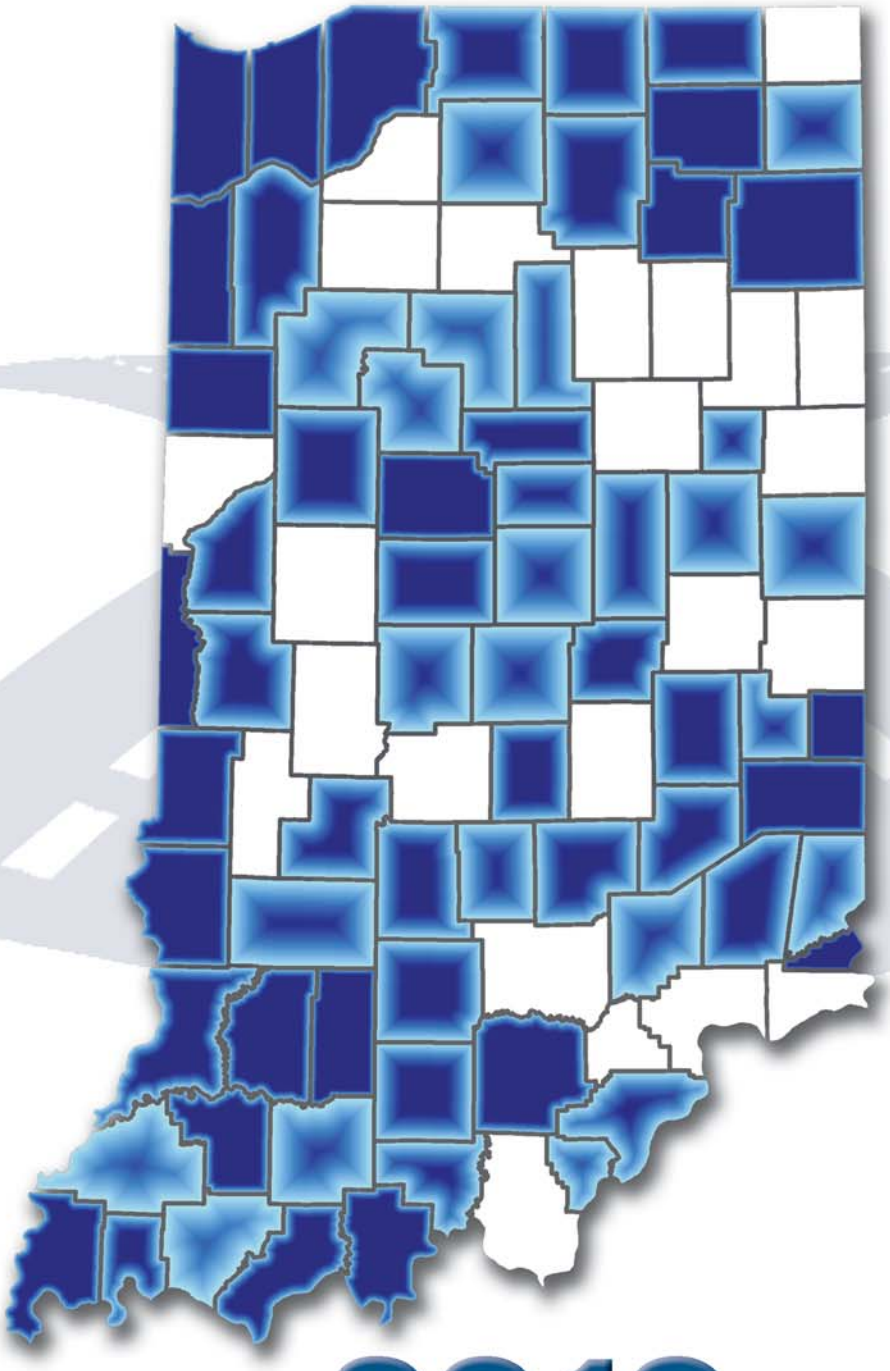
INDIANA CRASH FACTS



2010

INDIANA CRIMINAL JUSTICE INSTITUTE

CENTER FOR CRIMINAL JUSTICE RESEARCH

SCHOOL OF PUBLIC AND ENVIRONMENTAL AFFAIRS
INDIANA UNIVERSITY
IUPUI

INDIANA TRAFFIC SAFETY QUICK FACTS - 2010

- 192,890 traffic collisions resulting in injury or property damage occurred, a 1.7 percent increase from 2009.
- There were 701 fatal collisions in 2010 (resulting in 754 fatalities), an 11 percent increase from 2009.
- 4,683 collisions (2.4 percent of all collisions) occurred in a work zone in 2010.
- 9.6 percent (18,551) of all collisions were speed-related, a number that did not change from 2009.
- 19.4 percent (136 of 701) of fatal collisions were speed-related.
- 4.3 percent (8,339) of all collisions were alcohol-related, and 2.5 percent (4,905) of all collisions involved a driver that was legally alcohol-impaired.
- 24.7 percent (173 of 701) of fatal collisions were alcohol-related, and 18.5 percent (130 of 701) of fatal collisions involved a driver that was legally alcohol-impaired.
- 135 people were killed in collisions that involved an alcohol-impaired driver; 145 people were killed in speed-related collisions.
- 35 percent of all traffic fatalities occurred in urban areas, 28 percent in suburban areas, 16 percent in exurban areas, and 21 percent occurred in rural areas.
- December had the highest frequency of collisions among all months (20,995, or 10.9 percent of all collisions in 2010).
- The 16 to 17 year old age group had the highest rate of drivers involved in collisions in 2010 (982 per 10,000 licensed drivers).
- 76 non-motorists were killed in collisions in 2010 (62 pedestrians and 14 pedalcyclists).
- 46.5 percent of persons killed in motor vehicle collisions* were known to be restrained.
- In 2010, the economic costs of motor vehicle collisions in Indiana exceeded $4.4 billion.

*excludes non-motorists and vehicles reported as *farm vehicles, motorcycles,* and *mopeds*.

Source: Indiana State Police

INTRODUCTION AND ACKNOWLEDGEMENTS

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, Center for Criminal Justice Research (CCJR) has collaborated with the Indiana Criminal Justice Institute (ICJI) to analyze data from the Automated Reporting Information Exchange System (ARIES) database maintained by the Indiana State Police. Research findings have been summarized in a series of Fact Sheets on various aspects of traffic collisions, including alcohol-related crashes, children, motorcycles, light trucks, large trucks, dangerous driving, occupant protection, and young drivers. Portions of the content in those reports and in this Crash Fact Book are based on guidelines provided by the U.S. National Highway Traffic Safety Administration (NHTSA).

The *Indiana Officer's Standard Crash Report*, completed by local and state law enforcement officers, contains over 200 data items for each collision reported. These include the date, time and location of the collision, the types of vehicle(s) involved, a description of the events prior to the collision, conditions at the time of the collision, as well as information on the driver and other passengers, pedestrians, and/or pedalcyclists involved in the collision. These statistics are used to inform the public, as well as state and national policymakers, on matters of road safety and serve as the analytical foundation of traffic safety program planning and design in Indiana.

CCJR would like to thank the Indiana Criminal Justice Institute, NHTSA, the Federal Highway Administration (FHWA), the Indiana State Police, and Open Portal Solutions for their continued support and guidance throughout the process of creating these reports. CCJR would also like to acknowledge the assistance and cooperation of the Indiana Bureau of Motor Vehicles in providing data on Indiana registered vehicles and licensed drivers and to the Indiana Department of Transportation for the vehicle miles travelled data.

Funding for these publications is provided by the Indiana Criminal Justice Institute and the National Highway Traffic Safety Administration. An electronic copy of the Fact Sheets and this document can be accessed via the CCJR website (www.ccjr.iupui.edu), the ICJI traffic safety website (www.in.gov/cji/), or you may contact the Center for Criminal Justice Research at 317-261-3000. This publication may be reproduced free of charge.

NOTES:
In order to minimize misinterpretation of the data presented, please take note of the definitions provided in the glossary.

Data discrepancies may exist between this report and previous traffic safety publications. These differences can be attributed to updates to the ARIES database that have occurred since the original date of publication.

Indiana University Public Policy Institute, Indianapolis
John Krauss, Director
Samuel Nunn, Director, Center for Criminal Justice Research

Traffic Records Team:

Dona Sapp, Senior Policy Analyst
Matt Nagle, Senior Policy Analyst
Bill Newby, Senior Policy Analyst
Samuel Nunn, Director
Kathy Lisby, Senior Policy Analyst

Assisted by:
Tami Barreto, Editor
Susan Hill, Graphic Designer

Cover design is a chloropleth map illustrating the percentage of county collisions that involved an alcohol-impaired driver or non-motorist.

STATE OF INDIANA

INDIANA CRIMINAL JUSTICE INSTITUTE

Mitch Daniels, Governor
Mark Massa, Executive Director

Dear Traffic Safety Partners,

In this year's Highway Safety Plan (HSP) the Traffic Safety Division (TSD) has embraced the American Association of State Highway Transportation Officials (AASHTO) stance to reduce fatalities in half by 2027. The TSD and our partners believe that this is a straightforward, ambitious, yet realistic goal. Indiana has a vision to do our part to reach this goal by reducing fatalities to fewer than 496 by 2027. To help reach this goal, the TSD continues to measure progress through over 25 performance measures in the 2012 HSP.

Moving into FY 2012, the TSD looks to build on the successes of previous years to further enhance traffic safety in Indiana to help reach this long term goal. It is through documents like the *Indiana Traffic Safety Facts* that the TSD and our partners are able to develop, implement and measure the impact of traffic safety programs. The data produced by the Center for Criminal Justice Research at Indiana University Public Policy Institute (Center) is analyzed frequently by all partners to determine if goals set in the HSP are on track. If corrective action needs to be taken, it is discussed with the appropriate committee and stakeholders to whom it relates. With the Center's compilation of annual traffic safety fact sheets, county profile fact sheets and one comprehensive crash fact book, together they help traffic safety stakeholders make informed policy and program decisions.

In 2012, the Center will continue to assist in the analysis and research of Indiana's traffic safety concerns. Indiana is looking forward to building on the momentum of the previous years to continue to reduce crashes and fatalities throughout Indiana in 2012 and beyond.

Sincerely,

Mark S. Massa
Executive Director,
Indiana Criminal Justice Institute

Ryan V. Klitzsch
Division Director, Traffic Safety,
Indiana Criminal Justice Institute

*101 West Washington St., Suite 1170 E, Indianapolis, Indiana 46204-2038 * 317-232-1233 * Fax 317-232-4979*
An Equal Opportunity Employer - www.in.gov/cji

INDIANA CRIMINAL JUSTICE INSTITUTE

Dear Fellow Hoosiers,

The Governor's Council on Impaired and Dangerous Driving (Council), serves as the traffic safety advisory group in Indiana. The Traffic Safety division of the Indiana Criminal Justice Institute continues to work with the Council to develop strategies to effectively address traffic safety concerns throughout the state. The Council coordinates aggressive public information campaigns designed for implementation at the state and local level, provides materials, research findings and information for traffic safety advocates.

One area that the Council has been at the forefront on is working to address concerns brought up throughout the criminal justice system regarding the Department of Toxicology. The Council tasked a special subcommittee to look further into the matter. A preliminary report was drafted for the Council outlining findings of the committee. The following legislative session the Indiana legislature voted to make the Department of Toxicology a standalone state agency. Part of the legislation included language establishing a Toxicology Advisory Board, to look at ways of improving the organizational structure and efficiencies of processing suspected DUI drivers BAC samples. The Council will continue to be involved in these efforts and look for opportunities to improve the availability of data for analysis to address DUI drivers.

The ability to develop effective DUI countermeasures would not be possible without the thorough analysis of vast amounts of data from various sources. The Center for Criminal Justice Research at Indiana University Public Policy Institute continues to develop resources, such as this, that assist traffic safety stakeholders to develop initiatives to reduce crashes, injuries and fatalities in Indiana. I hope that this document continues to serve as a guide for you in making Indiana a safer and healthier place to live.

Very truly yours,

Curtis T. Hill, Jr.
Elkhart County Prosecuting Attorney
Chairman, Governor's Council on
Impaired and Dangerous Driving

INDIANA CRIMINAL JUSTICE INSTITUTE
101 West Washington Street
Suite 1170, East Tower
Indianapolis, Indiana 46204-2038
Voice: 317-232-1233
Facsimile: 317-232-4979
www.in.gov/cji

MEMBERS OF THE GOVERNOR'S COUNCIL ON IMPAIRED AND DANGEROUS DRIVING

Curtis Hill - Chairman
Prosecutor, Elkhart County

Tony Bennett, Ed.D.
Superintendent, Indiana Department of Education

Marilyn Bull, M.D.
Riley Hospital for Children

Michael B. Cline
Commissioner, Indiana Department of Transportation

James Downey
Retired, National Highway Traffic Safety Administration

David Gilbert
Chief of Police, Marion

Marie Greger-Smith
Executive Director, Advocates Against Impaired Driving, Inc.

Dean Hawley, M.D.
Indiana University School of Medicine

Alex Huskey
Indiana Alcohol and Tobacco Commission

James E. Klaunig, M.D.
Professor of Toxicology, Indiana University School of Medicine

Bruce Lemon
Commissioner, Indiana Department of Corrections

Mark S. Massa
Executive Director, Indiana Criminal Justice Institute

Todd Meyer
Prosecutor, Boone County

Ed Perez
Public Affairs Specialist, State Farm Insurance

David N. Powell
Executive Director, Indiana Prosecuting Attorney's Council

Gary Secrest
Chief Counsel, Attorney General's Office

R. Scott Waddell
Commissioner, Indiana Bureau of Motor Vehicles

Joseph E. Wainscott, Jr.
Executive Director, Indiana Department of Homeland Security

Paul Whitesell, Ph.D.
Superintendent, Indiana State Police

A division of the INDIANA CRIMINAL JUSTICE INSTITUTE

The Governor's Council on Impaired and 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.

TABLE OF CONTENTS

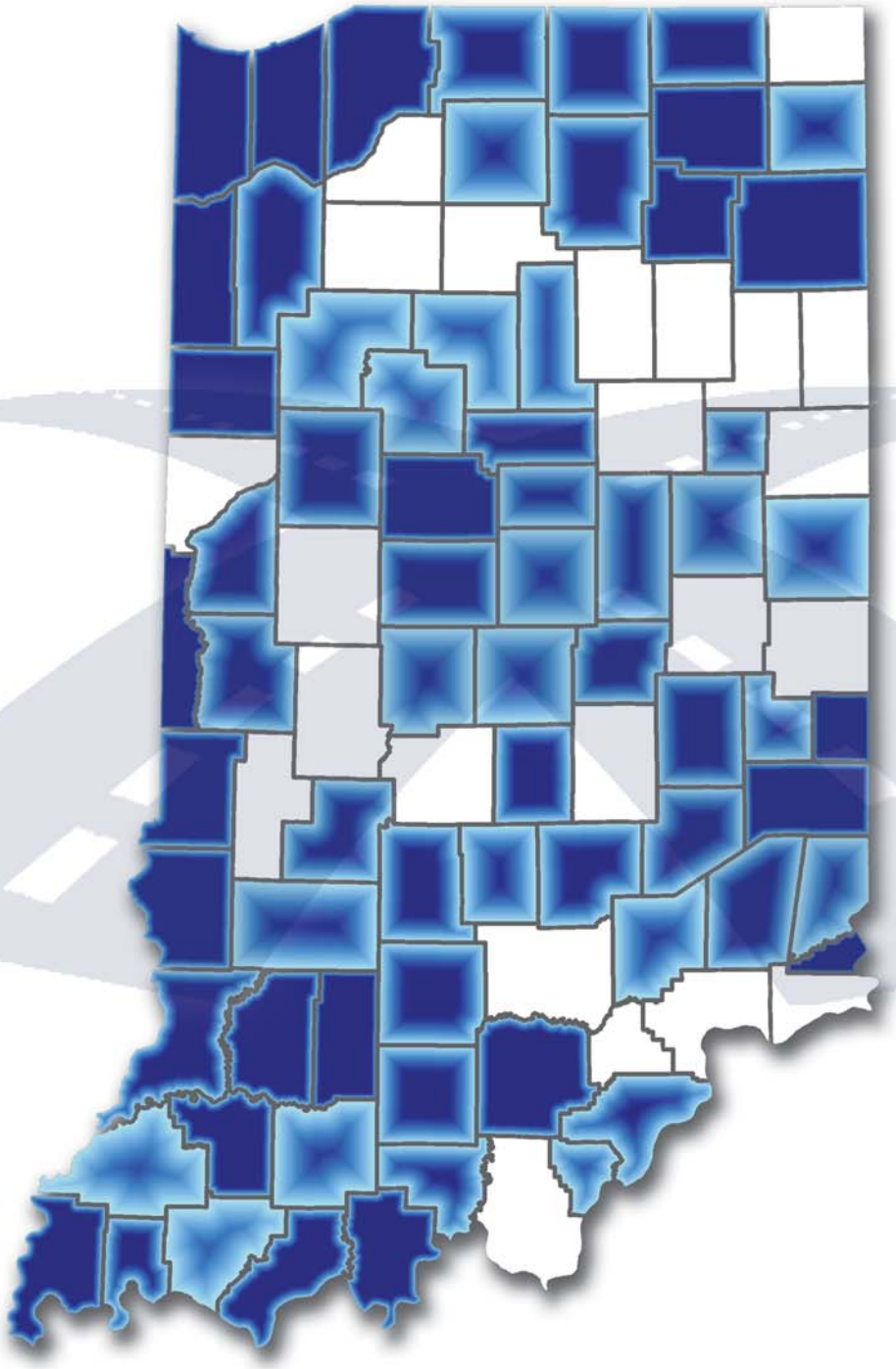
LIST OF TABLES

List of Tables, continued

LIST OF FIGURES

LIST OF MAPS

PROBLEM IDENTIFICATION



PROBLEM IDENTIFICATION, 2010

The Traffic Safety Division (TSD) of the Indiana Criminal Justice Institute, in conjunction with the Indiana Governor's Council on Impaired and Dangerous Driving, developed a set of benchmarks as part of the Highway Safety Plan for fiscal year 2012 to assess the state of traffic safety in Indiana. These benchmarks correspond to priority program areas established by the National Highway Traffic Safety Administration (NHTSA), targeting the occurrence of fatal and injury collisions as they relate to alcohol involvement, safety belt usage, young drivers, motorcycle safety, dangerous driving, children, pedestrians, and pedalcyclists. Within each area, ICJI has established specific goals and performance measures that relate to the occurrence of collisions and their impact on Indiana. See the Indiana Strategic Highway Safety Plan for more information.

NOTE: Short-term and long-term goals discussed in subsequent sections are taken from the Indiana Strategic Highway Safety Plan 2012. This document uses data from the 2010 Fact Sheets series produced by the Indiana University Center for Criminal Justice Research. These publications, including this Crash Book, were produced using the collision dataset current as of March 1, 2011. Discrepancies between figures presented in previous-year Crash Books are due to updates that have occurred in the collision dataset since the date of these publications. Where applicable, national goals developed by NHTSA are also provided.

Goal Setting by the Indiana Criminal Justice Institute

For short-term goals (2012), the average reduction rate (the annualized rate of change for the performance metric back to 2006) would be applied to the current rate to establish the new goal. In the event that the average either represented an increase over the time period, or the reduction did not equal two percent of the total rate, then a standard two percent reduction in the rate would be used.

Long-term goal development (through 2014) was determined by the short-term goal. For goals based on the two percent reduction, a six percent reduction was applied to the 2010 rate. In cases where the average reduction was greater than the two percent reduction, the long-term goal was established by calculating the goal for 2012 and applying the same rate annually to determine the 2014 long-term goal. In a few rare cases, if there was an extreme percentage change in a particular area and sustaining that rate of change was deemed unrealistic, a more realistic goal was set.

Table 1. Performance goals and metrics for Indiana's Highway Safety Plan, 2012

Goals and performance measures	MOST RECENT (2010)	GOALS		HISTORICAL				Annualized rates of change	
		Short-term (2012)	Long-term (2014)	2009	2008	2007	2006	2009-10	2006-10
Goal: Reduce total fatalities									
Count of fatalities	754	722	661	692	815	898	899	9.0%	-4.3%
Rate per 100K population	11.63	11.02	9.95	10.78	12.76	14.15	14.27	7.8%	-5.0%
Rate per 100M vehicle miles travelled (VMT)	0.96	0.90	0.78	0.90	1.15	1.26	1.26	6.2%	-6.6%
By crash locality									
Count of fatalities in URBAN areas	262	.	.	220	300	281	252	19.1%	1.0%
Rate per 100k population	6.91	6.77	6.50	5.80	7.91	7.41	6.64	19.1%	1.0%
Count of fatalities in SUBURBAN areas	173	.	.	203	207	262	211	-14.8%	-4.8%
Rate per 100k population	12.56	11.96	10.84	14.74	15.03	19.03	15.32	-14.8%	-4.8%
Count of fatalities in EXURBAN areas	121	.	.	102	121	148	120	18.6%	0.2%
Rate per 100k population	22.58	22.13	21.25	19.03	22.58	27.62	22.39	18.6%	0.2%
Count of fatalities in RURAL areas	126	.	.	141	165	204	152	-10.6%	-4.6%
Rate per 100k population	17.70	16.89	15.37	19.80	23.17	28.65	21.35	-10.6%	-4.6%
Goal: Reduce serious bodily injuries (SBIs)									
Count of SBIs	3,443	3,357	3,191	3,179	3,382	3,661	3,807	8.3%	-2.5%
Rate per 100K population	53.10	51.40	48.16	49.54	52.95	57.70	60.43	7.2%	-3.2%
Rate per 100M VMT	4.38	4.17	3.77	4.15	4.77	5.12	5.35	5.5%	-4.9%
Goal: Reduce alcohol involvement in crashes									
Count of fatalities that involve an impaired driver (any vehicle)	135	122	99	150	182	190	204	-10.0%	-9.8%
Percent of all fatalities	17.9%	17.6%	15.7%	21.7%	22.3%	21.2%	22.7%	-17.4%	-5.8%
Rate per 100M VMT	0.17	0.16	0.12	0.20	0.26	0.27	0.29	-12.3%	-12.0%
Count of fatalities that involve an impaired motorcycle operator	23	21	17	21	22	31	35	9.5%	-10.0%
Goal: Increase safety belt usage									
Count of unrestrained occupants of passenger vehicles killed	207	187	153	204	266	290	308	1.5%	-9.5%
Observed usage rate for occupants of all passenger vehicles	92.4%	94.1%	96%	92.6%	91.2%	87.9%	84.3%	-0.2%	2.3%
Observed usage rate for occupants of pickup trucks	84.3%	86.5%	90%	85.2%	78.7%	64.9%	54.4%	-1.1%	11.6%
Goal: Reduce involvement of young drivers in fatal crashes									
Count of drivers age 15 to 20 in fatal crashes	123	112	93	116	142	151	179	6.0%	-9.0%
Goal: Reduce motorcyclist fatalities									
Count of motorcycle and moped rider fatalities	110	108	106	111	130	122	108	-0.9%	0.5%
Count of motorcycle and moped operators involved in fatal crashes	112	.	.	118	127	121	113	-5.1%	-0.2%
Rate per 10K registrations	5.34	4.68	4.42	5.60	5.83	6.10	6.95	-4.8%	-6.4%
Goal: Reduce the incidence of dangerous driving in crashes									
Count of speed-related fatalities	145	138	126	158	225	187	174	-8.2%	-4.5%
Count of total crashes involving a driver disregarding a signal	4,011	3,931	3,775	3,983	4,343	4,797	2,855	0.7%	8.9%
Goal: Reduce fatalities and SBIs for children									
Count of children age 15 and under killed	33	30	25	35	47	49	48	-5.7%	-8.9%
Count of children with SBIs	235	223	202	235	249	305	287	0.0%	-4.9%
Goal: Reduce non-motorist fatalities and SBIs									
Count of pedestrian fatalities	62	59	54	55	60	60	75	12.7%	-4.6%
Count of pedestrian SBIs	251			211	223	217	222	19.0%	3.1%
Count of pedalcyclist fatalities	14	13	11	7	16	13	19	100.0%	-7.4%
Count of pedalcyclist SBIs	81	79	76	64	66	84	89	26.6%	-2.3%

Sources: Indiana State Police; Indiana Criminal Justice Institute; US Census Bureau; Federal Highway Administration; Indiana Bureau of Motor Vehicles
Note: Serious bodily injury is classified as an *incapacitating* injury in the Indiana State Policy ARIES database.

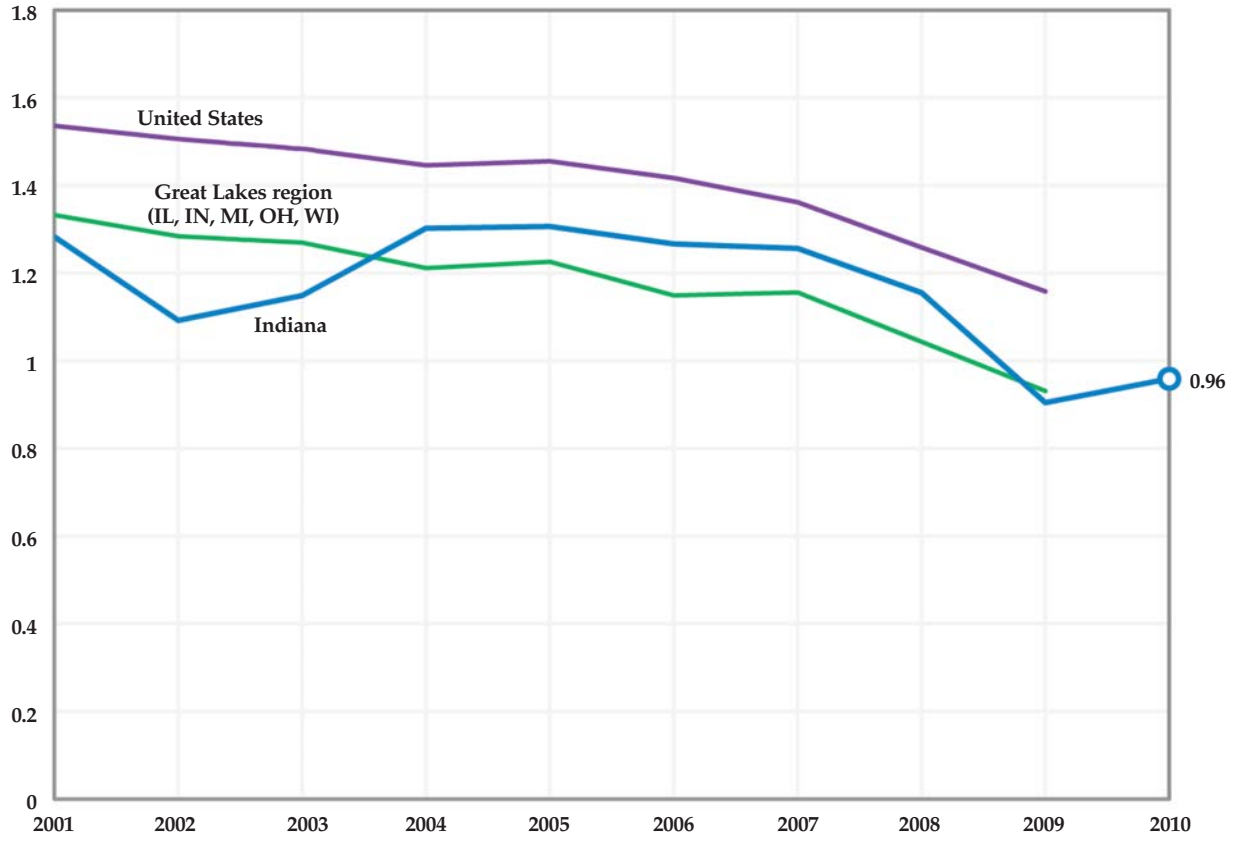
Context

The likelihood of a person dying in a traffic crash is influenced by many factors, including seat belt usage, pre-collision speed, the point of impact, object collided with, the age and physical condition of the person involved, alcohol involvement, and emergency response times. Crashes in rural areas are more likely to result in fatalities largely because of these circumstances, as crashes usually occur at higher speeds, with fixed objects that increase the force of impact, and because of the greater average distance to emergency care facilities.

