

DANGEROUS DRIVING 2020

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In 2020:

- Of the 175,821 collisions that occurred in Indiana, 20,936 involved one or more dangerous driving actions—aggressive driving, disregarding a signal, or speeding.
- Dangerous driving collisions accounted for 12% of all crashes.
- Twenty-nine percent (261 of 896) of Indiana traffic fatalities occurred in dangerous driving crashes.
- Among age groups by gender, young male drivers ages 15 to 20 were most likely to be involved in dangerous driving crashes

A dangerous driving collision is defined as any collision when a driver takes one or more of the following actions: aggressive driving, disregarding a signal, or speeding. These driver actions contribute to the likelihood of a crashes occurring and are overrepresented in fatal collisions. In 2020, 20,936 Indiana collisions involved one or more dangerous driving behaviors. This is a substantial reduction from 2019. Statewide, dangerous driving collisions accounted for 12% of all crashes in 2020 (Figure 1). Care should be taken in interpreting the reduction in dangerous driving collisions as total collisions also was reduced substantially likely because of the reduction in driving trips due to the pandemic.

This fact sheet summarizes dangerous driving crash trends injury severity, age, gender, alcohol impairment., and geography. These analyses use data extracted from the Indiana State Police Automated Reporting Information Exchange System (ARIES) as of March 29, 2021. A list of definitions, references, and data sources is provided at the end of this document.

The pandemic and traffic safety in 2020

The COVID-19 pandemic affected a 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:

National Center for Statistics and Analysis. (2021a, (revised)). Early estimates of motor vehicle traffic fatalities and fatality rate by sub-categories in 2020 (Crash•Stats Brief Statistical Summary. Report No. DOT HS 813 118). National Highway Traffic Safety Administration.

National Center for Statistics and Analysis. (2021b). Early estimate of motor vehicle traffic fatalities in 2020 (Crash•Stats Brief Statistical Summary. Report No. DOT HS 813 115). National Highway Traffic Safety Administration.

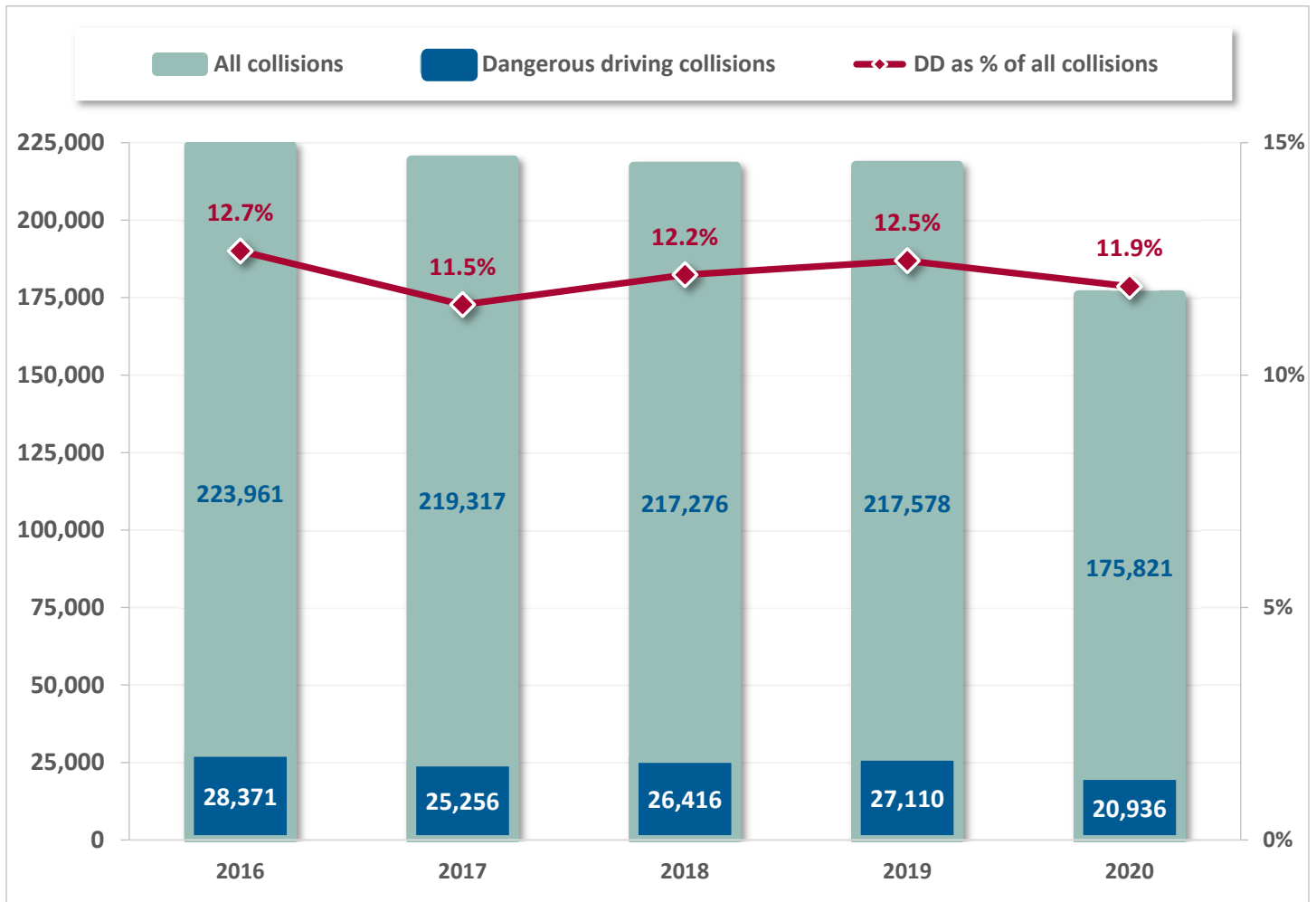
Office of Behavioral Safety Research. (2021, June). Update to special reports on traffic safety during the COVID-19 public health emergency: Fourth quarter data (Report No. DOT HS 813 135). National Highway Traffic Safety Administration.

