Chapter 4
Light Vehicles and Characteristics

Summary Statistics from Tables in this Chapter

Source		
Table 4.1	Cars, 2006	
	Registrations (thousands)	*135,400*
	Vehicle miles (million miles)	*1,682,671*
	Fuel economy (miles per gallon)	*22.4*
Table 4.2	Two-axle, four-tire trucks, 2006	
	Registrations (thousands)	*99,125*
	Vehicle miles (million miles)	*1,089,013*
	Fuel economy (miles per gallon)	*18.0*
Table 4.6	Light truck share of total light vehicle sales	
	1970 calendar year	*14.8%*
	2006 calendar year	*52.9%*
Table 4.7	Car sales, 2007 sales period (thousands)	7,580
	Small	*2,562*
	Midsize	*2,748*
	Large	*1,390*
Table 4.8	Light truck sales, 2007 sales period (thousands)	*7,290*
	Small pickup	*0*
	Large pickup	*1,753*
	Midsize van	*927*
	Large van	*29*
	Small SUV	*175*
	Midsize SUV	*2,199*
	Large SUV	*1,926*
Tables 4.17	Corporate average fuel economy	(mpg)
and 4.18	*Car standard, MY 2007*	*27.5*
	Car fuel economy, MY 2007	*31.0*
	Light truck standard, MY 2007	*22.2*
	Light truck fuel economy, MY 2006	*22.9*
Table 4.22	Average fuel economy loss from 55 to 70 mph	17.1%

*The Federal Highway Administration released revised historical data back to 1985 in their "Highway Statistics Summary to 1995" report. As a result, the data in this table have been revised. The data in this table from 1985–on **DO NOT** include minivans, pickups, or sport utility vehicles.*

Table 4.1
Summary Statistics for Cars, 1970–2006

Year	Registrations[a] (thousands)	Vehicle travel (million miles)	Fuel use (million gallons)	Fuel economy[b] (miles per gallon)
1970	89,244	916,700	67,820	13.5
1971	92,718	966,330	71,346	13.5
1972	97,082	1,021,365	75,937	13.5
1973	101,985	1,045,981	78,233	13.4
1974	104,856	1,007,251	74,229	13.6
1975	106,706	1,033,950	74,140	13.9
1976	110,189	1,078,215	78,297	13.8
1977	112,288	1,109,243	79,060	14.0
1978	116,573	1,146,508	80,652	14.2
1979	118,429	1,113,640	76,588	14.5
1980	121,601	1,111,596	69,981	15.9
1981	123,098	1,133,332	69,112	16.4
1982	123,702	1,161,713	69,116	16.8
1983	126,444	1,195,054	70,322	17.0
1984	128,158	1,227,043	70,663	17.4
1985[c]	127,885	1,246,798	71,518	17.4
1986	130,004	1,270,167	73,174	17.4
1987	131,482	1,315,982	73,308	18.0
1988	133,836	1,370,271	73,345	18.7
1989	134,559	1,401,221	73,913	19.0
1990	133,700	1,408,266	69,568	20.2
1991	128,300	1,358,185	64,318	21.1
1992	126,581	1,371,569	65,436	21.0
1993	127,327	1,374,709	67,047	20.5
1994	127,883	1,406,089	67,874	20.7
1995	128,387	1,438,294	68,072	21.1
1996	129,728	1,469,854	69,221	21.2
1997	129,749	1,502,556	69,892	21.5
1998	131,839	1,549,577	71,695	21.4
1999	132,432	1,569,100	73,283	21.4
2000	133,621	1,600,287	73,065	21.9
2001	137,633	1,628,332	73,559	22.1
2002	135,921	1,658,474	75,471	22.0
2003	135,670	1,672,079	74,590	22.2
2004	136,431	1,699,890	75,402	22.5
2005	136,568	1,708,421	77,418	22.1
2006	135,400	1,682,671	74,983	22.4
		Average annual percentage change		
1970–2006	1.2%	1.7%	0.3%	1.4%
1996–2006	0.4%	1.4%	0.8%	0.6%

Source:
U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2006*, Washington, DC, 2007, Table VM-1 and annual. (Additional resources: www.fhwa.dot.gov)

[a] This number differs from R.L. Polk's estimates of "number of cars in use." See Table 3.3.
[b] Fuel economy for car population.
[c] Beginning in this year the data were revised to exclude minivans, pickups and sport utility vehicles which may have been previously included.

The Federal Highway Administration released revised historical data back to 1985 which better reflected two-axle, four-tire trucks. The definition of this category includes vans, pickup trucks, and sport utility vehicles.

Table 4.2
Summary Statistics for Two-Axle, Four-Tire Trucks, 1970–2006

Year	Registrations (thousands)	Vehicle travel (million miles)	Fuel use (million gallons)	Fuel economy (miles per gallon)
1970	14,211	123,286	12,313	10.0
1971	15,181	137,870	13,484	10.2
1972	16,428	156,622	15,150	10.3
1973	18,083	176,833	16,828	10.5
1974	19,335	182,757	16,657	11.0
1975	20,418	200,700	19,081	10.5
1976	22,301	225,834	20,828	10.8
1977	23,624	250,591	22,383	11.2
1978	25,476	279,414	24,162	11.6
1979	27,022	291,905	24,445	11.9
1980	27,876	290,935	23,796	12.2
1981	28,928	296,343	23,697	12.5
1982	29,792	306,141	22,702	13.5
1983	31,214	327,643	23,945	13.7
1984	32,106	358,006	25,604	14.0
1985[a]	37,214	390,961	27,363	14.3
1986	39,382	423,915	29,074	14.6
1987	41,107	456,870	30,598	14.9
1988	43,805	502,207	32,653	15.4
1989	45,945	536,475	33,271	16.1
1990	48,275	574,571	35,611	16.1
1991	53,033	649,394	38,217	17.0
1992	57,091	706,863	40,929	17.3
1993	59,994	745,750	42,851	17.4
1994	62,904	764,634	44,112	17.3
1995	65,738	790,029	45,605	17.3
1996	69,134	816,540	47,354	17.2
1997	70,224	850,739	49,389	17.2
1998	71,330	868,275	50,462	17.2
1999	75,356	901,022	52,859	17.0
2000	79,085	923,059	52,939	17.4
2001	84,188	943,207	53,522	17.6
2002	85,011	966,034	55,220	17.5
2003	87,187	984,094	60,758	16.2
2004	91,845	1,027,164	63,417	16.2
2005	95,337	1,041,051	58,869	17.7
2006	99,125	1,089,013	60,662	18.0
		Average annual percentage change		
1970–2006	5.5%	6.2%	4.5%	1.6%
1996–2006	3.7%	2.9%	2.5%	0.5%

Source:
U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2006*, Washington, DC, 2007, Table VM-1 and annual. (Additional resources: www.fhwa.dot.gov)

[a] Beginning in this year the data were revised to include all vans (including mini-vans), pickups and sport utility vehicles.

Because data on Class 2b trucks are scarce, the U.S. DOE funded a study to investigate available sources of data. In the final report, four methodologies are described to estimate the sales of Class 2b trucks. Until another study is funded, the 1999 data are the latest available.

Table 4.3
Summary Statistics on Class 1, Class 2a, and Class 2b Light Trucks

	CY 1999 truck sales (millions)	MY 2000 truck population (millions)	Percent diesel trucks in population	Average age (years)	Estimated annual miles[a] (billions)	Estimated fuel use (billion[a] gallons)	Estimated fuel economy (miles per gallon)
Class 1	5.7	49.7	0.3%	7.3	672.7	37.4	18.0
Class 2a	1.8	19.2	2.5%	7.4	251.9	18.0	14.0
Class 2b	0.5	5.8	24.0%	8.6	76.7	5.5	13.9

Source: Davis, S.C. and L.F. Truett, *Investigation of Class 2b Trucks (Vehicles of 8,500 to 10,000 lbs GVWR)*, ORNL/TM-2002/49, March 2002, Table 16.

Note: CY - calendar year. MY - model year.

Table 4.4
Sales Estimates of Class 1, Class 2a, and Class 2b Light Trucks, 1989–1999

	Sales estimates (thousands)			
Calendar Year	Class 1 (6,000 lbs and under)	Class 2a (6,001-8,500 lbs)	Class 2b (8,5001-10,000 lbs)	Total
1989	3,313	918	379	4,610
1990	3,451	829	268	4,548
1991	3,246	670	206	4,122
1992	3,608	827	194	4,629
1993	4,119	975	257	5,351
1994	4,527	1,241	265	6,033
1995	4,422	1,304	327	6,053
1996	4,829	1,356	334	6,519
1997	5,085	1,315	397	6,797
1998	5,263	1,694	342	7,299
1999	5,707	1,845	521	8,073
		Percent change		
1989–1999	72.3%	101.0%	37.5%	75.1%

Source: Davis, S.C. and L.F. Truett, *Investigation of Class 2b Trucks (Vehicles of 8,500 to 10,000 lbs GVWR)*, ORNL/TM-2002/49, March 2002, Table 1.

Note: These data were calculated using Methodology 4 from the report.

[a] Estimates derived using 2000 population data and 1997 usage data. See source for details.

Cars sales have been under 8 million since 2002. In 1980, the Big 3 (Chrysler, Ford and General Motors) held 73.8% of the market; by 2006, that had dropped to 41.5%.

Table 4.5
New Retail Car Sales in the United States, 1970–2006

Calendar year	Domestic[a]	Import[b]	Total	Percentage imports	Percentage Big 3 Sales[c]	Percentage diesel
	(thousands)					
1970	7,119	1,280	8,399	15.2%	[d]	[d]
1975	7,053	1,571	8,624	18.2%	[d]	0.31%
1980	6,580	2,369	8,949	26.5%	73.8%	4.31%
1981	6,181	2,308	8,489	27.2%	71.1%	6.10%
1982	5,757	2,200	7,956	27.7%	71.1%	4.44%
1983	6,795	2,353	9,148	25.7%	71.9%	2.09%
1984	7,952	2,372	10,324	23.0%	74.2%	1.45%
1985	8,205	2,775	10,979	25.3%	72.9%	0.82%
1986	8,215	3,189	11,404	28.0%	70.9%	0.37%
1987	7,085	3,107	10,192	30.5%	67.6%	0.16%
1988	7,543	3,004	10,547	28.5%	69.3%	0.02%
1989	7,098	2,680	9,779	27.4%	67.9%	0.13%
1990	6,919	2,384	9,303	25.6%	65.7%	0.08%
1991	6,162	2,028	8,189	24.8%	64.2%	0.10%
1992	6,286	1,927	8,213	23.5%	65.8%	0.06%
1993	6,742	1,776	8,518	20.8%	67.3%	0.03%
1994	7,255	1,735	8,991	19.3%	65.9%	0.04%
1995	7,129	1,506	8,635	17.4%	65.3%	0.04%
1996	7,255	1,271	8,526	14.9%	64.1%	0.10%
1997	6,917	1,355	8,272	16.4%	62.2%	0.09%
1998	6,762	1,380	8,142	16.9%	59.7%	0.13%
1999	6,979	1,719	8,698	19.8%	58.3%	0.16%
2000	6,831	2,016	8,847	22.8%	55.0%	0.26%
2001	6,325	2,098	8,423	24.9%	51.4%	0.18%
2002	5,878	2,226	8,103	27.5%	48.4%	0.39%
2003	5,527	2,083	7,610	27.4%	47.1%	0.51%
2004	5,357	2,149	7,506	28.6%	44.9%	0.40%
2005	5,481	2,187	7,667	28.5%	43.1%	0.63%
2006	5,436	2,345	7,781	30.1%	41.5%	0.82%
			Average annual percentage change			
1970–2006	-0.7%	1.7%	-0.2%			
1996–2006	-2.8%	6.3%	-0.9%			

Source:
Domestic and import data - 1970–97: American Automobile Manufacturers Association, *Motor Vehicle Facts and Figures 1998*, Detroit, MI, 1998, p. 15, and annual. 1997 data from *Economic Indicators, 4th Quarter 1997*. 1998–2005: Ward's Communication, *Ward's Automotive Yearbook*, Detroit, MI, 2007, p. 240.
Diesel data - Ward's Communications, *Ward's Automotive Yearbook*, Detroit, MI, 2007, p. 34.
Transplant data - Oak Ridge National Laboratory, Light Vehicle MPG and Market Shares Data System, Oak Ridge, TN, 2004. (Additional resources: www.aama.com, www.wardsauto.com)

[a] North American built.
[b] Does not include import tourist deliveries.
[c] Big 3 includes Chrysler, Ford and General Motors. Beginning in 1998, Ford includes Jaguar and Volvo. GM Includes Saab.
[d] Data are not available.

