INDIANA TRAFFIC SAFETY FACTS

SEPT. 2020 • ISSUE 20-C06

DANGEROUS DRIVING 2019

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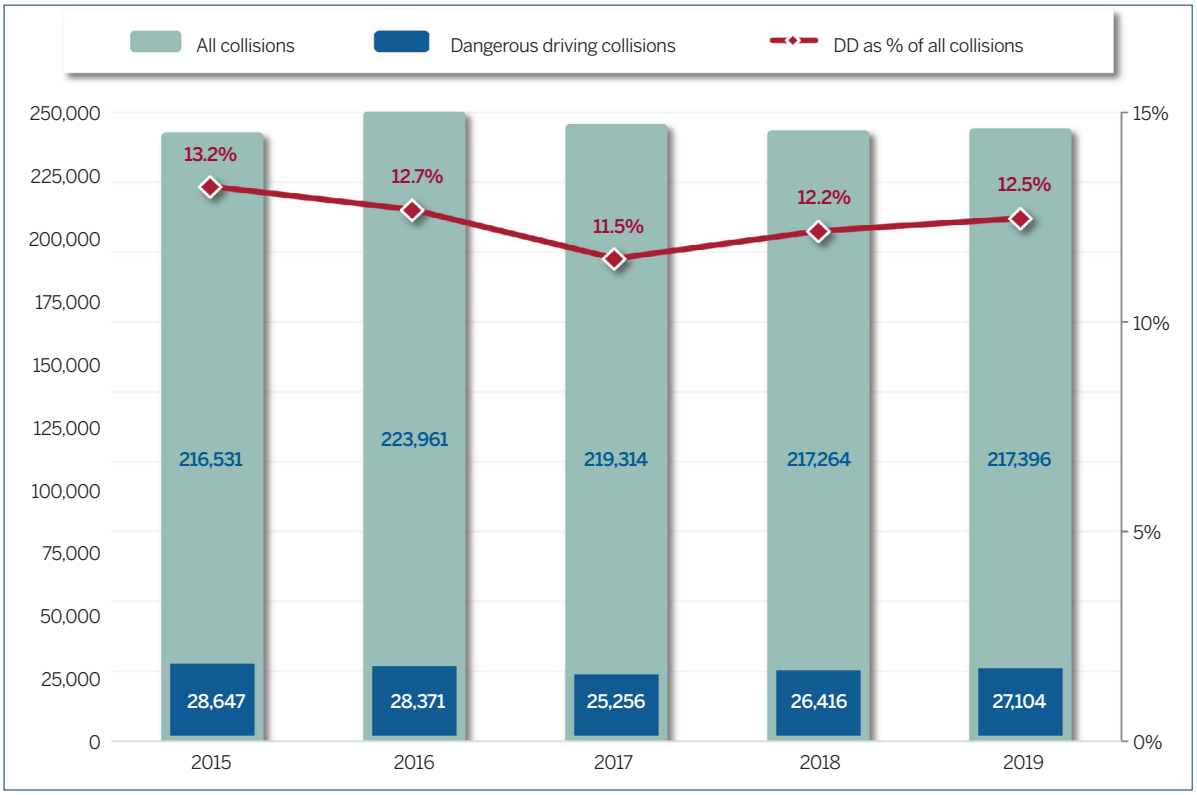
A dangerous driving collision is defined as any collision where a driver takes one or more of the following actions: aggressive driving, disregarding a signal, or speeding. A list of definitions, references, and data sources is provided on the last page of this report. These driver actions contribute to the likelihood of a crash occurring and are overrepresented in fatal collisions. In 2019, 27,104 crashes involved dangerous driving, a slight increase from 2018 (Figure 1). Statewide, dangerous driving collisions accounted for 12 percent of all crashes in 2019.

This fact sheet summarizes dangerous driving crash data trends in Indiana related to injury severity, age, gender, alcohol impairment, and geography. Indiana collision data are collected by Indiana State Police officers and submitted to the Automated Reporting Information Exchange System (ARIES). ARIES data analyzed in this report were extracted March 17, 2020 and June 15, 2020 (2018 and 2019 impaired driving data).