General trends

Twenty-nine percent (233 of 808) of fatal collisions in 2020 involved dangerous driving. The number of fatal collisions involving dangerous driving increased 9% from 2019 to 2020 after having decreased between 2018 and 2019. The proportion of fatal collisions involving dangerous driving to all fatal collisions also was higher in 2020 than in 2019 (Table 1). Aggressive driving and the disregard of a signal were reported in 28% and 17% of fatal dangerous driving collisions, respectively (calculated from Table 1).

Among all 2020 collisions, 3% involved aggressive driving, 2% involved a driver disregarding a signal, and 9% involved speeding. Speeding was reported in 72% of dangerous driving collisions.

Figure 1. Indiana collisions that involve dangerous driving behaviors, 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

Table 1. Indiana collisions, by dangerous driving involvement and collision severity, 2016–20

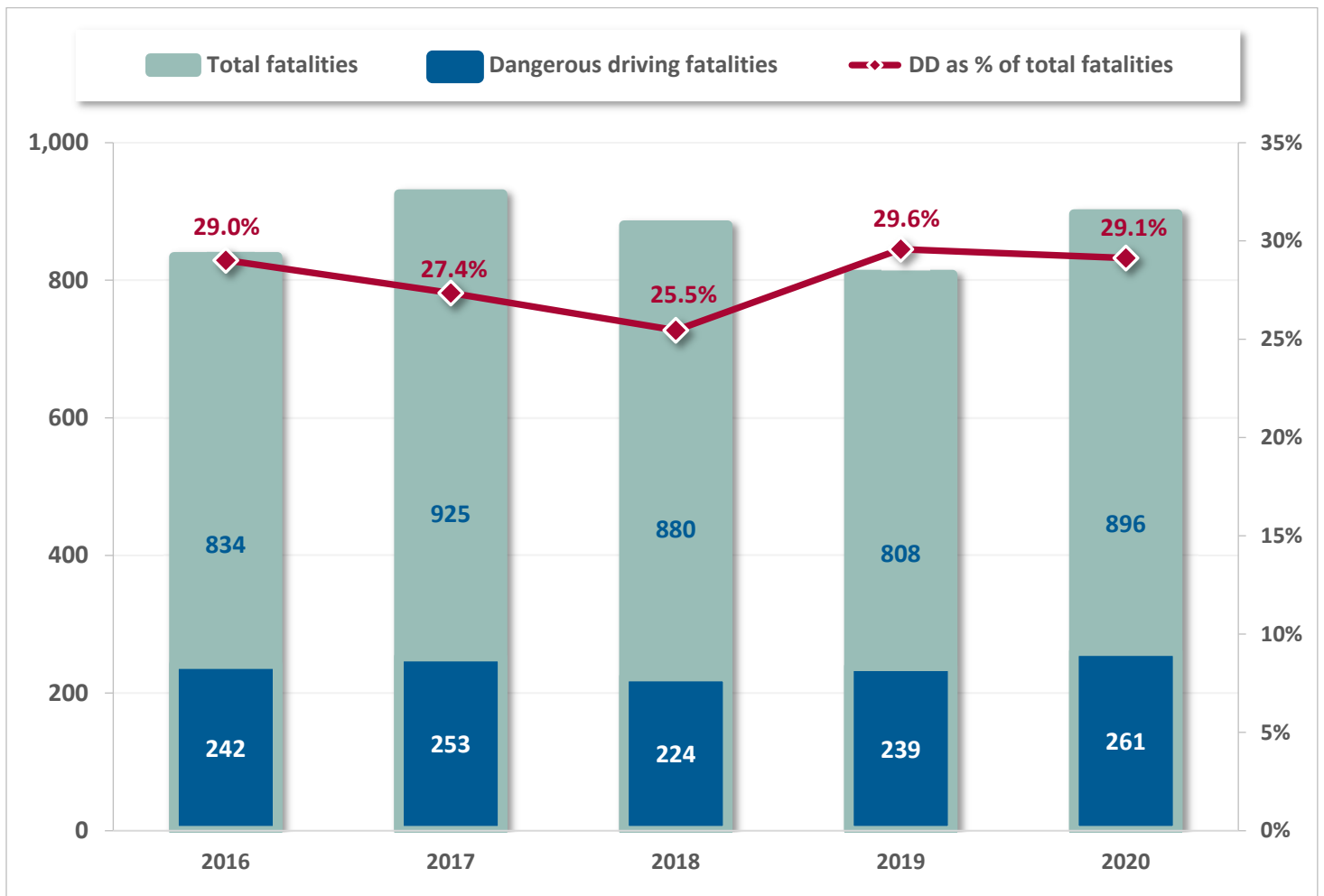
						Annual rate of change	
	2016	2017	2018	2019	2020	2019–20	2016–20
Total collisions	223,961	219,317	217,276	217,578	175,821	-19.2%	-5.9%
Fatal	781	848	795	748	808	8.0%	0.9%
Nonfatal injury	35,337	34,226	32,412	31,213	26,303	-15.7%	-7.1%