Light trucks, which include pick-ups, minivans, sport-utility vehicles, and other trucks less than 10,000 pounds gross vehicle weight (GVW), accounted for more than half of light vehicle sales since 2001.

Table 4.6
New Retail Sales of Trucks 10,000 Pounds GVW and Less in the United States, 1970–2006

		Percentages				
Calendar year	Light truck sales[a] (thousands)	Import[b]	Big 3 Sales[c]	Diesel[d]	Light trucks of light-duty vehicle sales[e]	Light trucks of total truck sales
1970	1,463	4.5%		[f]	14.8%	80.4%
1975	2,281	10.0%		[f]	20.9%	87.9%
1980	2,440	19.7%		3.6%	21.4%	88.9%
1981	2,189	20.3%		3.1%	20.4%	89.8%
1982	2,470	16.5%		8.5%	23.6%	92.8%
1983	2,984	15.6%		6.7%	24.5%	93.6%
1984	3,863	15.7%	78.8%	4.8%	27.1%	93.0%
1985	4,458	17.2%	78.2%	3.8%	28.8%	93.6%
1986	4,594	20.1%	76.9%	3.7%	28.6%	94.3%
1987	4,610	17.9%	78.3%	2.3%	31.0%	93.9%
1988	4,800	12.6%	81.6%	2.3%	31.1%	93.2%
1989	4,610	10.9%	81.9%	2.9%	31.8%	93.3%
1990	4,548	13.2%	80.9%	3.1%	32.8%	93.9%
1991	4,123	12.8%	79.4%	3.2%	33.5%	94.5%
1992	4,629	8.6%	83.1%	3.3%	36.0%	94.4%
1993	5,351	6.8%	83.4%	3.7%	38.6%	94.2%
1994	6,033	6.5%	82.9%	3.9%	40.2%	94.0%
1995	6,053	6.5%	83.4%	4.1%	41.2%	93.4%
1996	6,519	6.6%	83.8%	3.7%	43.3%	94.1%
1997	6,797	8.4%	81.9%	4.8%	46.6%	94.1%
1998	7,299	8.9%	80.5%	1.7%	47.3%	93.3%
1999	8,073	9.5%	78.0%	5.9%	48.1%	92.6%
2000	8,387	9.9%	76.1%	4.8%	48.7%	93.9%
2001	8,700	11.3%	75.3%	5.3%	50.8%	96.1%
2002	8,713	12.2%	74.7%	4.9%	51.8%	96.4%
2003	8,938	13.5%	72.4%	4.3%	54.0%	95.5%
2004	9,361	13.1%	70.1%	5.5%	55.4%	95.5%
2005	9,281	13.2%	68.2%	3.7%	54.7%	94.9%
2006	8,724	15.7%	64.1%	3.7%	52.9%	94.1%
		Average annual percentage change				
1970–2006	5.1%					
1996–2006	3.0%					

Sources:

Four-wheel drive and diesel - 1970–88: Ward's Communications, *Ward's Automotive Yearbook*, Detroit, MI, 1989, p. 168, and annual. 1989–on: Ward's Communications, *Ward's Automotive Yearbook*, Factory Installation Reports, Detroit, MI, 2007, and annual.

Transplants - Oak Ridge National Laboratory, Light-Duty Vehicle MPG and Market Shares System, Oak Ridge, TN, 2004.

All other - 1970–97: American Automobile Manufacturers Association, *Motor Vehicle Facts and Figures 1998*, Detroit, MI, 1998, pp. 8, 15, 24, and annual. 1998–on: Ward's Communications, *Ward's Automotive Yearbook*, Detroit, MI, 2007. (Additional resources: www.aama.com, www.wardsauto.com)

[a] Includes all trucks of 10,000 pounds gross vehicle weight and less sold in the U.S.

[b] Excluding transplants.

[c] Big 3 includes Chrysler, Ford and General Motors. Beginning in 1998, Ford includes Land Rover and Volvo light trucks and GM includes Saab. Trucks include light, medium and heavy trucks.

[d] Based on model year factory installations.

[e] Light-duty vehicles include cars and light trucks.

[f] Indicates less than 1 percent.

The sales-weighted fuel economy of cars increased dramatically from 1975 (15.4 mpg) to 1990 (26.2 mpg), but has risen only about 1.5 mpg since then.

Table 4.7
Period Sales, Market Shares, and Sales-Weighted Fuel Economies of New Domestic and Import Cars, Selected Model Years 1975–2007[a]
(thousands)

	Sales Period							
	1975	**1980**	**1985**	**1990**	**1995**	**2000**	**2005**	**2007**
CARS								
Small								
Total sales, units	4,088	4,825	5,519	4,999	5,190	4,266	3,183	2,562
Market share, %	49.6%	51.1%	51.1%	56.7%	55.2%	46.7%	39.7%	33.8%
Fuel economy, mpg	18.3	26.1	29.8	29.8	30.7	30.3	31.1	30.3
Midsize								
Total sales, units	1,631	2,987	2,777	2,342	2,515	2,894	2,886	2,748
Market share, %	19.8%	31.6%	25.7%	26.6%	26.8%	31.7%	36.0%	36.3%
Fuel economy, mpg	13.6	21.6	24.9	26.2	26.1	27.0	29.8	30.8
Large								
Total sales, units	1,555	963	1,512	1,092	1,306	1,665	1,234	1,390
Market share, %	18.9%	10.2%	14.0%	12.4%	13.9%	18.2%	15.4%	18.3%
Fuel economy, mpg	13.1	19.1	22.3	23.7	24.5	25.6	26.4	25.3
WAGONS								
Small								
Total sales, units	477	310	496	160	198	68	365	635
Market share, %	5.8%	3.3%	4.6%	1.8%	2.1%	0.7%	4.5%	8.4%
Fuel economy, mpg	22.4	28.6	32.5	29.6	33.3	29.2	32.5	33.2
Midsize								
Total sales, units	289	257	341	184	176	234	238	153
Market share, %	3.5%	2.7%	3.2%	2.1%	1.9%	2.6%	3.0%	2.0%
Fuel economy, mpg	13.2	21.1	25.2	25.3	26.6	27.3	26.0	26.7
Large								
Total sales, units	197	102	145	31	10	0	118	91
Market share, %	2.4%	1.1%	1.3%	0.4%	0.1%	0.0%[b]	1.5%	1.2%
Fuel economy, mpg	11.9	19.1	20.9	22.7	22.8		22.2	22.3
TOTAL								
Total sales, units	8,237	9,443	10,791	8,810	9,396	9,128	8,025	7,580
Market share, %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Fuel economy, mpg	15.8	23.5	27.0	27.8	28.3	28.2	29.5	29.4

Source:
U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007*, July 2007. (Additional resources: www.epa.gov/otaq/fetrends.htm)

[a] The fuel economy data on this table are EPA laboratory test values.
[b] No vehicles in this category were sold in this model year.

Sales of light trucks in 2007 are almost four times that of 1975. Similar to the car trend, the sales-weighted fuel economy of light trucks increased during the late '70's and '80's, but has remained fairly constant since then.

Table 4.8
Period Sales, Market Shares, and Sales-Weighted Fuel Economies of New Domestic and Import Light Trucks, Model Years 1975–2007
(thousands)

	Sales Period							
	1975	**1980**	**1985**	**1990**	**1995**	**2000**	**2005**	**2007**
PICKUPS								
Small								
Total sales, units	160.0	452.0	497.0	289.0	298.0	101.0	18.0	[b]
Market share, %	8.1%	24.3%	13.5%	7.6%	5.2%	1.4%	0.1%	[b]
Fuel economy, mpg	22.5	24.3	26.7	24.8	24.4	26.3	25.8	[b]
Midsize								
Total sales, units	56.0	98.0	616.0	600.0	700.0	766.0	216.0	281.0
Market share, %	2.8%	5.3%	16.8%	15.8%	12.2%	10.3%	2.7%	3.9%
Fuel economy, mpg	21.1	25.9	25.7	24.7	24.7	22.8	23.6%	23.7
Large								
Total sales, units	1,126.0	887.0	964.0	945.0	1,273.0	1,746.0	2,076.0	1,753.0
Market share, %	56.7%	47.6%	26.3%	24.8%	22.1%	23.4%	26.4%	24.0%
Fuel economy, mpg	13.1	17.2	17.7	18.0	18.0	19.3	19.4	19.7
VANS								
Small								
Total sales, units	2.0	16.0	93.0	30.0	6.0	[b]	[b]	[b]
Market share, %	0.1%	0.9%	2.5%	0.8%	0.1%	0.0%	0.0%	0.0%
Fuel economy, mpg	20.6	19.0	25.5	23.9	26.5	[b]	[b]	[b]
Midsize								
Total sales, units	302.0	130.0	600.0	1,124.0	1,552.0	1,522.0	1,429.0	927.0
Market share, %	15.2%	7.0%	16.4%	29.5%	27.0%	20.4%	18.2%	12.7%
Fuel economy, mpg	13.3	16.9	19.8	21.8	22.2	23.5	24.2	24.7
Large								
Total sales, units	153.0	96.0	162.0	107.0	104.0	170.0	55.0	29.0
Market share, %	7.7%	5.2%	4.4%	2.8%	1.8%	2.3%	0.7%	0.4%
Fuel economy, mpg	12.6	16.0	16.1	16.5	17.1	18.0	19.4	19.7
SUVS								
Small								
Total sales, units	53.0	60.0	115.0	189.0	189.0	400.0	215.0	175.0
Market share, %	2.7%	3.2%	3.1%	5.0%	3.3%	5.4%	2.7%	2.4%
Fuel economy, mpg	16.1	18.8	22.1	23.4	24.2	22.5	23.0	22.6
Midsize								
Total sales, units	123.0	100.0	563.0	447.0	1,397.0	1,863.0	2,079.0	2,199.0
Market share, %	6.2%	5.4%	15.3%	11.7%	24.3%	25.0%	26.4%	30.2%
Fuel economy, mpg	12.1	14.3	19.7	19.1	19.6	21.0	23.0	24.6
Large								
Total sales, units	11.0	23.0	57.0	72.0	230.0	879.0	1,790.0	1,926.0
Market share, %	0.6%	1.2%	1.6%	1.9%	4.0%	11.8%	22.8%	26.4%
Fuel economy, mpg	12.2	14.3	16.9	16.7	16.6	17.6	19.9	20.8
TOTAL								
Total sales, units	1,987.0	1,863.0	3,669.0	3,805.0	5,749.0	7,447.0	7,866.0	7,290.0
Market share, %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Fuel economy, mpg	13.7	18.6	20.6	20.7	20.5	20.8	21.4	22.1

Source:
U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007*, July 2007 (Additional resources: www.epa.gov/otaq/fetrends.htm)

Note: Includes light trucks of 8,500 lbs. or less.

[a] The fuel economy data on this table are EPA laboratory test values.
[b] No vehicles in this category were sold in this model year.

Back in 1975 only 19% of new light vehicle sales were light trucks. Because of the boom in sales of minivans, sport utility vehicles, and pick-up trucks, today about half of light vehicle sales are light trucks.

