

This fact sheet examines non-motorists involved in traffic collisions in Indiana from 2010 to 2014. Non-motorists include *animal-drawn vehicle operators, pedalcyclists, and pedestrians*. General trends, injury status by type of non-motorist, age of individual, time of day, month of year, geography of non-motorists involved, and related alcohol impairment are examined. The data come from the Indiana State Police Automated Reporting Information Exchange System (ARIES) as of March 23, 2015.

From 2010 to 2014, approximately one percent of individuals involved in a collision were non-motorists (Table 1). In 2014, the number of non-motorists involved in Indiana traffic collisions was at its lowest point since 2010. The number of non-motorists involved in traffic collisions decreased 1 percent annually over that five year period. Annually, the number of non-motorists killed increased by 4 percent while the number of non-motorists injured decreased by 3 percent. In 2014, non-motorists comprised 12 percent of all individuals killed in traffic collisions and nearly 5 percent of all non-fatally injured individuals.

In 2014, there were 2,812 non-motorists involved in Indiana collisions.

From 2010 to 2014, the largest number of non-motorist fatal and incapacitating injuries was typically within the 15-24 age group.

From 2010 to 2014, 86 percent of non-motorists were involved in urban area collisions.

The percentage of non-motorists injured was higher in collisions that involved an alcohol impaired driver in 2014.

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.

Table 1. Individuals involved in Indiana collisions, by person type and injury status, 2010-2014

Person type/injury status	Count of individuals					Annual rate of change	
	2010	2011	2012	2013	2014	2013-2014	2010-2014
All individuals	311,968	304,004	306,367	310,263	330,667	6.6%	1.5%
Fatal	753	750	781	784	743	-5.2%	-0.3%
Non-fatal injury	50,172	47,225	49,143	47,527	48,519	2.1%	-0.8%
Not injured	261,043	256,029	256,443	261,952	281,405	7.4%	1.9%
All non-motorists	2,928	2,871	2,975	2,827	2,812	-0.5%	-1.0%
Fatal	75	80	79	87	89	2.3%	4.4%
Non-fatal injury	2,473	2,414	2,424	2,277	2,228	-2.2%	-2.6%
Not injured	380	377	472	463	495	6.9%	6.8%
Non-motorists as % of total	0.9%	0.9%	1.0%	0.9%	0.9%	-6.7%	-2.4%
Fatal	10.0%	10.7%	10.1%	11.1%	12.0%	7.9%	4.7%
Non-fatal injury	4.9%	5.1%	4.9%	4.8%	4.6%	-4.2%	-1.8%
Not injured	0.1%	0.1%	0.2%	0.2%	0.2%	-0.5%	4.8%
Pedalcyclist	1,049	959	1,119	1,032	926	-10.3%	-3.1%
Fatal	14	13	14	15	13	-13.3%	-1.8%
Non-fatal injury	868	783	894	822	711	-13.5%	-4.9%
Not injured	167	163	211	195	202	3.6%	4.9%
Pedestrian	1,800	1,812	1,753	1,686	1,775	5.3%	-0.3%
Fatal	60	63	64	70	76	8.6%	6.1%
Non-fatal injury	1,573	1,604	1,507	1,427	1,485	4.1%	-1.4%
Not injured	167	145	182	189	214	13.2%	6.4%
Animal-drawn vehicle operator	79	100	103	109	111	1.8%	8.9%
Fatal	1	4	1	2	0	-100.0%	-100.0%
Non-fatal injury	32	27	23	28	32	14.3%	0.0%
Not injured	46	69	79	79	79	0.0%	14.5%

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

Notes:

- 1) Non-motorists include pedalcyclists, pedestrians, and animal-drawn vehicle operators.
- 2) Non-fatal injury includes incapacitating, non-incapacitating, possible, not reported, unknown, and refused (treatment) injury categories.
- 3) Not injured status includes individuals involved in collisions reported as null values in the injury status code field.

