

Traffic Safety Facts

2016 Data

October 2017

DOT HS 812 450



Key Findings

- In 2016 there were 10,497 fatalities in motor vehicle traffic crashes involving drivers with BACs of .08 g/dL or higher. This totaled 28 percent of all traffic fatalities for the year.
- An average of 1 alcohol-impaired-driving fatality occurred every 50 minutes in 2016.
- The estimated economic cost of all alcohol-impaired crashes (involving alcohol-impaired drivers or alcohol-impaired nonoccupants) in the United States in 2010 (the most recent year for which cost data is available) was \$44 billion.
- Of the traffic fatalities in 2016 among children 14 and younger, 17 percent occurred in alcohol-impaired-driving crashes.
- The 25- to 34-year-old age group had the highest percentage (27%) of drivers with BACs of .08 g/dL or higher in fatal crashes compared to other age groups in 2016.
- The percentage of drivers with BACs of .08 g/dL or higher in fatal crashes in 2016 was highest for fatalities involving motorcycle riders (25%), compared to passenger cars (21%), light trucks (20%), and large trucks (2%).
- The rate of alcohol impairment among drivers involved in fatal crashes in 2016 was 3.3 times higher when the fatal crashes occurred at night than during the day.
- In 2016 among the 10,497 alcohol-impaired-driving fatalities, 67 percent (7,052) were in crashes in which at least one driver had a BAC of .15 g/dL or higher.



U.S. Department
of Transportation
**National Highway
Traffic Safety
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Alcohol-Impaired Driving

Drivers are considered to be alcohol-impaired when their blood alcohol concentrations (BACs) are .08 grams per deciliter (g/dL) or higher. Thus, any fatal crash involving a driver with a BAC of .08 g/dL or higher is considered to be an alcohol-impaired-driving crash, and fatalities occurring in those crashes are considered to be alcohol-impaired-driving fatalities. The term “drunk driving” is used instead of alcohol-impaired driving in some other NHTSA communication and material. The term “driver” refers to the operator of any motor vehicle, including a motorcycle.

Estimates of alcohol-impaired driving are generated using BAC values reported to the Fatality Analysis Reporting System (FARS) and BAC values imputed when they are not reported. In this fact sheet, NHTSA uses the term “alcohol-impaired” in evaluating the FARS statistics. In all cases throughout this fact sheet, use of the term does not indicate that a crash or a fatality was caused by alcohol impairment, only that an alcohol-impaired driver was involved in the crash.

In this fact sheet for 2016 the alcohol-impaired-driving information is presented as follows.

- Overview
- Economic Cost for All Traffic Crashes
- Children
- Environmental Characteristics
- Time of Day and Day of Week
- Drivers
- Fatalities by State

This fact sheet contains information on fatal motor vehicle crashes and fatalities based on data from 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).

Overview

All 50 States, the District of Columbia, and Puerto Rico have by law set a threshold making it illegal to drive with a BAC of .08 g/dL or higher. In 2016 there were 10,497 people killed in alcohol-impaired-driving crashes, an average of 1 alcohol-impaired-driving fatality every 50 minutes. These alcohol-impaired-driving fatalities accounted for 28 percent of all motor vehicle traffic fatalities in the United States in 2016.

Of the 10,497 people who died in alcohol-impaired-driving crashes in 2016, there were 6,479 drivers (62%) who had BACs of .08 g/dL or higher. The remaining fatalities consisted of 3,070 motor vehicle occupants (29%) and 948 nonoccupants (9%). The distribution of fatalities in these crashes by role is shown in Table 1.

Table 1
Fatalities, by Role, in Crashes Involving at Least One Driver With a BAC of .08 g/dL or Higher, 2016

Role	Number	Percent of Total Fatalities
Driver With BAC=.08+ g/dL	6,479	62%
Passenger Riding With Driver With BAC=.08+ g/dL	1,550	15%
Subtotal	8,029	76%
Occupants of Other Vehicles	1,520	14%
Nonoccupants (pedestrians/pedalcyclists/other)	948	9%
Total Alcohol-Impaired-Driving Fatalities	10,497	100%

Source: FARS 2016 Annual Report File (ARF).

Note: Percentages may not equal sum of components due to independent rounding.

