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Pocket Guide to Transportation

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America's transportation system has changed along with the nation's society and economy. The following table puts those changes in perspective:

Characteristic	1970	1998
Resident population (thous.)	203,984	270,299
Total area (thous. sq. mi.)	3,619	[a]3,718 (1990)
Total civilian labor force (thous.)	82,771	137,673
Gross Domestic Product[b]	$3.4 trillion	$7.6 trillion
Median household income[b]	$29,600	34,500 (1997)
Average household expenditures[b]	N	31,100 (1997)
Number of households (thous.)	63,401	102,528
Average life expectancy (years)	70.8	76.5 (1997)
Labor force participation by women	46%	60%

[a] 1990 data reflect the inclusion of the Great Lakes, inland water, and coastal water. 1970 data include inland water only. The Census Bureau tabulates area (square miles) data for the decennial census years only.
[b] Converted from current dollars to 1992 chained dollars using implicit deflators constructed from the Bureau of Labor Statistics' Consumer Price Index and the Bureau of Economic Analysis' chained-type price index.
Key: N = data do not exist.
Note: All dollar amounts are 1992 chained dollars.

Sources: U.S. Department of Commerce, Census Bureau, *Statistical Abstract of the United States: 1998* (Washington, DC: 1998); and www. census.gov. U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 1997, unpublished detailed table 1100, Oct. 7, 1998. Centers for Disease Control and Prevention, www.cdc.gov/nchs/fastats/fastats.htm.

The Bureau of Transportation Statistics compiled the data in this guide from multiple sources. The guide is divided into five sections:

1 Transportation System Extent and Use

The U.S. transportation system is an extensive, interrelated network of public and private roads, airports, railroads, transit routes, waterways, terminals, ports, and pipelines. Millions of people and businesses rely on this ever-expanding system to get to work, take vacation trips, conduct business, and ship goods here and abroad. It links regions and connects small and large cities and urban and rural areas.

Table 1
The Transportation Network

Mode	Components
Highway	***Public roads***
(1998)	46,334 miles of Interstate highway
	113,757 miles of other National Highway System roads
	3,760,876 miles of other roads
Air	***Public-use airports***
(1998)	5,352 airports
	Airports serving large certificated carriers
	29 large hubs (77 airports), 442 million enplaned passengers
	31 medium hubs (53 airports), 92 million enplaned passengers
	56 small hubs (73 airports), 38 million enplaned passengers
	584 nonhubs (613 airports), 17 million enplaned passengers
Rail	***Miles of road operated***
(1998)	119,813 miles by Class I freight railroads[a]
	21,356 miles by regional freight railroads
	28,629 miles by local freight railroads
	24,500 miles by Amtrak (passenger, FY98)

Mode	Components	
Urban transit	***Directional route-miles serviced***[b]	
(1997)	Bus: 155,817	
	Trolley bus: 420	
	Commuter rail: 4,417	
	Heavy rail: 1,527	
	Light rail: 659	
	Stations	
	Commuter rail: 864	
	Heavy rail: 997	
	Light rail: 530	
Water	26,000 miles of navigable waterways	
(1997)	276 locks	
	328 miles of ferry service[b]	
	Ports handling more than 10 million tons	
	Great Lakes:	340 terminals 483 berths
	Inland:	1,812 terminals
	Ocean:	1,574 terminals 2,675 berths
Pipeline	***Oil***	
	Crude lines: 114,000 miles of pipe (1996)	
	Product lines: 86,500 miles of pipe (1996)	
	Gas	
	Transmission: 256,500 miles of pipe (1997)	
	Distribution: 955,300 miles of pipe (1997)	

[a] Includes 574 miles of road operated by U.S. Class I freight railroads in Canada.
[b] Directly operated service. Does not include contracted service.

Sources: U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS), *Transportation Statistics Annual Report 1999* (Washington, DC: 1999), table 1-1; USDOT, BTS, *National Transportation Statistics 1999* (Washington DC: 1999), various tables; Association of American Railroads, *Railroad Facts*, 1999 edition (Washington, DC: 1999); and USDOT, Federal Highway Administration, *Highway Statistics 1998* (Washington, DC: 1999).

2 Transportation and Safety

The highest priority of the U.S. Department of Transportation is to promote safety. Although progress has been made in reducing fatalities, transportation remains the leading cause of accidental deaths and injuries in the United States. In 1998, about 95 percent of transportation fatalities and an even higher percentage of injuries occurred on the nation's roadways.

Table 2
Fatalities by Transportation Mode

Mode	1970	1980	1990	1995	1998[P]
Large air carrier	146	1	39	168	1
Commuter air	N	37	7	9	0
On-demand air taxi	N	105	50	52	45
General aviation	1,310	1,239	765	734	621
Highway[a]	52,627	51,091	44,599	41,817	41,171
Railroad[b]	785	584	599	567	577
Transit[c]	N	N	339	274	U
Waterborne					
Vessel casualties	178	206	85	46	31
Nonvessel casualties	420	281	101	137	76
Recreational boating	1,418	1,360	865	829	813
Gas and hazardous liquid pipeline	30	19	9	21	18

[a] Includes occupants, nonoccupants, and motor vehicle fatalities at railroad crossings.

[b] Includes fatalities from nontrain incidents, as well as train incidents and accidents. Also includes train occupants and nonoccupants, except motor vehicle occupants at grade crossings.

[c] Fatalities resulting from all reportable incidents, not just accidents. Includes commuter rail, heavy rail, light rail, motor bus, demand responsive, van pool, and automated guideway.

Key: N = data do not exist or are not cited because of reporting changes; P = preliminary; U = unavailable.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 1999*, BTS99-03 (Washington, DC: 1999), table 4-1.

Table 3
Distribution of Transportation Fatalities: 1997

Category	Number	Percent
Total	**44,381**	**100.0**
Passenger car occupants	22,199	50.0
Light-truck occupants	10,249	23.1
Pedestrians struck by motor vehicles	5,321	12.0
Motorcyclists	2,116	4.8
Recreational boaters	821	1.8
Pedalcyclists struck by motor vehicles	814	1.8
Large-truck occupants	723	1.6
General aviation	660	1.5
Railroads[a]	602	1.4
Other and unknown motor vehicle occupants	420	0.9
Other nonoccupants struck by motor vehicles[b]	153	0.3
Heavy-rail transit	77	0.1
Commuter air	46	0.1
Waterborne transportation	46	0.1
Grade crossings (not involving motor vehicles)	42	0.1
Air taxis	39	0.1
Bus occupants (school, intercity, transit)	18	0.04
Transit buses (not related to accidents)[c]	9	0.02
Gas distribution pipelines	9	0.02
Air carriers	8	0.02
Demand responsive transit (not related to accidents)	5	0.01
Gas transmission pipelines	1	<0.01
Light-rail transit	3	<0.01
Redundant with above:		
Grade crossings, with motor vehicles	419	NA
Transit bus, accident-related	100	NA
Commuter rail	79	NA
Passengers on railroad trains	6	NA
Demand responsive, accident-related	2	NA

[a] Includes fatalities on and outside trains, except at grade crossings.
[b] Excludes pedalcyclists and pedestrians.
[c] Not included under highway submodes.

Key: NA = not applicable.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 1999*, BTS99-03 (Washington, DC: 1999), table 4-2.