Table 4.9
Light Vehicle Market Shares by Size Class, Model Years 1975–2007

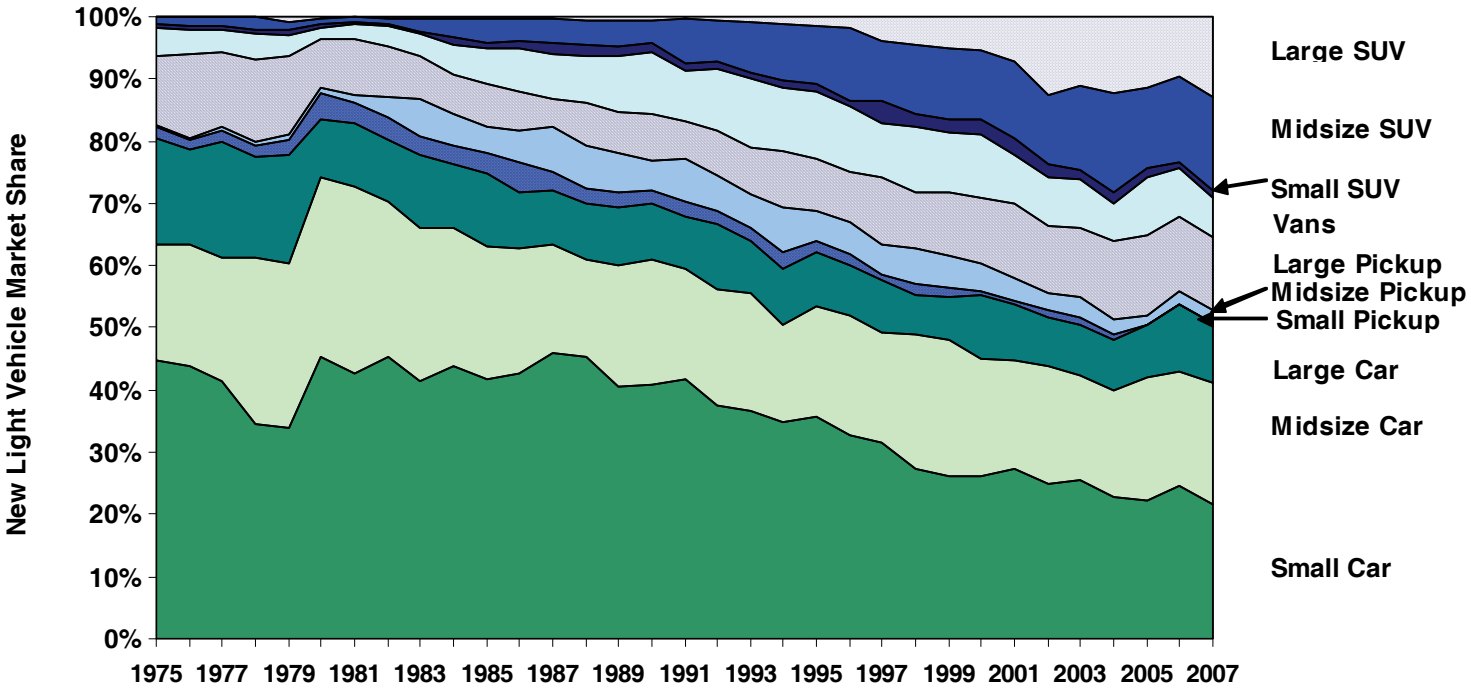
	Sales Period							
	1975	1980	1985	1990	1995	2000	2005	2007
Small car	40.0%	42.7%	38.2%	39.6%	34.3%	25.7%	20.0%	17.2%
Midsize car	16.0%	26.4%	19.2%	18.6%	16.6%	17.5%	18.2%	18.5%
Large car	15.2%	8.5%	10.5%	8.7%	8.6%	10.0%	7.8%	9.3%
Small wagon	4.7%	2.7%	3.4%	1.3%	1.3%	0.4%	2.3%	4.3%
Midsize wagon	2.8%	2.3%	2.4%	1.5%	1.2%	1.4%	1.5%	1.0%
Large wagon	1.9%	0.9%	1.0%	0.2%	0.1%	0.0%	0.7%	0.6%
Small pickup	1.6%	4.0%	3.4%	2.3%	2.0%	0.6%	0.1%	0.0%
Midsize pickup	0.5%	0.9%	4.3%	4.8%	4.6%	4.6%	1.4%	1.9%
Large pickup	11.0%	7.8%	6.7%	7.5%	8.4%	10.5%	13.1%	11.8%
Small van	0.0%	0.1%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%
Midsize van	3.0%	1.1%	4.1%	8.9%	10.2%	9.2%	9.0%	6.2%
Large van	1.5%	0.8%	1.1%	0.9%	0.7%	1.0%	0.3%	0.2%
Small SUV	0.5%	0.5%	0.8%	1.5%	1.3%	2.4%	1.4%	1.2%
Midsize SUV	1.2%	1.0%	3.9%	3.5%	9.2%	11.2%	13.1%	14.8%
Large SUV	0.1%	0.2%	0.4%	0.6%	1.5%	5.3%	11.3%	13.0%
Total light vehicles sold (thousands)	10,224	11,306	14,460	12,615	15,145	16,575	15,891	14,870
Cars	80.6%	83.5%	74.6%	69.8%	62.0%	55.1%	50.5%	51.0%
Light trucks	19.4%	16.5%	25.4%	30.2%	38.0%	44.9%	49.5%	49.0%

Source:
U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007*, July 2007. (Additional resources: www.epa.gov/otaq/fetrends.htm)

Note: Includes light trucks of 8,500 lbs. or less.

Light trucks have been gaining market share since the early 1980s, mainly due to increases in the market share of sport utility vehicles (SUVs) and pickup trucks.

Figure 4.1. Light Vehicle Market Shares, Model Years 1975–2007



Source:
See Table 4.9

The midsize and large cars and wagons sales-weighted engine sizes have declined drastically since 1975.

Table 4.10
Sales-Weighted Engine Size of New Domestic and Import Cars by Size Class, Model Years 1975–2007
(liters[a])

	Cars			Wagons		
Sales period	Small	Midsize	Large	Small	Midsize	Large
1975	3.67	5.78	6.70	2.10	5.92	6.72
1976	3.70	5.62	6.72	2.23	5.16	6.82
1977	3.67	5.44	6.00	2.20	4.87	5.98
1978	2.90	4.79	5.85	2.20	4.23	5.80
1979	2.72	4.46	5.56	2.02	4.08	5.46
1980	2.25	3.74	5.15	1.85	3.74	5.29
1981	2.11	3.61	4.98	1.77	3.16	5.11
1982	2.15	3.46	4.79	1.79	3.36	5.01
1983	2.25	3.47	4.79	1.72	3.28	5.03
1984	2.29	3.44	4.82	1.75	2.82	5.00
1985	2.26	3.36	4.57	1.74	2.79	5.00
1986	2.25	3.18	4.26	1.85	2.65	4.98
1987	2.20	3.08	4.24	1.90	2.84	4.98
1988	2.18	3.00	4.29	1.85	2.80	4.98
1989	2.15	2.97	4.28	1.84	2.88	4.98
1990	2.15	3.06	4.23	2.13	2.97	4.98
1991	2.15	3.13	4.33	1.97	2.97	4.98
1992	2.20	3.13	4.29	2.00	3.08	5.54
1993	2.18	3.15	4.20	1.93	3.08	5.57
1994	2.25	3.10	4.06	1.98	2.95	5.74
1995	2.25	3.10	4.06	1.93	2.74	5.74
1996	2.23	2.97	4.10	2.00	2.64	5.74
1997	2.18	3.02	3.97	2.03	2.62	[b]
1998	2.25	2.90	3.93	2.03	2.54	[b]
1999	2.31	2.87	3.85	2.05	2.57	[b]
2000	2.28	2.85	3.62	2.08	2.51	[b]
2001	2.29	2.87	3.62	2.38	2.54	[b]
2002	2.31	2.90	3.57	2.38	2.49	[b]
2003	2.36	2.85	3.67	2.08	2.47	
2004	2.39	2.85	3.69	2.06	2.59	3.52
2005	2.36	2.75	3.69	2.00	3.00	3.56
2006	2.46	2.77	3.77	2.08	2.79	3.59
2007	2.52	2.77	4.06	2.00	3.08	3.85
			Average annual percentage change			
1975–2007	-1.2%	-2.3%	-1.6%	-0.2%	-2.0%	-1.7%
1997–2007	1.5%	-0.9%	-0.2%	-0.1%	1.6%	-3.9%[c]

Source:
U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007*, July 2007. (Additional resources: www.epa.gov/otaq/fetrends.htm)

[a] 1 liter = 61.02 cubic inches.
[b] No vehicles in this category were sold in this model year.
[c] 1996–2007.

The engine size of large sport utility vehicles (SUVs) declined an average of 1.9% per year from 1997 to 2007, while the size of a small SUV engine increased by over 3%.

Table 4.11
Sales-Weighted Engine Size of New Domestic and Import Light Trucks by Size Class, Model Years 1975–2007
(liters[a])

	Pickups			Vans			SUVs		
Sales Period	Small	Midsize	Large	Small	Midsize	Large	Small	Midsize	Large
1975	1.93	1.79	5.62	1.93	5.08	5.47	4.47	5.72	5.97
1976	1.95	1.79	5.64	1.97	5.20	5.49	4.47	5.80	6.11
1977	1.97	2.03	5.69	1.97	5.34	5.62	4.49	5.72	6.08
1978	1.95	2.03	5.56	1.97	5.36	5.49	4.51	5.87	6.11
1979	1.97	2.15	5.41	1.97	5.24	5.51	4.28	5.64	6.15
1980	2.00	2.18	5.00	1.97	4.72	5.16	3.72	5.31	5.57
1981	2.13	2.15	4.80	1.97	4.57	5.08	3.67	5.20	5.54
1982	2.25	2.49	4.90	1.82	4.65	5.15	3.39	5.24	5.64
1983	2.33	2.39	4.95	1.93	4.82	5.15	3.44	4.10	5.82
1984	2.33	2.43	4.93	1.97	4.06	5.15	3.05	3.70	5.75
1985	2.34	2.52	5.00	1.98	3.82	5.11	2.74	3.47	5.74
1986	2.38	2.41	4.88	2.15	3.67	5.01	2.74	3.34	5.74
1987	2.41	2.61	5.06	2.20	3.70	5.06	2.64	3.54	5.74
1988	2.43	2.70	5.21	2.20	3.65	5.06	2.57	3.83	5.75
1989	2.51	2.90	5.21	2.13	3.57	5.06	2.80	4.16	5.75
1990	2.51	2.87	5.24	2.29	3.59	5.15	2.65	3.98	5.75
1991	2.49	3.11	5.16	2.03	3.51	5.11	2.38	3.87	5.38
1992	2.49	3.20	5.11	2.11	3.57	5.16	2.39	3.82	5.42
1993	2.41	3.24	4.97	1.98	3.46	5.16	2.46	3.97	5.65
1994	2.47	3.23	5.18	2.21	3.59	5.21	2.28	3.90	5.62
1995	2.57	3.11	5.18	2.20	3.70	5.15	2.26	3.88	5.69
1996	2.61	3.06	5.16	2.33	3.46	5.33	1.75	4.08	5.64
1997	2.39	3.20	4.97	[b]	3.44	4.92	2.98	3.85	5.38
1998	2.62	3.13	5.05	[b]	3.43	4.87	2.65	3.87	5.13
1999	2.84	3.28	5.13	[b]	3.49	4.87	2.57	3.74	5.29
2000	2.43	3.15	4.74	[b]	3.41	4.85	2.80	3.75	5.11
2001	2.41	3.39	4.79	[b]	3.38	4.97	2.51	3.51	4.64
2002	2.90	3.70	4.82	[b]	3.44	4.80	2.56	3.34	4.54
2003	2.92	3.21	4.82	[b]	3.47	4.74	2.64	3.36	4.72
2004	3.02	3.59	4.93	[b]	3.51	4.79	2.97	3.51	4.74
2005	2.46	3.15	4.82	[b]	3.49	4.72	2.92	3.36	4.46
2006	2.46	3.26	4.77	[b]	3.47	4.65	3.26	3.34	4.26
2007	[b]	3.33	4.93	[b]	3.52	4.88	3.39	3.26	4.46
				Average annual percentage change					
1975-2007	[c]	2.0%	-0.4%	[c]	-1.1%	-0.4%	-0.9%	-1.7%	-0.9%
1997-2007	[c]	0.4%	-0.1%	[c]	0.2%	-0.1%	1.3%	-1.6%	-1.9%

Source:
U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007*, July 2007. (Additional resources: www.epa.gov/otaq/fetrends.htm)

Note: Includes light trucks of 8,500 lbs. or less.

[a] 1 liter = 61.02 cubic inches.
[b] No vehicles in this category were sold in this model year.
[c] Data are not available.