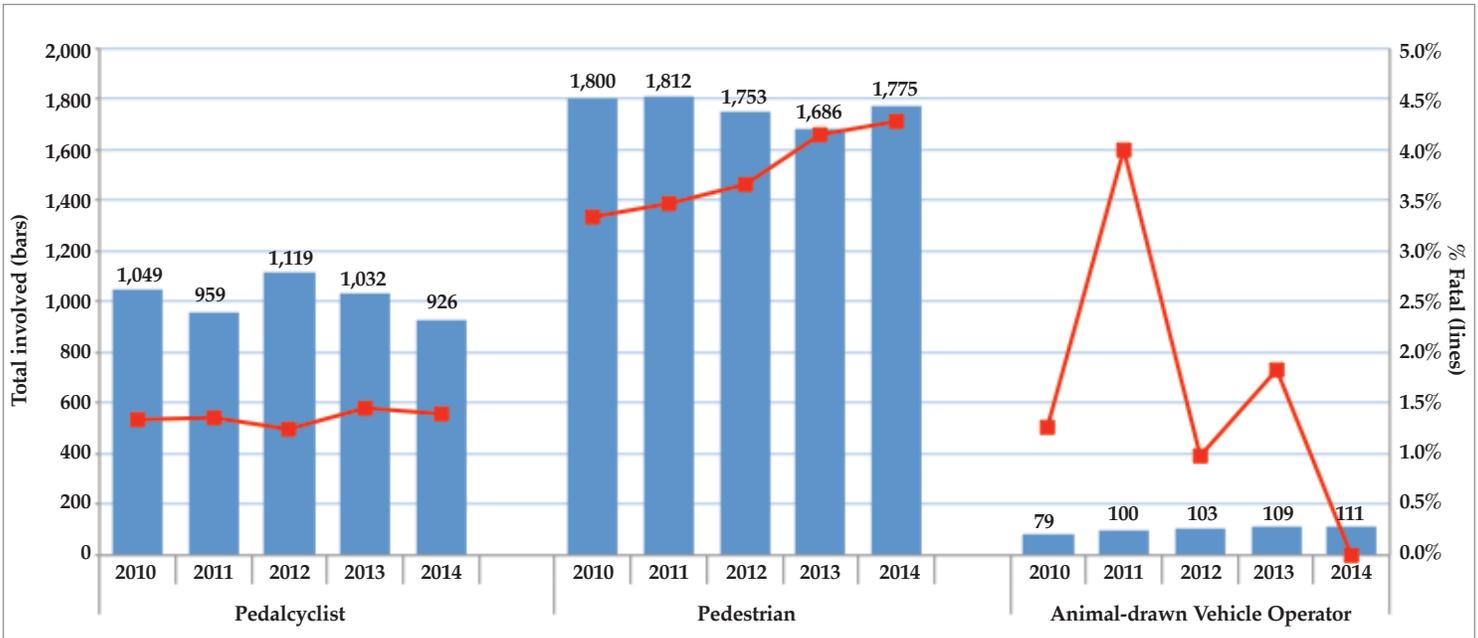


TRAFFIC SAFETY FACTS

Most non-motorists involved in traffic collisions were pedestrians. Of the 2,812 non-motorists involved in collisions in 2014, 1,775 were pedestrians, 926 were pedalcyclists, and 111 were animal-drawn vehicle operators

(Figure 1). The increase in non-motorists killed between 2010 and 2014 is driven, by pedestrian fatalities. The percentage of pedestrians involved in collisions who were killed increased from 3 in 2010 to 4 percent in 2014.

Figure 1. Non-motorists involved in Indiana collisions and fatality rate by person type, 2010-2014