Property damage	187,843	184,243	184,069	185,617	148,710	-19.9%	-5.7%
All dangerous driving collisions	28,371	25,256	26,416	27,110	20,936	-22.8%	-7.3%
Fatal	224	225	199	212	233	9.9%	1.0%
Nonfatal injury	6,730	6,390	6,205	6,112	5,054	-17.3%	-6.9%
Property damage	21,417	18,641	20,012	20,786	15,649	-24.7%	-7.5%
Dangerous driving as % of total	12.7%	11.5%	12.2%	12.5%	11.9%	-4.4%	-1.5%
Fatal	28.7%	26.5%	25.0%	28.3%	28.8%	1.7%	0.1%
Nonfatal injury	19.0%	18.7%	19.1%	19.6%	19.2%	-1.9%	0.2%
Property damage	11.4%	10.1%	10.9%	11.2%	10.5%	-6.0%	-2.0%
Aggressive	6,776	6,455	6,709	7,188	5,833	-18.9%	-3.7%
Fatal	40	65	47	54	67	24.1%	13.8%
Nonfatal injury	1,669	1,724	1,632	1,726	1,507	-12.7%	-2.5%
Property damage	5,067	4,666	5,030	5,408	4,259	-21.2%	-4.2%
Disregard signal	4,439	4,276	4,112	3,900	3,627	-7.0%	-4.9%
Fatal	18	23	22	20	19	-5.0%	1.4%
Nonfatal injury	1,612	1,565	1,480	1,428	1,313	-8.1%	-5.0%
Property damage	2,809	2,688	2,610	2,452	2,295	-6.4%	-4.9%
Speed	21,224	18,338	19,623	20,207	15,033	-25.6%	-8.3%
Fatal	200	190	162	190	205	7.9%	0.6%
Nonfatal injury	4,595	4,237	4,186	4,085	3,303	-19.1%	-7.9%
Property damage	16,429	13,911	15,275	15,932	11,525	-27.7%	-8.5%

