TRAFFIC SAFETY FACTS

ALCOHOL, 2013

JUNE 2014 • ISSUE 14-C08

HIGHLIGHTS

- During 2013, there were 114 fatal alcohol-impaired collisions in the state (16 percent of all fatal collisions).
- Alcohol-impaired fatal collisions decreased 24 percent from 2012 to 2013.
- In 2013, there were 124 fatalities (a 21 percent decrease from 2012) and 2,044 non-fatal injuries linked to collisions with at least one alcohol-impaired driver or non-motorist.
- The number of individuals involved in alcohol-impaired collisions grew 3 percent annually from 2009 to 2013.
- In 2013, the largest proportion of alcohol-impaired collisions occurred in urban places (64 percent).
- The likelihood of alcohol-impaired fatal collisions was greatest in suburban areas in 2013, where 17 percent of fatal collisions involved at least one alcohol-impaired driver.
- In 2013, motorcycle operators had the highest overall impairment rate (4.3 percent of all motorcycle collisions).
- Roughly six out of ten fatalities or injuries in alcohol-impaired collisions in 2013 were the impaired drivers.

The National Highway Traffic Safety Administration (NHTSA) defines drivers as alcohol-impaired "when their blood alcohol concentration (BAC) is 0.08 grams per deciliter (g/dL) or higher [and] any fatal crash involving a driver with a BAC of 0.08 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" (NHTSA DOT HS 811 870, 2013, p. 1). Alcohol-impaired driving in the United States in 2012 (latest data available) resulted in 10,322 deaths, or 31 percent of all motor vehicle traffic fatalities.

This fact sheet presents information on alcohol-impaired traffic collisions in Indiana during 2009 to 2013. It examines different dimensions of alcohol-impaired collisions, the general incidence of alcohol testing, the BAC test results for involved drivers, and other attributes of alcohol-impaired collisions, injuries, and fatalities reported in the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014.

ALCOHOL-IMPAIRED COLLISIONS

From 2009 to 2013, the number of alcohol-impaired collisions in Indiana increased 3 percent annually, but dropped nearly 8 percent from 2012 to 2013. During 2013, there were 114 fatal alcohol-impaired collisions in the state (16 percent of all fatal collisions) (Table 1). The numbers of non-fatal alcohol-impaired collisions generally increased over this five-year period, with incapacitating injury collisions linked to impaired driving increasing about 11 percent annually. The proportions of Indiana fatal collisions classified as alcohol-impaired were relatively stable since 2009, averaging 19 percent annually (calculated from Table 1).

Table 1. Indiana traffic collisions, by severity and alcohol impairment, 2009-2013

	Count of collisions					Annual rate of change	
Collisions, by severity	2009	2010	2011	2012	2013	2012-13	2009-13
Alcohol-impaired	**4,207**	**4,978**	**4,938**	**5,152**	**4,757**	**-7.7%**	**3.1%**
Fatal	120	130	133	150	114	-24.0%	-1.3%
Incapacitating	126	215	184	204	195	-4.4%	11.5%
Non-incapacitating	1,091	1,302	1,250	1,303	1,186	-9.0%	2.1%
Property damage only	2,870	3,331	3,371	3,495	3,262	-6.7%	3.3%
Non-impaired	**185,454**	**187,907**	**183,188**	**183,689**	**188,256**	**2.5%**	**0.4%**
Fatal	511	571	541	568	589	3.7%	3.6%
Incapacitating	2,606	2,697	2,674	3,030	2,744	-9.4%	1.3%
Non-incapacitating	29,587	29,869	28,626	29,550	28,695	-2.9%	-0.8%
Property damage only	152,750	154,770	151,347	150,541	156,228	3.8%	0.6%
Percent alcohol-impaired	**2.2%**	**2.6%**	**2.6%**	**2.7%**	**2.5%**	**-9.7%**	**2.7%**
Fatal	19.0%	18.5%	19.7%	20.9%	16.2%	-22.4%	-3.9%
Incapacitating	4.6%	7.4%	6.4%	6.3%	6.6%	5.2%	9.5%
Non-incapacitating	3.6%	4.2%	4.2%	4.2%	4.0%	-6.0%	2.8%
Property damage only	1.8%	2.1%	2.2%	2.3%	2.0%	-9.9%	2.6%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

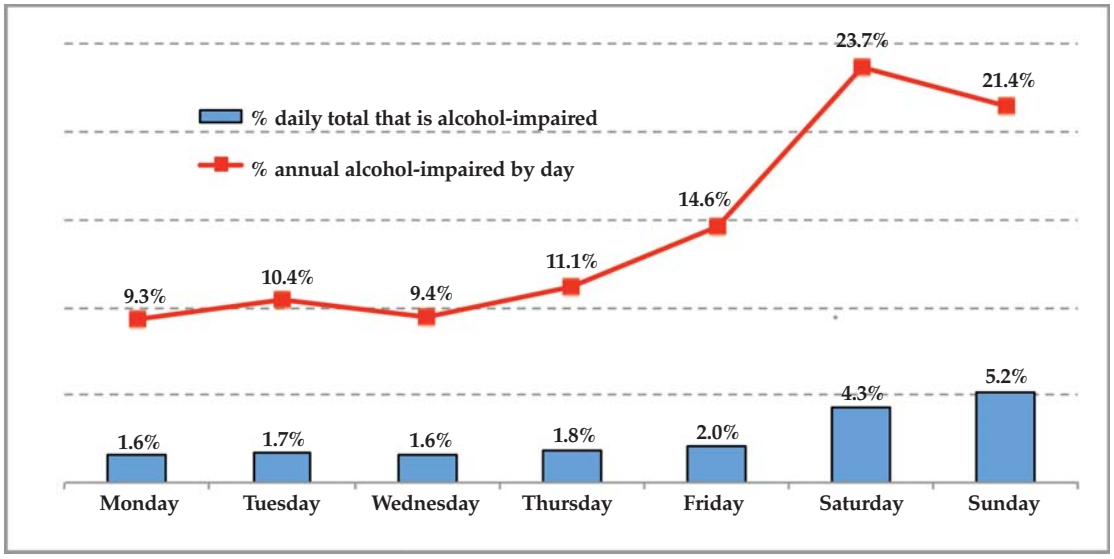
Note:
***Impaired collisions* involve at least one driver or non-motorist with a BAC of 0.08 g/dL.**

