

Traffic Safety Facts

2016 Data

February 2018

DOT HS 812 498



Key Findings

- In the 15- to 20-year-old age group, driver fatalities declined by 40 percent from 2007 to 2016 but had almost no change from 2015 to 2016. The number of licensed young drivers decreased by 8.8 percent in the 10-year (2007 to 2016) period but increased by 2.1 percent from 2015 to 2016.
- In 2016 there were 1,908 young drivers killed in motor vehicle crashes.
- Nine percent of all drivers involved in fatal crashes in 2016 were 15 to 20 years old. Young drivers accounted for 5.4 percent of the total number of licensed drivers in the United States in 2016.
- The rate of drivers involved in fatal crashes per 100,000 licensed drivers for young female drivers was 23.28 in 2016. For young male drivers in 2016, the involvement rate was 51.08, about 2.2 times that of young female drivers.
- During 2016 there were 254 motorcycle riders 15 to 20 years old killed in crashes.
- Of the young drivers killed with known restraint use, 47 percent were unrestrained at the time of the crashes in 2016.
- Twenty-four percent of young drivers 15 to 20 years old who were killed in crashes in 2016 had blood alcohol concentrations (BACs) of .01 g/dL or higher; 82 percent of those young drivers had BACs of .08 g/dL or higher.
- NHTSA estimates that minimum-drinking-age laws (21 years old) have saved 31,417 lives since 1975.



U.S. Department of Transportation
National Highway Traffic Safety Administration

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Young Drivers

The term *young driver* refers to a person 15 to 20 years old operating a motor vehicle. People in this age group generally obtain their licenses for the first time and many are under a graduated driver licensing program as they learn driving skills. Young, inexperienced drivers have higher crash rates than older, more experienced drivers in the United States.

In this 2016 fact sheet, the information on young drivers is presented as follows:

- Overview
- Fatalities
- Driver Involvement
- Motorcycles
- Restraint Use
- Speeding
- Alcohol
- Fatalities by State

This fact sheet contains information on fatal motor vehicle crashes and fatalities, based on data from the Fatality Analysis Reporting System (FARS). FARS is a census of fatal crashes in the 50 States, the District of Columbia, and Puerto Rico (Puerto Rico is not included in U.S. totals). Injury estimates are not yet available for 2016, thus no injury estimates will be presented in this publication. For more information about injury estimates, read **Crash Report Sampling System (CRSS) Replaces the National Automotive Sampling System (NASS) General Estimates System (GES)** at the end of this publication.

Overview

In 2016 there were 1,908 young drivers 15 to 20 years old who died in motor vehicle crashes, almost no change from the 1,903 young drivers who died in 2015.

Motor vehicle crashes are a leading cause of death for 15- to 20-year-olds, according to the National Center for Health Statistics.¹

There were 221.7 million licensed drivers in the United States in 2016. Young drivers accounted for 5.4 percent (12.1 million) of the total in 2016, an 8.8-percent decrease from the 13.2 million young drivers in 2007, but a 2.1-percent increase from the 11.8 million young drivers in 2015. Population for this age group decreased by 3.4 percent from 2007 to 2016.²

¹ Centers for Disease Control and Prevention's web-based Injury Statistics Query and Reporting System, available at http://webappa.cdc.gov/sasweb/ncipc/leadcaus10_us.html

² Licensed drivers – Federal Highway Administration, Population – Bureau of the Census.

Fatalities

Total fatalities in crashes with young drivers decreased steadily over the 10-year period from 2007 to 2016, resulting in a 37-percent decrease in fatalities during that time, as seen in Table 1. In fatal crashes involving young drivers from 2007 to 2016:

- Fatalities among young drivers declined by 40 percent.
- Fatalities among the passengers of young drivers decreased by half (50%).
- Occupant fatalities of other vehicles decreased by 27 percent.
- Nonoccupant fatalities—pedestrians, bicyclists, or other nonoccupants—decreased by 7 percent.

However in fatal crashes involving young drivers from 2015 to 2016:

- Fatalities among young drivers remained almost the same.
- Fatalities among the passenger of young drivers increased by 4 percent.

