



DANGEROUS DRIVING 2018

APRIL 2019 • ISSUE 19-C17

In 2018:

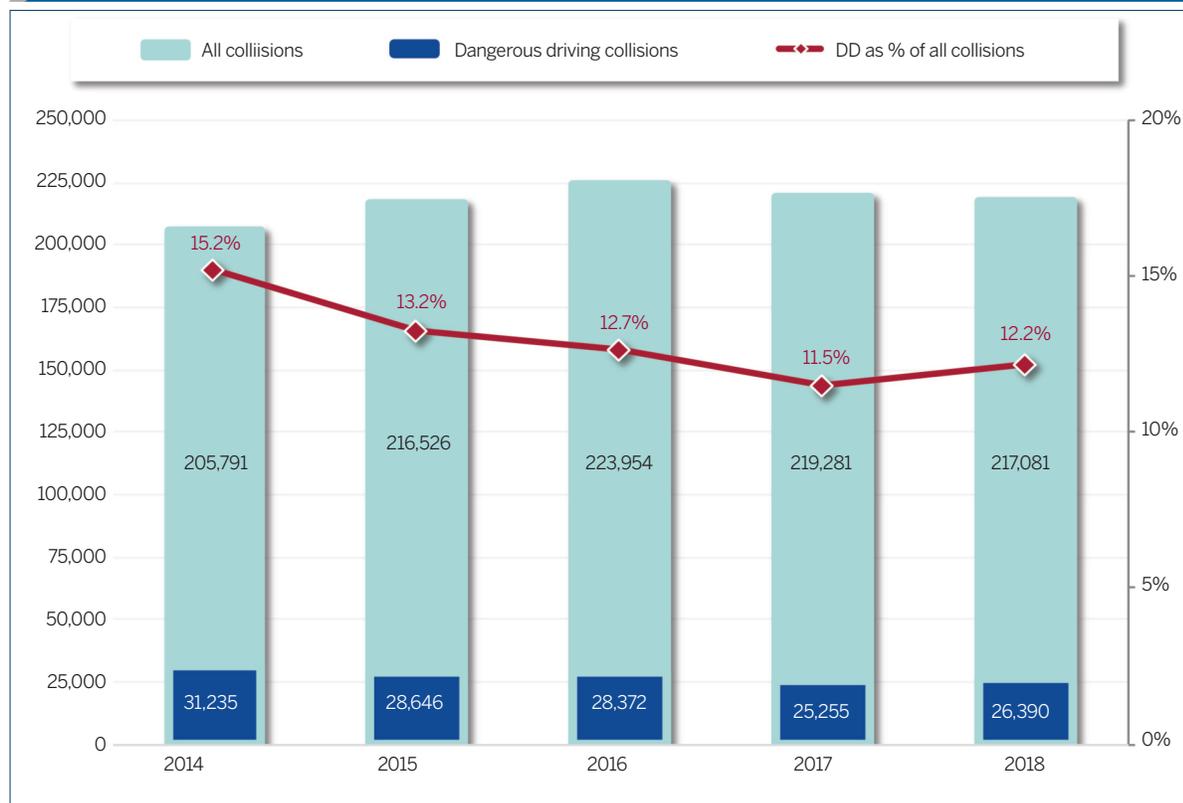
- Of the 217,081 traffic collisions that occurred in Indiana, 26,390 involved one or more driver actions defined as dangerous driving, a 4 percent increase from 2017.
- One-quarter (222 of 873) of Indiana traffic fatalities occurred in dangerous driving collisions.
- Young male drivers, ages 15 to 20, represented the highest percentage of drivers in crashes who were engaged in dangerous driving behaviors.

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 2018, 26,390 crashes involved dangerous driving, a slight increase from 2017

(Figure 1). Statewide, dangerous driving collisions accounted for 12 percent of all crashes in 2018.

This fact sheet summarizes dangerous driving crash data trends in Indiana related to injury severity, age, gender, alcohol impairment, and geography. Collision data comes from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019.

Figure 1. Indiana collisions that involve dangerous driving behaviors, 2014–2018



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019

In partnership with:



GENERAL TRENDS

One-quarter (197 of 789) of all fatal collisions in Indiana in 2018 involved dangerous driving (Table 1), but the number of fatal dangerous driving collisions decreased 11 percent from the previous year. When looking closer at specific dangerous driving actions, 3 percent of 2018 collisions involved aggressive driving, and 2 percent involved a driver disregarding a signal. Nine percent of all collisions involved speeding, while 20 percent of all fatal collisions involved speeding (calculated from Table 1).

