

Traffic Safety Facts

2016 Data

April 2018

DOT HS 812 521



Key Findings

- Of the 37,461 motor vehicle traffic fatalities in 2016, there were 18,590 (50%) that occurred in rural areas, 17,656 (47%) that occurred in urban areas, and 1,215 (3%) that occurred in unknown areas.
- According to the 2016 American Community Survey from the U.S. Census Bureau, an estimated 19 percent of the U.S. population lived in rural areas, and according to FHWA, only 30 percent of the total vehicle miles traveled in 2016 were in rural areas. However, rural areas accounted for 50 percent of all traffic fatalities in 2016.
- Rural traffic fatalities decreased by 20 percent, from 23,524 in 2007 to 18,590 in 2016, compared to urban traffic fatalities that decreased by only 1 percent, from 17,908 in 2007 to 17,656 in 2016.
- In 2016, the fatality rate per 100 million vehicle miles traveled was 2.5 times higher in rural areas than in urban areas (1.96 and 0.79, respectively).
- Speeding-related fatalities occurred in equal proportions in rural and urban areas. Of the 18,590 rural traffic fatalities in 2016, 5,030 (27%) were killed in speeding-related crashes. Of the 17,656 urban traffic fatalities in 2016, 4,678 (26%) were killed in speeding-related crashes.
- Rural alcohol-impaired-driving fatalities decreased by 31 percent, from 7,346 in 2007 to 5,093 in 2016, while urban alcohol-impaired-driving fatalities decreased by only 13 percent, from 5,663 in 2007 to 4,944 in 2016.
- The 2016 National Occupant Protection Use Survey (NOPUS) observed that the seat belt use rate among front seat passenger vehicle occupants in urban areas was 90.5 percent, and rural occupants were observed to have a use rate of 89.5 percent.
- Based on known restraint use in fatal crashes, 49 percent of rural passenger vehicle occupants killed in 2016 were unrestrained, as compared to 46 percent of urban passenger vehicle occupants killed.



U.S. Department of Transportation
**National Highway Traffic Safety
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Rural/Urban Comparison of Traffic Fatalities

For this fact sheet, rural and urban boundaries are determined by the State highway departments and approved by the Federal Highway Administration. The State highway departments use the U.S. Census Bureau's rural and urban boundaries.¹

In this fact sheet for 2016, the information about rural and urban traffic fatalities is presented as follows:

- Overview
- Time of Day
- Speeding
- Alcohol
- Restraint Use
- Rollover Crashes
- Driver Characteristics
- Nonoccupants
- 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).

Overview

In 2016:

- There were 34,439 fatal motor vehicle traffic crashes resulting in 37,461 fatalities.
- Of these 34,439 fatal traffic crashes, there were 16,736 (48%) that occurred in rural areas, 16,558 (48%) that occurred in urban areas, and 1,145 (3%) that occurred in unknown areas (not enough information to determine if the crashes were inside the rural or urban boundaries).
- Of these 37,461 traffic fatalities, there were 18,590 (50%) that occurred in rural areas, 17,656 (47%) that occurred in urban areas, and 1,215 (3%) that occurred in unknown areas.
- According to the 2016 American Community Survey from the U.S. Census Bureau, an estimated 19 percent of the U.S. population lived in rural areas, and according to FHWA, only 30 percent of the total vehicle miles traveled (VMT) in 2016 were in rural areas. However, rural areas accounted for 50 percent of all traffic fatalities in 2016.