- Occupant fatalities of other vehicles increased by 1 percent.
- Nonoccupant fatalities increased by 11 percent.

Figure 1 displays the percentage of fatalities in crashes involving young drivers by person type and year.

In 2016:

- Young drivers who were involved in fatal crashes made up 39 percent of the fatalities in those crashes.
- There were more fatalities of occupants in other vehicles than there were passenger fatalities of young drivers; this has been the trend since 2012.
- Of those passengers who died in crashes with young people who were driving, 64 percent (654 of 1,018) were also 15 to 20 years old.

Table 1

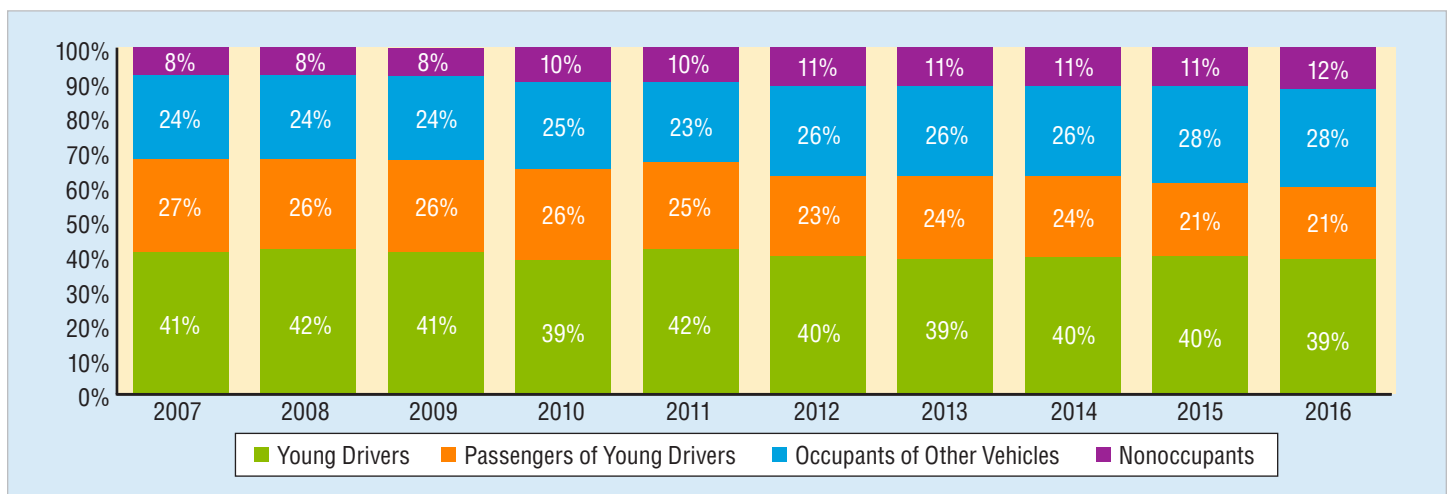
Fatalities in Crashes Involving Young Drivers, by Person Type and Year, 2007–2016

Year	Young Driver (15–20)	Passenger of Young Driver					Occupants of Other Vehicles	Nonoccupants	Total
		<15	15–20	21+	Unknown	Total			
2007	3,190	223	1,371	443	7	2,044	1,829	631	7,694
2008	2,742	170	1,067	421	4	1,662	1,527	521	6,452
2009	2,343	145	958	351	2	1,456	1,381	469	5,649
2010	1,965	130	845	356	2	1,333	1,250	493	5,041
2011	1,993	118	777	298	1	1,194	1,122	473	4,782
2012	1,880	88	682	286	4	1,060	1,230	502	4,672
2013	1,696	120	633	313	3	1,069	1,133	469	4,367
2014	1,723	75	671	268	1	1,015	1,093	454	4,285
2015	1,903	101	622	258	1	982	1,326	533	4,744
2016	1,908	94	654	266	4	1,018	1,338	589	4,853

Source: Fatality Analysis Reporting System (FARS) 2007–2015 Final File, 2016 Annual Report File (ARF).