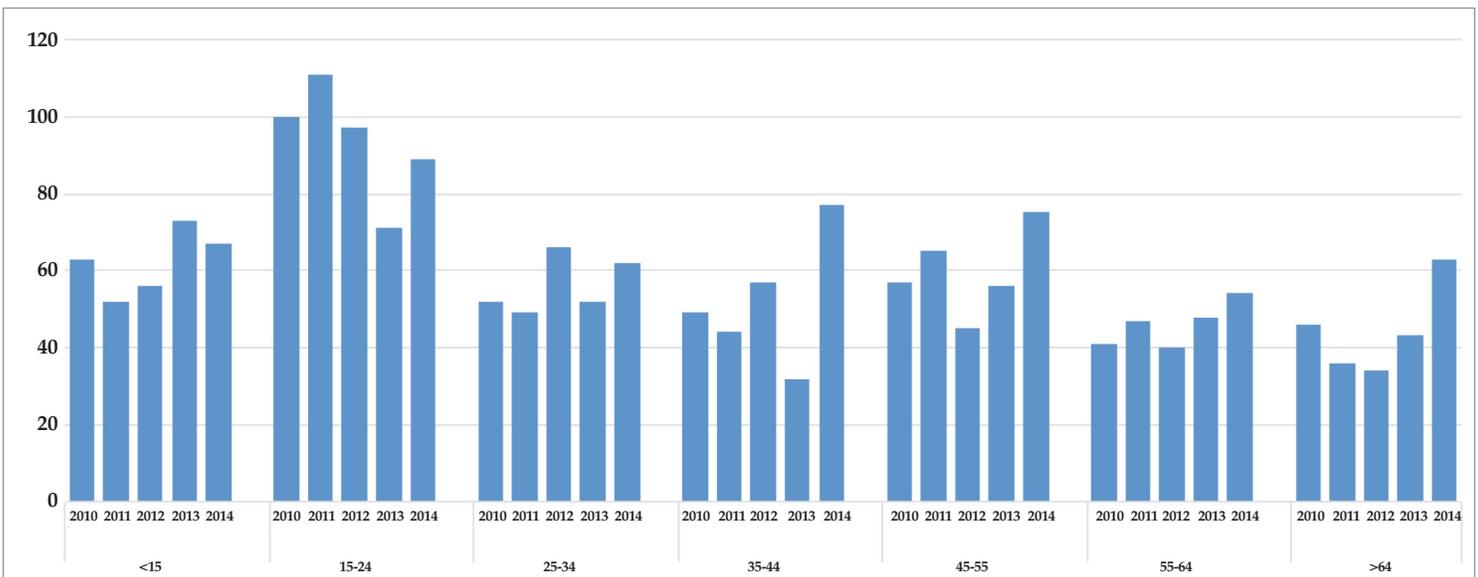
Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 23, 2015

NON-MOTORIST INJURIES BY AGE

Figure 2 shows the number of non-motorist fatalities and incapacitating injuries resulting from a collision between 2010 and 2014 by age. From 2010 to 2014, the largest number of non-motorists killed or incapacitated

was typically within the 15-24 age grouping. The number of non-motorist fatal and incapacitating injuries increased between 2013 and 2014 for all age groups except under 15, with the largest increase involving non-motorists over the age of 34.

Figure 2. Non-motorist fatal and incapacitating injuries in collisions, by age group, 2010-2014



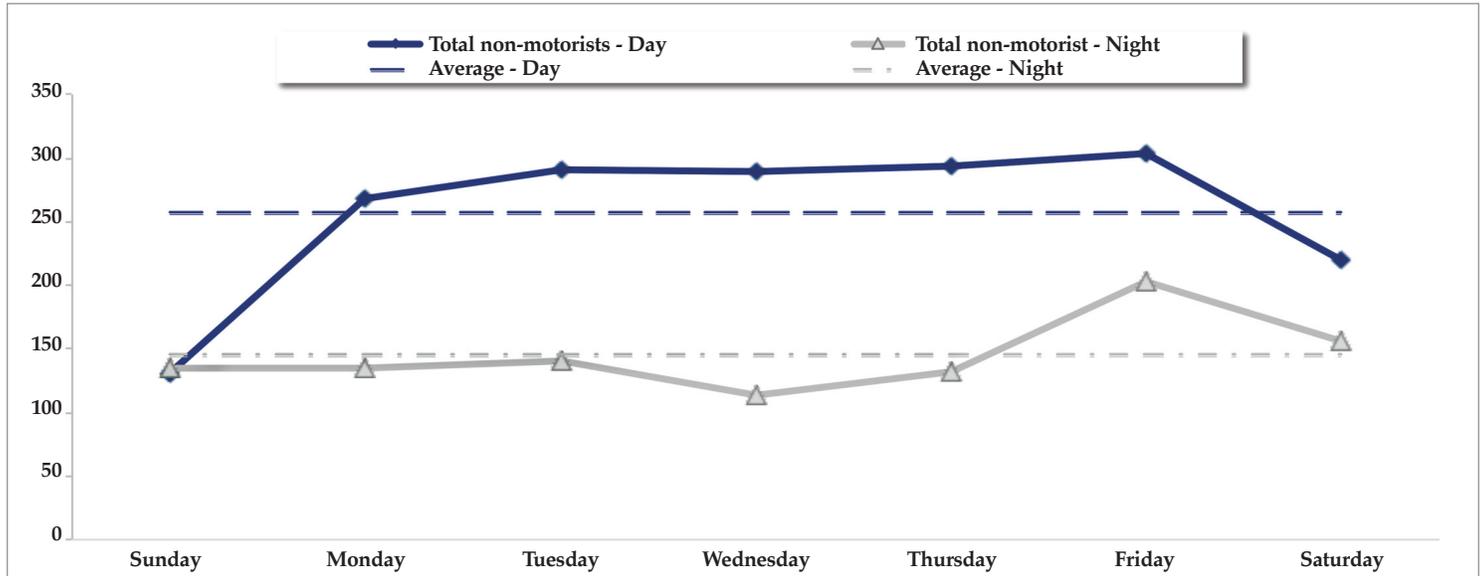
Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 23, 2015