Figure 1
Fatalities and Fatality Rate per 100 Million VMT in Alcohol-Impaired-Driving Crashes, 2007–2016



Sources: Fatalities – FARS 2007–2015 Final File, 2016 ARF; 2007–2015 VMT – Federal Highway Administration's (FHWA) Annual Highway Statistics; 2016 VMT – FHWA's Traffic Volume Trends (June 2017)

Economic Cost for All Traffic Crashes

The estimated economic cost of all motor vehicle traffic crashes in the United States in 2010 (the most recent year for which cost data is available) was \$242 billion, of which \$44 billion resulted from alcohol-impaired crashes (involving alcohol-impaired drivers or alcohol-impaired nonoccupants). Included in the economic costs are:

- Lost productivity,
- Workplace losses,
- Legal and court expenses,
- Medical costs,
- Emergency medical services,
- Insurance administration,
- Congestion, and
- Property damage.

These costs represent the tangible losses that result from motor vehicle traffic crashes. However, in cases of serious injury or death, such costs fail to capture the relatively intangible value of lost quality-of-life that results from these injuries. When quality-of-life valuations are considered, the total value of societal harm from motor vehicle traffic crashes in the United States in 2010 was an estimated \$836 billion, of which \$201.1 billion resulted from alcohol-impaired crashes. For further information on cost estimates, see *The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised)*.¹

¹ Blincoe, L. J., Miller, T. R., Zaloshnja, E., & Lawrence, B. A. (2014). *The economic and societal impact of motor vehicle crashes, 2010 (Revised)* (Report No. DOT HS 812 013). Washington, DC: National Highway Traffic Safety Administration. Available at <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812013>

Children

A total of 1,233 children 14 and younger were killed in motor vehicle traffic crashes in 2016. Of these 1,233 fatalities, 214 children (17%) died in alcohol-impaired-driving crashes. Of these 214 child deaths:

- 115 (54%) were occupants of vehicles with drivers who had BACs of .08 g/dL or higher;
- 61 (29%) were occupants of other vehicles;
- 36 (17%) were nonoccupants (pedestrians, pedalcyclists, or other nonoccupants); and
- 2 (<1%) were drivers.

Environmental Characteristics

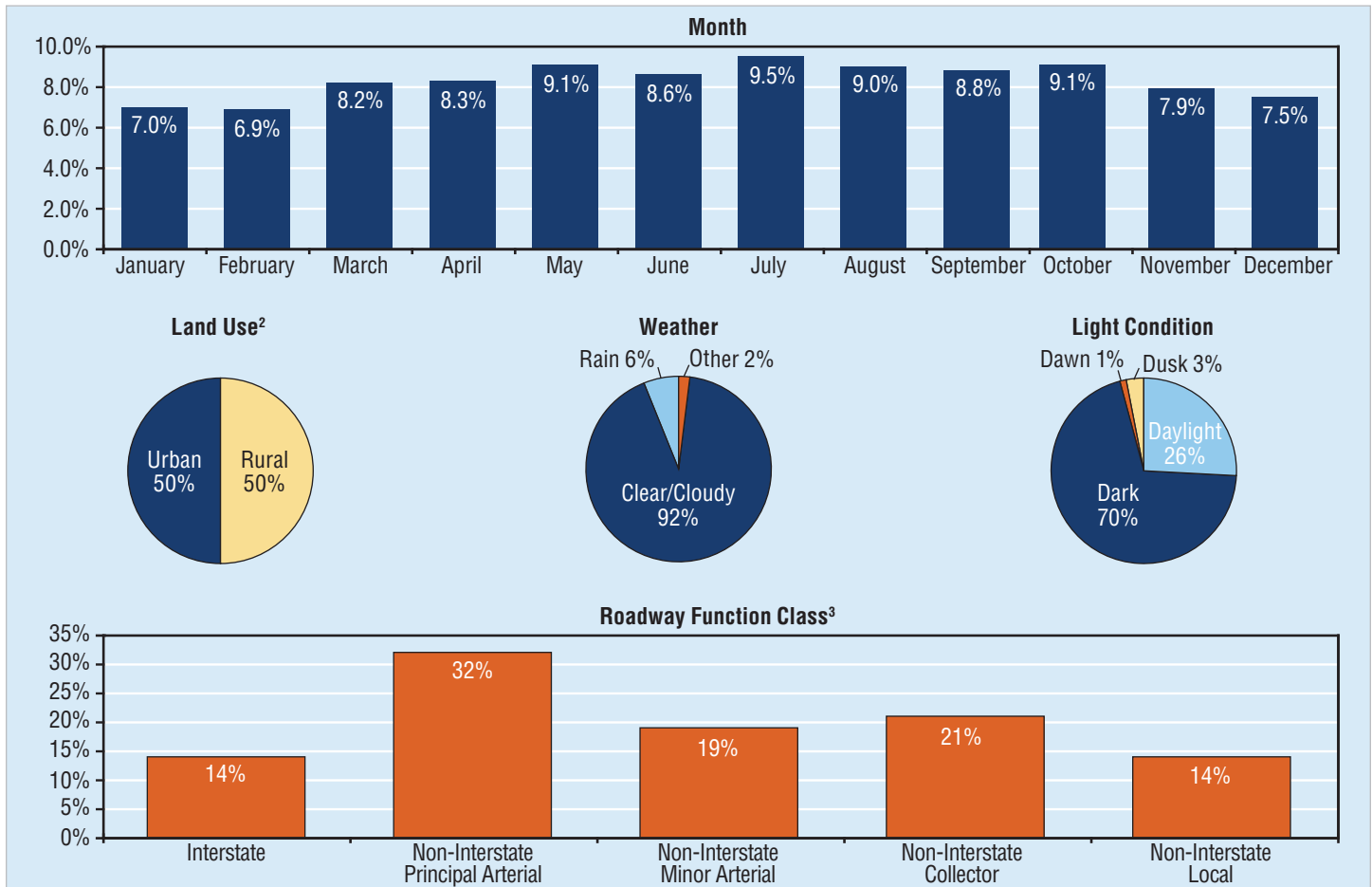
Figure 2 displays information about the setting surrounding alcohol-impaired drivers involved in fatal crashes in 2016 including