Figure 1. Indiana collisions that involve dangerous driving behaviors, 2015–2019



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020

In 2019:

- **Of the 217,396 traffic collisions that occurred in Indiana, 27,104 involved one or more driver actions defined as dangerous driving, a 3 percent increase from 2018.**
- **Dangerous driving collisions accounted for 12 percent of all crashes.**
- **Thirty percent (236 of 800) of Indiana traffic fatalities occurred in dangerous driving collisions.**
- **Young male drivers, ages 15 to 20, represented the highest percentage of drivers in crashes who were engaged in dangerous driving behaviors.**

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GENERAL TRENDS

As shown in Table 1, 28 percent (210 of 739) of all fatal collisions in Indiana in 2019 involved dangerous driving, with the number of fatal dangerous driving collisions increasing 6 percent from the previous year. When looking closer at specific dangerous driving actions, 3 percent of 2019 collisions involved aggressive driving, and 2 percent involved a driver disregarding a signal. Nine percent of all collisions involved speeding. Twenty-five percent of all fatal collisions involved speeding (calculated from Table 1).

All fatal and nonfatal injuries in dangerous driving crashes declined slightly from 2018, dropping from 10,048 to 9,797. The number of people killed in dangerous driving collisions rose from 224 in 2018 to 236 in 2019 (Figure 2).The percentage of all traffic fatalities that occurred in dangerous driving collisions increased from 26 percent to 30 percent. The number of fatalities increased in both aggressive driving and speeding collisions, but remained the same in collisions where the driver disregarded a signal (Table 2).

The percentage of all traffic fatalities that occurred in dangerous driving collisions increased from 26 percent in 2018 to 30 percent in 2019.

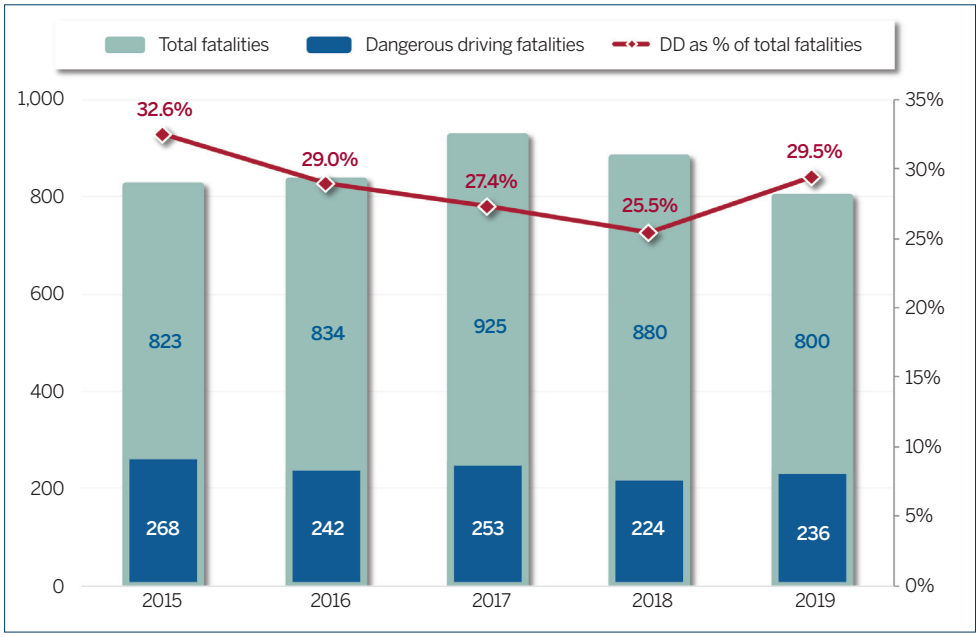
Table 1. Indiana collisions, by dangerous driving involvement and collision severity, 2015–2019

