SEPTEMBER 2016 • ISSUE 16-C18

DANGEROUS DRIVING : 2015

INDIANA TRAFFIC SAFETY FACTS
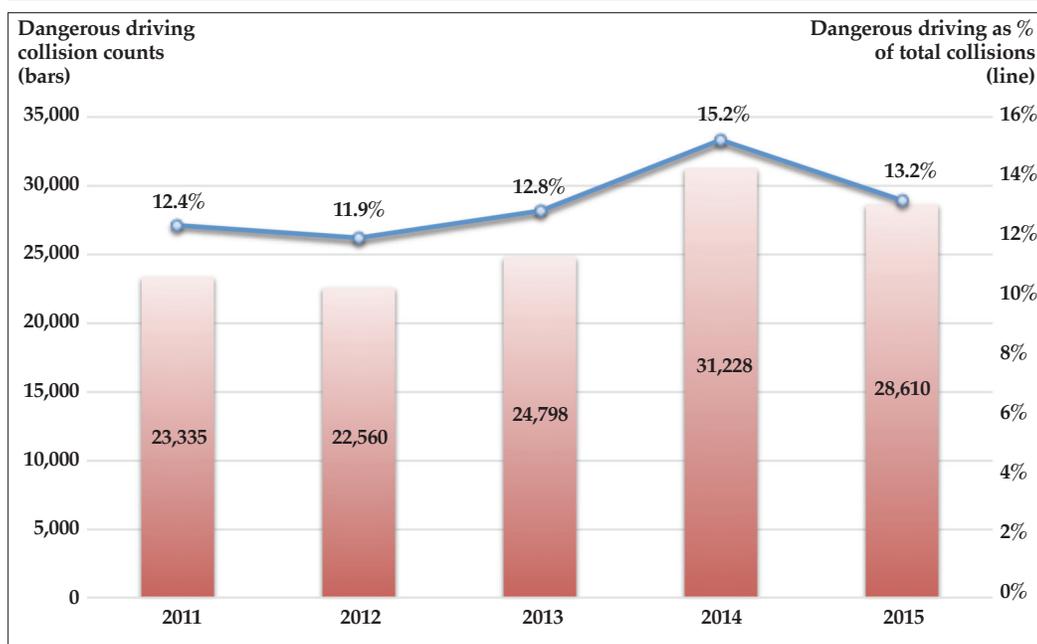
IN 2015:

- **28,610 of the 216,312 traffic collisions** that occurred in Indiana involved one or more driver actions defined as *dangerous driving*, an **8 percent decrease** from 2014.

- **Thirty-two percent** (266 of 821) of Indiana traffic **fatalities** occurred in *dangerous driving* collisions.

- **Young drivers,** ages 15 to 20, represented the **highest percentage** of drivers in crashes engaged in *dangerous driving* behaviors for both males and females.

- The **highest hourly percentages of collisions** that involved a driver who was *speeding* occurred during **weekend overnight hours** (between 12am and 4am).

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* (see last page for a full list of definitions, references, and data sources). This fact sheet summarizes Indiana *dangerous driving* data trends at state and county levels. Collision data come from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2016.

The annual count of Indiana collisions involving dangerous driving decreased for the first time since 2012 (from 31,228 collisions in 2014 to 28,610 collisions in 2015) (Figure 1). Dangerous driving collisions accounted for 13 percent of all Indiana crashes in 2015, a 2 percentage point decrease from 2014.

Figure 1. Indiana collisions that involved dangerous driving, 2011-2015

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016

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GENERAL TRENDS

Thirty-one percent of all fatal collisions (238 of 756) involved dangerous driving in 2015 (Table 1). While the number of *dangerous driving* collisions decreased 8 percent from 2014 to 2015, the number of fatal *dangerous driving* collisions increased 14 percent. When looking closer at specific *dangerous driving* actions, 3 percent (6,352) of all 2015 Indiana collisions involved *aggressive driving,* and 2 percent (4,319) involved a driver *disregarding a signal.* Ten percent (21,986) of all Indiana collisions involved speeding, and 27 percent (202/756) of all *fatal collisions* involved *speeding* (calculated from Table 1).

