

Traffic Safety Facts

Research Note



DOT HS 810 821

August 2007

2006 Traffic Safety Annual Assessment – Alcohol-Related Fatalities

In 2006, an estimated 13,470 people were killed in traffic crashes that involved at least one driver or a motorcycle operator with a blood alcohol concentration (BAC) of .08 g/dL or above – a decline of 0.8 percent from the 13,582 fatalities in 2005.

The 2006 Annual Assessment of Motor Vehicle Traffic Crash Fatalities and Injuries shows that 17,602 people were killed in the United States in alcohol-related motor vehicle traffic crashes – essentially unchanged from the 17,590 alcohol-related fatalities in 2005. Also, as shown in Table 1, fatalities in crashes where the highest BAC among any of the involved drivers, pedestrians or pedalcyclists was .08 g/dL or above increased marginally to 15,121 fatalities in 2006.

Table 1: Fatalities by Highest BAC in the Crash

Crash Type	2005	2006	Change	% Change
Not Alcohol-Related (BAC=0)	25,920	25,040	-880	-3.4%
Alcohol-Related	17,590	17,602	+12	+0.1%
Low-Alcohol Crashes (BAC=.01 - .07)	2,489	2,480	-9	-0.4%
High-Alcohol Crashes (BAC=.08+)	15,102	15,121	+19	+0.1%

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Note: Counts may not add up to totals due to independent rounding.

While alcohol-related fatalities are those that occur in crashes involving at least one driver, pedestrian, or pedalcyclist with a BAC of .01 or above, of interest to NHTSA's impaired driving programs are fatalities in crashes involving at least one driver or a motorcycle operator who was legally intoxicated (BAC=.08+). Table 2 disaggregates the fatalities in high alcohol crashes (15,121 in 2006) and shows that in 2006, 13,470 fatalities occurred in crashes involving at least one driver or motorcycle operator had a BAC of .08 or above. This represents a decline of 0.8 percent from the 13,582 fatalities in 2005. In crashes where none of the drivers or motorcycle operators involved had a BAC of .08 or above, the fatalities increased by more than 8 percent to 1,651 from 1,520. These are crashes where only a pedestrian, a pedal-cyclist, or other type of non-occupant had a BAC of .08 or above.

Table 2: Fatalities in Crashes Where the Highest BAC in the Crash Was .08 or Above

Crash Type	2005	2006	Change	% Change
High-Alcohol (.08 or above)	15,102	15,121	+19	+0.1%
At Least One Driver/Motorcycle Operator Had a BAC=.08+	13,582	13,470	-112	-0.8%
Other (Pedestrian or other non-occupant BAC=.08+)	1,520	1,651	+131	+8.6%

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

The 13,582 fatalities in 2005 were the highest since 1993, when 13,739 people were killed in crashes involving at least one driver or motorcycle operator with a BAC of .08+. Figure 1 depicts the trend of fatalities and the rate per 100 million vehicle miles of travel (VMT) from 1988 to 2006 and it remained flat at 0.45 fatalities per 100 million VMT in 2006.

Figure 1: Fatalities and Fatality Rate per 100 Million VMT in Crashes Involving at Least One Driver or a Motorcycle Operator With a BAC=.08+, 1988-2006