Table 4a
Occupants Killed in 2-Vehicle Crashes and Pedestrians/Pedalcyclists Killed in Single-Vehicle Crashes by Vehicle Type and Alcohol Involvement (AI): 1998

Vehicle type	Passenger cars	Light trucks	Large trucks	Buses
Passenger cars	3,804	5,503	2,096	102
(AI)	858	1,233	325	16
Light trucks		1,422	1,187	40
(AI)		368	182	10
Large trucks			105	9
(AI)			4	0
Buses				0
(AI)				0
Motorcycles				
(AI)				
Other/unknown				
(AI)				

Notes: Alcohol involvement pertains to either or both drivers in two-vehicle crashes and in the case of pedestrians or pedalcyclists killed in single-vehicle crashes, either the motor vehicle driver and/or the pedestrian or pedalcyclist. Alcohol results are determined from positive blood alcohol concentration (BAC) tests and police-reported AI.

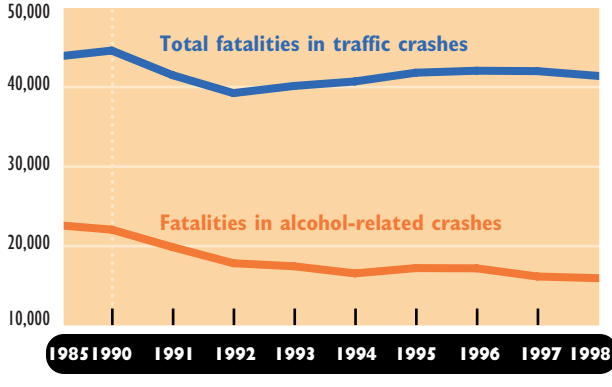
Table 4b
Total Fatalities in Traffic Crashes: 1998

Drivers/occupants killed in 2-vehicle crashes	15,724
Pedestrians killed in single-vehicle crashes	4,795
Pedalcyclists killed in single-vehicle crashes	737
Subtotal	**21,256**
Drivers/occupants killed in single-vehicle crashes	16,671
Drivers/occupants killed in more than two-vehicle crashes	2,964
Pedestrians/pedalcyclists killed in multiple-vehicle crashes	449
Others/unknown	131
Total fatalities	**41,471**

Sources: U.S. Department of Transportation (USDOT), National Highway Traffic Safety Administration (NHTSA), Fatality Analysis Reporting System (FARS) Database; USDOT, NHTSA, *Traffic Safety Facts 1998* (Washington, DC: October 1999).

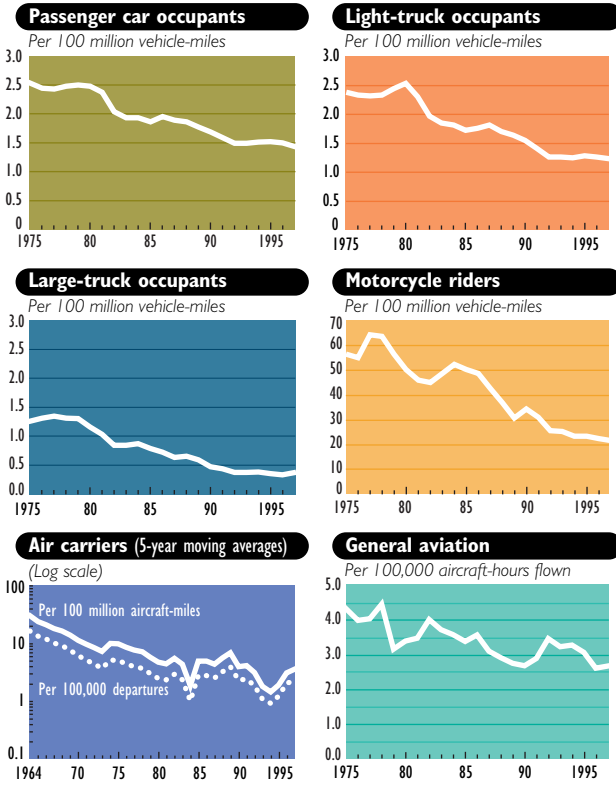
Motorcycles	Other/ unknown	Pedalcyclists	Pedestrians
520	142	356	2,444
172	26	94	879
439	114	268	1,651
145	27	76	628
85	34	55	286
20	5	6	50
8	4	15	78
1	0	1	10
50	13	6	21
19	3	1	9
	47	37	315
	12	6	109

Figure 1
Fatalities in Alcohol-Related Crashes



Source: U.S. Department of Transportation, National Highway Safety Administration, *Traffic Safety Facts 1998* (Washington, DC: October 1999), table 13.

Figure 2
Fatality Rates for Selected Modes



Note: For Part 121 air carriers, a 5-year moving average was used to track fatality rates because of the year-to-year fluctuation in fatalities. The departure data and hence the denominator of the rates are not strictly comparable between pre- and post-1977 eras, but the difference is small.

Sources: For original sources see: U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 1999* (Washington, DC: 1999), figure 4-1.

Table 5
Injuries by Transportation Mode

Mode	1970	1980	1990	1995	1998[P]
Air carrier[a]	107	19	[R]29	25	28
Commuter carrier[a]	N	14	11	25	2
On-demand air taxi[a]	N	43	36	14	11
General aviation[a]	715	[R]681	[R]402	395	332
Highway[b]	N	N	3,231,000	3,465,000	3,192,000
Railroad[c]	17,934	58,696	22,736	12,546	10,156
Transit[d]	N	N	54,556	57,196	U
Waterborne					
Vessel casualties	105	180	175	145	83
Nonvessel casualties	U	U	U	1,916	357
Recreational boating	780	2,650	3,822	4,141	4,613
Gas and liquid pipeline	254	192	76	64	75

[a] Injuries classified as serious. See glossary.
[b] Includes passenger car occupants, motorcyclists, light-duty and large trucks, bus occupants, pedestrians, pedalcyclists, occupants of unknown vehicle types, and other nonmotorists.
[c] Injuries resulting from train accidents, train and nontrain incidents, and occupational illness. Includes Amtrak.
[d] Injuries resulting from all reportable incidents, not just from accidents. Includes commuter rail, heavy rail, light rail, motor bus, demand responsive, van pool, and automated guideway.

Key: N = data do not exist; R = revised; U = unavailable.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999* (Washington, DC: 1999).

3 Mobility

The U.S. transportation network provides a high degree of personal mobility and freight activity. In 1997, the transportation network supported 4.6 trillion passenger-miles and about 4 trillion ton-miles. The data in this section confirm that local and long-distance travel and freight shipments continue to grow. Several factors influence this growth: greater vehicle availability, reduced travel costs, population increases, an expanding economy, and higher consumer incomes.

Table 6
Per Capita Passenger Travel and Freight Transportation

	Number
Passenger travel (1995)	
Local trips per person,[a] annual	1,568
Local trips per person,[a] daily	4.3
Long-distance trips[b] per person, annual	3.9
Local miles per person,[a] annual	14,115
Local miles per person,[a] daily	39
Long-distance miles per person, annual domestic only	3,129
Freight transportation (1997)	
Tons per person, annual	52
Ton-miles per person, annual	14,958

[a] Persons aged 5 and over. [b] Each time a person goes to a destination at least 100 miles away from home and returns.

Notes: Data used for local travel are from the Nationwide Personal Transportation Survey travel-day file and include trips of all lengths made by respondents on a single day; about 95% of these daily trips were 30 miles or less. Per capita calculations are based on population estimates within each survey, not from the Census Bureau estimate reported in the table.

Sources: U.S. Department of Transportation (USDOT), Federal Highway Administration, *Nationwide Personal Transportation Survey, Our Nation's Travel* (Washington, DC: 1997.); U.S. Department of Commerce, Census Bureau, *1997 Commodity Flow Survey: United States Preliminary* (Washington, DC: 1999); USDOT, Bureau of Transportation Statistics (BTS), American Travel Survey data, October 1997, person trip and demographic files; plus additional estimates prepared for the BTS by Oak Ridge National Laboratory.