GOALS: Reducing fatalities and serious bodily injuries

In Indiana and across the country, traffic fatality rates have generally decreased over the last 10 years. Indiana's rate of fatalities per 100M vehicle miles travelled (VMT) reached a historical low in 2009, and then increased slightly in 2010 (Figure 1). Fatality rates in Indiana over the time period have been lower than that of the nation and have recently decreased to the level of the Great Lakes region.

Figure 1. Traffic fatalities per 100M vehicle miles travelled (VMT), 2001-2010

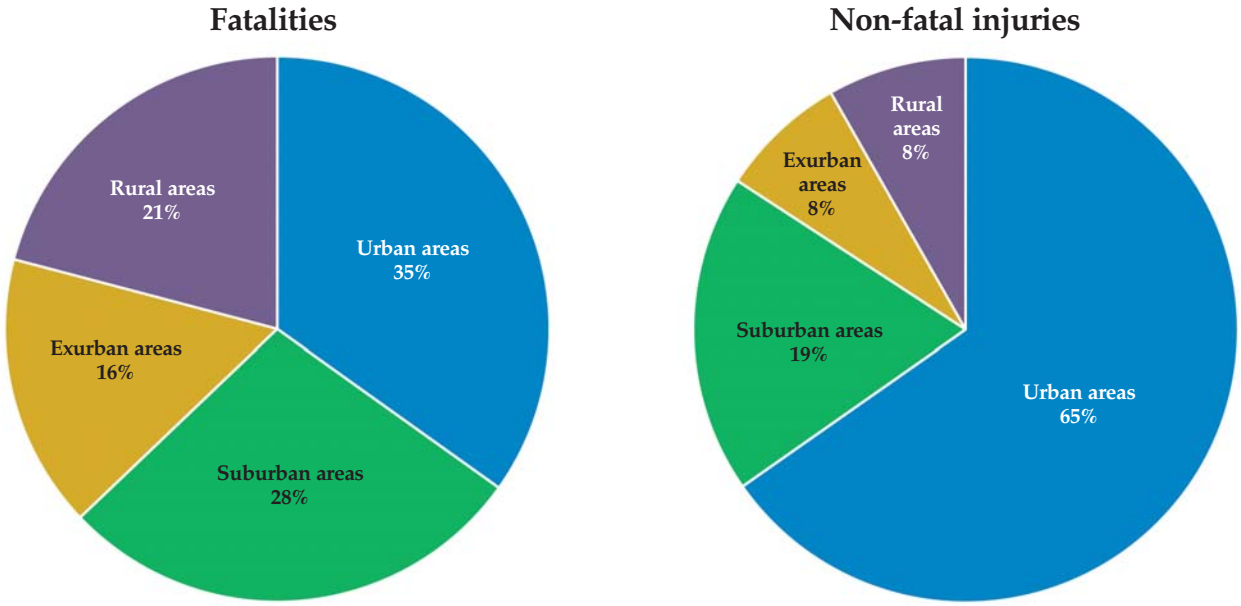


Sources: Fatality Analysis Reporting System, Bureau of Transportation Statistics
Note: Data for United States and other Region V states not available for 2010 at time of publication.

Fatalities are more likely to occur outside *urban* areas because of the nature of the crashes occurring there (usually at higher rates of speed, with lower rates of restraint use, and with longer emergency response times on average). About 21 percent of all traffic fatalities occurred in *rural* areas, compared to 8 percent of non-fatal injuries (Figure 2). However, the rate of fatalities in *rural* areas has decreased by about 12 percent annually since 2006.

Serious bodily injuries (coded as *incapacitating* injuries in the Indiana crash repository), have decreased 2.5 percent annually since 2006 and 5 percent per 100M VMT. Serious bodily injuries can in some cases be considered fatalities that were averted due to circumstantial factors such as faster emergency response. The fact that fatalities have declined faster than SBIs is a rough indication that traffic safety goals and policies toward restraint use and dangerous driving may be having beneficial effects.

Figure 2. Geographic distribution of fatalities and non-fatal injuries in Indiana crashes, 2006-2010



Source: Indiana State Police

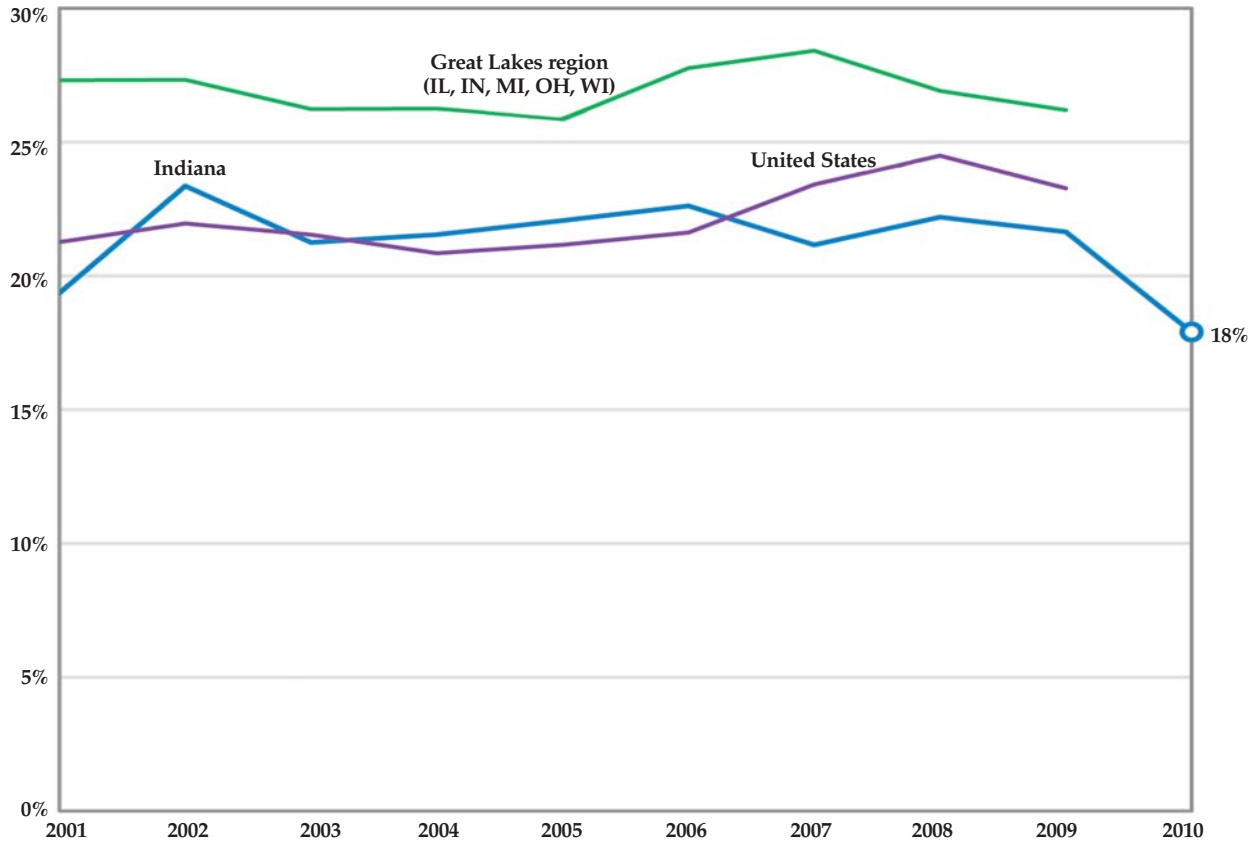
Note: *Non-fatal injuries* include *incapacitating, non-incapacitating,* and *possible* injuries, as coded on the crash report.

GOAL: Reducing alcohol involvement

Since 2007, the share of drivers legally impaired by alcohol (BAC = .08+) who were involved in fatal crashes in Indiana has been lower than that of Great Lakes region and of the United States (Figure 3). In 2010, the share of impaired drivers reached a 10-year low of 18 percent.

Rates of alcohol impairment vary by vehicle type. Performance goals included here account for these differences, as motorcyclists and moped operators are more likely to be impaired in fatal crashes than are drivers of other vehicle types. Since 2006, about 22 percent of all motorcyclists involved in fatal crashes were legally impaired. Over that same timeframe, 15 percent of

Figure 3. Percent of traffic fatalities that involve an alcohol-impaired driver, 2001-2010

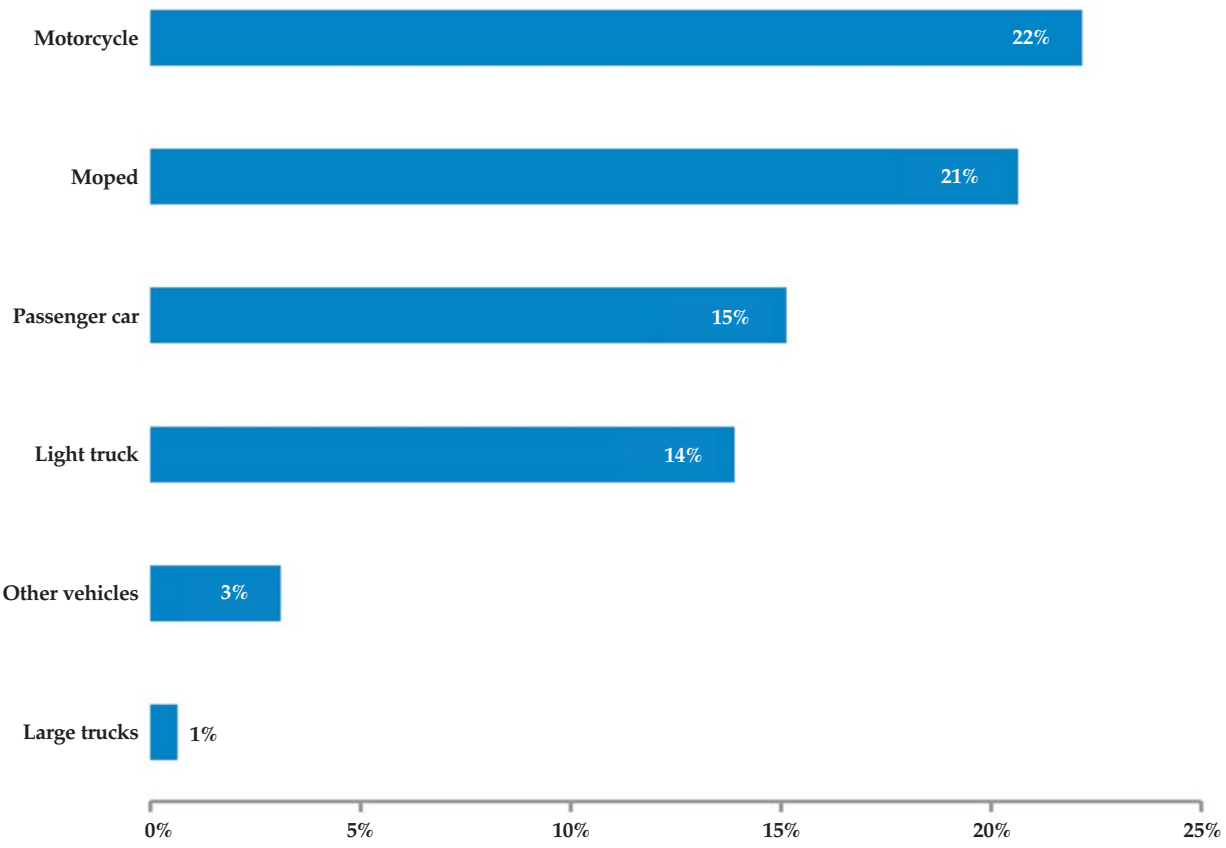


Note: Fatality Analysis Reporting System (2001-9); Indiana State Police (2010)

passenger car drivers, 1 percent of large truck drivers, and 3 percent of all other drivers were impaired (Figure 4). Policies and enforcement practices targeted toward reducing alcohol impairment among motorcyclists should lead to measureable drops in fatality rates, especially since motorcyclists are one of the more at-risk classes of people in traffic crashes.

Fatalities in crashes involving an alcohol-impaired driver per 100MVMT declined 12 percent annually since 2006, though the rate increased from 2009 to 2010. Since 2006, about one in every five fatalities has involved an alcohol-impaired driver.

Figure 4. Percent of drivers legally impaired by alcohol in Indiana fatal crashes, by vehicle type, 2006-2010

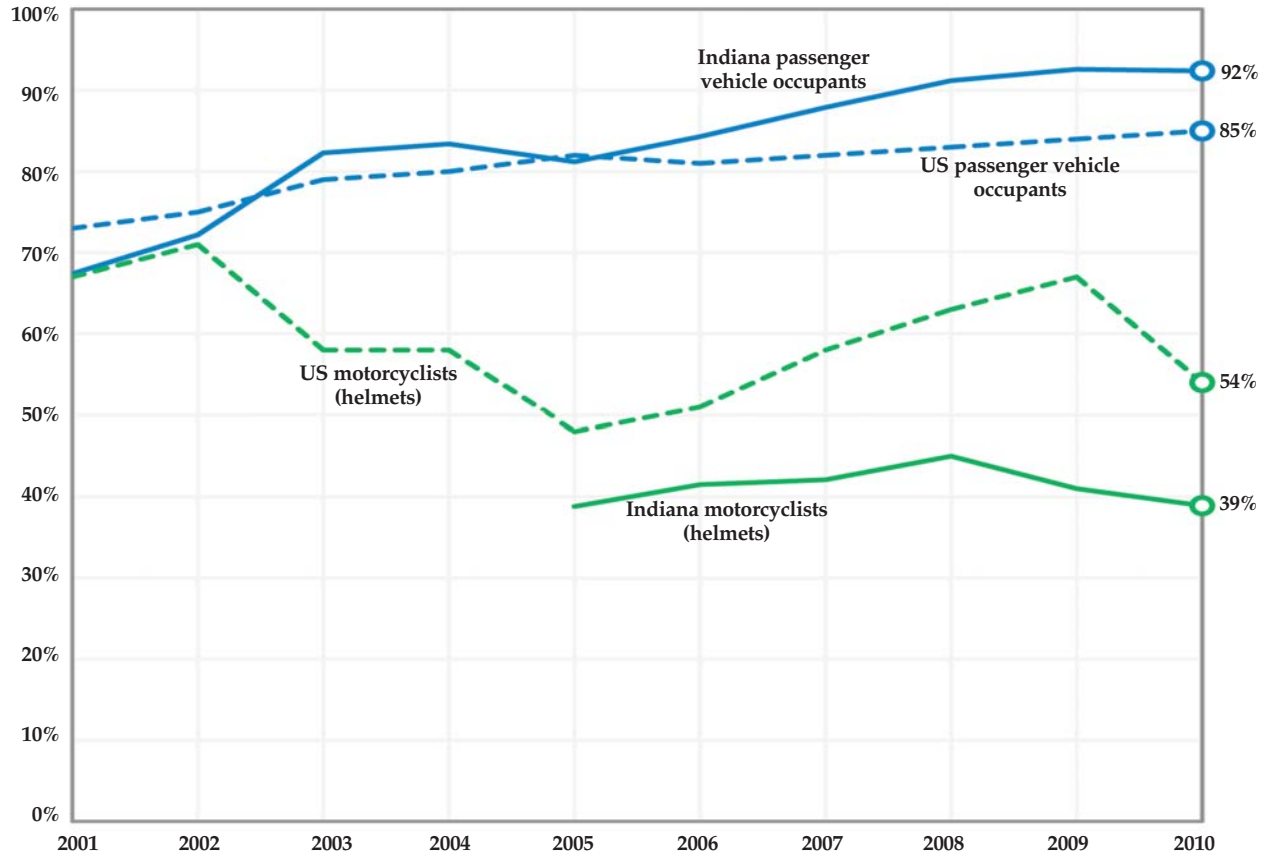


Source: Indiana State Police

GOAL: Increasing safety belt usage

Indiana's rate of restraint use among *passenger vehicle* occupants has increased from 70 percent in 2001 to 92 percent in 2010, 7 percentage points higher than the national rate in 2010 (Figure 5). However, helmet use among motorcyclists in crashes in Indiana, while not legally mandated, has lagged far behind the national rate. According to observational surveys conducted in Indiana, *pickup truck* restraint use rates have increased drastically over the last decade, from a rate of 42 percent in 2001 to 84 percent in 2010 (Figure 6).

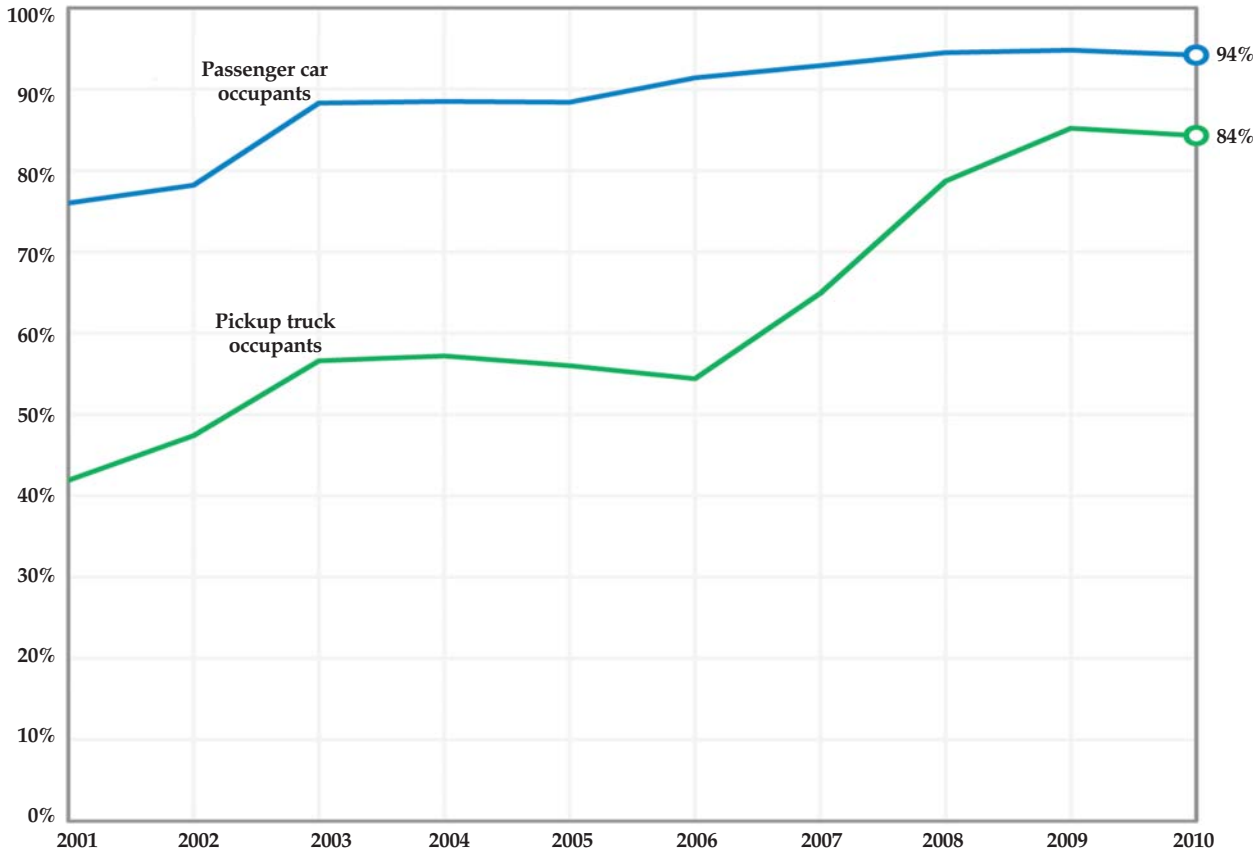
Figure 5. Geographic comparison of observed safety equipment usage rates by vehicle type, 2001-2010



Sources: *Indiana Roadside Observational Survey of Safety Belt and Motorcycle Helmet Use, 2010.* **Center for Road Safety, Purdue University.**
Motorcycle Helmet Use in 2010 - Overall Results. **National Highway Traffic Safety Administration: DOT HS 811 419**
Seat Belt Use in 2010 - Overall Results. **National Highway Traffic Safety Administration: DOT HS 811 378**

Note: Helmet use data for Indiana not available prior to 2005.

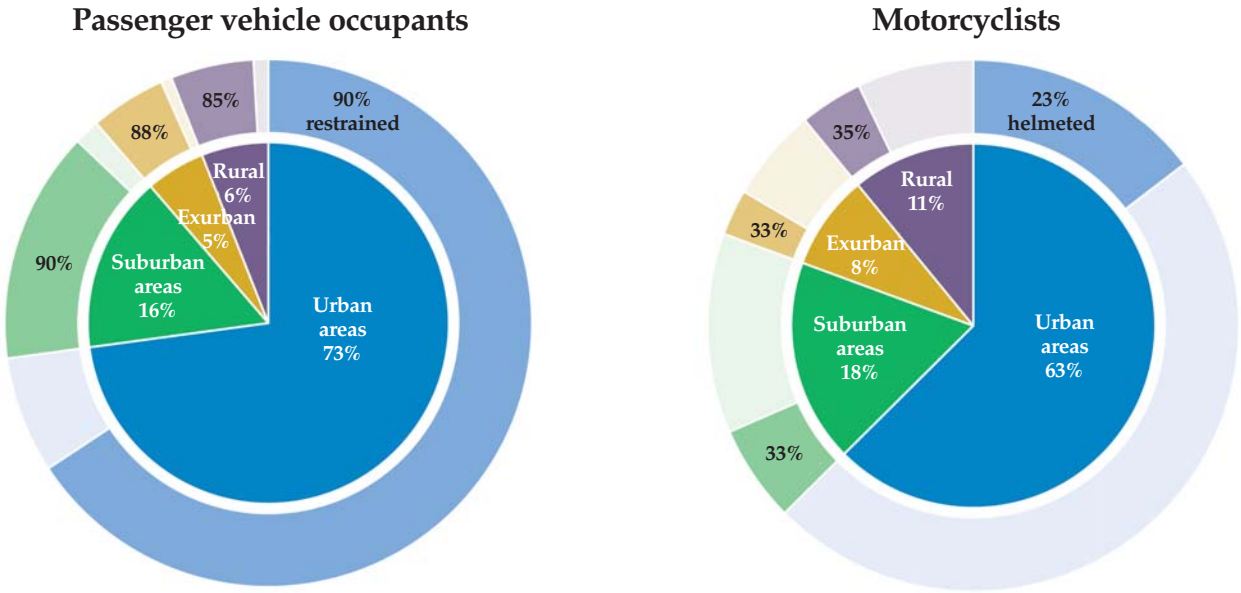
Figure 6. Observed safety equipment usage rates by vehicle type among Indiana occupants, 2001-2010



Sources: *Indiana Roadside Observational Survey of Safety Belt and Motorcycle Helmet Use, 2010.* Center for Road Safety, Purdue University.
Motorcycle Helmet Use in 2010 - Overall Results. National Highway Traffic Safety Administration: DOT HS 811 419
Seat Belt Use in 2010 - Overall Results. National Highway Traffic Safety Administration: DOT HS 811 378

Restraint use and helmet use among people involved in crashes varies by crash locality (Figure 7). Restraint use among passenger vehicle occupants tends to increase in more densely populated areas. From 2006 through 2010, 90 percent of *passenger vehicle* occupants in *urban* areas were restrained compared to 85 percent for *rural* crashes. Among motorcyclists in crashes, the trend is reversed; 23 percent of motorcyclists in crashes in *urban* areas wore a helmet, compared to 35 percent in *rural* areas.

Figure 7. Geographic distribution of vehicle occupants and motorcyclists in crashes and rates of safety equipment use, 2006-2010



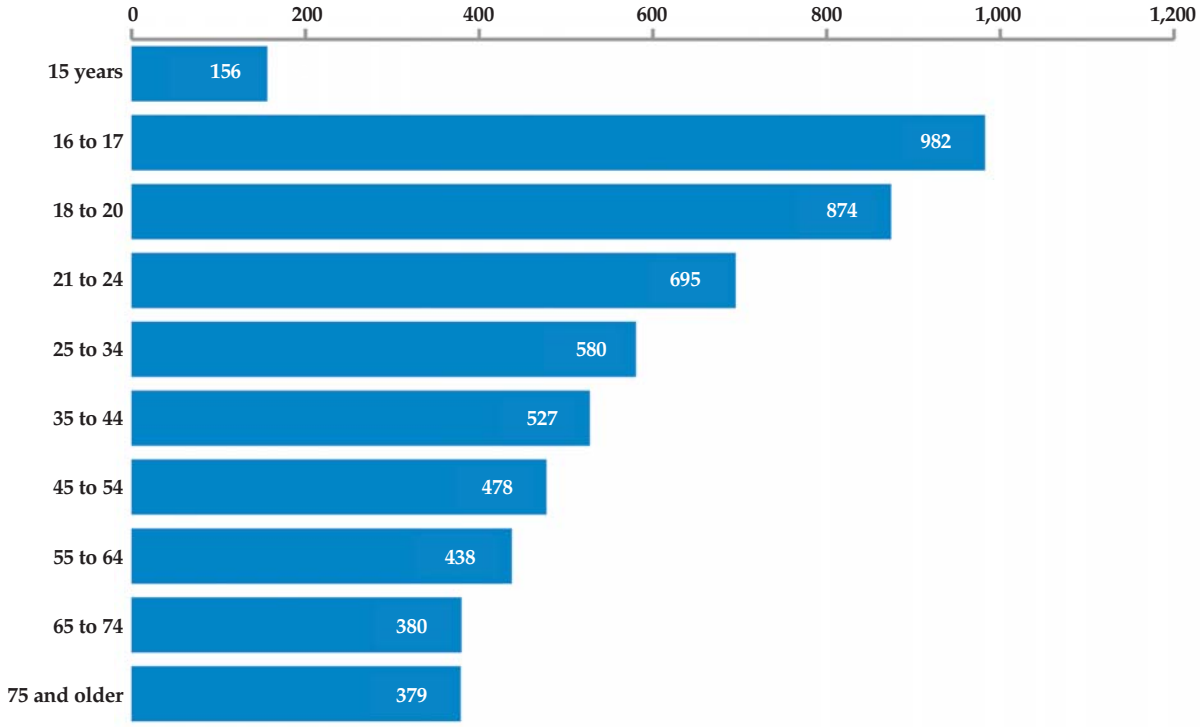
Source: Indiana State Police

Note: Inner pie = Geographic distribution of occupants involved.
Outer ring = Safety equipment use rates by locality.

GOAL: Reducing young driver involvement in fatal crashes

Crash rates are much higher for young drivers (ages 15 to 20) than for any other age group (Figure 8). Young drivers are more likely than older drivers to be in accidents because of a lack of experience and aggressive behavior. Young drivers (especially those ages 15 to 17) have generally been more likely than older drivers to have lost control and been distracted while in a collision. Among more risky driving behaviors, younger drivers were most likely to have been *following too closely* to other vehicles and/or *speeding*. Other risk factors for young drivers include nighttime driving, driving with young passengers, and cell phone use (Nagle 2011a, 2011b).

