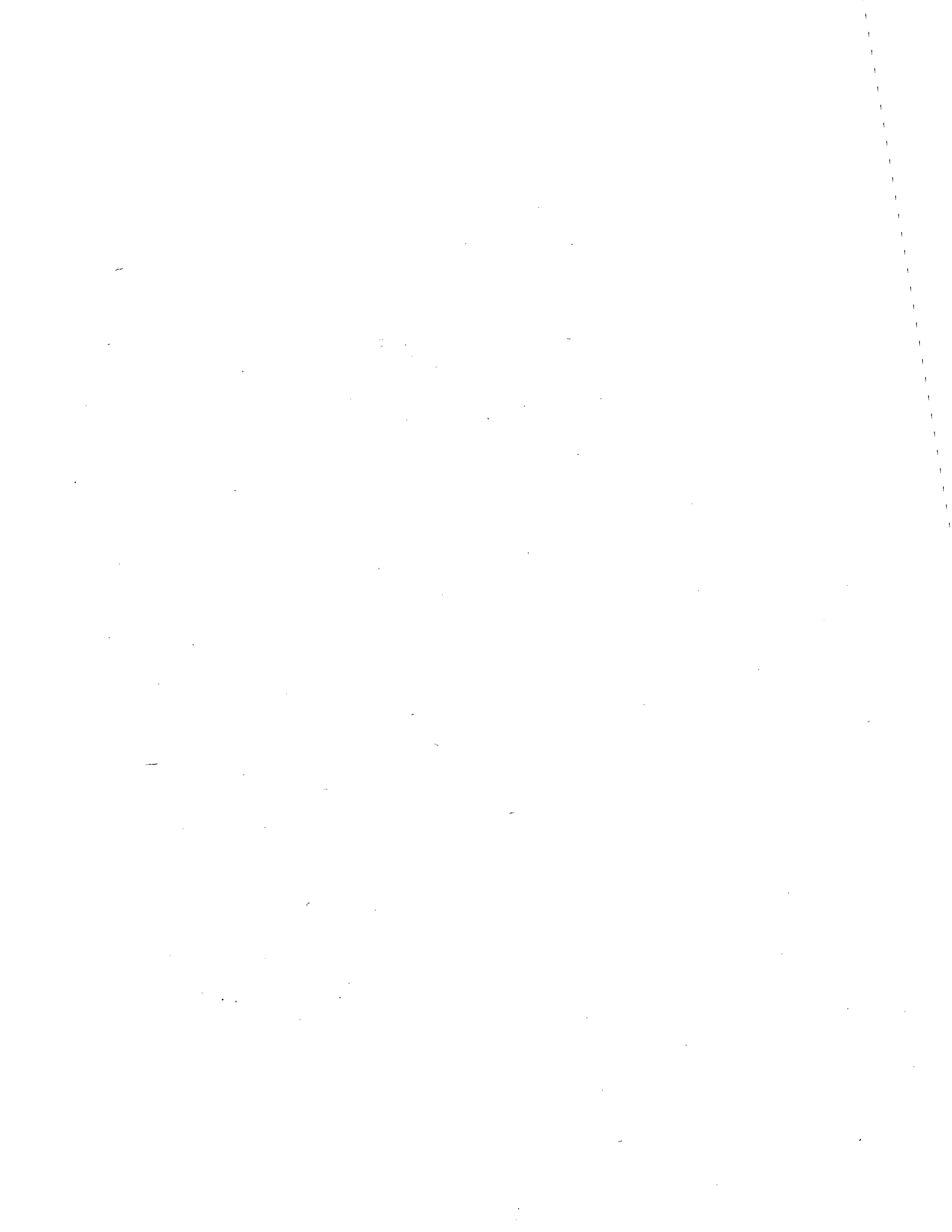
For example: **General Aviation Profile**

1993

3,230<sup>a</sup> reference letter 'a' also applies to the two subsequent data elements  
6,098  
9,328

9,855<sup>b</sup> reference letter 'b' refers to a different data source.  
27.811

The source and page or table numbers are found at the end of each modal profile. All source publications are listed in References, Section II.



## AIR CARRIER PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993	1994 <sup>P</sup>
<b>Operating Revenues</b>							
(thousand dollars)							
Domestic <sup>1</sup>							
Majors, all services	1,942,635 <sup>a</sup>	6,272,775 <sup>a</sup>	23,012,073 <sup>b</sup>	53,333,552 <sup>d</sup>	53,922,582 <sup>d</sup>	58,234,624 <sup>d</sup>	59,910,548 <sup>d</sup>
Nationals, all services	146,481	736,831	3,182,418	4,167,552 <sup>e</sup>	2,960,943 <sup>e</sup>	4,434,617 <sup>e</sup>	4,416,053 <sup>e</sup>
Large Regionals, all services	-	-	245,806	459,404 <sup>f</sup>	770,868 <sup>f</sup>	563,800 <sup>f</sup>	933,155 <sup>f</sup>
International							
Majors, all services	705,938	2,109,497	5,976,221 <sup>c</sup>	16,761,376 <sup>d</sup>	18,875,298 <sup>d</sup>	19,308,162 <sup>d</sup>	19,222,842 <sup>d</sup>
Nationals, all services	-	-	465,923	901,352 <sup>e</sup>	1,240,397 <sup>e</sup>	1,640,483 <sup>e</sup>	2,467,594 <sup>e</sup>
Large Regionals, all services	-	-	-	327,627 <sup>f</sup>	370,155 <sup>f</sup>	377,528 <sup>f</sup>	419,664 <sup>f</sup>
Total Certificated*	2,795,054	9,119,103	32,882,441	75,950,863	78,140,243	84,559,214	87,369,856
<b>Operating Expenses</b>							
(thousand dollars)							
Domestic							
Majors, all services	1,907,785	6,256,039	23,150,527 <sup>b</sup>	54,209,401 <sup>d</sup>	54,879,378 <sup>d</sup>	56,180,007 <sup>d</sup>	57,871,371 <sup>d</sup>
Nationals, all services	144,309	745,629	3,058,289	4,297,823 <sup>e</sup>	3,141,608 <sup>e</sup>	4,312,612 <sup>e</sup>	4,139,852 <sup>e</sup>
Large Regionals, all services	-	-	257,183	445,862 <sup>f</sup>	780,120 <sup>f</sup>	664,856 <sup>f</sup>	962,592 <sup>f</sup>
International							
Majors, all services	665,660	2,065,605	6,171,366 <sup>c</sup>	17,746,006 <sup>d</sup>	20,174,644 <sup>d</sup>	19,959,995 <sup>d</sup>	18,872,957 <sup>d</sup>
Nationals, all services	-	-	470,729	853,361 <sup>e</sup>	1,245,012 <sup>e</sup>	1,616,868 <sup>e</sup>	2,326,649 <sup>e</sup>
Large Regionals, all services	-	-	-	315,113 <sup>f</sup>	363,942 <sup>f</sup>	386,703 <sup>f</sup>	434,821 <sup>f</sup>
Total Certificated*	2,717,754	9,067,273	33,108,094	77,867,566	80,584,704	83,121,041	84,608,242
<b>II. INVENTORY <sup>2</sup></b>							
<b>Number of Carriers</b>							
Total Domestic							
& International	55 <sup>g</sup>	39 <sup>g</sup>	72 <sup>g</sup>	62 <sup>g</sup>	70 <sup>g</sup>	75 <sup>g</sup>	82 <sup>g</sup>
Majors	-	-	12	12	11	11	11
Nationals	-	-	17	16	18	19	23
Regionals	-	-	43	34	41	45	48
<b>Number of Aircraft</b>							
<b>Available for Service</b>							
Total Domestic							
& International	2,211	2,564	2,818	4,727	4,884	5,234	5,221
Majors	-	-	2,071	3,854	3,836	4,049	4,085
Nationals	-	-	432	650	620	577	819
Regionals	-	-	315	223	428	608	317
<b>Number of Employees</b>							
Total Domestic							
& International	169,872	304,690	354,264	588,926	569,616	577,761	586,083
Majors	118,189	214,021	318,973	549,100	529,919	533,020	526,379
Nationals	12,470	24,913	29,922	32,077	27,131	24,853	46,670
Regionals	-	-	5,369	7,749	12,566	19,888	13,034

**AIR CARRIER PROFILE** (Page 2 of 6)

III. PERFORMANCE	1960	1970	1980	1990	1992	1993	1994 <sup>P</sup>
<b>Aircraft Revenue—</b>							
<b>Miles (thousands)</b>							
Domestic							
Certificated,							
all services*	858,451 <sup>h</sup>	2,067,598 <sup>h</sup>	2,523,375	3,963,263 <sup>l</sup>	3,994,821 <sup>l</sup>	4,157,067 <sup>j</sup>	4,369,908 <sup>j</sup>
Majors, all services*	716,961	1,778,065	2,113,669	3,547,339 <sup>k</sup>	3,594,946 <sup>k</sup>	3,664,219 <sup>k</sup>	3,760,064 <sup>k</sup>
Nationals, all services	94,794	247,055	330,528	351,946 <sup>l</sup>	297,903 <sup>l</sup>	407,604 <sup>l</sup>	472,089 <sup>l</sup>
Large Regionals, all services*	—	—	56,995	60,542 <sup>m</sup>	86,447 <sup>m</sup>	67,483 <sup>m</sup>	94,943 <sup>m</sup>
International							
Certificated,							
all services*	181,605	474,666	400,971 <sup>h</sup>	760,338 <sup>o</sup>	904,426 <sup>o</sup>	960,679 <sup>o</sup>	97,225 <sup>o</sup>
Majors, all services*	—	—	330,391	666,231 <sup>p</sup>	802,104 <sup>p</sup>	830,665 <sup>p</sup>	809,242 <sup>p</sup>
Nationals, all services*	—	—	66,499	48,812 <sup>q</sup>	54,688 <sup>q</sup>	84,053 <sup>q</sup>	105,972 <sup>q</sup>
Large Regionals, all services*	—	—	2,948 <sup>r</sup>	60,542 <sup>r</sup>	41,403 <sup>r</sup>	37,531 <sup>r</sup>	44,137 <sup>r</sup>
Medium Regionals, all services	—	—	—	—	—	—	—
Domestic & International*	—	—	23,204	9,017 <sup>s</sup>	21,756 <sup>s</sup>	26,191 <sup>s</sup>	58,686 <sup>s</sup>
Total Certificated*	1,040,056	2,542,264	2,947,370	4,732,618	4,899,247	5,117,746	5,345,133
<b>Aircraft Revenue—Hours</b>							
Domestic							
Certificated,							
all services*	3,672,900	5,133,161	6,247,795 <sup>l</sup>	9,717,375 <sup>j</sup>	9,824,419 <sup>j</sup>	10,261,249 <sup>j</sup>	10,693,300 <sup>j</sup>
Majors, all services*	2,802,317	4,066,480	4,941,327	8,524,236 <sup>k</sup>	8,556,504 <sup>k</sup>	8,684,170 <sup>k</sup>	8,864,836 <sup>k</sup>
Nationals, all services	606,146	908,935	919,187	1,016,491 <sup>l</sup>	930,910 <sup>l</sup>	1,319,331 <sup>l</sup>	1,463,831 <sup>l</sup>
Large Regionals, all services*	—	—	267,522	167,826 <sup>m</sup>	297,710 <sup>m</sup>	188,436 <sup>m</sup>	260,370 <sup>m</sup>
International							
Certificated,							
all services*	608,736	977,325	819,518 <sup>n</sup>	1,556,760 <sup>o</sup>	1,826,032 <sup>o</sup>	1,935,029 <sup>o</sup>	1,969,242 <sup>o</sup>
Majors, all services*	—	—	668,199	1,351,349 <sup>p</sup>	1,600,791 <sup>p</sup>	1,652,637 <sup>p</sup>	1,607,160 <sup>p</sup>
Nationals, all services	—	—	140,329	101,533 <sup>q</sup>	111,869 <sup>q</sup>	173,456 <sup>q</sup>	221,847 <sup>q</sup>
Large Regionals, all services*	—	—	7,583	88,641 <sup>r</sup>	97,846 <sup>r</sup>	89,383 <sup>r</sup>	105,270 <sup>r</sup>
Medium Regionals, all services	—	—	—	—	—	—	—
Domestic & International*	—	—	123,411	24,059 <sup>s</sup>	54,821 <sup>s</sup>	88,865 <sup>s</sup>	139,228 <sup>s</sup>
Total Certificated*	4,281,636	6,110,486	7,190,724	11,298,194	11,650,451	12,196,278	12,662,542
<b>Revenue Passenger—</b>							
<b>Miles (thousands)</b>							
Domestic							
Certificated,							
all services	31,098,944	108,441,978	204,367,599 <sup>l</sup>	345,872,950 <sup>j</sup>	354,764,451 <sup>j</sup>	362,229,819 <sup>j</sup>	388,431,250 <sup>j</sup>
Majors, all services	29,430,428	99,903,229	182,984,795	327,112,620 <sup>k</sup>	334,870,399 <sup>k</sup>	335,559,963 <sup>k</sup>	352,063,864 <sup>k</sup>
Nationals, all services	1,170,779	7,642,071	20,466,712	16,756,818 <sup>l</sup>	16,176,000 <sup>l</sup>	21,773,268 <sup>l</sup>	27,846,664 <sup>l</sup>
Large Regionals, all services	—	—	711,868	1,752,615 <sup>m</sup>	2,733,649 <sup>m</sup>	3,906,406 <sup>m</sup>	6,024,286 <sup>m</sup>

**AIR CARRIER PROFILE** (Page 3 of 6)

	1960	1970	1980	1990	1992	1993	1994 <sup>p</sup>
<b>International</b>							
Certificated,							
all services	8,950,672 <sup>h</sup>	39,675,312 <sup>h</sup>	63,354,387 <sup>n</sup>	126,362,697 <sup>o</sup>	138,950,276 <sup>o</sup>	143,766,253 <sup>o</sup>	148,969,744 <sup>o</sup>
Majors, all services	-	-	54,318,160	118,268,507 <sup>p</sup>	128,699,842 <sup>p</sup>	130,976,454 <sup>p</sup>	130,299,348 <sup>p</sup>
Nationals, all services	-	-	8,659,592	6,794,533 <sup>q</sup>	8,227,952 <sup>q</sup>	10,440,299 <sup>q</sup>	12,939,400 <sup>q</sup>
Large Regionals,							
all services	-	-	330,288	1,219,706 <sup>r</sup>	1,709,024 <sup>r</sup>	2,023,723 <sup>r</sup>	2,349,718 <sup>r</sup>
Medium Regionals,							
all services	-	-	-	-	-	-	-
Domestic &							
International*	-	-	250,571	330,848 <sup>s</sup>	1,297,861 <sup>s</sup>	1,315,959 <sup>s</sup>	2,877,964 <sup>s</sup>
Total Certificated*	40,049,616	148,137,370	267,972,557	472,566,495	493,714,727	505,996,072	537,401,264
<b>Average Passenger Revenue/Passenger Mile (Domestic, Scheduled Service)</b>							
	6.09	6.00	11.49	13.43	12.85	13.74	12.99
<b>Average Passenger Fare (Domestic Scheduled Service)</b>							
	34.12	40.65	84.55	107.86	103.60	109.80	102.20
<b>Revenue Passenger Enplanements (thousands)</b>							
Domestic							
Certificated,							
all services*	56,352	153,662	275,182 <sup>i</sup>	428,767 <sup>i</sup>	437,972 <sup>j</sup>	450,559 <sup>j</sup>	488,930 <sup>j</sup>
Majors, all services*	48,678	122,866	223,237	393,927 <sup>k</sup>	399,846 <sup>k</sup>	401,810 <sup>k</sup>	428,328 <sup>k</sup>
Nationals, all services	5,949	26,726	47,145	32,015 <sup>l</sup>	30,215 <sup>l</sup>	41,918 <sup>l</sup>	47,983 <sup>l</sup>
Large Regionals,							
all services*	-	-	3,748	2,566 <sup>m</sup>	6,344 <sup>m</sup>	5,426 <sup>m</sup>	8,698 <sup>m</sup>
International							
Certificated,							
all services*	5,904	16,620	26,514 <sup>n</sup>	46,126 <sup>o</sup>	46,979 <sup>o</sup>	49,148 <sup>o</sup>	51,276 <sup>o</sup>
Majors, all services*	-	-	23,949	42,207 <sup>p</sup>	41,971 <sup>p</sup>	42,504 <sup>p</sup>	42,702 <sup>p</sup>
Nationals, all services	-	-	2,343	2,632 <sup>c</sup>	2,968 <sup>q</sup>	4,691 <sup>q</sup>	6,182 <sup>q</sup>
Large Regionals,							
all services*	-	-	149	1,246 <sup>r</sup>	1,751 <sup>r</sup>	1,710 <sup>r</sup>	2,115 <sup>r</sup>
Medium Regionals,							
all services	-	-	-	-	-	-	-
Domestic &							
International*	-	-	1,125	300 <sup>s</sup>	1,856 <sup>s</sup>	1,648 <sup>s</sup>	4,198 <sup>s</sup>
Total Certificated*	62,256	169,922	302,821	475,193	484,951	499,707	540,206
<b>Revenue Passenger Load Factor (%)</b>							
Domestic							
Certificated,							
scheduled services	58.5	48.9	58.0 <sup>i</sup>	60.4 <sup>i</sup>	62.4 <sup>j</sup>	62.0 <sup>j</sup>	64.7 <sup>j</sup>
Majors,							
scheduled services	59.5	49.3	58.1	60.6 <sup>k</sup>	62.6 <sup>k</sup>	62.1 <sup>k</sup>	65.0 <sup>k</sup>
Nationals,							
scheduled services	41.9	43.6	58.4	56.6 <sup>l</sup>	57.4 <sup>l</sup>	61.0 <sup>l</sup>	63.2 <sup>l</sup>
Large Regionals,							
scheduled services	-	-	47.7	48.7 <sup>m</sup>	56.3 <sup>m</sup>	55.0 <sup>m</sup>	56.8 <sup>m</sup>

**AIR CARRIER PROFILE** (Page 4 of 6)

	1960	1970	1980	1990	1992	1993	1994 <sup>p</sup>
<b>International</b>							
Certificated,							
scheduled services	62.2 <sup>h</sup>	53.0 <sup>h</sup>	62.8 <sup>n</sup>	69.1 <sup>o</sup>	67.1 <sup>o</sup>	67.7 <sup>o</sup>	70.6 <sup>o</sup>
Majors,							
scheduled services	-	-	62.8	69.1 <sup>p</sup>	67.0 <sup>p</sup>	67.7 <sup>p</sup>	70.8 <sup>p</sup>
Nationals,							
scheduled services	-	-	65.5	73.4 <sup>q</sup>	68.5 <sup>q</sup>	67.3 <sup>q</sup>	68.3 <sup>q</sup>
Large Regionals,							
scheduled services	-	-	73.9	66.5 <sup>r</sup>	67.1 <sup>r</sup>	62.0 <sup>r</sup>	45.7 <sup>r</sup>
Medium Regionals,							
all services	-	-	-	-	-	-	-
Domestic &							
International*	-	-	46.7	0.0 <sup>s</sup>	85.4 <sup>s</sup>	66.8 <sup>s</sup>	61.6 <sup>s</sup>
<b>U.S. International</b>							
<b>Passenger Travel</b>							
<b>Total Passenger</b>							
<b>Arrivals (thousands)</b>							
Flag of Carrier:							
United States	1,332 <sup>t</sup>	5,531 <sup>t</sup>	10,031 <sup>u</sup>	19,145 <sup>u</sup>	20,537 <sup>u</sup>	21,940 <sup>u</sup>	23,291 <sup>u</sup>
Foreign	1,234	4,343	10,231	17,269	18,390	19,618	20,527
<b>Departures (thousands)</b>							
Flag of Carrier:							
United States	1,200	4,949	9,369	17,628	18,858	20,232	21,355
Foreign	1,136	4,147	9,886	16,418	17,353	18,022	18,993
<b>Total Revenue Ton-</b>							
<b>Miles (thousands)*</b>							
Domestic							
Certificated,							
all services	3,732,949 <sup>h</sup>	13,876,802 <sup>h</sup>	24,964,907 <sup>i</sup>	43,651,162 <sup>j</sup>	45,296,134 <sup>i</sup>	46,897,801 <sup>j</sup>	50,520,599 <sup>j</sup>
Majors, all services	3,332,483	12,569,057	21,427,534	39,107,033 <sup>k</sup>	41,855,865 <sup>k</sup>	42,510,563 <sup>k</sup>	44,952,772 <sup>k</sup>
Nationals, all services	121,157	850,477	3,336,057	3,561,283 <sup>l</sup>	2,480,057 <sup>l</sup>	3,261,576 <sup>l</sup>	3,998,973 <sup>l</sup>
Large Regionals,							
all services	-	-	180,042	945,929 <sup>m</sup>	760,231 <sup>m</sup>	915,213 <sup>m</sup>	1,159,806 <sup>m</sup>
International							
Certificated,							
all services	1,291,336	6,308,701	9,689,067 <sup>n</sup>	19,975,915 <sup>o</sup>	21,383,675 <sup>o</sup>	22,784,463 <sup>o</sup>	24,693,083 <sup>o</sup>
Majors, all services	-	-	7,377,733	17,803,825 <sup>p</sup>	19,134,254 <sup>p</sup>	19,711,155 <sup>p</sup>	20,681,936 <sup>p</sup>
Nationals, all services	-	-	2,261,534	1,229,849 <sup>q</sup>	1,335,936 <sup>q</sup>	2,178,389 <sup>q</sup>	2,844,987 <sup>q</sup>
Large Regionals,							
all services	-	-	44,438	835,701 <sup>r</sup>	805,464 <sup>r</sup>	695,844 <sup>r</sup>	832,379 <sup>r</sup>
Medium Regionals,							
all services	-	-	-	-	-	-	-
Domestic &							
International*	-	-	28,178	143,457 <sup>s</sup>	308,002 <sup>s</sup>	409,524 <sup>s</sup>	742,829 <sup>s</sup>
Total Certificated*	5,024,285	20,185,503	34,682,153	63,770,534	66,679,809	69,682,264	75,213,682
<b>Revenue Ton-Miles</b>							
<b>of Freight (thousands)</b>							
Domestic							
Certificated,							
all services	552,756	2,189,331	4,528,316 <sup>i</sup>	9,063,864 <sup>j</sup>	9,819,701 <sup>i</sup>	10,675,106 <sup>j</sup>	11,688,467 <sup>j</sup>
Majors, all services	321,176	1,809,996	3,129,087	6,395,767 <sup>k</sup>	8,368,830 <sup>k</sup>	8,954,572 <sup>k</sup>	9,746,391 <sup>k</sup>
Nationals, all services	3,850	53,558	1,289,510	1,885,600 <sup>l</sup>	862,452 <sup>l</sup>	1,084,235 <sup>l</sup>	1,225,264 <sup>l</sup>
Large Regionals,							
all services	-	-	108,864	770,670 <sup>m</sup>	486,877 <sup>m</sup>	524,572 <sup>m</sup>	557,369 <sup>m</sup>



**AIR CARRIER PROFILE** (Page 5 of 6)

	1960	1970	1980	1990	1992	1993	1994 <sup>p</sup>
International							
Certificated,							
all services	268,156 <sup>h</sup>	1,566,105 <sup>h</sup>	3,353,371 <sup>n</sup>	7,339,660 <sup>c</sup>	7,486,918 <sup>o</sup>	8,407,835 <sup>o</sup>	9,796,105 <sup>o</sup>
Majors, all services	-	-	1,945,660	5,976,973 <sup>p</sup>	6,264,266 <sup>p</sup>	6,613,507 <sup>p</sup>	7,351,998 <sup>p</sup>
Nationals, all services	-	-	1,395,575	550,409 <sup>q</sup>	511,415 <sup>q</sup>	1,134,359 <sup>q</sup>	1,551,044 <sup>q</sup>
Large Regionals,							
all services	-	-	11,409	713,733 <sup>r</sup>	634,562 <sup>r</sup>	493,472 <sup>r</sup>	597,410 <sup>r</sup>
Medium Regionals,							
all services							
Domestic &							
International*	-	-	3,124	110,372 <sup>s</sup>	178,217 <sup>s</sup>	278,224 <sup>s</sup>	455,096 <sup>s</sup>
Total Certificated*	820,907	3,755,436	7,884,811	16,513,896	17,306,619	19,082,941	21,484,572

**IV. SAFETY**

**Air Carrier Accidents**

Operating under							
14 CFR 121 (airlines)							
Scheduled services	-	-	15 <sup>w</sup>	22 <sup>w</sup>	16 <sup>w</sup>	22 <sup>w</sup>	20 <sup>w</sup>
Nonscheduled services	-	-	4	2	2	1	2
Operating under							
14 CFR 135							
Scheduled services							
(commuters)	-	-	38	15	23	16	10
Nonscheduled services							
(on-demand air taxis)	-	-	171	106	76	69	84
Total*	90 <sup>v</sup>	55 <sup>v</sup>	227	145	117	108	116

**Fatal Air**

**Carrier Accidents**

Operating under							
14 CFR 121 (airlines)							
Scheduled services	-	-	0	6	4	1	4
Nonscheduled services	-	-	1	0	0	0	0
Operating under							
14 CFR 135							
Scheduled services							
(commuters)	-	-	8	3	7	4	3
Nonscheduled services							
(on-demand air taxis)	-	-	46	28	24	19	27
Total*	17	8	55	37	35	24	34

**Air Carrier Fatalities**

Operating under							
14 CFR 121 (airlines)							
Scheduled services	-	-	0	39	33	1	239
Nonscheduled services	-	-	1	0	0	0	0

**AIR CARRIER PROFILE** (Page 6 of 6)

	1960	1970	1980	1990	1992	1993	1994 <sup>p</sup>
Operating under							
14 CFR 135							
Scheduled services							
(commuters)	-	-	37 <sup>w</sup>	6 <sup>w</sup>	21 <sup>w</sup>	24 <sup>w</sup>	25 <sup>w</sup>
Nonscheduled services							
(on-demand air taxis)	-	-	105	50	70	42	64
Total*	499 <sup>v</sup>	146 <sup>v</sup>	143	95	124	67	328

\* Data derived by addition/subtraction and may not appear directly in the data source. Increase in medium regional figures for 1992 due to inclusion of Continental Micronesia, and Atlas Air.

<sup>p</sup> Total Revenue Ton-Miles includes Passenger, Freight, Express and Mail.

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

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

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	11) pp. 69,71
b	10) pp. 3/28, 44
c	10) pp. 4/28, 44
d	42) p. 3
e	42) p. 31, 32
f	42) p. 52,60,61
g	31) personal communication
h	11) Table 2, 4, 7, 13
i	9) pp. 2/5/46/84
j	41) p. 2
k	41) p. 5
l	41) p. 53, 54
m	41) p. 100,110
n	9) pp. 3/6/4/7/85/115
o	41) p. 3
p	41) p. 6
q	41) p. 54,55
r	41) p. 101, 111
s	41) 153,165
t	27) p. 22
u	44) Tables IIa and II d
v	17) personal communication
w	18) Tables 3/4/5/6

## GENERAL AVIATION PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993	1994
<b>Expenditures</b> (million dollars)							
Aircraft	202 <sup>a</sup>	339 <sup>a</sup>	2,853 <sup>a</sup>	3,518 <sup>a</sup>	2,944 <sup>a</sup>	3,230 <sup>a</sup>	3,910 <sup>a</sup>
Operating Costs	693	1,696	5,200	6,754	5,970	6,098	6,226
Total	895	2,035	8,053	10,272	8,914	9,328	10,136

## II. INVENTORY

Number of							
Active Aircraft							
Corporate	—	6,835 <sup>b</sup>	14,860 <sup>b</sup>	10,100 <sup>b</sup>	9,400 <sup>b</sup>	9,855 <sup>b</sup>	9,652 <sup>b</sup>
Business	—	26,900	49,391	33,100	28,942	27,811	25,554
Instructional	—	10,727	14,862	18,600	15,990	15,608	14,568
Personal	—	65,398	96,222	112,600	108,749	102,146	100,839
Aerial Application	—	5,455	7,294	6,200	5,067	4,979	4,215
Aerial Observation	—	—	—	4,900	5,593	4,804	4,936
External load	—	—	—	—	—	147	133
Other Work <sup>#</sup>	—	2,054	2,813	1,400	1,689	1,039	1,214
Air Taxi	—	—	—	5,800	4,648	3,764	3,927
Sight Seeing	—	—	—	—	—	1,626	1,336
Other	—	8,249	17,045	4,100	3,542	4,228	4,226
Total	76,549 <sup>b</sup>	125,618	202,487	196,800	183,620	176,006	170,600

## III. PERFORMANCE

Number of Hours							
Flown (thousands)							
Corporate	—	—	5,332 <sup>c</sup>	2,913 <sup>c</sup>	2,262 <sup>c</sup>	2,659 <sup>c</sup>	2,648 <sup>c</sup>
Business	5,699 <sup>c</sup>	7,204 <sup>c</sup>	8,434	4,417	3,537	3,345	3,055
Instructional	1,828	6,791	5,748	7,244	5,340	4,680	4,156
Personal	3,172	6,896	8,894	9,276	8,592	7,938	8,116
Aerial Application	—	—	2,044	1,872	1,296	1,167	1,210
Aerial Observation	—	—	—	1,745	1,730	1,750	1,750
External Load	—	—	—	—	—	105	172
Other Work <sup>#</sup>	—	—	1,053	572	343	175	226
Air Taxi	—	—	—	2,240	2,009	1,452	1,670
Sight Seeing	—	—	—	—	—	412	323
Other	2,422	5,139	4,925	475	358	656	640
Total	13,121	26,030	36,430	30,754	25,467	24,339	23,966
<b>Vehicle-miles</b> (millions)	1,769 <sup>f</sup>	3,207 <sup>f</sup>	5,204 <sup>f</sup>	4,831 <sup>f</sup>	3,605 <sup>f</sup>	3,253 <sup>f</sup>	2,917 <sup>f</sup>
<b>Passenger-miles</b> (millions)	2,300 <sup>a</sup>	9,100 <sup>a</sup>	14,700 <sup>a</sup>	13,000 <sup>a</sup>	10,700 <sup>a</sup>	10,200 <sup>a</sup>	9,700 <sup>a</sup>
<b>Fuel consumed</b> (million gallons)	242 <sup>g</sup>	759 <sup>g</sup>	1,286 <sup>g</sup>	1,016 <sup>g</sup>	808 <sup>g</sup>	723 <sup>g</sup>	719 <sup>g</sup>
Aviation Gasoline	242	551	520	353	314	268	269
Jet Fuel	—	208	766	663	494	454	451

**GENERAL AVIATION PROFILE** (Page 2 of 2)

<b>IV. SAFETY</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>
<b>Number of Fatalities*</b>							
Corporate	—	28 <sup>d</sup>	66 <sup>d</sup>	21 <sup>d</sup>	13 <sup>d</sup>	13 <sup>d</sup>	5 <sup>d</sup>
Business	—	148	126	81	53	65	61
Instructional	—	93	73	60	49	48	47
Personal	—	726	803	500	615	471	472
Aerial Application	—	41	32	17	9	14	17
Other	—	174	152	96	136	129	134
<b>Total</b>	<b>787<sup>d</sup></b>	<b>1,310</b>	<b>1,239</b>	<b>766</b>	<b>860</b>	<b>737</b>	<b>706</b>
<b>Number of Accidents</b>							
Fatal	429	641	618 <sup>e</sup>	442 <sup>e</sup>	448 <sup>e</sup>	399 <sup>e</sup>	392 <sup>e</sup>
<b>Total</b>	<b>4,793</b>	<b>4,712</b>	<b>3,590</b>	<b>2,216</b>	<b>2,075</b>	<b>2,042</b>	<b>1,989</b>
<b>Accident Rate</b> (per 100,000 Aircraft Hours Flown)							
Fatal	3.3	2.5	1.7	1.6	1.9	1.8	1.9
<b>Total</b>	<b>36.5</b>	<b>18.1</b>	<b>9.9</b>	<b>7.8</b>	<b>8.7</b>	<b>9.1</b>	<b>9.5</b>

\* Fatalities do not necessarily equal total. Differences are due to methodology used to count collisions involving aircraft in different categories.

# In 1960, 1970, 1980, classified as "Industrial."

Note: Sum of components may not equal totals.

Source: The following data references are listed on pp. 261, 262.

<b>Source</b>	<b>Reference Number/Location</b>
a	12) pp. 42, 47
b	32) Table 3.1
c	32) Table 3.2
d	17) personal communication
e	18) Table 7
f	32) Table 3.3
g	32) Table 5.1

## HIGHWAY PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993	1994
<b>Government Receipts</b>							
(million dollars)							
Federal							
Highway Trust Fund	2,858 <sup>a</sup>	5,526 <sup>a</sup>	7,672 <sup>a</sup>	13,230 <sup>b</sup>	16,479 <sup>b</sup>	16,709 <sup>b</sup>	14,989 <sup>b</sup>
Other	205	618	2,438	1,196	1,386	1,154	1,348
Total Federal	3,063	6,144	9,830	14,426	17,865	17,863	16,337
State & Local							
State & D.C.	6,055	11,737	19,666	40,026	46,127	47,008	46,921
Local	2,367	3,866	10,219	20,842	22,711	23,509	23,834
Total State & Local*	8,422	15,603	29,885	60,868	68,838	70,517	70,755
Total	11,485	21,747	39,715	75,294	86,703	88,380	87,092
<b>Government Expenditures</b>							
(million dollars)							
Federal							
Highway Trust Fund	-	-	-	358	421	788	1,375
Other*	-	-	-	306	295	312	340
Total Federal	202 <sup>c</sup>	431 <sup>c</sup>	906 <sup>c</sup>	664	716	1,100	1,715
State & Local							
State & D.C.	7,125	14,100	25,936	45,609	50,784	53,114	55,569
Local	3,435	6,304	14,953	29,135	32,048	32,212	32,790
Total State & Local*	10,560	20,404	40,889	74,744	82,832	85,326	88,359
Total	10,762	20,835	41,795	75,408	83,548	86,426	90,074
<b>State Highway User Tax Revenues**</b>							
(million dollars)							
Motor Fuel Tax	3,374 <sup>d</sup>	6,433 <sup>d</sup>	9,485 <sup>d</sup>	19,658 <sup>e</sup>	23,833 <sup>e</sup>	24,652 <sup>e</sup>	-
Other Motor Fuel Receipts <sup>1</sup>	22	44	92	220	162	138	-
Motor Vehicle Registration Fees	1,514 <sup>f</sup>	2,873 <sup>f</sup>	5,173 <sup>f</sup>	10,257 <sup>g</sup>	11,685 <sup>g</sup>	12,219 <sup>g</sup>	12,385 <sup>g</sup>
Other Motor Vehicle Fees <sup>2</sup>	235	577	1,490	3,353	3,780	4,091	4,505
Motor Carrier Taxes <sup>3</sup>	110	176	323	695	793	772	875
Miscellaneous Fees	68	181	615	1,761	2,179	2,418	2,575
Total	5,323	10,284	17,177	35,944	42,432	44,489	-

## II. INVENTORY

### Rural/Urban Mileage

#### by Jurisdiction

##### Rural Mileage

###### Under State

Control	658,896 <sup>h</sup>	707,002 <sup>h</sup>	701,846 <sup>i</sup>	702,562 <sup>i</sup>	696,589 <sup>i</sup>	692,403 <sup>i</sup>	690,385 <sup>i</sup>
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###### Under Federal

Control*	111,912	187,696	262,010	178,196	181,025	179,567	173,617
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**HIGHWAY PROFILE** (Page 2 of 4)

	1960	1970	1980	1990	1992	1993	1994
Under Local Control							
County Roads	2,345,317 <sup>h</sup>	2,274,714 <sup>h</sup>	2,269,770 <sup>i</sup>	2,242,030	2,238,941	2,229,673	2,228,951
Town & Township Roads	1,742,404	1,732,981	1,686,693	1,617,051	1,617,416	1,629,949	1,625,164
Other Local Roads	538,651	510,174	507,856	437,493	439,283	430,590	423,907
Total Rural Mileage	3,116,125	3,169,412	3,233,626	3,122,788	3,116,555	3,101,643	3,092,953
Urban Mileage							
Under State Control							
Under Federal Control <sup>f</sup>	50,158	74,103	79,359	95,790	103,648	107,317	109,970
Under Local Control							
County Roads	-	-	27,515	95,985	109,492	114,448	115,377
Town & Township Roads	-	-	19,474	42,772	44,284	84,380	74,614
Other Local Roads	379,410	486,567	496,131	521,792	526,349	495,622	512,148
Total Urban Mileage	429,568	560,670	623,232	757,363	785,160	803,078	813,591
Total Rural & Urban Mileage	3,545,693	3,730,082	3,856,858	3,880,151	3,901,715	3,904,721	3,906,544
<b>Rural/Urban Mileage by Functional System</b>							
Rural Mileage							
Interstate	-	-	31,997 <sup>j</sup>	33,547 <sup>j</sup>	33,027 <sup>j</sup>	32,652 <sup>j</sup>	32,457 <sup>j</sup>
Other Principal Arterial	-	-	82,732	83,802	94,798	96,201	96,995
Minor Arterial	-	-	149,089	144,735	137,637	137,928	138,171
Major Collector	-	-	439,050	436,365	434,175	432,675	431,111
Minor Collector	-	-	299,557	293,912	284,706	282,361	282,025
Local	-	-	2,231,201	2,130,427	2,132,212	2,119,826	2,112,194
Total Rural Mileage	3,116,125 <sup>j</sup>	3,169,412 <sup>j</sup>	3,233,626	3,122,788	3,116,555	3,101,643	3,092,953
Urban Mileage							
Interstate	-	-	9,219	11,527	12,466	12,878	13,126
Other Freeways & Expressways	-	-	6,713	7,670	8,465	8,857	8,995
Other Principal Arterial	-	-	44,338	51,987	52,165	52,835	53,090
Minor Arterial	-	-	66,581	74,656	80,368	85,822	87,852
Collector	-	-	68,213	78,248	82,657	85,378	86,098
Local	-	-	428,168	533,275	549,039	557,308	564,430
Total Urban Mileage	429,568	560,670	623,232	757,363	785,160	803,078	813,591
Total Rural & Urban Mileage	3,545,693	3,730,082	3,856,858	3,880,151	3,901,715	3,904,721	3,906,544
<b>U.S. Roads &amp; Streets</b>							
Surfaced Mileage							
State Control	667,214 <sup>k</sup>	747,658 <sup>k</sup>	753,000 <sup>l</sup>	619,131 <sup>m</sup>	618,430 <sup>m</sup>	551,568 <sup>m</sup>	551,605 <sup>m</sup>
Federal, County & Local Control	1,862,368	2,143,820	2,605,000	2,899,073	2,932,949	2,996,547	3,013,372
Total	2,556,970	2,946,463	3,358,000	3,518,204	3,551,379	3,548,115	3,564,977
Percent Surfaced	72.1	78.9	84.9	90.7	91.0	90.8	91.3

**HIGHWAY PROFILE** (Page 3 of 4)

	1960	1970	1980	1990	1992	1993	1994
<b>Non-Surfaced Mileage</b>							
State Control	41,840 <sup>k</sup>	33,447 <sup>k</sup>	28,000 <sup>l</sup>	663 <sup>m</sup>	569 <sup>m</sup>	243 <sup>m</sup>	261 <sup>m</sup>
Federal, County & Local Control	862,359	617,461	569,000	361,284	349,767	356,363	341,307
<b>Total</b>	<b>988,723</b>	<b>783,619</b>	<b>597,000</b>	<b>361,947</b>	<b>350,336</b>	<b>356,606</b>	<b>341,568</b>
<b>Total Mileage</b>							
State Control	709,054	781,105	781,000	619,794	618,999	551,811	551,866
Federal, County & Local Control	2,724,727	2,761,281	3,174,000	3,260,357	3,282,716	3,352,910	3,354,678
<b>Total</b>	<b>3,545,693</b>	<b>3,730,082</b>	<b>3,955,000</b>	<b>3,880,151</b>	<b>3,901,715</b>	<b>3,904,721</b>	<b>3,906,544</b>
<b>Number of Employees</b>							
Highways - State & Local Govt.	532,000 <sup>n</sup>	607,000 <sup>n</sup>	559,000 <sup>n</sup>	569,000 <sup>n</sup>	561,000 <sup>n</sup>	-	-
Highway & Street Construction	294,000 <sup>o</sup>	331,000 <sup>o</sup>	268,400 <sup>o</sup>	238,700 <sup>c</sup>	214,500 <sup>o</sup>	222,300 <sup>p</sup>	225,800 <sup>p</sup>

**III. PERFORMANCE**

**Vehicle-Miles of Travel by Highway**

**Class (millions)\*\***

<b>Rural</b>							
Interstate	10,514 <sup>q</sup>	79,516 <sup>q</sup>	135,084 <sup>r</sup>	200,173 <sup>r</sup>	205,557 <sup>r</sup>	208,308 <sup>r</sup>	215,918 <sup>r</sup>
<b>Other Principal</b>							
Arterial	-	-	132,958	175,133	196,816	203,113	207,567
Minor Arterial	-	-	129,816	155,733	147,246	146,454	149,949
Major Collector	-	-	150,186	190,512	184,845	178,170	182,328
Minor Collector	-	-	39,282	49,948	50,065	48,126	48,561
Local	-	-	84,704	97,379	99,568	102,661	105,092
<b>Total Rural</b>	<b>400,463</b>	<b>539,472</b>	<b>672,030</b>	<b>868,878</b>	<b>884,097</b>	<b>886,832</b>	<b>909,415</b>
<b>Urban</b>							
Interstate	13,365	81,532	161,242	278,901	303,265	317,399	331,200
<b>Other Freeways &amp; Expressways</b>							
Other Principal	-	-	79,690	127,465	138,312	142,063	147,560
Arterial	-	-	229,469	335,543	345,047	354,993	364,492
Minor Arterial	-	-	175,030	236,225	262,259	276,993	286,359
Collector	-	-	83,043	106,297	116,065	117,950	120,118
Local	-	-	126,791	191,053	198,106	200,470	200,840
<b>Total Urban</b>	<b>318,299</b>	<b>570,252</b>	<b>855,265</b>	<b>1,275,484</b>	<b>1,363,054</b>	<b>1,409,868</b>	<b>1,450,569</b>
<b>Total Rural &amp; Urban</b>	<b>718,762</b>	<b>1,109,724</b>	<b>1,527,295</b>	<b>2,144,362</b>	<b>2,247,151</b>	<b>2,296,700</b>	<b>2,359,984</b>

**Highway Demand for Petroleum**

(thousand barrels)

Motor Fuel	1,373,648 <sup>s</sup>	2,198,290 <sup>s</sup>	2,737,139 <sup>s</sup>	3,113,695 <sup>s</sup>	3,164,008 <sup>s</sup>	3,265,937 <sup>s</sup>	3,336,458 <sup>s</sup>
<b>Asphalt Paving Products &amp; Road Oils</b>							
Road Oils	87,179 <sup>t</sup>	140,111 <sup>t</sup>	125,040 <sup>t</sup>	176,843 <sup>t</sup>	166,097 <sup>t</sup>	173,771 <sup>t</sup>	176,751 <sup>t</sup>
<b>Total</b>	<b>1,460,827</b>	<b>2,338,401</b>	<b>2,862,179</b>	<b>3,290,530</b>	<b>3,331,286</b>	<b>3,439,708</b>	<b>3,513,209</b>

**HIGHWAY PROFILE** (Page 4 of 4)

IV. SAFETY	1960	1970	1980	1990	1992	1993	1994
Total Fatalities, Motor Vehicle							
Accidents	36,399 <sup>u</sup>	54,180 <sup>u</sup>	51,091 <sup>u</sup>	44,599 <sup>u</sup>	39,250 <sup>u</sup>	40,150 <sup>u</sup>	40,676 <sup>u</sup>
Total Accidents	-	-	848,000	3,231,000	3,070,000	3,125,000	3,215,000
Total Injuries	-	-	6,216,000	6,471,000	6,000,000	6,105,000	6,492,000

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

\*\* Revenues not necessarily allocated to highway expenditures.

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

++ Highway category classifications changed several times before 1980. Actual 1960 data categories were: Main Rural Roads, Local Rural Roads and Urban Streets; 1970 data categories were: Rural Interstate, Rural Other Arterial, Other Rural, Urban Interstate and Other Urban.

<sup>1</sup> Includes distributors and dealers licenses, inspection fees, fines and penalties, and miscellaneous receipts.

<sup>2</sup> Includes drivers licenses, title fees, special titling taxes, fines and penalties, estimated service charges and local collections.

<sup>3</sup> Includes carrier gross receipt taxes; mileage, ton-mile and passenger-mile taxes; special license fees and franchise taxes; and certificate or permit fees.

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	34) HF-211
b	33) Table HF-10a, HF-11, HF-12
c	34) HF-212
d	34) MF-201
e	33) Table MF-1 and personal communication
f	34) MV-202
g	33) Table MV-2
h	34) M-203
i	33) Table HM-10
j	33) Table HM-20
k	33) Table M-2
l	1) p. 69
m	33) Table HM-12
n	22) Table 494
o	26) SIC 161-413
p	29) SIC 161-413
q	34) VM-201
r	33) Table VM-2
s	33) Table VM-1 (highway fuel consumption divided by 42)
t	12) p. 57
u	40) personal communication



## AUTOMOBILE PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993	1994
<b>Personal Auto Expenditures</b>							
(million dollars)							
New & Used Cars*	20,237 <sup>a</sup>	32,668 <sup>a</sup>	61,300 <sup>a</sup>	129,700 <sup>a</sup>	125,944 <sup>a</sup>	139,296 <sup>a</sup>	153,101 <sup>a</sup>
Tires, Tubes, Accessories, & Parts	2,768	5,396	16,684	22,483	24,372	26,369	28,834
Gasoline & Oil	14,414	29,329	83,721	108,471	105,507	105,616	107,221
Tolls	362	756	1,061	2,024	2,280	2,452	2,571
Insurance Premiums less Claims Paid	2,313	4,335	9,383	18,066	25,566	27,480	28,558
Repair, Greasing, Washing, Parking, Storage, Rental & Leasing	6,115	13,233	32,327	82,538	89,482	98,351	105,455
Auto Registration Fees	863 <sup>b</sup>	1,668 <sup>b</sup>	2,892 <sup>b</sup>	6,054 <sup>b</sup>	7,138 <sup>b</sup>	7,369 <sup>b</sup>	-
Driver's License Fees	119	222	370	638	781	738	-
Total*	47,191	92,270	214,399	370,629	381,070	407,671	-
<b>Taxi Expenditures</b>							
(million dollars)							
	858 <sup>a</sup>	1,411 <sup>a</sup>	2,857 <sup>a</sup>	3,209 <sup>a</sup>	3,300 <sup>a</sup>	3,384 <sup>a</sup>	3,468
<b>Business New Auto Expenditures</b>							
(million dollars)							
	-	-	20,771	55,216	62,673	68,336	81,277
<b>Government New Auto Expenditures</b>							
(million dollars)							
Total Business/ Government New Auto Expenditures*	-	-	766	1,742	1,564	1,516	1,694
	-	-	21,537	56,958	64,237	69,852	82,971
<b>II. INVENTORY</b>							
<b>Number of Vehicle Registrations</b>							
<b>Passenger</b>							
Cars & Taxis	61,882,304 <sup>c</sup>	89,243,557 <sup>c</sup>	121,600,843 <sup>c</sup>	143,453,040 <sup>d</sup>	144,213,429 <sup>d</sup>	131,581,427 <sup>d</sup>	133,929,661 <sup>d</sup>
Motorcycles	575,497	2,824,098	5,693,940	4,259,462	4,065,118	3,977,856	3,718,427
<b>Motor Vehicle Licensed Drivers</b>							
	87,252,563 <sup>e</sup>	111,542,787 <sup>e</sup>	145,298,996 <sup>e</sup>	167,015,250 <sup>e</sup>	173,125,396 <sup>e</sup>	173,149,313 <sup>e</sup>	175,403,465 <sup>e</sup>
<b>Number of Employees</b>							
Taxicabs	120,700 <sup>f</sup>	106,400 <sup>f</sup>	52,500 <sup>f</sup>	32,400 <sup>f</sup>	30,100 <sup>f</sup>	30,200 <sup>g</sup>	31,500 <sup>g</sup>
<b>Automotive Dealers &amp; Service Stations</b>							
	1,267,200 <sup>h</sup>	1,617,400 <sup>h</sup>	1,688,500 <sup>h</sup>	2,063,100 <sup>h</sup>	1,966,300 <sup>h</sup>	2,013,800 <sup>i</sup>	2,122,500 <sup>i</sup>
<b>New &amp; Used Car Dealers</b>							
	658,100 <sup>j</sup>	763,200 <sup>j</sup>	745,200 <sup>j</sup>	924,300 <sup>j</sup>	879,300 <sup>j</sup>	908,300 <sup>k</sup>	964,400 <sup>k</sup>
<b>Wholesalers of Motor Vehicles, Parts &amp; Supplies</b>							
	313,000 <sup>l</sup>	351,300 <sup>l</sup>	434,300 <sup>l</sup>	456,000 <sup>l</sup>	446,100 <sup>l</sup>	451,300 <sup>m</sup>	471,500 <sup>m</sup>

**AUTOMOBILE PROFILE** (Page 2 of 4)

	1960	1970	1980	1990	1992	1993	1994
Auto Repair, Services, & Parking	251,000 <sup>n</sup>	384,000 <sup>n</sup>	570,900 <sup>n</sup>	913,700 <sup>n</sup>	881,300 <sup>n</sup>	924,700 <sup>o</sup>	970,500 <sup>o</sup>

**III. PERFORMANCE**

**Vehicle-Miles**

(millions)<sup>1</sup>

<b>Rural Highway</b>							
Interstate Rural	-	62,342 <sup>p</sup>	89,488 <sup>p</sup>	129,960 <sup>d</sup>	135,382 <sup>d</sup>	123,646 <sup>d</sup>	128,194 <sup>d</sup>
Other Arterial Rural	-	182,213	180,857	217,144	231,689	219,844	225,422
Other Rural	-	179,533	180,314	218,256	221,396	197,250	200,864
All Rural	303,283 <sup>p</sup>	424,088	450,659	565,360	588,467	540,740	554,480
<b>Urban Highway<sup>2</sup></b>							
Interstate Urban	-	69,369	124,480	209,429	227,474	226,909	235,547
Other Urban	-	426,222	546,671	747,952	794,455	789,623	805,848
All Urban	284,800	495,591	671,151	957,381	1,021,929	1,016,532	1,041,395
Total Rural & Urban Highway	588,083	919,679	1,121,810	1,522,741	1,610,396	1,557,272	1,595,869

**Vehicle-Miles\***

(millions)

Passenger Cars & Taxis	588,083 <sup>c</sup>	916,700 <sup>c</sup>	1,111,596 <sup>c</sup>	1,513,184	1,600,839	1,547,366	1,585,618
Motorcycles	-	2,979	10,214	9,557	9,557	9,906	10,251
Total	588,083	919,679	1,121,810	1,522,741	1,610,396	1,557,272	1,595,869

**Passenger-Miles**

(millions)

Passenger Cars & Taxis	1,293,783 <sup>q</sup>	1,833,400 <sup>q</sup>	2,000,872 <sup>q</sup>	2,284,908	2,785,460	2,692,417	2,758,975
Motorcycles	-	3,694	13,278	12,233	10,513	10,897	11,276

**Average Miles**

**Traveled**

**per Vehicle\***

Passenger Cars & Taxis	9,446 <sup>c</sup>	10,272 <sup>c</sup>	9,141 <sup>c</sup>	10,548	11,100	11,760	11,839
Motorcycles	-	1,055	1,794	2,244	2,351	2,490	2,757

**Fuel Consumed\***

(million gallons)

Passenger Cars & Taxis	41,169	67,820	71,883	71,989	73,823	73,553	73,825
Motorcycles	-	60	204	191	191	198	205

**Average Fuel**

**Consumption**

**per Vehicle (gallons)\***

Passenger Cars & Taxis	661	760	591	502	512	559	551
Motorcycles	-	21	36	45	47	50	50

**AUTOMOBILE PROFILE** (Page 3 of 4)

	1960	1970	1980	1990	1992	1993	1994
<b>Average Miles Traveled Per Gallon of Fuel Consumed*</b>							
Passenger Cars & Taxis	14.3 <sup>c</sup>	13.5 <sup>c</sup>	15.5 <sup>c</sup>	21.0 <sup>d</sup>	21.6 <sup>d</sup>	21.0 <sup>d</sup>	21.0 <sup>d</sup>
Motorcycles	-	50.0	50.0	50.0	50.0	50.0	50.0

**IV. SAFETY**

<b>Number of Vehicles in All Accidents</b>							
Passenger Cars	16,000,000	23,500,000	22,800,000	14,320,000	14,200,000	14,080,000	13,480,000
Motorcycles	100,000	275,000	510,000	160,000	200,000	180,000	170,000
<b>Number of Vehicles in Fatal Accidents</b>							
Passenger Cars	37,400	52,000	39,059 <sup>s</sup>	34,085 <sup>s</sup>	29,817 <sup>s</sup>	30,233 <sup>s</sup>	30,149 <sup>s</sup>
Motorcycles	600	2,200	5,194	3,276	2,439	2,477	2,325
<b>Number of Occupant &amp; Non Occupant Fatalities</b>							
Motor Vehicles	36,399 <sup>s</sup>	54,180 <sup>s</sup>	51,091	44,599	39,250	40,150	40,676
Passenger Cars	27,909	34,800	27,449	24,092	21,387	21,566	21,903
Motorcycles, total	790	2,330	5,144	3,244	2,395	2,449	2,304
Motorcycles	790	2,330	4,961	3,129	2,291	2,336	-
Other & Unknown	-	-	65	66	68	113	-
Bicycles <sup>3</sup>	-	-	965	859	723	816	802
Pedestrians <sup>3</sup>	7,210	9,900	8,070	6,482	5,549	5,649	5,472
<b>Occupant Fatality Rate Per 100 Million Vehicle-Miles</b>							
Passenger Cars	4.7	3.8	2.5	1.7	1.5	1.5	1.4
Motorcycles	-	22.5	50.4	33.9	25.1	24.8	22.5
<b>Per 10,000 Registered Vehicles</b>							
Passenger Cars	5.1	3.9	2.6	2.0	1.8	1.8	1.6
Motorcycles	-	8.1	9.0	7.6	5.9	6.2	6.2
<b>Vehicle Involvement Rate (fatal accidents) Per 100 Million Vehicle-Miles</b>							
Passenger Cars	-	5.6	3.5	2.4	2.1	2.1	1.9
Motorcycles	-	22.9	50.4	34.3	25.6	25.0	22.7
<b>Per 10,000 Registered Vehicles</b>							
Passenger Cars	-	5.6	3.2	2.8	2.5	2.5	2.3
Motorcycles	-	8.2	9.0	7.7	6.0	6.2	6.3

## AUTOMOBILE PROFILE (Page 4 of 4)

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

+ In 1960 motorcycles were included with passenger cars and taxis.

<sup>1</sup> Includes passenger cars, taxis, and motorcycles.

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

<sup>3</sup> Involvement only with motor vehicle.

Note: In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	23) personal communication
b	33) Table MV-2
c	34) Table VM-201A
d	33) Table VM-1
e	33) Table DL-22
f	28) SIC 412
g	29) SIC 412
h	28) SIC 55
i	29) SIC 55
j	28) SIC 551
k	29) SIC 551
l	28) SIC 501
m	29) SIC 501
n	28) SIC 75
o	29) SIC 75
p	34) Table VM-201
q	33) estimated using vehicle occupancy rates from FHWA's Nationwide Personal Transportation Surveys and vehicle-miles from reference source.
r	16) p. 92 and similar tables for earlier editions
s	40) personal communication

## BUS PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993	1994
<b>Expenditures</b> (thousand dollars)							
School Bus	486,000 <sup>a</sup>	1,219,000 <sup>a</sup>	3,833,000 <sup>a</sup>	7,605,000 <sup>a</sup>	8,060,000 <sup>a</sup>	8,074,000 <sup>a</sup>	8,316,000 <sup>a</sup>
<b>Operating Revenues</b> (thousand dollars)							
Intercity Bus, Class I	463,100 <sup>d</sup>	721,700 <sup>b</sup>	1,397,378 <sup>b</sup>	943,268 <sup>b</sup>	937,675 <sup>b</sup>	928,165 <sup>b</sup>	-
<b>Operating Expenses</b> (thousand dollars)							
Intercity Bus, Class I	405,400	639,000	1,318,372	1,026,213	874,303	880,141	-
<b>II. INVENTORY</b>							
<b>Number of Operating Companies</b>							
Intercity Bus, Class I	143	71	61	31	31	30	-
<b>Number of Vehicles</b>							
Commercial & Federal Bus	76,000 <sup>j</sup>	90,271 <sup>j</sup>	110,576 <sup>j</sup>	118,726 <sup>j</sup>	118,894 <sup>j</sup>	119,560 <sup>j</sup>	122,705 <sup>j</sup>
School & Other Bus	196,000	288,750	418,225	508,261	525,838	534,872	547,718
<b>Number of Employees</b>							
Intercity & Rural Bus	40,500 <sup>c</sup>	43,400 <sup>c</sup>	38,000 <sup>c</sup>	26,300 <sup>c</sup>	22,900 <sup>c</sup>	22,400 <sup>d</sup>	23,500 <sup>e</sup>
School Bus	-	-	79,900	111,200	117,900	121,500	126,200
<b>III. PERFORMANCE</b>							
<b>Vehicle-Miles</b> (millions)							
<b>All Buses</b>							
<b>Rural Highway</b>							
Interstate Rural	-	339 <sup>f</sup>	533 <sup>f</sup>	567 <sup>f</sup>	540	574	684 <sup>f</sup>
Other Arterial Rural	-	944	991	995	948	1,072	1,155
Other Rural	-	1,266	1,511	1,885	1,797	1,867	1,896
All Rural	2,255 <sup>g</sup>	2,549	3,035	3,447	3,285	3,513	3,735
<b>Urban Highway<sup>1</sup></b>							
Interstate Urban	-	277	560	453	493	514	628
Other Urban	-	1,718	2,464	1,819	1,981	2,099	2,053
All Urban	2,098	1,995	3,024	2,272	2,474	2,613	2,681
<b>Total Rural &amp; Urban Highway</b>							
School Bus	1,481 <sup>h</sup>	2,100 <sup>h</sup>	3,000 <sup>h</sup>	3,800 <sup>h</sup>	4,400 <sup>h</sup>	4,300 <sup>h</sup>	4,400 <sup>h</sup>
<b>Revenue</b>							
<b>Passenger-Miles</b> (millions)							
Intercity Bus, total	19,300 <sup>a</sup>	25,300 <sup>a</sup>	27,400 <sup>a</sup>	23,000 <sup>a</sup>	22,600 <sup>a</sup>	24,600 <sup>a</sup>	25,300 <sup>a</sup>

**BUS PROFILE** (Page 2 of 3)

	1960	1970	1980	1990	1992	1993	1994
<b>Number of Revenue</b>							
<b>Passengers (thousands)</b>							
Intercity Bus, total	366,000 <sup>a</sup>	401,000 <sup>a</sup>	370,000 <sup>a</sup>	334,000 <sup>a</sup>	339,000 <sup>a</sup>	339,900 <sup>a</sup>	343,200 <sup>a</sup>
<b>Average Miles</b>							
<b>Traveled per</b>							
<b>Vehicle</b>							
All Buses	16,004 <sup>f</sup>	12,035 <sup>f</sup>	11,458 <sup>f</sup>	9,121 <sup>g</sup>	8,932 <sup>g</sup>	9,361 <sup>g</sup>	9,570 <sup>g</sup>
<b>Fuel Consumed</b>							
(million gallons)							
All Buses	827	820	1,018	895	877	947	975
<b>Average Annual</b>							
<b>Fuel Consumption</b>							
<b>per Vehicle</b>							
All Buses	3,040	2,172	1,926	1,428	1,360	1,447	1,454
<b>Average Miles</b>							
<b>Traveled per Gallon</b>							
<b>of Fuel Consumed</b>							
All Buses	5.3	5.5	6.0	6.4	6.6	6.5	6.6
<b>Average Revenue per</b>							
<b>Passenger-Mile (cents)</b>							
All Buses	2.7 <sup>a</sup>	3.6 <sup>a</sup>	7.3 <sup>a</sup>	11.6 <sup>a</sup>	11.8 <sup>a</sup>	12.0 <sup>a</sup>	11.6 <sup>a</sup>

**IV. SAFETY**

<b>Number of</b>							
<b>Fatalities</b>							
School Bus-related	-	-	150 <sup>i</sup>	115	124 <sup>i</sup>	141	105 <sup>i</sup>
School Bus	-	-	-	-	-	-	-
Occupants	-	-	9	11	10	13	3
Other Vehicle	-	-	-	-	-	-	-
Occupants	-	-	88	64	83	86	64
Non-Occupants	-	-	53	40	31	42	38
<b>Occupant</b>							
<b>Fatalities</b>							
All Buses	-	-	46	32	28	18	21
School Buses	-	-	14	13	7	6	2
Cross Country Buses	-	-	23	2	8	1	7
Transit Buses	-	-	6 <sup>j</sup>	3 <sup>j</sup>	3 <sup>j</sup>	5 <sup>j</sup>	6 <sup>j</sup>
Other & Unknown	-	-	3	14	10	6	6
<b>Fatalities in</b>							
<b>Vehicular Accidents</b>							
All Buses	-	-	390	340	300	286	282
<b>Occupant Fatality</b>							
<b>Rate Per 100 Million</b>							
<b>Vehicle-Miles</b>							
All Buses	-	-	0.8	0.6	0.5	0.3	-
<b>Per 10,000</b>							
<b>Registered Vehicles</b>							
All Buses	-	-	0.9	0.5	0.4	0.3	-

**BUS PROFILE** (Page 3 of 3)

	1960	1970	1980	1990	1992	1993	1994
<b>Vehicle Involvement</b>							
<b>Rate Per 100 Million</b>							
<b>Vehicle-Miles</b>							
All Buses	-	-	5.4	5.0	5.0	4.3	-
<b>Per 10,000</b>							
<b>Registered Vehicles</b>							
All Buses	-	-	6.2	4.6	4.4	4.0	-

<sup>1</sup> Urban consists of travel on all roads and streets in urban places of 5,000 or greater population.  
 Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	12) pp. 42, 47, 48, 50, 53, 70
b	14) Appendix F, Tables 1, 6
c	28) SIC 45, 413, 415
d	29) SIC 413, 415
e	30) SIC 413, 415
f	34) Table VM-201A
g	33) Table VM-1
h	16) pp. 75, 95
i	40) personal communication
j	33) Table MV-10

## TRUCK PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993	1994
<b>Revenues</b>							
(million dollars)							
Local	14,289 <sup>a</sup>	28,819 <sup>a</sup>	60,545 <sup>a</sup>	108,350 <sup>a</sup>	116,000 <sup>a</sup>	122,050 <sup>a</sup>	125,712 <sup>a</sup>
Intercity	17,958	33,553	94,551	162,300	176,800	189,700	204,876
<b>Operating Revenue of Class I Intercity Motor Carriers of Property</b>							
(million dollars)							
Freight, Intercity, Common Carriers	4,384 <sup>b</sup>	10,147 <sup>b</sup>	26,691 <sup>b</sup>	36,974 <sup>b</sup>	41,061 <sup>b</sup>	43,295 <sup>b</sup>	-
Freight, Intercity, Contract Carriers	239	332	1,139	5,212	5,705	7,197	-
Freight, Local Cartage	51	458	340	792	649	683	-
Trans. for other Classes I & II Carriers	48	91	187	186	202	209	-
Other							
Operating Revenue	42	108	1,981	3,556	3,455	3,909	-
Total	4,764	11,137	30,338	46,710	51,072	55,303	-
<b>Operating Expenses of Class I Intercity Motor Carriers of Property</b>							
(million dollars)							
	4,763	10,763	29,012	44,827	48,259	52,695	-
<b>II. INVENTORY</b>							
<b>Number of Truck Registrations</b>							
Private & Commercial							
Federal	11,360,506 <sup>c</sup>	17,789,980 <sup>c</sup>	32,238,223 <sup>c</sup>	42,731,738 <sup>c</sup>	43,675,424 <sup>c</sup>	45,265,436 <sup>c</sup>	61,552,294 <sup>c</sup>
State, County, Municipal	86,229	142,498	209,101	276,293	281,623	295,035	325,183
Total	498,742	815,943	1,189,917	1,470,817	1,547,020	1,534,283	1,567,803
Total	11,914,000	18,748,421	33,637,241	44,478,848	45,504,067	61,827,622	63,445,280
<b>Number of Employees</b>							
Trucking & Courier Services							
Truck Drivers & Deliverymen	770,000 <sup>e</sup>	998,500 <sup>e</sup>	1,182,000 <sup>e</sup>	1,503,400 <sup>e</sup>	1,484,000 <sup>e</sup>	1,566,200 <sup>f</sup>	1,653,400 <sup>g</sup>
	1,477,000 <sup>a</sup>	1,565,000 <sup>a</sup>	1,931,000 <sup>a</sup>	2,148,000 <sup>a</sup>	2,185,000 <sup>a</sup>	225,000 <sup>a</sup>	-
<b>Number of Employees, Class I Intercity Motor Carriers of Property</b>							
	302,626 <sup>b</sup>	500,445 <sup>b</sup>	471,458 <sup>b</sup>	607,098 <sup>b</sup>	625,498 <sup>b</sup>	648,965 <sup>b</sup>	-
<b>Number of Companies, Class I Intercity Motor Carriers of Property</b>							
	935	1,571	835	870	849	825	-



**TRUCK PROFILE** (Page 2 of 4)

III. PERFORMANCE	1960	1970	1980	1990	1992	1993	1994
<b>Vehicle-Miles</b>							
(millions)							
<b>Rural Highway</b>							
Interstate Rural	-	16,835 <sup>h</sup>	45,063 <sup>h</sup>	69,646 <sup>i</sup>	69,635	84,086	87,040
Other Arterial Rural	-	47,433	80,926	112,727	111,425	128,651	130,939
Other Rural	-	48,567	92,347	117,698	111,285	129,840	133,221
All Rural	81,722 <sup>h</sup>	112,835	218,336	300,071	292,345	342,579	351,200
<b>Urban Highway<sup>j</sup></b>							
Interstate Urban	-	11,886	36,202	69,019	75,298	89,976	95,025
Other Urban	-	60,780	144,888	246,812	252,353	300,747	311,474
All Urban	44,687	72,666	181,090	315,831	338,651	390,723	406,499
Total Rural & Urban Highway	126,409	185,501	399,426	615,902	630,996	733,302	757,699
<b>Vehicle-Miles</b>							
(millions)							
<b>Other 2-Axle</b>							
4-Tire Vehicles	97,930 <sup>j</sup>	123,286 <sup>j</sup>	290,935 <sup>j</sup>	466,092	478,193	573,398	587,284
<b>Single-Unit</b>							
2-Axle 6-Tire or More Trucks	-	27,081	39,813	53,443	53,691	56,781	61,350
Combination Trucks	28,479	35,134	68,678	96,367	99,112	103,123	109,065
All Trucks	126,409	185,501	399,426	615,902	630,996	733,302	757,699
<b>Passenger-Miles</b>							
<b>Other 2-Axle</b>							
4-Tire Vehicles	156,688 <sup>k</sup>	192,326 <sup>k</sup>	439,312 <sup>k</sup>	727,104	722,071	865,831	886,799
<b>Single-Unit</b>							
2-Axle 6-Tire or More Trucks	-	27,081	39,813	53,443	53,691	56,781	61,350
Combination Trucks	28,479	35,134	68,678	96,367	99,112	103,123	109,065
<b>Average Miles</b>							
<b>Traveled per Vehicle</b>							
<b>Other 2-Axle</b>							
4-Tire Vehicles	-	8,676 <sup>j</sup>	10,437 <sup>j</sup>	11,993	12,096	10,293	10,278
<b>Single-Unit</b>							
2-Axle 6-Tire or More Trucks	-	7,356	9,103	12,595	12,440	12,546	13,114
Combination Trucks	-	38,819	48,472	59,807	59,894	64,794	67,112
All Trucks	10,583 <sup>j</sup>	9,869	11,864	13,773	13,867	11,860	11,943
<b>Ton-Miles (millions)</b>							
Intercity	285,000 <sup>a</sup>	412,000 <sup>a</sup>	555,000 <sup>a</sup>	735,000 <sup>a</sup>	815,000 <sup>a</sup>	861,000 <sup>a</sup>	908,000 <sup>a</sup>
<b>Fuel Consumed</b>							
(million gallons)							
<b>Other 2-Axle</b>							
4-Tire Vehicles	-	12,313 <sup>j</sup>	23,594 <sup>j</sup>	32,937 <sup>j</sup>	33,127 <sup>j</sup>	36,476 <sup>j</sup>	37,550 <sup>j</sup>
<b>Single-Unit</b>							
2-Axle 6-Tire or More Trucks	-	3,968	5,557	7,294	7,179	8,277	8,996
Combination Trucks	-	7,348	12,703	17,469	17,691	17,719	18,580
All Trucks	15,882 <sup>j</sup>	23,630	41,854	57,700	57,797	62,472	65,126
<b>Average Fuel</b>							
<b>Consumption per Vehicle (gallons)</b>							
<b>Other 2-Axle</b>							
4-Tire Vehicles	-	866	846	847	838	655	657

**TRUCK PROFILE** (Page 3 of 4)

	1960	1970	1980	1990	1992	1993	1994
<b>Single-Unit</b>							
2-Axle 6-Tire or More Trucks	-	1,078	1,271	1,719	1,663	1,829	1,923
Combination Trucks	-	8,119	8,966	10,841	10,691	11,133	11,433
All Trucks	1,330	1,257	1,243	1,290	1,275	1,010	1,026
<b>Average Miles Traveled Per Gallon of Fuel Consumed</b>							
<b>Other 2-Axle 4-Tire Vehicles</b>							
Single-Unit 2-Axle 6-Tire or More Trucks	-	6.82	7.16	7.33	7.48	6.86	6.82
Combination Trucks	-	4.78	5.41	5.52	5.60	5.60	5.87
All Trucks	7.96	7.85	9.54	10.67	10.88	11.74	11.63
<b>Taxes Assignable to Operation (\$ millions)<sup>2</sup></b>							
<b>State</b>							
Highway-User Taxes	1,709 <sup>d</sup>	3,429 <sup>d</sup>	6,731 <sup>d</sup>	12,691 <sup>d</sup>	11,816 <sup>d</sup>	-	-
<b>Federal</b>							
Highway-User Taxes	1,121	2,202	3,157	6,665	7,944	-	-
Total Highway-User Taxes	2,830	5,631	9,888	19,356	19,759	-	-
<b>Average Length of Haul</b>							
<b>Class I Motor Carriers (freight miles)</b>							
	272 <sup>a</sup>	263 <sup>a</sup>	363 <sup>a</sup>	391 <sup>a</sup>	410 <sup>a</sup>	416 <sup>a</sup>	-

**IV. SAFETY**

<b>Occupant Fatalities</b>							
Light Trucks	-	-	7,486	8,601	8,096	8,511	8,876
Large Trucks	-	-	1,262	705	585	605	663
All Trucks	-	-	8,748	9,306	8,681	9,116	9,539
<b>Occupant Fatality Rate</b>							
<b>Per 100 Million Vehicle-Miles</b>							
Single-Unit Trucks	-	-	2.3	1.4	1.2	1.2	-
Combination Trucks	-	-	1.3	0.5	0.4	0.4	-
All Trucks	-	-	2.2	1.5	1.3	-	-
<b>Per 10,000 Registered Vehicles</b>							
Single-Unit Trucks	-	-	2.3	1.6	1.4	1.4	-
Combination Trucks	-	-	6.4	3.2	2.6	2.6	-
All Trucks	-	-	2.4	1.7	1.5	1.5	1.5
<b>Vehicle Involvement Rate</b>							
<b>Per 100 Million Vehicle-Miles</b>							
Single-Unit Trucks	-	-	4.2	2.7	2.2	2.2	-
Combination Trucks	-	-	5.8	3.9	3.1	3.2	-
All Trucks	-	-	4.5	2.9	2.3	2.4	-
<b>Per 10,000 Registered Vehicles</b>							
Single-Unit Trucks	-	-	4.1	3.1	2.7	2.7	-
Combination Trucks	-	-	28.0	23.4	18.3	18.9	-
All Trucks	-	-	5.0	3.7	3.1	3.1	3.2

**TRUCK PROFILE** (Page 4 of 4)

<sup>1</sup> Urban consists of travel on all roads and streets in urban places of 5,000 or greater population.

<sup>2</sup> Sum of components may not equal total due to independent rounding.

Note: In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	12) pp. 40, 44, 61, 71
b	14) Appendix F, Table 5
c	33) Table MV-9
d	1) pp. 12, 78
e	28) SIC 421
f	29) SIC 421
g	30) SIC 421
h	34) Table VM-201
i	33) Table VM-1
j	34) Table VM-201A
k	33) Table VM-1 (prior to 1990, calculated using FHWA's Nationwide Personal Transportation Survey)
l	40) personal communication

## TRANSIT PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992*	1993
<b>Passenger Operating</b>						
<b>Revenues (thousand dollars)</b>						
Passenger	1,335,000 <sup>a</sup>	1,639,000 <sup>a</sup>	2,556,800 <sup>b</sup>	5,890,800 <sup>b</sup>	6,152,500 <sup>b</sup>	6,319,500 <sup>b</sup>
Motor Bus	-	-	-	2,967 <sup>n</sup>	3,059 <sup>n</sup>	3,084 <sup>n</sup>
Heavy Rail	-	-	-	1,741	1,830	1,913
Light Rail	-	-	-	83	98	102
Trolley Bus	-	-	-	46	49	52
Demand Response	-	-	-	41	76	95
Ferry Boat <sup>1</sup>	-	-	-	56	44	39
Commuter Rail	-	-	-	952	970	996
Other <sup>2</sup>	-	-	-	26	27	38
Other Operating Revenue	72,000	68,000	248,300	895,000	645,900	1,060,000 <sup>b</sup>
<b>Total Operating Revenues</b>	<b>1,407,000</b>	<b>1,707,000</b>	<b>2,805,100</b>	<b>6,785,800</b>	<b>6,798,400</b>	<b>7,379,500</b>
<b>Operating Assistance*</b>						
State & Local	-	-	2,611,200	8,297,400	9,165,600	8,671,600
Federal	-	-	1,093,900	970,000	969,100	1,041,600
<b>Total Operating Assistance</b>	<b>-</b>	<b>-</b>	<b>3,705,100</b>	<b>9,267,400</b>	<b>10,116,700</b>	<b>9,713,200</b>
<b>Total Revenues</b>	<b>1,407,000</b>	<b>1,707,000</b>	<b>6,510,200</b>	<b>16,053,200</b>	<b>16,915,100</b>	<b>17,092,700</b>
<b>Operating Expenses</b>						
<b>(million dollars)</b>						
Motor Bus	-	-	-	8,903	9,881	10,337
Heavy Rail	-	-	-	3,825	3,551	3,669
Light Rail	-	-	-	237	309	316
Trolley Bus	-	-	-	109	124	132
Demand Response	-	-	-	518	667	733
Ferry Boat <sup>1</sup>	-	-	-	171	179	185
Commuter Rail	-	-	-	1,939	2,013	2,081
Other <sup>2</sup>	-	-	-	41	53	54
<b>Total Operating Expenses*</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15,742</b>	<b>16,781</b>	<b>17,506</b>
Depreciation and Amortization	-	-	277,600	1,593,100	2,033,900	2,501,700 <sup>o</sup>
Other Reconciling Items	-	-	186,500	643,900	1,218,300	857,800
<b>Total Expenses</b>	<b>1,376,500<sup>c</sup></b>	<b>1,995,600<sup>c</sup></b>	<b>6,710,600</b>	<b>17,979,100</b>	<b>20,033,600</b>	<b>20,865,800</b>
<b>Average Revenue per</b>						
<b>Passenger-Mile (dollars)</b>						
Motor Bus	-	-	-	0.14 <sup>e</sup>	0.15 <sup>e</sup>	0.15 <sup>e</sup>
Heavy Rail	-	-	-	0.15	0.17	0.18
Light Rail	-	-	-	0.15	0.14	0.15
Trolley Bus	-	-	-	0.24	0.24	0.28
Demand Response	-	-	-	0.10	0.15	0.19
Ferry Boat <sup>1</sup>	-	-	-	-	0.16	0.15
Commuter Rail	-	-	-	0.13	0.13	0.14
Other <sup>2</sup>	-	-	-	0.50	0.15	0.18
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.14</b>	<b>0.15</b>	<b>0.16</b>
<b>Average Passenger Fare</b>						
<b>(dollars)</b>						
Motor Bus	-	-	-	0.52	0.55	0.57
Heavy Rail	-	-	-	0.74	0.83	0.87
Light Rail	-	-	-	0.47	0.52	0.54
Trolley Bus	-	-	-	0.36	0.39	0.43
Demand Response	-	-	-	0.60	1.05	1.26
Ferry Boat <sup>1</sup>	-	-	-	1.11	0.94	0.82
Commuter Rail	-	-	-	2.90	3.09	3.09
Other <sup>2</sup>	-	-	-	0.67	0.90	1.37
<b>Total</b>	<b>0.14</b>	<b>0.22</b>	<b>0.30</b>	<b>0.67</b>	<b>0.72</b>	<b>0.76</b>

**TRANSIT PROFILE** (Page 2 of 4)

II. INVENTORY	1960	1970	1980	1990	1992*	1993
<b>Number of Systems</b>						
Motor Bus	1,236 <sup>e</sup>	1,075 <sup>e</sup>	1,022 <sup>e</sup>	2,685 <sup>e</sup>	2,693 <sup>e</sup>	2,694 <sup>e</sup>
Heavy Rail	31	15	11	12	13	14
Light Rail	-	-	9	17	19	20
Trolley Bus	19	6	5	5	5	5
Demand Response	-	-	-	3,193	3,917	3,917
Ferry Boat <sup>1</sup>	-	-	16	27	27	27
Commuter Rail	-	-	18	14	14	16
Other <sup>2</sup>	-	-	5	35	43	47
Total <sup>a</sup>	1,286	1,096	1,055	5,078	5,086	5,088
<b>Number of Vehicles</b>						
Motor Bus	49,600 <sup>l</sup>	49,700 <sup>g</sup>	59,411 <sup>g</sup>	58,714 <sup>g</sup>	63,080 <sup>g</sup>	64,648 <sup>g</sup>
Heavy Rail	9,010	9,286	9,641	10,419	10,245	10,261
Light Rail	2,856	1,262	1,013	913	1,058	1,025
Trolley Bus	3,826	1,050	823	832	907	851
Demand Response	-	-	-	16,471	20,695	23,105
Ferry Boat <sup>1</sup>	-	-	-	108	100	108
Commuter Rail	-	-	4,500	4,415	4,413	4,494
Other <sup>2</sup>	-	-	-	1,089	1,753	2,172
Total	65,292	61,298	75,388	92,961	102,251	106,664
<b>Number of Employees<sup>3</sup></b>						
Motor Bus	121,300 <sup>h</sup>	101,598 <sup>h</sup>	-	162,189	163,387 <sup>i</sup>	178,968 <sup>e</sup>
Heavy Rail	35,100	36,442	-	46,102	47,493	52,398
Light Rail	-	+	-	4,066	3,849	3,943
Trolley Bus	+	+	-	1,925	1,691	1,921
Demand Response	-	-	-	22,740	25,863	28,975
Ferry Boat <sup>1</sup>	-	-	-	2,813	2,653	2,537
Commuter Rail	-	-	-	21,443	21,151	21,934
Other <sup>2</sup>	-	-	-	898	1,015	1,073
Total	156,400	138,040	189,300 <sup>h</sup>	262,176	267,102	291,749

**III. PERFORMANCE**

<b>Revenue Vehicle-Miles (millions)</b>						
Motor Bus	1,576 <sup>l</sup>	1,409 <sup>k</sup>	1,677 <sup>k</sup>	2,130 <sup>k</sup>	2,178 <sup>k</sup>	2,206 <sup>k</sup>
Heavy Rail	391	407	385	537	525	526
Light Rail	75	34	18	24	29	28
Trolley Bus	101	33	13	14	14	14
Demand Response	-	-	-	306	364	360
Ferry Boat <sup>1</sup>	-	-	2	2	2	3
Commuter Rail	-	-	179	213	219	224
Other <sup>2</sup>	-	-	13	16	24	29
Total	2,143	1,883	2,287	3,242	3,355	3,387
<b>Unlinked Passenger Trips (millions)</b>						
Motor Bus	-	5,034 <sup>l</sup>	5,837 <sup>l</sup>	5,677 <sup>l</sup>	5,517 <sup>l</sup>	5,371 <sup>e</sup>
Heavy Rail	-	1,881	2,108	2,346	2,207	2,209
Light Rail	-	124	133	175	188	188
Trolley Bus	-	182	142	126	126	121
Demand Response	-	-	-	68	72	75
Ferry Boat <sup>1</sup>	-	-	63	50	47	48
Commuter Rail	-	-	280	328	314	322
Other <sup>2</sup>	-	-	4	29	30	28
Total	-	7,332	8,557	8,799	8,501	8,362

**TRANSIT PROFILE** (Page 3 of 4)

	1960	1970	1980	1990	1992*	1993
<b>Passenger-Miles (millions)</b>						
Motor Bus	-	-	21,790 <sup>m</sup>	20,981 <sup>m</sup>	20,336 <sup>m</sup>	20,075 <sup>e</sup>
Heavy Rail	-	-	10,588	11,475	10,737	10,740
Light Rail	-	-	381	571	701	705
Trolley Bus	-	-	219	193	199	168
Demand Response	-	-	-	431	495	504
Ferry Boat <sup>1</sup>	-	-	335	286	270	258
Commuter Rail	-	-	6,516	7,082	7,320	6,939
Other <sup>2</sup>	-	-	50	124	183	216
Total	-	-	39,854	41,143	40,241	39,625
<b>Average Trip Length (miles)</b>						
Motor Bus	-	-	-	-	3.7 <sup>a</sup>	3.7
Demand Response	-	-	-	-	6.9	6.7
Heavy Rail	-	-	-	-	4.9	4.9
Light Rail	-	-	-	-	3.7	3.8
Trolley Bus	-	-	-	-	1.6	1.6
Commuter Rail	-	-	-	-	23.3	21.5
Ferry Boat <sup>1</sup>	-	-	-	-	5.7	5.4
Other <sup>2</sup>	-	-	-	-	6.1	7.7
Total	-	-	-	-	4.7	4.7
<b>Average Speed (miles per hour)</b>						
Motor Bus	-	-	-	-	13.2	13.3
Demand Response	-	-	-	-	12.7	13.3
Heavy Rail	-	-	-	-	20.5	20.5
Light Rail	-	-	-	-	13.0	13.2
Commuter Rail	-	-	-	-	7.7	7.6
Ferry Boat <sup>1</sup>	-	-	-	-	33.8	33.9
Other <sup>2</sup>	-	-	-	-	6.4	6.3
Total	-	-	-	-	20.1	21.9
<b>Energy Consumption</b> (Gasoline & Diesel) (million gallons)						
Motor Bus	-	-	-	563 <sup>e</sup>	595	596
Demand Response	-	-	-	54	50	55
Ferry Boat <sup>1</sup>	-	-	-	20	21	20
Commuter Rail	-	-	-	53	55	60
Other <sup>2</sup>	-	-	-	74	2	2
Total	400	339	442	685	722	733
<b>Energy Consumption</b> (million kWh)						
Motor Bus	-	-	-	-	-	-
Heavy Rail	-	-	-	3,284	3,193	3,287
Light Rail	-	-	-	252	297	282
Trolley Bus	-	-	-	67	81	79
Commuter Rail	-	-	-	1,225	1,124	1,134
Other <sup>2</sup>	-	-	-	25	21	20
Total	2,908	2,561	2,446	4,853	4,716	4,781

**IV. SAFETY**

Fatalities, all modes	-	-	-	339 <sup>p</sup>	273 <sup>p</sup>	281 <sup>p</sup>
Injuries, all modes	-	-	-	54,556	55,089	52,668
Incidents, all modes	-	-	-	90,163	73,831	64,986

**TRANSIT PROFILE** (Page 4 of 4)

<sup>1</sup> Transit ferry boats only.