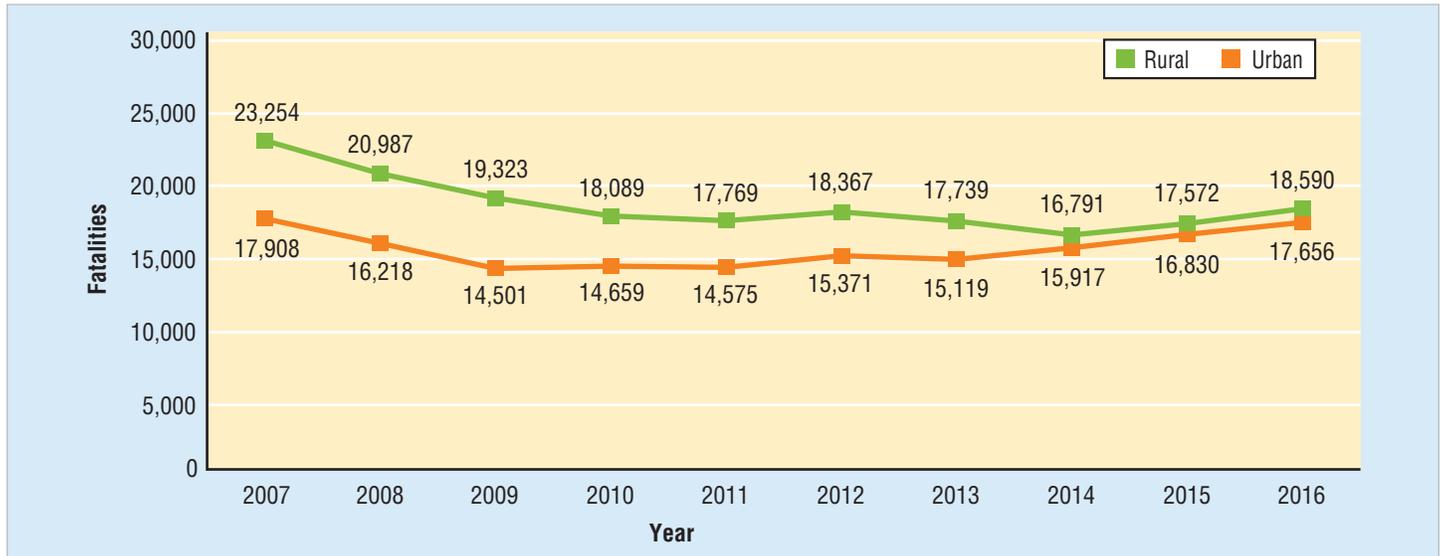
¹ See the U.S. Census Bureau link to define urban and rural areas: www.census.gov/geo/reference/ua/urban-rural-2010.html

Figure 1 presents the motor vehicle traffic fatality trends in the most recent 10-year period for which data is available by location (rural and urban):

- Rural fatalities decreased by 20 percent, from 23,254 in 2007 to 18,590 in 2016.

- Urban fatalities decreased by 1 percent, from 17,908 in 2007 to 17,656 in 2016.

Figure 1
Motor Vehicle Traffic Fatalities, by Year and Location, 2007–2016



Source: FARS 2007–2015 Final File, 2016 Annual Report File (ARF)

Figure 2 presents the fatality rates per 100 million VMT by location (rural, urban, and overall) in the most recent 10-year period for which data is available:

- The fatality rate in rural areas decreased by 13 percent, from 2.25 in 2007 to 1.96 in 2016.

- The fatality rate in urban areas decreased by 12 percent, from 0.90 in 2007 to 0.79 in 2016.
- In 2016, the fatality rate was 2.5 times higher in rural areas than in urban areas (1.96 and 0.79, respectively).

Figure 2
Fatality Rates per 100 Million Vehicle Miles Traveled (VMT), by Year and Location, 2007–2016



Sources: FARS 2007–2015 Final File, 2016 ARF; VMT – Federal Highway Administration

Time of Day

Of the 18,590 rural traffic fatalities in 2016, 9,990 (54%) occurred during the day (6 a.m. to 5:59 p.m.), 8,424 (45%) occurred during the night (6 p.m. to 5:59 a.m.), and 176 (1%) occurred where time was unknown. Of the 17,656 urban traffic fatalities in 2016, 7,453 (42%) occurred during the day, 10,108 (57%) occurred during the night, and 95 (<1%) occurred where time was unknown. In short, more rural traffic fatalities occurred during the day, and more urban traffic fatalities occurred during the night.

Speeding

The National Highway Traffic Safety Administration considers a crash to be speeding-related if the driver was charged with a speeding-related offense or if an officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash.