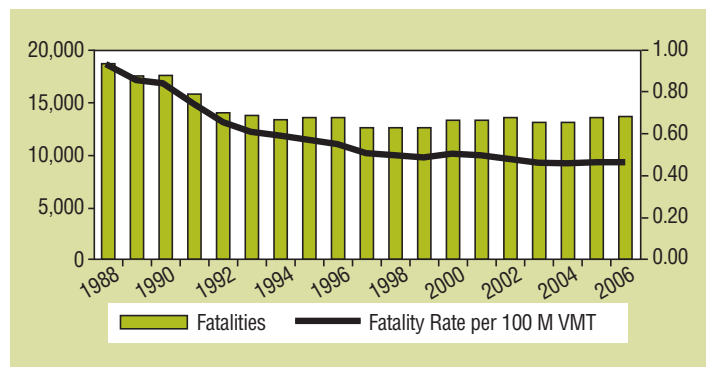
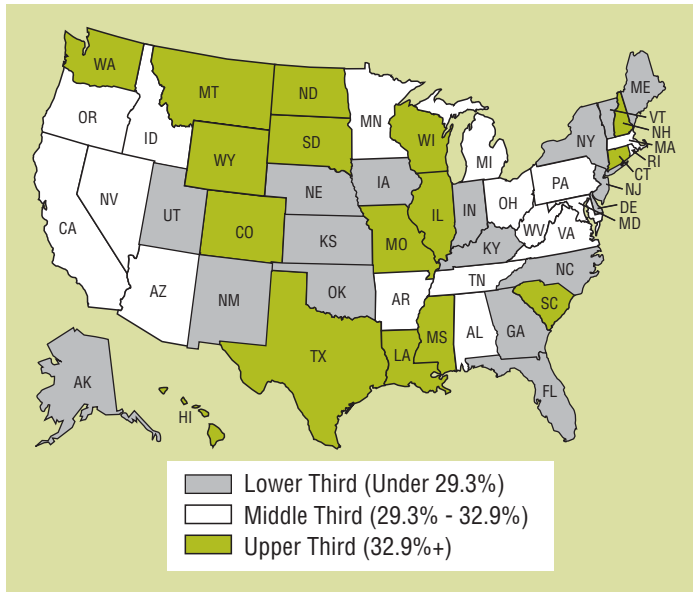


Figure 2 depicts fatalities in crashes involving at least one driver or motorcycle operator with a BAC=.08+ as a percentage of overall fatalities by State. The States are categorized into three groups – the top, middle, and lower third, in terms of the distribution of the percentages.

Figure 2: Fatalities as a Percentage of Total fatalities, in Crashes Involving at Least One Driver or a Motorcycle Operator with a BAC=.08+, 2006



Source: National Center for Statistics and Analysis, 2006 FARS Annual Report File

Table 3 depicts the age of the fatally injured people in crashes involving at least one driver or motorcycle operator with a BAC=.08+. The only increases from 2005 were seen in the younger age groups, namely 16- to 20- and 21- to 34-year-olds. Fatalities to 16- to 20-year-olds increased by about 4 percent while those among 21- to 34-year-olds increased marginally by about 1 percent.

Table 3: Fatalities, by Age, in Crashes Involving at Least One Driver/Motorcycle Operator With BAC=.08+, 2005-2006

Age	2005	2006	Change	% Change
Under 16	421	382	-39	-9.3%
16-20	1,586	1,648	+62	+3.9%
21-34	5,281	5,319	+38	+0.7%
35-44	2,653	2,573	-80	-3.0%
45-64	2,909	2,851	-58	-2.0%
65+	694	645	-49	-7.1%
Unknown	37	51	+14	-
Total	13,582	13,470	-112	-0.8%

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Table 4 depicts the role of the fatally injured people in crashes involving at least one driver or motorcycle operator with a BAC=.08+. A majority, about 64 percent, of the fatalities in such crashes are the drivers/motorcycle operators with BACs=.08+ and about 18 percent are those riding with them.

Table 4: Fatalities, by Role, in Crashes Involving at Least One Driver/Motorcycle Operator With BAC=.08+, 2005-2006

Role	2005		2006	
	Number	% of Total	Number	% of Total
Driver/ Motorcycle Operator With BAC=.08+	8,489	62.5%	8,615	64.0%
Passenger Riding w/Driver or Motorcycle Operator With BAC=.08+	2,509	18.5%	2,429	18.0%
Sub-Total	10,998	81.0%	11,044	82.0%
Occupants of Other Vehicles	1,640	12.1%	1,597	11.9%
Nonoccupants	920	6.8%	807	6.0%
Others	23	0.2%	22	0.2%
Total	13,582	100%	13,470	100%

