YOUNG DRIVERS 2017

INDIANA UNIVERSITY

IN 2017:

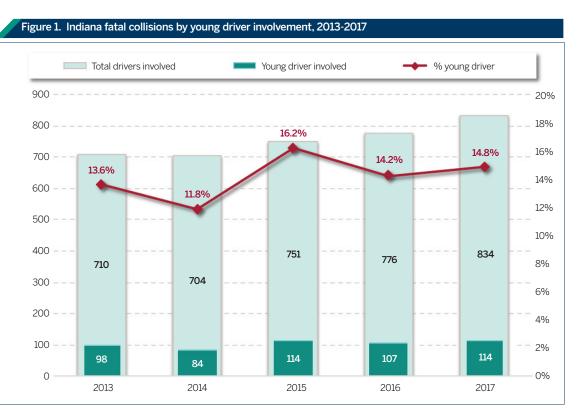
- Young drivers were involved in 114 fatal collisions in 2017, a 6.5 percent increase from 2016.
- In 2017, 13.1 percent of all drivers involved in Indiana collisions were young drivers.
- Collisions involving young drivers killed a total of 127 people.
- 47 young drivers were killed in crashes in 2017, a 2.1 percent decline from 2016.
- Young drivers accounted for 7.6 percent of the total number of licensed drivers in Indiana.
- For every 10,000 licensed drivers, the rate of young female drivers killed in crashes was 0.6 in 2017. For young male drivers, the rate was 2.1 per 10,000, roughly three times that of young female drivers.
- Among young drivers killed with known restraint use, only 45 percent were properly restrained at the time of crashes.
- Young drivers engaged in speeding at higher rates than older drivers.

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Motor vehicle collisions are a leading cause of death for persons 15 to 20 years of age in the United States. Nationally in 2016 (most recent data available), 1,908 young drivers were killed in traffic collisions. This fact sheet summarizes information on Indiana collisions involving young drivers between 2013 and 2017. The term young driver refers to a person 15 to 20 years old operating a motor vehicle. Indiana collision data come from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018.

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Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018

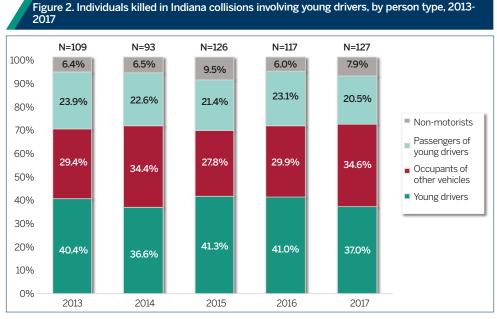
INVOLVEMENT AND INJURIES

As shown in Figure 1, fatal collisions involving young drivers (ages 15 to 20) increased in 2017. There were 114 fatal collisions involving young drivers in 2017, a 6.5 percent rise from 107 fatal crashes in 2016. In Indiana, a total of 44,633 young drivers were involved in traffic collisions in 2017, a decline of 4 percent from 2016 (Table 1). Total fatalities in crashes with young drivers increased 4 percent over the 5year period from 109 in 2013 to 127 in 2017. From 2016 to 2017, fatalities among young drivers and passengers of young drivers remained almost the same. Fatalities among occupants of other vehicles in crashes involving young drivers increased by 26 percent between 2016 (35) and 2017 (44). Young drivers in 2017 suffered 4,562 injuries, a slight decrease from 4,776 in 2016. Young drivers comprise 7.6 percent of fatalities and 12.6 percent of injuries among all drivers in Indiana collisions.

Figure 2 shows the proportion of individuals killed in Indiana collisions involving young drivers by person type. Young drivers accounted for roughly 40 percent of fatal injuries between 2013 and 2017. During the same 5-year period, on average, *occupants of other vehicles* represented slightly more than 30 percent of fatalities, followed by passengers of *young drivers* (21 percent in 2017), and *non-motorists* (8 percent in 2017). Across the 2013-2017 period, about 62 percent of those killed each year in young driver collisions were the young drivers and their passengers (calculated from Figure 2).

