

Car crashes rank among the leading causes of death in the United States.



Motor Vehicle Crashes, Injuries, and Deaths in Relation to Driver Age: United States, 1995 – 2010

November 2012



Title

Motor Vehicle Crashes, Injuries, and Deaths in Relation to Driver Age: United States, 1995–2010 (*November 2012*)

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About the Sponsor

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Overview

Every year from 1995 through 2007, the number of people killed in motor vehicle crashes in the United States consistently was around 42,500, ranging from a low of 41,259 in 2007 to a high of 43,510 in 2005. In 2008, however, the number of people killed in crashes in the United States fell to its lowest level since 1961: 37,261 (Federal Highway Administration [FHWA], 2011b). The annual number of fatalities continued to decline in subsequent years, to 33,883 in 2009, 32,885 in 2010, and an estimated 32,310 in 2011 (National Highway Traffic Safety Administration [NHTSA], 2012).

This study examines changes over time in the numbers and rates of police-reported crashes involving passenger vehicles (cars, pickup trucks, vans, minivans, and sport utility vehicles) and the numbers and rates of injuries and deaths that occurred in those crashes. Crashes that did not involve at least one passenger vehicle were excluded. The relationship between driver age and the risks that drivers pose to themselves and to other people was also examined.

The total number of people killed in crashes that involved a passenger vehicle decreased by 26 percent over the study period, from 39,014 in 1995 to 28,828 in 2010; the number of people injured in crashes that involved a passenger vehicle decreased by 36 percent, from approximately 3,382,000 in 1995 to 2,156,000 in 2010. The number of passenger-vehicle drivers involved in all police-reported crashes decreased by 21 percent over the study period. Rates of crashes, injuries, and deaths decreased over the study period for all driver age groups, and this was the case whether examined in relation to the total population, driving population, or number of miles driven. While drivers of all ages experienced decreases in rates of crashes, injuries, and deaths over the study period, decreases in population-based and driver-based rates were largest for teenage drivers; decreases in mileage-based rates of crash involvement, injury, and death were largest for drivers aged 75-84.

Population-based crash involvement rates were highest for drivers ages 18-19 and decreased monotonically with increasing age thereafter. Driver-based crash rates were highest for drivers ages 16-17 and decreased until ages 60-69, at which point they essentially leveled off. Mileage-based crash rates were by far the highest for the youngest drivers, decreased with increasing age until ages 60-69, and increased slightly thereafter, such that drivers in their 70's were involved in approximately the same number of crashes per mile driven as drivers in their 30's, drivers ages 80-84 had mileage-based crash rates similar to drivers ages 25-59, and drivers ages 85 and older had mileage-based crash rates similar to drivers ages 20-24. Rates of driver injuries, and injuries and deaths of other people outside of the driver's vehicle (occupants of other vehicles, pedestrians, etc.) tended to follow patterns similar to those of overall crash involvement. Drivers ages 85 and older had the highest rates of (their own) death per driver and per mile driven; however, this was largely due to their diminished ability to survive a crash rather than to their increased crash rate. In relation to the amount of driving that they did, drivers aged 85 and older posed about as much risk to other people outside of their vehicle as drivers in their early 20's did. In relation to their share of the driving population, fewer other people were killed in crashes involving drivers ages 85 and older than drivers of any other age.

Methods

Data on drivers involved in police-reported crashes and people injured in crashes were obtained from the NHTSA's General Estimates System (GES), which comprises data from a representative sample of all police-reported crashes that involved a motor vehicle in transport on a public roadway in the United States each year. GES data contain weights that can be used to estimate the total number of crashes nationwide represented by each crash in the GES sample (NHTSA, 2011b). GES data from the year 1997 were excluded due to an inexplicably large number of drivers coded as age 90 years, suggestive of errors in the data.¹ Data on deaths resulting from crashes were obtained from the NHTSA's Fatality Analysis Reporting System (FARS) database, which comprises data from all crashes that involved a motor vehicle in transport on a public roadway in the United States and resulted in the death of a person within 30 days (NHTSA, 2011a).

For analysis, each crash-involved driver aged 16 years or older who was driving an automobile, pickup truck, van, minivan, or sport utility vehicle was treated as a *subject driver*. The number of subject driver crash involvements, subject driver injuries, subject driver deaths, injuries and deaths of passengers of the subject driver, and injuries and deaths of other people outside of the subject driver's vehicle (occupants of other vehicles, pedestrians, cyclists, etc.) were calculated in relation to the age of the subject driver. Note that in multiple-vehicle crashes, the same injured person could be counted more than once, e.g., both as an injured subject driver and as another person injured in a crash involving a different subject driver.² Thus, the number of other people injured in crashes involving subject drivers of different ages, and the number of drivers vs. passengers vs. other people injured in crashes involving subject drivers of the same age, can be compared; however, the sum across age groups of the numbers of drivers, passengers, and other people injured in crashes exceeds the total number of people injured due to the multiple-counting of some people in multiple-vehicle crashes.