Table 7

Number of Aircraft, Vehicles, and Vessels

Mode	1970	1980	1990	1995	1997
Air carriers	2,690	2,818	4,727	5,567	7,616
General aviation	125,618	202,487	196,800	182,605	192,400
Passenger cars[a]	89,243,557	121,600,843	133,700,496	128,386,775	129,748,704
Motorcycles	2,824,098	5,693,940	4,259,462	3,897,191	3,826,373
Other 2-axle, 4-tire vehicles	14,210,591	27,875,934	48,274,555	65,738,322	70,224,082
Trucks: Single-unit	3,681,405	4,373,784	4,486,981	5,023,670	5,293,358
Combination	905,082	1,416,869	1,708,895	1,695,751	1,789,968
Buses[b]	377,562	528,789	626,987	685,503	697,548
Passenger rail:					
Amtrak—Cars	N	2,128	1,863	1,722	1,728
Locomotives	N	419	318	313	332
Commuter railcars and locomotives	N	4,500	4,415	4,565	4,943
Transit[c]	10,548	10,654	11,332	11,156	11,471
Class I rail:					
Freight cars	1,423,921	1,168,114	658,902	583,486	568,493
Locomotives	27,077	28,094	18,835	18,812	19,684
Other freight cars	360,260	542,713	553,359	635,441	701,926
Nonself-propelled vessels[d,e]	19,377	31,662	31,209	31,360	33,011
Self-propelled vessels[d,e]	6,455	7,126	8,236	8,281	8,408
Oceangoing ships[e] *(1,000 gross tons and over)*	1,579	864	636	509	477
Recreational boats	7,400,000	8,577,857	10,996,253	11,734,710	12,312,982

[a] In July 1997, the U.S. Department of Transportation, Federal Highway Administration, issued revised data, reassigning some vehicles from "passenger car" to "other 2-axle, 4-tire." [b] Includes municipally owned transit, commercial, federal, and school buses. [c] Includes light and heavy rail. [d] See glossary, page 36. [e] U.S. flag vessels.

Key: N = data do not exist.

Note: Does not include demand responsive, ferry boat, aerial tramway, automated guideway transit, cable car, inclined plane, monorail, and vanpool.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999* (Washington, DC: 1999).

Table 8
Vehicle-Miles
(Millions)

Mode	1970	1980	1990	1995	1997
Air carriers	2,068	2,523	3,963	4,629	4,911
General aviation	3,207	5,204	4,830	3,795	3,877
Passenger cars	917,000	1,112,000	1,408,000	1,438,000	1,502,000
Motorcycles	3,000	10,200	9,600	9,800	10,100
Other 2-axle, 4-tire vehicles[a]	123,000	291,000	575,000	790,000	850,000
Trucks:					
Single-unit	27,100	39,800	51,900	62,700	66,800
Combination	35,100	68,700	94,300	115,500	124,500
Buses[b]	4,500	6,100	5,700	6,400	6,800
Other[3]	N	15	324	543	P670
Rail:					
Transit[d]	441	403	561	572	P599
Commuter	N	179	213	238	P251
Class I freight[e]	29,890	29,277	26,159	30,383	31,660
Intercity/Amtrak[e,f]	690	235	301	292	288

[a] In July 1997, the U.S. Department of Transportation, Federal Highway Administration issued revised vehicle-miles data, reassigning some vehicle-miles from "passenger car" to "other 2-axle, 4-tire."
[b] Includes municipally owned transit, commercial, federal, and school buses.
[c] Includes demand responsive, ferry boat, and other transit not specified; 1980 data include "other transit" only.
[d] Includes light and heavy rail.
[e] Car-miles
[f] Amtrak began operations in 1971.
Key: N = data do not exist; P = preliminary.
Note: The numbers for "Passenger cars" and "Other 2-axle 4-tire vehicles" have been rounded to the nearest billion; the numbers for motorcycles, trucks, and buses have been rounded to the nearest 100 million.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999* (Washington, DC: 1999).

Table 9
Passenger-Miles
(Millions)

Mode	1970	1980	1990	1995	1997
Air carriers	108,400	204,400	345,900	403,900	450,600
General aviation	9,100	14,700	13,000	[R]10,400	12,500
Passenger cars[R]	1,751,000	2,012,000	2,282,000	2,286,000	2,388,000
Motorcycles[a,R]	3,000	12,000	12,000	12,000	12,000
Other 2-axle, 4-tire vehicles[R]	226,000	521,000	1,000,000	1,339,000	1,394,000
Trucks					
Single-unit	27,100	39,800	51,900	62,700	66,800
Combination	35,100	68,700	94,300	115,500	124,500
Buses[b]	N	N	121,400	136,100	144,900
Other[c]	N	390	841	1,140	[P]1,627
Rail:					
Transit[d]	N	10,981	12,071	11,460	[P]13,139
Commuter	4,600	6,500	7,100	8,200	[P]8,000
Intercity/Amtrak[e]	6,200	4,500	6,100	5,500	5,200

[a] In July 1997, the U.S. Department of Transportation, Federal Highway Administration issued revised passenger-miles data, reassigning some vehicles from "passenger car" to "other 2-axle, 4-tire."
[b] Includes municipally owned transit, federal, commercial, and school buses.
[c] Includes demand responsive, ferry boat, and other transit not specified; 1980 data include ferry boat and "other transit" only.
[d] Includes light and heavy rail.
[e] Amtrak began operations in 1971.
Key: N = data do not exist; P = preliminary; R = revised.
Note: The numbers for "Passenger cars" and "Other 2-axle 4-tire vehicles" have been rounded to the nearest billion; the numbers for motorcycles, trucks, and buses have been rounded to the nearest 100 million.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999* (Washington, DC: 1999).

Figure 3
Person-Miles Traveled per Day: 1995
(On average)

49	Per person in households with 2 or more adults, youngest child aged 6–15[a]
48	Per person in households with income over $50,000
47	Persons aged 30–49
46	Per person in rural areas
45	Drivers; per person in households with 2 or more adults, no children[a]
44	Males
41	Whites; per person in households with income between $25,000 and $49,000
39	**U.S average (mean)**
38	Per person in suburban areas
35	Single adult households with youngest child under age 6[a]
34	Females; Hispanics
31	Blacks
29	Per person in households with income under $25,000; Asians
27	Per person in urban areas
25	Persons aged 65 and older; persons aged 5–15
22	Nondrivers
17	Persons aged 75 and over

[a] Per adult 20 years of age or older.
Note: Some numbers may not differ statistically.

Source: U.S. Department of Transportation, Federal Highway Administration, *Nationwide Personal Transportation Survey, Our Nation's Travel* (Washington, DC: 1997).

Figure 4
Long-Distance Trips per Person: 1995[a]
(Roundtrips of 100 miles or more one way)

5.8	Persons aged 45–54
5.6	Per person in households with income over $50,000
5.0	Per person, married couples without children
4.6	Non-Hispanic whites
4.4	Men; per person in small metropolitan and nonmetropolitan areas
3.9	**U.S. average (mean)**
3.8	Per person in households with income between $25,000 and $50,000; per person, married couples with children under age 18
3.7	Per person in large metropolitan areas
3.5	Women
3.1	Persons aged 65 and over
3.0	Asians and Pacific Islanders
2.3	Persons under age 18
2.2	Per person in households with income under $25,000
2.1	Hispanics
1.9	Non-Hispanic blacks

[a] Numbers in this figure differ from those in the *Pocket Guide 1998* and reflect demographic data released in 1999.