Table 4.12
Sales-Weighted Curb Weight of New Domestic and Import Cars by Size Class, Model Years 1975–2007
(pounds)

	Cars			Wagons		
Sales Period	Small	Midsize	Large	Small	Midsize	Large
1975	3,440	4,630	5,142	2,833	4,791	5,453
1976	3,474	4,558	5,156	2,902	4,555	5,444
1977	3,486	4,473	4,482	2,801	4,410	4,713
1978	3,029	3,820	4,394	2,805	3,836	4,664
1979	2,936	3,710	4,210	2,711	3,758	4,466
1980	2,717	3,362	4,130	2,591	3,534	4,423
1981	2,648	3,346	4,108	2,531	3,285	4,394
1982	2,684	3,321	4,034	2,580	3,384	4,396
1983	2,734	3,316	4,041	2,565	3,348	4,379
1984	2,776	3,318	4,022	2,620	3,298	4,371
1985	2,771	3,318	3,841	2,579	3,356	4,354
1986	2,791	3,241	3,719	2,647	3,355	4,381
1987	2,803	3,247	3,696	2,795	3,434	4,348
1988	2,818	3,293	3,730	2,757	3,378	4,349
1989	2,841	3,314	3,721	2,766	3,436	4,334
1990	2,897	3,450	3,799	3,026	3,498	4,337
1991	2,885	3,412	3,893	3,005	3,506	4,402
1992	2,921	3,515	3,872	3,076	3,503	4,500
1993	2,903	3,515	3,831	2,882	3,498	4,500
1994	2,965	3,529	3,858	2,908	3,532	4,500
1995	2,988	3,546	3,830	2,859	3,482	4,500
1996	2,977	3,527	3,894	2,952	3,661	4,500
1997	2,977	3,551	3,821	2,901	3,666	[a]
1998	3,013	3,534	3,784	2,874	3,668	[a]
1999	3,085	3,540	3,854	2,923	3,691	[a]
2000	3,079	3,550	3,782	3,107	3,572	[a]
2001	3,101	3,566	3,774	3,470	3,775	[a]
2002	3,125	3,549	3,767	3,504	3,731	[a]
2003	3,179	3,567	3,841	3,262	3,745	
2004	3,192	3,577	3,858	3,235	3,860	4,769
2005	3,163	3,544	3,993	3,160	3,839	4,791
2006	3,245	3,569	4,038	3,252	3,611	4,807
2007	3,335	3,590	4,132	3,173	3,847	4,794
	Average annual percentage change					
1975-2007	-0.1%	-0.8%	-0.7%	0.4%	-0.7%	-0.4%
1997-2007	1.1%	0.1%	0.8%	0.9%	0.5%	0.6%[b]

Source:
U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007*, July 2007. (Additional resources: www.epa.gov/otaq/fetrends.htm)

[a] Data are not available.
[b] 1996–2007.

The interior space of large cars declined slightly from 1995 to 2007, while the interior space of small and midsize cars gradually increased.

Table 4.13
Sales-Weighted Interior Space of New Domestic and Import Cars by Size Class, Model Years 1977–2007
(cubic feet)

	Cars			Wagons		
Sales Period	Small	Midsize	Large	Small	Midsize	Large
1977	95.4	112.9	128.1	108.0	143.6	163.1
1978	90.9	113.0	128.5	108.0	140.0	162.4
1979	89.2	113.1	130.0	105.1	139.7	162.5
1980	90.0	113.2	130.9	108.2	139.7	161.5
1981	91.6	113.9	131.0	110.6	136.2	161.4
1982	92.2	113.9	131.0	112.2	136.1	161.3
1983	95.1	113.8	131.3	108.2	136.2	161.6
1984	95.2	113.7	130.9	116.5	135.9	161.7
1985	95.8	113.6	129.3	117.7	134.8	161.7
1986	96.7	113.8	127.4	118.4	137.8	161.4
1987	96.9	113.7	127.0	120.0	140.2	161.8
1988	98.5	113.4	128.1	118.7	139.4	161.7
1989	98.3	113.6	127.4	118.6	139.9	161.8
1990	97.6	113.7	126.7	122.2	141.6	161.6
1991	97.6	113.5	129.0	123.3	142.3	169.1
1992	97.9	113.9	129.6	123.7	142.6	170.3
1993	98.3	113.9	128.9	123.0	137.7	169.3
1994	98.7	113.5	128.3	122.9	137.4	169.2
1995	99.6	114.3	127.9	122.1	135.9	169.3
1996	99.9	114.1	128.1	118.0	136.9	170.2
1997	99.2	114.5	127.4	119.5	136.5	[a]
1998	98.8	114.0	127.4	116.9	135.3	[a]
1999	98.9	114.0	127.0	117.9	136.4	[a]
2000	99.4	113.6	124.9	119.7	134.0	[a]
2001	99.2	113.7	124.8	119.6	133.6	[a]
2002	98.9	114.8	124.0	118.2	133.6	[a]
2003	98.6	114.6	124.8	115.2	133.5	
2004	99.0	114.0	124.7	117.5	133.5	165.0
2005	99.1	114.5	125.0	115.9	133.3	165.0
2006	98.8	114.0	124.9	118.4	134.4	164.7
2007	98.4	113.9	124.1	113.6	133.2	159.2
			Average annual percentage change			
1977-2007	0.1%	0.0%	-0.1%	0.2%	-0.3%	-0.1%
1997-2007	-0.1%	-0.1%	-0.3%	-0.5%	-0.2%	-0.7%[b]

Source:
U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2007*, July 2007. (Additional resources: www.epa.gov/otaq/fetrends.htm)

[a] No vehicles in this category were sold in this model year.
[b] 1996-2007.

The average auto lost over 500 pounds from 1977 to 1990. Much of the weight reduction was due to the declining use of conventional steel and iron and the increasing use of aluminum and plastics. Conventional steel, however, remained the predominant component of cars in 2004 with a 40.1% share of total materials. As conventional steel use has been decreasing, use of high-strength steel has increased. Note that the American Metals Market discontinued their survey in 2005; thus the 2004 data are the latest available.

Table 4.14
Average Material Consumption for a Domestic Car, 1977, 1990, and 2004

	1977		1990		2004	
Material	Pounds	Percentage	Pounds	Percentage	Pounds	Percentage
Conventional steel[a]	1,995.0	54.4%	1,405.0	44.7%	1,361.0	40.1%
High-strength steel	125.0	3.4%	238.0	7.6%	395.0	11.6%
Stainless steel	26.0	0.7%	34.0	1.1%	57.5	1.7%
Other steels	56.0	1.5%	39.5	1.3%	28.0	0.8%
Iron	540.0	14.7%	454.0	14.5%	308.0	9.1%
Aluminum	97.0	2.6%	158.5	5.0%	289.5	8.5%
Rubber	150.0	4.1%	136.5	4.3%	152.0	4.5%
Plastics/composites	168.0	4.6%	229.0	7.3%	257.5	7.6%
Glass	87.5	2.4%	86.5	2.8%	99.5	2.9%
Copper	38.5	1.1%	48.5	1.5%	51.5	1.5%
Zinc die castings	38.0	1.0%	18.5	0.6%	8.5	0.3%
Powder metal parts	15.5	0.4%	24.0	0.8%	41.5	1.2%
Fluids & lubricants	200.0	5.5%	182.0	5.8%	198.5	5.9%
Magnesium parts	128.0	3.5%	3.0	0.1%	10.0	0.3%
Other materials	1.0	0.0%	83.5	2.7%	133.0	3.9%
Total	3,665.5	100.0%	3,140.5	100.0%	3,391.0	100.0%

Source:
American Metal Market, New York, NY, 2004. (Additional resources: www.amm.com)

[a] Includes cold-rolled and pre-coated steel.

The number of franchised dealerships which sell new light-duty vehicles (cars and light trucks) has declined 30% since 1970, though new vehicle sales have increased. The average number of vehicles sold per dealer in 2006 was 768 vehicles per dealer – more than double the 1970 number.

Table 4.15
New Light Vehicle Dealerships and Sales, 1970–2006

Calendar year	Number of franchised new light vehicle dealerships[a]	New light vehicle sales (thousands)	Light vehicle sales per dealer
1970	30,800	9,862	320
1971	30,300	12,006	396
1972	30,100	13,189	438
1973	30,100	14,184	471
1974	30,000	11,191	373
1975	29,600	10,905	368
1976	29,300	13,066	446
1977	29,100	14,613	502
1978	29,000	15,122	521
1979	28,500	13,984	491
1980	27,900	11,389	408
1981	26,350	10,678	405
1982	25,700	10,426	406
1983	24,725	12,132	491
1984	24,725	14,187	574
1985	24,725	15,437	624
1986	24,825	15,998	644
1987	25,150	14,802	589
1988	25,025	15,347	613
1989	25,000	14,389	576
1990	24,825	13,851	558
1991	24,200	12,312	509
1992	23,500	12,842	546
1993	22,950	13,869	604
1994	22,850	15,024	658
1995	22,800	14,688	644
1996	22,750	15,046	661
1997	22,700	15,069	664
1998	22,600	15,441	683
1999	22,400	16,771	748
2000	22,250	17,234	774
2001	22,150	17,123	773
2002	21,800	16,816	771
2003	21,725	16,548	762
2004	21,650	16,867	779
2005	21,640	16,948	783
2006	21,495	16,505	768
		Average annual percentage change	
1970–2006	-1.0%	1.4%	2.5%
1996–2006	-0.6%	0.9%	1.5%

Source:
Number of dealers - National Automobile Dealers Association, *Automotive Executive Magazine*, 2007. (Additional resources: http://www.nada.org/NR/rdonlyres/5E107D06-32C7-4D06-8C0A-28C1112BF583/0/NADA_DATA_2007_NewCar_Dealerships.pdf) Light-duty vehicle sales - See tables 4.5 and 4.6.

[a] Includes cold-rolled and pre-coated steel.

The number of conventional refueling stations is declining while the number of vehicles fueling at those stations continues to rise. In 2006, there were 0.69 fueling stations per thousand vehicles or 1.46 thousand vehicles per station.

Table 4.16
Conventional Refueling Stations, 1993-2006

Year	Number of retail outlets	Vehicles in operation (thousands)	Stations per thousand vehicles	Thousand vehicles per station
	Conventional fuels			
1993	207,416	186,315	1.11	0.90
1994	202,878	188,714	1.08	0.93
1995	195,455	193,441	1.01	0.99
1996	190,246	198,294	0.96	1.04
1997	187,892	201,071	0.93	1.07
1998	182,596	205,043	0.89	1.12
1999	180,567	209,509	0.86	1.16
2000	175,941	213,300	0.82	1.21
2001	172,169	216,683	0.79	1.26
2002	170,018	221,027	0.77	1.30
2003	167,571	225,882	0.74	1.35
2004	167,346	231,398	0.72	1.38
2005	168,987	237,697	0.71	1.41
2006	167,476	244,022	0.69	1.46

Sources:
Conventional refueling stations: National Petroleum News Survey, 2006.
Conventional vehicles: The Polk Company, Detroit, MI, FURTHER REPRODUCTION PROHIBITED.

Notes: The County Business Patterns (CBP) data published by the Bureau of the Census tells the number of establishments by North American Industry Classification System (NAICS). NAICS is an industry classification system that groups establishments into industries based on the activities in which they are primarily engaged. NAICS 447 represents gasoline stations. However, the CBP gasoline station data differ from the National Petroleum News Survey data by as much as 30% (117,189 stations in 2005); the CBP may not include every gasoline retail outlet due to the classification of the primary activity of the business.

Alternative Fuel Refueling Stations are listed in Chapter 6.

The Corporate Average Fuel Economy standards were established by the U.S. Energy Policy and Conservation Act of 1975 (PL94-163). These standards must be met at the manufacturer level. Some manufacturers fall short of meeting the standards while others exceed them. New legislation passed in December 2007 will change the CAFE standards beginning in the 2011 model year. The new standards have a target of combined fleet fuel economy of 35 mpg by 2020, for all cars and light trucks.