Numbers and proportions of individuals killed in dangerous driving collisions have generally increased during the 2011 to 2015 time period. The percent of all Indiana traffic *fatalities* that occurred in a *dangerous driving* collision increased from 30.8 percent in 2014 to 32.4 percent in 2015. Individuals killed in *dangerous driving* collisions increased 16 percent from 230 in 2014 to 266 in 2015 (Figure 2). The number of individuals killed increased in 2015 across all *dangerous driving* categories. Non-fatal injuries in *dangerous driving* collisions dropped nearly 4 percent between 2014 and 2015, decreasing from 10,336 to 9,949 (Table 2).
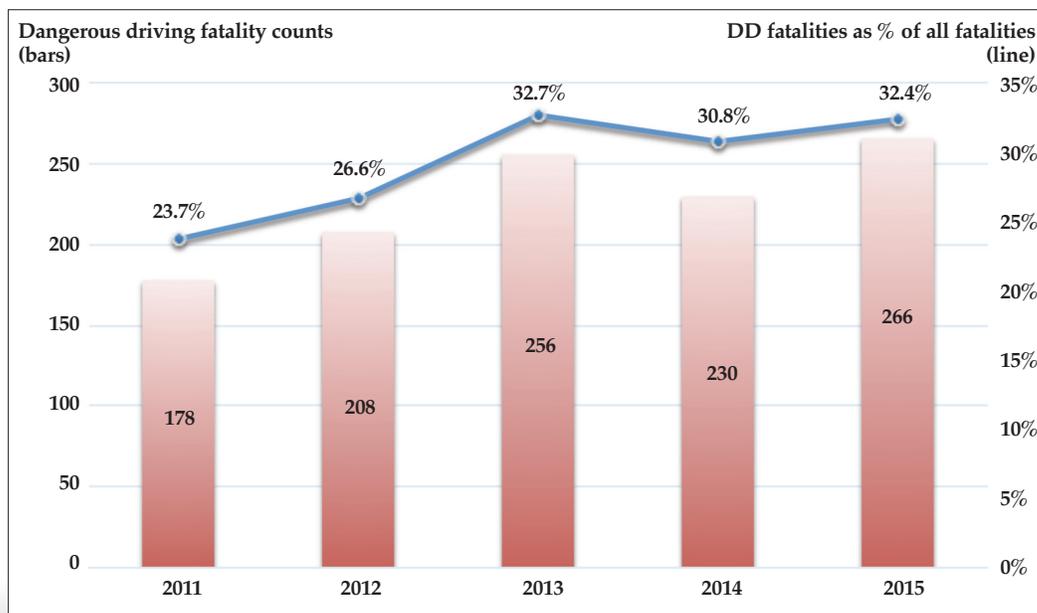
Table 1. Indiana collisions, by dangerous driving involvement and collision severity, 2011-2015

Dangerous driving type/ Collision severity	Count of collisions					Annual rate of change	
	2011	2012	2013	2014	2015	2014-15	2011-15
Total collisions	**188,456**	**189,183**	**193,236**	**205,752**	**216,312**	**5.1%**	**3.5%**
Fatal	676	720	710	705	756	7.2%	2.8%
Non-fatal injury	32,788	34,138	32,852	33,856	34,434	1.7%	1.2%
Property damage	154,992	154,325	159,674	171,191	181,122	5.8%	4.0%
All dangerous driving collisions	**23,335**	**22,560**	**24,798**	**31,228**	**28,610**	**-8.4%**	**5.2%**
Fatal	156	193	222	209	238	13.9%	11.1%
Non-fatal injury	5,927	6,044	6,245	7,115	6,699	-5.8%	3.1%
Property damage	17,252	16,323	18,331	23,904	21,673	-9.3%	5.9%
Dangerous driving as % of total	**12.4%**	**11.9%**	**12.8%**	**15.2%**	**13.2%**	**-12.9%**	**1.7%**
Fatal	23.1%	26.8%	31.3%	29.6%	31.5%	6.2%	8.1%
Non-fatal injury	18.1%	17.7%	19.0%	21.0%	19.5%	-7.4%	1.9%
Property damage	11.1%	10.6%	11.5%	14.0%	12.0%	-14.3%	1.8%
Aggressive	**4,323**	**4,500**	**5,043**	**6,214**	**6,352**	**2.2%**	**10.1%**
Fatal	30	33	55	47	61	29.8%	19.4%
Non-fatal injury	1,121	1,216	1,342	1,581	1,567	-0.9%	8.7%
Property damage	3,172	3,251	3,646	4,586	4,724	3.0%	10.5%
Disregard signal	**3,957**	**4,013**	**4,172**	**4,200**	**4,319**	**2.8%**	**2.2%**
Fatal	15	22	19	17	20	17.6%	7.5%
Non-fatal injury	1,452	1,578	1,523	1,541	1,557	1.0%	1.8%
Property damage	2,490	2,413	2,630	2,642	2,742	3.8%	2.4%
Speed	**17,542**	**16,633**	**18,598**	**24,820**	**21,986**	**-11.4%**	**5.8%**
Fatal	132	163	185	184	202	9.8%	11.2%
Non-fatal injury	4,111	4,061	4,263	5,125	4,703	-8.2%	3.4%
Property damage	13,299	12,409	14,150	19,511	17,081	-12.5%	6.5%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016