Figure 1

Percentage of Fatalities in Crashes Involving Young Drivers, by Person Type and Year, 2007-2016



Source: FARS 2007-2015 Final File, 2016 ARF.

Driver Involvement

There were 4,514 young drivers involved in fatal crashes in 2016 – a 36-percent decrease from the 7,026 involved in 2007. This 36-percent decrease is larger than the 7-percent decrease for all drivers involved in fatal crashes in the same time period. Table 2 shows both involvement of young drivers in fatal crashes as well as young driver fatalities in fatal crashes from 2007 to 2016.

In 2016:

- Young drivers involved in fatal crashes decreased from 2007 for both young male and female drivers (37% and 32%, respectively).

- The two-year comparison of total driver involvement in fatal crashes increased by 6 percent from 49,162 in 2015 to 51,914 in 2016. During this same period young-driver involvement increased by 4 percent from 4,352 in 2015 to 4,514 in 2016.
- Nine percent of all drivers involved in fatal crashes were young drivers. However, young drivers were only 5.4 percent of all licensed drivers.

Table 2

Involvement of 15- to 20-Year-Old and All Drivers in Fatal Crashes, by Gender, 2007 and 2016

Gender	2007			2016			Percentage Change, 2007–2016	
	Total	Ages 15–20	Percentage of Total	Total	Ages 15–20	Percentage of Total	Total	Ages 15–20
Drivers Involved in Fatal Crashes								
Male	41,053	4,982	12.1%	37,564	3,128	8.3%	-8%	-37%
Female	14,184	2,041	14.4%	13,279	1,383	10.4%	-6%	-32%
Total	56,019	7,026	12.5%	51,914	4,514	8.7%	-7%	-36%
Driver Fatalities								
Male	20,453	2,348	11.5%	18,221	1,392	7.6%	-11%	-41%
Female	6,114	842	13.8%	5,325	515	9.7%	-13%	-39%
Total	26,570	3,190	12.0%	23,560	1,908	8.1%	-11%	-40%

Source: FARS 2007 Final File, 2016 ARF.
Note: Total includes unknown gender.

The rate of drivers involved in fatal crashes per 100,000 licensed drivers was higher for young male drivers compared to older male drivers. For young male drivers 15 to 20 years old the driver involvement rate was 51.08 young male drivers involved in fatal crashes in 2016 per 100,000 licensed young male drivers. For female drivers of all ages, the highest involvement rate was 23.28 young

female drivers 15 to 20 years old involved in fatal crashes in 2016 per 100,000 licensed young female drivers.

The 15- to 20-year-old age group accounted for 10.6 percent of all drivers involved in single-vehicle fatal crashes in 2016, compared to 7.9 percent in multiple-vehicle fatal crashes, as shown in Table 3.

Table 3

Percentage of Population and Drivers Involved in Fatal Crashes, by Age Group, 2016

	Age Group (Years)								
	<15	15–20	21–24	25–34	35–44	45–54	55–64	65–69	70+
Population (Percent)	18.9%	7.9%	5.6%	13.8%	12.5%	13.2%	12.8%	5.2%	10.0%
Drivers Involved in Fatal Crashes (Percent)									
- All Fatal Crashes	0.2%	8.9%	10.3%	21.3%	16.0%	15.7%	13.7%	4.9%	9.1%
- Single-Vehicle	0.3%	10.6%	11.8%	22.3%	15.1%	14.7%	13.1%	4.6%	7.5%
- Multi-Vehicle	0.1%	7.9%	9.4%	20.7%	16.5%	16.3%	14.1%	5.0%	10.1%
Licensed Drivers (Percent)	0.0%	5.4%	6.5%	17.7%	16.5%	17.8%	17.3%	7.0%	11.9%

Source: FARS 2016 ARF; Population – Bureau of the Census; Licensed Data – Federal Highway Administration.
Note: Individuals with unknown age were removed before calculating percentages.

Among young drivers involved in fatal crashes, 22 percent (170 out of 775) of those who did not have valid operator licenses also had previous license suspensions or revocations at the time of the

crashes in 2016 (Table 4). Note that FARS records drivers' previous driving records that occurred up to 5 years prior to the date of the crash starting in 2015.