Figure 8. Drivers in Indiana crashes per 10,000 licenses, 2010



Sources: Indiana Bureau of Motor Vehicles, Indiana State Police

The Indiana Graduated Driver Licensing (GDL) system has had a positive effect in reducing the number of teen drivers involved in crashes. The majority of the impact has occurred in the provision that increases the minimum age for receiving a learner permit or probationary license. Rates per 100,000 population for drivers ages 16 to 17 in fatal crashes has declined steadily since 2004 to become the lowest rate of any age group in 2010 (Figure 9). Fatal crash rates for drivers ages 18 to 24 have decreased significantly as well.

Since 2006 the number of young drivers in fatal crashes has decreased by nine percent annually, though the number increased from 2009 to 2010.

Figure 9. Rate of drivers in Indiana fatal crashes per 100,000 population, by age group, 2001-2010

Sources: Fatality Analysis Reporting System; Indiana State Police; US Census Bureau

GOAL: Reducing motorcyclist fatalities

Due to risks associated with direct exposure to collisions, rates for motorcycle operators in fatal crashes per 10,000 registrations are the highest of any vehicle class (Table 2). The fatal crash rate of motorcycle operators decreased just over three percent annually since 2006 and nearly five percent from 2009 to 2010. Fatal crash rates for passenger cars and trucks have also generally decreased since 2006 though they all increased over 2009 levels.

Table 2. Rate of vehicle drivers involved in Indiana crashes per 10,000 registrations, by vehicle type and crash severity, 2007-2010

	Crash rate per 10K registrations				Average annual rate of change (%)	
	2007	2008	2009	2010	2007-10	2009-10
In all crashes						
Passenger cars	426.5	434.2	416.6	449.3	1.3	7.9
Light trucks	615.7	608.4	576.4	586.6	-1.2	1.8
Large trucks	207.0	199.6	153.0	183.8	-2.9	20.2
Motorcycles	174.8	171.1	151.0	159.0	-2.3	5.3
Other vehicles	661.3	677.5	594.4	514.6	-6.1	-13.4
In fatal crashes						
Passenger cars	1.2	1.2	1.0	1.2	0.8	18.8
Light trucks	2.5	1.9	1.8	2.2	-3.6	16.6
Large trucks	2.2	1.8	1.6	1.7	-6.4	5.9
Motorcycles	6.1	5.8	5.6	5.3	-3.3	-4.8
Other vehicles	3.8	3.1	3.2	2.3	-11.7	-28.3

Sources: Indiana Bureau of Motor Vehicles, Indiana State Police
Note: Registration data for 2006 not available.

GOAL: Reducing dangerous driving

Nationally, one in every three fatal crashes involved a *speeding* driver; one in 16 involved a driver *disregarding a traffic signal* (Newby, 2011). *Speeding,* as with other forms of *dangerous driving,* is more likely among younger drivers. About one in every four drivers ages 18 to 24 in fatal crashes was *speeding* (Table 3). Across all ages, the risk of a fatal injury increases by at least a factor of two when *speeding* was involved.

Disregarding signals is also a form of *dangerous driving,* but is more common among the most inexperienced (ages 15 to 17 years) and most elderly population (ages 65 and older). While speed is nearly always a conscious behavior for the driver, in certain instances *disregarding signals* represents a lack of awareness rather than a purposeful choice. Regardless, they represent forms of *dangerous driving* that create injury risks for the perpetrating drivers and for others in the environment.

Speed-related fatalities decreased 4.5 percent annually since 2006 and over 8 percent from 2009 to 2010. The incidence of drivers *disregarding signals* has increased significantly since 2006 (annualized rate of 9 percent).

Table 3. Percentage of speeding and disregarding traffic signals, by crash severity and driver age, 2006-2010

	Speeding as % total		Disregarded signal as % total	
Driver age group	In fatal crashes	In non-fatal crashes	In fatal crashes	In non-fatal crashes
15 to 17 years	20.0%	10.6%	2.1%	0.9%
18 to 20 years	26.1%	9.6%	1.7%	1.5%
21 to 24 years	24.6%	8.3%	1.3%	1.6%
25 to 44 years	15.8%	5.8%	1.2%	1.3%
45 to 64 years	8.1%	3.6%	1.5%	1.2%
65 years and older	4.2%	2.2%	1.9%	1.8%
All ages	**14.0%**	**5.9%**	**1.4%**	**1.3%**

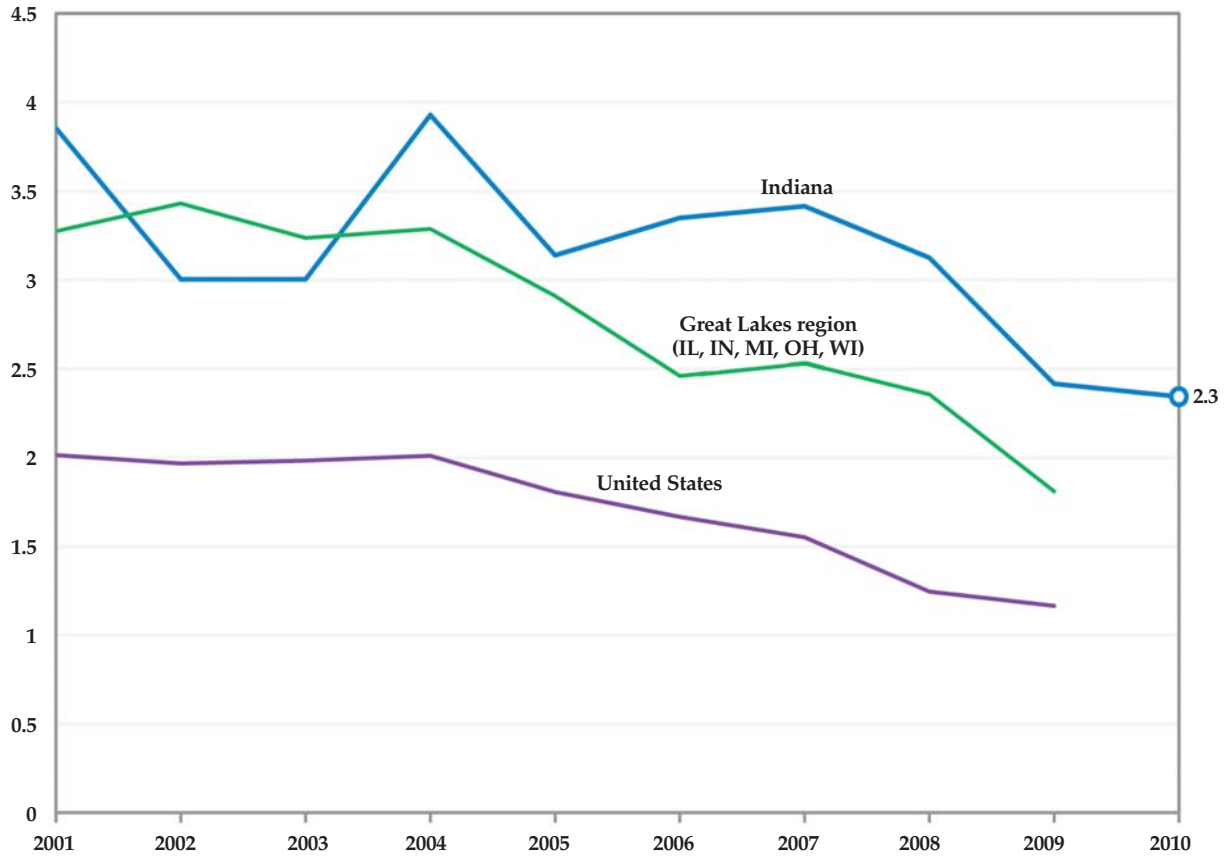
Source: Indiana State Police

GOAL: Reducing fatalities and serious injuries among children

The rate per 100,000 population of children (under age 15) killed in traffic accidents in Indiana has been higher than the national rate and that of the Great Lakes region (Figure 10). However, the Indiana rate has decreased significantly since 2001 and reached a 10-year low of 2.3 per 100,000 population.

The total number of children killed in Indiana crashes declined from 48 in 2006 to 33 in 2010, an annualized rate of 9 percent. Serious bodily injuries also decreased over that time, but at a slower rate. This difference might indicate that a reduction in fatalities is resulting in a higher share of non-fatal but serious injuries.

Figure 10. Children (under age 15) killed in traffic crashes per 100,000 population, 2001-2010

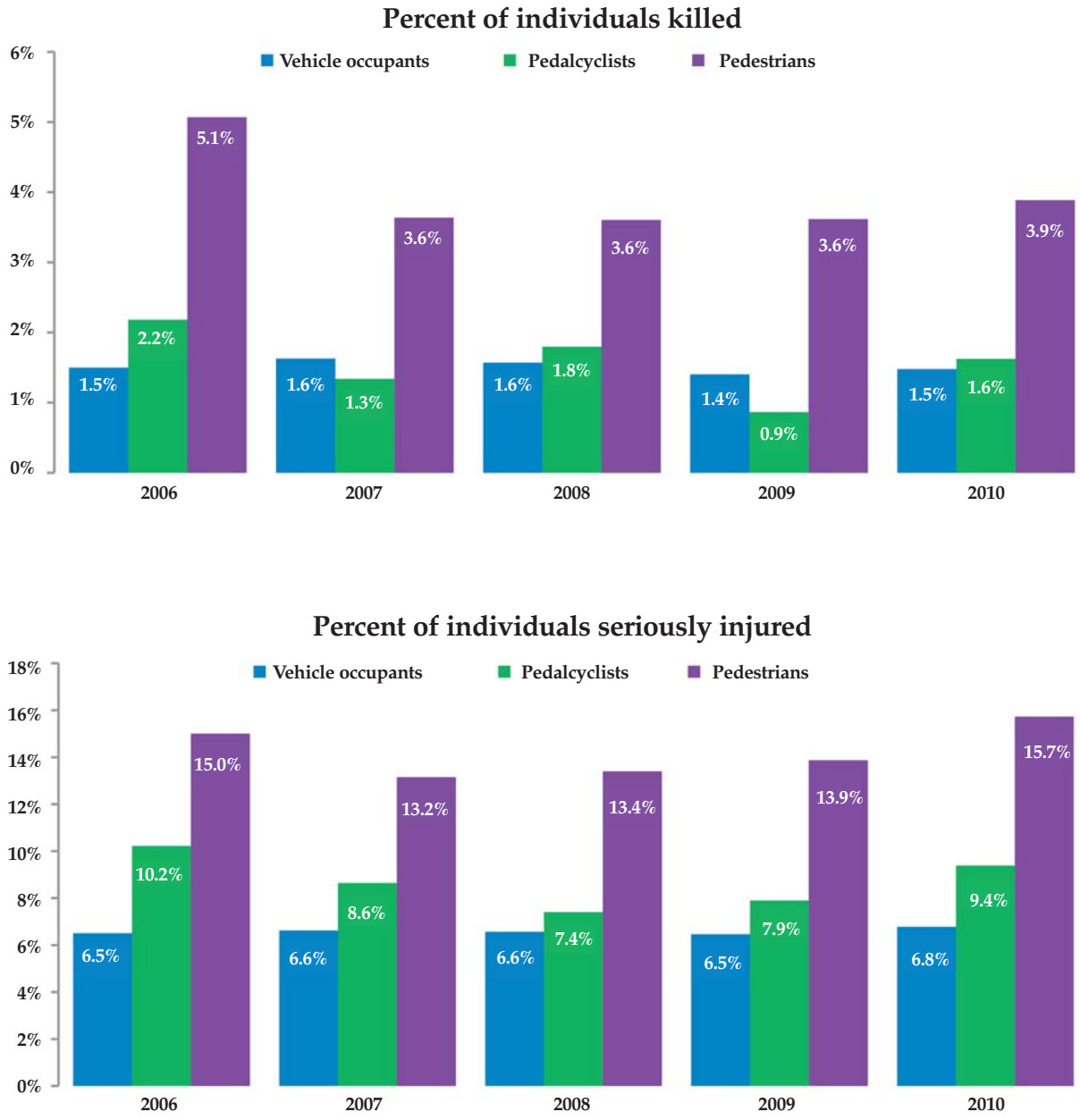


Sources: Fatality Analysis Reporting System; US Census Bureau; Indiana State Police

GOAL: Reducing fatalities and serious injuries among non-motorists

Since 2006, non-motorists (*pedestrians* and *pedalcyclists*) have represented only one percent of all individuals in traffic accidents but nine percent of total traffic fatalities (Figure 11). While non-motorist fatalities have decreased on average over the past five years, serious bodily (*incapacitating*) injuries among *pedestrians* have increased.

Figure 11. Percent of individuals killed and seriously injured in Indiana crashes, by person type, 2006-2010



Source: Indiana State Police
Note: Seriously injured denotes an *incapacitating* injury from the crash report.

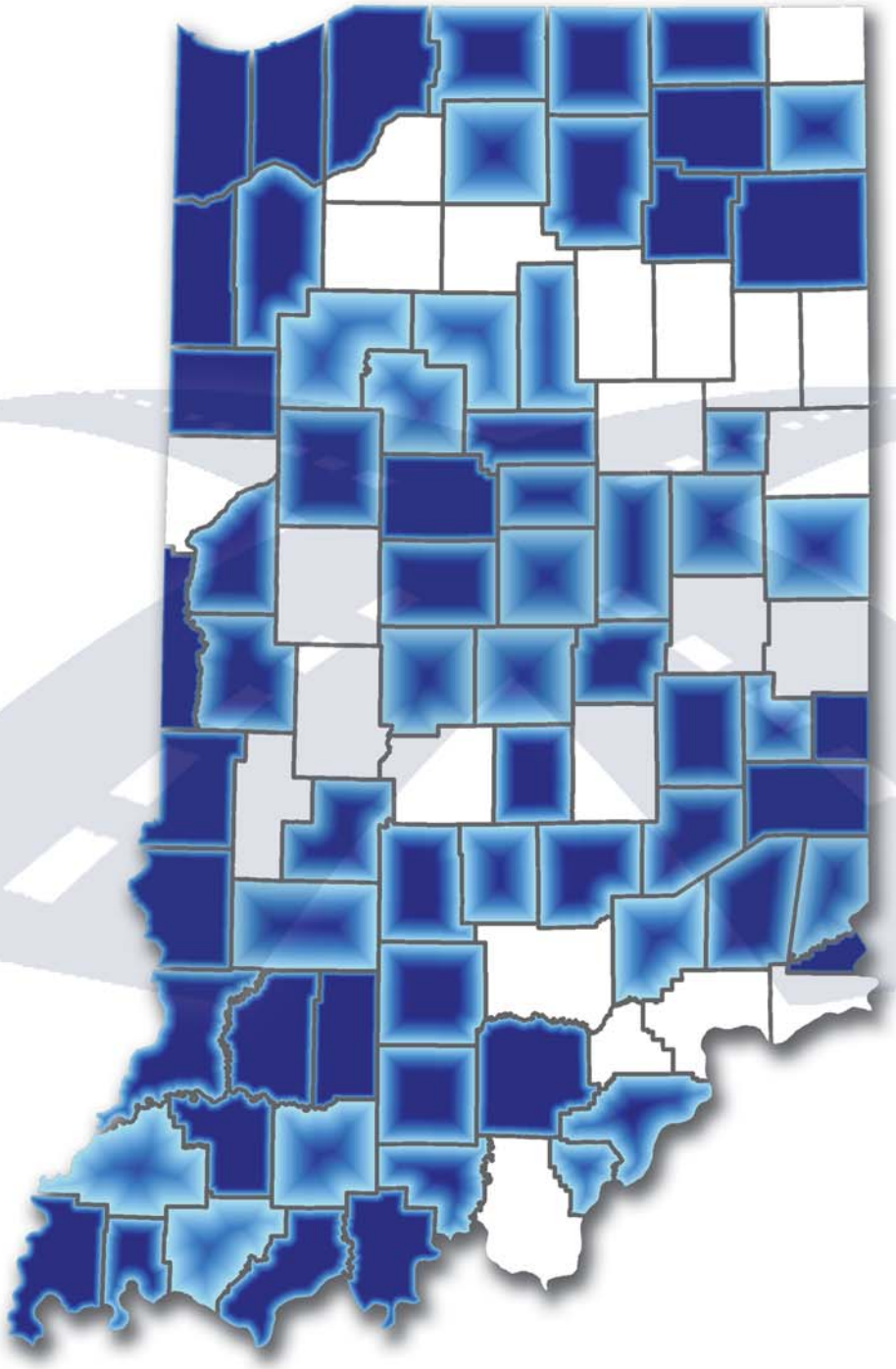
REFERENCES

Nagle, M. (2011a). *Effects of graduated driver licensing on crash outcomes in Indiana.* Indianapolis: Indiana University Public Policy Institute, Document ID: 11-C01. http://policyinstitute.iu.edu/PubsPDFs/TrafficBrief_GDL2011_Final.pdf

Nagle, M. (2011b). *Traffic safety facts: Drivers, 2010.* Indianapolis: Indiana University Public Policy Institute, Document ID: 11-C09. http://policyinstitute.iu.edu/PubsPDFs/Traffic_Drivers2010_Final.pdf

Newby, W. (2011). *Traffic safety facts: Dangerous driving, 2010.* Indianapolis: Indiana University Public Policy Institute, Document ID: 11-C05. http://policyinstitute.iu.edu/PubsPDFs/DangDriving2010_Final062711.pdf

GENERAL TRENDS



GENERAL TRENDS, 2010

Trends in Indiana fatalities

After declining annually from 2006 to 2009, the number of *fatal collisions* in Indiana jumped 11 percent in 2010, from 631 in 2009 to 701 in 2010. From 2001 to 2010, on average there were about 3.8 fatal collisions for every 1,000 total collisions. Indiana traffic *fatalities per 100 million (100m) vehicle miles traveled (VMT)* declined from 1.5 in 1996 to just over 1 in 2010. Indiana fatality rates per 100m VMT have been slightly less than United States rates between 1996 and 2010. The rate of Indiana traffic *fatalities per 100,000 population* dropped from 14.8 in 2001 to 11.6 in 2010. The 2010 rate was the first increase since 2004. The *fatality rate per 100,000 licensed drivers* has been declining since 2005, from 22.1 to 13.9 in 2010. *Per 100,000 registered vehicles,* the Indiana fatality rate climbed slightly in 2010 to 11.5, from 10.2 in 2009.

From 2009 to 2010, *fatal injuries* from Indiana collisions increased nine percent, from 692 to 754. While the number of *drivers killed* increased nine percent, vehicle *occupants killed* increased 13 percent, and *non-motorists killed* increased 24 percent from 2009 to 2010. *Serious injuries* (fatal and incapacitating) per 100m VMT increased slightly for all person types.

Trends in the characteristics of Indiana collisions

Alcohol-related collisions have declined since 2006, and dropped six percent from 2009 to 2010; *alcohol-related injuries* declined by five percent. About one in four fatal injuries was alcohol-related in 2010. Collisions involving one or more *alcohol-impaired individuals* were responsible for 19 percent of fatal injuries, a reduction from 23 percent in 2006. Alcohol-impaired collisions accounted for nearly eight percent of incapacitating injuries, an increase from five percent in 2006.

Aggressive driving collisions and *collisions per 100m VMT* increased slightly from 2009 to 2010. The numbers of fatalities attributable to aggressive driving declined since 2008, from 30 to 21 in 2010. However, incapacitating and non-incapacitating injuries from collisions involving aggressive driving increased from 2009 to 2010. From 2006 to 2010, the average proportion of fatalities linked to aggressive driving has ranged from slightly under two percent to nearly four percent.

Speeding continues to be a major factor in Indiana motor vehicle collisions, accounting for an average of about one in five fatalities from 2006 to 2010. However, while the number of speed-related collisions increased from 2009 to 2010 by about two percent, speed-related fatalities dropped by about eight percent.

In 2010, crashes involving drivers *disregarding traffic signals* accounted for two percent of all fatalities and nearly four percent of incapacitating injuries. Total injuries from these crashes increased only slightly from 2009 to 2010.

The total number of *hit-and-run collisions* declined slightly in Indiana from 2009 to 2010, although the number of hit-and-run fatalities increased from 23 in 2009 to 28 in 2010. From 2006 to 2010, hit-and-run traffic collisions were responsible for an average of about three percent of fatalities and four percent of incapacitating injuries.

Accounting for about two percent of 2010 traffic fatalities, *distracted driving collisions* decreased slightly from 2009. Nonetheless, the number of distracted driving fatalities increased from 10 in 2009 to 19 in 2010. The proportion of drivers injured in collisions classified as distracted driving has been comparatively small from 2006 to 2010—roughly three percent. In 2010, about three percent of drivers injured were linked to distracted driving, and of these injured drivers, less than one percent were linked to cell phones as the type of distraction. If an injured driver is categorized as *distracted* in a collision, cell phones are identified as the source of distraction about 16 percent of the time.

Trends in the location of collisions within the state

About two-thirds of Indiana traffic fatalities occurred outside of municipal jurisdictions (i.e., *rural* localities) from 2006 to 2010, although this rate varies some based on circumstances. For example, most *hit-and-run* collisions and *disregarding signal* collisions occurred within *urban* settings. Typically, nearly two-thirds of speeding-related fatalities occur in *rural* areas. The percentage of *alcohol-impaired* collisions classified as *rural* declined from 71 percent in 2006 to 50 percent in 2010. When considered in terms of collision locations based on U.S. Census locality definitions (*urban, suburban, exurban, rural)*, most traffic fatalities—regardless of type—were located within *urban* and *suburban* locations. However, most *distracted driving* fatalities occurred in *rural* and *exurban* settings. Roughly 60 percent of *alcohol-involved* fatalities and *alcohol-impaired* fatalities were located within *urban* and *suburban* areas. Over 80 percent of fatalities linked to *disregarding signals* occurred in *urban* and *suburban* localities.

Trends in the months and days collisions occur

Considering the *months* in which collisions occur, the counts of total collisions tend to be higher in the late fall and winter (e.g., October through February). However, the largest monthly

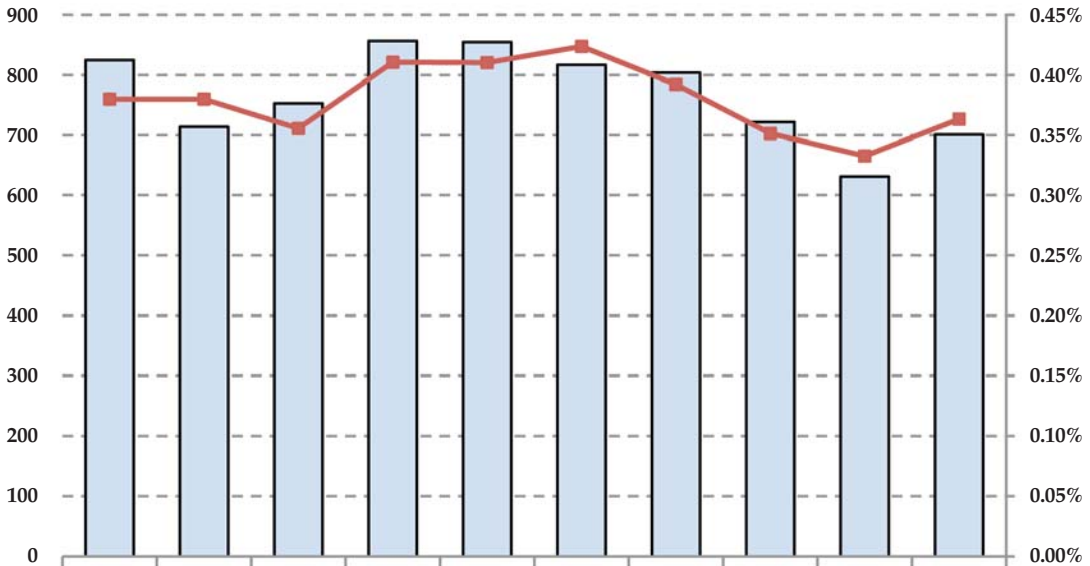
counts of fatalities have generally been in the summer months (e.g., May through August). On the basis of *collisions per 100m VMT per month*, similar patterns hold from 2006 to 2010: higher rates of total collisions in winter months, and higher rates of fatal collisions during summer months.

In 2010, the largest number of traffic fatalities among holidays occurred during the Memorial Day weekend (11 killed), followed by the Thanksgiving Day holiday (10 killed). Rates of alcohol-related fatalities varied among the various legal holidays. In 2010, all fatalities during the NewYear holiday (3) and St. Patrick's Day (1) were alcohol-related. Otherwise in 2010, Memorial Day had the next highest alcohol-related fatality rate, 45 percent. If considered from the perspective of *alcohol-related collisions per 24-hour period* during holidays, most legal holidays experienced rate declines from 2006 to 2010. In 2010, Independence Day had the highest 24-hour rate of *alcohol-related* collisions, followed by Memorial Day and Labor Day.

General notes relevant to this section

1. *Non-incapacitating* injury status includes *possible injuries.*
2. *Rates per 100m VMT* might not match previous *Indiana Crash Facts* publications due to changes in estimated VMT reported.

Figure 12. Indiana fatal collisions, 2001-2010

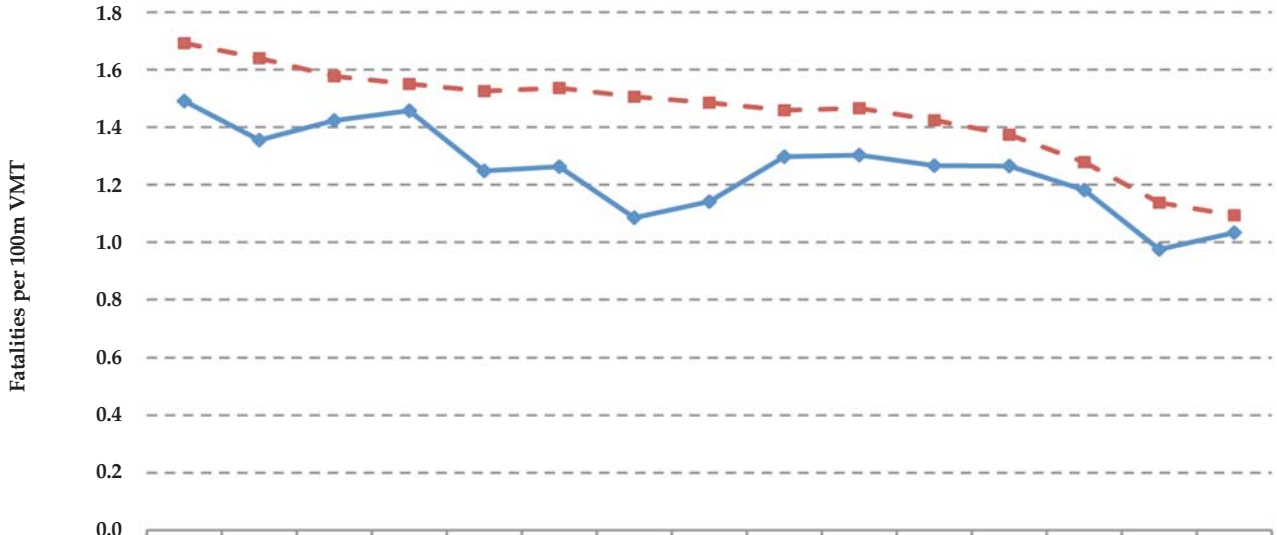


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Fatal collisions	825	714	753	857	855	817	804	722	631	701
% fatal	0.38%	0.38%	0.36%	0.41%	0.41%	0.42%	0.39%	0.35%	0.33%	0.36%

Sources:
Fatality Analysis Reporting System (fatal collisions 2001-02)
Indiana State Police (fatal collisions 2003-10)

Note: Percent fatal collisions for 2001 and 2002 are estimated based on the 2003-10 average.