<sup>2</sup> Includes cablecar, inclined plane, aerial trainway, vanpool, and automated guideway.

<sup>3</sup> Based on employee equivalents of 2,080 hours equals one employee; beginning in 1993 equals actual employees.

\* Beginning in 1992, local operating assistance and other revenue declined by about \$500 million due to change in accounting procedures at New York City Transit Authority. Beginning in 1992, total operating expense declined by about \$400 million due to change in accounting procedures at New York City Transit Authority.

# Total is not sum of all modes since many systems operate more than one mode.

- Included in Heavy Rail figure.

+ Included in Motor Bus figure.

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	3) Table 5a
b	3) Table 20, 21
c	3) Table 6A
d	3) Table 16
e	3) Table 6
f	3) Table 18, 19
g	3) Table 41, 49
h	3) Table 13
i	3) Table 53
j	3) Table 11
k	3) Table 39, 47
l	3) Table 31
m	3) Table 38
n	3) Table 23, 24
o	3) Table 14
p	37) p. 28

## WATER TRANSPORT PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993	1994
<b>Operating Revenues</b> (million dollars)							
Domestic Freight*	1,722 <sup>a</sup>	1,822 <sup>a</sup>	7,219 <sup>a</sup>	7,941 <sup>a</sup>	8,287 <sup>a</sup>	8,028 <sup>a</sup>	7,817 <sup>a</sup>
Coastal Waterways	747	834	3,155	3,066	3,215	3,218	3,049
Inland Waterways	461	621	2,395	2,952	3,005	2,816	2,826
Great Lakes	227	239	513	620	569	561	571
Locks, Channels	287	376	1,156	1,303	1,498	1,433	1,371
<b>International</b>							
Freight	1,765	3,187	8,279	13,118	11,960	12,740	13,983
<b>Total Passenger*</b>	281	287	304	1,345	1,425	1,497	1,571
<b>Domestic</b>							
Passenger, Intercity	14	12	21	58	67	71	74
<b>International</b>							
Passenger <sup>1</sup>	267	275	283	1,287	1,358	1,426	1,497
<b>Revenues of</b>							
<b>U.S. Commercial</b>							
Fishing Fleet (domestic landings), (million dollars)	354 <sup>b</sup>	613 <sup>b</sup>	2,237 <sup>b</sup>	3,522 <sup>b</sup>	3,678 <sup>b</sup>	3,471 <sup>b</sup>	3,846 <sup>b</sup>

## II. INVENTORY

<b>Number of</b>							
<b>Companies,</b>							
<b>Class A &amp; B</b>							
<b>Inland Carriers &amp;</b>							
<b>Coastal Waterways</b>	105 <sup>c</sup>	82 <sup>c</sup>	82 <sup>c</sup>	327 <sup>c</sup>	360 <sup>c</sup>	357 <sup>c</sup>	-
<b>Number of</b>							
<b>Employees</b>							
Ships, Boat Building, & Repairing	141,200 <sup>d</sup>	171,800 <sup>d</sup>	220,500 <sup>d</sup>	187,800 <sup>d</sup>	169,700 <sup>d</sup>	159,400 <sup>e</sup>	159,100 <sup>f</sup>
Water Transportation*	232,000	212,300	211,200	176,600	173,300	168,200	168,800
<b>Number of</b>							
<b>Employees<sup>2</sup></b>							
Passenger/Combo	8,560 <sup>g</sup>	2,178 <sup>g</sup>	618 <sup>g</sup>	642 <sup>g</sup>	600 <sup>g</sup>	600 <sup>g</sup>	642 <sup>g</sup>
Cargo	28,668	22,257	9,878	7,019	4,408	6,219	6,056
Tankers	12,053	10,567	8,722 <sup>h</sup>	4,471	4,224	4,841	4,626
Total	49,281	35,000	19,218	12,132	9,232	11,660	11,324
<b>Mileage of</b>							
<b>Commercially Navigable</b>							
<b>Waterways</b>	25,253 <sup>a</sup>	25,543 <sup>a</sup>	25,543 <sup>a</sup>	25,777 <sup>a</sup>	25,777 <sup>a</sup>	25,777 <sup>a</sup>	25,777 <sup>a</sup>
<b>Number of Vessels</b>							
<b>Total</b>							
<b>Non-Self-Propelled</b>	16,777 <sup>h</sup>	19,377 <sup>h</sup>	31,662 <sup>h</sup>	31,017 <sup>h</sup>	30,899 <sup>h</sup>	30,785 <sup>h</sup>	30,723 <sup>h</sup>
Dry Cargo Barges & Scows	14,025	15,890	27,426	27,091	26,984	26,913	26,723



**WATER TRANSPORT PROFILE** (Page 2 of 4)

	1960	1970	1980	1990	1992	1993	1994
Tankers	2,429 <sup>h</sup>	3,281 <sup>h</sup>	4,166 <sup>h</sup>	3,913 <sup>h</sup>	3,905 <sup>h</sup>	3,862 <sup>h</sup>	3,966 <sup>h</sup>
Railroad Car Floats	323	206	70	13	10	10	34
<b>Total</b>							
<b>Self-Propelled</b>	6,543	6,455	7,130	8,216	8,311	8,323	8,341
Dry Cargo/							
Passenger	1,796	1,761	2,036	2,205	2,323	2,332	2,785
Ferries,							
Railroad Car	31	17	67	579	572	572	175
Tankers	489	421	330	214	211	195	202
Towboats/Tugs	4,203	4,248	4,693	5,218	5,205	5,224	5,179
<b>U. S. Merchant</b>							
<b>Marine</b> (over							
1,000 gross tons)							
<b>Total U. S. Flag</b>	5,852 <sup>i</sup>	1,579 <sup>i</sup>	864 <sup>i</sup>	636 <sup>i</sup>	603 <sup>i</sup>	564 <sup>i</sup>	543 <sup>i</sup>
Passenger/Cargo	309	171	65	10	11	12	13
Freighters	2,138	977	310	199	349	321	308
Bulk Carriers	57	38	20	26	23	21	22
Tankers	422	294	308	233	220	210	200
Privately Owned	1,008	793	578	408	384	367	354
Government							
Owned	1,918	786	286	228	219	197	189
<b>Number of</b>							
<b>Recreational</b>							
<b>Boats</b>							
(thousands)**	-	-	8,600 <sup>j</sup>	11,000 <sup>j</sup>	11,100 <sup>j</sup>	11,300 <sup>j</sup>	11,400 <sup>j</sup>

**II. PERFORMANCE**

**Ton-Miles**

(thousands)

Domestic Water							
Freight							
Coastwise	256,000,000 <sup>k</sup>	359,748,000 <sup>k</sup>	631,149,247 <sup>k</sup>	479,133,600 <sup>k</sup>	502,311,000 <sup>k</sup>	448,404,000 <sup>k</sup>	457,600,661 <sup>k</sup>
Internal	89,614,000	155,816,000	227,342,991	292,393,300	297,638,700	283,894,000	297,762,360
Lakewise	65,990,000	79,416,000	61,747,114	60,929,900	55,784,600	56,438,000	58,263,444
Intraport	1,730,000	1,179,000	1,596,412	1,087,000	950,300	921,900	1,292,733
Total***	413,334,000	596,195,000	921,835,764	853,543,800	856,684,600	789,657,900	814,919,198

**Tons of**

**Freight Hauled**

(thousands)

Domestic							
Coastwise	209,197	238,440	329,609	298,637	285,131	271,717	277,029
Internal	291,057	472,123	534,979	622,595	621,037	607,253	618,409
Lakewise	155,109	157,059	115,124	110,159	107,398	109,854	114,777
Intraport	105,210	83,105	97,771	91,908	81,063	79,356	88,796
Total***	760,573	950,727	1,077,483	1,122,299	1,094,629	1,068,180	1,099,011
Export							
Great Lakes							
Ports***	23,150	35,932	45,077	32,898	30,091	25,560	26,449 <sup>l</sup>
Coastal Ports	104,810	205,697	358,806	408,688	420,667	385,698	349,363
Total	127,961	241,629	403,883	441,586	450,758	411,258	375,812

**WATER TRANSPORT PROFILE** (Page 3 of 4)

	1960	1970	1980	1990	1992	1993	1994
<b>Imports</b>							
Great Lakes							
Ports***	12,851 <sup>k</sup>	26,406 <sup>k</sup>	15,515 <sup>k</sup>	17,578 <sup>k</sup>	15,421 <sup>k</sup>	18,083 <sup>k</sup>	23,072 <sup>l</sup>
Coastal Ports	198,466	312,934	502,006	582,412	571,287	630,700	637,491
Total	211,317	339,340	517,521	599,970	586,708	648,783	660,563
<b>Tons of Freight, Intraterritorial</b>							
(thousands)	1,017	1,630	3,588	4,529	4,245	4,965	5,927 <sup>k</sup>
<b>Average Haul, Domestic System</b>							
(miles)							
Coastwise	1,496	1,509	1,915	1,604	1,762	1,650	1,652
Internal	282	330	405	469	479	468	482
Lakewise	522	506	536	553	519	514	508
<b>Cargo Capacity</b>							
(short tons)							
<b>Total</b>							
<b>Non-Self-Propelled</b>							
Vessels	16,355,657 <sup>h</sup>	24,026,024 <sup>h</sup>	44,875,116 <sup>h</sup>	48,603,351 <sup>h</sup>	49,449,829 <sup>h</sup>	49,545,827 <sup>h</sup>	49,708,960 <sup>h</sup>
<b>Dry Cargo Barges &amp; Scows</b>							
	12,147,006	17,695,275	34,486,851	37,973,654	38,707,620	38,826,724	38,643,518
<b>Tankers</b>							
	4,208,651	6,330,749	10,388,265	10,629,697	10,742,569	10,719,103	11,065,442
<b>Total Self-Propelled</b>							
Vessels	15,905,881	19,284,050	23,906,346	19,723,788	19,430,269	17,653,677	16,867,458
<b>Dry Cargo/Passenger</b>							
	12,188,956	10,815,977	8,011,587	7,042,263	6,948,466	7,044,279	7,118,193
<b>Tankers</b>							
	3,716,925	8,468,073	15,894,753	12,681,525	12,481,803	10,609,398	9,749,265
<b>Fuel Consumption</b>							
(thousand barrels)							
<b>Diesel Fuel &amp; Distillate</b>							
	18,730 <sup>a</sup>	19,503 <sup>a</sup>	35,201 <sup>a</sup>	52,310 <sup>a</sup>	52,824 <sup>a</sup>	48,661 <sup>a</sup>	-
<b>Residual Fuel Oil</b>							
	94,084	89,850	213,131	148,764	171,407	149,283	-
<b>Gasoline</b>							
	9,200	14,238	25,048	30,962	31,337	20,802	-
Total	122,014	123,591	273,380	232,036	255,568	218,746	-

**IV. SAFETY**

Total Number of Vessels Involved in Marine Accidents <sup>3</sup>	2,904 <sup>m</sup>	2,582 <sup>m</sup>	5,738 <sup>m</sup>	5,494 <sup>m</sup>	4,972 <sup>m</sup>	3,320 <sup>m</sup>	3,827 <sup>m</sup>
<b>Number of Fatalities in Waterborne Transport</b>							
Freight	-	30	8	0	3	3	0
Tankship	-	4	4	5	0	0	3
Passenger Vessel	-	1	5	3	4	11	4
Tug/Towboat	-	22	14	13	9	3	1
Offshore Supply	-	-	-	2	2	4	1
Fishing Vessel	-	77	60	47	52	50	30
State Numbered	-	-	-	3	6	7	3
MODU <sup>4</sup>	-	-	-	0	1	1	0
Platform	-	-	-	1	0	0	2

**WATER TRANSPORT PROFILE** (Page 4 of 4)

	1960	1970	1980	1990	1992	1993	1994
Freight Barge	-	-	-	0 <sup>m</sup>	2 <sup>m</sup>	0 <sup>m</sup>	1 <sup>m</sup>
Tank Barge	-	+	-	0	0	2	0
Miscellaneous	-	44 <sup>m</sup>	56 <sup>m</sup>	11	26	14	7
Total	382 <sup>m</sup>	178	206	85	105	95	52

**Number of Injuries in Waterborne Transport**

Freight	-	14	8	10	9	4	6
Tankship	-	19	9	13	1	4	9
Passenger Vessel	-	10	10	51	49	46	38
Tug/Towboat	-	10	27	19	18	10	17
Offshore Supply	-	-	-	9	4	2	1
Fishing Vessel	-	13	28	31	40	28	29
State Numbered	-	-	-	2	11	15	12
MODU	-	-	-	13	1	2	0
Platform	-	-	-	9	0	3	3
Freight Barge	-	-	-	3	0	2	0
Tank Barge	-	+	-	3	1	4	4
Miscellaneous	-	39	98	12	38	13	27
Total	1,398	105	180	175	172	133	146

**Number of Fatalities in Recreational Boating**

Inboard	-	119 <sup>j</sup>	100 <sup>j</sup>	50 <sup>i</sup>	30 <sup>j</sup>	50 <sup>j</sup>	36 <sup>i</sup>
Outboard	-	774	609	454	423	391	341
Inboard/Outboard	-	28	47	53	61	52	49
Jet	-	-	10	25	36	40	58
Sail	-	44	43	20	23	7	13
Manual							
(oars, paddle)	-	205	272	182	175	190	140
Other	-	29	14	5	10	10	12
Pushulsion Unknown	-	219	265	76	58	60	135
Total	819 <sup>j</sup>	1,418	1,360	865	816	800	784

\* Includes commercial port, marina and other employees; excludes employees of non-for-hire private businesses.

\*\* Coast Guard changed its methodology for counting number of boats. Figures cited represent number of numbered boats, not estimates as previously noted.

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

+ Included in Tankship figure.

<sup>1</sup> Revenues paid by American travelers to U.S. and foreign flag carriers.

<sup>2</sup> Number of ship board jobs on ocean going commercial ships, 1,000 gross tons and over.

<sup>3</sup> Casualties to commercial vessels under USCG jurisdiction.

<sup>4</sup> Mobile Offshore Drilling Unit

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location	Source	Reference Number/Location
a	12) pp. 40, 42, 57, 64	h	20) annual issues, Table 1
b	24) p. 3	i	38) Table 6
c	14) Appendix E, F, Table 1	j	45) annual issues
d	28) SIC 44, 45	k	21) Part 5, Section 1, Table 1
e	29) SIC 44	l	21) annual issues
f	30) SIC 44	m	46) personal communication
g	39) personal communication		

## RAIL PROFILE

I. FINANCIAL	1960	1970+	1980	1990	1992	1993	1994
<b>A. Class I<sup>1</sup></b>							
<b>Operating Revenues</b>							
(million dollars)							
Passenger	640 <sup>a</sup>	421 <sup>a</sup>	446 <sup>a</sup>	94 <sup>a</sup>	90 <sup>a</sup>	83 <sup>a</sup>	88 <sup>a</sup>
Freight	8,025	10,922	26,350	27,471	27,508	27,991	29,931
Other	849	649	1,462	805	751	751	790
Total	9,514	11,992	28,258	28,370	28,349	28,825	30,809
<b>Operating Expenses</b>							
(million dollars) <sup>2</sup>							
	7,565	9,660	26,355	24,652	25,325	24,517	25,511
<b>B. Amtrak</b>							
<b>Operating Revenues</b>							
(million dollars)							
Transportation							
Related	-	138 <sup>b</sup>	368 <sup>b</sup>	978 <sup>b</sup>	1,196 <sup>b</sup>	1,268 <sup>b</sup>	1,244 <sup>b</sup>
Other	-	163	85	330	129	135	169
Total	-	301	454	1,308	1,325	1,403	1,413
<b>Operating Expenses</b>							
(million dollars)							
	-	286	1,081	2,012	2,037	2,134	2,400

## II. INVENTORY

<b>A. Class I<sup>1</sup></b>							
<b>Number of Vehicles</b>							
Freight Cars	1,658,292	1,423,921 <sup>a</sup>	1,168,114 <sup>a</sup>	658,902 <sup>a</sup>	605,189 <sup>a</sup>	587,033 <sup>a</sup>	590,930 <sup>a</sup>
Other Freight Cars	307,194	360,260	542,713	553,359	567,947	586,099	601,482
Total Freight Cars	1,965,486	1,784,181	1,710,827	1,212,261	1,173,136	1,173,132	1,192,412
Locomotives	29,031	27,077	28,094	18,835	18,004	18,161	18,505
<b>Number of</b>							
<b>Companies</b>	106	71	38	14	12	12	12
<b>Number of</b>							
<b>Employees</b>	780,494	566,282	458,994	216,424	197,421	192,526	189,962
<b>Miles of</b>							
<b>Road Owned</b>	217,552	206,265	164,822	119,758	113,056	110,425	109,332
<b>B. Amtrak</b>							
<b>Number of Vehicles</b>							
Passenger							
Train-Cars	-	1,569 <sup>b</sup>	2,128 <sup>b</sup>	1,983 <sup>c</sup>	1,962 <sup>c</sup>	1,964 <sup>c</sup>	1,951 <sup>c</sup>
Locomotives	-	185	419	318	329	334	352
<b>Number of</b>							
<b>Employees</b>	-	1,500 <sup>d</sup>	21,416 <sup>d</sup>	24,000 <sup>d</sup>	24,132 <sup>d</sup>	24,978 <sup>a</sup>	23,600 <sup>f</sup>
<b>Average Line</b>							
<b>Mileage</b>	-	-	23,940 <sup>g</sup>	24,000 <sup>g</sup>	24,610 <sup>f</sup>	25,123 <sup>f</sup>	24,500

**RAIL PROFILE** (Page 2 of 3)

III. PERFORMANCE	1960	1970+	1980	1990	1992	1993	1994
<b>A. Class I<sup>1</sup></b>							
<b>Car Mileage</b>							
(thousands)							
Freight	28,170,000 <sup>a</sup>	29,890,000 <sup>a</sup>	29,277,000 <sup>a</sup>	26,159,000 <sup>a</sup>	26,128,000 <sup>a</sup>	26,883,000 <sup>a</sup>	28,485,000 <sup>a</sup>
<b>Train Mileage</b>							
(thousands)							
Freight	404,464	427,065	428,498	379,582	390,241	405,446	440,896
<b>Locomotive Mileage</b>							
(thousands)							
Freight	421,900 <sup>h</sup>	1,278,200 <sup>h</sup>	1,319,010 <sup>h</sup>	1,144,559 <sup>h</sup>	1,149,635 <sup>h</sup>	1,187,098 <sup>h</sup>	1,261,482 <sup>h</sup>
Train & Yard Switching	-	-	212,040	135,806	128,413	133,370	143,224
Total	-	-	1,531,050	1,280,365	1,278,048	1,320,468	1,404,705
<b>Revenue Ton-Miles of Freight (millions)</b>							
	572,309 <sup>a</sup>	764,809 <sup>a</sup>	918,958 <sup>a</sup>	1,033,969 <sup>a</sup>	1,066,781 <sup>a</sup>	1,109,309 <sup>a</sup>	1,200,701 <sup>a</sup>
<b>Average Length of Haul (miles)</b>							
Freight	461	515	616	726	763	794	817
<b>B. Amtrak</b>							
<b>Passenger Train Car-Miles</b>							
(thousands)							
	-	213,261 <sup>i</sup>	235,200 <sup>i</sup>	300,855 <sup>i</sup>	307,254 <sup>f</sup>	303,243 <sup>f</sup>	305,600 <sup>i</sup>
<b>Passenger Train-Miles (thousands)</b>							
	-	26,302	29,500	32,892	34,349	34,771	34,940
<b>Passenger Locomotive-Miles (thousands)</b>							
	-	-	40,600	49,403	51,307	50,621	-
<b>Revenue Passengers Carried (thousands)</b>							
	-	16,644	20,800	22,126	21,354	22,066	21,239
<b>Revenue Passenger-Miles (thousands)</b>							
	-	3,038,603	4,503,200	6,057,000 <sup>c</sup>	6,091,000 <sup>c</sup>	6,199,000 <sup>c</sup>	5,921,000 <sup>c</sup>
<b>Average Passenger Fare (dollars)</b>							
	-	8.3 <sup>i</sup>	17.7 <sup>i</sup>	36.6	40.2	39.4	37.0
<b>Average Revenue per Passenger-Mile (cents)</b>							
	-	4.5	8.2	14.1	14.1	14.0	13.7
<b>Average Trip per Passenger (miles)</b>							
	-	182.6	217.0	273.0	285.2	280.9	271.1

**RAIL PROFILE** (Page 3 of 3)

<b>IV. SAFETY</b> <sup>3</sup>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>
<b>Number of Fatalities, Railroads &amp; Grade Crossings</b>							
<b>Passengers</b>							
on Trains	34 <sup>k</sup>	10 <sup>k</sup>	4 <sup>k</sup>	3 <sup>l</sup>	3 <sup>l</sup>	58 <sup>l</sup>	5 <sup>l</sup>
Employees on Duty	215	179	97	40	34	47	31
<b>Employees</b>							
Not on Duty	-	-	4	0	1	4	0
Trespassers	637	607	566	700	646	675	682
Non-Trespassers	1,459	1,535	739	551	475	489	505
<b>Contractor</b>							
Employees	-	-	7	3	11	6	3
<b>Total Railroad &amp; Grade Crossing Grade</b>	2,345	2,225	1,417	1,297	1,170	1,279	1,226
<b>Crossing only</b>	1,421	1,440	833	698	579	626	615
<b>Railroad only*</b>	924	785	584	599	591	653	611

+ Amtrak data in this column are for 1972, Amtrak's first full year of operation.

\* Figures may not appear directly in data source.

<sup>1</sup> Excluding Amtrak and all non-Class I railroads, except for section IV.

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

<sup>3</sup> Safety figures from FRA are for all railroads.

Note: Amtrak figures are based on Amtrak fiscal year (October 1–September 30).

Source: The following data references are listed on pp. 261, 262.

<b>Source</b>	<b>Reference Number/Location</b>
a	6) pp. 3, 10, 12, 13, 14, 33, 34, 36, 40, 44, 48, 50, 56, 78.
b	4) Annual Reports
c	5) pp. 1, 4, & 5.
d	4) Human Resources Information Center
f	4) Public Affairs
g	4) Route Miles by Railroad, Corp. Planning & Development
h	7) p. 29
i	4) Train Information System Reports
j	4) Train Earnings Reports
k	36) personal communication
l	35) Tables 7 and 9

## OIL PIPELINE PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993
<b>Operating Revenues</b>						
(million dollars)						
FERC-Regulated	770 <sup>a</sup>	1,188 <sup>a</sup>	6,340 <sup>a</sup>	7,045 <sup>a</sup>	7,158 <sup>a</sup>	6,900 <sup>a</sup>
Non-Regulated	128	208	1,208	1,342	1,363	1,521
Total	895	1,396	7,548	8,387	8,521	8,421
<b>II. INVENTORY</b>						
Number of						
FERC-Regulated Companies	87 <sup>c</sup>	101 <sup>c</sup>	130 <sup>c</sup>	150 <sup>c</sup>	145 <sup>c</sup>	145 <sup>c</sup>
Number of Employees,						
Pipeline Companies*	23,100 <sup>d</sup>	17,600 <sup>d</sup>	21,300 <sup>d</sup>	18,500 <sup>d</sup>	19,200 <sup>d</sup>	18,400 <sup>e</sup>
Miles of Pipeline (statute miles) <sup>1</sup>						
Crude Lines	141,085 <sup>b</sup>	146,275 <sup>b</sup>	129,831 <sup>b</sup>	118,805 <sup>b</sup>	112,990 <sup>b</sup>	112,990 <sup>b</sup>
Product Lines	49,859	72,396	88,562	89,947	86,033	86,033
All Lines	190,944	218,671	218,393	208,752	199,023	199,023
<b>III. PERFORMANCE</b>						
Intercity Ton-Miles (millions)						
Crude Petroleum	189,500 <sup>f</sup>	366,800 <sup>f</sup>	362,600 <sup>f</sup>	334,800 <sup>f</sup>	342,100 <sup>f</sup>	344,500 <sup>f</sup>
Petroleum Products	43,500	64,200	225,600	249,300	246,700	248,400
Total	233,000	431,000	588,200	584,100	588,800	592,900
Tons Transported (millions)						
Crude Petroleum	328.4	457.2	416.1	415.8	-	-
Petroleum Products	-	-	-	-	-	-
(delivered from lines)	140.0	333.1	544.7	641.6	-	-
Total	468.4	790.3	960.8	1,057.4	1,054.0	1,060.0
Average Length of Haul						
(statute miles)						
Crude Petroleum	325 <sup>g</sup>	300 <sup>g</sup>	871 <sup>g</sup>	805 <sup>g</sup>	822 <sup>g</sup>	825 <sup>g</sup>
Petroleum Products	269	357	414	389	374	375
<b>IV. SAFETY</b>						
Liquid Pipeline Fatalities*	-	4 <sup>h</sup>	4 <sup>h</sup>	3 <sup>h</sup>	5 <sup>h</sup>	0 <sup>h</sup>
Injuries	-	-	15	7	38	10
Incidents	-	351	246	180	212	230

## OIL PIPELINE PROFILE (Page 2 of 2)

FERC Federal Energy Regulatory Commission. In 1960 and 1970, these were ICC-Regulated companies.

\* Includes companies whose pipelines carry crude petroleum, petroleum products, and non-petroleum pipeline liquids.

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

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	12) pp. 40, 53
b	19) personal communication
c	13) personal communication
d	28) SIC 46
e	29) SIC 46
f	12) p. 59
g	12) p. 71
h	43) personal communication



## NATURAL GAS PIPELINE PROFILE

I. FINANCIAL	1960	1970	1980	1990	1992	1993
<b>Transmission Pipeline Companies</b>						
<b>Total Operating Revenues</b>						
(million dollars)	3,190 <sup>a</sup>	5,928 <sup>a</sup>	41,604 <sup>b</sup>	21,756 <sup>b</sup>	20,193 <sup>b</sup>	20,061 <sup>b</sup>
Operating Expenses (million dollars)						
Operation Expenses	2,031	4,094	36,075	16,429	14,295	13,865
Maintenance Expenses	64	109	405	629	639	686
Total Operation & Maintenance Expenses	2,095	4,203	36,480	17,058	14,934	13,865
Taxes						
Federal Taxes*	167	202	1,327	768	1,136	1,001
State & Local Taxes*	96	174	664	477	659	595
Total Taxes	263	376	1,991	1,245	1,795	1,595
<b>Total Operating Expenses*</b>	<b>2,698</b>	<b>5,088</b>	<b>39,709</b>	<b>19,484</b>	<b>17,795</b>	<b>17,514</b>
<b>Distribution Pipeline Companies</b>						
<b>Total Operating Revenues</b>						
(million dollars)	-	-	14,013 <sup>a</sup>	18,750 <sup>c</sup>	19,854 <sup>c</sup>	21,810 <sup>c</sup>
Operating Expenses (million dollars)						
Operation Expenses	-	-	11,539	14,020	14,370	15,939
Maintenance Expenses	-	-	252	524	581	617
Total Operation & Maintenance Expenses	-	-	11,791	14,544	14,951	16,557
Taxes						
Federal Taxes*	-	-	351	581	715	756
State & Local Taxes*	-	-	785	1,045	1,178	1,281
Total Taxes	-	-	1,136	1,625	1,892	2,042
<b>Total Operating Expenses*</b>	<b>-</b>	<b>-</b>	<b>13,263</b>	<b>17,125</b>	<b>17,980</b>	<b>19,812</b>
<b>Integrated Pipeline Companies</b>						
<b>Total Operating Revenues</b>						
(million dollars)	-	-	17,300 <sup>d</sup>	10,117 <sup>d</sup>	10,279 <sup>d</sup>	11,198 <sup>d</sup>
Operating Expenses (million dollars)						
Operation Expenses	-	-	14,870	7,525	7,610	8,262
Maintenance Expenses	-	-	285	302	333	350
Total Operation & Maintenance Expenses	-	-	15,155	7,827	7,610	8,262
Taxes						
Federal Taxes*	-	-	388	254	322	385
State & Local Taxes*	-	-	499	568	568	583
Total Taxes	-	-	887	823	890	968
<b>Total Operating Expenses*</b>	<b>-</b>	<b>-</b>	<b>16,532</b>	<b>9,268</b>	<b>9,560</b>	<b>10,206</b>
<b>Combination Pipeline Companies</b>						
<b>Total Operating Revenues</b>						
(million dollars)	-	-	13,001 <sup>e</sup>	15,404 <sup>e</sup>	16,079 <sup>e</sup>	17,351 <sup>e</sup>
Operating Expenses (million dollars)						
Operation Expenses	-	-	10,804	11,744	11,780	12,686
Maintenance Expenses	-	-	278	455	508	517
Total Operation and Maintenance Expenses	-	-	11,082	12,198	16,079	17,351
Taxes						
Federal Taxes*	-	-	261	433	505	603
State & Local Taxes*	-	-	572	830	949	1,014
Total Taxes	-	-	833	1,264	1,454	1,616
<b>Total Operating Expenses*</b>	<b>-</b>	<b>-</b>	<b>12,285</b>	<b>14,260</b>	<b>14,707</b>	<b>15,794</b>

## NATURAL GAS PIPELINE PROFILE (Page 2 of 3)

### II. INVENTORY

	1960	1970	1980	1990	1992	1993
<b>Pipeline Mileage</b>						
<b>Miles of Transmission Pipeline</b>						
Steel Pipe	-	-	262,200 <sup>g</sup>	276,900 <sup>g</sup>	280,300 <sup>g</sup>	268,600 <sup>g</sup>
Plastic Pipe**	-	-	4,400	3,100	4,100	3,500
Other	-	-	300	100	100	100
<b>Total Transmission Pipeline</b>	<b>183,700<sup>j</sup></b>	<b>252,200<sup>r</sup></b>	<b>266,900</b>	<b>280,100</b>	<b>284,500</b>	<b>272,200</b>
<b>Miles of Distribution Pipeline</b>						
Steel Pipe	-	-	560,100	581,900	587,200	595,100
Plastic Pipe**	-	-	78,100	202,100	244,300	268,500
Other	-	-	61,900	52,600	51,800	50,400
<b>Total Distribution Pipeline</b>	<b>391,400</b>	<b>594,800</b>	<b>700,100</b>	<b>836,700</b>	<b>883,200</b>	<b>914,000</b>
<b>Number of Employees</b>						
<b>Investor-Owned Companies</b>						
Transmission Pipeline Companies	31,400 <sup>h</sup>	32,400 <sup>h</sup>	45,200 <sup>i</sup>	37,400 <sup>i</sup>	45,500 <sup>i</sup>	34,600
Distribution Pipeline Companies	-	-	52,100	64,700	66,000	66,500
Integrated Pipeline Companies	-	-	53,200	39,900	35,000	34,500
Combination Pipeline Companies	-	-	52,200	50,100	49,900	47,800
<b>Total for Investor-Owned Companies</b>			<b>202,700</b>	<b>192,100</b>	<b>196,400</b>	<b>183,400</b>
<b>Total Employees</b>			<b>215,400</b>	<b>204,200</b>	<b>206,400</b>	<b>195,700</b>
<b>Number of Interstate Natural Gas Pipeline Companies</b>						
	87 <sup>j</sup>	89 <sup>j</sup>	91 <sup>j</sup>	132 <sup>i</sup>	126 <sup>k</sup>	135 <sup>k</sup>

### III. PERFORMANCE

<b>Total Marketed Production</b>						
(million cubic feet)	12,771,038 <sup>l</sup>	21,920,642 <sup>l</sup>	20,179,724 <sup>l</sup>	18,593,792 <sup>l</sup>	18,711,808 <sup>l</sup>	19,305,087 <sup>l</sup>
<b>Total Delivered to Consumers</b>						
(million cubic feet)	10,382,681 <sup>m</sup>	19,018,462 <sup>m</sup>	18,216,233 <sup>m</sup>	16,818,882 <sup>m</sup>	17,785,833 <sup>m</sup>	18,493,845 <sup>m</sup>
<b>Total Consumed</b>						
(million cubic feet)	11,966,537	21,139,386	19,877,293	18,715,090	19,544,364	20,298,119
<b>Total Gas Used as a Pipeline Fuel (million cubic feet)</b>						
	347,075	722,166	634,622	659,816	587,710	624,308

### IV. SAFETY

<b>Gas Pipeline Fatalities</b>	-	22 <sup>n</sup>	15 <sup>k</sup>	6 <sup>k</sup>	10 <sup>k</sup>	17 <sup>k</sup>
<b>Injuries</b>	-	-	177	69	80	102
<b>Incidents</b>	-	1,019	1,524	199	176	217

## NATURAL GAS PIPELINE PROFILE (Page 3 of 3)

- \* Figures obtained by addition/subtraction and may not appear directly in data source.
- + Does not add due to omission of line from source table for depreciation and other non-cash expenses.
- \*\* Includes fiberglass.

Source: The following data references are listed on pp. 261, 262.

Source	Reference Number/Location
a	2)Table 134
b	2)Table 12-3
c	2) Table 12-2
d	2) Table 12-4
e	2) Table 12-5
f	2) Table 44
g	2) Table 5-1
h	2) Table 153
i	2) Table 16-2,17-2
j	26) preface
k	13) personal communication
l	25) Table 99
m	25) Table 101
n	43) personal communication



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# *The STATE of* **TRANSPORTATION**

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*The State of Transportation* includes transportation statistics from 1960 through 1993, and 1994, where available, using tables and graphs to indicate shifts in performance, inventory, and safety.

NTS



1996



# *The STATE of* **TRANSPORTATION**

## **SECTION I**

### **PERFORMANCE**

This section includes basic transportation descriptors such as operating revenues and expenses, vehicle statistics, and passenger and freight data.

**NOTE:** In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.



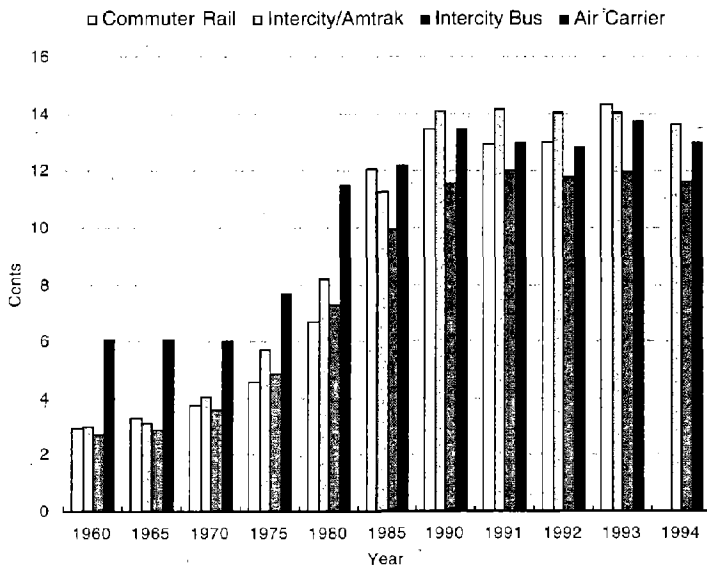


**TABLE - 1**  
**Average Passenger Revenue per Passenger-Mile**  
 5-Year Intervals 1960-1990 and Annually 1990-1994  
 (Cents)

Year	Air Carrier, scheduled service, domestic		Commuter Rail		Intercity/Amtrak <sup>a</sup>		Class I Bus, <sup>b</sup> Intercity		Consumer Price Index*
	Avg.	Index	Avg.	Index	Avg.	Index	Avg.	Index	
1960	6.09	53	2.92	44	3.03	37	2.71	37	29.60
1965	6.06	53	3.30	49	3.14	38	2.88	40	31.50
1970	6.00	52	3.75	56	4.02	49	3.60	50	38.80
1975	7.68	67	4.57	68	5.71	70	4.85	67	53.80
1980	11.49	100	6.70	100	8.18	100	7.26	100	82.40
1985	12.21	106	12.08	180	11.27	138	9.91	137	107.60
1990	13.43	117	13.45	201	14.12	173	11.55	159	130.70
1991	13.02	113	12.95	193	14.14	173	12.03	166	136.20
1992	12.85	112	13.01	194	14.05	172	11.78	162	140.30
1993	13.74	120	14.35	214	14.03	172	11.98	165	144.50
1994	12.99	113	-	-	13.65	167	11.61	160	148.20

Revised.  
<sup>a</sup> Amtrak, 1971-1994.  
<sup>b</sup> Regular route intercity service.  
 Index (1980 = 100)  
 \* Index (1982-1984 = 100)  
 Source: See p. 265.

**FIGURE - 1**  
**Average Passenger Revenue per Passenger-Mile, 1960-1994**



**TABLE - 2**

**Average Freight Revenue per Ton-Mile**  
 5-Year Intervals 1960-1990 and Annually 1990-1994  
 (Cents)

Year	Air Carrier, domestic, scheduled service		Class I Rail		Class I Intercity Motor Carriers of Property		Oil Pipeline		Inland Waterway Carrier		Producer Price Index*
	Avg.	Index	Avg.	Index	Avg.	Index	Avg.	Index	Avg.	Index	
1960	22.80	49	1.40	49	6.31	35	0.32	24	-	-	33
1965	20.46	44	1.27	44	6.46	36	0.28	21	0.35	45	34
1970	21.91	47	1.43	50	8.50	47	0.27	22	0.30	39	39
1975	28.22	61	2.04	71	11.60	64	0.37	28	0.52	67	58
1980	46.31	100	2.87	100	18.00	100	1.33	100	0.77	100	88
1985	48.77	105	3.04	106	22.90	127	1.57	118	0.80	104	105
1990	59.96	129	2.66	93	24.38	135	1.44	108	0.76	98	119
1991	64.81	139	2.59	90	24.82	138	1.40	106	0.78	101	122
1992	64.08	138	2.58	90	23.06	128	1.49	113	0.76	98	123
1993	71.38	154	2.52	88	24.95	139	1.42	107	0.74	95	125
1994	70.75	153	2.49	87	25.01	139	1.40	106	0.73	95	126

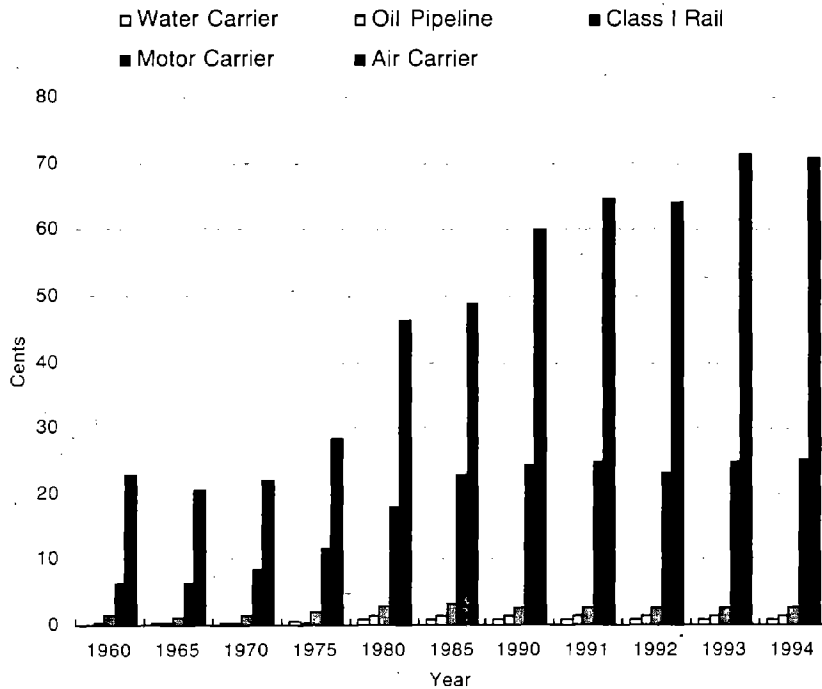
Index (1980 = 100)

\* Index (1982-1984 = 100)

Source: See p. 265.

**FIGURE - 2**

**Average Freight Revenue per Ton-Mile, 1960-1994**



**TABLE - 3**

**Average Passenger Fare**

5-Year Intervals 1960–1990 and Annually 1990–1993  
(Dollars)

Year	Air Carrier, certificated, domestic, scheduled service	Class I Bus, Intercity <sup>a</sup>	Transit, All Modes <sup>b</sup> (unlinked)	Commuter Rail	Intercity/Amtrak <sup>c</sup>
1960	34.12	2.46	0.14	0.64	4.22
1965	34.12	2.73	0.16	0.71	3.92
1970	40.65	3.81	0.22	0.84	3.19
1975	53.64	5.46	0.27	1.04	12.96
1980	84.55	10.57	0.30	1.41	17.72
1985	92.53	11.02	0.53	2.85	26.15
1990	107.86	20.18	0.67	2.90	38.51
1991	106.86	21.86	0.70	3.01	40.32
1992	103.60	–	0.72	3.09	40.19
1993	109.80	–	0.76 <sup>p</sup>	3.09 <sup>p</sup>	39.37

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> Regular route intercity service.

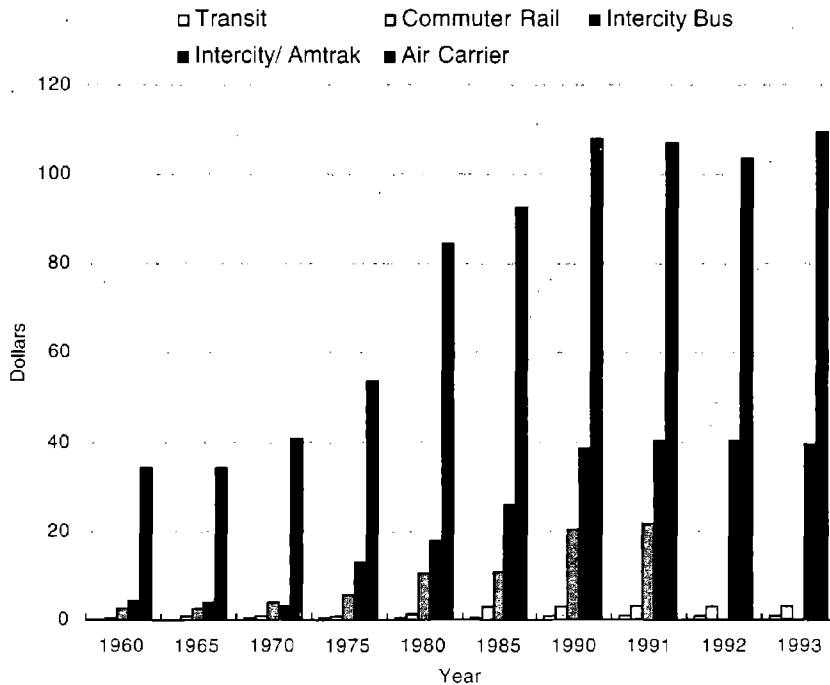
<sup>b</sup> Prior to 1984, excludes commuter railroad, automated guideway, urban ferry boat, demand response and most rural and smaller systems.

<sup>c</sup> Amtrak, 1971–1993.

Source: See p. 266.

**FIGURE - 3**

**Average Passenger Fare, 1960-1993**



**TABLE - 4**

**Total Operating Revenues**

5-Year Intervals 1960-1990 and Annually 1990-1993  
(Million Dollars)

Year	Air Carrier, certificated, domestic, all services				Class I Bus, Intercity	Transit <sup>a</sup>	Oil Pipeline <sup>b</sup>		Total (Investor-Owned)	Gas Pipeline <sup>c</sup>			
	Air Carrier, certificated, domestic, all services	Class I Intercity	Class I Rail	Intercity/Amtrak <sup>d</sup>			Inland and Coastal Carriers <sup>e</sup>	Maritime Carriers <sup>f</sup>		Class A Freight Forwarders <sup>g</sup>	Transmission Companies	Distribution Companies	Integrated Companies
1960	2,178	463	1,407	895	8,696	3,190	-	-	-	-	-	-	-
1965	3,691	607	1,444	1,051	11,525	4,088	-	-	-	-	-	-	-
1970	7,180	722	1,707	1,396	16,380	5,928	-	-	-	-	-	-	-
1975	12,020	955	3,451	2,220	30,550	11,898	-	-	-	-	-	-	-
1980	33,728	1,397	6,510	7,548	85,918	41,604	5,938	6,962	17,300	13,001	5,753	-	-
1985	37,629	1,233	12,195	8,910	103,945	45,738	14,013	17,300	17,396	19,301	15,404	-	-
1990	57,994	943	16,053	8,387	66,027	21,756	17,812	19,818	19,854	16,079	15,245	-	-
1991	56,165	981	16,810	8,101	63,922	20,193	17,812	19,854	19,854	16,079	15,245	-	-
1992	57,654	938	16,915	8,521	66,289	20,061	17,812	19,854	19,854	16,079	15,245	-	-
1993	63,233	928	17,093	8,421	70,420	20,061	21,810	19,854	19,854	16,079	15,245	-	-

Year	Class I Intercity Motor Carriers of Property		Class I Rail	Intercity/Amtrak <sup>d</sup>	Water Transport	
	Class I Intercity Motor Carriers of Property	Class I Rail			Inland and Coastal Carriers <sup>e</sup>	Maritime Carriers <sup>f</sup>
1960	4,763	9,514	637	1,782	524	438
1965	7,131	10,208	416	1,822	679	461
1970	11,137	11,992	248	2,070	833	600
1975	16,164	16,402	253	3,293	1,342	1,141
1980	30,338	28,258	454	7,219	2,340	2,206
1985	34,902	28,586	832	7,703	2,844	2,588
1990	46,710	28,370	1,308	7,789	2,324	3,215
1991	47,797	27,845	1,359	8,329	2,640	3,276
1992	51,072	28,349	1,325	8,287	2,700	3,381
1993	55,303	28,825	1,403	8,028	2,950	-

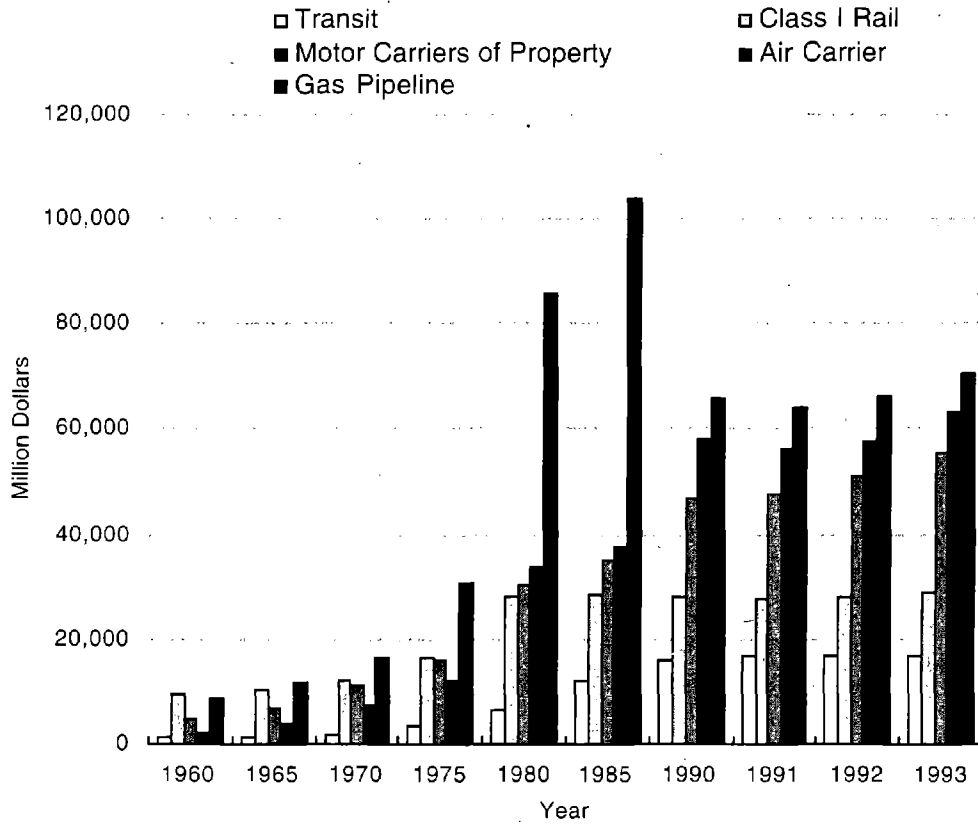
<sup>g</sup> Revised.

<sup>a</sup> Excludes commuter rail, automated guideway, urban bus, demand response and most rural and smaller systems prior to 1984. Total includes operating assistance.  
<sup>b</sup> Oil pipeline revenues are much smaller than those of gas pipeline because oil pipeline companies are common carriers and include transport costs only.  
<sup>c</sup> Data not directly comparable from year to year due to acquisition and mergers. Prior to 1975, pipeline companies are not broken down by distribution, integrated or combination. Total numbers for these companies are 1960=5,505; 1965=7,437; 1970=10,542.  
<sup>d</sup> Amtrak, 1971-1993.  
<sup>e</sup> Includes foreign traffic moving on domestic inland waterways.  
<sup>f</sup> Figures include only those American flag carriers subsidized by MARAD.

Source: See pp. 266, 267.

**FIGURE - 4**

**Total Operating Revenues, 1960-1993**



Source: See Table 4.

**TABLE - 5**

**Vehicle-Miles**

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Millions)

Year	Air Carrier, certified, domestic, all services <sup>a</sup>	General Aviation	Passenger Car & Taxi <sup>b</sup>	Motorcycle	Other 2-Axle 4-Tire Vehicles <sup>b</sup>	Highway Single-Unit 2-Axle 6-Tire or More Trucks <sup>b</sup>	Combination Truck	Bus	School Bus	Transit <sup>c</sup>	Commuter Rail	Class I Rail Freight, Train-Miles	Class I Rail Freight, Car-Miles	Intercity/Amtrak <sup>d</sup> , Train-Miles	Intercity/Amtrak <sup>d</sup> , Car-Miles
1960	858	1,769	588,083	97,930	28,479	4,353	1,481	2,143	404	28,170	209	2,208			
1965	1,134	2,562	709,300	141,159	32,497	4,684	1,763	2,008	421	29,336	172	1,775			
1970	2,068	3,207	916,700	2,979	35,134	4,544	2,100	1,883	427	29,890	93	690			
1975	1,948	3,939	1,033,950	5,629	46,724	6,055	2,500	1,990	403	27,656	30	253			
1980	2,523	5,204	1,111,596	10,214	68,678	6,059	3,000	2,287	428	29,277	30	235			
1985	3,046	4,817	1,260,565	9,086	79,600	4,876	3,400	2,791	347	24,920	30	251			
1990	3,963	4,831	1,513,184	9,557	96,367	5,719	3,800	3,242	380	26,159	33	305			
1991	3,854	4,510	1,533,552	9,178	96,642	5,743	4,300	3,306	375	25,628	34	313			
1992	3,995	3,605	1,600,839	9,557	99,112	5,759	4,400	3,355	390	26,128	34	307			
1993	4,157	3,253	1,547,366	9,906	103,123	6,126	4,300	3,387	405	26,883	35	303			
1994	4,370	2,917	1,585,618	10,251	109,065	6,416	4,400	-	441	28,485	35	306			

<sup>r</sup> Revised.

<sup>a</sup> 1960-1965, motorcycle data included in passenger car and taxi figures, and other single-unit truck data included in single-unit truck figures.

<sup>b</sup> All operations other than those operating under 14 CFR 121 & 14 CFR 135.

<sup>c</sup> See p. 63 for explanation of changes in vehicle categories between 1992 and 1993.

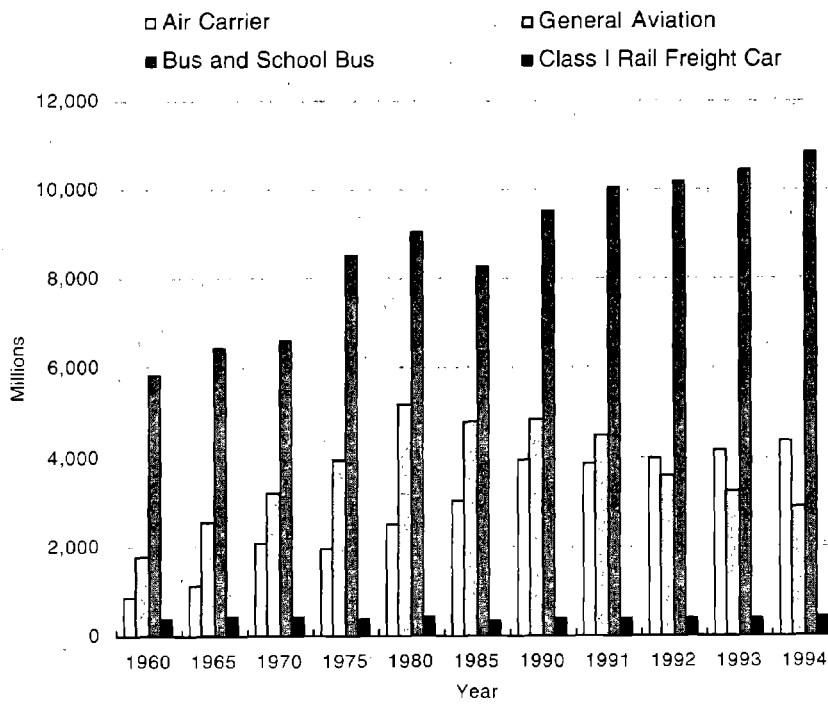
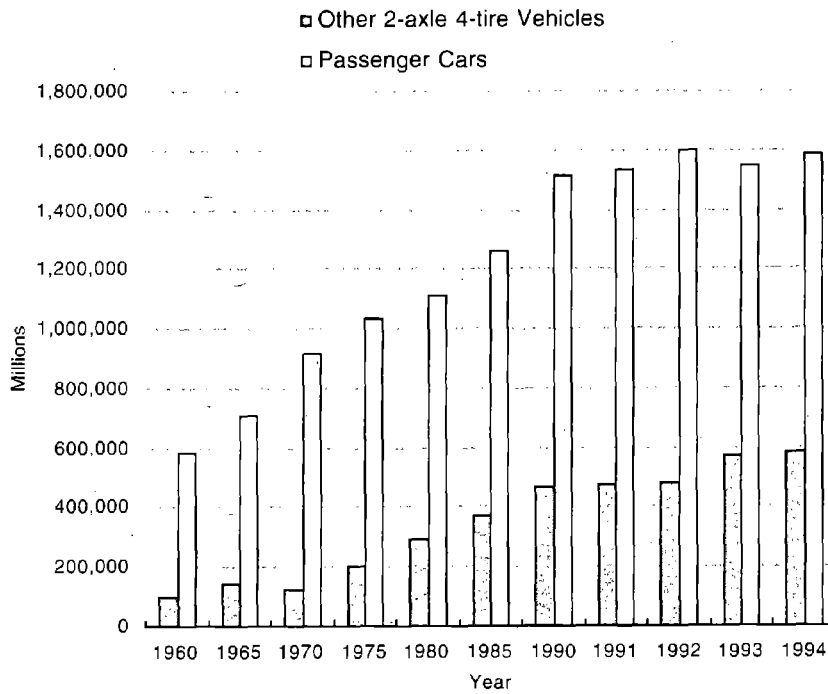
<sup>d</sup> Includes Commuter Rail.

<sup>e</sup> Amtrak, 1971-1994.

Note: Previous editions of this publication have included a Commercial Bus column which was an estimate generated by Transportation Policy Associates. Since 1991, Transportation Policy Associates has not provided this estimate, so we have substituted data from the Federal Highway Administration which are estimates of total bus mileage. We continue to include the estimate of School Bus vehicle mileage from the National Safety Council, and transit bus vehicle mileage which is included as a component of the transit vehicle miles total. The bus numbers have been derived using different methodologies, and are therefore not necessarily comparable.

Source: See pp. 267, 268.

**FIGURE - 5**  
**Vehicle-Miles, 1960-1994**



Source: See Table 5.

**TABLE - 6**

**Passenger-Miles**

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Millions)

Year	Air Carrier, certificated, domestic, General Aviation	Passenger Car & Taxi <sup>a</sup>	Motor- cycle	Highway				Combi- nation Trucks	Transit <sup>b</sup>	Commuter Rail	Intercity/ Amtrak <sup>c</sup>
				Intercity Bus	School Bus	Other 2- Axle 4- Tire Vehicles <sup>a</sup>	Single-Unit 2-Axle 6- Tire or More Trucks <sup>a</sup>				
1960	31,099	1,293,783	-	19,300	-	156,688	-	28,479	-	4,197	17,064
1965	53,226	1,489,530	-	23,800	-	223,031	-	32,497	-	4,128	13,260
1970	108,442	1,833,400	3,694	25,300	-	192,326	27,081	35,134	-	4,592	6,179
1975	136,000	1,964,505	7,149	25,400	-	309,078	34,606	46,724	-	4,513	3,931
1980	204,368	2,000,872	13,278	27,400	41,000	439,312	39,813	68,678	39,854	6,516	4,503
1985	277,836	2,142,961	12,084	23,800	70,000	555,877	46,980	79,600	39,581	6,534	4,825
1990	345,873	2,284,908	12,233	23,000	74,200	727,104	53,443	96,367	41,143	7,082	6,057
1991	338,085	2,668,380	10,096	23,100	83,300	714,000	53,787	96,942	40,703	7,344	6,273
1992	354,764	2,785,460	10,513	22,600	90,000	722,071	53,691	99,112	40,241	7,320	6,091
1993	362,230	2,692,417	10,897	24,600	94,200	865,831	56,781	103,123	39,625	6,939	6,199
1994	388,431	2,758,975	11,276	25,300	85,000	886,799	61,350	109,065	-	-	5,921

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> See p. 63 for explanation of changes in vehicle categories between 1992 and 1993.

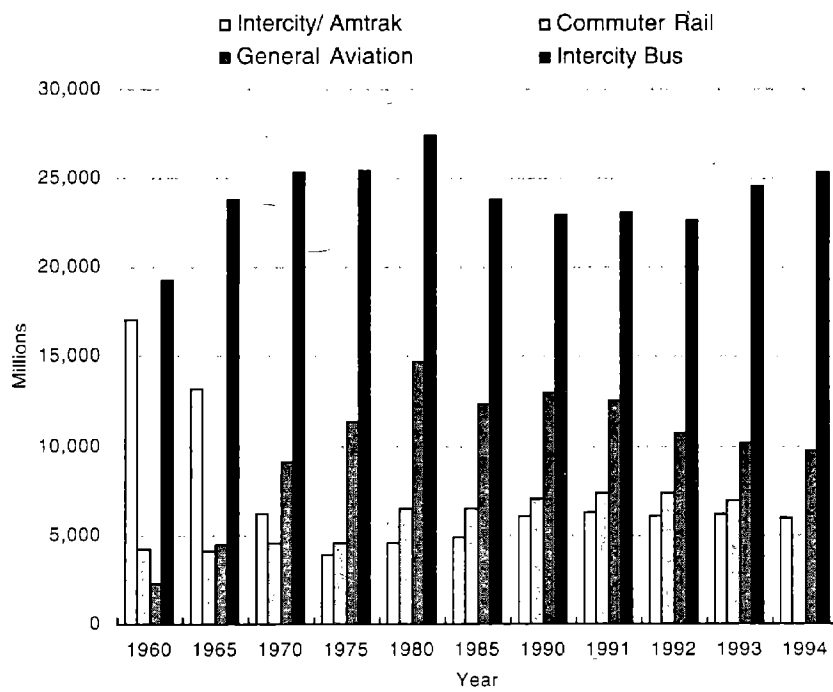
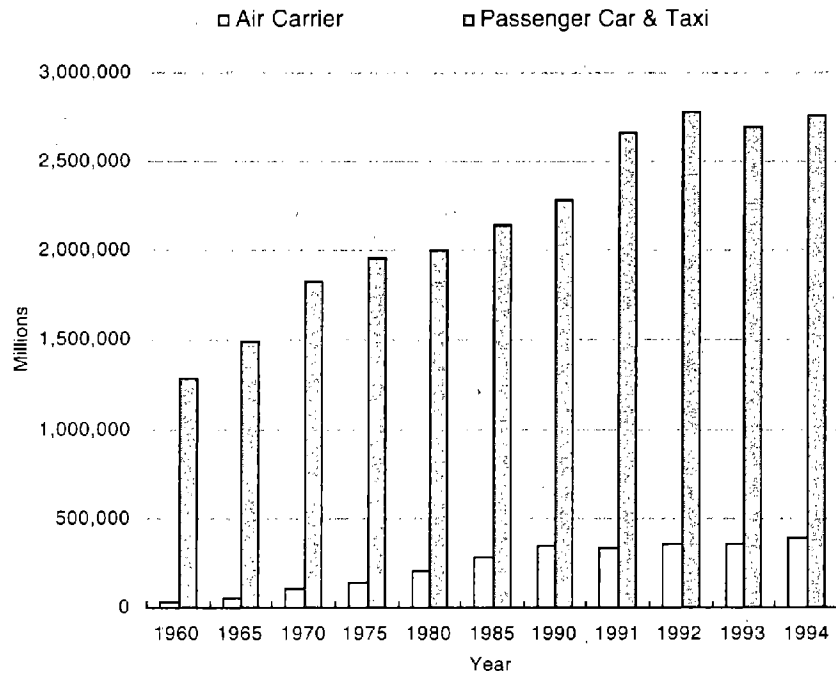
<sup>b</sup> Includes Commuter Rail.

<sup>c</sup> Amtrak, 1971-1994.

Source: See p. 268.



**FIGURE - 6**  
**Passenger-Miles, 1960-1994**



Source: See Table 6.

**TABLE - 7**

**Ton-Miles of Freight**

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Millions)

Year	Air Carrier, certificated, domestic, all services <sup>a</sup>	Oil Pipeline	Class I Rail <sup>b</sup>	Truck, Intercity	Water Transport <sup>c</sup>			
					Coastwise	Lakewise	Internal	Intraport
1960	553	233,000	572,309	285,000	256,000	65,990	89,614	1,730
1965	1,353	306,393	697,878	359,000	302,546	75,918	109,701	1,638
1970	2,189	431,000	764,809	412,000	359,784	79,416	155,816	1,179
1975	3,470	507,000	754,252	454,000	315,846	68,517	180,399	1,222
1980	4,528	588,200	918,958	555,000	631,149 <sup>d</sup>	61,747	227,343	1,596
1985	5,156	564,300	876,984	610,000	610,977	48,184	232,708	1,102
1990	9,064	584,100	1,033,969	735,000	479,134	60,930	292,393	1,087
1991	8,858	578,500	1,038,875	758,000	502,133	55,339	289,959	968
1992	9,820	588,800	1,066,781	815,000	502,311	55,785	297,639	950
1993	10,675	592,900	1,109,309	861,000	448,404	56,438	283,894	922
1994 <sup>p</sup>	11,688	608,000	1,200,701	908,000	457,601	58,263	297,762	1,293

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> Includes revenue ton miles of freight, U.S. and foreign mail, and express, as reported on U.S. DOT Form 41.

<sup>b</sup> Revenue Ton-Miles.

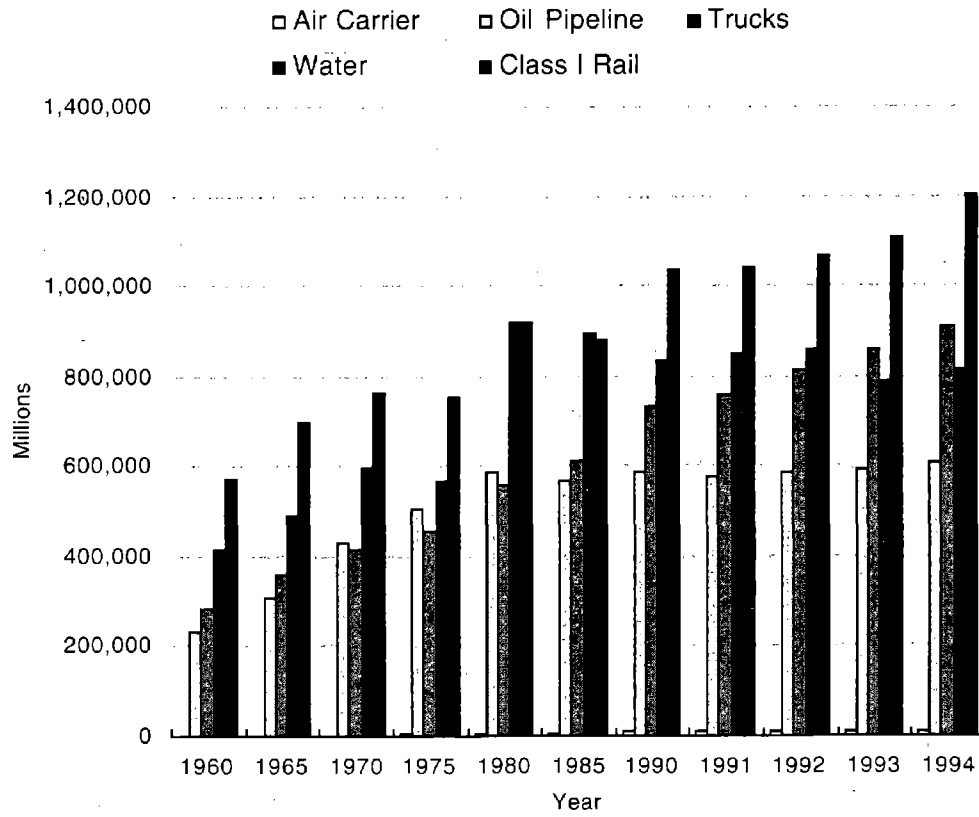
<sup>c</sup> Excludes intraterritorial traffic, for which ton-miles were not compiled.

<sup>d</sup> Reflects entrance of Alaska pipeline moving crude to U.S. refineries between 1975 and 1980.

Source: See p. 269.

**FIGURE - 7**

**Ton-Miles of Freight, 1960-1994**



Source: See Table 7.

**TABLE - 8**

**Basic Intercity Mileage Within the Continental United States**

5-Year Intervals 1960-1990 and Annually 1990-1993  
(Statute Miles)

Year	Oil Pipeline <sup>a</sup>			Gas Pipeline			Class I Rail	Highway <sup>b</sup>	Inland Waterway		
	Airway	Total	Crude Lines	Product Lines	Total	Distribution Mains				Transmission Pipelines	Field & Gathering Lines
1960	293,003	190,944	141,085	49,859	630,900	391,400	183,700	55,800	217,552	265,477	25,253
1965	268,275	210,867	149,424	61,443	767,500	494,500	211,300	61,700	211,925	268,898	25,380
1970	291,122	218,671	146,275	72,396	913,300	594,800	252,200	66,300	206,625	271,517	25,543
1975	313,178	225,889	145,679	80,210	979,300	648,200	262,600	68,500	191,520	265,905	25,543
1980	341,823	218,393	129,831	88,562	1,051,774	701,800	266,500	83,500	164,822	300,456	25,543
1985	373,891	213,605	117,812	95,793	1,118,875	753,391	271,162	94,322	145,764	301,006	25,777
1990	388,000	208,752	118,805	89,947	1,206,274	836,667	280,108	89,499	119,758	305,347	25,777
1991	390,000	203,828	115,860	87,968	1,225,270	857,417	281,591	86,262	116,626	305,226	25,777
1992	392,000	199,023	112,990	86,033	1,253,924	883,227	284,517	86,180	113,056	338,558	25,777
1993 <sup>p</sup>	390,000	199,023	112,990	86,033	1,263,549	914,030	272,215	77,304	110,425	341,351	25,777

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

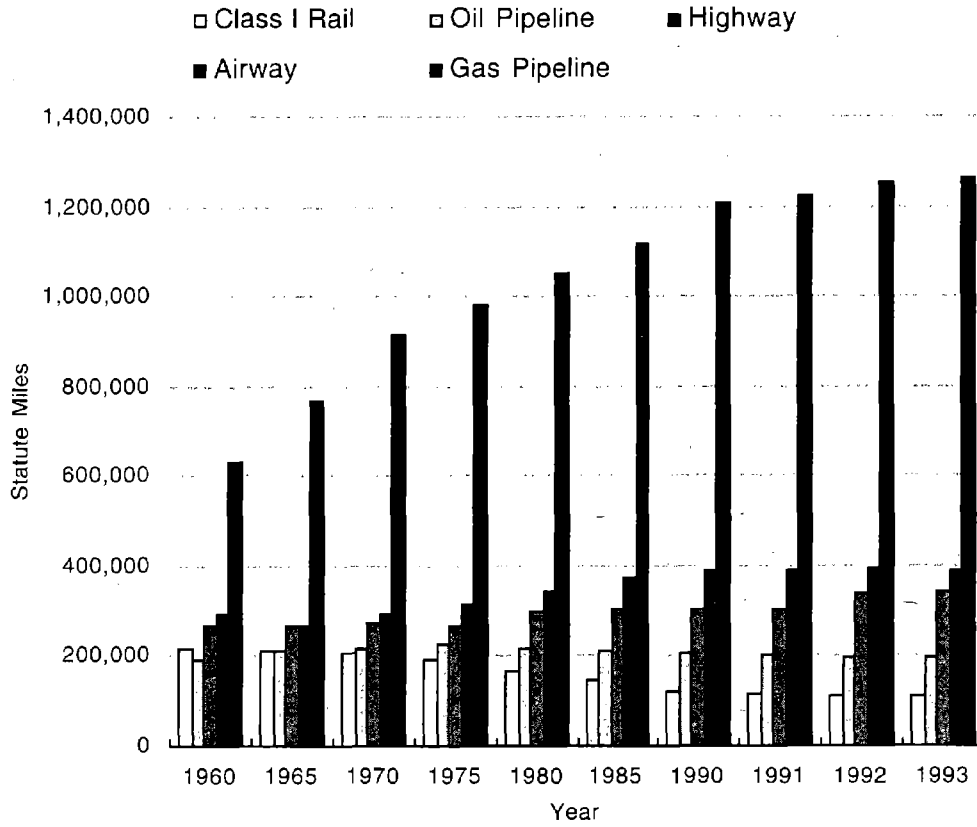
<sup>a</sup> Includes petroleum and other liquid product lines, including gathering lines.

<sup>b</sup> Prior to 1992, included Federal-Aid primary roads. From 1992 forward, includes the Interim National Highway System as established by the Intermodal Surface Transportation Efficiency Act of 1991, plus rural Federal-Aid minor arterial highways.

Source: See p. 269.

**FIGURE - 8**

**Basic Intercity Mileage Within the Continental United States, 1960-1993**



Source: See Table 8.

**TABLE - 9**

**Average Length of Haul, Domestic Interstate Freight and Passenger Modes**

5-Year Intervals 1960-1990 and Annually 1990-1993  
(Miles)

Year	Air Carrier			Oil Pipeline		Freight			Water			Passenger			
	Air Carrier	Crude	Petroleum Products	Class I Railroads	Trucks <sup>a</sup>	Internal	Lakewise	Coastwise	Air Carrier, scheduled	Bus, Intercity	Commuter Rail	Intercity/Amtrak <sup>b</sup>			
1960	953	325	269	461	272	282	522	1,496	583	79	21	130			
1965	943	320	335	503	259	297	494	1,501	614	94	21	125			
1970	1,014	300	357	515	263	330	506	1,509	679	106	22	71			
1975	1,082	633	516	541	286	358	530	1,362	698	113	23	233			
1980	1,052	871	414	616	363	405	536	1,915	736	125	23	217			
1985	1,157	777	391	665	366	435	524	1,972	758	121	24	232			
1990	1,389	805	389	726	391	469	553	1,604	803	141	22	273			
1991	1,346	824	378	751	398	483	535	1,705	806	143	23	284			
1992	1,391	822	374	763	410	479	519	1,762	815	136	23	285			
1993	1,325	825	375	794	416	468	514	1,650	804	-	22	280			

<sup>r</sup> Revised.

<sup>a</sup> Total Class I motor carriers of freight (LTL, specialized and others).

<sup>b</sup> Amtrak, 1971-1993

Source: Eric Foundation for Transportation, *Transportation In America*, 1995, pp. 70 ; p. 71 (1994); 1993 Air Carrier Passenger figure calculated by dividing passenger-miles by passengers from p. 48.

Oil Pipeline Data, 1960-1970: Transportation Policy Associates.

Railroad: Association of American Railroads, *Railroad Facts*, 1995, p. 36.

Water Data: U.S. Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, Section 1.

Passenger Data, 1960: Transportation Association of America, *Transportation Facts and Trends*.

Commuter Rail, 1992-1993: American Public Transit Association, *Transit Facts*, 1994/1995, Table 6.

Amtrak, 1985-1993: Amtrak, *Statistical Appendix to Amtrak FY1994 Annual Report*, p. 4.

**TABLE - 10**

**Number of Vehicles**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Air		Highway <sup>a</sup>				Transit <sup>b</sup>								
	Air Carrier, certified, all services	General Aviation	Motorcycle	Passenger Car & Taxi	Truck Single-Unit	Truck Combination	Commercial & Federal Bus	School & Other Bus <sup>c</sup>	Motor Bus	Heavy Rail	Light Rail	Trolley Bus	Demand Response	Other	Commuter Rail
1960	2,135	76,549	574,032	61,671,390	-	-	76,000	196,000	49,600	9,010	2,856	3,826	-	-	-
1965	-	95,442	1,381,956	75,257,588	14,008,000	787,000	84,969	229,315	49,600	9,115	1,549	1,453	-	-	-
1970	2,690	125,618	2,824,098	89,243,557	17,778,000	960,000	90,271	288,750	49,700	9,286	1,262	1,050	-	-	-
1975	2,540	168,475	4,964,070	106,705,934	24,644,700	1,131,000	96,162	365,982	50,811	9,608	1,061	703	-	-	-
1980	2,818	202,487	5,693,940	121,600,843	32,249,718	1,416,869	110,576	418,225	59,411	9,641	1,013	823	-	-	4,500
1985	3,100	210,654	5,444,404	131,864,029	37,792,895	1,403,266	113,138	480,389	64,258	9,326	717	676	14,490	867	4,035
1990	4,727	196,800	4,259,462	143,453,040	43,101,594	1,611,293	118,726	508,261	58,714	10,419	913	832	16,471	1,197	4,415
1991	4,580	198,474	4,177,365	142,568,902	43,332,778	1,603,510	118,052	513,227	60,377	10,331	1,095	752	17,879	1,496	4,370
1992	4,884	183,620	4,065,118	144,213,429	43,849,290	1,654,777	118,894	525,838	63,080	10,245	1,058	907	20,695	1,753	4,413
1993	5,234	176,006	3,977,856	131,581,427	60,236,080	1,591,542	119,560	534,872	64,648	10,261	1,025	851	23,105	2,280	4,494
1994	5,221	170,600	3,718,127	133,929,661	61,820,164	1,625,117	122,705	547,718	-	-	-	-	-	-	-

a Registered vehicles. See p. 63 for explanation of changes in vehicle categories between 1992 and 1993.

b Prior to 1984, excludes most rural and smaller systems funded via Sections 18 and 16(b)(2), Urban Mass Transportation Act of 1964, as amended. Also prior to 1984, includes total vehicles owned and leased.

c See Rail Profile, p. 52 for non-Class I freight cars.

\* Data for January 1, 1991 - June 30, 1991 included in 1990 figure.

+ In some instances, church, industrial, and other buses and other private buses are included here; in other instances privately-owned school buses could not be segregated from commercial buses, and are included with the latter.

Source: See p. 270.

Year	Rail		Water Transport			
	Class I Rail	Amtrak	Non-Self-Propelled Vessels	Self-Propelled Vessels	Oceangoing Steam & Motor Ships (1,000 gross tons & over)	Self-Propelled Tugboats & Tugs
	Freight Cars <sup>a</sup>	Loco-motives	Total Inland Water Vessels	Dry Cargo Barges & Scows	Tankers	
1960	1,658,292	29,031	20,657	14,025	2,249	4,203
1965	1,478,005	27,780	20,843	14,241	2,548	4,054
1970	1,423,921	27,077	22,908	15,379	3,281	4,248
1975	1,359,459	27,846	29,510	21,876	3,534	4,100
1980	1,168,114	26,094	36,285	27,426	4,166	4,693
1985	867,070	22,548	38,493	29,287	4,252	4,954
1990	658,902	16,835	36,222	27,091	3,913	5,218
1991	633,489	18,344	-	-	-	619
1992	605,189	18,004	39,210	26,984	3,905	5,205
1993	587,033	18,161	39,108	26,913	3,862	5,224
1994	590,930	18,505	39,064	26,723	3,966	5,179

**TABLE - 11**

**Sales or Deliveries of New Vehicles by Mode**  
5-Year Intervals 1960-1990 and Annually 1990-1993

Year	Civilian Aircraft (Shipments)				Total Aviation	Highway				Recreational Vehicles (Shipments)
	Transport	Helicopters	General Aviation	Passenger Car & Taxi <sup>a</sup>		Motorcycle <sup>a</sup>	Bicycle <sup>b</sup>	Truck (Factory sales, domestic) <sup>c</sup>	Bus (Includes school bus)	
1960	245	-	7,588	6,529,900	8,593	-	1,194,475	-	-	-
1965	233	598	11,852	9,101,000	12,683	-	1,716,564	35,241	192,830	192,830
1970	311	482	7,283	7,119,000	8,076	1,125,000	1,660,446	31,994	380,300	380,300
1975	315	864	14,072	7,053,000	15,251	940,000	2,231,630	40,530	339,600	339,600
1980	367	1,366	11,881	8,980,000	13,634	1,070,000	1,667,283	34,385	178,500	178,500
1985	278	384	2,029	11,039,000	2,691	1,260,000	3,356,905	33,533	351,700	351,700
1990	521	603	1,144	9,499,000	2,268	453,000	3,692,474	32,731	347,300	347,300
1991	589	571	1,021	8,388,000	2,181	429,000	3,363,445	24,058	293,700	293,700
1992	567	324	899	8,384,000	1,790	447,000	4,039,518	22,484	382,700	382,700
1993	408	258	964	8,703,900	1,630	488,000	4,870,675	24,549	420,200	420,200

Year	Transit (Deliveries)				Class I Rail (Deliveries)				Amtrak (Deliveries)		Water Transport	
	Motor Bus <sup>d</sup>	Light Rail	Heavy Rail	Trolley Bus	Commuter Rail	Freight Car <sup>e</sup>	Locomotive	Passenger Train-Car	Locomotive	Merchant Vessel	Gross Tonnage	
1960	2,415	0	416	0	214	57,047	389	-	-	20	319,991	
1965	3,000	0	580	0	666	77,822	1,387	-	-	13	172,687	
1970	1,424	0	308	0	302	66,185	1,029	-	-	13	342,000	
1975	5,261	0	127	1	2,165	72,392	772	109	30	15	452,000	
1980	4,572	32	130	98	152	85,920	1,480	109	17	23	693,200	
1985	3,367	63	441	0	179	12,080	522	0	10	14	581,300	
1990	4,779	55	10	118	83	32,063	530	58	0	0	0	
1991	4,722	17	6	149	187	24,678	472	0	0	0	0	
1992	3,426	35	163	0	110	25,761	323	0	20	0	0	
1993	4,536	54	260	24	260	35,239	504	0	26	0	0	

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> Included in Truck figure.

<sup>b</sup> Includes domestic and imported vehicles, retail sales only.

<sup>c</sup> Includes domestic and imported vehicles, 20 inches and above.

<sup>d</sup> Includes large passenger or utility vehicles which may be considered cars in other tables.

<sup>e</sup> Buses or bus-type vehicles only. Excludes most rural and smaller systems prior to 1984.

<sup>f</sup> Includes all railroads and private car owners.

Source: See p. 271.



**TABLE - 12**  
**Number of U.S. Airports<sup>1</sup>**  
 5-Year Intervals 1980-1990 and Annually 1990-1994

Year	Total Airports	Public-Use			Public-Use vs. Private-Use			Private-Use			Certificated* vs. General Aviation		
		Total Public-Use Airports	Percent with Lighted Runways	Percent with Paved Runways	Total Private-Use Airports	Percent with Lighted Runways	Percent with Paved Runways	Total Private-Use Airports	Percent with Lighted Runways	Percent with Paved Runways	Certificated	General Aviation	Airports with FAA Towers
1980	15,161	4,814	66.4	72.0	10,347	15.0	14.1	730	14,431	432			
1985	16,319	5,858	-	-	10,461	-	-	-	-	399			
1990	17,490	5,589	71.3	70.7	11,901	7.0	31.5	680	16,810	402			
1991	17,581	5,551	71.9	71.5	12,030	6.8	32.0	669	16,912	400			
1992	17,846	5,545	72.3	71.6	12,301	6.6	32.2	664	17,182	416			
1993	18,317	5,538	72.8	72.2	12,779	6.3	32.7	670	17,647	417			
1994	18,343	5,474	73.5	72.9	12,869	6.2	33.0	672	17,671	402			

r Revised.

<sup>1</sup> Certificated air carrier operations with aircraft seating more than 30 passengers.

\* Includes civil and joint civil-military airports, heliports, STOLports, and seaplane bases in the U.S. and its territories.

Source: U.S. DOT/FAA, *Administrator's Fact Book*, April 1995, p. 16, and similar tables in previous editions.

TABLE - 13

**Top 50 Airports\*, Large Certificated Air Carriers:  
Scheduled and Nonscheduled Operations  
1993**

Rank	Airport	Total Enplaned Passengers
1	Chicago (O'Hare), IL	29,133,604
2	Dallas/Ft. Worth (Regional), TX	24,655,922
3	Atlanta, GA	22,294,571
4	Los Angeles, CA	18,456,714
5	Denver, CO	14,328,068
6	San Francisco, CA	14,003,254
7	Phoenix, AZ	11,294,603
8	Detroit, MI	11,027,172
9	Newark, NJ	10,965,362
10	Minneapolis/St. Paul, MN	10,377,577
11	Boston, MA	10,202,076
12	Miami, FL	10,137,030
13	Las Vegas, NV	10,108,973
14	St. Louis, MO	9,900,464
15	New York (La Guardia), NY	9,340,107
16	Seattle-Tacoma, WA	9,010,385
17	Orlando, FL	8,714,400
18	Houston (Intercontinental), TX	8,696,901
19	Honolulu, HI	8,484,364
20	Pittsburgh, PA	8,383,674
21	New York (John F. Kennedy), NY	8,255,844
22	Charlotte, NC	7,803,870
23	Philadelphia, PA	7,292,669
24	Washington (National), DC	7,186,011
25	Salt Lake City, UT	7,147,123
26	San Diego, CA	5,699,382
27	Cincinnati, OH	5,127,346
28	Tampa, FL	4,576,551
29	Raleigh/Durham, NC	4,203,412
30	Portland, OR	4,187,972
31	San Juan, PR	4,149,778
32	Houston (William P. Hobby), TX	4,061,425
33	Washington (Dulles Int'l), DC	4,029,774
34	Baltimore, MD	3,950,419
35	Cleveland, OH	3,893,989
36	Ft. Lauderdale, FL	3,877,844
37	Nashville, TN	3,813,856
38	Kansas City, MO	3,778,604
39	Oakland, CA	3,573,691
40	New Orleans, LA	3,281,874
41	Memphis, TN	3,238,706
42	Dallas (Love Field), TX	3,197,237
43	San Jose, CA	3,184,121
44	Ontario, CA	3,023,101
45	Chicago (Midway), IL	2,978,353
46	Orange County, CA	2,854,297
47	San Antonio, TX	2,753,008
48	Indianapolis, IN	2,712,888
49	Albuquerque, NM	2,680,077
50	Sacramento, CA	2,538,181

\* Rank order by total enplaned passengers.

Source: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1993, Table 4.11.