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

Figure 2. Traffic fatalities in Indiana dangerous driving collisions, 2011-2015

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016

Table 2. Injuries in Indiana collisions, by dangerous driving involvement and injury status, 2011-2015

Dangerous driving type/ Injury status	Count of injuries					Annual rate of change	
	2011	2012	2013	2014	2015	2014-15	2011-15
Total injuries in ALL collisions	**46,072**	**48,010**	**46,127**	**47,141**	**48,468**	**2.8%**	**1.3%**
Fatal	751	781	784	747	821	9.9%	2.3%
Non-fatal	45,321	47,229	45,343	46,394	47,647	2.7%	1.3%
All dangerous driving collisions	**8,876**	**9,244**	**9,580**	**10,566**	**10,215**	**-3.3%**	**3.6%**
Fatal	178	208	256	230	266	15.7%	10.6%
Non-fatal	8,698	9,036	9,324	10,336	9,949	-3.7%	3.4%
Dangerous driving as % of total	**18.8%**	**19.0%**	**19.2%**	**19.2%**	**21.1%**	**9.7%**	**2.9%**
Fatal	26.9%	21.8%	23.6%	26.7%	32.4%	21.3%	4.8%
Non-fatal	18.7%	19.0%	19.1%	19.1%	20.9%	9.3%	2.8%
Aggressive	**1,798**	**1,959**	**2,193**	**2,505**	**2,544**	**1.6%**	**9.1%**
Fatal	39	36	64	54	67	24.1%	14.5%
Non-fatal	1,759	1,923	2,129	2,451	2,477	1.1%	8.9%
Disregard signal	**2,298**	**2,616**	**2,541**	**2,466**	**2,575**	**4.4%**	**2.9%**
Fatal	17	23	20	19	23	21.1%	7.8%
Non-fatal	2,281	2,593	2,521	2,447	2,552	4.3%	2.8%
Speed	**6,011**	**5,970**	**6,289**	**7,411**	**6,973**	**-5.9%**	**3.8%**
Fatal	151	175	216	201	226	12.4%	10.6%
Non-fatal	5,860	5,795	6,073	7,210	6,747	-6.4%	3.6%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016
Notes:
1) *Dangerous driving* categories are not mutually exclusive. *All dangerous driving* may not equal total of individual categories.
2) *Non-fatal* injuries include *incapacitating, non-incapacitating,* and *possible* injuries.

DRIVER AGE AND GENDER

Dangerous driving behavior can be linked to both age and gender of vehicle operators. Table 3 illustrates that the likelihood of drivers engaging in *dangerous driving* behavior decreases with age. Between 2011 and 2015, male drivers under the age of 25 consistently represented the highest proportion of drivers engaged in *dangerous driving* behaviors in collisions. In 2015, 15 percent of male drivers and 11 percent of female drivers in the 15- to 20-year-old age group engaged in one or more *dangerous driving* actions in collisions. The proportion of drivers reported to be *driving dangerously* in 2015 collisions decreased across all age and gender categories.