Table 4.17
Car Corporate Average Fuel Economy (CAFE)
Standards versus Sales-Weighted Fuel Economy Estimates, 1978–2007[a]
(miles per gallon)

Model year[b]	Cars				CAFE estimates
	CAFE standards	CAFE estimates[c]			Cars and light trucks combined
		Domestic	Import	Combined	
1978	18.0	18.7	27.3	19.9	19.9
1979	19.0	19.3	26.1	20.3	20.1
1980	20.0	22.6	29.6	24.3	23.1
1981	22.0	24.2	31.5	25.9	24.6
1982	24.0	25.0	31.1	26.6	25.1
1983	26.0	24.4	32.4	26.4	24.8
1984	27.0	25.5	32.0	26.9	25.0
1985	27.5	26.3	31.5	27.6	25.4
1986	26.0	26.9	31.6	28.2	25.9
1987	26.0	27.0	31.2	28.5	26.2
1988	26.0	27.4	31.5	28.8	26.0
1989	26.5	27.2	30.8	28.4	25.6
1990	27.5	26.9	29.9	28.0	25.4
1991	27.5	27.3	30.1	28.4	25.6
1992	27.5	27.0	29.2	27.9	25.1
1993	27.5	27.8	29.6	28.4	25.2
1994	27.5	27.5	29.6	28.3	24.7
1995	27.5	27.7	30.3	28.6	24.9
1996	27.5	28.1	29.6	28.5	24.9
1997	27.5	27.8	30.1	28.7	24.6
1998	27.5	28.6	29.2	28.8	24.7
1999	27.5	28.0	29.0	28.3	24.5
2000	27.5	28.7	28.3	28.5	24.8
2001	27.5	28.7	29.0	28.8	24.5
2002	27.5	29.1	28.8	29.0	24.7
2003	27.5	29.1	29.9	29.5	25.1
2004	27.5	29.9	28.7	29.5	24.6
2005	27.5	30.5	29.9	30.3	25.4
2006	27.5	30.1	29.4	29.8	25.4
2007	27.5	30.5	31.7	31.0	26.4

Source:
U.S. Department of Transportation, NHTSA, "Summary of Fuel Economy Performance," Washington, DC, March 2007.
(Additional resources: www.nhtsa.dot.gov)

[a] Only vehicles with at least 75 percent domestic content can be counted in the average domestic fuel economy for a manufacturer.
[b] Model year as determined by the manufacturer on a vehicle by vehicle basis.
[c] All CAFE calculations are sales-weighted.

The Corporate Average Fuel Economy standards for light trucks are lower than the car standards. Light trucks include pickups, minivans, sport utility vehicles and vans. New legislation passed in December 2007 will change the CAFE standards beginning in the 2011 model year. The new standards have a target of combined fleet fuel economy of 35 mpg by 2020, for all cars and light trucks.

Table 4.18
Light Truck Corporate Average Fuel Economy (CAFE)
Standards versus Sales-Weighted Fuel Economy Estimates, 1978–2007[a]
(miles per gallon)

Model year[c]	Light trucks[b]				CAFE estimates
	CAFE standards	CAFE estimates[d]			Cars and light trucks combined
		Domestic	Import	Combined	
1978	[e]	[f]	[f]	[f]	19.9
1979	[e]	17.7	20.8	18.2	20.1
1980	[e]	16.8	24.3	18.5	23.1
1981	[e]	18.3	27.4	20.1	24.6
1982	17.5	19.2	27.0	20.5	25.1
1983	19.0	19.6	27.1	20.7	24.8
1984	20.0	19.3	26.7	20.6	25.0
1985	19.5	19.6	26.5	20.7	25.4
1986	20.0	20.0	25.9	21.5	25.9
1987	20.5	20.5	25.2	21.7	26.2
1988	20.5	20.6	24.6	21.3	26.0
1989	20.5	20.4	23.5	21.0	25.6
1990	20.0	20.3	23.0	20.8	25.4
1991	20.2	20.9	23.0	21.3	25.6
1992	20.2	20.5	22.7	20.8	25.1
1993	20.4	20.7	22.8	21.0	25.2
1994	20.5	20.5	22.1	20.8	24.7
1995	20.6	20.3	21.5	20.5	24.9
1996	20.7	20.5	22.2	20.8	24.9
1997	20.7	20.1	22.1	20.6	24.6
1998	20.7	20.5	23.0	21.0	24.7
1999	20.7	20.4	22.5	20.9	24.5
2000	20.7	21.1	19.7	21.3	24.8
2001	20.7	20.6	21.8	20.9	24.5
2002	20.7	20.6	21.9	21.4	24.7
2003	20.7	21.8	22.4	21.8	25.1
2004	20.7	20.7	22.3	21.5	24.6
2005	21.0	[f]	[f]	22.1	25.4
2006	21.6	[f]	[f]	22.2	25.4
2007	22.2	[f]	[f]	22.9	26.4

Source:
U.S. Department of Transportation, NHTSA, "Summary of Fuel Economy Performance," Washington, DC, March 2007. (Additional resources: www.nhtsa.dot.gov)

[a] Only vehicles with at least 75 percent domestic content can be counted in the average domestic fuel economy for a manufacturer.

[b] Represents two- and four-wheel drive trucks combined. Gross vehicle weight of 0-6,000 pounds for model year 1978-1979 and 0-8,500 pounds for subsequent years.

[c] Model year as determined by the manufacturer on a vehicle by vehicle basis.

[d] All CAFE calculations are sales-weighted.

[e] Standards were set for two-wheel drive and four-wheel drive light trucks separately, but no combined standard was set in this year.

[f] Data are not available.

Manufacturers of cars and light trucks whose vehicles do not meet the CAFE standards are fined. Data from the National Highway Traffic Safety Administration show CAFE fine collection dropped under $25 million in 2002 and 2003; this was due to several factors, including the CAFE credit system, manufacturer mergers, and fines not being paid in the same year they were assessed.

Table 4.19
Corporate Average Fuel Economy (CAFE) Fines Collected, 1983-2006[a]
(thousands)

Model year	Current dollars	2006 constant dollars[b]
1983	58	117
1984	5,958	11,561
1985	15,565	29,162
1986	29,872	54,947
1987	31,261	55,476
1988	44,519	75,867
1989	47,381	77,032
1990	48,309	74,514
1991	42,363	62,705
1992	38,287	55,015
1993	28,688	40,025
1994	31,499	42,848
1995	40,787	53,955
1996	19,302	24,801
1997	36,212	45,485
1998	21,740	26,888
1999	27,516	33,297
2000	51,067	59,786
2001	35,507	40,420
2002	20,042	22,459
2003	15,216	16,672
2004	33,631	35,892
2005	27,473	28,359
2006	43,171	43,171

Source:
U.S. Department of Transportation, National Highway Traffic Safety Administration, Office of Vehicle Safety Compliance, Washington, DC, December 2007. (Additional resources: www.nhtsa.dot.gov)

[a] These are fines which are actually collected. Fines which are assessed in certain year may not have been collected in that year.

[b] Adjusted using the Consumer Price Inflation Index.

Consumers must pay the Gas Guzzler Tax when purchasing an car that has an Environmental Protection Agency (EPA) fuel economy rating less than that stipulated in the table below. The Gas Guzzler Tax doubled in 1991 after remaining constant from 1986 to 1990. The tax has not changed since 1991. This tax does not apply to light trucks such as pickups, minivans, sport utility vehicles, and vans.

Table 4.20
The Gas Guzzler Tax on New Cars
(dollars per vehicle)

Vehicle fuel economy (mpg)	1980	1981	1982	1983	1984	1985	1986–90	1991 – on
Over 22.5	0	0	0	0	0	0	0	0
22.0–22.5	0	0	0	0	0	0	500	1,000
21.5–22.0	0	0	0	0	0	0	500	1,000
21.0–21.5	0	0	0	0	0	0	650	1,300
20.5–21.0	0	0	0	0	0	500	650	1,300
20.0–20.5	0	0	0	0	0	500	850	1,700
19.5–20.0	0	0	0	0	0	600	850	1,700
19.0–19.5	0	0	0	0	450	600	1,050	2,100
18.5–19.0	0	0	0	350	450	800	1,050	2,100
18.0–18.5	0	0	200	350	600	800	1,300	2,600
17.5–18.0	0	0	200	500	600	1,000	1,300	2,600
17.0–17.5	0	0	350	500	750	1,000	1,500	3,000
16.5–17.0	0	200	350	650	750	1,200	1,500	3,000
16.0–16.5	0	200	450	650	950	1,200	1,850	3,700
15.5–16.0	0	350	450	800	950	1,500	1,850	3,700
15.0–15.5	0	350	600	800	1,150	1,500	2,250	4,500
14.5–15.0	200	450	600	1,000	1,150	1,800	2,250	4,500
14.0–14.5	200	450	750	1,000	1,450	1,800	2,700	5,400
13.5–14.0	300	550	750	1,250	1,450	2,200	2,700	5,400
13.0–13.5	300	550	950	1,250	1,750	2,200	3,200	6,400
12.5–13.0	550	650	950	1,550	1,750	2,650	3,200	6,400
Under 12.5	550	650	1,200	1,550	2,150	2,650	3,850	7,700

Source:
Internal Revenue Service, Form 6197, (Rev. 1-91), "Gas Guzzler Tax." (Additional resources: www.irs.ustreas.gov)

Consumers continue to demand gas guzzling cars. The IRS collected over $200 million in 2006 from those buying cars with fuel economy less than 22.5 miles per gallon. This tax does not apply to light trucks such as pickups, minivans, sport utility vehicles, and vans.

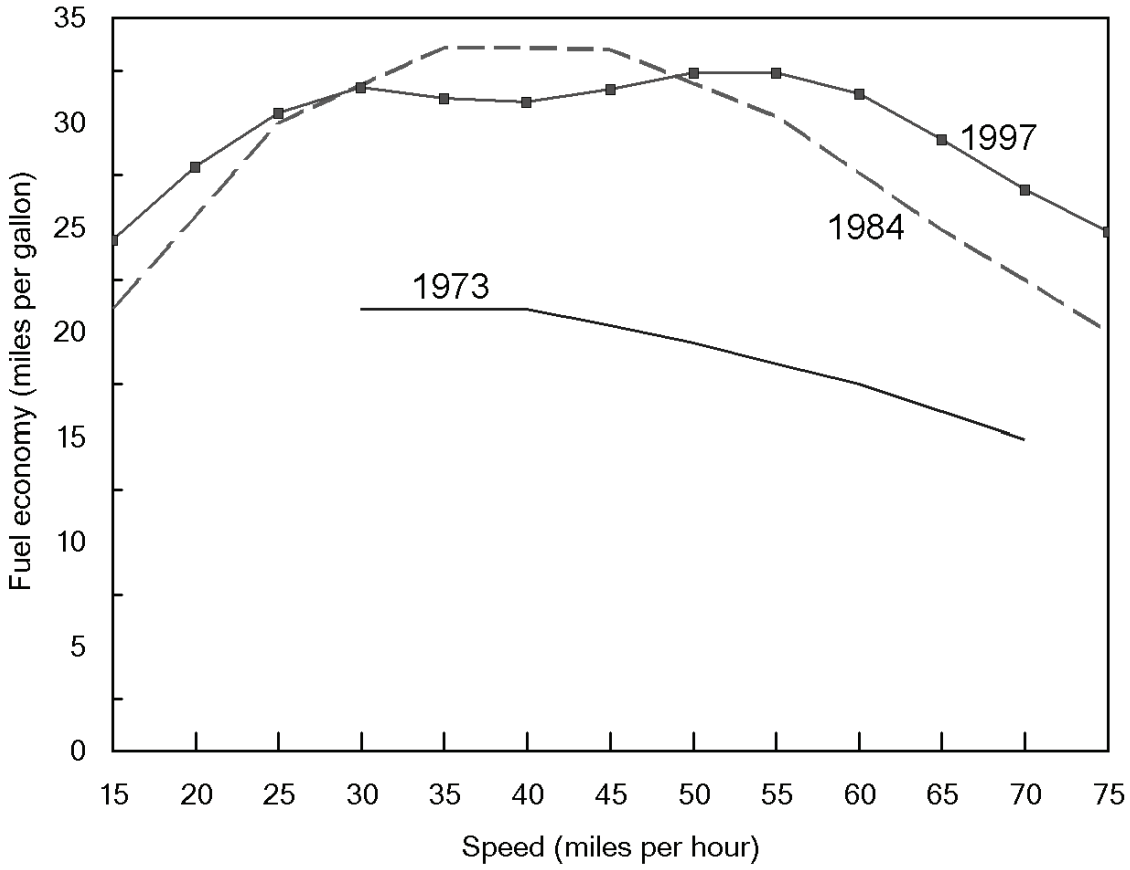
Table 4.21
Tax Receipts from the Sale of Gas Guzzlers, 1980–2006
(thousands)

Model year	Current dollars	2006 constant dollars[a]
1980	740	1,810
1981	780	1,730
1982	1,720	3,593
1983	4,020	8,137
1984	8,820	17,114
1985	39,790	74,551
1986	147,660	271,608
1987	145,900	258,921
1988	116,780	199,010
1989	109,640	178,253
1990	103,200	159,182
1991	118,400	175,253
1992	144,200	207,204
1993	111,600	155,699
1994	64,100	87,197
1995	73,500	97,228
1996	52,600	67,585
1997	48,200	60,543
1998	47,700	58,996
1999	68,300	82,649
2000	70,800	82,888
2001	78,200	89,018
2002	79,700	89,314
2003	126,800	138,929
2004	140,800	150,266
2005	170,300	175,794
2006	200,200	200,200

Source:
Ward's Communications, *Motor Vehicle Facts and Figures*, 2007, Detroit, MI, 2007, p. 87. Original data source: Internal Revenue Service.

