

IMPAIRED DRIVING 2020

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In 2020:

- There were 124 people killed in alcohol-impaired collisions, representing 14% of Indiana traffic fatalities.
- Drivers made up 72% of all fatalities in Indiana alcohol-impaired collisions.
- Males accounted for 77% of all drivers in Indiana fatal crashes, 16% of which were reported to be legally impaired.
- Alcohol impairment in collisions was highest among male drivers aged 21–24 and 25–34 years.
- Approximately 34% of pickup truck and 25% of passenger car drivers in Indiana fatal collisions were alcohol-impaired.
- Among drivers killed in fatal collisions who had reported drug and alcohol test results, 40% were alcohol-impaired and 50% tested positive for one or more drugs.
- Consistent with collision rates involving other types of risky driving behaviors, rates of alcohol-impaired crashes were highest during weekend overnight hours, the same timeframe when crash related fatality and incapacitating injury rates peaked.

According to the National Highway Transportation Safety Administration (NHTSA), one person in the United States dies every 52 minutes in a drunk driving crash, claiming more than 10,000 lives per year. NHTSA defines drivers as being alcohol-impaired when they test for a blood alcohol concentration (BAC) of at least 0.08 grams per deciliter (g/dL). Any fatal crash involving a driver at that BAC level is categorized as an alcohol impaired-driving crash, thus any fatalities that happen in a crash that meets that criterion is deemed an alcohol-impaired fatality.

In 2020, 124 people were killed in alcohol-impaired collisions in Indiana, accounting for 14% of the state's traffic fatalities (Figure 1). This fact sheet presents information and trends on alcohol-impaired traffic collisions in Indiana from 2016 to 2020, including driver demographics, the incidence of alcohol testing and blood alcohol content (BAC) test results for involved drivers, and other attributes of alcohol-impaired collisions, injuries, and fatalities.

It is important to note that data discrepancies may exist between this report and previous years' publications due to ongoing data updates in the Automated Reporting Information Exchange System (ARIES). Indiana collision data are collected by Indiana State Police officers and submitted to ARIES. All numbers in this report were current as of the March 29, 2021 ARIES data extract.

The pandemic and traffic safety in 2020

The COVID-19 pandemic affected traffic safety in 2020. Preliminary analyses of traffic safety fatalities by the National Highway Traffic Safety Administration (NHTSA)— using data from the Fatality Analysis Reporting System (FARS)—estimates that while vehicle miles travelled were down nationally in 2020 from 2019, the number of fatalities and the fatality rate per 100 million VMT were higher (NCSA, 2021a). Fatalities among passenger vehicle occupants, motorists, and pedalcyclists are estimated to be up 5%, 9%, and 5%, respectively (NCSA, 2021b). NHTSA's analysis also suggests risky traffic behaviors increased in 2020 (OBSR, 2021). For example, national fatality counts for unrestrained occupants of passenger vehicles are estimated to be up 15% and deaths from occupant ejections up 20%.

The 2020 Indiana traffic safety data and analysis should be considered carefully in light of the potentially anomalous effects of the pandemic. Further analysis may be needed to evaluate whether the challenges in Indiana were similar to those identified nationally, whether those challenges continue, and whether the addition or adjustment of countermeasures is warranted.

Sources:

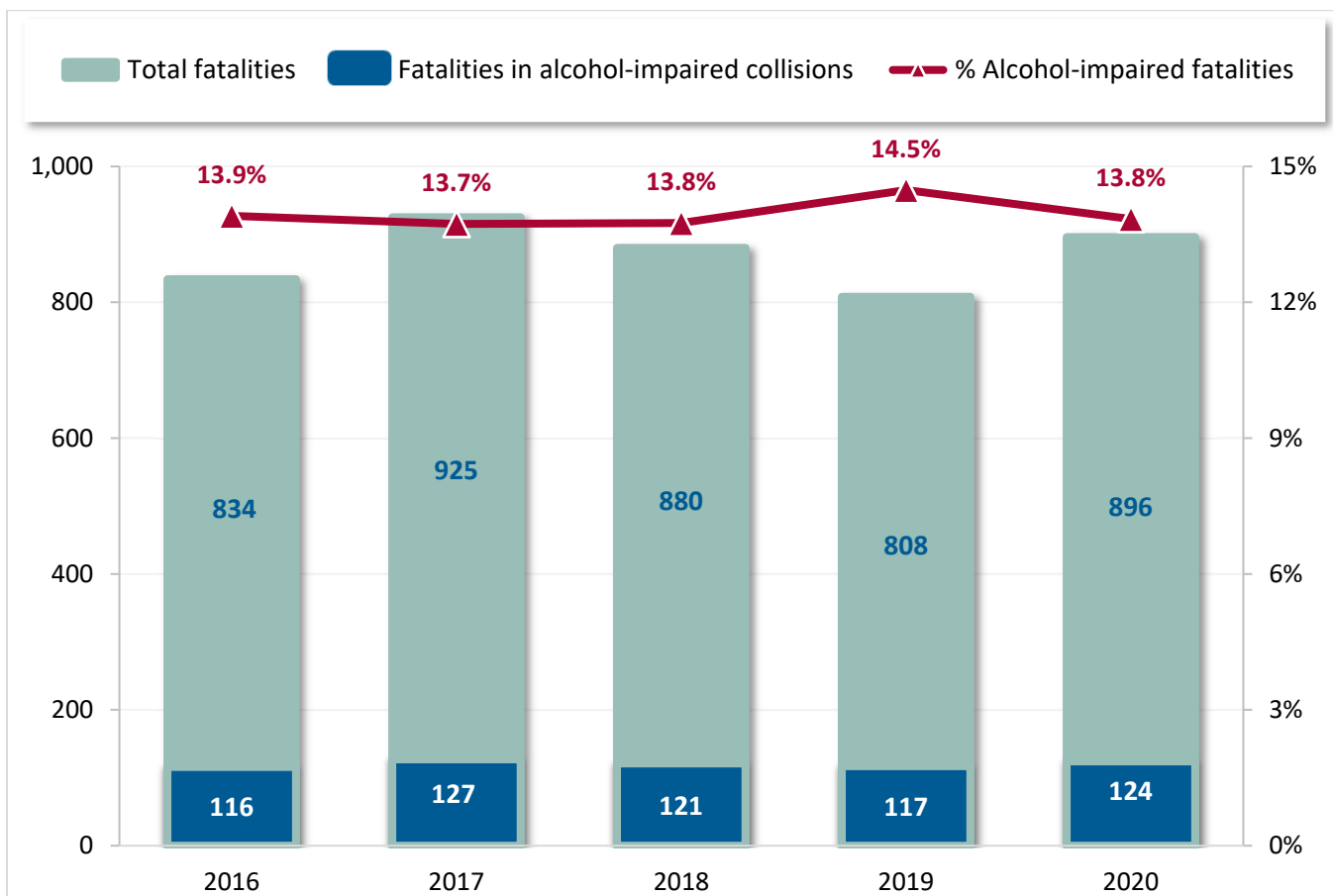
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General trends

