

### INTRODUCTION

Motor vehicle collisions remain a leading cause of death for persons 15 to 20 years of age in the United States. Nationally in 2012 (most recent data available), 1,875 young drivers were killed from among the 4,283 young drivers involved in fatal collisions, and approximately 184,000 young drivers were injured in motor vehicle collisions (NHTSA, 2014). In Indiana, there were 84 fatal collisions involving young drivers in 2014, the lowest count in 12 years (Figure 1). A total of 40,460 young drivers (ages 15 to 20) were involved in traffic collisions in 2014 (Table 1). Among these, 88 young drivers were involved in collisions resulting in at least one fatality (Table 2), of whom 34 were killed. Another 4,326 young drivers sustained some type of injury in 2014 (see Table 4).

This fact sheet presents information on young drivers involved in Indiana collisions in 2014, trends from 2010 to 2014, as well as a review of restraint use, alcohol involvement, and other selected factors. The Indiana collision data come from the Indiana State Police Automated Reporting Information Exchange System (ARIES), current as of March 23, 2015.

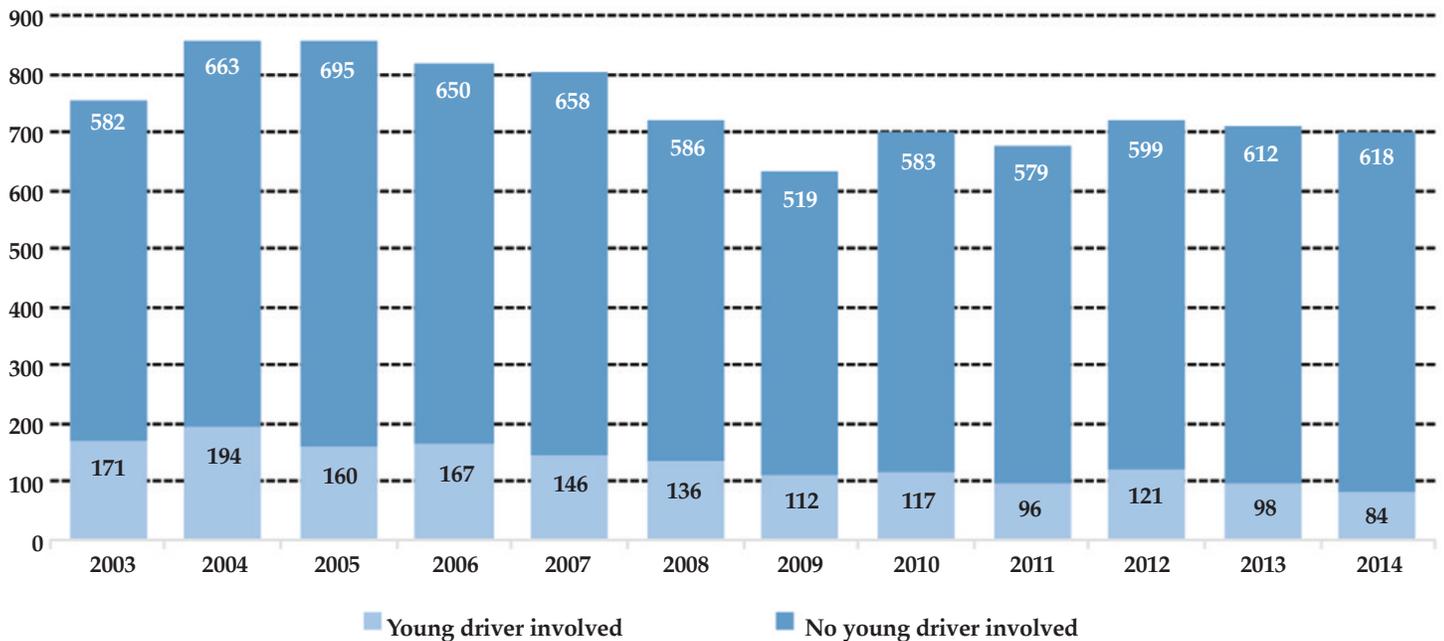
In 2014:

- 12.9 percent of all drivers involved in collisions were young drivers.
- Young drivers were involved in 84 fatal collisions, a 12-year low.
- 34 young drivers were killed in collisions.
- Young drivers suffered 419 incapacitating injuries.
- Fewer than 5 percent of young drivers in fatal collisions were alcohol-impaired.
- About 71 percent of young drivers involved in fatal collisions were properly restrained.