INDIANA CRIMINAL JUSTICE INSTITUTE
INDIANA UNIVERSITY PUBLIC POLICY INSTITUTE
SCHOOL OF PUBLIC AND ENVIRONMENTAL AFFAIRS
INDIANA UNIVERSITY
IUPUI

TIMES, DAYS, MONTHS, AND PLACES

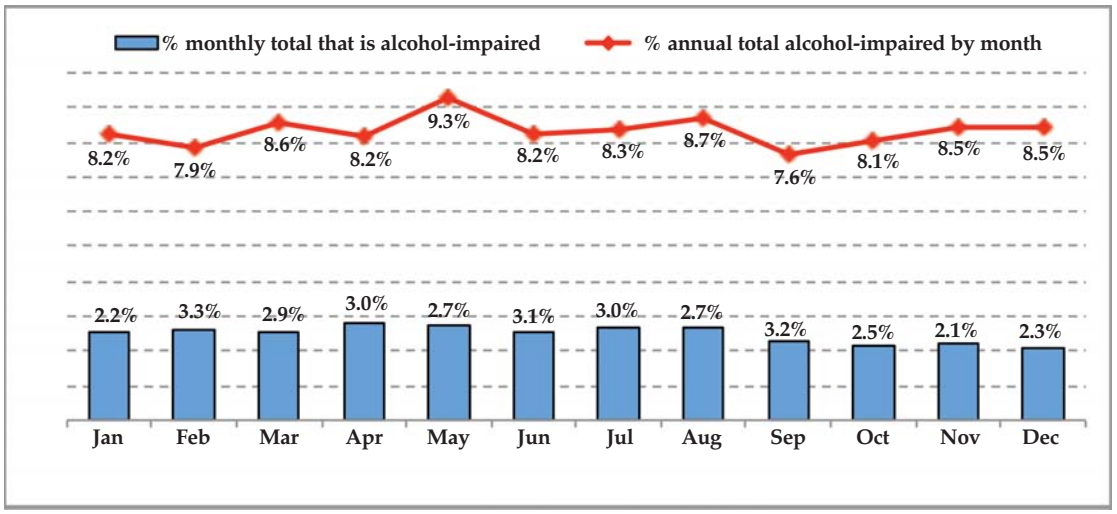
The incidence of alcohol-impaired collisions in 2013 followed a weekly pattern in which alcohol-impairment increased on Saturdays and Sundays (Figure 1). For example, considering all collisions occurring on Saturdays, 4.3 percent were alcohol-impaired, compared to 1.6 percent of collisions occurring on Mondays. A similar pattern is visible when considering the proportion of annual collisions classified as alcohol-impaired. For example, of all alcohol-impaired collisions in 2013, 45 percent occurred on Saturdays and Sundays. Less than 3 percent of monthly collisions were considered alcohol-impaired in 2013 (Figure 2). However, the percent of any given month's annual alcohol-impaired collision total varies more widely month-to-month. May and August 2013 were the months with the largest percentages of annual alcohol-impaired collisions.

Figure 1. Percentage of Indiana collisions classified as alcohol-impaired, by weekday, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

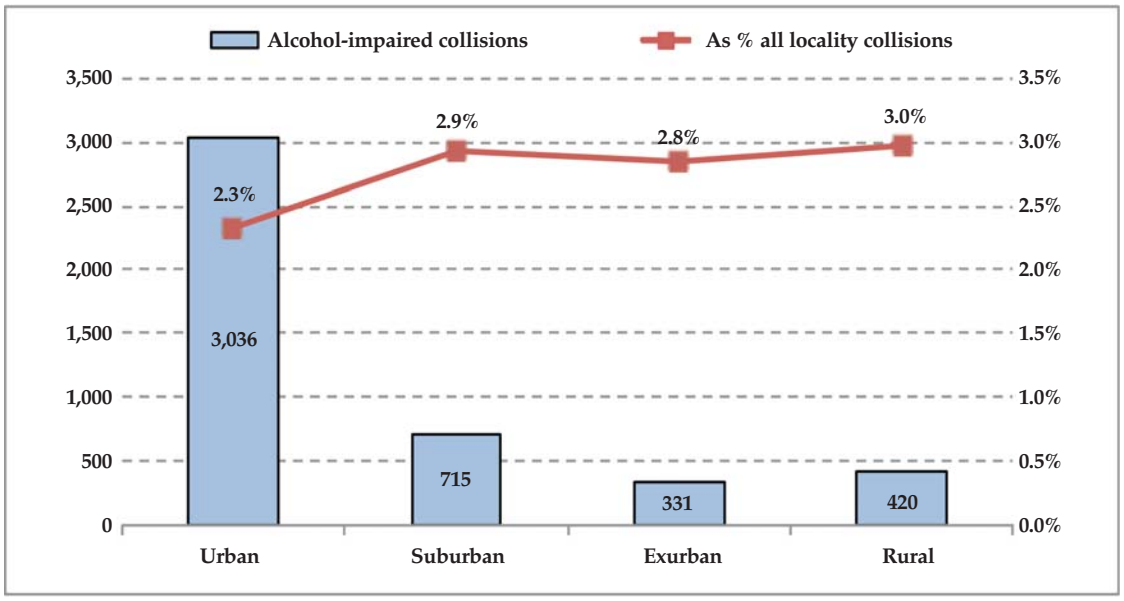
Figure 2. Percentage of Indiana collisions classified as alcohol-impaired, by month, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

In 2013, the largest proportion of alcohol-impaired collisions occurred in *urban* places (64 percent, calculated from Figure 3), and the likelihood of an impaired collision was about the same in *suburban, exurban,* and *rural* locales, and only somewhat greater than in *urban* places. Two-thirds of fatal alcohol-impaired collisions occurred in *urban* and *suburban* locales (Figure 4). However, the likelihood of alcohol-impaired fatal collisions was lowest in 2013 in *exurban* areas, and highest in *suburban* locales. In *rural* localities, about 17 percent of fatal collisions were alcohol-impaired. *Urban* and *suburban* places had fatal proportions of 16 and 17 percent, respectively.