Figure 13. Indiana and U.S. traffic fatalities per 100 million vehicle miles travelled (VMT), 1996-2010



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indiana	1.49	1.36	1.42	1.45	1.25	1.26	1.08	1.14	1.30	1.30	1.27	1.26	1.16	0.97	1.03
U.S.	1.69	1.64	1.58	1.55	1.53	1.54	1.51	1.48	1.45	1.47	1.42	1.37	1.28	1.14	1.04

Sources:
U.S. fatalities, Indiana fatalities 1996-2002: Fatality Analysis Reporting System; U.S. fatalities in 2010 (NHTSA 2011)
Indiana fatalities 2003-10: Indiana State Police
VMT: U.S. Federal Highway Administration Traffic Volume Trends, as of March 1, 2011
National Highway Traffic Safety Administration (April 2011). Early estimate of motor vehicle traffic fatalities in 2010. Traffic Safety Facts DOT HS 811 451.

Table 4. Indiana traffic fatalities and fatality rates, 2001-2010

Year	Fatalities	Population (000)	Fatalities per 100,000 population	Licensed drivers (000)	Fatalities per 100,000 licensed drivers	Registered motor vehicles (000)	Fatalities per 100,000 registered vehicles	Vehicle miles travelled (billions)	Fatalities per 100 million VMT
2001	909	6,125	14.84	4,117	22.08	5,752	15.80	70.9	1.28
2002	792	6,149	12.88	4,221	18.76	5,800	13.66	72.5	1.09
2003	833	6,182	13.47	4,536	18.36	5,884	14.16	72.8	1.14
2004	947	6,214	15.24	4,521	20.95	5,678	16.68	72.8	1.30
2005	938	6,253	15.00	4,246	22.09	5,103	18.38	72.3	1.30
2006	899	6,302	14.27	4,246	21.17	5,103	17.62	70.5	1.27
2007	898	6,346	14.15	5,105	17.59	6,887	13.04	71.1	1.26
2008	815	6,388	12.76	4,942	16.49	6,850	11.90	68.8	1.18
2009	692	6,423	10.77	4,402	15.72	6,773	10.22	70.9	0.98
2010	754	6,484	11.63	5,425	13.90	6,541	11.53	72.9	1.03
Total percent change									
2001-10	-17.1	5.9	-21.6	31.8	-37.1	13.7	-27.1	2.9	-19.4
2006-10	-16.1	2.9	-18.5	27.8	-34.4	28.2	-34.6	3.4	-18.9
2009-10	9.0	0.9	7.9	23.2	-11.6	-3.4	12.8	2.9	5.9
Annual percent change									
2001-10	-2.1	0.6	-2.7	3.1	-5.0	1.4	-3.4	0.3	-2.4
2006-10	-4.3	0.7	-5.0	6.3	-10.0	6.4	-10.1	0.8	-5.1

Sources:
Population 2001-09: U.S. Census Bureau, Table 1. Annual Estimates of the Resident Population of the United States: April 1, 2000 to July 1, 2009 (NST-EST2009-01)
Population 2010: U.S. Census Bureau, *State and County Quick Facts*, accessed July 27, 2011, at http://quickfacts.census.gov/qfd/states/18000.html
Fatalities 2001-02: Fatality Analysis Reporting System
Fatalities 2003-10: Indiana State Police
VMT: U.S. Federal Highway Administration Traffic Volume Trends, as of March 1, 2011
Licensed drivers: Indiana Bureau of Motor Vehicles (2007-10 retrieved March 2011; 2001-06 retrieved from previous year extracts)
Registered vehicles: Indiana Bureau of Motor Vehicles (2007-10 retrieved March 2011; 2001-06 retrieved from previous year extracts)

Table 5. Indiana traffic collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Collisions, by severity	**192,721**	**204,999**	**205,452**	**189,661**	**192,890**	**267.67**	**264.46**	**-3.21**
Fatal	817	804	722	631	701	0.89	0.96	0.07
Non-fatal injury	38,849	37,416	35,358	33,410	34,084	47.15	46.73	-0.42
Property damage	153,055	166,779	169,372	155,620	158,105	219.63	216.77	-2.86
Injuries, by severity and person type	**56,095**	**53,363**	**49,652**	**47,281**	**48,366**	**66.73**	**66.31**	**-0.42**
Fatal	**899**	**898**	**815**	**692**	**754**	**0.98**	**1.03**	**0.06**
Driver	609	626	554	491	520	0.69	0.71	0.02
Injured occupant	196	199	185	139	157	0.20	0.22	0.02
Non-motorists	94	73	76	62	77	0.09	0.11	0.02
Incapacitating	**3,807**	**3,661**	**3,382**	**3,179**	**3,443**	**4.49**	**4.72**	**0.23**
Driver	2,583	2,490	2,343	2,162	2,270	3.05	3.11	0.06
Injured occupant	913	870	750	742	839	1.05	1.15	0.10
Non-motorists	311	301	289	275	334	0.39	0.46	0.07
Non-incapacitating	**51,389**	**48,804**	**45,455**	**43,410**	**44,169**	**61.27**	**60.56**	**-0.71**
Driver	36,016	33,703	31,554	29,904	30,356	42.20	41.62	-0.58
Injured occupant	13,427	12,853	11,710	11,510	11,733	16.24	16.09	-0.16
Non-motorists	1,946	2,248	2,191	1,996	2,080	2.82	2.85	0.03

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Table 6. Indiana alcohol-related traffic collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Alcohol-related collisions, by severity	**11,855**	**9,943**	**9,412**	**8,884**	**8,339**	**12.54**	**11.43**	**-1.10**
Fatal	250	233	219	173	173	0.24	0.24	-0.01
Non-fatal injury	4,200	3,557	3,225	2,977	2,781	4.20	3.81	-0.39
Property damage	7,405	6,153	5,968	5,734	5,385	8.09	7.38	-0.71
Injuries, by severity and person type	**6,152**	**5,241**	**4,736**	**4,243**	**4,021**	**5.99**	**5.51**	**-0.48**
Fatal	**274**	**254**	**247**	**185**	**182**	**0.26**	**0.25**	**-0.01**
Driver	192	184	168	143	128	0.20	0.18	-0.03
Injured occupant	57	54	57	31	36	0.04	0.05	0.01
Non-motorists	25	16	22	11	18	0.02	0.02	<0.01
Incapacitating	**720**	**646**	**582**	**481**	**522**	**0.68**	**0.72**	**0.04**
Driver	479	467	396	324	339	0.46	0.46	<0.01
Injured occupant	199	138	134	111	122	0.16	0.17	0.01
Non-motorists	42	41	52	46	61	0.06	0.08	0.02
Non-incapacitating	**5,158**	**4,341**	**3,907**	**3,577**	**3,317**	**5.05**	**4.55**	**-0.50**
Driver	3,792	3,060	2,809	2,581	2,380	3.64	3.26	-0.38
Injured occupant	1,211	1,142	950	842	797	1.19	1.09	-0.10
Non-motorists	155	139	148	154	140	0.22	0.19	-0.03
Alcohol-related as % total injuries								
Fatal	30.5%	28.3%	30.3%	26.7%	24.1%			
Incapacitating	18.9%	17.6%	17.2%	15.1%	15.2%			
Non-incapacitating	10.0%	8.9%	8.6%	8.2%	7.5%			

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: See glossary for definition of *alcohol-related* collision or injury.

Table 7. Indiana alcohol-impaired traffic collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Alcohol-impaired collisions, by severity	**4,726**	**4,013**	**3,417**	**4,231**	**5,001**	**5.97**	**6.86**	**0.89**
Fatal	193	176	163	125	135	0.18	0.19	0.01
Non-fatal injury	1,443	1,149	891	1,234	1,534	1.74	2.10	0.36
Property damage	3,090	2,688	2,363	2,872	3,332	4.05	4.57	0.52
Injuries, by severity and person type	**2,233**	**1,870**	**1,469**	**1,817**	**2,262**	**2.56**	**3.10**	**0.54**
Fatal	**208**	**193**	**180**	**132**	**140**	**0.19**	**0.19**	**0.01**
Driver	153	145	132	105	102	0.15	0.14	-0.01
Injured occupant	41	38	34	20	24	0.03	0.03	< 0.01
Non-motorists	14	10	14	7	14	0.01	0.02	0.01
Incapacitating	**190**	**135**	**101**	**158**	**270**	**0.22**	**0.37**	**0.15**
Driver	118	83	50	110	179	0.16	0.25	0.09
Injured occupant	62	47	39	39	68	0.06	0.09	0.04
Non-motorists	10	5	12	9	23	0.01	0.03	0.02
Non-incapacitating	**1,835**	**1,542**	**1,188**	**1,527**	**1,852**	**2.16**	**2.54**	**0.38**
Driver	1,365	1,082	847	1,125	1,365	1.59	1.87	0.28
Injured occupant	438	436	320	367	449	0.52	0.62	0.10
Non-motorists	32	24	21	35	38	0.05	0.05	< 0.01
Alcohol-impaired as % total injuries								
Fatal	23.1%	21.5%	22.1%	19.1%	18.6%			
Incapacitating	5.0%	3.7%	3.0%	5.0%	7.8%			
Non-incapacitating	3.6%	3.2%	2.6%	3.5%	4.2%			

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: See glossary for definition of *alcohol-impaired* collision or injury.

Table 8. Indiana aggressive driving traffic collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Aggressive driving collisions, by severity	**3,721**	**3,761**	**4,018**	**3,947**	**4,133**	**5.57**	**5.67**	**0.10**
Fatal	12	22	24	22	20	0.03	0.03	< 0.01
Non-fatal injury	1,079	984	983	982	1,125	1.39	1.54	0.16
Property damage	2,630	2,755	3,011	2,943	2,988	4.15	4.10	-0.06
Injuries, by severity and person type	**1,729**	**1,625**	**1,603**	**1,522**	**1,874**	**2.15**	**2.57**	**0.42**
Fatal	**15**	**22**	**30**	**25**	**21**	**0.04**	**0.03**	**-0.01**
Driver	10	19	19	19	13	0.03	0.02	-0.01
Injured occupant	4	2	6	6	6	0.01	0.01	0.00
Non-motorists	1	1	5	0	2	0.00	< 0.01	< 0.01
Incapacitating	**143**	**110**	**101**	**102**	**145**	**0.14**	**0.20**	**0.05**
Driver	93	69	66	69	97	0.10	0.13	0.04
Injured occupant	49	39	33	28	47	0.04	0.06	0.02
Non-motorists	1	2	2	5	1	0.01	< 0.01	< 0.01
Non-incapacitating	**1,571**	**1,493**	**1,472**	**1,395**	**1,708**	**1.97**	**2.34**	**0.37**
Driver	1,114	1,017	964	951	1,136	1.34	1.56	0.22
Injured occupant	450	460	485	412	540	0.58	0.74	0.16
Non-motorists	7	16	23	32	32	0.05	0.04	< 0.01
Aggressive driving as % total injuries								
Fatal	1.7%	2.4%	3.7%	3.6%	2.8%			
Incapacitating	3.8%	3.0%	3.0%	3.2%	4.2%			
Non-incapacitating	3.1%	3.1%	3.2%	3.2%	3.9%			

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: See glossary for definition of *aggressive driving* collision or injury.

Table 9. Indiana speed-related traffic collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Speed-related collisions, by severity	**14,570**	**18,492**	**22,820**	**18,251**	**18,551**	**25.76**	**25.43**	**-0.32**
Fatal	159	165	188	136	136	0.19	0.19	-0.01
Non-fatal injury	4,317	4,377	4,711	4,117	4,144	5.81	5.68	-0.13
Property damage	10,094	13,950	17,921	13,998	14,271	19.76	19.57	-0.19
Injuries, by severity and person type	**6,514**	**6,586**	**6,984**	**6,105**	**6,127**	**8.62**	**8.40**	**-0.22**
Fatal	**174**	**187**	**225**	**158**	**145**	**0.22**	**0.20**	**-0.02**
Driver	128	136	153	115	98	0.16	0.13	-0.03
Injured occupant	40	47	67	40	41	0.06	0.06	< 0.01
Non-motorists	6	4	5	3	6	< 0.01	0.01	< 0.01
Incapacitating	**607**	**559**	**585**	**514**	**566**	**0.73**	**0.78**	**0.05**
Driver	415	375	428	359	380	0.51	0.52	0.01
Injured occupant	163	171	144	147	171	0.21	0.23	0.03
Non-motorists	29	13	13	8	15	0.01	0.02	0.01
Non-incapacitating	**5,733**	**5,840**	**6,174**	**5,433**	**5,416**	**7.67**	**7.43**	**-0.24**
Driver	3,975	3,949	4,271	3,678	3,746	5.19	5.14	-0.05
Injured occupant	1,712	1,818	1,835	1,676	1,583	2.37	2.17	-0.19
Non-motorists	46	73	68	79	87	0.11	0.12	0.01
Speed-related as % total injuries								
Fatal	19.4%	20.8%	27.6%	22.8%	19.2%			
Incapacitating	15.9%	15.3%	17.3%	16.2%	16.4%			
Non-incapacitating	11.2%	12.0%	13.6%	12.5%	12.3%			

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: See glossary for definition of *speed-related* collision or injury.

Table 10. Indiana disregarding signal traffic collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Disregarding signal collisions, by severity	**2,855**	**4,797**	**4,343**	**3,983**	**4,011**	**5.62**	**5.50**	**-0.12**
Fatal	15	23	16	14	15	0.02	0.02	< 0.01
Non-fatal injury	1,149	1,772	1,590	1,506	1,519	2.13	2.08	-0.04
Property damage	1,691	3,002	2,737	2,463	2,477	3.48	3.40	-0.08
Injuries, by severity and person type	**1,903**	**2,905**	**2,559**	**2,447**	**2,485**	**3.45**	**3.41**	**-0.05**
Fatal	**15**	**27**	**16**	**16**	**15**	**0.02**	**0.02**	**0.00**
Driver	13	18	12	12	12	0.02	0.02	0.00
Injured occupant	2	8	4	3	3	< 0.01	< 0.01	< 0.01
Non-motorists	0	1	0	1	0	< 0.01	0.00	< 0.01
Incapacitating	**100**	**155**	**162**	**123**	**128**	**0.17**	**0.18**	**0.00**
Driver	64	114	109	95	82	0.13	0.11	-0.02
Injured occupant	36	39	53	26	46	0.04	0.06	0.03
Non-motorists	0	2	0	2	0	< 0.01	0.00	< 0.01
Non-incapacitating	**1,788**	**2,723**	**2,381**	**2,308**	**2,342**	**3.26**	**3.21**	**-0.05**
Driver	1,250	1,895	1,683	1,613	1,662	2.28	2.28	< 0.01
Injured occupant	532	809	680	683	669	0.96	0.92	-0.05
Non-motorists	6	19	18	12	11	0.02	0.02	0.00
Disregarding signal as % total injuries								
Fatal	1.7%	3.0%	2.0%	2.3%	2.0%			
Incapacitating	2.6%	4.2%	4.8%	3.9%	3.7%			
Non-incapacitating	3.5%	5.6%	5.2%	5.3%	5.3%			

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: See glossary for definition of *disregarding signal-related* collision or injury.

Table 11. Indiana hit-and-run traffic collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Hit-and-run collisions, by severity	**23,924**	**25,220**	**25,121**	**23,349**	**23,163**	**32.95**	**31.76**	**-1.19**
Fatal	27	19	26	22	28	0.03	0.04	0.01
Non-fatal injury	2,131	2,055	1,982	1,932	1,850	2.73	2.54	-0.19
Property damage	21,766	23,146	23,113	21,395	21,285	30.20	29.18	-1.01
Injuries, by severity and person type	**2,665**	**2,598**	**2,442**	**2,379**	**2,290**	**3.36**	**3.14**	**-0.22**
Fatal	**27**	**19**	**29**	**23**	**28**	**0.03**	**0.04**	**0.01**
Driver	11	5	7	7	10	0.01	0.01	< 0.01
Injured occupant	5	2	9	5	4	0.01	0.01	< 0.01
Non-motorists	11	12	13	11	14	0.02	0.02	< 0.01
Incapacitating	**173**	**138**	**146**	**146**	**135**	**0.21**	**0.19**	**-0.02**
Driver	77	59	70	68	56	0.10	0.08	-0.02
Injured occupant	49	36	28	40	35	0.06	0.05	-0.01
Non-motorists	47	43	48	38	44	0.05	0.06	0.01
Non-incapacitating	**2,465**	**2,441**	**2,267**	**2,210**	**2,127**	**3.12**	**2.92**	**-0.20**
Driver	1,529	1,459	1,374	1,311	1,212	1.85	1.66	-0.19
Injured occupant	606	649	557	559	550	0.79	0.75	-0.03
Non-motorists	330	333	336	340	365	0.48	0.50	0.02
Hit-and-run as % total injuries								
Fatal	3.0%	2.1%	3.6%	3.3%	3.7%			
Incapacitating	4.5%	3.8%	4.3%	4.6%	3.9%			
Non-incapacitating	4.8%	5.0%	5.0%	5.1%	4.8%			

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: See glossary for definition of *hit-and-run* collision or injury.

Table 12. Indiana distracted driving collisions and injuries, 2006-2010

	Count					Per 100m VMT		
	2006	2007	2008	2009	2010	2009	2010	Change
Distracted driving collisions, by severity	**9,188**	**10,455**	**9,984**	**10,042**	**9,895**	**14.17**	**13.57**	**-0.61**
Fatal	16	17	17	10	18	0.01	0.02	0.01
Non-fatal injury	2,104	2,276	2,122	2,255	2,190	3.18	3.00	-0.18
Property damage	7,068	8,162	7,845	7,777	7,687	10.98	10.54	-0.44
Injuries, by severity and person type	**2,999**	**3,275**	**2,968**	**3,220**	**3,070**	**4.54**	**4.21**	**-0.34**
Fatal	**19**	**27**	**17**	**10**	**19**	**0.01**	**0.03**	**0.01**
Driver	7	9	12	7	13	0.01	0.02	0.01
Injured occupant	10	15	2	2	2	< 0.01	< 0.01	< 0.01
Non-motorists	2	3	3	1	4	< 0.01	0.01	< 0.01
Incapacitating	**123**	**161**	**144**	**160**	**149**	**0.23**	**0.20**	**-0.02**
Driver	76	87	93	105	95	0.15	0.13	-0.02
Injured occupant	38	57	37	46	40	0.06	0.05	-0.01
Non-motorists	9	17	14	9	14	0.01	0.02	0.01
Non-incapacitating	**2,857**	**3,087**	**2,807**	**3,050**	**2,902**	**4.30**	**3.98**	**-0.33**
Driver	2,032	2,153	1,939	2,117	2,039	2.99	2.80	-0.19
Injured occupant	755	846	747	830	781	1.17	1.07	-0.10
Non-motorists	70	88	121	103	82	0.15	0.11	-0.03
Distracted driving as % total injuries								
Fatal	2.1%	3.0%	2.1%	1.4%	2.5%			
Incapacitating	3.2%	4.4%	4.3%	5.0%	4.3%			
Non-incapacitating	5.6%	6.3%	6.2%	7.0%	6.6%			

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: See glossary for definition of *distracted driving* collision or injury.

Table 13. Drivers classified as distracted in Indiana collisions, 2006-2010

	2006	2007	2008	2009	2010
Drivers injured or killed	**39,208**	**36,819**	**34,451**	**32,557**	**33,146**
Distracted—cell phone	**184**	**169**	**167**	**180**	**187**
as % drivers injured	0.47%	0.46%	0.48%	0.55%	0.56%
as % distracted	16.5%	15.1%	16.5%	16.6%	17.7%
Distracted—other sources	**932**	**948**	**846**	**902**	**872**
as % drivers injured	2.4%	2.6%	2.5%	2.8%	2.6%
Not distracted	**38,092**	**35,702**	**33,438**	**31,475**	**32,087**
Drivers not injured	**258,922**	**275,978**	**275,295**	**256,417**	**262,087**
Distracted--cell phone	**991**	**1,076**	**1,018**	**1,017**	**1,068**
as % drivers not injured	0.38%	0.39%	0.37%	0.40%	0.41%
as % distracted	12.2%	11.6%	11.4%	11.4%	12.2%
Distracted--other sources	**7,112**	**8,210**	**7,920**	**7,893**	**7,709**
as % drivers not injured	3.1%	3.4%	3.2%	3.5%	3.3%
Not distracted	**250,819**	**266,692**	**266,357**	**247,507**	**253,310**

Source: Indiana State Police

Table 14. Traffic fatalities in Indiana, by collision type and locality, 2006-2010

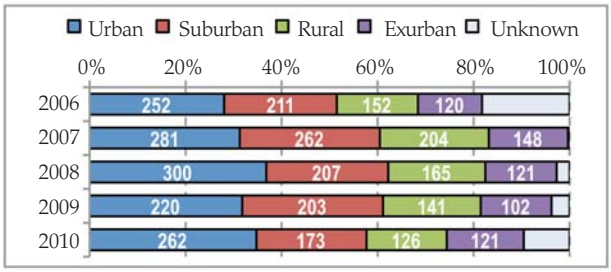
	Count of fatalities				
Collision type / locality	**2006**	**2007**	**2008**	**2009**	**2010**
All fatal collisions	**899**	**898**	**815**	**692**	**754**
Urban	251	262	291	221	263
Rural	648	636	524	471	491
% Rural	72.1%	70.8%	64.3%	68.1%	65.1%
Alcohol-related	**274**	**254**	**247**	**185**	**182**
Urban	77	78	109	68	82
Rural	197	176	138	117	100
% Rural	71.9%	69.3%	55.9%	63.2%	54.9%
Alcohol-impaired	**208**	**193**	**180**	**132**	**140**
Urban	61	54	87	48	70
Rural	147	139	93	84	70
% Rural	70.7%	72.0%	51.7%	63.6%	50.0%
Aggressive driving	**15**	**22**	**30**	**25**	**21**
Urban	5	13	15	8	11
Rural	10	9	15	17	10
% Rural	66.7%	40.9%	50.0%	68.0%	47.6%
Speed-related	**174**	**187**	**225**	**158**	**145**
Urban	55	56	97	54	55
Rural	119	131	128	104	90
% Rural	68.4%	70.1%	56.9%	65.8%	62.1%
Disregard traffic signal	**15**	**27**	**16**	**16**	**15**
Urban	11	19	13	13	13
Rural	4	8	3	3	2
% Rural	26.7%	29.6%	18.8%	18.8%	13.3%
Hit-and-run	**27**	**19**	**29**	**23**	**28**
Urban	15	12	16	11	23
Rural	12	7	13	12	5
% Rural	44.4%	36.8%	44.8%	52.2%	17.9%
Construction zone	**15**	**7**	**12**	**9**	**13**
Urban	2	1	6	2	7
Rural	13	6	6	7	6
% Rural	86.7%	85.7%	50.0%	77.8%	46.2%
Distracted driving	**19**	**27**	**17**	**10**	**19**
Urban	4	7	6	3	4
Rural	15	20	11	7	15
% Rural	78.9%	74.1%	64.7%	70.0%	78.9%

Source: Indiana State Police

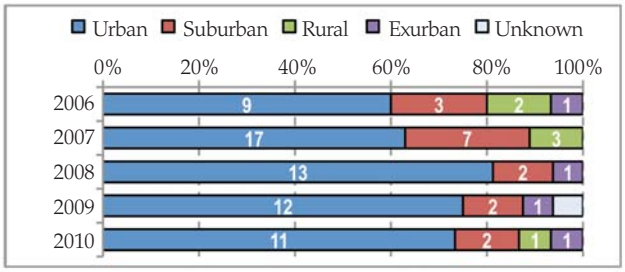
Note: See glossary for definition of *incorporated limits*.