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Characteristics of Drivers/Motorcycle Operators With BAC=.08+

This section discusses some of the driver characteristics (age, gender) and the circumstances (day of the week, single versus multiple vehicle, etc.) surrounding the crashes that involved at least one driver or motorcycle operator with a BAC=.08+. All the counts and percentages presented in this section relate to the number of drivers/motorcycle operators involved in fatal crashes, both overall and those who had a BAC=.08+. Table 5 depicts the total number of drivers and motorcycle operators involved in fatal crashes and those who had BACs of .08 or above, by the age of the driver. In 2006, while drivers age 21 to 34 constitute 31 percent of all drivers involved, they were over-involved among the drivers with BACs=.08+, constituting about 43 percent of all drivers in fatal crashes with BACs=.08+. Also, there were 79 more 16- to 20-year-old drivers with BACs=.08+ involved in fatal crashes in 2006, which represents a 6-percent increase. Although not shown in the table, in 2006, in crashes involving at least one 21- to 34-year-old driver or motorcycle operator with a BAC of .08+, there were 6,022 fatalities.

Table 5: Drivers Involved in Fatal Crashes and Number and Percentage That Had a BAC=.08+, By Age

Age of the Driver	2005		2006	
	Total	BAC=.08+	Total	BAC=.08+
16-20	7,334 [12%]	1,271 [10%]	7,286 [13%]	1,350 [11%]
21-34	18,052 [30%]	5,447 [43%]	17,677 [31%]	5,404 [43%]
35-44	10,793 [18%]	2,616 [21%]	10,310 [18%]	2,595 [21%]
45-64	15,509 [26%]	2,573 [20%]	15,065 [26%]	2,499 [20%]
65+	6,233 [11%]	347 [3%]	5,976 [10%]	369 [3%]
Other/Unknown	1,299 [2%]	317 [3%]	1,381 [2%]	275 [2%]
Total	59,220 [100%]	12,571 [100%]	57,695 [100%]	12,491 [100%]

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

As in previous years, in 2006, males comprise a majority, about 81 percent, of all drivers involved in fatal crashes with a BAC=.08+. Also, as shown in Table 6, the number of female drivers involved who had BACs=.08+ increased by 178 – a 9-percent increase. This was in spite of an overall 3-percent drop of the number of female drivers involved in fatal crashes in 2006.

Table 6: Drivers Involved in Fatal Crashes and Number and Percentage Who Had a BAC=.08+, By Sex

Sex of the Driver	2005		2006	
	Total	BAC=.08+	Total	BAC=.08+
Male	43,282 [73%]	10,330 [82%]	41,975 [73%]	10,078 [81%]
Female	15,059 [25%]	1,990 [16%]	14,655 [25%]	2,168 [17%]
Unknown	879 [1%]	250 [2%]	1,065 [2%]	246 [2%]
Total	59,220 [100%]	12,571 [100%]	57,695 [100%]	12,491 [100%]

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Table 7 illustrates the type of vehicles driven by drivers/motorcycle operators involved in fatal crashes with BACs=.08+. In 2006, drivers of passenger cars comprised 43 percent and drivers of light trucks and vans in fatal crashes comprised 42 percent of all drivers/motorcycle operators with BACs=.08+. In 2006, the number of drivers of SUVs involved in fatal crashes with BACs=.08+ increased by 14 percent while the number of drivers of passenger cars declined by 8 percent.