Note: Some numbers may not differ statistically.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, American Travel Survey data, October 1997, person trip and demographic files.

Table 10
Population and Long-Distance Travel: 1977 and 1995
(Roundtrips of 100 miles or more one way)

Characteristic	1977[R]	1995[R]	% change 1977-95[R]
Resident population *(thousands)*	219,760	262,761	19.6
Annual long-distance person trips *(thousands)*	539,289	1,042,615	93.3
Domestic	521,427	1,001,319	92.0
International	17,862	41,296	131.2
Annual roundtrips per capita	2.53	3.95	55.8
Domestic	2.45	3.79	54.7
International	0.08	0.16	86.3
Long-distance mean roundtrip length *(miles, domestic only)*	733	826	12.6

Key: R = revised.

Sources: U.S. Department of Transportation, Bureau of Transportation Statistics, American Travel Survey data, October 1997, person trip and demographic files; U.S. Department of Commerce, Census Bureau, *National Travel Survey: Travel During 1977* (Washington, DC: 1979); U.S. Department of Commerce, Census Bureau, *Statistical Abstract of the United States: 1997* (Washington, DC: 1998).

Table 11

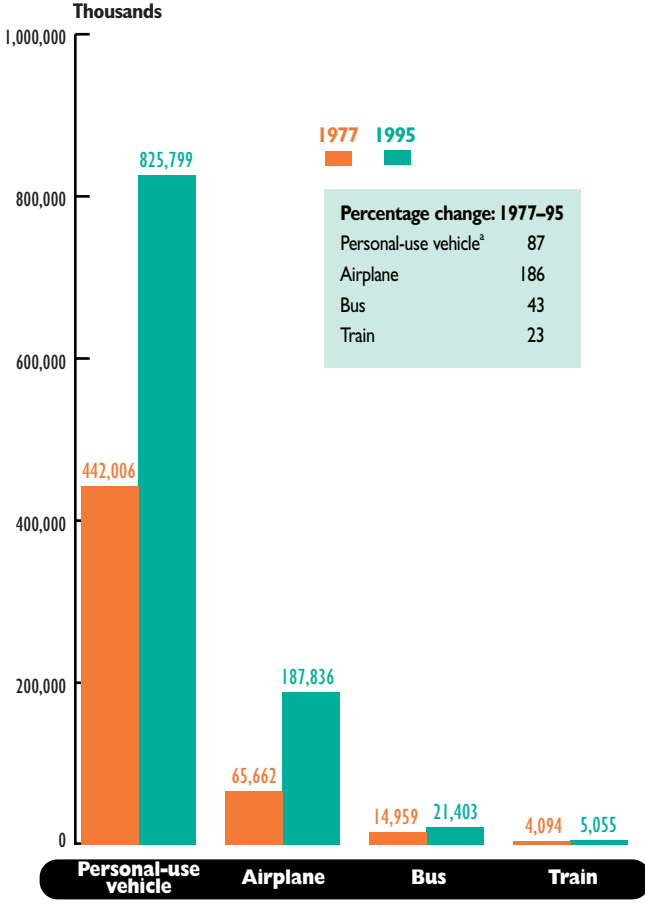
Long-Distance Trips per Person by Age and Purpose: 1977 and 1995

(Roundtrips of 100 miles or more one way)

Age and reason for trip	1977	1995	% change 1977–95
18 to 24 years:			
Business	0.3	0.4	57.9
Visit friends or relatives	0.9	1.5	59.3
Leisure	0.7	1.2	67.2
Personal business and other	0.4	0.7	93.7
25 to 34 years:			
Business	0.8	1.1	26.4
Visit friends or relatives	1.2	1.6	34.3
Leisure	0.9	1.2	42.9
Personal business and other	0.5	0.5	5.8
35 to 44 years:			
Business	1.2	1.7	46.3
Visit friends and relatives	1.0	1.2	24.7
Leisure	0.8	1.4	83.3
Personal business and other	0.7	0.6	–17.2
45 to 54 years:			
Business	0.9	1.8	93.0
Visit friends and relatives	1.0	1.5	41.2
Leisure	0.6	1.7	171.5
Personal business and other	0.8	0.8	7.3
55 to 64 years:			
Business	0.6	1.2	113.3
Visit friends and relatives	1.1	1.6	47.0
Leisure	0.6	1.7	181.9
Personal business and other	0.5	0.8	48.6
65 years and over:			
Business	0.2	0.4	121.7
Visit friends or relatives	0.7	1.2	74.5
Leisure	0.3	1.0	213.7
Personal business and other	0.4	0.6	54.9

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, American Travel Survey data, October 1997, person trip and demographic files.

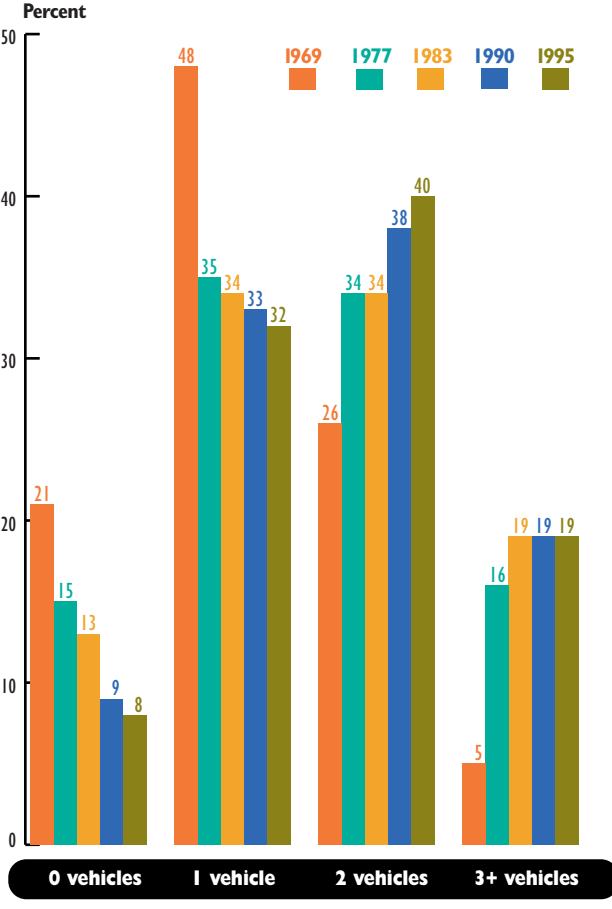
Figure 5
Long-Distance Person-Trips by Mode: 1977 and 1995
(Roundtrips of 100 miles or more one way)



[a] See glossary, page 36.

Sources: U.S. Department of Transportation, Bureau of Transportation Statistics, American Travel Survey data, October 1997, person trip file; U.S. Department of Commerce, Census Bureau, *National Travel Survey, Travel During 1977* (Washington, DC: 1979).

Figure 6
Households by Number of Vehicles



Source: U.S. Department of Transportation, Federal Highway Administration, *National Personal Transportation Survey, Our Nation's Travel* (Washington, DC: 1997).