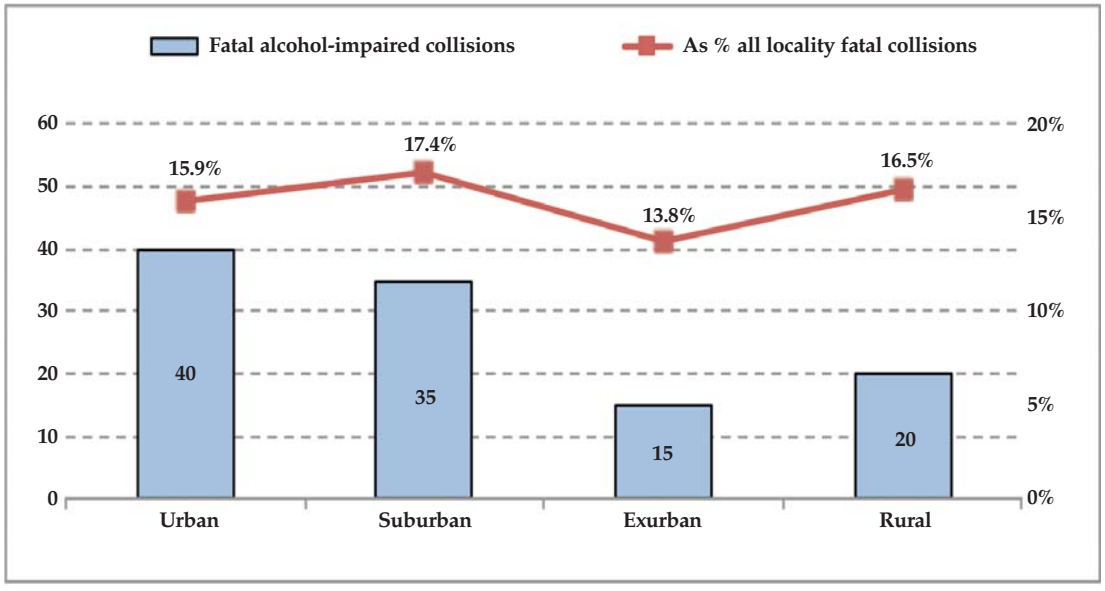
Figure 3. Total Indiana alcohol-impaired collisions, by US census locality, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Note: Excludes collisions with *unknown* census locality.

Figure 4. Indiana fatal alcohol-impaired collisions, by US census locality, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Note: Excludes collisions with *unknown* census locality.

INDIVIDUALS AND VEHICLES IN ALCOHOL-IMPAIRED COLLISIONS

In 2013, there were 124 fatalities (a 22 percent decrease from 2012) and 2,044 non-fatal injuries linked to alcohol-impaired collisions in Indiana (Table 2). The total number of individuals involved in alcohol-impaired collisions grew 3 percent annually from 2009 to 2013, while fatalities decreased about 1 percent annually. Among all involved persons, 16 percent of total fatalities were in collisions classified as alcohol-impaired. From 2012 to 2013, the number of drivers killed in alcohol-impaired collisions decreased 25 percent (Table 3). The percentage of drivers killed in fatal collisions classified as alcohol-impaired declined from 24 percent in 2012 to 19 percent in 2013.

The incidence of alcohol-impaired collisions with injuries and fatalities varies by vehicle type (Table 4). While the number of persons within vehicles in collisions driven by alcohol-impaired drivers has grown about 3 percent annually over the previous 5 years (2009-2013), this number declined by more than 7 percent from 2012 to 2013. There were large percentage decreases across all vehicle types in the number of individuals in vehicles operated by an impaired driver—from a 31 percent decrease in motorcycle involvement to roughly 13 percent declines for the pickup truck, SUV, and van categories. Likewise, from 2012 to 2013, SUVs, vans, and motorcycles experienced substantial reductions in the counts of individuals killed in vehicles operated by impaired drivers. Passenger cars and pickup trucks increased their counts slightly in 2013.

Table 2. Individuals involved in Indiana collisions, by collision alcohol-impairment and personal injury group, 2009-2013

	Count of individuals					Annual rate of change	
	2009	2010	2011	2012	2013	2012-13	2009-13
Alcohol-impaired collisions	**6,104**	**7,315**	**7,165**	**7,321**	**6,882**	**-6.0%**	**3.0%**
Fatal	127	135	140	158	124	-21.5%	-0.6%
Incapacitating	153	264	225	246	237	-3.7%	11.6%
Other injury	1,594	1,919	1,852	1,866	1,807	-3.2%	3.2%
Not injured	4,230	4,997	4,948	5,051	4,714	-6.7%	2.7%
Non-impaired collisions	**298,285**	**303,915**	**296,351**	**298,572**	**303,093**	**1.5%**	**0.4%**
Fatal	565	619	609	621	653	5.2%	3.7%
Incapacitating	3,026	3,179	3,180	3,564	3,206	-10.0%	1.5%
Other injury	45,969	44,754	41,884	43,404	42,237	-2.7%	-2.1%
Not injured	248,725	255,363	250,678	250,983	256,997	2.4%	0.8%
Total	**304,389**	**311,230**	**303,516**	**305,893**	**309,975**	**1.3%**	**0.5%**
% in impaired collisions							
Fatalities	18.4%	17.9%	18.7%	20.3%	16.0%		
Incapacitating injuries	4.8%	7.7%	6.6%	6.5%	6.9%		
All other	1.9%	2.3%	2.3%	2.3%	2.1%		

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Note: *Impaired collisions* involve at least one driver or non-motorist with a BAC of 0.08 g/dL.