Dangerous driving type / collision severity	Count of collisions					Annual rate of change	
	2015	2016	2017	2018	2019	2018–19	2015–19
Total collisions	**216,531**	**223,961**	**219,314**	**217,264**	**217,396**	**0.1%**	**0.1%**
Fatal	758	781	848	795	739	-7.0%	-0.6%
Nonfatal injury	34,466	35,337	34,224	32,411	31,194	-3.8%	-2.5%
Property damage	181,307	187,843	184,242	184,058	185,463	0.8%	0.6%
All dangerous driving collisions	**28,647**	**28,371**	**25,256**	**26,416**	**27,104**	**2.6%**	**-1.4%**
Fatal	240	224	225	199	210	5.5%	-3.3%
Nonfatal injury	6,707	6,730	6,390	6,205	6,114	-1.5%	-2.3%
Property damage	21,700	21,417	18,641	20,012	20,780	3.8%	-1.1%
Dangerous driving as % of total	**13.2%**	**12.7%**	**11.5%**	**12.2%**	**12.5%**	**2.5%**	**-1.5%**
Fatal	31.7%	28.7%	26.5%	25.0%	28.4%	13.5%	-2.7%
Nonfatal injury	19.5%	19.0%	18.7%	19.1%	19.6%	2.4%	0.2
Property damage	12.0%	11.4%	10.1%	10.9%	11.2%	3.1%	-1.6%
Aggressive	**6,355**	**6,776**	**6,455**	**6,709**	**7,186**	**7.1%**	**3.1%**
Fatal	61	40	65	47	53	12.8%	-3.5%
Nonfatal injury	1,568	1,669	1,724	1,632	1,726	5.8%	2.4%
Property damage	4,726	5,067	4,666	5,030	5,407	7.5%	3.4%
Disregard signal	**4,319**	**4,439**	**4,276**	**4,112**	**3,900**	**-5.2%**	**-2.5%**
Fatal	20	18	23	22	19	-13.6%	-1.3%
Nonfatal injury	1,557	1,612	1,565	1,480	1,429	-3.4%	-2.1%
Property damage	2,742	2,809	2,688	2,610	2,452	-6.1%	-2.8%
Speed	**22,020**	**21,224**	**18,338**	**19,623**	**20,201**	**2.9%**	**-2.1%**
Fatal	205	200	190	162	188	16.0%	-2.1%
Nonfatal injury	4,709	4,595	4,237	4,186	4,086	-2.4%	-3.5%
Property damage	17,106	16,429	13,911	15,275	15,927	4.3%	-1.8%

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020

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

Figure 2. Fatal injuries in Indiana collisions by dangerous driving involvement, 2015–2019



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020

In 2019, 30% of traffic fatalities occurred in dangerous driving collisions.

Table 2. Injuries in Indiana collisions, by dangerous driving involvement and injury status, 2015–2019

Dangerous driving type/ injury status	Count of injuries					Annual rate of change	
	2015	2016	2017	2018	2019	2018–19	2015–19
Total injuries in all collisions	**49,320**	**52,292**	**53,452**	**51,839**	**49,144**	**-5.2%**	**-0.1%**
Fatal	823	834	925	880	800	-9.1%	-0.7%
Nonfatal	51,469	52,617	50,915	48,306	46,310	-4.1%	-2.6%
All dangerous driving collisions	**10,973**	**10,794**	**10,369**	**10,048**	**9,797**	**-2.5%**	**-2.8%**
Fatal	268	242	253	224	236	5.4%	-3.1%
Nonfatal	10,705	10,552	10,116	9,824	9,561	-2.7%	-2.8%
Dangerous driving as % of total	**22.2%**	**20.6%**	**19.4%**	**19.4%**	**19.9%**	**2.8%**	**-2.7%**
Fatal	32.6%	29.0%	27.4%	25.5%	29.5%	15.9%	-2.4%
Nonfatal	20.8%	20.1%	19.9%	20.3%	20.6%	1.5%	-0.2%
Aggressive	**2,818**	**2,958**	**3,124**	**2,860**	**2,956**	**3.4%**	**1.2%**
Fatal	67	45	76	55	63	14.5%	-1.5%
Nonfatal	2,751	2,913	3,048	2,805	2,893	3.1%	1.3%
Disregard signal	**2,735**	**2,711**	**2,681**	**2,510**	**2,468**	**-1.7%**	**-2.5%**
Fatal	23	18	25	23	23	0.0%	0.0%
Nonfatal	2,712	2,693	2,656	2,487	2,445	-1.7%	-2.6%
Speed	**7,490**	**7,203**	**6,645**	**6,641**	**6,337**	**-4.6%**	**-4.1%**
Fatal	229	216	213	183	210	14.8%	-2.1%
Nonfatal	7,261	6,987	6,432	6,458	6,127	-5.1%	-4.2%