Table 1. Indiana collisions invo								
Person type / Injury status			nt of individ			Annual rate of change		
51 5 5	2013	2014	2015	2016	2017	2016-17	2013-17	
Total drivers	295,249	315,825	334,643	347,449	341,920	-1.6%	3.7%	
Fatal	530	517	536	570	620	8.8%	4.0%	
Non-fatal injuries	33,428	34,345	36,191	37,137	36,306	-2.2%	2.1%	
Not injured	261,291	280,963	297,916	309,742	304,994	-1.5%	3.9%	
Young drivers	39,863	40,508	44,139	46,424	44,633	-3.9%	2.9%	
Fatal	44	34	52	48	47	-2.1%	1.7%	
Non-fatal injuries	4,486	4,332	4,710	4,776	4,562	-4.5%	0.4%	
Not injured	35,333	36,142	39,377	41,600	40,024	-3.8%	3.2%	
Passengers of young drivers	1,938	1,827	2,065	2,078	1,956	-5.9%	0.2%	
Fatal	26	21	27	27	26	-3.7%	0.0%	
Non-fatal injuries	1,885	1,787	1,982	1,995	1,864	-6.6%	-0.3%	
Not injured	27	19	56	56	66	17.9%	25.0%	
Occupants of other vehicles	26,157	27,133	30,037	31,618	30,706	-2.9%	4.1%	
Fatal	32	32	35	35	44	25.7%	8.3%	
Non-fatal injuries	4,268	4,388	4,778	4,973	4,811	-3.3%	3.0%	
Not injured	21,857	22,713	25,224	26,610	25,851	-2.9%	4.3%	
Non-motorists	241	252	279	286	246	-14.0%	0.5%	
Fatal	7	6	12	7	10	42.9%	9.3%	
Non-fatal injuries	197	205	227	224	186	-17.0%	-1.4%	
Not injured	37	41	40	55	50	-9.1%	7.8%	
All individuals involved in young driver	68,199	69,720	76,520	80,406	77,541	-3.6%	3.3%	
Fatal	109	93	126	117	127	8.5%	3.9%	
Non-fatal injuries	10,836	10,712	11,697	11,968	11,423	-4.6%	1.3%	
Not injured	57,254	58,915	64,697	68,321	65,991	-3.4%	3.6%	

Source: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018 Note: Non-motorists include *pedestrians, pedalcyclists,* and *animal-drawn vehicle operators.*



Source: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018 Note: Non-motorists include *pedestrians*, *pedalcyclists*, and *animal-drawn vehicle operators*.

LICENSED DRIVERS

In 2017 in Indiana, young drivers comprised 7.6 percent of all licensed drivers (Table 2). Between 2013 and 2017, the number of licensed young drivers has declined slightly by 0.4 percent. Of the six ages that make up young drivers, only among drivers aged 15 and 16 years has the number of

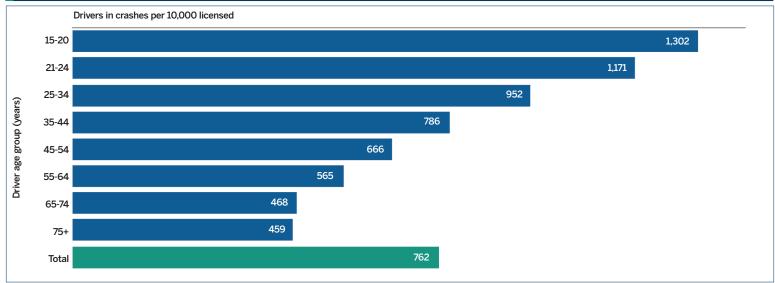
licensed drivers increased during this five-year period. In comparison to their share of licensed drivers, young drivers are overrepresented in traffic collisions. As Figure 3 illustrates, the rate of young drivers involved per 10,000 licensed drivers was 1,302 in 2017, the highest rate among eight age group categories.