Rates of driver crash involvement and of injuries and deaths of drivers, passengers, and other people outside of the subject driver's vehicle were estimated in relation to the age of the subject driver using the total resident population of the United States in each age group, the estimated number of drivers in each age group, and the estimated number of miles driven by drivers in each age group as measures of exposure. Population estimates were derived from the U.S. Census Bureau's intercensal estimates, which provide estimates of the U.S. population for years between each decennial census by tracking births, deaths, and migration and aligning these estimates to the counts obtained from the decennial census (U.S. Census Bureau, 2012). The number of drivers and number of miles driven by drivers were estimated using the FHWA's 1995-96 Nationwide Personal Transportation Survey (NPTS) and 2001-02 and 2008-09 National Household Travel Surveys (NHTS), which were surveys of representative samples of U.S. residents regarding their driver status (driver vs. non-driver) and data on all of their travel on an assigned date on which

¹ 85,657 crash-involved drivers were coded as age 90 years in 1997 alone, as compared to 52,709 drivers coded as age 90 years over the entire remaining 15 years of the study period.

² For example, in a crash that involved a car driven by a 40-year-old driver and an SUV driven by a 55-year-old driver, both of whom were injured, both drivers would be counted twice: The driver of the car would be counted both as an injured 40-year-old subject driver and as an *other person* injured in a crash involving a 55-year-old subject driver; similarly, the driver of the SUV would be counted both as an injured 55-year-old subject driver and as an other person injured in a crash involving a 40-year-old subject driver.

they were asked to record detailed information into a diary (FHWA, 1997, 2004, 2011a). Data from the NPTS and NHTS contain weights that can be used to estimate the total number of U.S. residents who were active drivers and the total number of miles driven by all U.S. residents over a 12-month period. The NPTS and NHTS data collection periods were slightly longer than 12 months. For the purpose of estimating rates, the 12-month periods were taken to be the 12 consecutive months that maximized the total number of people whose assigned travel reporting dates fell into those months: May 1995 – April 1996, May 2001 – April 2002, and May 2008 – April 2009. The weights of the NPTS and NHTS data were adjusted to align the populations of the NPTS and NHTS within each age group to the total population during the same period for the same age group reported by the U.S. Census Bureau. Crash, injury, and fatality rates were estimated for these three 12-month periods only.

Results

Figure 1 shows the number of passenger-vehicle drivers involved in crashes and the number of people injured and killed in crashes that involved a passenger vehicle each year over the study period; Table 1 shows the corresponding rates for years when exposure data were available.

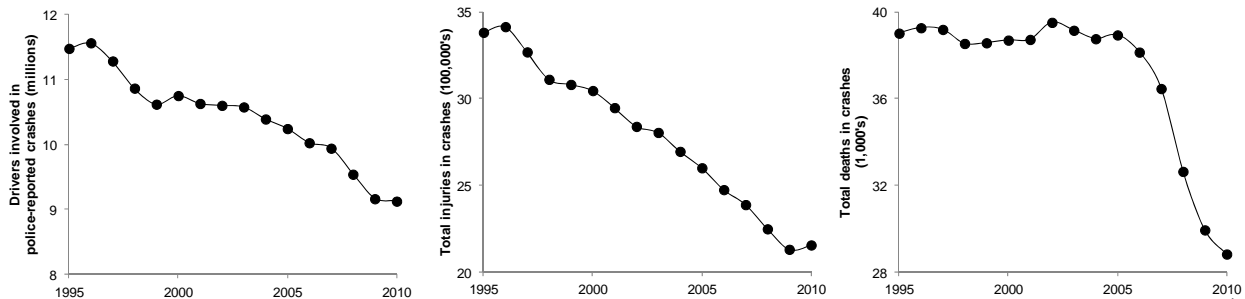


Figure 1. Number of Drivers^a Involved in Police-Reported Crashes (left), Total Number of People Injured in Crashes^b (middle), and Total Number of People Killed in Crashes^b (right), U.S., 1995–2010.

^a. Drivers of passenger vehicles (automobile, pickup truck, van, minivan, or sport utility vehicle) only.

^b. All people (drivers, passengers, pedestrians, etc.) injured or killed in crashes that involved at least one passenger vehicle.

Table 1. Number and Population-, Driver-, and Mile-Based Rates of Driver Involvements in Police-Reported Crashes, Total Injuries in Crashes, and Total Deaths in Crashes, U.S., 1995–2009.