Table 7: Drivers Involved in Fatal Crashes and Number and Percentage Who Had a BAC=.08+, By Vehicle Type

Vehicle Type	2005		2006	
	Total	BAC=.08+	Total	BAC=.08+
Pass Cars	25,046 [42%]	5,898 [47%]	23,988 [42%]	5,430 [43%]
Light Trucks	22,879 [39%]	4,940 [39%]	22,185 [38%]	5,255 [42%]
SUVs	8,150 [14%]	1,695 [13%]	8,232 [14%]	1,925 [15%]
Pickup Trucks	10,941 [18%]	2,706 [22%]	10,488 [18%]	2,838 [23%]
Motorcycles	4,679 [8%]	1,262 [10%]	4,933 [9%]	1,313 [11%]
Large Trucks	4,900 [8%]	67 [1%]	4,695 [8%]	69 [1%]
Other/Unk.	1,716 [3%]	403 [3%]	1,894 [3%]	425 [3%]
Total	59,220 [100%]	12,571 [100%]	57,695 [100%]	12,491 [100%]

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Table 8 illustrates the distribution of drivers/motorcycle operators with a BAC=.08+ by the day of the week. In 2006, while 40 percent of drivers/motorcycle operators involved in all fatal crashes were in weekend crashes, about 58 percent of drivers/motorcycle operators with a BAC=.08+ involved in fatal crashes were in crashes that occurred during the weekend.

Table 8: Drivers Involved in Fatal Crashes and Number and Percentage Who Had a BAC=.08+, By Day of the Week

Day of the Week	2005		2006	
	Total	BAC=.08+	Total	BAC=.08+
Weekday	35,780 [60%]	5,358 [43%]	34,363 [60%]	5,218 [42%]
Weekend	23,346 [39%]	7,167 [57%]	23,240 [40%]	7,234 [58%]
Unknown	94 [0%]	46 [0%]	92 [0%]	39 [0%]
Total	59,220 [100%]	12,571 [100%]	57,695 [100%]	12,491 [100%]

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Table 9 depicts the type of the fatal crash, i.e., single versus multi vehicle, in which drivers/motorcycle operators were involved. In 2006, about 67 percent of the drivers/motorcycle operators involved in fatal crashes who had a BAC=.08+ were in a single vehicle crash. In comparison, only 39 percent of all fatal crashes were single vehicle crashes. Also, drivers/motorcycle operators involved in fatal crashes with a BAC=.08+ in Multi vehicle crashes declined by 157 [4 % decline].

Table 9: Drivers Involved in Fatal Crashes and Number and Percentage Who Had a BAC=.08+, By Type of the Crash

Type of Crash	2005		2006	
	Total	BAC=.08+	Total	BAC=.08+
Single Veh	22,596 [38%]	8,314 [66%]	22,627 [39%]	8,391 [67%]
Multi Veh	36,624 [62%]	4,257 [34%]	35,068 [61%]	4,100 [33%]
Total	59,220 [100%]	12,571 [100%]	57,695 [100%]	12,491 [100%]

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Table 10 highlights recidivism, i.e., drivers/motorcycle operators with a driving while intoxicated (DWI) conviction within the last 3 years from the date of the crash as reported to FARS. In 2006, about 7 percent of all drivers with a BAC=.08+ had a prior DWI conviction within the last 3 years (from the date of the crash). However, the number of drivers with a BAC=.08+ who had at least one DWI conviction in the last 3 years (from the date of the crash) declined by 142 (14% decline).

Table 10: Drivers Involved in Fatal Crashes and Number and Percentage Who Had a BAC=.08+, By Prior DWI Conviction