TIME OF DAY, DAY OF WEEK, AND MONTH

Figure 3 shows the number of non-motorists involved in collisions by daytime versus nighttime and day of the week in 2014. Non-motorists involved in collisions generally occurred during the day on weekdays. The highest daily count of non-motorists involved in collisions occurred on Fridays.

Figure 4 shows the number of non-motorists involved in collisions by month in 2014. Considerably more non-motorists were involved in traffic collisions between May and October, which coincides with larger numbers of pedalcyclists involved in incidents during those months. The number of animal-drawn vehicle operators and pedestrians peaked in October at 14 and 203, respectively.

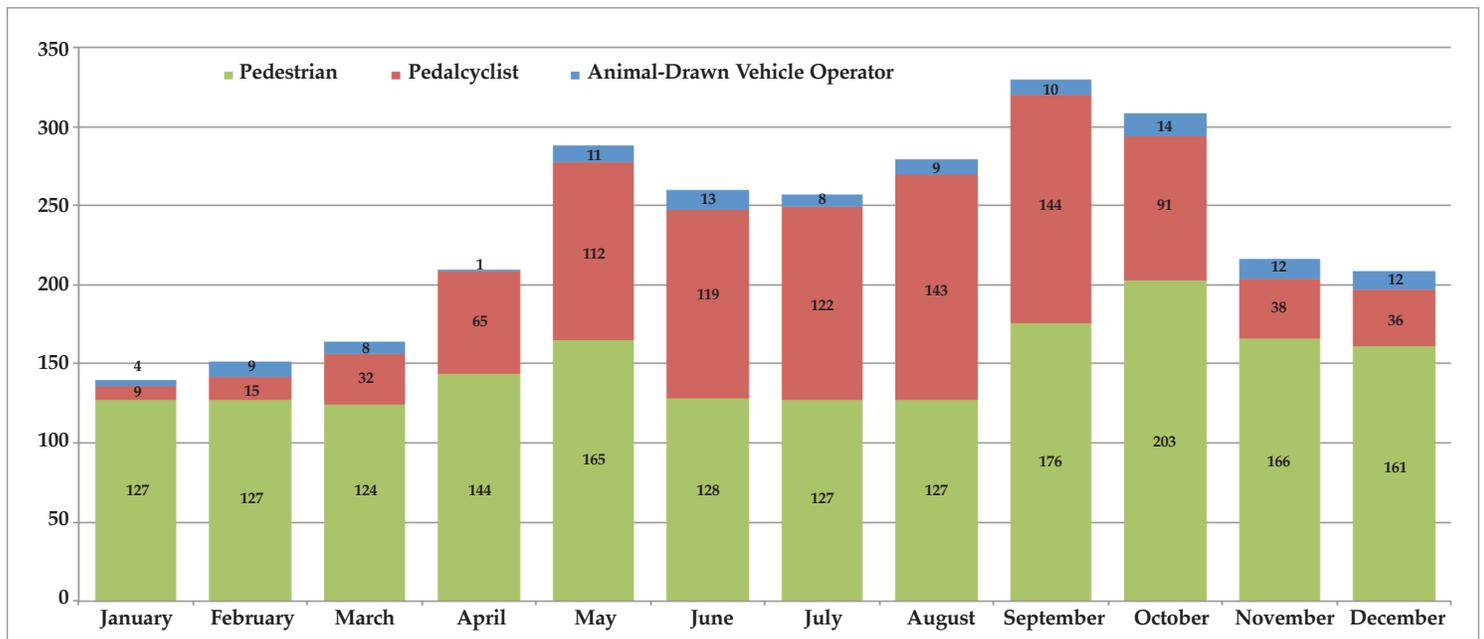
Figure 3. Non-motorists in Indiana collisions, by day of week and day/night, 2014