Table 3. Proportion of drivers engaged in dangerous driving behaviors in Indiana collisions, by age group and gender, 2011-2015

Age group	2011		2012		2013		2014		2015	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15-20	14.0%	10.2%	14.3%	9.5%	14.6%	11.0%	15.9%	11.9%	15.1%	10.6%
21-24	12.2%	9.2%	11.6%	8.3%	12.7%	10.0%	14.8%	11.7%	13.5%	9.6%
25-34	9.4%	7.5%	9.4%	6.8%	10.6%	7.6%	12.8%	9.5%	10.6%	7.9%
35-44	7.1%	6.2%	6.9%	5.6%	7.6%	6.4%	9.3%	7.4%	7.8%	6.0%
45-54	6.3%	5.3%	6.1%	5.1%	6.2%	5.2%	7.9%	6.9%	6.6%	5.6%
55-64	5.3%	4.8%	5.2%	4.4%	5.5%	4.6%	7.0%	5.7%	5.8%	4.8%
65-74	5.0%	4.5%	5.0%	4.7%	4.9%	4.7%	5.9%	5.0%	5.4%	4.1%
75 +	5.5%	5.1%	5.7%	5.1%	5.2%	5.6%	6.4%	5.3%	5.5%	5.1%
All ages	**8.5%**	**7.0%**	**8.4%**	**6.4%**	**8.9%**	**7.2%**	**10.5%**	**8.4%**	**9.2%**	**7.1%**

Low < < > > High

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016
Note: Data limited to drivers with valid gender and age reported.

DANGEROUS DRIVING BY TIME OF DAY, DAY OF WEEK, AND MONTH

Dangerous driving collisions and serious injury rates have a direct positive relationship (i.e., when one is high, the other is also high). In 2015, the highest percentage of hourly fatal and incapacitating injuries occurred during weekend overnight hours (between 12am and 4am) (Figure 3). The highest hourly rates of *speeding* (the most frequent form of danger-ous driving) collisions occurred during this same time period. On average, monthly counts of dangerous driving collisions in daytime are higher than counts in nighttime collisions. In 2015, the average monthly count of dangerous driving collisions in daytime was 1,619, compared to 765 in nighttime collisions (Figure 4). Both daytime and nighttime counts of dangerous driving collisions exceeded monthly averages in January and February. The high counts of dangerous driving collisions in January and February are due to a spike in collisions linked to *speed too fast for weather conditions.*

