



TRAFFIC SAFETY FACTS

Research Note

DOT HS 811 654

August 2012

Prevalence of High BAC in Alcohol-Impaired-Driving Fatal Crashes

Notable Findings

- For 70 percent of alcohol-impaired-driving fatalities, at least one driver in the crash had a BAC of .15 grams per deciliter or higher.
- The most frequently recorded BAC among all drinking drivers in fatal crashes in 2010 was .18 g/dL, more than twice the legal limit in every State.¹
- One alcohol-impaired-driving fatality occurred, on average, every 51 minutes during 2010.¹
- The age group with the highest percentage of drivers with BACs of .08 or higher was 21 to 24 years old.
- When looking at drivers by the type of vehicle, motorcycle riders had the highest percentage of alcohol-impaired drivers involved in fatal crashes.
- The rate of alcohol impairment among drivers in fatal crashes in 2010 was four times higher at night than during the day.¹
- Sixteen percent of drivers involved in fatal crashes during the week were alcohol-impaired, compared to 31 percent on weekends.¹
- Drivers with BACs of .08 or higher involved in fatal crashes were four times more likely to have prior DWI (driving while impaired) convictions than were drivers with no alcohol.¹

Fatalities in Alcohol-Impaired-Driving Crashes

Traffic fatalities in alcohol-impaired-driving crashes, defined as those in which at least one driver had a BAC of .08 or higher (see Appendix A), decreased by 4.9 percent, from 10,759 in 2009 to 10,228 in 2010. These alcohol-impaired-driving fatalities accounted for 31 percent of the total motor vehicle traffic fatalities in

the United States. The alcohol-impaired-driving fatality rate per 100 million vehicle miles traveled (VMT) decreased to 0.34 in 2010, from 0.36 in 2009. In 2010, all 50 States, the District of Columbia, and Puerto Rico had laws making it illegal per se to drive with a BAC of .08 or higher. Of the 10,228 people who died in 2010 in alcohol-impaired-driving crashes, 6,627 (65%) were *drivers* with BACs of .08 or higher. The remaining fatalities consisted of 1,721 (17%) passengers riding with the alcohol-impaired drivers, 1,151 (11%) occupants (drivers and passengers) in other vehicles, and 729 (7%) non-occupants.

While the number of alcohol-impaired-driving fatalities decreased in recent years, mirroring the reduction of all traffic fatalities, the percentage of those fatalities that occurred in alcohol-impaired-driving crashes remained essentially consistent (Table 1). The last column in the table focuses on the portion of all alcohol-impaired driving fatalities (10,228 in 2010) in which a driver's BAC was at or above .15 g/dL (7,145 in 2010). When looking specifically at fatalities in alcohol-impaired-driving crashes, the percentage of those at or above .15 g/dL rose slightly over the past few years, from 67 percent in 2006 to 70 percent (7,145/10,228) in 2010. Figure 1 shows this graphically for 2010. Note that the number of fatalities in alcohol-impaired crashes is the total of those in crashes in which the highest driver BACs were between .08 and .14 and those in which the drivers' BACs were .15 or higher.

While the focus of NHTSA's alcohol-impaired driving program is on all drivers with BACs of .08 or higher, this document highlights the prevalence of those in that group with BACs at or above .15. Drivers with BACs of .15 or above are a subset of all alcohol-impaired drivers, all those with BACs of .08 or above.

Table 1

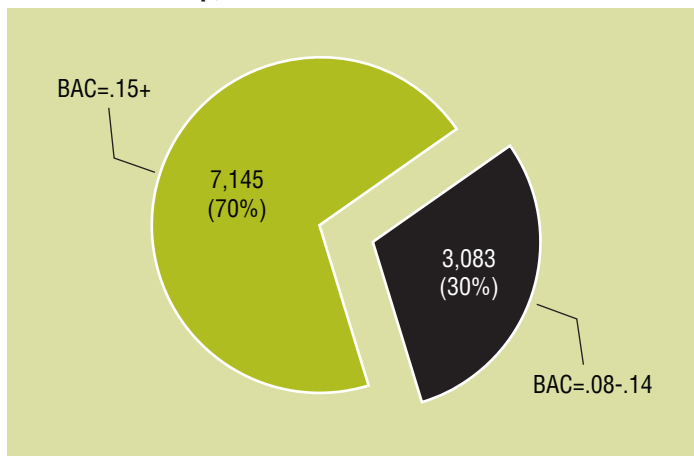
Fatalities in Traffic Crashes by Year and Highest Driver BAC