		1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09
Drivers^d involved in crashes	Number	11,611,656	10,418,436	9,192,369	-21
	Rate per 10,000 population	573	470	383	-33
	Rate per 10,000 drivers	650	527	433	-33
	Rate per 100 million miles driven	578	464	419	-28
Total injuries in crashes^e	Number	3,408,286	2,870,357	2,171,011	-36
	Rate per 10,000 population	168	129	90	-46
	Rate per 10,000 drivers	191	145	102	-46
Total deaths in crashes^e	Rate per 100 million miles driven	170	128	99	-42
	Number	38,614	38,958	31,421	-19
	Rate per 10,000 population	1.91	1.76	1.31	-31
Total deaths in crashes^e	Rate per 10,000 drivers	2.16	1.97	1.48	-31
	Rate per 100 million miles driven	1.92	1.73	1.43	-26

^a. May 1995 – April 1996.

^b. May 2001 – April 2002.

^c. May 2008 – April 2009.

^d. Drivers ages 16 years or older, driving a passenger vehicle (automobile, pickup truck, van, minivan, or sport utility vehicle) only.

^e. All people (drivers, passengers, pedestrians, etc.) injured in crashes that involved at least one passenger vehicle driven by a driver aged 16 years or older.

The number of drivers involved in police-reported crashes decreased by 21 percent between the period of the 1995-1996 NPTS and the period of the 2008-2009 NHTS, from an estimated 11,611,656 during the period May 1995 – April 1996 to 9,192,369 during the period May 2008 – April 2009 (Table 1). The population-based and driver-based crash involvement rates both decreased by 33 percent over this period, and crash involvements per 100 million miles driven decreased by 28 percent. The number of injuries in crashes involving passenger vehicles decreased by 36 percent, the population- and driver-based injury rates both decreased by 46 percent, and the injury rate per 100 million miles driven decreased by 42 percent over the study period. The number of deaths in crashes that involved a passenger vehicle decreased by 19 percent, the population- and driver-based rates both decreased by 31 percent, and the rate of driver deaths per 100 million miles driven decreased by 26 percent over the study period.

Figure 2 shows the crash involvement rate per 10,000 drivers and per 100 million miles driven in relation to driver age for the three periods when the exposure metrics were available.³ During all three periods, the per-driver crash involvement rate decreased with increasing driver age until about age 60-69, and then leveled off. The mileage-based crash rate also decreased with increasing driver age until ages 60-69, and then increased slightly as age increased beyond this range. Drivers in their 70’s were involved in about the same number of crashes per mile driven as drivers in their 30’s, drivers ages 80-84 were involved in about the same number of crashes per mile driven as drivers ages 25-29, and drivers ages 85 and older were involved in about the same number of crashes per mile driven as drivers ages 20-24. Teenage drivers had by far the highest rates of crash involvement both in relation to their share of the driving population and in relation to the amount of driving that they did.

Figure 2 also shows that both per-driver and per-mile crash rates decreased for drivers of all ages between the 1995-1996 period and the 2008-2009 period. Interestingly, whereas the largest decreases in per-driver crash rates were experienced by the youngest drivers — the per-driver crash rates of drivers ages 16-17 decreased by 46 percent and those of drivers ages 18-19 decreased by 43 percent — the mileage-based crash rates decreased the most for drivers ages 75-79 (42%) and 80-84 (40%) (Table 2).

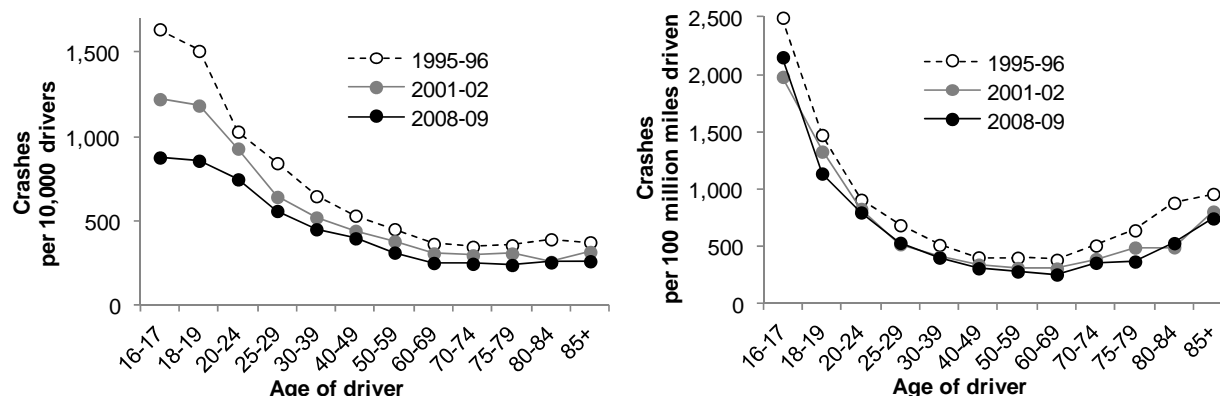


Figure 2. Drivers Involved in Police-Reported Crashes per 10,000 Drivers (Left) and Per 100 Million Miles Driven (Right) in Relation to Age of Driver, U.S., May 1995 – April 1996, May 2001 – April 2002, May 2008 – April 2009.