In 2016:

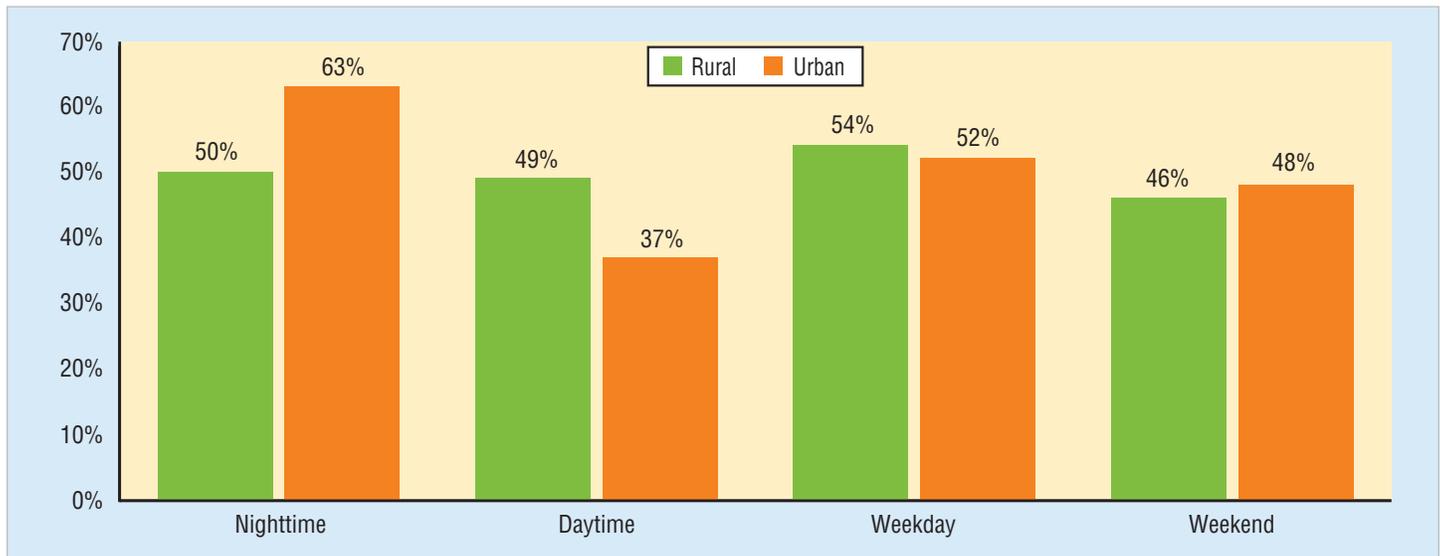
- Of the 37,461 traffic fatalities, 10,111 (27%) were killed in speeding-related crashes.
- Of the 18,590 rural traffic fatalities, 5,030 (27%) were killed in speeding-related crashes, the same percentage as all fatalities.
- Of the 17,656 urban traffic fatalities, there were 4,678 (26%) who were killed in speeding-related crashes, almost the same proportion as all fatalities.

Figure 3 shows the rural and urban percentages of speeding-related fatalities in traffic crashes in 2016 by time of day (nighttime – 6 p.m. to 5:59 a.m.; daytime – 6 a.m. to 5:59 p.m.) and day of week (weekday – Monday 6 a.m. to Friday 5:59 p.m.; weekend – Friday 6 p.m. to Monday 5:59 a.m.):

- Fifty percent of rural area speeding-related fatalities occurred at night, and 46 percent occurred over the weekend.
- Nearly two-thirds (63%) of urban area speeding-related fatalities occurred at night, and 48 percent occurred over the weekend.

Figure 3

Rural and Urban Percentages of Speeding-Related Fatalities in Traffic Crashes, by Time of Day and Day of Week, 2016



Source: FARS 2016 ARF

Note: Nighttime – 6 p.m. to 5:59 a.m.; daytime – 6 a.m. to 5:59 p.m.; weekday – Monday 6 a.m. to Friday 5:59 p.m.; weekend – Friday 6 p.m. to Monday 5:59 a.m.