Figure 1. Indiana traffic fatalities, by alcohol impairment, 2016–20



Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Note: Alcohol-impaired fatalities occurred in collisions that involved at least one driver or non-motorist with a BAC of 0.08 g/dL or greater.

From 2016 to 2020, the number of all types of fatal crashes in Indiana increased slightly by 1% annually (Table 1). During this same period, the number of overall alcohol-impaired collisions declined by 6%, while fatal alcohol-impaired collisions rose by 2% annually. The percentage of fatal crashes linked to alcohol was disproportionately high during the five-year period, averaging 13%.

In 2020, there were 106 fatal drunk driving collisions in Indiana, claiming 124 lives. That same year, alcohol-impaired crashes represented 13% of all fatal collisions, 4% of all crashes with non-fatal injuries, and less than 2% of all property damage collisions in the state.

Table 1. Indiana collisions, by driver alcohol impairment and collision severity, 2016–20

Alcohol impairment/ collision severity	Count of collisions					Annual rate of change	
	2016	2017	2018	2019	2020	2019–20	2016–20
Total collisions	223,961	219,317	217,276	217,578	175,821	-19.2%	-5.9%
Fatal	781	848	795	748	808	8.0%	0.9%
Non-fatal injury	35,337	34,226	32,412	31,213	26,303	-15.7%	-7.1%
Property damage	187,843	184,243	184,069	185,617	148,710	-19.9%	-5.7%
All alcohol-impaired collisions	4,847	4,573	4,060	3,947	3,820	-3.2%	-5.8%
Fatal	100	113	98	115	106	-7.8%	1.5%
Non-fatal injury	1,416	1,268	1,072	1,020	970	-4.9%	-9.0%
Property damage	3,331	3,192	2,890	2,812	2,744	-2.4%	-4.7%
Alcohol-impaired as % of total	2.2%	2.1%	1.9%	1.8%	2.2%	19.8%	0.1%
Fatal	12.8%	13.3%	12.3%	15.4%	13.1%	-14.7%	0.6%
Non-fatal injury	4.0%	3.7%	3.3%	3.3%	3.7%	12.9%	-2.1%
Property damage	1.8%	1.7%	1.6%	1.5%	1.8%	21.8%	1.0%

Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Note: Alcohol-impaired collisions are defined as collisions that involved at least one driver or non-motorist with a BAC of 0.08 g/dL or greater.

Alcohol and drug testing rates in crashes

Indiana law requires police officers offer a portable breath or chemical test to anyone they believe was driving a vehicle involved in a collision that caused a fatality or serious bodily injury. Approximately 60% of all drivers involved in fatal collisions in 2020 were reportedly tested for alcohol and/or drugs. Sixty-two percent of those had BAC test results in the ARIES database (calculated from Table 2).

Rates of driver alcohol-impairment varied by the severity of driver injuries. From 2016 to 2020, test rates varied substantially by whether the driver survived the crash or died (Table 2). Generally, surviving drivers were tested more often than those who suffered a fatal injury. In 2020, around 70% of surviving drivers were tested, compared to roughly half of those who died. The data shows a considerable difference in test results between these two groups, as well. Among drivers with reported BAC results, those who survived crashes had far lower impairment rates (12%) than those who were killed (40%).

Rates of positive drug test result were higher than alcohol-impairment for both surviving drivers and drivers killed. In 2020, among drivers killed in fatal collisions who had reported drug test results, 50% tested positive for one or more drugs. Alcohol impaired and drug-positive are not mutually exclusive—drivers can be one or the other or both. Among drivers killed in collisions, over a five-year period, nearly 20% tested positive for both alcohol impairment and were drug positive.

Table 2. Drivers involved in Indiana fatal collisions, by substance test given and reported results, 2016–2020

	Surviving					Killed				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Drivers in fatal collisions	626	665	665	621	645	575	632	571	559	596
By test type given										
Alcohol and/or drug	439	493	452	449	467	271	338	287	284	276
None	0	3	5	18	37	6	5	9	17	55
Refused	2	1	2	0	5	0	0	0	0	0
Not reported	185	168	206	154	136	298	289	275	258	265
Tested, as % all	70.1%	74.1%	68.0%	72.3%	72.4%	47.1%	53.5%	50.3%	50.8%	46.3%
By BAC test result										
Alcohol-impaired	34	32	30	32	34	68	83	70	85	73
Not impaired	308	297	308	311	243	111	122	135	123	109
No result reported	284	336	327	277	367	396	427	366	351	414
By drug test result										
Positive	67	54	75	76	72	85	107	98	123	96
Negative	182	167	198	237	194	97	97	113	121	97
Pending	21	26	9	7	22	15	22	8	2	5
No result reported	356	418	383	301	357	378	406	352	313	398
By alcohol impairment and drug-positive result										
Drivers with reported results	215	193	227	248	200	149	178	185	192	164
Tested positive for both alcohol and drug	9	9	7	8	13	27	38	31	41	30
Alcohol-impaired, as % tested	7.7%	6.5%	6.6%	7.1%	7.3%	25.1%	24.6%	24.4%	29.9%	26.4%
Drug-positive, as % tested	15.3%	11.0%	16.6%	16.9%	15.4%	31.4%	31.7%	34.1%	43.3%	34.8%
Alcohol-impaired and drug positive, as % tested	2.1%	1.8%	1.5%	1.8%	2.8%	10.0%	11.2%	10.8%	14.4%	10.9%
Alcohol-impaired, as % of drivers with reported results	9.9%	9.7%	8.9%	9.3%	12.3%	38.0%	40.5%	34.1%	40.9%	40.1%
Drug-positive, as % drivers with reported results	26.9%	24.4%	27.5%	24.3%	27.1%	46.7%	52.5%	46.4%	50.4%	49.7%
Alcohol-impaired and drug positive, as % drivers with	4.2%	4.7%	3.1%	3.2%	6.5%	18.1%	21.3%	16.8%	21.4%	18.3%