Figure 14. Traffic fatalities in Indiana, by collision type and U.S. census locality, 2006-2010

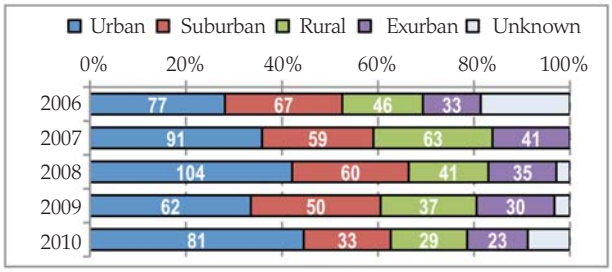
All fatalities



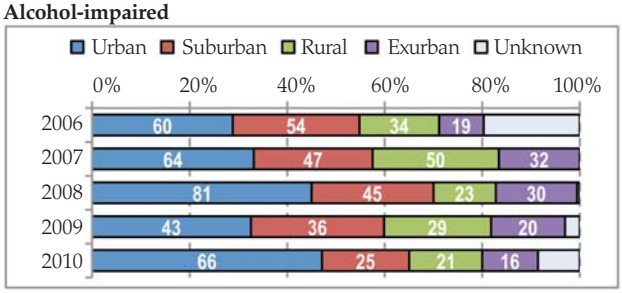
Disregarding signal



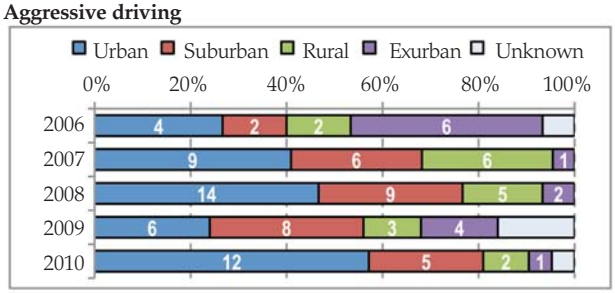
Alcohol-involved



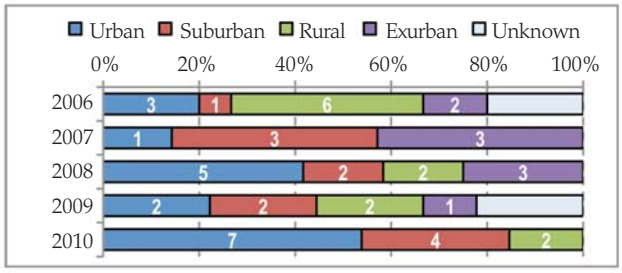
Alcohol-impaired



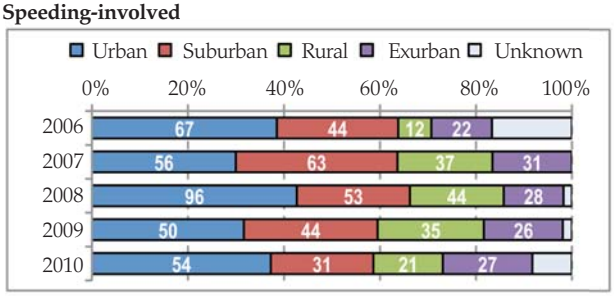
Aggressive driving



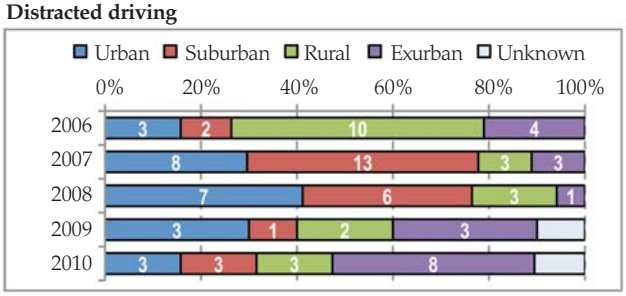
Construction zone



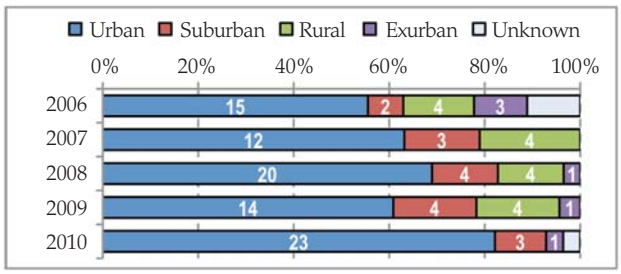
Speeding-involved



Distracted driving



Hit-and-run



Source: Indiana State Police

Notes:
Numbers shown in bars represent fatality counts.
See glossary for definition of *U.S. Census locality.*

Table 15. Indiana traffic collisions by severity and month, 2006-2010

A. Counts of collisions

	Total collisions					Fatal collisions				
Month	**2006**	**2007**	**2008**	**2009**	**2010**	**2006**	**2007**	**2008**	**2009**	**2010**
January	15,529	18,023	18,770	20,219	17,064	55	59	43	50	45
February	14,310	19,743	20,656	15,255	17,381	64	52	66	48	41
March	14,994	15,573	15,641	12,753	13,377	51	67	47	39	50
April	15,151	14,778	14,263	14,055	14,166	48	62	39	46	62
May	16,778	15,819	16,044	15,402	15,397	87	86	54	50	58
June	16,266	15,104	15,470	14,887	15,432	75	70	60	66	63
July	15,193	15,440	14,804	14,118	15,040	66	70	75	68	72
August	15,763	16,355	14,877	14,468	14,918	79	86	76	63	71
September	15,672	16,068	14,793	14,615	14,905	80	77	73	64	56
October	18,486	18,242	17,252	17,576	16,992	78	75	56	47	71
November	18,084	19,054	18,662	16,924	17,223	72	56	75	43	57
December	16,495	20,800	24,220	19,389	20,995	62	44	58	47	55
Annual	**192,721**	**204,999**	**205,452**	**189,661**	**192,890**	**817**	**804**	**722**	**631**	**701**
Monthly average	16,060	17,083	17,121	15,805	16,074	68	67	60	53	58
High month	Oct	Dec	Dec	Jan	Dec	May	May/Aug	Aug	Jul	Jul
Low month	Feb	Apr	Apr	Mar	Mar	Apr	Dec	Apr	Mar	Feb

B. Collisions per 100 million vehicle miles travelled (VMT)

	Total collisions					Fatal collisions				
Month	**2006**	**2007**	**2008**	**2009**	**2010**	**2006**	**2007**	**2008**	**2009**	**2010**
January	268	309	331	373	299	0.9	1.0	0.8	0.9	0.8
February	276	405	418	298	355	1.2	1.1	1.3	0.9	0.8
March	254	255	277	219	223	0.9	1.1	0.8	0.7	0.8
April	250	242	238	227	221	0.8	1.0	0.7	0.7	1.0
May	272	252	268	246	242	1.4	1.4	0.9	0.8	0.9
June	271	246	263	238	238	1.3	1.1	1.0	1.1	1.0
July	251	243	239	218	225	1.1	1.1	1.2	1.1	1.1
August	273	275	262	247	244	1.4	1.4	1.3	1.1	1.2
September	268	280	265	251	248	1.4	1.3	1.3	1.1	0.9
October	298	285	279	275	257	1.3	1.2	0.9	0.7	1.1
November	321	338	350	312	299	1.3	1.0	1.4	0.8	1.0
December	281	369	422	333	356	1.1	0.8	1.0	0.8	0.9
Annual	**273**	**288**	**299**	**268**	**264**	**1.2**	**1.1**	**1.0**	**0.9**	**1.0**
Monthly average	274	292	301	270	267	1.2	1.1	1.1	0.9	1.0
High month	Nov	Feb	Dec	Jan	Dec	May	Aug	Nov	Sep	Aug
Low month	Apr	Apr	Apr	Jul	Apr	Apr	Dec	Apr	Mar	Jan

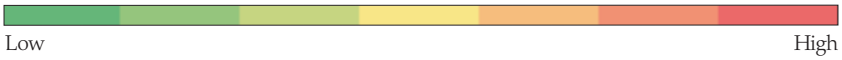
Low — High

Sources:
Collisions and injuries: Indiana State Police
VMT: U.S. Federal Highway Administration *Traffic Volume Trends*, as of March 1, 2011

Note: Color scale refers to individual years.

Table 16. Collisions, fatal collisions, and fatalities on holidays, by alcohol involvement, 2006-2010

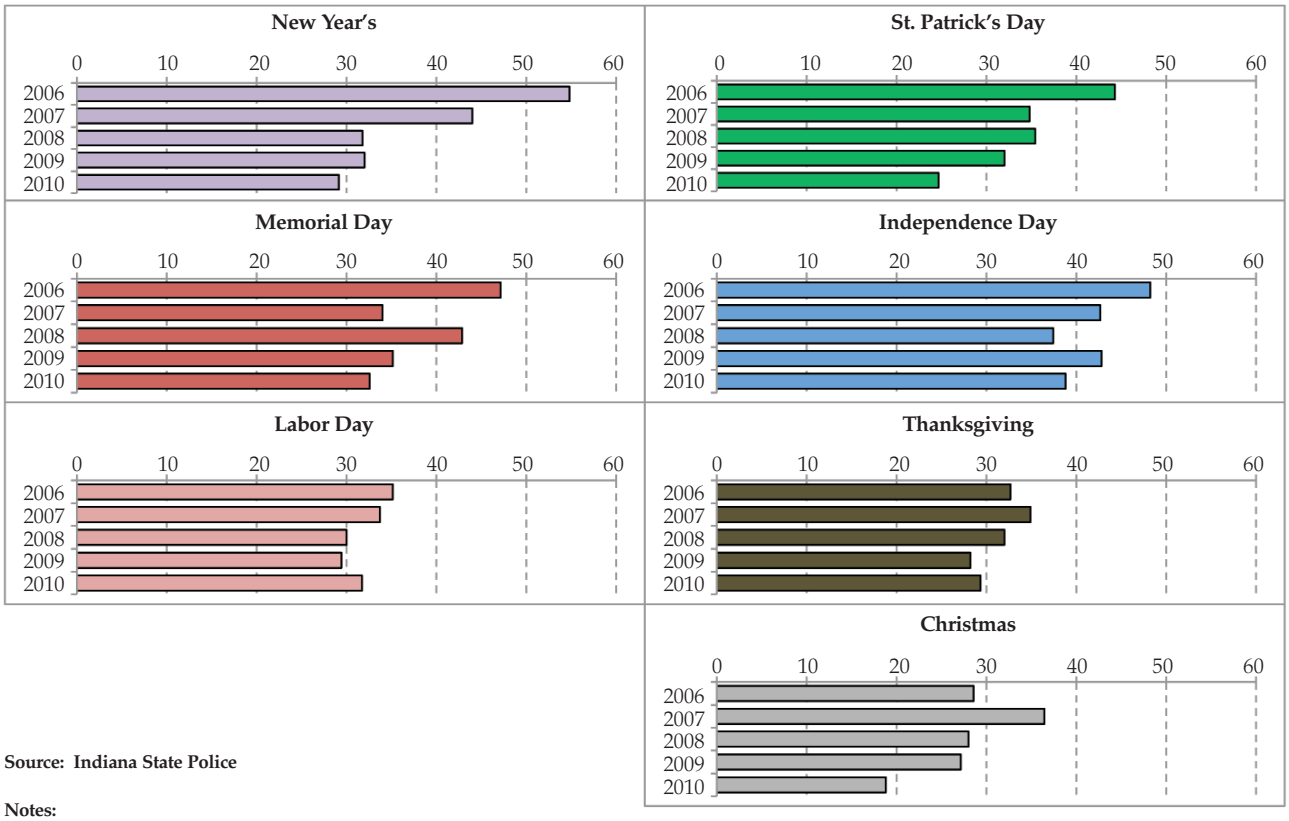
Holiday	Dates		All collisions			Fatal collisions			Fatalities		
	Begin	End	Total	Alcohol-related	%	Total	Alcohol-related	%	Total	Alcohol-related	%
New Year's	2006-Dec-29	2007-Jan-02	1,298	154	11.9%	12	4	33.3%	12	4	33.3%
	2007-Dec-28	2008-Jan-02	2,411	143	5.9%	6	1	16.7%	7	1	14.3%
	2008-Dec-31	2009-Jan-05	1,399	144	10.3%	8	2	25.0%	10	3	30.0%
	2009-Dec-31	2010-Jan-04	1,253	102	8.1%	2	0	0.0%	2	0	0.0%
	2010-Dec-31	2011-Jan-03	111	12	10.8%	2	2	100%	3	3	100%
St. Patrick's Day	2006-Mar-16	2006-Mar-20	1,453	155	10.7%	5	4	80.0%	5	4	80.0%
	2007-Mar-16	2007-Mar-19	912	87	9.5%	4	3	75.0%	5	3	60.0%
	2008-Mar-14	2008-Mar-18	1,310	124	9.5%	1	0	0.0%	1	0	0.0%
	2009-Mar-13	2009-Mar-18	1,761	144	8.2%	6	0	0.0%	6	0	0.0%
	2010-Mar-16	2010-Mar-18	609	37	6.1%	1	1	100%	1	1	100%
Memorial Day	2006-May-26	2006-May-30	1,491	165	11.1%	11	4	36.4%	12	4	33.3%
	2007-May-25	2007-May-29	1,367	119	8.7%	8	4	50.0%	9	5	55.6%
	2008-May-23	2008-May-27	1,396	150	10.7%	6	2	33.3%	6	2	33.3%
	2009-May-22	2009-May-26	1,412	123	8.7%	5	0	0.0%	6	0	0.0%
	2010-May-28	2010-Jun-01	1,465	114	7.8%	11	5	45.5%	11	5	45.5%
Independence Day	2006-Jun-30	2006-Jul-05	2,009	217	10.8%	13	5	38.5%	15	5	33.3%
	2007-Jul-03	2007-Jul-05	610	64	10.5%	2	1	50.0%	2	1	50.0%
	2008-Jul-03	2008-Jul-07	1,301	131	10.1%	5	3	60.0%	5	3	60.0%
	2009-Jul-03	2009-Jul-06	1,007	107	10.6%	3	1	33.3%	3	1	33.3%
	2010-Jul-02	2010-Jul-05	1,059	97	9.2%	7	3	42.9%	7	3	42.9%
Labor Day	2006-Sep-01	2006-Sep-05	1,224	123	10.1%	12	5	41.7%	13	5	38.5%
	2007-Aug-31	2007-Sep-04	1,448	118	8.2%	9	2	22.2%	11	2	18.2%
	2008-Aug-29	2008-Sep-02	1,229	105	8.5%	9	7	77.8%	9	7	77.8%
	2009-Sep-04	2009-Sep-08	1,205	103	8.6%	4	2	50.0%	4	2	50.0%
	2010-Sep-03	2010-Sep-07	1,261	111	8.8%	9	3	33.3%	9	3	33.3%
Thanksgiving	2006-Nov-22	2006-Nov-27	1,998	147	7.4%	11	5	45.5%	11	5	45.5%
	2007-Nov-21	2007-Nov-26	2,320	157	6.8%	8	2	25.0%	10	2	20.0%
	2008-Nov-26	2008-Dec-01	2,128	144	6.8%	12	8	66.7%	15	11	73.3%
	2009-Nov-25	2009-Nov-30	1,971	127	6.4%	2	1	50.0%	2	1	50.0%
	2010-Nov-24	2010-Nov-29	2,001	132	6.6%	10	1	10.0%	10	1	10.0%
Christmas	2006-Dec-22	2006-Dec-26	1,165	100	8.6%	6	5	83.3%	8	5	62.5%
	2007-Dec-21	2007-Dec-26	1,975	164	8.3%	7	2	28.6%	9	2	22.2%
	2008-Dec-24	2008-Dec-29	2,368	126	5.3%	8	3	37.5%	13	4	30.8%
	2009-Dec-24	2009-Dec-28	1,937	95	4.9%	3	0	0.0%	3	0	0.0%
	2010-Dec-24	2010-Dec-27	974	47	4.8%	6	1	16.7%	6	1	16.7%



Source: Indiana State Police

Notes:
See glossary for definition of alcohol-related.
Holiday ranges begin at 6p of the first day and end at 5:59a of the last day.
Data include only collisions with valid date and time.

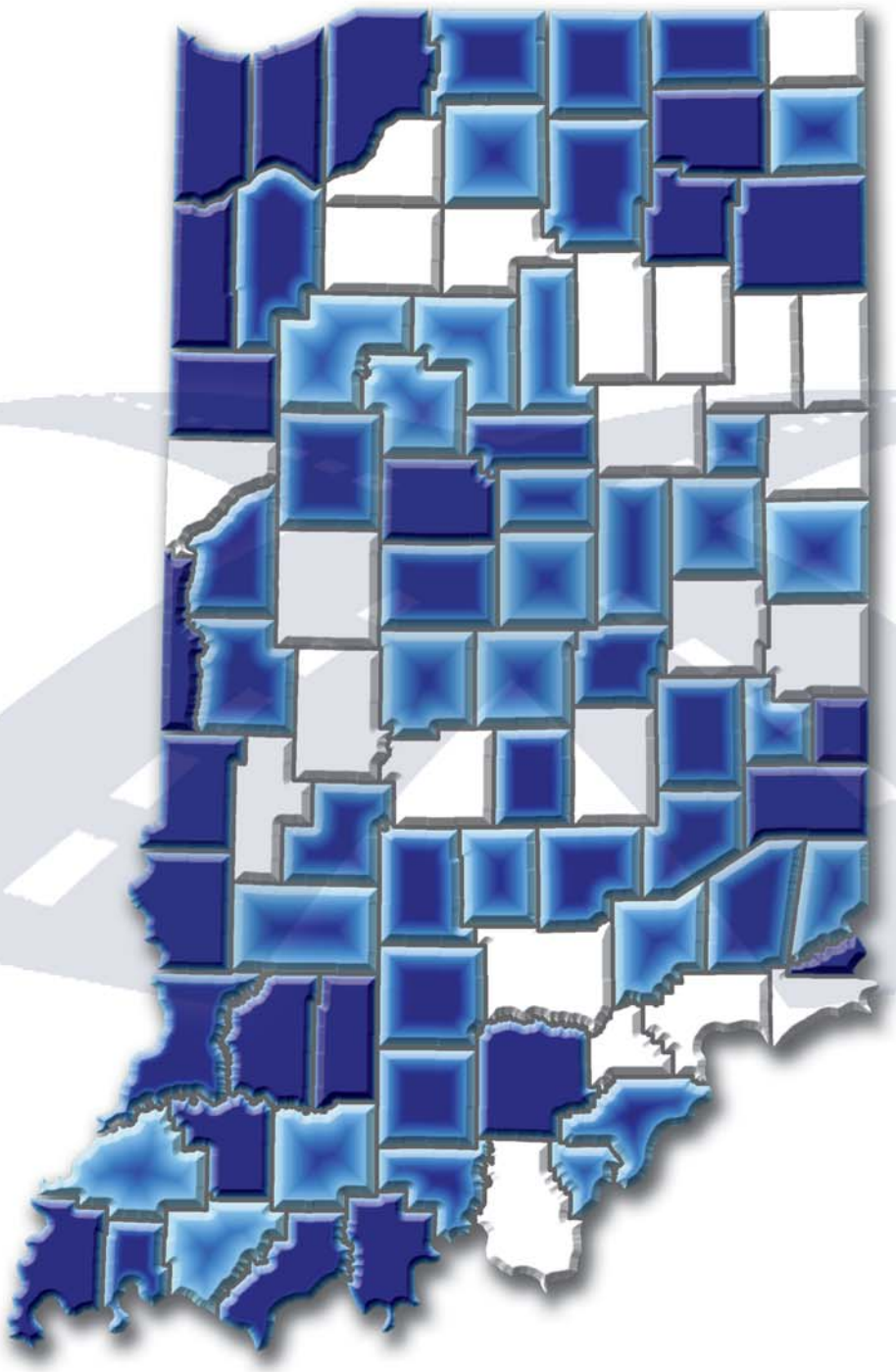
Figure 15. Alcohol-related collisions per 24-hour holiday period, 2006-2010



Source: Indiana State Police

Notes:
See glossary for definition of alcohol-related.
Holiday ranges begin at 6p of the first day and end at 5:59a of the last day.
Data include only collisions with valid date and time.

COLLISIONS



COLLISIONS, 2010

This section provides an analysis of Indiana collisions in 2010, based on various parameters that describe the conditions and circumstances of those collisions as indicated by the reporting officer. A time series analysis of collisions is also presented. Collision data are categorized by the most severe injury involved (i.e., *fatal* collisions involve at least one fatality; *incapacitating* collisions involve no fatalities but at least one incapacitating injury; etc.). Collision variables examined include month and time of day, locale, road class, environmental conditions, and other external factors. This section concludes with a detailed analysis of collisions that occurred in work zones (see page 51).

ALL COLLISIONS

In 2010, 192,890 traffic collisions occurred in Indiana, a 1.7 percent increase from 2009. The number of fatal collisions also increased from 631 in 2009 to 701 in 2010. The rate of fatal collisions per 1,000 total collisions increased slightly from 3.3 in 2009 to 3.6 in 2010.

Collisions by month and time of day

The largest number of collisions in 2010 occurred during winter months. December accounted for the largest monthly total of collisions (20,995). Monthly counts for fatal collisions were highest in summer and fall with the largest numbers occurring in the months of July (72), August (71), and October (71). In 2010, when looking at time of day and day of week, the highest proportion of fatal collisions occurred on Tuesdays between the hours of midnight and 3am (1.3 percent) and Saturdays between the hours of 3am and 6am (1.2 percent).

On average, monthly counts of day time collisions are higher than counts of collisions occurring at night. The average monthly count of collisions occurring during day hours in 2010 was 10,901 compared to an average count of 5,173 for collisions occurring during night hours. Both day time and night time collision counts exceeded monthly averages during January, February, October, November, and December.

Monthly average fatal collision counts are also higher during the day (32 fatal collisions) than at night (26 fatal collisions). Day time fatal collisions during April, June, July, August, and October exceeded the monthly day time average, while fatal collisions that occurred at night were above average during January, May, June, August, October, and November.

Collision circumstances

Alcohol-related collisions represented 4.3 percent (8,339) of all collisions and nearly 25 percent of fatal collisions. Collisions that involved *speeding* accounted for 9.6 percent of total collisions and *distracted driving* collisions accounted for 5.1 percent of total collisions in 2010. The highest proportions of *speed-related* collisions occurred during the months of January, February, and December, likely due in part to individuals driving at speeds unsafe for weather conditions. The highest proportions of *alcohol-related* collisions occur during the spring and summer.

When looking at time of day, proportions of *alcohol-related* collisions were consistently greater between the hours of midnight and 6am across all days of the week. Proportions of *speed-related* collisions were greater during overnight and early morning hours.

Collisions by primary factor

Driver unsafe actions accounted for the largest number (113,275 of 192,890) of collisions in 2010. *Driver unsafe actions* classified as *failure to yield right of way* (29,786) and *following too closely* (28,803) accounted for the greatest number of collisions. Rates of serious injury collisions are higher among collisions with primary factors attributed to driver actions (21 per 1,000 collisions) than with primary factors attributed to vehicles or the environment. In 2010, 52 in every 1,000 collisions where the driver was identified with a *cognitive/physical impairment* were serious injury collisions, compared to a rate of 18.7 per 1,000 collisions generally.

Fatal collisions were less likely than non-fatal collisions to have been attributable to *driver unsafe actions* (50 percent of fatal collisions compared to 59 percent in non-fatal collisions). *Driver loss of control* accounted for 28 percent of all fatal collisions, but only 8 percent of non-fatal collisions. Environmental and vehicular circumstances were less likely to have been the primary factor in fatal collisions than in non-fatal collisions.

Geography of collisions (locale and road class)

Collision counts in 2010 were consistently higher in Indiana *urban* (114,607) and *suburban* (27,701) locales than in surrounding *exurban* (10,074) and *rural* (11,734) areas. Conversely, 2010 rates of serious injury collisions per 1,000 collisions were higher in *exurban* (42) and *rural* (41) locales than in areas designated as *urban* (15) and *suburban* (29). While rates of serious injury collisions leveled off in *urban* locales since 2007, serious injury collision rates increased in other locales (*suburban, exurban,* and *rural*) since 2008.

Collision counts were highest on *local/city roads* (86,010 in 2010) and lowest on interstates (14,861 in 2010). Rates of serious

injury collisions were higher on *county roads, state roads,* and *US routes* than on other road types. Serious injury collision rates leveled off on *interstates* and *local/city roads* over the past few years, but increased on other road types since 2008.

Environmental conditions and other external factors

Environmental conditions including light conditions, weather, and road surface often contribute to the likelihood of a collision. Collisions that involved traffic control types identified as *person directing traffic* (49.0) and *railroad crossing* (46.5) had the highest rate of serious injury collisions.

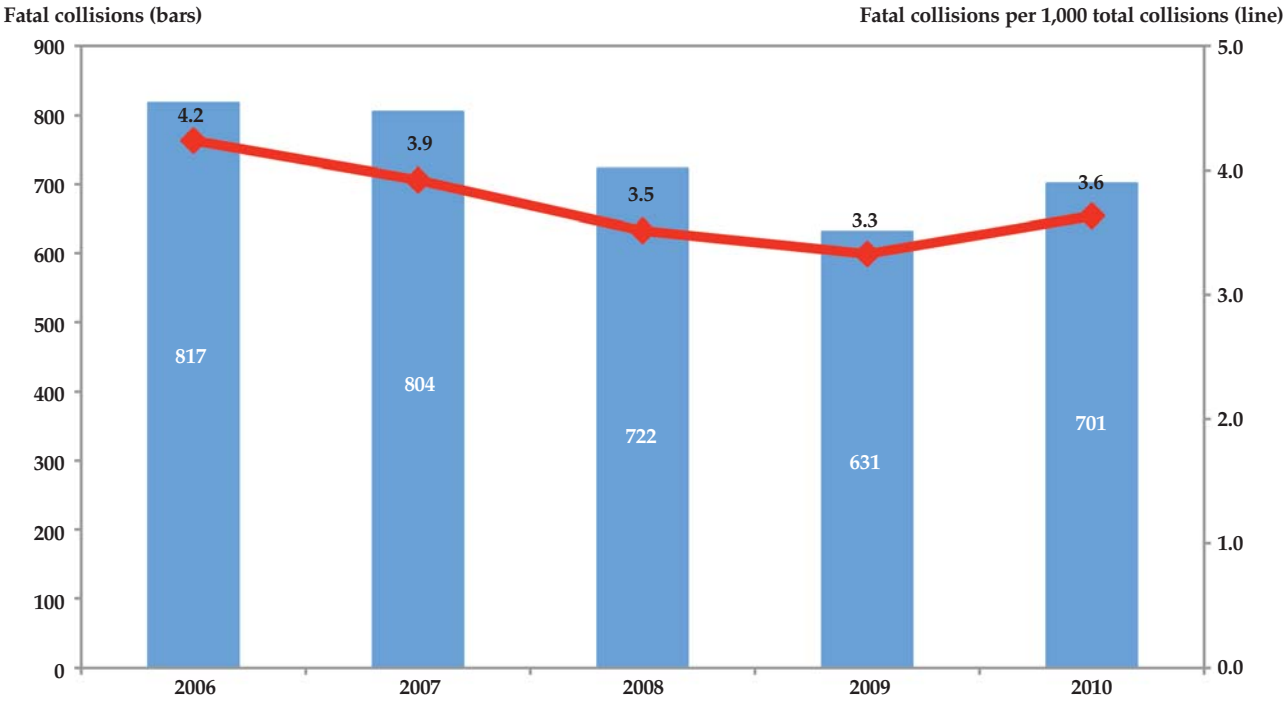
Collisions that involved road surface conditions reported as *loose material on road* had the highest rate of serious injury collisions (28.1 per 1,000 collisions).

When looking at light conditions identified by the reporting officer, collisions that occurred on roads that were *dark (not lighted)* had the highest rates of serious injury collisions (23.6 per 1,000 collisions). Over 29 percent of all fatal collisions (205/701) occurred on *dark (not lighted)* roads. Among weather-related conditions, *severe cross wind* (35.0) and *fog/smoke/smog* (24.2) had the highest rates of serious injury collisions per 1,000 collisions.

Economic cost of collisions

In 2010, the total economic cost of Indiana traffic collisions exceeded $4.4 billion. On average, the cost of each collision is estimated to be $22,873. The economic cost of speeding collisions totaled more than $552 million, with an average collision cost of $29,770. *Alcohol-related* collisions had an economic cost of $440 million, with an average collision cost of $52,717. The average cost of *alcohol-impaired* collisions was greater still at $58,495. The total cost of work zone collisions exceeded $107 million, with an average collision cost of $22,964.