	20	13	20	14	2015		2016		20	17	Annual rate of change	
Driver age	Operator	Operator licenses		Operator licenses		Operator licenses		Operator licenses		licenses	2010 17	2012.17
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	2016-17	2013-17
Young drivers	348,811	7.8%	342,840	7.5%	345,237	7.5%	346,252	7.5%	342,724	7.6%	-1.0%	-0.4%
15	12,925	0.3%	12,509	0.3%	14,515	0.3%	14,503	0.3%	14,507	0.3%	0.0%	2.9%
16	46,323	1.0%	45,398	1.0%	46,815	1.0%	47,523	1.0%	47,453	1.1%	-0.1%	0.6%
17	63,209	1.4%	61,869	1.4%	62,603	1.4%	63,380	1.4%	63,048	1.4%	-0.5%	-0.1%
18	71,273	1.6%	70,171	1.5%	69,732	1.5%	70,595	1.5%	70,091	1.6%	-0.7%	-0.4%
19	75,827	1.7%	75,188	1.6%	74,333	1.6%	73,937	1.6%	73,071	1.6%	-1.2%	-0.9%
20	79,254	1.8%	77,705	1.7%	77,239	1.7%	76,314	1.7%	74,554	1.7%	-2.3%	-1.5%
21-24	320,419	7.1%	323,187	7.1%	319,116	7.0%	314,060	6.8%	302,633	6.7%	-3.6%	-1.4%
25-34	746,365	16.6%	770,142	16.8%	771,494	16.9%	773,426	16.8%	746,300	16.6%	-3.5%	0.0%
35-44	732,714	16.3%	739,768	16.2%	731,778	16.0%	725,988	15.8%	711,505	15.9%	-2.0%	-0.7%
45-54	815,732	18.1%	810,112	17.7%	799,659	17.5%	789,195	17.1%	775,966	17.3%	-1.7%	-1.2%
55-64	769,569	17.1%	787,049	17.2%	795,321	17.4%	803,374	17.5%	788,568	17.6%	-1.8%	0.6%
65-74	480,032	10.7%	507,239	11.1%	521,999	11.4%	544,098	11.8%	529,301	11.8%	-2.7%	2.5%
75+	286,550	6.4%	297,497	6.5%	293,160	6.4%	306,869	6.7%	290,108	6.5%	-5.5%	0.3%
All drivers	4,500,192	100.0%	4,577,834	100.0%	4,577,764	100.0%	4,603,262	100.0%	4,487,105	100.0%	-2.5%	-0.1%

Source: Indiana Bureau of Motor Vehicles, as of April 23, 2018

Note: Excludes drivers under 15 years old.





Sources: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018; Indiana Bureau of Motor Vehicles, as of April 23, 2018

Notes:

1) Data limited to drivers with valid age reported.

2) Excludes drivers under 15 years old.

Drivers killed per 10,000 licensed drivers by gender and age group during 2013-2017 is shown in Table 3. Among all age groups, male drivers are killed at higher rates than females. For young female drivers 15 to 20 years

old, 0.6 per 10,000 licensed drivers were killed in crashes in 2017. Among young male drivers, 2.1 drivers were killed per 10,000 licensed drivers, a rate three times higher than among young female drivers.

Driver age	2013		2014		2015		2016		2017		Annual rate of change 2013-17	
group	Female	Male	Female	Male								
15-20	0.1	2.4	0.6	1.4	1.0	2.0	0.5	2.3	0.6	2.1	53.6%	-3.2%
21-24	0.8		0.8	2.4	0.5	2.2	0.8	2.6	0.7	2.5	-5.0%	-4.4%
25-34	0.4	2.2	0.5	2.1	0.8	1.6	0.6	2.3	0.8	2.2	20.0%	0.9%
35-44	0.5	1.8	0.3	1.7	0.4	1.7	0.4	1.9	0.4	2.0	-6.3%	2.3%
45-54	0.3	1.4	0.5	2.1	0.6	1.6	0.4	1.7	0.8	2.1	24.6%	11.4%
55-64	0.5	1.7	0.4	1.3	0.4	1.8	0.4	1.9	0.3	2.2	-8.0%	6.4%
65-74	0.4	1.1	0.4	1.6	0.6	1.2	0.2	1.7	0.8	1.4	14.6%	5.2%
75+	1.4	2.4	0.4	2.1	0.9	2.7	1.0	2.5	0.8	3.5	-12.7%	10.2%
All ages	0.5	1.9	0.5	1.8	0.6	1.8	0.5	2.0	0.6	2.2	6.0%	3.6%

Sources: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018; Indiana Bureau of Motor Vehicles, as of April 23, 2018

Notes: 1) Data limited to drivers with valid age reported. 2) Excludes drivers under 15 years old.

RESTRAINT USE

During 2013-2017, among young drivers involved in passenger vehicle crashes with known restraint use, 91 percent were properly restrained (Table 4). In 2017, 45 percent of young drivers who died were properly restrained, compared to 90 percent who suffered non-fatal injuries. When

looking at restraint use by age and gender between 2013 and 2017, female drivers in collisions were consistently more likely to be properly restrained than males in the same age groups (Table 5). During the five-year period, restraint use rates have remained stable among both male (91 percent) and female (92 percent) young drivers.