*Note: Data discrepancies may exist between the 2014 Indiana traffic safety reports and previous traffic safety publications due to updates to the Indiana State Police ARIES data that have occurred since the original publication dates.*

*The most recent ARIES upgrade added a clarification to reporting officers on the definition of incapacitating injuries criteria to include "transported from scene for treatment"; therefore, 2014 increases in incapacitating injuries should be interpreted with caution.*

Figure 1. Indiana fatal collisions by young driver involvement, 2003-2014



Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015.



## INVOLVEMENT AND INJURIES

In 2014 in Indiana, young drivers comprised 7.5 percent of all licensed drivers, but 12.9 percent of all drivers involved in collisions (Table 1). Nonetheless, young driver involvement in Indiana motor vehicle collisions has generally improved during the last five years. All individual ages from 15 to 20 had an annual rate of decline in collision involvement from 2009 to 2013, while older driver age groups 21 and above each had an increase in their average annual rate of change. In 2010, there were 45,507 young drivers involved in collisions; by 2014, this decreased to 40,460 young drivers involved—a 2.9 percent average annual decline. Collision involvement of all young driver ages declined during 2010-

2014. However, pushed by an increase in the number of 15-year-old drivers in crashes, young driver involvement in Indiana collisions actually increased 1.5 percent between 2013 and 2014.

Young driver involvement in fatal collisions dropped 13.7 percent from 2013 to 2014 and by 8.2 percent annually since 2010 (Table 2). However, young driver involvement in incapacitating injury collisions increased substantially in 2014 (54.5 percent). During 2010 to 2014, young drivers remain slightly over-represented in traffic collisions of all severities. Per 100,000 licensed drivers, males 15 to 20 years of age have the highest rates of all age-gender combinations in all years (Table 3). Involvement in collisions declines for both genders as age increases.

**Table 1. Drivers in Indiana collisions by age group, 2010-2014**

Driver age	Count of drivers					Annual rate of change	
	2010	2011	2012	2013	2014	2013-2014	2010-2014
<b>Total drivers</b>	<b>294,731</b>	<b>287,732</b>	<b>289,734</b>	<b>294,093</b>	<b>314,450</b>	<b>6.9%</b>	<b>1.6%</b>
<b>15 to 20 years</b>	<b>45,507</b>	<b>40,613</b>	<b>40,491</b>	<b>39,857</b>	<b>40,460</b>	<b>1.5%</b>	<b>-2.9%</b>
15	348	272	344	289	343	18.7%	-0.4%
16	5,841	3,578	3,445	3,317	3,135	-5.5%	-14.4%
17	9,334	8,652	8,811	8,517	8,301	-2.5%	-2.9%
18	10,562	9,790	9,726	9,779	9,925	1.5%	-1.5%
19	9,911	9,248	9,287	9,111	9,429	3.5%	-1.2%
20	9,511	9,073	8,878	8,844	9,327	5.5%	-0.5%
<b>21 and older</b>	<b>249,224</b>	<b>247,119</b>	<b>249,243</b>	<b>254,236</b>	<b>273,990</b>	<b>7.8%</b>	<b>2.4%</b>
21 to 24	31,240	31,091	31,716	33,103	34,886	5.4%	2.8%
25-44	107,415	105,665	105,374	107,350	117,008	9.0%	2.2%
45-64	82,802	82,738	82,934	83,374	89,239	7.0%	1.9%
65 and older	27,767	27,625	29,219	30,409	32,857	8.1%	4.3%
<b>15-20 as % all licensed drivers</b>	<b>8.2%</b>	<b>7.9%</b>	<b>7.9%</b>	<b>7.8%</b>	<b>7.5%</b>		
<b>15-20 as % drivers in collisions</b>	<b>15.4%</b>	<b>14.1%</b>	<b>14.0%</b>	<b>13.6%</b>	<b>12.9%</b>		

Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015; Indiana Bureau of Motor Vehicles, as of March 24, 2015.