Table 3. Drivers involved in Indiana traffic collisions, by collision alcohol impairment and injury status, 2009-2013

Type of collision and driver injury status	Count of individuals					Annual rate of change	
	2009	2010	2011	2012	2013	2012-13	2009-13
Alcohol-impaired collisions	**5,628**	**6,698**	**6,586**	**6,756**	**6,292**	**-6.9%**	**2.8%**
Fatal	105	102	119	132	99	-25.0%	-1.5%
Incapacitating	110	179	157	184	154	-16.3%	8.8%
Other injury	1,196	1,439	1,386	1,404	1,350	-3.8%	3.1%
Not injured	4,217	4,978	4,924	5,036	4,689	-6.9%	2.7%
Other collisions	**283,346**	**288,526**	**281,850**	**283,533**	**288,647**	**1.8%**	**0.5%**
Fatal	386	418	404	408	425	4.2%	2.4%
Incapacitating	2,052	2,091	2,201	2,412	2,237	-7.3%	2.2%
Other injury	32,724	31,275	29,162	30,420	29,657	-2.5%	-2.4%
Not injured	248,184	254,742	250,083	250,293	256,328	2.4%	0.8%
Percent alcohol-impaired							
Fatal	21.4%	19.6%	22.8%	24.4%	18.9%		
Incapacitating	5.1%	7.9%	6.7%	7.1%	6.4%		
All other	1.9%	2.2%	2.2%	2.2%	2.1%		

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Note: *Other injury* includes *non-incapacitating, possible, refused,* and *unknown* individual injury status categories.

Table 4. Individuals in Indiana collisions involving alcohol-impaired drivers, by vehicle type, 2009-2013

	Count of individuals					Annual rate of change	
	2009	2010	2011	2012	2013	2012-13	2009-13
All individuals in vehicles:							
Operated by alcohol-impaired driver	**4,424**	**5,282**	**5,234**	**5,449**	**5,046**	**-7.4%**	**3.3%**
Passenger car	2,552	3,167	3,172	3,303	3,222	-2.5%	6.0%
Pickup truck	910	979	978	995	871	-12.5%	-1.1%
Sport utility vehicle	615	717	673	702	605	-13.8%	-0.4%
Van	200	242	213	213	185	-13.1%	-1.9%
Motorcycle	147	177	198	236	163	-30.9%	2.6%
Individuals killed in vehicles:							
Operated by alcohol-impaired driver	**112**	**111**	**125**	**133**	**106**	**-20.3%**	**-1.4%**
Passenger car	52	51	54	56	58	3.6%	2.8%
Pickup truck	16	18	16	20	21	5.0%	7.0%
Sport utility vehicle	20	11	14	16	10	-37.5%	-15.9%
Van	2	7	2	6	3	-50.0%	10.7%
Motorcycle	22	24	39	35	14	-60.0%	-10.7%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Notes:
1) *Motorcycles* includes units classified as *mopeds*.
2) Excludes *non-motorists* and other vehicles not listed (e.g., *large trucks*).

Considering all persons involved in alcohol-impaired collisions in Indiana from 2009 to 2013, the impaired drivers comprised the majority of individuals within different injury categories (Table 5). However, the count of impaired drivers killed decreased 26 percent from 2012 to 2013, while there was an 18 percent increase in the number of *passengers of impaired drivers* killed in 2013. In 2013, roughly six out of ten fatalities and injuries in alcohol-impaired collisions were the impaired drivers (Figure 5). Approximately 71 percent of fatalities and injuries from 2013 alcohol-impaired collisions were suffered by impaired drivers and their passengers, while the non-impaired drivers and passengers comprised 27 percent of those killed or injured in 2013. Non-motorists comprised the remaining 2 percent.

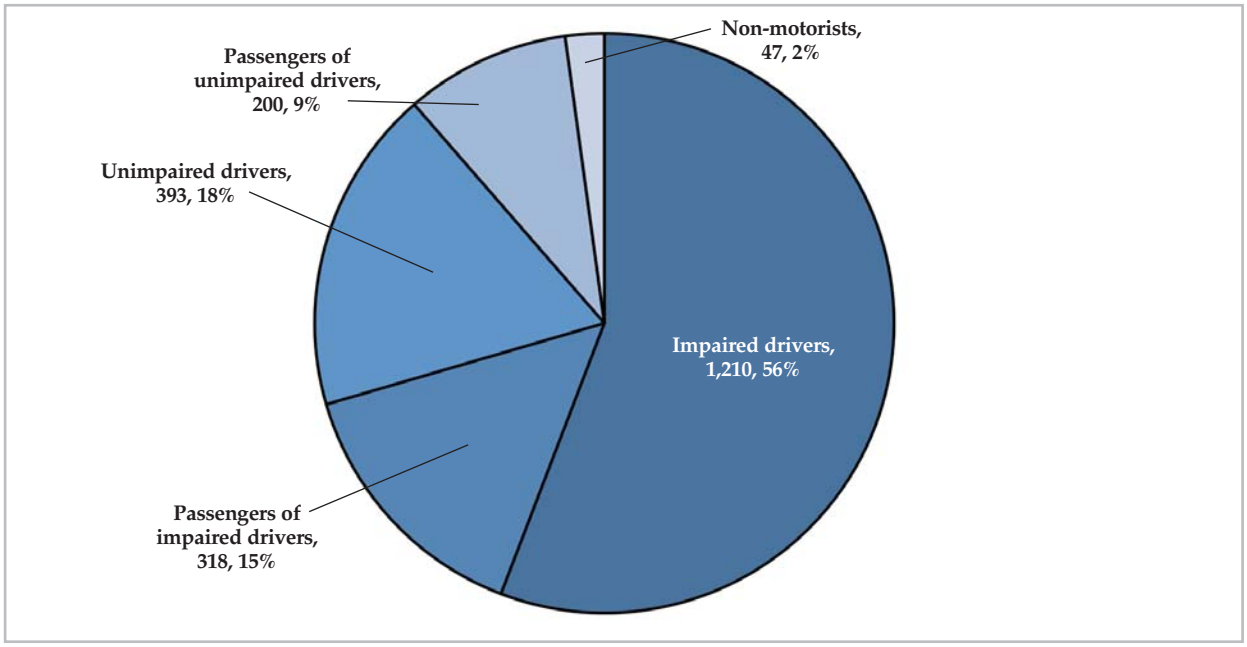
Table 5. Individuals injured in Indiana collisions involving alcohol-impaired drivers, by person type and injury severity, 2009-2013