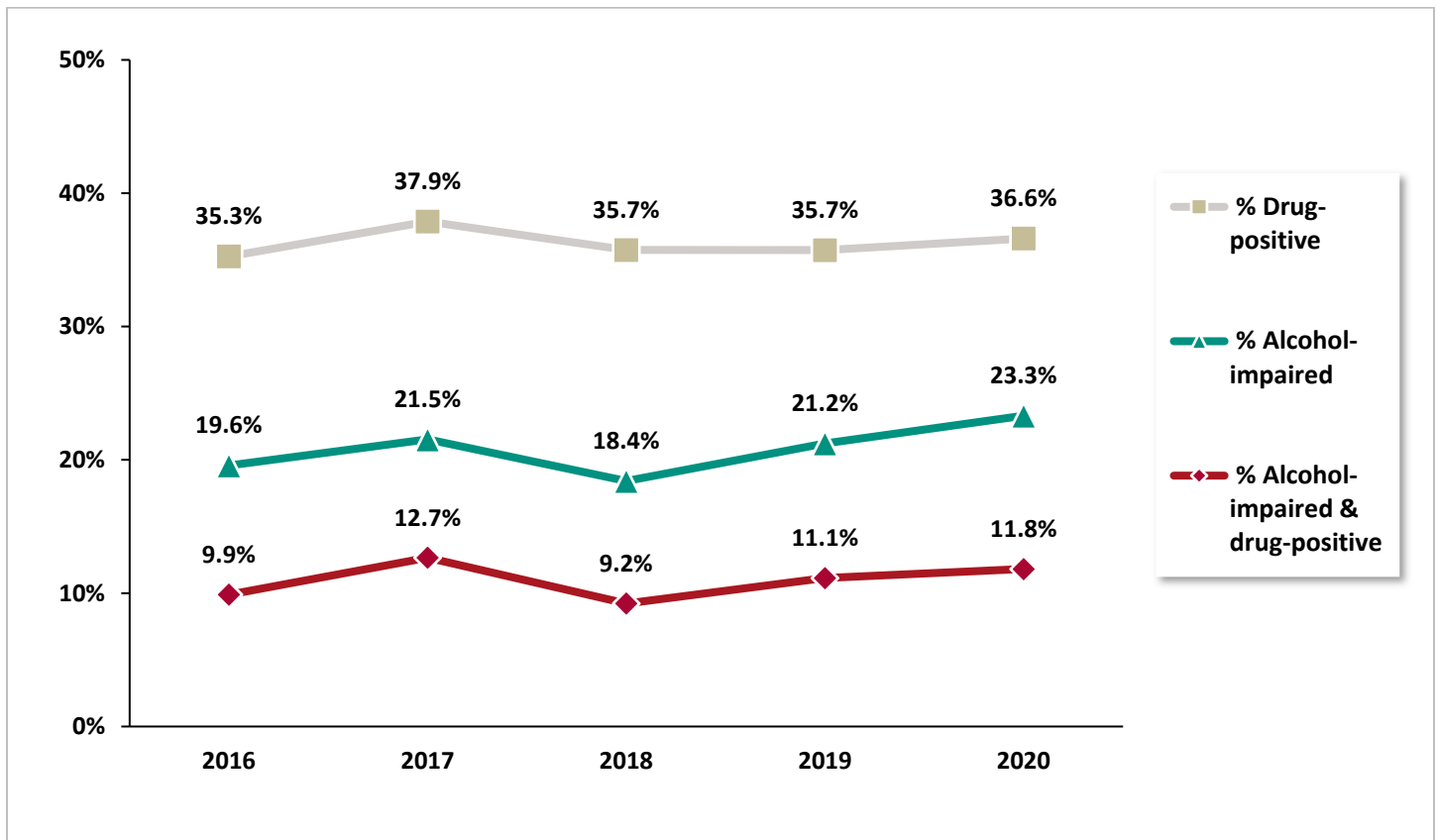
Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Notes:

- 1) Alcohol-impaired: BAC of 0.08 g/dL or higher.
- 2) Drug-positive: Reported as positive under drug test results in ARIES. ARIES does not currently specify drug type(s).
- 3) Alcohol-impaired and drug-positive are not mutually exclusive (i.e., drivers can be one or the other or both).

Figure 2 shows the proportion of drivers involved in fatal collisions who were alcohol-impaired, drug-positive, or both between 2016 and 2020. In 2020, 37% were drug-positive, 23% alcohol impaired, and 12% both.