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: Dangerous driving categories are not mutually exclusive. All dangerous driving may not equal total of individual categories

All injuries (fatal and nonfatal) and nonfatal injuries in dangerous driving crashes declined from 2019 to 2020. During this same period, the number of people killed in dangerous driving collisions increased from 64 in 2019 to 79 in 2020—a five-year high (Figure 2). The number of fatalities increased in collisions involving speeding and aggressive driving, while fatalities declined slightly in crashes in which the driving disregarded a signal. In 2020, dangerous driving fatalities made up 29% of all fatalities (Table 2). This represents a smaller percentage than in 2019 because there were more overall fatalities in 2020.

Figure 2. Fatal injuries in Indiana collisions by dangerous driving involvement, 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

Table 2. Injuries in Indiana collisions, by dangerous driving involvement and injury status, 2016–20

	2016	2017	2018	2019	2020	Annual rate of change	
						2019–20	2016–20
Total injuries in all collisions	53,451	51,840	49,186	47,145	39,809	-15.6%	-7.1%
Fatal	834	925	880	808	896	10.9%	1.8%
Nonfatal	52,617	50,915	48,306	46,337	38,913	-16.0%	-7.3%
Injuries in all dangerous driving collisions	10,794	10,369	10,048	9,794	8,114	-17.2%	-6.9%
Fatal	242	253	224	239	261	9.2%	1.9%
Nonfatal	10,552	10,116	9,824	9,555	7,853	-17.8%	-7.1%
Dangerous driving as % of total	20.2%	20.0%	20.4%	20.8%	20.4%	-1.9%	0.2%
Fatal	29.0%	27.4%	25.5%	29.6%	29.1%	-1.5%	0.1%
Nonfatal	20.1%	19.9%	20.3%	20.6%	20.2%	-2.1%	0.2%
Aggressive	2,958	3,124	2,860	2,961	2,666	-10.0%	-2.6%
Fatal	45	76	55	64	79	23.4%	15.1%
Nonfatal	2,913	3,048	2,805	2,897	2,587	-10.7%	-2.9%
Disregard signal	2,711	2,681	2,510	2,472	2,205	-10.8%	-5.0%
Fatal	18	25	23	24	20	-16.7%	2.7%
Nonfatal	2,693	2,656	2,487	2,448	2,185	-10.7%	-5.1%
Speed	7,203	6,645	6,641	6,335	5,176	-18.3%	-7.9%
Fatal	216	213	183	213	231	8.5%	1.7%
Nonfatal	6,987	6,432	6,458	6,122	4,945	-19.2%	-8.3%


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

Note: Dangerous driving categories are not mutually exclusive. All dangerous driving may not equal total of individual categories.

Driver age and gender

Dangerous driving behavior can be linked to both the age and gender of drivers. Data from 2016–20 shows consistently that drivers are less likely to engage in dangerous driving behaviors as they age. Male drivers under age 25 are most likely to engage in dangerous driving. Young female drivers in these age cohorts also were most likely to engage in dangerous driving among female drivers. However, young female drivers were less likely than young male drivers. In 2020, 12% of male drivers and 8% of female drivers under age 25 were involved in crashes and identified as engaging in dangerous driving behaviors (Table 3).