Table 4. Restraint use and injury status among young drivers involved in Indiana passenger vehicles collisions, 2013-2017

Passenger vehicle occupant	t injuries	2013	2014	2015	2016	2017	Annual rate of change, 2013-17		
All young drivers		39,352	39,887	43,601	45,768	44,026	-3.8%	2.8%	
properly restrained		35,892	36,542	39,835	41,594	40,023	-3.8%	2.8%	
	% restrained	91.2%	91.6%	91.4%	90.9%	90.9%	0.0%	-0.1%	
Fatalities		37	30	45	42	38	-9.5%	0.7%	
properly restrained		17	13	23	22	17	-22.7%	0.0%	
	% restrained	45.9%	43.3%	51.1%	52.4%	44.7%	-14.6%	-0.7%	
Non-fatal injuries		4,207	4,024	4,507	4,575	4,400	-3.8%	1.1%	
properly restrained		3,721	3,611	4,006	4,075	3,963	-2.7%	1.6%	
	% restrained	88.4%	89.7%	88.9%	89.1%	90.1%	1.1%	0.5%	
Not injured		35,108	35,833	39,049	41,151	39,588	-3.8%	3.0%	
properly restrained		32,154	32,918	35,806	37,497	36,043	-3.9%	2.9%	
	% restrained	91.6%	91.9%	91.7%	91.1%	91.0%	-0.1%	-0.1%	

Source: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018

Notes:

1) Restraint use rates are calculated based on individuals identified as injured occupant or driver

2) Unrestrained and unknown restraint use codes are included in totals for restraint use rate calculations.
3) Restraint use rates are limited to those occuring in passenger vehicles (defined as passenger cars, pickup trucks, sport utility vehicles, and vans).

Table 5. Restraint use among drivers involved in Indiana passenger vehicles collisions, by gender and age group, 2013-2017												
Driver age	2013		2014		2015		2016		2017		Annual rate of change, 2013-17	
group	Female	Male	Female	Male								
15-20	92.4%	90.2%	92.6%	90.8%	92.6%	90.5%	91.7%	90.6%	92.0%	90.4%	-0.1%	0.0%
21-24	92.3%		92.8%	90.0%	92.5%	89.6%	92.2%	89.5%	91.8%	89.8%	-0.1%	0.3%
25-34	92.0%	89.2%	92.6%	89.9%	92.2%	89.7%	92.1%	89.4%	91.8%	89.5%	-0.1%	0.1%
35-44	92.2%	90.2%	92.9%	91.0%	92.7%	90.9%	92.1%	90.3%	92.2%	90.2%	0.0%	0.0%
45-54	92.5%	90.5%	93.1%	91.5%	92.6%	91.4%	92.1%	91.1%	92.2%	91.1%	-0.1%	0.2%
55-64	92.4%	91.4%	92.9%	91.9%	93.1%	91.4%	92.3%	91.3%	92.4%	90.9%	0.0%	-0.1%
65-74	92.5%	91.0%	93.2%	92.2%	93.0%	91.2%	92.8%	91.9%	91.8%	91.2%	-0.2%	0.1%
75+	91.9%	90.8%	92.4%	91.9%	92.2%	91.4%	91.8%	91.0%	92.0%	90.4%	0.0%	-0.1%
All drivers	92.3%	90.1%	92.8%	90.9%	92.6%	90.6%	92.1%	90.4%	92.1%	90.3%	-0.1%	0.1%

Low > High

Sources: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018

Notes: 1) Restraint use rates are calculated based on individuals identified as injured occupant or driver.

Unrestrained and unknown restraint use codes are included in totals for restraint use rate calculations.
Restraint use rates are limited to those occurring in passenger vehicles (defined as passenger cars, pickup trucks, sport utility vehicles, and vans).

4) Data limited to drivers with valid age reported.

5) Excludes drivers under 15 years old.

ALCOHOL-IMPAIRED COLLISIONS

A driver is considered to be alcohol-impaired when the driver's blood alcohol concentration is .08 g/dL or higher. In 2017, the rate of alcohol-impairment among young drivers in Indiana collisions was much lower than drivers in the 21 to 24 and 25 to 34 age groups (Figure 4). The impaired driving crash rate for young drivers, ages 15 to 20 years old, was 7.4 per 10,000 licensed, compared to 24.1 per 10,000 licensed drivers aged 21 to 24 years old. In contrast, as previously noted, young drivers had the highest rate of overall crash involvement (1,302 per 10,000 licensed) among all driver age groups.