[a] Adjusted using the Consumer Price Inflation Index.

Figure 4.2. Fuel Economy by Speed, 1973, 1984, and 1997 Studies



Source:
See Table 4.22.

The two earlier studies by the Federal Highway Administration (FHWA) indicate maximum fuel efficiency was achieved at speeds of 35 to 40 mph. The recent FHWA study indicates greater fuel efficiency at higher speeds. Note that the 1973 study did not include light trucks.

Table 4.22
Fuel Economy by Speed, 1973, 1984, and 1997 Studies
(miles per gallon)

Speed (miles per hour)	1973[a] (13 vehicles)	1984[b] (15 vehicles)	1997[c] (9 vehicles)
15	[d]	21.1	24.4
20	[d]	25.5	27.9
25	[d]	30.0	30.5
30	21.1	31.8	31.7
35	21.1	33.6	31.2
40	21.1	33.6	31.0
45	20.3	33.5	31.6
50	19.5	31.9	32.4
55	18.5	30.3	32.4
60	17.5	27.6	31.4
65	16.2	24.9	29.2
70	14.9	22.5	26.8
75	[d]	20.0	24.8
		Fuel economy loss	
55–65 mph	12.4%	17.8%	9.7%
65–70 mph	8.0%	9.6%	8.2%
55–70 mph	19.5%	25.7%	17.1%

Sources:

1973- U.S. Department of Transportation, Federal Highway Administration, Office of Highway Planning, *The Effect of Speed on Automobile Gasoline Consumption Rates*, Washington, DC, October 1973.

1984 - U.S. Department of Transportation, Federal Highway Administration, *Fuel Consumption and Emission Values for Traffic Models*, Washington, DC, May 1985.

1997 - West, B.H., R.N. McGill, J.W. Hodgson, S.S. Sluder, and D.E. Smith, *Development and Verification of Light-Duty Modal Emissions and Fuel Consumption Values for Traffic Models*, FHWA Report (in press), Washington, DC, April 1997, and additional project data, April 1998. (Additional resources: www.fhwa-tsis.com)

[a] Model years 1970 and earlier cars.
[b] Model years 1981–84 cars and light trucks.
[c] Model years 1988–97 cars and light trucks.
[d] Data are not available.

Table 4.23
Vehicle Specifications for Vehicles Tested in the 1997 Study

Vehicle	Curb weight	Engine	Fuel delivery system[a]	Trans-mission	EPA fuel economy	
					City	Highway
1988 Chevrolet Corsica	2,665	2.8 liter V6	PFI	M5	19	29
1994 Olds Cutlass Supreme	3,290	3.4 liter V6	PFI	L4	17	26
1994 Oldsmobile 88	3,433	3.8 literV6	PFI	L4	19	29
1994 Mercury Villager	4,020	3.0 liter V6	PFI	L4	17	23
1995 Geo Prizm	2,359	1.6 liter I-4	PFI	L3	26	30
1994 Jeep Grand Cherokee	3,820	4.0 liter I-6	PFI	L4	15	20
1994 Chevrolet Pickup	4,020	5.7 liter V8	TBI	L4	14	18
1993 Subaru Legacy	2,800	2.2 liter H4	PFI	L4	22	29
1997 Toyota Celica	2,395	1.8 liter I4	PFI	L4	27	34

Source:
West, B.H., R.N. McGill, J.W. Hodgson, S.S. Sluder, and D.E. Smith, *Development and Verification of Light-Duty Modal Emissions and Fuel Consumption Values for Traffic Models*, Washington, DC, April 1997 and additional project data, April 1998.

[a] PFI = port fuel injection. TBI = throttle- body fuel injection.

Of the tested vehicles, the 1994 Oldsmobile Olds 88 had the greatest fuel economy loss from 55 mph to 75 mpg. The 1997 Toyota Celica tested fuel economy was slightly better at 65 mph than at 55 mph.

Table 4.24
Steady Speed Fuel Economy for Vehicles Tested in the 1997 Study
(miles per gallon)

Speed (mph)	1988 Chevrolet Corsica	1993 Subaru Legacy	1994 Oldsmobile Olds 88	1994 Oldsmobile Cutlass	1994 Chevrolet Pickup	1994 Jeep Grand Cherokee	1994 Mercury Villager	1995 Geo Prizm	1997 Toyota Celica
5	10.0	14.5	10.5	5.1	7.9	8.2	12.3	18.1	19.1
10	16.8	24.7	14.9	7.9	16.0	11.2	19.0	23.1	34.1
15	17.7	31.9	22.2	11.4	16.3	17.5	22.4	38.9	41.7
20	21.7	34.4	26.3	12.5	19.9	24.7	25.8	39.4	46.0
25	23.9	37.4	28.3	15.6	22.7	21.8	30.8	41.7	52.6
30	28.7	39.7	29.0	19.0	26.3	21.6	30.3	40.0	50.8
35	28.6	38.0	30.9	21.2	24.3	25.0	26.1	39.1	47.6
40	29.2	37.0	33.2	23.0	26.7	25.5	29.0	38.9	36.2
45	28.8	33.7	32.4	23.0	27.3	25.4	27.8	42.3	44.1
50	31.2	33.7	34.2	27.3	26.3	24.8	30.1	39.1	44.8
55	29.1	37.7	34.6	29.1	25.1	24.0	31.7	37.7	42.5
60	28.2	35.9	32.5	28.2	22.6	23.2	27.3	36.7	48.4
65	28.7	33.4	30.0	25.0	21.8	21.3	25.3	34.1	43.5
70	26.1	31.0	26.7	22.9	20.1	20.0	23.9	31.7	39.2
75	23.7	28.8	24.0	21.6	18.1	19.1	22.4	28.3	36.8
				Fuel economy loss					
55–65 mph	1.4%	11.4%	13.3%	14.1%	13.1%	11.3%	20.2%	9.5%	-2.4%
65–75 mph	17.4%	13.8%	20.0%	13.6%	17.0%	10.3%	11.5%	17.0%	15.4%
55–75 mph	18.6%	23.6%	30.6%	25.8%	27.9%	20.4%	29.3%	24.9%	13.4%

Source:
B.H. West, R.N. McGill, J.W. Hodgson, S.S. Sluder, D.E. Smith, *Development and Verification of Light-Duty Modal Emissions and Fuel Consumption Values for Traffic Models*, Washington, DC, April 1997, and additional project data, April 1998. (Additional resources: www.fhwa-tsis.com)

Note: For specifications of the tested vehicles, please see Table 4.22.

This table shows the new methodology that the Environmental Protection Agency (EPA) will use to determine fuel economy ratings for new vehicles beginning in model year 2008. In addition to the Urban Driving Cycle and the Highway Driving cycle, the EPA will also use three additional tests to adjust fuel economy ratings to account for higher speeds, air conditioner use, and colder temperatures. To know more about new vehicle fuel economy ratings, visit www.fueleconomy.gov.

Table 4.25
Driving Cycle Attributes

	Test Schedule				
	City	Highway	High Speed	AC	Cold Temp
Trip type	Low speeds in stop-and-go urban traffic	Free-flow traffic at highway speeds	Higher speeds; harder acceleration & braking	AC use under hot ambient conditions	*City* test w/colder outside temperature
Top speed	56 mph	60 mph	**80 mph**	54.8 mph	56 mph
Average speed	20 mph	48 mph	48 mph	22 mph	20 mph
Max. acceleration	3.3 mph/sec	3.2 mph/sec	**8.46 mph/sec**	5.1 mph/sec	3.3 mph/sec
Simulated distance	11 mi.	10 mi.	8 mi.	3.6 mi.	11 mi.
Time	31 min.	12.5 min.	10 min.	9.9 min.	31 min.
Stops	23	None	4	5	23
Idling time	18% of time	None	7% of time	19% of time	18% of time
Engine startup[a]	**Cold**	Warm	Warm	Warm	**Cold**
Lab temperature	68-86° F	68-86° F	68-86° F	**95° F**	**20° F**
Vehicle air conditioning	Off	Off	Off	**On**	Off

Source:
U.S. Department of Energy and U.S. Environmental Protection Agency, Fuel Economy Website, www.fueleconomy.gov.

[a] A vehicle's engine doesn't reach maximum fuel efficiency until it is warm.

These driving cycles simulate the performance of an engine while driving in the city and on the highway. Once the city cycle is completed, the engine is stopped, then started again for the 8.5 minute hot start cycle. Three additional cycles also influence new vehicle fuel economy ratings beginning with the 2008 model year.

Figure 4.3. City Driving Cycle

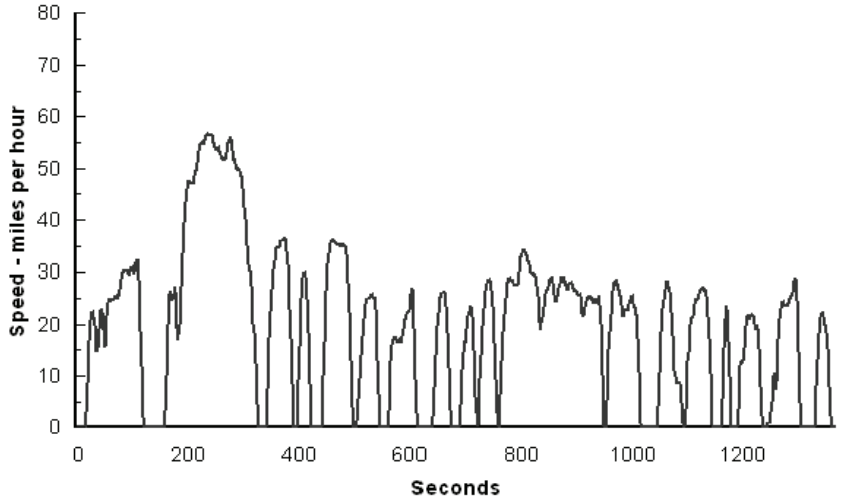
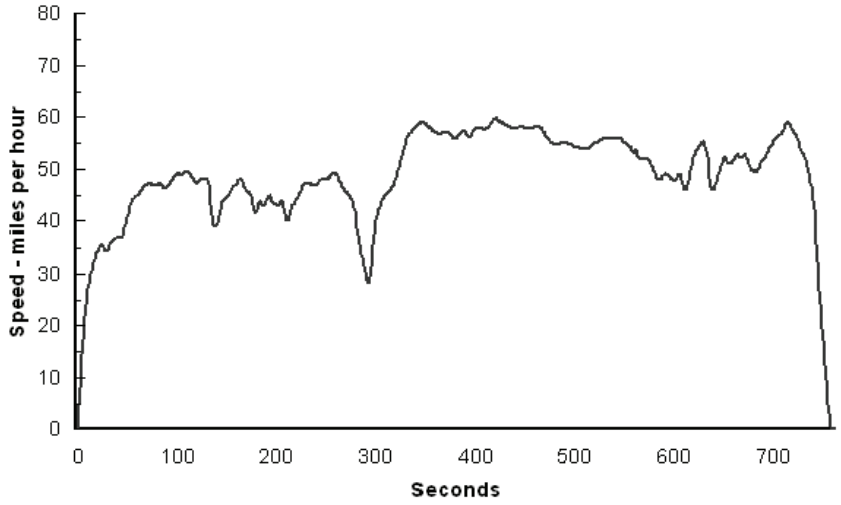


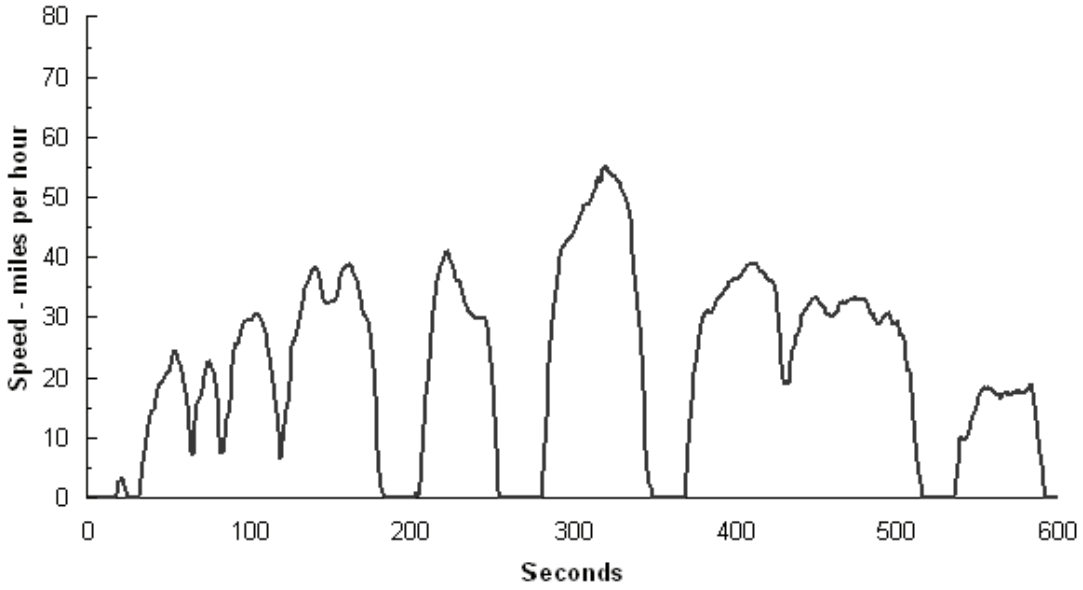
Figure 4.4. Highway Driving Cycle



Source:
Code of Federal Regulations, 40CFR, "Subpart B - Fuel Economy Regulations for 1978 and Later Model Year Automobiles - Test Procedures," July 1, 1988 edition, p. 676.