**TABLE - 14**

**Top 50 Airports\*, Large Certificated Air Carriers:  
Scheduled and Nonscheduled Operations  
1994**

<b>Rank</b>	<b>Airport</b>	<b>Total Enplaned Passengers</b>
1	Chicago (O'Hare), IL	29,970,255
2	Atlanta, GA	25,669,559
3	Dallas/Ft. Worth (Regional), TX	25,435,330
4	Los Angeles, CA	19,885,450
5	Denver, CO	14,788,640
6	San Francisco, CA	14,451,891
7	Phoenix, AZ	12,451,569
8	Detroit, MI	12,256,251
9	Las Vegas, NV	11,997,567
10	Newark, NJ	11,863,730
11	St. Louis, MO	11,602,815
12	Minneapolis/St. Paul, MN	10,892,061
13	Miami, FL	10,831,532
14	Boston, MA	10,667,886
15	Seattle/Tacoma, WA	9,962,385
16	New York (La Guardia), NY	9,805,780
17	Houston (Intercontinental), TX	9,680,708
18	Charlotte, NC	9,384,480
19	Orlando, FL	9,166,580
20	Pittsburgh, PA	8,996,598
21	New York (John F. Kennedy), NY	8,907,598
22	Honolulu, HI	8,772,102
23	Salt Lake City, UT	7,828,969
24	Philadelphia, PA	7,612,424
25	Washington (National), DC	6,982,998
26	San Diego, CA	6,168,430
27	Baltimore, MD	5,524,703
28	Cincinnati, OH	5,487,388
29	Tampa, FL	5,439,230
30	Portland, OR	4,837,125
31	Cleveland, OH	4,830,570
32	Ft. Lauderdale, FL	4,612,512
33	San Juan, PR	4,414,434
34	Kansas City, MO	4,277,012
35	Washington (Dulles Int'l.), DC	4,230,348
36	Chicago (Midway), IL	4,077,804
37	San Jose, CA	4,021,987
38	Oakland, CA	4,009,040
39	New Orleans, LA	3,915,453
40	Houston (William P. Hobby), TX	3,914,206
41	Raleigh/Durham, NC	3,760,762
42	Nashville, TN	3,582,530
43	Memphis, TN	3,459,573
44	Dallas (Love Field), TX	3,416,056
45	Orange County, CA	3,189,008
46	Ontario, CA	3,140,180
47	San Antonio, TX	2,944,807
48	Albuquerque, NM	2,928,786
49	Indianapolis, IN	2,863,871
50	Sacramento, CA	2,790,976

\* Rank order by total enplaned passengers.

Source: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1994, Table 4.11.

**TABLE - 15**

**Passengers Denied Boarding by Major and National U. S. Airlines**  
 Annually 1986-1994  
 (Thousands)

Year	Voluntary	Involuntary	Total Passengers Denied Boarding
1986	557	167	724
1987	705	169	874
1988	648	128	776
1989	616	107	723
1990	561	67	628
1991	599	47	646
1992	718	46	764
1993	632	51	683
1994	780	61	841

Source: U.S. DOT/OST, *Air Travel Consumer Report*, March 1995, p. 23, and similar tables in earlier editions.

**TABLE - 16**

**Flight Operations Arriving On-Time for All Major Air Carriers**  
 Annually 1988-1994  
 (Percent)

Year	Percent On-Time Flight Operations
1988	80.0
1989	76.3
1990	79.4
1991	82.5
1992	82.3
1993	81.6
1994	81.5

Source: U.S. DOT/OST, *Air Travel Consumer Report*, February 1995, p. 4, and similar tables in earlier editions.

TABLE - 17

## Air Passenger Travel Arrivals Between the United States and Foreign Countries

5-Year Intervals 1975-1990 and Annually 1990-1994

(Thousands)

	1975	1980	1985	1990	1991	1992	1993	1994
<b>Total Passengers</b>	12,646	20,262	24,156	36,414	35,464	38,927	41,558	43,818
<b>Flag of Carrier</b>								
United States	6,502	10,031	11,798	19,145	18,910	20,537	21,940	23,291
Foreign	6,144	10,231	12,357	17,269	16,554	18,390	19,618	20,527
<b>Country of Embarkation<sup>a</sup></b>								
Australia	106	227	277	495	561	598	591	551
Bahama Islands	758	1,123	1,503	1,679	1,436	1,341	1,370	1,424
Barbados	76	135	216	228	197	191	208	196
Belgium	144	242	281	417	366	357	408	377
Bermuda	398	497	434	487	430	405	436	447
Brazil	212	300	352	584	635	645	711	878
Canada*	-	-	-	6,870	6,263	6,546	6,843	6,812
China/Taiwan	50	113	206	325	404	447	606	830
Colombia	173	315	279	286	305	343	389	443
Denmark	222	267	241	313	279	295	285	267
Dominican Republic	336	468	606	948	849	951	1,027	1,070
France	512	689	955	1,777	1,600	1,926	1,877	2,017
Germany	622	1,175	1,582	2,466	2,444	2,797	2,922	2,883
Grand Cayman	25	121	173	273	256	229	185	294
Greece	121	208	187	132	83	146	165	201
Haiti	91	133	192	233	217	154	200	137
Hong Kong	98	228	270	356	397	437	511	558
Ireland	220	220	274	448	418	569	582	660
Israel	84	189	294	204	202	231	293	332
Italy	431	537	662	792	716	885	903	953
Jamaica	457	429	707	975	907	888	982	1,040
Japan	1,095	1,624	2,435	4,528	4,510	4,972	4,999	5,149
Korea, South	105	234	390	826	827	971	1,070	1,166
Mexico	1,626	2,886	2,719	4,313	4,467	4,625	4,778	5,107
Netherlands	312	427	583	837	892	1,039	1,297	1,427
Netherlands, Antilles	213	327	407	388	353	290	360	390
Panama Republic	97	150	180	153	175	177	201	221
Philippines	108	194	145	246	261	315	318	375
Spain	306	312	419	558	520	659	600	578
Switzerland	236	312	452	616	525	549	603	676
United Kingdom	1,549	2,973	3,460	5,166	4,793	5,651	6,006	6,087
Venezuela	205	533	248	458	510	576	653	702

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

<sup>r</sup> Revised.

\* Canadian figure represents number of revenue passengers on scheduled commercial and charter flights. Does not include foreign (non-Canadian, non-US) scheduled carriers.

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

Note: Table includes a selected sample of countries of embarkation to the U.S.

Source: U.S. DOT/RSPA/Volpe National Transportation Systems Center, *U.S. International Air Travel Statistics*, Annual Issues, Table IIa. Canada: Statistics Canada, *Air Carrier Traffic at Canadian Airports*, Annual Issues.

**TABLE - 18**

**Air Passenger Travel Departures Between the United States and Foreign Countries**  
 5-Year Intervals 1975-1990 and Annually 1990-1994  
 (Thousands)

	1975	1980	1985	1990	1991	1992	1993	1994
<b>Total Passengers</b>	12,053	19,256	22,487	34,046	33,286	36,211	38,254	40,349
<b>Flag of Carrier</b>								
United States	5,912	9,369	10,696	17,628	17,530	18,858	20,232	21,355
Foreign	6,141	9,886	11,791	16,418	15,756	17,353	18,022	18,993
<b>Country of Debarkation<sup>a</sup></b>								
Australia	103	245	232	540	581	609	588	522
Bahama Islands	704	1,006	1,151	1,279	1,128	1,005	1,046	963
Barbados	74	126	204	230	199	185	207	208
Belgium	134	231	249	395	318	355	372	334
Bermuda	372	467	389	277	237	217	247	242
Brazil	206	291	322	560	592	659	696	826
Canada*	-	-	-	6,870	6,263	6,546	6,798	6,764
China/Taiwan	41	90	187	337	447	481	616	803
Colombia	171	299	294	277	294	324	353	415
Denmark	188	254	254	307	239	266	272	254
Dominican Republic	322	443	528	896	780	881	949	980
France	470	635	894	1,626	1,523	1,769	1,759	1,896
Germany	649	1,178	1,539	2,339	2,298	2,627	2,788	2,785
Grand Cayman	26	112	161	250	238	196	244	259
Greece	123	190	210	129	88	150	150	184
Haiti	81	124	169	201	178	139	180	118
Hong Kong	59	152	238	310	369	474	477	545
Ireland	163	212	233	311	263	316	324	380
Israel	105	186	255	259	249	294	317	367
Italy	409	495	660	731	694	873	878	918
Jamaica	416	382	607	888	821	796	887	909
Japan	1,183	1,602	2,255	4,471	4,431	4,795	4,757	4,954
Korea, South	60	186	333	723	759	887	961	1,082
Mexico	1,525	2,886	2,671	4,136	4,230	4,307	4,371	4,632
Netherlands	304	409	562	777	881	965	1,150	1,319
Netherlands, Antilles	184	282	395	377	341	309	347	368
Panama Republic	100	142	209	183	189	186	194	211
Philippines	81	160	165	195	194	241	249	228
Spain	260	273	397	540	513	637	576	553
Switzerland	224	306	434	600	527	543	593	657
United Kingdom	1,446	2,840	3,322	4,903	4,594	5,245	5,682	5,918
Venezuela	198	518	245	444	488	565	641	686

Covers passengers on international commercial flights departing from U.S. airports. Excludes border crossers, crewmen, and military personnel. Travelers between U.S. ports in the 50 States, Puerto Rico, Guam, or the Virgin Islands, and any other outlying area are included. Data compiled from flight reports of U.S. Immigration and Naturalization Service.

<sup>r</sup> Revised.

\* Canadian figure represents number of revenue passengers on scheduled commercial and charter flights. Does not include foreign (non-Canadian, non-US) scheduled carriers.

<sup>a</sup> Country where passenger debarked a direct flight from the U.S.

Note: Table includes a selected sample of countries of debarkation from the U.S.

Source: U.S. DOT/RSPA/Volpe National Transportation Systems Center, *U.S. International Air Travel Statistics*, Annual Issues, Table II.d. Canada: Statistics Canada, *Air Carrier Traffic at Canadian Airports*, Annual Issues.

**TABLE - 19****U.S. Automobiles in Fleets by Type of Use**5-Year Intervals 1965–1990 and Annually 1990–1994  
(Thousands)

Year	Use							Total <sup>c</sup> (Cars in fleets of 10 or more)	Total (Cars in fleets of 4 or more)
	Business Fleets <sup>a</sup>	Individually Leased	Government <sup>b</sup>	Utilities	Police	Taxi	Daily Rental		
1965	716	323	880	366	158	136	139	—	8,535
1970	2,529	803	674	416	207	171	314	5,114	9,992
1975	2,934	1,072	628	497	278	193	354	6,043	10,398
1980	3,279	1,708	651	532	288	205	500	7,264	10,433
1985	3,484	1,800	528	540	233	140	760	7,600	10,508
1990	3,823	2,020	538	551	249	141	990	8,427	10,607
1991	3,446	2,008	504	544	250	141	1,160	8,168	10,514
1992	3,460	2,126	516	548	264	140	1,447	7,985	10,468
1993	2,607	2,400	401	386	264	140	1,501	7,298	10,359
1994	2,565	3,150	428	382	266	141	1,473	7,977	10,346

<sup>r</sup> Revised.<sup>a</sup> Includes driver schools.<sup>b</sup> Does not include military vehicles. Previous editions of *National Transportation Statistics* used modified data from cited and other sources. This edition of *National Transportation Statistics* contains data from cited source only.<sup>c</sup> Totals do not include government fleets.Source: Bobit Publishing Company, *Automotive Fleet Fact Book*, 1995.**TABLE - 20****Total Road and Street Mileage in the United States by Type of Surface**5-Year Intervals 1960–1990 and Annually 1990–1994  
(Millions)

Year	Non-surfaced	Gravel or Stone Surfaced	Paved
1960	0.989	1.327	1.230
1965	0.914	1.321	1.454
1970	0.784	1.288	1.658
1975	0.737	1.245	1.855
1980	0.604	1.255	2.005
1985	0.382	1.371	2.109
1990	0.362	1.259	2.259
1991	0.330	1.286	2.274
1992	0.350	1.256	2.295
1993	0.357	1.277	2.271
1994	0.342	1.229	2.336

Source: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, and *Highway Statistics, Annual Issues*, Table HM-12.

**TABLE - 21**

**Highway Vehicle-Miles Traveled vs. Lane Miles by Functional Class (Rural)**

5-Year Intervals 1985–1990 and Annually 1990–1994

Year	Interstate Rural		Other Arterial Rural		Collector Rural		Collector & Arterial Rural	
	VMT (millions)	Lane Miles	VMT (millions)	Lane Miles	VMT (millions)	Lane Miles	VMT (millions)	Lane Miles
1985	154,275	131,808	282,595	509,832	206,526	1,465,311	643,396	2,106,951
1990	200,173	135,858	330,866	517,222	240,460	1,464,508	771,499	2,117,588
1991	205,011	136,477	334,755	517,965	245,630	1,465,903	785,396	2,120,345
1992	205,557	133,557	344,062	526,413	234,910	1,432,564	784,529	2,092,534
1993	208,308	132,239	349,567	524,621	226,296	1,435,411	784,171	2,092,271
1994	215,918	131,288	357,516	529,838	230,889	1,432,275	804,323	2,093,401

Revised.

Note: Local VMT (vehicle-miles traveled) and local lane miles are not included.

Source: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Tables HM-60 & VM-2.

**TABLE - 22**

**Highway Vehicle-Miles Traveled vs. Lane Miles by Functional Class (Urban)**

5-Year Intervals 1985–1990 and Annually 1990–1994

Year	Interstate Urban		Other Arterial Urban		Collector Urban		Collector & Arterial Urban	
	VMT (millions)	Lane Miles	VMT (millions)	Lane Miles	VMT (millions)	Lane Miles	VMT (millions)	Lane Miles
1985	216,160	57,327	578,170	534,005	89,552	162,203	883,882	591,332
1990	278,901	62,306	699,233	564,410	106,297	167,218	1,084,431	626,716
1991	285,325	62,936	707,518	565,828	107,281	164,752	1,100,124	628,764
1992	303,265	67,135	745,618	591,262	116,065	175,602	1,164,948	658,397
1993	317,399	69,135	774,049	432,473	117,950	181,035	1,209,398	682,643
1994	331,200	70,847	798,411	442,555	120,118	183,394	1,249,729	696,796

Revised.

Note: Local VMT (vehicle-miles traveled) and local lane miles are not included.

Source: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Tables HM-60 & VM-2.



**TABLE - 23****Total Daily Vehicle Hours of Delay for 50 Cities**

2-Year Intervals 1986-1992

(Thousands)

	City	1986	1988	1990	1992
1	Albuquerque, NM	15	15	20	23
2	Atlanta, GA	225	225	235	270
3	Austin, TX	50	45	45	50
4	Baltimore, MD	95	105	125	157
5	Boston, MA	285	370	335	364
6	Charlotte, NC	25	30	35	35
7	Chicago, IL	480	470	530	624
8	Cincinnati, OH	250	40	40	58
9	Cleveland, OH	35	45	50	66
10	Columbus, OH	30	35	40	55
11	Corpus Christi, TX	5	5	5	4
12	Dallas, TX	260	240	260	279
13	Denver, CO	110	115	135	153
14	Detroit, MI	340	350	360	484
15	El Paso, TX	10	10	10	14
16	Fort Lauderdale, FL	65	70	70	79
17	Fort Worth, TX	95	90	95	108
18	Hartford, CT	20	30	30	37
19	Honolulu, HI	45	50	55	65
20	Houston, TX	370	365	385	416
21	Indianapolis, IN	10	15	15	20
22	Jacksonville, FL	40	45	55	60
23	Kansas City, MO	20	25	30	44
24	Los Angeles, CA	1,645	1,685	1,780	1,913
25	Louisville, KY	20	20	20	27
26	Memphis, TN	15	20	20	26
27	Miami, FL	150	200	230	228
28	Milwaukee, WI	35	45	45	50
29	Minneapolis - St. Paul, MN	70	95	105	118
30	Nashville, TN	30	40	40	39
31	New Orleans, LA	65	70	70	66
32	New York, NY	1,190	1,370	1,510	1,655
33	Norfolk, VA	60	70	75	76
34	Oklahoma City, OK	20	25	20	26
35	Orlando, FL	60	60	70	43
36	Philadelphia, PA	250	275	275	291
37	Phoenix, AZ	145	185	180	187
38	Pittsburgh, PA	95	115	120	121
39	Portland, OR	50	70	80	88
40	Sacramento, CA	40	70	80	73
41	Salt Lake City, UT	10	15	15	21
42	San Antonio, TX	65	60	60	72
43	San Bernardino-Riverside, CA	185	215	235	230
44	San Diego, CA	95	145	155	178
45	San Francisco-Oakland, CA	540	625	645	656
46	San Jose, CA	195	215	225	202
47	Seattle - Everett, WA	175	235	260	300
48	St. Louis, MO	115	105	135	126
49	Tampa, FL	35	45	50	51
50	Washington, DC	440	495	555	621

Source: Texas Transportation Institute, *Urban Roadway Congestion - 1982 to 1992, Volume 1: Annual Report, 1995.*

**TABLE - 24****Total Hours of Delay by Highway Type for 50 Urban Areas**

1992

(Thousands)

Urban Area	Freeway/Expressway		Principal Arterial	
	Recurring	Incident	Recurring	Incident
1 Albuquerque, NM	3.2	3.5	7.7	8.5
2 Atlanta, GA	92.2	101.4	363.4	40.1
3 Austin, TX	19.4	21.3	4.6	5.1
4 Baltimore, MD	35.0	80.6	19.7	21.7
5 Boston, MA	68.7	240.4	26.3	28.9
6 Charlotte, NC	6.5	5.2	11.1	12.2
7 Chicago, IL	167.5	201.0	121.6	133.8
8 Cincinnati, OH	24.0	19.2	6.7	7.3
9 Cleveland, OH	24.9	17.4	11.0	12.1
10 Columbus, OH	20.2	14.1	9.7	10.6
11 Corpus Christi, TX	1.3	1.4	1.0	1.1
12 Dallas, TX	89.8	161.7	13.3	14.6
13 Denver, CO	45.9	45.9	29.2	32.1
14 Detroit, MI	91.2	200.6	91.7	100.9
15 El Paso, TX	5.1	5.6	1.7	1.8
16 Fort Lauderdale, FL	18.3	27.4	15.9	17.5
17 Fort Worth, TX	34.1	61.4	5.8	6.4
18 Hartford, CT	6.5	17.5	6.3	7.0
19 Honolulu, HI	17.7	31.8	7.2	7.9
20 Houston, TX	149.6	209.4	27.3	29.9
21 Indianapolis, IN	4.4	6.5	4.4	4.8
22 Jacksonville, FL	11.8	17.8	14.6	16.0
23 Kansas City, MO	7.8	24.1	5.8	6.4
24 Los Angeles, CA	635.7	762.8	244.9	269.4
25 Louisville, KY	2.0	2.3	10.8	11.9
26 Memphis, TN	4.1	4.5	8.2	9.0
27 Miami, FL	36.8	55.2	64.9	71.4
28 Milwaukee, WI	15.4	15.4	9.0	9.9
29 Minneapolis - St. Paul, MN	38.3	34.4	21.5	23.7
30 Nashville, TN	8.3	9.1	10.2	11.2
31 New York, NY	313.6	783.9	265.3	291.8
32 New Orleans, LA	16.0	28.9	10.3	11.4
33 Norfolk, VA	15.3	38.3	10.5	11.5
34 Oklahoma City, OK	3.9	4.4	8.2	9.0
35 Orlando, FL	11.0	16.4	7.4	8.1
36 Philadelphia, PA	32.5	68.3	90.4	99.5
37 Phoenix, AZ	41.2	16.5	61.8	67.9
38 Pittsburgh, PA	12.2	35.3	34.8	38.3
39 Portland, OR	20.9	41.8	12.3	13.6
40 Sacramento, CA	17.5	10.5	21.4	23.5
41 Salt Lake City, UT	7.3	4.4	4.6	5.1
42 San Antonio, TX	27.3	30.0	7.2	7.9
43 San Bernardino, CA	78.3	93.9	27.3	30.0
44 San Diego, CA	89.4	53.7	16.9	18.6
45 San Francisco, CA	239.6	311.5	49.9	54.9
46 San Jose, CA	69.0	82.8	24.0	26.4
47 Seattle - Everett, WA	98.5	137.8	30.4	33.4
48 St. Louis, MO	21.2	25.4	37.9	41.7
49 Tampa, FL	6.6	9.9	16.1	17.7
50 Washington, DC	136.4	300.0	88.0	96.8

Source: Texas Transportation Institute, *Urban Roadway Congestion - 1982 to 1992, Volume 1: Annual Report, 1995.*

TABLE - 25

**Speed Trend Characteristics<sup>1</sup>**

5-Year Intervals, Fiscal Years 1980-1990 and Annually Fiscal Years 1990-1993

Highway Categories	1980	1985	1990	1991	1992	1993
<b>Average Speed</b>						
Urban Interstate	55.4	57.3	58.6	58.8	57.7	58.5
Urban Other Freeways & Expressways	-	56.9	57.6	58.0	51.7	58.0
Urban Other Principal & Minor Arterials	-	53.5	54.1	54.0	54.1	52.4
Rural Interstate	57.5	59.7	60.4	59.9	53.5	66.9
Rural Other Principal & Minor Arterials	-	54.9	56.4	56.4	56.5	56.8
Rural Major Collectors	-	52.9	54.3	54.3	53.1	54.5
<b>Median Speed (mph)<sup>2</sup></b>						
Urban Interstate	-	57.5	58.7	58.8	58.9	58.6
Urban Other Freeways & Expressways	-	57.1	57.7	58.0	58.5	58.0
Urban Other Principal & Minor Arterials	-	53.6	54.1	53.9	54.4	52.1
Rural Interstate	-	59.5	60.2	59.4	60.5	66.4
Rural Other Principal & Minor Arterials	-	55.2	56.4	56.3	56.4	56.7
Rural Major Collectors	-	53.0	54.6	54.5	54.5	54.7
<b>85<sup>th</sup> Percentile (mph)<sup>3</sup></b>						
Urban Interstate	60.1	64.1	65.8	66.1	66.1	65.9
Urban Other Freeways & Expressways	-	63.4	64.6	64.9	64.9	64.9
Urban Other Principal & Minor Arterials	-	60.5	61.1	60.8	60.7	58.8
Rural Interstate	62.1	66.1	67.6	67.2	59.3	74.7
Rural Other Principal & Minor Arterials	-	61.7	63.2	63.1	63.1	63.4
Rural Major Collectors	-	60.6	62.0	62.1	62.1	62.1
<b>Percent Exceeding 55 mph</b>						
Urban Interstate	51.2	64.7	69.8	69.8	70.1	70.0
Urban Other Freeways & Expressways	-	60.8	65.0	66.5	67.5	67.7
Urban Other Principal & Minor Arterials	-	43.0	43.6	42.2	42.5	43.7
Rural Interstate	65.9	75.3	77.6	75.5	81.0	78.1
Rural Other Principal & Minor Arterials	-	50.5	56.3	56.5	57.5	59.0
Rural Major Collectors	-	38.1	45.4	46.7	46.4	46.6
<b>Percent Exceeding 60 mph</b>						
Urban Interstate	15.6	32.3	40.7	41.4	41.5	42.2
Urban Other Freeways & Expressways	-	29.4	34.2	35.3	35.5	38.5
Urban Other Principal & Minor Arterials	-	16.7	18.8	18.2	18.4	18.4
Rural Interstate	25.3	44.5	50.4	47.6	55.5	50.9
Rural Other Principal & Minor Arterials	-	21.1	27.1	26.8	27.2	28.7
Rural Major Collectors	-	16.8	20.7	21.7	21.4	21.7
<b>Percent Exceeding 65 mph</b>						
Urban Interstate	3.2	11.3	17.1	18.0	17.5	18.1
Urban Other Freeways & Expressways	-	9.5	12.0	12.5	13.4	15.1
Urban Other Principal & Minor Arterials	-	4.9	5.8	5.7	5.9	6.1
Rural Interstate	6.5	17.3	23.2	20.9	27.8	24.2
Rural Other Principal & Minor Arterials	-	6.7	9.6	9.2	9.4	10.3
Rural Major Collectors	-	6.2	7.4	7.9	8.1	8.0

<sup>1</sup> Data in this table are only for highways with a 55 mph speed limit.<sup>2</sup> Median speed is the speed at or below which 50 percent of the vehicles are traveling.<sup>3</sup> 85<sup>th</sup> percentile speed is the speed at or below which 85 percent of the vehicles are traveling.Source: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Tables VS-1, VS-2.

**TABLE - 26**

**Top 20 U.S. Ports – Port Calls\* by Vessel Type**  
1994

Rank	Port	Container	Dry Bulk	Tanker	Roll-on/ Roll-off	Cruise	Other	Total
1	New Orleans, LA	387	2,731	1,593	114	88	1,158	6,071
2	Los Angeles/Long Beach, CA	1,850	863	940	403	373	717	5,146
3	Houston, TX	316	648	2,636	227	-	1,260	5,087
4	New York, NY	1,627	391	1,014	636	222	481	4,371
5	San Francisco/Oakland, CA	1,358	310	998	359	44	346	3,415
6	Miami, FL	718	6	9	775	1,052	835	3,395
7	Philadelphia, PA	337	372	943	151	22	796	2,621
8	Hampton Roads/Norfolk, VA	992	642	223	251	25	370	2,503
9	Baltimore, MD	669	473	195	575	20	319	2,251
10	Columbia River, WA	304	1,071	242	224	4	190	2,035
11	San Juan, PR	530	41	88	334	738	285	2,016
12	Port Everglads, FL	398	70	379	302	314	498	1,961
13	Savannah, GA	522	248	240	161	6	618	1,795
14	Tampa, FL	1	466	333	15	223	528	1,566
15	Charleston, SC	909	91	97	130	13	308	1,548
16	Corpus Christi, TX	-	229	992	3	-	54	1,278
17	Jacksonville, FL	393	125	138	365	1	129	1,151
18	Seattle – Everett, WA	686	143	61	71	13	156	1,130
19	Texas City, TX	2	48	1,043	1	-	29	1,123
20	Tacoma, WA	333	235	76	254	1	66	965
Total Top 20 Ports		12,332	9,203	12,240	5,351	3,159	9,143	51,428
Total All Ports		13,518	12,528	18,849	6,787	4,387	12,112	68,181
Top 20 Percent of Total		91.2	73.5	64.9	78.8	72.0	75.5	75.4

\* Excludes calls by non-self-propelled vessels and vessels under 1,000 Gross Tons.

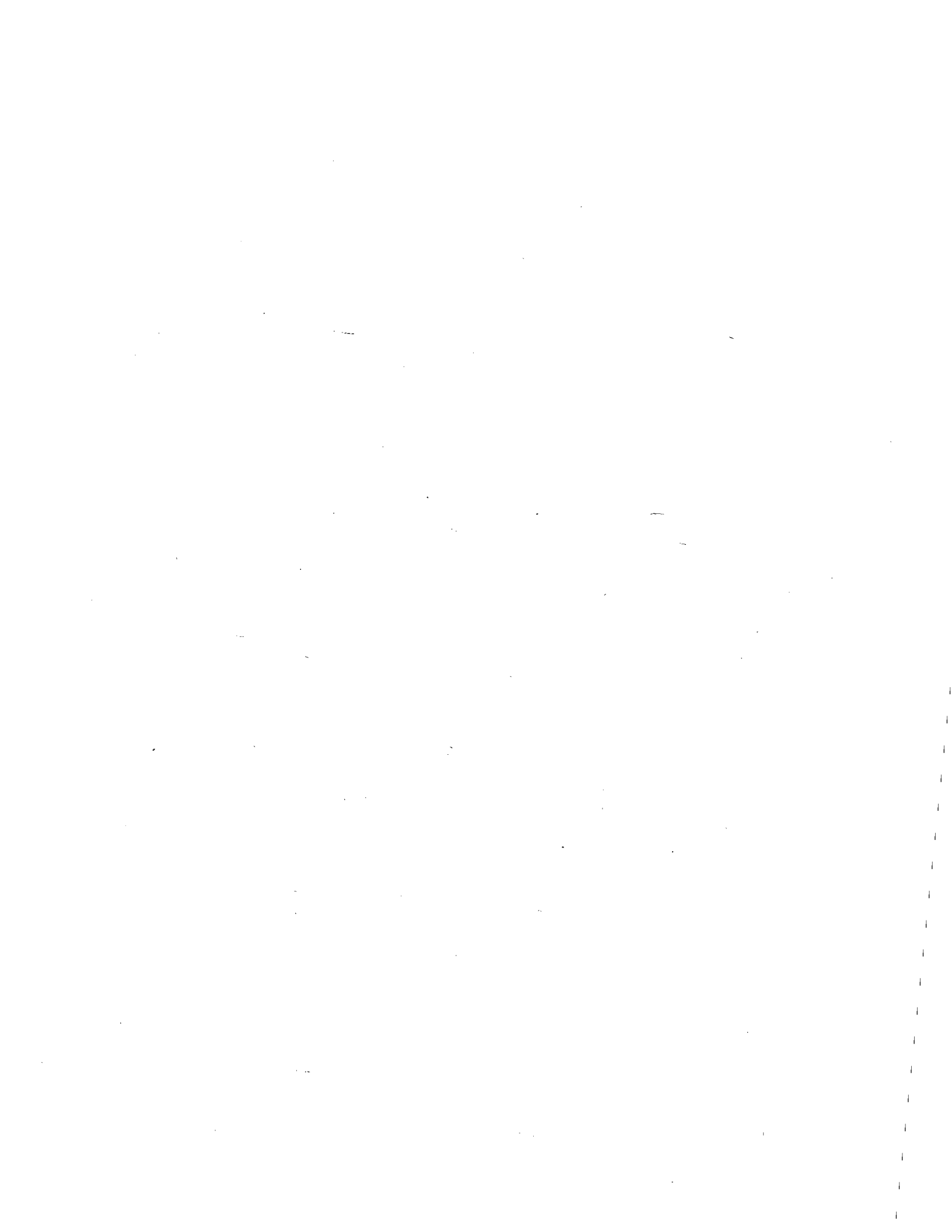
Source: U.S. DOT, 1995 Status of the Nation's Surface Transportation System: Condition and Performance: Report to Congress.

**TABLE - 27****Worldwide Commercial Space Launches**

Annually 1982-1994

<b>Year</b>	<b>Titan</b>	<b>Atlas</b>	<b>Delta</b>	<b>Ariane</b>	<b>Long March</b>	<b>Total</b>
1982	—	1	1	1	—	3
1983	—	1	5	2	—	8
1984	—	1	1	4	—	6
1985	—	3	—	3	—	6
1986	—	—	—	2	—	2
1987	—	—	1	2	—	3
1988	—	—	—	7	—	7
1989	—	—	1	6	—	7
1990	3	1	5	5	1	15
1991	0	2	4	7	—	13
1992	0	3	3	6	2	14
1993	0	1	1	6	0	8
1994	0	3	1	8	3	15
<b>Total</b>	<b>3</b>	<b>16</b>	<b>23</b>	<b>59</b>	<b>6</b>	<b>107</b>

Source: U.S. DOT/OST, Office of Commercial Space Transportation.



# *The STATE of* **TRANSPORTATION**

## **SECTION 2**

### **SAFETY**

This section presents and compares summary statistics on safety data for individual transportation modes, and for hazardous materials transportation by any mode for 1960-1994. Offices cited as sources can provide additional detail and in-depth discussion of the use and interpretation of the data.

In May 1994, the Secretary of Transportation issued the following definitional clarification:

"For purposes of statistical reporting on transportation safety, a transportation-related fatality shall be considered a death due to injuries in a transportation accident or incident that occurs within 30 days of that accident or incident."

As most of the safety statistics contained in this report were compiled prior to this clarification, time periods between modes may vary. Refer to Appendix B for further definitions of fatality.

**NOTE:** In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.





**TABLE - 28**

**Fatalities, Injuries, and Accidents by Mode**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	U.S. Air Carrier <sup>a</sup>	Commuter Air Carrier <sup>b</sup>	On-Demand Air Taxi <sup>c</sup>	General Aviation <sup>d</sup>	Motor Vehicle Traffic <sup>e</sup>	Railroad <sup>f,g</sup>	Rail-Highway Grade Crossings <sup>h</sup>	Rail Rapid Transit <sup>i</sup>	Waterborne Transport <sup>j</sup>	Recreational Boating	Gas Pipeline	Liquid Pipeline	Hazardous Materials
<b>Fatalities</b>													
1960	499	-	-	787	36,399	924	1,421	-	-	819	-	-	-
1965	261	-	-	1,029	47,089	923	1,610	-	-	1,360	-	-	-
1970	146	100	-	1,310	54,180	785	1,504 <sup>r</sup>	-	178	1,418	22	4	-
1975	122	28	69	1,252	44,525	575	917 <sup>r</sup>	-	243	1,466	14	7	27
1980	1	37	105	1,239	51,091	584	833	83	206	1,360	15 <sup>r</sup>	4 <sup>r</sup>	19
1985	526	37	76	955	43,825	454	582	17	131	1,116	26	5	8
1990	39	6	50	766	44,599	599	698	117	85	865	6 <sup>r</sup>	3	8
1991	50	77	73	785 <sup>r</sup>	41,508	586	608	103	30	924	14	0	10
1992	33	21	70	860 <sup>r</sup>	39,250	591	579	91	105	816	10 <sup>r</sup>	5	15
1993	1	24	42	737 <sup>r</sup>	40,150	653	626	83 <sup>r</sup>	95 <sup>r</sup>	800	17 <sup>r</sup>	0	15
1994 <sup>p</sup>	239	25	64	706	40,676	611	615	76	52	784	21	1	11
<b>Injuries</b>													
1960	-	-	-	-	-	16,113	3,367	-	-	929	-	-	-
1965	-	-	-	-	-	21,930	3,725	-	-	927	-	-	-
1970	-	-	-	-	-	17,934	3,272	-	105	780	-	-	-
1975	71	-	-	728	-	50,138	3,860 <sup>r</sup>	-	97	2,136	-	-	648
1980	17	14	43	675	-	58,356	3,890	6,801	176	2,650	177 <sup>r</sup>	15 <sup>r</sup>	626
1985	30	16	43	517	-	31,617	2,687 <sup>r</sup>	1,039	172	2,757	108 <sup>r</sup>	18	253
1990	39	11	36	391	3,231,000	22,736	2,407	10,036	175	3,822	69 <sup>r</sup>	7	423 <sup>r</sup>
1991	26	30	27	420	3,097,000	21,374	2,094	9,285	110	3,967	89	9 <sup>r</sup>	439
1992	13	5	19	418	3,070,000	19,408	1,975	10,446	172	3,683	80 <sup>r</sup>	38	604
1993	16 <sup>r</sup>	2	24	386 <sup>r</sup>	3,125,000	17,284	1,837	10,532 <sup>r</sup>	133 <sup>r</sup>	3,559	102 <sup>r</sup>	10	626
1994 <sup>p</sup>	35	6	32	452	3,215,000	14,850	1,961	11,170	146	4,084	112	1,858	576

**TABLE - 28** (continued)

**Fatalities, Injuries, and Accidents by Mode**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	U.S. Air Carrier <sup>a</sup>	Commuter Air Carrier <sup>b</sup>	On-Demand Air Taxi <sup>c</sup>	General Aviation <sup>d</sup>	Motor Vehicle Traffic <sup>e</sup>	Railroad <sup>f,g</sup>	Rail-Highway Grade Crossings <sup>h</sup>	Rail Rapid Transit <sup>i</sup>	Waterborne Transport	Recreational Boating	Gas Pipeline <sup>j</sup>	Liquid Pipeline <sup>k</sup>	Hazardous Materials
1960	90	-	-	4,793	-	-	3,195	-	-	2,738	-	-	-
1965	83	-	-	5,196	-	-	3,820	-	-	3,752	-	-	-
1970	55	190	-	4,712	-	8,095	3,559	-	2,582	3,803	1,019	351	-
1975	37	48	152	3,995	-	8,041	12,076	-	3,310	6,308	1,373	254	10,951
1980	19	38	171	3,590	-	8,451	10,612	6,789	4,624	5,513	1,524	246	15,737
1985	22	21	152	2,738	-	3,275	6,919	1,014	3,439	6,237	331	183	6,019
1990	24	15	108	2,216	6,471,000	2,879	5,713	12,178	3,613	6,411	199	180	8,882
1991	26	22	88	2,177	6,117,000	2,658	5,386	14,102	2,222	6,573	234	216	9,110
1992	18	23	76	2,075	6,000,000	2,359	4,910	15,512	3,297	6,048	176	212	9,355
1993	23	16	71	2,042	6,105,000	2,611	4,892	15,082	2,654	6,335	217	230	12,832
1994 <sup>p</sup>	22	10	84	1,989	6,492,000	2,504	4,979	15,258	2,833	6,906	222	244	16,084

<sup>p</sup> Preliminary.  
<sup>r</sup> Revised.

- Included in Commuter Air Carrier.

\* Reporting criteria and source of data changed between 1989 and 1990; thus data from 1990 to present are not comparable to earlier years.

Starting with 1990, figures for fatalities, injuries and accident/incidents include those which occur in the entire transit station (stairs, etc.); they also include accident or incidents involving trespassers, employees, and non-patrons. Beginning in 1990, the reporting level for property damage was lowered to \$1000 (previously \$5000). In addition, after 1990, accidents/incidents figures include property-damage-only accidents (previously not reported).

<sup>a</sup> Large carriers operating under 14 CFR 121, all scheduled and nonscheduled service.

<sup>b</sup> All scheduled service operating under 14 CFR 135 (commuter air carriers).

<sup>c</sup> Nonscheduled service operating under 14 CFR 135 (on demand air taxis).

<sup>d</sup> All operations other than those operated under 14 CFR 12 and 14 CFR 135.

<sup>e</sup> Only pertains to Injuries & Accidents/Incidents data from police-reported crashes.

<sup>f</sup> Railroad Accidents/Incidents figure includes train accidents only. Fatalities and Injuries figures also include those resulting from train incidents and non-train incidents. Injury figure includes occupational illness.

<sup>g</sup> Railroad Injuries & Rail-Highway Grade Crossing Fatalities & Accidents/Incidents data not comparable after 1970 due to change in reporting system.

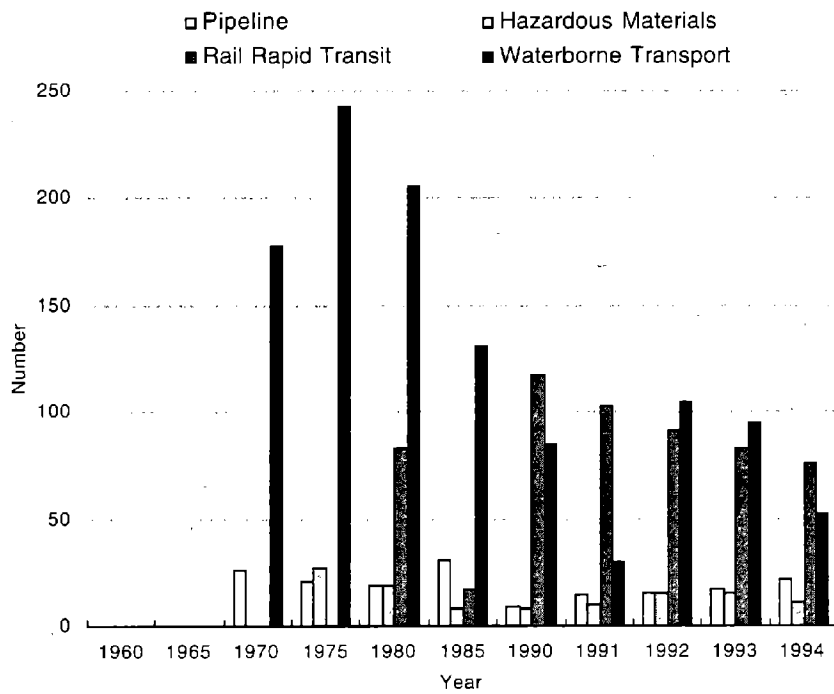
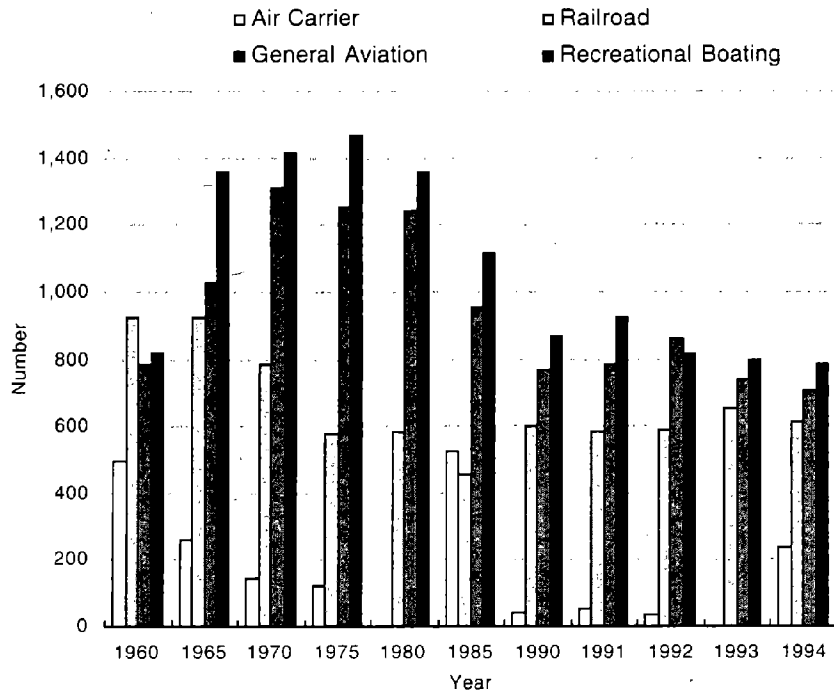
<sup>h</sup> Waterborne Transport Fatalities data for vessel casualties only.

<sup>i</sup> Beginning with 1985, Pipeline Accidents/Incidents data are credited to the year in which they occurred, not in the year in which the report was received.

Source: See pp. 272, 273, 274.

**FIGURE - 9**

**Fatalities by Transportation Mode, 1960-1994**



Source: See Table 28.

**TABLE - 29**

**U.S. Air Carrier\* Fatalities, Accidents, and Fatal Accidents**  
5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Fatalities	Accidents	Fatal Accidents
1960	499	90	17
1965	261	83	9
1970	146	55	8
1975	122	31	3
1980	1	15	1
1985	526	22	7
1990	39	24	6
1991	50	26	4
1992	33	18	4
1993	1	23	1
1994 <sup>P</sup>	239	22	4

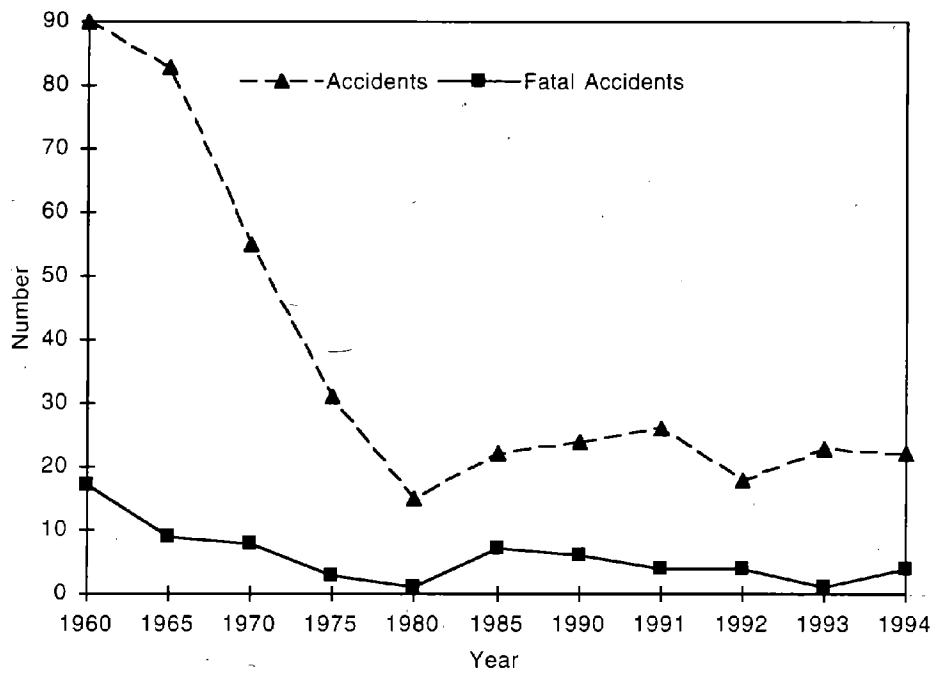
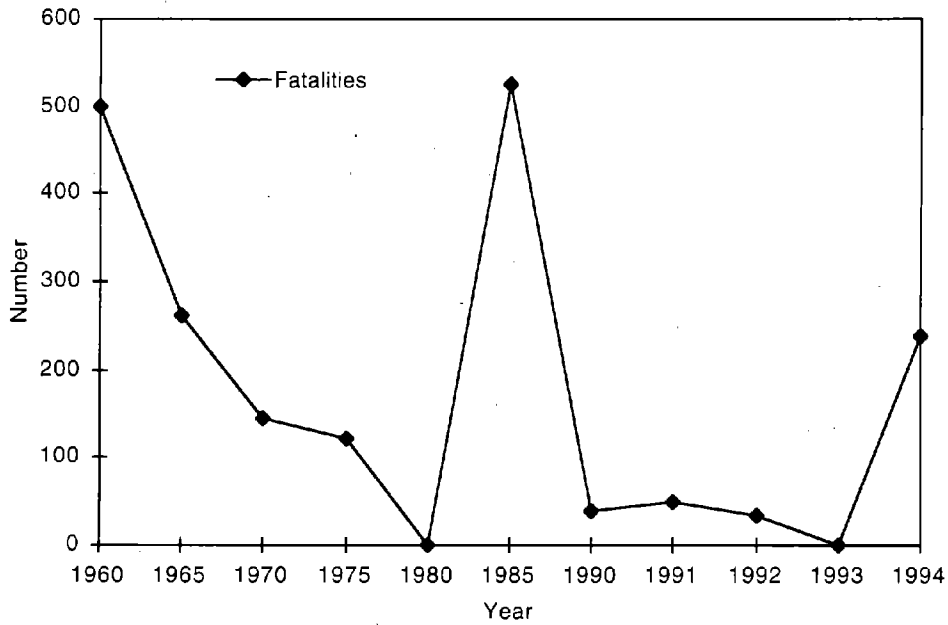
<sup>P</sup> Preliminary.

\* Includes all scheduled and nonscheduled service accidents involving deregulated all cargo carriers and commercial operators of large aircraft when those accidents occurred during 14 CFR 121 operations.

Source: 1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, Annual Issues.  
1980-1994: National Transportation Safety Board (NTSB), *NTSB Aviation Accident Statistics*, Annual Issues, Table 2.

**FIGURE - 10**

**U.S. Air Carrier Fatalities, Accidents, and Fatal Accidents, 1960-1994**



Source: See Table 29.

**TABLE - 30**

**U.S. Air Carrier\* Accident and Fatal Accident Rates per Million Aircraft-Miles Flown**  
5-Year Intervals 1960–1990 and Annually 1990–1994

Year	Aircraft-Miles Flown (millions)	Accident Rate	Fatal Accident Rate
1960	1,130	0.080	0.0110
1965	1,768	0.047	0.0060
1970	2,685	0.020	0.0030
1975	2,325	0.013	0.0010
1980	2,924	0.005	0.0003
1985	3,631	0.006	0.0010
1990	4,970	0.005	0.0012
1991	4,851	0.005	0.0008
1992	5,088	0.004	0.0008
1993 <sup>r</sup>	5,290	0.004	0.0002
1994 <sup>p</sup>	5,407	0.004	0.0007

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

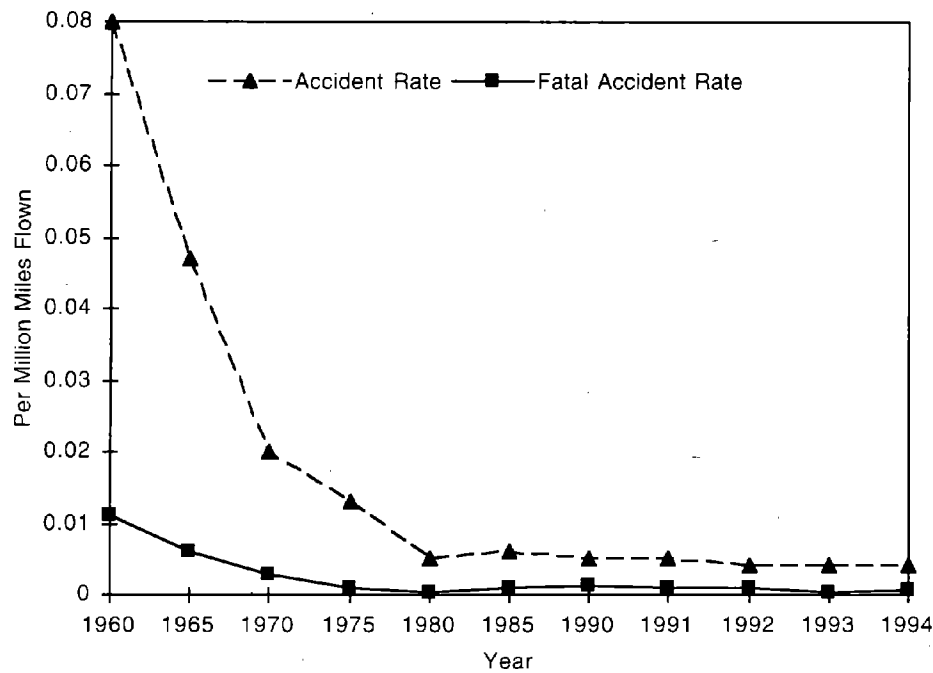
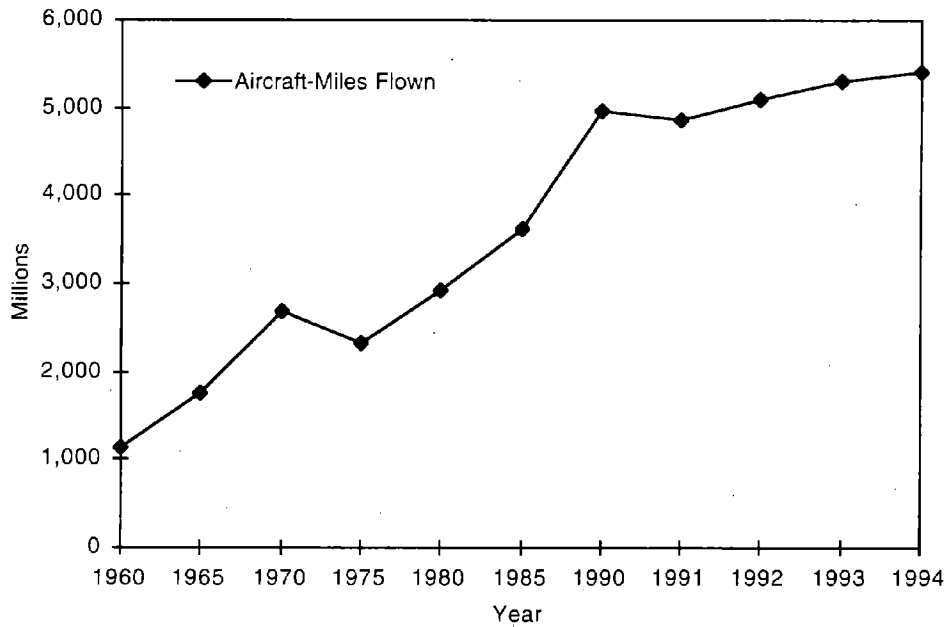
\* Includes all scheduled and nonscheduled service accidents involving deregulated all cargo air carriers and commercial operators of large aircraft when those accidents occurred during 14 CFR 121 operations.

Source: 1960–1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation, Annual Issues*.

1980–1994: National Transportation Safety Board (NTSB), *NTSB Aviation Accident Statistics, Annual Issues, Table 2*.

**FIGURE - 11**

**U.S Air Carrier Accident and Fatal Accident Rates per Million Aircraft-Miles Flown, 1960-1994**



Source: See Table 30.

**TABLE - 31**

**U.S. Air Carrier<sup>a</sup> Passenger Fatality Rates per 100 Million Passenger-Miles**  
 5-Year Intervals 1960–1990 and Annually 1990–1994

Year	Revenue Passenger-Miles (billions)	Fatalities	Passenger Fatality Rate
1960	38.9	336	0.864
1965	68.7	226	0.329
1970	131.7	2	0.002
1975	162.8	113	0.069
1980	255.2	0	0.000
1985	270.6	197	0.073
1990	457.9	39	0.009
1991 <sup>p</sup>	447.9	50	0.011
1992	478.6 <sup>r</sup>	33	0.007
1993	489.7 <sup>r</sup>	1	0.000 <sup>r</sup>
1994 <sup>p</sup>	519.2	239	0.046

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> Includes all scheduled revenue passenger service conducted under 14 CFR 121 operations. Nonscheduled service not included.

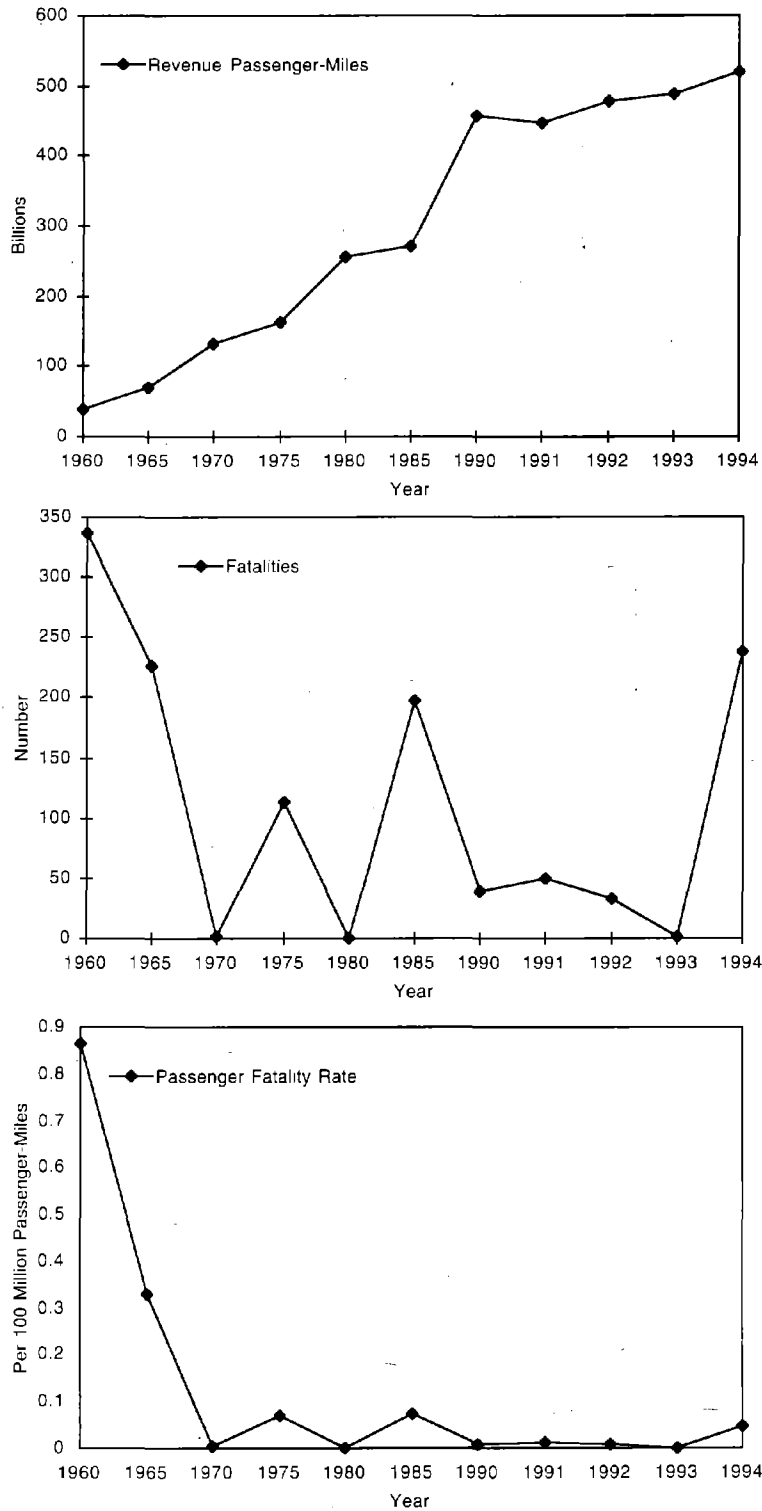
<sup>b</sup> Total fatalities for 1991 does not include the 12 persons killed aboard a commuter aircraft when it and an airliner collided.

Source: Fatalities: 1960–1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, Annual Issues.  
 1980–1994: National Transportation Safety Board (NTSB), *NTSB Aviation Accident Statistics*, Annual Issues, Table 3.  
 Revenue Passenger-Miles: U.S. DOT/RSPA, *Air Carrier Traffic Statistics*, Annual Issues.



**FIGURE - 12**

**U.S Air Carrier Passenger Fatality Rates per 100 Million Passenger-Miles, 1960-1994**



Source: See Table 31.

**TABLE - 32**

**U.S. Air Carrier\* Accidents and Serious Injuries**  
5-Year Intervals 1975-1990 and Annually 1990-1994

Year	Serious Injuries	Accidents
1975	71	31
1980	17	15
1985	30	22
1990	39	24
1991	26	26
1992	13	18
1993	16	23
1994 <sup>P</sup>	35	22

<sup>P</sup> Preliminary.

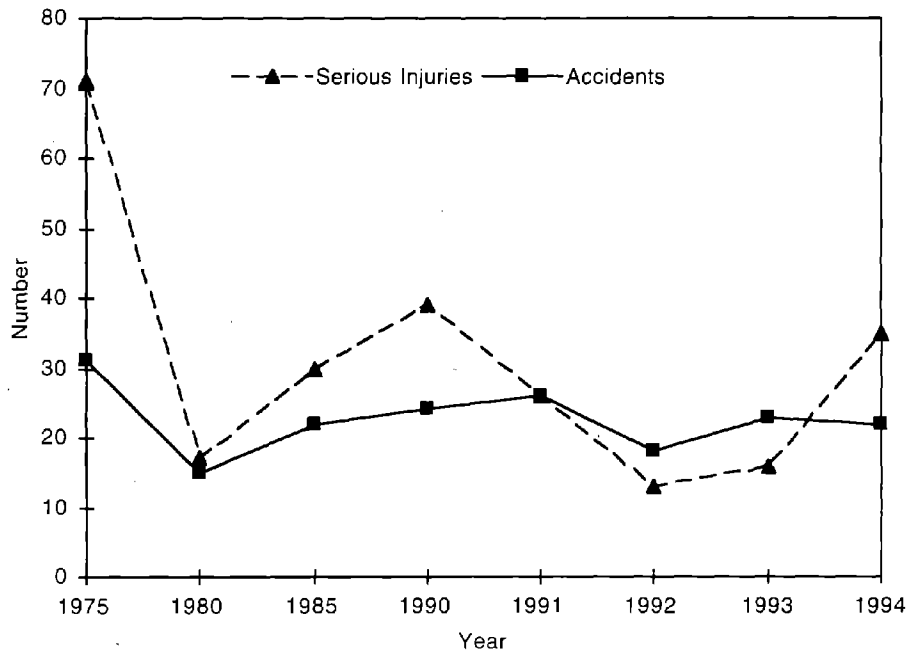
<sup>r</sup> Revised.

\* Scheduled and nonscheduled service.

Source: National Transportation Safety Board (NTSB),  
*NTSB Aviation Accident Statistics, Annual Issues, Table 2.*  
Serious Injuries: *Ibid.*, Analysis and Data Division, RE-50.

**FIGURE - 13**

**U.S. Air Carrier Accidents and Serious Injuries, 1975-1994**



**TABLE - 33****Reported Near Midair Collisions, by Degree of Hazard**

5-Year Intervals 1980-1990 and Annually 1990-1994

Classification	1980	1985	1990	1991	1992	1993	1994 <sup>P</sup>
Critical	118	180	74	52	46	35	46
Potential	319	423	266	197	195	159	135
No Hazard	122	133	114	99	70	61 <sup>r</sup>	68
Unclassified	9	22	0	0	0	0	0
Open	0	0	0	0	0	2 <sup>r</sup>	29
Total	568	758	454	348	311	257	278

<sup>P</sup> Preliminary.<sup>r</sup> Revised.

**Critical:** A situation where collision avoidance was due to chance rather than an act on the part of the pilot. Less than 100 feet of aircraft separation would be considered critical.

**Potential:** An incident which would probably have resulted in a collision if no action had been taken by either pilot. Closest proximity of less than 500 feet would usually be required in this case.

**No Hazard:** When direction and altitude would have made a midair collision improbable regardless of evasive action taken.

**Unclassified:** No determination could be made either due to insufficient evidence or unusual circumstances.

**Open:** Incidents that are still under investigation.

Source: U.S. DOT/FAA, ASP-100.

**TABLE - 34****Airline Passenger Screening Results**

5-Year Intervals 1975-1990 and Annually 1990-1993

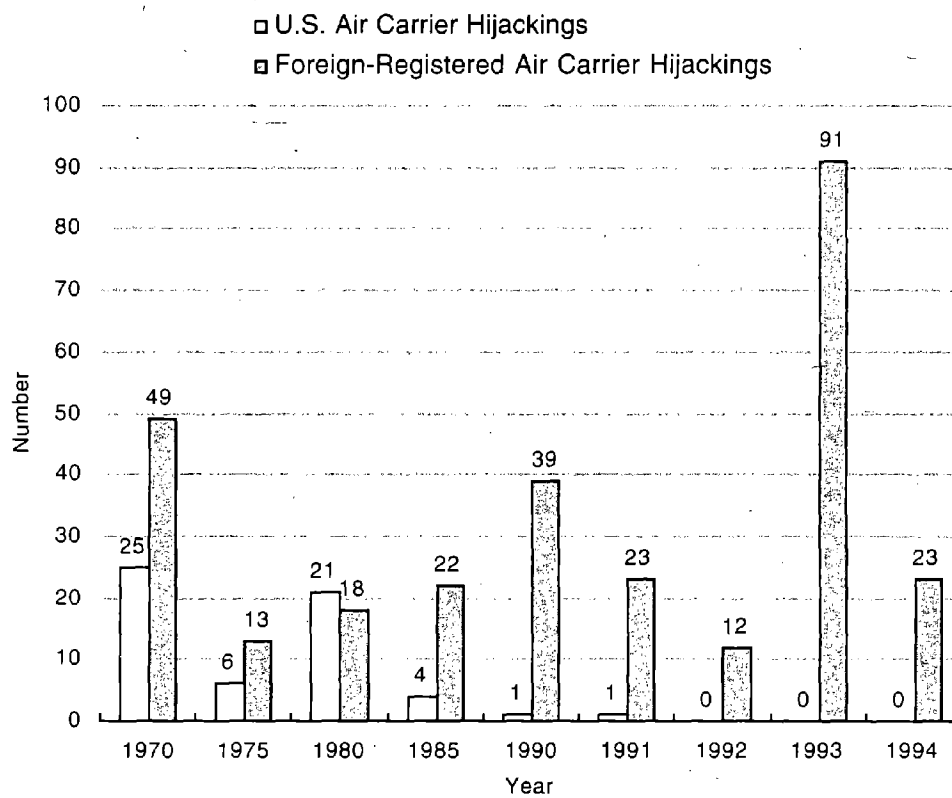
Year	Persons Screened (millions)	Total Firearms	Weapons Detected			Explosive/ Incendiary Devices	Persons Arrested	
			Handguns	Long Guns	Other*		Carrying Firearms/ Explosives	Giving False Information
1975	202	4,783	1,993	-	-	-	1,364	227
1980	585	2,022	1,878	36	108	8	1,031	32
1985	993	2,987	2,823	90	74	12	1,310	42
1990	1,145	2,853	2,490	59	304	15	1,337	18
1991	1,015	1,919	1,597	47	275	94	893	28
1992	1,111	2,608	2,503	105	2,341	167	1,282	13
1993	1,150	2,798	2,707	91	3,867	251	1,354	31

\* Beginning in 1992 other dangerous articles include stunning devices, chemical agents, martial arts equipment, knives, bludgeons, and certain other designated items.

Source: U.S. DOT/FAA, *Annual Report to Congress on Civil Aviation Security*, 1993, and earlier editions.

**FIGURE - 14**

**U.S. and Foreign Air Carrier Aircraft Hijackings, 1970-1994**



Source: U.S. DOT/FAA, *Criminal Acts Against Civil Aviation*, 1994.

**TABLE - 35**

**Bomb Threats Against U.S. Aircraft and U.S. Airports**

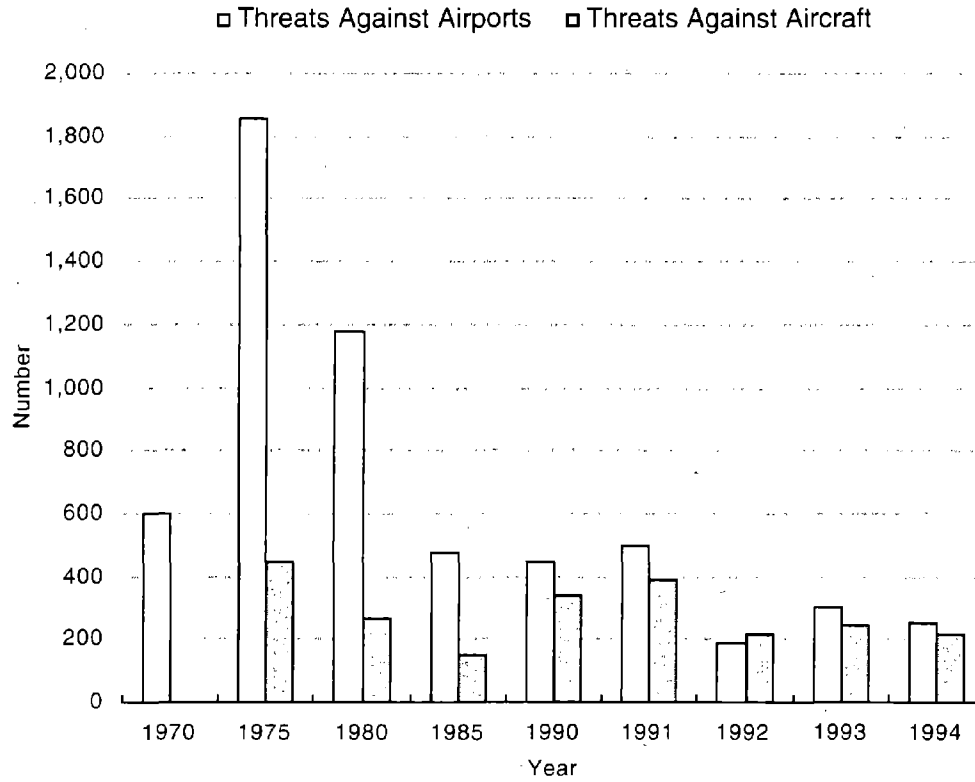
5-Year Intervals 1970-1990 and Annually 1990-1994

Year	Threats Against Airports	Threats Against Aircraft
1970	601	—
1975	1,853	449
1980	1,179	268
1985	477	153
1990	448	338
1991	498	388
1992	188	215
1993	304	248
1994	250	218

Source: 1970-1992: U.S. DOT/FAA, *Annual Report on Civil Aviation Security*, 1992, and earlier editions.  
 1993-1994: *Ibid.*, *Criminal Acts Against Civil Aviation*, 1994.

**FIGURE - 15**

**Bomb Threats Against U.S. Aircraft and U.S. Airports, 1970-1994**



**TABLE - 36**

**Commuter Air Carrier<sup>a</sup> Accidents, Fatalities, Injuries, and Accident Rates**  
5-Year Intervals 1975–1990 and Annually 1990–1994

Year	Fatal Accidents	Total Accidents	Fatalities	Serious Injuries	Fatal Accident Rate <sup>b,d</sup>	Total Accident Rate <sup>b,d</sup>	Fatal Accident Rate <sup>d,e</sup>	Total Accident Rate <sup>d,e</sup>
1975	12	48	28	–	0.07	0.30	0.82	3.30
1980	8	38	37	14	0.04	0.20	0.45	2.14
1985	7	21	37	16	0.02	0.07	0.27	0.82
1990	3	15	6	11	0.01	0.03	0.10	0.48
1991 <sup>c</sup>	8	22	77	30	0.02	0.06	0.30	0.83
1992	7	23	21	5	0.02	0.05	0.24	0.76
1993	4	16	24	2	0.01	0.03	0.13	0.50
1994 <sup>p</sup>	3	10	25	6	0.01	0.02	0.10	0.32

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> All scheduled service conducted under 14 CFR 135.

<sup>b</sup> Per million aircraft-miles flown.

<sup>c</sup> Total fatalities for 1991 do not include the 22 persons killed aboard an airliner when it and a commuter aircraft collided.

<sup>d</sup> Rates are based on all accidents including some involving operators not reporting traffic data to the U.S. Department of Transportation.

<sup>e</sup> Per 100,000 departures.

Source: NTSB, *NTSB Aviation Accident Statistics*, Annual Issues, Table 5.

Serious Injuries: NTSB, Analysis and Data Division, RE-50.

**TABLE - 37**

**On-Demand Air Taxi<sup>a</sup> Accidents, Fatalities, Injuries, and Accident Rates**  
5-Year Intervals 1975–1990 and Annually 1990–1994

Year	Fatal Accidents	Total Accidents	Fatalities	Serious Injuries	Fatal Accident Rate <sup>b</sup>	Total Accident Rate <sup>b</sup>
1975	24	152	69	–	0.95	6.02
1980	46	171	105	43	1.27	4.73
1985	35	154	76	43	1.36	5.99
1990	28	106	50	36	1.24	4.71
1991	27	87	70	27	1.20	3.88
1992	24	76	70	19	1.19	3.78
1993	19	69	42	24	0.90	3.29
1994 <sup>p</sup>	27	84	64	32	1.35	4.20

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> Nonscheduled service conducted under CFR 135. Accidents on foreign soil and in foreign waters excluded.

<sup>b</sup> Per 100,000 aircraft hours.

Source: NTSB, *NTSB Aviation Accident Statistics*, Annual Issues, Table 6.

Serious Injuries: NTSB, Analysis and Data Division, RE-50.

**TABLE - 38**

**General Aviation\* Accidents, Fatalities, Serious Injuries, and Fatal Accidents**  
 5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Accidents	Fatalities	Serious Injuries	Fatal Accidents
1960	4,793	787	-	429
1965	5,196	1,029	-	538
1970	4,712	1,310	-	641
1975	3,995	1,252	728	633
1980	3,590	1,239	675	618
1985	2,738	955	517	498
1990	2,216	766	391	442
1991	2,177	785	420	432
1992	2,075	860	418	448
1993	2,042	737	386	399
1994 <sup>P</sup>	1,989	706	452	392

<sup>P</sup> Preliminary.

<sup>r</sup> Revised.

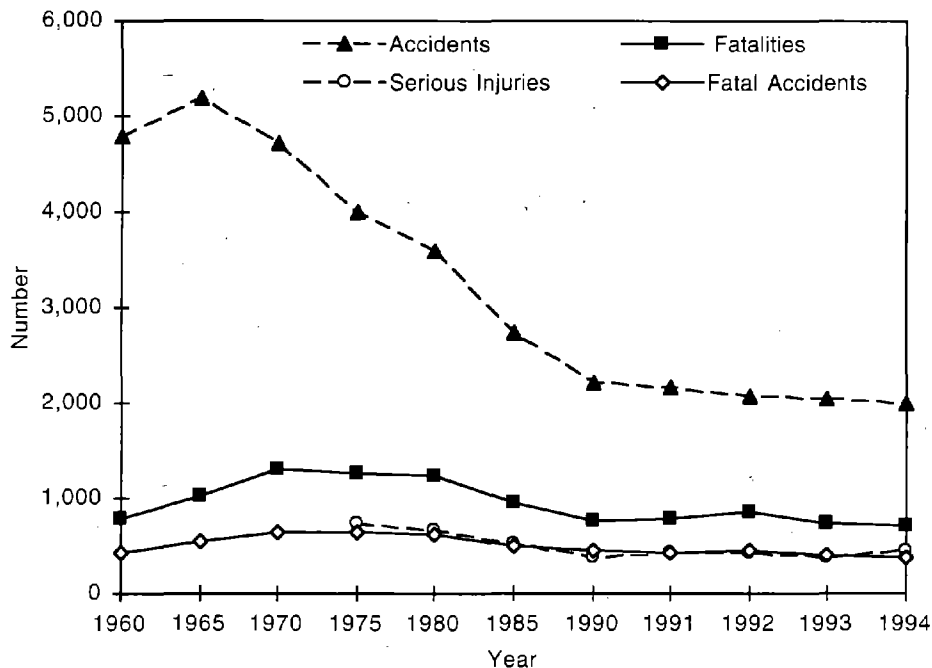
\* All operations other than those conducted under 14 CFR 121 or 14 CFR 135. Accidents on foreign soil and in foreign waters are excluded.

Source: 1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, Annual Issues.

1980-1994: National Transportation Safety Board (NTSB), *NTSB Aviation Accident Statistics*, Annual Issues, Table 7.  
 Serious Injuries: NTSB, Analysis and Data Division, RE-50.

**FIGURE - 16**

**General Aviation Accidents, Fatalities, Serious Injuries, and Fatal Accidents, 1960-1994**



**TABLE - 39**

**General Aviation\* Fatality and Accident Rates per 100,000 Aircraft Hours Flown**  
5-Year Intervals 1960–1990 and Annually 1990–1994

Year	Aircraft Hours Flown <sup>a</sup> (millions)	Fatality Rate	Accident Rate	Fatal Accident Rate
1960	12.1	6.49	36.50	3.30
1965	15.7	6.54	31.40	3.20
1970	26.0	5.04	18.10	2.46
1975	28.8	4.35	13.90	2.20
1980	36.4	3.40	9.90	1.70
1985	28.3	3.37	9.67	1.76
1990	28.5	2.69	7.77	1.55
1991	27.2	2.88	8.07	1.59
1992	23.8	3.61	8.72	1.88
1993	22.5	3.28	9.09	1.78
1994 <sup>P</sup>	21.0	3.36	9.47	1.87

<sup>P</sup> Preliminary.

<sup>r</sup> Revised.

\* All operations other than those conducted under 14 CFR 121 or 14 CFR 135. Accidents on foreign soil and in foreign waters are excluded.

<sup>a</sup> Source of estimate: FAA. Hours flown for the years 1985 through 1991 have been revised to reflect the results of FAA's *General Aviation Activity and Avionics Non-respondent Survey*.

<sup>b</sup> From 1985 to present, rates calculated from aircraft hours flown numbers expanded to more significant figures, not the rounded figures shown here.

Note: Suicide/sabotage accidents excluded from rates as follows: (1975-2, 1980-1, 1985-3)  
Suicide/sabotage fatal accidents excluded from rates as follows: (1985-2).

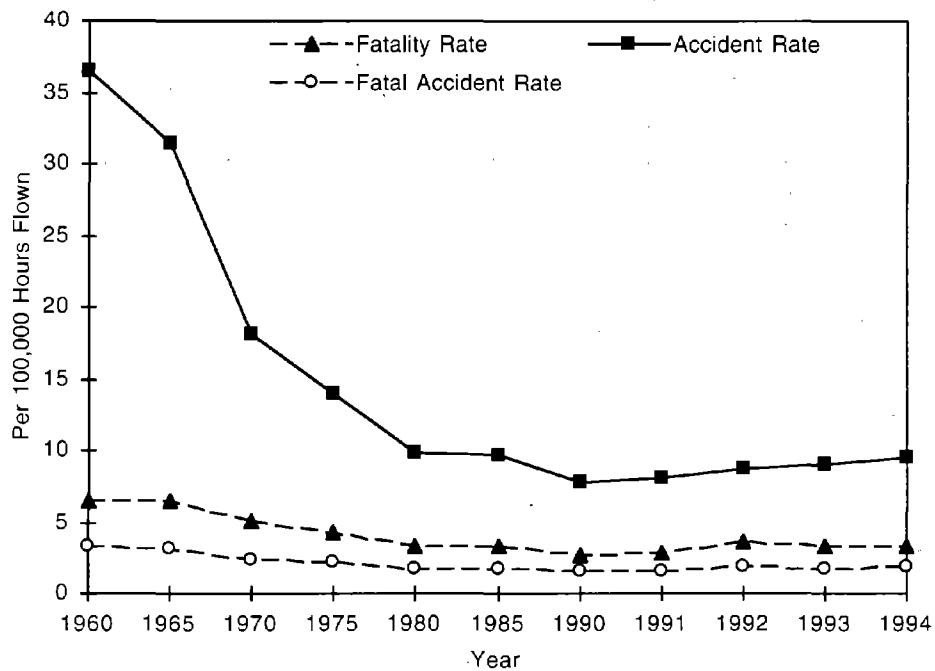
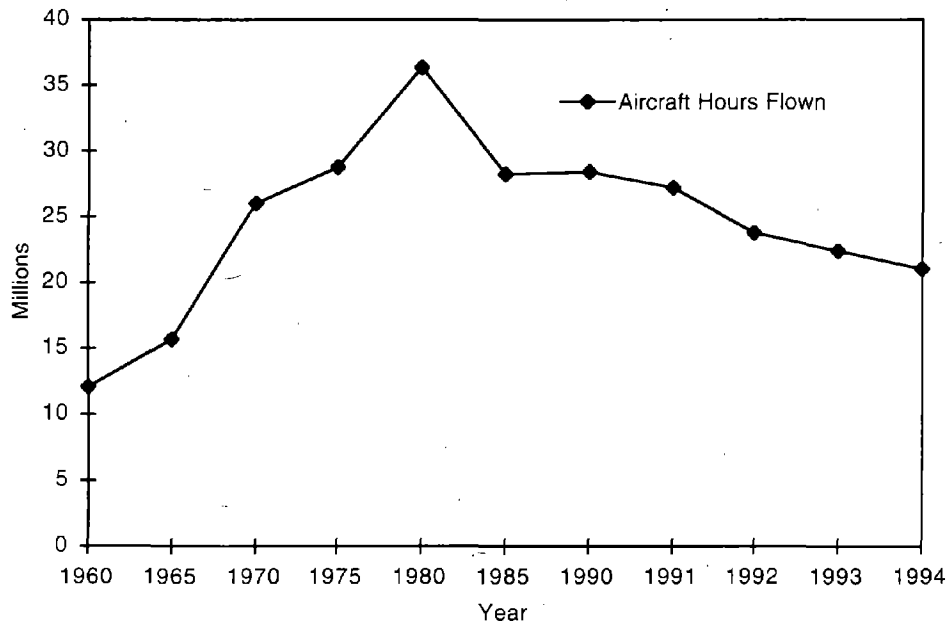
Source: 1960–1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, Annual Issues.

1980–1994: National Transportation Safety Board (NTSB), *NTSB Aviation Accident Statistics*, Annual Issues, Table 7.



**FIGURE - 17**

**General Aviation Fatality and Accident Rates per 100,000 Aircraft Hours Flown, 1960-1994**



Source: See Table 39.

**TABLE - 40**  
**Motor Vehicle Traffic Data Comparisons**  
 5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Total Registered Motor Vehicles <sup>a</sup> (thousands)	Automobiles* (thousands)	Trucks* (thousands)	Buses (thousands)	Motorcycles (thousands)	Licensed Drivers (thousands)	Percent Under 25 Years Old	Percent Over 64 Years Old	Vehicle Mileage (billions)	Traffic Fatalities	Traffic Fatality Rate <sup>b</sup>
1960	74,444	61,684	11,914	272	574	87,253	-	-	719	36,399	5.06
1965	91,743	75,261	14,786	314	1,312	98,502	20.5	7.6	888	47,089	5.30
1970	111,243	89,244	18,797	378	2,824	111,543	22.0	8.0	1,110	54,180	4.92
1975	137,915	106,705	25,781	462	4,967	129,791	22.6	9.5	1,328	44,525	3.36
1980	161,761	121,601	33,667	529	5,694	145,295	21.0	10.6	1,527	51,091	3.35
1985	177,097	131,864	39,196	594	5,444	156,868	18.3	11.9	1,774	43,825	2.47
1990	193,057	143,453	44,718	627	4,259	167,015	15.7	13.3	2,144	44,599	2.08
1991	192,549	142,956	44,785	631	4,177	168,995	15.1	13.4	2,172	41,508	1.91
1992	194,427	144,213	45,504	645	4,065	173,125	14.6	13.9	2,247	39,250	1.75
1993	198,041	131,581	61,828	654	3,978	173,149	14.6	13.9	2,297	40,150	1.75
1994	201,763	133,930	63,445	670	3,718	175,403	14.2	14.2	2,360	40,676	1.72

\* See p. 95 for explanation of changes in vehicle categories between 1992 and 1993.

<sup>a</sup> Figures obtained by addition/subtraction and may not appear directly in data source.

<sup>b</sup> Per 100 million vehicle-miles.

Source: Registered Vehicles, Licensed Drivers and Vehicle Mileage:

1960-1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Tables MV-200, DL-201, VM-201A.

1985-1993: *Ibid.*, *Highway Statistics*, Annual Issues, Table VM-1; selected Tables MV-1, DL-20.

1994: *Ibid.*, *Selected Highway Statistics and Charts*, Table SS 93-7.

Fatalities:

1960-1970: Estimated by NHTSA from data supplied by the National Center for Health Statistics, H.H.S., and State Accident Summaries (adjusted to 30-day deaths).

1975-1994: U.S. DOT/NHTSA, National Center for Statistics and Analysis, Fatal Accident Reporting System (FARS) and U.S. DOT/FHWA, Office of Highway Safety, HHS-12.

**TABLE - 41****Traffic Fatalities by Major Category**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Occupant Fatalities by Vehicle Type								
	Total <sup>a</sup>	Passenger Cars					Total	Trucks	
		Sub-Compact	Compact	Inter-mediate	Full	Unknown		Light Trucks	Large Trucks
1960	27,909	-	-	-	-	-	-	-	-
1965	36,759	-	-	-	-	-	-	-	-
1970	34,800	-	-	-	-	-	5,400	-	-
1975	25,928	3,834	614	1,869	10,800	8,811	5,817	4,856	961
1980	27,449	7,299	927	3,878	11,580	3,765	8,748	7,486	1,262
1985	23,212	7,993	2,635	4,391	6,586	1,607	7,666	6,689	977
1990	24,092	8,309	5,310	4,849	4,635	989	9,306	8,601	705
1991	22,385	7,694	5,338	4,681	4,040	632	9,052	8,391	661
1992	21,387	7,028	5,354	4,418	3,796	791	8,681	8,096	585
1993 <sup>r</sup>	21,566	6,968	5,707	4,483	3,675	733	9,116	8,511	605
1994 <sup>p</sup>	21,903	6,936	6,245	4,334	3,527	861	9,539	8,876	663

Year	Occupant Fatalities by Vehicle Type				Non-Occupant Fatalities				Total Traffic Fatalities
	Total	Other Vehicles			Total	Pedestrian	Pedal-cyclist <sup>c</sup>	Other	
		Motor-cycles <sup>b</sup>	Buses	Other & Unknown Vehicle Type					
1960	790	790	-	-	7,700	7,210	490	-	36,399
1965	1,650	1,650	-	-	8,680	7,990	690	-	47,089
1970	3,300	2,330	-	970	10,680	9,900	780	-	54,180
1975	4,180	3,189	53	938	8,600	7,516	1,003	81	44,525
1980	5,730	5,144	46	540	9,164	8,070	965	129	51,091
1985	5,165	4,564	57	544	7,782	6,808	890	84	43,825
1990	3,736	3,244	32	460	7,465	6,482	859	124	44,599
1991	3,303	2,806	31	466	6,768	5,801	843	124	41,508
1992	2,810	2,395	28	387	6,370	5,549	723	98	39,248
1993 <sup>r</sup>	2,892	2,449	18	425	6,576	5,649	816	111	40,150
1994 <sup>p</sup>	2,851	2,304	21	526	6,383	5,472	802	109	40,676

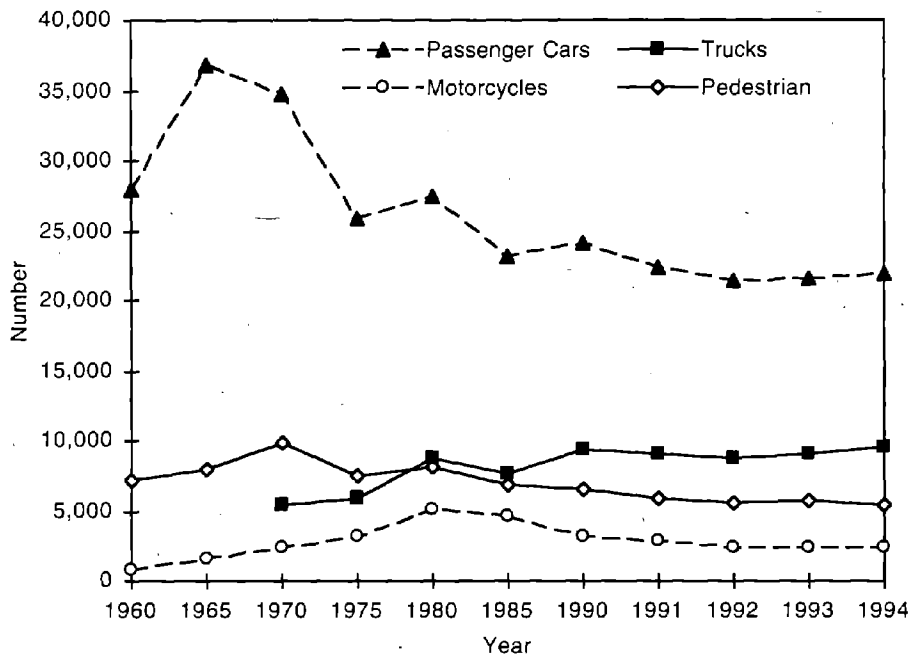
<sup>p</sup> Preliminary.<sup>r</sup> Revised.<sup>a</sup> 1960-1970: Includes taxis.<sup>b</sup> 1960-1970: Includes motor scooters and motor bikes.<sup>c</sup> 1960-1970: Includes deaths of pedalcyclists and motor vehicle occupants involved in collision.