month, land use,² weather, light condition, and roadway function class.³ In 2016 based on known values⁴ of alcohol-impaired drivers involved in fatal crashes:

- More occurred in July (9.5%), May (9.1%), and October (9.1%) than the other months;
- 50 percent occurred in both urban and rural areas;
- 92 percent occurred in clear/cloudy conditions compared to 6 percent in rainy conditions and 2 percent in other conditions;
- 70 percent occurred in the dark compared to 26 percent in daylight, 3 percent in dusk, and 1 percent in dawn; and
- 86 percent occurred on non-interstate roads compared to 14 percent on interstate roads.

Figure 2

Percentage of Alcohol-Impaired Drivers Involved in Fatal Crashes in 2016, by Month, Land Use,² Weather, Light Condition, and Roadway Function Class³



Source: 2016 FARS ARF

Note: Unknowns were removed before calculating percentages. Percentages may not add up to 100 percent due to individual rounding.

² See the U.S. Census Bureau link to define urban and rural areas: www.census.gov/geo/reference/ua/urban-rural-2010.html

³ Definitions for the different roadway function class can be found at www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcaub.pdf

⁴ Unknowns were removed before calculating percentages.

Time of Day and Day of Week

Table 2 presents information on drivers involved in fatal crashes in 2007 and 2016 by time of day and day of week, as well as single-vehicle and multiple-vehicle crash data. In 2016:

- The rate of alcohol impairment among drivers involved in fatal crashes was 3.3 times higher at night than during the day (30% versus 9%);

- 14 percent of all drivers involved in fatal crashes during the week were alcohol-impaired, compared to 26 percent on weekends; and
- 30 percent of all drivers involved in single-vehicle fatal crashes were alcohol-impaired, compared to 12 percent in multiple-vehicle fatal crashes.

Table 2

Drivers Involved in Fatal Crashes With BACs of .08 g/dL or Higher, by Crash Type, Time of Day and Day of Week, 2007 and 2016