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020

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 age and gender of vehicle operators. Data from 2015-2019 shows that drivers are less likely to engage in dangerous driving behavior as they age (Table 3). Young drivers consistently account for a disproportionately high share of risky driving behaviors in crashes. Male drivers under the age of 25 consistently represented the highest proportion of drivers in crashes that police linked to dangerous driving. Young female drivers in these age cohorts also were most likely to engage in dangerous driving behaviors among female drivers. However, the proportion is lower than for young male drivers. In 2019, 13 percent of male drivers and 9 percent of female drivers ages 15 to 20 who were involved in crashes were also driving dangerously.

Table 3. Proportion of drivers engaged in dangerous driving behaviors in Indiana collisions, by age group and gender, 2015–2019

	2015		2016		2017		2018		2019	
Age group	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15–20	14.3%	10.0%	13.6%	9.7%	12.3%	8.9%	12.3%	9.4%	13.2%	9.6%
21–24	12.4%	8.6%	11.5%	8.0%	10.2%	7.3%	10.9%	8.0%	11.2%	8.4%
25–34	9.6%	6.8%	9.1%	6.4%	7.8%	5.5%	9.1%	6.4%	9.1%	6.3%
35–44	7.0%	5.0%	6.8%	4.9%	6.0%	4.5%	6.8%	4.6%	7.0%	5.1%
45–54	5.8%	4.4%	5.2%	4.0%	4.6%	3.5%	5.2%	3.7%	5.4%	3.8%
55–64	4.8%	3.6%	4.1%	3.1%	3.8%	3.0%	4.2%	3.2%	4.7%	3.4%
65–74	4.1%	2.9%	3.5%	2.9%	3.3%	2.6%	3.5%	2.9%	4.0%	3.3%
75+	3.8%	3.0%	3.7%	3.1%	3.4%	2.8%	3.7%	2.9%	4.0%	3.1%
All ages	**8.3%**	**6.1%**	**7.7%**	**5.7%**	**6.8%**	**5.1%**	**7.4%**	**5.5%**	**7.7%**	**5.7%**

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020

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

Male drivers under the age of 25 consistently represented the highest proportion of drivers in crashes that police linked to dangerous driving.