Note: Passenger car totals for 1960 and 1965 include a few riders of animals, occupants of animal drawn vehicles, occupants of street cars, unauthorized riders, etc.

Source: 1960-1970: Estimated by NHTSA from data supplied by the National Center for Health Statistics, H.H.S., and State Accident Summaries (adjusted to 30 day deaths)  
 1975-1994: U.S. DOT/NHTSA, National Center for Statistics and Analysis, Fatal Accident Reporting System (FARS).

**FIGURE - 18**

**Traffic Fatalities by Major Category, 1960-1994**



Source: See Table 41.

TABLE - 42

**Motor Vehicle Traffic Accidents and Fatalities**

5-Year Intervals 1960-1990 and Annually 1990-1994

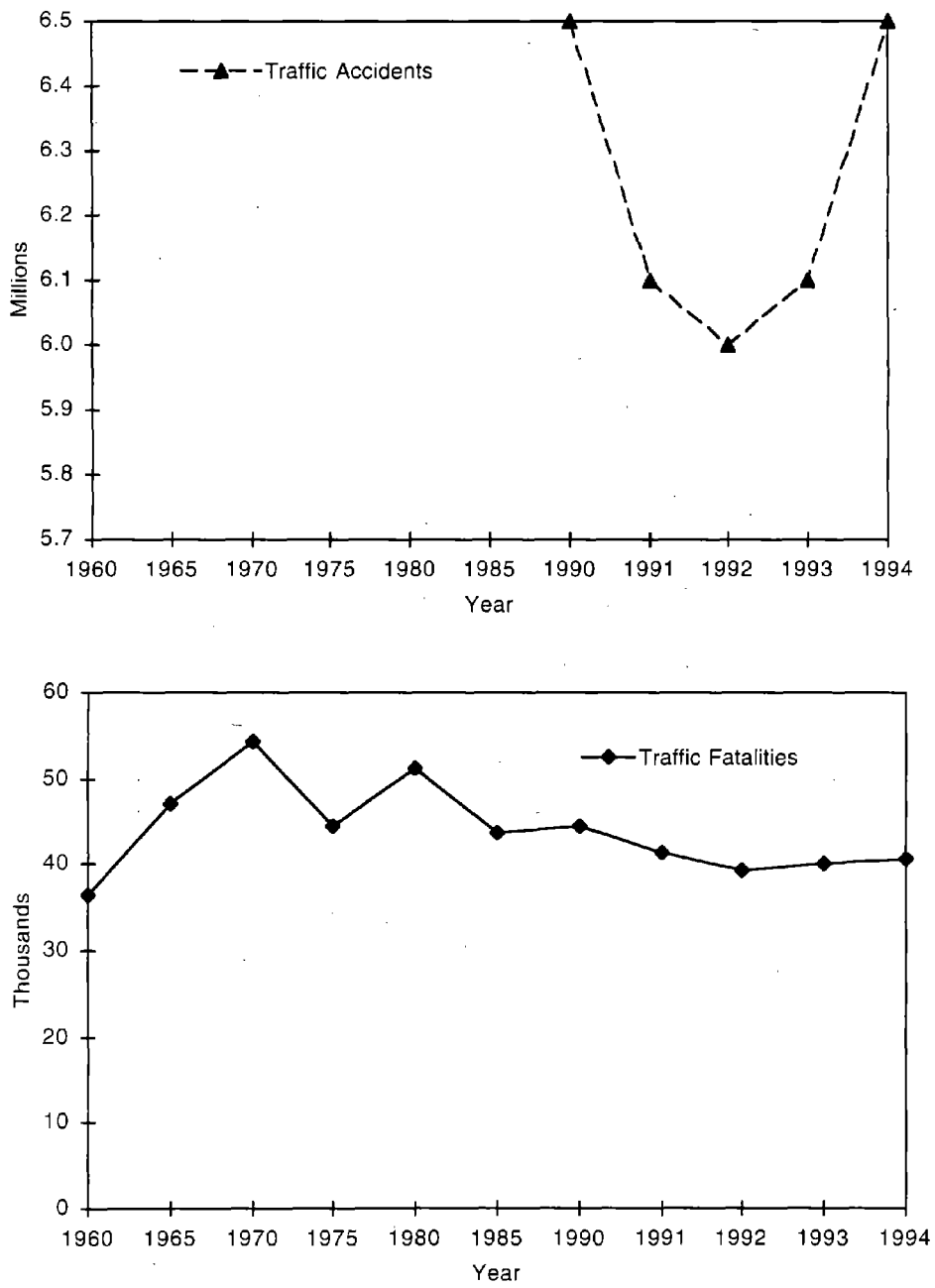
<b>Year</b>	<b>Accidents (millions)</b>	<b>Fatalities (thousands)</b>
1960	—	36.4
1965	—	47.0
1970	—	54.2
1975	—	44.5
1980	—	51.1
1985	—	43.8
1990	6.5	44.6
1991	6.1	41.5
1992	6.0	39.2
1993	6.1	40.1
1994 <sup>P</sup>	6.5	40.7

<sup>P</sup> Preliminary.

Source: 1960-1970: (Fatality Data): Estimated by NHTSA from data supplied by the National Center for Health Statistics, H.H.S., and State Accident Summaries (adjusted to 30-day deaths).  
 1975-1994: (Fatality Data): U.S. DOT/NHTSA, National Center for Statistics and Analysis, Fatal Accident Reporting System (FARS).  
 1990-1994: (Accident Data): *Ibid.*, General Estimates System (GES).

**FIGURE - 19**

**Motor Vehicle Traffic Accidents and Fatalities, 1960-1994**



Source: See Table 42.

**TABLE - 43**

**Occupant Fatality Rates by Truck Type per 100 Million Vehicle-Miles**  
5-Year Intervals 1975–1990 and Annually 1990–1994

Year	Light	Large
1975	2.4	1.2
1980	2.5	1.2
1985	1.7	0.8
1990	1.6	0.5
1991	1.4	0.4
1992	1.3	0.4
1993	1.3	0.4
1994	1.2	0.4

Source: U.S. DOT/NHTSA, National Center for Statistics and Analysis, *Traffic Safety Facts 1994*, Tables 8 and 9.

**TABLE - 44**

**Motor Vehicle Fatal Accidents by Posted Speed Limit**  
5-Year Intervals 1975–1990 and Annually 1990–1994

Year	Posted Speed									Total
	0-25 MPH	26-35 MPH	36-45 MPH	46-54 MPH	Total Under 55 MPH	55 MPH	60 MPH	65 MPH	Unknown	
1975	2,617	6,099	4,276	2,241	15,233	16,093	–	–	7,831	39,157
1980	2,865	8,527	6,256	2,431	20,079	20,352	–	–	4,853	45,284
1985	2,504	7,889	6,813	2,072	19,278	18,862	12	–	1,055	39,195
1990	2,234	7,756	7,092	2,054	19,136	17,556	18	2,175	951	39,836
1991	2,097	6,908	6,608	1,894	17,507	16,543	9	2,078	800	36,937
1992	1,911	6,696	6,345	1,875	16,827	15,444	4	2,002	665	34,942
1993 <sup>r</sup>	1,895	6,759	6,454	1,877	16,985	15,980	9	2,155	651	35,780
1994 <sup>p</sup>	1,871	6,540	6,614	1,844	16,869	16,486	14	2,171	683	36,223

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

Source: U.S. DOT/NHTSA, National Center for Statistics and Analysis, Fatal Accident Reporting System (FARS).

**TABLE - 45**

**Fatality Rate Indices by Highway Type**

5-Year Intervals 1970-1990 and Annually 1990-1994

Year	Index (1973=100)	
	Non-Interstate Highway	Interstate Highway
1970	116	118
1975	84	62
1980	85	68
1985	64	50
1990	52	46
1991	48	40
1992	44	38
1993	44	38
1994 <sup>e</sup>	44	38

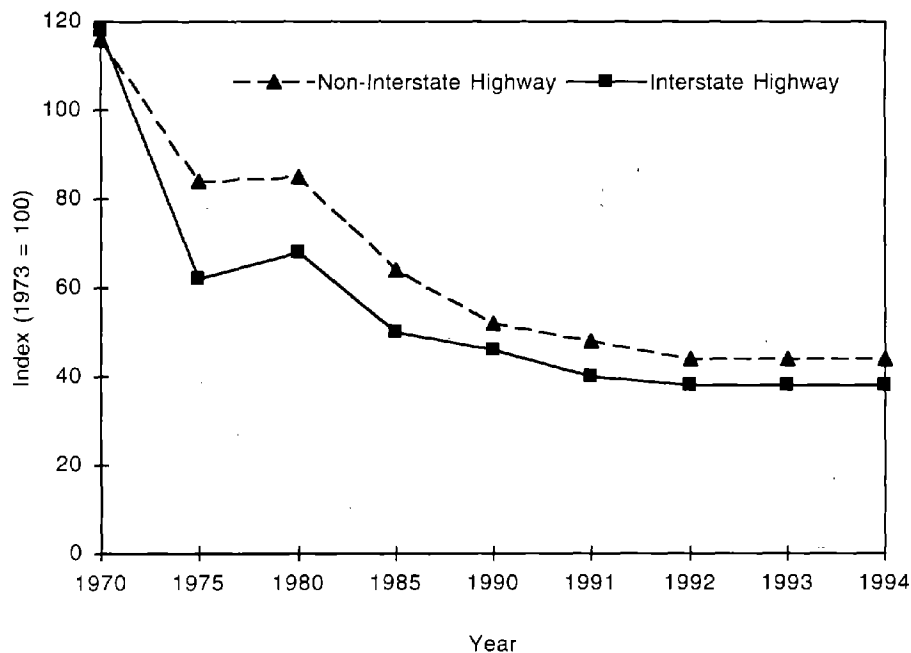
<sup>e</sup> Estimate.

Note: Index based on number of fatalities per 100 million vehicle-miles of travel.

Source: U.S.DOT/FHWA, Office of Highway Safety, HHS-12.

**FIGURE - 20**

**Fatality Rate Indices by Highway Type, 1970-1994**





**TABLE - 46**

**Highway Fatality and Injury Rate Indices**  
 5-Year Intervals 1970-1990 and Annually 1990-1994

Year	Index (1973 = 100)	
	Injury Rate	Fatality Rate
1970	115	115
1975	98	82
1980	92	82
1985	88	57
1990	78	49
1991	74	46
1992	72	42
1993	71 <sup>e</sup>	42
1994 <sup>e</sup>	-	41

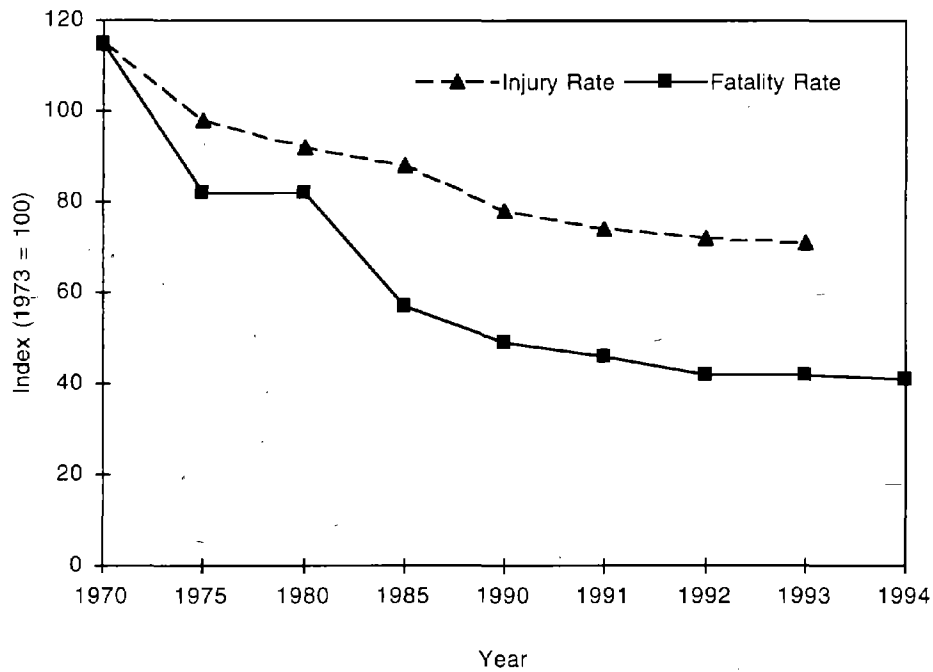
<sup>e</sup> Estimate.

Note: Index based on number of fatalities per 100 million vehicle-miles of travel.

Source: U.S.DOT/FHWA, Office of Highway Safety, HHS-12.

**FIGURE - 21**

**Highway Fatality and Injury Rate Indices, 1970-1994**



**TABLE - 47**

**Restraint Usage and Injury Severity of Passenger Car Occupants Involved in Fatal Crashes**

5-Year Intervals 1985-1990 and Annually 1990-1994

<b>Injury Severity &amp; Year</b>	<b>Restrained</b>	<b>Unrestrained</b>	<b>Unknown Restraint</b>	<b>Total</b>
<b>Fatal Injury</b>				
1985	2,115	16,773	4,304	23,192
1990	5,728	15,661	2,636	24,025
1991	6,216	13,827	2,304	22,347
1992	6,392	12,855	2,140	21,387
1993 <sup>r</sup>	7,133	12,274	2,159	21,566
1994 <sup>p</sup>	7,793	12,144	1,966	21,903
<b>Incapacitating Injury</b>				
1985	1,543	8,649	1,929	12,121
1990	3,686	6,762	1,304	11,752
1991	3,881	5,867	1,089	10,837
1992	3,862	5,504	1,105	10,471
1993 <sup>r</sup>	4,314	5,295	988	10,597
1994 <sup>p</sup>	4,531	4,956	887	10,374
<b>Nonincapacitating Injury</b>				
1985	1,314	4,695	1,721	7,730
1990	3,183	3,994	778	7,955
1991	3,190	3,395	633	7,218
1992	3,203	3,022	661	6,886
1993 <sup>r</sup>	3,566	2,844	566	6,976
1994 <sup>p</sup>	3,751	2,657	526	6,934
<b>Possible Injury</b>				
1985	695	1,721	691	3,107
1990	2,404	1,501	361	4,266
1991	2,324	1,308	303	3,935
1992	2,305	1,125	301	3,731
1993 <sup>r</sup>	2,467	1,041	306	3,814
1994 <sup>p</sup>	2,501	975	248	3,724
<b>No Injury</b>				
1985	2,574	5,647	3,929	12,150
1990	6,131	2,528	2,306	10,965
1991	5,785	2,077	1,981	9,843
1992	5,740	1,716	1,819	9,275
1993 <sup>r</sup>	5,935	1,633	1,754	9,322
1994 <sup>p</sup>	6,135	1,394	1,468	8,997
<b>Unknown</b>				
1985	83	350	314	747
1990	68	119	296	483
1991	76	93	294	463
1992	105	98	251	454
1993 <sup>r</sup>	90	89	250	429
1994 <sup>p</sup>	44	65	260	369
<b>Total</b>				
1985	8,324	37,835	12,888	59,047
1990	21,200	30,565	7,681	59,446
1991	21,472	26,567	6,604	54,643
1992	21,607	24,320	6,277	52,204
1993 <sup>r</sup>	23,505	23,176	6,023	52,704
1994 <sup>p</sup>	24,755	22,191	5,355	52,301

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

Source: U.S. DOT/NHTSA, National Center for Statistics and Analysis, Fatal Accident Reporting System (FARS).

**TABLE - 48**

**Number of Drivers in Fatal Crashes by Age Group and Percent Intoxicated\***

Annually 1985-1994

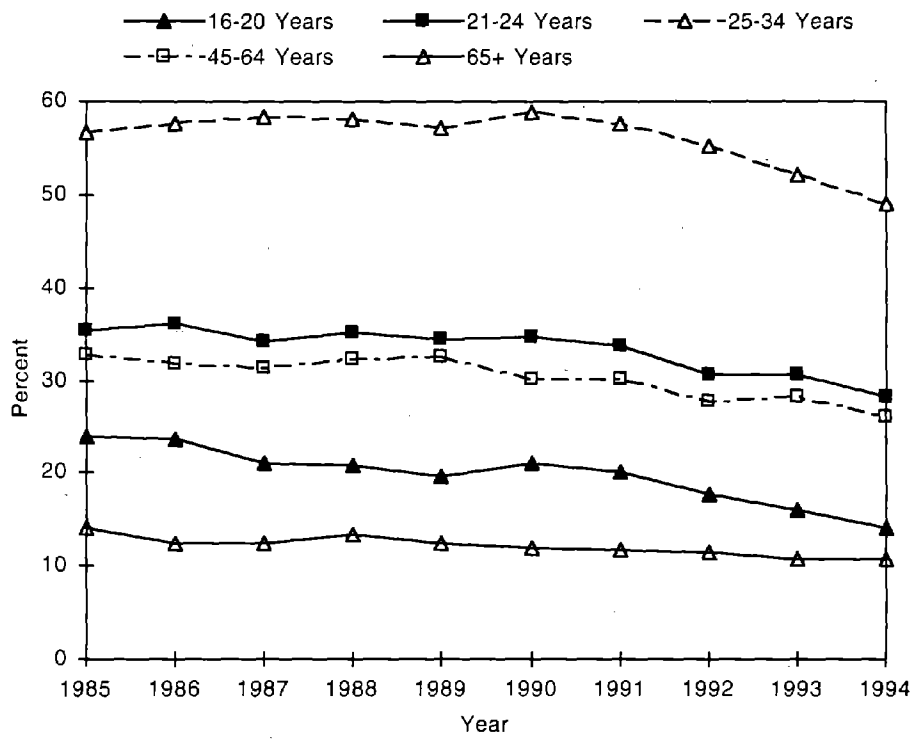
Year	16-20 Years		21-24 Years		25-34 Years		35-44 Years		45-54 Years		55-64 Years		65-74 Years		75+ Years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1985	9,386	23.9	9,046	35.3	15,257	32.4	8,892	24.3	5,150	18.9	4,112	13.8	2,650	9.9	1,829	4.2
1986	10,163	23.7	9,129	36.1	16,179	33.0	9,240	24.5	5,077	18.2	4,019	13.6	2,844	9.4	2,037	3.1
1987	9,910	21.0	8,808	34.1	16,562	32.9	9,778	25.4	5,470	17.5	4,223	13.8	2,987	8.7	2,091	3.8
1988	10,171	20.7	8,555	35.2	16,398	32.7	10,077	25.4	5,761	18.2	4,320	14.1	3,079	9.3	2,297	4.1
1989	9,442	19.5	7,723	34.5	16,298	31.9	10,106	25.2	6,038	18.9	4,202	13.7	3,107	8.5	2,324	3.9
1990	8,821	21.1	7,195	34.7	15,764	33.0	10,177	25.8	5,867	17.6	4,068	12.5	3,161	8.2	2,340	3.7
1991	8,002	20.0	6,748	33.8	14,151	32.3	9,482	25.2	5,458	18.1	3,695	12.0	3,017	8.4	2,454	3.4
1992	7,192	17.6	6,323	30.7	13,049	30.9	9,284	24.2	5,672	16.3	3,688	11.5	3,024	8.4	2,450	3.1
1993	7,256	16.1	6,406	30.7	13,038	28.6	9,738	23.5	5,970	15.8	3,824	12.4	3,031	7.3	2,817	3.4
1994	7,711	14.1	6,280	28.1	12,882	26.8	9,935	22.3	6,486	15.5	3,826	10.5	3,189	7.7	2,866	3.0

\* Blood Alcohol Content of .10 grams/deciliter or greater. When alcohol test results are unknown, BAC values have been assigned by NHTSA.

Source: U.S. DOT/NHTSA, National Center for Statistics and Analysis, *Traffic Safety Facts 1994*, p. 36.

**FIGURE - 22**

**Percent of Drivers in Fatal Crashes Intoxicated by Age Group, 1985-1994**



Source: See Table 48.

**TABLE - 49****Fatalities by Highest Blood Alcohol Concentration (BAC) in the Crash**

5-Year Interval 1985-1990 and Annually 1990-1994

Year	BAC = 0.00		BAC = 0.01-0.09		BAC = 0.10+		Total	Total Fatalities in Alcohol-Related Crashes	
	Number	Percent	Number	Percent	Number	Percent		Number	Percent
1985	21,109	48.2	4,604	10.5	18,111	41.3	43,825	22,715	51.8
1990	22,515	50.5	4,434	9.9	17,650	39.6	44,599	22,084	49.5
1991	21,621	52.1	3,957	9.5	15,930	38.4	41,508	19,887	48.0
1992 <sup>*</sup>	21,392	54.5	3,625	9.2	14,234	36.3	39,250	17,859	45.5
1993 <sup>r</sup>	22,677	56.5	3,496	8.7	13,977	34.8	40,150	17,473	43.5
1994 <sup>p</sup>	24,087	59.2	3,495	8.6	13,094	32.2	40,676	16,589	40.8

<sup>p</sup> Preliminary.<sup>r</sup> Revised.<sup>\*</sup> Columns do not add to total in source communication.

Source: U.S. DOT/NHTSA, National Center for Statistics and Analysis, Fatal Accident Reporting System (FARS).

**TABLE - 50**

**Percent of Factory Installed Anti-Lock Braking Systems (ABS) and Driver-Side Air Bags, Domestic Built Vehicles\* Annually 1986-1994**

Year	Automobiles		Light Trucks		
	ABS	Driver-Side Air Bag	4-Wheel ABS	Rear Wheel ABS	Wheel Driver-Side Air Bag
1986	0.9	-	-	-	-
1987	3.6	-	-	19.9	-
1988	2.8	-	-	32.5	-
1989	3.7	-	-	59.5	-
1990	7.6	29.7	2.1	77.3	-
1991	14.1	37.2	6.2	77.1	-
1992	32.2	50.7 #	11.4	71.5	18.3
1993	42.3	64.6 #	31.9	52.2	21.4
1994	57.3	29.0	32.4	53.0	31.3

\* Domestic vehicles include those built in the U.S., Mexico and Canada for sale in the U.S.

# Includes automobiles with both driver and passenger air bags. Figures for other years represent driver-side air bags only.

Note: Driver-side air bag data for 4-wheel light trucks are unavailable.

Source: *Ward's Automotive Yearbook*, 1986-1995.

**TABLE - 51****Waterborne Transport Accidents, Fatalities and Injuries Resulting from Vessel Casualties**

5-Year Intervals 1970–1990 and Annually 1990–1994

<b>Year</b>	<b>Accidents</b>	<b>Fatalities</b>	<b>Injuries</b>	<b>Vessels*</b>
1970	2,582	178	105	4,063
1975	3,310	243	97	5,685
1980	4,624	206	176	7,694
1985	3,439	131	172	5,694
1990	3,613	85	175	5,494
1991	2,222	30	110	3,514
1992	3,297	105	172	4,972
1993 <sup>r</sup>	2,654	95	133	3,320
1994 <sup>p</sup>	2,833	52	146	3,827

<sup>p</sup> Preliminary.<sup>r</sup> Revised.

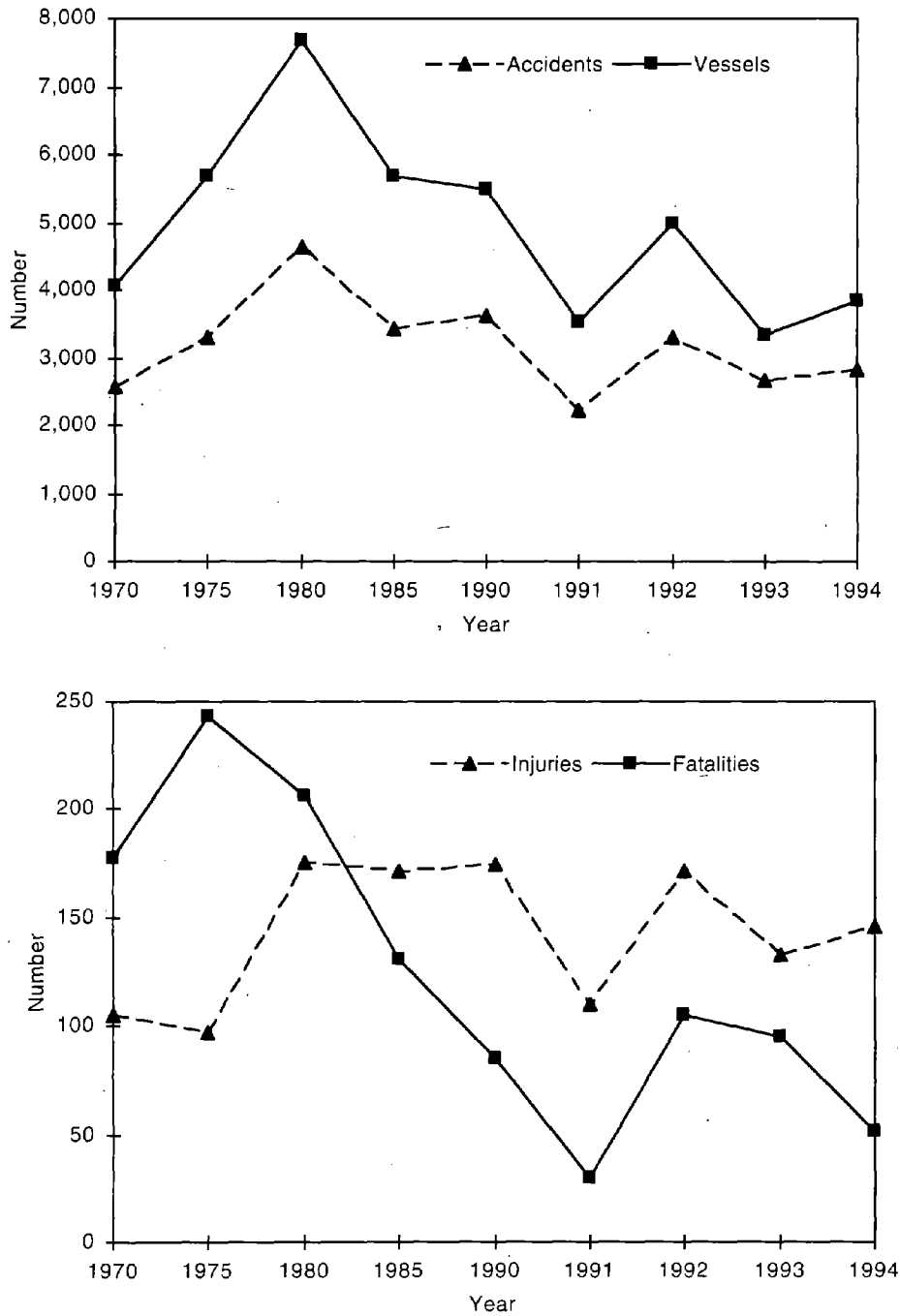
\* More than one vessel may be involved in a marine accident.

Note: All deaths and injuries cited result from vessel casualties.

Source: U.S. DOT/United States Coast Guard, Marine Investigation Division, G-MMI-3.

FIGURE - 23

Waterborne Transport Accidents, Fatalities, and Injuries Resulting from Vessel Casualties, 1970-1994



Source: See Table 51.



**TABLE - 52**

**Waterborne Transport Fatalities Not Related to Vessel Casualties**

5-Year Intervals 1970-1990 and Annually 1990-1994

Year	Fatalities	Vessels
1970	420	—
1975	330	321
1980	281	274
1985	130	128
1990	101	98
1991	56	51
1992	134	128
1993 <sup>r</sup>	116	106
1994 <sup>p</sup>	106	98

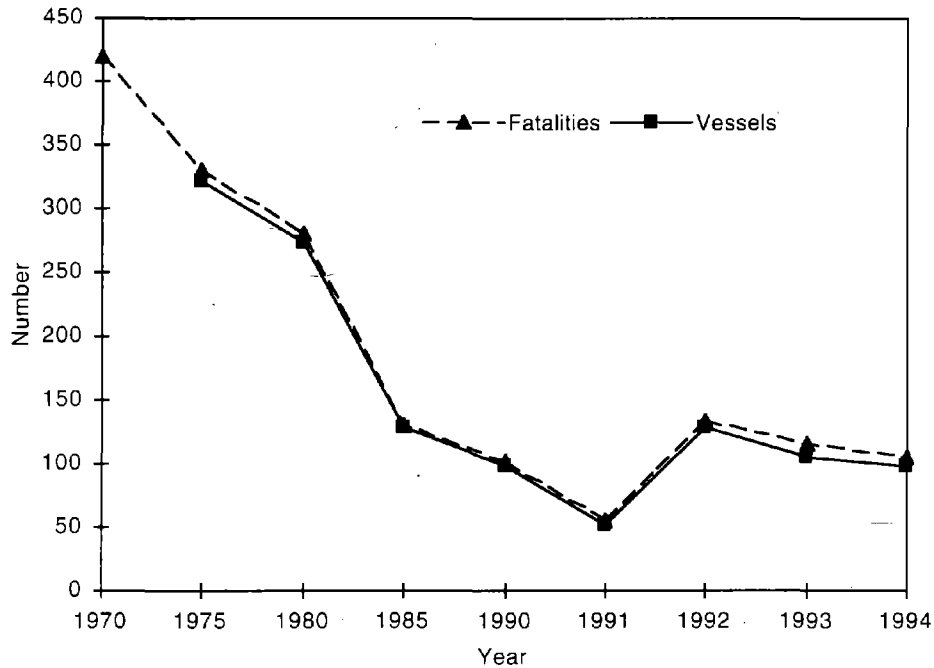
<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

Source: U.S.DOT/USCG, Marine Investigation Division, G-MMI-3.

**FIGURE - 24**

**Waterborne Transport Fatalities Not Related to Vessel Casualties**



**TABLE - 53**

**Recreational Boating Fatalities, Injuries, and Accidents**  
5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Fatalities	Injuries	Accidents
1960	819	929	2,738
1965	1,360	927	3,752
1970	1,418	780	3,803
1975	1,466	2,136	6,308
1980	1,360	2,650	5,513
1985	1,116	2,757	6,237
1990	865	3,822	6,411
1991	924	3,967	6,573
1992	816	3,683	6,048
1993	800	3,559	6,335
1994	784	4,084	6,906

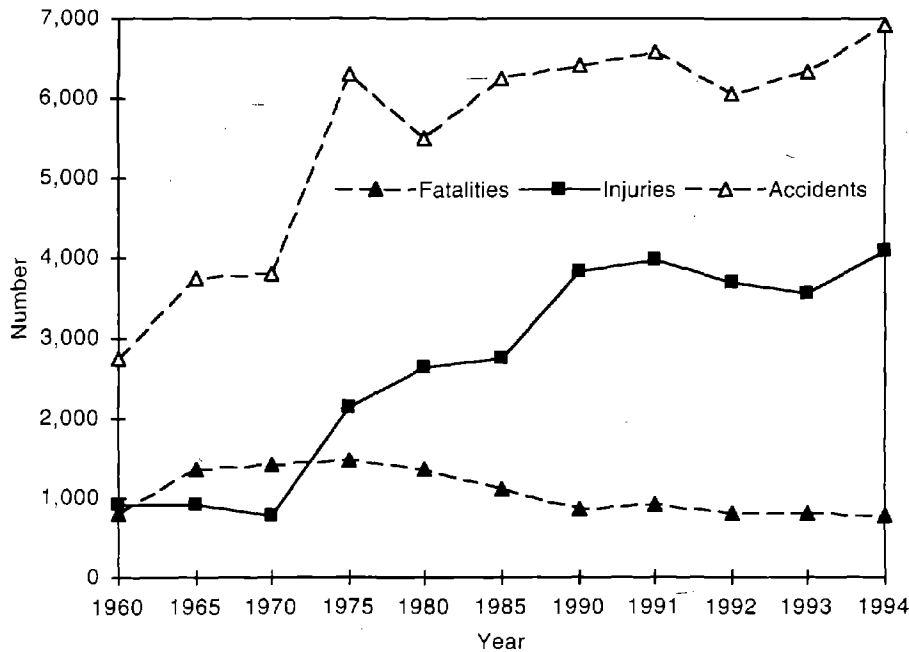
Revised.

Note: Only a small fraction of property damages and non-fatal accidents are reported to the Coast Guard.

Source: U.S. DOT/USCG, *Boating Statistics 1994*, and earlier editions.

**FIGURE - 25**

**Recreational Boating Fatalities, Injuries, and Accidents, 1960-1994**



**TABLE - 54**

**Recreational Boating Fatality, Injury, and Accident Rates per Number of Numbered Boats**

5-Year Intervals 1960–1990 and Annually 1990–1994

Year	Number of Numbered Boats* (millions)	Fatality Rate per 100,000 Numbered Boats	Injury Rate per 100,000 Numbered Boats	Accident Rate per 100,000 Numbered Boats
1960	2.5	32.8	37.1	109.5
1965	6.4	21.3	14.5	58.6
1970	7.4	19.2	10.5	51.4
1975*	7.3	20.1	29.3	86.4
1980*	8.6	15.8	30.8	64.1
1985*	9.6	11.6	28.7	65.0
1990*	11.0	7.8	34.7	58.3
1991*	11.1	8.3	35.7	59.8
1992*	11.1	7.3	33.2	54.5
1993*	11.3	7.1	31.5	56.1
1994	11.4	6.9	35.8	60.6

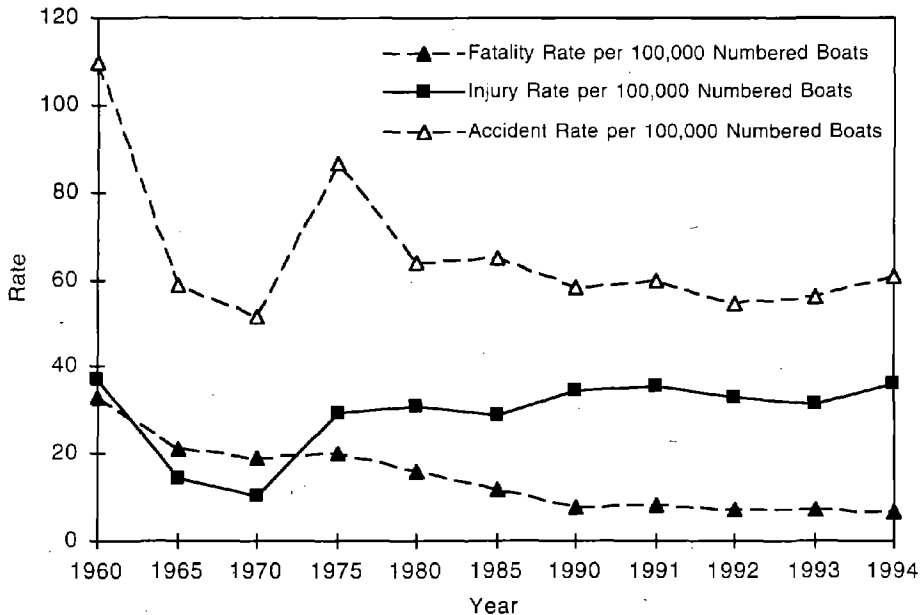
Revised.

\* Beginning in 1994, the Coast Guard changed their methodology for calculating the number of boats. From 1975 to present, the figures cited here represent the number of numbered boats, not an estimate as previously cited. Fatality, injury and accident rates have been recalculated accordingly.

Source: U.S. DOT/USCG, *Boating Statistics 1994*, and earlier editions.

**FIGURE - 26**

**Recreational Boating Fatality, Injury, and Accident Rates, 1960-1994**



**TABLE - 55**

**Number of Vessels Involved in Recreational Boating Accidents and Reported Property Damage**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Property Damage (thousand dollars)	Vessels Involved
1960	3,192	3,785
1965	4,743	4,792
1970	8,173	4,762
1975	10,352	8,002
1980	16,385	6,954
1985	20,039	8,305
1990	23,809	8,591
1991	24,772	8,821
1992	34,800	8,206
1993	20,220	8,688
1994	25,190	9,722

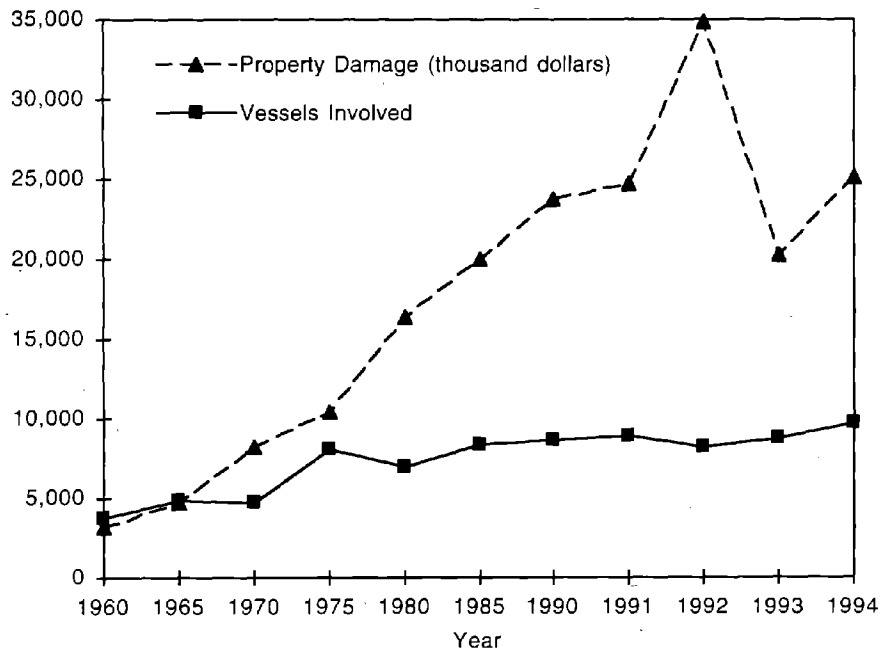
Revised.

Note: Only a small fraction of property damage-only accidents are reported to the Coast Guard.

Source: U.S. DOT/USCG, *Boating Statistics 1994*, and earlier editions.

**FIGURE - 27**

**Number of Vessels Involved in Recreational Boating Accidents and Reported Property Damage, 1960-1994**



**TABLE - 56****Railroad Fatalities and Injuries by Type of Person**

5-Year Intervals 1980-1990 and Annually 1990-1994

Year	Employees on Duty		Employees Not on Duty		Passengers on Trains		Nontrespassers	
	Fatalities	Injuries**	Fatalities	Injuries**	Fatalities	Injuries	Fatalities	Injuries
1980	97	56,331	4	671	4	593	739	3,849
1985	46	29,822	2	419	3	657	507	2,562
1990	40	20,970	0	326	3	473	551	2,339
1991	35	19,626	1	362	8	382	484	2,110
1992	34	17,755	1	310	3	411	475	1,909
1993	47	15,363	4	348	58	559	489	1,856
1994	31	13,080	0	306	5	497	505	1,913

Year	Trespassers		Contractor Employees		Total Railroad & Grade Crossing			
	Fatalities	Injuries	Fatalities	Injuries**	Railroad Only*		Grade Crossing Only	
	Fatalities	Injuries	Fatalities	Injuries**	Fatalities	Injuries**	Fatalities	Injuries**
1980	566	728	7	74	584	58,356	833	3,890
1985	474	734	4	110	454	31,617	582	2,687
1990	700	793	3	242	599	22,736	698	2,407
1991	663	769	3	219	586	21,374	608	2,094
1992	646	772	11	226	591	19,408	579	1,975
1993	675	733	6	260	653	17,284	626	1,837
1994	682	764	3	252	611	14,850	615	1,961

† Revised.

\* Includes train and non-train data.

\*\* Includes occupational illness.

Source: U.S. DOT/FRA, *Accident/Incident Bulletin*, Annual Issues, Tables 7 and 9.

**TABLE - 57**

**Train Accident Fatalities, Injuries, and Accidents by Type**

5-Year Intervals 1980-1990 and Annually 1990-1994

Year	Fatalities			Injuries			Accidents		
	Deraillments	Collisions	Other	Deraillments	Collisions	Other	Deraillments	Collisions	Other
1980	8	20	1	286	341	38	6,442	1,201	526
1985	2	6	0	197	223	56	2,495	366	414
1990	2	8	0	272	139	40	2,146	315	418
1991	10	5	4	174	103	49	1,936	261	461
1992	2	1	3	71	59	41	1,734	207	418
1993	53	14	0	179	87	42	1,930	205	476
1994	2	8	2	120	118	24	1,825	240	439

r Revised.

Note: Train accidents only. Excludes all Rail-Highway Grade Crossing Accidents.

Source: U.S. DOT/FRA, *Accident/Incident Bulletin*, Annual Issues, Tables 5, 14 and 15.

**TABLE - 58****Railroad Accidents and Fatalities, and Rail-Highway Grade Crossing Fatalities**

5-Year Intervals 1970-1990 and Annually 1990-1994

Year	Railroad Accidents*	Railroad Fatalities**	Rail-Highway Grade Crossing Fatalities
1970	8,095	785	1,440
1975	8,041	575	917
1980	8,451	584	833
1985	3,275	454	582
1990	2,879	599	698
1991	2,814	586	608
1992	2,531	591	579
1993	2,785	653	626
1994	2,669	611	615

Revised

\* Train accidents only--also includes those Rail-Highway Grade Crossing accidents classified as train accidents.

\*\* Fatalities resulting from train accidents, train incidents and nontrain incidents.

Source: Railroad Accidents and Fatalities: U.S. DOT/FRA, *Accident/Incident Bulletin*, Annual Issues.Rail-Highway Grade Crossing Fatalities: U.S. DOT/FRA, *Rail-Highway Crossing Accident/Incident and Inventory Bulletin*, Annual Issues, (except 1975, personal communication).**TABLE - 59****Railroad Accident\* Rates per Million Train-Miles**

5-Year Intervals 1970-1990 and Annually 1990-1994

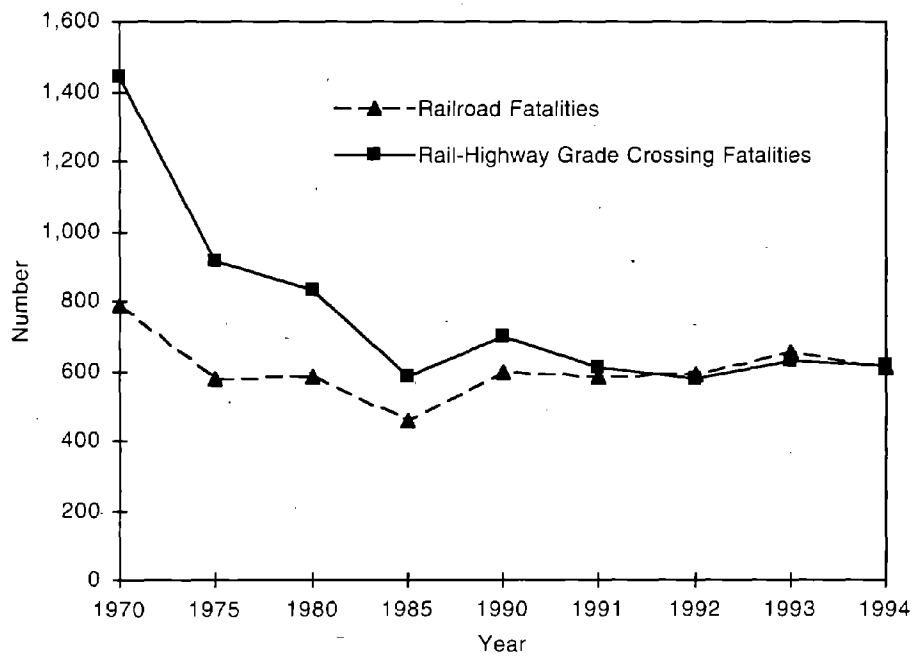
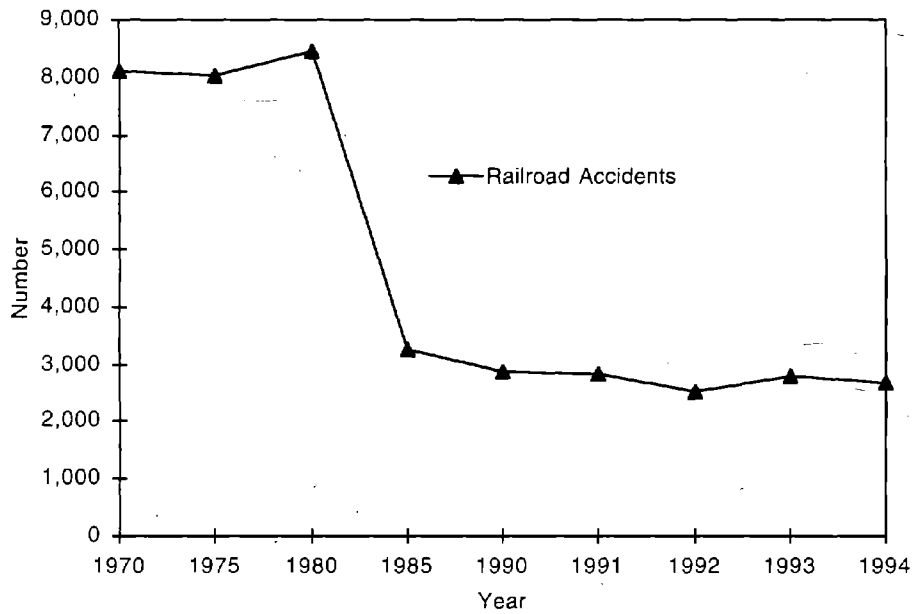
Year	Accident Rate	Train-Miles (millions)
1970	9.7	838.7
1975	10.7	755.0
1980	11.8	717.6
1985	6.0	570.9
1990	5.0	608.8
1991	4.9	576.8
1992	4.3	593.7
1993	4.5	614.0
1994	4.1	655.1

\* Train accidents only--also includes those Rail-Highway Grade Crossing accidents which have been classified as Train accidents.

Source: U.S. DOT/FRA, *Accident/Incident Bulletin*, Annual Issues, Tables 1 and 4.

**FIGURE - 28**

**Railroad Accidents and Fatalities, and Rail-Highway Grade Crossing Fatalities, 1970-1994**

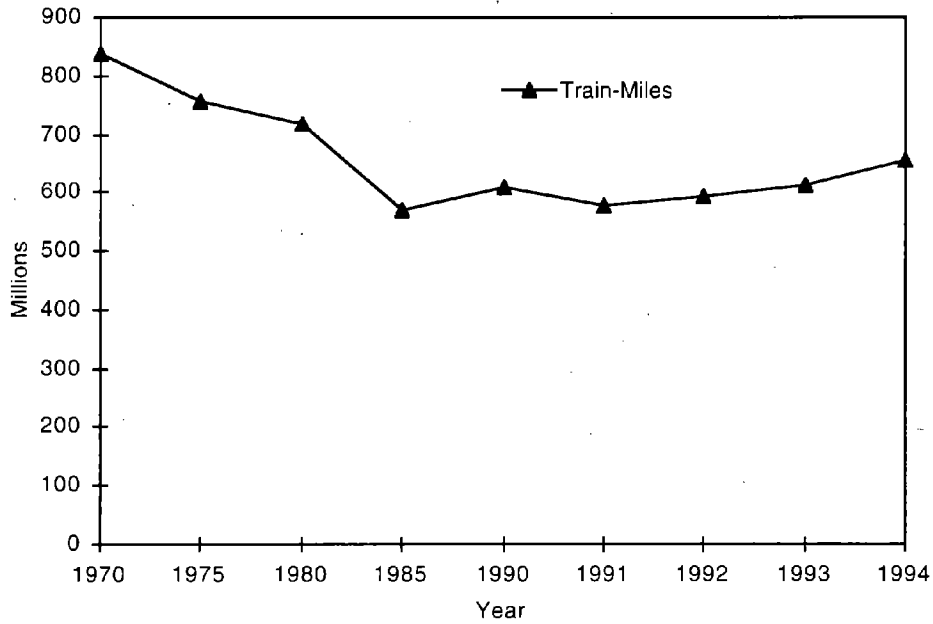
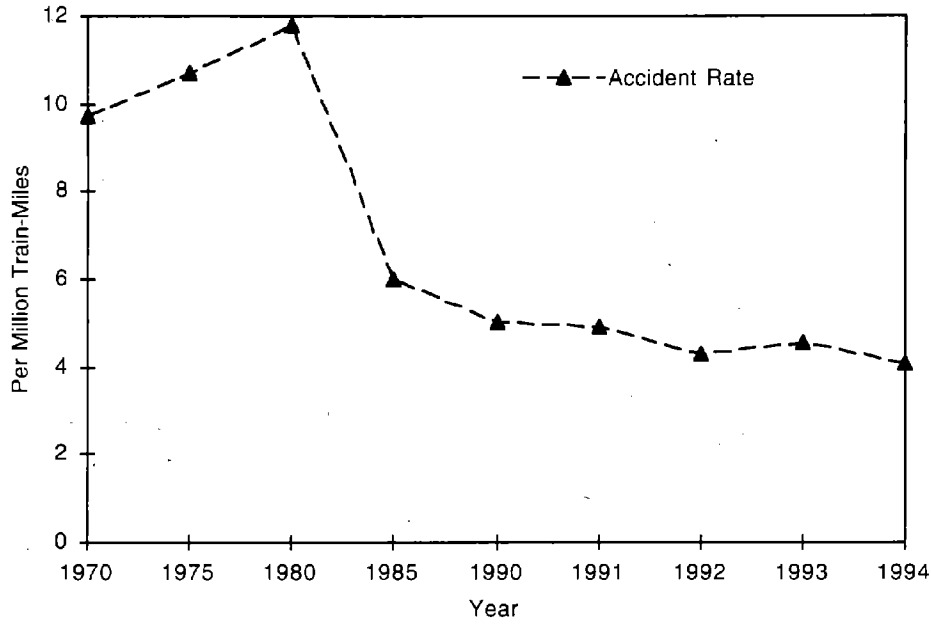


Source: See Table 58.



**FIGURE - 29**

**Railroad Accident Rates per Million Train-Miles, 1970-1994**



Source: See Table 59.

**TABLE - 60**

**Liquid and Gas Pipeline Fatalities, Injuries, and Incidents**  
5-Year Intervals 1970-1990 and Annually 1990-1994

Year	Fatalities		Injuries		Incidents	
	Gas	Liquid	Gas	Liquid	Gas	Liquid
1970	22	4	-	-	1,019	351
1975	14	7	-	-	1,373	254
1980 <sup>r</sup>	15	4	177 <sup>r</sup>	15	1,524	246
1985	26	5	108 <sup>r</sup>	18	331	183
1990	6 <sup>r</sup>	3	69 <sup>r</sup>	7	199	180 <sup>r</sup>
1991	14	0	89	9 <sup>r</sup>	234 <sup>r</sup>	216 <sup>r</sup>
1992	10 <sup>r</sup>	5	80 <sup>r</sup>	38	176 <sup>r</sup>	212 <sup>r</sup>
1993	17 <sup>r</sup>	0	102 <sup>r</sup>	10	217 <sup>r</sup>	230 <sup>r</sup>
1994	21	1	112	1,858	222	244

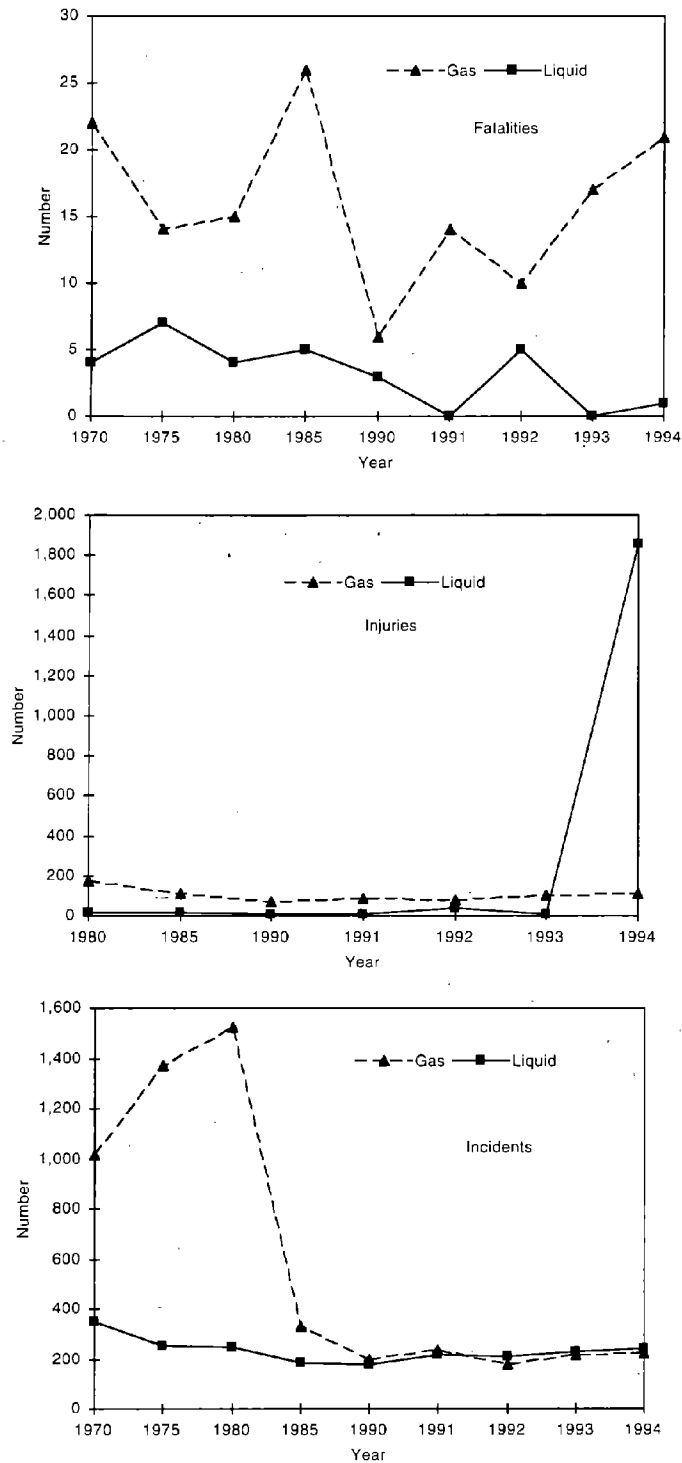
<sup>r</sup> Revised.

Note: Beginning with 1985 data, pipeline incidents are credited to the year in which they occurred, not the year in which the report was received.

Source: U.S. DOT/RSPA, Office of Pipeline Safety, DPS-35.

**FIGURE - 30**

**Liquid and Gas Pipeline Fatalities, Injuries, and Incidents, 1970-1994**



Source: See Table 60.

**TABLE - 61**

**Hazardous Materials Fatalities, Injuries, and Incidents**  
5-Year Intervals 1975-1990 and Annually 1990-1994

<b>Year</b>	<b>Fatalities</b>	<b>Injuries</b>	<b>Incidents</b>
<b>1975</b>	27	648	10,951
<b>1980</b>	19	626	15,737
<b>1985</b>	8	253	6,019
<b>1990</b>	8	423	8,882 <sup>r</sup>
<b>1991<sup>r</sup></b>	10	439	9,110
<b>1992</b>	15	604	9,355 <sup>r</sup>
<b>1993</b>	15	626	12,832 <sup>r</sup>
<b>1994<sup>p</sup></b>	11	576	16,084

<sup>p</sup> Preliminary.

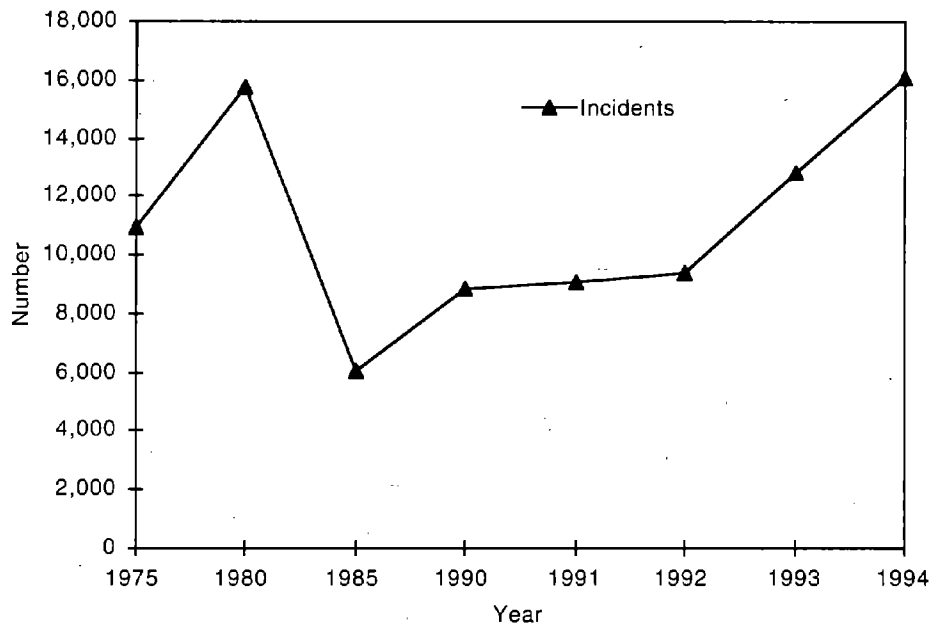
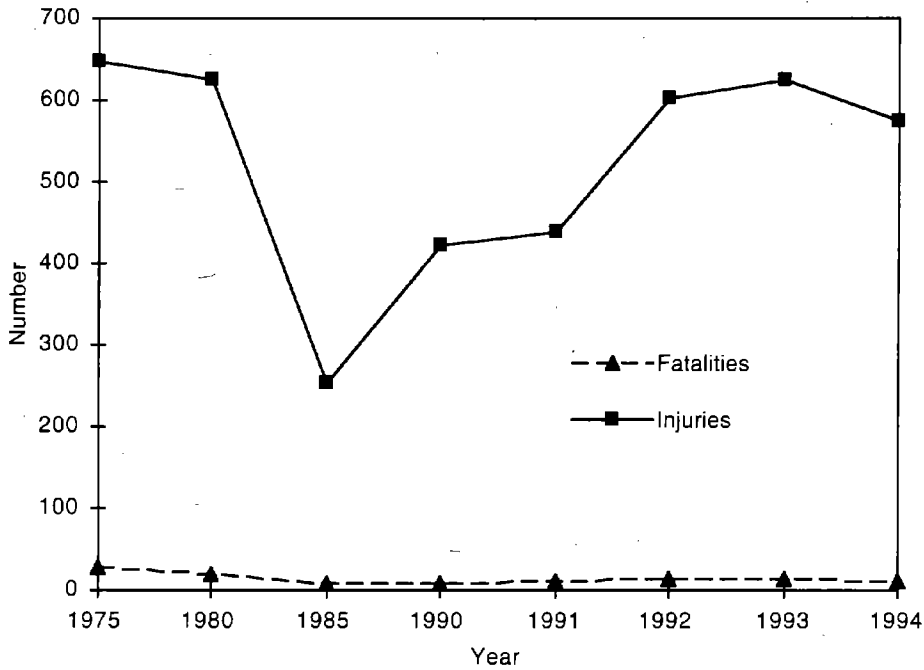
<sup>r</sup> Revised.

Note: Hazardous materials operations initiated in 1971.

Source: U.S.DOT/RSPA, Office of Hazardous Materials Transportation, DHM-63.

**FIGURE - 31**

**Hazardous Materials Fatalities, Injuries, and Incidents, 1975-1994**



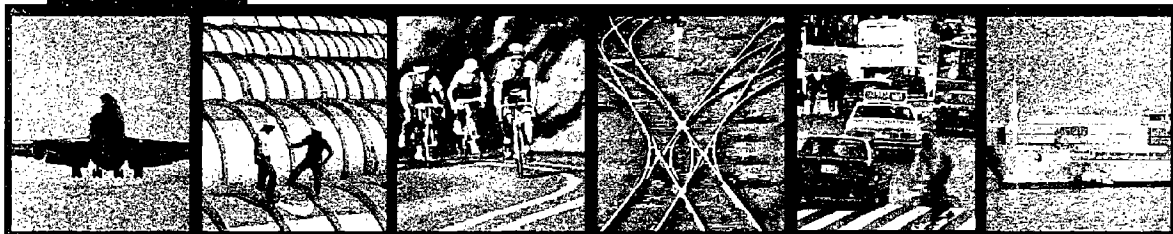
Source: See Table 61.



# TRANSPORTATION *and its* COSTS

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*Transportation and its Costs* provides tabular and graphic statistics to show transportation's interrelationship with the economy from 1960-1994.



1996





# **TRANSPORTATION** *and its COSTS*

## **SECTION I**

### **MOTOR VEHICLE SALES, PRODUCTION, *and* COSTS**

This section includes data for 1960-1994 depicting the number of motor vehicles produced and sold in the U.S. and worldwide. The cost of owning and operating an automobile for 1975-1994 is also shown.



**TABLE - 62****Annual U.S. Motor Vehicle Production and Factory Sales**

5-Year Intervals 1960–1990 and Annually 1990–1994

(Thousands)

Year	Production			Factory Sales		
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Vehicles
1960	6,703	1,202	7,905	6,675	1,194	7,869
1965	9,335	1,803	11,138	9,306	1,752	11,057
1970	6,550	1,734	8,284	6,547	1,692	8,239
1975	6,716	2,270	8,987	6,713	2,272	8,985
1980	6,376	1,634	8,010	6,400	1,667	8,067
1985	8,185	3,468	11,653	8,002	3,464	11,467
1990	6,077	3,706	9,783	6,050	3,725	9,775
1991	5,439	3,372	8,811	5,407	3,387	8,795
1992	5,664	4,065	9,729	5,685	4,062	9,747
1993	5,981	4,883	10,864	5,962	4,895	10,857
1994	6,614	5,649	12,263	6,549	5,640	12,189

Note: Sum of components may not equal total due to independent rounding. Factory sales in 1980 were greater than production total because of sales from previous year's inventory.

Source: American Automobile Manufacturers Association, *Facts & Figures*, 1995, p. 3 and similar tables in earlier editions.

**TABLE - 63**

**U.S. Retail Passenger Car Sales**

5-Year Intervals 1970–1990 and Annually 1990–1994  
(Thousands)

Year	Domestic	Imports			Total	Total Passenger Car Sales
		Japan	Germany	Other		
1970	7,119	313	750	217	1,280	8,400
1975	7,053	808	493	271	1,571	8,624
1980	6,581	1,906	305	187	2,398	8,979
1985	8,205	2,218	424	196	2,838	11,042
1990	6,897	1,719	265	419	2,403	9,300
1991	6,137	1,500	193	345	2,038	8,175
1992	6,277 <sup>r</sup>	1,452	201	284	1,937	8,213
1993	6,742 <sup>r</sup>	1,328	186	262 <sup>r</sup>	1,776 <sup>r</sup>	8,518 <sup>r</sup>
1994	7,255	1,239	192	303	1,735	8,990

<sup>r</sup> Revised.

Source: American Automobile Manufacturers Association, *Facts & Figures*, 1995, p. 20 and similar tables in earlier editions.

**TABLE - 64**

**U.S. Retail Sales of New Cars by Sector**

5 year Intervals 1960–1990 and Annually 1990–1994  
(Thousands)

Year	Units by Consuming Sector				% of Total Sales	
	Consumer	Business	Government	Total	Consumer	Business
1960	4,950	1,616	66	6,632	74.6	24.4
1965	7,106	2,149	89	9,344	76.0	23.0
1970	6,252	2,056	94	8,403	74.4	24.5
1975	5,907	2,508	123	8,538	69.2	29.4
1980	6,062	2,791	126	8,979	67.5	31.1
1985	7,083	3,822	134	11,039	64.2	34.6
1990	5,678	3,567	149	9,484	60.8	37.6
1991	4,538	3,752	97	8,387	54.1	44.8
1992	4,558	3,683	113	8,354	54.6	44.1
1993	4,669 <sup>r</sup>	3,941 <sup>r</sup>	108 <sup>r</sup>	8,718 <sup>r</sup>	53.6	45.2
1994	4,624	4,496	115	9,235	50.1	48.7

<sup>r</sup> Revised.

Source: American Automobile Manufacturers Association, *Facts and Figures*, 1995, p. 20 and similar tables in earlier editions.

TABLE - 65

**Period Sales, Market Shares, and Sales-Weighted Fuel Economies of  
New Domestic and Import Automobiles, Selected Sales Periods<sup>a</sup>**

5-Year Intervals 1980–1990 and Annually 1990–1994

	1980	1985	1990	1991	1992*	1993*	1994
<b>Minicompact</b>							
Total sales, units	428,346	52,295	76,698	73,562	100,504	77,215	42,358
Market share, %	4.70	0.5	0.8	0.9	1.2	0.9	10.5
Fuel economy, mpg	29.4	32.7	26.4	28.0	31.0	30.5	28.8
<b>Subcompact</b>							
Total sales, units	3,441,480	2,382,339	2,030,226	2,172,496	2,044,016	1,893,902	1,990,388
Market share, %	37.8	21.7	22.0	26.1	25.2	22.6	22.3
Fuel economy, mpg	27.3	30.1	31.3	31.5	31.8	31.9	31.1
<b>Compact</b>							
Total sales, units	599,523	3,526,118	3,156,481	2,458,967	2,482,187	2,708,091	3,096,054
Market share, %	6.6	32.1	34.2	29.5	30.6	32.3	34.7
Fuel economy, mpg	22.3	29.6	28.9	28.7	28.8	29.3	29.9
<b>Midsize</b>							
Total sales, units	3,073,103	3,117,817	2,511,503	2,333,104	2,249,553	2,445,842	2,448,840
Market share, %	33.8	28.4	27.2	28.0	27.8	29.2	27.5
Fuel economy, mpg	21.3	24.9	25.9	25.8	25.8	25.7	25.6
<b>Large</b>							
Total sales, units	1,336,190	1,516,249	1,279,092	1,161,679	1,140,775	1,186,991	1,265,587
Market share, %	14.7	13.8	13.9	13.9	14.1	14.2	14.2
Fuel economy, mpg	19.3	22.3	23.5	23.4	23.7	24.0	24.2
<b>Two-seater</b>							
Total sales, units	215,964	373,697	170,465	139,296	89,965	75,367	69,308
Market share, %	2.4	3.4	1.8	1.7	1.1	0.9	0.8
Fuel economy, mpg	21.0	27.6	28.0	27.4	25.6	24.6	24.0
<b>Fleet</b>							
Total sales, units	9,094,506	10,968,515	9,224,465	8,339,104	8,107,000	8,387,408	8,912,805
Market share, %	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Fuel economy, mpg	23.2	27.0	27.6	27.6	27.7	27.8	27.9

<sup>a</sup> These figures represent only those sales that could be matched to corresponding EPA fuel economy values.

\* Some figures in this column have been revised.

Source: Oak Ridge National Laboratory, *Light-Duty Vehicle MPG and Market Shares Systems*, 1995.

TABLE - 66

**Period Sales, Market Shares, and Sales-Weighted Fuel Economies of New Domestic and Import Light Trucks, Selected Sales Periods<sup>a</sup>**

5-Year Intervals 1980-1990 and Annually 1990-1994

	1980	1985	1990	1991	1992	1993	1994
<b>Small Pickup</b>							
Total sales, units	516,412	863,584	678,488	609,814	586,752	332,470	365,322
Market share, %	23.3	20.4	15.0	14.9	13.4	6.6	6.4
Fuel economy, mpg	25.5	26.8	25.2	25.6	25.0	24.9	25.3
<b>Large Pickup</b>							
Total sales, units	1,115,248	1,690,931	1,573,729	1,364,940	1,452,192	1,877,806	2,199,224
Market share, %	50.3	39.9	34.9	33.4	33.1	37.2	38.4
Fuel economy, mpg	17.0	19.0	18.9	18.9	18.9	19.6	20.1
<b>Small Van</b>							
Total sales, units	13,649	437,660	932,693	886,841	961,348	1,121,786	1,259,732
Market share, %	0.6	10.3	20.7	21.7	21.9	22.2	22.0
Fuel economy, mpg	19.6	23.9	23.1	22.6	22.5	22.8	22.1
<b>Large Van</b>							
Total sales, units	328,065	536,242	398,877	308,317	350,013	388,435	407,737
Market share, %	14.8	12.7	8.8	7.5	8.0	7.7	7.1
Fuel economy, mpg	16.3	16.4	16.9	17.1	16.9	17.3	17.4
<b>Small Utility</b>							
Total sales, units	79,776	477,706	738,294	782,125	854,572	938,514	1,032,283
Market share, %	3.6	11.3	16.4	19.2	19.5	18.6	18.0
Fuel economy, mpg	16.7	22.1	21.9	21.4	20.9	21.3	20.7
<b>Large Utility</b>							
Total sales, units	163,387	229,242	192,544	131,740	180,576	388,993	455,902
Market share, %	7.4	5.4	4.3	3.2	4.1	7.7	8.0
Fuel economy, mpg	14.6	16.6	16.1	16.4	17.2	17.6	17.9
<b>Fleet</b>							
Total sales, units	2,216,537	4,235,365	4,514,625	4,083,777	4,385,453	5,048,004	5,720,200
Market share, %	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Fuel economy, mpg	18.1	20.4	20.5	20.6	20.4	20.5	20.4

<sup>a</sup> These figures represent only those sales that could be matched to corresponding EPA fuel economy values.

Source: Oak Ridge National Laboratory, *Light Duty Vehicle MPG and Market Shares Systems*, 1995.

TABLE - 67

## World Motor Vehicle Production

10-Year Intervals 1961-1991 and Annually 1993-1994

(Thousands)

Country	Passenger Cars					Commercial Vehicles					Total							
	1961	1971	1981	1991	1993	1994	1961	1971	1981	1991	1993	1994	1961	1971	1981	1991	1993	1994
Argentina	78	193	139	114	287	338	58	60	33	25	55	70	136	253	172	139	342	409
Australia	182	393	352	278	284	329	49	77	40	15	11	9	231	470	392	293	295	338
Austria	8	1	7	14	41	45	5	6	8	6	4	3	13	7	15	19	45	48
Belgium	-	279	216	253	347	409	1	17	41	84	57	71	1	296	257	338	404	480
Brazil	98	342	406	705	1,099	1,249	47	174	374	255	323	333	145	516	780	960	1,422	1,581
Canada	328	1,083	203	1,072	1,349	1,216	63	277	520	833	889	1,106	391	1,360	1,323	1,905	2,238	2,322
China	-	-	-	40	221	250	-	-	-	604	1,089	1,100	-	-	-	644	1,310	1,350
Commonwealth of Independent States*	149	518	1,324	1,170	939	870	406	612	874	759	650	254	555	1,130	2,198	1,929	1,589	1,124
Czech Republic**	59	149	181	173	220	152	17	28	49	29	9	28	76	177	230	201	229	180
France	988	2,694	2,612	3,188	2,836	3,175	217	316	408	423	295	383	1,205	3,010	3,019	3,611	3,131	3,558
Germany	1,802	3,829	3,758	4,809	3,753	4,094	411	312	358	391	237	262	2,213	4,141	4,116	5,200	3,991	4,356
India	22	42	42	177	201	249	32	47	107	177	172	238	54	89	149	354	373	487
Indonesia	-	-	-	-	-	42	-	-	-	-	-	283	-	-	-	-	-	325
Italy	694	1,701	1,257	1,631	1,117	1,341	65	116	176	245	150	194	759	1,817	1,434	1,877	1,267	1,534
Japan	250	3,718	6,974	9,753	8,497	7,801	789	2,093	4,206	3,492	2,730	2,753	1,039	5,811	11,180	13,245	11,228	10,554
Korea	-	-	69	1,158	1,593	1,806	-	-	65	340	457	506	-	-	134	1,498	2,050	2,312
Malaysia	-	-	-	-	-	171	-	-	-	-	-	8	-	-	-	-	-	179
Mexico	154	355	720	835	856	856	-	57	242	269	245	266	-	211	597	989	1,080	1,122
Netherlands	13	78	78	85	80	92	6	13	12	26	14	23	19	91	90	111	94	115
Poland	14	86	248	155	335	326	22	60	60	30	19	25	36	146	308	185	354	351
Spain	55	453	855	1,774	1,506	1,822	20	79	132	308	262	321	75	532	987	2,082	1,768	2,142
Sweden	110	287	258	269	279	353	22	30	55	75	58	82	132	317	314	345	337	435
Taiwan	-	-	-	-	-	291	-	-	-	-	-	132	-	-	-	-	-	423
United Kingdom	1,004	1,742	955	1,237	1,376	1,467	443	456	230	217	193	228	1,447	2,198	1,184	1,454	1,569	1,695
United States	5,522	8,584	6,253	5,439	5,981	6,614	1,131	2,068	1,690	3,372	4,883	5,649	6,653	10,672	7,943	8,811	10,864	12,263
Yugoslavia	15	114	240	216	7	8	5	18	27	26	1	2	20	132	266	242	8	9
Total	11,391	26,440	26,782	34,431	33,203	35,365	3,615	6,946	9,721	15,206	12,775	14,328	9,356	33,175	37,230	33,175	45,586	49,693

\* Formerly U.S.S.R.

\*\* Formerly Czechoslovakia.

Note: Production in this table refers to vehicles locally manufactured.

Source: American Automobile Manufacturers Association, *Facts & Figures*, 1995, p. 13, and similar tables in earlier editions.

**TABLE - 68**

**Cost of Owning and Operating an Automobile**  
5-Year Intervals 1975-1990 and Annually 1990-1994

Year	Variable Costs (constant 1990 cents per mile <sup>a</sup> )				Constant 1990 Dollars per 10,000 Miles <sup>a</sup>			Total Cost per Mile <sup>c</sup> (constant 1990 cents <sup>a</sup> )
	Gas & Oil	Percentage Gas & Oil of Total Cost	Maintenance	Tires	Variable Cost	Fixed Cost <sup>b</sup>	Total Cost <sup>b</sup>	
1975	11.70	26.3	2.36	1.60	1,566	2,880	4,446	44.64
1980	9.29	21.0	1.78	1.01	1,208	3,224	4,433	44.33
1985	7.48	22.6	1.49	0.79	977	2,328	3,304	33.04
1990	5.40	13.2	2.10	0.90	840	3,256	4,096	40.96
1991	6.43	15.4	2.11	0.86	940	3,245	4,185	41.85
1992	5.59	13.1	2.05	0.84	847	3,414	4,261	42.61
1993	5.90	13.1	2.40	0.90	879	3,635	4,514	45.14
1994 <sup>p</sup>	5.60	12.0	2.50	1.00	910	3,755	4,665	46.65

<sup>p</sup> Preliminary.

<sup>a</sup> Adjusted by the Consumer Price Inflation Index.

<sup>b</sup> Fixed and total operating costs preceding 1985 are not comparable with figures after 1985. Fixed cost depreciation from 1975-1984 was based on four years/60,000 miles. After 1984, the depreciation was based on six years/60,000 miles.

<sup>c</sup> Based on 10,000 miles per year.

Note: The total cost of operating an automobile is the sum of the fixed cost (depreciation, insurance, finance charge, and license fee) and the variable cost, which is related to the amount of travel. The cost of operating a car in 1992 was approximately 43 and cents per mile. From 1985 to 1992, the fixed costs have risen an average of 5.6% per year while the variable costs have declined at an average annual rate of 2.0%.

Source: American Automobile Association, *Your Driving Costs*, 1994.



**TABLE - 69****New Car Price Comparisons with Safety and Emissions Equipment**

5-Year Intervals 1970-1990 and Annually 1990-1994

(Dollars)

Year	Estimated Average New Car Price for a 1967 "Comparable Car"		
	With Added Safety & Emissions Equipment <sup>a</sup>	Without Added Safety & Emissions Equipment <sup>b</sup>	Price Difference for Added Safety & Emissions Equipment
1970	3,601	3,459	142
1975	4,686	4,103	583
1980	6,863	5,764	1,099
1985	8,984	6,958	2,026
1990	10,581	7,938	2,643
1991	11,152	8,224	2,928
1992 <sup>r</sup>	11,458	8,424	3,034
1993 <sup>r</sup>	11,806	8,631	3,175
1994	12,427	8,925	3,502

<sup>r</sup> Revised.<sup>a</sup> 1967 "Average Transaction Price" plus the value of added safety and emissions equipment as determined by the U.S. Bureau of Labor Statistics (BLS) all inflated to current dollars using the BLS "New Car Consumer Price Index - All Urban Consumers."<sup>b</sup> 1967 "Average Transaction Price" inflated to current dollars.Source: American Automobile Manufacturers Association, *Facts & Figures 1995*, p. 60, and similar table in previous editions.



# **TRANSPORTATION** *and its COSTS*

## **SECTION 2**

### **TRANSPORTATION *and the*** **ECONOMY**

*Transportation and the Economy* presents tabular and graphic statistics to show transportation's interrelationship with the economy from 1960-1993, and 1994, where available.



TABLE - 70

## Personal Consumption Expenditures by Transportation Sector

5-Year Intervals 1960-1990 and Annually 1990-1994

(Million Dollars)

Year	User-Operated Transportation							Total
	New Cars & Net Purchases of Used Cars	New & Used Trucks & RVs	Tires, Tubes, Accessories & Parts	Repair & Rental	Gasoline & Oil	Tolls	Insurance Premiums Less Claims Paid	
1960	16,585	606	2,485	5,065	11,977	310	2,029	39,057
1965	25,294	1,284	3,444	6,901	14,696	463	2,379	54,461
1970	27,265	2,883	6,065	11,232	22,419	652	3,752	71,385
1975	37,790	7,739	10,287	19,803	39,703	821	3,776	112,180
1980	57,243	11,849	14,889	33,682	86,689	1,104	9,443	214,879
1985	111,689	37,608	18,059	57,714	96,936	1,519	10,011	333,536
1990	130,359	49,586	22,483	82,538	108,471	2,024	18,066	413,527
1991	116,189	46,020	23,339	82,371	102,879	2,048	22,678	395,524
1992	125,944	53,739	24,372	89,482	105,507	2,280	25,566	426,890
1993	139,296	62,351	26,369	98,351	105,616	2,452	27,480	461,915
1994 <sup>P</sup>	153,101	69,222	28,834	105,455	107,221	2,571	28,558	494,962

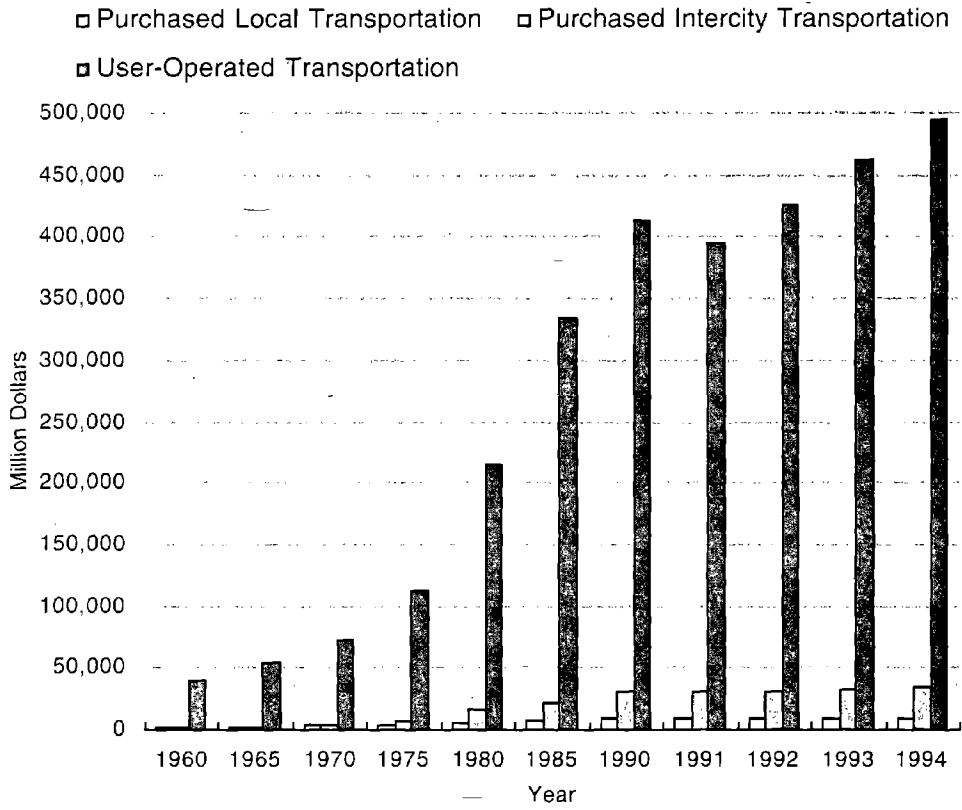
Year	Purchased Intercity Transportation					Purchased Local Transportation			Total Transportation
	Railroad	Intercity Bus	Airline	Other	Total	Mass Transit System	Taxi	Total	
1960	306	290	676	35	1,307	1,295	309	1,904	42,268
1965	284	375	1,329	54	2,042	1,313	612	1,925	58,428
1970	214	532	2,450	182	3,378	1,636	1,180	2,816	80,462
1975	267	737	5,878	387	7,269	1,865	1,968	3,833	123,282
1980	300	1,403	13,454	910	16,067	2,927	1,866	4,793	235,739
1985	449	1,612	18,664	1,643	22,368	4,435	2,926	7,361	363,265
1990	708	1,396	26,467	2,644	31,215	5,707	3,209	8,916	453,658
1991	722	1,521	25,609	2,185	30,037	5,707	3,351	9,058	434,619
1992	698	1,451	25,967	2,185	30,301	5,792	3,300	9,092	466,283
1993	690	1,286	28,525	2,515	33,016	5,899	3,384	9,283	504,214
1994 <sup>P</sup>	654	1,141	29,042	2,649	33,486	6,077	3,468	9,545	537,993

<sup>P</sup> Preliminary.<sup>r</sup> Revised.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

**FIGURE - 32**

**Personal Consumption Expenditures by Transportation Sector, 1960-1994**



Source: See Table 70.