Figure 16. Indiana fatal traffic collisions, 2006-2010



Source: Indiana State Police

Table 17. Indiana traffic collisions, by severity and month, 2009-2010

Month	Fatal collisions			Total collisions			% Change ('09-'10)	
	2009	2010	Change	2009	2010	Change	Fatal	Total
January	50	45	-5	20,219	17,064	-3,155	-10.0%	-15.6%
February	48	41	-7	15,255	17,381	2,126	-14.6%	13.9%
March	39	50	11	12,753	13,377	624	28.2%	4.9%
April	46	62	16	14,055	14,166	111	34.8%	0.8%
May	50	58	8	15,402	15,397	-5	16.0%	0.0%
June	66	63	-3	14,887	15,432	545	-4.5%	3.7%
July	68	72	4	14,118	15,040	922	5.9%	6.5%
August	63	71	8	14,468	14,918	450	12.7%	3.1%
September	64	56	-8	14,615	14,905	290	-12.5%	2.0%
October	47	71	24	17,576	16,992	-584	51.1%	-3.3%
November	43	57	14	16,924	17,223	299	32.6%	1.8%
December	47	55	8	19,389	20,995	1,606	17.0%	8.3%
Total	**631**	**701**	**70**	**189,661**	**192,890**	**3,229**	**11.1%**	**1.7%**

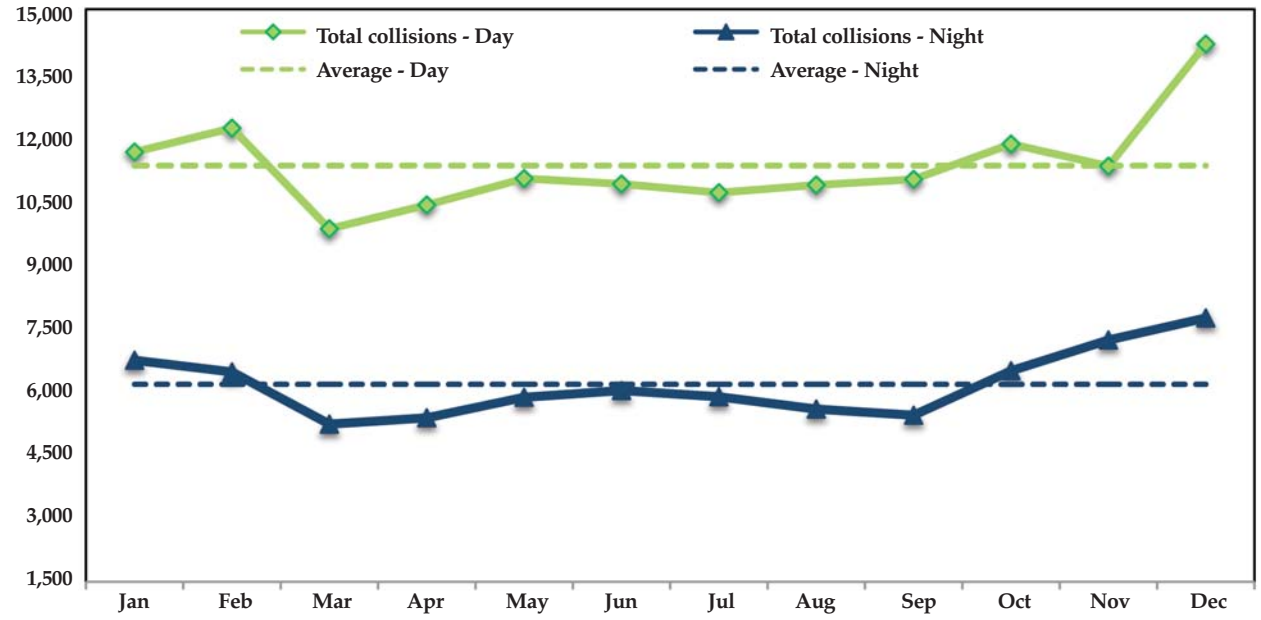
Source: Indiana State Police

Table 18. Collisions by severity, day of the week, and time of day, 2010

Day of week	Time of day								All hours
	12am-2:59am	3am-5:59am	6am-8:59am	9am-11:59am	12pm-2:59pm	3pm-5:59pm	6pm-8:59pm	9pm-11:59pm	
Total collisions	**8,903**	**8,483**	**23,348**	**25,655**	**35,206**	**46,603**	**28,098**	**16,587**	**192,883**
Sunday	2,041	1,472	1,140	2,257	3,831	4,039	3,260	1,926	19,966
Monday	890	965	3,754	3,732	4,990	7,070	3,966	2,073	27,440
Tuesday	911	1,138	4,418	3,928	5,025	7,211	3,887	1,964	28,482
Wednesday	885	1,057	4,235	3,836	5,100	7,437	4,068	2,226	28,844
Thursday	1,078	1,121	4,147	3,979	5,171	7,425	4,007	2,227	29,155
Friday	1,170	1,268	3,626	4,058	6,166	8,797	5,173	3,215	33,473
Saturday	1,928	1,462	2,028	3,865	4,923	4,624	3,737	2,956	25,523
Fatal collisions	**71**	**59**	**86**	**66**	**96**	**136**	**88**	**99**	**701**
Sunday	17	12	3	8	12	20	11	13	96
Monday	5	3	12	8	14	15	12	10	79
Tuesday	12	8	13	6	11	23	10	12	95
Wednesday	4	2	10	9	10	17	12	10	74
Thursday	7	7	16	8	14	17	14	11	94
Friday	11	10	14	16	21	25	14	18	129
Saturday	15	17	18	11	14	19	15	25	134
% Fatal	**0.8%**	**0.7%**	**0.4%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**
Sunday	0.8%	0.8%	0.3%	0.4%	0.3%	0.5%	0.3%	0.7%	0.5%
Monday	0.6%	0.3%	0.3%	0.2%	0.3%	0.2%	0.3%	0.5%	0.3%
Tuesday	1.3%	0.7%	0.3%	0.2%	0.2%	0.3%	0.3%	0.6%	0.3%
Wednesday	0.5%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.4%	0.3%
Thursday	0.6%	0.6%	0.4%	0.2%	0.3%	0.2%	0.3%	0.5%	0.3%
Friday	0.9%	0.8%	0.4%	0.4%	0.3%	0.3%	0.3%	0.6%	0.4%
Saturday	0.8%	1.2%	0.9%	0.3%	0.3%	0.4%	0.4%	0.8%	0.5%

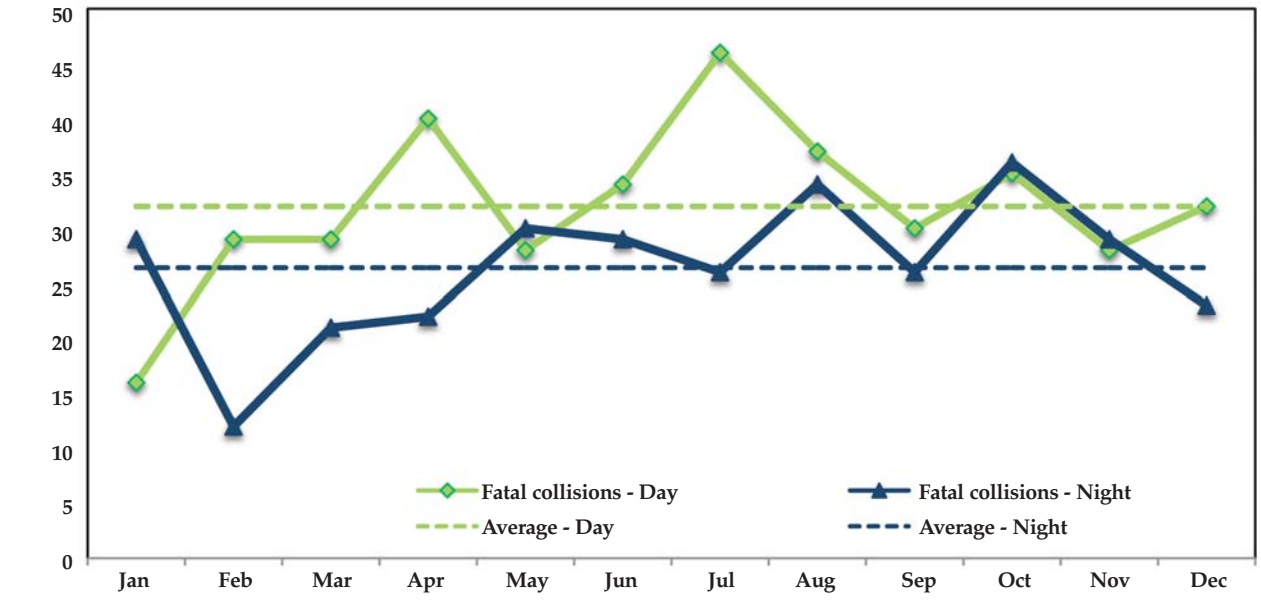
Source: Indiana State Police
Note: Limited to collisions where date and time were reported.

Figure 17. Indiana traffic collisions by month and day/night, 2010



Source: Indiana State Police
Note: Day is defined as 6am - 5:59pm. Night is defined as 6pm - 5:59am.

Figure 18. Indiana fatal collisions by month and day/night, 2010



Source: Indiana State Police
Note: Day is defined as 6am - 5:59pm. Night is defined as 6pm - 5:59am.

Table 19. Indiana traffic collisions by month and collision circumstances, 2010

Month	Total	Collision circumstances													
		Alcohol-related		Aggressive driving		Speed-related		Disregard signal		Hit-and-run		Distracted, any type		Distracted, cell phone	
		Count	As % month total	Count	As % month total	Count	As % month total	Count	As % month total	Count	As % month total	Count	As % month total	Count	As % month total
January	17,064	683	4.0	419	2.5	3,143	18.4	338	2.0	1,976	11.6	642	3.8	84	0.5
February	17,381	635	3.7	402	2.3	3,716	21.4	310	1.8	1,966	11.3	595	3.4	85	0.5
March	13,377	665	5.0	308	2.3	692	5.2	329	2.5	1,818	13.6	786	5.9	104	0.8
April	14,166	658	4.6	297	2.1	727	5.1	311	2.2	1,905	13.4	806	5.7	117	0.8
May	15,397	791	5.1	327	2.1	893	5.8	339	2.2	2,032	13.2	904	5.9	108	0.7
June	15,432	648	4.2	334	2.2	848	5.5	319	2.1	1,934	12.5	930	6.0	107	0.7
July	15,040	728	4.8	305	2.0	838	5.6	327	2.2	1,887	12.5	969	6.4	109	0.7
August	14,918	726	4.9	324	2.2	716	4.8	314	2.1	1,886	12.6	935	6.3	115	0.8
September	14,905	682	4.6	311	2.1	738	5.0	336	2.3	1,767	11.9	911	6.1	127	0.9
October	16,992	726	4.3	333	2.0	834	4.9	370	2.2	1,953	11.5	919	5.4	120	0.7
November	17,223	678	3.9	324	1.9	1,072	6.2	327	1.9	1,866	10.8	782	4.5	98	0.6
December	20,995	719	3.4	449	2.1	4,334	20.6	391	1.9	2,173	10.4	716	3.4	110	0.5
Total	**192,890**	**8,339**	**4.3**	**4,133**	**2.1**	**18,551**	**9.6**	**4,011**	**2.1**	**23,163**	**12.0**	**9,895**	**5.1**	**1,284**	**0.7**

Low < > High

Source: Indiana State Police

Note: Color comparisons are applied within collision circumstance categories.

Table 20. Indiana traffic collisions by day, hour, and collision circumstances, 2010

Day	Time	Total	Alcohol-related		Aggressive driving		Speed-related		Disregard signal		Hit-and-run		Distracted, any type		Distracted, cell phone	
			Count	As % day/ time total	Count	As % day/ time total	Count	As % day/ time total	Count	As % day/ time total	Count	As % day/ time total	Count	As % day/ time total	Count	As % day/ time total
Mon	12am - 5:59am	1,855	197	10.6	27	1.5	263	14.2	19	1.0	316	17.0	60	3.2	8	0.4
	6am - 11:59am	7,486	47	0.6	146	2.0	755	10.1	222	3.0	623	8.3	350	4.7	37	0.5
	12pm - 5:59pm	12,060	152	1.3	261	2.2	804	6.7	249	2.1	1,225	10.2	736	6.1	79	0.7
	6pm - 11:59pm	6,039	365	6.0	138	2.3	752	12.5	130	2.2	852	14.1	280	4.6	45	0.7
Tue	12am - 5:59am	2,049	253	12.3	39	1.9	229	11.2	28	1.4	361	17.6	50	2.4	13	0.6
	6am - 11:59am	8,346	70	0.8	171	2.0	1,086	13.0	211	2.5	706	8.5	395	4.7	48	0.6
	12pm - 5:59pm	12,236	167	1.4	284	2.3	848	6.9	254	2.1	1,170	9.6	716	5.9	77	0.6
	6pm - 11:59pm	5,851	344	5.9	115	2.0	508	8.7	118	2.0	807	13.8	291	5.0	50	0.9
Wed	12am - 5:59am	1,942	237	12.2	31	1.6	244	12.6	28	1.4	349	18.0	67	3.5	12	0.6
	6am - 11:59am	8,071	56	0.7	168	2.1	922	11.4	198	2.5	650	8.1	355	4.4	44	0.5
	12pm - 5:59pm	12,537	187	1.5	306	2.4	886	7.1	292	2.3	1,182	9.4	749	6.0	76	0.6
	6pm - 11:59pm	6,294	409	6.5	122	1.9	660	10.5	122	1.9	832	13.2	293	4.7	53	0.8
Thu	12am - 5:59am	2,199	316	14.4	37	1.7	327	14.9	24	1.1	473	21.5	70	3.2	18	0.8
	6am - 11:59am	8,126	65	0.8	180	2.2	979	12.0	211	2.6	667	8.2	423	5.2	42	0.5
	12pm - 5:59pm	12,596	176	1.4	280	2.2	854	6.8	239	1.9	1,213	9.6	748	5.9	92	0.7
	6pm - 11:59pm	6,234	454	7.3	114	1.8	505	8.1	109	1.7	918	14.7	290	4.7	55	0.9
Fri	12am - 5:59am	2,438	436	17.9	32	1.3	338	13.9	26	1.1	587	24.1	110	4.5	26	1.1
	6am - 11:59am	7,684	91	1.2	159	2.1	565	7.4	215	2.8	687	8.9	420	5.5	32	0.4
	12pm - 5:59pm	14,963	216	1.4	339	2.3	1,053	7.0	240	1.6	1,391	9.3	887	5.9	98	0.7
	6pm - 11:59pm	8,388	614	7.3	203	2.4	932	11.1	133	1.6	1,177	14.0	390	4.6	59	0.7
Sat	12am - 5:59am	3,390	858	25.3	52	1.5	519	15.3	47	1.4	954	28.1	121	3.6	35	1.0
	6am - 11:59am	5,893	126	2.1	129	2.2	816	13.8	135	2.3	578	9.8	292	5.0	25	0.4
	12pm - 5:59pm	9,547	236	2.5	254	2.7	739	7.7	196	2.1	1,095	11.5	517	5.4	57	0.6
	6pm - 11:59pm	6,693	630	9.4	137	2.0	550	8.2	124	1.9	1,067	15.9	340	5.1	54	0.8
Sun	12am - 5:59am	3,513	954	27.2	71	2.0	466	13.3	55	1.6	1,088	31.0	121	3.4	40	1.1
	6am - 11:59am	3,397	123	3.6	55	1.6	376	11.1	106	3.1	455	13.4	174	5.1	23	0.7
	12pm - 5:59pm	7,870	189	2.4	181	2.3	913	11.6	180	2.3	925	11.8	414	5.3	47	0.6
	6pm - 11:59pm	5,186	371	7.2	102	2.0	560	10.8	100	1.9	778	15.0	236	4.6	39	0.8
Monday		27,440	761	2.8	572	2.1	2,574	9.4	620	2.3	3,016	11.0	1,426	5.2	169	0.6
Tuesday		28,482	834	2.9	609	2.1	2,671	9.4	611	2.1	3,044	10.7	1,452	5.1	188	0.7
Wednesday		28,844	889	3.1	627	2.2	2,712	9.4	640	2.2	3,013	10.4	1,464	5.1	185	0.6
Thursday		29,155	1,011	3.5	611	2.1	2,665	9.1	583	2.0	3,271	11.2	1,531	5.3	207	0.7
Friday		33,473	1,357	4.1	733	2.2	2,888	8.6	614	1.8	3,842	11.5	1,807	5.4	215	0.6
Saturday		25,523	1,850	7.2	572	2.2	2,624	10.3	502	2.0	3,694	14.5	1,270	5.0	171	0.7
Sunday		19,966	1,637	8.2	409	2.0	2,315	11.6	441	2.2	3,246	16.3	945	4.7	149	0.7
TOTAL		**192,883**	**8,339**	**4.3**	**4,133**	**2.1**	**18,449**	**9.6**	**4,011**	**2.1**	**23,126**	**12.0**	**9,895**	**5.1**	**1,284**	**0.7**

Source: Indiana State Police

Notes:
Daily totals exclude collisions with invalid time reported.
Color comparisons are applied within collision circumstance categories.

Low < > High

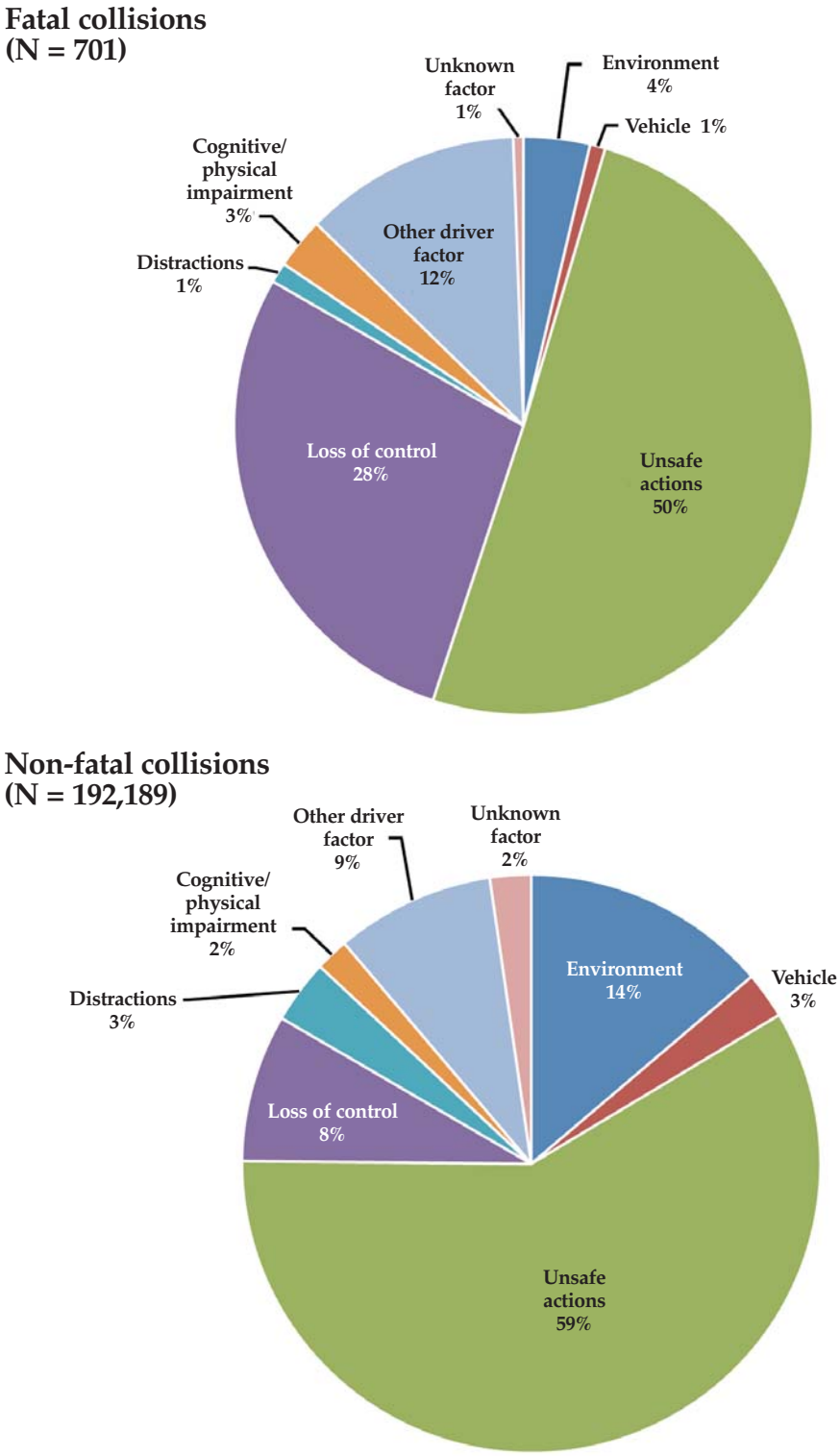
Table 21. Indiana collisions, by primary factor and collision severity, 2010

Primary factor	Collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
Driver: Unsafe actions	**113,275**	**354**	**1,532**	**19,419**	**91,970**	**16.6**
Left of center	3,178	94	133	806	2,145	71.4
Improper passing	4,287	74	203	1,149	2,861	64.6
Wrong way on one way	228	6	4	58	160	43.9
Disregard signal/reg sign	6,741	32	184	2,290	4,235	32.0
Failure to yield right of way	29,786	96	540	7,007	22,143	21.4
Unsafe speed	1,936	14	27	236	1,659	21.2
Speed too fast for weather conditions	9,886	16	119	1,496	8,255	13.7
Improper lane usage	5,811	7	43	438	5,323	8.6
Following too closely	28,803	15	212	5,145	23,431	7.9
Improper turning	5,580	0	43	482	5,055	7.7
Unsafe backing	17,039	0	24	312	16,703	1.4
Driver: Loss of control	**16,057**	**198**	**517**	**3,694**	**11,648**	**44.5**
Off road	12,812	179	432	3,007	9,194	47.7
Overcorrecting/oversteering	3,232	19	85	686	2,442	32.2
Jackknifing	13	0	0	1	12	0.0
Driver: Distractions	**6,836**	**8**	**82**	**1,319**	**5,427**	**13.2**
Unspecified distraction	6,218	8	75	1,174	4,961	13.3
Cell phone/other electronic device	576	0	7	137	432	12.2
Passenger distraction	42	0	0	8	34	0.0
Driver: Cognitive/physical impairment	**3,578**	**20**	**165**	**1,069**	**2,324**	**51.7**
Driver illness	877	8	90	364	415	111.7
Alcoholic beverages	1,185	6	37	297	845	36.3
Prescription drugs	56	0	2	10	44	35.7
Driver asleep or fatigued	1,405	6	35	385	979	29.2
Illegal drugs	55	0	1	13	41	18.2
Driver: Miscellaneous factors	**17,182**	**85**	**358**	**2,819**	**13,920**	**25.8**
Influenced by pedestrian action	931	38	131	590	172	181.5
Other (unspecified)	16,095	47	227	2,220	13,601	17.0
Violation of license restriction	14	0	0	3	11	0.0
Driver not a factor	142	0	0	6	136	0.0
Driver factors (all)	156,928	665	2,654	28,320	125,289	21.1
Vehicle factors	5,010	6	66	681	4,257	14.4
Environmental factors	26,528	26	146	1,785	24,571	6.5
All collisions	**192,890**	**701**	**2,912**	**31,172**	**158,105**	**18.7**

Source: Indiana State Police

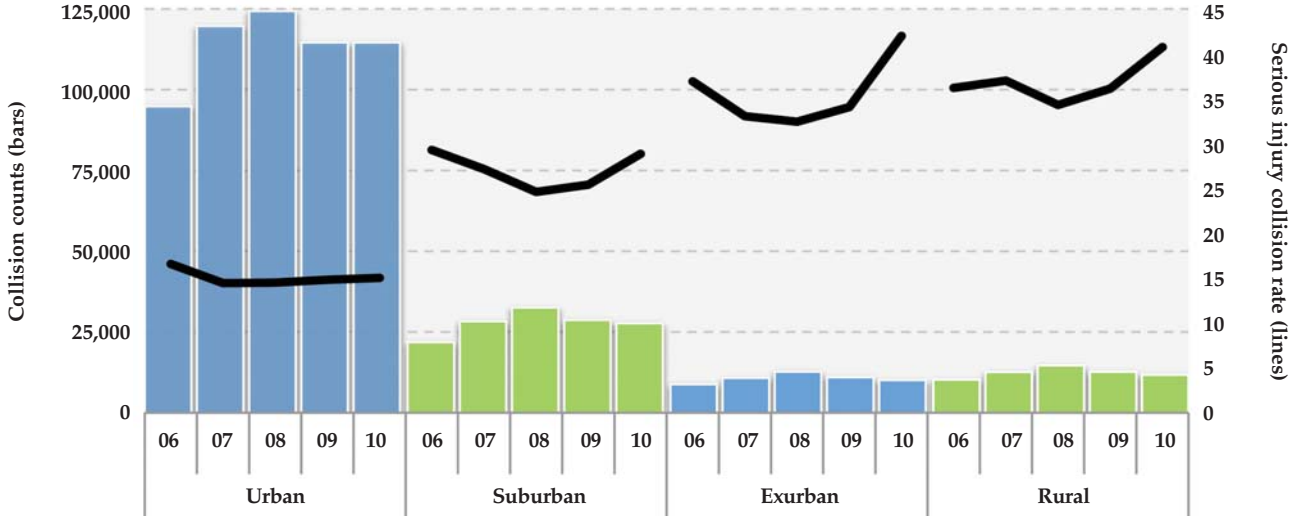
Note: *All collisions* includes records where primary factor was not reported.

Figure 19. Indiana traffic collisions by primary factor and severity, 2010



Source: Indiana State Police
Note: See Table 5 for definitions of factor categories related to driver actions.

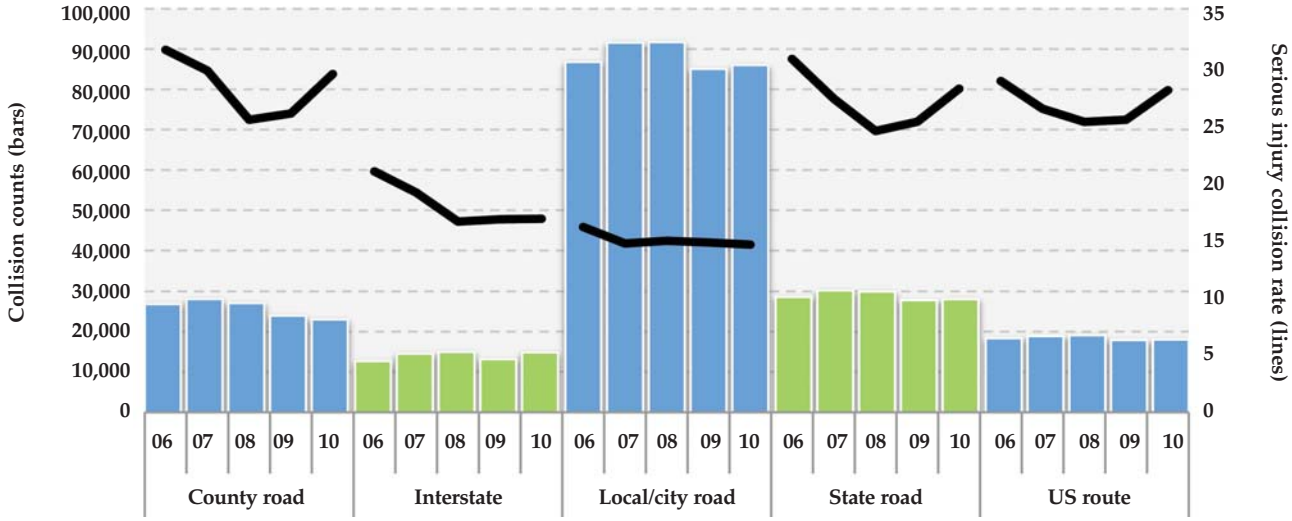
Figure 20. Indiana traffic collisions and serious injury collision rates, by locale, 2006-2010



Source: Indiana State Police

Notes:
Includes only collisions where valid locale was identified.
Serious injury defined as collisions with one or more *fatal* or *incapacitating* injuries.
Serious injury collision rate is calculated per 1,000 collisions per locale.
See glossary for definitions of U.S. Census localities (*urban, suburban, exurban, rural*).

Figure 21. Indiana traffic collisions and serious injury collision rates, by road class, 2006-2010



Source: Indiana State Police

Notes:
Includes only collisions where valid road class was reported.
Serious injury defined as collisions with one or more *fatal* or *incapacitating* injuries.
Serious injury collision rate is calculated per 1,000 collisions per road type.