**Table 2. Young drivers involved in Indiana collisions by collision severity, 2010-2014**

Collision severity	Count of young drivers					Annual rate of change	
	2010	2011	2012	2013	2014	2013-2014	2010-2014
<b>Total young drivers</b>	<b>45,507</b>	<b>40,613</b>	<b>40,491</b>	<b>39,857</b>	<b>40,460</b>	<b>1.5%</b>	<b>-2.9%</b>
Fatal	124	100	128	102	88	-13.7%	-8.2%
Incapacitating	678	576	669	565	873	54.5%	6.5%
Non-incapacitating	8,772	7,593	7,615	6,996	6,630	-5.2%	-6.8%
Property damage	35,933	32,344	32,079	32,194	32,869	2.1%	-2.2%
<b>Young drivers as % of drivers involved:</b>							
Fatal	11.5%	9.7%	11.7%	9.2%	7.9%	-14.3%	-8.8%
Incapacitating	14.9%	12.7%	13.2%	12.4%	12.5%	0.9%	-4.4%
Non-incapacitating	16.3%	14.7%	14.4%	13.7%	13.0%	-4.5%	-5.4%
Property damage	15.3%	14.0%	13.9%	13.6%	12.9%	-5.2%	-4.2%
<b>Young drivers as % all licensed drivers</b>	<b>8.2%</b>	<b>7.9%</b>	<b>7.9%</b>	<b>7.8%</b>	<b>7.5%</b>		

Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015; Indiana Bureau of Motor Vehicles, as of March 24, 2015.

Over the past five years, the number of young drivers killed in traffic collisions has dropped from 56 in 2010 to 34 in 2014 (Table 4). But there has been substantial growth in the number of incapacitating injuries reported for young drivers—a 62.4 percent increase from 2013 to 2014 and a five-year average annual growth of 9.6 percent. Drivers aged 15 to

20 years and 21 to 24 years consistently have the highest fatal collision involvement per 100,000 licensed drivers (Figure 2), although the young driver fatal involvement rate has declined steeply since 2012, and reached a five-year low in 2014. After age 24, collision rates per 100,000 licensed drivers generally go down with increasing age.

**Table 3. Involvement of Indiana drivers in collisions per 100,000 licensed persons by gender and age group, 2010-2014**

Gender/age	Drivers in collisions per 100,000 licensed persons					Annual rate of change	
	2010	2011	2012	2013	2014	2013-2014	2010-2014
<b>Male</b>	<b>7,738</b>	<b>7,296</b>	<b>7,334</b>	<b>7,385</b>	<b>7,858</b>	<b>6.4%</b>	<b>0.4%</b>
15 to 20 years	13,514	12,099	12,206	12,000	12,442	3.7%	-2.0%
21 to 24 years	11,229	10,596	10,381	10,971	11,410	4.0%	0.4%
25-44 years	8,142	7,797	7,952	8,073	8,702	7.8%	1.7%
45-64 years	6,264	6,087	6,134	6,144	6,658	8.4%	1.5%
65 and older	5,275	4,809	4,765	4,773	5,022	5.2%	-1.2%
<b>Female</b>	<b>5,893</b>	<b>5,653</b>	<b>5,721</b>	<b>5,709</b>	<b>5,904</b>	<b>3.4%</b>	<b>0.0%</b>
15 to 20 years	11,976	11,006	10,757	10,831	11,127	2.7%	-1.8%
21 to 24 years	9,940	9,400	9,402	9,638	10,120	5.0%	0.5%
25-44 years	6,470	6,285	6,471	6,452	6,803	5.5%	1.3%
45-64 years	4,370	4,339	4,411	4,404	4,549	3.3%	1.0%
65 and older	3,418	3,215	3,276	3,247	3,244	-0.1%	-1.3%

Lower rate Higher rate

Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015; Indiana Bureau of Motor Vehicles, as of March 24, 2015.

Note: Includes drivers only with known age and known gender.

**Table 4. Individual injury status of young drivers, 2010-2014**

Individual injury status	Count of young drivers					Annual rate of change	
	2010	2011	2012	2013	2014	2013-2014	2010-2014
<b>Total young drivers</b>	<b>45,507</b>	<b>40,613</b>	<b>40,491</b>	<b>39,857</b>	<b>40,460</b>	<b>1.5%</b>	<b>-2.9%</b>
Fatal	56	55	54	44	34	-22.7%	-11.7%
Incapacitating	290	263	330	258	419	62.4%	9.6%
Other	5,354	4,444	4,575	4,227	3,907	-7.6%	-7.6%
Not injured	39,807	35,851	35,532	35,328	36,100	2.2%	-2.4%
<b>Young drivers as % of total:</b>							
Fatal injuries	6.9%	6.8%	6.5%	5.3%	4.4%		
Incapacitating injuries	7.8%	7.2%	8.0%	7.0%	7.1%		
Other injuries	10.3%	9.2%	9.2%	8.7%	8.3%		
YD as % all involved individuals	12.7%	11.8%	11.7%	11.4%	10.9%		
YD as % all licensed drivers	8.2%	7.9%	7.9%	7.8%	7.5%		