Table 4

15- to 20-Year-Old Drivers Involved in Fatal Crashes, by Previous 5-Year Driving Record and License Compliance, 2016

Driving Record	License Compliance				Total*	
	Valid		Invalid			
	Number	Percent**	Number	Percent**	Number	Percent**
Total Drivers Involved	3,688	100.0%	775	100.0%	4,514	100.0%
No Previous Driving Record	2,153	58.4%	439	56.6%	2,594	57.5%
Previous Recorded Crashes	514	13.9%	82	10.6%	596	13.2%
Previous Recorded Suspensions or Revocations	190	5.2%	170	21.9%	360	8.0%
Previous DWI Convictions	20	0.5%	30	3.9%	50	1.1%
Previous Speeding Convictions	637	17.3%	107	13.8%	744	16.5%
Previous Other Harmful or Moving Convictions	512	13.9%	151	19.5%	663	14.7%

Source: FARS 2016 ARF.

*Total includes drivers with unknown previous records

**A driver can have multiple driving records of different types.

Motorcycles

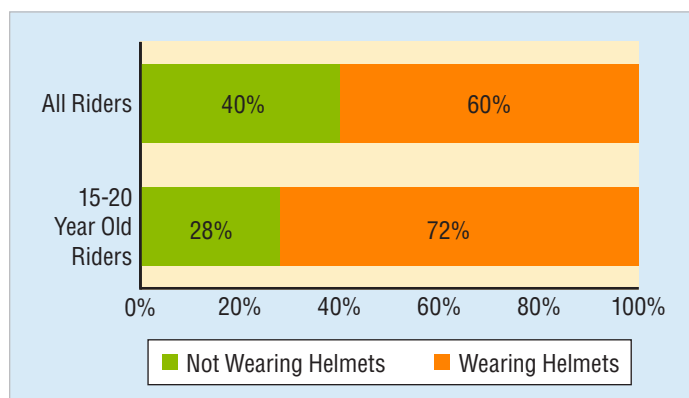
The term motorcycle *rider* refers to the operator of the motorcycle only and the term *passenger* refers to any occupant not including the rider. The term *motorcyclist* refers to any occupant of a motorcycle, either the rider or the passenger.

In 2016 there were 254 young motorcycle riders 15 to 20 years old killed in crashes, an increase of 2 percent from 248 young motorcycle riders killed in 2015.

Helmets are estimated to be 37-percent effective in preventing fatalities among motorcycle riders and 41-percent effective among motorcycle passengers. NHTSA estimates that helmets saved the lives of 1,859 motorcyclists of all ages in 2016, and that if all motorcyclists had worn helmets, an additional 802 lives could have been saved.³

Twenty-eight percent of the motorcycle riders 15 to 20 years old who were killed in crashes were not wearing helmets (based on known helmet use) compared to 40 percent of all motorcycle riders who were killed in 2016 as shown in Figure 2.

Figure 2
Helmet Use* of Motorcycle Riders Killed in Fatal Crashes, by Age, 2016



Source: FARS 2016 ARF.

*Based on known helmet use.

Of the young motorcycle riders involved in fatal crashes, 43 percent were either unlicensed or driving with invalid licenses compared to 28 percent of all motorcycle riders involved in 2016.

³ National Center for Statistics and Analysis. (2017, October). *Lives saved in 2016 by restraint use and minimum-drinking-age laws* (Traffic Safety Facts CrashStats. Report No. DOT HS 812 454). Washington, DC: National Highway Traffic Safety Administration. Available at crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812454