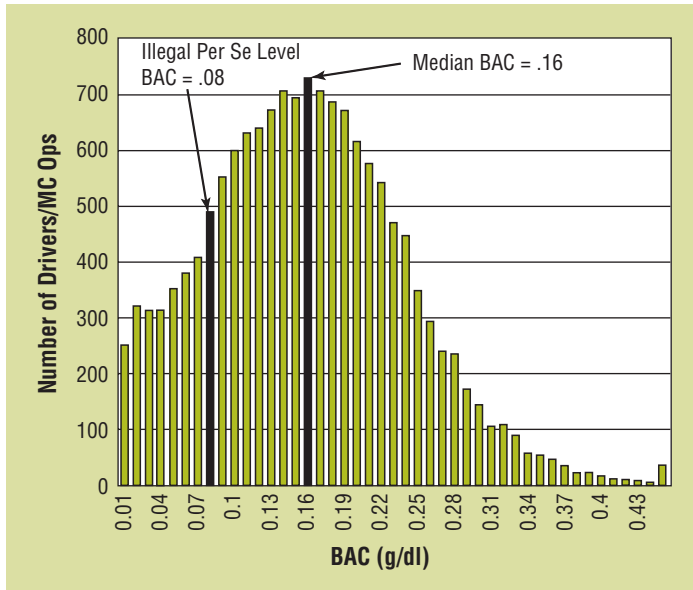
Prior DWI Conviction	2005		2006	
	Total	BAC=.08+	Total	BAC=.08+
1 or More	1,736 [3%]	1,038 [8%]	1,529 [3%]	896 [7%]
None	57,484 [97%]	11,534 [92%]	56,166 [97%]	11,596 [93%]
Total	59,220 [100%]	12,571 [100%]	57,695 [100%]	12,491 [100%]

Source: FARS 2005 [Final], 2006 Annual Report File [ARF]

Figure 3 depicts the distribution of BAC among all drivers/motorcycle operators who had a positive BAC (BAC=.01+) in 2006. Excluded from the figure is the number of drivers who had no alcohol (BAC=0). In 2006, 50 percent of the drivers/motorcycle operators involved in fatal crashes with a positive BAC had a BAC of .16 or above. So, .16 g/dL represents the median BAC level – the BAC at or above which half of

the drivers/motorcycle operators. About 84 percent of the drivers/motorcycle operators involved in fatal crashes with a positive BAC had a BAC of .08 or above.

Figure 3: Distribution of Blood Alcohol Concentration (BAC) Values Among Drivers and Motorcycle Operators With Positive BAC Values 2006



Alcohol-Related Fatalities and Fatalities in Crashes Involving at Least One Driver or Motorcycle Operator With a BAC=.08+, by State

Table 11 (overleaf) compares the total number of fatalities for 2005 and 2006, in crashes involving at least one driver or a motorcycle operator with a BAC of .08+, the change in the number of fatalities, and the percent change for each State, the District of Columbia, and Puerto Rico. Twenty-two States had increases in the number of fatalities in crashes involving at least one driver or a motorcycle operator who had an illegal per se level (.08+) while 28 States, the District of Columbia, and Puerto Rico had decreases. In terms of the number of fatalities in crashes involving at least one driver or a motorcycle operator with a BAC=.08+, Florida had the largest decline of 147 fatalities in 2006. The 34 fatality increase in Arizona, Kansas, and Texas was the largest increase among the States.

The *italicised* States in Table 11 are those that had increases in 2006 in the number of fatalities in crashes involving at least one driver or a motorcycle operator with a BAC=.08+.

Note: Alcohol involvement among drivers and fatalities are determined by known BAC values when they are reported to FARS and imputed BAC values when they are not reported to FARS. For more information on imputation of missing BACs in FARS, please refer to a NHTSA Technical Report *Multiple Imputation of Missing BAC in FARS*, DOT HS 8080816. <http://www-nrd.nhtsa.dot.gov/Pubs/808816.PDF>

Table 11: Total Fatalities in Motor Vehicle Traffic Crashes, Alcohol-Related Fatalities, Fatalities in Crashes Involving at Least One Driver/Motorcycle Operator With BAC=.08+, Change and Percent Change, 2005-2006