Table 12

U.S.-Canadian Border Land-Passenger Gateways: 1998

Land gateway	Number entering the U.S.
All U.S.-Canadian land gateways	
All personal vehicles	36,531,246
All personal vehicle passengers	88,126,832
All bus passengers	3,951,019
All pedestrians	585,917
Personal vehicles—top 5 gateways	
Detroit, MI	8,551,166
Buffalo-Niagara Falls, NY	7,355,745
Blaine, WA	3,278,118
Port Huron, MI	2,036,015
Sault Ste. Marie, MI	1,467,937
Personal vehicle passengers—top 5 gateways	
Detroit, MI	19,496,143
Buffalo-Niagara Falls, NY	17,434,770
Blaine, WA	8,184,131
Port Huron, MI	5,444,004
Sault Ste. Marie, MI	4,693,465
Bus passengers—top 5 gateways	
Buffalo-Niagara Falls, NY	1,522,230
Detroit, MI	562,857
Blaine, WA	456,770
Champlain-Rouses Pt., NY	274,144
Port Huron, MI	126,611
Pedestrians—top 5 gateways	
Buffalo-Niagara Falls, NY	298,303
Calais, ME	47,843
International Falls-Ranier, MN	43,833
Sumas, WA	37,549
Portland, ME[a]	34,232

[a] Gateway is a pedestrian/ferry combination crossing.

Note: Data reflect all personal vehicles and passengers entering the United States across the U.S.-Canadian border, regardless of nationality.

Source: U.S. Department of the Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, 1999.

Table 13

U.S.-Mexican Border Land-Passenger Gateways: 1998

Land gateway	Number entering the U.S.
All U.S.-Mexican gateways	
All personal vehicles	83,854,491
All personal vehicle passengers	223,987,889
All bus passengers	3,638,812
All pedestrians	44,461,554
Personal vehicles—top 5 gateways	
San Ysidro/Otay Mesa, CA[a]	18,801,472
El Paso, TX	15,212,062
Laredo, TX	7,524,347
Hildalgo, TX	7,126,677
Calexico, CA	6,957,454
Personal vehicle passengers—top 5 gateways	
El Paso, TX	44,114,982
San Ysidro/Otay Mesa, CA[a]	41,363,236
Hidalgo, TX	24,943,370
Calexico, CA	20,733,213
Laredo, TX	18,810,878
Bus passengers—top 5 gateways	
Hidalgo, TX	1,515,376
San Ysidro/Otay Mesa, CA[a]	1,125,902
Laredo, TX	367,691
Brownsville, TX	266,924
El Paso, TX	118,213
Pedestrians—top 5 gateways	
Calexico, CA	8,492,078
San Ysidro/Otay Mesa, CA[a]	7,528,540
El Paso, TX	5,169,966
Laredo, TX	5,093,851
Nogales, AZ	4,796,884

[a] Data for San Ysidro, San Diego, and Otay Mesa are U.S. Customs combined totals. Note: Data reflect all personal vehicles and passengers entering the United States across the U.S.-Mexican border, regardless of nationality.

Source: U.S. Department of the Treasury, U.S. Customs Service, Office of Field Operations, Operations Management Database, 1999.

Table 14

Top 20 U.S. Passenger Airports

(Thousands of enplaned passengers on large, certificated air carriers)

1997			1987		
Rank	Airport	Total enplaned passengers	Rank	Total enplaned passengers	% change 1987–96
1	Atlanta (Hartsfield), GA	32,677	2	22,649	44
2	Chicago (O'Hare), IL	31,123	1	26,122	19
3	Dallas/Ft. Worth, TX	27,256	3	19,905	37
4	Los Angeles, CA	22,596	4	18,970	19
5	San Francisco, CA	16,858	6	13,117	29
6	Denver, CO	16,006	5	15,594	3
7	Detroit (Wayne Co.), MI	14,773	13	9,254	60
8	Phoenix (Sky Harbor), AZ	14,650	14	8,785	67
9	Las Vegas (McCarran), NV	14,011	21	6,836	105
10	St. Louis (Lambert-St. Louis), MO	13,956	11	9,727	43
11	Newark, NJ	13,783	8	11,289	22
12	Minneapolis/St. Paul, MN	13,775	15	8,310	66
13	Houston (Intercontinental), TX	12,708	20	6,929	83
14	Miami, FL	12,073	12	9,342	29
15	Seattle-Tacoma, WA	11,758	22	6,826	72
16	Orlando, FL	11,745	19	7,075	66
17	Boston (Logan), MA	10,453	9	10,255	2
18	Charlotte (Douglas Municipal), NC	10,358	24	6,021	72
19	New York (La Guardia), NY	9,868	7	11,326	–13
20	New York (John F. Kennedy), NY	9,731	10	10,140	–4

Sources: **Total enplaned passengers:** 1987—U.S. Department of Transportation (USDOT), Federal Aviation Administration (FAA) and Research and Special Programs Administration, *Airport Activity Statistics of Certificated Route Air Carriers, 12 Months Ending December 31, 1987* (Washington, DC: 1987), table 1; 1997—USDOT, Bureau of Transportation Statistics (BTS), Office of Airline Information (OAI), *Airport Activity Statistics of Certificated Air Carriers: Summary Tables, Twelve Months Ending December 31, 1997* (Washington, DC: 1998), table 1. **Airport ranking**: 1987—USDOT, FAA, *FAA Statistical Handbook, Calendar Year 1987* (Washington, DC: 1987), table 4.11; 1997: USDOT, BTS, OAI, personal communication, 1999.

Table 15
Top 20 U.S. Water Ports
(Million tons)

1997			1990		
Rank	Port	Total tons	Rank	Total tons	% change 1990–97
1	South Louisiana, LA	183.6	1	194.2	–5.5
2	Houston, TX	165.5	3	126.2	31.2
3	New York, NY & NJ	135.3	2	140.0	–3.4
4	New Orleans, LA	89.4	6	62.7	42.5
5	Corpus Christi, TX	86.8	7	62.0	39.9
6	Baton Rouge, LA	84.0	5	78.1	7.5
7	Valdez, AK	73.6	4	96.0	–23.3
8	Plaquemine, LA	63.6	8	56.6	12.4
9	Long Beach, CA	57.3	10	52.4	9.3
10	Texas City, TX	56.6	12	48.1	17.7
11	Tampa, FL	55.3	11	51.6	7.2
12	Pittsburgh, PA	51.7	19	35.5	45.7
13	Lake Charles, LA	51.3	16	40.9	25.5
14	Mobile, AL	49.1	15	41.1	19.4
15	Beaumont, TX	48.7	23	26.7	82.2
16	Norfolk Harbor, VA	46.3	9	53.7	–13.8
17	Philadelphia, PA	45.0	14	41.8	7.6
18	Duluth-Superior, MN & WI	41.9	17	40.8	2.8
19	Los Angeles, CA	41.8	13	46.4	–9.8
20	Baltimore, MD	40.0	18	39.5	1.2

Sources: 1990—U.S. Army Corps of Engineers, *Waterborne Commerce of the United States, Calendar Year 1990, Part 5, National Summaries* (New Orleans, LA: 1993), table 5-2. 1997—U.S. Army Corps of Engineers, personal communication, Jan. 4, 1999.

Table 16

Domestic- and Export-Bound Freight Shipments within the United States: 1997 Preliminary Data

Mode	Value		Tons		Ton-miles	
	Billions of 1997 $	Percent	Millions	Percent	Billions	Percent
Parcel, postal, courier services	866	10.9	25	0.2	19	0.5
Truck (for-hire, private, both)	5,519	69.4	7,992	58.3	1,095	27.9
Rail (includes truck and rail)	383	4.8	1,539	11.2	1,051	26.7
Water[a]	195	2.5	1,523	11.1	802	20.4
Air (includes truck and air)	213	2.7	5	0.0	7	0.2
Pipeline[a]	330	4.1	1,881	13.7	690	17.6
Other and unknown modes	448	5.6	754	5.5	267	6.8
BTS total (CFS + additional estimates)	**$7,955**	**100.0**	**13,719**	**100.0**	**3,930**	**100.0**

[a] Preliminary Oak Ridge National Laboratory estimates prepared for BTS, 1999.