	Count of individuals					Annual rate of change	
	2009	2010	2011	2012	2013	2012-2013	2009-2013
Individuals in alcohol-impaired collisions	**6,104**	**7,315**	**7,165**	**7,321**	**6,882**	**-6.0%**	**3.0%**
Fatal injuries	**127**	**135**	**140**	**158**	**124**	**-21.5%**	**-0.6%**
Impaired drivers	96	92	107	117	87	-25.6%	-2.4%
Passengers w/ impaired drivers	20	19	18	17	20	17.6%	0.0%
Non-impaired drivers	9	10	12	15	12	-20.0%	7.5%
Passengers w/ non-impaired drivers	0	5	1	3	3	0.0%	--
Non-motorists	2	9	2	6	2	-66.7%	0.0%
Incapacitating injuries	**153**	**264**	**225**	**246**	**237**	**-3.7%**	**11.6%**
Impaired drivers	91	152	134	148	127	-14.2%	8.7%
Passengers w/ impaired drivers	25	49	44	45	57	26.7%	22.9%
Non-impaired drivers	19	27	23	36	27	-25.0%	9.2%
Passengers w/ non-impaired drivers	14	19	9	11	11	0.0%	-5.9%
Non-motorists	4	17	15	6	15	150.0%	39.2%
Other injury	**1,594**	**1,919**	**1,852**	**1,866**	**1,807**	**-3.2%**	**3.2%**
Impaired drivers	864	1,054	992	1,068	996	-6.7%	3.6%
Passengers w/ impaired drivers	182	240	246	263	241	-8.4%	7.3%
Non-impaired drivers	332	385	394	336	354	5.4%	1.6%
Passengers w/ non-impaired drivers	191	212	191	172	186	8.1%	-0.7%
Non-motorists	25	28	29	27	30	11.1%	4.7%
Not injured	**4,230**	**4,997**	**4,948**	**5,051**	**4,714**	**-6.7%**	**2.7%**
Impaired drivers	3,175	3,701	3,720	3,830	3,553	-7.2%	2.9%
Passengers w/ impaired drivers	4	11	13	8	11	37.5%	28.8%
Non-impaired drivers	1,042	1,277	1,204	1,206	1,136	-5.8%	2.2%
Passengers w/ non-impaired drivers	7	5	8	2	6	200.0%	-3.8%
Non-motorists	2	3	3	5	8	60.0%	41.4%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Notes:
1) *Other injury* includes *non-incapacitating, possible, refused,* and *unknown* individual injury status categories.
2) Includes individuals in collisions in which at least one driver was impaired.
3) Counts of *passengers not injured* should be excluded in ARIES; counts shown are as included in ARIES.

Figure 5. Individuals killed or injured in collisions involving alcohol-impairment, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Note: N = 2,168 persons with *fatal* or any injury status in alcohol-impaired collisions.

TESTING RATES, GENDER, AGE, AND BLOOD ALCOHOL CONTENT (BAC)

Table 6 examines the substance testing rates among drivers (surviving and killed) involved in fatal collisions, tabulated by type of test given. On average across the 2009 to 2013 time period, *surviving* drivers were tested slightly more often than *killed* drivers (on average, 71 percent and 65 percent, respectively, calculated from Table 6). There do not appear to be any major differences in the substance testing rates between males and females. There was a decrease in the reporting of substance tests given, especially for drivers killed in collisions—from 68 percent testing rate in 2012 to a 57 percent rate in 2013.

As shown in Table 7, drivers who survived fatal collisions were substantially less likely to have higher BAC levels than drivers who were killed. For example, looking only at drivers for whom BAC results were reported in 2012, about 37 percent of those killed were legally impaired, versus about 10 percent of drivers who survived alcohol-impaired collisions. It should be noted that BAC reporting rates decreased from 2012 to 2013. For drivers *killed* in fatal collisions, the percentage of BAC results classified as *not reported* increased from 42 percent in 2012 to 58 percent in 2013; for the surviving drivers, the percentage of *not reported* increased from 38 percent to 42 percent.