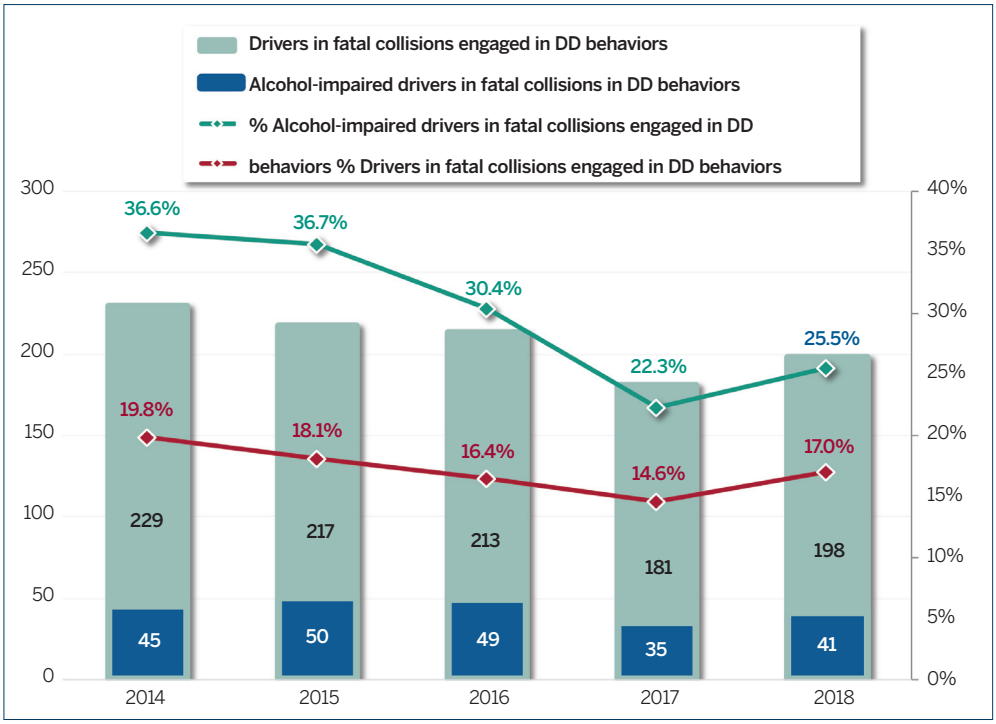
IMPAIRED DRIVING

Between 2015 and 2019, the percentage of drivers engaged in risky driving behaviors related to fatal crashes was consistently disproportionately high in crashes involving alcohol (Figure 3). During that same period—on average—30 percent of alcohol-impaired drivers involved in fatal crashes were engaged in dangerous driving behaviors, compared to 17 percent among all drivers in fatal collisions. In 2019, over 25 percent of alcohol-impaired drivers in fatal crashes were driving dangerously, compared to 17 percent of all drivers in fatal collisions linked to dangerous driving.