Year	All Fatalities*	BAC=.00		BAC=.01-.07		Fatalities in Alcohol-Impaired-Driving Crashes (BAC=.08+)							
						Total		BAC=.08-.14			BAC=.15+		
	Number	Number	% of All Fatalities	Number	% of All Fatalities	Number	% of All Fatalities	Number	% of All Fatalities	% of Alc Imp Fatalities	Number	% of All Fatalities	% of Alc Imp Fatalities
2006	42,708	26,633	62%	2,479	6%	13,491	32%	4,514	11%	33%	8,977	21%	67%
2007	41,259	25,611	62%	2,494	6%	13,041	32%	4,273	10%	33%	8,768	21%	67%
2008	37,423	23,499	63%	2,115	6%	11,711	31%	3,703	10%	32%	8,008	21%	68%
2009	33,883	21,051	62%	1,972	6%	10,759	32%	3,506	10%	33%	7,253	21%	67%
2010	32,885	20,838	63%	1,720	5%	10,228	31%	3,083	9%	30%	7,145	22%	70%

Source: FARS 2006-2009 Final File & 2010 Annual Report (ARF) File

*Includes fatalities in crashes in which there was no driver present.

Figure 1

Fatalities in Alcohol-Impaired-Driving Crashes by Highest Driver BAC Group, 2010

Source: FARS 2010 ARF

Drivers Involved in Alcohol-Impaired-Driving Crashes

The percentage of drivers involved in fatal crashes who are alcohol-impaired varied substantially by age and sex. Table 2 shows the percentage of drivers at all alcohol levels by age group for 2010. Drivers 21 to 24 had the highest percent of alcohol impairment, 34% of those involved in fatal crashes. Those 25 to 34 had the next highest percentage, at 30%. Limiting to drivers who were alcohol-impaired, the percent of those who were at .15 and above was highest, at 75% (1,377 of 1,845), for drivers 35 to 44, followed by those 45 to 54, at 71%. The percent of drivers in fatal crashes who were alcohol impaired increased with age where it peaked at 21 to 24, then decreased. However, looking at the percentage of alcohol-impaired drivers in fatal crashes at or above

Table 2

Drivers Involved in Fatal Crashes by Age and Driver BAC, 2010

Age	All Drivers	BAC=.00		BAC=.01-.07		Alcohol-Impaired Drivers (BAC=.08+)							
						Total		BAC=.08-.14			BAC=.15+		
	Number	Number	% of All Drivers	Number	% of All Drivers	Number	% of All Drivers	Number	% of All Drivers	% of Alc Imp Drivers	Number	% of All Drivers	% of Alc Imp Drivers
<16	160	146	91%	2	1%	12	8%	6	3%	46%	7	4%	54%
16-20	4,487	3,473	77%	187	4%	827	18%	336	7%	41%	491	11%	59%
21-24	4,585	2,766	60%	275	6%	1,545	34%	521	11%	34%	1,024	22%	66%
25-34	8,540	5,544	65%	431	5%	2,566	30%	779	9%	30%	1,787	21%	70%
35-44	7,313	5,201	71%	268	4%	1,845	25%	468	6%	25%	1,377	19%	75%
45-54	7,490	5,644	75%	254	3%	1,592	21%	463	6%	29%	1,129	15%	71%
55-64	5,554	4,614	83%	171	3%	769	14%	252	5%	33%	518	9%	67%
65-74	2,894	2,605	90%	59	2%	230	8%	78	3%	34%	152	5%	66%
75+	2,666	2,490	93%	46	2%	130	5%	52	2%	40%	78	3%	60%
Total	44,440	33,008	74%	1,739	4%	9,694	22%	3,042	7%	31%	6,652	15%	69%

Source: FARS ARF 2010

Totals include drivers of unknown age.

BACs of .15, the percentage increased until peaking at 35 to 44, then decreased.

Table 3 separates the drivers by both age group and sex. Overall, about three-fourths of all drivers involved in fatal crashes were male, which increased to 80 percent or more for each of the alcohol groups (other than BAC=.00). While for each gender, the highest percentage of alcohol-impaired drivers (BAC at or above .08) was for the 21 to 24 age group, the percentage of alcohol-impaired female drivers in that age group (24%) was substantially lower than for males (37%). Similarly, male drivers in this age group had BACs of .15 or higher 25 percent of the time, while females 21 to 24 had BACs of .15 or higher 16 percent of the time. However, focusing only on drivers in fatal crashes who were impaired (those with BACs of .08 or higher), the portion of males who had BACs of .15 or higher was essentially equal to that of females in each age group. For example, looking at 21 to 24, there were 1,253 males with BACs of at least .08; of these, 832 (66%) had BAC of .15 or higher.