³ The raw number of driver crash involvements, population-based rates, driver-based rates, mileage-based rates, and percent change in each over the study period are shown in Table 2, located at the end of the report.

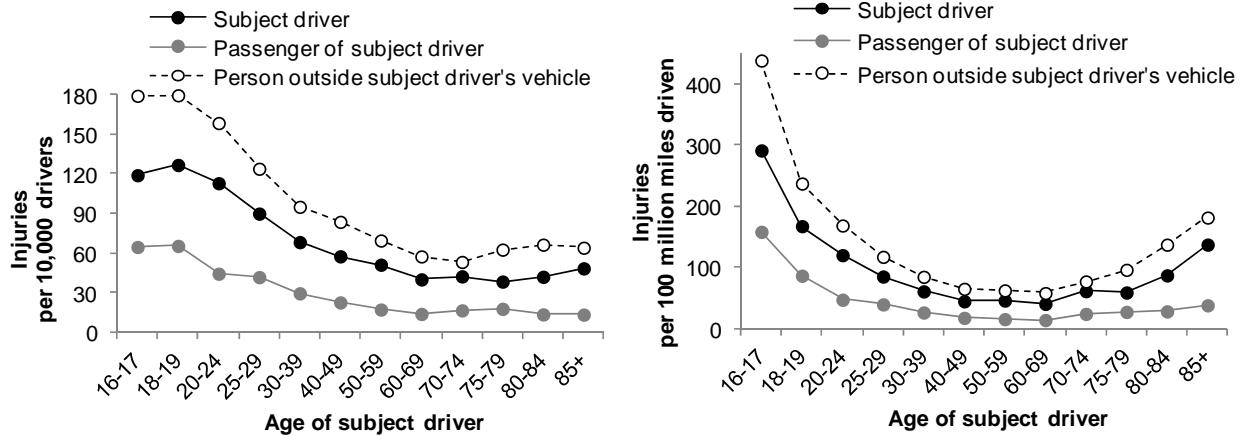


Figure 3. Injuries of Subject Driver, Passengers of Subject Driver, and People Outside of Subject Driver's Vehicle per 10,000 Drivers of Subject Driver's Age (Left) and per 100 Million Miles Driven by Drivers of Subject Driver's Age (Right), U.S., May 2008 – April 2009.

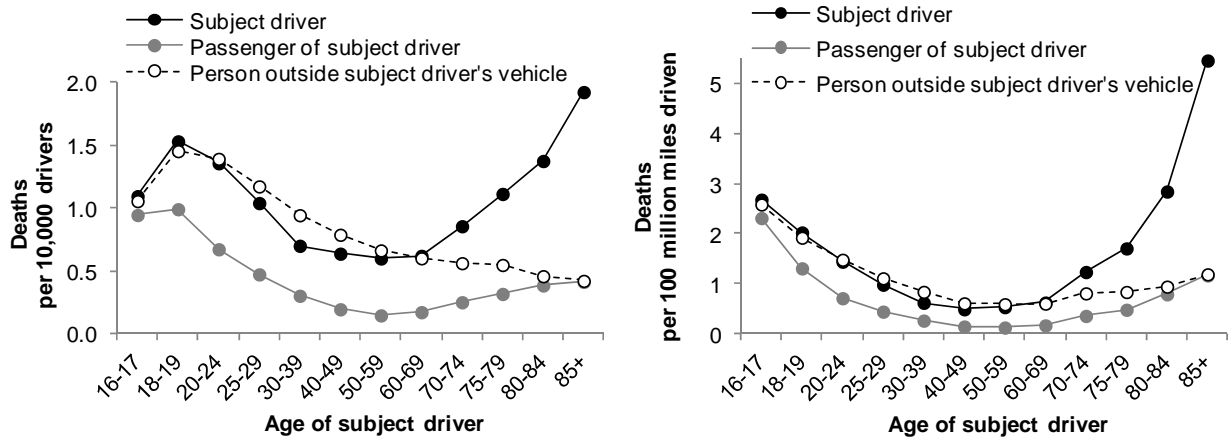


Figure 4. Deaths of Subject Driver, Passengers of Subject Driver, and People Outside of Subject Driver's Vehicle per 10,000 Drivers of Subject Driver's Age (Left) and per 100 Million Miles Driven by Drivers of Subject Driver's Age (Right), U.S., May 2008 – April 2009.

