



## IN 2016:

- In 2016, 13.4 percent of all drivers involved in Indiana collisions were young drivers.
- Young drivers were involved in 105 fatal collisions in, a 7.9 percent decrease from 2015.
- Collisions involving young drivers killed a total of 115 people.
- There were 47 young driver fatalities in 2016, a 9.6 percent decrease from 2015.
- Young drivers in 2016 suffered 4,773 injuries, a slight increase from 2015.
- As young drivers, males are killed at much higher rates than females, but females are injured at higher rates than males.
- Young drivers engage in distracted driving, speeding, and cell phone use at higher rates than drivers 21 years and older.
- About 53 percent of young drivers killed in motor vehicle collisions in 2016 were using proper safety equipment (restraints or helmets).

# YOUNG DRIVERS 2016

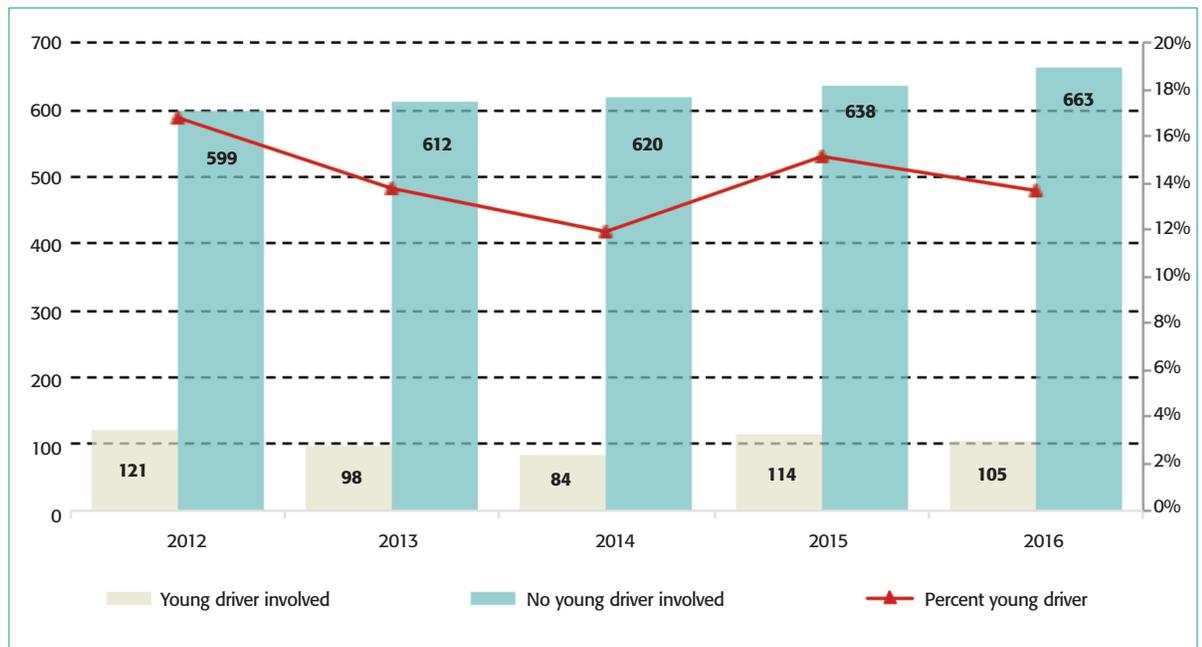
## INTRODUCTION

Motor vehicle collisions are a leading cause of death for persons 15 to 20 years of age in the United States. Nationally in 2015 (most recent data available), 1,886 young drivers were killed and approximately 195,000 young drivers were injured in motor vehicle collisions (NHTSA, 2017). This fact sheet presents information on young drivers involved in Indiana collisions in 2016, trends since 2012, as well as a review of restraint use and other selected factors. Other driver age groups are examined for purposes of comparison to young drivers. The Indiana collision data come from the Indiana State Police Automated Reporting Information Exchange System (ARIES), current as of March 16, 2017.