Restraint Use

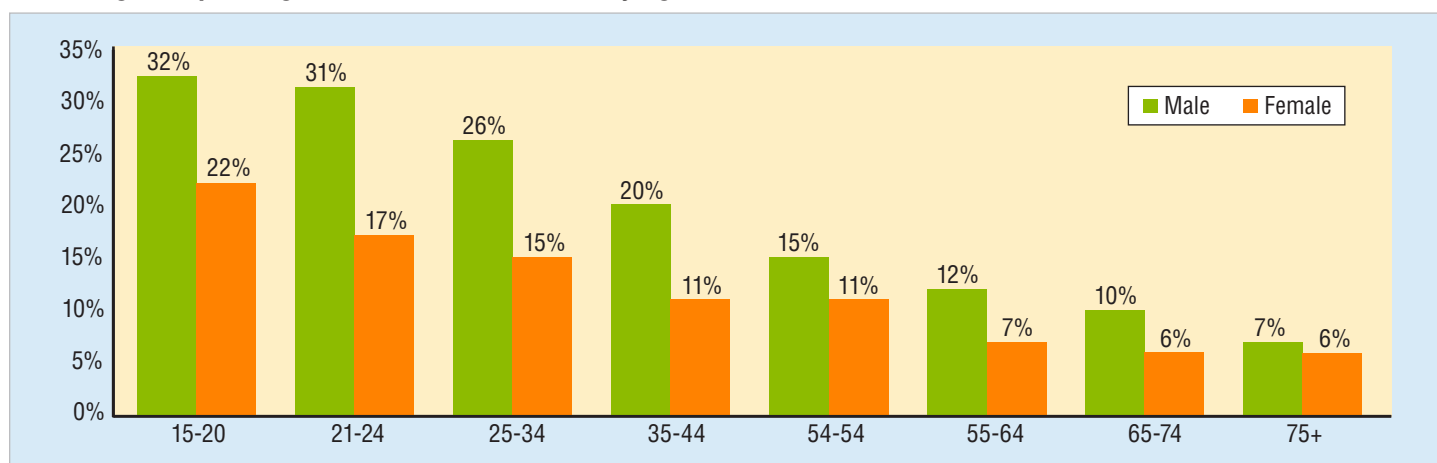
Of the 4,514 young drivers involved in fatal crashes in 2016, the restraint use of those drivers is known for all but 343 drivers. Of the young drivers involved in fatal crashes in 2016 with known restraint use:

- Forty-seven percent of those who died were unrestrained compared to 46 percent of all drivers who died in fatal crashes.
- Fifteen percent of those who survived were unrestrained compared to 10 percent of all drivers who survived fatal crashes.

Speeding

NHTSA considers a crash to be speeding-related if any driver in the crash was charged with a speeding-related offense or if a police officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash. In 2016, young drivers, male and female, were speeding at the time of the fatal crashes more than the other age groups as shown in Figure 3. Males in general were more likely to speed than females in these crashes.

Figure 3
Percentage of Speeding Drivers in Fatal Crashes, by Age and Gender, 2016



Source: FARS 2016 ARF.

Alcohol

All States and the District of Columbia have 21-year-old minimum-drinking-age laws. Alcohol involvement includes a fatal crash in which a driver had a BAC of .01 g/dL or higher. A driver is considered to be alcohol-impaired when the driver's BAC is .08 g/dL or higher.

In 2016:

- Twenty-four percent of the young drivers 15 to 20 years old who were killed in crashes had BACs of .01 g/dL or higher; 19 percent had BACs of .08 g/dL or higher, as shown in Table 5.
- Of the 451 young drivers killed who had alcohol in their systems, 368 (82%) were at .08 g/dL or higher (past the legal driving limit for those *legally permitted* to consume alcohol).

Table 5
Alcohol Involvement Among Young Drivers Age 15 to 20 Involved in Fatal Crashes, by Year and Driver Status, 2007 and 2016

Driver Status	Number of Drivers	No Alcohol (BAC=.00 g/dL)		BAC=.01+ g/dL		BAC=.08+ g/dL	
		Number	Percent	Number	Percent	Number	Percent
2007							
Survived	3,836	3,231	84%	605	16%	415	11%
Killed	3,190	2,199	69%	991	31%	822	26%
Total	7,026	5,430	77%	1,596	23%	1,237	18%
2016							
Survived	2,606	2,195	84%	412	16%	307	12%
Killed	1,908	1,458	76%	451	24%	368	19%
Total	4,514	3,652	81%	862	19%	674	15%

Source: FARS 2007 Final File, 2016 ARF.