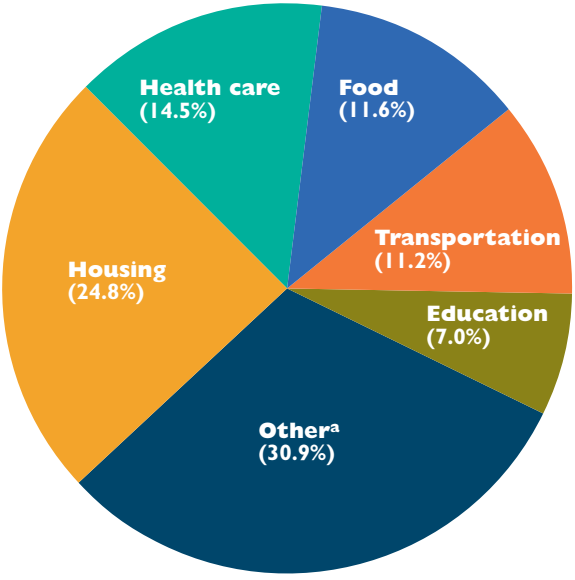
Key: BTS = Bureau of Transportation Statistics; CFS = Commodity Flow Survey.

Source: U.S. Department of Commerce, Census Bureau, *1997 Commodity Flow Survey: United States Preliminary* (Washington, DC: 1999).

4 Transportation and the Economy

Transportation is a major sector of the U.S. economy. It moves people and goods, employs millions of workers, generates revenue, and consumes resources and services produced by other sectors of the economy. In 1998, transportation-related goods and services contributed $950 billion to a $8.51 trillion U.S. Gross Domestic Product.

Figure 7
U.S. Gross Domestic Product by Major Societal Function: 1998



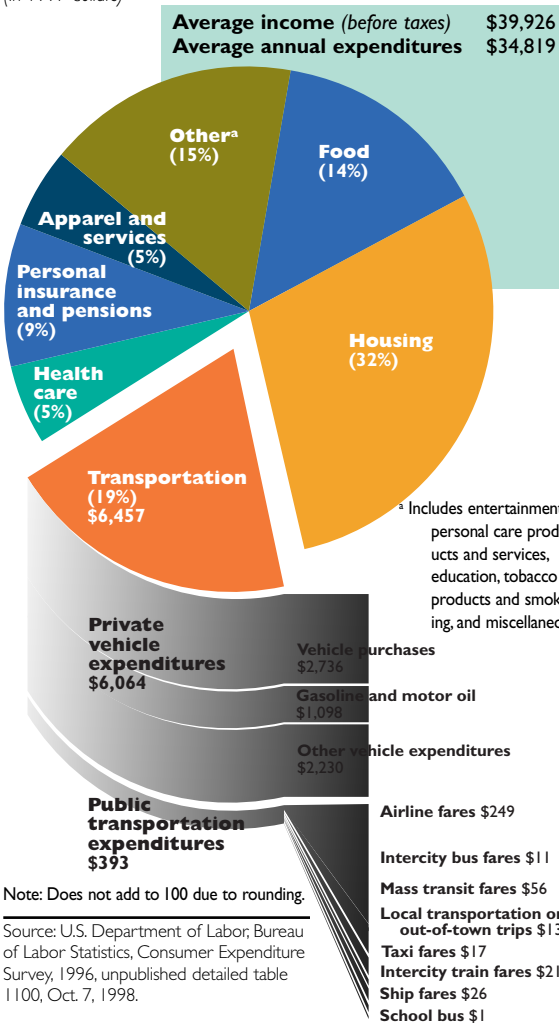
[a]Includes all other categories, such as entertainment, products and services, personal care, premiums for personal insurance, and payments to pension plans.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics calculations based on U.S. Department of Commerce, Bureau of Economic Analysis data, Nov. 16, 1999.

Figure 8

Average Household Expenditures by Major Category: 1997

(In 1997 dollars)



Note: Does not add to 100 due to rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 1996, unpublished detailed table 1100, Oct. 7, 1998.

Table 17

Top Foreign Trade Freight Gateways by Value of Shipments: 1997

(Billions of 1997 dollars)

Rank	Port	Exports	Imports	Total trade
1	JFK International Airport, NY (a)	40.9	48.4	89.3
2	Port of Long Beach, CA (w)	19.1	66.2	85.3
3	Port of Detroit, MI (l)	42.4	40.1	82.5
4	San Francisco Airport, CA (a)	35.8	39.1	74.9
5	Port of Los Angeles, CA (w)	16.1	57.3	73.4
6	Los Angeles International Airport, CA (a)	36.5	32.3	68.8
7	Port of New York, NY and NJ (w)	20.6	47.4	68.0
8	Port of Buffalo-Niagara Falls, NY (l)	37.0	26.9	63.9
9	Port of Laredo, TX (l)	25.8	24.1	49.9
10	Port of Huron, MI (l)	12.1	26.1	38.2
11	Port of Houston, TX (w)	20.8	16.3	37.1
12	Chicago, IL (a)	18.5	17.9	36.4
13	Port of Seattle, WA (w)	10.3	23.3	33.6
14	Port of Charleston, SC (w)	12.1	15.2	27.3
15	Port of Oakland, CA (w)	9.9	15.5	25.4
16	Port of Norfolk, VA (w)	13.6	11.4	25.0
17	Port of El Paso, TX (l)	10.0	13.8	23.8
18	Miami International Airport, FL (a)	14.6	6.8	21.4
19	Port of Tacoma, WA (w)	4.5	15.1	19.6
20	Port of Baltimore, MD (w)	7.1	11.7	18.8

Key: a = air; l = land; w = water.

Notes: Trade excludes low-value shipments (imports valued at less than $1,250 and exports valued at less than $2,500.) Air: Includes a low level (generally less than 2%–3% of the total value) of small user-fee airports located in the same region. Air gateways not identified by airport name (e.g., Chicago, IL) include the major airport(s) in that geographic area in addition to small regional airports. Due to Census Bureau confidentiality regulations, courier operations are included in the airport totals for JFK International Airport, Los Angeles, Chicago, and Miami.

Sources: Air— U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division, special tabulation, December 1998. Water— U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, *U.S. Waterborne Exports and General Imports, Annual 1997* (Washington, DC: July 1999). Land— U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 1997.

Table 18a

Value of U.S. International Merchandise Trade by Mode of Transportation: 1997

(Millions of current U.S. dollars)

	Imports	Modal %	Exports	Modal %	Total trade	Total, modal %
Total	**869,874**	**100.0**	**687,598**	**100.0**	**1,557,472**	**100.0**
Water	400,859	46.1	224,717	32.7	625,576	40.2
Air	212,753	24.5	219,751	32.0	432,504	27.8
Truck	156,531	18.0	166,766	24.3	323,297	20.8
Rail	50,940	5.9	18,904	2.7	69,844	4.5
Pipeline	13,883	1.6	249	0.04	14,132	0.9

Notes: Modal numbers and percentages will not sum to overall trade totals, which include other miscellaneous and unknown modes not separately listed. In 1997, other miscellaneous and unknown modes accounted for approximately 5.9% of the value of U.S. international merchandise trade.
Water: Excludes in-transit data (i.e., merchandise shipped from one foreign country to another via a U.S. water port).
Imports: Excludes imports valued at less than $1,250. Import value is based on U.S. general imports, customs value basis.
Exports: Excludes exports valued at less than $2,500. Export value is FAS (free alongside ship) and represents the value of exports at the port of export, including the transaction price and inland freight, insurance, and other charges.