For females, 191 drivers had BACs of at least .15, of the 292 with BACs of at least .08, or 65 percent. The *numbers* for females were considerably lower, but the *percentage* of those at the higher BACs, of those who were alcohol impaired, were very similar.

Level of alcohol impairment also varied by the type of vehicle a person was driving. Motorcycle riders had the highest percentage (28%) of alcohol-impaired drivers (BAC of .08 or higher) in 2010, followed by pickup truck drivers at 25 percent (see Table 4). When looking only at those with BACs at or above .15, pickup truck drivers were slightly higher (18%) than motorcycle riders (17%), followed closely by passenger car and utility vehicle drivers, each at 16 percent. However, looking at the portion of the alcohol impaired drivers who had BACs of at least .15, the percentage of motorcycle riders (62%) was *lower* than any of the passenger vehicle driver groups (passenger cars and light trucks) by quite a bit. Drivers of buses and large trucks had the lowest occurrence of alcohol impairment at all levels.

Table 3
Drivers Involved in Fatal Crashes by Sex, Age, and Driver BAC, 2010

Sex by Age		All Drivers	BAC=.00		BAC=.01-.07		Alcohol-Impaired Drivers (BAC=.08+)							
		Number	Number	% of All Drivers	Number	% of All Drivers	Total		BAC=.08-.14		% of Alc Imp Drivers	BAC=.15+		% of Alc Imp Drivers
							Number	% of All Drivers	Number	% of All Drivers		Number	% of All Drivers	
Male	<16	113	101	89%	2	2%	10	9%	5	4%	45%	5	5%	55%
	16-20	3,118	2,344	75%	146	5%	628	20%	256	8%	41%	372	12%	59%
	21-24	3,362	1,882	56%	227	7%	1,253	37%	421	13%	34%	832	25%	66%
	25-34	6,253	3,808	61%	357	6%	2,088	33%	628	10%	30%	1,460	23%	70%
	35-44	5,378	3,669	68%	210	4%	1,499	28%	372	7%	25%	1,127	21%	75%
	45-54	5,640	4,119	73%	216	4%	1,305	23%	376	7%	29%	929	16%	71%
	55-64	4,182	3,387	81%	146	3%	648	16%	210	5%	32%	438	10%	68%
	65-74	2,100	1,861	89%	51	2%	188	9%	65	3%	34%	124	6%	66%
	75+	1,746	1,623	93%	35	2%	87	5%	35	2%	40%	52	3%	60%
	Total	31,965	22,851	71%	1,393	4%	7,721	24%	2,374	7%	31%	5,347	17%	69%
Female	<16	47	45	96%	0	0%	2	4%	1	2%	48%	1	2%	52%
	16-20	1,368	1,128	82%	41	3%	199	15%	79	6%	40%	120	9%	60%
	21-24	1,223	883	72%	48	4%	292	24%	100	8%	34%	191	16%	66%
	25-34	2,286	1,735	76%	74	3%	477	21%	151	7%	32%	327	14%	68%
	35-44	1,934	1,532	79%	58	3%	345	18%	96	5%	28%	249	13%	72%
	45-54	1,850	1,526	82%	38	2%	287	15%	87	5%	30%	200	11%	70%
	55-64	1,372	1,226	89%	25	2%	121	9%	41	3%	34%	80	6%	66%
	65-74	794	744	94%	8	1%	42	5%	14	2%	32%	28	4%	68%
	75+	920	867	94%	11	1%	42	5%	16	2%	39%	26	3%	61%
	Total	11,811	9,697	82%	303	3%	1,810	15%	587	5%	32%	1,223	10%	68%

Source: FARS 2010 ARF
Totals include drivers of unknown age.