Figure 2. Drivers involved in Indiana fatal collisions, by reported alcohol-impairment and drug-positive results, 2016–20



Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

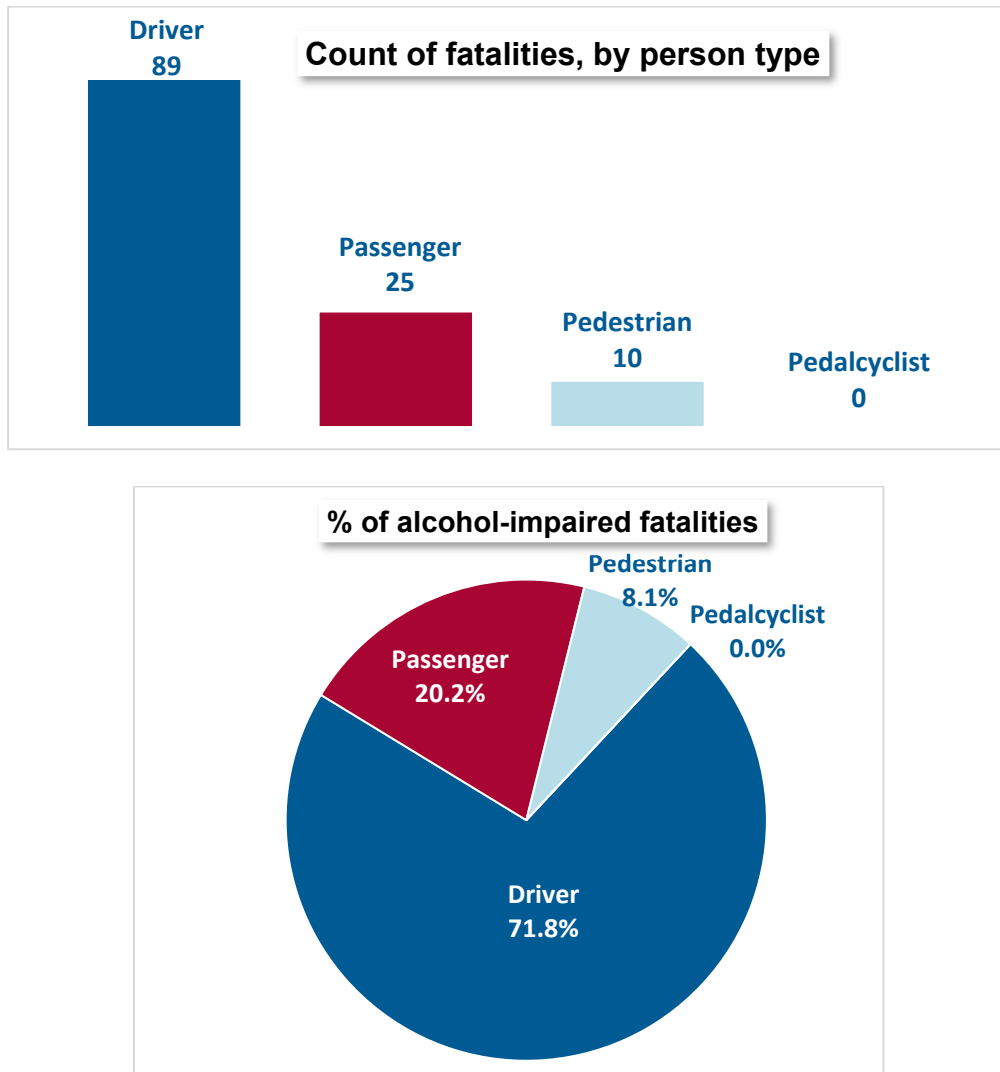
Indiana Code related to drug/alcohol testing of drivers in collisions

Indiana Code 9-30-7-3a states in part that a “law enforcement officer shall offer a portable breath test or chemical test to any person who the officer has reason to believe operated a vehicle that was involved in a fatal accident or an accident involving serious bodily injury.” Elsewhere, serious bodily injury is defined in IC 35-31.5-2-292 as “bodily injury that creates a substantial risk of death or that causes: (1) serious permanent disfigurement; (2) unconsciousness; (3) extreme pain; (4) permanent or protracted loss or impairment of the function of a bodily member or organ; or (5) loss of a fetus.” However, ARIES personal injury classifications for drivers do not include an exactly equivalent category (incapacitating injury is the closest), so it is difficult to precisely identify collisions resulting in “serious bodily injury.” Testing rates in this report are presented only for drivers in fatal collisions.

Alcohol-impaired fatalities, by person type

In 2020, drivers represented 72% of all fatalities in alcohol-impaired collisions in Indiana. Among the 124 individuals killed in alcohol-impaired collisions that year, 89 were drivers, 25 were passengers, and 10 were pedestrians (Figure 3). No pedalcyclists or animal-drawn vehicle operators died in alcohol-impaired crashes.

Figure 3. Indiana traffic fatalities in alcohol-impaired collisions, by person type, 2020