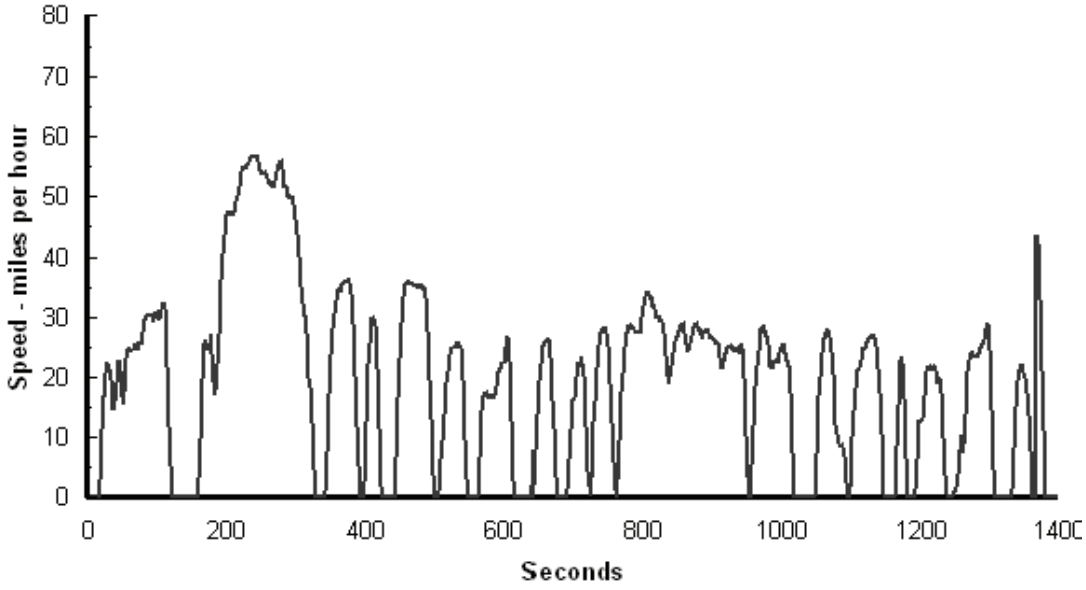
Beginning with the 2008 model year, these cycles influence the new vehicle fuel economy ratings.

Figure 4.5. Air Conditioning (SC03) Driving Cycle



Source:
U.S. Department of Energy and Environmental Protection Agency, Fuel Economy Website, www.fueleconomy.gov.

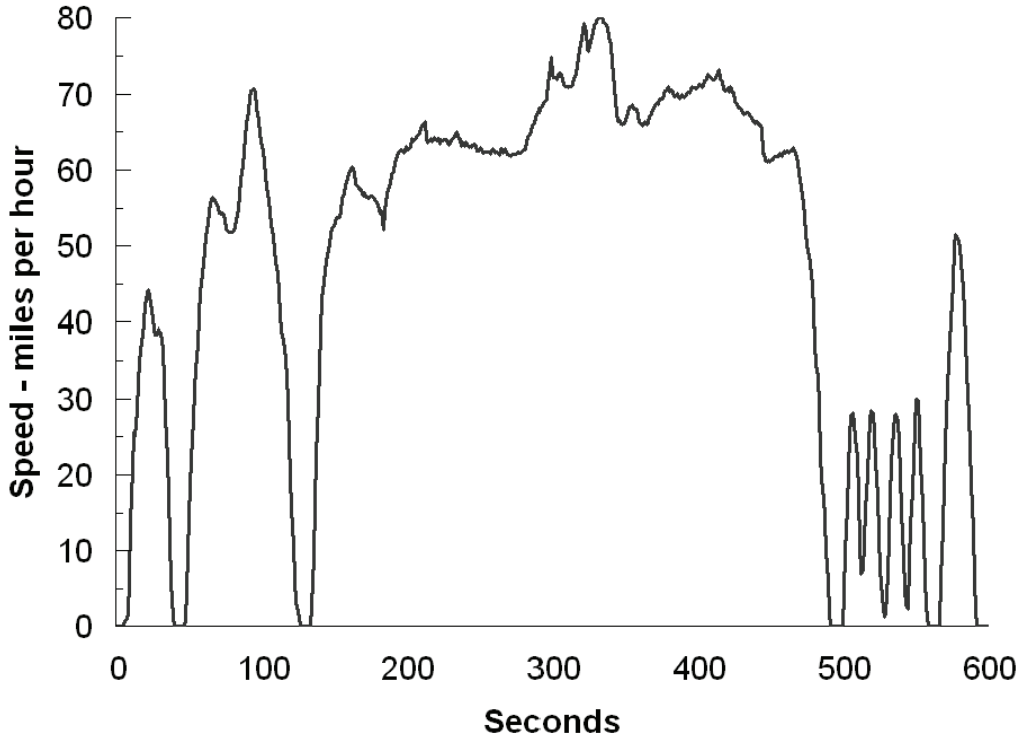
Figure 4.6. Cold Temperature (Cold FTP) Driving Cycle



Source:
U.S. Department of Energy and Environmental Protection Agency, Fuel Economy Website, www.fueleconomy.gov.

Beginning with the 2008 model year, this cycle influences the new vehicle fuel economy ratings. The US06 driving cycle was originally developed as a supplement to the Federal Test Procedure. It is a short-duration cycle (600 seconds) which represents hard-acceleration driving.

Figure 4.7. High-Speed (US06) Driving Cycle



Source:
U.S. Department of Energy and Environmental Protection Agency, Fuel Economy Website, www.fueleconomy.gov.

The Environmental Protection Agency also uses other driving cycles to test new vehicles (although these do not affect the fuel economy ratings). The New York Test Cycle was developed in the 1970's in order to simulate driving in downtown congested areas. The Representative Number Five Test Cycle was developed in the 1990's to better represent actual on-road driving by combining modern city and freeway driving.

Figure 4.8. New York City Driving Cycle

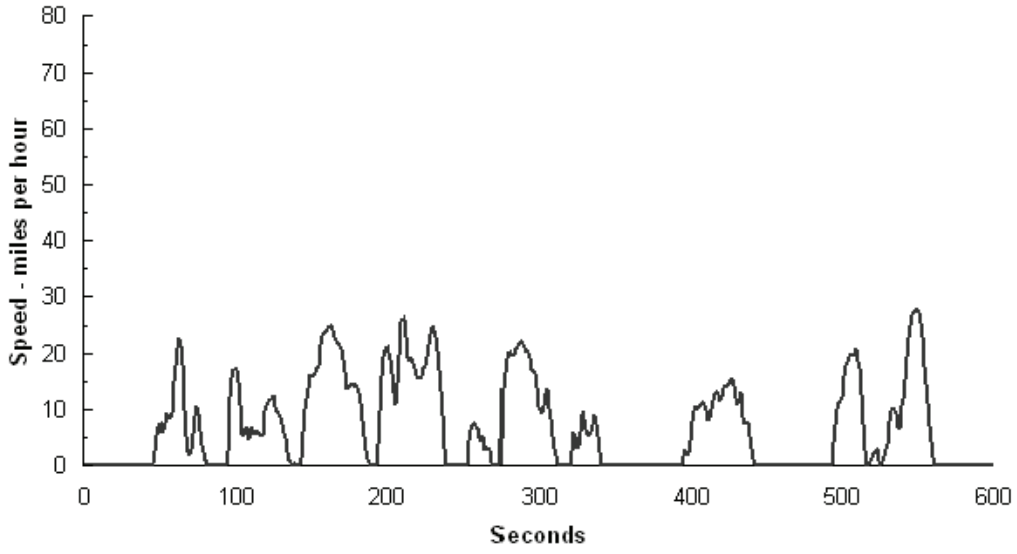
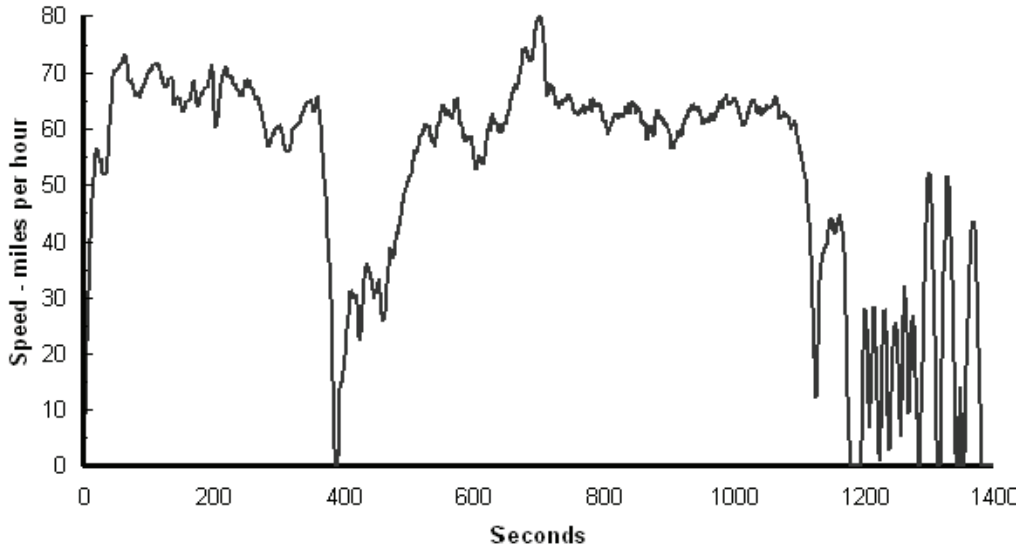


Figure 4.9. Representative Number Five Driving Cycle



Source:
Data obtained from Michael Wang, Argonne National Laboratory, Argonne, IL, 1997.

Researchers at Argonne National Laboratory have estimated the fuel economy of a midsize car using driving cycles from different countries. These results illustrate the difference in fuel economy which can be obtained from the same vehicle using different test cycles.

Table 4.26
Projected Fuel Economies from U.S., European, and Japanese Driving Cycles

Driving Cycle	Projected fuel economy for a 1995 composite midsize vehicle[a]
Japanese 10/15 mode test cycle	17.5 mpg
New European Driving Cycle (NEDC)	22.0 mpg
U.S. EPA city cycle (LA4)	19.8 mpg
U.S. EPA highway cycle	32.1 mpg
U.S. Corporate Average Fuel Economy cycle	23.9 mpg

Source:
Santini, D., A. Vyas, J. Anderson, and F. An, *Estimating Trade-Offs along the Path to the PNGV 3X Goal*, presented at the Transportation Research Board 80th Annual Meeting, Washington, DC, January 2001.

Note: China and India both use the European Driving Cycle, though India uses a modified version called the Modified Indian Driving Cycle which accounts for lower maximum speeds that better represent driving conditions in India.