Table 3. Proportion of drivers engaged in dangerous driving behaviors in Indiana collisions, by age group and gender, 2016–20



Age group	2016		2017		2018		2019		2020	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15–20	13.6%	9.7%	12.3%	8.9%	12.3%	8.9%	13.2%	9.6%	12.9%	8.7%
21–24	11.5%	8.0%	10.2%	7.3%	10.9%	7.3%	11.2%	8.4%	10.5%	7.3%
25–34	9.1%	6.4%	7.8%	5.5%	9.1%	5.5%	9.1%	6.3%	8.4%	5.9%
35–44	6.8%	4.9%	6.0%	4.5%	6.8%	4.5%	6.9%	5.1%	6.3%	4.5%
45–54	5.2%	4.0%	4.6%	3.5%	5.2%	3.5%	5.4%	3.8%	5.0%	3.6%
55–64	4.1%	3.1%	3.8%	3.0%	4.2%	3.0%	4.7%	3.4%	4.0%	2.9%
65–74	3.5%	2.9%	3.3%	2.6%	3.5%	2.6%	3.9%	3.3%	3.3%	2.9%
75+	3.7%	3.1%	3.4%	2.8%	3.7%	2.8%	4.0%	3.1%	3.3%	3.1%
All ages	7.7%	5.7%	6.8%	5.1%	7.4%	5.5%	7.7%	5.7%	7.2%	5.2%

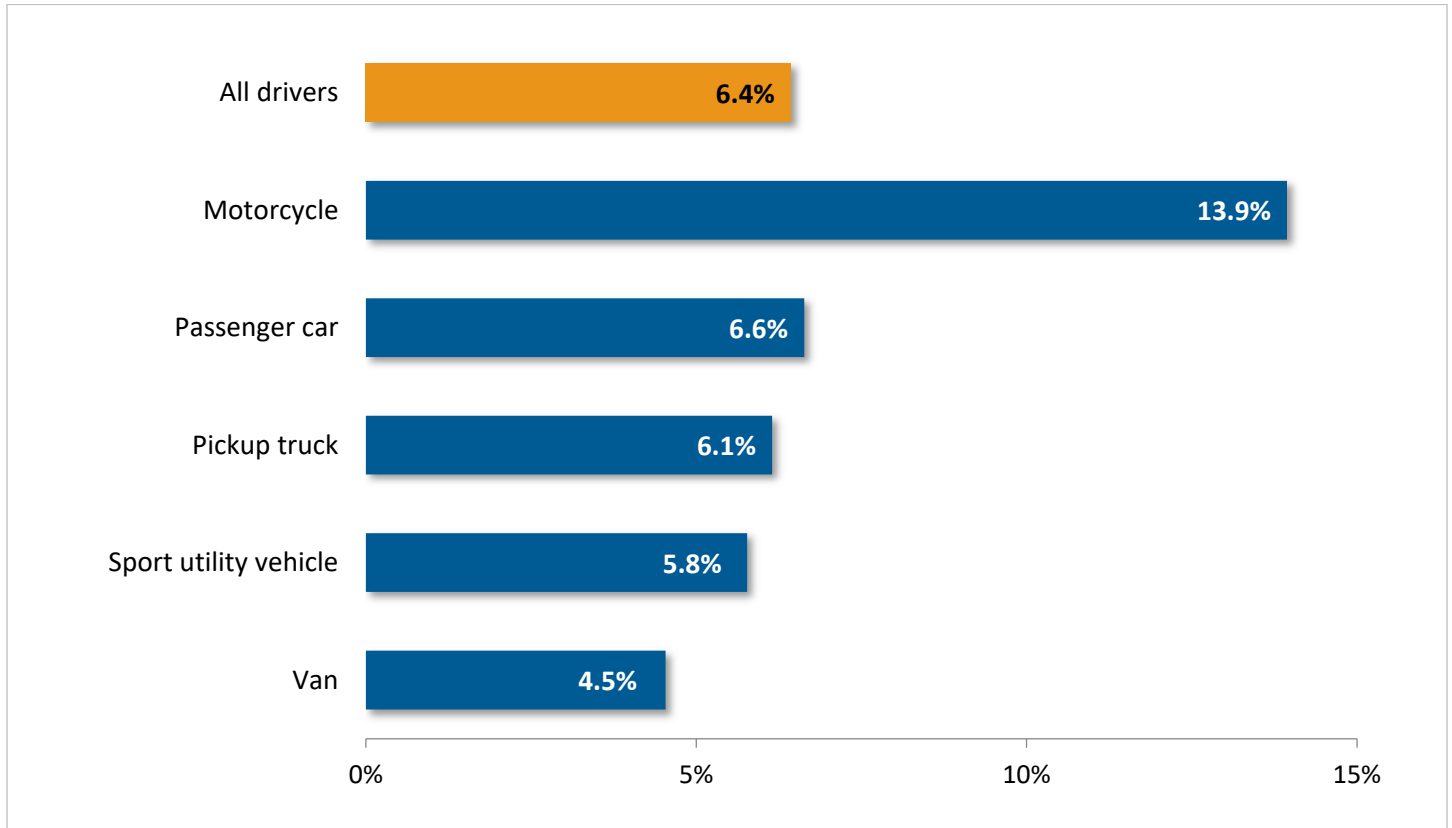
Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Note: Data limited to drivers with valid gender and age reported.