Drivers Involved in Fatal Crashes	2007			2016			Change in Percentage With BAC=.08+ 2007-2016
	Total Number of Drivers	BAC=.08+		Total Number of Drivers	BAC=.08+		
		Number	Percent of Total		Number	Percent of Total	
Total	56,019	12,100	22%	51,914	9,885	19%	-3
Drivers by Crash Type and Time of Day							
Single-Vehicle Crash							
Total*	22,076	8,209	37%	20,011	5,993	30%	-7
Daytime	8,549	1,495	17%	7,936	1,258	16%	-1
Nighttime	13,239	6,549	49%	11,840	4,647	39%	-10
Multiple-Vehicle Crash							
Total*	33,943	3,891	11%	31,903	3,892	12%	+1
Daytime	20,758	1,022	5%	19,151	1,102	6%	+1
Nighttime	13,128	2,860	22%	12,706	2,782	22%	0
Drivers by Time of Day							
Daytime	29,307	2,517	9%	27,087	2,360	9%	0
Nighttime	26,367	9,409	36%	24,546	7,429	30%	-6
Drivers by Day of Week and Time of Day							
Weekday*	33,207	5,108	15%	31,630	4,519	14%	-1
Daytime	21,152	1,442	7%	19,824	1,478	7%	0
Nighttime	11,942	3,613	30%	11,713	3,021	26%	-4
Weekend*	22,721	6,948	31%	20,207	5,343	26%	-5
Daytime	8,155	1,075	13%	7,263	882	12%	-1
Nighttime	14,425	5,796	40%	12,833	4,408	34%	-6

Source: FARS 2007 Final File, 2016 ARF

*Includes drivers involved in fatal crashes when time of day was unknown.

Daytime – 6 a.m. to 5:59 p.m.

Nighttime – 6 p.m. to 5:59 a.m.

Weekday – Monday 6 a.m. to Friday 5:59 p.m.

Weekend – Friday 6 p.m. to Monday 5:59 a.m.

Drivers

Table 3 provides information on alcohol-impaired drivers involved in fatal crashes by the age of the driver as well as gender and vehicle type. In fatal crashes in 2016 the highest percentage of drivers with BACs of .08 g/dL or higher was for 25- to 34-year-old drivers (27%), followed by 21- to 24-year-old drivers (26%). The 10-year trend of alcohol-impaired drivers involved increased for older drivers when compared to younger drivers.

The percentages of drivers with BACs of .08 g/dL or higher involved in fatal crashes in 2016 were 21 percent among males and 14 percent

among females. In 2016 there were 4 male alcohol-impaired drivers involved for every female alcohol-impaired driver involved (7,850 versus 1,883).

The percentages of drivers involved in fatal crashes with BACs of .08 g/dL or higher in 2016 by vehicle type were 25 percent for motorcycles, 21 percent for passenger cars, and 20 percent for the “light trucks” category (22% for pickup trucks, 19% for SUVs, and 12% for vans). The percentage of drivers with BACs of .08 g/dL or higher in fatal crashes was the lowest for drivers of large trucks (2%).

Table 3

Drivers With BACs of .08 g/dL or Higher Involved in Fatal Crashes, by Age Group, Gender, and Vehicle Type, 2007 and 2016

Drivers Involved in Fatal Crashes	2007			2016			Change in Percentage With BAC=.08+ 2007 and 2016
	Total Number of Drivers	BAC=.08+		Total Number of Drivers	BAC=.08+		
		Number	Percent of Total		Number	Percent of Total	
Total	56,019	12,100	22%	51,914	9,885	19%	-3
Drivers by Age Group (Years)							
16-20	6,894	1,218	18%	4,412	663	15%	-3
21-24	6,287	2,160	34%	5,233	1,368	26%	-8
25-34	10,773	3,131	29%	10,815	2,870	27%	-2
35-44	9,936	2,445	25%	8,116	1,767	22%	-3
45-54	9,028	1,834	20%	7,946	1,517	19%	-1
55-64	6,037	727	12%	6,966	987	14%	+2
65-74	3,038	219	7%	4,122	365	9%	+2
75+	2,879	104	4%	2,971	163	5%	+1
Drivers by Gender							
Male	41,053	10,039	24%	37,564	7,850	21%	-3
Female	14,184	1,862	13%	13,279	1,883	14%	+1
Drivers by Vehicle Type							
Passenger Cars	22,765	5,144	23%	20,730	4,250	21%	-2
Light Trucks*	21,719	5,083	23%	19,951	3,922	20%	-3
–Pickup Trucks	10,225	2,725	27%	8,904	1,995	22%	-5
–SUVs	8,191	1,895	23%	8,453	1,600	19%	-4
–Vans	3,218	457	14%	2,366	280	12%	-2
Large Trucks	4,601	45	1%	4,152	83	2%	+1
Motorcycles	5,306	1,428	27%	5,414	1,351	25%	-2

Source: FARS 2007 Final File, 2016 ARF.