## INVOLVEMENT AND INJURIES

In general, driver involvement in collisions increased in 2016, but differed for young versus older drivers. Fatal collisions involving drivers 21 years and older increased in 2016. However, there were 105 fatal collisions involving 109 young drivers in 2016, a 6 percent reduction from 2015 (Figure 1). In Indiana, a total of 46,384 young drivers (ages 15 to 20) were involved in traffic collisions in 2016, an increase of 5.1 percent from 2015 (Table 1). All driver age groups experienced increased collision involvement in 2015, with the steepest increase reflected among 16 year old drivers (Table 1). Young drivers were 7.5 percent of all licensed drivers in 2016, but represented 13.4 percent of collision-involved drivers.

Figure 1. Indiana fatal collisions by young driver involvement, 2012-2016



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2017

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The number of young drivers in Indiana traffic collisions has been increasing since 2013 (e.g., a 5.1 percent from 2015 to 2016). In comparison to their share of licensed drivers, young drivers are over-represented in traffic collisions of all severities. In 2016, young drivers were 9.2 percent of drivers involved in fatal collisions and 13.3 percent of those in injury collisions, in comparison to 7.5 percent of licensed drivers (Table 2). Nonetheless, most crashes are minor: more than 80 percent of young driver collisions resulted only in property damage (calculated from Table 2).

**Table 1. Drivers in Indiana collisions by age group, 2012-2016**

Driver age	Count of drivers					Annual rate of change	
	2012	2013	2014	2015	2016	2015-16	2012-16
<b>Total drivers</b>	<b>289,769</b>	<b>294,134</b>	<b>314,748</b>	<b>333,966</b>	<b>346,676</b>	<b>3.8%</b>	<b>4.6%</b>
<b>15 to 20 years</b>	<b>40,497</b>	<b>39,863</b>	<b>40,508</b>	<b>44,138</b>	<b>46,384</b>	<b>5.1%</b>	<b>3.5%</b>
15	344	289	343	457	386	-15.5%	2.9%
16	3,445	3,317	3,138	3,898	4,854	24.5%	9.0%
17	8,811	8,518	8,311	9,323	9,745	4.5%	2.6%
18	9,729	9,779	9,941	10,371	10,798	4.1%	2.6%
19	9,288	9,115	9,442	10,223	10,422	1.9%	2.9%
20	8,880	8,845	9,333	9,866	10,179	3.2%	3.5%
<b>21 and older</b>	<b>249,259</b>	<b>254,266</b>	<b>274,238</b>	<b>289,822</b>	<b>300,289</b>	<b>3.6%</b>	<b>4.8%</b>
21 to 24	31,722	33,111	34,914	36,791	37,675	2.4%	4.4%
25-44	105,379	107,363	117,113	124,221	129,205	4.0%	5.2%
45-64	82,937	83,382	89,326	93,490	96,109	2.8%	3.8%
65 and older	29,221	30,410	32,885	35,320	37,300	5.6%	6.3%
<b>15-20 as % all licensed drivers</b>	<b>7.9%</b>	<b>7.8%</b>	<b>7.5%</b>	<b>7.5%</b>	<b>7.5%</b>		
<b>15-20 as % drivers in collisions</b>	<b>14.0%</b>	<b>13.6%</b>	<b>12.9%</b>	<b>13.2%</b>	<b>13.4%</b>		

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017

Note: Excludes drivers with reported ages under 15 and over 109 years.