Figures 3 and 4 show the number of subject drivers, their passengers, and other people outside of their vehicle injured and killed in relation to the number of drivers of the subject driver's age in the driving population (Figure 3) and the number of miles driven by drivers of the subject driver's age (Figure 4), based on data from May 2008 – April 2009.⁴ In general, the patterns of injuries to drivers, passengers, and people outside of the subject driver's vehicle in relation to the subject driver's age were similar to the patterns of overall crash involvement.

Driver-based rates of crash involvement, driver injuries, passenger injuries, and injuries of other people outside of the subject driver's vehicle were all highest for teenage drivers, decreased steadily with increasing driver age until ages 60-69 or 70-74, and then increased slightly at older ages. The driver-based rate of passenger deaths also followed a similar pattern, with the exception that drivers ages 50-59 had the lowest driver-based rate of

⁴ The raw numbers of injuries and deaths of drivers, their passengers, and other people outside of the subject-driver's vehicle, population-based rates, driver-based rates, mileage-based rates, and percent change in each over the study period are shown in Tables 3-5, located at the end of the report.

passenger deaths. The driver-based rate of deaths of other people outside of the subject driver's vehicle was highest for driver ages 18-19 and decreased monotonically with increasing age thereafter: the driver-based rate of deaths of other people outside of the subject driver's vehicle was lower for subject drivers ages 85 and older than for any other age group.

Mileage-based rates of crash involvement, driver injuries, passenger injuries, and injuries of other people outside of the subject driver's vehicle were all highest for teenage drivers, decreased steadily with increasing driver age until ages 60-69, and then increased somewhat at older ages. Drivers ages 70-79 had approximately the same injury rate per mile driven as drivers ages 30-39, drivers ages 80-84 had driver injury rates per mile driven similar to those of drivers ages 25-59, and drivers ages 85 and older had injury rates per mile driven similar to those of drivers ages 20-24. Mileage-based rates of deaths of other people outside of the subject driver's vehicle followed similar patterns with respect to the subject driver's age as well, with the exception that the rate was lowest for drivers ages 50-59.

The only outcome measure whose pattern deviated substantially from that of overall crash involvement with respect to driver age was the death rate of the subject drivers themselves: the driver death rate increased rapidly at older ages, such that drivers ages 80-84 had mileage-based death rates similar to those of novices ages 16-17, and drivers ages 85 and older had death rates double those of drivers ages 16-17, and more than 10 times the death rate of drivers ages 40-49, whose rates were the lowest. In light of the age-related patterns in the overall crash involvement rate, driver injury rate, and rates of injuries and deaths of other people, this is clearly a function of older peoples' elevated risk of death if involved in a crash much more so than their increased risk of being involved in a crash, a finding reported originally by Li *et al.* (2003).

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[[http://www.census.gov/popest/methodology/2000-2010/Intercensal Estimates Methodology.pdf](http://www.census.gov/popest/methodology/2000-2010/Intercensal%20Estimates%20Methodology.pdf)]

Table 2. Number and Rate of Involvement in Police-Reported Crashes in Relation to Driver Age, U.S., 1995–2009.

Driver age	Number				Rate per 10,000 population				Rate per 10,000 drivers				Rate per 100 million miles driven			
	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09
Drivers involved in police-reported crashes																
16-17	737,309	634,971	451,642	-39	993	774	511	-49	1,639	1,224	878	-46	2,496	1,980	2,152	-14
18-19	864,250	780,033	629,269	-27	1,195	947	693	-42	1,510	1,186	859	-43	1,473	1,328	1,136	-23
20-24	1,608,687	1,604,705	1,385,957	-14	907	802	651	-28	1,031	931	748	-27	908	828	797	-12
25-29	1,475,895	1,112,499	1,038,557	-30	780	593	495	-37	845	644	561	-34	686	520	532	-22
30-39	2,683,864	2,092,076	1,688,063	-37	610	491	421	-31	648	522	452	-30	513	408	404	-21
40-49	1,943,412	1,853,253	1,656,008	-15	505	423	376	-26	533	443	399	-25	405	342	310	-23
50-59	1,052,675	1,194,588	1,202,533	+14	421	359	294	-30	453	381	314	-31	402	312	282	-30
60-69	636,728	588,642	636,158	0	319	281	231	-28	365	309	252	-31	384	308	256	-33
70-74	254,010	221,212	190,895	-25	288	252	211	-27	348	297	247	-29	509	391	358	-30
75-79	187,945	180,982	140,587	-25	277	243	192	-31	357	309	240	-33	641	491	369	-42
80-84	110,413	95,060	104,590	-5	244	182	183	-25	393	259	256	-35	881	493	529	-40
85+	56,468	60,415	68,110	+21	151	139	129	-15	375	318	263	-30	959	805	745	-22

Data:

Drivers involved in police-reported crashes: General Estimates System & Fatality Analysis Reporting System (National Highway Traffic Safety Administration, 1995–2009).