[a] The 1995 composite midsize vehicle is an average of a Chevrolet Lumina, Chrysler Concord, and Ford Taurus. The fuel economies were projected using the National Renewable Energy Laboratory's Advanced Vehicle Simulator (ADVISOR) model.

When comparing data between countries, one must realize that different countries have different testing cycles to determine fuel economy and emissions. This table compares various statistics on the European, Japanese, and U.S. testing cycles [for fuel economy measurements, the U.S. uses the formula, 1/fuel economy = (0.55/city fuel economy) + (0.45/highway fuel economy)]. Most vehicles will achieve higher fuel economy on the U.S. test cycle than on the European or Japanese cycles.

Table 4.27
Comparison of U.S., European, and Japanese Driving Cycles

	Time (seconds)	Percent of time stopped or decelerating	Distance (miles)	Average speed (mph)	Maximum speed (mph)	Maximum acceleration (mph/s)
Japanese 10/15 mode test cycle	631	52.3	2.6	14.8	43.5	1.78
New European Driving Cycle (NEDC)	1,181	24.9	6.84	20.9	74.6	2.4
U.S. EPA city cycle (LA4)[a]	1,372	43.2	7.5	19.5	56.7	3.3
U.S. EPA highway cycle	765	9.3	17.8	48.2	59.9	3.3
U.S. Corporate Average Fuel Economy cycle	2,137	27.9	10.3	29.9	59.9	3.3

Source:
Santini, D., A. Vyas, J. Anderson, and F. An, *Estimating Trade-Offs along the Path to the PNGV 3X Goal*, presented at the Transportation Research Board 80th Annual Meeting, Washington, DC, January 2001.

Note: China and India both use the European Driving Cycle, though India uses a modified version called The Modified Indian Driving Cycle which accounts for lower maximum speeds that better represent driving conditions in India.

[a] The actual Federal Procedure (FTP), which is also the test for emissions certification, repeats the first 505 seconds of the Federal Urban Driving Simulation cycle, hot started, after a 10 minute hot soak. Starting with Model Year 2001, the emissions test-but not the fuel economy test-incorporates a supplemental cycle that simulates aggressive urban driving, coupled with an added air conditioning load.

Total traffic fatalities were lower in 2006 than in 1975. About 13.5% of traffic fatalities in 2006 were not vehicle occupants (pedestrians, cyclists, etc.).

Table 4.28
Occupant Fatalities by Vehicle Type and Nonoccupant Fatalities, 1975–2006

	1975	1980	1985	1990	1995	2000	2005	2006	2006 share
Vehicle occupant fatalities by vehicle type									
Car									
Subcompact	3,834	7,299	7,993	8,309	6,791	4,718	2,979	2,630	6.2%
Compact	614	927	2,635	5,310	6,899	6,933	6,245	6,044	14.2%
Intermediate	1,869	3,878	4,391	4,849	4,666	5,131	5,548	5,420	12.7%
Full	10,800	11,580	6,586	4,635	3,413	3,143	3,276	3,277	7.7%
Unknown	8,812	3,765	1,607	989	654	774	392	429	1.0%
Total	**25,929**	**27,449**	**23,212**	**24,092**	**22,423**	**20,699**	**18,440**	**17,800**	**41.7%**
Truck									
Light	4,856	7,486	7	8,601	9,568	11,526	12,975	12,721	29.8%
Large	961	1,262	977	705	648	754	803	805	1.9%
Total	**5,817**	**8,748**	**7,666**	**9,306**	**10,216**	**12,280**	**13,778**	**13,526**	**31.7%**
Other Vehicles									
Motorcycle	3,189	5,144	4,564	3,244	2,227	2,897	4,553	4,810	11.3%
Bus	53	46	57	32	33	22	58	27	0.1%
Other/unknown vehicle type	937	540	544	460	392	450	765	739	1.7%
Total	**4,179**	**5,730**	**5,165**	**3,736**	**2,652**	**3,369**	**5,376**	**5,576**	**13.1%**
TOTAL vehicle occupant fatalities	**35,925**	**41,927**	**36,043**	**37,134**	**35,291**	**36,348**	**37,594**	**36,902**	**86.5%**
Nonoccupant fatalities									
Pedestrian	7,516	8,070	6,808	6,482	5,584	4,763	4,881	4,784	11.2%
Pedalcyclist	1,003	965	890	859	833	693	784	773	1.8%
Other	81	129	84	124	109	141	184	183	0.4%
Total	**8,600**	**9,164**	**7,782**	**7,465**	**6,526**	**5,597**	**5,849**	**5,740**	**13.5%**
TOTAL traffic fatalities	**44,525**	**51,091**	**43,825**	**44,599**	**41,817**	**41,945**	**43,443**	**42,642**	**100.0%**

Source:
Traffic Safety Facts 2006 Washington, DC, January 2008 (Additional resources: www.nhtsa.dot.gov)

In 2006, the fatality rate for vehicle occupants per 100 million vehicle miles are nearly the same for cars and light trucks– just over 1 fatality per 100 million vehicle miles. However, the injury rate per 100 million vehicle miles is much lower for light trucks (78) than for cars (88).

Table 4.29
Light Vehicle Occupant Safety Data, 1975–2006

	1975	1980	1985	1990	1995	2000	2005	2006
				Cars				
Fatalities	25,929	27,449	23,212	24,092	22,423	20,699	18,515	17,800
Injuries (thousands)	[a]	[a]	[a]	2,376	2,469	2,052	1,573	1,475
Vehicle-miles (billions)[b]	1,033	1,111	1,247	1,408	1,438	1,600	1,708	1,683
Rates per 100 million vehicle miles								
Fatalities	2.5	2.5	1.9	1.7	1.6	1.3	1.1	1.1
Injuries	[a]	[a]	[a]	168	172	128	92	88
				Light trucks (10,000 lbs. or less)				
Fatalities	4,856	7,486	6,689	8,601	9,568	11,526	13,037	12,721
Injuries (thousands)	[a]	[a]	[a]	505	722	887	872	857
Vehicle-miles (billions)[b]	201	291	391	575	790	923	1,041	1,089
Rates per 100 million vehicle-miles								
Fatalities	2.4	2.5	1.7	1.5	1.2	1.2	1.3	1.2
Injuries	[a]	[a]	[a]	88	91	96	84	78

Source:
U.S. DOT, National Highway Traffic Safety Administration, *Traffic Safety Facts 2006*, Washington, DC, January 2008, Tables 7 and 8. (Additional resources: www.nhtsa.dot.gov)

[a] Data are not available.
[b] Vehicle-miles are estimated by the National Highway Traffic Safety Administration and do not match Federal Highway data.

In 2006, 40% of all car and light truck fatal crashes were single-vehicle crashes. Because there are so many cars on the roads compared to the other vehicle types, total car crashes are almost half of total crashes. Most crashes are multiple-vehicle crashes with property damage only.

Table 4.30
Crashes by Crash Severity, Crash Type, and Vehicle Type, 2006

	Fatal		Injury		Property damage only		
Vehicle type	Single-vehicle crash	Multiple-vehicle crash	Single-vehicle crash	Multiple-vehicle crash	Single-vehicle crash	Multiple-vehicle crash	Total crashes
Cars	9,418	14,669	292,000	1,501,000	670,000	3,377,000	5,864,087
Light trucks[a]	9,306	12,984	192,000	1,010,000	505,000	2,427,000	4,156,290
Large trucks[b]	836	3,896	12,000	69,000	77,000	222,000	384,732
Buses	100	199	1,000	10,000	5,000	35,000	51,299
Motorcycles	2,124	2,810	41,000	43,000	6,000	10,000	104,934
Total	**21,784**	**34,558**	**538,000**	**2,633,000**	**1,263,000**	**6,071,000**	**10,561,342**
Share	0.2%	0.3%	5.1%	24.9%	12.0%	57.5%	100%

Source:
U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2006*, Washington, DC, January 2008, Tables 42, 44, 46, 50 and 52. (Additional resources: www.nhtsa.dot.gov)

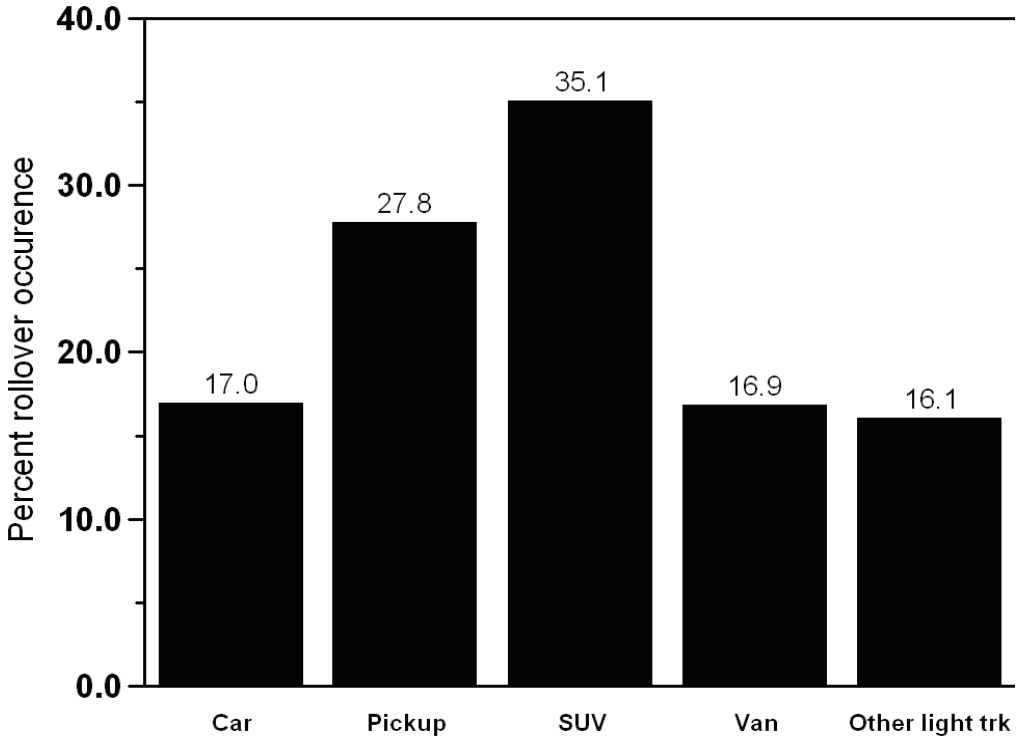
Note: Multiple-vehicle crashes cannot be totaled over vehicle type due to duplication of accidents between vehicle types.

[a] Trucks 10,000 pounds gross vehicle weight rating or less, including pickups, vans, and utility vehicles.

[b] Trucks over 10,000 pounds gross vehicle weight rating including single-unit trucks and truck tractors.

For fatal crashes in 2006, sport-utility vehicles (SUVs) had the highest rollover rate (35.1%) while cars had a 17% rate. This does not mean that the rollover caused the fatality, just that a vehicle in the crash rolled over.

Figure 4.10. Percent Rollover Occurrence in Fatal Crashes by Vehicle Type, 2006



Source:

U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts 2005*, Washington, DC, January 2008, Table 37. (Additional resources: www.nhtsa.dot.gov)

Demand response (also called paratransit or dial-a-ride) and public vanpools are widely used by transit agencies. There are almost 49 thousand of these vehicles active in 2005.

Table 4.31
Summary Statistics on Light Transit Vehicles, 1994–2005[a]

Year	Number of active vehicles	Vehicle-miles (millions)	Passenger-miles (millions)	Energy use (trillion Btu)
1994	31,090	490	781	9.8
1995	31,773	538	856	9.6
1996	33,472	588	958	10.2
1997	35,657	627	1,075	10.2
1998	33,481	721	1,103	10.9
1999	36,651	784	1,258	11.2
2000	37,957	826	1,274	11.4
2001	40,049	861	1,345	11.9
2002	40,691	879	1,336	12.3
2003	42,578	953	1,471	13.5[b]
2004	42,993	975	1,448	14.1
2005	48,530	1,078	1,663	14.1
		Average annual percentage change		
1994–2005	4.1%	7.4%	7.1%	3.4%

Source:
American Public Transit Association, *2007 Public Transportation Fact Book*, Washington, DC, May 2007, Tables 7, 11, 17, 59, 105, 107 and website tables. Historical van pool data are from earlier editions. (Additional resources: www.apta.com)

Note: See Glossary for detailed definitions of demand response and vanpool.

[a] Includes demand response service and public van pools.
[b] Significant increase in diesel consumption in demand response vehicles.