TABLE - 71

**Personal Consumption Expenditures by Type**5-Year Intervals 1960-1990 and Annually 1990-1994  
(Million Dollars)

Year	Food & Tobacco	Clothing, Accessories & Jewelry	Personal Care	Housing	Household Operation	Medical Care	Personal Business	Transportation
1960	87,982	32,220	5,242	48,117	46,127	20,002	14,233	42,390
1965	106,968	40,305	7,617	65,469	61,322	30,053	19,714	58,426
1970	149,662	55,780	11,016	93,910	84,079	50,415	31,635	80,634
1975	233,596	85,619	16,731	147,035	135,376	107,867	52,961	130,213
1980	362,638	131,792	26,913	255,200	233,611	207,231	101,641	235,739
1985	482,818	185,903	39,948	392,498	342,265	364,698	184,912	363,265
1990	644,714	258,586	59,513	547,534	434,727	595,871	297,363	453,654
1991	666,843	264,240	60,873	574,883	453,005	646,590	326,030	433,620
1992	678,026	281,683	63,426	601,314	476,716	705,053	353,980	466,283
1993	700,251	293,871	65,751	629,012	508,178	760,525	373,337	504,214
1994 <sup>p</sup>	726,850	307,751	68,478	660,024	530,939	811,221	390,507	537,991

Year	Recreation	Education & Research	Religious & Welfare Activities	Foreign Travel & Other, Net	Total	Transportation as a Percentage of Total	Disposable Personal Income (DPI)	Transportation as a Percentage of DPI
1960	17,855	3,746	4,872	2,121	324,907	13.05	360,500	11.76
1965	25,907	5,684	6,055	2,858	430,378	13.58	491,000	11.90
1970	41,322	9,877	8,877	4,514	621,721	12.97	722,000	11.17
1975	70,902	20,466	19,688	4,445	1,024,898	12.70	1,150,900	11.31
1980	214,879	33,616	38,557	3,540	1,748,077	13.49	1,952,900	12.07
1985	187,899	54,470	63,349	5,381	2,667,396	13.62	2,943,000	12.34
1990	280,670	86,470	102,079	-12,704	3,748,417	12.10	4,050,500	11.20
1991	298,242	92,208	105,594	-19,690	3,902,437	11.11	4,236,600	10.24
1992	318,188	98,931	116,907	-23,624	4,136,883	11.27	4,505,800	10.35
1993	339,906	105,494	123,025	-25,400	4,378,164	11.52	4,668,700	10.80
1994 <sup>p</sup>	371,193	113,279	135,916	-25,713	4,628,434	11.62	4,959,600	10.85

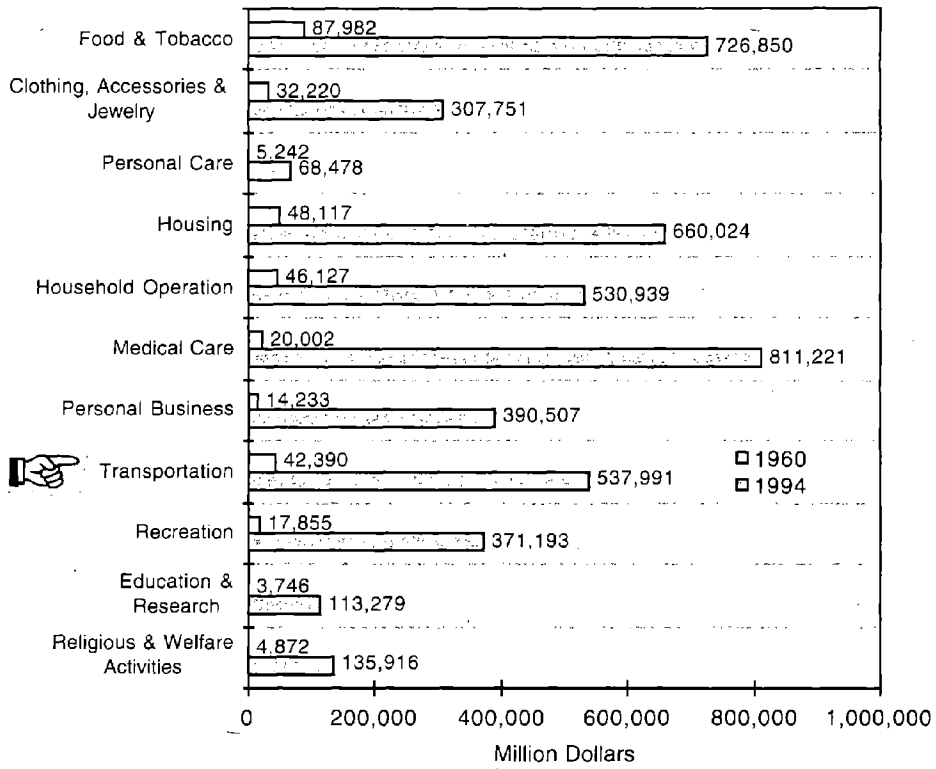
<sup>p</sup> Preliminary.

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

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

**FIGURE - 33**

**Personal Consumption Expenditures by Type, 1960 and 1994**



Source: See Table 71.



TABLE - 72

**Gross Domestic Product by Transportation Sector**

5-Year Intervals 1960-1990 and Annually 1990-1993

(Billion Dollars)

Year	Railroad	Local & Interurban Passenger Transit	Trucking & Warehousing	Water	Air	Pipeline, Except Natural Gas	Transportation Services
1960	8.4	1.8	7.5	1.8	2.0	0.6	0.9
1965	9.1	2.1	10.7	2.2	3.4	0.7	1.3
1970	10.0	2.8	15.0	2.9	6.3	1.0	1.6
1975	12.5	3.4	24.3	4.0	10.2	1.8	3.1
1980	20.6	5.3	40.3	7.2	18.1	5.2	6.3
1985	22.2	7.4	53.6	8.3	27.2	6.1	11.2
1990	22.2	10.0	73.3	10.0	39.8	4.2	17.3
1991 <sup>r</sup>	23.0	11.0	74.6	10.8	41.4	4.2	18.7
1992 <sup>r</sup>	23.0	11.4	78.4	10.3	46.0	4.7	20.1
1993 <sup>p</sup>	24.3	12.0	79.9	10.5	54.2	5.1	21.8

<sup>p</sup> Preliminary.<sup>r</sup> Revised.

Source: 1960-1990: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1993, Table 6, p. 30, Table 10, pp. 42-43.

1991-1993: *Ibid.*, April 1995, Table 1, p. 47.

**TABLE - 73**

**National Transportation and Economic Trends**  
5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Passenger-Miles (billions)		Ton-Miles (billions)		Population (millions)		Industrial Production Index*		Gross Domestic Product		
	Index†	Value	Index†	Value	Index†	Value	Index†	Value	Current Dollars (billions)	Index	Constant 1987 Dollars (billions)
1960	54	1,553	50	1,504	79	181	38	513	19	1,971	
1965	64	1,844	62	1,855	85	194	58	703	26	2,471	
1970	78	2,245	74	2,207	90	205	61	1,011	37	2,874	
1975	88	2,543	76	2,285	95	216	66	1,586	59	3,222	
1980	100	2,894	100	2,989	100	228	84	2,708	100	3,776	
1985	113	3,266	99	2,949	104	238	94	4,039	149	4,280	
1990	127	3,677	107	3,196	110	250	106	5,546	204	4,897	
1991	140	4,047	108	3,233	111	253	104	5,725	210	4,868	
1992	145	4,195	112	3,337	112	255	108	6,020	222	4,979	
1993	147	4,266	113	3,364	113	258	112	6,343	234	5,135	
1994 <sup>p</sup>	-	-	119	3,543	114	261	118	6,738	249	5,344	

<sup>p</sup> Preliminary.

† Revised.

Index (1980=100).

\* Index (1987=100).

Source: See p. 274.

TABLE - 74

## Employment in Transportation and Related Industries

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Thousands)

	1960	1965	1970	1975	1980	1985	1990	1991	1992	1993	1994
<b>Transport Sector</b>											
Air	191	229	352	363	453	522	745	733	730	740	748
Local & Interurban Passenger Transit											
Bus-Intercity & Rural	41	42	43	40	38	35	26	24	23	22	24
Local Transport	101	83	77	69	79	92	141	155	162	176	199
School Bus	-	-	-	65	80	91	111	115	118	122	126
Taxi	121	110	106	85	53	38	32	32	30	30	32
Other Local & Interurban	21	34	54	12	15	21	27	28	28	25	30
Liquid Pipeline	23	20	18	18	21	19	19	19	19	18	18
Natural Gas Pipeline (distribution)	-	-	-	51	52	62	65	63	66	62	62
(transmission)	-	-	-	37	45	46	37	38	46	34	32
(integrated)	-	-	-	55	53	43	40	40	35	39	39
(combination)	-	-	-	52	52	53	50	50	50	48	42
(non investor-owned)	-	-	-	11	13	12	12	12	12	11	11
Railroad	885	735	634	548	532	359	279	262	254	248	241
Transportation Services	-	85	115	134	198	275	345	344	348	363	392
Trucking & Warehousing	856	964	1,083	1,108	1,280	1,361	1,625	1,606	1,611	1,698	1,797
Water	232	228	212	194	211	185	177	184	173	168	169
Total	2,471	2,530	2,694	2,841	3,175	3,214	3,732	3,705	3,706	3,804	3,962
<b>Equipment Manufacturing</b>											
Aircraft & Parts	605	601	644	499	633	616	712	669	612	542	480
Motor Vehicles & Equipment	724	843	799	792	789	883	812	789	813	837	899
Railroad Equipment	43	56	51	57	71	33	33	30	29	31	35
Ship & Boat Building & Repair	141	160	172	194	221	187	188	177	170	159	159
Tires	105	102	116	124	115	94	84	81	81	82	80
Other	155	193	167	157	167	241	244	225	207	182	176
Total	1,773	1,955	1,949	1,824	1,995	2,054	2,073	1,971	1,911	1,832	1,829

**TABLE - 74** (continued)

**Employment in Transportation and Related Industries**

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Thousands)

	1960	1965	1970	1975	1980	1985	1990	1991	1992	1993	1994
<b>Related Industries</b>											
Auto & Home Supply Stores	-	-	-	212	261	304	337	332	332	340	361
Automotive Repair, Services, & Parking	251	324	384	439	571	730	914	882	881	925	971
Gasoline Service Stations	461	522	613	622	561	588	647	626	616	617	633
Highway & Street Construction	294	324	331	297	268	264	239	218	215	222	226
Motor Vehicle Wholesalers	215	255	320	382	434	454	456	448	446	451	472
New & Used Car Dealers	-	-	-	731	745	856	924	879	875	908	964
Other Automotive Retail	807	902	1,004	112	122	140	155	146	143	148	165
Total	2,027	2,327	2,652	2,795	2,962	3,336	3,672	3,532	3,508	3,612	3,790
<b>Government Employment</b>											
U.S. DOT*	-	-	104	112	112	100	104	108	110	109	103
State & Local Highway	532	577	607	604	559	549	569	564	561	-	-
Total	532	577	711	716	671	649	673	672	671	109	103
<b>Total Transportation</b>	6,803	7,389	8,007	8,177	8,803	9,253	10,150	9,880	9,796	9,356	9,683

\* U.S. DOT was created in 1966.  
Source: See pp. 274, 275, 276, 277.

**TABLE - 75****Wages and Salaries per Full-Time Employee by Transportation Sector**

5-Year Intervals 1960-1990 and Annually 1990-1993

(Dollars)

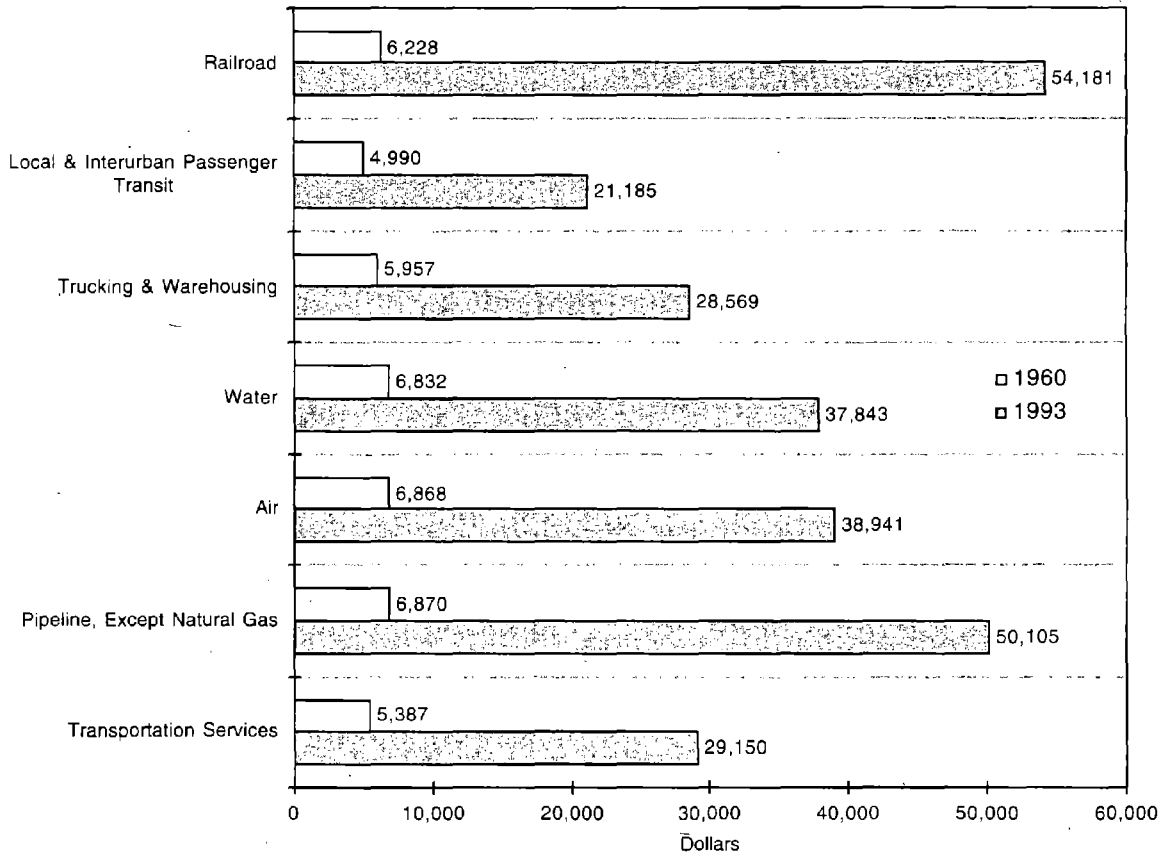
Year	Railroad	Local & Interurban Passenger Transit	Trucking & Warehousing	Water	Air	Pipeline, Except Natural Gas	Transportation Services
1960	6,228	4,990	5,957	6,832	6,868	6,870	5,387
1965	7,415	5,438	8,035	7,770	8,122	8,500	6,605
1970	10,013	6,596	10,430	10,662	11,407	10,706	8,608
1975	15,363	9,299	12,709	14,247	17,084	16,765	11,233
1980	25,385	13,224	18,864	22,990	25,498	26,182	15,604
1985	36,746	15,813	22,291	28,435	31,798	36,947	20,207
1990	41,814	19,676	25,833	33,982	34,890	43,474	25,736
1991 <sup>r</sup>	45,640	19,982	26,641	34,778	36,870	46,684	26,972
1992 <sup>r</sup>	50,004	20,566	27,812	36,160	38,146	51,053	28,141
1993 <sup>p</sup>	54,181	21,185	28,569	37,843	38,941	50,105	29,150

<sup>p</sup> Preliminary.<sup>r</sup> Revised.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July and August issues, Table 6.6C or equivalent.

**FIGURE - 34**

**Wages and Salaries per Full-Time Employee by Transportation Sector, 1960 and 1993**



Source: See Table 75.

**TABLE - 76****Total Wages and Salaries by Transportation Sector**

5-Year Intervals 1960-1990 and Annually 1990-1993

(Million Dollars)

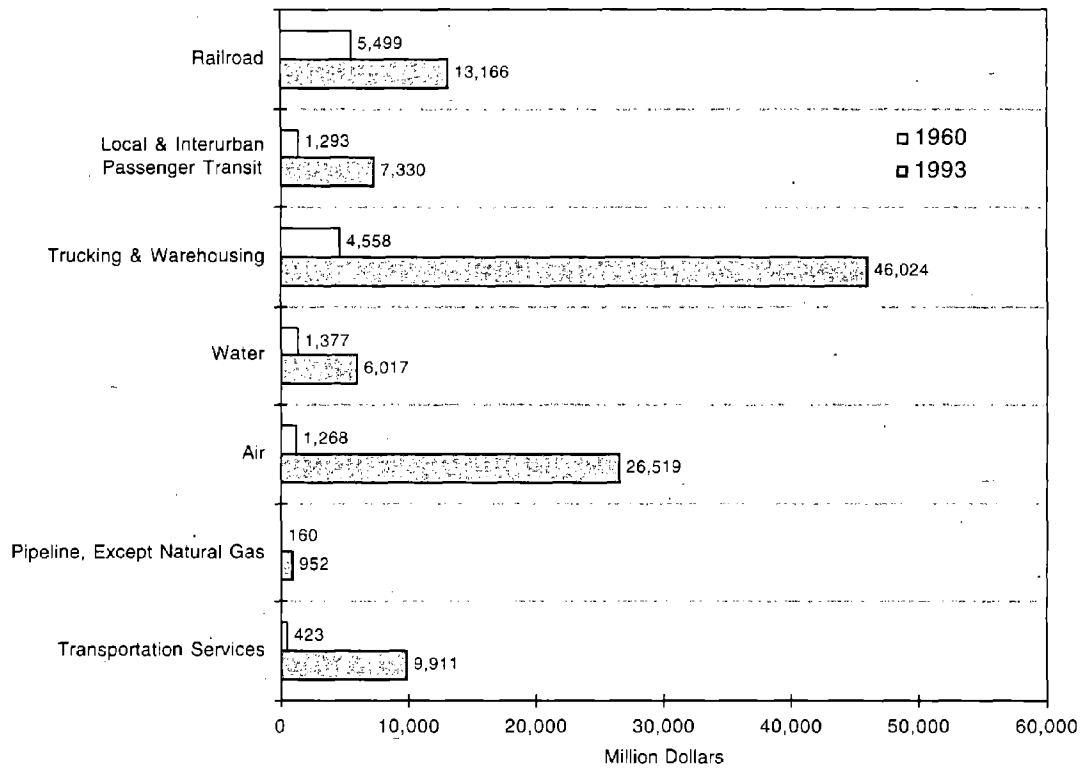
Year	Railroad	Local & Interurban Passenger Transit	Trucking & Warehousing	Water	Air	Pipeline, except Natural Gas	Transportation Services	Total
1960	5,499	1,293	4,558	1,377	1,268	160	423	14,578
1965	5,466	1,397	6,215	1,585	1,860	153	541	17,217
1970	6,114	1,771	9,031	2,141	4,038	182	878	24,155
1975	8,100	2,400	13,800	2,600	5,900	300	1,500	34,600
1980	12,800	3,400	23,700	4,600	11,000	600	3,000	59,100
1985	12,567	4,238	29,535	5,033	15,581	702	5,274	72,930
1990	11,248	6,139	40,145	5,607	24,109	826	8,390	96,464
1991 <sup>r</sup>	11,775	6,514	40,787	5,947	24,961	887	8,685	99,556
1992 <sup>r</sup>	12,451	6,828	42,830	5,894	25,634	970	9,174	103,781
1993 <sup>p</sup>	13,166	7,330	46,024	6,017	26,519	952	9,911	109,919

<sup>p</sup> Preliminary.<sup>r</sup> Revised.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July and August issues, Table 6.3C or equivalent.

**FIGURE - 35**

**Total Wages and Salaries by Transportation Sector, 1960 and 1993**



Source: See Table 76.



**TABLE - 77****Indexes of Transportation Productivity**

5-Year Intervals 1970-1990 and Annually 1990-1993

Year	Petroleum Pipelines <sup>1</sup>	Railroad Revenue Traffic <sup>1</sup>	Air <sup>2</sup>
1970	75.8	39.8	45.4
1975	91.1	45.9	55.6
1980	88.6	54.8	70.8
1985	99.9	79.8	92.0
1990	102.5	122.6	92.9
1991	99.0	128.1	92.5
1992	97.3	135.2	96.9
1993	89.3	-	103.8

<sup>1</sup> Output per hour.<sup>2</sup> Output per employee.

Index (1987=100).

Note: Bus and truck data are no longer reported.

Source: U.S. Department of Labor Statistics, Office of Productivity and Technology.

**TABLE - 78**

**Passenger and Freight Transportation Expenditures**  
5-year Intervals 1960-1990 and Annually 1990-1994  
(Million Dollars)

Type of Expenditure	1960	1965	1970	1975	1980	1985	1990	1991	1992	1993	1994
<b>Passenger Transportation Expenditures</b>											
Highway	52,370	71,628	96,977	156,550	276,699	410,313	518,026	491,152	525,813	565,428	609,501
Auto Purchases & Ownership <sup>1</sup>											
Local	668	727	921	2,348	4,649	6,774	8,326	8,639	8,966	9,269	9,444
Bus <sup>2</sup>	1,107	1,113	2,145	3,416	5,195	5,636	7,111	7,556	7,333	7,555	7,778
Taxi	486	707	1,219	2,174	3,633	5,900	7,605	7,879	8,060	8,074	8,316
School Bus											
Intercity											
Bus	559	629	799	1,016	1,709	1,989	1,750	1,875	1,899	1,667	1,410
<b>Total Highway Passenger Transportation Expenditures</b>	55,190	74,804	102,081	165,504	292,065	430,612	542,818	517,101	552,071	591,993	636,449
Air	3,555	5,682	10,565	18,851	38,135	50,319	73,410	73,155	74,051	80,757	83,292
Rail <sup>3</sup>	759	598	464	1,212	2,976	3,875	4,521	4,414	4,571	5,278	5,226
Transit <sup>3</sup>	669	727	920	2,349	4,648	6,774	8,326	8,639	8,966	9,269	9,445
Water (Includes International)	281	345	287	294	303	576	1,345	1,357	1,425	1,497	1,571
<b>Total Passenger Transportation Bill</b>	60,454	82,156	114,317	188,210	338,147	492,156	630,420	604,666	641,084	688,794	735,983
<b>Freight Transportation Expenditures</b>											
Highway	14,269	23,779	28,819	37,287	60,545	82,200	108,350	109,650	116,000	122,050	125,712
Truck											
Intercity	42	70	122	156	235	245	126	131	130	128	128
Bus	17,958	23,628	33,553	47,400	94,551	123,200	162,300	164,600	176,800	189,700	204,876
Truck	32,289	47,477	62,494	84,843	155,331	205,645	270,776	274,381	292,930	311,878	330,716
<b>Total Highway Freight Transportation Expenditures</b>	354	708	1,171	1,838	4,013	6,817	13,706	14,353	14,950	15,805	16,970
Air	895	1,051	1,396	2,220	7,548	8,910	8,387	8,101	8,521	8,421	8,559
Rail	9,028	9,923	11,869	16,509	27,858	29,150	30,067	30,128	30,744	30,775	33,098
Water	3,487	3,903	5,257	8,221	15,498	18,449	20,907	20,671	20,247	20,768	21,800
Other	1,714	1,869	1,791	2,208	3,488	4,642	7,774	8,071	8,324	8,659	9,405
<b>Total Freight Transportation Bill</b>	47,767	64,931	83,978	115,839	213,736	273,613	351,617	355,705	375,716	396,306	420,548
<b>Total Highway Passenger &amp; Freight Transportation Expenditures</b>	87,749	122,281	164,575	250,347	447,416	636,257	813,594	791,482	845,001	903,871	967,165
<b>Total Passenger &amp; Freight Transportation Bill</b>	108,221	147,087	198,295	304,049	551,883	765,769	982,037	960,371	1,016,800	1,085,100	1,156,531
<b>Transportation Percent of GDP</b>	17.1	17.4	16.3	15.8	16.5	15.8	14.7	13.8	14.0	14.2	14.4
<b>Total Passenger &amp; Freight Transportation Percent of GDP</b>	21.1	20.9	19.6	19.2	20.4	19.0	17.7	16.8	16.9	17.1	17.2
<b>Gross Domestic Product (GDP) (billions)</b>	513	703	1,011	1,586	2,708	4,039	5,546	5,725	6,020	6,343	6,738
r Revised.											

<sup>1</sup> Includes business expenditures for passenger cars.  
<sup>2</sup> Data from 1980 include federal/state authorities operating subsidies and capital grants paid to state/local authorities who have taken over commuter services from railroads. Figures also include federal operating subsidies and capital grants for Amtrak and the Northeast Corridor.  
<sup>3</sup> One-half of amount for "Bus and Transit" shown in source.  
 Note: Air includes aircraft and operating costs, intercity and domestic and international air passenger federal excise taxes.  
 Source: Eno Foundation for Transportation, *Transportation in America*, 1995, pp. 40, 42.  
 GDP: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, September 1994/1995, Tables 2/1.9.

TABLE - 79

## Per Capita Freight Statistics

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Freight Tons (millions)	Freight Ton- Miles <sup>r</sup> (billions)	Population (thousands)	Gross Domestic Product (billions of 1987 dollars)	Gross National Product (billions of 1987 dollars)	Freight Tons per Capita	Freight Ton- Miles per Dollar of GDP <sup>r</sup>	Freight Ton- Miles per Dollar of GNP <sup>r</sup>
1960	3,606	1,347	180,671	1,971	1,983	20	7,455	0.68
1965	4,435	1,855	194,303	2,471	2,489	23	9,546	0.75
1970	5,060	2,207	205,052	2,874	2,892	25	10,764	0.76
1975	4,962	2,285	215,793	3,222	3,248	23	10,587	0.71
1980	5,542	2,989	227,726	3,776	3,823	24	13,123	0.78
1985	5,646	2,949	238,466	4,280	4,295	24	12,368	0.69
1990	6,424	3,196	249,911	4,897	4,896	26	12,787	0.65
1991	6,465	3,233	252,643	4,868	4,882	26	12,795	0.66
1992	6,722	3,337	255,407	4,979	4,986	26	13,066	0.67
1993	6,946	3,364	258,120	5,135	5,140	27	13,031	0.65
1994	7,316	3,543	260,651	5,344	5,337	28	13,593	0.66

<sup>r</sup> Revised.Source: Freight Tons: Eno Foundation for Transportation, *Transportation in America*, 1995, p. 45.

Freight Ton-Miles: See Table 7 and Table references.

Population: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1995, Table 2.

Gross Domestic Product and Gross National Product: 1960-1993: U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, September 1994, Table 2, p. 41.

1994: *Ibid.*, September 1995, Table 1.10, p. 7.

**TABLE - 80**

**Lane Miles of Capacity and Highway Capital Expenditures**  
Annually 1984-1994

Year	Lane Mile Capacity*	Capital Expenditures (millions)
1984	2,693,604	23,123
1985	2,698,283	26,647
1986	2,706,221	29,232
1987	2,725,974	30,740
1988	2,733,309	32,956
1989	2,739,188	33,144
1990	2,744,304	35,151
1991	2,749,109	36,638
1992	2,750,931	38,309
1993	2,774,914	39,528
1994	2,790,197	42,128

\* Lane miles do not include local miles.

Source: Lane Mile Capacity: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Table HM-60.  
Capital Expenditures: 1984-1991: *ibid*, *Highway Funding Bulletin*, Table HF-12.  
1992-1994: *ibid*, *Highway Statistics*, Table HF-10A.

**TABLE - 81****Railroad Roadway and Structures Capital and Maintenance Expenditures**

5-Year Intervals 1960–1990 and Annually 1990–1994  
(Thousand Dollars)

<b>Year</b>	<b>Capital Expenditures</b>	<b>Maintenance Expenditures</b>
1960	285,664	1,191,690
1965	327,084	1,235,801
1970	358,344	1,612,585
1975	486,417	2,408,980
1980	953,467	4,940,091
1985	3,458,015	4,335,663
1990	2,643,966	4,278,075
1991	2,369,405	5,215,582
1992	2,736,002	4,373,006
1993	2,795,370	4,353,206
1994	3,151,601	4,400,909

Note: A change in accounting practices of Railroads after 1980 caused some changes in the definition of capital and maintenance expenditures.

Source: Association of American Railroads, *Railroad Facts*, 1995, pp. 15, 43.

**TABLE - 82**

**Federal Transportation-Related Budget Receipts by Type of Fund**

5-Year Intervals 1980–1990 and Annually 1990–1994  
(Millions of Current Dollars)

Fiscal Year	Highway Trust Fund*	Highway Trust Fund Transit Account	Airport/Airways Trust Fund	Water Receipts	Pipeline Safety Fund	Emergency Prep Fund	Total
1980	7,647	–	2,274	381	–	–	10,302
1985	12,908	1,420	3,598	463	–	–	18,388
1990	13,453	1,977	4,945	1,147	10	–	21,532
1991	15,304	3,149	6,206	1,325	11	–	25,995
1992	16,572	1,816	5,918	1,474	14	3.0	25,797
1993	16,864	2,735	6,096	1,591	15	10.0	27,310
1994 <sup>P</sup>	15,415	2,691	6,027	1,394	19	7.0	25,553

<sup>P</sup> Preliminary.

\* Beginning in 1983, a portion of the fuel tax credited to the Highway Trust Fund is earmarked for transit.

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

Source: U.S. DOT/BTS, *Federal Transportation Financial Statistics*.

**TABLE - 83**

**Federal Transportation Outlays by Mode**

5-Year Intervals 1980–1990 and Annually 1990–1994  
(Millions of Current Dollars)

Fiscal Year	Transit	Highway	Air	Water & Marine	Rail	Pipeline	Unallocated	Total
1980	3,307	9,703	3,762	2,778	2,170	3	177	21,899
1985	3,427	13,327	4,947	3,070	1,057	4	182	26,016
1990	3,832	14,722	7,305	3,069	534	9	195	29,666
1991	3,917	14,973	8,187	3,355	779	18	279	31,509
1992	3,675	15,991	9,313	3,792	900	12	274	33,977
1993	3,517	17,068	9,992	3,865	814	14	340	35,610
1994 <sup>P</sup>	3,776	19,442	10,052	3,819	832	14	393	38,327

<sup>P</sup> Preliminary.

Source: U.S. DOT/BTS, *Federal Transportation Financial Statistics*.

**TABLE - 84****Federal Transportation User Receipts and Outlays**

Annually 1977-1994  
(Millions of Current Dollars)

<b>Year</b>	<b>Total User Receipts</b>	<b>Total Government Outlays</b>
1977	8,973	15,326
1978	9,443	16,185
1979	10,213	18,318
1980	10,302	21,899
1981	9,677	24,265
1982	10,008	21,187
1983	12,507	21,828
1984	16,352	24,918
1985	18,388	26,016
1986	18,769	27,485
1987	18,838	26,189
1988	20,109	27,203
1989	22,237	27,600
1990	21,532	29,666
1991	25,995	31,509
1992	25,797	33,977
1993	27,310	35,610
1994 <sup>P</sup>	25,553	38,327

<sup>P</sup> Preliminary.

Source: U.S. DOT/BTS, *Federal Transportation Financial Statistics*.

**TABLE - 85**

**Federal Transportation User Receipts and Outlays**

Annually 1977-1994  
(Millions of 1987 Dollars)

<b>Year</b>	<b>Total User Receipts</b>	<b>Total Government Outlays</b>
1977	15,967	27,271
1978	15,634	26,796
1979	15,474	27,755
1980	14,035	29,835
1981	11,888	29,810
1982	11,490	24,324
1983	13,744	23,987
1984	17,414	26,537
1985	18,977	26,848
1986	19,036	27,875
1987	18,838	26,189
1988	19,599	26,513
1989	20,821	25,843
1990	19,398	26,726
1991	22,545	27,327
1992	21,462	28,267
1993	21,953	28,625
1994 <sup>P</sup>	19,732	29,596

<sup>P</sup> Preliminary.

Source: U.S. DOT/BTS, *Federal Transportation Financial Statistics*.



**TABLE - 86****Government Expenditures for Transportation**

Annually 1982-1992  
 (Millions of 1987 Dollars)

<b>Year</b>	<b>State &amp; Local Spending Less Federal Grants</b>	<b>Federal Grants</b>	<b>Federal Spending without Grants</b>
1982	45,001	15,895	11,235
1983	46,384	16,241	9,669
1984	46,942	17,632	11,036
1985	49,875	19,045	9,805
1986	54,466	18,896	10,327
1987	57,637	18,049	9,659
1988	59,375	18,011	9,299
1989	60,196	17,519	9,292
1990	61,819	17,578	9,535
1991	64,733	17,508	10,213
1992	65,399	17,774	11,138

Source: U.S. DOT/BTS, *Federal, State, and Local Transportation Financial Statistics*, Tables 3 and 8.

**TABLE - 87**

**U.S. Government Transportation Research, Planning and R&D Outlays**

5-Year Intervals 1965-1990 and Annually 1990-1994  
(Million Dollars)

	1965	1970	1975	1980	1985	1990	1991	1992	1993	1994
<b>General</b>										
Dept. of Transportation	2.0	8.1	33.3	22.1	7.5	20.5	16.8	8.3	5.9	13.3
Dept. of Agriculture	5.9	9.0	11.6	12.5	15.1	18.3	20.1	21.2	21.6	22.4
Total	7.9	17.1	44.9	34.6	22.6	38.8	36.9	29.5	27.5	35.7
<b>Air</b>										
FAA - Aviation <sup>a</sup>	96.8	214.4	104.9	127.5	279.3	173.3	196.4	231.1	259.6	240.0
NASA - Aircraft technical	65.6	187.3	305.8	510.7	651.8	807.7	918.4	1,121.4	1,251.6	1,364.7
Total	162.4	401.7	410.7	638.2	931.1	981.0	1,114.8	1,352.5	1,511.2	1,604.7
<b>Highway</b>										
FHWA - Highways <sup>b</sup>	-	94.2	20.1	42.2	41.4	44.4	46.6	48.9	83.5	80.0
NHTSA/FHWA - Safety	-	14.0	21.8	50.1	36.9	40.9	44.9	51.3	62.4	62.5
Total	38.0	108.2	42.9	92.3	78.3	85.3	91.5	100.2	145.9	142.5
<b>Rail - FRA</b>	-	16.4	43.0	47.8	15.0	21.6	19.8	21.5	31.5	19.6
<b>Transit - FTA</b>	1.0	7.6	88.6	75.7	40.1	13.5	12.8	11.5	16.6	7.8
<b>Water</b>										
Maritime Administration	9.3	12.7	26.5	31.2	12.4	10.0	10.4	12.1	12.1	11.5
Coast Guard	-	10.1	16.6	21.9	18.4	24.2	16.4	23.6	35.5	21.6
Total	9.3	22.8	43.1	53.1	30.8	34.2	26.8	35.7	47.6	33.1
<b>Total Transportation R&amp;D</b>	218.6	495.6	672.2	941.7	1,117.9	1,174.4	1,302.6	1,550.9	1,780.3	1,843.4
<b>Total U.S. Government R&amp;D</b>	14,889.0	15,632.0	19,525.0	30,389.0	45,244.0	64,674.0	66,281.0	71,956.0	72,478.0	71,073.0
<b>Percent Trans. R&amp;D of Total U.S.</b>	1.5	3.2	3.4	3.1	2.5	1.8	2.0	2.2	2.5	2.6

<sup>r</sup> Revised.

<sup>a</sup> Includes R&D outlays for years 1965 and 1970 for U.S. supersonic transport program, which was subsequently phased down to basic research.

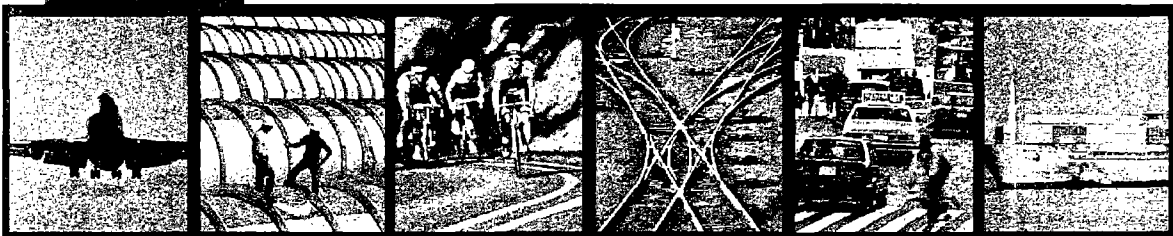
<sup>b</sup> Does not include considerable research funded by FHWA but administered by States.

Source: Eno Foundation for Transportation, *Transportation in America*, 1995, p. 74.

# TRANSPORTATION, ENERGY, *and the* ENVIRONMENT

NTS

*Transportation, Energy, and the Environment* details the relationship between energy and transportation, particularly in the areas of Energy Consumption, Energy Intensiveness, Energy Transport, and Energy Supply and Demand for the years 1960-1993, and 1994, where available. Some data are illustrated for 1955.



1996

## ENERGY EQUIVALENTS

### 1 BTU of Energy equals approximately:

- 1 match tip
- 250 calories (International Steam Table)
- 0.25 kilocalories (food calories)

### 1 million BTU of Energy equals approximately:

- 90 pounds of coal
- 8 gallons of motor gasoline
- 10 therms of dry natural gas
- 11 gallons of propane
- 1.1 days of U.S. energy consumption per capita

### 1 Quadrillion<sup>a</sup> BTU of Energy equals approximately:

- 45 million short tons of coal
- 60 million short tons of oven-dried hard wood
- 1 trillion cubic feet of dry natural gas
- 170 million barrels of crude oil
- 470 thousand barrels of crude oil per day for 1 year
- 19 days of U.S. petroleum imports
- 25 days of U.S. motor gasoline use
- 25 hours of world energy use (1993)

<sup>a</sup> One quadrillion equals 1,000,000,000,000,000.

<sup>b</sup> However, because of net energy losses associated with the generation of electricity, about three times as much fossil fuel is required to generate 1,000 kilowatthours: 1.8 barrels of crude oil, 0.47 short tons of coal, or 10,000 cubic feet of natural gas.

Note: One million BTU of fossil fuels burned at electric utilities can generate about 100 kilowatthours of electricity, while it takes about 300 kilowatthours of electricity generated at electric utilities to produce 1 million BTU of heat. Calculations are based on 1994 data where applicable, unless otherwise noted.

Source: U.S. DOE/EIA, *Annual Energy Review* 1994. p. 366.

### One Barrel of Crude Oil equals approximately:

- 16 days of U.S. petroleum consumption per capita
- 5.6 thousand cubic feet of dry natural gas
- 0.26 short tons (520 pounds) of coal
- 1.7 thousand kilowatthours of electricity<sup>b</sup>

### One short ton of Coal equals approximately:

- 102 days of U.S. coal consumption per capita
- 3.8 barrels of crude oil
- 21 thousand cubic feet of dry natural gas
- 6.5 thousand kilowatthours of electricity<sup>b</sup>

### 1,000 Cubic Feet of Natural Gas equals approximately:

- 4.6 days of U.S. natural gas consumption per capita
- 300 kilowatthours of electricity<sup>b</sup>

### 1,000 Kilowatthours of electricity equals approximately:

- 32 days of U.S. electricity use per capita

# TRANSPORTATION, ENERGY, *and the* ENVIRONMENT

## **SECTION I**

### ENERGY CONSUMPTION

This section details the amount of fuel consumed by each mode of transportation and end-use sector. Also presented are fuel price data for 1960-1994. In some instances, data are shown for 1955.

**NOTE:** In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.



TABLE - 88

## Fuel Consumption by Mode of Transportation

5-Year Intervals 1960-1990 and Annually 1992-1994

	1960	1965	1970	1975	1980	1985	1990	1992	1993	1994
<b>Class I Railroads</b>										
Locomotives										
Diesel Fuel, (million gallons)	3,472	3,742	3,808	3,736	3,955	3,144	3,134	3,022	3,112	3,356
<b>Air</b>										
Certified Carriers*										
Jet Fuel, (million gallons)	1,954	3,889	7,857	7,558	9,096	10,121	12,936	11,590	11,930	12,501
General Aviation										
Aviation Gasoline, (million gallons)	242	292	551	412	520	421	353	314	268	269
Jet Fuel, (million gallons)	-	81	208	453	766	691	663	494	454	451
<b>Highway</b>										
Gasoline, Diesel & Other Fuels (million gallons)										
Passenger Cars <sup>1</sup>	41,169	49,723	67,820	76,447	71,883	69,268	71,989	73,823	73,553	73,825
Motorcycles	+	+	60	113	204	182	191	191	198	205
Buses	827	875	820	1,053	1,018	835	895	677	947	975
Other 2-Axle 4-Tire Vehicles <sup>1</sup>	-	13,848	12,313	17,903	23,594	29,021	32,937	33,127	36,476	37,550
Single-Unit 2-Axle 6-Tire or More Trucks <sup>1</sup>	-	-	3,968	4,815	5,557	6,735	7,294	7,179	8,277	8,996
Combination Trucks <sup>1</sup>	-	6,658	7,348	9,654	12,703	15,280	17,469	17,691	17,719	18,580
<b>Water</b>										
Residual Fuel Oil, (million gallons)	3,952	3,093	3,774	4,060	8,952	4,590	6,326	6,563	5,282	5,386
Distillate Fuel Oil, (million gallons)	787	652	819	1,098	1,478	1,699	2,065	2,219	2,155	2,189
Gasoline, (million gallons)	-	-	598	730	1,052	1,053	1,300	1,316	874	-
<b>Transit**</b>										
Electricity, (million kWh)	2,908	2,584	2,561	2,646	2,446	4,216	4,853	4,716	4,781	-
Motor Fuel, (million gallons)										
Gasoline	192	124	68	8	11	46	34	37	45	-
Diesel	208	248	271	365	431	609	651	685	688	-
<b>Pipelines, Natural Gas,</b> (million cubic feet)	347,075	500,524	722,166	582,963	634,622	503,766	659,816	587,710	624,308	-

<sup>†</sup> Revised.

\* Domestic consumption only.

\*\* Prior to 1984, excludes commuter rail, automated guideway, urban ferryboat, demand response, and most rural and smaller systems. Series not continuous between 1983 and 1984.

+ Included in passenger cars.

<sup>1</sup> See p. 181 for explanation of changes in vehicle categories between 1992 and 1993

Source: See p. 277.

**TABLE - 89**

**Fuel Consumption by Certificated Air Carriers\***  
 5-Year Intervals 1960-1990 and Annually 1990-1994  
 (Thousand Gallons)

Year	Total Certificated Route Air Carriers	Domestic Operations				International Operations		
		Total Domestic Operations	Majors <sup>a</sup>	Nationals <sup>b</sup>	Other	Total Inter- national Operations	Majors <sup>c</sup>	Other
1960	2,519,757	1,954,236	1,806,202	88,032	59,842	565,520	547,040	18,480
1965	5,169,023	3,888,834	3,617,172	176,252	95,390	1,280,189	1,235,878	44,311
1970	10,099,172	7,856,593	7,106,903	618,126	102,577	2,242,579	2,013,883	228,696
1975	9,506,600	7,557,700	6,650,000	725,800	181,900	1,948,900	1,756,700	192,200
1980	11,034,038	9,096,023	7,424,555	1,094,678	577,090	1,937,715	1,764,506	173,209
1985	12,598,193	10,121,329	7,726,689	2,106,161	288,479	2,476,864	2,052,972	423,892
1990	16,412,553	12,935,950	11,279,812	952,097	203,541	3,977,103	3,586,302	390,801
1991	15,581,992	11,637,280	10,510,055	934,472	192,753	3,944,712	3,485,020	459,692
1992	15,669,071	11,589,822	10,510,055	692,650	178,861	4,079,249	3,749,798	329,451
1993	16,042,206	11,930,411	10,916,623	710,997	302,790	4,111,795	3,709,668	402,127
1994	16,827,415	12,500,554	11,167,315	1,078,826	254,413	4,326,861	3,694,754	632,107

\* Includes Majors, Nationals, and Large Regional Carriers, scheduled and charter passenger and all-cargo.

<sup>a</sup> 1960-1980: categorized as domestic trunk.

<sup>b</sup> 1960-1980: categorized as local service.

<sup>c</sup> 1960-1980: categorized as international trunk.

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

Source: 1960-1975: CAB, *Handbook of Airline Statistics*, 1977.

1980: *Ibid.*, *Fuel Cost and Consumption, Twelve Months Ended December 31, 1984*.

1985-1994: U.S. DOT/BTS, Office of Airline Information, K-25.



TABLE - 90

## Total Motor Vehicle Fuel Consumption and Travel

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered (thousands) <sup>a</sup>	Vehicle-Miles Traveled (millions)	Average Miles Traveled per Vehicle	Average Miles Traveled per Gallon	Fuel Consumed (million gallons)	Average Fuel Consumed per Vehicle (gallons)
1960	74,475	718,845	9,652	12.42	57,878	777
1965	91,752	887,640	9,674	12.48	71,104	775
1970	111,242	1,109,724	9,976	12.02	92,329	830
1975	137,913	1,327,664	9,627	12.18	108,984	790
1980	161,490	1,527,295	9,458	13.29	114,960	712
1985	177,098	1,774,179	10,018	14.62	121,322	685
1990	193,057	2,144,362	11,107	16.40	130,775	677
1991	192,314	2,172,050	11,294	16.85	128,561	668
1992	194,427	2,247,151	11,558	16.90	132,888	683
1993	198,041	2,296,700	11,597	16.74	137,169	693
1994	201,763	2,359,984	11,697	16.84	140,131	695

<sup>r</sup> Revised.

<sup>a</sup> Includes personal passenger vehicles, buses, and motor trucks.

Source: 1960-1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.  
1985-1994: *ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

**TABLE - 91**

**Fuel Consumption and Travel by Passenger Cars and Motorcycles**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered <sup>a</sup> (thousands)	Vehicle-Miles Traveled <sup>a</sup> (millions)	Average Miles Traveled per Vehicle		Average Miles Traveled per Gallon		Fuel Consumed (million gallons)		Average Fuel Consumed per Vehicle (gallons)	
			Passenger Cars <sup>b</sup>	Motorcycles	Passenger Cars <sup>b</sup>	Motorcycles	Passenger Cars <sup>b</sup>	Motorcycles	Passenger Cars <sup>b</sup>	Motorcycles
1960	62,258	588,083	9,446	*	14.28	*	41,169	*	661	*
1965	76,643	709,300	9,255	*	14.27	*	49,723	*	649	*
1970	92,068	919,679	10,272	1,055	13.52	50	67,820	60	760	21
1975	111,670	1,039,579	9,690	1,134	13.52	50	76,447	113	716	23
1980	127,295	1,121,810	9,141	1,794	15.46	50	71,883	204	591	36
1985	137,308	1,269,651	9,560	1,669	18.20	50	69,268	182	525	33
1990	147,713	1,522,741	10,548	2,244	21.02	50	71,989	191	502	45
1991	146,746	1,542,730	10,757	2,197	21.69	50	70,692	184	496	44
1992 <sup>r</sup>	148,279	1,610,396	11,100	2,351	21.68	50	73,823	191	512	47
1993	135,559	1,557,272	11,760	2,490	21.04	50	73,553	198	559	50
1994	137,646	1,595,869	11,839	2,757	21.48	50	73,825	205	551	50

<sup>r</sup> Revised.

\* Data included with passenger car information.

<sup>a</sup> Includes motorcycles.

<sup>b</sup> See p. 181 for explanation of changes in vehicle categories between 1992 and 1993.

Source: 1960-1990: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A. 1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

**TABLE - 92****Fuel Consumption and Travel by Buses**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered <sup>a</sup>	Total Vehicle-Miles Traveled <sup>a</sup> (millions)	Average Miles Traveled per Vehicle	Average Miles Traveled per Gallon	Total Fuel Consumed (million gallons)	Average Fuel Consumed per Vehicle (gallons)
1960	272,000	4,353	16,004	5.26	827	3,040
1965	314,000	4,684	14,903	5.35	875	2,784
1970	377,562	4,544	12,035	5.54	820	2,172
1975	462,156	6,055	13,102	5.75	1,053	2,279
1980	528,789	6,059	11,458	5.95	1,018	1,926
1985	593,485	4,876	8,216	5.84	835	1,407
1990	626,987	5,719	9,121	6.39	895	1,428
1991	631,279	5,743	9,097	6.65	864	1,369
1992	644,732	5,759	8,932	6.57	877	1,360
1993	654,432	6,126	9,361	6.47	947	1,447
1994	670,423	6,416	9,570	6.58	975	1,454

Revised.

<sup>a</sup> Includes commercial, school and nonrevenue buses.Source: 1960-1965 and 1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.  
1970-1975 and 1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

**TABLE - 93**

**Fuel Consumption and Travel by Trucks**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered (millions)	Vehicle-Miles Traveled (millions)	Average Miles Traveled per Vehicle*			Average Miles Traveled per Gallon*			Total Fuel Consumed (million gallons)*			Average Fuel Consumed per Vehicle (gallons)*					
			Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination	Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination	Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination	Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination			
1960	11,945	126,409															
1965	14,795	173,656	10,077	41,292	4.88	10.19	4.88	13,848	6,658	989	8,460						
1970	18,797	185,501	8,676	38,819	4.78	10.01	4.78	12,313	7,348	866	8,119						
1975	25,781	282,030	9,829	41,321	5.40	11.21	5.40	17,903	9,654	877	7,653						
1980	33,667	399,426	10,437	48,472	5.41	12.33	5.41	23,594	12,703	846	8,966						
1985	39,196	499,652	11,115	56,725	5.21	12.86	5.21	29,021	15,280	857	10,889						
1990	44,718	615,902	11,993	59,807	5.52	14.15	5.52	32,937	17,469	847	10,841						
1991	44,936	623,577	12,103	60,456	5.65	14.54	5.65	32,531	17,157	833	10,699						
1992	45,504	630,996	12,096	59,894	5.60	14.44	5.60	33,127	17,691	838	10,691						
1993	61,828	733,302	10,293	64,794	5.82	15.72	5.82	36,476	17,719	655	11,133						
1994	63,445	757,699	10,278	67,112	5.87	15.64	5.87	37,550	18,580	657	11,433						

\* Revised.

\* See p. 181 for explanation of changes in vehicle categories between 1992 and 1993.

Source: 1960-1980: U.S. DOT/FHWA, Highway Statistics, Summary to 1985, Table VM-201A. 1985-1994: *Ibid.*, Highway Statistics, Annual Issues, Table VM-1.

**TABLE - 94****Electric Power and Motor Fuel Consumption by the U.S. Transit Industry\***

5-Year Intervals 1955-1990 and Annually 1990-1993

Year	Electric Power Consumed (million Kilowatt hours)	Motor Fuel Consumed (thousand gallons)	
		Gasoline <sup>a</sup>	Diesel
1955	3,530	276,000	172,600
1960	2,908	191,900	208,100
1965	2,584	124,200	248,400
1970	2,561	68,200	270,600
1975	2,646	7,576	365,060
1980	2,446	11,400	431,400
1985	4,216	45,704	608,738
1990	4,837	33,906	651,030
1991	4,853	34,467	665,158
1992 <sup>r</sup>	4,716	37,179	684,944
1993 <sup>p</sup>	4,781	44,744	687,699

<sup>p</sup> Preliminary.<sup>r</sup> Revised.

\* Prior to 1984, excludes commuter rail, automated guideway, urban ferryboat, demand response, and most rural and smaller systems.

<sup>a</sup> Includes gasoline, propane, LPG, LNG, kerosene and others.Source: American Public Transit Association, *Transit Fact Book*, 1994/1995, Tables 6 and 65, and similar tables in earlier editions.

**TABLE - 95**

**Average Retail Price of Transportation Fuel**

5-Year Intervals 1960-1990 and Annually 1990-1994

(Cents per Gallon)

Year	Aviation Fuel		Highway Fuel			Railroad Fuel, Diesel <sup>1</sup>
	Aviation Gasoline <sup>1</sup>	Jet Fuel Kerosene <sup>1</sup>	Gasoline (including taxes) Unleaded Premium <sup>2</sup>	Unleaded Regular <sup>2</sup>	Diesel No. 2 <sup>1</sup>	
1960	-	-	-	-	-	9.0
1965	-	-	-	-	-	9.1
1970	-	-	-	-	-	10.7
1975	41.1	29.8	-	-	-	30.0
1980	108.4	86.8	-	124.5	81.8	83.0
1985	120.1	79.6	134.0	120.2	78.9	78.3
1990	112.0	76.6	134.9	116.4	72.5	69.2
1991	104.7	65.2	132.1	114.0	64.8	67.2
1992	102.7	61.0	131.6	112.7	61.9 <sup>r</sup>	63.2
1993	99.0	58.0 <sup>r</sup>	130.2	110.8	60.2 <sup>r</sup>	63.1
1994 <sup>p</sup>	95.6	53.4	130.5	111.2	55.4	59.9

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>1</sup> Average price for sales to end users by refiners.

<sup>2</sup> Average retail price.

Source: Railroad Fuel: Association of American Railroads, *Railroad Facts*, 1995, p. 60.  
Other Data: U.S. DOE/EIA, *Annual Energy Review 1994*, Tables 5.20, 5.21.

**TABLE - 96**

**Price Trend of Gasoline vs. Other Consumer Goods and Services**

5-Year Intervals 1955-1990 and Annually 1990-1994

Year	Retail Price of Regular Grade Gasoline (cents per gallon)			Price Indexes of Motor Fuel and Other Consumer Items (Index: 1982-1984 = 100)					
	Service Station Price Excl. Taxes	State & Federal Taxes	Service Station Price Incl. Taxes	All Items	Food	Shelter	Apparel & Upkeep	Motor Fuel	Medical Care
1955	21.42	7.65	29.07	26.8	27.8	22.7	42.9	22.1	18.2
1960	20.99	10.14	31.13	29.6	30.0	25.2	45.7	24.4	22.3
1965	20.70	10.45	31.15	31.5	32.2	27.0	47.8	25.1	25.2
1970	24.55	11.14	36.69	38.8	39.2	35.5	59.2	27.9	34.0
1975	44.93	11.77	56.70	53.8	59.8	48.8	72.5	45.1	47.5
1980	107.35	14.37	119.10	82.4	86.8	81.0	90.9	97.4	74.9
1985	89.64	21.86	111.50	107.6	105.6	109.8	105.0	98.7	113.5
1990	89.00	25.90	114.90	130.7	132.4	140.0	124.1	101.2	162.8
1991	81.20	32.80	114.00	136.2	136.3	146.3	128.7	99.4	177.0
1992	79.10	33.60	112.70	140.3	137.9	151.2	131.9	99.0	190.1
1993	75.40	35.40	110.80	144.5	140.9	155.7	133.7	98.0	201.4
1994	70.00	41.20	111.20	148.2	144.3	160.5	133.4	98.5	211.0

Revised.

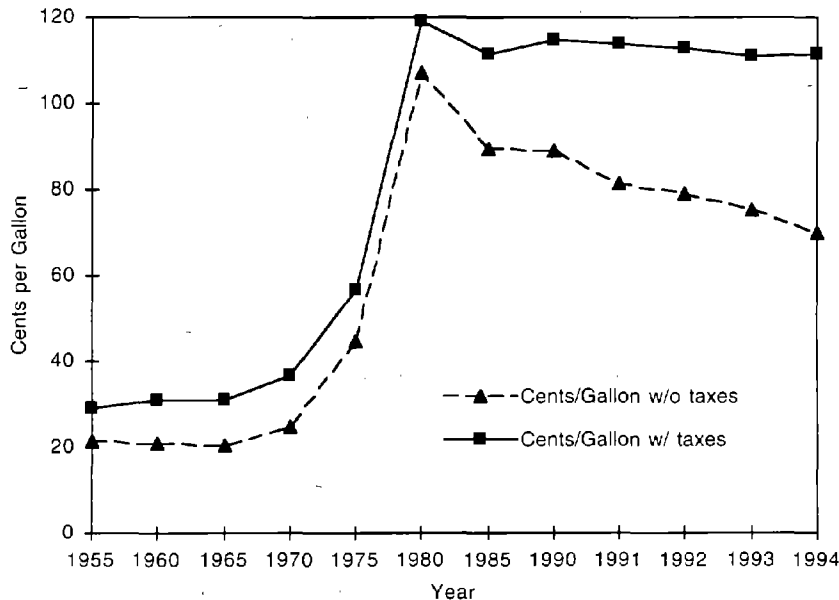
\* Price of regular unleaded gasoline for years 1991-1994. Regular leaded prices are no longer available.

Source: Price of Regular Grade Gasoline: American Petroleum Institute, *Basic Petroleum Data Book*, Section VI, Table 5 and similar tables in earlier editions.

Price Indexes of Motor Fuel/Consumer Items: Council of Economic Advisors, *Economic Report of the President*, February 1995, Tables B-59, 60.

**FIGURE - 36**

**Price Trend of Regular Grade Gasoline, 1955-1994**



**TABLE - 97**

**Average Fuel Efficiency of U.S. Passenger Cars**  
5-Year Intervals 1955-1990 and Annually 1990-1995

Year	Average U.S. Passenger <sup>1</sup> Car Fuel Efficiency (mpg) (Calendar Year)	New Car Fuel Efficiency, (mpg) <sup>2</sup> (Model Year)	
		Domestic Cars	Domestic & Imported Cars
1955	14.53	16.0	16.1
1960	14.28	15.5	16.1
1965	14.27	15.4	15.9
1970	13.52	14.1	15.2
1975	13.52	15.1	16.2
1980	15.46	22.6	24.3
1985	18.20	26.3	27.6
1990	21.02	26.9	28.0
1991	21.69	27.3	28.4
1992	21.68	27.0	27.9
1993	21.04	27.8	28.4
1994	21.48	27.3	28.2
1995	-	27.7	28.5

<sup>r</sup> Revised.

<sup>1</sup> See p. 181 for explanation of changes in vehicle categories between 1992 and 1993.

<sup>2</sup> 55% city; 45% highway miles sales weighted harmonic average.

Source: Average Passenger Car Fuel Efficiency: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Table VM-1.

New Car Fuel Efficiency:

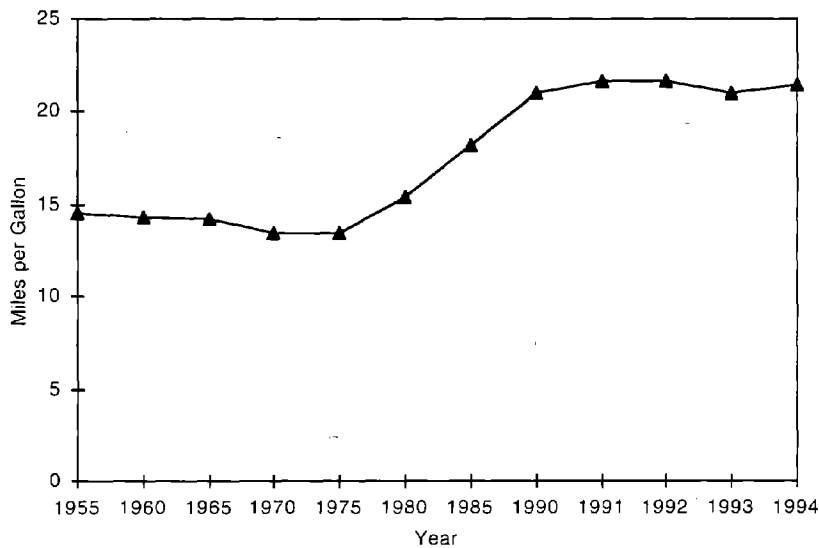
1955-1975: U.S. DOT/NHTSA, Motor Vehicle Requirements Division, NRM-21.

1980-1990: *Ibid.*, EPA Final Fuel Economy Calculations for NHTSA.

1991-1995: *Ibid.*, Manufacturers' preliminary estimates for NHTSA.

**FIGURE - 37**

**Average Fuel Efficiency of U.S. Passenger Cars, 1955-1994**





**TABLE - 98****Consumption of Energy from Primary Sources by Sector\***5-Year Intervals 1955-1990 and Annually 1990-1994  
(Quadrillion BTU)

Year	Residential & Commercial <sup>a</sup>	% of Total	Industrial <sup>a</sup>	% of Total	Transportation <sup>b</sup>	% of Total	Electric Utilities	% of Total	Total Energy Consumption
1955	7.39	19.0	15.46	39.8	9.48	24.4	6.50	16.7	38.82
1960	8.75	20.0	16.29	37.2	10.56	24.1	8.19	18.7	43.80
1965	10.00	19.0	19.27	36.6	12.40	23.5	11.01	20.9	52.68
1970	12.14	18.3	21.96	33.1	16.06	24.2	16.27	24.5	66.43
1975	11.60	16.4	20.39	28.9	18.22	25.8	20.35	28.8	70.55
1980	10.72	14.1	21.07	27.7	19.66	25.9	24.51	32.3	75.96
1985	9.78	13.2	17.67	23.9	20.02	27.1	26.52	35.8	73.98
1990 <sup>b</sup>	10.19	12.1	21.75	25.9	22.57	26.8	29.60	35.2	84.09
1991 <sup>b</sup>	10.48	12.5	21.46	25.6	22.14	26.4	29.92	35.6	83.96
1992 <sup>b</sup>	10.69	12.6	22.44	26.4	22.50	26.4	29.55	34.7	85.16
1993 <sup>b</sup>	10.93	12.6	22.76	26.2	22.93	26.4	30.30	34.9	86.88
1994 <sup>bp</sup>	11.01	12.4	23.21	26.2	23.41	26.5	30.88	34.9	88.45

<sup>p</sup> Preliminary.

\* As a result of a revised analytical approach, many of the figures in this table show slight revisions from previous years.

<sup>a</sup> Includes fossil and renewable sources consumed directly, but not electricity.<sup>b</sup> Discontinuity in data between earlier years and 1990 due to attempts to estimate sector consumption of renewable sources beginning in that year.

Note: Sum of components may not equal total due both to independent rounding and to substitution of Electric Utilities Energy Input figures for figures from "Electricity" and "Electrical System Energy Losses" columns in sector consumption tables.

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Table 2.1, Table 10.1b; *Monthly Energy Review*, April 1995, Tables 2.3-2.6.

**TABLE - 99**

**U.S. Energy Consumption by the Transportation Sector**

5 Year Intervals 1955-1990 and Annually 1990-1994

Year	Petroleum		Natural Gas <sup>a</sup>		Total Fossil Fuels <sup>b</sup>	Sales of Electricity <sup>c</sup>	Net Transportation Consumption		Total Gross Energy Consumption
	Million Barrels	Trillion BTU	Trillion Cubic Feet	Trillion BTU	Trillion BTU	Trillion BTU <sup>d</sup>	Trillion BTU <sup>e</sup>	Total Gross Energy	Quadrillion BTU
1955	1,627.9	8,804	0.25	259	9,063	15.6	9,079	23.4	38.82
1960	1,881.2	10,136	0.35	259	10,498	16.3	10,514	24.0	43.80
1965	2,204.6	11,876	0.50	516	12,392	15.9	12,408	23.6	52.68
1970	2,839.7	15,315	0.72	742	16,057	15.8	16,073	24.3	66.43
1975	3,266.7	17,641	0.58	592	18,206	14.6	18,221	25.8	70.55
1980	3,494.1	19,008	0.63	645	19,653	14.6	19,668	25.9	75.96
1985	3,596.5	19,504	0.50	516	20,020	16.1	20,036	27.1	73.98
1990	4,005.5	21,810	0.66	680	22,490	17.9	22,508	27.7	81.26
1991	3,942.7	21,456	0.60	620	22,076	17.9	22,093	27.2	81.12
1992	4,005.9	21,812	0.59	606	22,418	17.6	22,436	27.3	82.14
1993	4,080.7	22,201	0.63	642	22,842	17.6	22,861	27.2	83.88
1994 <sup>p</sup>	4,164.7	22,661	0.63	651	23,312	-	-	-	85.35

<sup>p</sup> Preliminary.

<sup>a</sup> Pipeline Fuel.

<sup>b</sup> Sum of Petroleum and Natural Gas.

<sup>d</sup> BTUs for electricity derived by multiplying by conversion in Table A-7, *Annual Energy Review*, 1994 (3,342 per kWh).

<sup>c</sup> Includes only energy used by Railroads and Railways.

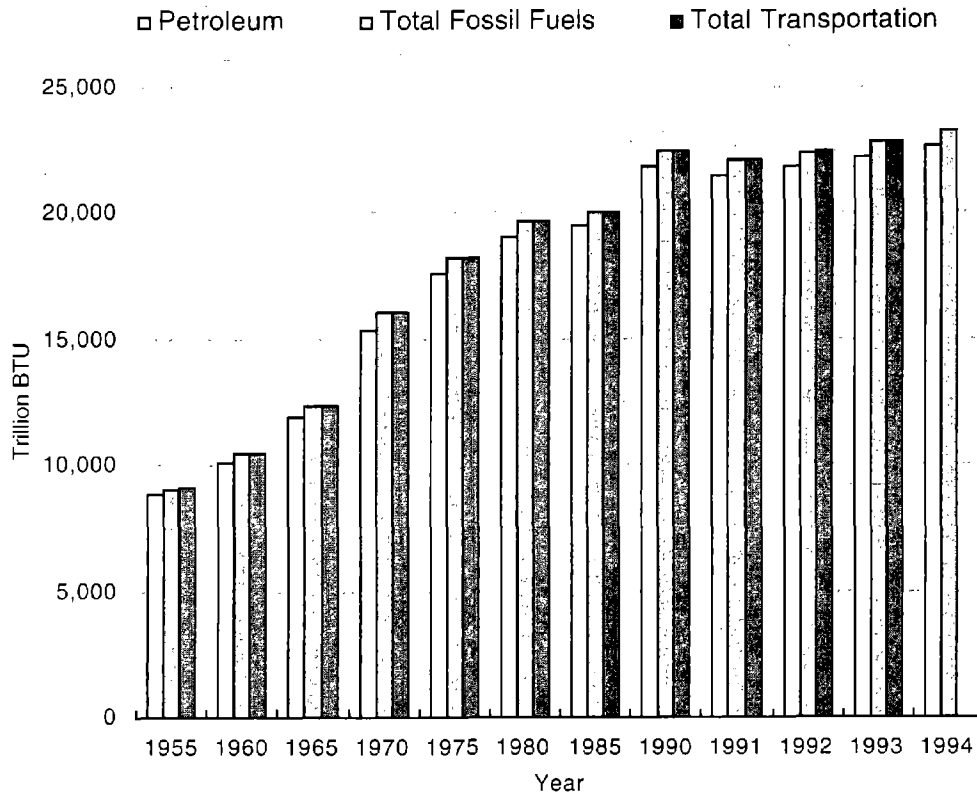
<sup>e</sup> Sum of Total Fossil Fuels and Sales of Electricity.

Note: Number of barrels of petroleum derived by multiplying figures in Table 5.12b, *Annual Energy Review*, by 365 (days per year).

Source: U.S. DOE/EIA, *Monthly Energy Review*, April 1995. Petroleum, Natural Gas and total fossil fuels (BTUs): Table 2.5; Total Energy Consumption (BTUs): Table 2.2; Electricity: Edison Electric Institute, *Statistical Yearbook of the Electric Utility Industry*, Table 38; Petroleum (barrels): *Annual Energy Review*, Table 5.12b; Natural gas (cubic feet): Table 6.6.

**FIGURE - 38**

**U.S. Energy Consumption by the Transportation Sector, 1955-1994**



Source: See Table 99.

**TABLE - 100**

**U.S. Petroleum Production and Consumption**  
5-Year Intervals 1970-1990 and Annually 1990-1994  
(Million Barrels per Day)

Year	Domestic Production			Gross Imports			U.S. Petroleum Consumption <sup>1</sup>	World Petroleum Consumption	Imports as a Percentage of U.S. Petroleum Consumption <sup>1</sup>	Petroleum Products as a Percentage of Total Petroleum Imports <sup>1</sup>	U.S. Consumption as a Percentage of World Petroleum Consumption <sup>1</sup>	Transportation Use as a Percentage of Domestic Petroleum Production <sup>1</sup>
	Crude Oil	Natural Gas Plant Liquids	Petroleum Total	Crude Oil	Petroleum Products	Total						
1970	9.64	1.66	11.30	1.32	2.10	3.4	14.70	46.38	23.3	61.4	31.7	68.8
1975	8.37	1.63	10.01	4.10	1.95	6.1	16.32	55.48	37.1	32.2	29.4	89.4
1980	8.60	1.57	10.17	5.26	1.65	6.9	17.06	63.07	40.5	23.9	27.1	93.9
1985	8.97	1.61	10.58	3.20	1.87	5.1	15.73	60.10	32.2	36.9	26.2	93.1
1990	7.36	1.56	8.91	5.89	2.12	8.0	16.99	66.16	47.2	26.4	25.7	123.1
1991	7.42	1.66	9.08	5.78	1.84	7.6	16.71	66.72	45.7	24.1	25.0	118.9
1992	7.17	1.70	8.87	6.08	1.80	7.9	17.03	66.57	46.3	22.8	25.6	123.4
1993	6.85	1.74	8.58	6.79	1.83	8.6	17.24	66.72	49.6	21.2	25.8	130.3
1994 <sup>P</sup>	6.63	1.73	8.36	7.03	1.90	8.9	17.68	-	50.5	21.3	-	136.5

<sup>P</sup> Preliminary.

<sup>R</sup> Revised.

\* Percentages shown were derived by calculation and do not appear directly in source tables.

<sup>1</sup> Best estimate for U.S. petroleum consumption is the amount of petroleum products supplied to the U.S. in a given year.

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

Sources: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 1994*, pp. 139, 163, and 347, and *International Energy Annual 1993*, p. 3 (World Petroleum Consumption).

TABLE - 101

## U.S. Government Energy Consumption

5-Year Intervals Fiscal Years 1975-1990 and Annually Fiscal Years 1990-1994  
(Trillion BTU)

Activity	1975	1980	1985	1990	1991	1992	1993 <sup>P</sup>	1994 <sup>P</sup>
<b>Agency</b>								
Defense	1,558.1	1,183.1	1,250.6	1,241.7	1,269.3	1,104.0	1,048.8	1,030.3
Energy	85.2	47.4	52.7 <sup>r</sup>	43.4	41.8	44.4	43.6	41.2
Postal Service	59.2	27.2	27.8	30.6	30.8	31.7	33.7	35.0
Veterans Affairs	39.2	24.8	25.1	24.9	25.3	25.3	25.7	25.9
Transportation	28.5	19.2	19.5	19.0	18.8	15.8	18.4	24.2
<b>General Services</b>								
Administration	43.0	18.1	17.3 <sup>r</sup>	14.2	14.0	13.8	14.1	14.0
NASA	26.4	10.4	10.8 <sup>r</sup>	12.3	12.4	12.5	12.4	12.5
Agriculture	11.9	8.6	8.4	9.5 <sup>r</sup>	9.6 <sup>r</sup>	9.1	9.3	9.3
Health & Human Services	9.3	6.0	7.0	8.0	7.1	8.0	8.1	8.1
Justice	7.1	5.7	8.2	7.0	8.0	7.5	9.1	10.3
Interior	12.3	8.5	7.8 <sup>r</sup>	7.4	6.9	7.0	7.5	4.1
Other <sup>1</sup>	14.8	12.3	10.7	15.1	13.4	13.8	14.7	39.8 <sup>*</sup>
Total	1,895.0	1,371.2	1,445.9 <sup>r</sup>	1,433.0 <sup>r</sup>	1,457.3 <sup>r</sup>	1,292.8 <sup>r</sup>	1,245.5	1,254.7
<b>Energy Source</b>								
Petroleum	1,162.0	1,011.8	1,052.9	1,020.5	1,049.4	875.5	843.0	846.6
Jet Fuel	707.4	638.7	705.7	732.4	774.5	627.0	611.4	615.9
Distillate & Residual Fuel	364.7	307.7	290.8 <sup>r</sup>	244.1	236.1	203.8	190.7	188.8
Motor Gasoline	63.4	56.5	50.5	37.2	34.7	35.6	34.5	35.8
<b>Liquefied Petroleum</b>								
Gases	5.4	4.0	4.0	6.3	3.7	8.1	5.7	5.6
Aviation Gasoline	21.1	4.9	1.9	0.5	0.4	1.0	0.7	0.5
Electricity	481.2	141.9	165.9 <sup>r</sup>	192.4	190.0	191.5	192.3	211.9 <sup>*</sup>
Natural Gas	166.2	147.3	149.4 <sup>r</sup>	157.1 <sup>r</sup>	153.8 <sup>r</sup>	151.2 <sup>r</sup>	153.1	142.9
Coal	77.9	63.5	64.0	44.2	45.9	51.8	38.5	35.0
Purchased Steam	7.6	6.8	13.8	18.8	18.2	22.8	18.7	18.3
Total	1,895.0	1,371.2	1,445.9 <sup>r</sup>	1,443.0 <sup>r</sup>	1,457.3 <sup>r</sup>	1,292.8 <sup>r</sup>	1,245.5	1,254.7

<sup>P</sup> Preliminary.<sup>r</sup> Revised.<sup>\*</sup> Increase from previous years is result of initial reporting by Tennessee Valley Authority of electricity consumed for utility station service user.<sup>1</sup> Includes National Archives and Records Administration, U.S. Department of Commerce, U.S. Department of Labor, U.S. Department of State, Environmental Protection Agency, Federal Communications Commission, Federal Trade Commission, National Science Foundation, Panama Canal Commission, Commodity Futures Trading Commission, Equal Employment Opportunity Commission, Nuclear Regulatory Commission, Office of Personnel Management, U.S. Department of Housing and Urban Development, U.S. Department of Treasury, Tennessee Valley Authority, Railroad Retirement Board, Small Business Administration, U.S. Information Agency, Federal Emergency Management Agency and U.S. Information Agency. National Science Foundation data for 1990 are estimated.

Note: Sum of components may not equal total due to independent rounding. These data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. However other energy used by U.S. agencies that produce electricity or enrich uranium is included.

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Table 1.12.

**TABLE - 102**

**U.S. Government Energy Use by Agency and Source**

Fiscal Years 1984 and 1994

(Trillion BTU)

Year	Motor Gasoline	Distillate & Residual Fuel Oils	Petroleum			Total	Electricity	Natural Gas	Coal & Other <sup>2</sup>	Total
			Jet Fuel & Aviation Gas	Other <sup>1</sup>						
<b>1984</b>										
Defense	25.9	316.2	688.2	2.1	1,032.4	95.9	115.0	48.8	1,292.1	
Energy	1.4	3.7	0.4	0.2	5.8	18.3	7.1	20.4	51.6	
Postal Service	9.9	2.9	0.0	0.2	12.9	9.4	4.8	0.5	27.7	
Veterans Affairs	0.5	2.5	0.0	0.0	3.1	6.3	14.3	1.0	24.6	
Transportation	1.4	8.1	5.0	0.0	14.5	3.9	1.2	0.2	19.8	
General Services Admin.	0.1	1.1	0.0	0.0	1.2	8.6	3.3	3.1	16.2	
NASA	0.3	0.8	1.5	0.0	2.6	5.1	2.5	0.4	10.6	
Agriculture	4.3	0.7	0.1	0.3	5.3	1.2	1.4	0.0	7.9	
Interior	2.2	1.8	0.1	0.9	5.0	1.4	1.8	0.3	8.4	
Health & Human Services	0.4	2.6	0.0	0.1	3.1	1.8	1.5	0.0	6.4	
Justice	1.8	0.4	0.1	0.1	2.4	1.0	2.6	0.4	6.4	
Other <sup>3</sup>	3.0	2.2	0.3	0.1	5.6	3.0	2.0	0.2	10.7	
Total	51.2	342.9	695.6	4.1	1,093.8	155.9	157.4	75.4	1,482.5	
<b>1994<sup>P</sup></b>										
Defense	10.7	167.2	602.9	2.1	782.8	113.3	95.9	38.4	1,030.3	
Energy	1.2	2.4	0.4	0.4	4.3	17.1	9.8	10.0	41.2	
Postal Service	11.2	3.2	0.0	0.0	14.3	14.0	6.0	0.6	35.0	
Veterans Affairs	0.6	1.9	0.0	0.0	2.5	8.6	13.4	1.4	25.9	
Transportation	0.6	6.4	9.4	2.0	18.5	4.2	1.4	0.1	24.2	
General Services Admin.	0.1	0.4	0.0	0.0	0.5	9.1	2.8	1.5	14.0	
NASA	0.3	1.0	1.4	0.0	2.7	7.2	2.4	0.2	12.5	
Agriculture	4.6	0.6	0.1	0.2	5.4	2.1	1.7	0.1	9.3	
Interior	1.8	1.2	0.2	0.5	3.7	0.0	0.3	0.1	4.1	
Health & Human Services	0.2	1.5	0.0	0.3	1.9	3.4	2.7	0.1	8.1	
Justice	2.5	0.5	0.8	0.0	3.8	2.6	3.6	0.2	10.3	
Other <sup>4</sup>	2.2	2.5	1.3	0.0	6.1	30.3	2.9	0.6	39.8	
Total	35.8	188.8	616.4	5.6	846.6	211.9	142.9	53.3	1,254.7	

<sup>P</sup> Preliminary.

<sup>1</sup> Includes liquefied petroleum gases, and other.

<sup>2</sup> Includes purchased steam, coal, and other.

<sup>3</sup> Includes U.S. Department of Commerce, Panama Canal Commission, Tennessee Valley Authority, U.S. Department of Labor, U.S. Department of Housing and Urban Development, Federal Communications Commission, Office of Personnel Management, U.S. Department of State, Small Business Administration, National Science Foundation, U.S. Department of Treasury, and Environmental Protection Agency.

<sup>4</sup> Includes National Archives and Records Administration, U.S. Department of Commerce, U.S. Department of Labor, U.S. Department of State, Environmental Protection Agency, Federal Communications Commission, Federal Trade Commission, Panama Canal Commission, Equal Employment Opportunity Commission, Nuclear Regulatory Commission, Office of Personnel Management, U.S. Department of Housing and Urban Development, U.S. Department of Treasury, Tennessee Valley Authority, Railroad Retirement Board, U.S. Information Agency, and Federal Emergency Management Agency.

Note: Sum of components may not equal total due to independent rounding. These data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. However other energy used by U.S. agencies that produce electricity or enrich uranium is included.

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Table 1.13.

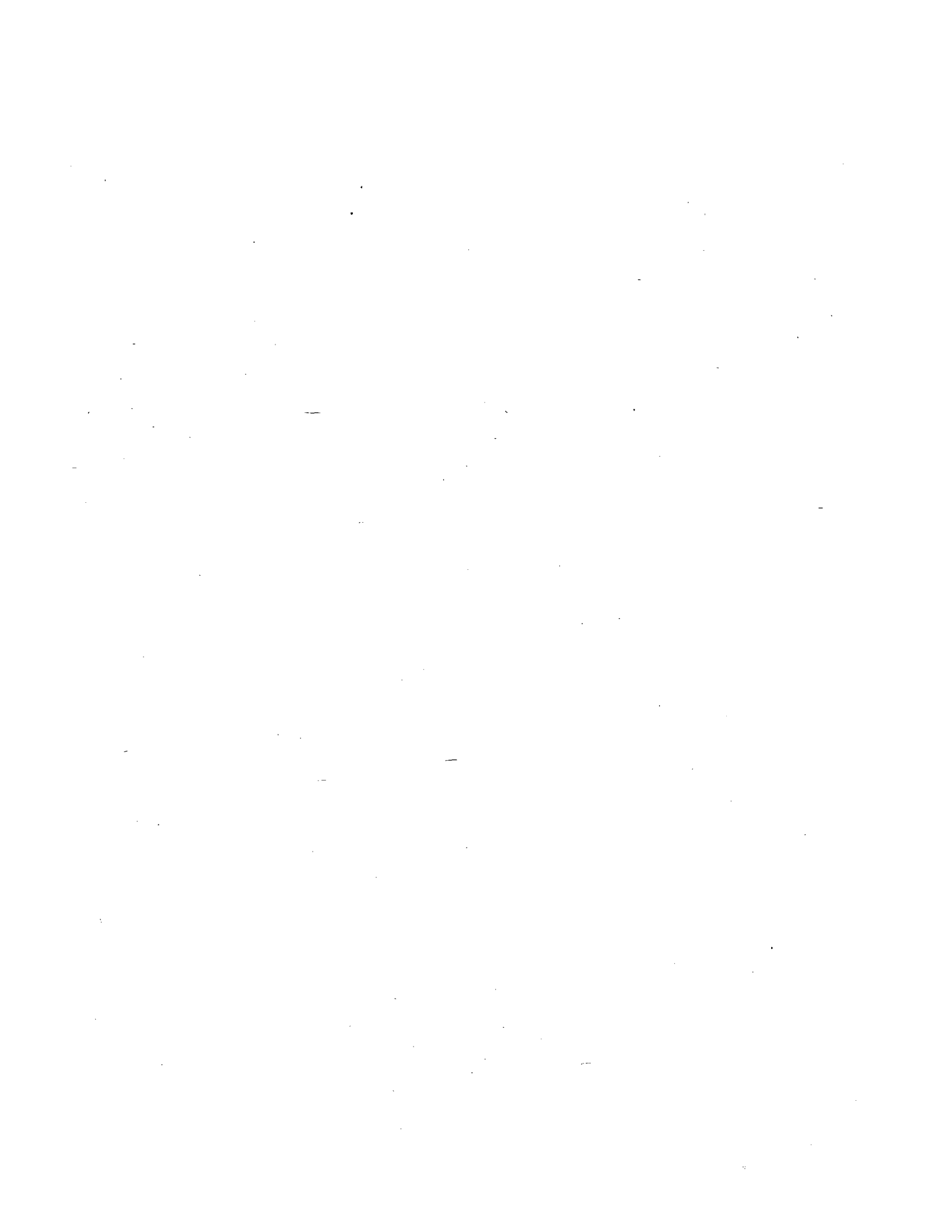
# TRANSPORTATION, ENERGY, *and the* ENVIRONMENT

## **SECTION 2**

### **ENERGY INTENSIVENESS**

This section presents the energy intensiveness of each transportation mode utilizing the number of miles traveled and the amount of fuel consumed for the years 1960-1994.

**NOTE:** In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.





**TABLE - 103**

**Energy Intensiveness of Certificated Air Carriers (All Services)**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Aircraft-Miles (millions)		Passenger-Miles (millions)		Fuel Consumed (million gallons)		Passenger Load Factor (%)		Energy Intensiveness (BTU/passenger-mile)	
	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations
1960	858	182	31,099	8,951	1,954	566	58.5	62.2	8,482	8,536
1965	1,134	284	53,226	19,990	3,889	1,280	54.7	56.8	9,863	8,644
1970	2,068	475	108,442	39,695	7,857	2,243	48.9	51.1	9,781	7,628
1975	1,885	310	136,000	37,320	7,558	1,949	54.6	52.3	7,502	7,050
1980	2,523	401	204,368	63,354	9,096	1,938	58.0	62.8	6,089	4,460
1985	3,046	415	277,836	73,237	10,121	2,477	60.7	64.6	4,918	4,566
1990	3,963	760	345,873	126,363	12,936	3,977	60.4	69.1	5,049	4,249
1991	3,854	807	338,085	125,211	11,637	3,945	61.2	67.3	4,647	4,253
1992	3,995	905	354,764	138,950	11,590	4,079	62.4	67.1	4,410	3,963
1993	4,157	961	362,230	143,766	11,930	4,112	62.0	67.7	4,446	3,861
1994 <sup>p</sup>	4,370	975	388,432	148,970	12,501	4,311	64.7	70.6	4,301	3,907

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

Note: Aircraft-Miles includes all four air carrier groups (Majors, Nationals, Large Regionals, and Medium Regionals), scheduled and charter, passenger and all-cargo.

Fuel Consumed includes Majors, Nationals, and Large Regionals, scheduled and charter, passenger and all-cargo.

Passenger-Miles include all four air carrier groups, scheduled and charter, passenger service only.

Passenger Load Factor includes all four air carrier groups, scheduled passenger service only.

Heat equivalent factor used for BTU conversion is 135,000 BTU/gallon.

Source: Aircraft-Miles, Passenger-Miles, and Passenger Load Factor:

1960-1970: CAB, *Handbook of Airline Statistics*, 1969 & 1973, Part III, Tables 2 and 13.

1975-1980: *Ibid.*, *Air Carrier Traffic Statistics*, Annual Issues, pp. 4, 5, 15, and similar tables in earlier editions.

1985-1994: U.S. DOT/ *Ibid.*, Annual Issues, pp. 2, 3.

Fuel Consumed:

1960-1975: CAB, *Handbook of Airline Statistics*, 1977, Table 2.

1980: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1984*, Tables 1,2,3,4,6,7, and similar tables in earlier editions.

1985-1994: U.S. DOT/BTS, Office of Airline Information, K-25.

**TABLE - 104**

**Energy Intensiveness of General Aviation**  
5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Intercity Passenger-Miles (millions)	Fuel Consumed (million gallons)		Energy Intensiveness (BTU/passenger-mile)
		AVGAS	Jet Fuel	
1960	2,300	242	*	12,646
1965	4,400	292	56	9,694
1970	9,100	551	208	10,363
1975	11,400	412	453	9,709
1980	14,700	520	766	11,286
1985	12,300	421	691	11,697
1990	13,000	353	663	10,148
1991	12,600	354	577	9,559
1992	10,700	314	494	9,760
1993	10,200	268	454	9,167
1994	9,700 <sup>p</sup>	269	451	9,610

<sup>p</sup> Preliminary.

\* Prior to 1962, jet fuel was included with aviation gasoline.