Population: Intercensal Population Estimates (U.S. Census Bureau, 1995–2009).

Number of drivers, Number of miles driven: Nationwide Personal Transportation Survey (Federal Highway Administration, 1996), National Household Travel Survey (Federal Highway Administration, 2002), National Household Travel Survey (Federal Highway Administration, 2010).

^a May 1995 – April 1996.

^b May 2001 – April 2002.

^c May 2008 – April 2009.

Table 3. Number and Rate of Drivers Deaths and Injuries in Relation to Driver Age, U.S., 1995–2009.

Driver age	Number				Rate per 10,000 population				Rate per 10,000 drivers				Rate per 100 million miles driven			
	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09
Driver deaths																
16-17	1,052	1,021	563	-46	1.42	1.24	0.64	-55	2.34	1.97	1.09	-53	3.56	3.18	2.68	-25
18-19	1,316	1,586	1,122	-15	1.82	1.93	1.24	-32	2.30	2.41	1.53	-33	2.24	2.70	2.03	-10
20-24	2,892	3,219	2,514	-13	1.63	1.61	1.18	-28	1.85	1.87	1.36	-27	1.63	1.66	1.45	-11
25-29	2,361	2,064	1,925	-18	1.25	1.10	0.92	-27	1.35	1.19	1.04	-23	1.10	0.96	0.99	-10
30-39	4,281	3,713	2,612	-39	0.97	0.87	0.65	-33	1.03	0.93	0.70	-32	0.82	0.72	0.62	-24
40-49	3,000	3,521	2,646	-12	0.78	0.80	0.60	-23	0.82	0.84	0.64	-23	0.63	0.65	0.50	-21
50-59	1,917	2,496	2,293	+20	0.77	0.75	0.56	-27	0.82	0.80	0.60	-27	0.73	0.65	0.54	-27
60-69	1,670	1,650	1,563	-6	0.84	0.79	0.57	-32	0.96	0.87	0.62	-35	1.01	0.86	0.63	-38
70-74	954	851	660	-31	1.08	0.97	0.73	-32	1.31	1.14	0.86	-35	1.91	1.50	1.24	-35
75-79	862	968	651	-24	1.27	1.30	0.89	-30	1.64	1.65	1.11	-32	2.94	2.63	1.71	-42
80-84	704	726	562	-20	1.56	1.39	0.98	-37	2.50	1.97	1.37	-45	5.62	3.77	2.85	-49
85+	456	591	499	+9	1.22	1.36	0.94	-22	3.03	3.11	1.92	-37	7.74	7.87	5.46	-30
Driver injuries																
16-17	130,191	107,739	61,272	-53	175	131	69	-60	289	208	119	-59	441	336	292	-34
18-19	155,786	148,913	92,959	-40	215	181	102	-52	272	226	127	-53	265	254	168	-37
20-24	310,183	279,383	209,462	-32	175	140	98	-44	199	162	113	-43	175	144	120	-31
25-29	269,995	200,515	166,659	-38	143	107	79	-44	154	116	90	-42	125	94	85	-32
30-39	495,432	373,752	255,452	-48	113	88	64	-43	120	93	68	-43	95	73	61	-36
40-49	355,117	314,638	239,601	-33	92	72	54	-41	97	75	58	-41	74	58	45	-39
50-59	192,158	207,868	196,458	+2	77	62	48	-37	83	66	51	-38	73	54	46	-37
60-69	109,996	104,695	101,294	-8	55	50	37	-33	63	55	40	-36	66	55	41	-39
70-74	46,404	38,925	32,760	-29	53	44	36	-31	64	52	42	-33	93	69	61	-34
75-79	32,911	31,442	22,544	-32	48	42	31	-36	63	54	39	-38	112	85	59	-47
80-84	21,928	19,075	17,235	-21	48	37	30	-38	78	52	42	-46	175	99	87	-50
85+	12,252	15,212	12,589	+3	33	35	24	-27	81	80	49	-40	208	203	138	-34

Data:

Drivers killed: Fatality Analysis Reporting System (National Highway Traffic Safety Administration, 1995–2009).