SPEED-RELATED COLLISIONS

A collision is defined as speed-related in Indiana ARIES data if any of the following conditions are met: *unsafe speed* or *speed too fast for weather conditions* is listed as the primary or a contributing factor of the collision; or a vehicle driver is issued a speeding citation. During 2013-2017, in comparison to older age categories, young drivers have a relatively higher incidence of speeding, (Table 6). Among drivers involved in collisions, young male drivers are the most likely to be speeding. In 2017, 11 percent of male drivers and 8 percent of female drivers in the 15- to 20-year old age group were speeding at the time of the collision.

Figure 4. Alcohol-impaired drivers involved in Indiana crashes per 10,000 licensed, by age group, 2017 Alcohol-impaired drivers in crashes per 10,000 licensed 15-20 7.4 21-24 24.1 Driver age group (years) 25-34 18.3 35-44 11.5 45-54 8.8 55-64 5.8 2.4 65-74 75+ 0.8 N = 4,456 impaired drivers 9.9 Total

Sources: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018; Indiana Bureau of Motor Vehicles, as of April 23, 2018

Notes

1) Data limited to drivers with valid age reported.

2) Excludes drivers under 15 years old.

	2013		2014		2015		2016		2017		Annual rate of change, 2013-17	
Age group	Female	Male	Female	Male								
15-20	8.9%	12.4%	9.8%	14.0%	8.6%	13.0%	8.5%	12.3%	7.5%	11.1%	-4.2%	-2.7%
21-24	7.6%	10.4%	9.5%	12.7%	7.5%	11.2%	6.9%	10.3%	6.3%	9.2%	-4.8%	-2.9%
25-34	5.5%	8.5%	7.5%	10.7%	5.9%	8.7%	5.3%	8.1%	4.6%	6.8%	-4.1%	-5.3%
35-44	4.5%	5.7%	5.7%	7.6%	4.3%	6.2%	4.0%	5.9%	3.7%	5.1%	-5.0%	-2.9%
45-54	3.3%	4.5%	4.9%	6.2%	3.7%	5.1%	3.1%	4.4%	2.7%	3.8%	-5.3%	-4.0%
55-64	2.6%	3.7%	3.7%	5.2%	2.8%	4.0%	2.3%	3.4%	2.1%	3.1%	-4.7%	-4.7%
65-74	2.1%	2.8%	2.4%	3.8%	1.9%	3.3%	1.9%	2.6%	1.7%	2.5%	-6.2%	-2.3%
75 +	1.6%	2.2%	2.0%	3.1%	1.7%	2.5%	1.6%	2.5%	1.7%	2.2%	0.7%	-0.4%
All ages	5.0%	6.9%	6.4%	8.6%	5.1%	7.3%	4.7%	6.7%	4.1%	5.8%	-4.8%	-4.0%

Sources: Indiana State Police Automated Reporting and Information Exchange System (ARIES), as of April 6, 2018; Indiana Bureau of Motor Vehicles, as of April 23, 2018

Notes:

1) Data limited to drivers with valid gender and age reported.

2) Excludes drivers under 15 years old.

DEFINITIONS

Alcohol-impaired collision - A collision is considered *alcohol-impaired* when any vehicle driver or non-motorists involved has a BAC test result at or above 0.08 g/dL.

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 2013 to 2017, it is calculated as (Value in 2017 / Value in 2013)^{1/4} -1.

Non-fatal injury includes incapacitating, non-incapacitating, possible, not reported, refused (treatment) and unknown injury categories.

Not injured status includes individuals involved in collisions reported as null values in the injury status code field. NOTE: The *not injured* category in ARIES should include only uninjured *drivers*; nonetheless, *vehicle occupants* are sometimes reported as *not injured* on the crash report completed by the investigating officer.

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.

REFERENCES

National Highway Traffic Safety Administration (NHTSA). (February 2018). *Traffic Safety Facts 2016 Data: Young Drivers*. Department of Transportation, DOT HS 812 498.

DATA SOURCES

Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 6, 2018.

Indiana Bureau of Motor Vehicles, as of April 23, 2018.

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 website (http://trafficsafety.iupui.edu), the ICJI website (www.in.gov/cji/), or you may contact the PPI at 317-278-1346.





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 twelfth 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 for each county and municipality. 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. Collision 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.

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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