GEOGRAPHY OF DANGEROUS DRIVING IN INDIANA

Generally, fatal dangerous driving collisions are more likely to happen outside of urban areas (Figure 4). While 70 percent of all dangerous driving collisions occurred in urban areas, only 51 percent of fatal dangerous driving collisions happened within these areas. The proportion of fatal dangerous driving crashes in rural areas (16 percent) was more than double that of all dangerous driving crashes (7 percent).

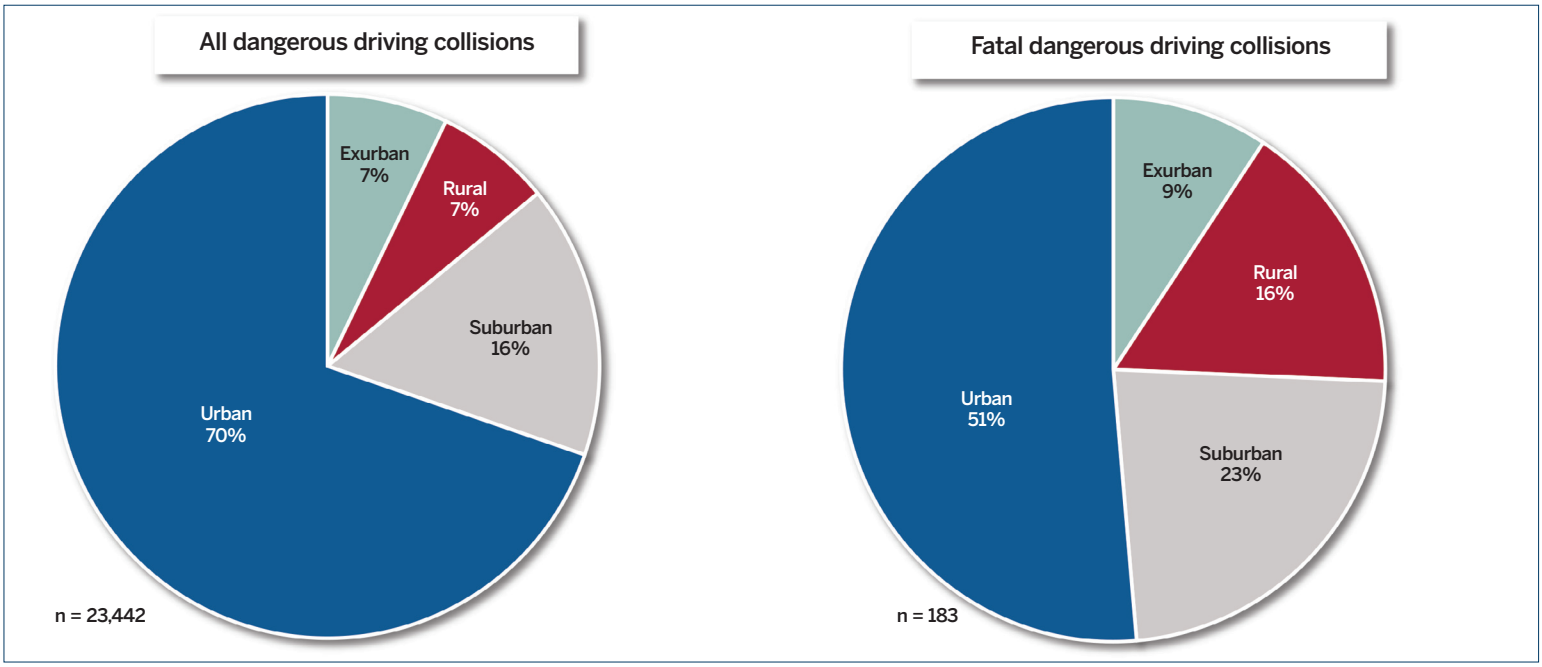
Figure 3. Drivers in Indiana fatal collisions by dangerous driving involvement and alcohol impairment, 2015–2019