Drivers injured: General Estimates System (National Highway Traffic Safety Administration, 1995–2009).

Population: Intercensal Population Estimates (U.S. Census Bureau, 1995–2009).

Number of drivers, Number of miles driven: Nationwide Personal Transportation Survey (Federal Highway Administration, 1996), National Household Travel Survey (Federal Highway Administration, 2002), National Household Travel Survey (Federal Highway Administration, 2010).

^a. May 1995 – April 1996.

^b. May 2001 – April 2002.

^c. May 2008 – April 2009.

Table 4. Number and Rate of Passengers Deaths and Injuries in Relation to Age of Driver with Whom Passenger was Riding, U.S., 1995–2009.

Driver age	Number				Rate per 10,000 population				Rate per 10,000 drivers				Rate per 100 million miles driven			
	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09
Passenger deaths																
16-17	1,008	856	486	-52	1.36	1.04	0.55	-59	2.24	1.65	0.94	-58	3.41	2.67	2.32	-32
18-19	1,048	1,111	726	-31	1.45	1.35	0.80	-45	1.83	1.69	0.99	-46	1.79	1.89	1.31	-27
20-24	1,963	2,002	1,245	-37	1.11	1.00	0.58	-47	1.26	1.16	0.67	-47	1.11	1.03	0.72	-35
25-29	1,264	1,100	874	-31	0.67	0.59	0.42	-38	0.72	0.64	0.47	-35	0.59	0.51	0.45	-24
30-39	1,870	1,553	1,126	-40	0.43	0.36	0.28	-34	0.45	0.39	0.30	-33	0.36	0.30	0.27	-25
40-49	1,038	1,128	807	-22	0.27	0.26	0.18	-32	0.28	0.27	0.19	-32	0.22	0.21	0.15	-30
50-59	608	771	556	-9	0.24	0.23	0.14	-44	0.26	0.25	0.15	-45	0.23	0.20	0.13	-44
60-69	561	528	432	-23	0.28	0.25	0.16	-44	0.32	0.28	0.17	-47	0.34	0.28	0.17	-49
70-74	337	280	193	-43	0.38	0.32	0.21	-44	0.46	0.38	0.25	-46	0.67	0.49	0.36	-46
75-79	338	283	185	-45	0.50	0.38	0.25	-49	0.64	0.48	0.32	-51	1.15	0.77	0.49	-58
80-84	247	221	157	-36	0.55	0.42	0.27	-50	0.88	0.60	0.38	-56	1.97	1.15	0.79	-60
85+	117	124	107	-9	0.31	0.29	0.20	-35	0.78	0.65	0.41	-47	1.99	1.65	1.17	-41
Passenger injuries																
16-17	104,993	63,929	33,294	-68	141	78	38	-73	233	123	65	-72	355	199	159	-55
18-19	86,838	77,561	48,026	-45	120	94	53	-56	152	118	66	-57	148	132	87	-41
20-24	161,409	133,706	82,410	-49	91	67	39	-57	103	78	44	-57	91	69	47	-48
25-29	131,777	103,561	77,590	-41	70	55	37	-47	75	60	42	-44	61	48	40	-35
30-39	241,943	187,415	110,719	-54	55	44	28	-50	58	47	30	-49	46	37	26	-43
40-49	156,149	126,935	94,454	-40	41	29	21	-47	43	30	23	-47	33	23	18	-46
50-59	70,243	73,302	66,401	-5	28	22	16	-42	30	23	17	-43	27	19	16	-42
60-69	51,991	38,914	35,264	-32	26	19	13	-51	30	20	14	-53	31	20	14	-55
70-74	21,994	16,343	12,898	-41	25	19	14	-43	30	22	17	-45	44	29	24	-45
75-79	12,137	11,292	10,461	-14	18	15	14	-20	23	19	18	-22	41	31	27	-34
80-84	8,169	7,129	5,591	-32	18	14	10	-46	29	19	14	-53	65	37	28	-57
85+	3,129	3,433	3,499	+12	8	8	7	-21	21	18	13	-35	53	46	38	-28

Data:

Passengers killed: Fatality Analysis Reporting System (National Highway Traffic Safety Administration, 1995–2009).

Passengers injured: General Estimates System (National Highway Traffic Safety Administration, 1995–2009).

Population: Intercensal Population Estimates (U.S. Census Bureau, 1995–2009).

Number of drivers, Number of miles driven: Nationwide Personal Transportation Survey (Federal Highway Administration, 1996), National Household Travel Survey (Federal Highway Administration, 2002), National Household Travel Survey (Federal Highway Administration, 2010).

^a. May 1995 – April 1996.

^b. May 2001 – April 2002.