Figure 3. Indiana fatal and incapacitating injury collisions and speed-related collisions, by hour and day of week, 2015
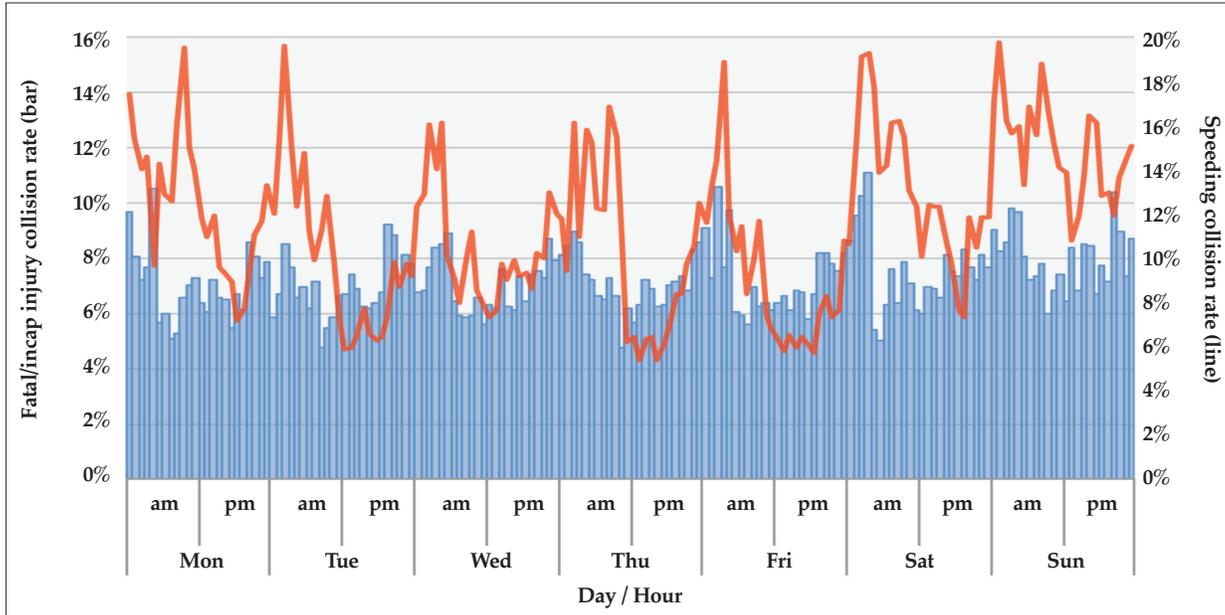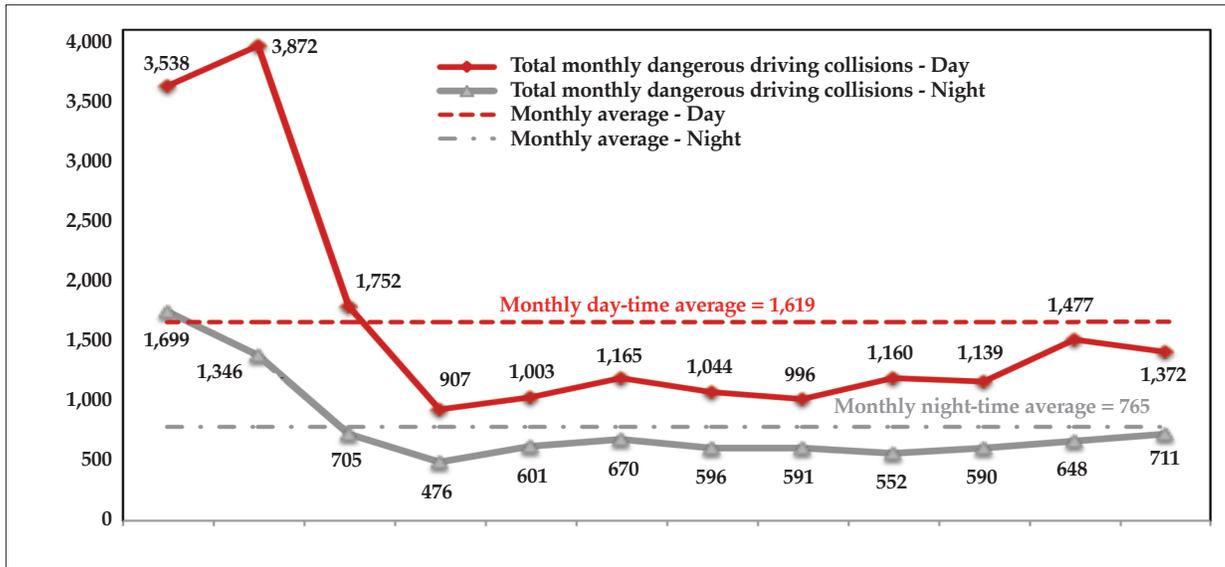
Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016
Notes:
1) *Fatal/incap collision* rate is the percent of all hourly collisions with a reported collision severity of *fatal* or *incapacitating*.
2) *Speeding collision rate* is the percent of all hourly collisions that are *speed-related*.