The number of young drivers involved in fatal crashes who had BACs of .01 g/dL or higher dropped by 46 percent, from 1,596 in 2007 to 862 in 2016. However, 23 and 19 percent of these drivers in 2007 and 2016 respectively had BACs of .01 g/dL or higher.

Nineteen percent of the young drivers involved in fatal crashes had alcohol in their systems as reported through FARS in 2016. Among young drivers, 515 were killed at the age of 20 – highest among the young drivers; 32 percent of these drivers had alcohol in their systems at the time of the fatal crashes. Table 6 shows alcohol involvement for young drivers who were killed according to their age. The table clearly shows that of those young drivers killed, the percentage that involved alcohol generally increases as age increases (except for drivers age 15).

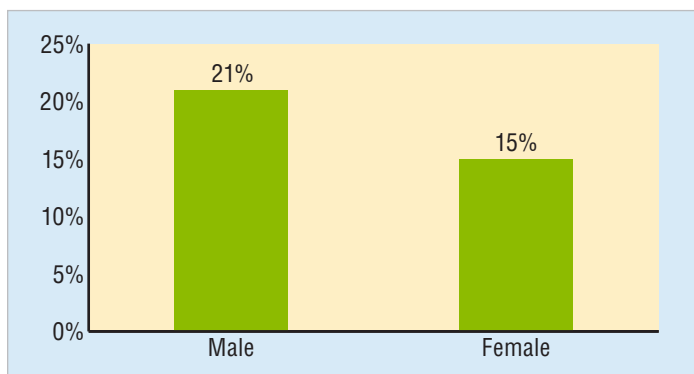
Table 6
Young Drivers Killed, by Age and Percentage With BAC=.01 g/dL or Higher, 2016

Age (Years)	Total Number of Drivers Killed	Percentage of Drivers With BAC=.01+ g/dL	Percentage of Drivers With BAC=.08+ g/dL
15	42	25%	14%
16	166	12%	10%
17	283	16%	12%
18	435	23%	18%
19	467	24%	20%
20	515	32%	27%

Source: FARS 2016 ARF.

For young drivers in fatal crashes, alcohol involvement is higher among males than among females. Twenty-one percent of the young male drivers involved in fatal crashes in 2016 had some alcohol at the time of the crashes (BACs of .01 g/dL or higher), compared with 15 percent of the young female drivers involved in fatal crashes as shown in Figure 4.

Figure 4
Percentage of Young Drivers Involved in Fatal Crashes With BACs of .01 g/dL or Higher, by Gender, 2016



Source: FARS 2016 ARF.

Drivers involved in fatal crashes are less likely to use restraints when they have been drinking. Forty-four percent of the young drivers of passenger vehicles involved in fatal crashes in 2016 who had been drinking were unrestrained (based on known restraint use). Of the young drivers who had been drinking and were killed in crashes, 58 percent were unrestrained (based on known restraint use). In comparison, of the non-drinking young drivers killed, 45 percent were unrestrained, as seen in Table 7.

Table 7
Young Drivers of Passenger Vehicles in Fatal Crashes, By Restraint Use and Alcohol, 2016

Restraint Use	No Alcohol (BAC=.00 g/dL)		BAC=.01+ g/dL	
	Number	Percent	Number	Percent
Drivers Involved in Fatal Crashes				
Restraint Used	2,353	76%	411	56%
Restraint Not Used	724	24%	321	44%
Driver Fatalities				
Restraint Used	604	55%	158	42%
Restraint Not Used	496	45%	221	58%

Source: FARS 2016 ARF.
 Note: Based on known restraint use.