Table 6. Drivers involved in Indiana fatal collisions, by gender and substance test given, 2009-2013

	Surviving					Killed				
	2009	**2010**	**2011**	**2012**	**2013**	**2009**	**2010**	**2011**	**2012**	**2013**
Drivers in fatal collisions	**500**	**563**	**510**	**559**	**574**	**491**	**520**	**523**	**540**	**524**
By test type given										
Alcohol and/or drug	316	410	378	405	402	315	341	371	368	299
None	94	47	51	33	31	124	62	48	49	64
Refused	0	1	0	3	0	0	0	0	0	0
Not reported	90	105	81	118	141	52	117	104	123	161
Tested, as % all	63.2%	72.8%	74.1%	72.5%	70.0%	64.2%	65.6%	70.9%	68.1%	57.1%
Male drivers	**358**	**397**	**371**	**405**	**419**	**379**	**393**	**393**	**429**	**411**
Alcohol and/or drug	232	305	280	294	292	250	265	289	296	237
None	62	27	37	23	22	90	43	32	38	50
Refused	0	1	0	3	0	0	0	0	0	0
Not reported	64	64	54	85	105	39	85	72	95	124
Tested, as % all	64.8%	76.8%	75.5%	72.6%	69.7%	66.0%	67.4%	73.5%	69.0%	57.7%
Female drivers	**140**	**165**	**137**	**153**	**155**	**112**	**127**	**130**	**111**	**113**
Alcohol and/or drug	83	105	98	110	110	65	76	82	72	62
None	32	20	14	10	9	34	19	16	11	14
Not reported	25	40	25	33	36	13	32	32	28	37
Tested, as % all	59.3%	63.6%	71.5%	71.9%	71.0%	58.0%	59.8%	63.1%	64.9%	54.9%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Note: *Male* and *female* subtotals may not add to total *drivers in fatal collisions* due to missing *gender*.

Table 7. Drivers involved in Indiana fatal collisions, by blood alcohol content (BAC) results, 2009-2013

	Surviving					Killed				
	2009	**2010**	**2011**	**2012**	**2013**	**2009**	**2010**	**2011**	**2012**	**2013**
Drivers in fatal crashes	**500**	**563**	**510**	**558**	**574**	**491**	**520**	**523**	**540**	**524**
By BAC result (g/dL)										
0.00	215	292	275	304	293	136	176	186	186	116
< 0.08	9	6	10	8	12	20	14	12	12	17
0.08 < 0.15	9	10	9	12	13	29	28	29	26	15
0.15 < 0.60	17	31	19	23	15	67	64	78	91	72
Not reported	250	224	197	211	241	239	238	218	225	304
% not reported	50.0%	39.8%	38.6%	37.8%	42.0%	48.7%	45.8%	41.7%	41.7%	58.0%
As % of reported:										
> 0	14.0%	13.9%	12.1%	12.4%	12.0%	46.0%	37.6%	39.0%	41.0%	47.3%
0.08 +	10.4%	12.1%	8.9%	10.1%	8.4%	38.1%	32.6%	35.1%	37.1%	39.5%
0.15 +	6.8%	9.1%	6.1%	6.6%	4.5%	26.6%	22.7%	25.6%	28.9%	32.7%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Notes:
1) g/dL = grams per deciliter.
2) 2012 *BAC result for surviving* drivers excludes 1 *invalid (>0.59)* result.

Among drivers involved in Indiana fatal collisions during the 2009 to 2013 period (and for whom results were reported), male drivers were much more likely than female drivers to have a positive BAC result, to be legally impaired, and to exceed an impairment level of 0.15 g/dL (Table 8). In 2013, nearly 90 percent of drivers found to be impaired in fatal crashes were male (calculated from Table 8). Considering only the drivers in fatal collisions for whom BAC results were reported, an average of 26 percent of male drivers and 11 percent of female drivers had BAC levels of 0.08 g/dL or greater across the 2009 to 2013 period (calculated from Table 8). Nonetheless, the biggest decline in the count of fatalities from 2012 to 2013 was in the impaired male drivers category (from 136 to 96). (Some of this apparent decline might be linked to lower reporting rates in 2013 ARIES data.)

Table 8. Drivers involved in Indiana fatal collisions, by gender and blood alcohol content (BAC) results, 2009-2013

Drivers in fatal collisions / BAC result (g/dL)	Count of drivers					Annual rate of change	
	2009	2010	2011	2012	2013	2012-2013	2009-2013
Male	**737**	**790**	**764**	**834**	**830**	**-0.5%**	**3.0%**
0.00	254	337	336	357	300	-16.0%	4.2%
< 0.08	23	17	16	15	23	53.3%	0.0%
0.08 < 0.15	33	32	34	34	25	-26.5%	-6.7%
0.15 < 0.60	74	89	85	102	71	-30.4%	-1.0%
Not reported	353	315	293	326	411	26.1%	3.9%
% not reported	47.9%	39.9%	38.4%	39.1%	49.5%		
Female	**252**	**292**	**267**	**263**	**268**	**1.9%**	**1.6%**
0.00	96	131	125	133	109	-18.0%	3.2%
< 0.08	6	3	6	5	6	20.0%	0.0%
0.08 < 0.15	5	6	4	4	3	-25.0%	-12.0%
0.15 < 0.60	10	6	12	12	16	33.3%	12.5%
Not reported	135	146	120	109	134	22.9%	-0.2%
% not reported	53.6%	50.0%	44.9%	41.4%	50.0%		
% of reported							
Male							
> 0.00	33.9%	29.1%	28.7%	29.7%	28.4%	-4.5%	-4.3%
0.08 +	27.9%	25.5%	25.3%	26.8%	22.9%	-14.4%	-4.8%
0.15 +	19.3%	18.7%	18.0%	20.1%	16.9%	-15.6%	-3.2%
Female							
> 0.00	17.9%	10.3%	15.0%	13.6%	18.7%	36.8%	1.0%
0.08 +	12.8%	8.2%	10.9%	10.4%	14.2%	36.5%	2.6%
0.15 +	8.5%	4.1%	8.2%	7.8%	11.9%	53.2%	8.7%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Notes:
1) Excludes drivers with *unknown gender* or unknown *BAC result*.
2) *g/dL = gram*s per deciliter.