**Table 2. Young drivers involved in Indiana collisions by collision severity, 2012-2016**

Collision severity	Count of drivers					Annual rate of change	
	2012	2013	2014	2015	2016	2015-16	2012-16
<b>Total young drivers</b>	<b>40,497</b>	<b>39,863</b>	<b>40,508</b>	<b>44,138</b>	<b>46,384</b>	<b>5.1%</b>	<b>3.5%</b>
Fatal	128	102	88	116	109	-6.0%	-3.9%
Injury	8,286	7,562	7,511	7,847	8,176	4.2%	-0.3%
Property damage	32,083	32,199	32,909	36,175	38,099	5.3%	4.4%
<b>Young drivers as % of drivers involved:</b>							
Fatal	11.7%	9.2%	7.9%	10.1%	9.2%	-9.0%	-5.7%
Injury	14.3%	13.5%	13.0%	13.1%	13.3%	0.9%	-1.8%
Property damage	13.9%	13.6%	12.9%	13.2%	13.4%	1.3%	-0.9%
<b>Young drivers as % all licensed drivers</b>	<b>7.9%</b>	<b>7.8%</b>	<b>7.5%</b>	<b>7.5%</b>	<b>7.5%</b>		

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017

Notes:

- 1) Excludes individuals less than 15 years old or more than 109 years, and those with unknown age.
- 2) *Injury* collisions include those with *incapacitating* and *non-incapacitating* injuries.

There were 47 young drivers killed in 2016 (Table 3). Another 4,773 young drivers sustained some type of injury in 2016. The number of young drivers killed in collisions decreased 9.6 percent from 2015 to 2016, and is in decline since 2012. However, there was a slight increase in the number of young drivers injured. As in collision involvement, young drivers comprise disproportionate proportions of fatalities (8.4 percent) and injuries (12.9 percent) among all drivers in Indiana collisions.

Fatalities linked to young driver collisions go beyond only young drivers, insofar as other persons are killed as well. In 2016, there were 115 fatalities in collisions involving young drivers, of which 47 were young drivers (Table 4). Other deaths included the occupants of young driver vehicles (26 dead), the drivers of other involved vehicles (22 dead), the occupants of other vehicles (13 dead), and non-motorists (7 dead). Across the 2012-2016 period, about 63 percent of those killed each year in young driver collisions were the young drivers and their passengers (calculated from Table 4).

**Table 3. Individual injury status of Indiana young drivers, 2012-2016**

Individual injury status	Count of drivers					Annual rate of change	
	2012	2013	2014	2015	2016	2015-16	2012-16
<b>Total young drivers (YD)</b>	<b>40,497</b>	<b>39,863</b>	<b>40,508</b>	<b>44,138</b>	<b>46,384</b>	<b>5.1%</b>	<b>3.5%</b>
Fatal	54	44	34	52	47	-9.6%	-3.4%
Injured	4,908	4,486	4,332	4,710	4,773	1.3%	-0.7%
Not injured	35,535	35,333	36,142	39,376	41,564	5.6%	4.0%
<b>Young drivers as % of total:</b>							
Fatal injuries (all drivers)	10.0%	8.3%	6.6%	9.7%	8.4%		
Other injuries (all drivers)	14.3%	13.5%	12.6%	13.0%	12.9%		
YD as % all involved drivers	14.0%	13.6%	12.9%	13.2%	13.4%		
YD as % all licensed drivers	7.9%	7.8%	7.5%	7.5%	7.5%		

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017

Note: Excludes individuals less than 15 years old or more than 109 years, and those with unknown age.

**Table 4. Persons killed in Indiana collisions involving young drivers, 2012-2016**

Person type	Count of drivers					Annual rate of change	
	2012	2013	2014	2015	2016	2015-16	2012-16
<b>Total</b>	<b>128</b>	<b>109</b>	<b>93</b>	<b>126</b>	<b>115</b>	<b>-8.7%</b>	<b>-2.6%</b>
Young driver	54	44	34	52	47	-9.6%	-3.4%
Young driver occupants	28	26	21	27	26	-3.7%	-1.8%
Other drivers	31	22	27	25	22	-12.0%	-8.2%
Other driver occupants	2	10	5	10	13	30.0%	59.7%
Non-motorists	13	7	6	12	7	-41.7%	-14.3%
<b>Person type % total</b>							
Young driver	42.2%	40.4%	36.6%	41.3%	40.9%		
Young driver occupants	21.9%	23.9%	22.6%	21.4%	22.6%		
Other drivers	24.2%	20.2%	29.0%	19.8%	19.1%		
Other driver occupants	1.6%	9.2%	5.4%	7.9%	11.3%		
Non-motorists	10.2%	6.4%	6.5%	9.5%	6.1%		