Figure 4. Indiana dangerous driving collisions, by month and day/night, 2015

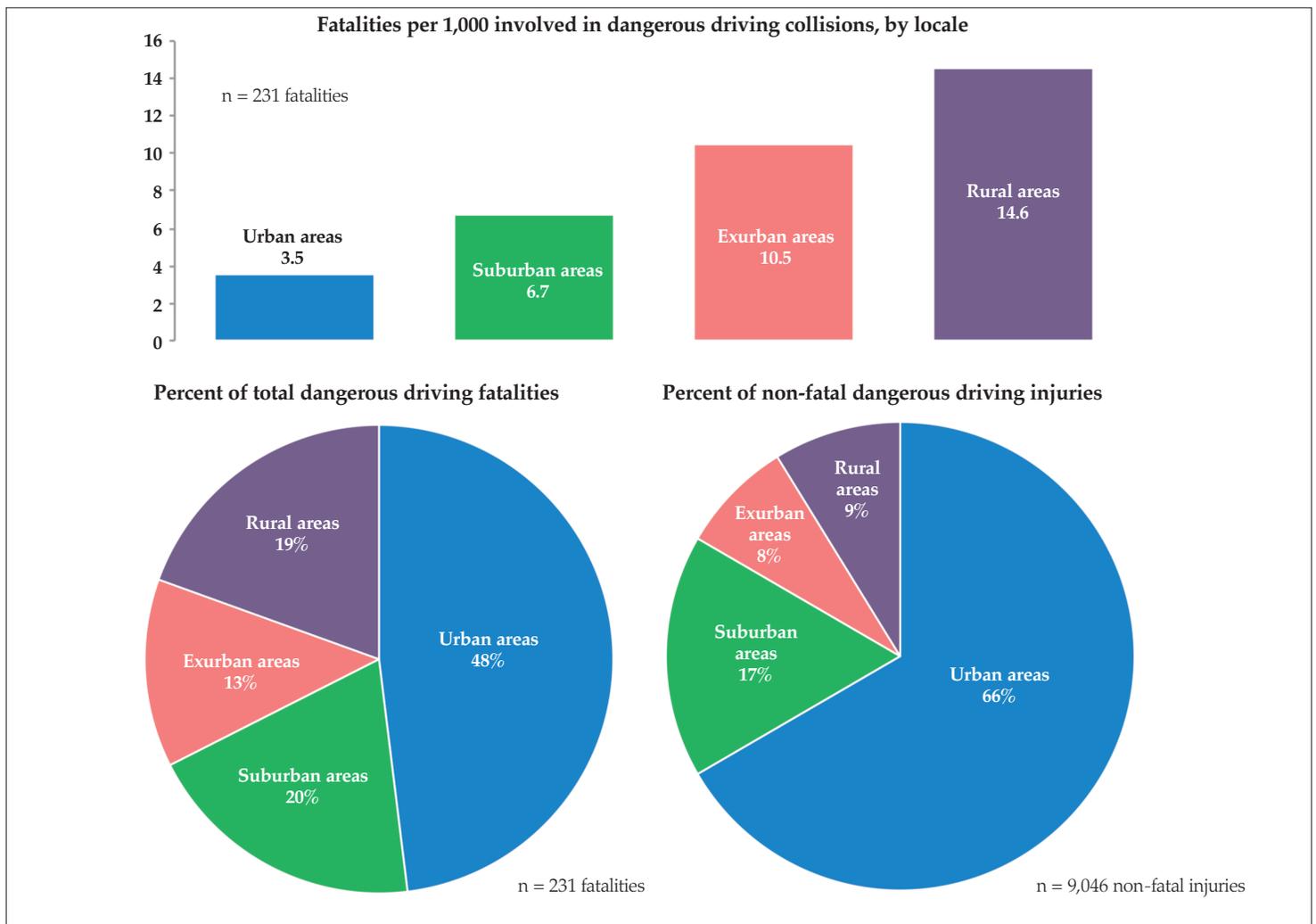Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016
Note: Day is defined as 6am - 5:59pm. Night is defined as 6pm - 5:59am.

GEOGRAPHY OF DANGEROUS DRIVING COLLISIONS BY LOCALE AND COUNTY

Fatalities in dangerous driving collisions are more likely to occur in non-urban areas. While the largest portion of dangerous driving fatalities occurred in more densely populated *urban* areas (48 percent), compared to 19 percent in *rural* areas, traffic mortality rates increase as distance from *urban* areas increases (Figure 5). In 2015, the *rural* rate of traffic fatalities per 1,000 involved in dangerous driving collisions was 14.6, compared to 3.5 per 1,000 in *urban* areas.

Map 1 shows the percentage of county collisions that involved *dangerous driving* in 2015. The map illustrates clusters of counties with the highest *dangerous driving* collision rates located in the northern one-third of the state. For the second consecutive year, LaGrange County, located in northeastern Indiana, had the highest percentage of *dangerous driving* collisions (26 percent), while Jay County, located in eastern Indiana, had the lowest percentage of *dangerous driving* collisions (5 percent). The median rate of county *dangerous driving* collisions was 11.9 percent, and the mean rate was 12.4 percent.