The majority of rural fatal crashes occurred on roads where the speed limit was 55 mph or higher, the opposite of urban fatal crashes. Specifically, 65 percent of drivers involved in urban fatal crashes in 2016 were on roadways where the posted speed limits were 50 miles

per hour (mph) or less. In rural fatal crashes, 70 percent of drivers involved were on roadways where the posted speed limit was 55 mph or higher.

Alcohol

Drivers are considered to be alcohol-impaired when their blood alcohol concentrations (BACs) are .08 grams per deciliter (g/dL) or higher. Thus, any fatality occurring in a crash involving a driver with a BAC of .08 or higher is considered to be an alcohol-impaired-driving fatality.

Table 1 presents the number of traffic fatalities and alcohol-impaired-driving fatalities by location (rural/urban).

- In 2016, the proportion of alcohol-impaired-driving fatalities in rural areas was 27 percent, compared to 28 percent in urban areas.

- Of the 10,497 alcohol-impaired-driving fatalities in 2016, there were 5,093 (49%) that occurred in rural areas, 4,944 (47%) that occurred in urban areas, and 460 (4%) were unknowns.
- Alcohol-impaired-driving fatalities decreased by 20 percent, from 13,041 in 2007 to 10,497 in 2016.
 - Rural alcohol-impaired-driving fatalities decreased by 31 percent, from 7,346 in 2007 to 5,093 in 2016.
 - Urban alcohol-impaired-driving fatalities decreased by 13 percent, from 5,663 in 2007 to 4,944 in 2016.

Table 1
Traffic Fatalities and Alcohol-Impaired-Driving Fatalities, by Location, 2007 and 2016

Location	2007			2016		
	Total Fatalities	Alcohol-Impaired-Driving Fatalities BAC=.08+		Total Fatalities	Alcohol-Impaired-Driving Fatalities BAC=.08+	
		Number	Percent		Number	Percent
Rural	23,254	7,346	32%	18,590	5,093	27%
Urban	17,908	5,663	32%	17,656	4,944	28%
Total*	41,259	13,041	32%	37,461	10,497	28%

Source: FARS 2007 Final File, 2016 ARF

*Includes fatalities where location was unknown.

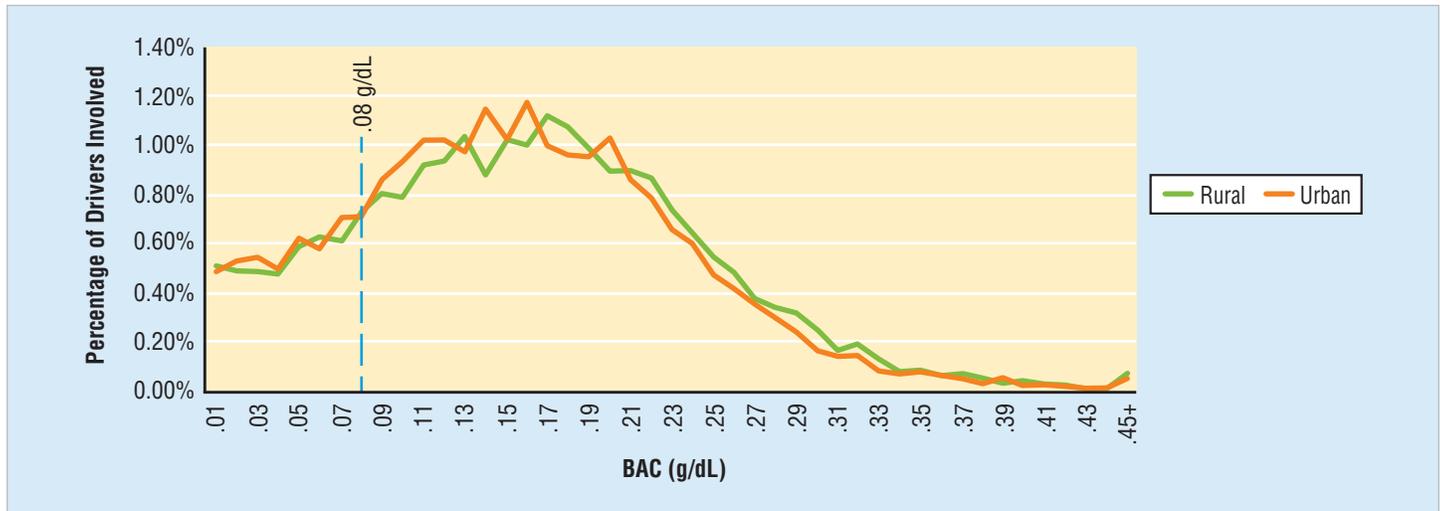
Of the 51,914 drivers involved in fatal traffic crashes in 2016, 9,885 (19%) were alcohol-impaired. Of these alcohol-impaired drivers, 4,674 (47%) were driving in rural areas at the time of the crash and 4,758 (48%) were driving in urban areas.