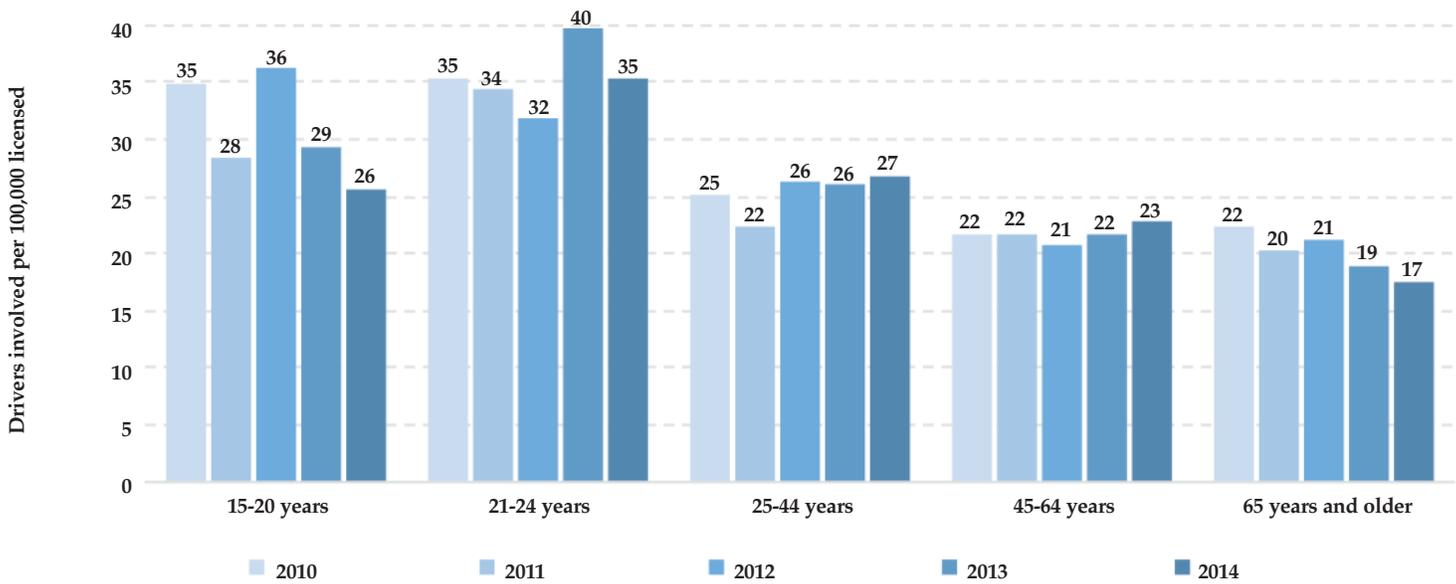
Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015; Indiana Bureau of Motor Vehicles, as of March 24, 2015.

Note: Includes young drivers with known injury status.



# TRAFFIC SAFETY FACTS

Figure 2. Involvement of Indiana drivers in fatal collisions per 100,000 licensed drivers by age group, 2010-2014



Sources: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015; Indiana Bureau of Motor Vehicles, as of March 24, 2015.

## RESTRAINT USE AND ALCOHOL USE

Young drivers involved in fatal collisions had low rates of proper restraint use. From 2010 to 2014, only about two-thirds of young drivers involved in fatal collisions were reported to have used restraints (Table 5).

Regarding the use of alcohol or drugs in fatal collisions, young drivers were tested for alcohol and/or drugs about 74 percent of the time (on

average, 2010 to 2014), a test rate only slightly higher than older drivers (Table 6). Considering drivers in all collisions, BAC levels of 0.08 g/dL or higher are relatively rare among drivers aged 15 to 20 years: less than 1 percent of young drivers were found to be impaired (Table 7). However, drivers involved in fatal collisions have higher impairment rates. Young drivers had impairment rates under 10 percent in fatal collisions across the 2010 to 2014 period.

Table 5. Drivers involved in fatal collisions by age group and restraint use, 2010-2014

Age of driver	Percent unrestrained drivers in fatal collisions				
	2010	2011	2012	2013	2014
15 to 20 years	32.7%	42.2%	31.9%	31.3%	29.2%
21 to 24 years	44.8%	35.1%	46.4%	33.3%	34.0%
25-44 years	34.4%	32.3%	36.3%	31.7%	29.2%
45-64 years	27.5%	27.7%	27.3%	19.7%	25.6%
65 and older	18.7%	17.0%	23.2%	19.3%	23.8%

Lower rate
Higher rate

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015.