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

AVGAS = 120,190 BTU/gal.

Jet Fuel (kerosene) = 135,000 BTU/gal.

Source: Passenger-Miles Flown: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 47, and similar tables in earlier editions.

Fuel Consumed: 1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, Annual Issues.

1980-1994: *Ibid.*, *General Aviation Activity and Avionics Survey*, Annual Issues, Table 5-1.

TABLE - 105

## Energy Intensiveness of Passenger Cars and Motorcycles

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Vehicle-Miles (millions)		Passenger-Miles (millions)		Fuel Consumed (million gallons)		Energy Intensiveness (BTU/passenger-mile)	
	Passenger Cars*	Motorcycles	Passenger Cars*	Motorcycles	Passenger Cars*	Motorcycles	Passenger Cars*	Motorcycles
1960	588,083	-	1,293,783	-	41,169	-	3,978	-
1965	709,300	-	1,489,530	-	49,723	-	3,992	-
1970	916,700	2,979	1,833,400	3,694	67,820	60	4,418	2,030
1975	1,033,950	5,629	1,964,505	7,149	76,447	113	4,777	1,976
1980	1,111,596	10,214	2,000,872	13,278	71,883	204	4,491	1,920
1985	1,260,565	9,086	2,142,961	12,084	69,268	182	4,040	1,883
1990	1,513,184	9,557	2,284,908	12,233	71,989	191	3,938	1,952
1991	1,533,552	9,178	2,668,380	10,096	70,692	184	3,312	2,278
1992 <sup>1</sup>	1,600,839	9,557	2,785,460	10,513	73,823	191	3,325	2,271
1993	1,547,366	9,906	2,692,417	10,897	73,553	198	3,415	2,271
1994	1,585,618	10,251	2,758,975	11,276	73,825	205	3,345	2,273

Revised.

\* See p. 199 for explanation of changes in vehicle categories between 1992 and 1993.

Note: The heat equivalent factor used for BTU conversion is 125,000 BTU/gal.

Source: 1960-1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1, for vehicle-miles and fuel consumption data.

**TABLE - 106**

**Energy Intensiveness of Trucks**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Vehicle-Miles (millions)			Passenger-Miles (millions)			Fuel Consumed (million gallons)			Energy Intensiveness (BTU/passenger-mile)		
	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination
1960	97,930	-	28,479	156,688	-	28,479	-	-	-	-	-	-
1965	141,159	-	32,497	223,031	-	32,497	13,848	-	6,658	7,761	-	28,462
1970	123,286	27,081	35,134	192,326	27,081	35,134	12,313	3,968	7,348	8,003	20,323	29,008
1975	200,700	34,606	46,724	309,078	34,606	46,724	17,903	4,815	9,654	7,240	19,298	28,658
1980	290,935	39,813	68,678	439,312	39,813	68,678	23,594	5,557	12,703	6,713	19,359	25,655
1985	373,072	46,980	79,600	555,877	46,980	79,600	29,021	6,735	15,280	6,526	19,884	26,625
1990	466,092	53,443	96,367	727,104	53,443	96,367	32,937	7,294	17,469	6,009	18,930	25,143
1991	472,848	53,787	96,942	695,087	53,787	96,942	32,530	7,133	17,156	5,850	18,394	24,546
1992 <sup>r</sup>	478,193	53,691	99,112	722,071	53,691	99,112	33,127	7,179	17,691	5,915	18,615	24,787
1993	573,398	56,781	103,123	865,831	56,781	103,123	36,476	8,277	17,719	5,266	20,218	23,832
1994	587,284	61,350	109,065	886,799	61,350	109,065	37,550	8,996	18,580	5,293	20,338	23,629

<sup>r</sup> Revised.

\* See p. 199 for explanation of changes in vehicle categories between 1992 and 1993.

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

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

Distillate fuel = 138,700 BTU/gal. (combination and other single-unit trucks).

Source: 1960-1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.  
1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

TABLE - 107

## Energy Intensiveness of Transit Motor Buses and School Buses

5-Year Intervals 1960-1990 and 1990-1993

Year	Vehicle-Miles (millions)		Passenger-Miles (millions)		Fuel Consumed (million gallons)		Energy Intensiveness (BTU/passenger-mile)	
	Motor Bus	School Bus	Motor Bus	School Bus	Motor Bus (Diesel)	School Bus (Gasoline)	Motor Bus	School Bus
1960	1,576	1,481	-	-	208	-	-	-
1965	1,528	1,763	-	-	248	249	-	-
1970	1,409	2,100	-	-	271	300	-	-
1975	1,526	2,500	-	-	365	342	-	-
1980	1,677	3,000	21,790	41,000	431	380	2,743	1,159
1985	1,863	3,400	21,161	70,000	518	452	3,395	759
1990	2,130	3,800	20,981	74,200	563	472	3,722	795
1991	2,166	4,300	21,090	83,300	573	533	3,768	800
1992	2,178	4,400	20,336	90,000	592	576	4,038	800
1993	2,206	4,300	20,075	94,200	589	623	4,069	827

Revised.

Note: The heat equivalent factors used for BTU conversions are:  
 Automotive gasoline = 125,000 BTU/gal. (School Bus).  
 Distillate Oil = 138,700 BTU/gal. (Motor Bus).  
 One barrel equals 42 gallons.

Source: School Bus: 1960-1993: National Safety Council, *Accident Facts*, Annual Issues.  
 Fuel Consumed: 1960-1993: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 56 and earlier editions.  
 Motor Bus: 1960-1993: American Public Transit Association (APTA), *Transit Fact Book*, 1994/1995, p. 106, 107, 132.

**TABLE - 108**

**Energy Intensiveness of Class I Railroad Freight Service**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Revenue Freight Ton-Miles (millions)	Fuel Consumed in Freight Service (million gallons)	Energy Intensiveness (BTU/revenue freight ton-miles)
1960	572,309	3,463	839
1965	697,878	3,592	714
1970	764,809	3,181	577
1975	754,252	3,657	672
1980	918,621	3,904	589
1985	876,984	3,110	492
1990	1,033,969	3,115	418
1991	1,038,875	2,906	388
1992	1,066,781	3,005	391
1993	1,109,309	3,088	386
1994	1,200,701	3,334	385

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

Source: Association of American Railroads, *Railroad Facts*, 1995, p. 40.

**TABLE - 109**

**Energy Intensiveness of Amtrak Service**

5-Year Intervals 1975-1990 and Annually 1990-1993

Year	Revenue Passenger-Miles (millions)	Locomotive Fuel Consumed			Energy Intensiveness (BTU/revenue passenger-mile)*
		Diesel (million gallons)	Electric kWh (millions)*	Total Fuel Consumed (billion BTUs)*	
1975	3,931	63.1	180.3	9,367	2,383
1980	4,503	63.5	253.8	9,673	2,148
1985	4,785	64.8	295.1	9,995	2,089
1990	6,041	82.1	329.6	12,512	2,071
1991	6,274	82.0	302.5	12,406	1,977
1992	6,091	81.5	299.2	12,325	2,023
1993	6,199	82.8	257.7	12,364	1,995

\* 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:

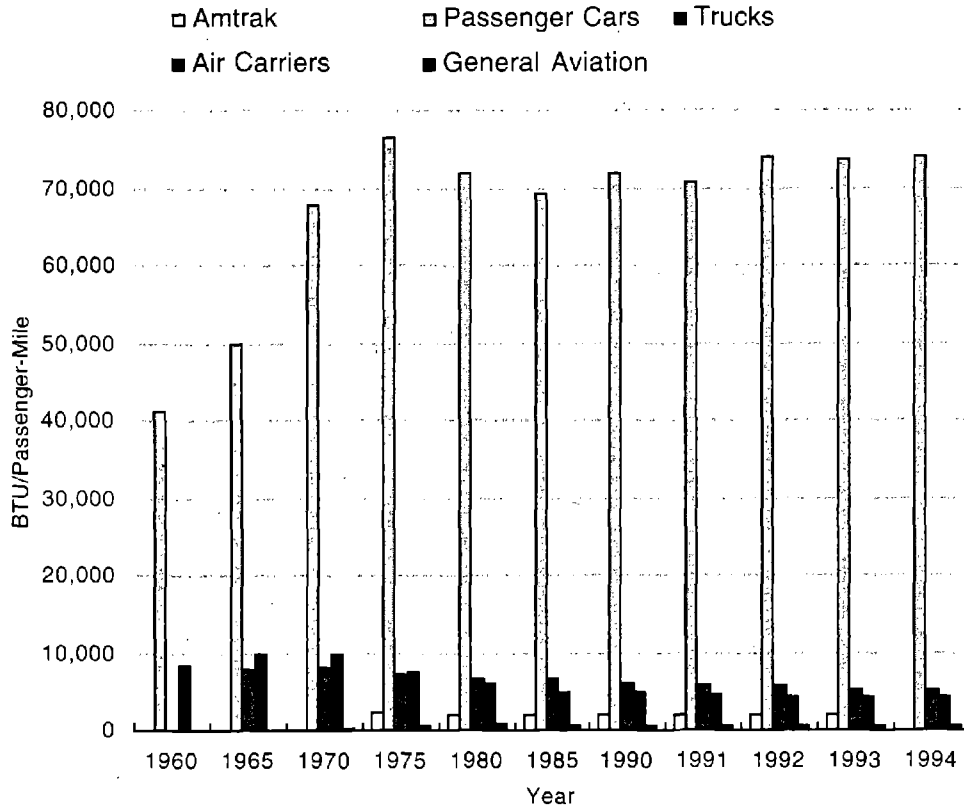
Diesel = 138,700 BTU/gal.

Electric = 3,412 BTU/kWh.

Source: Amtrak, State and Local Affairs Department.

**FIGURE - 39**

**Energy Intensiveness by Passenger Mode, 1960-1994**



Source: See Tables 103, 104, 105, 106, 109.





# **TRANSPORTATION, ENERGY, *and the* ENVIRONMENT**

## **SECTION 3**

### **ENERGY TRANSPORT**

Included in this section are data showing the types of energy transported in the U.S., the miles traveled, and the means used for transportation. Data cover the period 1960-1993, and 1994, where available. In some instances, data extend back to 1955.



**TABLE - 110****Crude Oil Transported in the U.S. by Mode of Transportation**5-Year Intervals 1975–1990 and Annually 1990–1993  
(Billion Ton-Miles)

Year	Pipelines <sup>1</sup>		Water Carriers		Trucks		Railroads		Total Ton-Miles
	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	
1975	288.0	86.9	40.6	12.2	1.4	0.4	1.5	0.5	331.5
1980	362.6	48.2	387.4	51.4	2.5	0.3	0.5	0.1	753.0
1985	334.4	42.5	449.2	57.1	1.8	0.2	0.8	0.1	786.2
1990	334.8	53.3	291.2	46.4	1.5	0.2	0.7	0.1	628.2
1991	336.0	52.9	296.4	46.7	1.5	0.2	0.7	0.1	634.6
1992	324.4	52.8	288.1	46.9	1.5	0.2	0.7	0.1	614.7
1993 <sup>P</sup>	306.6	52.4	276.0	47.2	1.5	0.3	0.7	0.1	584.8

<sup>P</sup> Preliminary.<sup>1</sup> The amounts carried by pipeline are based on ton-miles of crude and petroleum products for Federally regulated pipelines (84 percent) plus an estimated breakdown of crude and petroleum products for the ton-miles for pipelines not Federally regulated (16 percent).Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, Annual Issues.**TABLE - 111****Refined Petroleum Products Transported in the U.S. by Mode of Transportation**5-Year Intervals 1975–1990 and Annually 1990–1993  
(Billion Ton-Miles)

Year	Pipelines <sup>1</sup>		Water Carriers		Trucks		Railroads		Total Ton-Miles
	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	
1975	219.0	42.5	257.4	50.0	26.2	5.1	12.6	2.4	515.2
1980	225.6	45.8	230.4	46.8	24.3	4.9	12.0	2.4	492.3
1985	229.9	56.2	141.2	34.5	26.9	6.6	11.3	2.8	409.3
1990	249.3	55.6	157.8	35.2	28.2	6.3	13.3	3.0	448.6
1991	242.4	55.7	152.2	35.0	27.2	6.3	13.0	3.0	434.8
1992	245.5	55.2	158.0	35.5	27.1	6.1	14.0	3.1	444.6
1993 <sup>P</sup>	264.2	59.0	146.2	32.7	23.0	5.1	14.3	3.2	447.7

<sup>P</sup> Preliminary.<sup>1</sup> The amounts carried by pipeline are based on ton-miles of crude and petroleum products for Federally regulated pipelines (84 percent) plus an estimated breakdown of crude and petroleum products for the ton-miles for pipelines not Federally regulated (16 percent).Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, Annual Issues.

**TABLE - 112**

**Crude Petroleum and Petroleum Products Transported in the U.S.  
by Mode of Transportation**

5-Year Intervals 1975-1990 and Annually 1990-1993  
(Billion Ton-Miles)

Year	Pipelines <sup>1</sup>		Water Carriers		Trucks		Railroads		Total Ton-Miles
	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	Ton-Miles	Percent of Total	
1975	507.0	59.9	298.0	35.2	27.6	3.3	14.1	1.7	846.7
1980	588.2	47.2	617.8	49.6	26.8	2.2	12.5	1.0	1,245.3
1985	564.3	47.2	590.4	49.4	28.7	2.4	12.1	1.0	1,195.5
1990	584.1	54.2	449.0	41.7	29.7	2.8	14.0	1.3	1,076.8
1991	578.3	54.7	436.4	41.3	28.9	2.7	13.7	1.3	1,057.3
1992	571.4	54.5	432.9	41.3	29.6	2.8	14.7	1.4	1,048.6
1993 <sup>P</sup>	572.5	56.0	406.5	39.7	29.9	2.9	14.3	1.4	1,023.2

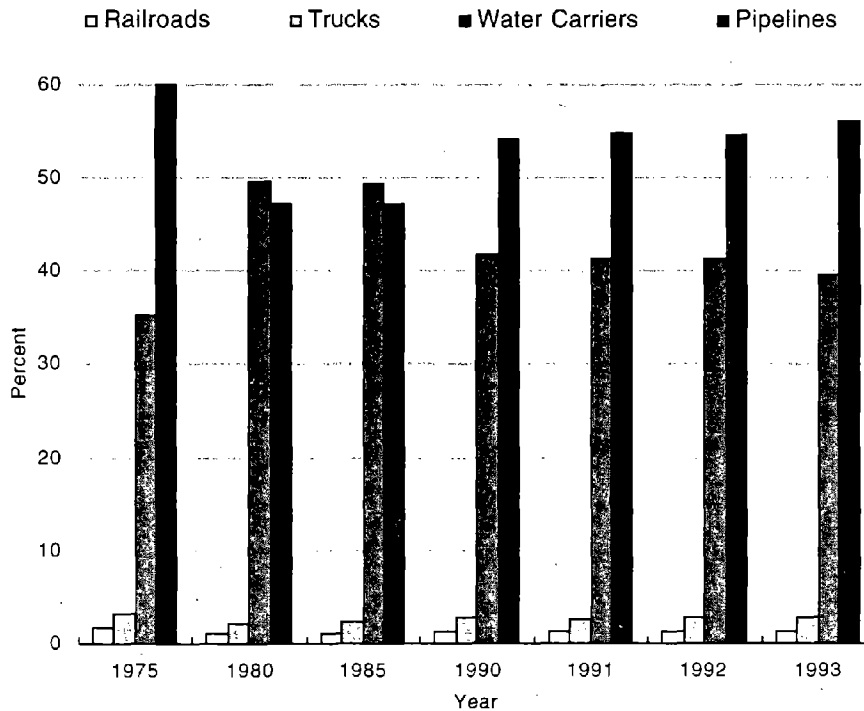
<sup>P</sup> Preliminary.

<sup>1</sup> The amounts carried by pipeline are based on ton-miles of crude and petroleum products for Federally regulated pipelines (84 percent) plus an estimated breakdown of crude and petroleum products for the ton-miles for pipelines not Federally regulated (16 percent).

Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, Annual Issues.

**FIGURE - 40**

**Crude Petroleum and Petroleum Products Transported in the U.S. by  
Modal Share, 1975-1993**



**TABLE - 113****U.S. Gas Utility Industry Miles of Pipeline and Main, by Type<sup>a</sup>**5-Year Intervals 1955–1990 and Annually 1990–1994  
(Thousands)

<b>Year</b>	<b>Total</b>	<b>Field &amp; Gathering</b>	<b>Transmission Pipeline<sup>b</sup></b>	<b>Distribution Main</b>
1955	496.7	45.7	145.9	305.1
1960	630.9	55.8	183.7	391.4
1965	767.5	61.7	211.3	494.5
1970	913.3	66.3	252.2	594.8
1975	979.3	68.5	262.6	648.2
1980	1,051.8	83.5	266.5	701.8
1985	1,118.9	94.3	271.2	753.4
1990	1,206.9	89.5	280.1	837.3
1991	1,225.4	86.3	281.6	857.5
1992	1,253.9	86.2	284.5	883.2
1993	1,263.5	77.3	272.2	914.0
1994 <sup>p</sup>	1,261.0	72.1	270.3	918.5

<sup>p</sup> Preliminary.<sup>a</sup> Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of each year.<sup>b</sup> Includes 5,000 miles of Underground Storage pipe in 1975; 6,200 in 1980; 6,000 in 1985; 6,200 in 1990 & 1991; 6,000 in 1992, some of which was formerly included in Field and Gathering pipe; and 5,700 in 1993.Source: American Gas Association, *Gas Facts*, 1995, Table 5-1 and similar tables in earlier editions.

**TABLE - 114**

**U.S. Tanker Fleet, Oceangoing Vessels of 1,000 Gross Tons and Over**  
 5-Year Intervals 1955-1990 and Annually 1990-1994

Year	Number	Actual Fleet		Average Speed (knots)
		Gross Tons	Deadweight Tons	
1955	490	5,094,900	7,989,500	15.1
1960	478	5,664,000	8,894,600	15.7
1965	410	5,479,800	8,733,500	16.0
1970	350	5,305,800	8,911,002	16.2
1975	293	5,943,289	10,601,370	16.4
1980	308	8,949,000	16,152,000	16.3
1985	258	8,444,000	15,535,000	16.0
1990	233	8,501,000	15,650,000	16.0
1991	226	8,189,000	14,993,000	15.0
1992	220	7,825,000	14,180,000	16.0
1993	210	7,288,000	13,048,000	16.0
1994	205	6,840,000	12,087,000	16.0

Source: 1955-1975: Sun Oil Company, Division of Planning and Industry Affairs, Analysis of World Tank Ship Fleet, 1977, Table 1, and equivalent table in earlier editions.

1980-1994: U.S. DOT/Maritime Administration, *Merchant Fleets of the World*, Annual Issues, Table 6 and equivalent tables in earlier editions.

**TABLE - 115**  
**Annual Oil Spills in U.S. Navigable Waters, by Vessel Type**  
 Annually 1982-1994

Year	Tankships		Tank Barges		Other Vessels		Total Vessels		Non-Vessel*		Total	
	Incidents	Volume (gallons)	Incidents	Volume (gallons)	Incidents	Volume (gallons)	Incidents	Volume (gallons)	Incidents	Volume (gallons)	Incidents	Volume (gallons)
1982	279	1,219,922	547	2,146,576	1,383	412,484	2,209	3,778,982	5,275	6,565,814	7,484	10,344,796
1983	258	145,822	523	1,807,897	1,444	378,537	2,225	2,332,256	5,691	6,047,592	7,916	8,379,848
1984	238	4,663,952	499	2,484,481	1,530	1,863,435	2,267	9,011,868	5,991	8,994,010	8,258	18,005,878
1985	164	732,397	385	3,683,548	1,113	446,966	1,662	4,862,911	4,507	3,573,337	6,169	8,436,248
1986	196	1,164,962	516	1,510,064	900	160,890	1,612	2,835,916	3,381	1,446,062	4,993	4,281,978
1987	158	1,547,462	413	550,108	1,208	848,200	1,779	2,945,770	3,062	663,114	4,841	3,608,884
1988	222	852,287	486	3,164,017	1,300	369,985	2,008	4,386,289	2,990	2,199,715	4,998	6,586,004
1989	200	11,272,324	504	746,833	1,564	674,660	2,268	12,693,817	4,345	784,879	6,613	13,478,696
1990	249	4,977,251	458	1,042,025	1,779	417,882	2,486	6,437,158	5,692	1,527,849	8,178	7,965,007
1991	220	92,334	428	241,346	1,780	396,809	2,428	730,489	6,141	3,024,014	8,569	3,754,503
1992	193	118,075	322	149,212	4,795	398,145	5,310	665,432	4,181	1,210,235	9,491	1,875,667
1993	172	69,541	314	697,653	4,944	409,953	5,430	1,177,157	3,542	890,231	8,972	2,067,388
1994	174	69,440	385	876,501	4,736	330,973	5,295	1,276,914	4,145	18,236,001	9,440	19,512,915

\* Non-vessel includes facilities, pipelines, and other unknown sources.

Note: This table has been substantially revised from last year's edition of *National Transportation Statistics*.

Source: U.S. DOT/USCG, Response Division, G-MRO, Oil Spill Database.





# **TRANSPORTATION, ENERGY, *and the* ENVIRONMENT**

## **SECTION 4**

### **ENERGY SUPPLY *and* DEMAND**

Included in this section are data illustrating the types of energy supplied and used by the end-use sectors from 1955-1994.



**TABLE - 116****Petroleum Products Supplied by Sector**5-Year Intervals 1955–1990 and Annually 1990–1994  
(Million Barrels per Day)

Year	Residential & Commercial	Industrial	Transportation	Electric Utilities	Total	Transportation as % of Total
1955	1.40	2.39	4.46	0.21	8.46	52.7
1960	1.71	2.71	5.14	0.24	9.80	52.4
1965	1.91	3.25	6.04	0.32	11.51	52.4
1970	2.18	3.81	7.78	0.93	14.70	52.9
1975	1.95	4.04	8.95	1.39	16.32	54.8
1980	1.52	4.84	9.55	1.15	17.06	56.0
1985	1.30	4.10	9.85	0.48	15.73	62.6
1990	1.14	4.32	10.97	0.55	16.99	64.6
1991	1.14	4.25	10.80	0.52	16.71	64.6
1992	1.12	4.55	10.95	0.42	17.03	64.3
1993 <sup>r</sup>	1.14	4.45	11.18	0.46	17.24	64.8
1994 <sup>e</sup>	1.19	4.65	11.41	0.43	17.68	64.5

<sup>e</sup> Estimate.<sup>r</sup> Revised.

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

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Table 5.12.**TABLE - 117****Domestic Demand for Refined Petroleum Products Supplied by Sector**5-Year Intervals 1955–1990 and Annually 1990–1994  
(Trillion BTU per Day)<sup>1</sup>

Year	Residential & Commercial	Industrial	Transportation	Electric Utilities	Total	Transportation as % of Total
1955	7.85	14.02	24.12	1.21	47.20	51.1
1960	9.53	15.72	27.69	1.50	54.44	50.9
1965	10.57	18.61	32.54	2.01	63.73	51.1
1970	11.78	21.35	41.96	5.81	80.90	51.9
1975	10.45	22.33	48.26	8.69	89.73	53.8
1980	8.31	26.02	51.95	7.19	93.47	55.6
1985	6.92	21.41	53.42	3.00	84.75	63.0
1990	5.94	22.78	59.73	4.62	93.07	64.2
1991	5.89	22.07	58.77	3.25	89.98	65.3
1992	5.79	23.61	59.62	2.62	91.64	65.1
1993 <sup>r</sup>	5.87	23.14	60.80	2.87	92.68	65.6
1994 <sup>p</sup>	6.10	24.09	62.08	2.68	94.95	65.4

<sup>p</sup> Preliminary conversion factor.<sup>r</sup> Revised.<sup>1</sup> Data derived by multiplying figures in Table 116 by conversion factors in each sector column in Table A3 in U.S. DOE/EIA's *Annual Energy Review 1994*.

**TABLE - 118**  
**Petroleum Products Supplied by Type and Sector**  
 1984 and 1994

Year & Refined Product	Residential & Commercial		Industrial		Transportation		Electric Utilities		Total	
	Million Barrels per Day	Quadrillion BTU	Million Barrels per Day	Quadrillion BTU	Million Barrels per Day	Quadrillion BTU	Million Barrels per Day	Quadrillion BTU	Million Barrels per Day	Quadrillion BTU
<b>1984<sup>e</sup></b>										
Asphalt & Road Oil	0.00	0.00	0.41	1.00	0.00	0.00	0.00	0.00	0.41	1.00
Aviation Gasoline	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.02	0.04
Distillate Fuel Oil	0.77	1.64	0.56	1.19	1.47	3.13	0.04	0.09	2.84	6.05
Jet Fuel	0.00	0.00	0.00	0.00	1.18	-	0.00	0.00	1.18	-
Kerosene	0.09	0.19	0.03	0.06	0.00	0.00	0.00	0.00	0.12	0.25
Liquefied Petroleum Gases	0.26	0.41	1.28	1.54	0.03	0.04	0.00	0.00	1.57	1.99
Lubricants	0.00	0.00	0.08	0.18	0.08	0.18	0.00	0.00	0.16	0.36
Motor Gasoline	0.06	0.12	0.08	0.15	6.55	12.59	0.00	0.00	6.69	12.86
Residual Fuel Oil	0.12	0.28	0.39	0.90	0.35	0.81	0.52	1.20	1.38	3.18
Other <sup>1</sup>	0.00	0.00	1.36	2.89	0.00	0.00	*	0.01	1.36	2.89
<b>Total</b>	<b>1.29</b>	<b>2.50</b>	<b>4.19</b>	<b>7.42</b>	<b>9.68</b>	<b>18.59</b>	<b>0.56</b>	<b>1.54</b>	<b>15.73</b>	<b>30.05</b>
<b>1994<sup>e</sup></b>										
Asphalt & Road Oil	0.00	0.00	0.48	1.16	0.00	0.00	0.00	0.00	0.48	1.16
Aviation Gasoline	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.02	0.04
Distillate Fuel Oil	0.67	1.42	0.53	1.13	1.92	4.08	0.04	0.09	3.12	6.63
Jet Fuel	0.00	0.00	0.00	0.00	1.53	3.02	0.00	0.00	1.53	3.02
Kerosene	0.04	0.08	0.01	0.02	0.00	0.00	0.00	0.00	0.05	0.10
Liquefied Petroleum Gases	0.39	0.44	1.48	1.80	0.02	0.02	0.00	0.00	1.89	2.25
Lubricants	0.00	0.00	0.08	0.18	0.08	0.18	0.00	0.00	0.16	0.35
Motor Gasoline	0.02	0.04	0.09	0.17	7.48	14.34	0.00	0.00	7.59	14.55
Residual Fuel Oil	0.07	0.16	0.18	0.41	0.38	0.87	0.37	0.85	1.00	2.29
Other <sup>1</sup>	0.00	0.00	1.80	3.81	0.00	0.00	0.01	0.02	1.80	3.81
<b>Total</b>	<b>1.19</b>	<b>2.13</b>	<b>4.65</b>	<b>8.43</b>	<b>11.41</b>	<b>22.16</b>	<b>0.43</b>	<b>1.05</b>	<b>17.64</b>	<b>33.77</b>

<sup>e</sup> Estimate.

\* Less than 5,000 barrels per day.

<sup>1</sup> Other in the industrial sector includes petrochemical feedstock, special naphthas, wax, petroleum coke, still gas, natural gasoline, pentanes plus crude oil and miscellaneous products. Other for electric utilities is petroleum coke.

Note: BTU data derived by multiplying barrels per day data by conversion factors in Table A1 in Appendix A and 366 days per year for 1984, 365 days for 1994. Sum of components may not equal total due to independent rounding.

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Tables 5.12a and 5.12b.

TABLE - 119

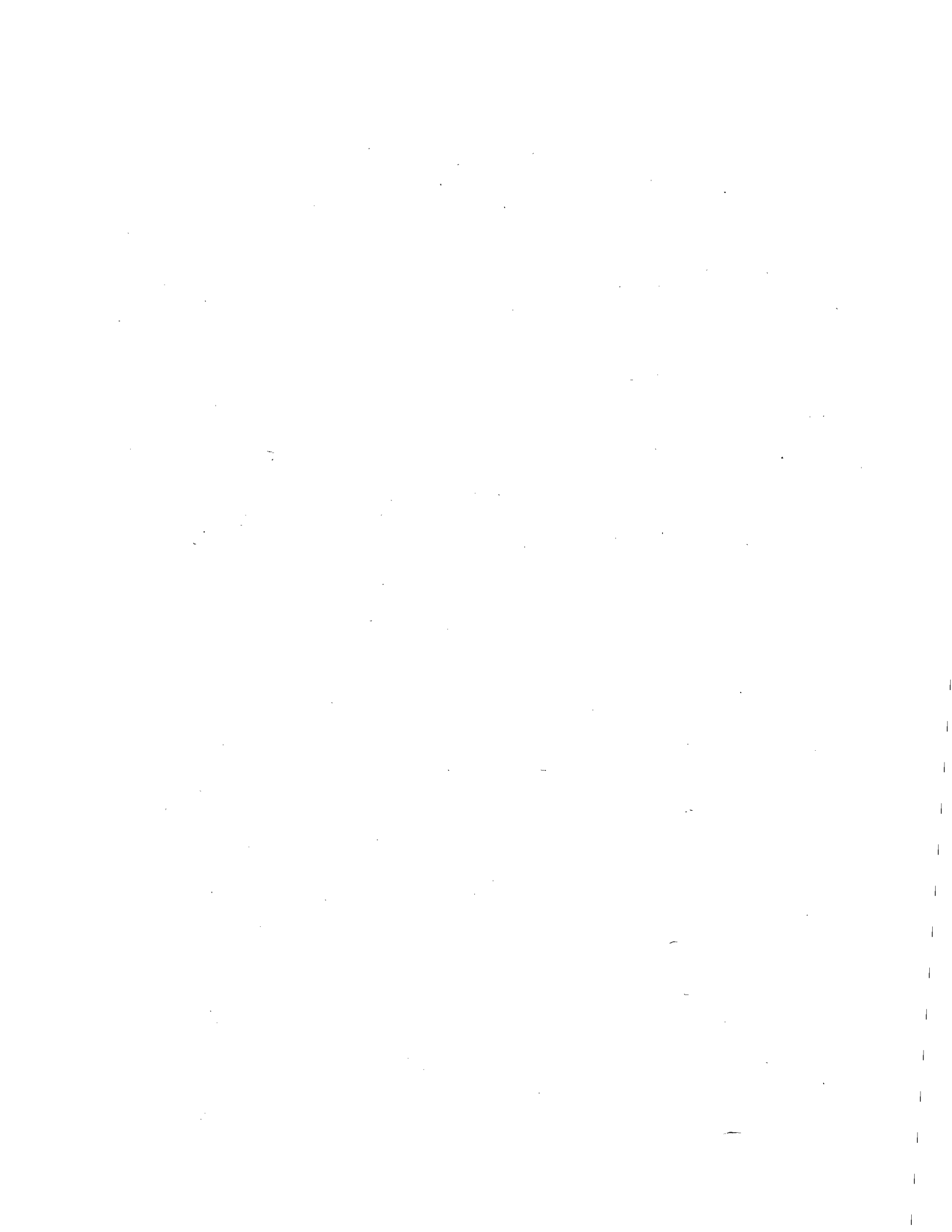
## Domestic Demand for Gasoline

5-Year Intervals 1955–1990 and Annually 1990–1994  
(Thousand Gallons)

Year	Total Demand	Highway	Agriculture	Non-Highway			Total
				Aviation <sup>a</sup>	Marine	Other <sup>b</sup>	
1955	52,566,255	47,731,734	2,156,434	999,440	25,885	1,652,762	4,834,521
1960	63,221,243	57,879,908	2,291,666	1,323,769	60,633	1,656,267	5,332,335
1965	75,312,613	71,104,430	1,963,432	501,339	96,336	1,647,076	4,208,183
1970	96,331,909	92,329,056	1,931,966	393,012	598,159	1,079,713	4,002,850
1975	112,626,656	108,984,347	1,564,882	409,713	729,718	937,996	3,642,309
1980	104,837,657	101,183,014	1,059,044	412,883	1,052,185	1,130,531	3,654,643
1985	107,612,794	103,607,851	1,080,677	381,515	1,052,998	1,489,753	4,004,943
1990 <sup>r</sup>	113,605,538	109,529,456	681,220	360,942	1,300,421	1,733,499	4,076,082
1991 <sup>r</sup>	112,221,966	107,913,262	778,957	338,543	1,709,687	1,481,517	4,308,704
1992 <sup>r</sup>	114,882,674	110,974,379	805,524	344,302	1,319,171	1,439,298	3,908,295
1993	116,579,010	113,668,348	846,320	340,447	873,687	850,208	2,910,662
1994	117,948,132	115,007,612	903,682	311,650	875,530	849,658	2,940,520

<sup>r</sup> Revised.<sup>a</sup> Does not include aviation jet fuel.<sup>b</sup> Includes state, county, and municipal use, industrial and commercial, construction and miscellaneous.

Source: 1955–1975: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Tables MF-24 and MF-26.  
 1980–1985: *Ibid.*, Tables MF-21A and MF-24.  
 1990–1994: *Ibid.*, personal communication, HPM-10.



# **TRANSPORTATION, ENERGY, *and the* ENVIRONMENT**

## **SECTION 5**

### **ENVIRONMENT**

The section presents data on transportation's relationship to the environment for the years 1960-1993. Some data are forecast through 1998.





TABLE - 120

National Emissions of Carbon Monoxide<sup>a</sup>10-Year Intervals 1960-1990 and Annually 1990-1993  
(Million Short Tons)

Year	Transportation <sup>b</sup>					Non-Transportation <sup>c</sup>					Total of All Sources
	Highway Vehicles	Aircraft	Railroads	Off-Highway	Other Off-Highway <sup>d</sup>	Stationary Fuel Combustion	Industrial Processes	Waste Disposal & Recycling	Miscellaneous <sup>e</sup>		
1960	58.30	1.76	0.33	0.52	8.96	7.02	10.28	5.60	11.01	103.78	
1970	88.03	0.51	0.07	0.98	0.13	4.63	9.84	7.06	16.84	128.08	
1980	78.05	0.74	0.10	1.10	0.20	7.30	6.95	2.30	18.88	115.63	
1990 <sup>p</sup>	62.86	0.97	0.12	1.21	0.27	6.72	5.23	1.69	24.70	103.75	
1991 <sup>p</sup>	62.07	0.96	0.12	1.22	0.27	6.58	5.15	1.64	21.87	99.90	
1992 <sup>p</sup>	59.86	0.98	0.12	1.23	0.27	6.02	5.19	1.72	20.97	96.37	
1993 <sup>p</sup>	59.99	1.02	0.12	1.25	0.28	5.43	5.28	1.73	22.11	97.21	

<sup>p</sup> Preliminary.<sup>a</sup> The sum of subcategories may not equal total due to rounding.<sup>b</sup> There was a change in vehicular methodology between 1960 and 1970.<sup>c</sup> There was a change in methodology between 1980 and 1990.<sup>d</sup> Other off-highway includes airport service vehicles and non-recreational marine vessels.<sup>e</sup> Miscellaneous includes other combustion and non-highway vehicles used for recreation, construction, industrial, lawn and garden, farm, light commercial, logging and other purposes.Source: U. S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1900-1993*, Table 3-1, Table A-1.

**TABLE - 121**

**National Emissions of Nitrogen Oxides<sup>a</sup>**  
 10-Year Intervals 1960-1990 and Annually 1990-1993  
 (Million Short Tons)

Year	Transportation <sup>b</sup>					Non-Transportation <sup>c</sup>					Total of All Sources
	Highway Vehicles	Aircraft	Railroads	Off-Highway <sup>d</sup>	Total	Stationary Fuel Combustion	Industrial Processes	Waste Disposal & Recycling	Miscellaneous <sup>e</sup>		
1960	4.42	-	0.77	-	5.86	7.37	0.57	0.33	0.44	14.58	
1970	7.39	0.07	0.50	0.04	8.09	10.06	0.78	0.44	1.26	20.63	
1980	8.62	0.11	0.73	0.11	9.69	11.32	0.56	0.11	1.59	23.28	
1990 <sup>f</sup>	7.49	0.14	0.93	0.17	8.90	11.50	0.89	0.08	1.82	23.19	
1991 <sup>g</sup>	7.37	0.14	0.93	0.17	8.78	11.54	0.89	0.08	1.69	22.98	
1992 <sup>g</sup>	7.44	0.14	0.95	0.18	8.88	11.41	0.90	0.08	1.72	22.99	
1993 <sup>g</sup>	7.44	0.15	0.95	0.18	8.89	11.69	0.91	0.08	1.83	23.40	

<sup>g</sup> Preliminary.

<sup>e</sup> Miscellaneous includes other combustion and non-highway vehicles used for recreation, construction,

<sup>a</sup> The sum of subcategories may not equal total due to rounding.

<sup>b</sup> There was a change in methodology for highway vehicles and off-highway emission estimates from 1970 to 1980.

<sup>c</sup> There was a change in methodology between 1980 and 1990.

<sup>d</sup> Other off-highway includes airport service, recreational marine vessels.

Source: U.S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1990-1993*, Table 3-2, Table A-2.

TABLE - 122

## National Emissions of Volatile Organic Compounds

10-Year Intervals 1960-1990 and Annually 1990-1993  
(Million Short Tons)

Year	Transportation <sup>a</sup>			Stationary Fuel Combustion	Non-Transportation			Total of All Sources
	Highway	Off- Highway <sup>b</sup>	Total		Industrial Processes	Waste Disposal & Recycling	Miscel- laneous	
1960	10.37	1.22	11.59	0.88	8.73	1.55	1.57	24.32
1970	12.97	0.69	13.66	0.72	12.33	1.98	1.95	30.65
1980	8.98	0.62	9.60	1.05	12.10	0.76	2.39	25.89
1990 <sup>P</sup>	6.85	0.73	7.58	0.74	10.98	2.26	2.71	24.28
1991 <sup>P</sup>	6.50	0.73	7.23	0.73	11.00	2.22	2.33	23.51
1992 <sup>P</sup>	6.07	0.74	6.81	0.69	11.05	2.27	2.20	23.02
1993 <sup>P</sup>	6.09	0.76	6.85	0.65	11.20	2.27	2.34	23.31

<sup>P</sup> Preliminary.<sup>a</sup> There is a change in methodology for highway vehicles and off-highway emission estimates from 1970 to 1980.<sup>b</sup> Off-highway includes airport service, recreational marine vessels, aircraft, non-recreational marine vessels and railroads.Source: U. S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1900-1993*, Table 3-3, Table A-3.

**TABLE - 123**

**National Emissions of Particulate Matter**  
 10-Year Intervals 1960-1990 and Annually 1990-1993  
 (Million Short Tons)

Year	Transportation <sup>a</sup>					Non-Transportation <sup>b</sup>					Total of All Sources	
	Highway	Aircraft	Railroads	Marine Vessels	Off-Highway	Total	Stationary Fuel Combustion	Industrial Processes	Waste Disposal & Recycling	Natural Sources		Miscellaneous <sup>c</sup>
1960	0.55	-	0.10	-	0.10	0.75	3.56	9.24	0.76	-	1.24	15.56
1970	0.24	0.02	0.03	0.01	0.01	0.30	2.87	7.67	1.00	-	1.00	12.84
1980	0.28	0.03	0.04	0.02	0.01	0.37	2.45	2.75	0.27	-	1.08	6.93
1990 <sup>p</sup>	0.24	0.04	0.05	0.03	0.02	0.37	1.45	0.60	0.24	4.19	42.30	49.16
1991 <sup>p</sup>	0.22	0.04	0.05	0.03	0.02	0.36	1.42	0.59	0.25	10.05	40.36	53.03
1992 <sup>p</sup>	0.21	0.04	0.05	0.03	0.02	0.35	1.30	0.60	0.25	4.66	41.49	48.63
1993 <sup>p</sup>	0.20	0.05	0.05	0.03	0.02	0.34	1.21	0.61	0.25	0.63	42.46	45.49

<sup>p</sup> Preliminary.

+ Other off-highway includes airport service vehicles after 1960. Fugitive dust estimates were not available before 1990.

<sup>a</sup> There was a change in vehicular methodology between 1960 and 1970.

<sup>b</sup> There was a change in methodology between 1980 and 1990.

<sup>c</sup> For the years 1990-1993 fugitive dust comprises approximately 75% of the miscellaneous total. Miscellaneous also includes agriculture and forestry.

other combustion, wind erosion and non-highway vehicles used for recreation, lawn and garden, light commercial, construction, industrial, farm and logging.

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

Source: U. S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1900-1993*, Table 3-5, Table A-5.

**TABLE - 124**

**National Emissions of Sulfur Dioxide**  
 10-Year Intervals 1960-1990 and Annually 1990-1993  
 (Million Short Tons)

Year	Transportation <sup>a</sup>				Non-Transportation <sup>b</sup>				Total of All Sources
	Highway	Railroads	Marine Vessels	Aircraft	Stationary Fuel Combustion	Industrial Processes	Waste Disposal & Recycling	Miscellaneous	
1960	0.11	0.215	-	-	15.45	5.78	0.01	0.55	22.23
1970	0.35	0.036	0.04	0.004	23.46	7.09	0.01	0.11	31.10
1980	0.43	0.053	0.12	0.006	21.39	3.77	0.03	0.01	25.81
1990 <sup>P</sup>	0.48	0.068	0.19	0.007	19.60	1.87	0.04	0.01	22.26
1991 <sup>P</sup>	0.48	0.068	0.19	0.007	19.53	1.83	0.04	0.01	22.15
1992 <sup>P</sup>	0.48	0.070	0.20	0.007	18.96	1.83	0.04	0.01	21.59
1993 <sup>P</sup>	0.44	0.069	0.20	0.008	19.27	1.86	0.04	0.01	21.89

<sup>P</sup> Preliminary.

<sup>a</sup> There was a change in vehicular methodology between 1960 and 1970.

<sup>b</sup> There was a change in methodology between 1980 and 1990.

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

Source: U. S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1900-1993*, Table 3-4, Table A-4.

**TABLE - 125**

**National Lead Emission Estimates**

5-Year Intervals 1970-1990 and Annually 1990-1993  
(Thousand Short Tons)

Year	Transportation			Non-Transportation			Total of All Sources
	Highway	Off-Highway	Total	Stationary Fuel Combustion	Industrial Processes	Waste Disposal & Recycling	
1970	171.96	8.34	180.30	10.62	26.36	2.20	219.47
1980	62.19	3.32	65.51	4.30	3.94	1.21	74.96
1990	1.69	0.20	1.89	0.50	2.44	0.80	5.64
1991	1.52	0.19	1.71	0.50	2.24	0.58	5.02
1992	1.45	0.19	1.65	0.49	2.19	0.42	4.74
1993 <sup>P</sup>	1.38	0.21	1.59	0.50	2.28	0.52	4.89

<sup>P</sup> Preliminary.

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

Source: U. S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1900-1993*, Table 3-6, Table A-6.

TABLE - 126

**Emissions of Particulate Matter from Highway Vehicles**10-Year Intervals 1970-1990 and Annually 1990-1993  
(Million Short Tons)

Year	Gasoline Powered <sup>a</sup>				Diesel Powered <sup>a</sup>				Highway Vehicle Total
	Passenger Cars & Motorcycles	Light Trucks <sup>b</sup>	Heavy Duty Vehicles	Total	Passenger Cars	Light Trucks <sup>b</sup>	Heavy Duty Vehicles	Total	
1970	0.063	0.016	0.002	0.081	-	-	0.156	0.156	0.237
1980	0.047	0.013	0.002	0.062	0.008	0.001	0.204	0.213	0.275
1990	0.034	0.012	0.004	0.050	0.008	0.001	0.180	0.189	0.239
1991	0.033	0.011	0.004	0.048	0.008	0.001	0.165	0.174	0.222
1992	0.033	0.011	0.004	0.048	0.008	0.002	0.153	0.163	0.211
1993 <sup>p</sup>	0.032	0.010	0.004	0.046	0.008	0.002	0.141	0.151	0.197

<sup>p</sup> Preliminary.<sup>a</sup> The sum of subcategories may not equal total due to rounding.<sup>b</sup> Less than 8,500 pounds.Source: U.S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1900-1993*, Table A-5.

**TABLE - 127**

**Federal Emission Control Requirements for Automobiles and Light Trucks<sup>a</sup>**  
 5-Year Intervals 1980–1990 and Annually 1990–1995  
 (Grams-per Mile)

Year	Automobiles				Light Trucks <sup>b</sup>			
	Hydro-carbons (HC)	Carbon Monoxide (CO)	Nitrogen Oxides (Nox)	Particulates <sup>c</sup>	Hydro-carbons (HC)	Carbon Monoxide (CO)	Nitrogen Oxides (Nox)	Particulates <sup>c</sup>
1980	0.41	7.0	2.0	*	1.7	18	2.3	*
1985	0.41	3.4	1.0	0.6	0.8	10	2.3	0.60
1990 <sup>c</sup>	0.41	3.4	1.0	0.2	0.8	10	1.2 <sup>d</sup>	0.26
1991 <sup>c</sup>	0.41	3.4	1.0	0.2	0.8	10	1.2 <sup>d</sup>	0.26
1992 <sup>c</sup>	0.41	3.4	1.0	0.2	0.8	10	1.2 <sup>d</sup>	0.26
1993 <sup>c</sup>	0.41	3.4	1.0	0.2	0.8	10	1.2 <sup>d</sup>	0.26
1994 <sup>c</sup>	0.25	3.4	0.4	0.08	0.3	3.4 <sup>d</sup>	1.2 <sup>d</sup>	0.26
1995 <sup>c</sup>	0.25	3.4	0.4	0.08	0.3	3.4 <sup>d</sup>	0.4 <sup>e</sup>	0.08

\* No standard set for this year.

<sup>a</sup> California standards not included.

<sup>b</sup> Applies to trucks under 8,500 pounds gross vehicle weight rating (GVWR) beginning in model year 1980.

<sup>c</sup> Applies to diesel engines only.

<sup>d</sup> Applies to light trucks up to and including 3,750 pounds loaded vehicle weight (LVW).

<sup>e</sup> Applies to light trucks up to and including 3,750 pounds LVW. Does not apply to diesel-fueled light trucks.

Sources: Code of Federal Regulations 40CFR86, *Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Certification and Testing Procedures*, July 1, 1987, p. 264, Clean Air Act Amendments of 1990.



TABLE - 128

**Federal Emission Control Requirements for Heavy-Duty Diesel Trucks<sup>a</sup>**5-Year Intervals 1980–1990 and Annually 1990–1998  
(Grams per Brake Horsepower Hour)

Year	Hydrocarbons (HC)	Carbon Monoxide (CO)	Nitrogen Oxides (NOx)	Particulates
1980	1.5	25.0	<sup>b</sup>	<sup>b</sup>
1985	1.3	15.5	10.7	<sup>b</sup>
1990	1.3	15.5	6.0	0.60
1991	1.3	15.5	5.0	0.25
1992	1.3	15.5	5.0	0.25
1993	1.3	15.5	5.0	0.25
1994*	1.3	15.5	5.0	0.10
1995*	1.3	15.5	5.0	0.10
1996*	1.3	15.5	5.0	0.10
1997*	1.3	15.5	5.0	0.10
1998*	1.3	15.5	4.0	0.10

\* Heavy-duty trucks must meet these standards or standards which reflect the greatest degree of emission reduction achievable through the application of the technology available for HC 1994–1998 and for NOx and particulates in 1995–1998.

<sup>a</sup> Applies to trucks greater than 8,500 pounds gross vehicle weight beginning in model year 1980.

<sup>b</sup> No standard was set for this year.

Source: Code of Federal Regulations, 40CFR86, *Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Certification and Testing Procedures*, July 1, 1987, p. 264 and Clean Air Act Amendments of 1990.

TABLE - 129

**Federal Emission Control Requirements for Heavy-Duty Gasoline Trucks<sup>a</sup>**5-Year Intervals 1980–1990 and Annually 1990–1998  
(Grams per Brake Horsepower Hour)

Year	Hydrocarbons (HC)	Carbon Monoxide (CO)	Nitrogen Oxides (NOx)
1980	1.5	25.0	<sup>b</sup>
1985	2.5	40.0	10.7
1990	1.9	37.1	6.0
1991	1.9	37.1	5.0
1992	1.9	37.1	5.0
1993	1.9	37.1	5.0
1994*	1.9	37.1	5.0
1995*	1.9	37.1	5.0
1996*	1.9	37.1	5.0
1997*	1.9	37.1	5.0
1998*	1.9	37.1	4.0

\* Heavy-duty trucks must meet these standards or standards which reflect the greatest degree of emission reduction achievable through the application of the technology available for HC 1994–1998, CO 1995–1998, and NOx and particulates in 1994–1998.

<sup>a</sup> Applies to trucks greater than 8,500 pounds gross vehicle weight from model year 1980–1985; and greater than 14,000 pounds gross vehicle weight starting in 1990.

<sup>b</sup> No standard was set for this year.

Source: Code of Federal Regulations, 40CFR86, *Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Certification and Testing Procedures*, July 1, 1987, p. 264 and Clean Air Act Amendments of 1990.

TABLE - 130

## Pollution Abatement and Control Expenditures

Annually 1984-1993

(Billions of 1987 Dollars)

Type of Expenditure	1984	1985	1986	1987	1988	1989	1990	1991	1992 <sup>r</sup>	1993
<b>Pollution Abatement:</b>										
Personal Consumption	11.0	11.8	12.7	10.9	11.8	10.1	8.5	6.8	7.0	7.4
Motor Vehicle Emission										
Abatement Devices	8.1	8.8	9.6	8.6	9.8	9.2	8.3	6.8	7.0	7.4
Operation of Motor										
Vehicle Emission										
Abatement Devices	2.8	2.9	3.1	2.2	2.0	0.9	0.2	-	-	-
Business Consumption	41.2	42.4	43.8	44.5	46.0	47.8	49.9	52.7	57.0	59.3
Capital	15.3	15.5	14.9	14.8	15.2	15.4	16.5	17.3	19.2	20.3
Motor Vehicle Emission										
Abatement Devices	5.1	5.4	5.3	5.1	6.0	5.5	5.3	5.3	5.3	5.8
Plant & Equipment	7.6	7.6	7.0	6.6	7.1	7.9	8.7	10.7	12.5	12.9
Other	2.5	2.5	2.6	3.1	2.1	2.0	2.5	1.3	1.4	1.6
Current Account	25.9	26.9	28.9	29.7	30.7	32.4	33.5	35.4	37.9	39.0
Operation of Motor										
Vehicle Emission										
Abatement Devices	2.1	2.2	2.2	1.6	1.5	0.8	0.2	-	-	-
Operation of Plant										
& Equipment	16.8	16.9	18.2	19.0	19.7	21.3	22.0	22.4	23.8	24.1
Operation of Public										
Sewer Systems	6.1	6.6	7.3	7.8	8.4	8.7	9.5	10.3	11.1	11.1
Other	0.9	1.2	1.2	1.3	1.1	1.5	1.7	2.8	3.0	3.8
Government Consumption	13.9	14.6	15.7	17.1	17.0	17.8	18.9	20.6	20.8	22.1
Regulation & Monitoring	1.5	1.4	1.6	1.5	1.6	1.7	1.6	1.7	1.6	1.7
Research & Development	2.5	2.5	2.6	2.6	2.7	2.7	2.7	1.7	1.6	1.4
<b>Total Expenditures</b>	<b>70.0</b>	<b>72.7</b>	<b>76.4</b>	<b>76.7</b>	<b>79.1</b>	<b>80.1</b>	<b>81.7</b>	<b>83.3</b>	<b>88.1</b>	<b>91.8</b>
<b>Total Motor Vehicle</b>										
<b>Expenditures</b>	<b>18.2</b>	<b>19.4</b>	<b>20.2</b>	<b>17.6</b>	<b>19.3</b>	<b>16.4</b>	<b>14.0</b>	<b>12.1</b>	<b>12.3</b>	<b>13.2</b>
<b>Motor Vehicle Percent</b>	<b>26.0</b>	<b>26.7</b>	<b>26.4</b>	<b>23.0</b>	<b>24.4</b>	<b>20.5</b>	<b>17.1</b>	<b>14.5</b>	<b>14.0</b>	<b>14.4</b>

<sup>r</sup> Revised.Source: American Automobile Manufacturers Association, *Facts & Figures*, 1995, p. 84, and similar tables in previous editions.

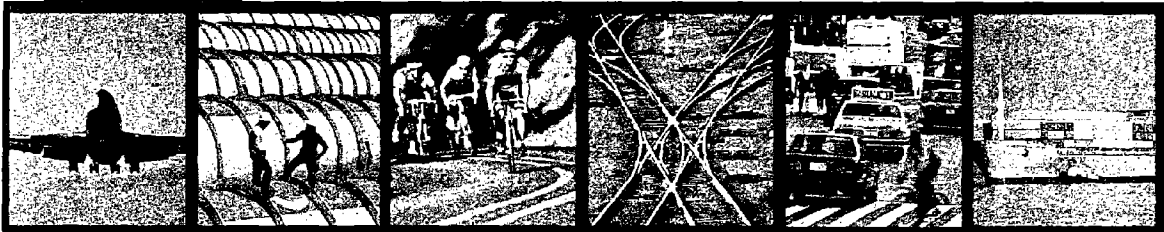
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# TRANSPORTATION

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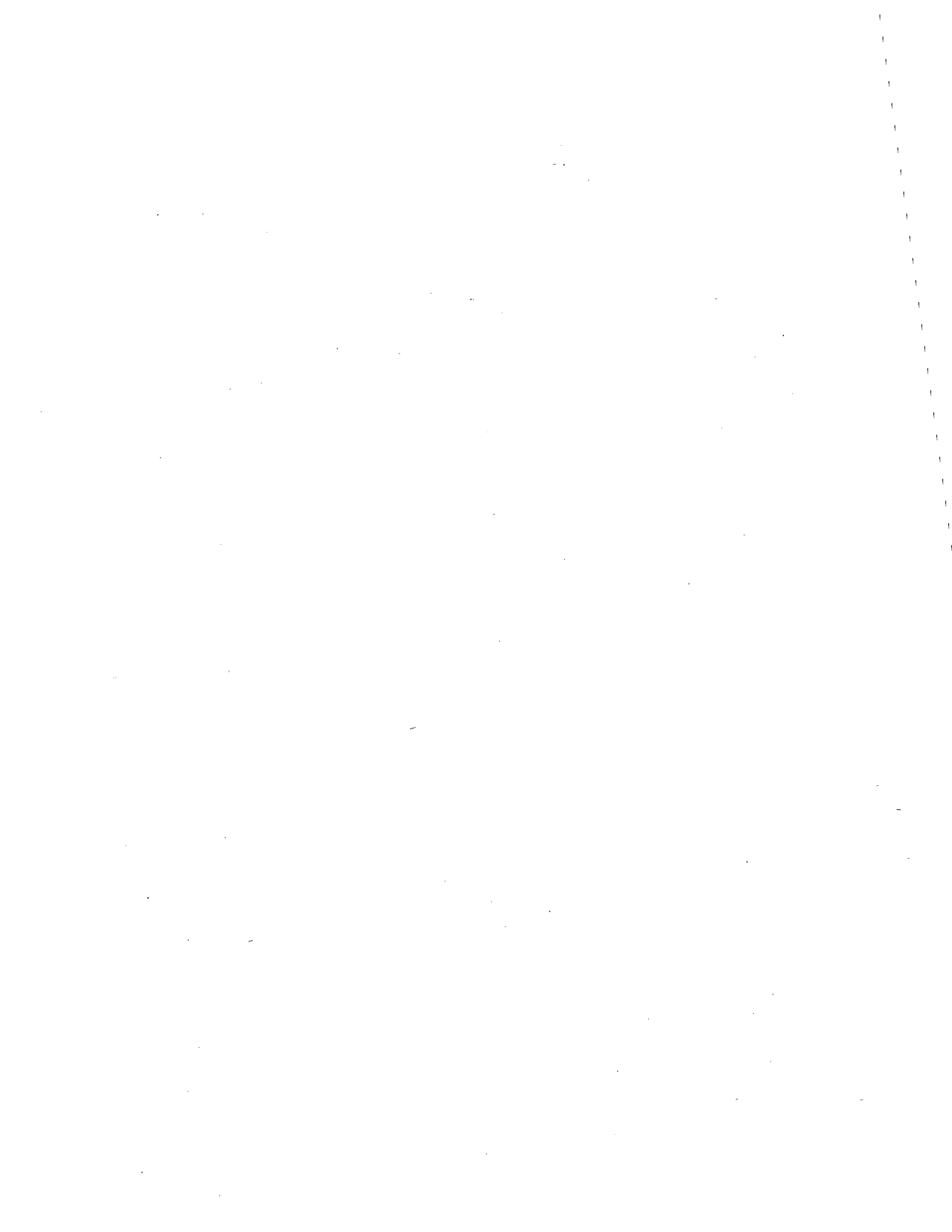
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**TRANSPORTATION**  
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**SECTION I**

**1993 COMMODITY  
FLOW SURVEY**



## PRELIMINARY RESULTS FROM THE 1993 COMMODITY FLOW SURVEY

### Introduction

The Commodity Flow Survey (CFS) is the first comprehensive effort to learn where and how goods are shipped in the U.S. since the Bureau of the Census conducted the last Commodity Transportation Survey in 1977. The CFS provides data on the movement of goods, by major type of commodity shipped, by mode(s) of transportation.

The 1993 CFS covered establishments in mining, manufacturing and wholesale trade, and selected retail and service industries. The survey also covered selected auxiliary establishments (e.g. warehouses) of in-scope multiunit companies and of all multiunit retail companies. The survey coverage excluded establishments classified as farms, forestry, fisheries, oil and gas extraction, governments, construction, transportation, households, foreign establishments, and most establishments in retail and services.

The 1993 CFS is substantially larger in coverage and depth than its predecessor surveys. The 1993 CFS measured a sample of 12 million shipments from 200,000 individual establishments in manufacturing, wholesaling, and selected other industries. The 1977 sample was limited to manufacturing establishments, and covered only 1 million shipments for 20,000 establishments.

The two biggest areas not covered by the CFS include shipments of crude petroleum and imports, primarily affecting statistics for water transportation and pipelines. Tables 131 and 132 and Figures 41 and 42 contain estimates of the missing value, tons, and ton-miles calculated by Oak Ridge National Laboratory. These estimates are based on waterborne tons and ton-miles measured by the U.S. Army Corps of Engineers, and on pipeline data reported to the Federal Energy Regulatory Commission. More precise methods are being developed by Oak Ridge for BTS in consultation with the Corps and the modal administrations of the U.S. Department of Transportation.

Tables 131 and 132 and Figures 41 and 42 are from *1993 Commodity Flow Survey: Preliminary Observations* by BTS, and Tables 133 and 134 are from *1993 Commodity Flow Survey, U.S. Preliminary Report* by the Bureau of the Census.<sup>1</sup> The data are SUBJECT TO REVISION based on additional analysis being conducted at the more detailed geographic and commodity levels.

### Comparisons With Other Sources

The statistics presented in this section differ from the values in Table 7 and Tree Display 4 in this edition of NTS, and from other sources. The differences are due primarily to different coverages and definitions.

According to the 1993 Carload Rail Waybill Sample, collected by the Interstate Commerce Commission and processed by the Federal Railroad Administration, the CFS estimate of 1.01 trillion ton-miles by rail is low by 113 billion ton-miles. Roughly half the discrepancy is explained by 62.3 billion ton-miles of imports from Canada in the Waybill and out of scope in the CFS. Other import and land bridge traffic could explain the remainder. The total discrepancy is less than one-third of one percent of all domestic ton-miles.

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<sup>1</sup>U.S. Bureau of the Census, *1993 Commodity Flow Survey, U.S. Preliminary Report, TC92-CF-52-(P)* issued July 1995, and U.S. Bureau of Transportation Statistics, *1993 Commodity Flow Survey: Preliminary Observations*, June 22, 1995 (revised August 7, 1995).

The modal shares of ton-miles in Table 134 and Figure 42 are significantly different from similar tables published by the Eno Foundation for Transportation in *Transportation in America*. The differences are primarily definitional. Eno estimates intercity freight movements, while the CFS includes both local and intercity shipments. Eno does not split out parcel, postal, and courier services, resulting in a noticeably higher estimate of air freight activity than reported in the CFS.

Eno excludes coastwise water movements, which account for about half the total waterborne ton-miles reported in the BTS tables and figures. This substantial difference in reported waterborne ton-miles significantly affects the other slices of the modal share pie chart, most notably dropping the percentage attributed to rail. The lower share of rail ton-miles in the CFS is definitional, and not the result of a precipitous decline in rail traffic.

### **Additional Information**

The full Preliminary U.S. Report contains additional tables, coefficients of variation, and information about the CFS, including coverage, sample design; survey methodology, definition of individual modes and Standard Transportation Commodity Classification (STCC) codes, and mileage calculation methodology. Data on the flows of individual commodity groups by mode of transportation between and within States, as well as flows among 89 National Transportation Analysis Regions, will be released next, followed by detailed national summaries.

To get further information, provide customer feedback, and get on the CFS product distribution list:

- browse the national transportation statistics area at [www.bts.gov](http://www.bts.gov) or [gopher.bts.gov](http://gopher.bts.gov) on Internet,
- e-mail the DOT-Census Commodity Flow Survey team at [cfs@bts.gov](mailto:cfs@bts.gov), or
- call the Commodity Flow Survey Branch, Bureau of the Census, at 301/457-2108.



TABLE - 131

Shipment Characteristics by Mode and Intermodal Combination for the United States<sup>P</sup>

1993

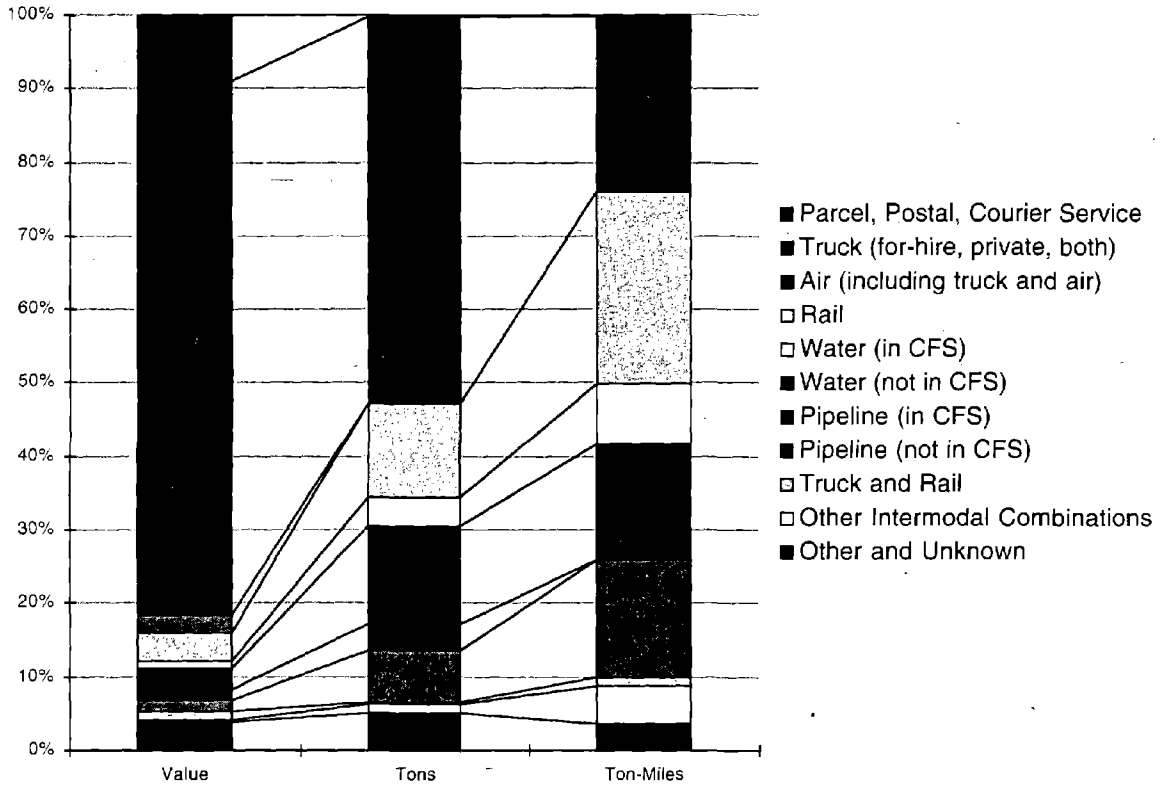
Mode	Value (million \$)	Tons (thousands)	Ton-Miles (millions)	Value (percent)	Tons (percent)	Ton-Miles (percent)	Value per Pound (\$)	Ton-Miles per Ton
Parcel, Postal, Courier Service	563,603	18,682	12,901	8.9	0.2	0.3	15.08	691
Truck (for-hire, private, both)	4,588,201	6,511,884	876,870	72.6	52.6	23.7	0.35	135
Air (including truck and air)	149,256	2,788	3,435	2.4	0.0	0.1	26.77	1,232
Rail	250,534	1,570,087	958,658	4.0	12.7	26.0	0.08	611
Water (in CFS)	58,783	480,586	303,193	0.9	3.9	8.2	0.06	631
Water (not in CFS)	187,085	1,647,635	582,892	3.0	13.3	15.8	0.06	354
Pipeline (in CFS)	84,053	469,964	-	1.3	3.8	-	0.09	-
Pipeline (not in CFS)	96,209	872,984	592,900	1.5	7.0	16.1	0.06	679
Truck and Rail	82,895	38,014	43,127	1.3	0.3	1.2	1.09	1,135
Other Intermodal Combinations	13,839	148,675	187,270	0.2	1.2	5.1	0.05	1,260
Other and Unknown	246,056	624,846	131,635	3.9	5.0	3.6	0.20	211
Total	6,320,514	12,386,145	3,692,881	100.0	100.0	100.0	0.26	298
Intermodal	660,337	205,371	243,298	10.4	1.7	6.6	1.61	1,185

<sup>P</sup> Preliminary.

Source: U.S. DOT/BTS, 1993 Commodity Flow Survey: Preliminary Observations, June 22, 1995 (revised August 7, 1995).

**FIGURE - 41**

**Shipment Characteristics by Mode and Intermodal Combination for the United States, 1993**



Note: There are some percentages too small to appear on this chart. See source table for exact percentages.

Source: See Table 131.

**TABLE - 132**

**Ton-Miles for Single-Mode Shipments and the Mode's Share of Intermodal Shipments for the United States<sup>P</sup>**

1993

(Millions)

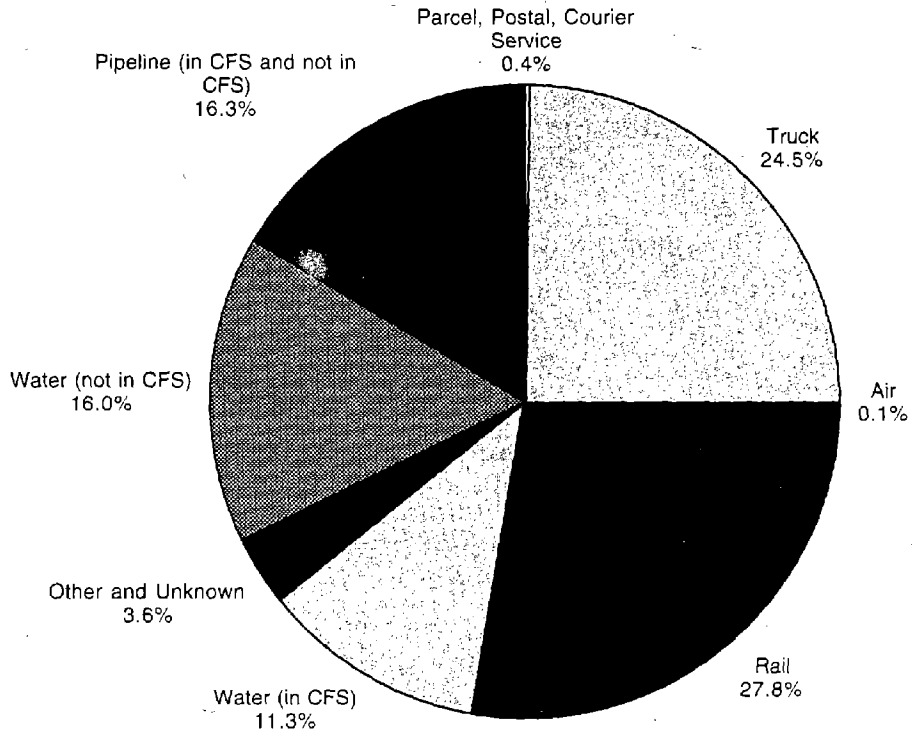
<b>Mode</b>	<b>Ton-Miles (millions)</b>	<b>Ton-Miles (percent)</b>
Parcel, Postal, Courier Service	12,901	0.4
Truck	892,822	24.5
Air	3,283	0.1
Rail	1,011,193	27.8
Water (in CFS)	412,262	11.3
Other and Unknown	129,774	3.6
Water (not in CFS)	582,892	16.0
Pipeline (in CFS and not in CFS)	592,900	16.3
<b>Total</b>	<b>3,638,027</b>	<b>100.0</b>

<sup>P</sup> Preliminary.

Source: U.S. DOT/BTS, 1993 *Commodity Flow Survey: Preliminary Observations*, June 22, 1995 (revised August 7, 1995).

**FIGURE - 42**

**Mode's Share of Intermodal Shipments for the United States, 1993**



Source: See Table 132.

**TABLE - 133**

**Commodity Flow Survey (CFS) Shipment Characteristics by Detailed Mode of Transportation for the United States**

1993

Mode of Transportation	Value		Tons		Ton-Miles		Average Miles per Shipment <sup>1</sup>
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
<b>All Modes</b>	6,037,220	100.0	9,865,526	100.0	2,517,089	100.0	403
<b>Single Modes</b>							
Parcel, U.S. Postal Service, or Courier	563,603	9.3	18,682	0.2	12,901	0.5	715
Private Truck	1,789,798	29.6	3,556,030	36.0	237,617	9.4	51
For-Hire Truck	2,775,836	46.0	2,921,436	29.6	634,599	25.2	470
Air	41,520	0.7	492	-	613	-	1,390
Rail	250,534	4.1	1,570,087	15.9	958,658	38.1	803
Inland Water	41,645	0.7	366,207	3.7	164,514	6.5	356
Great Lakes	624	-	34,337	0.3	12,293	0.5	266
Deep Sea Water	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Pipeline <sup>2</sup>	84,053	1.4	466,578	4.7	(s)	(s)	(s)
<b>Multiple Modes</b>							
Private Truck & For-Hire Truck	22,567	0.4	32,418	0.3	4,654	0.2	209
Truck & Air	107,736	1.8	2,296	-	2,822	0.1	1,315
Truck & Rail	82,895	1.4	38,014	0.4	43,127	1.7	1,482
Truck & Water	8,232	0.1	72,051	0.7	48,256	1.9	1,269
Truck & Pipeline <sup>2</sup>	649	-	3,386	-	(s)	(s)	(s)
Rail & Water	3,260	0.1	66,740	0.7	55,719	2.2	917
Inland Water & Great Lakes	(s)	(s)	(s)	(s)	(s)	(s)	(s)
Inland Water & Deep Sea	16,514	0.3	80,042	0.8	126,386	5.0	(s)
<b>Other Modes</b>							
<b>Other &amp; Unknown Modes</b>	246,056	4.1	624,846	6.3	131,635	5.2	216

(s) Data do not meet publication standards due to high sampling variability or other reasons.

<sup>1</sup> Calculation of average miles per shipment excludes shipments of STCC 27, Printed Matter.

<sup>2</sup> CFS data for pipelines exclude most shipments of crude oil.

Note: Detail may not add to total because of rounding.

Source: U.S. Bureau of the Census, 1993 Commodity Flow Survey, U.S. Preliminary Report, TC92-CF-52(P), July 1995.

**TABLE - 134**

**Commodity Flow Survey (CFS) Shipment Characteristics for Single-Mode Shipments and the Mode's Share of Intermodal Shipments for the United States<sup>P</sup>**  
1993

Mode of Transportation <sup>1</sup>	Number (millions)	Ton-Miles	
		Percent	Average Miles per Shipment <sup>2</sup>
Parcel, U.S. Postal Service, or Courier	12,901	0.5	715
Truck	891,322	35.4	139
Air	3,283	0.1	1,286
Rail	1,010,493	40.1	1,012
Inland Water	254,859	10.1	345
Great Lakes	44,289	1.8	612
Deep Sea Water	113,114	4.5	2,329
Pipeline	(s)	(s)	(s)
Other & Unknown Modes	129,774	5.2	216

<sup>P</sup> Preliminary.

(s) Data do not meet publication standards due to high sampling variability or other reasons.

<sup>1</sup> Data represent activity for a given mode across single and multiple shipments. For example truck activity includes private truck and/or for-hire truck single mode combined with private and for-hire truck segments of all multiple mode trips including truck.

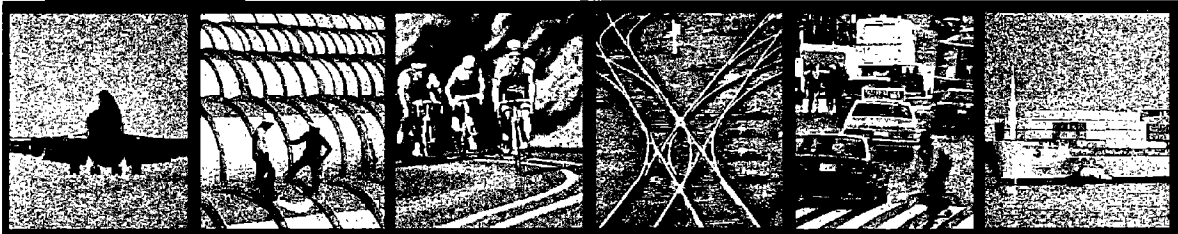
<sup>2</sup> Calculation of average miles per shipment excludes shipments of STCC 27, Printed Matter.

Source: U.S. Bureau of the Census, 1993 Commodity Flow Survey, U.S. Preliminary Report, TC92-CF-52-(P), July 1995.



# REFERENCES

ENTS



1996

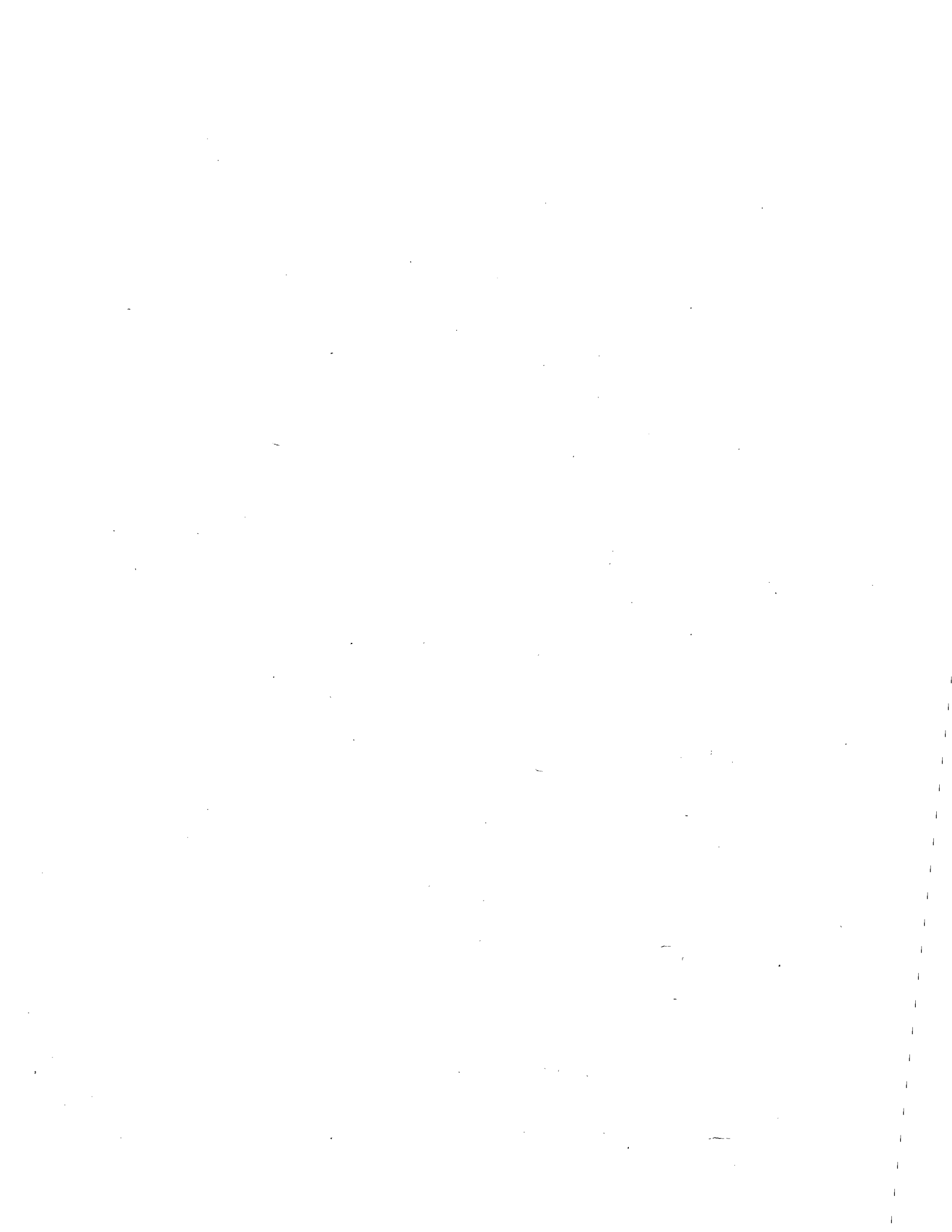




# **REFERENCES**

## **SECTION I**

### **TREE DISPLAY REFERENCES**



## TREE DISPLAY REFERENCES

### Tree I. Revenues, 1993

1. Domestic Transportation: Sum of Highway, Transit, Rail, Air, Water, and Pipeline.
2. Highway: Sum of Auto, Truck, and Bus.
3. Auto: Sum of Personal Passenger Car, Taxi, and Motorcycle.
4. Personal Passenger Car: U.S. Department of Commerce (DOC), Bureau of Economic Analysis. Auto registration and driver's license fees from the U.S. DOT/Federal Highway Administration (FHWA), *Highway Statistics*, 1993, Table MV-2 are also included.
5. Taxi: U.S. Department of Commerce (DOC), Bureau of Economic Analysis.
6. Motorcycle: Motorcycle Industry Council, Inc., 1993 *Motorcycle Statistical Annual*.
7. Truck: Interstate Commerce Commission (ICC), *Annual Report of the ICC*, 1994.
8. Bus: Sum of Intercity Bus and School Bus
9. Intercity Bus: Interstate Commerce Commission (ICC), *Annual Report of the ICC*, 1994.
10. School Bus: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 42.
11. Transit: American Public Transit Association (APTA), *Transit Fact Book*, 1994/1995, p.52.
12. Rail: Sum of Passenger, Freight, and Other.
13. Rail, Passenger: Sum of Class I Rail and Amtrak.
14. Rail, Class I: Association of American Railroads (AAR), *Railroad Facts*, 1995, p. 12.
15. Amtrak: Amtrak, *Statistical Appendix to Amtrak FY 1994 Annual Report*.
16. Rail, Freight: AAR, *Railroad Facts*, 1995, p. 12.
17. Rail, Other: *Ibid.*, p. 12.
18. Air: Sum of General Aviation and Air Carrier.
19. General Aviation: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 42. Figure represents the sum of operating costs and total retail value of new general aviation aircraft.
20. Air Carrier: U.S. DOT/Research and Special Programs Administration (RSPA), *Air Carrier Financial Statistics*, 1994/1993, p. 1, total operating revenues, domestic operations.
21. Total Majors: *Ibid.*, p. 3, total operating revenues in scheduled and nonscheduled services.
22. Total Nationals: *Ibid.*, p. 31, total operating revenues in scheduled and nonscheduled services.
23. Total Large Regionals: *Ibid.*, p. 50, total operating revenues in scheduled and nonscheduled service.
24. Water: Sum of Passenger, Freight, and Commercial Fishing.
25. Passenger, Water: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 42. Figure represents revenues of ICC-regulated carriers. Expenditures for private boating are not available.
26. Freight, Water: *Ibid.*, p.40, domestic operations only.
27. Commercial Fishing: U.S. DOC, NOAA, *Fisheries of the United States*, 1994.
28. Pipeline: Sum of Gas and Oil Pipeline.
29. Pipeline, Gas: American Gas Association, *Gas Facts*, 1994, p. 146.
30. Pipeline, Oil: Eno Foundation for Transportation, *Transportation in America*, 1995, p. 40.

## Tree 2. Vehicle-Miles, 1993

1. Domestic Transportation: Sum of Highway, Transit, Rail, and Air.
2. Highway: Sum of Auto, Truck, and Bus.
3. Auto: Sum of Personal Passenger Car and Motorcycle.
4. Personal Passenger Car (includes Taxi): U.S. DOT/Federal Highway Administration (FHWA), *Highway Statistics*, 1994, Table VM-1, includes total rural and urban.
5. Motorcycle: *Ibid.*
6. Truck: *Ibid.*
7. Single-Unit (2-axle 4-tire vehicles): *Ibid.*
8. Other Single-Unit (2-axle 6-tire or more trucks): *Ibid.*
9. Combination: *Ibid.*
10. Bus: *Ibid.*
11. Transit: APTA, *Transit Fact Book*, 1994/1995, p. 31.
12. Motor Bus: *Ibid.*
13. Heavy Rail: *Ibid.*
14. Light Rail: *Ibid.*
15. Trolley Bus: *Ibid.*
16. Demand Response: *Ibid.*
17. Ferryboat: *Ibid.*
18. Other: *Ibid.*
19. Commuter Rail: *Ibid.*
20. Rail: Sum of Amtrak and Freight.
21. Amtrak: Amtrak, Public Affairs Department.
22. Freight, Rail: AAR, *Railroad Facts*, 1995, pp. 33, 34.
23. Air: Sum of General Aviation and Air Carrier.
24. General Aviation: U.S. DOT/FAA, General Aviation Activity and Avionics Survey, 1993, Table 3.3; mileage multiplied by 1.151 to convert from nautical miles.
25. Air Carrier: U.S. DOT/RSPA, Air Carrier Traffic Statistics, December 1994/1993, p. 2, sum of scheduled aircraft revenue miles, line 27, and nonscheduled aircraft revenue miles, line 50.
26. Total Majors: *Ibid.*, p. 5, sum of scheduled, line 27, and nonscheduled, line 50, services.
27. Scheduled: *Ibid.*, line 27.
28. Nonscheduled: *Ibid.*, line 50.
29. Total Nationals: *Ibid.*, p. 53, sum of scheduled, line 27, and nonscheduled, line 50, services.
30. Scheduled: *Ibid.*, line 27.
31. Nonscheduled: *Ibid.*, line 50.
32. Total Large Regionals: *Ibid.*, p. 110, sum of scheduled, line 27, and nonscheduled, line 50, services.
33. Scheduled: *Ibid.*, line 27.
34. Nonscheduled: *Ibid.*, line 50.

35. Total Medium Regionals: *Ibid.*, p. 165, includes domestic and international operations, sum of scheduled, line 27, and nonscheduled, line 50, services.
36. Scheduled: *Ibid.*, line 27.
37. Nonscheduled: *Ibid.*, line 50.
38. Water: See Block 17.