Sources: Compiled by U.S. Department of Transportation, Bureau of Transportation Statistics, January 1999. Water and air data— U.S. Department of Commerce, Census Bureau, Foreign Trade Division. Truck, rail, pipeline, other and unknown data— U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 1997.

Table 18b

Volume of U.S. International Merchandise Trade by Mode of Transportation: 1997

(Thousands of short tons)

	Imports	Modal %	Exports	Modal %	Total Trade	Total, modal %
Total	**958,462**	**100.0**	**526,997**	**100.0**	**1,485,459**	**100.0**
Water	736,289	76.8	407,634	77.4	1,143,923	77.0
Air	3,185	0.3	2,863	0.5	6,048	0.4
Truck	84,604	8.8	91,852	17.4	176,456	11.9
Rail	62,224	6.5	22,104	4.2	84,328	5.7
Pipeline	72,160	7.5	2,544	0.5	74,704	5.0

Notes: Modal numbers and percentages will not sum to overall trade totals, which include other miscellaneous and unknown modes not separately listed. In 1997, other miscellaneous and unknown modes accounted for approximately 5% of the weight of U.S. international merchandise trade.
Water: Excludes in-transit data (i.e., merchandise shipped from one foreign country to another via a U.S. water port).
Imports: Excludes imports valued at less than $1,250 and is based on U.S. general imports, customs value basis.
Exports: Excludes exports valued at less than $2,500. Export value is FAS (free alongside ship) and represents the value of exports at the port of export, including the transaction price, and inland freight, insurance, and other charges.
Short ton: Unit of weight equal to 2,000 pounds.

Sources: Compiled by U.S. Department of Transportation, Bureau of Transportation Statistics, January 1999. Water and air data— U.S. Department of Commerce, Census Bureau, Foreign Trade Division. Truck, rail, pipeline data— U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data, 1997; and BTS estimates.

Table 19

Employment in For-Hire Transportation and Selected Transportation-Related Industries

(Thousands)

	1970	1980	1990	1995[R]	1998[P]
Total transportation and related industries employment	[R]6,000	[R]8,536	[R]10,133	10,543	10,540
For-hire transport sector total	**[R]2,727**	**3,175**	**[R]3,716**	**4,082**	**4,208**
Air	352	453	[R]968	1,068	1,157
Local and inter-urban passenger transit	[R]281	265	338	419	462
Pipeline	[a]50	236	223	194	U
Railroad	634	532	279	238	232
Transportation services	115	198	[R]336	401	449
Trucking and warehousing	1,083	1,280	[R]1,395	1,587	1,707
Water	212	211	177	175	187
Equipment manufacturing total	**1,949**	**[R]1,996**	**2,073**	**1,870**	**1,953**
Other related industries total	**[R]613**	**[R]2,694**	**[R]3,671**	**3,930**	**4,280**
Automotive and home supply stores	U	261	337	369	410
Automotive repair services, and parking; gasoline service stations	[b]613	1,132	[R]1,561	1,669	1,832
Highway and street construction	U	U	239	228	249
Motor vehicles/parts wholesalers/retailers and other automotive retailers	U	1,301	[R]1,534	1,664	1,789
Government employment[c] total	**711**	**671**	**673**	**661**	**99**

[a] Includes only liquid and natural gas transmission pipelines. [b] Includes only gasoline service stations. [c] Data are for fiscal years and include permanent and temporary civilian and military personnel. Data for 1998 include U.S. Department of Transportation only.

Key: P = preliminary; R = revised; U = unavailable.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics* 1999 (Washington, DC: 1999).

Table 20

Federal, State, and Local Transportation Revenues and Expenditures

(Millions)

	1985	1990	1995
Current dollars			
Revenues:			
Total	**52,038**	**69,901**	**93,716**
Federal	18,388	21,532	30,223
State	24,355	34,629	44,846
Local	9,294	13,740	18,647
Expenditures:			
Total	**74,515**	**99,869**	**129,289**
Federal (including grants)	27,705	30,166	39,930
Federal grants to states & localities	18,227	19,786	25,034
State and local (less grants)	46,810	69,703	89,359
Constant 1992 dollars			
Revenues:			
Total	**65,545**	**74,136**	**86,681**
Federal	22,224	23,173	27,941
State	30,632	36,486	41,489
Local	11,689	14,476	17,251
Expenditures:			
Total	**92,357**	**105,906**	**119,585**
Federal (including grants)	33,484	32,465	36,914
Federal grants to states & localities	22,029	21,293	23,144
State and local (less grants)	58,873	73,441	82,671

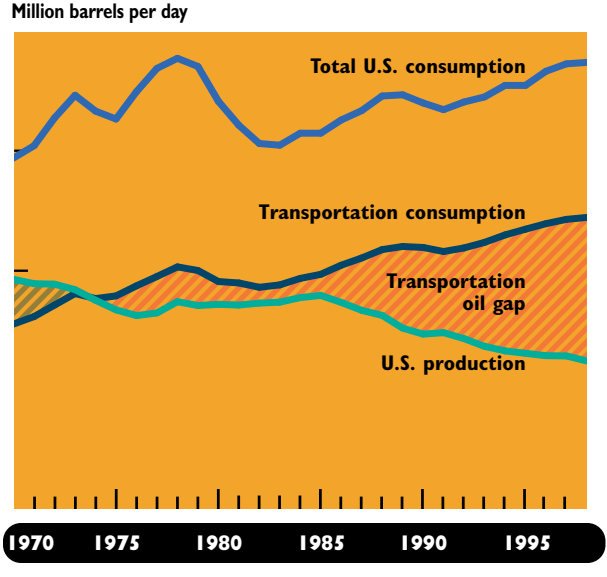
Note: Statistics in this table are based on data from the U.S. Department of Commerce, Census Bureau, which uses different definitions and accounting methods from those used by some modal administrations of the U.S. Department of Transportation (USDOT). For example, revenues in this table are limited to gasoline taxes, tolls, and other sources that are collected directly from transportation users. Revenue statistics published by the USDOT, Federal Highway Administration, also include other items such as investment income and other taxes and fees. Numbers may not add to totals due to rounding.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Government Transportation Financial Statistics, FY 1985–95, forthcoming on the BTS website.

5 Transportation, Energy, and the Environment

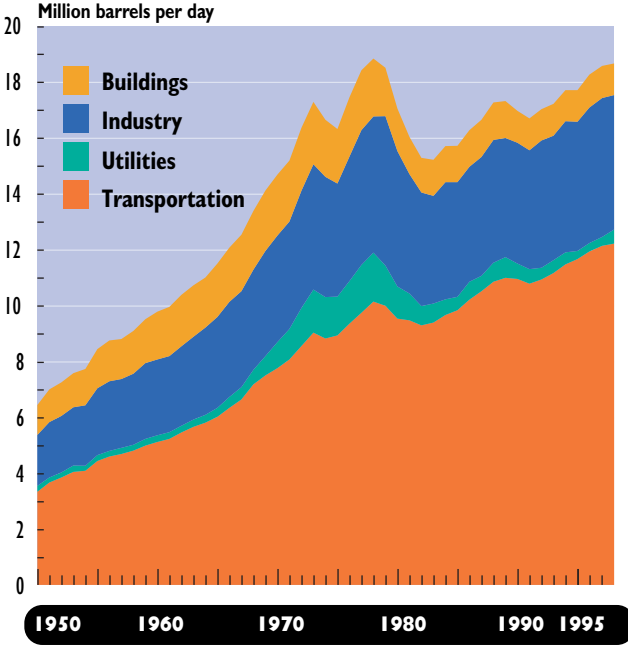
Serious energy and environmental issues are associated with transportation. The U.S. transportation sector remains almost entirely dependent on petroleum as an energy source and more than 50 percent of the petroleum used in the United States must now be imported. Petroleum use is responsible for most of the environmental problems resulting from transportation, including carbon dioxide emissions that may contribute to global climate change.