From 2009 to 2013, selected age categories exhibited comparatively higher rates of alcohol-impaired drivers per 100,000 population. The age groups most at risk of involvement in alcohol-impaired collisions are 21 to 24 years and 25 to 34 years. The 21 to 24 and 25 to 34 age cohorts consistently had the highest per capita rates of alcohol-impairment (Table 9). Per capita rates of alcohol-impairment in all Indiana collisions generally decline with age. Similar patterns held for per capita impairment rates of drivers killed in collisions during this five-year period; in 2013, the 21 to 24 and 25 to 34 year age cohorts had the highest per capita fatality rates, and rates generally went down with increasing age.

Figure 6 shows the counts and proportions of drivers with positive BAC results in all Indiana collisions, based on age and BAC level for 2013. Note that the first two age categories reflect drivers under 21 years of age, for whom any positive BAC level is illegal; 76 percent of these underage drinking drivers had BAC levels in excess of 0.08 g/dL (calculated from Figure 6). More than one-half of each of the four age cohorts from 21-24 years to 55-64 years with positive BAC results were found to have BAC levels of 0.15 g/dL or higher. The two oldest age groups reported less than 50 percent with BAC greater than 0.15.

Table 9. Rates of alcohol-impaired Indiana drivers per 100,000 population, by age cohort, 2009-2013

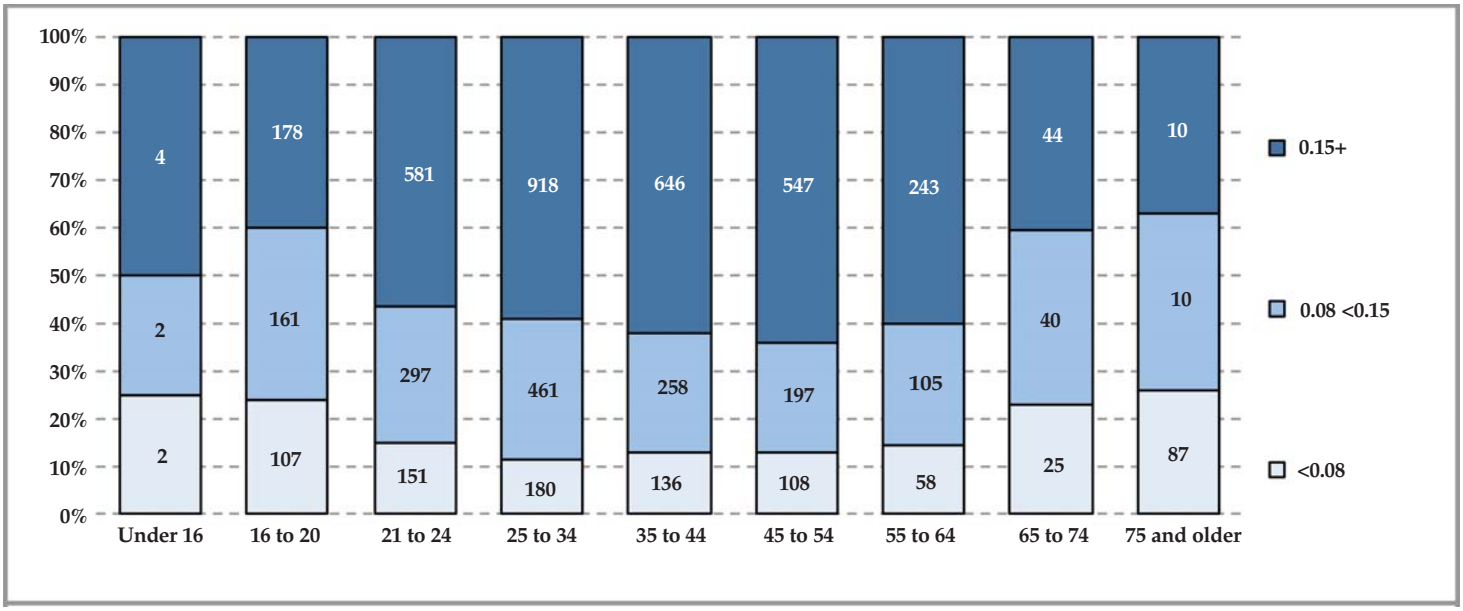
Age group	Rate per 100,000 population					Annual rate of change	
	2009	2010	2011	2012	2013	2012-2013	2009-2013
Alcohol-impaired drivers in collisions							
15-20	75.2	74.2	75.2	71.6	61.7	-13.9%	-4.9%
21-24	220.8	272.8	264.6	261.6	240.5	-8.1%	2.2%
25-34	141.1	163.2	159.5	176.4	166.7	-5.5%	4.3%
35-44	93.4	117.0	108.9	121.2	111.2	-8.2%	4.5%
45-54	68.3	85.9	89.1	88.0	81.9	-6.9%	4.7%
55-64	40.7	45.5	46.9	47.4	42.9	-9.4%	1.4%
65-74	16.9	18.8	20.7	19.0	17.2	-9.6%	0.4%
75 and older	4.3	4.1	3.1	5.3	5.1	-4.8%	3.9%
Alcohol-impaired drivers in fatal collisions							
15-20	1.8	1.6	1.6	1.9	1.1	-45.5%	-12.3%
21-24	3.9	6.8	5.5	6.0	6.5	9.1%	13.5%
25-34	4.6	3.6	4.0	5.0	4.4	-11.9%	-1.2%
35-44	3.9	3.9	4.1	4.2	2.8	-34.3%	-7.9%
45-54	1.8	2.9	2.6	3.0	1.3	-57.1%	-7.9%
55-64	1.4	0.9	1.6	1.0	1.1	12.5%	-5.1%
65-74	0.0	0.4	0.2	1.0	0.6	-40.0%	--
75 and older	0.0	0.0	0.0	0.3	0.3	0.0%	--

Low < < > > High

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Notes:
1) 2013 population estimates by age were not available for Indiana. The 2012 population estimate is used for 2013.
2) Excludes drivers with unknown age or age under 15 years.