Figure 5. Fatality rates and geographic distribution of fatalities and non-fatal injuries in Indiana dangerous driving collisions, by Census locale, 2015

Fatalities per 1,000 involved in dangerous driving collisions, by locale

n = 231 fatalities

Urban areas 3.5
Suburban areas 6.7
Exurban areas 10.5
Rural areas 14.6

Percent of total dangerous driving fatalities

Urban areas 48%
Suburban areas 20%
Exurban areas 13%
Rural areas 19%

n = 231 fatalities

Percent of non-fatal dangerous driving injuries

Urban areas 66%
Suburban areas 17%
Exurban areas 8%
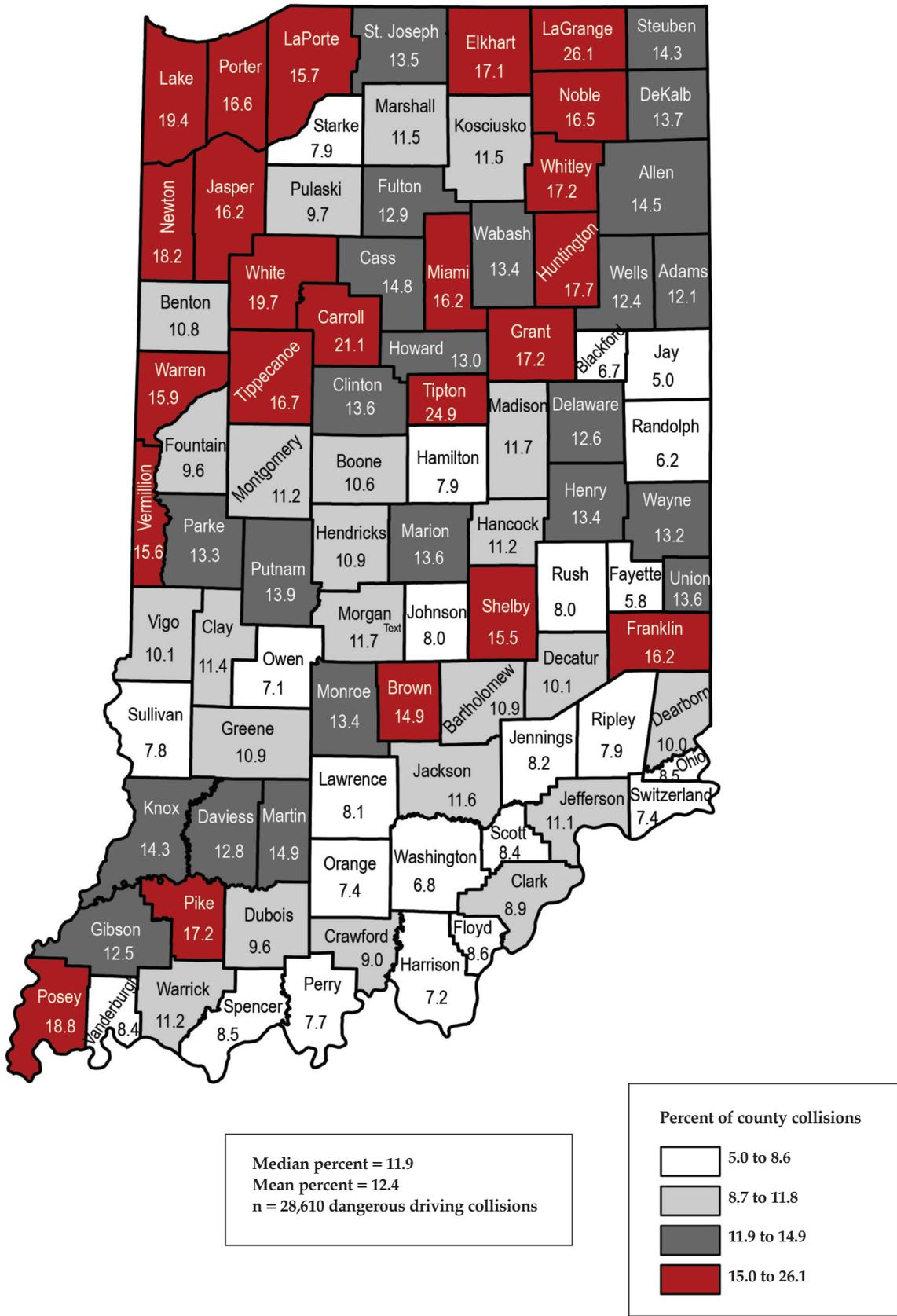Rural areas 9%

n = 9,046 non-fatal injuries

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2016
Notes:
1) *Non-fatal* injuries include *incapacitating*, *non-incapacitating*, and *possible* injuries.
2) Excludes fatalities and injuries where locale could not be determined. .