Table 22. Indiana traffic collisions by severity and road parameters, 2010

	Collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
By road class						
County road	23,016	155	520	3,930	18,411	29.3
Interstate	14,861	56	193	2,013	12,599	16.8
Local/city road	86,010	179	1,069	15,125	69,637	14.5
State road	28,053	183	604	5,389	21,877	28.1
US route	18,049	113	391	3,501	14,044	27.9
Unknown	22,901	15	135	1,214	21,537	6.5
By junction type						
Five point or more	492	2	6	106	378	16.3
Four-way	37,825	111	612	8,633	28,469	19.1
Interchange	705	1	10	128	566	15.6
No junction	129,962	516	1,924	18,210	109,312	18.8
Ramp	2,986	8	36	423	2,519	14.7
T-intersection	19,591	59	296	3,496	15,740	18.1
Traffic circle/roundabout	508	0	5	28	475	9.8
Y-intersection	757	4	23	145	585	35.7
Unknown	64	0	0	3	61	0.0
By road character						
Straight	167,870	548	2,404	27,279	137,639	17.6
Level	139,502	412	1,893	22,606	114,591	16.5
Graded	22,548	95	404	3,681	18,368	22.1
Hillcrest	5,820	41	107	992	4,680	25.4
Curve	19,141	148	465	3,573	14,955	32.0
Level	11,452	88	285	2,091	8,988	32.6
Graded	6,382	56	155	1,244	4,927	33.1
Hillcrest	1,307	4	25	238	1,040	22.2
Non-roadway crash	5,702	5	43	313	5,341	8.4
Unknown	177	0	0	7	170	0.0
Roadway surface type						
Asphalt	171,128	643	2,577	28,014	139,894	18.8
Concrete	18,012	48	260	2,770	14,934	17.1
Gravel	2,630	5	46	242	2,337	19.4
Other	936	5	28	137	766	35.3
Unknown	184	0	1	9	174	5.4
All collisions	**192,890**	**701**	**2,912**	**31,172**	**158,105**	**18.7**

Source: Indiana State Police

Notes:
Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

Low — High

Table 23. Indiana traffic collisions by severity and manner of collision, 2010

	Collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
All collisions	**192,890**	**701**	**2,912**	**31,172**	**158,105**	**0.4%**
Manner of collision						
Non-collision	2,558	9	112	590	1,847	47.3
Ran off road	23,858	209	689	5,315	17,645	37.6
Head on	21,225	187	481	3,373	17,184	31.5
Other collision manner	9,400	42	205	1,342	7,811	26.3
Right angle	32,786	133	602	7,390	24,661	22.4
Left turn	8,958	16	179	1,874	6,889	21.8
Opposite direction sideswipe	5,247	10	53	633	4,551	12.0
Rear end	45,075	70	424	8,417	36,164	11.0
Left/right turn	2,344	1	21	294	2,028	9.4
Rear to rear	390	0	3	31	356	7.7
Right turn	2,536	1	15	262	2,258	6.3
Same direction sideswipe	18,232	21	87	1,196	16,928	5.9
Backing	19,517	2	40	418	19,057	2.2
Unknown	764	0	1	37	726	1.3

Source: Indiana State Police

Note: Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

Low High

Table 24. Indiana collisions by severity and traffic control type, 2010

	Collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
All collisions	**192,890**	**701**	**2,912**	**31,172**	**158,105**	**18.7**
Traffic control type						
Person directing traffic	245	2	10	49	184	49.0
Railroad crossing	409	4	15	56	334	46.5
No passing zone	5,066	53	101	985	3,927	30.4
Flashing signal	1,250	6	26	307	911	25.6
Stop sign	18,577	83	331	3,983	14,180	22.3
Lane control	46,649	227	805	7,831	37,786	22.1
Yield sign	1,309	6	20	251	1,032	19.9
None	84,529	269	1,162	10,364	72,734	16.9
Other regulatory sign	1,494	4	20	217	1,253	16.1
Traffic control signal	33,054	47	422	7,113	25,472	14.2
Unknown	308	0	0	16	292	0.0

Source: Indiana State Police

Note: Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

Low High

Table 25. Indiana traffic collisions by severity and environmental conditions, 2010

Environmental condition	Collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
All collisions	**192,890**	**701**	**2,912**	**31,172**	**158,105**	**18.7**
By light conditions						
Dark (not lighted)	30,093	205	505	3,910	25,473	23.6
Dawn/dusk	8,671	29	133	1,284	7,225	18.7
Dark (lighted)	25,845	91	374	4,031	21,349	18.0
Daylight	127,000	375	1,900	21,925	102,800	17.9
Unknown	1,281	1	0	22	1,258	0.8
By weather conditions						
Severe cross wind	257	1	8	37	211	35.0
Fog/smoke/smog	1,116	9	18	192	897	24.2
Clear	120,168	490	2,001	20,050	97,627	20.7
Rain	13,407	33	192	2,313	10,869	16.8
Cloudy	39,416	133	526	6,274	32,483	16.7
Sleet/hail/freezing rain	1,411	5	13	215	1,178	12.8
Blowing sand/soil/snow	4,289	8	46	550	3,685	12.6
Snow	12,443	22	108	1,537	10,776	10.4
Unknown	383	0	0	4	379	0.0
By road surface conditions						
Loose material on road	854	5	19	221	609	28.1
Dry	141,273	570	2,324	23,590	114,789	20.5
Muddy	99	0	2	15	82	20.2
Wet	24,674	77	337	4,240	20,020	16.8
Ice	9,208	20	99	1,220	7,869	12.9
Snow/slush	15,869	29	126	1,782	13,932	9.8
Water (standing or moving)	572	0	5	98	469	8.7
Unknown	341	0	0	6	335	0.0

Source: Indiana State Police

Note: Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

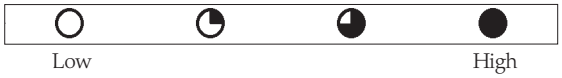
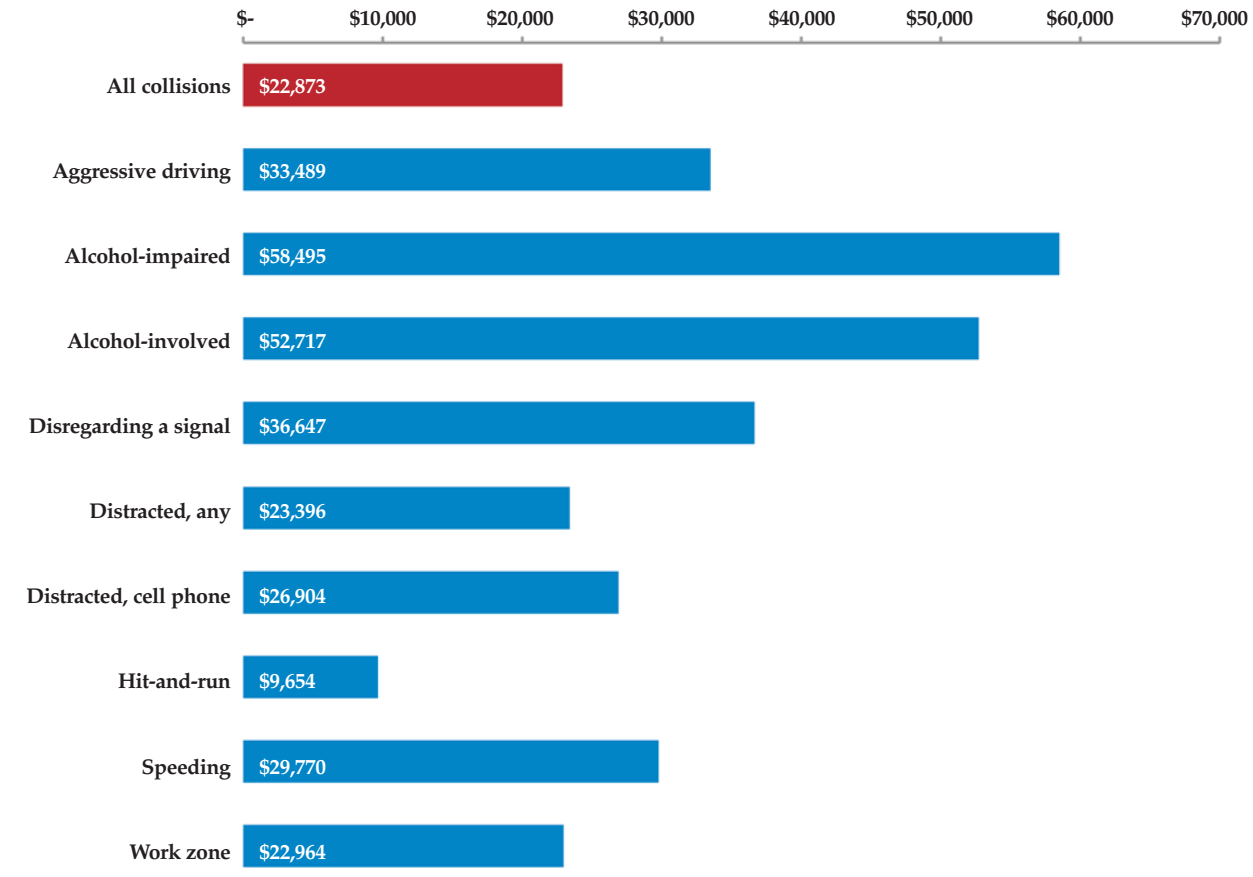


Table 26. Economic cost of traffic collisions in Indiana, by collision type, 2010

Collision Type	Count of collisions	Total cost (millions)
All collisions	**192,890**	**$4,412.00**
Aggressive driving	4,133	$138.41
Alcohol-impaired	5,001	$292.53
Alcohol-involved	8,339	$439.61
Disregarding a signal	4,011	$146.99
Distracted, any type	9,831	$230.01
Distracted, cell phone	1,279	$34.41
Hit-and-run	23,163	$223.61
Speeding	18,551	$552.26
Work zone	4,683	$107.54

Figure 22. Average economic cost of Indiana traffic collisions, 2010



Source: Indiana State Police
Note: See Appendix A for details on cost computations.

WORK ZONE COLLISIONS

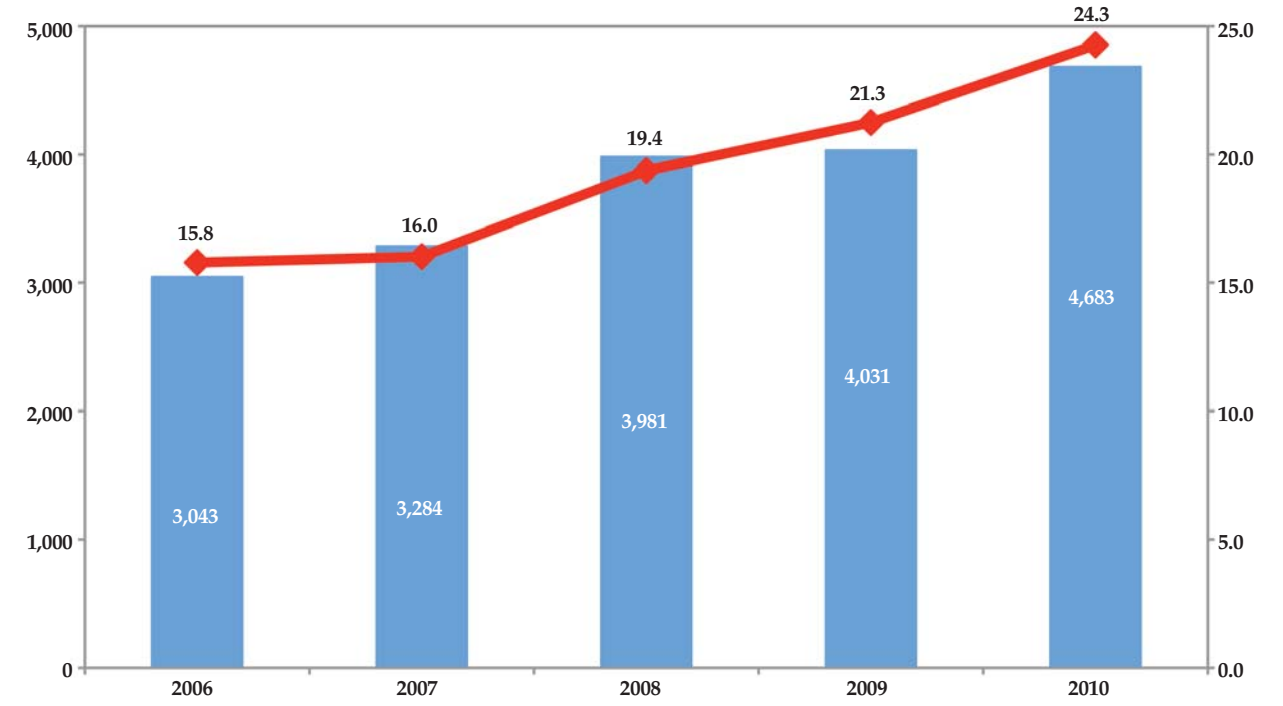
The number of collisions occurring in work zones increased steadily from 3,043 in 2006 to 4,683 in 2010. The work zone collision rate was 24.3 per 1,000 collisions in 2010. The serious injury rate for work zone collisions (17.1) is slightly less than the serious injury rate for non-work zone collisions (18.8). Among work zone collisions, those occurring in the construction zone type of *intermittent/moving* work had the highest rate of serious injury collisions (32.8 per 1,000 collisions). In terms of hourly incidence, work zone collisions in 2010 closely tracked patterns all collisions. However, while overall collision counts were higher during afternoon/evening rush hour periods, work zone collision rates peaked during midday hours.

Work zone collision rates were higher in *urban* (28.2 per 1,000 collisions) and *suburban* (19.2 per 1,000 collisions) locales than in *exurban* (11.6 per 1,000 collisions) and *rural* (10 per 1,000 collisions) locales. Serious injury collision rates among work zone collisions were higher in *exurban* (76.9 per 1,000 work zone collisions) and *rural* (51.3) areas than in other locales.

The rates of collisions occurring in work zones were highest on *interstates* (106.1 per 1,000 collisions) and lowest on *county roads* (6.6 per 1,000 collisions). Rates of serious injury collisions in work zones were higher on *US routes* and *state roads* in 2010.

Environmental conditions such as light, weather, and road surface conditions also played a factor in work zone collisions. While 75 percent of all work zone collisions (3,524/4,683) occurred during *daylight*, serious injury work zone collision rates were highest in *dark (not lighted)* (25.6 per 1,000 work zone collisions) and *dark (lighted)* (23.1 per 1,000 work zone collisions) conditions. *Severe cross wind* was the weather condition with the highest rate of serious injury in work zone collisions (83.3), and *loose material on road* was the road surface condition with the highest rate of serious injury (62.5). The highest serious injury rates in work zone collisions occurred under the traffic control types of stop sign (37.2 per 1,000) and *person directing traffic* (36.7).

Figure 23. Indiana work zone collisions, 2006-2010



Source: Indiana State Police

Table 27. Indiana collisions in work zones, by severity and construction type, 2010

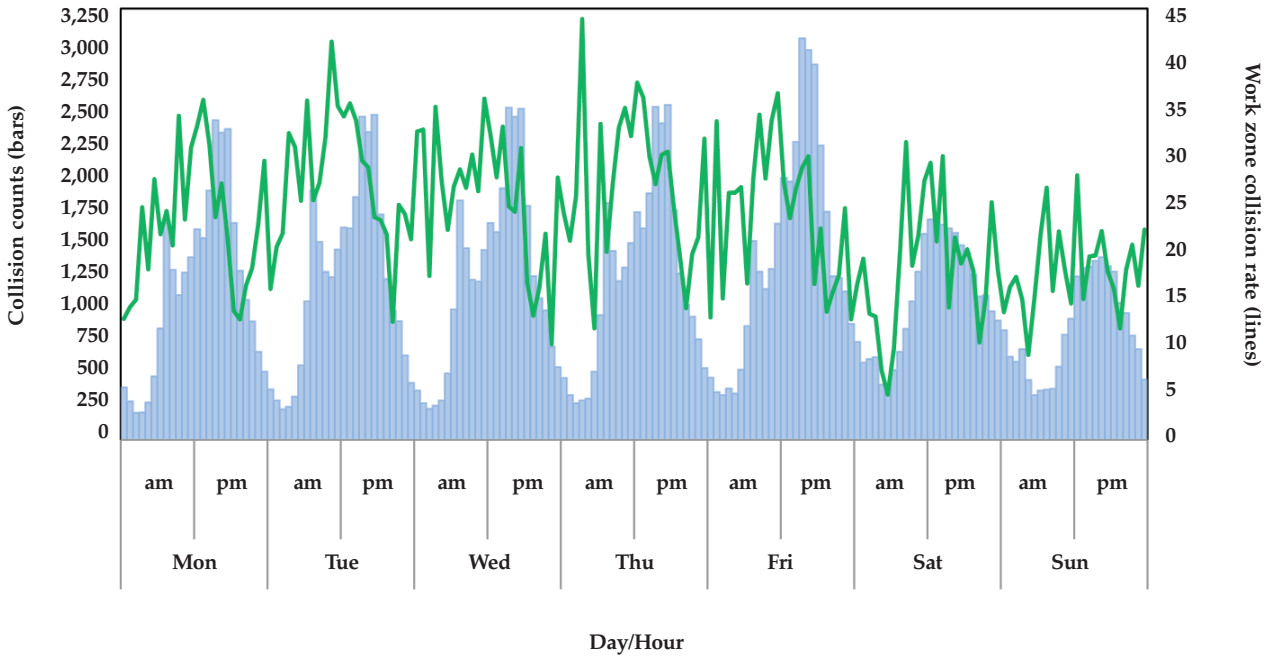
	Collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
All collisions	**192,890**	**701**	**2,912**	**31,172**	**158,105**	**18.7**
All construction types	4,683	12	68	689	3,914	17.1
Not in construction zone	188,207	689	2,844	30,483	154,191	18.8
Construction zone type						
Intermittent/moving work	580	3	16	80	481	32.8
Work on shoulder	1,201	3	16	192	990	15.8
Lane closure	2,373	5	32	358	1,978	15.6
Cross-over/lane shift	515	1	4	59	451	9.7
Other/not reported	14	0	0	0	14	0.0

Source: Indiana State Police

Note: Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

Low — High

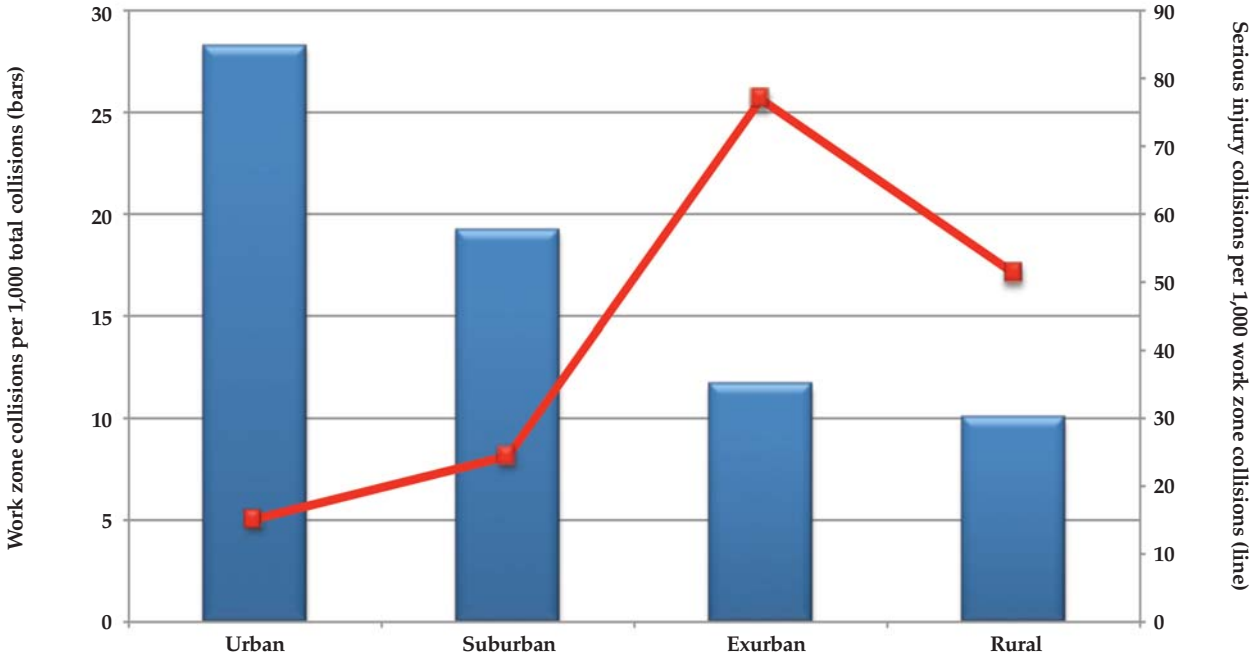
Figure 24. Indiana collisions, by work zones, hour, and day of week, 2010



Source: Indiana State Police

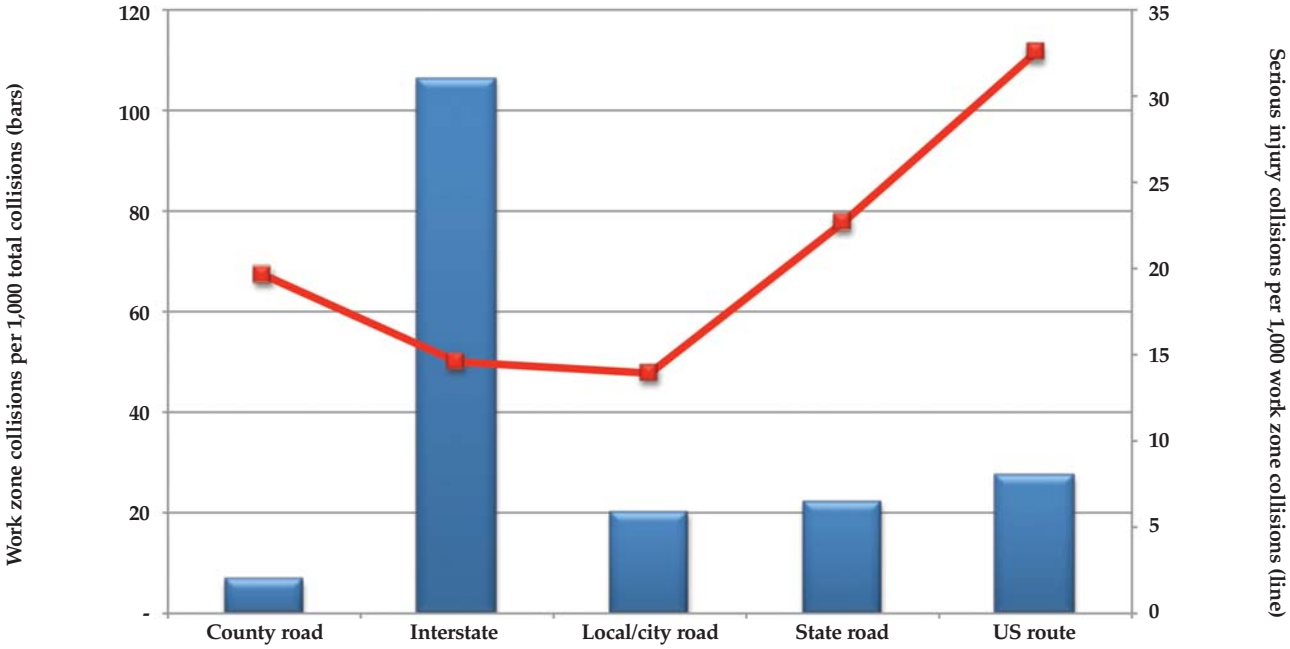
Notes:
Data exclude collisions with invalid time reported.
Work zone collision rate is calculated per 1,000 collisions by hour and day.
AM is defined as 12:00am (midnight) to 11:59am. PM is defined as 12pm (noon) to 11:59pm.

Figure 25. Indiana work zone collisions, by locale, 2010



Source: Indiana State Police
Note: Includes only collisions with valid locale reported.

Figure 26. Indiana work zone collisions, by road class, 2010



Source: Indiana State Police
Note: Includes only collisions with valid road class reported.

Table 28. Indiana work zone collisions, by severity and environmental conditions, 2010

	Work zone collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
All collisions	**4,683**	**12**	**68**	**689**	**3,914**	**17.1**
By light conditions						
Dark (not lighted)	430	3	8	72	347	25.6
Dark (lighted)	562	4	9	81	468	23.1
Daylight	3,524	5	50	514	2,955	15.6
Dawn/dusk	159	0	1	22	136	6.3
Unknown	8	0	0	0	8	0.0
By weather conditions						
Severe cross wind	12	0	1	1	10	83.3
Clear	3,342	11	54	499	2,778	19.4
Cloudy	837	1	10	134	692	13.1
Snow	120	0	1	11	108	8.3
Rain	308	0	2	32	274	6.5
Blowing sand/soil/snow	39	0	0	8	31	0.0
Fog/smoke/smog	12	0	0	2	10	0.0
Sleet/hail/freezing rain	9	0	0	2	7	0.0
Unknown	4	0	0	0	4	0.0
By road surface conditions						
Loose material on road	64	1	3	14	46	62.5
Dry	3,915	11	57	586	3,261	17.4
Snow/slush	135	0	2	20	113	14.8
Wet	495	0	6	60	429	12.1
Ice	49	0	0	6	43	0.0
Muddy	9	0	0	0	9	0.0
Water (standing or moving)	14	0	0	3	11	0.0
Unknown	2	0	0	0	2	0.0

Source: Indiana State Police

Note: Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

Table 29. Indiana work zone collisions by severity and traffic control type, 2010

	Work zone collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
All collisions	**4,683**	**12**	**68**	**689**	**3,914**	**17.1**
Traffic control type						
Stop sign	215	1	7	39	168	37.2
Person directing traffic	109	2	2	15	90	36.7
Other regulatory sign	141	0	3	17	121	21.3
None	918	0	18	148	752	19.6
Lane control	2,209	9	26	276	1,898	15.8
Traffic control signal	892	0	11	157	724	12.3
No passing zone	94	0	1	20	73	10.6
Flashing signal	46	0	0	10	36	0.0
Railroad crossing	10	0	0	2	8	0.0
Yield sign	47	0	0	5	42	0.0
Unknown	2	0	0	0	2	0.0

Source: Indiana State Police

Note: Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

Low — High

Table 30. Indiana work zone collisions by severity and roadway surface, 2010

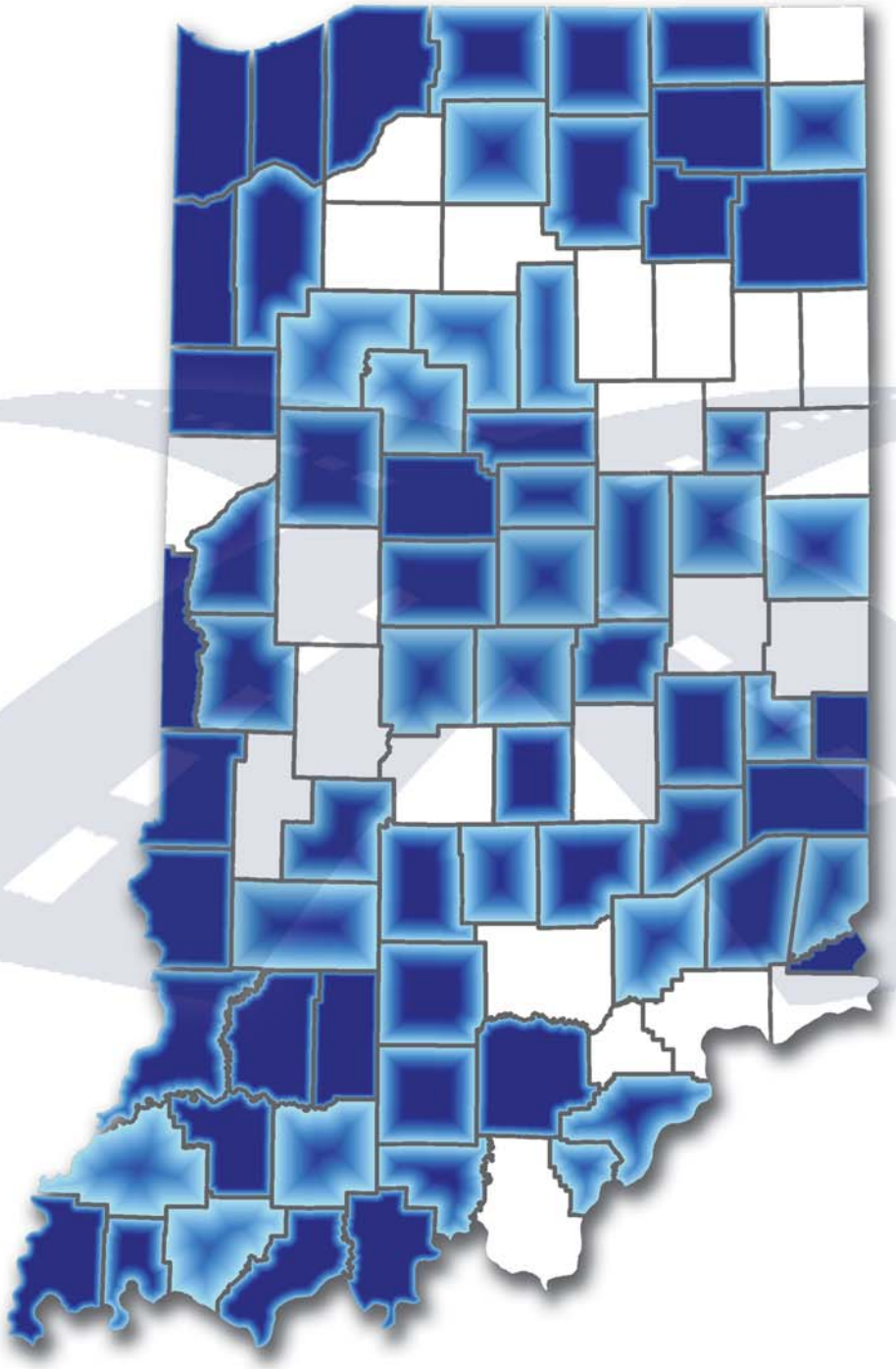
	Work zone collisions, by severity					Serious injury per 1,000 collisions
	Total	Fatal	Incapacitating	Non-incapacitating	Property damage	
All collisions	**4,683**	**12**	**68**	**689**	**3,914**	**17.1**
Roadway surface type						
Other	41	0	1	8	32	24.4
Asphalt	3,584	9	57	540	2,978	18.4
Concrete	1,029	3	10	139	877	12.6
Gravel	28	0	0	2	26	0.0
Unknown	1	0	0	0	1	0.0

Source: Indiana State Police

Note: Serious injury collisions are defined as collisions with one or more *fatal* or *incapacitating* injuries.