Vehicle type

Figure 3 shows the proportion of drivers engaged in dangerous driving behaviors by vehicle type. Among drivers in 2020 crashes, motorcycle operators (14 percent) had the highest percentage of dangerous driving. Six percent of all drivers involved in collisions had engaged in dangerous driving behaviors.

Figure 3. Percentage of drivers engaged in dangerous driving behaviors in Indiana collisions, 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

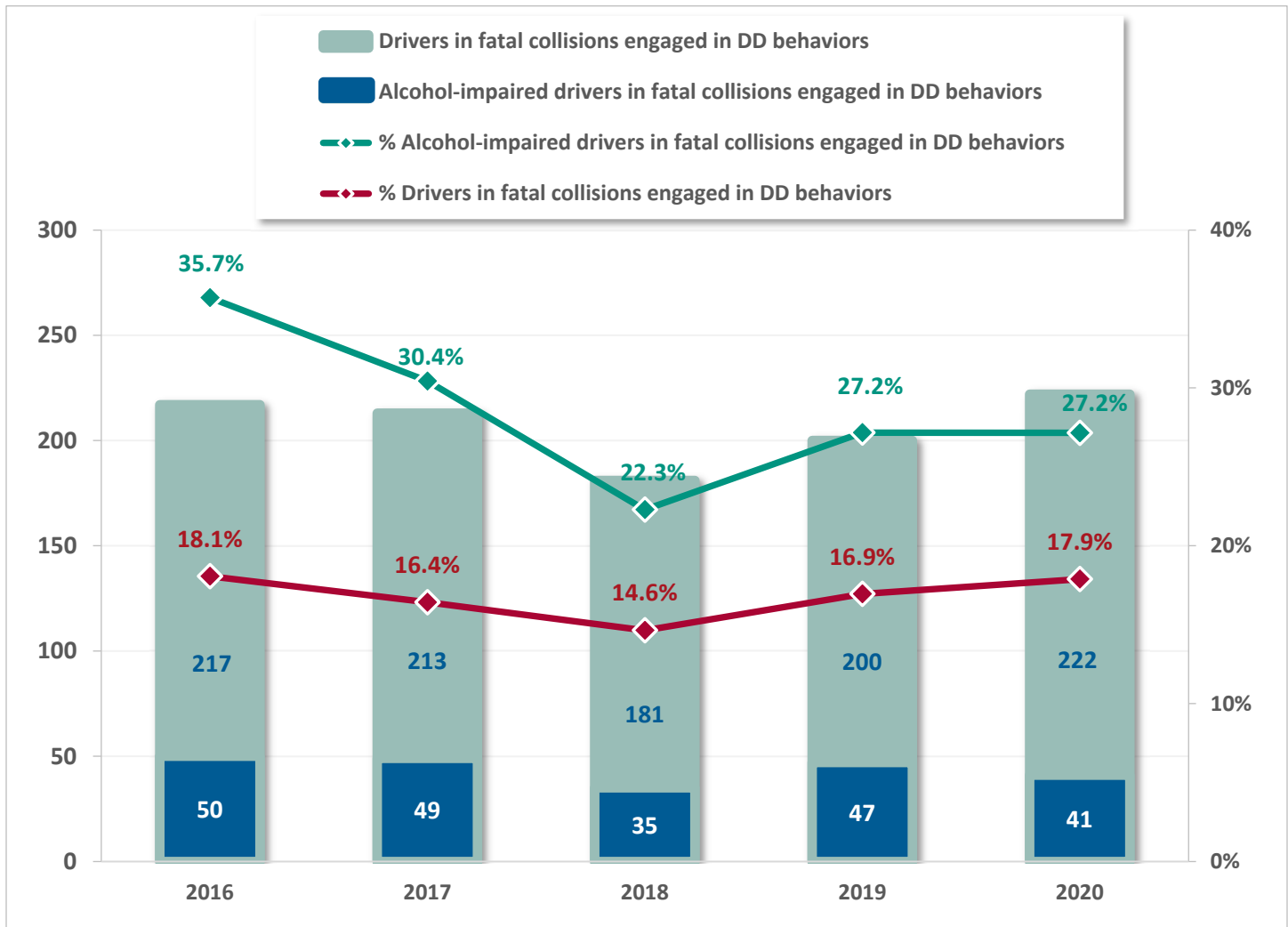
Notes:

- 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.

Impaired driving

Figure 4 shows drivers who were in fatal collisions, alcohol-impaired, and engaged in dangerous driving behaviors. In 2020, 41 alcohol-impaired drivers were in fatal crashes linked to dangerous driving, less than in all of the last five years except 2018 and less than the five-year average (44.4). In 2020, 27% of alcohol-impaired drivers in fatal crashes engaged in dangerous driving behaviors, compared to 18% of all drivers in fatal collisions who also were linked to dangerous driving. Between 2018 and 2020, the percentage of alcohol impaired drivers in fatal collisions who engage in dangerous driving behaviors was on average 54% higher than the percentage of all drivers in fatal collisions who also engage in these behaviors (calculated from Figure 4). This reflects a substantial drop in the difference between these measures in 2016 and 2017.

Figure 4. Drivers in Indiana fatal collisions by dangerous driving involvement and alcohol impairment, 2016–20



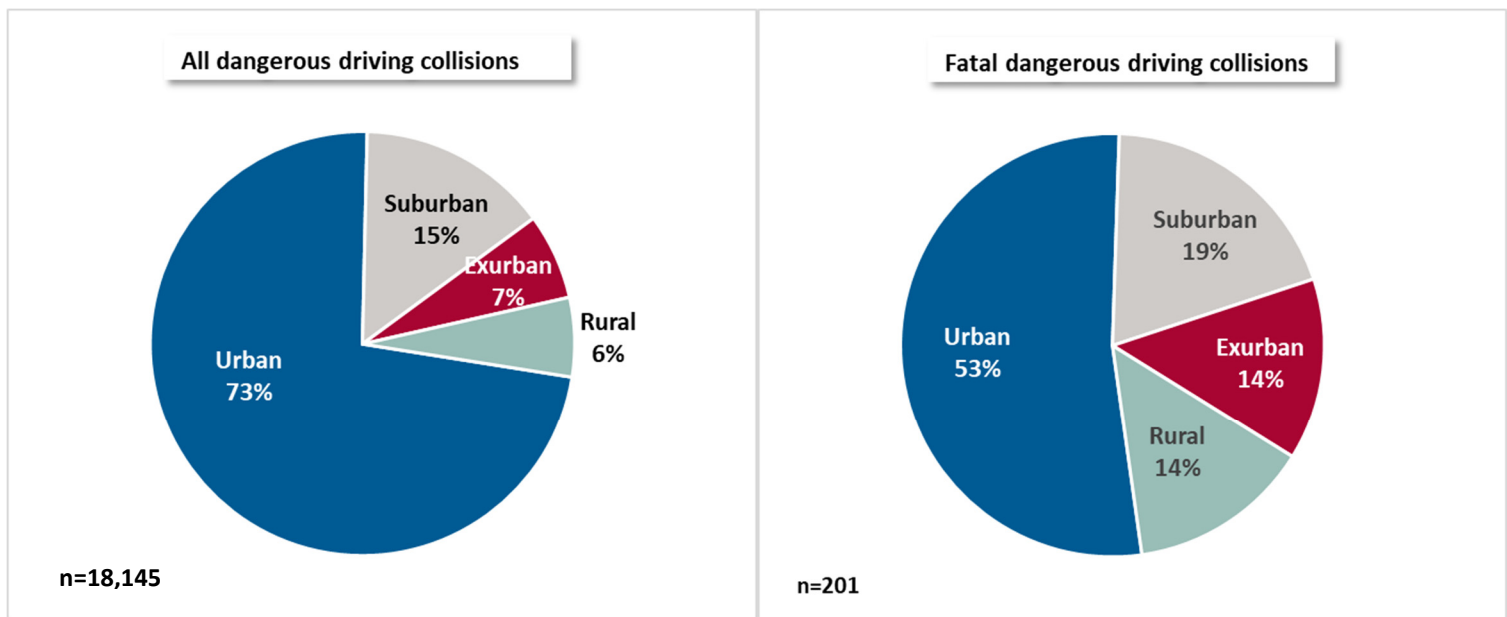
Source: Analysis provided by the Indiana University Public Policy using data downloaded from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 29, 2021