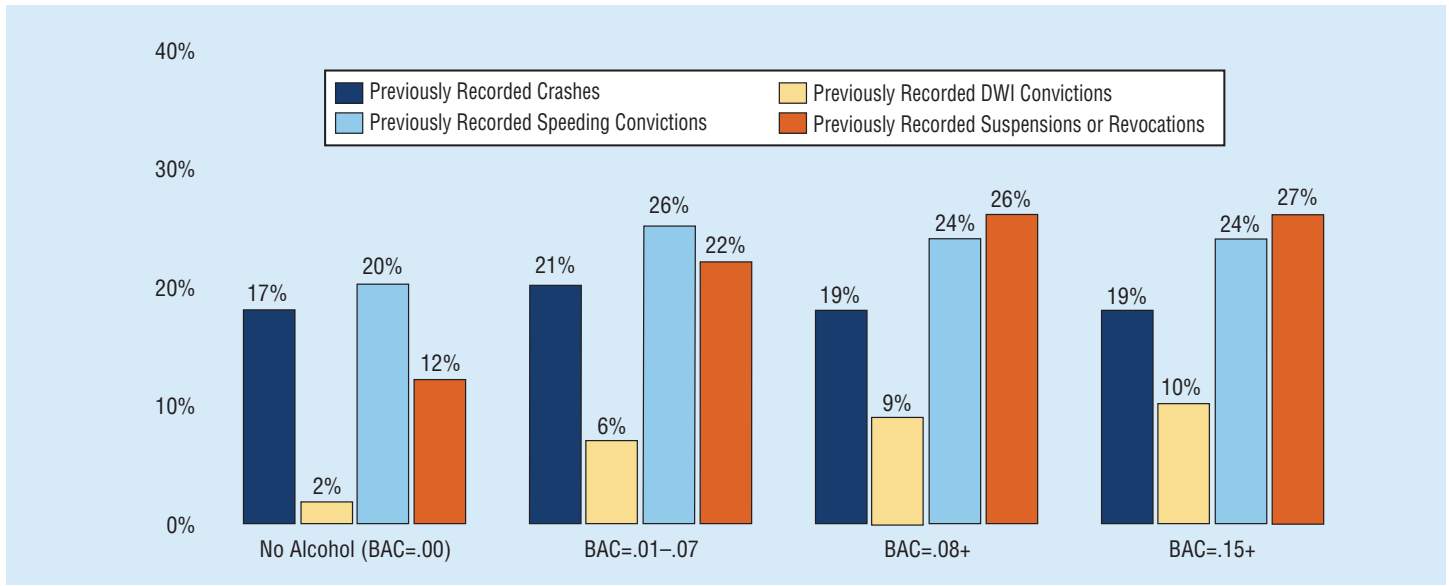
Note: Numbers shown for groups of drivers do not add to the total number of drivers due to unknown/not reported or other data not included.

*Includes other/unknown light-truck vehicle types.

In 2016 there were 5,013 passenger vehicle drivers killed with BACs of .08 g/dL or higher (“passenger vehicles” include passenger cars as well as light trucks such as vans, SUVs, and pickup trucks). Of these driver fatalities for which restraint use was known, 64 percent were unrestrained. Based on known restraint use, 56 percent of passenger vehicle drivers killed who had BACs of .01 to .07 g/dL were unrestrained, and 40 percent of passenger vehicle drivers killed who had no alcohol (.00 g/dL) were unrestrained.

Figure 3 shows information on the driving record of drivers in fatal crashes in 2016 at different BAC levels. There was little difference by BAC level in the percentage of drivers with previously recorded crashes. Drivers with BACs of .08 g/dL or higher involved in fatal crashes were 4.5 times more likely to have prior convictions for driving while impaired (DWI) than were drivers with no alcohol (9% and 2%, respectively). Note that FARS records drivers’ previous crashes, suspensions/revocations, and convictions that occurred up to 5 years prior to the date of the crash starting in FARS 2015.