The highest percentages of alcohol-impaired drivers involved in fatal crashes among all age groups in 2016 were drivers 25 to 34 years old (27%), followed by drivers 21 to 24 years old (26%) and 35 to 44 years old (22%). Rural and urban alcohol-impaired drivers followed this trend with 25- to 34-year-olds (27% and 26%, respectively), followed by 21- to 24-year-olds (both 26%) and 35- to 44-year-olds (both 21%).

In cases where drivers involved in fatal crashes in 2016 had one or more previous convictions for driving while intoxicated (DWI), 49 percent of rural drivers were alcohol-impaired and 45 percent of urban drivers were alcohol-impaired.

As shown in Figure 4, the most frequently recorded BAC among drinking drivers involved in fatal crashes in rural areas was .17 g/dL. For urban areas, it was slightly lower at .16 g/dL.

Figure 4
Distribution of Blood Alcohol Concentration (BAC) of Drivers Involved in Fatal Crashes, by Location, 2016



Source: FARS 2016 ARF

Restraint Use

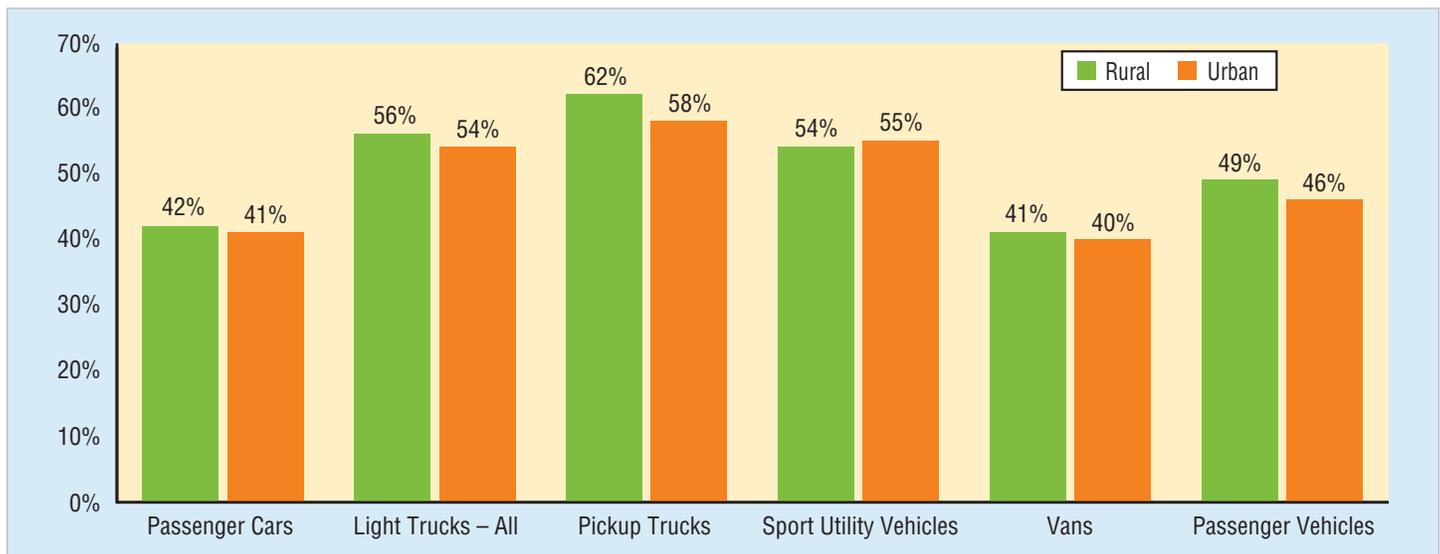
The 2016 NOPUS observed that the seat belt use rate among front seat passenger vehicle (defined as passenger cars and light trucks) occupants in urban areas was 90.5 percent, and rural occupants were observed to have a use rate of 89.5 percent (see NHTSA Research Note *Seat Belt Use in 2016 – Overall Results*, Report No. DOT HS 812 351).