Figure 9
U.S. Petroleum Production and Consumption: 1970-98



Source: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 1998*, DOE/EIA 0384(98) (Washington, DC: July 1999), tables 5.1 and 5.12.

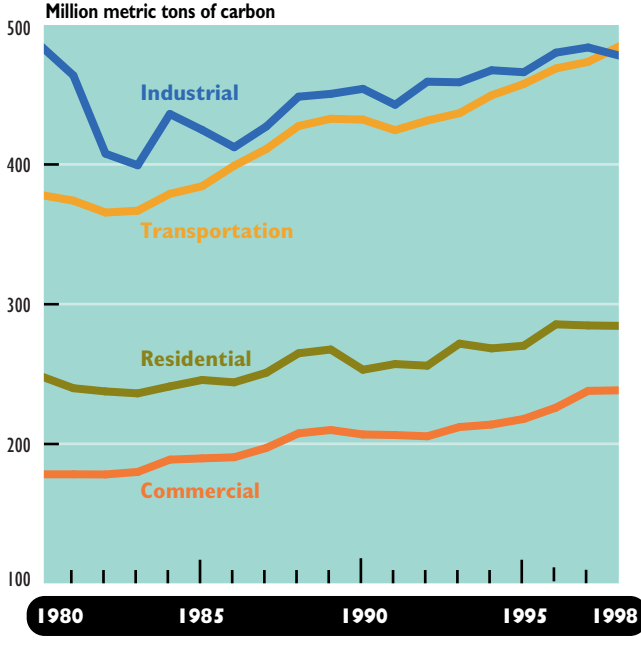
Figure 10
Transportation's Share of U.S. Petroleum Use: 1950–98



Note: 1997 and 1998 data are estimates.

Source: U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 1998*, DOE/EIA-0384(98) (Washington, DC: July1999), table 5.12.

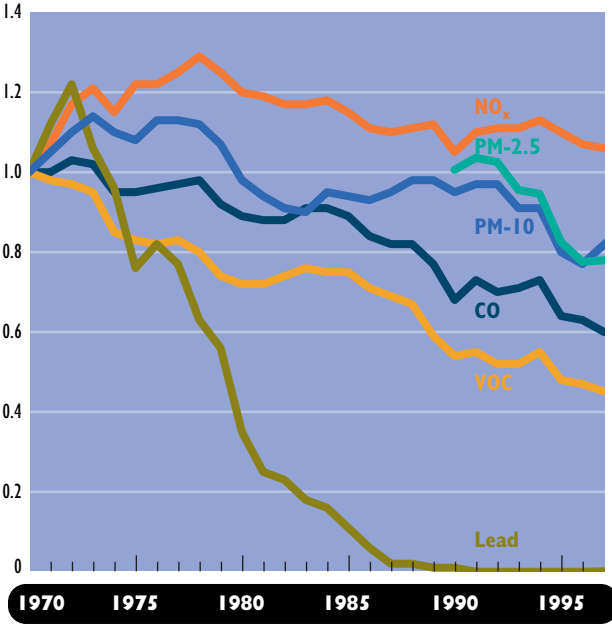
Figure 11
Carbon Dioxide Emissions from Energy Consumption: 1980-98



Note: Tons of carbon can be converted to tons of carbon dioxide gas by multiplying by 3.667. One ton of carbon equals 3.667 tons of carbon dioxide gas. Electric utility emissions are spread across end-user sections.

Source: U.S. Department of Energy, Energy Information Administration, *Emissions of Greenhouse Gases in the United States, 1998*, DOE/EIA-0573(98) (Washington, DC: October 1999).

Figure 12
National Transportation Emissions Trends Index: 1970–97
Index: 1970 = 1.0, 1990 = 1.0 for PM-2.5



Key: NO_x = oxides of nitrogen; PM-10 and PM-2.5 = airborne particulates of less than 10 microns or 2.5 microns, respectively; CO = carbon monoxide; VOC = volatile organic compounds.

Note: Transportation emissions include all onroad mobile sources and the following nonroad mobile sources: recreational vehicles and boats, airport service equipment, aircraft, commercial marine vessels, and railroads. Other nonroad sources, such as lawnmowers and farming equipment, are not included. Lead estimates include onroad mobile sources only.

Source: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality Planning and Standards, National Air Quality and Emission Trends, 1900–1997, available at www.epa.gov/ttn/chief/trends97/emtrend/html.

Glossary

Air carrier—Certificated provider of scheduled and nonscheduled services.

Class I railroad—A freight railroad with an annual gross operating revenue in excess of $250 million (based on 1991 dollars).

Commuter rail—Urban passenger train service for short-distance travel between a central city and adjacent suburbs. Does not include rapid-rail transit or light-rail service.

Directional route-miles—The sum of the mileage in each direction over which transit vehicles travel while in revenue service.

Fatality—For purposes of compiling DOT safety statistics, any injury that results in death within 30 days of a transportation crash, accident, or incident.

General aviation—All civil aviation operations other than those air carriers holding a Certificate of Public Convenience and Necessity. Types of aircraft used in general aviation range from corporate multi-engine jets piloted by a professional crew to amateur-built single-engine piston-driven acrobatic planes.

Hub— A geographic area based on the percentage of total enplaned passengers in that area. A hub may have more than one airport in it. This definition should not be confused with the definition used by airlines in describing their "hub and spoke" route structures.

Nonself-propelled vessels—Includes dry cargo and tank barges and railroad car floats that operate on the Atlantic, Gulf, Pacific Coast, Mississippi River Systems, Gulf Intracoastal Waterway, and Great Lakes System.

Other 2-axle, 4-tire vehicles—Includes vans, pickup trucks, and sport utility vehicles. Does not include passenger cars.

Passenger-mile—One passenger transported one mile. One vehicle traveling 3 miles carrying 5 passengers generates 15 passenger-miles.

Personal-use vehicles—Cars, pickup trucks, or vans; other small trucks; rental cars, trucks, or vans; recreational vehicles or motor homes; or motorcycles or mopeds.

Self-propelled vessels—Includes dry cargo vessels, tankers, and offshore supply vessels, tugboats, pushboats, and passenger vessels, such as excursion/sightseeing boats, combination passenger and dry cargo vessels, and ferries.

Serious injury (Air)—An injury that: 1) requires hospitalization for more than 48 hours, commencing within 7 days from the date when the injury occurred; 2) results in a bone fracture (except simple fracture of fingers, toes, or nose); 3) involves lacerations that cause severe hemorrhages, and nerve, muscle, or tendon damage; 4) involves injury to any internal organ; or 5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Ton-miles—A unit of measure equal to the movement of one ton over one mile.

Truck:

Single unit—A large truck on a single frame with at least 2 axles and 6 tires. Excludes "other 2-axle, 4-tire vehicles" noted above.

Combination—A power unit (truck or truck tractor) and one or more trailing units.

Vehicle-mile—One vehicle traveling one mile.

Statistics published in this *Pocket Guide to Transportation* come from many different sources. Some statistics are based on samples and are subject to sampling variability. Statistics may also be subject to omissions and errors in reporting, recording, and processing. For more information about the accuracy of statistics in this publication, refer to the sources listed.

U.S. Department of Transportation