Figure 3
Previous 5-Year* Driving Records of Drivers Involved in Fatal Crashes, by BAC, 2016

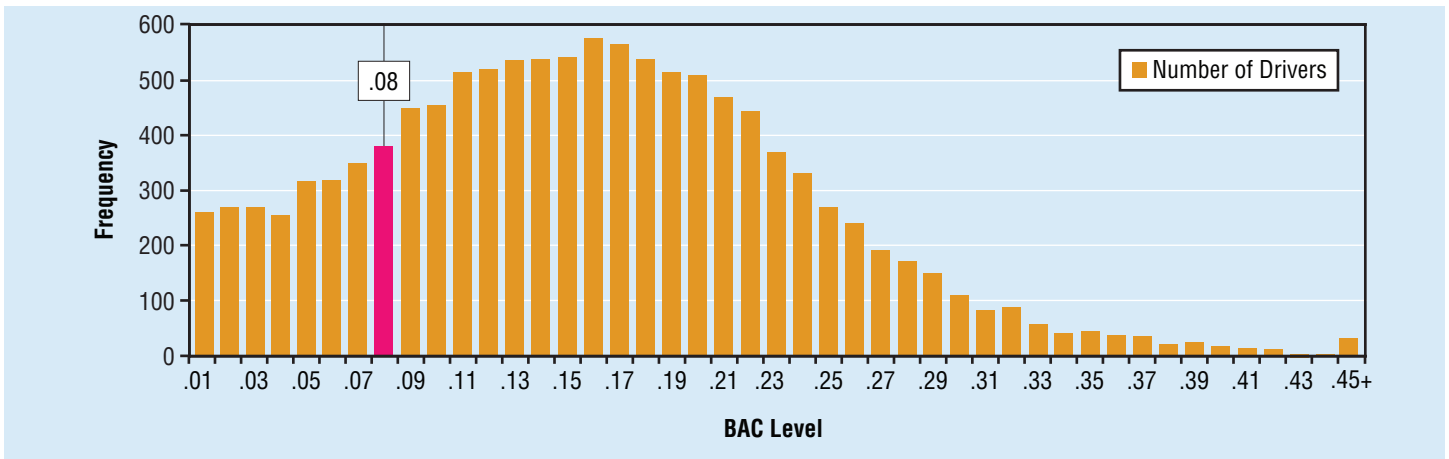


Source: FARS 2016 ARF
 *FARS recorded previous driving records up to 3 years prior to the date of the crash in FARS 2014 and earlier.

While a BAC of .08 g/dL is considered to be impaired in all States, the large majority of drivers in fatal crashes with any measurable alcohol had levels far higher. Eighty-three percent (9,885) of the 11,929 drivers with BACs of .01 g/dL or higher who were involved in fatal crashes in 2016 also had BAC levels at or above .08 g/dL, and 54 percent (6,496) also had BAC levels at or above .15 g/dL. Among

the 10,497 alcohol-impaired-driving fatalities in 2016, sixty-seven percent (7,052) were in crashes in which at least one driver in the crash had a BAC of .15 g/dL or higher. Figure 4 presents the distribution of BACs for those drivers with any alcohol in their systems. The most frequently recorded BACs among drinking drivers in fatal crashes was at .16 g/dL.

Figure 4
Distribution of BACs for Drivers With BACs of .01 g/dL or Higher Involved in Fatal Crashes, 2016



Source: FARS 2016 ARF

Fatalities by State

Table 4 shows motor vehicle traffic fatalities by State and the highest driver BAC in the crashes in 2016.

- Among all States, the number of fatalities in motor vehicle traffic crashes ranged from 27 (District of Columbia) to 3,776 (Texas), depending on the size and population of the State.
- Alcohol-impaired-driving fatalities were highest in Texas (1,438), followed by California (1,059) and Florida (841), and lowest in the District of Columbia (10).

- The percentage of alcohol-impaired-driving fatalities among total traffic fatalities in States ranged from a high of 45 percent (Montana and North Dakota) to a low of 19 percent (Mississippi and Utah), compared to the national average of 28 percent.
- The percentage of fatalities in crashes involving a driver with a BAC of .15 g/dL or higher ranged from a high of 36 percent (Montana and North Dakota) to a low of 12 percent (Mississippi and Utah), compared to the national average of 19 percent.

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

The suggested APA format citation for this document is:

National Center for Statistics and Analysis. (2017, October). *Alcohol-impaired driving: 2016 data* (Traffic Safety Facts. Report No. DOT HS 812 450). Washington, DC: National Highway Traffic Safety Administration.

For more information:

Information on traffic fatalities is available from the National Center for Statistics and Analysis, NSA-230, 1200 New Jersey Avenue SE., Washington, DC 20590. NCSA can be contacted at 800-934-8517 or by e-mail at ncsaweb@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 factsheets available from the National Center for Statistics and Analysis are *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*, *Summary of Motor Vehicle Crashes*, and *Young Drivers*. 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/>.