State	2005				2006				2005 to 2006 Change (% Change)		
	Total	Alcohol-Related Num	%	Drv/MC Op .08+ Num	Total	Alcohol-Related Num	%	Drv/MC Op .08+ Num	Total	Alcohol-Related	In Crashes Involving Drv/ MC Op .08+
Alabama	1,148	445	39%	373	1,208	475	39%	384	+60 (+5.2%)	+30 (+6.7%)	+11 (+2.9%)
Alaska	73	37	50%	29	74	23	31%	20	+1 (+1.4%)	-14 (-37.8%)	-9 (-31.0%)
Arizona	1,179	508	43%	375	1,288	585	45%	409	+109 (+9.2%)	+77 (+15.2%)	+34 (+9.1%)
Arkansas	654	218	33%	180	665	254	38%	197	+11 (+1.7%)	+36 (+16.5%)	+17 (+9.4%)
California	4,333	1,769	41%	1,298	4,236	1,779	42%	1,276	-97 (-2.2%)	+10 (+0.6%)	-22 (-1.7%)
Colorado	606	252	42%	206	535	226	42%	177	-71 (-11.7%)	-26 (-10.3%)	-29 (-14.1%)
Connecticut	278	130	47%	98	301	129	43%	109	+23 (+8.3%)	-1 (-0.8%)	+11 (+11.2%)
Delaware	133	64	48%	51	148	57	39%	43	+15 (+11.3%)	-7 (-10.9%)	-8 (-15.7%)
Dist. of Columbia	48	28	58%	19	37	18	48%	12	-11 (-22.9%)	-10 (-35.7%)	-7 (-36.8%)
Florida	3,518	1,553	44%	1,106	3,374	1,376	41%	959	-144 (-4.1%)	-177 (-11.4%)	-147 (-13.3%)
Georgia	1,729	562	33%	433	1,693	604	36%	464	-36 (-2.1%)	+42 (+7.5%)	+31 (+7.2%)
Hawaii	140	72	51%	54	161	84	52%	63	+21 (+15.0%)	+12 (+16.7%)	+9 (+16.7%)
Idaho	275	89	32%	82	267	106	40%	84	-8 (-2.9%)	+17 (+19.1%)	+2 (+2.4%)
Illinois	1,363	595	44%	458	1,254	594	47%	444	-109 (-8.0%)	-1 (-0.2%)	-14 (-3.1%)
Indiana	938	325	35%	254	899	319	36%	247	-39 (-4.2%)	-6 (-1.8%)	-7 (-2.8%)
Iowa	450	117	26%	94	439	148	34%	122	-11 (-2.4%)	+31 (+26.5%)	+28 (+29.8%)
Kansas	428	142	33%	101	468	170	36%	135	+40 (+9.3%)	+28 (+19.7%)	+34 (+33.7%)
Kentucky	985	311	32%	249	913	272	30%	222	-72 (-7.3%)	-39 (-12.5%)	-27 (-10.8%)
Louisiana	963	439	46%	334	982	475	48%	364	+19 (+2.0%)	+36 (+8.2%)	+30 (+9.0%)
Maine	169	60	35%	50	188	74	39%	51	+19 (+11.2%)	+14 (+23.3%)	+1 (+2.0%)
Maryland	614	239	39%	165	651	268	41%	193	+37 (+6.0%)	+29 (+12.1%)	+28 (+17.0%)
Massachusetts	441	186	42%	148	430	174	40%	137	-11 (-2.5%)	-12 (-6.5%)	-11 (-7.4%)
Michigan	1,129	438	39%	327	1,085	440	41%	332	-44 (-3.9%)	+2 (+0.5%)	+5 (+1.5%)
Minnesota	559	208	37%	163	494	183	37%	151	-65 (-11.6%)	-25 (-12.0%)	-12 (-7.4%)
Mississippi	931	390	42%	322	911	375	41%	320	-20 (-2.1%)	-15 (-3.8%)	-2 (-0.6%)
Missouri	1,257	535	43%	420	1,096	500	46%	380	-161 (-12.8%)	-35 (-6.5%)	-40 (-9.5%)
Montana	251	125	50%	108	263	126	48%	103	+12 (+4.8%)	+1 (+0.8%)	-5 (-4.6%)
Nebraska	276	93	34%	74	269	89	33%	70	-7 (-2.5%)	-4 (-4.3%)	-4 (-5.4%)