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017

The numbers and rates of young drivers killed in Indiana traffic collisions vary by age. Generally, 'older' young drivers aged 18 to 20 comprise the highest counts of fatalities within the six young driver age categories (Table 5). Young drivers aged 15 and 16 years typically make up smaller counts of drivers killed. The rates of young drivers killed per 100,000 licensed drivers vary as well, but appear slightly higher for 19 and 20 year old drivers.

**Table 5. Young drivers (YD) killed in Indiana collisions and per 100,000 licensed drivers, 2012-2016**

	Low	<	<	>	>	High
	<b>Counts of YD killed</b>					
Driver age	2012	2013	2014	2015	2016	
15	0	3	0	1	0	
16	5	1	0	5	4	
17	9	8	9	11	13	
18	11	11	8	11	6	
19	10	14	11	16	9	
20	19	7	6	8	15	
<b>YD totals</b>	<b>54</b>	<b>44</b>	<b>34</b>	<b>52</b>	<b>47</b>	
	<b>YD killed per 100K licensed</b>					
Driver age	2012	2013	2014	2015	2016	
15	0.0	23.2	0.0	6.9	0.0	
16	10.6	2.2	0.0	10.7	8.4	
17	14.1	12.7	14.5	17.6	20.5	
18	15.5	15.4	11.4	15.8	8.5	
19	13.0	18.5	14.6	21.5	12.2	
20	23.9	8.8	7.7	10.4	19.7	
<b>All YD</b>	<b>15.3</b>	<b>12.6</b>	<b>9.9</b>	<b>15.1</b>	<b>13.6</b>	

Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017; Indiana Bureau of Motor Vehicles, as of March 7, 2017.

Among all age groups, male drivers are killed at higher rates than females. Per 100,000 licensed drivers, males 15 to 20 years of age and 21 to 24 years of age had the highest rates of all age-gender combinations throughout 2012-2016 (Table 6). The rate of female drivers killed in young driver collisions are much lower than males, and decreased substantially in 2016. However, male and female driver injury rates per 100,000 licensed drivers are similar, and vary differently from drivers killed. Among young drivers, female drivers are injured at slightly higher rates than male drivers, and female young drivers had the highest injury rate among all age-gender combinations each year of the five-year period (Table 7). Generally, both fatality and injury rates decline with age.

**Table 6. Drivers killed in Indiana collisions per 100,000 licensed persons, by gender and age group, 2012-2016**

Gender/age	Drivers killed per 100,000 licensed					Annual rate of change	
	2012	2013	2014	2015	2016	2015-16	2012-16
<b>Male</b>	<b>19.6</b>	<b>18.7</b>	<b>18.0</b>	<b>17.5</b>	<b>19.8</b>	<b>13.2%</b>	<b>0.3%</b>
15 to 20 years	22.4	23.8	13.8	20.0	22.4	11.7%	0.0%
21 to 24 years	28.5	29.7	23.8	22.3	27.0	21.4%	-1.3%
25-44	19.8	20.0	19.0	16.5	20.7	25.7%	1.1%
45-64	16.0	15.4	17.1	17.2	17.4	0.8%	2.1%
65 and older	21.5	15.9	17.5	17.0	19.0	12.0%	-3.0%
<b>Female</b>	<b>5.0</b>	<b>5.0</b>	<b>4.7</b>	<b>6.1</b>	<b>4.9</b>	<b>-20.2%</b>	<b>-0.7%</b>
15 to 20 years	8.1	1.2	5.9	10.0	4.7	-53.3%	-12.9%
21 to 24 years	6.9	8.2	8.1	5.1	7.7	52.4%	2.8%
25-44	4.4	4.5	4.3	5.8	5.2	-11.2%	4.3%
45-64	3.5	4.1	4.3	5.2	4.0	-23.7%	3.2%
65 and older	7.2	8.1	4.2	7.2	5.1	-28.9%	-8.2%

Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017; Indiana Bureau of Motor Vehicles, as of March 7, 2017.

Note: Excludes individuals less than 15 years old or more than 109 years, and those with unknown age.

**Table 7. Indiana drivers injured in collisions per 100,000 licensed persons, by gender and age group, 2012-2016**

Gender/age	Drivers killed per 100,000 licensed					Annual rate of change	
	2012	2013	2014	2015	2016	2015-16	2012-16
<b>Male</b>	<b>794</b>	<b>752</b>	<b>765</b>	<b>807</b>	<b>816</b>	<b>1.1%</b>	<b>0.7%</b>
15 to 20 years	1,369	1,233	1,224	1,287	1,260	-2.0%	-2.0%
21 to 24 years	1,182	1,172	1,149	1,219	1,246	2.2%	1.3%
25-44	854	805	851	898	908	1.0%	1.5%
45-64	656	630	634	672	688	2.4%	1.2%
65 and older	498	480	488	515	531	3.0%	1.6%
<b>Female</b>	<b>752</b>	<b>730</b>	<b>732</b>	<b>771</b>	<b>794</b>	<b>3.0%</b>	<b>1.4%</b>
15 to 20 years	1,419	1,341	1,304	1,440	1,497	3.9%	1.3%
21 to 24 years	1,234	1,229	1,207	1,292	1,333	3.2%	2.0%
25-44	846	815	848	895	911	1.8%	1.9%
45-64	594	583	579	602	621	3.3%	1.1%
65 and older	411	412	412	420	455	8.4%	2.6%

Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017; Indiana Bureau of Motor Vehicles, as of March 7, 2017.

Notes:

- 1) Excludes individuals less than 15 years old or more than 109 years, and those with unknown age.
- 2) *Injured* includes those with *incapacitating, non-incapacitating, possible, refused, or other injuries*.

# RISKY DRIVING BEHAVIORS AND SAFETY EQUIPMENT USE

Among other categories, risky driving behaviors can include speeding, distractions, failure to heed traffic signals and signage, cell phone use, or failure to use safety equipment. In comparison to older age categories, young drivers have a relatively higher incidence of speeding, being distracted, or cell phone use during 2012 to 2016 (Table 8). For example, in 2016 there were 10.5 percent of young drivers engaged in speeding, compared to about 5 percent of drivers aged 21 and older. Cell phone use reported as a factor in collisions is rare (e.g., less than one percent of drivers in any age category), but young drivers are reported at about twice the rate of drivers 21 years and older. The two age groups did not differ in their rates of disregarding signals. In comparison to older age drivers, young drivers have generally reflected similar rates of safety equipment use (i.e., restraints in vehicles or helmets on motorcycles), especially among non-fatally injured and non-injured drivers (Figure 2). Among drivers killed in collisions, young drivers exhibited slightly higher safety equipment use rates than older drivers since 2014.