^c. May 2008 – April 2009.

Table 5. Number and Rate of Deaths and Injuries of Other People Outside of Subject Driver's Vehicle¹ in Relation to Age of Subject Driver, U.S., 1995–2009.

Driver age	Number				Rate per 10,000 population				Rate per 10,000 drivers				Rate per 100 million miles driven			
	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09	1995-1996 ^a	2001-2002 ^b	2008-2009 ^c	Change (%) 1995-96 to 2008-09
Deaths of other people outside of subject driver's vehicle																
16-17	1,146	941	543	-53	1.54	1.15	0.61	-60	2.55	1.81	1.06	-59	3.88	2.93	2.59	-33
18-19	1,471	1,580	1,065	-28	2.03	1.92	1.17	-42	2.57	2.40	1.45	-43	2.51	2.69	1.92	-23
20-24	3,404	3,269	2,579	-24	1.92	1.63	1.21	-37	2.18	1.90	1.39	-36	1.92	1.69	1.48	-23
25-29	3,018	2,620	2,171	-28	1.60	1.40	1.03	-35	1.73	1.52	1.17	-32	1.40	1.22	1.11	-21
30-39	5,718	5,153	3,522	-38	1.30	1.21	0.88	-32	1.38	1.29	0.94	-32	1.09	1.01	0.84	-23
40-49	4,032	4,358	3,272	-19	1.05	0.99	0.74	-29	1.11	1.04	0.79	-29	0.84	0.80	0.61	-27
50-59	2,188	2,747	2,538	+16	0.87	0.83	0.62	-29	0.94	0.88	0.66	-30	0.84	0.72	0.60	-29
60-69	1,443	1,402	1,513	+5	0.72	0.67	0.55	-24	0.83	0.74	0.60	-28	0.87	0.73	0.61	-30
70-74	541	507	433	-20	0.61	0.58	0.48	-22	0.74	0.68	0.56	-24	1.08	0.90	0.81	-25
75-79	321	400	320	0	0.47	0.54	0.44	-7	0.61	0.68	0.55	-10	1.10	1.09	0.84	-23
80-84	186	223	187	+1	0.41	0.43	0.33	-21	0.66	0.61	0.46	-31	1.48	1.16	0.95	-36
85+	77	100	109	+42	0.21	0.23	0.21	0	0.51	0.53	0.42	-18	1.31	1.33	1.19	-9
Injuries of other people outside of subject driver's vehicle																
16-17	208,539	157,604	92,204	-56	281	192	104	-63	463	304	179	-61	706	491	439	-38
18-19	234,706	206,482	131,629	-44	325	251	145	-55	410	314	180	-56	400	352	238	-41
20-24	447,489	397,623	293,857	-34	252	199	138	-45	287	231	159	-45	253	205	169	-33
25-29	446,497	280,666	229,565	-49	236	150	109	-54	255	162	124	-51	207	131	118	-43
30-39	763,710	542,717	355,276	-53	174	127	89	-49	185	135	95	-48	146	106	85	-42
40-49	555,977	472,986	348,045	-37	144	108	79	-45	152	113	84	-45	116	87	65	-44
50-59	285,083	288,290	266,745	-6	114	87	65	-43	123	92	70	-43	109	75	63	-43
60-69	194,978	162,864	145,175	-26	98	78	53	-46	112	85	58	-49	118	85	58	-50
70-74	83,993	64,444	41,185	-51	95	73	46	-52	115	87	53	-54	168	114	77	-54
75-79	50,181	54,210	36,699	-27	74	73	50	-32	95	92	63	-34	171	147	96	-44
80-84	30,426	28,566	27,185	-11	67	55	47	-29	108	78	67	-39	243	148	138	-43
85+	16,340	21,110	16,642	+2	44	49	32	-28	109	111	64	-41	277	281	182	-34

Data:

Persons killed: Fatality Analysis Reporting System (National Highway Traffic Safety Administration, 1995–2009).

Persons injured: General Estimates System (National Highway Traffic Safety Administration, 1995–2009).

Population: Intercensal Population Estimates (U.S. Census Bureau, 1995–2009).

Number of drivers, Number of miles driven: Nationwide Personal Transportation Survey (Federal Highway Administration, 1996), National Household Travel Survey (Federal Highway Administration, 2002), National Household Travel Survey (Federal Highway Administration, 2010).

¹ Includes non-motorists injured or killed in crashes that involved subject driver of age in row, and occupants of other vehicles injured or killed in crashes that involved subject driver of the age in row. Note that persons injured or killed in multiple-vehicle crashes may be counted multiple times.

^a May 1995 – April 1996.

^b May 2001 – April 2002.

^c May 2008 – April 2009