The percentage of all traffic fatalities that occurred in dangerous driving collisions dropped from 27 percent in 2017 to 25 percent in 2018. The number of people killed in these collisions also fell from 249 to 222 in 2018 (Figure 2). Fatalities decreased in both aggressive driving and speeding collisions but remained the same in collisions where the driver disregarded a signal. All fatal and nonfatal injuries in dangerous driving crashes declined slightly from 2017, dropping from 10,369 to 10,031 (Table 2).

Table 1. Indiana collisions, by dangerous driving involvement and collision severity, 2014–2018

Dangerous driving type / collision severity	Count of collisions					Annual rate of change	
	2014	2015	2016	2017	2018	2017-18	2014-18
Total collisions	205,791	216,526	223,954	219,281	217,081	-1.0%	1.3%
Fatal	704	752	776	836	789	-5.6%	2.9%
Nonfatal injury	33,864	34,472	35,342	34,234	32,383	-5.4%	-1.1%
Property damage	171,223	181,302	187,836	184,211	183,909	-0.2%	1.8%
All dangerous driving collisions	31,235	28,646	28,372	25,255	26,390	4.5%	-4.1%
Fatal	209	239	228	221	197	-10.9%	-1.5%
Nonfatal injury	7,116	6,708	6,726	6,394	6,197	-3.1%	-3.4%
Property damage	23,910	21,699	21,418	18,640	19,996	7.3%	-4.4%
Dangerous driving as % of total	15.2%	13.2%	12.7%	11.5%	12.2%	5.6%	-5.4%
Fatal	29.7%	31.8%	29.4%	26.4%	25.0%	-5.5%	-4.2%
Nonfatal injury	21.0%	19.5%	19.0%	18.7%	19.1%	2.5%	-2.3%
Property damage	14.0%	12.0%	11.4%	10.1%	10.9%	7.5%	-6.1%
Aggressive	6,217	6,355	6,776	6,454	6,702	3.8%	1.9%
Fatal	47	61	42	63	47	-25.4%	0.0%
Nonfatal injury	1,581	1,568	1,667	1,726	1,629	-5.6%	0.8%
Property damage	4,589	4,726	5,067	4,665	5,026	7.7%	2.3%
Disregard signal	4,200	4,319	4,439	4,276	4,109	-3.9%	-0.5%
Fatal	17	20	20	23	23	0.0%	7.8%
Nonfatal injury	1,541	1,557	1,610	1,565	1,478	-5.6%	-1.0%
Property damage	2,642	2,742	2,809	2,688	2,608	-3.0%	-0.3%
Speed	24,825	22,019	21,225	18,337	19,604	6.9%	-5.7%
Fatal	184	204	201	186	160	-14.0%	-3.4%
Nonfatal injury	5,126	4,710	4,594	4,241	4,181	-1.4%	-5.0%
Property damage	19,515	17,105	16,430	13,910	15,263	9.7%	-6.0%

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019

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, 2014–2018



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019

DRIVER AGE AND GENDER

Connections exist between dangerous driving behavior and a driver's age and gender. Data 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. Between 2014 and 2018, male drivers under the age of 25 consistently represented the highest proportion of drivers in crashes that police linked to dangerous driving. In 2017, 12 percent of male drivers and 9 percent of female drivers ages 15 to 20 who were involved in crashes were also driving dangerously.

Table 2. Injuries in Indiana collisions, by dangerous driving involvement and injury status, 2014–2018

Dangerous driving type/ injury status	Count of injuries					Annual rate of change	
	2014	2015	2016	2017	2018	2017-18	2014-18
Total injuries in all collisions	49,320	52,292	53,452	51,839	49,144	-5.2%	-0.1%
Fatal	745	817	829	913	873	-4.4%	4.0%
Nonfatal	48,575	51,475	52,623	50,926	48,271	-5.2%	-0.2%
All dangerous driving collisions	11,006	10,973	10,794	10,369	10,031	-3.3%	-2.3%
Fatal	230	267	246	249	222	-10.8%	-0.9%
Nonfatal	10,776	10,706	10,548	10,120	9,809	-3.1%	-2.3%
Dangerous driving as % of total	22.3%	21.0%	20.2%	20.0%	20.4%	2.0%	-2.2%
Fatal	30.9%	32.7%	29.7%	27.3%	25.4%	-6.8%	-4.7%
Nonfatal	22.2%	20.8%	20.0%	19.9%	20.3%	2.3%	-2.2%
Aggressive	2,638	2,818	2,958	3,124	2,857	-8.5%	2.0%
Fatal	54	67	47	74	55	-25.7%	0.5%
Nonfatal	2,584	2,751	2,911	3,050	2,802	-8.1%	2.0%
Disregard signal	2,577	2,735	2,711	2,681	2,511	-6.3%	-0.6%
Fatal	19	23	20	25	25	0.0%	7.1%
Nonfatal	2,558	2,712	2,691	2,656	2,486	-6.4%	-0.7%
Speed	7,708	7,490	7,203	6,645	6,629	-0.2%	-3.7%
Fatal	201	228	217	209	181	-13.4%	-2.6%
Nonfatal	7,507	7,262	6,986	6,436	6,448	0.2%	-3.7%