**Table 8. Drivers and percent of drivers engaged in risky behaviors in Indiana collisions, by age, 2012-2016**

Driver age/behavior	Count of drivers					Annual rate of change	
	2012	2013	2014	2015	2016	2015-16	2012-16
<b>15-20 years</b>	<b>40,497</b>	<b>39,863</b>	<b>40,508</b>	<b>44,138</b>	<b>46,384</b>	<b>5.1%</b>	<b>3.5%</b>
Speeding	4,036	4,281	4,862	4,848	4,878	0.6%	4.9%
Distracted	1,953	1,877	1,801	2,089	2,113	1.1%	2.0%
Disregarded signal	574	575	540	556	597	7.4%	1.0%
Cell phone use	236	234	232	269	291	8.2%	5.4%
<b>21 years and older</b>	<b>249,272</b>	<b>254,271</b>	<b>274,240</b>	<b>289,828</b>	<b>300,292</b>	<b>3.6%</b>	<b>4.8%</b>
Speeding	11,908	13,487	19,075	16,278	15,313	-5.9%	6.5%
Distracted	7,608	7,577	7,260	8,252	8,732	5.8%	3.5%
Disregarded signal	3,465	3,650	3,719	3,827	3,864	1.0%	2.8%
Cell phone use	864	806	804	949	971	2.3%	3.0%
<b>Percent speeding</b>							
15-20 years	10.0%	10.7%	12.0%	11.0%	10.5%		
21 years and older	4.8%	5.3%	7.0%	5.6%	5.1%		
<b>Percent distracted</b>							
15-20 years	4.8%	4.7%	4.4%	4.7%	4.6%		
21 years and older	3.1%	3.0%	2.6%	2.8%	2.9%		
<b>Percent disregarded</b>							
15-20 years	1.4%	1.4%	1.3%	1.3%	1.3%		
21 years and older	1.4%	1.4%	1.4%	1.3%	1.3%		
<b>Percent cell phone use</b>							
15-20 years	0.6%	0.6%	0.6%	0.6%	0.6%		
21 years and older	0.3%	0.3%	0.3%	0.3%	0.3%		

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 16, 2017

Note: Excludes individuals less than 15 years old or more than 109 years, and those with unknown age.

**Figure 2. Percent safety equipment use by drivers in Indiana collisions, by injury status and age, 2012-2016**



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2017

Notes:

- 1) Individuals with 'NULL' and unknown safety equipment use are included as 'unrestrained' or 'no helmet'.
- 2) *Injured* include those with *incapacitating, non-incapacitating, possible, refused, or other* injuries.
- 3) *Safety equipment use* includes *restraints* in vehicle collisions and/or helmets in motorcycle collisions.
- 4) Excludes individuals less than 15 years old or more than 109 years, and those with unknown age.

## ALCOHOL-IMPAIRED DRIVERS IN COLLISIONS

In 2016, the rate of alcohol-impairment among young drivers in Indiana collisions was among the lowest of all driver age groups (Figure 3). The impaired driving crash rate for young drivers, ages 15 to 20 years old, was 7.7 per 10,000 licensed, compared to 26.9 per 10,000 licensed drivers aged 21 to 24 years old. In contrast, young drivers had the highest rate of overall crash involvement (1,340 per 10,000 licensed) among all driver age groups (not shown here).

Figure 3. Alcohol-impaired drivers involved in Indiana crashes per 10,000 licensed, by age group, 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 2012 to 2016, it is calculated as  $(\text{Value in 2016} / \text{Value in 2012})^{1/4} - 1$ .
- **Young driver** individuals between the ages of 15 to 20 years who are the operators of motor vehicles.

## REFERENCES

National Highway Traffic Safety Administration (NHTSA). (February 2017). *Traffic Safety Facts 2015 Data: Young Drivers*. Department of Transportation, DOT HS 812 363.

## DATA SOURCES

Indiana State Police Automated Reporting Information Exchange System (ARIES), current as of March 16, 2017.

Indiana Bureau of Motor Vehicles (BMV) licensing data, current as of March 7, 2017.

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.

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An electronic copy of this document can be accessed via the PPI website ([www.policyinstitute.iu.edu](http://www.policyinstitute.iu.edu)), the ICJI website ([www.in.gov/cji/](http://www.in.gov/cji/)), or you may contact the PPI at 317-261-3000.

## **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 eleventh 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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