Table 4

Motor Vehicle Traffic Fatalities, by State and Highest Driver BAC in the Crash, 2016

State	Total Fatalities*	No Alcohol (BAC=.00 g/dL)		BAC=.01+ g/dL		BAC=.08+ g/dL		BAC=.15+ g/dL	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alabama	1,038	717	69%	321	31%	279	27%	177	17%
Alaska	84	46	55%	37	44%	30	36%	26	31%
Arizona	962	659	68%	289	30%	232	24%	151	16%
Arkansas	545	394	72%	150	28%	117	21%	81	15%
California	3,623	2,368	65%	1,247	34%	1,059	29%	676	19%
Colorado	608	409	67%	195	32%	161	27%	117	19%
Connecticut	293	169	58%	123	42%	100	34%	69	23%
Delaware	119	75	63%	43	36%	37	31%	31	26%
District of Columbia	27	13	49%	14	51%	10	38%	6	21%
Florida	3,174	2,175	69%	987	31%	841	26%	566	18%
Georgia	1,554	1,117	72%	433	28%	368	24%	240	15%
Hawaii	120	80	66%	40	33%	34	28%	23	19%
Idaho	253	162	64%	89	35%	77	30%	56	22%
Illinois	1,082	707	65%	375	35%	315	29%	220	20%
Indiana	821	580	71%	241	29%	211	26%	138	17%
Iowa	404	275	68%	126	31%	106	26%	72	18%
Kansas	429	318	74%	107	25%	94	22%	60	14%
Kentucky	834	618	74%	216	26%	175	21%	124	15%
Louisiana	757	488	64%	268	35%	225	30%	155	20%
Maine	161	94	59%	67	41%	54	33%	38	23%
Maryland	505	349	69%	156	31%	130	26%	84	17%
Massachusetts	389	233	60%	156	40%	119	31%	81	21%
Michigan	1,064	766	72%	294	28%	236	22%	156	15%
Minnesota	392	275	70%	117	30%	93	24%	67	17%
Mississippi	690	527	76%	164	24%	128	19%	80	12%
Missouri	945	642	68%	301	32%	244	26%	169	18%
Montana	190	95	50%	95	50%	85	45%	68	36%
Nebraska	218	134	61%	82	38%	62	29%	41	19%
Nevada	328	213	65%	114	35%	101	31%	55	17%
New Hampshire	136	86	63%	49	36%	40	30%	28	20%
New Jersey	601	423	70%	177	29%	137	23%	87	15%
New Mexico	402	252	63%	148	37%	118	29%	85	21%
New York	1,025	697	68%	328	32%	283	28%	190	18%
North Carolina	1,450	972	67%	474	33%	354	24%	242	17%
North Dakota	113	57	50%	55	49%	50	45%	41	36%
Ohio	1,132	739	65%	391	35%	324	29%	227	20%
Oklahoma	683	482	71%	200	29%	180	26%	114	17%
Oregon	495	323	65%	172	35%	154	31%	100	20%
Pennsylvania	1,188	815	69%	369	31%	327	28%	220	19%
Rhode Island	51	29	56%	22	44%	19	37%	14	26%
South Carolina	1,015	617	61%	396	39%	331	33%	240	24%
South Dakota	116	62	53%	54	47%	46	39%	29	25%
Tennessee	1,041	760	73%	280	27%	223	21%	153	15%
Texas	3,776	2,100	56%	1,670	44%	1,438	38%	949	25%
Utah	281	223	79%	59	21%	52	19%	35	12%
Vermont	62	31	50%	31	50%	27	43%	18	30%
Virginia	760	508	67%	251	33%	220	29%	152	20%
Washington	537	351	65%	186	35%	161	30%	110	20%
West Virginia	269	189	70%	80	30%	68	25%	44	17%
Wisconsin	607	365	60%	241	40%	193	32%	132	22%
Wyoming	112	77	69%	35	31%	32	29%	21	19%
U.S. Total	37,461	24,851	66%	12,514	33%	10,497	28%	7,052	19%
Puerto Rico	279	160	57%	118	42%	92	33%	58	21%

*Total includes fatalities in crashes in which there was no driver (includes motorcycle riders) present. Source: 2016 FARS ARF