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

Note: Day is defined as 6am - 5:59pm. Night is defined as 6pm - 5:59am.

Figure 4. Non-motorists involved in collisions, by month and person type, 2014



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



INDIANA TRAFFIC SAFETY FACTS

LOCALE

Table 2 shows the distribution of all injured people and injured non-motorists involved in collisions that occurred in Indiana by locale type (i.e., urban, suburban, exurban, and rural areas). Figure 5 depicts the number of non-motorists and non-motorists per 1,000 individuals involved in Indiana traffic collisions. Non-motorists were most likely to be involved and injured in urban areas. Approximately two-thirds of all

individuals involved in Indiana collisions were located in urban areas (Table 2). Between 85 and 88 percent of non-motorists in collisions occurred in urban areas from 2010 to 2014. High population density as well as higher rates of walking and bicycling as a mode of transportation in urban areas likely contributes to the large number of pedestrians and pedalcyclists involved in urban collisions. The rate of non-motorists per 1,000 individuals involved in urban collisions is 10.3, compared to 4.1 and 4.2 in suburban and rural areas, respectively (Figure 5).

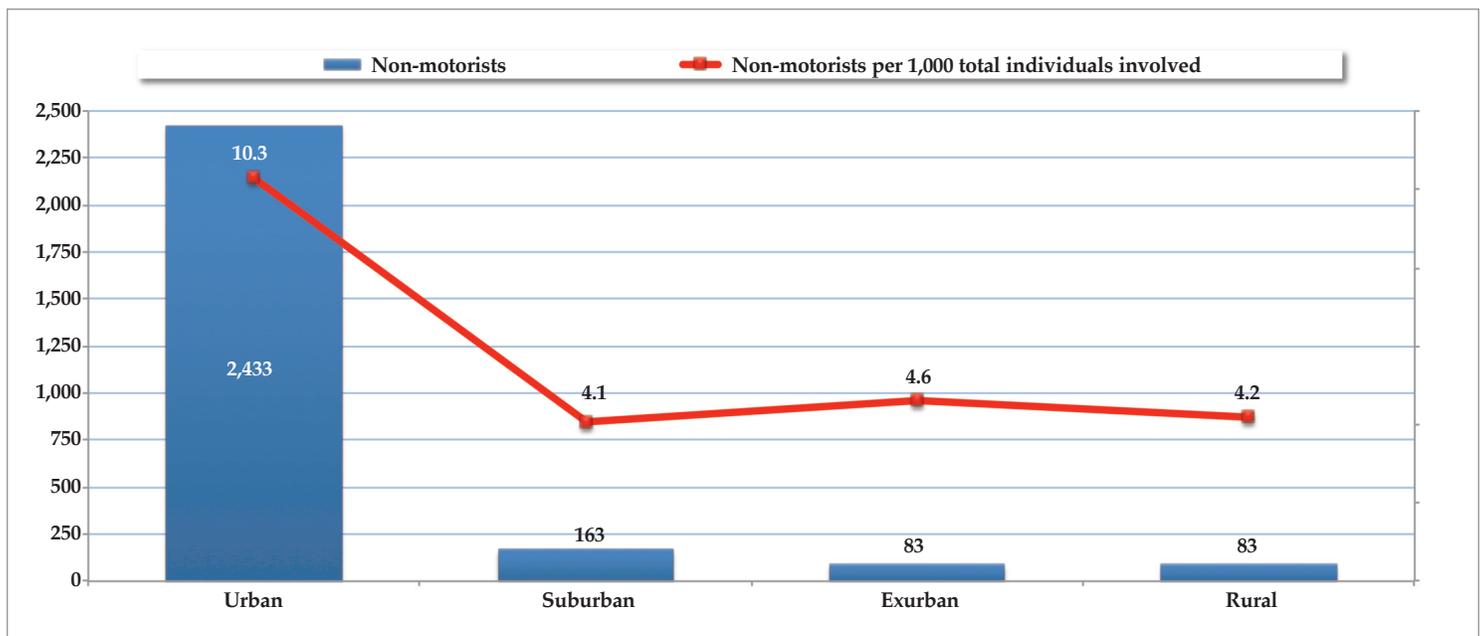
Table 2. Percentage of individuals injured in collisions, by locale, 2010-2014