Figure 6. Drivers with positive blood alcohol content (BAC) in Indiana collisions, by driver age and BAC level (g/dL), 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Notes:
1) Excludes cases with unknown age or unreported BAC.
2) Drivers *under 15* reflect counts as reported in ARIES.

DEFINITIONS

- For the purposes of this fact sheet, a driver is considered *alcohol-impaired* when the driver has a BAC test result at or above 0.08 g/dL. Drivers meeting this criterion should have at least received a Class C misdemeanor pursuant to IC 9-30-5-1. Drivers with BAC = 0.15 g/dL or greater should have received a Class A misdemeanor pursuant to IC 9-30-5-1. If the driver had a passenger under the age of 18 in the vehicle, a Class D felony could have been imposed. This fact sheet does not explicitly consider these cases but does include them in summary statistics.
- ***Annual rate of change (ARC)*** – The rate that a beginning value must increase/decrease each period (e.g. month, quarter, year) in a time series to arrive at the ending value in the time series. ARC is a "smoothed" rate of change because it measures change in a variable as if the change occurred at a steady rate each period with compounding. For example, to measure change in a variable from 2009 to 2013, it is calculated as $(\text{Value in 2013}/\text{Value in 2009})^{1/4} - 1$.

REFERENCE

National Highway Traffic Safety Administration (NHTSA). (2013). Alcohol-impaired driving, *Traffic Safety Facts, 2011 Data*, DOT HS 811 870 (December), National Center for Statistics and Analysis.

DATA SOURCES

Indiana State Police, Automated Reporting Information Exchange System (ARIES), current as of March 21, 2014.

U.S. Census Bureau, Population Division, Table 2. Intercensal Estimates of the Resident Population by Sex and Age: April 1, 2000 to July 1, 2011 (ST-EST2011-01).

U.S. Census Bureau, Annual Estimates of the Resident Population by Single-Year of Age and Sex for the United States and States (2012), provided by the Indiana Business Research Center, Indiana University.

This publication was prepared on behalf of the Indiana Criminal Justice Institute (ICJI) by the Indiana University Public Policy Institute (PPI). Please direct any questions concerning data in this document to ICJI at 317-232-1233.

This publication is one of a series of fact sheets that, along with the annual Indiana Crash Fact Book, form the analytical foundation of traffic safety program planning and design in the state of Indiana. Funding for these publications is provided by ICJI and the National Highway Traffic Safety Administration.

An electronic copy of this document can be accessed via the PPI website (www.policyinstitute.iu.edu), the ICJI website (www.in.gov/cji/), or you may contact the PPI at 317-261-3000.

INDIANA UNIVERSITY PUBLIC POLICY INSTITUTE

SCHOOL OF PUBLIC AND ENVIRONMENTAL AFFAIRS
INDIANA UNIVERSITY
IUPUI

Traffic Safety Project

A collision produces three levels of data: collision, unit (vehicles), and individual. For this reason, readers should pay particular attention to the wording of statements about the data to avoid misinterpretations.

Designing and implementing effective traffic safety policies requires data-driven analysis of traffic collisions. To help in the policy-making process, the Indiana University Public Policy Institute is collaborating with the Indiana Criminal Justice Institute to analyze 2013 vehicle crash data from the Automated Reporting Information Exchange System (ARIES), maintained by the Indiana State Police. This marks the eighth year of this partnership. Research findings are summarized in a series of fact sheets on various aspects of traffic collisions, including alcohol-related crashes, trucks, dangerous driving, children, motorcycles, occupant protection, and drivers. An additional publication provides information on county and municipality data. and the final publication produced is the annual Indiana Crash Fact Book. These publications serve as the analytical foundation of traffic safety program planning and design in Indiana.

Indiana collision data are obtained from Indiana Crash Reports, as completed by law enforcement officers. As of December 31, 2013, approximately 99 percent of all collisions are entered electronically through ARIES. Trends in collisions incidence as reported in these publications incorporate the effects of changes to data elements on the Crash Report, agency-specific enforcement policy changes, re-engineered roadways, driver safety education programs, and other unspecified effects. If you have questions regarding trends or unexpected results, please contact the Indiana Criminal Justice Institute, Traffic Safety Division for more information.

The Indiana Criminal Justice Institute

Guided by a Board of Trustees representing all components of Indiana's criminal and juvenile justice systems, the Indiana Criminal Justice Institute serves as the state's planning agency for criminal justice, juvenile justice, traffic safety, and victim services. ICJI develops long-range strategies for the effective administration of Indiana's criminal and juvenile justice systems and administers federal and state funds to carry out these strategies.

The Governor's Council on Impaired & Dangerous Driving

The Governor's Council on Impaired & Dangerous Driving, a division of the Indiana Criminal Justice Institute, serves as the public opinion catalyst and the implementing body for statewide action to reduce death and injury on Indiana roadways. The Council provides grant funding, training, coordination, and ongoing support to state and local traffic safety advocates.

Indiana University Public Policy Institute

The Indiana University Public Policy Institute (PPI) is a collaborative, multidisciplinary research institute within the Indiana University School of Public and Environmental Affairs (SPEA), Indianapolis. PPI serves as an umbrella organization for research centers affiliated with SPEA, including the Center for Urban Policy and the Environment and the Center for Criminal Justice Research. PPI also supports the Indiana Advisory Commission on Intergovernmental Relations (IACIR).

The National Highway Traffic Safety Administration (NHTSA)

NHTSA provides leadership to the motor vehicle and highway safety community through the development of innovative approaches to reducing motor vehicle crashes and injuries. The mission of NHTSA is to save lives, prevent injuries and reduce economic costs due to road traffic crashes, through education, research, safety standards and enforcement activity.

Author: Samuel Nunn