Map 1. Percentage of county collisions that involved dangerous driving behavior, 2015

County	Value
LaPorte	15.7
St. Joseph	13.5
Elkhart	17.1
LaGrange	26.1
Steuben	14.3
Lake	19.4
Porter	16.6
Marshall	11.5
Kosciusko	11.5
Noble	16.5
DeKalb	13.7
Starke	7.9
Newton	18.2
Jasper	16.2
Pulaski	9.7
Fulton	12.9
Whitley	17.2
Allen	14.5
White	19.7
Cass	14.8
Miami	16.2
Wabash	13.4
Huntington	17.7
Wells	12.4
Adams	12.1
Benton	10.8
Carroll	21.1
Howard	13.0
Grant	17.2
Blackford	6.7
Jay	5.0
Warren	15.9
Tippecanoe	16.7
Clinton	13.6
Tipton	24.9
Madison	11.7
Delaware	12.6
Randolph	6.2
Fountain	9.6
Montgomery	11.2
Boone	10.6
Hamilton	7.9
Henry	13.4
Wayne	13.2
Vermillion	
Parke	13.3
Hendricks	10.9
Marion	13.6
Hancock	11.2
Rush	8.0
Fayette	5.8
Union	13.6
Vermillion	15.6
Putnam	13.9
Morgan	11.7
Johnson	8.0
Shelby	15.5
Franklin	16.2
Vigo	10.1
Clay	11.4
Owen	7.1
Monroe	13.4
Brown	14.9
Bartholomew	10.9
Decatur	10.1
Ripley	7.9
Dearborn	10.0
Sullivan	7.8
Greene	10.9
Jennings	8.2
Ohio	8.5
Lawrence	8.1
Jackson	11.6
Jefferson	11.1
Switzerland	7.4
Knox	14.3
Daviess	12.8
Martin	14.9
Scott	8.4
Orange	7.4
Washington	6.8
Clark	8.9
Gibson	12.5
Pike	17.2
Dubois	9.6
Crawford	9.0
Floyd	8.6
Harrison	7.2
Posey	18.8
Vanderburgh	8.4
Warrick	11.2
Spencer	8.5
Perry	7.7

Median percent = 11.9
Mean percent = 12.4
n = 28,610 dangerous driving collisions

Percent of county collisions

□	5.0 to 8.6
▨	8.7 to 11.8
▨	11.9 to 14.9
■	15.0 to 26.1

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 17, 2016

DEFINITIONS

- **Annual Rate of Change** (ARC) is 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 2010 to 2014, it is calculated as (Value in 2014 / Value in 2011)$^{1/4}$ − 1.

- **Census Locale** — *Urban* is defined as Census 2010 Urban Areas, *suburban* 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 factsheet applies when a driver takes any of the actions below in a collision. Dangerous driving categories are not mutually exclusive.

  Aggressive driving applies when the investigating officer determines that a driver was engaged in at least two of the following: *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 requires three or more of these and similar actions to be considered an aggressive-driving violation.

  Disregarding a traffic signal applies when a vehicle driver was involved in a collision at an intersection of two or more roads and disregarded a traffic signal/sign.

  Speeding applies when a vehicle driver was issued a speeding citation or driving at an unsafe speed, as indicated by *unsafe speed* or *speed too fast for weather conditions* as a contributing factor to the collision. Indiana Code 9-21-5-1 delineates this action from the legal perspective.

- **Non-fatal** collision severity applies when no fatalities and at least one *incapacitating, non-incapacitating,* or *possible* injury occurred.

- **Non-fatal** injury includes *incapacitating, non-incapacitating,* and *possible* injury categories.

DATA SOURCES

- Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 17, 2016.

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 tenth 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.

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 IU Public Policy Institute delivers unbiased research and data-driven, objective, expert analysis to help public, private and nonprofit sectors make important decisions that directly impact quality of life in Indiana. Using the knowledge and expertise of our staff and faculty, we provide research and analysis that is free of political and ideological bias. A multidisciplinary institute within the Indiana University School of Public and Environmental Affairs (SPEA), our efforts also support 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.

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