	2010	2011	2012	2013	2014
All injured individuals	50,925	47,975	49,924	48,311	49,262
Urban	66%	67%	67%	67%	67%
Suburban	15%	16%	15%	16%	16%
Exurban	8%	7%	7%	8%	7%
Rural	8%	8%	8%	8%	8%
Unknown	4%	3%	3%	1%	3%
Injured non-motorists	2,548	2,494	2,503	2,364	2,317
Urban	85%	86%	88%	89%	88%
Suburban	6%	6%	5%	5%	5%
Exurban	3%	3%	2%	2%	2%
Rural	3%	3%	3%	3%	3%
Unknown	3%	2%	2%	0%	2%
Involved non-motorists by injury type					
Fatal	75	80	79	87	89
Urban	72%	68%	67%	67%	80%
Suburban	11%	11%	19%	21%	10%
Exurban	8%	10%	1%	7%	2%
Rural	4%	5%	11%	6%	8%
Unknown	5%	6%	1%	0%	0%
Non-fatal	2,473	2,414	2,424	2,277	2,228
Urban	86%	87%	89%	90%	89%
Suburban	6%	5%	5%	5%	5%
Exurban	3%	2%	2%	2%	2%
Rural	3%	3%	2%	3%	2%
Unknown	3%	2%	2%	0%	2%

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

Note: Excludes individuals *not injured*.