### Tree 3. Passenger-Miles, 1993

1. Domestic Transportation: Sum of Highway, Transit, Rail, and Air.
2. Highway: Sum of Auto, Truck, and Bus.
3. Auto: Sum of Personal Passenger Car and Motorcycle.
4. Personal Passenger Car (includes Taxi): U.S. DOT/FHWA, *Highway Statistics*, 1994, Table VM-1.
5. Motorcycle: *Ibid.*
6. Truck: Sum of Single-Unit Truck and Combination Truck.
7. Single-Unit (other 2-axle 4-tire vehicles): U.S. DOT/FHWA, *Highway Statistics*, 1994, Table VM-1.
8. Other Single-Unit (2-axle 6-tire or more trucks): *Ibid.*
9. Combination: *Ibid.*
10. Bus: Sum of Intercity Bus and School Bus.
11. Intercity Bus: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 48.
12. School Bus: National Safety Council, *Accident Facts*, 1994, p. 74.
13. Transit: APTA, *Transit Fact Book*, 1994/1995, p. 30.
14. Motor Bus: *Ibid.*
15. Heavy Rail: *Ibid.*
16. Light Rail: *Ibid.*
17. Trolley Bus: *Ibid.*
18. Demand Response: *Ibid.*
19. Ferryboat: *Ibid.*
20. Other: *Ibid.*
21. Commuter Rail: *Ibid.*
22. Rail: Amtrak total.
23. Amtrak: Amtrak, *Statistical Appendix to FY 1994 Amtrak Annual Report*, p. 4.
24. Air: Sum of General Aviation and Air Carrier.
25. General Aviation: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 47.
26. Air Carrier: U.S. DOT/RSPA, *Air Carrier Traffic Statistics*, December 1994/1993, p. 2, revenue passenger-miles, all services, line 1.
27. Total Majors: *Ibid.*, p. 5, sum of scheduled, line 9, and nonscheduled, line 41, services.
28. Scheduled: *Ibid.*, line 9.
29. Nonscheduled: *Ibid.*, line 41.
30. Total Nationals: *Ibid.*, p. 53, sum of scheduled, line 9, and nonscheduled, line 41, services.

31. Scheduled: *Ibid.*, line 9.
32. Nonscheduled: *Ibid.*, line 41.
33. Total Large Regionals: *Ibid.*, p. 110, sum of scheduled, line 9, and nonscheduled, line 41, services.
34. Scheduled: *Ibid.*, line 9.
35. Nonscheduled: *Ibid.*, line 41.
36. Total Medium Regionals: *Ibid.*, p. 165, includes domestic and international operations, sum of scheduled, line 9, and nonscheduled, line 41, services.
37. Scheduled: *Ibid.*, line 9.
38. Nonscheduled: *Ibid.*, line 41.
39. Water: See Block 19.

#### Tree 4. Ton-Miles of Freight, 1993

1. Domestic Transportation: Sum of Highway, Rail, Air, Water and Pipeline.
2. Highway: Figure represents total intercity ton-miles of motor vehicle transport.
3. Truck: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 44.
4. Class I Rail: AAR, *Railroad Facts*, 1995, p. 40.
5. Air: Total Air Carrier.
6. Air Carrier: U.S. DOT/RSPA, *Air Carrier Traffic Statistics*, December 1994/1993, p. 2, Freight, Express, U.S. and Foreign Mail Revenue ton-miles, all services, line 3.
7. Total Majors: *Ibid.*, p. 5, line 3.
8. Scheduled: *Ibid.*, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
9. Nonscheduled: *Ibid.*, sum of Civilian Freight, line 44, and Military Freight, line 45.
10. Total Nationals: *Ibid.*, p. 53, line 3.
11. Scheduled: *Ibid.*, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
12. Nonscheduled: *Ibid.*, sum of Civilian Freight, line 44, and Military Freight, line 45.
13. Total Large Regionals: *Ibid.*, p. 110, line 3.
14. Scheduled: *Ibid.*, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
15. Nonscheduled: *Ibid.*, sum of Civilian Freight, line 44, and Military Freight, line 45.
16. Total Medium Regionals: *Ibid.*, p. 165, line 3, includes international operations.
17. Scheduled: *Ibid.*, sum of Freight, Air Express, U.S. Mail and Foreign Mail, lines 18-21.
18. Nonscheduled: *Ibid.*, sum of Civilian Freight, line 44, and Military Freight, line 45.
19. Water: U.S. Army, Corps of Engineers, *Waterborne Commerce of the United States*, 1994, Part 5, Section 1.
20. Coastwise: *Ibid.*
21. Lakewise: *Ibid.*
22. Internal: *Ibid.*
23. Intraport: *Ibid.*
24. Pipeline: Association of Oil Pipelines, *Shifts in Petroleum Transportation*, 1995, Table 1.

### Tree 5. Number of Vehicles, 1993

1. Domestic Transportation: Sum of Highway, Transit, Rail, Air, and Water.
2. Highway: Sum of Auto, Truck, and Bus.
3. Auto: Sum of Personal Passenger Car and Motorcycle.
4. Personal Passenger Car (includes Taxi): U.S. DOT/FHWA, *Highway Statistics*, 1994, Table VM-1. This figure includes private and commercial automobiles (including taxicabs) for the 50 states and the District of Columbia.
5. Motorcycle: *Ibid.* Includes private and commercial motorcycles.
6. Truck: *Ibid.*
7. Single-Unit (other 2-axle 4-tire vehicles): U.S. DOT/FHWA, *Highway Statistics*, 1994, Table VM-1.
8. Combination: *Ibid.*
9. Other Single-Unit (2-axle 6-tire or more trucks): *Ibid.*
10. Bus: *Ibid.*
11. Commercial and Federal Bus: *Ibid.*, Table MV-10.
12. School Bus: *Ibid.*
13. Transit: APTA, *Transit Fact Book*, 1994/1995, p. 28.
14. Motor Bus: *Ibid.*
15. Heavy Rail: *Ibid.*
16. Light Rail: *Ibid.*
17. Trolley Bus: *Ibid.*
18. Demand Response: *Ibid.*
19. Ferryboat: *Ibid.*
20. Other: *Ibid.*
21. Commuter Rail: *Ibid.*
22. Rail: Sum of Class I and Amtrak.
23. Class I: Sum of Freight Cars and Locomotives.
24. Freight Cars: Sum of Class I and non-Class I Freight Cars.
25. Class I Freight Cars: AAR, *Railroad Facts*, 1995, p. 50.
26. Non-Class I Freight Cars: *Ibid.*
27. Locomotives: *Ibid.*, p. 48.
28. Amtrak: Sum of Passenger Cars and Locomotives.
29. Passenger Cars: Amtrak, *Statistical Appendix to Amtrak FY 1994 Annual Report*, p. 5, total owned and leased.
30. Locomotives: *Ibid.*
31. Air: Sum of General Aviation and Air Carrier.
32. General Aviation: U.S. DOT/Federal Aviation Administration (FAA), Office of Management Systems, *General Aviation Activity and Avionics Survey*, 1993, Table 3.1.
33. Business: *Ibid.*, includes Business and Corporate Transportation.

34. Commercial: *Ibid.*, includes Air Taxi, Aerial Application, and Aerial Observation.
35. Instructional: *Ibid.*
36. Personal: *Ibid.*
37. Other: *Ibid.*, includes External Load, Other, Other Work, and Sight Seeing.
38. Air Carrier: Includes domestic and international aircraft; sum of Major, National and Regional airlines.
39. Total Majors: U.S. DOT/Bureau of Transportation Statistics, Office of Airline Information, K-25.
40. Total Nationals: *Ibid.*
41. Total Regionals: *Ibid.*, includes Large and Medium Regional airlines.
42. Water: U.S. Department of Army, Corps of Engineers, *Summary of U.S. Flag Passenger and Cargo Vessels*, 1994.
43. Self-Propelled: *Ibid.*, also includes dry cargo, passenger, railroad car ferries, and tankers.
44. Non-Self-Propelled: *Ibid.*, also includes railroad car fleets.
45. Recreational Boating: U.S. DOT/United States Coast Guard (USCG), *Boating Statistics*, 1994.

#### **Tree 6. Number of Fatalities, 1993**

1. Domestic Transportation: Sum of Highway, Rail Rapid Transit, Rail, Air, Water, and Pipeline.
2. Highway: Sum of Auto, Truck, Bus, Bicycle, Pedestrian, and Other. Also includes Rail/Highway Grade Crossing fatalities.
3. Auto: Sum of Personal Passenger Car, Taxi, and Motorcycle.
4. Personal Passenger Car: U.S. DOT/NHTSA/National Center for Statistics and Analysis, NRD-30.
5. Motorcycle: *Ibid.*
6. Truck: Sum of Light and Large Truck.
7. Light: U.S. DOT/NHTSA/National Center for Statistics and Analysis, NRD-30.
8. Large: *Ibid.*
9. Bus: Sum of commercial and school bus occupant fatalities.
10. Commercial Bus: U.S. DOT/NHTSA/National Center for Statistics and Analysis, NRD-30.
11. School Bus: *Ibid.*
12. Bicycle: *Ibid.*
13. Pedestrian: *Ibid.*, motor vehicle involvement only.
14. Other: *Ibid.*, includes nonoccupant fatalities, does not include bus fatalities.
15. Rail-Highway Grade Crossing: U.S. DOT/FRA, Systems Support Division, RRS-22.
16. Rail Rapid Transit: *Ibid.*, RSPA/Volpe National Transportation Systems Center, DTS-38.
17. Rail: *Ibid.*, FRA, Systems Support Division, RRS-22, (includes railroad passengers, employees, trespassers, and others killed in railroad operations). Does not include those killed in rail/highway grade crossing accidents.
18. Air: Sum of General Aviation and Air Carrier.
19. General Aviation: National Transportation Safety Board (NTSB), RE-50.
20. Corporate: *Ibid.*
21. Aerial Application: *Ibid.*



22. Business: *Ibid.*
23. Instructional: *Ibid.*
24. Personal: *Ibid.*
25. Other: *Ibid.*
26. Air: *Ibid.*, NTSB *Aviation Accident Statistics, 1982-1994*. Air Carriers operating under 14 CFR 121 and 14 CFR 135 (commuter air carriers and on-demand air taxis). Includes domestic and international operations.
27. Air Carrier: *Ibid.*, Airlines operating under 14 CFR 121, scheduled and nonscheduled services.
28. Commuter: *Ibid.*, Air Carriers operating under 14 CFR 135.
29. Air Taxi: *Ibid.*, On-Demand Air Carriers operating under 14 CFR 135.
30. Water: Sum of Waterborne and Recreational Boating.
31. Waterborne: U.S. DOT/USCG, Marine Safety Evaluation Branch, G-MMI-3.
32. Recreational Boating: *Ibid.*, *Boating Statistics, 1994*.
33. Pipeline: Sum of Oil and Gas Pipeline.
34. Oil Pipeline: U.S. DOT/RSPA, Office of Pipeline Safety, DPS-35.
35. Gas Pipeline: *Ibid.*
36. Hazardous Materials: *Ibid.*, Hazardous Materials Safety, DHM-63.

### **Tree 7. Fuel Consumed in Transportation, 1993**

1. Domestic Transportation: Sum of Highway, Transit, Rail, Air, and Water. Pipeline not included in Total.
2. Highway: Sum of Auto, Truck, and Bus.
3. Auto: Sum of Personal Passenger Car and Motorcycle.
4. Personal Passenger Car (includes Taxi): U.S. DOT/FHWA, *Highway Statistics, 1994*, Table VM-1.
5. Motorcycle: *Ibid.*
6. Truck: Sum of Single-Unit, Other-Single-Unit, and Combination.
7. Single-Unit (other 2-axle 4-tire vehicles): U.S. DOT/FHWA, *Highway Statistics, 1994*, Table VM-1.
8. Other Single-Unit (2-axle 6-tire or more trucks): *Ibid.*
9. Combination: *Ibid.*
10. Bus: U.S. DOT/FHWA, *Highway Statistics, 1994*, Table VM-1.
11. Transit: APTA, *Transit Fact Book, 1994/1995*, p. 32.
12. Rail: AAR, *Railroad Ten-Year Trends*, Volume 10; p. 139.
13. Air: Sum of Air Carrier and General Aviation.
14. General Aviation: U.S. DOT/FAA, *General Aviation Activity and Avionics Survey, 1993*, Table 5.1. Figure derived by the addition of jet fuel and aviation gasoline.
15. Air Carrier: U.S. DOT/BTS, Office of Airline Information, K-25.
16. Water: U.S. DOT/FHWA, *Highway Statistics, 1993*, Table MF-24.
17. Pipeline: U.S. Department of Energy (DOE), Energy Information Administration (EIA), *Natural Gas Annual, 1993*, Table 101.



# **REFERENCES**

## **SECTION 2**

### **MODAL PROFILE REFERENCES**



## MODAL PROFILE REFERENCES

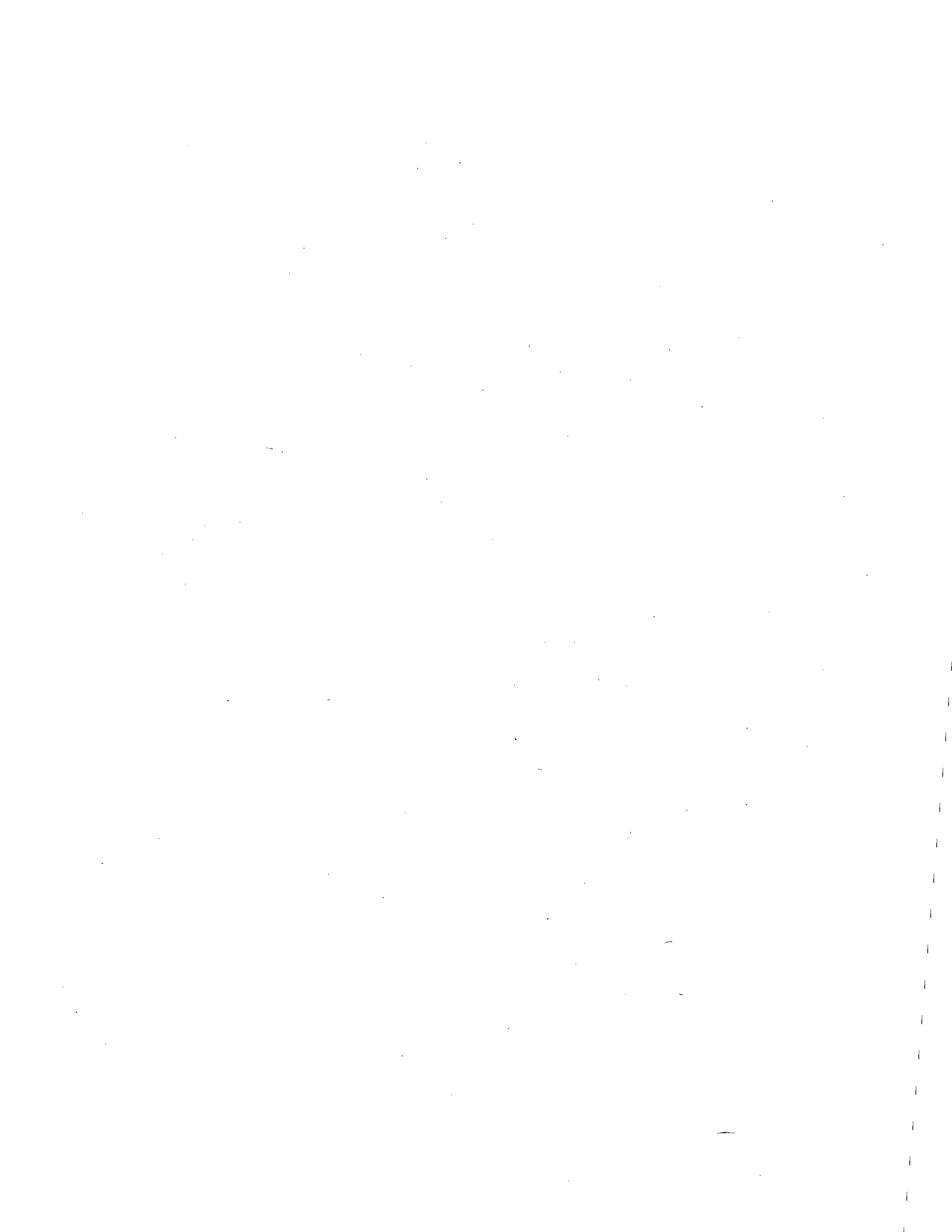
1. American Automobile Manufacturers Association, *Facts and Figures*, 1993, 1994, 1995.
2. American Gas Association, *Gas Facts*, 1980, 1992, 1993.
3. American Public Transit Association, *Transit Fact Book*, 1985, 1992, 1993, 1994/1995.
4. Amtrak, State and Local Affairs Department.
5. *Ibid.*, *Statistical Appendix to Amtrak FY 1994 Annual Report*.
6. Association of American Railroads, *Railroad Facts*, 1976, 1995.
7. *Ibid.*, *Analysis of Class 1 Railroads*, 1980 (Series 3), 1991 (Series 14), 1993 (Series 16), 1994 (Series 17).
8. Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, 1995.
9. CAB, *Air Carrier Financial Statistics*, December 1981.
10. *Ibid.*, *Air Carrier Traffic Statistics*, December 1981.
11. *Ibid.*, *Handbook of Airline Statistics*, 1969, 1973.
12. Eno Foundation for Transportation, *Transportation In America*, 1995.
13. Federal Energy Regulatory Commission (FERC).
14. Interstate Commerce Commission, Bureau of Accounts and Statistics, *Annual Report of the ICC*, 1961, 1971, 1981, 1991, 1992, 1993, 1994.
15. Motorcycle Industry Council, *Motorcycle Statistical Annual*, 1993.
16. National Safety Council, *Accident Facts*, 1995.
17. National Transportation Safety Board, RE-50.
18. *Ibid.*, *NTSB Aviation Accident Statistics*, 1995.
19. Transportation Policy Associates.
20. U.S. Army, Corps of Engineers, *Summary of U.S. Flag Passenger & Cargo Vessels*, 1960, 1970, 1980, 1990, 1991, 1992, 1993.
21. *Ibid.*, *Waterborne Commerce of the United States*, Part 5, 1980, 1994. (1994 import/export data from U.S. Bureau of the Census, Foreign Trade Statistics, 1995).
22. U.S. Department of Commerce, *Statistical Abstract of the United States*, 1995.
23. *Ibid.*, Bureau of Economic Analysis.
24. *Ibid.*, NOAA, National Marine Fisheries Service, *Fisheries of the United States*, 1994.
25. U.S. Department of Energy/EIA, *Natural Gas Annual*, 1993.
26. *Ibid.*, *Statistics of Interstate Natural Gas Pipeline Companies*, annual issues.
27. U.S. Department of Justice, Immigration and Naturalization Service, *Report of Passenger Travel Between the U.S. and Foreign Countries*, 1960, 1970.
28. U.S. Department of Labor, Bureau of Labor Statistics, *Employment, Hours and Earnings, United States, 1909-1994*.
29. *Ibid.*, Office of Employment and Unemployment Statistics.
30. *Ibid.*, *Employment and Earnings*, June 1995.
31. U.S. Department of Transportation, (DOT), Bureau of Transportation Statistics.

32. *Ibid.*, Federal Aviation Administration (FAA), Office of Management Systems, *General Aviation Activity and Avionics Survey*, 1990, 1991, 1993, 1994.
33. *Ibid.*, Federal Highway Administration (FHWA), Office of Highway Information Management, *Highway Statistics*, 1960, 1970, 1980, 1990, 1991, 1992, 1993, 1994. (1992 and 1993 Government Receipts and Government Expenditures from FHWA's Highway Funding Bulletin.)
34. *Ibid.*, *Highway Statistics, Summary to 1985*.
35. *Ibid.*, Federal Railroad Administration (FRA), *Accident/Incident Bulletin*, 1993, 1994.
36. *Ibid.*, Systems Support Division, RRS-22.
37. *Ibid.*, Federal Transit Administration (FTA), *Safety Management Information Statistics (SAMIS)*.
38. *Ibid.*, Maritime Administration (MARAD), *Merchant Fleets of the World*, annual issues.
39. *Ibid.*, Office of External Affairs, MAR-250.
40. *Ibid.*, National Highway Traffic Safety Administration (NHTSA), National Center for Statistics and Analysis, NRD-30.
41. *Ibid.*, Research and Special Programs Administration (RSPA), *Air Carrier Traffic Statistics*, December 1991/1990, 1992/1991, 1993/1992, 1994/1993.
42. *Ibid.*, *Air Carrier Financial Statistics*, December 1991/1990, 1992/1991, 1993/1992, 1994/1993.
43. *Ibid.*, Office of Pipeline Safety, DPS-35.
44. *Ibid.*, *U.S. International Air Travel Statistics*, annual issues.
45. *Ibid.*, U.S. Coast Guard, *Boating Statistics*, 1994.
46. *Ibid.*, Marine Safety Evaluation Branch, G-MM1-3.

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## **SECTION 3**

### **TABLE REFERENCES**





## TABLE REFERENCES

### Table 1. Average Passenger Revenue per Passenger-Mile, 1960-1994

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

- 1960-1970: Civil Aeronautics Board (CAB), *Handbook of Airline Statistics*, 1969, 1973.  
 1975-1980: *Ibid.*, *Air Carrier Financial Statistics*, 1976-1981, annual issues, p. 2, lines 1, 2, and 3; *Air Carrier Traffic Statistics*, 1976-1981, annual issues, p. 4/5, lines 7, 8, and 9. To compute Total, First Class, and Coach plus economy figures, divide line 1 by line 7, line 2 by line 8, and line 3 by line 9.  
 1985-1994: U.S. Department of Transportation (DOT), *Air Carrier Financial Statistics*, annual issues, 1986-1994, p. 1, lines 1, 2 and 3; *Air Carrier Traffic Statistics*, annual issues, 1986-1994, p. 2, lines 7, 8, and 9.

#### Commuter Rail:

- 1960-1993: American Public Transit Association (APTA), *Transit Fact Book*, 1994/1995, Table 24 divided by Table 46 (passenger revenue/passenger-miles), and similar tables in earlier editions.

#### Intercity/Amtrak:

- 1960-1970: Association of American Railroads, (AAR), *Railroad Facts*, annual issues.  
 1975-1980: Eno Foundation for Transportation, *Transportation in America*, 1994, p. 50.  
 1985-1994: Amtrak, *Statistical Appendix to Amtrak FY 1994 Annual Report*, pp. 1, 4 (transportation revenues/passenger-miles.)

#### Class I Bus Intercity:

- 1960-1965: Interstate Commerce Commission, (ICC), *Transport Economics*, annual issues.  
 1970-1980: American Bus Association (ABA), *Bus Facts*, annual issues.  
 1985: ICC, *Transport Statistics in U.S., Motor Carriers*, Part 2, annual issues.  
 1990-1994: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 50.

#### Consumer Price Index:

- 1960-1994: Council of Economic Advisors, *Economic Report of the President*, annual issues.

### Table 2. Average Freight Revenue per Ton-Mile, 1960-1994

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

- 1960-1970: CAB, *Handbook of Airline Statistics*, 1969, 1973.  
 1975-1980: *Ibid.*, *Air Carrier Financial Statistics*, 1976-1981, annual issues, p. 2, line 4; *Air Carrier Traffic Statistics*, 1976-1981, annual issues, p. 4/5, line 18. Freight revenue (Financial Statistics) divided by revenue ton-miles of freight (Traffic Statistics).  
 1985-1994: U.S. DOT, *Air Carrier Financial Statistics*, 1986-1994, annual issues, p. 1, line 4; *Air Carrier Traffic Statistics*, 1986-1994, annual issues, p. 2, line 18. Freight revenue (Financial Statistics) divided by revenue ton-miles of freight (Traffic Statistics).

#### Class I Rail:

- 1960-1994: AAR, *Railroad Facts*, 1995, p. 30, and similar tables in earlier editions.

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

- 1960-1994: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 49.

#### Oil Pipeline:

- 1960-1994: *Ibid.*

#### Inland Waterway Carrier:

- 1960-1994: *Ibid.*

#### Producer Price Index:

- 1960-1994: Council of Economic Advisors, *Economic Report of the President*, annual issues.

**Table 3. Average Passenger Fare, 1960-1993**

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

- 1960-1970: CAB, *Handbook of Airline Statistics*, 1969, 1973.
- 1975-1980: *ibid.*, *Air Carrier Financial Statistics*, 1976-1981, annual issues, p. 1, line 3 and *Air Carrier Traffic Statistics*, 1976-1981, annual issues, p. 2, line 16, passenger revenue (Financial Statistics) divided by revenue passenger enplanements (Traffic Statistics).
- 1985-1993: U.S. DOT, *Air Carrier Financial Statistics*, 1986-1994, annual issues, p. 1, line 3 and *Air Carrier Traffic Statistics*, 1986-1994, annual issues, p. 2, line 16, passenger revenue (Financial Statistics) divided by revenue passenger enplanements (Traffic Statistics).

**Class I Bus Intercity:**

- 1960-1980: ABA, *Bus Facts*, annual issues.
- 1985-1991: Transportation Policy Associates.

**Transit:**

- 1960-1993: American Public Transit Association (APTA), *Transit Fact Book*, 1994/1995, Table 25, and similar tables in earlier editions.

**Commuter Rail:**

- 1960-1985: *ibid.*
- 1990-1993: *ibid.*, Table 24 divided by Table 39, and similar tables in earlier editions.

**Intercity/Amtrak:**

- 1960-1970: AAR, *Railroad Facts*, annual issues.
- 1975-1993: Amtrak, State and Local Affairs Department and Public Affairs Department.

**Table 4. Total Operating Revenues, 1960-1993**

**Certificated Air Carrier, Domestic Operations, All Services:**

- 1960-1970: CAB, *Handbook of Airline Statistics*, 1969, 1973.
- 1975-1980: *ibid.*, *Air Carrier Financial Statistics*, annual issues, 1976-1981, p. 1.
- 1985-1993: U.S. DOT; *ibid.*, annual issues, 1986-1994, p. 1.

**Class I Bus, Intercity:**

- 1960-1993: ICC, *Annual Report of the ICC*, 1994, Appendix F, Table 6 and similar tables in earlier editions.

**Transit:**

- 1960-1993: APTA, *Transit Fact Book*, 1994/1995, Table 21, and similar tables in earlier editions.

**Oil Pipeline:**

- 1960-1993: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 40.

**Gas Pipeline:**

- 1960-1993: Transmission Companies: American Gas Association (AGA), *Gas Facts*, 1994, Table 12-3, and similar tables in earlier editions.
- 1975-1993: Integrated Companies: *ibid.*, Table 12-4, and similar tables in earlier editions.
- 1975-1993: Combination Companies: *ibid.*, Table 12-5, and similar tables in earlier editions.
- 1975-1993: Distribution Companies: *ibid.*, Table 12-2, and similar tables in earlier editions.
- 1975-1993: Total Investor-Owned Companies: *ibid.*, Table 12-1.

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

- 1960-1993: ICC, *Annual Report of the ICC*, 1994, Appendix F, Table 5, and similar tables in earlier editions.

**Class I Rail:**

- 1960-1993: AAR, *Railroad Facts*, 1995, p. 12.

**Intercity/Amtrak:**

- 1960-1970: *ibid.*
- 1975-1992: Amtrak, State and Local Affairs Department and Public Affairs Department.
- 1993: *ibid.*, *Statistical Appendix to Amtrak FY 1994 Annual Report*.

**Water Transport:**

## Inland and Coastal Carriers:

1960-1993: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 40.

## Maritime Carriers:

1960-1993: U.S. DOT/Maritime Administration, Office of External Affairs, MAR-580.

**Class A Freight Forwarders:**

1960-1992: Eno Foundation for Transportation, *Transportation In America*, 1994, p. 53.

**Table 5. Vehicle-Miles, 1960-1994****Air Carrier:**

## Certificated, Domestic Operations, All Services:

1960-1970: CAB, *Handbook of Airline Statistics*, 1969, 1973.

1975-1980: *Ibid.*, *Air Carrier Traffic Statistics*, 1976-1981, annual issues, p. 2, line (27) plus line (50).

1985-1994: U.S. DOT, *Ibid.*, annual issues, 1986-1994, p. 2, line (27) plus line (50).

**General Aviation:**

1960-1980: U.S. DOT/Federal Aviation Administration (FAA), *FAA Statistical Handbook of Aviation*, annual issues.

1985-1994: *Ibid.*, *General Aviation Activity and Avionics Survey*, annual issues, Table 3.3; mileage multiplied by 1.151 to convert from nautical miles.

**Highway:**

## Passenger Car and Taxi:

1960-1980: U.S. DOT/Federal Highway Administration (FHWA), *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

## Motorcycle:

1970-1980: *Ibid.*, *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

## Other 2-axle 4-tire Vehicles:

1970-1980: *Ibid.*, *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

## Single-Unit 2-axle 6-tires or more Trucks:

1970-1980: *Ibid.*, *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

## Combination Truck:

1960-1980: *Ibid.*, *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

## Bus:

1960-1980: *Ibid.*, *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

## School Bus:

1960-1965: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.

1970-1975: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

1980-1994: National Safety Council, *Accident Facts, 1995*, p. 95, and similar tables in earlier editions.

**Transit:**

1960-1993: APTA, *Transit Fact Book*, 1994/1995, Table 47, and similar tables in earlier editions.

**Commuter Rail:**

1975-1993: *Ibid.*

**Class I Rail Freight:**

Train- and Car-Miles:

1960-1994: AAR, *Railroad Facts*, 1995, p. 33.

Intercity/Amtrak:

Train-Miles:

1960-1970: *Ibid.*, *Yearbook of Railroad Facts*, 1975, p. 39.

1975-1993: Amtrak, *Amtrak Annual Report*, annual issues.

1994: AAR, *Railroad Facts*, 1995, p. 78.

Car-Miles:

1960-1975: AAR, *Yearbook of Railroad Facts*, 1975, p. 40.

1980-1993: Amtrak, State and Local Affairs Department and Public Affairs Department

1994: AAR, *Railroad Facts*, 1995, p. 78.

**Table 6. Passenger-Miles, 1960-1994**

**Air Carrier:**

Certificated, Domestic Operations, All Services:

1960-1970: CAB, *Handbook of Airline Statistics*, 1969, 1973.

1975-1980: *Ibid.*, *Air Carrier Traffic Statistics*, annual issues, 1976-1981, p. 2, line 1.

1985-1994: U.S. DOT, *Ibid.*, annual issues, 1986-1994, p. 2, line 1.

**General Aviation:**

1960-1994: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 47.

**Highway:**

Passenger Car and Taxi:

1960-1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

Motorcycle:

1970-1994: *Ibid.*

Intercity Bus:

1960-1994: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 47.

School Bus:

1980-1994: National Safety Council, *Accident Facts*, 1995, p. 94, and similar tables in earlier editions.

Other 2-axle 4-tire Vehicles:

1960-1994: U.S. DOT/FHWA, *Highway Statistics*, annual issues, Table VM-1.

Single-Unit 2-axle 6-tires or more Trucks:

1970-1994: *Ibid.*

Combination Truck:

1960-1994: *Ibid.*

**Transit:**

1980-1993: APTA, *Transit Fact Book*, 1994/1995, Table 46, and similar tables in earlier editions.

**Commuter Rail:**

1960-1975: AAR, *Yearbook of Railroad Facts*, 1976, p. 32.

1980-1993: APTA, *Transit Fact Book*, 1994/1995, Table 46, and similar tables in earlier editions.

**Intercity/Amtrak:**

1960-1980: AAR, *Railroad Facts*, annual issues.

1985-1994: Amtrak, *Statistical Appendix to Amtrak FY 1994 Annual Report*.

## Table 7. Ton-Miles of Freight, 1960-1994

### **Certificated Air Carrier, Domestic Operations, All Services:**

- 1960-1970: CAB, *Handbook of Airline Statistics*, 1969, 1973.  
1975-1980: *Ibid.*, *Air Carrier Traffic Statistics*, annual issues, 1976-1981, p. 2, line 3.  
1985-1994: U.S. DOT, *Ibid.*, annual issues, 1986-1994, p. 2, line 3.

### **Oil Pipeline:**

- 1960-1970: Eno Foundation for Transportation, *Transportation In America*, 1994.  
1975-1993: Association of Oil Pipeline, *Shifts in Petroleum Transportation*, 1995.  
1994: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 44.

### **Class I Rail:**

- 1960-1994: AAR, *Railroad Facts*, 1995, p. 27.

### **Truck, Intercity:**

- 1960-1994: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 44.

### **Water Transportation:**

#### **Inland Waterways, including Great Lakes:**

- 1960-1994: U.S. Army, Corps of Engineers, *Waterborne Commerce of the U.S.*, annual issues, Part 5, Section 1, Table 1-4, and similar tables in earlier editions.

## Table 8. Basic Intercity Mileage Within the Continental United States, 1960-1993

### **Airway:**

- 1960-1985: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, annual issues. Mileage equals sum of VHF low altitude direct and VHF jet route mileages multiplied by 1.151 to convert from nautical miles.  
1990-1993: Estimated using FAA methodology.

### **Oil Pipeline, Total:**

- 1960-1993: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 64.

### **Gas Pipeline:**

- 1960-1993: American Gas Association (AGA), *Gas Facts*, 1994, Table 5-3, and similar tables in earlier editions.

### **Class I Rail:**

- 1960-1993: AAR, *Railroad Facts*, 1995, p. 44. Data represent aggregate length of roadway, excluding yard tracks, sidings and parallel lines. Jointly used track is counted only once.

### **Highway:**

- 1960-1993: U.S. DOT/FHWA, *Highway Statistics*, annual issues, Table HM-18, and similar tables in earlier editions. Sum of Rural Minor Arterial and total of Interim National Highway System.

### **Inland Waterway:**

- 1960-1993: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 64.

**Table 10. Number of Vehicles, 1960-1994**

**Certificated Air Carrier, All Services:**

1960-1994: U.S. DOT/Bureau of Transportation Statistics (BTS), Office of Airline Information, K-25.

**General Aviation:**

1960-1980: *Ibid.*, FAA, *FAA Statistical Handbook of Aviation*, annual issues.

1985-1994: *Ibid.*, General Aviation Activity and Avionics Survey, annual issues, Table 3.1.

**Motorcycle:**

1960-1965: *Ibid.*, FHWA, *Highway Statistics*, annual issues, Table VM-1.

1970-1980: *Ibid.*, *Highway Statistics*, Summary to 1985, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

**Passenger Car & Taxi:**

1960-1980: *Ibid.*, *Highway Statistics*, Summary to 1985, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

**Truck:**

**Combination and Single-Unit:**

1965-1980: *Ibid.*, *Highway Statistics*, Summary to 1985, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

**Bus:**

**Commercial and Federal, and School:**

1990-1994: *Ibid.*, Table MV-10.

**Transit and Commuter Rail:**

1960-1993: APTA, *Transit Fact Book*, 1994/1995, Table 49, and similar tables in earlier editions.

**Class I Rail:**

**Freight Cars and Locomotives:**

1960-1994: AAR, *Railroad Facts*, 1995, pp. 48, 50. Excludes Amtrak.

**Amtrak:**

**Passenger Train-Cars and Locomotives:**

1975-1980: Amtrak, State and Local Affairs Department.

1985-1994: *Ibid.*, *Statistical Appendix to Amtrak FY 1994 Annual Report*.

**Water Transport:**

**Total Inland Water Vessels:**

1960-1994: U.S. Army, Corps of Engineers, *Summary of U.S. Flag Passenger and Cargo Vessels*, annual issues. Sum of non-self-propelled vessels and self-propelled vessels.

**Non-Self-Propelled Vessels and Self-Propelled Vessels:**

1960-1994: U.S. Army, Corps of Engineers, *Summary of U.S. Flag Passenger & Cargo Vessels*, annual issues.

**Oceangoing Steam and Motor Ships:**

1960-1994: U.S. DOT/Maritime Administration (MARAD), *Merchant Fleets of the World*, annual issues, Table 6, and similar tables in earlier editions.

## Table 11. Sales or Deliveries of New Vehicles by Mode, 1960-1993

### Air:

#### Civilian Aircraft:

1965-1993: Aerospace Industries Association, *Aerospace Facts and Figures*, 1977-1978, p. 36; 1981-1982, p. 35; 1993-1994, p. 32.

### Highway:

#### Passenger Car and Taxi:

1960-1993: U.S. DOC, Bureau of Economic Analysis, *Survey of Current Business*, January issues, p. S-32, and similar tables in earlier editions.

#### Motorcycle:

1970-1993: Motorcycle Industry Council, Inc., *Motorcycle Statistical Annual*, 1993, p. 10, and similar tables in earlier editions.

#### Bicycle:

1970-1993: Bicycle Manufacturer's Association of America, *The Bicycle Market in Review*, annual issues.

#### Truck:

1960-1993: American Automobile Manufacturers Association, Inc., *Facts and Figures*, 1995, p. 6, and similar tables in earlier editions.

#### Bus (includes School Bus):

1960-1993: American Automobile Manufacturers Association, *Facts & Figures*, 1995, p. 6, and similar tables in earlier editions.

#### Recreational Vehicles:

1965-1993: *Ibid.*, p. 12, and similar tables in earlier editions.

### Transit and Commuter Rail:

1960-1993: APTA, *Transit Fact Book*, 1994/1995, Table 50, and similar tables in earlier editions.

### Class I Rail:

#### Freight Car and Locomotive:

1960-1993: AAR, *Railroad Facts*, 1995, p. 54, and similar tables in earlier editions.

### Amtrak:

#### Passenger Train-Car and Locomotive:

1975-1980: *Ibid.*, p. 17, and similar tables in earlier editions.

1985-1993: Amtrak, *Statistical Appendix to Amtrak FY1994 Annual Report*.

### Water Transport:

#### Merchant Vessel and Gross Tonnage:

1960-1993: U.S. DOT/MARAD, *Merchant Fleets of the World*, annual issues.

**Table 28. Number of Fatalities, Injuries, and Accidents by Mode, 1960-1994**

**Fatalities**

**Aviation:**

**U.S. Air Carrier:**

1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, annual issues.  
 1980-1994: National Transportation Safety Board (NTSB), *NTSB Aviation Accident Statistics*, annual issues, Table 2.

**Commuter Air Carrier:**

1970-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975.  
 1980-1994: NTSB, *NTSB Aviation Accident Statistics*, annual issues, Table 5.

**On-Demand Air Taxi:**

1970-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975.  
 1980-1994: NTSB, *NTSB Aviation Accident Statistics*, annual issues, Table 6.

**General Aviation:**

1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975.  
 1980-1994: NTSB, *NTSB Aviation Accident Statistics*, annual issues, Table 7.

**Highway:**

**Motor Vehicle Traffic:**

1960-1970: Estimated by NHTSA from data supplied by the National Center for Health Statistics, H.H.S., and State Accident Summaries (adjusted to 30-day deaths).  
 1975-1994: U.S. DOT/NHTSA, National Center for Statistics and Analysis, *Fatal Accident Reporting System (FARS)*.

**Rail:**

**Railroad:**

1960-1975: National Safety Council, *Accident Facts*, 1974, 1984.  
 1980-1994: U.S. DOT/FRA, *Accident/Incident Bulletin*, annual issues, Table 7.

**Rail-Highway Grade Crossing:**

1960-1970: National Safety Council, *Accident Facts*, 1974, 1984.  
 1975: U.S. DOT/FRA, Office of Policy and Program Development, personal communication.  
 1980-1994: *Ibid.*, *Rail-Highway Crossing Accident/Incident and Inventory Bulletin*, annual issues, Table S.

**Transit, Rail Rapid:**

1980-1985: *Ibid.*, Federal Transit Administration (FTA), personal communication.  
 1990-1994: *Ibid.*, FTA, *Safety Management Information Statistics (SAMIS)*, annual issues.

**Waterborne Transport:**

1970-1994: *Ibid.*, USCG, Marine Safety Evaluation Branch, G-MM1-3.

**Recreational Boating:**

1960-1994: *Ibid.*, *Boating Statistics*, annual issues.

**Gas and Liquid Pipeline:**

1970-1994: *Ibid.*, RSPA, Office of Pipeline Safety, DPS-35.

**Hazardous Materials:**

1975-1994: *Ibid.*, Office of Hazardous Materials Transportation, DHM-63.

**Injuries**

**Aviation:**

**U.S. Air Carrier:**

1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975.  
 1980-1994: NTSB, Analysis and Data Division, RE-50.

**Commuter Air Carrier:**

1980-1994: *Ibid.*

**On-Demand Air Taxi:**

1980-1994: *Ibid.*



- General Aviation:**  
 1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975.  
 1980-1994: NTSB, Analysis and Data Division, RE-50.
- Highway:**
- Motor Vehicle Traffic:**  
 1980-1985: U.S. DOT/NHTSA, National Center for Statistics and Analysis, National Accident Sampling System (NASS).  
 1990-1991: *Ibid.*, General Estimates System (GES).  
 1992-1994: *Ibid.*, *Traffic Safety Facts 1994*, and earlier editions, inside cover.
- Rail:**
- Railroad:**  
 1960-1975: National Safety Council, *Accident Facts*, 1974, 1984.  
 1980-1994: U.S. DOT/FRA, *Accident/Incident Bulletin*, annual issues, Table 7.
- Rail-Highway Grade Crossings:**  
 1960-1970: National Safety Council, *Accident Facts*, 1974, 1984.  
 1975: U.S. DOT/FRA, Office of Policy and Program Development, personal communication.  
 1980-1994: *Ibid.*, *Rail-Highway Crossing Accident/Incident and Inventory Bulletin*, annual issues, Table S.
- Transit, Rail Rapid:**  
 1990-1994: *Ibid.*, FTA, *Safety Management Information Statistics (SAMIS)*, annual issues.
- Waterborne Transport:**  
 1970-1994: *Ibid.*, USCG, Marine Safety Evaluation Branch, G-MM1-3.
- Recreational Boating:**  
 1960-1994: *Ibid.*, *Boating Statistics*, annual issues.
- Gas and Liquid Pipeline:**  
 1980-1994: *Ibid.*, RSPA, Office of Pipeline Safety, DPS-35.
- Hazardous Materials:**  
 1975-1994: *Ibid.*, Office of Hazardous Materials Transportation, DHM-63.
- Accidents/Incidents**
- Aviation:**
- U.S. Air Carrier:**  
 1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975, 1978.  
 1980-1994: National Transportation Safety Board (NTSB), NTSB Aviation Accident Statistics, annual issues, Table 2.
- Commuter Air Carrier:**  
 1970-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975, 1978.  
 1980-1994: NTSB, NTSB Aviation Accident Statistics, annual issues, Table 5.
- On-Demand Air Taxi:**  
 1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1978.  
 1980-1994: NTSB, NTSB Aviation Accident Statistics, annual issues, Table 6.
- General Aviation:**  
 1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975, 1978.  
 1980-1994: NTSB, NTSB Aviation Accident Statistics, annual issues, Table 7.
- Highway:**
- Motor Vehicle Traffic:**  
 1980-1985: U.S. DOT/NHTSA, National Center for Statistics and Analysis, National Accident Sampling System (NASS).  
 1990-1991: *Ibid.*, General Estimates System (GES).  
 1992-1994: *Ibid.*, *Traffic Safety Facts 1994*, and earlier editions, inside cover.

**Rail:**

**Railroad:**

1970-1994: *Ibid.*, FRA, *Accident/Incident Bulletin*, annual issues, Table 4.

**Rail-Highway Grade Crossings:**

1960-1970: *Ibid.*, *Rail-Highway Grade Crossing Accidents*, annual issues. Data not comparable after 1974 due to change in reporting requirements.

1975-1980: *Ibid.*, Office of Policy and Program Development, personal communication.

1980-1994: *Ibid.*, *Rail-Highway Crossing, Accident/Incident and Inventory Bulletin*, annual issues, Table S.

**Transit, Rail Rapid:**

1980-1994: *Ibid.*, FTA, *Safety Management Information Statistics (SAMIS)*, annual issues.

**Waterborne Transport:**

1970-1994: *Ibid.*, USCG, Marine Safety Evaluation Branch, G-MM1-3.

**Recreational Boating:**

1960-1994: *Ibid.*, *Boating Statistics*, annual issues.

**Gas and Liquid Pipeline:**

1970-1994: *Ibid.*, RSPA, Office of Pipeline Safety, DPS-35.

**Hazardous Materials:**

1975-1994: *Ibid.*, Office of Hazardous Materials Transportation, DHM-63.

**Table 73. National Transportation and Economic Trends, 1960-1994**

**Passenger-Miles:**

1960-1993: Summation of all modes from Table 6. (This edition of NTS.)

**Ton-Miles:**

1960-1994: Summation of all modes from Table 7. (This edition of NTS.)

**Population:**

1960-1994: U.S. DOC, Bureau of the Census, *Statistical Abstract of the United States*, 1995, Table 2, and similar tables in earlier editions.

**Industrial Production Index:**

1960-1994: Council of Economic Advisors, *Economic Report of the President*, annual issues, Table B-110, and similar tables in earlier editions.

**Gross Domestic Product:**

1960-1993: U.S. DOC, Bureau of Economic Analysis, *Survey of Current Business*, September 1994, Table 2.

1994: *Ibid.*, September 1995, Table 1.9.

**Table 74. Employment in Transportation and Related Industries, 1960-1994**

**Transport Sector:**

**Air:**

1960-1975: U.S. Department of Labor (DOL), Bureau of Labor Statistics, *Employment and Earnings*, 1979, SIC 45.

1980-1991: *Ibid.*, Supplement to *Employment and Earnings*, Revised Establishment Data, annual issues, SIC 45.

1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry", SIC 45.

- Local and Interurban Passenger Transit:**
- Bus (intercity):**
- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 45.  
 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 413.  
 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 413.
- School Bus:**
- 1975-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 415.
- Local Transport:**
- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 45.  
 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 411.  
 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 411.
- Taxi:**
- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 412.  
 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 412.  
 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 412.
- Other Local and Interurban:**
- 1960-1994: Difference between total of SIC 411 and sum of 413, 415, and 412.
- Liquid Pipeline:**
- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 46.  
 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 46.  
 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 46.
- Natural Gas Pipeline, Transmission, Distribution, Integrated and Combination, and non Investor-Owned:**
- 1975-1994: AGA, *Gas Facts*, 1993, Table 16-2 and similar tables in earlier editions.
- Railroad:**
- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 40.  
 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 40.  
 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 40.
- Transportation Services:**
- 1965-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 47.
- Trucking and Warehousing:**
- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 42.  
 1980-1985: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 421,3.  
 1990-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 42.  
 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 42.
- Water:**
- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 44.  
 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 44.  
 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 44.

**Equipment Manufacturing:**

**Aircraft and Parts:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 372.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 372.
- 1992-1994: *Ibid.*, *Supplement to Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 372.

**Motor Vehicles and Equipment:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 371.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, 371.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 371.

**Railroad Equipment:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 374.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 374.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 374.

**Ship and Boat Building and Repair:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 373.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 373.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 373.

**Tires:**

- 1960-1994: *Ibid.*, SIC 301.

**Other:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 45.
- 1980-1991: *Ibid.*, *Employment and Earnings*, Revised Established Data, annual issues, sum of SIC 376 and SIC 379.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 376 minus above Equipment and Manufacturing classifications, except SIC 301.

**Related Industries:**

**Automotive and Home Supply Stores:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 553.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 553.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 553.

**Automotive Repair, Services, and Parking:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 45.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 75.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 75.

**Gasoline Service Stations:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 45.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 554.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 554.

**Highway and Street Construction:**

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 45.
- 1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 161.
- 1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 161.

#### Motor Vehicle Wholesalers:

- 1960-1975: *Ibid.*, *Employment and Earnings*, 1979, SIC 45.  
1980-1991: *Ibid.*, *Supplement to Employment and Earnings*, Revised Establishment Data, annual issues, SIC 501.  
1992-1994: *Ibid.*, *Employment and Earnings*, June issues, Table "Employees on Nonfarm Payrolls by Detailed Industry," SIC 501.

#### New and Used Car Dealers:

- 1960-1994: *Ibid.*, SIC 551.

#### Other Automotive Retail:

- 1960-1994: SIC 555 minus SIC 551, 553, and 554.

#### Government Employment:

##### U.S. DOT

- 1970-1975: U.S. DOC, Bureau of the Census, *Statistical Abstract of the United States*, 1976, Table 409, and U.S. DOT/USCG, G-PMP, personal communication.  
1980-1994: U.S. DOT/OST, *DOT Employment Facts, A Report to Management*, annual issues.

##### State and Local Highway:

- 1960-1992: U.S. DOC, Bureau of the Census, *Statistical Abstract of the United States*, 1995, Table 507, and similar tables in earlier editions.

### Table 88. Fuel Consumption by Mode of Transportation, 1960-1994

#### Class I Railroads:

##### Locomotives:

- 1960-1970: AAR, *Statistics of Class I Railroads*, September 1971, p. 15.  
1975: *Ibid.*, *Railroad Ten-Year Trends*, 1986, Table III-D-2.  
1980-1994: *Ibid.*, *Railroad Facts*, 1995, p. 60.

#### Certificated Air Carrier, Domestic Operations:

- 1960-1970: CAB, *Handbook of Airline Statistics*, 1971, pp. 66, 67.  
1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, 1975, Table 6.27.  
1980: CAB, *Fuel Cost and Consumption, Twelve Months Ended December 31, 1984*; total of Tables 2, 3, 4, 6 and 7 and similar tables in earlier editions.  
1985-1994: U.S. DOT/BTS, Office of Airline Information, K-25.

#### General Aviation:

- 1960-1980: *Ibid.*, FAA, *FAA Statistical Handbook of Aviation*, annual issues.  
1985-1994: *Ibid.*, *General Aviation Activity and Avionics Survey*, annual issues, Table 5-1, and similar tables in earlier editions.

#### Highway:

- 1960-1980: *Ibid.*, FHWA, *Highway Statistics*, Summary to 1985, Table VM-201A.  
1985-1994: *Ibid.*, *Highway Statistics*, annual issues, Table VM-1.

#### Water Transport:

##### Residual and Distillate Fuel Oil:

- 1960-1980: American Petroleum Institute, *Basic Petroleum Data Book*, annual issues, Tables 10, 10a, 12, and 12a.  
1985-1994: U.S. DOE/EIA, *Fuel Oil and Kerosene Sales*, annual issues, Tables 2 and 4, and similar tables in earlier editions.

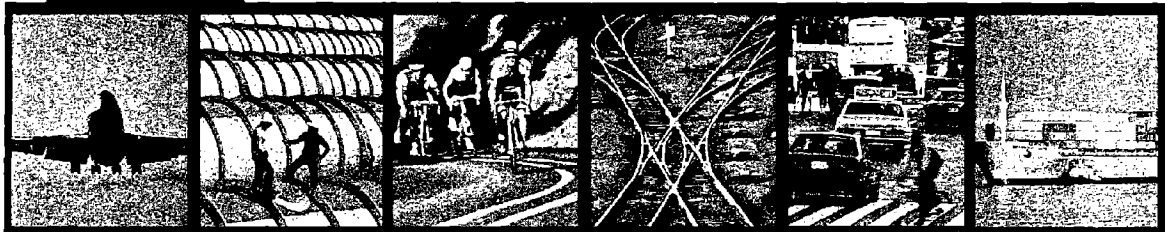
##### Gasoline:

- 1960-1993: U.S. DOT/FHWA, *Highway Statistics*, annual issues, Table MF-24, and similar tables in earlier editions.



# APPENDICES

ENTS



1996





# **APPENDIX A**

## **METRIC CONVERSION TABLES**

The data conversions from English to metric units to create the tables in this section used more precise conversion factors than those shown on the inside back cover. The actual conversion factors used were:

1 mile = 1.609344 km  
1 ton = 0.9071847 metric tonnes  
1 gallon = 3.785412 liters  
1 BTU = 1055.056 joules

**NOTE:** In 1995, the Federal Highway Administration revised its vehicle type categories. These new categories include Passenger Cars, Other 2-Axle 4-Tire Vehicles, Single-Unit 2-Axle 6-Tire or More Trucks, and Combination Trucks. Other 2-Axle 4-Tire Vehicles include vans, pickup trucks, and sport/utility vehicles. In previous years, some minivans and sport/utility vehicles were included in the Passenger Car category. Single-Unit 2-Axle 6-Tire or More Trucks are on a single frame with at least 2 axles and 6 tires.



**TABLE - 5M**

**Vehicle-Kilometers**

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Millions)

Year	Air Carrier, certificated, all domestic services <sup>a</sup>	General Aviation	Passenger Car & Taxi <sup>b</sup>	Motorcycle	Other 2-Axle 4-Tire Vehicles <sup>b</sup>	Highway			School Bus	Transit	Commuter Rail	Class I Rail Freight, Train-Miles	Class I Rail Freight, Car-Miles	Intercity/Train-Miles	Intercity/Amtrak <sup>d</sup> Car-Miles
						Single-Unit 2-Axle 6-Tire or More Trucks <sup>b</sup>	Combination Truck	Bus							
1960	1,381	2,847	946,428	*	157,603	45,833	7,005	2,383	3,449	-	650	45,335	336	3,554	
1965	1,825	4,123	1,141,508	*	227,173	52,299	7,538	2,837	3,232	-	678	47,212	277	2,857	
1970	3,328	5,161	1,475,286	4,794	198,410	56,543	7,313	3,380	3,030	-	687	48,103	150	1,110	
1975	3,135	6,339	1,663,981	9,059	322,995	75,195	9,745	4,023	3,203	278	649	44,508	48	407	
1980	4,060	8,375	1,788,940	16,438	468,214	110,527	9,751	4,828	3,681	179	689	47,117	47	378	
1985	4,902	7,752	2,028,683	14,622	600,401	128,104	7,847	5,472	4,492	183	558	40,105	48	404	
1990	6,378	7,775	2,435,234	15,381	750,102	155,088	9,204	6,116	5,217	213	612	42,099	53	491	
1991	6,202	7,258	2,468,013	14,771	760,975	155,530	9,242	6,920	5,320	215	604	41,244	55	504	
1992	6,429	5,802	2,576,301	15,381	769,577	159,505	9,268	7,081	5,399	219	628	42,049	55	494	
1993	6,690	5,235	2,490,243	15,942	922,795	165,960	9,859	6,920	5,451	224	653	43,264	56	488	
1994	7,033	4,694	2,551,805	16,497	945,142	175,523	10,326	7,081	-	-	710	45,842	56	492	

<sup>r</sup> Revised.

\* 1960-1965, motorcycle data included in passenger car and taxi figures, and other single-unit truck data included in single-unit truck figures.

<sup>a</sup> All operations other than those operating under 14 CFR 121 & 14 CFR 135.

<sup>b</sup> See p. A-1 for explanation of changes in vehicle categories between 1992 and 1993.

<sup>c</sup> Includes Commuter Rail.

<sup>d</sup> Amtrak, 1971-1994.

Note: Previous editions of this publication have included a Commercial Bus column which was an estimate generated by Transportation Policy Associates. Since 1991, Transportation Policy Associates has not provided this estimate, so we have substituted data from the Federal Highway Administration which are estimates of total bus mileage. We continue to include the estimate of School Bus vehicle mileage from the National Safety Council, and transit bus vehicle mileage which is included as a component of the transit vehicle miles total. The bus numbers have been derived using different methodologies, and are therefore not necessarily comparable.

Source: See pp. 267, 268.

**TABLE - 6M**

**Passenger-Kilometers**

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Millions)

Year	Air Carrier, certified, domestic, all services	General Aviation	Passenger Car & Taxi <sup>a</sup>	Motor-cycle	Highway				Single-Unit 2-Axle 6-Tire or More Trucks <sup>b</sup>	Combination Trucks	Transit <sup>b</sup>	Commuter Rail	Intercity/Amtrak <sup>c</sup>
					Intercity Bus	School Bus	Other 2-Axle 4-Tire Vehicles <sup>a</sup>	Other 2-Axle 4-Tire Vehicles <sup>a</sup>					
1960	50,049	3,701	2,082,142	-	31,060	-	252,165	-	45,833	-	6,754	27,462	
1965	85,659	7,081	2,397,166	-	38,302	-	358,934	-	52,299	-	6,643	21,340	
1970	174,520	14,645	2,950,571	5,945	40,716	-	309,519	43,583	56,543	-	7,390	9,944	
1975	218,871	18,347	3,161,564	11,505	40,877	-	497,413	55,693	75,195	-	7,263	6,326	
1980	328,898	23,657	3,220,091	21,369	44,096	65,983	707,004	64,073	110,527	64,139	10,486	7,247	
1985	447,134	19,795	3,448,761	19,447	38,302	112,654	894,597	75,607	128,104	63,699	10,515	7,765	
1990	556,629	20,921	3,677,203	19,687	37,015	119,413	1,170,160	86,008	155,088	66,213	11,397	9,748	
1991	544,095	20,278	4,294,341	16,248	37,176	134,058	1,149,072	86,562	156,013	65,505	11,819	10,095	
1992	570,937	17,220	4,482,763	16,919	36,371	144,841	1,162,061	86,407	159,505	64,762	11,780	9,803	
1993	582,953	16,415	4,333,025	17,537	39,590	151,600	1,393,420	91,380	165,960	63,770	11,167	9,976	
1994	625,119	15,611	4,440,140	18,147	40,716	136,794	1,427,165	98,733	175,523	-	-	9,529	

<sup>P</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> See p. A-1 for explanation of changes in vehicle categories between 1992 and 1993.

<sup>b</sup> Includes Commuter Rail.

<sup>c</sup> Amtrak, 1971-1994.

Source: See p. 268.

**TABLE - 7M****Tonne-Kilometers of Freight**5-Year Intervals 1960-1990 and Annually 1990-1994  
(Millions)

Year	Air Carrier, certificated, domestic, all services <sup>a</sup>	Oil Pipeline	Class I Rail <sup>c</sup>	Truck, Intercity	Domestic Coastwise	Water Transport <sup>b</sup>		
						Lakewise	Internal	Intraport
1960	807	340,174	835,555	416,092	373,753			
1965	1,975	447,325	1,018,883	524,130	441,708 <sup>r</sup>	110,838	160,161	2,392
1970	3,196	629,248	1,116,600	601,509	525,275 <sup>r</sup>	115,946	227,487	1,721
1975	5,066	740,206	1,101,187	662,827	461,126 <sup>r</sup>	100,033	263,378	1,785
1980	6,611	858,756 <sup>r</sup>	1,341,653	810,285	921,460 <sup>dr</sup>	90,149	331,914	2,331
1985	7,528	823,862 <sup>r</sup>	1,280,372	890,583	892,009 <sup>r</sup>	70,347	339,747	1,609
1990	13,233	852,770 <sup>r</sup>	1,509,566	1,073,080	699,522 <sup>r</sup>	88,956	426,886	1,587
1991	12,932	844,594 <sup>r</sup>	1,516,729	1,106,659	733,100 <sup>r</sup>	80,794	423,332	1,413
1992	14,337	859,632 <sup>r</sup>	1,557,471	1,189,877	733,360 <sup>r</sup>	81,444	434,544	1,387
1993	15,585 <sup>r</sup>	865,618 <sup>r</sup>	1,619,560	1,257,036 <sup>r</sup>	654,658 <sup>r</sup>	82,398	414,477	1,346
1994 <sup>p</sup>	17,064	887,663	1,752,990	1,325,655	668,084	85,063	434,725	1,887

<sup>p</sup> Preliminary.<sup>r</sup> Revised.<sup>a</sup> Includes revenue ton miles of freight, U.S. and foreign mail, and express, as reported on U.S. DOT Form 41.<sup>b</sup> Excludes intraterritorial traffic, for which ton-miles were not compiled.<sup>c</sup> Revenue Ton-Miles.<sup>d</sup> Reflects entrance of Alaska pipeline moving crude to U.S. refineries between 1975 and 1980.

Source: See p. 269.

**TABLE - 8M**

**Basic Intercity Aggregate Route Distance Within the Continental United States**

5-Year Intervals 1960-1990 and Annually 1990-1993  
(Kilometers)

Year	Oil Pipeline <sup>a</sup>			Gas Pipeline			Class I Rail	Highway <sup>b</sup>	Inland Waterway		
	Airway	Total	Crude Lines	Product Lines	Total	Distribution Mains				Transmission Pipelines	Field & Gathering Lines
1960	471,543	307,295	227,054	80,240	1,015,335	629,897	295,636	89,801	350,116	427,244	40,641
1965	431,747	339,358	240,475	98,883	1,235,172	795,821	340,054	99,297	341,060	432,749	40,845
1970	468,515	351,917	235,407	116,510	1,469,814	957,238	405,877	106,700	332,531	436,964	41,107
1975	504,011	363,533	234,448	129,085	1,576,031	1,043,177	422,614	110,240	308,222	427,933	41,107
1980	550,111	351,469	208,943	142,527	1,692,666	1,129,438	428,890	134,380	265,255	483,537	41,107
1985	601,719	343,764	189,600	154,164	1,800,655	1,212,465	436,393	151,797	234,584	484,422	41,484
1990	624,425	335,954	191,198	144,756	1,941,310	1,346,485	450,790	144,035	192,732	491,408	41,484
1991	627,644	328,029	186,459	141,571	1,971,881	1,379,879	453,177	138,825	187,691	491,214	41,484
1992	630,863	320,296	181,840	138,457	2,017,995	1,421,416	457,886	138,693	181,946	544,856	41,484
1993 <sup>p</sup>	627,644	320,296	181,840	138,457	2,033,485	1,470,989	438,088	124,409	177,712	549,351	41,484

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

<sup>a</sup> Includes petroleum and other liquid product lines, including gathering lines.

<sup>b</sup> Prior to 1992, included Federal-Aid primary roads. From 1992 forward, includes the Interim National Highway System as established by the Intermodal Surface Transportation Efficiency Act of 1991, plus rural Federal-Aid minor arterial highways.

Source: See p. 269.

**TABLE - 9M**

**Average Length of Haul, Domestic Interstate Freight and Passenger Modes**

5-Year Intervals 1960-1990 and Annually 1990-1993

(Kilometers)

Year	Oil Pipeline				Freight			Water				Passenger			
	Air Carrier	Crude	Petroleum Products	Class I Railroads	Trucks <sup>a</sup>	Internal	Lakewise	Coastwise	Air Carrier, scheduled	Bus, Intercity	Commuter Rail	Intercity/Amtrak <sup>b</sup>			
1960	1,534	523	433	742	438	454	840	2,408	938	127	33	209			
1965	1,518	515	539	810	417	478	795	2,416	988	151	34	201			
1970	1,632	483	575	829	423	531	814	2,429	1,093	171	36	114			
1975	1,741	1,019	830	871	460	576	853	2,192	1,123	182	37	375			
1980	1,693	1,402	666	991	584	652	863	3,082	1,184	201	37	349			
1985	1,862	1,250	629	1,070	589	700	843	3,174	1,220	195	38	373			
1990	2,235	1,296	626	1,168	629	755	890	2,581	1,292	227	35	439			
1991	2,166	1,326	608	1,209	641	777	861	2,744	1,297	230	37	457			
1992	2,239	1,278	602	1,228	660	771	835	2,836	1,312	219	37	459			
1993	2,132	1,328	604	1,278	669	753	827	2,655	1,294	-	35	451			

<sup>r</sup> Revised.

<sup>a</sup> Total Class I motor carriers of freight (LTL, specialized and others).

<sup>b</sup> Amtrak, 1971-1993.

Source: Eno Foundation for Transportation, *Transportation in America*, 1995, pp. 70 ; p. 71 (1994), 1993 Air Carrier Passenger figure calculated by dividing passenger-miles by passengers from p. 48.

Oil Pipeline Data, 1960-1970: Transportation Policy Associates.

Railroad: Association of American Railroads, *Railroad Facts*, 1995, p. 36.

Water Data: U.S. Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 5, Section 1.

Passenger Data, 1960: Transportation Association of America, *Transportation Facts and Trends*.

Commuter Rail, 1992-1993: American Public Transit Association, *Transit Facts*, 1994/1995, Table 6.

Amtrak, 1965-1993: Amtrak, *Statistical Appendix to Amtrak FY/1994 Annual Report*, p. 4.

**TABLE - 88M**

**Fuel Consumption by Mode of Transportation**  
5-Year Intervals 1960-1990 and Annually 1992-1994

	1960	1965	1970	1975	1980	1985	1990	1992	1993	1994
<b>Class I Railroads</b>										
Locomotives										
Diesel Fuel, (million liters)	13,143	14,165	14,415	14,142	14,971	11,901	11,863	11,440	11,780	12,704
<b>Air</b>										
Certified Carriers*										
Jet Fuel, (million liters)	7,397	14,721	29,742	28,610	34,432	38,312	48,968	43,873	45,160	47,321
General Aviation										
Aviation Gasoline, (million liters)	916	1,105	2,086	1,560	1,968	1,594	1,336	1,189	1,014	1,018
Jet Fuel, (million liters)	-	307	787	1,715	2,900	2,616	2,510	1,870	1,719	1,707
<b>Highway</b>										
Gasoline, Diesel & Other Fuels (million liters)										
Passenger Cars <sup>†</sup>	155,842	188,222	256,727	289,383	272,107	262,208	272,508	279,450	278,425	279,458
Motorcycles <sup>†</sup>	+	+	227	428	772	689	723	723	750	776
Buses	3,131	3,312	3,104	3,986	3,854	3,161	3,388	3,320	3,585	3,691
Other 2-Axle 4-Tire Vehicles <sup>†</sup>	-	52,420	46,610	67,770	89,313	109,856	124,680	125,399	138,077	142,142
Single-Unit 2-Axle 6-Tire or More Trucks <sup>†</sup>	-	-	15,021	18,227	21,036	25,495	27,611	27,175	31,332	34,054
Combination Trucks <sup>†</sup>	-	25,203	27,815	36,544	48,086	57,841	66,127	66,968	67,074	70,333
<b>Water</b>										
Residual Fuel Oil, (million liters)	14,960	11,708	14,286	15,369	33,887	17,375	23,947	24,844	19,995	20,388
Distillate Fuel Oil, (million liters)	2,979	2,468	3,100	4,156	5,595	6,431	7,817	8,400	8,158	8,286
Gasoline, (million liters)	-	-	2,264	2,763	3,982	3,986	4,921	4,982	3,308	-
<b>Transit**</b>										
Electricity, (million kWh)	2,908	2,584	2,561	2,646	2,446	4,216	4,853	4,716	4,781	-
Motor Fuel, (million liters)										
Gasoline	727	469	257	30	42	174	129	140	170	-
Diesel	787	939	1,026	1,382	1,632	2,305	2,464	2,593	2,604	-
<b>Pipelines, Natural Gas,</b> (million cubic meters)	9,828	14,173	20,449	16,508	17,970	14,265	18,684	16,642	17,678	-

<sup>†</sup> Revised.

\* Domestic consumption only.

\*\* Prior to 1984, excludes commuter rail, automated guideway, urban ferryboat, demand response, and most rural and smaller systems. Series not continuous between 1983 and 1984.

+ Included in passenger cars.

<sup>†</sup> See p. A-1 for explanation of changes in vehicle categories between 1992 and 1993

Source: See p. 277.



**TABLE - 89M**

**Fuel Consumption by Certificated Air Carriers\***

5-Year Intervals 1960-1990 and Annually 1990-1994  
(Thousand Kiloliters)

Year	Total Certificated Route Air Carriers	Domestic Operations			International Operations		
		Total Domestic Operations	Majors <sup>a</sup>	Nationals <sup>b</sup>	Total Inter- national Operations	Majors <sup>a</sup>	Other
1960	9,538,318	7,397,588	6,837,219	333,237	2,140,726	2,070,772	69,954
1965	19,566,882	14,720,839	13,692,486	667,186	4,846,043	4,678,307	167,735
1970	38,229,527	29,740,441	26,902,556	2,339,862	8,489,085	7,623,377	865,709
1975	35,986,398	28,609,008	25,172,990	2,747,452	7,377,389	6,649,833	727,556
1980	41,768,380	34,432,195	28,105,000	4,143,807	7,335,050	6,679,382	655,667
1985	47,689,351	38,313,400	29,248,701	7,972,687	9,375,951	7,771,345	1,604,606
1990	62,128,275	48,967,900	42,698,736	3,604,079	15,054,973	13,575,631	1,479,343
1991	58,984,260	44,051,899	39,784,888	3,537,362	14,932,360	13,192,237	1,740,124
1992	59,313,889	43,872,251	39,784,888	2,621,966	15,441,638	14,194,530	1,247,108
1993	60,726,359	45,161,521	41,323,916	2,691,417	15,564,838	14,042,622	1,522,216
1994	63,698,699	47,319,747	42,272,888	4,083,801	16,378,952	13,986,166	2,392,785

\* Includes Majors, Nationals, and Large Regional Carriers, scheduled and charter passenger and all-cargo.

<sup>a</sup> 1960-1980: categorized as domestic trunk.

<sup>b</sup> 1960-1980: categorized as local service.

<sup>c</sup> 1960-1980: categorized as international trunk.

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

Source: 1960-1975: CAB, *Handbook of Airline Statistics*, 1977.

1980: *Ibid.*, *Fuel Cost and Consumption, Twelve Months Ended December 31, 1984*.

1985-1994: U.S. DOT/BTS, Office of Airline Information, K-25.

**TABLE - 90M**

**Total Motor Vehicle Fuel Consumption and Travel**  
 5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered (thousands) <sup>a</sup>	Vehicle-Kilometers Traveled (millions)	Average Kilometers Traveled per Vehicle	Average Liters per 100 Kilometers Traveled	Fuel Consumed (million liters)	Average Fuel Consumed per Vehicle (liters)
1960	74,475	1,156,869	15,533	18.94	219,092	2,942
1965	91,752	1,428,518	15,569	18.84	269,158	2,934
1970	111,242	1,785,928	16,055	19.57	349,503	3,142
1975	137,913	2,136,668	15,493	19.31	412,549	2,991
1980	161,490	2,457,943	15,221	17.70	435,171	2,695
1985	177,098	2,855,264	16,122	16.08	459,254	2,593
1990	193,057	3,451,016	17,875	14.34	495,037	2,564
1991	192,314	3,495,576	18,176	13.92	486,656	2,531
1992	194,427	3,616,439	18,601	13.91	503,036	2,587
1993	198,041	3,696,180	18,664	14.05	519,242	2,622
1994	201,763	3,798,026	18,824	13.97	530,454	2,629

<sup>r</sup> Revised.

<sup>a</sup> Includes personal passenger vehicles, buses, and motor trucks.

Source: 1960-1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.  
 1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

TABLE - 91M

## Fuel Consumption and Travel by Passenger Cars and Motorcycles

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered <sup>a</sup> (thousands)	Vehicle Kilometers Traveled <sup>a</sup> (millions)	Average Kilometers Traveled per Vehicle		Average Liters per 100 Kilometers Traveled		Fuel Consumed (million liters)		Average Fuel Consumed per Vehicle (liters)	
			Passenger Cars <sup>b</sup>	Motorcycles	Passenger Cars <sup>b</sup>	Motorcycles	Passenger Cars <sup>b</sup>	Motorcycles	Passenger Cars <sup>b</sup>	Motorcycles
1960	62,258	946,428	15,202	*	16.47	*	155,842	*	2,502	*
1965	76,643	1,141,508	14,894	*	16.48	*	188,222	*	2,457	*
1970	92,068	1,480,080	16,531	1,698	17.40	4.7	256,727	227	2,877	79
1975	111,670	1,673,040	15,595	1,825	17.40	4.7	289,383	428	2,710	87
1980	127,295	1,805,378	14,711	2,887	15.21	4.7	272,107	772	2,237	136
1985	137,308	2,043,305	15,385	2,686	12.92	4.7	262,208	689	1,987	125
1990	147,713	2,450,614	16,975	3,611	11.19	4.7	272,508	723	1,900	170
1991	146,746	2,482,783	17,312	3,536	10.84	4.7	267,598	697	1,878	167
1992 <sup>r</sup>	148,279	2,591,681	17,864	3,784	10.85	4.7	279,450	723	1,938	178
1993	135,559	2,506,186	18,926	4,007	11.18	4.7	278,428	750	2,116	189
1994	137,646	2,568,302	19,053	4,437	10.95	4.7	279,458	776	2,086	189

<sup>r</sup> Revised.

\* Data included with passenger car information.

<sup>a</sup> Includes motorcycles.<sup>b</sup> See p. A-1 for explanation of changes in vehicle categories between 1992 and 1993.Source: 1960-1990: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.  
1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

**TABLE - 92M**

**Fuel Consumption and Travel by Buses**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered <sup>a</sup>	Vehicle-Kilometers Traveled <sup>a</sup> (millions)	Average Kilometers Traveled per Vehicle	Average Liters per 100 Kilometers Traveled	Fuel Consumed (million liters)	Average Fuel Consumed per Vehicle (liters)
1960	272,000	7,005	25,756	44.72	3,131	11,508
1965	314,000	7,538	23,984	43.97	3,312	10,539
1970	377,562	7,313	19,368	42.46	3,104	8,222
1975	462,156	9,745	21,086	40.91	3,986	8,627
1980	528,789	9,751	18,440	39.53	3,854	7,291
1985	593,485	7,847	13,222	40.28	3,161	5,326
1990	626,987	9,204	14,679	36.81	3,388	5,406
1991	631,279	9,242	14,640	35.37	3,271	5,182
1992	644,732	9,268	14,375	35.82	3,320	5,149
1993	654,432	9,859	15,065	36.36	3,585	5,478
1994	670,423	10,326	15,402	35.74	3,691	5,505

Revised.

<sup>a</sup> Includes commercial, school and nonrevenue buses.

Source: 1960-1965 and 1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A. 1970-1975 and 1985-1994: *ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

**TABLE - 93M**

**Fuel Consumption and Travel by Trucks**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Number Registered (millions)	Vehicle-Miles Traveled (millions)	Average Kilometers Traveled per Vehicle*			Average Liters per 100 Kilometers Traveled*			Fuel Consumed (million liters)*			Average Fuel Consumed per Vehicle (liters)*					
			Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination Trucks	Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination Trucks	Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination Trucks	Other 2-Axle 4-Tire Vehicles	Single-Unit 2-Axle 6-Tire or More Trucks	Combination Trucks			
1960	11,945	203,436															
1965	14,795	279,472	16,217	66,453	23.08	48.20	52,420	25,203	3,744	32,025							
1970	18,797	298,535	13,963	62,473	23.50	49.21	46,610	27,815	3,278	30,734							
1975	25,781	453,883	15,818	66,500	20.98	43.56	67,770	36,544	3,320	28,970							
1980	33,667	642,814	16,797	78,008	19.08	43.48	89,313	48,086	3,202	33,940							
1985	39,196	804,112	17,888	91,290	18.29	45.15	109,856	57,841	3,244	41,219							
1990	44,718	991,198	19,301	20,270	16.62	42.61	124,680	66,127	3,206	41,038							
1991	44,936	1,003,550	19,478	20,294	16.18	41.63	123,143	64,946	3,153	40,500							
1992 <sup>†</sup>	45,504	1,015,490	19,467	20,020	16.29	42.00	125,399	66,968	3,172	40,470							
1993	61,828	1,180,135	16,565	20,046	14.96	40.42	138,077	67,074	2,478	42,144							
1994	63,445	1,219,398	16,541	21,105	15.04	40.07	142,142	70,333	2,488	43,279							

<sup>†</sup> Revised

\* See p. A-1 for explanation of changes in vehicle categories between 1982 and 1993.  
 Source: 1960-1980: U.S. DOT/FHWA, *Highway Statistics Summary to 1985*, Table VM-201A.  
 1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

**TABLE - 94M**

**Electric Power and Motor Fuel Consumption by the U.S. Transit Industry\***  
 5-Year Intervals 1955-1990 and Annually 1990-1993

Year	Electric Power (million kilowatt hours)	Motor Fuel Consumed (thousand liters)	
		Gasoline <sup>a</sup>	Diesel
1955	3,530	1,044,774	653,362
1960	2,908	726,421	787,744
1965	2,584	470,148	940,296
1970	2,561	258,165	1,024,332
1975	2,646	28,678	1,381,903
1980	2,446	43,154	1,633,027
1985	4,216	173,008	2,304,324
1990	4,837	128,348	2,464,417
1991	4,853	130,472	2,517,897
1992 <sup>r</sup>	4,716	140,738	2,592,795
1993 <sup>p</sup>	4,781	169,374	2,603,224

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

\* Prior to 1984, excludes commuter rail, automated guideway, urban ferryboat, demand response, and most rural and smaller systems.

<sup>a</sup> Includes gasoline, propane, LPG, LNG, kerosene and others.

Source: American Public Transit Association, *Transit Fact Book*, 1994/1995, Tables 6 and 65, and similar tables in earlier editions.

**TABLE - 97M**

**Average Fuel Efficiency of U.S. Passenger Cars**  
 5-Year Intervals 1955–1990 and Annually 1990–1995

Year	Average U.S. Passenger Car Fuel Efficiency (liters per 100 kilometers) (Calendar Year) <sup>1</sup>	New Car Fuel Efficiency, (liters per 100 kilometers) <sup>2</sup> (Model Year)	
		Domestic Cars	Domestic & Imported Cars
1955	16.19	14.7	14.6
1960	16.47	15.2	14.6
1965	16.48	15.3	14.8
1970	17.40	16.7	15.5
1975	17.40	15.6	14.5
1980	15.21	10.4	9.7
1985	12.92	8.9	8.5
1990	11.19	8.7	8.4
1991	10.84	8.6	8.3
1992	10.85	8.7	8.4
1993	11.18	8.5	8.3
1994	10.95	8.6	8.3
1995	—	8.5	8.3

Revised.

<sup>1</sup> See p. 181 for explanation of changes in vehicle categories between 1992 and 1993.

<sup>2</sup> 55% city, 45% highway miles sales weighted harmonic average.

Source: Average Passenger Car Fuel Efficiency: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Table VM-1.  
 New Car Fuel Efficiency:  
 1955–1975: U.S. DOT/NHTSA, Motor Vehicle Requirements Division, NRM-21.  
 1980–1990: *Ibid.*, EPA Final Fuel Economy Calculations for NHTSA.  
 1991–1995: *Ibid.*, Manufacturers' preliminary estimates for NHTSA.

**TABLE - 98M**

**Consumption of Energy from Primary Sources by Sector\***

5-Year Intervals 1955-1990 and Annually 1990-1994

(Petajoules)

Year	Residential & Commercial <sup>a</sup>	% of Total	Industrial <sup>a</sup>	% of Total	Transportation <sup>b</sup>	% of Total	Electric Utilities	% of Total	Total Energy Consumption
1955	7,797	19.0	16,311	39.8	10,002	24.4	6,858	16.7	40,957
1960	9,232	20.0	17,187	37.2	11,141	24.1	8,641	18.7	46,211
1965	10,551	19.0	20,331	36.6	13,083	23.5	11,616	20.9	55,580
1970	12,808	18.3	23,169	33.1	16,944	24.2	17,166	24.5	70,087
1975	12,239	16.4	21,513	28.9	19,222	25.8	21,470	28.8	74,434
1980	11,310	14.1	22,230	27.7	20,742	25.9	25,859	32.3	80,142
1985	10,318	13.2	18,643	23.9	21,122	27.1	27,980	35.8	78,053
1990 <sup>b</sup>	10,751	12.1	22,944	25.9	23,815	26.8	31,230	35.2	88,720
1991 <sup>b</sup>	11,057	12.5	22,639	25.6	23,360	26.4	31,567	35.6	88,583
1992 <sup>b</sup>	11,279	12.6	23,678	26.4	23,736	26.4	31,177	34.7	89,849
1993 <sup>b</sup>	11,532	12.6	24,017	26.2	24,192	26.4	31,967	34.9	91,663
1994 <sup>bp</sup>	11,612	12.4	24,488	26.2	24,697	26.5	32,579	34.9	93,320

<sup>p</sup> Preliminary.

\* As a result of a revised analytical approach, many of the figures in this table show slight revisions from previous years.

<sup>a</sup> Includes fossil and renewable sources consumed directly, but not electricity.

<sup>b</sup> Discontinuity in data between earlier years and 1990 due to attempts to estimate sector consumption of renewable sources beginning in that year.

Note: Sum of components may not equal total due both to independent rounding and to substitution of Electric Utilities Energy Input figures for figures from "Electricity" and "Electrical System Energy Losses" columns in sector consumption tables.

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Table 2.1, Table 10.1b; *Monthly Energy Review*, April 1995, Tables 2.3-2.6.



**TABLE - 101M**

**U.S. Government Energy Consumption**

5-Year Intervals Fiscal Years 1975-1990 and Annually Fiscal Years 1990-1994  
(Petajoules)

Activity	1975	1980	1985	1990	1991	1992	1993 <sup>r</sup>	1994 <sup>p</sup>
<b>Agency</b>								
Defense	1,643.9	1,248.2	1,319.5	1,310.1	1,339.2	1,164.8	1,106.5	1,087.0
Energy	89.9	50.0	55.6 <sup>r</sup>	45.8	44.1	46.8	46.0	43.5
Postal Service	62.5	28.7	29.3	32.3	32.5	33.4	35.6	36.9
Veterans Affairs	41.4	26.2	26.5	26.3	26.7	26.7	27.1	27.3
Transportation	30.1	20.3	20.6	20.0	19.8	16.7	19.4	25.5
<b>General Services</b>								
Administration	45.4	19.1	18.3 <sup>r</sup>	15.0	14.8	14.6	14.9	14.8
NASA	27.9	11.0	11.4 <sup>r</sup>	13.0	13.1	13.2	13.1	13.2
Agriculture	12.6	9.1	8.9	10.0 <sup>r</sup>	10.1 <sup>r</sup>	9.6	9.8	9.8
Health & Human Services	9.8	6.3	7.4	8.4	7.5	8.4	8.5	8.5
Justice	7.5	6.0	8.7	7.4	8.4	7.9	9.6	10.9
Interior	13.0	9.0	8.2	7.8	7.3	7.4	7.9	4.3
Other <sup>1</sup>	15.6	13.0	11.3	15.9	14.1	14.6	15.5	42.0
Total	1,999.3	1,446.7	1,525.5 <sup>r</sup>	1,511.9	1,537.5	1,364.0	1,314.1	1,323.8
<b>Energy Source</b>								
Petroleum	1,226.0	1,067.5	1,110.9	1,076.7	1,107.2	923.7	889.4	893.2
Jet Fuel	746.3	673.9	744.6	772.7	817.1	661.5	645.1	649.8
Distillate & Residual Fuel	384.8	324.6	306.8 <sup>r</sup>	257.5	249.1	215.0	201.2	199.2
Motor Gasoline	66.9	59.6	53.3	39.2	36.6	37.6	36.4	37.8
<b>Liquefied Petroleum</b>								
Gases	5.7	4.2	4.2	6.6	3.9	8.5	6.0	5.9
Aviation Gasoline	22.3	5.2	2.0	0.5	0.4	1.1	0.7	0.5
Electricity	507.7	149.7	175.0 <sup>r</sup>	203.0	200.5	202.0	202.9	223.6
Natural Gas	175.4	155.4	157.6 <sup>r</sup>	165.7	162.3 <sup>r</sup>	159.5 <sup>r</sup>	161.5	150.8
Coal	82.2	67.0	67.5	46.6	48.4	54.7	40.6	36.9
Purchased Steam	8.0	7.2	14.6	19.8	19.2	24.1	19.7	19.3
Total	1,999.3	1,446.7	1,525.5 <sup>r</sup>	1,522.4 <sup>r</sup>	1,537.5 <sup>r</sup>	1,364.0 <sup>r</sup>	1,314.1	1,323.8

<sup>p</sup> Preliminary.

<sup>r</sup> Revised.

\* Increase from previous years is result of initial reporting by Tennessee Valley Authority of electricity consumed for utility station service user.

<sup>1</sup> Includes National Archives and Records Administration, U.S. Department of Commerce, U.S. Department of Labor, U.S. Department of State, Environmental Protection Agency, Federal Communications Commission, Federal Trade Commission, National Science Foundation, Panama Canal Commission, Commodity Futures Trading Commission, Equal Employment Opportunity Commission, Nuclear Regulatory Commission, Office of Personnel Management, U.S. Department of Housing and Urban Development, U.S. Department of Treasury, Tennessee Valley Authority, Railroad Retirement Board, Small Business Administration, U.S. Information Agency, Federal Emergency Management Agency and U.S. Information Agency. National Science Foundation data for 1990 are estimated.

Note: Sum of components may not equal total due to independent rounding. These data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. However other energy used by U.S. agencies that produce electricity or enrich uranium is included.

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Table 1.12.