Nevada	427	169	40%	135	432	186	43%	142	+5 (+1.2%)	+17 (+10.1%)	+7 (+5.2%)
New Hampshire	166	61	37%	54	127	52	41%	47	-39 (-23.5%)	-9 (-14.8%)	-7 (-13.0%)
New Jersey	747	284	38%	203	772	341	44%	224	+25 (+3.3%)	+57 (+20.1%)	+21 (+10.3%)
New Mexico	488	193	40%	149	484	186	38%	136	-4 (-0.8%)	-7 (-3.6%)	-13 (-8.7%)
New York	1,434	580	40%	417	1,456	558	38%	397	+22 (+1.5%)	-22 (-3.8%)	-20 (-4.8%)
North Carolina	1,547	562	36%	429	1,559	554	36%	420	+12 (+0.8%)	-8 (-1.4%)	-9 (-2.1%)
North Dakota	123	59	48%	46	111	50	45%	41	-12 (-9.8%)	-9 (-15.3%)	-5 (-10.9%)
Ohio	1,321	519	39%	395	1,238	488	39%	377	-83 (-6.3%)	-31 (-6.0%)	-18 (-4.6%)
Oklahoma	803	286	36%	232	765	263	34%	201	-38 (-4.7%)	-23 (-8.0%)	-31 (-13.4%)
Oregon	487	177	36%	125	477	196	41%	148	-10 (-2.1%)	+19 (+10.7%)	+23 (+18.4%)
Pennsylvania	1,616	639	40%	526	1,525	600	39%	487	-91 (-5.6%)	-39 (-6.1%)	-39 (-7.4%)
Rhode Island	87	48	55%	34	81	42	51%	29	-6 (-6.9%)	-6 (-12.5%)	-5 (-14.7%)
South Carolina	1,094	555	51%	436	1,037	523	50%	420	-57 (-5.2%)	-32 (-5.8%)	-16 (-3.7%)
South Dakota	186	81	44%	70	191	80	42%	69	+5 (+2.7%)	-1 (-1.2%)	-1 (-1.4%)
Tennessee	1,270	473	37%	376	1,287	509	40%	408	+17 (+1.3%)	+36 (+7.6%)	+32 (+8.5%)
Texas	3,536	1,672	47%	1,320	3,475	1,677	48%	1,354	-61 (-1.7%)	+5 (+0.3%)	+34 (+2.6%)
Utah	282	40	14%	33	287	69	24%	54	+5 (+1.8%)	+29 (+72.5%)	+21 (+63.6%)
Vermont	73	30	41%	28	87	29	33%	26	+14 (+19.2%)	-1 (-3.3%)	-2 (-7.1%)
Virginia	947	362	38%	279	963	379	39%	300	+16 (+1.7%)	+17 (+4.7%)	+21 (+7.5%)
Washington	649	302	46%	238	630	294	47%	225	-19 (-2.9%)	-8 (-2.6%)	-13 (-5.5%)
West Virginia	374	129	35%	110	410	161	39%	129	+36 (+9.6%)	+32 (+24.8%)	+19 (+17.3%)
Wisconsin	815	380	47%	322	724	364	50%	305	-91 (-11.2%)	-16 (-4.2%)	-17 (-5.3%)
Wyoming	170	66	39%	54	195	80	41%	67	+25 (+14.7%)	+14 (+21.2%)	+13 (+24.1%)
US	43,510	17,590	40%	13,582	42,642	17,602	41%	13,470	-868 (-2.0%)	+12 (+0.1%)	-112 (-0.8%)
Puerto Rico	457	234	51%	160	507	215	42%	144	+50 (+10.9%)	-19 (-8.1%)	-16 (-10.0%)

The information in this Research Note represents only major findings from the 2006 Annual Assessment of Motor Vehicle Traffic Crash Fatalities and Injuries. Internet users may access this Research Note and other general information on traffic safety at: <http://www-nrd.nhtsa.dot.gov/CMSWeb/index.aspx>



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