Table 4

Drivers Involved in Fatal Crashes by Vehicle Type and Driver BAC, 2010

Vehicle Type	All Drivers	BAC=.00		BAC=.01-.07		Alcohol-Impaired Drivers (BAC=.08+)							
						Total		BAC=.08-.14			BAC=.15+		
	Number	Number	% of All Drivers	Number	% of All Drivers	Number	% of All Drivers	Number	% of All Drivers	% of Alc Imp Drivers	Number	% of All Drivers	% of Alc Imp Drivers
Passenger Car	17,623	12,917	73%	625	4%	4,082	23%	1,266	7%	31%	2,815	16%	69%
Light Truck-All	17,322	12,814	74%	613	4%	3,895	22%	1,115	6%	29%	2,780	16%	71%
-Light Truck: Pickup	8,171	5,786	71%	310	4%	2,075	25%	583	7%	28%	1,493	18%	72%
-Light Truck: Utility	6,736	4,970	74%	240	4%	1,527	23%	439	7%	29%	1,088	16%	71%
-Light Truck: Van	2,393	2,038	85%	63	3%	292	12%	94	4%	32%	198	8%	68%
-Light Truck: Other	22	21	95%	0	0%	1	5%	0	0%	8%	1	5%	92%
Large Truck	3,446	3,344	97%	42	1%	61	2%	25	1%	41%	36	1%	59%
Motorcycle	4,629	2,962	64%	382	8%	1,285	28%	483	10%	38%	802	17%	62%
Bus	248	239	96%	3	1%	7	3%	4	2%	58%	3	1%	42%
Other/Unknown Vehicle	1,172	732	62%	75	6%	365	31%	149	13%	41%	216	18%	59%
Total	44,440	33,008	74%	1,739	4%	9,694	22%	3,042	7%	31%	6,652	15%	69%

Source: FARS 2010 ARF

State Breakdown of Fatalities by BAC

Table 5 presents the number of fatalities by BAC for each State, the District of Columbia, and Puerto Rico. The percentage of fatalities with a driver's BAC at or above .08, in 2010, ranged from a low of 19 percent to a high of 44 percent. The range for those at BACs of at least .15 was from 12 to 38 percent. In general, these two measures went together. States that were high on one were

generally high on both, while those with a low percentage in one group tended to have a low percentage in the other. When looking only at those crashes with drivers who were alcohol-impaired, having BACs of at least .08 or higher, the percentage of those having BACs of .15 or higher ranged from 50 to 85 percent. In addition, there was little association with this percentage and the percentage of drivers at either .08 or .15 BAC and above.