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020 and June 15, 2020 (2018 and 2019 BAC results)

Map 1 on page 7 shows the percentage of county collisions that involved dangerous driving in 2019. The map illustrates clusters of counties with the highest dangerous driving collision rates located in the northern half of the state. Tipton County, located in north central Indiana, had the highest percentage of dangerous driving collisions (19 percent), while more than 75 percent of counties with the lowest percentage of dangerous driving collisions were located in the southern half of the state. The median rate of county dangerous driving collisions was 10.1 percent, and the mean rate was 10.7 percent.

Figure 4. Indiana dangerous driving collisions by census locale and injury severity, 2019

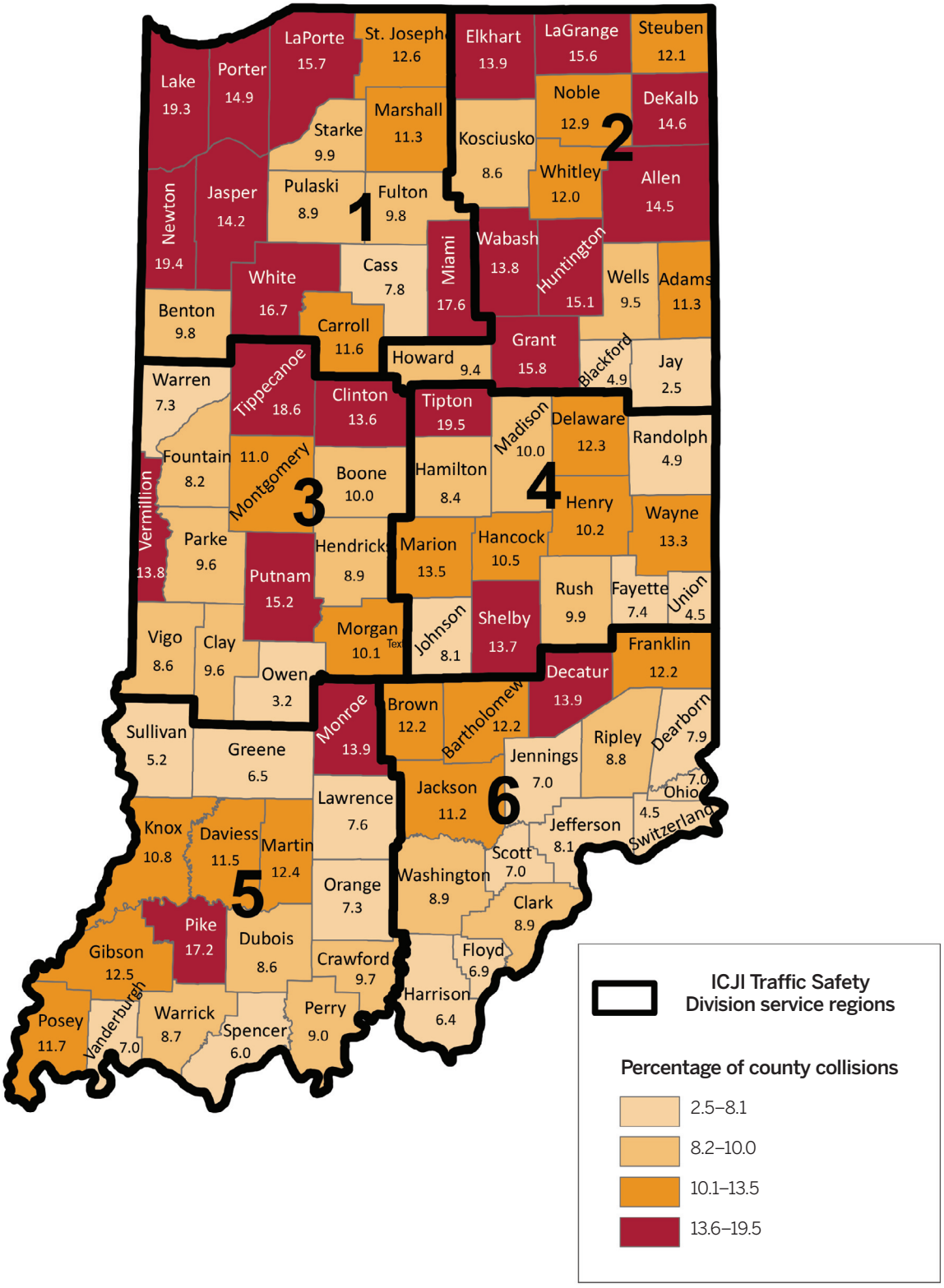


Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020

Note: Excludes collisions with unknown census locale.

Map 1. Percentage of county collisions that involved dangerous driving behavior, by county and ICJI Traffic Safety Division service regions, 2019

Median percent = 10.1
Mean percent = 10.7
n = 27,104 dangerous driving collisions



\Source: Indiana State Police Automated Reporting Information Exchange System, March 17, 2020

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 2015 to 2019, it is calculated as (value in 2019 / value in 2015)$^{1}/_{4}$ – 1.
- **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 SOURCES

Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2020 and June 15, 2020 (2018 and 2019 impaired driving data).

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 publications that 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 traffic safety research project site (http://trafficsafety.iupui.edu), the ICJI website (www.in.gov/cji/), or you may contact the PPI at 317-278-1305.

Traffic Safety Project

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 collaborates each year with the Indiana Criminal Justice Institute to analyze vehicle crash data from the Automated Reporting Information Exchange System (ARIES), maintained by the Indiana State Police. This marks the thirteenth year of this partnership. Research findings are summarized in a series of publications on various aspects of traffic collisions, including alcohol-related crashes, commercial vehicles, dangerous driving, child passenger safety, motorcycles, occupant protection, and drivers. An additional publication provides detailed information on county and municipality data. 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. Crash reports for all Indiana collisions are entered electronically through ARIES. Collisions trends 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. 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. If you have questions regarding trends or unexpected results, please contact the Indiana Criminal Justice Institute, Traffic Safety Division for more information.

Indiana University Public Policy Institute

The Indiana University Public Policy Institute produces unbiased, high-quality research, analyses and policy guidance to promote positive change and improve the quality of life in communities across Indiana and the nation. Our clients use our research to enhance their programs and services, to develop strategies and policies, to evaluate the impact of their decisions—and ultimately to help the people they serve. Established in 1992, PPI is part of the IU O'Neill School of Public and Environmental Affairs.

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 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.

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