NHTSA estimates that the 21-year-old minimum-drinking-age laws have helped reduce alcohol traffic fatalities and have saved 31,417 lives since 1975, as shown in Figure 5. In 2016 an estimated 552 lives were saved by minimum-drinking-age laws.⁴

Fatalities by State

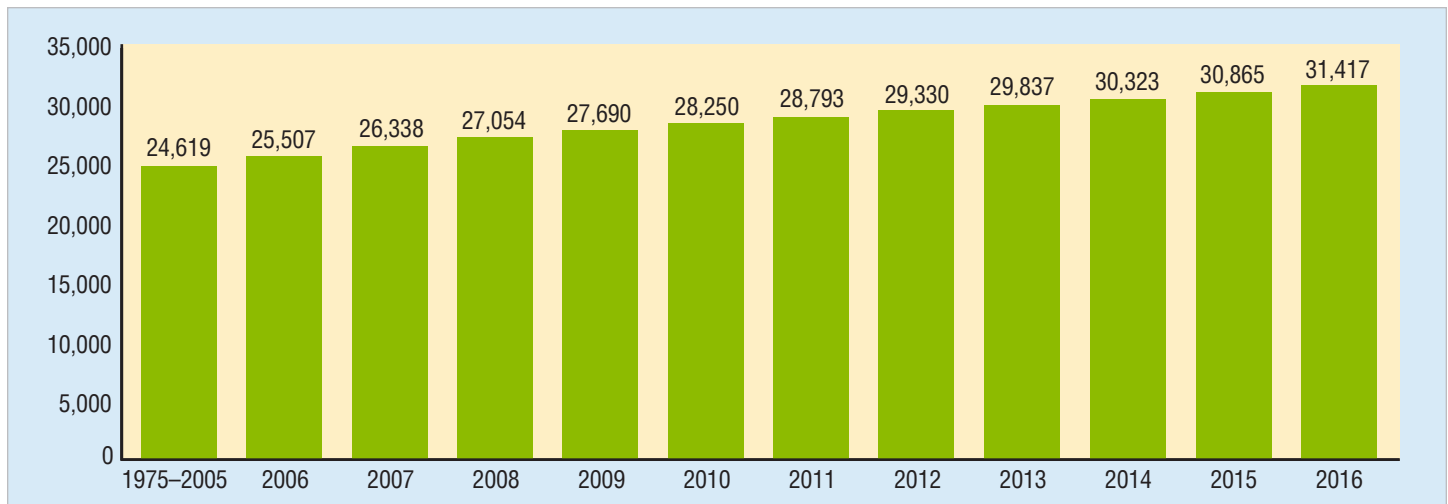
Table 8 presents the number of young drivers killed, as well as the numbers of passengers of young drivers, occupants of other vehicles, and nonoccupants killed in young-driver crashes for each State and the District of Columbia in 2016. Also included in Table 8 is Puerto Rico, which is not included in the U.S. total. Among all States in 2016:

- Traffic fatalities in crashes involving young drivers ranged from 1 in the District of Columbia to 479 in Texas.
- The number of young drivers who died in crashes ranged from 0 in the District of Columbia to 178 in Texas.

Additional State/county-level data is available at NHTSA's State Traffic Safety Information website at <https://cdan.nhtsa.gov/stsi.htm>

⁴ National Center for Statistics and Analysis. (2017, October). *Lives saved in 2016 by restraint use and minimum-drinking-age laws* (Traffic Safety Facts Crash•Stats. Report No. DOT HS 812 454). Washington, DC: National Highway Traffic Safety Administration. Available at crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812454

Figure 5
Cumulative Estimated Number of Lives Saved by Minimum Drinking Age Laws,⁴ 1975-2016



⁴ National Center for Statistics and Analysis. (2017, October). *Lives saved in 2016 by restraint use and minimum-drinking-age laws* (Traffic Safety Facts Crash•Stats. Report No. DOT HS 812 454). Washington, DC: National Highway Traffic Safety Administration. Available at crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812454

Crash Report Sampling System (CRSS) Replaces the National Automotive Sampling System (NASS) General Estimates System (GES)

NHTSA's National Center for Statistics and Analysis (NCSA) redesigned the nationally representative sample of police-reported traffic crashes, which estimates the number of police-reported injury and property-damage-only crashes in the United States. The new system, called CRSS, replaced NASS GES in 2016. However, the 2016 estimates are not currently available. NHTSA

is currently processing the file to ensure the data is accurate and complete and is finalizing the new weighting and calibration procedures to produce national estimates. Once completed, NHTSA will release the data and publish the estimated number of police-reported injury and property-damage-only crashes that occurred during 2016.