Table 5

Fatalities in Traffic Crashes by State and Highest Driver BAC, 2010

State	All Fatalities*	BAC=.00		BAC=.01-.07		Fatalities in Alcohol-Impaired-Driving Crashes (BAC=.08+)							
		Total		BAC=.08-.14		BAC=.15+							
	Number	Number	% of All Fatalities	Number	% of All Fatalities	Number	% of All Fatalities	Number	% of All Fatalities	% of Alc Imp Fatalities	Number	% of All Fatalities	% of Alc Imp Fatalities
Alabama	862	548	64%	35	4%	279	32%	91	11%	33%	187	22%	67%
Alaska	56	39	69%	1	3%	16	28%	5	8%	30%	11	20%	70%
Arizona	762	505	66%	38	5%	194	25%	61	8%	32%	132	17%	68%
Arkansas	563	365	65%	23	4%	173	31%	56	10%	33%	117	21%	67%
California	2,715	1,787	66%	133	5%	791	29%	244	9%	31%	547	20%	69%
Colorado	448	306	68%	15	3%	127	28%	37	8%	29%	90	20%	71%
Connecticut	319	180	56%	16	5%	121	38%	39	12%	32%	82	26%	68%
Delaware	101	58	58%	7	7%	36	36%	10	10%	29%	26	26%	71%
Dist of Columbia	24	16	65%	4	15%	5	20%	1	5%	22%	4	16%	78%
Florida	2,445	1,686	69%	91	4%	660	27%	225	9%	34%	435	18%	66%
Georgia	1,244	894	72%	48	4%	298	24%	93	7%	31%	205	16%	69%
Hawaii	113	64	57%	6	5%	42	37%	14	13%	34%	28	25%	66%
Idaho	209	127	61%	11	5%	71	34%	14	7%	20%	57	27%	80%
Illinois	927	559	60%	69	7%	298	32%	79	9%	27%	218	24%	73%
Indiana	754	533	71%	25	3%	195	26%	57	8%	29%	138	18%	71%
Iowa	390	286	73%	13	3%	90	23%	31	8%	34%	59	15%	66%
Kansas	431	239	55%	25	6%	168	39%	58	13%	34%	110	26%	66%
Kentucky	760	549	72%	39	5%	171	23%	63	8%	37%	108	14%	63%
Louisiana	710	429	60%	55	8%	225	32%	88	12%	39%	137	19%	61%
Maine	161	113	70%	10	6%	38	23%	18	11%	49%	19	12%	51%
Maryland	493	303	62%	34	7%	154	31%	50	10%	32%	104	21%	68%
Massachusetts	314	172	55%	26	8%	115	36%	36	12%	32%	78	25%	68%
Michigan	942	653	69%	55	6%	230	24%	62	7%	27%	168	18%	73%
Minnesota	411	276	67%	8	2%	127	31%	26	6%	21%	100	24%	79%
Mississippi	641	383	60%	23	4%	236	37%	87	14%	37%	149	23%	63%
Missouri	819	503	61%	55	7%	258	32%	65	8%	25%	194	24%	75%
Montana	189	104	55%	11	6%	73	39%	22	12%	30%	51	27%	70%
Nebraska	190	131	69%	7	4%	51	27%	17	9%	32%	35	18%	68%
Nevada	257	172	67%	17	7%	69	27%	20	8%	29%	48	19%	71%
New Hampshire	128	75	58%	9	7%	44	35%	13	10%	29%	32	25%	71%
New Jersey	556	369	66%	35	6%	153	27%	55	10%	36%	98	18%	64%
New Mexico	346	225	65%	10	3%	111	32%	29	8%	26%	82	24%	74%
New York	1,200	768	64%	64	5%	364	30%	131	11%	36%	234	19%	64%
North Carolina	1,319	859	65%	65	5%	388	29%	108	8%	28%	280	21%	72%
North Dakota	105	54	52%	4	4%	47	44%	7	6%	15%	40	38%	85%
Ohio	1,080	666	62%	71	7%	341	32%	94	9%	27%	247	23%	73%
Oklahoma	668	420	63%	29	4%	220	33%	59	9%	27%	161	24%	73%
Oregon	317	223	70%	20	6%	71	22%	19	6%	27%	52	16%	73%
Pennsylvania	1,324	817	62%	69	5%	433	33%	101	8%	23%	332	25%	77%
Rhode Island	66	36	55%	4	6%	25	38%	7	10%	27%	19	28%	73%
South Carolina	810	400	49%	53	7%	357	44%	106	13%	30%	251	31%	70%
South Dakota	140	93	66%	9	7%	37	26%	13	9%	34%	24	17%	66%
Tennessee	1,031	689	67%	57	6%	283	27%	88	9%	31%	196	19%	69%
Texas	2,998	1,540	51%	190	6%	1,259	42%	380	13%	30%	879	29%	70%
Utah	236	187	79%	5	2%	44	19%	17	7%	38%	27	12%	62%
Vermont	71	46	65%	7	10%	18	25%	4	6%	24%	13	19%	76%
Virginia	740	487	66%	41	6%	211	29%	66	9%	31%	145	20%	69%
Washington	458	263	57%	25	5%	170	37%	42	9%	25%	128	28%	75%
West Virginia	315	214	68%	13	4%	88	28%	20	6%	23%	67	21%	77%
Wisconsin	572	332	58%	34	6%	205	36%	45	8%	22%	161	28%	78%
Wyoming	155	97	62%	5	3%	54	35%	12	8%	22%	42	27%	78%
National	32,885	20,838	63%	1,720	5%	10,228	31%	3,083	9%	30%	7,145	22%	70%
Puerto Rico	340	219	64%	23	7%	97	29%	36	11%	37%	61	18%	63%

Source: FARS ARF 2010

Appendix A

Drivers are considered to be alcohol-impaired when their BACs are .08 g/dL or higher. Thus, any fatal crash involving a driver with a BAC of .08 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 “driver” refers to the operator of any motor vehicle, including a motorcycle. Estimates of alcohol-impaired driving are derived from an imputation procedure using BAC values reported to the Fatality Analysis Reporting System and imputed BAC values when they are not reported. The estimates are rounded to the nearest whole number; however, percentages reported are calculated from the unrounded estimates and may not equal those that

would be calculated from the rounded estimates. Table totals may not equal the sum of components due to rounding. The term “alcohol-impaired” does not indicate that a crash or a fatality was caused by alcohol impairment. For additional information and data on alcohol-impaired driving in fatal crashes, including a chart showing the distribution of BACs for drivers who had been drinking and were involved in fatal crashes, see *Traffic Safety Facts, 2010 Data: Alcohol-Impaired Driving*.¹

¹ NHTSA. (2012, April). *Traffic Safety Facts, 2010 Data: Alcohol-Impaired Driving*. (Report No. DOT HS 811 606). Washington, DC: National Highway Traffic Safety Administration. Available at www-nrd.nhtsa.dot.gov/Pubs/811606.pdf.



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

This research note and other general information on highway traffic safety may be accessed by Internet users at: www-nrd.nhtsa.dot.gov/CATS/index.aspx