Of the 23,714 passenger vehicle occupants killed in 2016, 13,732 (58%) were killed in rural areas and 9,366 (39%) were killed in urban areas.

Figure 5 presents the 2016 rural and urban percentages (based on known restraint use) of unrestrained passenger vehicle occupant fatalities by vehicle type (passenger cars and light trucks including pickup trucks, SUVs, and vans). In 2016 (based on known restraint use):

- Forty-nine percent of passenger vehicle occupants killed in rural areas were unrestrained, as compared to 46 percent of the passenger vehicle occupants killed in urban areas.
- Almost two-thirds (62%) of rural pickup truck occupants killed were unrestrained—the highest percentage of any passenger vehicle occupants killed among both rural and urban areas.

Figure 5
Rural and Urban Percentages of Unrestrained* Passenger Vehicle Occupant Fatalities, by Vehicle Type, 2016



Source: FARS 2016 ARF

*Based on known restraint use.

Rollover Crashes

Of the 13,732 passenger vehicle occupants killed in rural areas in 2016, 5,039 (37%) were in vehicles that rolled over. Of the 9,366 passenger vehicle occupants killed in urban areas, 2,207 (24%) were in vehicles that rolled over. Data further shows that of those killed in rollover vehicles, 67 percent of passenger vehicle occupants in rural areas and 66 percent of passenger vehicle occupants in urban areas were unrestrained (based on known restraint use).

SUVs involved in rural fatal crashes in 2016 experienced the highest rollover percentage at 35 percent. Other rural rollover percentages were 29 percent for pickup trucks, 20 percent for passenger cars, 22 percent for vans, and 18 percent for large trucks. In urban areas, vehicles experienced lower rollover percentages: 17 percent for SUVs, 14 percent for pickup trucks, 9 percent for passenger cars, 8 percent for vans, and 8 percent for large trucks.

Driver Characteristics

Drivers involved in fatal crashes in 2016 in rural areas were found to have a higher percentage of valid driver's licenses than urban drivers (86% and 83%, respectively).

There were 23,560 drivers killed in motor vehicle traffic crashes in 2016. Sixty-seven percent of drivers killed in rural areas died at the scene of the crashes, compared to 50 percent of drivers killed

in urban areas. Data also shows that 40 percent of all drivers killed were transported to hospitals and 1 percent of those drivers died en route. Drivers in rural areas represented 62 percent of drivers who died en route to hospitals compared to 38 percent for drivers in urban areas.

Nonoccupants

Nonoccupants are defined as pedestrians, pedalcyclists, or other nonoccupants. In 2016:

- Of the 5,987 pedestrians killed in motor vehicle traffic crashes, 1,368 (23%) died in rural areas, 4,317 (72%) died in urban areas, and 302 (5%) died in unknown areas.
- Of the 840 pedalcyclists killed in motor vehicle traffic crashes, 237 (28%) died in rural areas, 570 (68%) died in urban areas, and 33 (4%) died in unknown areas.