The suggested APA format citation for this document is:

National Center for Statistics and Analysis. (2018, February). *Young drivers: 2016 data*. (Traffic Safety Facts. Report No. DOT HS 812 498). Washington, DC: National Highway Traffic Safety Administration.

For More Information:

Information on traffic fatalities is available from the National Center for Statistics and Analysis (NCSA), NSA-230, 1200 New Jersey Avenue SE., Washington, DC 20590. NCSA can be contacted at 800-934-8517 or by e-mail at ncsarequests@dot.gov. General information on highway traffic safety can be found at www.nhtsa.gov/NCSA. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Vehicle Safety Hotline at 888-327-4236.

Other fact sheets available from the National Center for Statistics and Analysis are *Alcohol-Impaired Driving*, *Bicyclists and Other Cyclists*, *Children*, *Large Trucks*, *Motorcycles*, *Occupant Protection In Passenger Vehicles*, *Older Population*, *Passenger Vehicles*, *Pedestrians*, *Rural/Urban Comparison of Traffic Fatalities*, *School-Transportation-Related Crashes*, *Speeding*, *State Alcohol Estimates*, *State Traffic Data*, and *Summary of Motor Vehicle Crashes*. Detailed data on motor vehicle traffic crashes are published annually in *Traffic Safety Facts: A Compilation of Motor Vehicle Crash Data from the Fatality Analysis Reporting System and the General Estimates System*. The fact sheets and annual Traffic Safety Facts report can be found at <https://crashstats.nhtsa.dot.gov/>.



U.S. Department
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**National Highway
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Table 8
Fatalities in Crashes Involving Young Drivers Age 15 to 20, by State and Person Type, 2016

State	Young Drivers	Passengers in Young Drivers' Vehicles	Occupants of Other Vehicles	Nonoccupants	Total
Alabama	71	41	51	10	173
Alaska	7	6	1	2	16
Arizona	40	21	27	18	106
Arkansas	26	15	31	3	75
California	175	102	115	81	473
Colorado	23	24	14	6	67
Connecticut	11	7	12	2	32
Delaware	3	2	5	3	13
District of Columbia	0	0	1	0	1
Florida	138	76	117	84	415
Georgia	92	32	52	16	192
Hawaii	7	5	2	1	15
Idaho	10	9	12	1	32
Illinois	63	25	39	13	140
Indiana	45	26	30	11	112
Iowa	18	10	21	4	53
Kansas	28	10	19	1	58
Kentucky	39	21	31	7	98
Louisiana	41	18	24	14	97
Maine	5	7	6	2	20
Maryland	19	14	15	7	55
Massachusetts	16	17	10	9	52
Michigan	57	30	36	23	146
Minnesota	17	6	27	1	51
Mississippi	35	26	31	3	95
Missouri	58	41	33	14	146
Montana	8	7	2	1	18
Nebraska	10	7	6	4	27
Nevada	16	7	12	4	39
New Hampshire	9	5	4	5	23
New Jersey	21	10	25	13	69
New Mexico	23	11	21	10	65
New York	42	20	28	20	110
North Carolina	90	35	54	23	202
North Dakota	8	2	5	0	15
Ohio	64	31	48	16	159
Oklahoma	35	22	21	9	87
Oregon	27	8	15	9	59
Pennsylvania	58	26	49	15	148
Rhode Island	2	4	3	1	10
South Carolina	47	24	33	17	121
South Dakota	9	5	5	1	20
Tennessee	59	23	33	12	127
Texas	178	112	128	61	479
Utah	15	14	17	6	52
Vermont	1	2	0	0	3
Virginia	50	15	16	8	89
Washington	33	10	16	8	67
West Virginia	12	3	9	6	30
Wisconsin	38	21	25	4	88
Wyoming	9	3	1	0	13
U.S. Total	1,908	1,018	1,338	589	4,853
Puerto Rico	13	2	7	7	29

Source: FARS 2016 ARF.