Geography

Seventy percent of dangerous driving collisions occur in urban areas with 30 percent occurring outside urban areas. The mix by location type for fatal dangerous driving crashes is different. Slightly more than half of fatal dangerous driving collisions occur in urban areas, while 47% occurred outside urban areas (Figure 5). The percentages of fatal collisions in both exurban and rural areas were more than twice the percentages of all dangerous driving collisions in those geographic areas.

The northern one-third of the state—defined by ICJI Traffic Safety Division Service Regions 1 and 2—had a higher percentage of dangerous driving collisions (13%) than the counties in the central (12%) and southern regions (9%). Among individual counties, Lake County located in the northwest Indiana and Pike County located in southwest Indiana had the highest percentage of dangerous driving collisions (19 percent each) (Map 1 on Page 11). The median percentage among counties was 9.3% and the mean percentage was 9.8%.

Figure 5. Indiana dangerous driving collisions by census locale and injury severity, 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: Excludes collisions with unknown census locale.

Definitions

- **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 $(\text{value in 2020} / \text{value in 2016})^{1/4} - 1$.
- **Census locale:** urban is defined as Census 2000 Urban Areas (2007–2009) or Census 2010 Urban Areas (2010–2011). Suburban is defined as areas within 2.5 miles of urban boundaries, exurban as areas within 2.5 miles of suburban boundaries, and rural as areas beyond exurban boundaries (i.e., everything else).
- **Dangerous driving:** In this fact sheet, this term applies when a driver takes any of the below actions in a collision.
 - Aggressive driving: The investigating officer of a crash determines that a driver was engaged in at least two of the following actions: unsafe speed; speed too fast for weather conditions; failing to yield right of way; disregarding a traffic signal/sign; improper passing/turning/lane usage; or following too closely. Indiana Code IC 9-21-8-55 takes this definition further by requiring three or more of these and similar actions to be considered an aggressive-driving violation.
 - Disregarding a traffic signal: a driver was involved in a collision at an intersection of two or more roads and disregarded a traffic signal/sign.
 - Speeding: a driver was issued a speeding citation, driving at an unsafe speed, or driving too fast for weather conditions, and the action(s) was listed as a contributing factor to the collision. Indiana Code 9-21-5-1 delineates this action from the legal perspective.
- **Nonfatal:** crashes are given this label when they involve no fatalities but at least one incapacitating, non-incapacitating, or possible injury.
- **Nonfatal injuries:** these injuries include those in the incapacitating, non-incapacitating, possible, not reported, and refused (treatment) injury categories.

Data source

Indiana State Police. Automated Reporting Information Exchange System (ARIES), downloaded on March 29, 2021.