Fatalities by State

Table 2 presents the number and percentage of rural and urban traffic fatalities for each State and the District of Columbia in 2016. Puerto Rico is included in this table, but not included in the overall U.S. total.

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. (2018, April). *Rural/urban comparison of traffic fatalities: 2015 data*. (Traffic Safety Facts. Report No. DOT HS 812 521). 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 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, 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/>.



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Table 2
Rural and Urban Traffic Fatalities, by State, 2016

State	Location						Total	
	Rural		Urban		Unknown			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alabama	647	62%	326	31%	65	6%	1,038	100%
Alaska	53	63%	30	36%	1	1%	84	100%
Arizona	338	35%	618	64%	6	1%	962	100%
Arkansas	362	66%	183	34%	0	0	545	100%
California	1,519	42%	1,988	55%	116	3%	3,623	100%
Colorado	266	44%	342	56%	0	0	608	100%
Connecticut	37	13%	251	86%	5	2%	293	100%
Delaware	69	58%	50	42%	0	0	119	100%
District of Columbia	0	0	26	96%	1	4%	27	100%
Florida	1,388	44%	1,757	55%	29	1%	3,174	100%
Georgia	603	39%	951	61%	0	0	1,554	100%
Hawaii	25	21%	94	78%	1	1%	120	100%
Idaho	195	77%	47	19%	11	4%	253	100%
Illinois	438	40%	642	59%	2	0%	1,082	100%
Indiana	540	66%	280	34%	1	0%	821	100%
Iowa	306	76%	98	24%	0	0	404	100%
Kansas	289	67%	138	32%	2	0%	429	100%
Kentucky	607	73%	226	27%	1	0%	834	100%
Louisiana	368	49%	385	51%	4	1%	757	100%
Maine	130	81%	28	17%	3	2%	161	100%
Maryland	106	21%	393	78%	6	1%	505	100%
Massachusetts	17	4%	372	96%	0	0	389	100%
Michigan	424	40%	634	60%	6	1%	1,064	100%
Minnesota	232	59%	159	41%	1	0%	392	100%
Mississippi	675	98%	15	2%	0	0	690	100%
Missouri	552	58%	393	42%	0	0	945	100%
Montana	170	89%	19	10%	1	1%	190	100%
Nebraska	166	76%	52	24%	0	0	218	100%
Nevada	95	29%	230	70%	3	1%	328	100%
New Hampshire	75	55%	61	45%	0	0	136	100%
New Jersey	85	14%	512	85%	4	1%	601	100%
New Mexico	226	56%	172	43%	4	1%	402	100%
New York	456	44%	569	56%	0	0	1,025	100%
North Carolina	902	62%	543	37%	5	0%	1,450	100%
North Dakota	106	94%	7	6%	0	0	113	100%
Ohio	508	45%	614	54%	10	1%	1,132	100%
Oklahoma	425	62%	257	38%	1	0%	683	100%
Oregon	341	69%	154	31%	0	0	495	100%
Pennsylvania	647	54%	541	46%	0	0	1,188	100%
Rhode Island	10	20%	41	80%	0	0	51	100%
South Carolina	612	60%	403	40%	0	0	1,015	100%
South Dakota	103	89%	13	11%	0	0	116	100%
Tennessee	464	45%	573	55%	4	0%	1,041	100%
Texas	1,459	39%	1,406	37%	911	24%	3,776	100%
Utah	121	43%	160	57%	0	0	281	100%
Vermont	52	84%	10	16%	0	0	62	100%
Virginia	477	63%	281	37%	2	0%	760	100%
Washington	238	44%	298	55%	1	0%	537	100%
West Virginia	169	63%	99	37%	1	0%	269	100%
Wisconsin	406	67%	194	32%	7	1%	607	100%
Wyoming	91	81%	21	19%	0	0	112	100%
U.S. Total	18,590	50%	17,656	47%	1,215	3%	37,461	100%
Puerto Rico	175	63%	104	37%	0	0	279	100%

Source: FARS 2016 ARF

Note: Some States contain a high proportion of unknown for location. Many of these will be resolved when the file is finalized.