Note: Includes drivers with known restraint use.

**Table 6. Indiana drivers in fatal collisions by age group and type of substance test, 2010-2014**

Driver age/test type	Count of young drivers					Annual rate of change	
	2010	2011	2012	2013	2014	2013-2014	2010-2014
<b>15 to 20 years</b>	<b>124</b>	<b>100</b>	<b>128</b>	<b>102</b>	<b>88</b>	<b>-13.7%</b>	<b>-8.2%</b>
Alcohol and/or drug	91	76	105	71	60	-15.5%	-9.9%
None	11	8	7	7	4	-42.9%	-22.3%
Unknown/not reported	22	16	16	24	24	0.0%	2.2%
<b>21 and older</b>	<b>957</b>	<b>930</b>	<b>969</b>	<b>1,002</b>	<b>1,023</b>	<b>2.1%</b>	<b>1.7%</b>
Alcohol and/or drug	675	673	697	635	673	6.0%	-0.1%
None	88	90	69	88	50	-43.2%	-13.2%
Refused	1	0	3	0	1	--	--
Unknown/not reported	193	167	200	279	299	7.2%	11.6%
<b>Percent tested</b>							
15 to 20 years	73.4%	76.0%	82.0%	69.6%	68.2%		
21 and older	70.5%	72.4%	71.9%	63.4%	65.8%		

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015.

Note: Includes drivers with known age in collisions that involved at least one fatality.

**Table 7. Impairment rate of drivers in Indiana collisions by age group, 2010-2014**

	Percent drivers with 0.08 BAC or greater				
	2010	2011	2012	2013	2014
<b>Drivers in all collisions</b>					
15 to 20 years	0.9%	1.1%	1.0%	0.9%	0.8%
21 to 24 years	3.1%	3.1%	3.1%	2.7%	2.5%
25-44 years	2.2%	2.1%	2.4%	2.2%	1.9%
45-64 years	1.4%	1.5%	1.5%	1.3%	1.2%
65 and older	0.4%	0.4%	0.4%	0.3%	0.4%
<b>Drivers in fatal collisions</b>					
15 to 20 years	7.3%	9.0%	9.4%	5.9%	4.5%
21 to 24 years	23.1%	19.6%	26.5%	21.3%	9.6%
25-44 years	16.8%	21.2%	22.5%	16.5%	11.4%
45-64 years	10.4%	10.7%	11.2%	6.4%	8.5%
65 and older	1.4%	0.7%	4.5%	2.8%	2.1%

Lower rate Higher rate

Source: Indiana State Police Automated Reporting and Information Exchange System, as of March 23, 2015.



## DEFINITIONS

- **Annual rate of change (ARC)** – 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  $(\text{Value in 2014}/\text{Value in 2010})^{1/4} - 1$ .
- **Not injured** status includes individuals involved in collisions reported as *null* values in the injury status code field. Reporting officers are instructed to enter only *drivers* in ARIES, if no injury occurs; however, passengers and non-motorists are sometimes mistakenly reported when no injury occurs. For this reason, *not injured* counts should be interpreted with caution.

## REFERENCES

National Highway Traffic Safety Administration (NHTSA). (April 2014). *Traffic Safety Facts 2012: Young Drivers*. Department of Transportation, DOT HS 812 019.

## DATA SOURCES

Indiana State Police Automated Reporting Information Exchange System (ARIES), current as of March 23, 2015.

Indiana Bureau of Motor Vehicles (BMV) licensing data, current as of March 24, 2015.



# TRAFFIC SAFETY FACTS

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 fact sheets that, along with the annual Indiana Crash Fact Book, 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 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

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.

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 is collaborating with the Indiana Criminal Justice Institute to analyze 2014 vehicle crash data from the Automated Reporting Information Exchange System (ARIES), maintained by the Indiana State Police. This marks the ninth year of this partnership. Research findings are summarized in a series of fact sheets on various aspects of traffic collisions, including alcohol-related crashes, trucks, dangerous driving, children, motorcycles, occupant protection, and drivers. An additional publication provides information on county and municipality data, and the final publication produced is the annual Indiana Crash Fact Book. 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. As of December 31, 2014, approximately 99 percent of all collisions are entered electronically through ARIES. Trends in collisions incidence 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. 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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