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019

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

Table 3. Proportion of drivers engaged in dangerous driving behaviors in Indiana collisions, by age group and gender, 2014–2018

Age group	2014		2015		2016		2017		2018	
	Male	Female								
15–20	14.9%	10.7%	14.0%	9.6%	13.3%	9.4%	12.1%	8.4%	12.2%	8.9%
21–24	13.5%	10.4%	12.3%	8.4%	11.4%	7.8%	10.2%	7.3%	10.8%	7.7%
25–34	11.6%	8.3%	9.5%	6.7%	9.0%	6.3%	7.8%	5.5%	9.0%	6.3%
35–44	8.3%	6.4%	6.9%	5.0%	6.8%	4.8%	5.9%	4.5%	6.8%	4.6%
45–54	7.0%	5.7%	5.8%	4.4%	5.3%	3.9%	4.6%	3.5%	5.2%	3.7%
55–64	6.0%	4.4%	4.8%	3.6%	4.2%	3.1%	3.8%	2.9%	4.2%	3.2%
65–74	4.6%	3.4%	4.1%	2.9%	3.5%	2.8%	3.4%	2.6%	3.5%	2.9%
75+	4.5%	3.4%	3.8%	3.1%	3.7%	3.1%	3.4%	2.8%	3.7%	2.9%
All ages	9.4%	7.2%	8.1%	5.9%	7.6%	5.6%	6.7%	5.0%	7.3%	5.4%



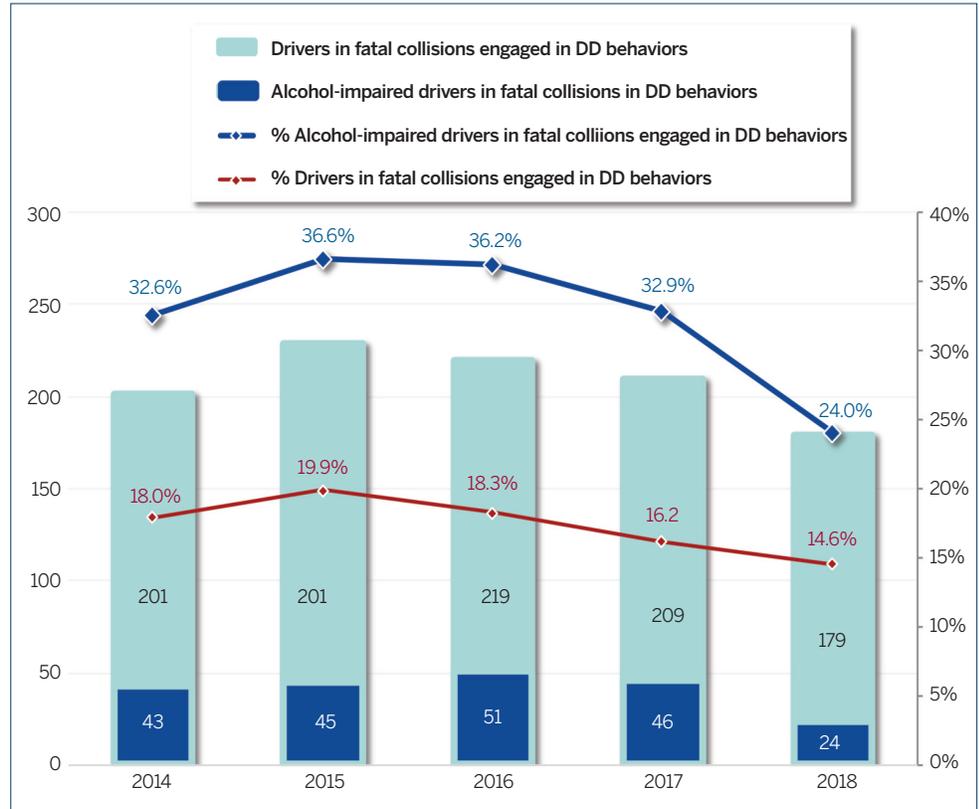
Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019

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

DRIVER ALCOHOL IMPAIRMENT

Between 2014 and 2018, 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—32 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. When looking specifically at alcohol-impaired drivers in fatal crashes in 2018, nearly 25 percent were driving dangerously. That's compared to 15 percent of all drivers in fatal collisions linked to dangerous driving that same year.