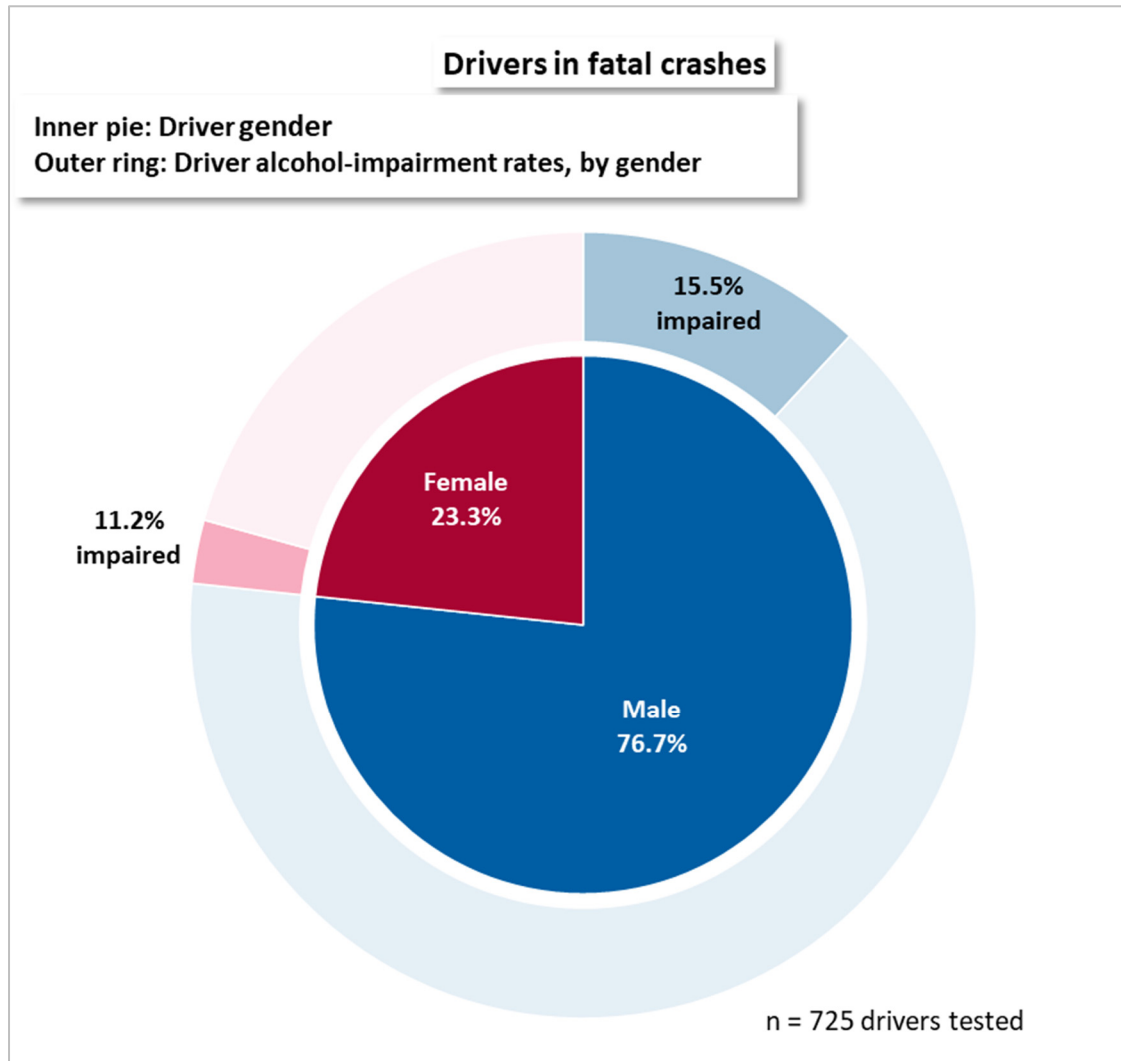
Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Note: No animal-drawn vehicle operators were killed in 2019 alcohol-impaired collisions.

Alcohol-impairment, by driver gender and age

According to the NHTSA, male drivers are consistently more likely to engage in risky driving behaviors than female drivers, including impaired driving. Figure 4 shows that 77% of all drivers in fatal collisions in 2020 were male, compared to 23% who were female. However, reported rates of alcohol impairment among drivers in fatal crashes with reported BAC results were somewhat more similar among the two groups— 16% of males were alcohol-impaired compared to 11% of females.

Figure 4. Alcohol impairment among drivers in Indiana fatal collisions, by gender, 2020



Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Notes:

- 1) Alcohol-impaired includes drivers with a reported BAC of 0.08 g/dL or higher.
- 2) Limited to drivers tested for blood alcohol content with valid BAC results reported.

From 2016 to 2020, rates of alcohol-impaired drivers per 100,000 licensed drivers varied by age and gender (Table 3). Certain gender-age categories exhibited comparatively higher impairment rates than others. Males reflected a greater risk of being legally impaired in collisions than females; in each of the five years, males were about three-to-four times more likely to be impaired than females in all collisions (calculated from Table 3). The age groups most at risk of alcohol impairment in collisions were 21 to 24 years and 25 to 34 years. However, considering all collisions, driver impairment rates have been generally decreasing since 2016 among most age groups. Alcohol impairment in fatal collisions was also highest among male drivers aged 21 to 24. Impairment rates in fatal collisions generally decrease with age.

Table 3. Rates of alcohol-impaired Indiana drivers per 100,000 licensed drivers, by age group and gender, 2016–20

All collisions

Age group	2016		2017		2018		2019		2020	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15–20	113.1	42.4	107.8	42.9	79.4	29.6	82.0	29.0	96.0	33.7
21–24	407.9	132.3	357.2	133.1	309.3	118.8	310.8	107.0	244.8	99.5
25–34	271.5	99.7	270.3	105.1	243.9	93.0	214.1	95.8	202.7	77.2
35–44	198.1	69.6	171.8	68.1	151.9	67.7	152.9	69.3	127.3	55.2
45–54	145.6	45.4	132.4	50.5	117.3	38.2	107.8	47.2	96.2	34.1
55–64	92.4	24.1	93.3	27.7	81.9	24.8	73.5	25.4	73.5	18.4
65+	27.5	5.3	38.5	1.6	27.7	5.7	26.0	4.6	24.3	2.5
All drivers	161.2	52.3	152.5	53.7	131.3	47.4	122.9	48.4	110.8	39.0

Fatal collisions

Age group	2016		2017		2018		2019		2020	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15–20	4.0	0.6	1.7	0.0	2.3	0.6	1.7	0.0	2.9	0.0
21–24	13.8	3.2	11.1	0.7	3.9	1.3	8.5	3.3	4.0	3.3
25–34	4.9	1.0	8.1	1.9	6.0	3.9	5.5	1.3	5.2	1.8
35–44	4.2	0.8	6.0	1.7	5.3	0.3	5.8	0.5	4.0	0.5
45–54	2.6	1.3	4.2	0.3	4.3	0.3	5.1	1.3	4.6	0.8
55–64	2.3	0.2	2.3	0.0	1.5	0.7	2.8	0.0	3.1	0.2
65+	0.3	0.0	1.0	0.0	0.7	0.0	1.4	0.4	0.9	0.0
All drivers	3.7	0.8	4.6	0.7	3.4	1.0	4.1	0.8	3.4	0.8