**TABLE - 102M**

**U.S. Government Energy Use by Agency and Source**  
 Fiscal Years 1984 and 1994  
 (Petajoules)

Year	Petroleum				Total	Electricity	Natural Gas	Coal & Other <sup>2</sup>	Total
	Motor Gasoline	Distillate & Residual Fuel Oils	Jet Fuel & Aviation Gas	Other <sup>1</sup>					
<b>1984</b>									
Defense	27.3	333.6	726.1	2.2	1,089.2	101.2	121.3	51.5	1,363.2
Energy	1.5	3.9	0.4	0.2	6.1	19.3	7.5	21.5	54.4
Postal Service	10.4	3.1	0.0	0.2	13.6	9.9	5.1	0.5	29.2
Veterans Affairs	0.5	2.6	0.0	0.0	3.3	6.6	15.1	1.1	26.0
Transportation	1.5	8.5	5.3	0.0	15.3	4.1	1.3	0.2	20.9
General Services Admin.	0.1	1.2	0.0	0.0	1.3	9.1	3.5	3.3	17.1
NASA	0.3	0.8	1.6	0.0	2.7	5.4	2.6	0.4	11.2
Agriculture	4.5	0.7	0.1	0.3	5.6	1.3	1.5	0.0	8.3
Interior	2.3	1.9	0.1	0.9	5.3	1.5	1.9	0.3	8.9
Health & Human Services	0.4	2.7	0.0	0.1	3.3	1.9	1.6	0.0	6.8
Justice	1.9	0.4	0.1	0.1	2.5	1.1	2.7	0.4	6.8
Other <sup>3</sup>	3.2	2.3	0.3	0.1	5.9	3.2	2.1	0.2	11.3
<b>Total</b>	<b>54.0</b>	<b>361.8</b>	<b>733.9</b>	<b>4.3</b>	<b>1,154.0</b>	<b>164.5</b>	<b>166.1</b>	<b>79.6</b>	<b>1,564.1</b>
<b>1994<sup>P</sup></b>									
Defense	11.3	176.4	636.1	2.2	825.9	119.5	101.2	40.5	1,087.0
Energy	1.3	2.5	0.4	0.4	4.5	18.0	10.3	10.6	43.5
Postal Service	11.8	3.4	0.0	0.0	15.1	14.8	6.3	0.6	36.9
Veterans Affairs	0.6	2.0	0.0	0.0	2.6	9.1	14.1	1.5	27.3
Transportation	0.6	6.8	9.9	2.1	19.5	4.4	1.5	0.1	25.5
General Services Admin.	0.1	0.4	0.0	0.0	0.5	9.6	3.0	1.6	14.8
NASA	0.3	1.1	1.5	0.0	2.8	7.6	2.5	0.2	13.2
Agriculture	4.9	0.6	0.1	0.2	5.7	2.2	1.8	0.1	9.8
Interior	1.9	1.3	0.2	0.5	3.9	0.0	0.3	0.1	4.3
Health & Human Services	0.2	1.6	0.0	0.3	2.0	3.6	2.8	0.1	8.5
Justice	2.6	0.5	0.8	0.0	4.0	2.7	3.8	0.2	10.9
Other <sup>4</sup>	2.3	2.6	1.4	0.0	6.4	32.0	3.1	0.6	42.0
<b>Total</b>	<b>37.8</b>	<b>199.2</b>	<b>650.3</b>	<b>5.9</b>	<b>893.2</b>	<b>223.6</b>	<b>150.8</b>	<b>56.2</b>	<b>1,323.8</b>

<sup>P</sup> Preliminary.

<sup>1</sup> Includes liquefied petroleum gases, and other.

<sup>2</sup> Includes purchased steam, coal, and other.

<sup>3</sup> Includes U.S. Department of Commerce, Panama Canal Commission, Tennessee Valley Authority, U.S. Department of Labor, U.S. Department of Housing and Urban Development, Federal Communications Commission, Office of Personnel Management, U.S. Department of State, Small Business Administration, National Science Foundation, U.S. Department of Treasury, and Environmental Protection Agency.

<sup>4</sup> Includes National Archives and Records Administration, U.S. Department of Commerce, U.S. Department of Labor, U.S. Department of State, Environmental Protection Agency, Federal Communications Commission, Federal Trade Commission, Panama Canal Commission, Equal Employment Opportunity Commission, Nuclear Regulatory Commission, Office of Personnel Management, U.S. Department of Housing and Urban Development, U.S. Department of Treasury, Tennessee Valley Authority, Railroad Retirement Board, U.S. Information Agency, and Federal Emergency Management Agency.

Note: Sum of components may not equal total due to independent rounding. These data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. However other energy used by U.S. agencies that produce electricity or enrich uranium is included.

Source: U.S. DOE/EIA, *Annual Energy Review 1994*, Table 1.13.

**TABLE - 103M**

**Energy Intensiveness of Certificated Air Carriers (All Services)**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Aircraft-Kilometers (millions)		Passenger-Kilometers (millions)		Fuel Consumed (million liters)		Passenger Load Factor (%)		Energy Intensiveness (joules/passenger-kilometer)	
	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations	Domestic Operations	Inter-national Operations
1960	1,381	293	50,049	14,405	7,397	2,143	58.5	62.2	5,560,816	5,596,355
1965	1,825	457	85,659	32,171	14,721	4,845	54.7	56.8	6,466,578	5,667,057
1970	3,328	764	174,520	63,883	29,742	8,491	48.9	51.1	6,412,386	5,000,966
1975	3,034	499	218,871	60,061	28,610	7,378	54.6	52.3	4,918,451	4,622,007
1980	4,060	645	322,009	101,958	32,890	7,336	58.0	62.8	4,023,389	2,707,323
1985	4,902	668	447,134	117,864	38,312	9,376	60.7	64.6	3,224,002	2,993,339
1990	6,378	1,223	489,680	203,362	49,070	15,055	60.4	69.1	3,317,029	2,785,454
1991	6,202	1,299	544,095	201,508	44,051	14,933	61.2	67.3	3,046,320	2,788,463
1992	6,429	1,456	570,937	223,618	43,873	15,441	62.4	67.1	2,891,374	2,598,098
1993	6,690	1,547	582,953	231,369	45,160	15,566	62.0	67.7	2,914,851	2,531,380
1994 <sup>P</sup>	7,033	1,569	473,214	239,744	46,848	16,319	64.7	70.6	2,819,848	2,561,177

<sup>P</sup> Preliminary.

<sup>r</sup> Revised.

Note: Aircraft-Miles includes all four air carrier groups (Majors, Nationals, Large Regionals, and Medium Regionals), scheduled and charter, passenger and all-cargo. Fuel Consumed includes Majors, Nationals, and Large Regionals, scheduled and charter, passenger and all-cargo. Passenger-Miles includes all four air carrier groups, scheduled and charter, passenger service only. Passenger Load Factor includes all four air carrier groups, scheduled passenger service only. Heat equivalent factor used for BTU conversion is 135,000 BTU/gallon.

Source: Aircraft-Miles, Passenger-Miles, and Passenger Load Factor:

1960-1970: CAB, *Handbook of Airline Statistics, 1969 & 1973*, Part III, Tables 2 and 13.

1975-1980: *Ibid.*, *Air Carrier Traffic Statistics, Annual Issues*, pp. 4, 5, 15, and similar tables in earlier editions.

1985-1994: U.S. DOT/ *Ibid.*, Annual Issues, pp. 2,3.

Fuel Consumed:

1960-1975: CAB, *Handbook of Airline Statistics, 1977*, Table 2.

1980: CAB, *Fuel Cost and Consumption, Twelve Months Ended Dec. 31, 1984*, Tables 1,2,3,4,6,7, and similar tables in earlier editions.

1985-1994: U.S. DOT/BTS, Office of Airline Information, K-25.

**TABLE - 104M**

**Energy Intensiveness of General Aviation**  
5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Intercity Passenger-Kilometers (millions)	Fuel Consumption (million liters)		Energy Intensiveness (joules/passenger-kilometer)
		AVGAS	Jet Fuel	
1960	3,701	916	-	8,290,534
1965	7,081	1,105	212	6,355,486
1970	14,645	2,086	787	6,793,890
1975	18,347	1,560	1,715	6,364,504
1980	23,657	1,968	2,900	7,399,097
1985	19,795	1,594	2,616	7,668,969
1990	20,921	1,336	2,510	6,653,247
1991	20,278	1,340	2,184	6,266,643
1992	19,634	1,189	1,870	5,611,651
1993	19,956	1,014	1,719	4,943,344
1994	15,611 <sup>P</sup>	1,007	1,707	-

<sup>P</sup> Preliminary.

\* Prior to 1962, jet fuel was included with aviation gasoline.

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

AVGAS = 120,190 BTU/gal.

Jet Fuel (kerosene) = 135,000 BTU/gal.

Source: Passenger-Miles Flown: Eno Foundation for Transportation, *Transportation In America*, 1995, p. 47, and similar tables in earlier editions.

Fuel Consumed: 1960-1975: U.S. DOT/FAA, *FAA Statistical Handbook of Aviation*, Annual Issues.

1980-1994: *Ibid.*, *General Aviation Activity and Avionics Survey*, Annual Issues, Table 5-1.

**TABLE - 105M**

**Energy Intensiveness of Passenger Cars and Motorcycles**  
5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Vehicle-Kilometers (millions)		Passenger-Kilometers (millions)		Fuel Consumed (million liters)		Energy Intensiveness (joules/passenger-kilometer)	
	Passenger Cars*	Motorcycles	Passenger Cars*	Motorcycles	Passenger Cars*	Motorcycles	Passenger Cars*	Motorcycles
1960	946,428	-	2,082,142	-	155,842	-	2,607,627	-
1965	1,141,508	-	2,397,166	-	188,222	-	2,735,550	-
1970	1,475,286	4,794	2,950,571	5,945	256,727	227	3,031,358	1,331,040
1975	1,663,981	9,059	3,161,564	11,505	289,383	428	3,188,922	1,295,298
1980	1,788,940	16,438	3,220,091	21,369	272,107	772	2,944,039	1,259,024
1985	2,028,683	14,622	3,448,761	19,447	262,208	689	2,648,836	1,234,233
1990	2,435,234	15,381	3,677,203	19,687	272,508	723	2,581,868	1,279,490
1991	2,468,013	14,771	4,294,341	16,248	267,598	697	2,170,997	1,493,500
1992 <sup>r</sup>	2,576,301	15,381	4,482,763	16,919	279,450	723	2,171,858	1,488,824
1993	2,490,244	15,942	4,333,025	17,537	278,428	750	2,238,694	1,489,001
1994	2,551,805	16,497	4,440,140	18,147	279,458	776	2,192,766	1,489,826

<sup>r</sup> Revised.

\* See p. A-1 for explanation of changes in vehicle categories between 1992 and 1993.

Note: The heat equivalent factor used for BTU conversion is 125,000 BTU/gal.

Source: 1960-1980: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.

1985-1994: *Ibid.*, *Highway Statistics*, Annual Issues, Table VM-1, for vehicle-miles and fuel consumption data.

**TABLE - 106M**

**Energy Intensiveness of Trucks**

5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Vehicle-Kilometers (millions)			Passenger-Kilometers (millions)			Fuel Consumed (million liters)			Energy Intensiveness (joules/passenger-kilometer)		
	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination	Other 2-Axle 4-Tire Vehicles*	Single-Unit 2-Axle 6-Tire or More Trucks*	Combination
1960	157,603	-	45,833	252,165	-	45,833	-	-	-	-	-	-
1965	227,173	-	52,299	358,934	-	52,299	52,420	-	25,203	5,088,133	-	18,629,603
1970	198,410	43,583	56,543	309,519	43,583	56,543	46,610	15,021	27,815	5,246,414	13,323,246	19,017,115
1975	322,995	55,693	75,195	497,413	55,693	75,195	67,770	18,227	36,544	4,746,728	12,651,673	18,787,559
1980	468,214	64,073	110,527	707,004	64,073	110,527	89,313	21,036	48,086	4,401,140	12,691,664	16,818,674
1985	600,401	75,607	128,104	894,597	75,607	128,104	109,856	25,495	57,841	4,278,291	13,035,499	17,454,740
1990	750,102	86,008	155,088	1,170,160	86,008	155,088	124,680	27,611	66,127	3,712,138	12,410,178	16,483,248
1991	760,975	86,562	156,013	1,118,634	86,562	156,013	123,139	27,001	64,943	3,835,143	12,058,631	16,091,894
1992 <sup>r</sup>	769,577	86,407	159,505	1,162,061	86,407	159,505	125,399	27,175	66,968	3,759,576	12,158,095	16,230,400
1993	922,795	91,380	165,960	1,393,420	91,380	165,960	138,077	31,332	67,074	3,452,317	13,254,795	15,623,803
1994	945,142	98,733	175,523	1,427,165	98,733	175,523	142,142	34,054	70,333	3,469,935	13,333,310	15,490,427

<sup>r</sup> Revised.

\* See p. A-1 for explanation of changes in vehicle categories between 1992 and 1993.

Note: The heat equivalent factors used for BTU conversions are:  
 Automotive gasoline = 125,000 BTU/gal. (single-unit trucks).  
 Distillate fuel = 138,700 BTU/gal. (combination and other single-unit trucks).

Source: 1960-1990: U.S. DOT/FHWA, *Highway Statistics, Summary to 1985*, Table VM-201A.  
 1985-1994: *Ibid.*, *Highway Statistics, Annual Issues*, Table VM-1.

**TABLE - 107M**

**Energy Intensiveness of Transit Motor Buses and School Buses**  
5-Year Intervals 1960-1990 and 1990-1993

Year	Vehicle-Kilometers (millions)		Passenger-Kilometers (millions)		Fuel Consumed (million liters)		Energy Intensiveness (joules/passenger-kilometer)	
	Motor Bus	School Bus	Motor Bus	School Bus	Motor Bus (Diesel)	School Bus (Gasoline)	Motor Bus	School Bus
1960	2,536	2,383	-	-	787	-	-	-
1965	2,459	2,837	-	-	939	943	-	-
1970	2,268	3,380	-	-	1,026	1,136	-	-
1975	2,456	4,023	-	-	1,382	1,295	-	-
1980	2,699	4,828	35,068	65,983	1,632	1,438	1,798,553	759,515
1985	2,998	5,472	34,055	112,654	1,961	1,711	2,225,854	529,148
1990	3,428	6,116	33,766	119,413	2,131	1,787	2,439,975	521,284
1991	3,486	6,920	33,941	134,058	2,169	2,018	2,470,479	524,347
1992	3,505	7,081	32,728	144,841	2,241	2,067	2,647,032	497,149
1993	3,550	6,920	32,308	151,600	2,230	-	2,667,859	-

Revised.

Note: The heat equivalent factors used for BTU conversions are:  
Automotive gasoline = 125,000 BTU/gal. (School Bus).  
Distillate Oil = 138,700 BTU/gal. (Motor Bus).  
One barrel equals 42 gallons.

Source: School Bus: 1960-1993: National Safety Council, *Accident Facts*, Annual Issues.  
Fuel Consumed: 1960-1993: Eno Foundation for Transportation, *Transportation In America, 1994*, p. 56 and earlier editions.  
Motor Bus: 1960-1993: American Public Transit Association (APTA), *Transit Fact Book*, 1994/1995, p. 106, 107, 132.

**TABLE - 108M**

**Energy Intensiveness of Class I Railroad Freight Service**  
5-Year Intervals 1960-1990 and Annually 1990-1994

Year	Revenue Freight Ton-Kilometers (millions)	Fuel Consumed in Freight Service (million liters)	Energy Intensiveness (joules/revenue freight tonne-kilometers)
1960	835,555	13,109	606,498
1965	1,018,883	13,597	515,898
1970	1,116,600	12,041	416,887
1975	1,101,187	13,843	485,977
1980	1,341,161	14,778	425,972
1985	1,280,372	11,773	355,448
1990	1,509,566	11,792	301,966
1991	1,516,729	11,000	280,375
1992	1,557,471	11,375	282,343
1993	1,619,560	11,689	279,018
1994	1,752,990	12,621	278,319

Revised.

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

Source: Association of American Railroads, *Railroad Facts*, 1995, p. 40.

**TABLE - 110M****Crude Oil Transported in the U.S. by Mode of Transportation**5-Year Intervals 1975-1990 and Annually 1990-1993  
(Billion Tonne-Kilometers)

Year	Pipelines <sup>1</sup>		Water Carriers		Trucks		Railroads		Total
	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers
1975	420.5	86.9	59.3	12.2	2.0	0.4	2.2	0.5	484.0
1980	529.4	48.2	565.6	51.4	3.6	0.3	0.7	0.1	1,099.4
1985	488.2	42.5	655.8	57.1	2.6	0.2	1.2	0.1	1,147.8
1990	488.8	53.3	425.1	46.4	2.2	0.2	1.0	0.1	917.2
1991	490.6	52.9	432.7	46.7	2.2	0.2	1.0	0.1	926.5
1992	473.6	52.8	420.6	46.9	2.2	0.2	1.0	0.1	897.4
1993 <sup>P</sup>	447.6	52.4	403.0	47.2	2.2	0.3	1.0	0.1	853.8

<sup>P</sup> Preliminary.<sup>1</sup> The amounts carried by pipeline are based on ton-miles of crude and petroleum products for Federally regulated pipelines (84 percent) plus an estimated breakdown of crude and petroleum products for the ton-miles for pipelines not Federally regulated (16 percent).Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, Annual Issues.**TABLE - 111M****Refined Petroleum Products Transported in the U.S. by Mode of Transportation**5-Year Intervals 1975-1990 and Annually 1990-1993  
(Billion Tonne-Kilometers)

Year	Pipelines <sup>1</sup>		Water Carriers		Trucks		Railroads		Total
	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers
1975	319.7	42.5	375.8	50.0	38.3	5.1	18.4	2.4	752.2
1980	329.4	45.8	336.4	46.8	35.5	5.0	17.5	2.4	718.7
1985	335.6	56.2	206.1	34.5	39.3	6.6	16.5	2.8	597.6
1990	364.0	56.0	230.4	35.2	41.2	6.3	19.4	3.0	654.9
1991	353.9	55.7	222.2	35.0	39.7	6.3	19.0	3.0	634.8
1992	358.4	55.2	230.7	35.5	39.6	6.1	20.4	3.1	649.1
1993 <sup>P</sup>	385.7	59.0	213.4	32.7	33.6	5.1	20.9	3.2	653.6

<sup>P</sup> Preliminary.<sup>1</sup> The amounts carried by pipeline are based on ton-miles of crude and petroleum products for Federally regulated pipelines (84 percent) plus an estimated breakdown of crude and petroleum products for the ton-miles for pipelines not Federally regulated (16 percent).Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, Annual Issues.

**TABLE - 112M**

**Crude Petroleum and Petroleum Products Transported in the U.S.  
by Mode of Transportation**

5-Year Intervals 1975–1990 and Annually 1990–1993  
(Billion Tonne-Kilometers)

Year	Pipelines <sup>1</sup>		Water Carriers		Trucks		Railroads		Total
	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers	Percent of Total	Tonne-Kilometers
1975	740.2	59.9	435.1	35.2	40.3	3.3	20.6	1.7	1,236.2
1980	858.8	47.2	902.0	49.6	39.1	2.2	18.2	1.0	1,818.1
1985	823.9	47.2	862.0	49.4	41.9	2.4	17.7	1.0	1,745.4
1990	852.8	54.2	655.5	41.7	43.4	2.8	20.4	1.3	1,572.1
1991	844.3	54.7	637.1	41.3	42.2	2.7	20.0	1.3	1,543.6
1992	834.2	54.5	632.0	41.3	43.2	2.8	21.5	1.4	1,530.9
1993 <sup>P</sup>	835.8	56.0	593.5	39.7	43.7	2.9	20.9	1.4	1,493.8

<sup>P</sup> Preliminary.

<sup>1</sup> The amounts carried by pipeline are based on ton-miles of crude and petroleum products for Federally regulated pipelines (84 percent) plus an estimated breakdown of crude and petroleum products for the ton-miles for pipelines not Federally regulated (16 percent).

Source: Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, Annual Issues.

**TABLE - 113M**

**U.S. Gas Utility Industry Kilometers of Pipeline and Main, by Type<sup>a</sup>**

5-Year Intervals 1955–1990 and Annually 1990–1994  
(Thousands)

Year	Total	Field & Gathering	Transmission Pipeline <sup>b</sup>	Distribution Main
1955	799.4	73.5	234.8	491.0
1960	1,015.3	89.8	295.6	629.9
1965	1,235.2	99.3	340.1	795.8
1970	1,469.8	106.7	405.9	957.2
1975	1,576.0	110.2	422.6	1,043.2
1980	1,692.7	134.4	428.9	1,129.4
1985	1,800.7	151.8	436.5	1,212.5
1990	1,942.3	144.0	450.8	1,347.5
1991	1,972.1	138.9	453.2	1,380.0
1992	2,018.0	138.7	457.9	1,421.4
1993	2,033.4	124.4	438.1	1,470.9
1994 <sup>P</sup>	2,029.4	116.0	435.0	1,478.2

<sup>P</sup> Preliminary.

<sup>a</sup> Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of each year.

<sup>b</sup> Includes 5,000 miles of Underground Storage pipe in 1975; 6,200 in 1980; 6,000 in 1985; 6,200 in 1990 & 1991; 6,000 in 1992, some of which was formerly included in Field and Gathering pipe; and 5,700 in 1993.

Source: American Gas Association, *Gas Facts*, 1995, Table 5-1 and similar tables in earlier editions.



**TABLE - 117M****Domestic Demand for Refined Petroleum Products Supplied by Sector**5-Year Intervals 1955–1990 and Annually 1990–1994  
(Trillion Joules per Day)<sup>1</sup>

Year	Residential & Commercial	Industrial	Transportation	Electric Utilities	Total	Transportation as % of Total
1955	8,282	14,792	25,448	1,277	49,799	51.1
1960	10,055	16,585	29,215	1,583	57,437	50.9
1965	11,152	19,635	34,332	2,121	67,239	51.1
1970	12,429	22,525	44,270	6,130	85,354	51.9
1975	11,025	23,559	50,917	9,168	94,670	53.8
1980	8,768	27,453	54,810	7,586	98,616	55.6
1985	7,301	22,589	56,361	3,165	89,416	63.0
1990	6,267	24,034	63,018	4,874	98,194	64.2
1991	6,214	23,285	62,006	3,429	94,934	65.3
1992	6,109	24,910	62,902	2,764	96,685	65.1
1993 <sup>r</sup>	6,193	24,414	64,147	3,028	97,783	65.6
1994 <sup>p</sup>	6,436	25,416	65,498	2,828	100,178	65.4

<sup>p</sup> Preliminary conversion factor.<sup>r</sup> Revised.<sup>1</sup> Data derived by multiplying figures in Table 116 by conversion factors in each sector column in Table A3 in U.S. DOE/EIA's *Annual Energy Review 1994*.**TABLE - 119M****Domestic Demand for Gasoline**5-Year Intervals 1955–1990 and Annually 1990–1994  
(Kiloliters)

Year	Total Demand	Highway	Non-Highway			Total	
			Agriculture	Aviation <sup>a</sup>	Marine		Other <sup>b</sup>
1955	198,984,932	180,684,279	8,162,991	3,783,292	97,985	6,256,385	18,300,654
1960	239,318,452	219,099,298	8,674,900	5,011,011	229,521	6,269,653	20,185,085
1965	285,089,269	269,159,563	7,432,399	1,897,775	364,671	6,234,861	15,929,706
1970	364,655,964	349,503,517	7,313,287	1,487,712	2,264,278	4,087,159	15,152,436
1975	426,338,295	412,550,655	5,923,723	1,550,933	2,762,283	3,550,701	13,787,640
1980	396,853,725	383,019,395	4,008,918	1,562,932	3,982,954	4,279,526	13,834,329
1985	407,358,762	392,198,402	4,090,808	1,444,191	3,986,031	5,639,329	15,160,359
1990	430,043,767	414,614,117	2,578,698	1,366,314	4,922,629	6,562,008	15,429,650
1991	424,806,377	408,496,157	2,948,673	1,281,525	6,471,870	5,608,152	16,310,220
1992	434,878,253	420,083,746	3,049,240	1,303,325	4,993,606	5,448,336	14,794,507
1993	441,299,583	430,281,529	3,203,670	1,288,732	3,307,265	3,218,388	11,018,055
1994	446,482,274	435,351,195	3,420,809	1,179,724	3,314,242	3,216,306	11,131,080

<sup>r</sup> Revised.<sup>a</sup> Does not include aviation jet fuel.<sup>b</sup> Includes state, county, and municipal use, industrial and commercial, construction and miscellaneous.Source: 1955–1975: U.S. DOT/FHWA, *Highway Statistics*, Annual Issues, Tables MF-24 and MF-26.1980–1985: *Ibid.*, Tables MF-21A and MF-24.1990–1994: *Ibid.*, personal communication, HPM-10.



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# **APPENDIX B**

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## **GLOSSARY**



## AIR CARRIER

- AIR CARRIER:** The commercial system of air transportation consisting of certificated air carriers, air taxis (including commuters), supplemental air carriers, and commercial operators of large aircraft. The following define several types of air carriers:
- *Certificated Air Carrier* - An air carrier holding a Certificate of Public Convenience and Necessity issued by the U.S. Department of Transportation (DOT) to conduct scheduled services interstate. Nonscheduled or charter operations may also be conducted by these carriers. These carriers operate large (30 seats or more for a maximum load of 7,500 pounds or more) in accordance with FAR Part 121.
  - *Supplemental Air Carrier* - One of a class of air carriers holding Certificates of Public Convenience and Necessity issued by the U.S. DOT, authorizing them to perform passenger and cargo charter services supplementing the scheduled service of the certificated route air carriers. Both international and domestic charter operations are for a temporary period. The authority of supplemental air carriers to engage in military charters is of an indefinite period. In addition, they can perform on an emergency basis, as may be authorized by the DOT, scheduled operations including the transportation of individually ticketed passengers and individually way billed cargo.
  - *Commercial Operator (of large aircraft)* - An air carrier certificated with FAR Part 121 or 127 to conduct scheduled services on specified routes. These air carriers may also provided nonscheduled or charter services as a secondary operation. Four carrier groupings have been designated for statistical and financial data aggregation and analysis: Majors (annual operating revenues greater than \$1 billion), Nationals (annual operation revenue between \$100 million and \$1 billion), Large Regionals (annual operating revenues between \$10 million and \$99,999,999), and Medium Regionals (annual operating revenues less than \$10 million).
- AIRCRAFT ACCIDENT:** As defined by the National Transportation Safety Board, it is "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage."
- AIRCRAFT REVENUE HOURS:** The airborne hours in revenue service, computed from the moment an aircraft leaves the ground until it touches the ground again.
- AIRCRAFT REVENUE MILES:** The miles (computed in airport-to-airport distances) for each inter-airport hop actually completed in revenue service, whether or not performed in accordance with the scheduled pattern. For this purpose, operation to a flag stop is a hop completed even though a landing is not actually made. In cases where the inter-airport distances are inapplicable, aircraft miles flown are determined by multiplying the normal cruising speed for the aircraft type by the airborne hours.
- AIR TAXI:** A class of air carriers, operating pursuant to FAR Part 135, engaged in the nonscheduled air transportation of persons, property, or mail for compensation or hire in aircraft with 30 or fewer passenger seats and a payload capacity of 7,500 pounds or less. Air taxis do not hold Certificates of Public Convenience and Necessity and do not hold specific route authority.

- ALL-CARGO CARRIER:** One of a class of air carriers holding an All Cargo Air Service Certificate issued under section 418 of the Federal Aviation Act and certificated in accordance with FAR Part 121 to provide domestic air transportation of cargo.
- CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY:** A certificate issued to an air carrier under Section 401 of the Federal Aviation Act, by the Department of Transportation, authorizing the carrier to engage in air transportation.
- COACH SERVICE:** Transport service established for the carriage of passengers at special reduced passenger fares that are predicated on both the operation of specifically designated aircraft space and a reduction in the quality of service regularly and ordinarily provided.
- COMMUTER AIR CARRIER:** A small certificated air taxi operator who performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week, and points between which such flights are performed.
- DOMESTIC OPERATIONS:** All air carrier operations having destinations within the 50 United States, the District of Columbia, the Commonwealth of Puerto Rico and the U.S. Virgin Islands.
- ECONOMY:** Transport service established for the carriage of passengers at fares and quality of service below that of coach service.
- FATAL INJURY:** Any injury that results in death within thirty days of the accident.
- FIRST-CLASS SERVICE:** Transport service established for the carriage of passengers moving at either standard fares or premium fares, or at reduced fares not predicated upon the operation of specifically allocated aircraft space, and for whom standard or premium quality services are provided.
- FIXED-WING AIRCRAFT:** Aircraft having nonrotating wings fixed to the airplane fuselage and outspread in flight.
- FOREIGN FLAG AIR CARRIER:** A foreign air carrier that makes stops within the borders of the United States.
- INTERNATIONAL OPERATIONS:** In general, operations outside the territory of the United States, including operations between the United States and foreign countries, and the U.S. and its territories or possessions. Includes both the combination passenger/cargo carriers and the all-cargo carriers engaged in international and territorial operations.
- JET ENGINE:** An engine which converts fuel and air into a fast-moving stream of hot gases which effect propulsion of the device of which the engine is a part.
- JET FUEL:** The term includes kerosene-type jet fuel and naphtha-type jet fuel. Kerosene-type jet fuel is a kerosene quality product used primarily for commercial turbojet and turboprop aircraft engines. Naphtha-type jet fuel is a fuel in the heavy naphtha range used primarily for military turbojet and turboprop aircraft engines.

<b>KEROSENE-TYPE JET FUEL:</b>	A quality kerosene product with an average gravity of 40.7 degrees API and a 10 percent distillation temperature of 400 degrees Fahrenheit. It is covered by American Society of Testing Materials (ASTM) Specification D1655 and Military Specification MIL-T-5624L (Grades JP-5 and JP-8). A relatively low freezing point distillate of the kerosene type; it is used primarily for a commercial turbojet and turboprop aircraft engines.
<b>LARGE REGIONALS:</b>	Air carrier groups with annual operating revenues between \$10,000,000 and \$100,000,000.
<b>MAJORS:</b>	Air carrier groups with annual operating revenues exceeding \$1,000,000,000.
<b>MEDIUM REGIONALS:</b>	Air carrier groups with annual operating revenues less than \$10,000,000 or that operate only aircraft with 60 seats or less (or 18,000 lbs. maximum payload).
<b>NAPHTHA-BASE JET FUEL:</b>	A fuel in the heavy naphtha boiling range with an average gravity of 52.8 degrees American Petroleum Institute (API) and 20 to 90 percent distillation temperatures of 290 to 470 degrees Fahrenheit, meeting Military Specification MIL-T-5624L (Grade JPJ-4). JP-4 is used for turbojet and turboprop aircraft engines, primarily by the military. Excludes ram-jet and petroleum rocket fuels.
<b>NATIONALS:</b>	Air carrier groups with annual operating revenues between \$100,000,000 and \$1,000,000,000.
<b>NONREVENUE FLIGHTS:</b>	Flights and flight stages involving training, test, technical, positioning for scheduled flights, ferry, company business, publicity and forced returns for which no remuneration is received.
<b>NONSCHEDULED FREIGHT:</b>	Property carried in charter operations.
<b>NONSCHEDULED SERVICE:</b>	Revenue flights that are not operated in regular scheduled service, such as charter flights, and all nonrevenue flights incident to such flight.
<b>OPERATING EXPENSES:</b>	Expenses incurred in the performance of air transportation based on overall operating revenues and overall operating expenses. Does not include nonoperating income and expenses, nonrecurring items, or income taxes.
<b>OPERATING REVENUES:</b>	Revenues from the performance of air transportation and transport related incidental services. Includes (1) transport revenues from the carriage of all classes of traffic in scheduled and nonscheduled services and (2) nontransport revenues consisting of Federal subsidy (where applicable) and revenues for services related to air transportation.
<b>OTHER TRANSPORT-RELATED REVENUES:</b>	Revenues from services such as in-flight sales, rentals and sales of services, supplies and parts.
<b>PASSENGER-MILE:</b>	One passenger transported one mile. Total passenger-miles are computed by summation of the products of the aircraft miles flown on each inter-airport flight stage multiplied by the number of passengers carried on that flight stage.
<b>PASSENGER REVENUES:</b>	Revenues from the transportation of passengers by air.

REVENUE:	Pertaining to transport activities for which remuneration is received by the carrier.
REVENUE PASSENGER:	Person receiving air transportation from an air carrier for which remuneration is received by the carrier. Air carrier employees or others, except ministers of religion, elderly individuals and handicapped individuals, receiving air transportation against whom reduced rate charges (less than the applicable tariff) charges are levied are considered nonrevenue passengers. Infants for whom a token fare is charged are not counted as passengers.
REVENUE PASSENGER ENPLANEMENTS:	The total number of passengers boarding aircraft. Includes both originating and connecting passengers.
REVENUE PASSENGER LOAD FACTOR:	The percent that revenue passenger-miles are of available seat-miles in revenue passenger services, representing the proportion of aircraft seating capacity that is actually sold and utilized.
REVENUE PASSENGER-MILE:	One revenue passenger transported one mile in revenue service. Revenue passenger-miles are computed by summation of the products of the revenue aircraft-miles flown on a flight stage, multiplied by the number of revenue passengers carried on that flight stage.
REVENUE PASSENGER TON-MILE:	One ton of revenue passenger weight (including all baggage) transported one mile. The passenger weight standard for both "Domestic" and "International" operations is 200 pounds.
REVENUE TON-MILE:	One ton of revenue traffic transported one mile.
REVENUE TON-MILE OF FREIGHT:	One short ton of freight transported one mile. Ton-miles are computed by summation of the products of the aircraft miles flown on each inter-airport flight stage multiplied by the number of tons carried on that flight stage.
SCHEDULED SERVICE:	Transport service operated pursuant to published flight schedules, including extra sections and related nonrevenue flights.
SERIOUS INJURY:	An injury which: <ul style="list-style-type: none"><li>• requires hospitalization for more than 48 hours, commencing within seven days from the date when the injury was received;</li><li>• results in a fracture of any bone (except simple fractures of fingers, toes or nose);</li><li>• involves lacerations which cause severe hemorrhages, nerve, muscle, or tendon damage;</li><li>• involves injury to any internal organ; or</li><li>• involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.</li></ul>
TRANSPORT-RELATED EXPENSES:	Expenses from services related to air transportation such as in-flight sales of liquor, food and other items; ground, restaurant and food services, rental expense as lessor, interchange sales, general service sales, mutual aid, substitute service and air cargo service (other than actual air movement).



TRANSPORT-RELATED REVENUES:	Revenues from the transportation by air of all classes of traffic in scheduled and nonscheduled services.
U.S. FLAG CARRIER OR AMERICAN FLAG CARRIER:	One of a class of air carriers holding a Certificate of Public Convenience and Necessity issued by the DOT, approved by the President, authorizing scheduled operations over specified routes between the U.S. (and/or its territories) and one or more foreign countries.
14 CFR 121:	Revenue operations of air carriers, commercial operators and deregulated all cargo carriers, using large aircraft.
14 CFR 135:	Commuter air carriers (scheduled) and on-demand air taxi operators (unscheduled) revenue operations, using small aircraft.

## GENERAL AVIATION

ACTIVE AIRCRAFT:	All legally registered civil aircraft which flew one or more hours.
AERIAL APPLICATION FLYING:	The operation of aircraft for the purpose of dispensing any substance for plant nourishment soil treatment, propagation of plant life pest control, or fire control, including flying to and from the application site.
AERIAL OBSERVATION FLYING:	Any use of an aircraft for aerial mapping and photography, survey, patrol, fish spotting, search and rescue, hunting, highway traffic advisory, or sightseeing, not included under Part 135.
AVIATION GASOLINE (AVGAS):	All special grades of gasoline for use in aviation reciprocating engines, as given in American Society of Testing Materials (ASTM) Specification MIL-G5572. Excludes blending components, that will be used in blending or compounding into finished aviation gasoline.
BUSINESS FLYING:	Individual use of an aircraft not for compensation or hire by individuals for the purpose of transportation required by businesses in which they are engaged.
CORPORATE FLYING:	The use of aircraft owned or leased, and operated by a corporate or business firm for the transportation of personnel or cargo in furtherance of the corporation's or firm's business, and which are flown by compensation for piloting.
DEMAND AIR TAXI:	Use of an aircraft operating under Federal Aviation Regulations, Part 135, passenger and cargo operations, including charter and excluding commuter air carrier.

**GENERAL AVIATION:** (1) That portion of civil aviation that encompasses all facets of aviation except those air carriers holding a Certificate of Public Convenience and Necessity. (2) All civil aviation activity except that of air carriers certificated in accordance with Federal Aviation Regulations (FAR) Parts 121, 123, 127, and 135. The types of aircraft used in general aviation activities cover a wide spectrum from corporate multi-engine jet aircraft piloted by professional crews to amateur - built single engine piston acrobatic planes, balloons, and dirigibles. (3) All civil aviation operation other than scheduled air services and nonscheduled air transport operations for taxis, commuter air carriers and air travel clubs which do not hold Certificates of Public Convenience and Necessity .

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

**OTHER WORK:** Construction work (not FAR Part 135), helicopter hoist, parachuting, aerial advertising, and towing gliders.

**OTHER:** Experimentation, R&D, testing, government demonstration, air shows, and air racing.

**PERSONAL FLYING:** Flying by individuals in their own or rented aircraft for pleasure, or personal transportation not in furtherance of their occupation or company business. This category included practice flying (for the purpose of increasing or maintaining proficiency) not performed under supervision of an accredited instructor, and not part of an approved flight training program.

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

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## HIGHWAY

**ARTERIAL:** A major highway, primarily for through traffic, usually on a continuous route.

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

**HIGHWAY TRUST FUND:** This is a grant-in-aid type fund administered by the FHWA. That is, most funds for highway improvements are apportioned to States in accordance with formulas that give weight to population, area and mileage.

**INTERSTATE:** (1) Travel between two or more states. (2) Limited access divided facility of at least four lanes designated by the Federal Highway Administration as part of the Interstate System.

**LOCAL STREETS AND ROADS:** Streets whose primary purpose is feeding higher order systems, providing direct access with little or no through traffic.

MINOR ARTERIALS:	Streets and highways linking cities and larger towns in rural areas in distributing trips to small geographic areas in urban areas (not penetrating identifiable neighborhoods).
OTHER PRINCIPAL ARTERIAL:	Major streets or highways, many with multi-lane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel.
ROADWAY:	That part of a trafficway used for motor vehicle travel.
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.
TRAFFICWAY:	Any right-of-way open to the public as a matter of right or custom for moving persons or property from one place to another, including the entire width between property lines or other boundaries.
URBAN 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; i.e., local city streets, roads, and public ways not under State control within such places.
PEDALCYCLIST:	A person on a vehicle that is powered solely by pedals.

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## AUTOMOBILE

ACCIDENT:	An occurrence involving a commercial motor vehicle operating on a public road which results in a fatality; bodily injury to persons, who as a result of the injury, immediately receives medical treatment away from the scene of the accident; or, one or more motor vehicles incurring disabling damage as a result of the accident, requiring the vehicle to be transported away from the scene by a tow truck or other vehicle.
COMPACT CAR:	An automobile industry designation usually consisting of cars with a wheelbase between 100 and 104 inches.
FATAL MOTOR VEHICLE TRAFFIC CRASH:	A police reported crash that involves a motor vehicle in transport on a trafficway and in which at least one person dies within 30 days of the crash.
FULL-SIZE CAR:	An automobile industry designation usually consisting of cars with a wheelbase between 110 and 114 inches.
INTERMEDIATE CAR:	An automobile industry designation usually consisting of cars with a wheelbase between 105 and 109 inches.
LARGE-SIZE CAR:	An automobile industry designation usually consisting of cars with a wheelbase of greater than 114 inches.
LOCAL RURAL ROADS:	Streets outside urban boundaries other than principal arteries of travel.

MAIN RURAL ROADS:	Streets outside urban boundaries that are generally recognized as principal arteries of travel.
MINI-SUBCOMPACT CAR:	An automobile industry designation usually consisting of cars with a wheelbase of less than 95 inches.
MOTORCYCLE:	All two- or three-wheeled motorized vehicles. Typical vehicles in this category have saddle type seats and are steered by handle bars rather than a wheel. This category includes motorcycles, motor scooters, mopeds, motor powered bicycles, and three wheeled motorcycles.
MULTIPURPOSE PASSENGER VEHICLE:	A motor vehicle with motive power, except a trailer, designed to carry 10 persons or less which is constructed either on a truck chassis or with special features for occasional off-road operation.
NONOCCUPANT:	Any person who is not an occupant of a motor vehicle (e.g., pedestrians, pedalcyclists) or who is an occupant of a motor vehicle that is not in transport.
OCCUPANT:	Any person who is in or upon a motor vehicle in transport. Includes the driver, passengers, and persons riding on the exterior of a motor vehicle (e.g., a skateboard rider who is set in motion by holding onto a vehicle).
PASSENGER:	Any occupant of a motor vehicle who is not a driver.
PASSENGER CAR:	(1) A unit of rolling equipment intended to provide transportation for members of the general public and includes self-propelled cars designed to carry baggage, mail, express and passengers. (2) A motor vehicle with motive power, except a multipurpose passenger vehicle, motorcycle, or trailer, designed for carrying 10 persons or less. (3) All sedans, coupes, and station wagons for the purpose of carrying passengers and including those passenger cars pulling recreational or other light trailers. (4) Any motor vehicle that is a convertible; 2-door sedan or hardtop; a 3- or 5-door hatchback coupe; an automobile with pickup body; or station wagon.
PASSENGER-MILES:	This figure represents the total distance traveled by all passengers in passenger cars and taxis. One passenger traveling one mile generates one passenger-mile.
PEDESTRIAN:	Any person not in or upon a motor vehicle or other vehicle.
SUBCOMPACT CAR:	An automobile industry designation usually consisting of cars with a wheelbase between 95 and 99.
URBAN HIGHWAY:	Any road or street within the boundaries of an urban area. An urban area is an area including and adjacent to a municipality or urban place with 5,000 or more population. The boundaries of urban areas are fixed by the state highway departments, subject to the approval of the Federal Highway Administration, for purposes of the Federal-Aid highway program.
VEHICLE-MILES:	Vehicle-miles are the miles of travel by all types of motor vehicles as determined by the states on the basis of actual traffic counts and established estimating procedures.

## Bus

AVERAGE PASSENGER TRIP LENGTH:	Calculated by dividing revenue passenger-miles by the number of revenue passengers.
COMMERCIAL BUS:	Any bus used to carry passengers at rates specified in tariffs; charges may be computed per passenger (as in regular route service) or per vehicle (as in charter service).
INTERCITY BUS-CLASS I:	An interstate motor carrier of passengers with an average annual gross revenue of at least \$1,000,000 is defined by the ICC as a Class I carrier.
INTERCITY BUS-TOTAL:	This figure includes Class I, II, and III interstate carriers, all of which report to the Interstate Commerce Commission, and intrastate carriers.
REVENUE PASSENGERS:	Passengers on a commercial bus by or for whom a fare is paid.
REVENUE PASSENGER-MILES:	One revenue passenger carried one mile generates one passenger-mile. The revenue passenger-miles reported thus represent the total distance traveled by all bus passengers.
SCHOOL BUS:	A passenger motor vehicle which is designed or used to carry more than 10 passengers in addition to the driver, and which the Secretary of Transportation determines is likely to be significantly used for the purpose of transporting pre-primary, primary, or secondary school students to such schools from home or from such schools to home.
SCHOOL BUS - RELATED CRASH:	Any crash in which a vehicle, regardless of body design, used as a school bus is directly or indirectly involved, such as a crash involving school children alighting from a vehicle.
VEHICLE-MILE:	One vehicle traveling the distance of one mile. Thus, total vehicle-miles is the total mileage traveled by all vehicles.

## Truck

AVERAGE LENGTH OF HAUL (MILES):	The average distance in miles one ton is carried. Computed by dividing total ton-miles by tons of freight originated.
COMBINATION TRUCKS:	A tractor not pulling a trailer; a tractor pulling at least one full or semi-trailer; or a single-unit truck pulling at least one trailer.
GROSS VEHICLE WEIGHT (GVW):	The maximum rated capacity of a vehicle including the weight of the base vehicle, all added equipment, driver and passengers, and all cargo loaded into or on the vehicle. Actual weight may be less than or greater than GVWR.

**ICC-REGULATED**

**CARRIER:** A for-hire motor carrier engaged in interstate or foreign commerce, subject to economic regulation by the Interstate Commerce Commission.

**LARGE TRUCK:**

Trucks over 10,000 lbs gross vehicle weight rating (GVWR), including single-unit trucks, tractor trailer combinations, truck with cargo trailer(s), and truck-tractors pulling no trailer (buses, motor homes, and farm and construction equipment other than trucks are excluded)

**LIGHT TRUCK:**

Trucks of 10,000 pounds gross vehicle weight rating (GVWR) or less, including pickups, vans, truck-based station wagons, and utility vehicles.

**NON-ICC REGULATED**

**CARRIER:** A for-hire motor carrier transporting commodities or conducting operations not subject to economic regulation by the Interstate Commerce Commission.

**OCCUPANT:**

Any person who is in or upon a motor vehicle in transport. Includes the driver, passengers and persons riding on the exterior of a motor vehicle (e.g., a skateboard rider set in motion by holding onto a vehicle).

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

**OPERATING REVENUES OF CLASS I INTERCITY MOTOR CARRIERS:**

This term is defined by the ICC to include the five categories of revenue listed in the text.

**REVENUE:**

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

**SINGLE-UNIT TRUCK:**

A large truck in which the engine, cab, drive train, and cargo area are all one chassis.

**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).

**TON-MILES:**

The movement of one ton of freight the distance of one mile. Ton-miles are computed by multiplying the weight in tons of each shipment transported by the distance hauled.

**VEHICLE-MILES:**

The miles of travel by all types of motor vehicles, as determined by the State highway departments on the basis of actual traffic counts and established estimating procedures.

**TRANSIT**

**COMMUTER RAIL:**

Urban passenger train service for short distance travel between a central city and adjacent suburb. Does not include rapid rail transit or light rail service.

**DEMAND RESPONSE VEHICLE:**

A non-fixed-route vehicle with a lighting at pre-arranged times at any location within the system's service area.

FERRY BOAT:	A vessel which is limited in its use to the carriage of deck passengers or vehicles or both, operates on a short run on a frequent schedule between two points over the most direct water routes, other than in ocean or coastwise service, and is offered as a public service of a type normally attributed to a bridge or tunnel.
HEAVY RAIL:	An electric railway with the capacity for a "heavy volume" of traffic and characterized by exclusive rights-of-way, multi car trains, high speed and rapid acceleration, sophisticated signaling, and high platform loading. Also known as "subway," "elevated (railway)," or "metropolitan railway (metro)."
LIGHT RAIL:	A streetcar type vehicle operated on city streets, semi-exclusive rights of way, or exclusive rights of way. Service may be provided by step entry vehicles or by level boarding.
MOTOR BUS:	Rubber-tired, self-propelled, manually steered bus with fuel supply onboard the vehicle. Motor bus types include: intercity, school, and transit.
OTHER REVENUE VEHICLES:	Other modes of transit service such as cable cars, personal rapid transit systems of varying designs, monorail vehicles, inclined railway cars, etc., not covered otherwise.
OPERATING EXPENSES:	The total of all expenses associated with operation of an individual mode by a given operator. At the required level, total operating expense is reported on line 14 of Form 301 for a single mode system, and is derived from Form 310 for a multimodal system. Operating expenses include distributions of "joint expenses" to individual modes, and exclude "reconciling items" such as interest expenses and depreciation. Do not confuse with 'vehicle operations expense.'
OPERATING REVENUE:	Includes passenger revenue and revenue from charter and contract services.
PASSENGER-MILE:	The total number of miles traveled by transit passengers (e.g., one bus traveling 3 miles while carrying 5 passengers results in 15 passenger miles).
PASSENGER REVENUE:	Money, including fares and transfer, zone, and park-and-ride parking charges, paid by transit passengers; also known as "farebox revenue." Prior to 1984, data does not include fare revenues collected by contractors operating transit service.
RAIL RAPID TRANSIT:	Transit service using rail cars driven by electricity usually drawn from a third rail, configured for passenger traffic and usually operated on exclusive rights-of-way. It generally uses longer trains and has longer station spacing than light rail.
REVENUE PASSENGERS:	Single-vehicle transit rides by initial-board (first-ride) transit passengers only; excludes all transfer rides and all nonrevenue rides.
REVENUE VEHICLE-MILES:	One vehicle (bus, trolley bus, streetcar, etc.) traveling one mile while revenue passengers are on board generates one revenue vehicle-mile. The revenue vehicle-miles reported thus represent the total mileage traveled by vehicles in scheduled or unscheduled revenue-producing services.
STREETCARS:	Relatively lightweight passenger rail cars operating singly or in short trains or fixed rails in right-of-way that is not always separated from other traffic for much of the way. Streetcars do not necessarily have the right-of-way at grade crossings with other traffic.

<b>TROLLEY BUS:</b>	Rubber-tired electric transit vehicle, manually steered, propelled by a motor drawing current, normally through overhead wires, from a central power source not on board the vehicle.
<b>UNLINKED PASSENGER TRIPS:</b>	The number of passengers who board public transportation vehicles. A passenger is counted each time he/she boards a vehicle even though he/she may be on the same journey from origin to destination.
<b>VANPOOL:</b>	Public sponsored commuter service operating under prearranged schedules for previously formed groups of riders in 8- to 18 seat vehicles. Drivers are also commuters who receive little or no compensation besides the free ride.
<b>VEHICLE MAINTENANCE:</b>	All activities associated with revenue and nonrevenue (service) vehicle maintenance, including administration, inspection and maintenance, and servicing (cleaning, fueling, etc.) vehicles. In addition it includes repairs due to vandalism, and accident repairs of revenue vehicles.
<b>VEHICLE-MILES:</b>	The total number of miles traveled by transit vehicles. Commuter rail, heavy rail, and light rail report individual car-miles rather than train-miles for vehicle-miles.
<b>VEHICLE OPERATIONS</b>	All activities associated with transportation administration including revenue vehicle movement control, scheduling, ticketing and fare collection, system security and revenue vehicle operation.

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## WATER TRANSPORT

<b>BULK CARRIER:</b>	A ship designed with specialized holds for carrying dry or liquid commodities, in unpackaged bulk form, such as oil, grain, ore, and coal. Bulk carriers may be designed to carry a single bulk product (crude oil tanker), or accommodate several bulk product types (ore/bulk/oil carrier) on the same voyage or on a subsequent voyage after its holds are cleaned.
<b>BUNKER C/NUMBER 6 FUEL OIL:</b>	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.
<b>CASUALTY:</b>	Casualties involving commercial vessels are required to be reported to the Coast Guard whenever the casualty results in: <ul style="list-style-type: none"><li>• actual physical damage to property in excess of \$25,000;</li><li>• material damage affecting the seaworthiness or efficiency of a vessel;</li><li>• stranding or grounding;</li><li>• loss of life; or</li><li>• injury causing any person to remain incapacitated for a period in excess of 72 hours, except injury to harbor workers not resulting in death and not resulting from vessel casualty or vessel equipment casualty.</li></ul>



**CLASS A CARRIERS BY  
INLAND AND COASTAL  
WATERWAYS:**

A Class A carrier by water is one with an average annual operation revenue that exceeds \$500,000.

**CLASS B CARRIERS BY  
INLAND AND COASTAL  
WATERWAYS:**

A Class B carrier by water is one with an average annual operating revenue greater than \$100,000 but less than \$500,000.

**COASTWISE TRAFFIC:**

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

**DEADWEIGHT  
TONNAGE:**

The carrying capacity of a vessel in long tons (2,240 pounds). It is the difference between the light ship weight and the displacement loaded.

**DOMESTIC FREIGHT:**

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

**DOMESTIC PASSENGER:**

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

**DRY CARGO BARGES:**

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

**EXPORTS:**

Outbound international freight including re-export of foreign merchandise; or shipments of goods from the 50 states and the District of Columbia to foreign countries and to Puerto Rico, the Virgin Islands and other U.S. possessions and territories.

**FATALITY:**

All deaths and missing persons resulting from a vessel casualty.

**FREIGHTERS:**

General cargo carriers, full containerships, partial containerships, roll-on/roll-off (Ro-Ro) ships, and barge carriers.

**IMPORTS:**

Receipts of goods into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**INJURY:**

All personal injuries resulting from a vessel casualty.

**INLAND AND COASTAL  
WATERWAYS:  
INLAND AND COASTAL  
CHANNELS:**

These terms include the Atlantic Coast Waterways, the Atlantic Intracoastal Waterway, the New York State Barge Canal System, the Gulf Coast Waterways, the Gulf Intracoastal Waterway, the Mississippi River System (including the Illinois Waterway), Pacific Coast Waterways, the Great Lakes, and all other channels (waterways) of the United States, exclusive of Alaska, that are usable for commercial navigation.

**INTERNAL TRAFFIC:**

Includes all local (intraport) traffic and traffic between ports or landings wherein the entire movement takes place on inland waterways. Also termed internal are movements involving carriage on both inland waterways and the water of the Great Lakes, and inland movements that cross short stretches of open water that link inland systems. Also known as Internal Water Transportation.

**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:**

Freight movements within the confines of a port, whether the port has only one or several arms or channel, (except car-ferry and general ferry). The term is also applied to marine products, sand, and gravel taken directly from the Great Lakes.

**MARITIME CARRIERS:**

Carriers which 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.

**NON-VESSEL-CASUALTY-  
RELATED DEATH:**

Death that occurs onboard a commercial vessel but not as a result of a vessel casualty, such as collision, fire, or explosion.

**PASSENGER/  
COMBINATION  
VESSELS:**

Ships with a capacity for 13 or more passengers.

PASSENGER-MILE, INTERCITY:	Moving one passenger one mile on a trip between two cities generates one intercity passenger-mile.
PASSENGER VESSELS:	Domestic passenger service, other than short-haul ferry, is limited. However, two operators offer coastwise and river system cruises with small cruise vessels accommodating about 100 passengers each. One operator provides cruises within the Hawaiian Islands, using a refurbished trans-Atlantic passenger liner. The State of Alaska seasonally operates several large passenger/vehicle ferries between Seattle and points in southeastern Alaska, plus service between points in and around Cook Inlet and Prince William Sound.
SELF-PROPELLED TOWBOAT:	A self-propelled 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.
TANKERS:	An oceangoing ship specially designed to haul liquid bulk cargo in world trade.
TANKSHIP:	Carries liquid cargo in bulk, stowed in cargo tanks within vessel hull. Cargo is pumped aboard by a shore terminal and unloaded using the vessel's installed pumping system. It is one of the largest and newest vessels used in domestic commerce, with sizes ranging from 16,000 to 190,000 deadweight tons. Commonly referred to as "tanker." Approximately 180 are presently in domestic service.
TON-MILE:	Water carriage ton-miles were first compiled and published in calendar year 1962. The distances used are statute miles. Domestic ton-miles are calculated by multiplying the tons of commerce being moved by the number of miles actually moved on the water (e.g. 50 short tons moving 200 miles on a particular waterway would yield 10,000 ton-miles for that waterway). The ton-mile parameter measure the total performance of waterway. Ton-miles are not computed within ports. For coastwise traffic this represents the mileage on the shortest route that safe navigation permits.
TONS OF FREIGHT HAULED:	The figures for tons of freight hauled on domestic waterways include exports and imports.
TUG:	Powered vessel developing not less than 37 KW and designed for the towing of dumb barges, pushed - towed barges, and rafts, but not for the carriage of goods.
VESSEL-CASUALTY- RELATED DEATH:	Death that occurs onboard a commercial vessel as a result of a vessel casualty, such as collision, fire, or explosion.
WATERBORNE TRANSPORTATION:	Transport of freight and/or people by commercial vessels under USCG jurisdiction.

## RECREATIONAL BOATING

ACCIDENT:	Occurrences involving recreational vessels or their equipment are required to be reported whenever they result in 1. a death; 2. a person is injured and requires medical treatment beyond first aid; 3. damage to the vessel and other property damage totaling more than \$200; or 4. a person's disappearing from the vessel
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under circumstances indicating death or injury.

**FATALITY:** All deaths (other than deaths by natural causes) and missing persons resulting from an occurrence that involves a vessel or its equipment.

**INJURY:** All injuries meeting the criteria set forth above, resulting from an occurrence that involves a vessel or its equipment.

## RAILROAD

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

**AVERAGE HAUL:** The average distance, in miles, one ton is carried. It is computed by dividing ton-miles by tons of freight originated.

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

**CAR-MILE:** The movement of a car the distance of one mile. An empty car-mile is a mile run by a freight car without a load; a loaded car-mile is a mile run by a freight car with a load. In the case of intermodal movements, the car-miles generated will be loaded or empty depending on whether the trailers/containers are moved with or without a waybill, respectively.

**CLASS I RAILROAD:** A railroad with an annual gross operating revenue in excess of \$250 million based on 1991 dollars.

**FATALITY:** 1. Death of any person from an injury within 30 days of the accident/incident; or 2. Death of a railroad employee from occupational illness within 365 days after the occupational illness was diagnosed by a physician.

**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.

**INJURY:** 1. Injury to any person other than a railroad employee that requires medical treatment; or 2. Injury to a railroad employee that requires medical treatment or results in restriction of work or motion for one or more workdays, one or more lost workdays, termination of employment, transfer to another job, or loss of consciousness.

**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:** A self-propelled unit of equipment designed for moving other railroad rolling equipment in revenue service including a self-propelled unit designed to carry freight or passenger traffic, or both, and may consist of one or more units operated from single control.

**LOCOMOTIVE-MILE:** The movement of a locomotive unit, under its own power, the distance of one mile.

NONTRESPASSERS:	A person who is lawfully on any part of railroad property that is used in railroad operations or a person who is adjacent to railroad premises when injured as the result of railroad operations.
OPERATING EXPENSE:	Expenses of furnishing transportation service, including maintenance and depreciation of the plant used in the service.
OPERATING REVENUE:	The amount of money that a carrier receives from transportation operations.
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 nonoperating 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:	Revenue from the sale of tickets.
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-HIGHWAY GRADE CROSSING:	A location where one or more railroad tracks cross a public highway, road, or street or a private roadway at grade, including sidewalks and pathways at, or associated with, the crossing.
RAIL-HIGHWAY GRADE-CROSSING ACCIDENT:	Any impact between railroad on-track equipment and an automobile, bus, truck, motorcycle, bicycle, farm vehicle, or pedestrian, at a rail-highway grade crossing.
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.
REVENUE PASSENGERS CARRIED:	Number of one-way trips made by persons holding tickets.
REVENUE PASSENGER-MILE:	One revenue passenger traveling one mile generates one revenue passenger-mile. The revenue passenger-miles reported thus represent the total distance traveled by all railroad passengers.
REVENUE TON-MILES:	Revenue freight traffic measured in ton-miles.
TRAIN ACCIDENT:	Any collision, derailment, fire, explosion, act of God, or other event involving operation of railroad on-track equipment and resulting in reportable damage to track or on-track equipment above an established dollar threshold.
TRAIN-MILE:	The movement of a train a distance of one mile measured by the distance between terminals and/or stations and includes yard switching miles, train switching miles, and work train miles. Yard switching miles may be computed on any reasonable, supportable, and verifiable basis. In the event actual mileage is not computable by other means, yard switching miles may be computed at the rate of 6 mph for the time actually engaged in yard switching service.

**TRESPASSERS:** Any person whose presence on railroad property used in railroad operation is prohibited or unlawful.

## **RAIL RAPID TRANSIT**

**ACCIDENT:** An incident involving a moving vehicle. Includes a vehicle, object, or person (except suicides) or a derailment/left roadway.

**COLLISION WITH VEHICLE:** An incident in which a transit vehicle strikes or is struck by another vehicle. Reports are made if the incident results in a death, injury, or property damage over \$1,000.

**COLLISION WITH OBJECT:** An incident in which a transit vehicle strikes an obstacle other than a vehicle or person (e.g., building, utility pole). Reports are made if the accident results in a death, injury, or property damage over \$1,000.

**COLLISION WITH PEOPLE:** An incident in which a transit vehicle strikes a person. Except where specifically indicated, collisions with people do not include suicide attempts. Reports are made if the incident results in a death, injury, or property damage over \$1,000.

**DERAILMENT/LEFT ROADWAY:** A noncollision incident in which a transit vehicle leaves the rails or road on which it travels. This also includes rollovers. Reports are made for all occurrences.

**FATALITY:** A transit-caused death confirmed within 30 days of a transit incident.

**INCIDENT:** Collisions, derailments, personal casualties, fires, and property damage in excess of \$1,000, associated with transit agency revenue vehicles; all other facilities on the transit property; and service vehicles, maintenance areas and rights-of-way.

**INJURY:** Any physical damage or harm to a person; there are no thresholds, all injuries are reported.

**PASSENGER ACCIDENT:** A passenger-based combination of incidents related only to the use of a transit vehicle. These result from collision with a vehicle, object, or person (except suicides); a derailment/left roadway; personal casualty on vehicle; or personal casualty entering/exiting the vehicle.

**PERSONAL CASUALTY ON VEHICLE:** An incident in which a person is injured on a transit vehicle, but not as a result of a collision, derailment/left roadway, or fire.

**PERSONAL CASUALTY ENTER/EXIT:** An incident in which a person is hurt while getting on or off a transit vehicle (e.g., falls or door incidents), but not as a result of a collision, derailment/left roadway, or fire.

**PERSONAL CASUALTY LIFTS:** An incident in which a person is hurt while using a lift to get on or off a transit vehicle, but not as a result of a collision, derailment/left roadway, or fire.

PERSONAL CASUALTY STATION/STOP:	An incident in which a person is hurt while using a transit facility. This includes anyone on transit property (e.g., patrons, transit employees, trespassers), but does not include incidents resulting from illness or criminal activity.
PERSONAL CASUALTY ESCALATOR:	An incident in which a person is hurt while using an escalator in a transit facility.
PROPERTY DAMAGE:	The dollar amount required to repair or replace transit property damaged during an incident.

## OIL PIPELINE

AVERAGE LENGTH OF HAUL (miles):	The total number of ton-miles divided by the total number of tons transported.
BARREL (OIL):	A volumetric unit of measure for crude oil and petroleum products equivalent to 42 U.S. standard gallons at 60 degrees Fahrenheit.
COKE:	The residue left by petroleum which has been distilled to dryness.
CRUDE OIL:	A mixture of hydrocarbons that exists in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface-separating facilities.
CRUDE OIL GATHERING LINES:	A network of pipelines transporting crude oil from individual wells to compressor station, processing point, or main trunk pipeline.
CRUDE OIL TRUNK LINES:	One of three types of pipeline network that is used to transport crude oil to the refineries for processing.
DISTILLATE FUEL OIL:	A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on and off highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels and a petroleum distillate which meets the Specifications for No. 1 heating or fuel oil as defined in American Society for Testing and Materials (ASTM) D 396 and/or the Specifications for No. 1 diesel fuel as defined in ASTM Specification D 975.
FERC-REGULATED PIPELINE:	A pipeline company operating in interstate commerce under a grant of authorization from the Federal Energy Regulatory Commission and subject to economic regulation by the Commission. Such a pipeline company is required to report relevant statistics to the FERC.
LIQUID TRANSMISSION:	<p>Pipelines carrying hazardous material, petroleum and petroleum products in liquid form.</p> <ul style="list-style-type: none"> <li>• Accident - Release of the commodity transported as presented in 49 CFR Section 195.50.</li> <li>• Fatality - Death resulting from the escape of liquid.</li> <li>• Injury - An injury requiring medical treatment other than on-site first aid.</li> </ul>

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.
NONREGULATED 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 Federal Energy Regulatory Commission nor to report to it.
OPEC:	Organization for 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° C to 90% point at 375° C. Included are products known as No. 1 and No. 4 distillate fuel oils and diesel oils.
PETROLEUM:	A generic term applied to oil and oil products in all forms such as crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.
PETROLEUM CONSUMPTION, ELECTRIC UTILITY SECTOR:	Domestic demand for all fuel oils at electric utilities.
PETROLEUM CONSUMPTION, INDUSTRIAL SECTOR:	Domestic demand for petroleum products for use by establishments engaged in processing unfinished materials into another form or product. Excludes industrial space heating.
PETROLEUM CONSUMPTION, "OTHER" SECTOR:	Domestic demand for miscellaneous products and for some agricultural uses.
PETROLEUM CONSUMPTION, RESIDENTIAL AND COMMERCIAL:	Domestic demand for petroleum products by private households and nonmanufacturing establishments. Includes industrial space heating and road paving.
PETROLEUM CONSUMPTION, TRANSPORTATION SECTOR:	Domestic demand for petroleum products for on-highway use, aircraft and vessel bunkering, and railroad use.



PIPELINE:	All parts of an onshore pipeline facility through which oil moves including, but not limited to, line pipe, valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks.
REFINED PRODUCT TRUNK LINES:	One of three types of pipeline network that is used to transport refined petroleum products (i.e., gasoline, kerosene, residual oil, etc.) from the refineries to local distribution centers near large market areas.
RESIDUAL FUEL OIL:	The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations and that conform to American Society for Testing and Materials (ASTM) Specifications D396 and 976. Included are No. 5, a residual fuel oil of medium viscosity; Navy Special, for use in steam-powered vessels in government service and in shore power plants; and No. 6, which includes Bunker C fuel oil and is used for commercial and industrial heating, electricity generation, and to power ships. Imports of residual fuel oil include imported crude oil burned as fuel.

## GAS PIPELINE

GAS, COMBINATION COMPANY:	A company that supplies both gas and some other utilities service (electricity, water, etc). A combination utilities derives at least 5 percent but less than 95 percent of its total sales revenues from gas operations.
GAS, DISTRIBUTION COMPANY:	A company that obtains the major portion of its gas operating revenues from the operation of a retail gas distribution system, and which operates no transmission system other than incidental connections within its own system or the system of another company. A distribution company obtains at least 90 percent of its gas operating revenues from sales to ultimate customers and classifies at least 90 percent of mains (other than service pipe) as distribution.
GAS, INTEGRATED COMPANY:	A company that obtains a significant portion of its gas operating revenues from the operations of both a retail gas distribution system and gas transmission system. An integrated company obtains less than 90 percent but more than 10 percent of its gas operating revenues from either its retail or transmission operations or does not meet the classification of mains established for distribution.
GAS, TRANSMISSION COMPANY:	A company which obtains at least 90 percent of its gas operating revenues from sales for resale and/or transportation of gas for others and/or main line sales to industrial customers and classifies at least 90 percent of mains (other than service pipe) as field and gathering, storage and/or transmission.

<b>GAS TRANSMISSION:</b>	<p>Pipelines transporting natural gas, flammable gas or gas which is toxic or corrosive in transmission or gather operations.</p> <ul style="list-style-type: none"><li>• Accident - 1. An event that involves the release of gas from a pipeline or of liquefied natural gas or gas from an LNG facility resulting in a death, or personal injury necessitating in-patient hospitalization; or estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more; 2. An event that results in an emergency shutdown of an LNG facility; or 3. an event that is significant, in the judgment of the operator, even though it did not meet the criteria of (1.) or (2.).</li><li>• Fatality - Death resulting from the failure or escape of gas.</li><li>• Injury - An injury involving lost time or other than on-site medical treatment.</li></ul>
<b>DISTRIBUTION MAINS:</b>	<p>Generally, mains, services, and equipment that carry or control the supply of gas from the point of local supply to and including the sales meters.</p>
<b>FIELD AND GATHERING PIPELINES:</b>	<p>A network of pipelines (mains) transporting natural gas from the individual wells to a compressor station, processing point, or main trunk pipeline.</p>
<b>LIQUID PETROLEUM GAS (LPG):</b>	<p>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.</p>
<b>MAINS:</b>	<p>A distribution line that serves as a common source of supply for more than one gas service line.</p>
<b>NATURAL GAS:</b>	<p>A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.</p>
<b>LIQUEFIED NATURAL GAS (LNG):</b>	<p>A pipeline facility that is used for liquefying or solidifying natural gas or synthetic gas or transferring, storing or vaporizing liquefied natural gas.</p>
<b>REPRESSURING:</b>	<p>Forcing gas, under pressure, into the oil reservoir in an attempt to increase the recovery of crude oil; also done with water.</p>
<b>TRANSMISSION PIPELINE:</b>	<p>Pipelines (mains) installed for the purpose of transmitting gas from a source or sources of supply to one or more distribution centers, or to one or more large-volume customers, or a pipeline installed to interconnect sources of supply. In typical cases, transmission lines differ from gas mains in that they operate at higher pressures, are longer, and the distance between connections is greater.</p>

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## HAZARDOUS MATERIALS

<b>FATALITY:</b>	<p>Death that was due to a hazardous material.</p>
<b>HAZARDOUS MATERIAL:</b>	<p>A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated.</p>
<b>INCIDENT:</b>	<p>Any unintentional release of hazardous material while in transit or storage.</p>

**MAJOR INJURY:** 1. Injuries requiring hospitalization; 2. Injuries involving second- or third-degree burns; or 3. Injury-related lost time at work of one or more days such as would be caused by inhalation of strong, irritating vapors are classified as major injuries. All other reported injuries are considered minor

## ENERGY

**ASPHALT:** A dark-brown-to-black cement-like material containing bitumens as the predominant constituents, obtained by petroleum processing. The definition includes crude asphalt as well as the following finished products; cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalt.

**AVIATION GASOLINE, FINISHED:** All special grades of gasoline for use in aviation reciprocating engines, as given in American Society for Testing and Materials (ASTM) Specification D910, and Military Specification MIL-G-5572. Excludes blending components that will be used in blending or compounding into finished aviation gasoline.

**BTU—BRITISH THERMAL UNIT:** The amount of energy required to raise the temperature of one pound of water by 1°F at or near 39.1°F and 1 atmosphere of pressure. One BTU is about equal to the heat given off by a blue-tip match.

**ELECTRIC UTILITY:** A corporation, person, agency, authority, or other legal entity or instrumentality, that owns and/or operates facilities within the United States, its territories, or Puerto Rico, for the generation, transmission, distribution, or sale of electricity, primarily for use by the public, and that files forms listed in the Code of Federal Regulations, Title 18, Part 141.

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

**FOSSIL FUELS:** Any naturally occurring organic fuel such as petroleum, coal, and natural gas.

**GASOHOL:** A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol but sometimes methanol) limited to 10 percent by volume of alcohol.

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

**MOTOR GASOLINE,  
FINISHED:**

A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark-ignition engines and conforming to ASTM Specification D439. Included are the following:

**LEADED REGULAR:** A gasoline having an antiknock index  $(R+M)/2$  greater than or equal to 87 and less than or equal to 90 and containing more than 0.05 grams of lead or 0.005 grams of phosphorus per gallon.

**UNLEADED REGULAR:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$  of 87 containing not more than 0.05 grams of lead per gallon and not more than 0.005 grams of phosphorus per gallon.

**LEADED PREMIUM:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$ , greater than 90 and containing more than 0.05 grams of lead per gallon or more than 0.005 grams of phosphorus per gallon.

**UNLEADED PREMIUM:** Motor gasoline having an antiknock index, calculated as  $(R+M)/2$ , greater than 90 containing not more than 0.05 grams of lead per gallon or 0.005 grams of phosphorus per gallon.

**PSI:** Pounds per square inch.

**ROAD OIL:** Any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades from 0, the most liquid, to 5, the most viscous.



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# APPENDIX C

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# INDEX

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motorcycle	97,115,117
pedalcyclist	115
pedestrian	115
pipeline,	
gas	97,138
liquid	97,138
rail rapid transit	97
rail-highway grade crossing	97,133,135
railroad	97,133,134,135
recreational boating	97,130
truck	115
water	97,127,129

**Fatality Rates**

air carrier	104
general aviation	112
highway indices	120,121
motor vehicle	114,120,121
recreational boating	131
truck	119

**Fleets - see Automobiles**

**Freight**

average length of haul, modal breakdown	78
commodity flow	237,241,243,245,246
expenditures, modal breakdown	170
freight revenue per ton-mile, modal breakdown	66
ton-miles,	
modal breakdown	74,241,243,245,246
per capita, per GDP, per GNP	171
tons	171
tons, modal breakdown	241,245

**Freight Forwarders**

revenues, operating	68
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**Fuel - see also Energy**

consumption,	
air carrier	183,184,201
amtrak	206
automobile	183,186,203
bus	183,187,205
domestic consumption	221
general aviation	183,202
modal breakdown	183
motor vehicles	185,221
motorcycle	183,186
pipeline	183
railroad	183,206
school bus	205
transit	183,189
truck	183,188,204
water	183
efficiency,	
automobiles,	192
sales-weighted	149
light trucks, sales-weighted	150
miles, gas utility	213
price, retail	190,191

**Gasoline - see Fuel**

**General Aviation - see also Air Carriers**

accident rate	112
accidents	98,111
aircraft,	
number of	79
shipments	80
energy, intensiveness	202
fatality rate	112
fatalities	97,111,112
fuel,	
consumption	183,202
price, retail	190
hours flown	112
injuries	97,111
passenger-miles	72,202
profile	27,28
vehicle-miles	70

**Gross Domestic Product**

by transportation sector	161
constant dollars	162,170
current dollars	162,171

<b>Gross National Product</b>	
constant dollars	171
<b>Hazardous Materials</b>	
fatalities	97,140
incidents	98,140
injuries	97,140
<b>Heavy Rail - see Transit</b>	
<b>Helicopters</b>	
shipments	80
<b>Highways - see also Automobiles; Buses; Trucks</b>	
emissions, highway vehicles	225,226,227,228,229,230,231
employment (related industries)	164
expenditures,	
capital	172
federal	174
fatality rate indices	120,121
fuel, price, retail	190,191
highway trust fund	174
injury rate indices	121
mileage,	
by surface	87
intercity	76
lane	88,172
profile	29,30,31,32
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surface	87
traffic delay,	
cities	89
urban areas	90
vehicle-miles traveled	88
<b>Injuries</b>	
air	97,106,110
automobile	97,122
general aviation	97,111
hazardous materials	97,140
modal breakdown	97
pipeline,	
gas	97,138
liquid	97,138
rail-highway grade crossing	97,133
railroad	97,133,134
rail rapid transit	97
recreational boating	97,130
water	97,127
<b>Injury Rates</b>	
highway indices	121
recreational boating	131
<b>Inland waterways - see also Water</b>	
length of haul	70
mileage, intercity	76
revenues, freight	66
ton-miles	74
vessels, number of	79
water profile	48,49,50,51

**International**

air carrier arrivals .....85  
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**Light Rail - see Transit**

**Locomotives - see Amtrak; Railroads**

**Motor Carriers of Property - see Trucks**

**Motor Vehicles - see also Automobiles; Buses; Motorcycles; School Buses; Trucks**

accidents, .....98,117  
     by posted speed limit .....119  
 alcohol-related fatalities .....125  
 drivers, licensed .....114  
 fatalities .....97,114,115  
 fatality rates .....114,120  
 fuel consumption .....185  
 injuries .....97  
 injury rates, highway indices .....121  
 production,U.S. and international .....147  
 registrations .....114  
 sales, factory .....147  
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**Motorcycles**

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 automobile profile .....33,34,35,36  
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 energy, intensiveness .....203  
 fatalities .....115  
 fuel, consumption .....183,186,203  
 passenger-miles .....72,203  
 pollution control, expenditures .....234  
 registrations .....114  
 vehicle-miles .....70,203  
 vehicles,  
     number of .....79  
     purchased .....80

**Natural Gas - see Energy; Pipeline**

**Oil - see Energy; Pipeline; Petroleum and Petroleum Products**

**Passenger-miles - see also this heading under individual modes**

modal breakdown .....72  
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**Passengers**

denied boarding at airports .....84  
 enplanements .....82,83  
 expenditures, modal breakdown .....170  
 fares, modal breakdown .....67  
 length of haul, modal breakdown .....78  
 passenger revenue per passenger-mile, modal breakdown .....65  
 screening at airports .....108

<b>Pedalcyclists - see also Bicycles</b>	
fatalities .....	115
<b>Pedestrians</b>	
fatalities .....	115
<b>Petroleum and Petroleum Products</b>	
consumption .....	196,219,220
production .....	196
spills .....	215
transportation .....	211,212
<b>Pipeline</b>	
accidents .....	98,138
employment .....	163
expenditures,	
freight .....	170
federal .....	174
fatalities .....	97,138
fuel, consumption .....	183
Gross Domestic Product .....	161
injuries .....	97,138
length of haul .....	78
mileage,	
gas utility .....	213
intercity .....	76
natural gas profile .....	57,58,59
oil profile .....	55,56
pipeline safety fund .....	174
productivity, output per hour .....	169
revenues,	
freight .....	66
operating .....	68
ton-miles .....	74
transportation,	
crude oil .....	211
crude petroleum and petroleum products .....	212
petroleum, refined .....	211
wages and salaries .....	165,167
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<b>Ports</b> .....	92
<b>Price</b>	
transportation fuel, retail .....	190
trend of gasoline vs. other consumer goods .....	191
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<b>Producer Price Index</b>	
revenues, freight .....	66

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accident rate	135
accidents	98,134,135
emissions	225,226,228,229
employment	163
energy, intensiveness	206
expenditures,	
capital and maintenance, roadway and structures	173
federal	174
freight	170
passenger	170
personal consumption	157
fatalities	97,133,134,135
fuel,	
consumption	183,206
efficiency	150
price, retail	190
Gross Domestic Product	161
highway grade crossing	
accidents	98,133,135
fatalities	98,133,135
injuries	97,133
injuries	97,133,134
length of haul	78
mileage, intercity	76
passenger-miles	72
productivity, output per hour	169
profile	52,53,54
revenues,	
freight	66
operating	68
ton-miles	74,206
transportation,	
crude oil	211
crude petroleum and petroleum products	212
petroleum, refined	211
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car	70
train	70,135
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number of, freight cars/locomotives	79
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accident rates	131
accidents,	98,130
property damage	132
emissions	225
fatalities	97,130
fatality rates	131
injuries	97,130
injury rates	131
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shipments	80
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operating, modal breakdown .....	.68
passenger revenue per passenger-mile, modal breakdown .....	.65
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energy, intensiveness .....	.205
expenditures, passenger .....	.170
fuel, consumption .....	.205
passenger-miles .....	.72,205
vehicle-miles .....	.70,205
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number of .....	.79
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 <b>Speed</b>	
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speed, in knots .....	.214
weight .....	.214
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fleets .....	.87
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employment .....	.163
energy,	
consumption .....	.189
intensiveness .....	.205
expenditures,	
passenger .....	.170
personal consumption .....	.157
fares, passenger .....	.67
fatalities, rail rapid transit .....	.97
fuel, consumption .....	.183,189,205
Gross Domestic Product .....	.161
highway trust fund transit account .....	.174
injuries, rail rapid transit .....	.97
passenger-miles .....	.72,205
profile .....	.44,45,46,47
revenues, operating .....	.68
vehicle-miles .....	.70,205
vehicles,	
delivered .....	.80
number of .....	.79
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length of haul .....	.78
passenger-miles .....	.72,204
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registrations .....	.114,188
revenues,	
freight .....	.66
operating .....	.68
sales,	
market shares .....	.150
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ton-miles .....	.74
transportation,	
crude oil .....	.211
crude petroleum and petroleum products .....	.212
petroleum, refined .....	.211
vehicle-miles .....	.70,188,204
vehicles,	
number of .....	.79
purchased .....	.80
wages and salaries .....	.165,167

<b>Vehicle-miles - see also this heading under individual modes</b>	
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motor vehicle	114,185
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employment	163
expenditures,	
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freight	170
passenger	170
fatalities	97,127,129
fuel, consumption	183
Gross Domestic Product	161
injuries	97,127
length of haul	78
port calls	92
profile	48,49,50,51
receipts, federal	174
revenues,	
freight	66
operating	68
ton-miles	74
transportation,	
crude oil	211
crude petroleum and petroleum products	212
petroleum, refined	211
vessels,	
emissions	226,228,229
number of	79
purchased	80
wages and salaries	165,167



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# **APPENDIX D**

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## METRIC/ENGLISH CONVERSION FACTORS

### ENGLISH TO METRIC

#### LENGTH (APPROXIMATE)

1 inch (in) = 2.5 centimeters (cm)  
 1 foot (ft) = 30 centimeters (cm)  
 1 yard (yd) = 0.9 meter (m)  
 1 mile (mi) = 1.6 kilometers (km)

#### AREA (APPROXIMATE)

1 square inch (sq in, in<sup>2</sup>) = 6.5 square centimeters (cm<sup>2</sup>)  
 1 square foot (sq ft, ft<sup>2</sup>) = 0.09 square meter (m<sup>2</sup>)  
 1 square yard (sq yd, yd<sup>2</sup>) = 0.8 square meter (m<sup>2</sup>)  
 1 square mile (sq mi, mi<sup>2</sup>) = 2.6 square kilometers (km<sup>2</sup>)  
 1 acre = 0.4 hectare (ha) = 4,000 square meters (m<sup>2</sup>)

#### MASS - WEIGHT (APPROXIMATE)

1 ounce (oz) = 28 grams (gm)  
 1 pound (lb) = .45 kilogram (kg)  
 1 short ton = 2,000 pounds (lb) = 0.9 tonne (t)

#### VOLUME (APPROXIMATE)

1 teaspoon (tsp) = 5 milliliters (ml)  
 1 tablespoon (tbsp) = 15 milliliters (ml)  
 1 fluid ounce (fl oz) = 30 milliliters (ml)  
 1 cup (c) = 0.24 liter (l)  
 1 pint (pt) = 0.47 liter (l)  
 1 quart (qt) = 0.96 liter (l)  
 1 gallon (gal) = 3.8 liters (l)  
 1 cubic foot (cu ft, ft<sup>3</sup>) = 0.03 cubic meter (m<sup>3</sup>)  
 1 cubic yard (cu yd, yd<sup>3</sup>) = 0.76 cubic meter (m<sup>3</sup>)

#### TEMPERATURE (EXACT)

$$[(x - 32)/(5/9)]^{\circ}\text{F} = y^{\circ}\text{C}$$

### METRIC TO ENGLISH

#### LENGTH (APPROXIMATE)

1 millimeter (mm) = 0.04 inch (in)  
 1 centimeter (cm) = 0.4 inch (in)  
 1 meter (m) = 3.3 feet (ft)  
 1 meter (m) = 1.1 yards (yd)  
 1 kilometer (km) = 0.6 mile (mi)

#### AREA (APPROXIMATE)

1 square centimeter (cm<sup>2</sup>) = 0.16 square inch (sq in, in<sup>2</sup>)  
 1 square meter (m<sup>2</sup>) = 1.2 square yards (sq yd, yd<sup>2</sup>)  
 1 square kilometer (km<sup>2</sup>) = 0.4 square mile (sq mi, mi<sup>2</sup>)  
 10,000 square meters (m<sup>2</sup>) = 1 hectare (ha) = 2.5 acres

#### MASS - WEIGHT (APPROXIMATE)

1 gram (gm) = 0.036 ounce (oz)  
 1 kilogram (kg) = 2.2 pounds (lb)  
 1 tonne (t) = 1,000 kilograms (kg) = 1.1 short tons

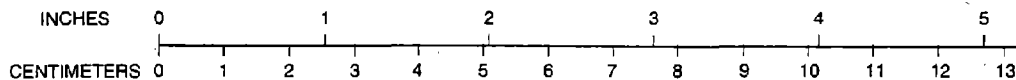
#### VOLUME (APPROXIMATE)

1 milliliter (ml) = 0.03 fluid ounce (fl oz)  
 1 liter (l) = 2.1 pints (pt)  
 1 liter (l) = 1.06 quarts (qt)  
 1 liter (l) = 0.26 gallon (gal)  
 1 cubic meter (m<sup>3</sup>) = 36 cubic feet (cu ft, ft<sup>3</sup>)  
 1 cubic meter (m<sup>3</sup>) = 1.3 cubic yards (cu yd, yd<sup>3</sup>)

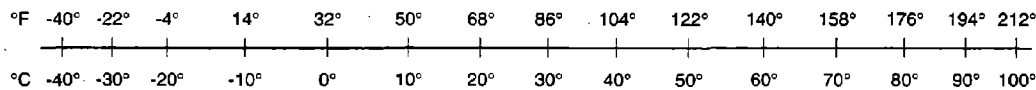
#### TEMPERATURE (EXACT)

$$[(9/5)(y + 32)]^{\circ}\text{C} = x^{\circ}\text{F}$$

### QUICK INCH-CENTIMETER LENGTH CONVERSION



### QUICK FAHRENHEIT-CELSIUS TEMPERATURE CONVERSION



For more exact and or other conversion factors, see NIST Miscellaneous Publication 286, Units of Weights and Measures. Price \$2.50. SD Catalog No. C13 10286.

Updated 9/29/95



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