Figure 3. Drivers in Indiana fatal collisions by dangerous driving involvement and alcohol impairment, 2014–2018



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019

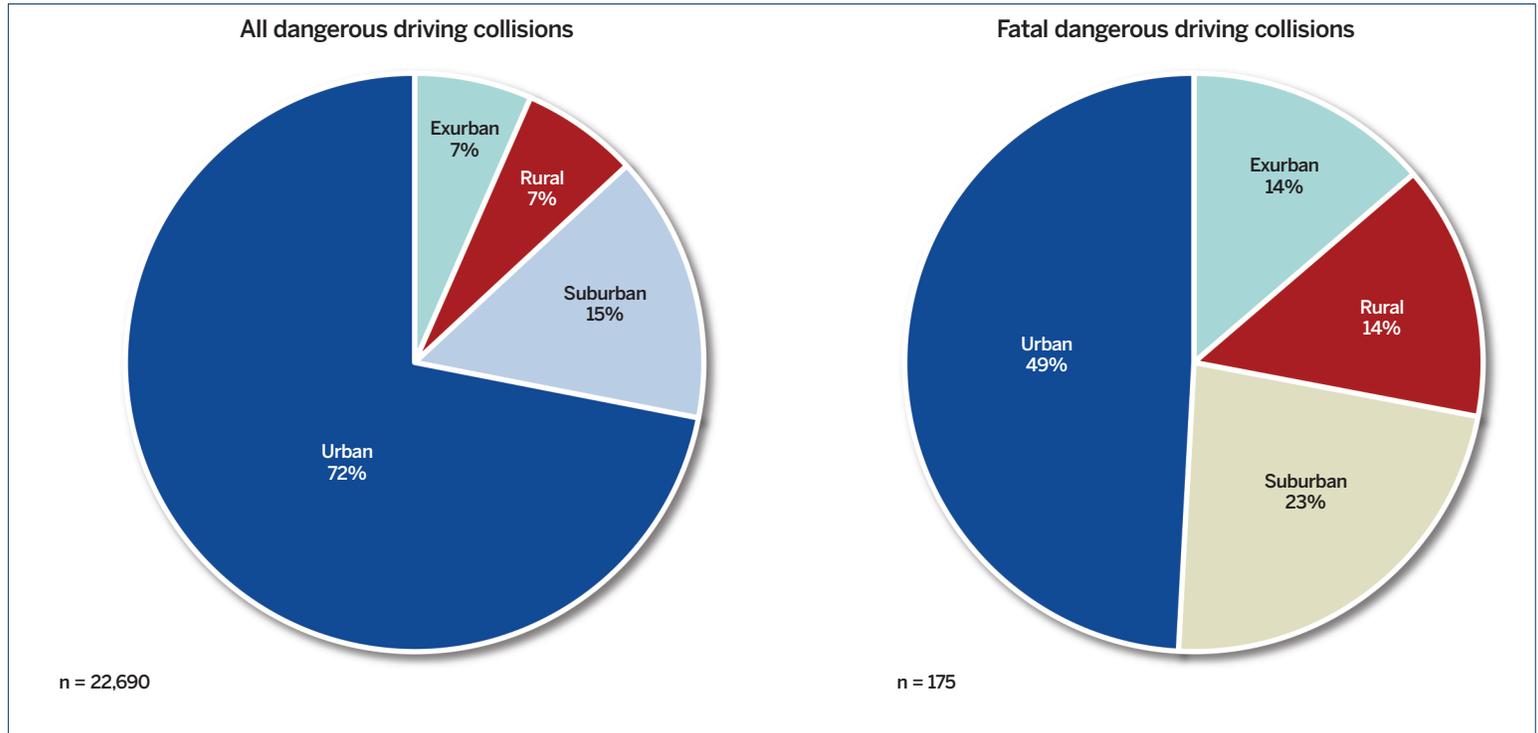
Note: Alcohol-impaired counts are current as of the March 18, 2019 ARIES data extract and are likely to increase as pending BAC test results are finalized and reported into the ARIES crash database; therefore, reported 2018 decreases should be interpreted with caution.

GEOGRAPHY OF DANGEROUS DRIVING IN INDIANA

Generally, dangerous driving collisions that involve one or more fatalities are more likely to happen outside of urban areas (Figure 4). While 72

percent of all dangerous driving collisions occurred in urban areas, only 49 percent of fatal dangerous driving collisions happened within urban census boundaries. The proportion of fatal dangerous driving crashes in rural areas (14 percent) was double that of all dangerous driving crashes (7 percent).

Figure 4. Indiana dangerous driving collisions by census locale and injury severity, 2018



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 18, 2019

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 2014 to 2018, it is calculated as $(\text{value in 2018} / \text{value in 2014})^{1/4} - 1$.

- **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 18, 2019.

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.



INDIANA UNIVERSITY
PUBLIC POLICY INSTITUTE



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 at IUPUI.

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.

Author: Dona Sapp Senior Policy Analyst