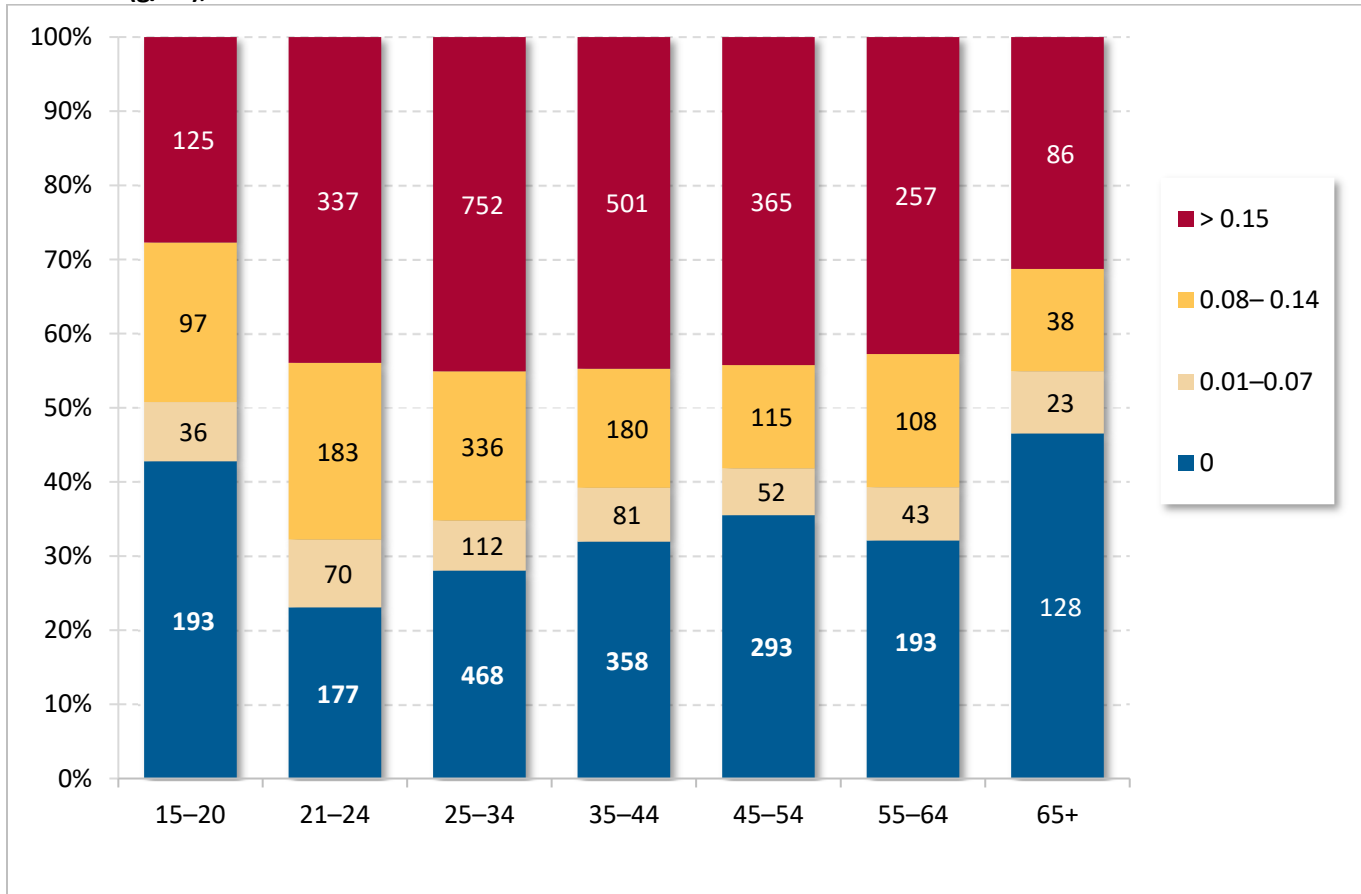


Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Note: Excludes drivers with unknown gender, unknown age, or age under 15 years.

Figure 5 shows the 2020 counts and proportions of drivers with ARIES-reported BAC results in Indiana collisions, based on age and BAC level. The first age category is drivers 15–20 years old, for whom any positive BAC level is illegal; more than half of these underage drivers had (non-zero) BAC levels. Slightly more than 75% of drivers aged 21 to 24 years also had non-zero BAC levels. In terms of legal impairment (i.e., 0.08 BAC or more), the youngest and oldest driver age categories had the lowest rates in comparison to the middle age groups. For example, 68% of drivers aged 21 to 24 years and 61% of drivers between 25 and 44 years of age had BACs of 0.08 or greater (calculated from Figure 4). Another way of viewing the reported BAC results is that, for all but the youngest and oldest age groups, if a collision-involved driver is found to have been drinking at all (i.e., non-zero BAC), their reported BAC was more likely to be in excess of the legal impairment floor (i.e., 0.08 g/dL and above).

Figure 5. Drivers with reported blood alcohol content (BAC) results in Indiana collisions, by driver age and BAC level (g/dL), 2020



Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Notes:

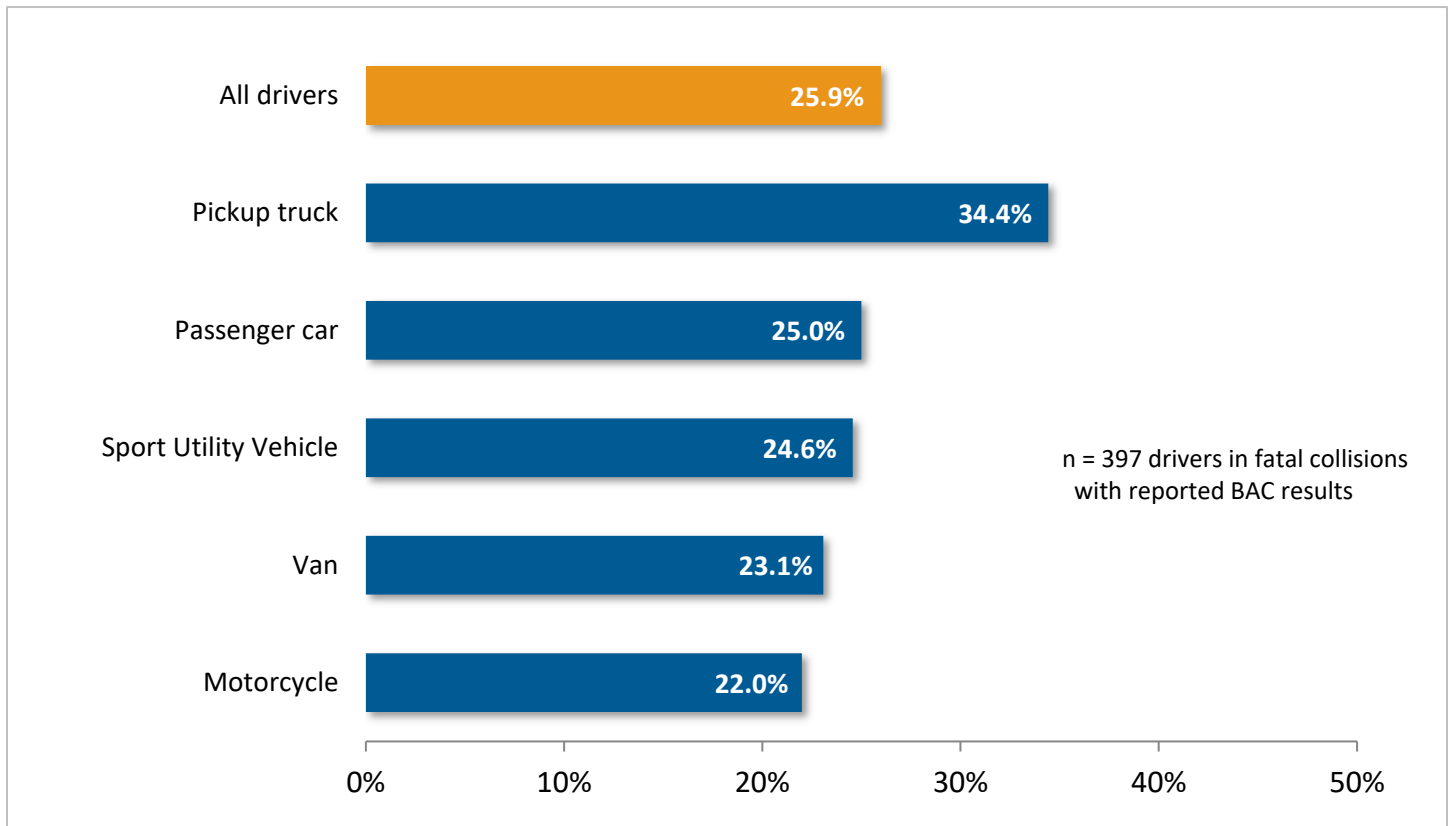
- 1) Excludes cases with unknown age, age under 15 years, and unreported BAC.
- 2) There may be more than one impaired-driver involved in a single alcohol-impaired collision.
- 3) Includes drivers of all vehicle types.

Vehicles in alcohol-impaired collisions

Rates of driver alcohol impairment based on reported BAC test results vary by vehicle type, specifically motorcycles, sport utility vehicles (SUV), and passenger cars. Figure 6 shows the percentage of drivers in 2020 fatal collisions who were legally impaired. Pickup truck and passenger car drivers had the highest rates of alcohol-impaired driving in 2020, at 34% and 25%, respectively.

The relative risk of fatal injury was higher for pickup trucks and SUVs when the crash involved one or more drivers who were legally impaired (Table 4). In 2020, people in pickup trucks were nearly 14 times more likely to die when the crash involved an alcohol-impaired driver. SUV occupants involved in alcohol-impaired collisions were nearly 11 times more likely to be killed than occupants in non-impaired collisions.

Figure 6. Drivers involved in fatal collisions with reported BAC results who were legally impaired, by vehicle type, 2020



Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Notes:

- 1) Includes only passenger vehicles (passenger cars, pickup trucks, sport utility vehicles, and vans) and motorcycles. Non-motorists and other vehicle types are excluded.
- 2) Motorcycles include motorcycles, Class A and Class B motor driven cycles, mopeds, and motorized bicycles.
- 3) Excludes drivers in fatal collisions who were not tested or for whom no reported BAC results appeared in ARIES.

Table 4. Drivers involved in Indiana collisions, by vehicle type, alcohol involvement, and injury status, 2020

Collision alcohol involvement and injury status	Passenger cars		Pickup trucks		SUVs		Vans		Motorcycles	
	Count	% total	Count	% total	Count	% total	Count	% total	Count	% total
Not alcohol-impaired (NA)	168,277	100%	28,271	100%	35,920	100%	9,261	100%	2,623	100%
Fatal	254	0.2%	52	0.2%	58	0.2%	12	0.1%	118	4.5%
Incapacitating	7,430	4.4%	944	3.3%	1,554	4.3%	385	4.2%	1,161	44.3%
Non-incapacitating	10,882	6.5%	1,459	5.2%	2,462	6.9%	529	5.7%	544	20.7%
No injury	149,711	89.0%	25,816	91.3%	31,846	88.7%	8,335	90.0%	800	30.5%
Alcohol-impaired (A)	2,552	100%	585	100%	499	100%	87	100%	74	100%
Fatal	35	1.4%	15	2.6%	9	1.8%	1	1.1%	12	16.2%
Incapacitating	239	9.4%	73	12.5%	58	11.6%	9	10.3%	29	39.2%
Non-incapacitating	254	10.0%	63	10.8%	53	10.6%	5	5.7%	13	17.6%
No injury	2,024	79.3%	434	74.2%	379	76.0%	72	82.8%	20	27.0%
Relative risk of fatal injury	9.1		13.9		11.2		8.9		3.6	

Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

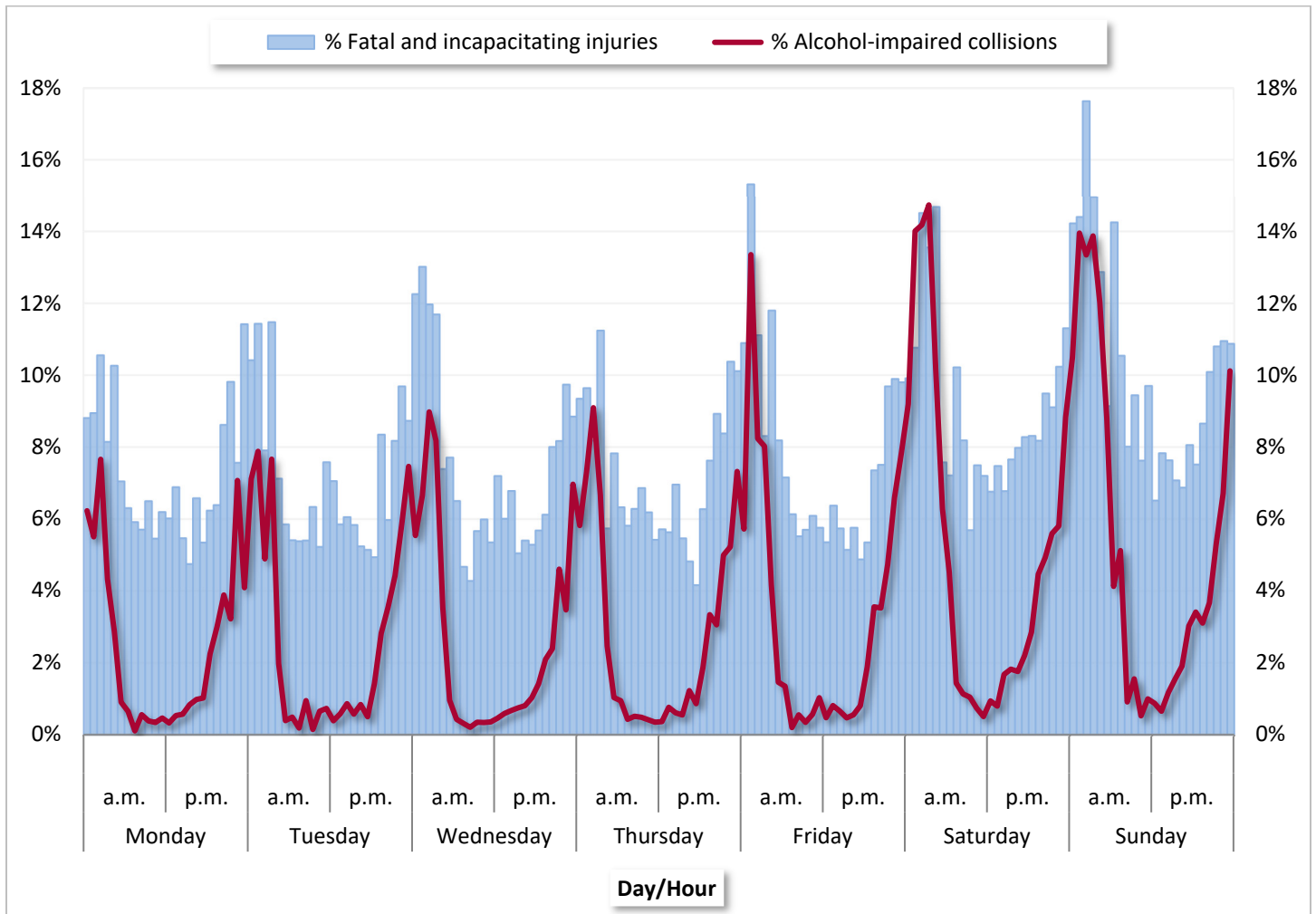
Notes:

- 1) Alcohol-impaired collisions are defined as collisions that involved at least one driver with a BAC of 0.08 g/dL or greater.
- 2) Relative risk of fatal injury is calculated as % A / % NA. All relative risk ratios are significant (p<0.01). Excludes null values.
- 3) Non-incapacitating injuries include those injuries reported as non-incapacitating, possible, not reported, unknown, and refused (treatment).
- 4) Motorcycles includes motorcycles, Class A and Class B motor-driven cycles, and motorized bicycles.

Alcohol-impaired driving and time of day

In 2020, the highest percentage of hourly fatal and incapacitating injuries happened most often between the hours of midnight and 4 a.m. (Figure 7). The highest hourly rates of alcohol-impaired crashes as well as fatal and incapacitating injuries Saturdays and Sundays between 2–4 a.m.

Figure 7. Fatal and incapacitating injuries in collisions in Indiana, by alcohol-involvement, hour and day of week, 2020



Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Notes:

- 1) Fatal/incapacitating injury rate is the percentage of all hourly injuries in collisions reported as fatal or incapacitating.
- 2) Alcohol-impaired collision rate is the percentage of all hourly collisions that involved one or more alcohol-impaired drivers.

Definitions

- **Alcohol-impaired:** The National Highway Traffic Safety Administration (NHTSA) defines drivers as being alcohol-impaired when they test for a blood alcohol concentration (BAC) of at least 0.08 grams per deciliter (g/dL). Any fatal crash involving a driver at that BAC level is categorized as an alcohol impaired-driving crash, thus any fatalities that happen in a crash that meets that criterion is deemed an alcohol-impaired fatality (NHTSA DOT HS 812 917, 2020, p. 1). By law, drivers in Indiana who have a BAC of at least 0.08 g/dL should receive—at minimum—a Class C misdemeanor (IC9-30-5-1). Indiana Code also says that drivers with BAC of at least 0.15 g/dL should receive a Class A misdemeanor (IC9-30-5-1). If the driver had a passenger under the age of 18 in the vehicle, they could face a Class D felony. 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, or 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 2016 to 2020, it is calculated as $(\text{value in 2020}/\text{value in 2016})^{1/4} - 1$.

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Indiana Bureau of Motor Vehicles, current as of May 14, 2021.