Figure 5. Non-motorists involved in Indiana collisions by locale, 2014



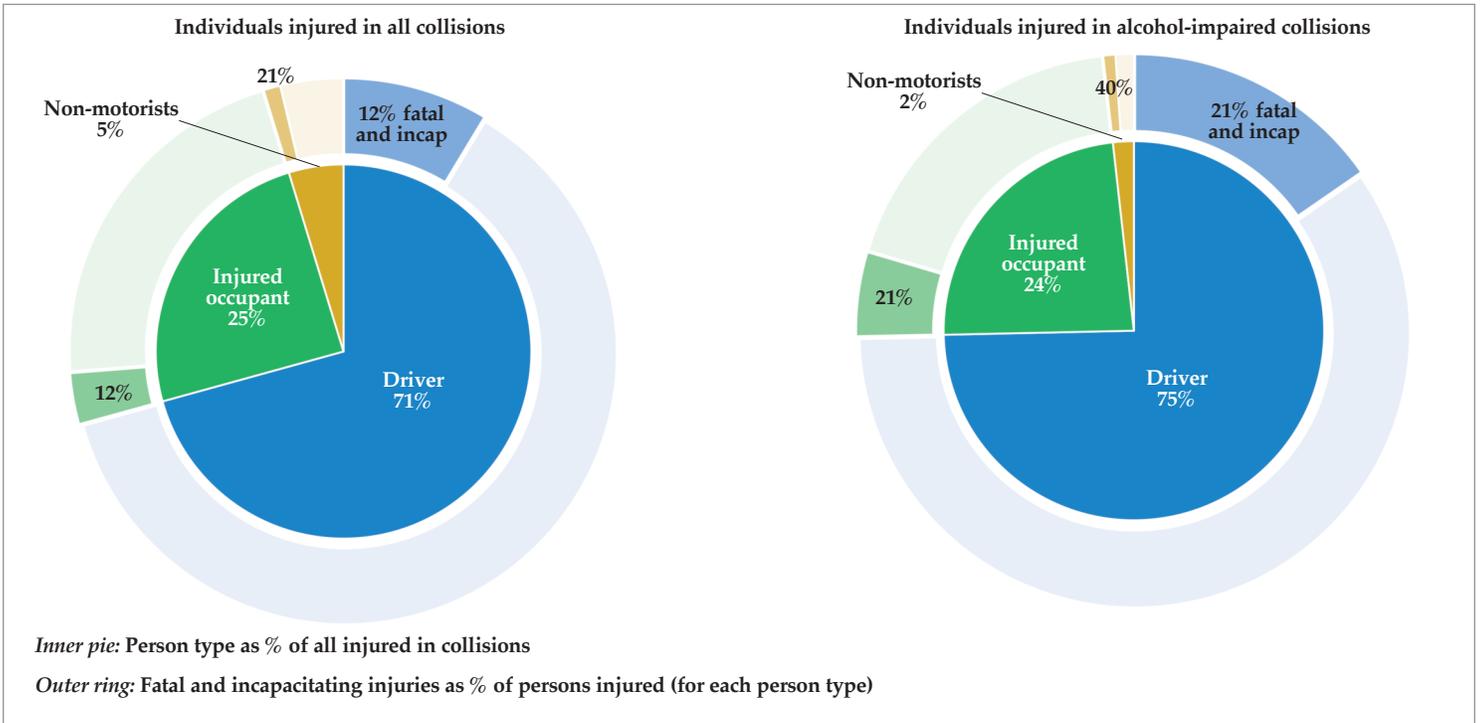
Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 23, 2015

ALCOHOL IMPAIRMENT

Figure 6 compares individuals injured or killed in *all* collisions to individuals injured or killed in *alcohol-impaired* collisions. The inner pie of Figure 6 illustrates that non-motorists represented 2 percent of individuals involved in *alcohol-impaired* collisions and 5 percent of individuals involved in *all* collisions. The outer ring of Figure 6 illustrates that all individuals in *alcohol-impaired* collisions were much more likely to suffer fatal and incapacitating injuries than individuals involved in *all* collisions.

The percent of non-motorist fatal and incapacitating injuries in *impaired driving* collisions, for example, was roughly double that of non-motorist fatal and incapacitating injuries in *all* collisions. While 21 percent of non-motorists in *all* collisions suffered fatal and incapacitating injuries, 40 percent of non-motorists involved in *alcohol-impaired* crashes suffered fatal and incapacitating injuries.

Figure 6. Individuals involved in Indiana collisions, by person type, injury status, and alcohol involvement, 2014



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

- Notes:
- 1) Non-motorists include pedestrians, pedalcyclists, and animal-drawn vehicle operators.
 - 2) Excludes individuals who were not injured or with a NULL value in the injury status field.
 - 3) See Definitions for alcohol-impaired collisions.



DEFINITIONS

- **Alcohol-impaired** – A driver or operator is classified as *alcohol-impaired* when the driver has a blood alcohol content (BAC) test result at or above 0.08 g/dL.
- **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 $(\text{Value in 2014}/\text{Value in 2010})^{1/4} - 1$.
- **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).
- **Not injured** status includes individuals involved in collisions reported as *null* values in the injury status code field. While reporting officers are instructed to enter all drivers in ARIES, passengers are only to be entered in the crash report if an injury occurs; therefore, not injured counts should be interpreted with caution.
- **Non-motorists** include *animal-drawn vehicle operators*, *pedalcyclists*, and *pedestrians*.
- **Non-incapacitating** injuries include those injuries reported as *non-incapacitating* or *possible*.
- **Non-fatal** injury includes *incapacitating*, *non-incapacitating*, *possible*, *not reported*, *unknown*, and *refused (treatment)* injury categories.

DATA SOURCE

Indiana State Police Automated Reporting Information Exchange System (ARIES), current as of March 23, 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), the ICJI website (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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