Low — High

VEHICLES



VEHICLES, 2010

The vehicle section summarizes data on motor vehicles involved in Indiana collisions in 2010. Special emphasis is given to passenger cars, pickup trucks, sport utility vehicles, vans, large trucks, and school buses. Except as noted, motorcycles and mopeds are described in the Motorcycle section of this report. Vehicle data are categorized by collision severity, vehicle use, location, road class, and collision primary factors.

HIGHLIGHTS

There were 337,258 vehicles involved in collisions in Indiana in 2010, a crash rate of 52 vehicles per 1,000 registered vehicles. This rate is up from 49 in 2009, but consistent with previous years (2006 to 2008). Passenger cars comprised 58 percent of the vehicles involved in collisions, with pickup trucks and sport utility vehicles (SUVs) each having nearly 14 percent involvement. Large trucks comprised four percent of total vehicles in all collisions, but ten percent of vehicles involved in fatal collisions. Motorcycles comprised one percent of total vehicles involved in all collisions, but ten percent of vehicles involved in fatal collisions.

The majority (92 percent) of vehicles involved in collisions were for personal use. Commercial use vehicles composed ten percent of the vehicles involved in fatal collisions, but only four percent of vehicles involved in all collisions. Overall, vehicles were involved in 3.3 fatal collisions in every 1,000 collisions, although the fatality rate varied by vehicle use. Selected public safety vehicles had slightly higher rates, such as fire (4.0) and ambulances (5.4). Commercial vehicles had the highest fatality involvement rate (8.9).

Prior to all collisions, including fatal collisions, the majority of vehicles were *going straight*. Proportionately, the next highest precollision maneuver was *slowing or stopped in traffic*. The next highest percentage for passenger cars involved in fatal collisions was *driving left of center*. Nearly five percent of large trucks were changing lanes prior to a collision compared to two percent for other vehicle types.

In terms of whether a collision occurred inside (*urban*) or outside (*rural*) incorporated limits, most vehicles involved in fatal collisions occurred in *rural* locations, regardless of the vehicle type. The majority of injury collisions for all vehicle types, except for large trucks, occurred within *urban* locations. Large trucks were nearly equally distributed for injury collisions between *urban* (49 percent) and *rural* (51 percent) areas.

If a collision location is based upon the U.S. Census locality definition (*urban, suburban, exurban,* and *rural*), except for large trucks, most vehicles involved in fatal collisions occurred within *urban* and *suburban* locales. Pickup trucks involved in fatal collisions were about equally distributed between *urban* (26 percent) and *suburban* (23 percent) locales. For all vehicle types involved in injury collisions, the majority again was within *urban* locations, with *suburban* second.

For all vehicle types, more vehicles were involved in collisions in December than other months of the year. For vehicles involved in fatal collisions however, the month with the highest proportion of vehicles in collisions varied by vehicle type (passenger cars – November; pickup trucks – June and October; SUVs – November; vans – December; large trucks – October). While the distribution per month for all collisions was fairly similar across vehicle types, for fatal collisions, the distribution was more scattered.

For every 1,000 passenger cars involved in collisions, 5.6 were involved in fatal collisions on *state roads* and 5.2 on *county roads*. For every 1,000 large trucks involved, 20 were involved in fatal collisions on *state roads* and 18.9 on *U.S. routes*. The highest fatal rates for pickup trucks occurred on *county roads* and for vans on *interstates. Local and city roads* had the lowest fatal rates for all vehicle types.

Failure to yield right of way was the most common collision primary factor in serious injury collisions involving all vehicle types (passenger cars, pickup trucks, SUVs, vans, large trucks). Over three percent of large trucks involved in serious injury collisions had improper lane usage as a primary factor in the collision, compared to one percent for all other vehicle types (calculated from table).

Considering serious injury collisions, the majority of all vehicle types collided with another motor vehicle. Two percent of SUVs involved in serious injury collisions overturned or rolled over; compared to less than one percent for all other vehicle types (calculated from table).

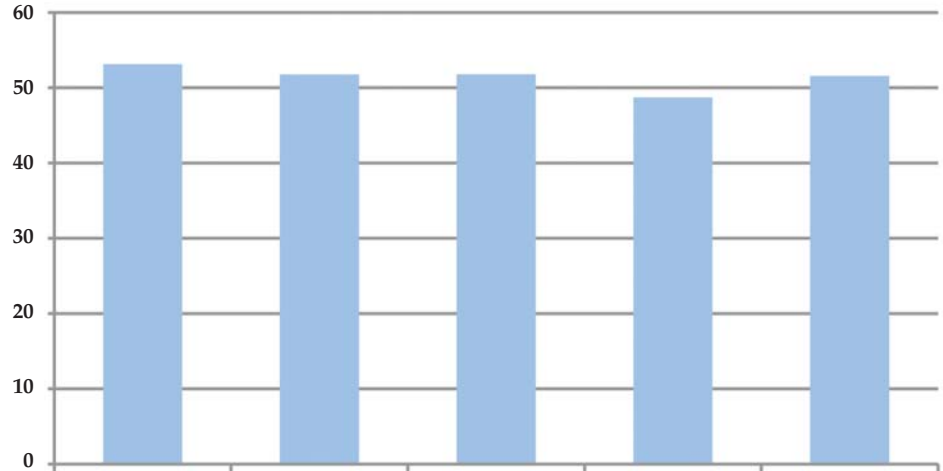
Overall, of the 13,320 large trucks involved in collisions, 1.5 percent (203) had a hazard release in the collision. Of the 116 large trucks involved in fatal collisions, seven were indicated as displaying a hazard placard and three had a hazard release.

Collisions involving school buses decreased in 2010, from 837 in 2009 to 808. The majority (89 percent) of collisions involving

school buses were property damage only. There were three fatalities involved in school bus collisions, and all three were occupants of another vehicle. Two school bus occupants incurred incapacitating injuries. The primary factor for 107 of the school buses involved in collisions was reported as *following too closely*. Of the 817 school buses involved in collisions, 726 collided with another vehicle; 13 involved a deer.

Ninety-seven vehicles were involved in collisions with a railway vehicle/train/engine. Four of those vehicles were involved in fatal collisions. All four vehicles involved were at a railroad crossing where a sign or signal was in place.

Figure 27. Indiana motor vehicle crash rates per 1,000 registrations, 2006-2010



	2006	2007	2008	2009	2010
Crash rate (per 1,000 registered)	53.1	51.8	51.8	48.7	51.6
Count in crashes (000)	335.1	356.5	354.7	329.9	337.3
Count registered (000)	6,309.1	6,887.5	6,849.8	6,773.2	6,541.3

Sources:
Motor vehicles involved: Indiana State Police
Registered vehicles: Indiana Bureau of Motor Vehicles

Note: Registered vehicle totals may not match earlier fact sheets due to updated information.

Table 31. Motor vehicles involved in Indiana collisions, by collision severity and vehicle type, 2010

Vehicle type	Vehicles involved in:										
	All collisions		Fatal collisions		Incapacitating collisions		Non-incapacita-ting collisions		Property damage only collisions		Vehicles in fatal collisions per 1,000 in all collisions
	Count	% of total	Count	% of total	Count	% of total	Count	% of total	Count	% of total	
Passenger vehicles	**310,361**	**92.0%**	**870**	**77.9%**	**3,947**	**83.4%**	**51,745**	**92.5%**	**253,799**	**92.1%**	**2.8**
Passenger car	195,795	58.1%	481	43.1%	2,419	51.1%	32,885	58.8%	160,010	58.1%	2.5
Pickup truck	45,976	13.6%	184	16.5%	663	14.0%	6,941	12.4%	38,188	13.9%	4.0
Sport utility vehicle (SUV)	46,209	13.7%	125	11.2%	564	11.9%	7,936	14.2%	37,584	13.6%	2.7
Van	22,379	6.6%	79	7.1%	301	6.4%	3,983	7.1%	18,016	6.5%	3.5
Other vehicles	**26,897**	**8.0%**	**247**	**22.1%**	**788**	**16.6%**	**4,221**	**7.5%**	**21,641**	**7.9%**	**9.2**
Buses	1,757	0.5%	6	0.5%	15	0.3%	198	0.4%	1,538	0.6%	3.4
Large trucks	13,320	3.9%	116	10.4%	203	4.3%	1,606	2.9%	11,395	4.1%	8.7
Motorcycle/moped	3,495	1.0%	113	10.1%	508	10.7%	1,950	3.5%	924	0.3%	32.3
Other vehicle types	872	0.3%	8	0.7%	22	0.5%	130	0.2%	712	0.3%	9.2
Unknown vehicle type	7,455	2.2%	5	0.4%	40	0.8%	337	0.6%	7,073	2.6%	0.7
Total vehicles	**337,258**	**100.0%**	**1,117**	**100.0%**	**4,735**	**100.0%**	**55,966**	**100.0%**	**275,440**	**100.0%**	**3.3**

Source: Indiana State Police

Notes:
Other vehicle types **include** ***combination vehicle, farm vehicle, motor home/recreational vehicle,*** **and** ***animal drawn vehicle (non-motor vehicle).***
Unknown vehicle type **includes vehicles reported as** ***unknown,*** **blank, or invalid codes.**

Table 32. Motor vehicles involved in Indiana collisions, by vehicle use and collision severity, 2010

Vehicle use	Vehicles involved in:										
	All collisions		Fatal collisions		Incapacitating collisions		Non-incapacitating collisions		Property damage only collisions		Vehicles in fatal collisions per 1,000 in all collisions
	Count	% of total	Count	% of total	Count	% of total	Count	% of total	Count	% of total	
Personal	309,191	91.7%	980	87.7%	4,443	93.8%	53,077	94.8%	250,691	91.0%	3.2
Commercial	12,217	3.6%	109	9.8%	185	3.9%	1,535	2.7%	10,388	3.8%	8.9
Police	2,459	0.7%	8	0.7%	23	0.5%	317	0.6%	2,111	0.8%	3.3
Other	2,207	0.7%	2	0.2%	30	0.6%	252	0.5%	1,923	0.7%	0.9
Rental, not leased	1,304	0.4%	5	0.4%	18	0.4%	146	0.3%	1,135	0.4%	3.8
School	1,041	0.3%	4	0.4%	7	0.1%	102	0.2%	928	0.3%	3.8
Highway department	534	0.2%	1	0.1%	2	0.0%	51	0.1%	480	0.2%	1.9
Ambulance	368	0.1%	2	0.2%	4	0.1%	50	0.1%	312	0.1%	5.4
Public utilities	295	0.1%	1	0.1%	4	0.1%	28	0.1%	262	0.1%	3.4
Fire	247	0.1%	1	0.1%	0	0.0%	28	0.1%	218	0.1%	4.0
Military	80	0.0%	0	0.0%	1	0.0%	10	0.0%	69	0.0%	0.0
Unknown	7,315	2.2%	4	0.4%	18	0.4%	370	0.7%	6,923	2.5%	0.5
Total vehicles	**337,258**	**100.0%**	**1,117**	**100.0%**	**4,735**	**100.0%**	**55,966**	**100.0%**	**275,440**	**100.0%**	**3.3**

Source: Indiana State Police

Low — High

Notes:
Unknown vehicle use **includes vehicles reported as** ***unknown,*** **blank, or invalid codes.**
Commercial **use includes buses, taxis, carriers, etc.**
Other **use includes government, postal, etc.**
Public utilities **use includes gas, electric, etc.**

Table 33. Vehicles involved in all and fatal collisions, by pre-collision vehicle maneuver and vehicle type, 2010

	Percentage for all collisions:					Percentage for fatal collisions:				
Maneuver	Passenger car	Pickup truck	SUV	Van	Large truck	Passenger car	Pickup truck	SUV	Van	Large truck
Going straight	49.4%	49.4%	47.5%	47.8%	47.5%	65.9%	72.3%	69.6%	77.2%	69.0%
Slowing or stopped in traffic	16.6%	14.3%	19.6%	17.4%	9.6%	4.8%	6.5%	8.0%	3.8%	12.1%
Parked	8.6%	7.6%	6.7%	7.5%	7.3%	2.3%	2.7%	1.6%	2.5%	4.3%
Turning left	7.7%	6.6%	7.0%	7.1%	7.3%	5.6%	5.4%	8.0%	2.5%	2.6%
Backing	5.1%	9.3%	7.6%	8.0%	8.8%	0.0%	0.0%	0.0%	1.3%	1.7%
Turning right	3.0%	3.5%	2.9%	3.4%	7.8%	0.6%	0.5%	0.8%	0.0%	0.0%
Changing lanes	1.9%	1.4%	1.8%	1.8%	4.7%	1.0%	0.5%	0.0%	1.3%	0.9%
Entering traffic lane	1.7%	1.5%	1.5%	1.6%	1.1%	2.5%	1.6%	3.2%	0.0%	0.0%
Starting in traffic	1.5%	1.5%	1.6%	1.5%	1.0%	1.5%	0.0%	0.8%	0.0%	1.7%
Avoiding object in roadway	0.9%	0.9%	0.8%	0.6%	0.8%	0.0%	0.0%	0.0%	1.3%	0.9%
Leaving traffic lane	0.8%	0.8%	0.7%	0.7%	0.9%	2.3%	3.3%	1.6%	1.3%	2.6%
Driving left of center	0.8%	0.9%	0.7%	0.6%	0.4%	8.9%	4.9%	5.6%	6.3%	2.6%
Overtaking/passing	0.7%	0.8%	0.7%	0.7%	0.9%	2.7%	1.1%	0.8%	1.3%	0.0%
Unknown	0.5%	0.5%	0.3%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Merging	0.4%	0.4%	0.4%	0.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.9%
Making U turn	0.2%	0.1%	0.1%	0.2%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%
Crossing median	0.2%	0.2%	0.1%	0.1%	0.1%	1.7%	0.5%	0.0%	1.3%	0.9%
Unattended moving vehicle	0.1%	0.2%	0.1%	0.2%	0.2%	0.0%	0.5%	0.0%	0.0%	0.0%
Total count	**195,795**	**45,976**	**46,209**	**22,379**	**13,320**	**481**	**184**	**125**	**79**	**116**

Source: Indiana State Police

Table 34. Passenger vehicles and large trucks involved in fatal and injury collisions, by location and vehicle type, 2010

	Passenger cars		Pickup trucks		SUVs		Vans		Large trucks	
Locale/collision severity	Count	%	Count	%	Count	%	Count	%	Count	%
Incorporated limits										
Fatal	**481**	**100.0%**	**184**	**100.0%**	**125**	**100.0%**	**79**	**100.0%**	**116**	**100.0%**
Urban	188	39.1%	48	26.1%	60	48.0%	30	38.0%	22	19.0%
Rural	293	60.9%	136	73.9%	65	52.0%	49	62.0%	94	81.0%
Injury	**35,304**	**100.0%**	**7,604**	**100.0%**	**8,500**	**100.0%**	**4,284**	**100.0%**	**1,809**	**100.0%**
Urban	25,009	70.8%	4,572	60.1%	5,882	69.2%	3,087	72.1%	886	49.0%
Rural	10,264	29.1%	3,031	39.9%	2,615	30.8%	1,196	27.9%	923	51.0%
Unknown	31	0.1%	1	0.0%	3	0.0%	1	0.0%	0	0.0%
Census locality										
Fatal	**481**	**100.0%**	**184**	**100.0%**	**125**	**100.0%**	**79**	**100.0%**	**116**	**100.0%**
Urban	184	38.3%	47	25.5%	53	42.4%	29	36.7%	23	19.8%
Suburban	123	25.6%	43	23.4%	24	19.2%	23	29.1%	36	31.0%
Exurban	67	13.9%	32	17.4%	21	16.8%	10	12.7%	22	19.0%
Rural	57	11.9%	36	19.6%	17	13.6%	15	19.0%	28	24.1%
Unknown	50	10.4%	26	14.1%	10	8.0%	2	2.5%	7	6.0%
Injury	**35,304**	**100.0%**	**7,604**	**100.0%**	**8,500**	**100.0%**	**4,284**	**100.0%**	**1,809**	**100.0%**
Urban	24,802	70.3%	4,461	58.7%	5,743	67.6%	2,976	69.5%	835	46.2%
Suburban	5,742	16.3%	1,526	20.1%	1,494	17.6%	701	16.4%	450	24.9%
Exurban	1,817	5.1%	652	8.6%	496	5.8%	243	5.7%	203	11.2%
Rural	1,812	5.1%	722	9.5%	506	6.0%	224	5.2%	265	14.6%
Unknown	1,131	3.2%	242	3.2%	261	3.1%	140	3.3%	56	3.1%

Source: Indiana State Police

Note: See glossary for definitions of incorporated limits (*rural, urban*) and U.S. Census localities (*urban, suburban, exurban, rural*).

Table 35. Percentage of vehicle type involved in fatal and all collisions, by month, 2010

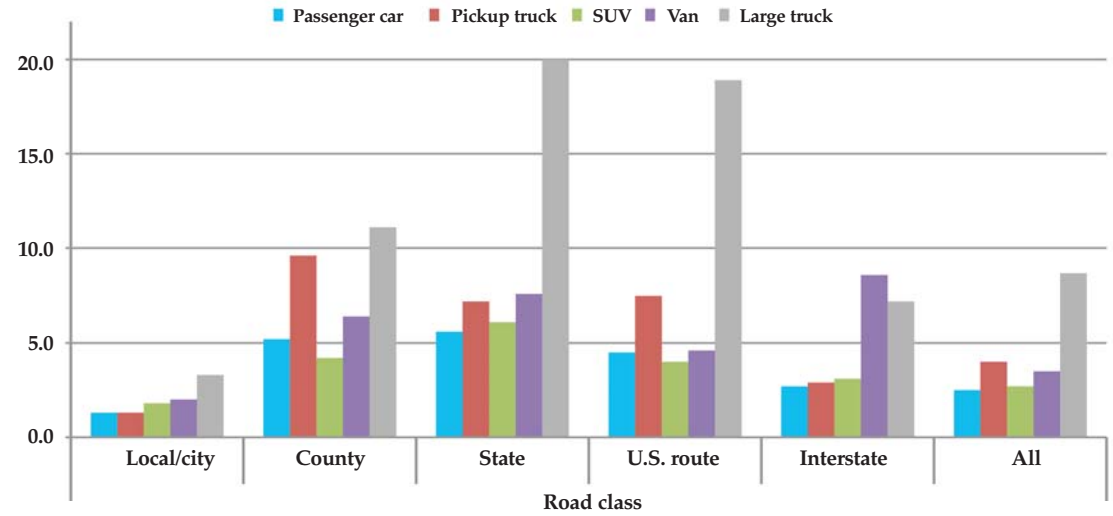
	Passenger car	Pickup truck	SUV	Van	Large truck
All collisions					
January	8.2%	9.2%	8.9%	8.5%	9.5%
February	8.4%	9.6%	9.4%	8.3%	10.1%
March	7.1%	7.3%	6.8%	7.2%	6.7%
April	7.7%	7.4%	7.0%	7.4%	7.0%
May	8.2%	8.3%	8.0%	8.3%	7.3%
June	8.2%	6.1%	7.9%	8.5%	8.0%
July	8.0%	8.2%	7.8%	8.4%	8.4%
August	8.0%	8.0%	7.8%	8.1%	8.4%
September	8.0%	7.8%	7.8%	8.1%	7.9%
October	9.0%	8.7%	8.5%	8.7%	7.9%
November	9.0%	8.4%	8.5%	8.5%	7.8%
December	10.2%	11.0%	11.6%	10.1%	11.0%
Fatal collisions					
January	5.8%	5.4%	5.6%	8.9%	8.6%
February	7.1%	9.2%	8.8%	2.5%	4.3%
March	9.1%	6.0%	2.4%	3.8%	9.5%
April	9.1%	9.8%	8.8%	10.1%	6.0%
May	7.3%	5.4%	8.0%	5.1%	7.8%
June	7.9%	11.4%	8.8%	11.4%	6.0%
July	9.8%	9.8%	8.8%	12.7%	6.0%
August	10.4%	10.3%	12.0%	3.8%	10.3%
September	5.4%	7.6%	7.2%	11.4%	10.3%
October	8.3%	11.4%	10.4%	7.6%	12.9%
November	10.6%	8.7%	12.8%	7.6%	10.3%
December	9.1%	4.9%	6.4%	15.2%	7.8%

Source: Indiana State Police

Scale of involvement within vehicle type, by month

Low — High

Figure 28. Vehicles involved in fatal collisions per 1,000 in all collisions, by vehicle type and road class, 2010



Source: Indiana State Police

Note: Excludes unknown road class.

Table 36. Vehicles, by the top primary serious injury collision factors and vehicle type, 2010

Count of vehicles by primary factors for serious injury collisions	Passenger car	Pickup truck	SUV	Van	Large truck	Total
Total vehicles - all collisions	**195,795**	**45,976**	**46,209**	**22,379**	**13,320**	**323,679**
Total vehicles - serious injury collisions	**2,900**	**847**	**689**	**380**	**319**	**5,135**
Failure to yield right of way	652	173	132	85	64	1,106
Ran off road right	296	112	68	35	16	527
Following too closely	287	66	58	35	27	473
Left of center	239	84	61	38	43	465
Disregard signal/reg sign	222	61	74	42	18	417
Other - driver (explained in narrative)	193	58	56	26	23	356
Unsafe speed	193	41	27	17	29	307
Speed too fast for weather conditions	114	30	31	17	18	210
Pedestrian action	92	32	17	10	13	164
Driver distracted (explained in narrative)	70	24	19	18	8	139
Driver illness	82	22	18	9	7	138
Overcorrecting/oversteering	53	11	27	4	6	101
Improper lane usage	48	9	9	5	11	82
Top subtotal	*2,541*	*723*	*597*	*341*	*283*	*4,485*
Top as % of each vehicle serious injury collision total	*87.6%*	*85.4%*	*86.6%*	*89.7%*	*88.7%*	*87.3%*

Source: Indiana State Police

Note: Top primary factors are counts of vehicles, by each vehicle type, involved in serious injury collisions. For example, there were 652 passenger cars involved in serious injury collisions where the primary factor for each collision was *failure to yield right of way*. Note that if the collision was a multi-vehicle collision, more than one vehicle may have contributing circumstances that match the primary factor.

Table 37. Vehicles, by the top object collided with in serious injury collisions and vehicle type, 2010

Count of vehicles by object collided with	Passenger car	Pickup truck	SUV	Van	Large truck	Total
Total vehicles - all collisions	**195,795**	**45,976**	**46,209**	**22,379**	**13,320**	**323,679**
Total vehicles - serious injury collisions	**2,900**	**847**	**689**	**380**	**319**	**5,135**
Another motor vehicle	2,006	547	464	293	266	3,576
Off roadway	185	60	48	14	11	318
Pedestrian	144	49	48	14	13	268
Tree	105	46	13	7	1	172
Ditch	59	20	19	9	1	108
Utility pole	56	20	8	6	1	91
Bicycle	55	19	4	8	4	90
Other	50	8	13	8	6	85
Embankment	22	8	8	4	2	44
Curb	27	3	5	0	0	35
Overturn/rollover	8	8	14	2	2	34
Median barrier	23	1	4	2	1	31
Wall/building/tunnel	16	6	5	1	1	29
Culvert	12	10	3	3	0	28
Other post/poll/support	16	2	2	0	2	22
Cargo/equipment shift or loss	1	2	0	0	2	5
Top objects subtotal	*2,785*	*809*	*658*	*371*	*313*	*4,936*
Top as % of each vehicle serious injury collision total	*96.0%*	*95.5%*	*95.5%*	*97.6%*	*98.1%*	*96.1%*

Source: Indiana State Police

Table 38. Large trucks involved in collisions, by hazard placard, hazard release, and collision severity, 2010

	Large trucks involved in collisions:									
	All	% of total collisions	Fatal	% of total fatal collisions	Incapaci-tating	% of total incapaci-tating collisions	Non-incapaci-tating	% of total non-inca-pacitating collisions	Property damage only (PDO)	% of total PDO collisions
Large truck w/trailer	**8,539**		**81**		**134**		**1,022**		**7,302**	
w/hazard placard	230	2.7%	7	8.6%	7	5.2%	21	2.1%	195	2.7%
hazard release	162	1.9%	2	2.5%	4	3.0%	13	1.3%	143	2.0%
placard+release	48	0.6%	2	2.5%	3	2.2%	8	0.8%	35	0.5%
Large truck single unit	**4,781**		**35**		**69**		**584**		**4,093**	
w/hazard placard	67	1.4%	0	0.0%	1	1.4%	14	2.4%	52	1.3%
hazard release	41	0.9%	1	2.9%	0	0.0%	3	0.5%	37	0.9%
placard+release	9	0.2%	0	0.0%	0	0.0%	1	0.2%	8	0.2%
Total large trucks	**13,320**		**116**		**203**		**1,606**		**11,395**	
w/hazard placard	297	2.2%	7	6.0%	8	3.9%	35	2.2%	247	2.2%
hazard release	203	1.5%	3	2.6%	4	2.0%	16	1.0%	180	1.6%
placard+release	57	0.4%	2	1.7%	3	1.5%	9	0.6%	43	0.4%

Source: Indiana State Police

Notes:
Placard and release information is where known.
***w/hazard placard*: Federal Motor Carriers Safety Regulations (FMCSR) requires the use of *hazardous materials placards* (signs) when shipping hazardous materials cargo and dangerous goods in the United States. These are square colored placards/signs posted on the cargo hold of the trailer. This is the count of vehicles involved in collisions that had a proper placard posted on the trailer.**
***hazard release:* This is the count of trucks that as a result of the collision released some/all of the hazardous materials they were carrying at the accident site.**

Table 39. Indiana collisions involving school buses and injuries, by collision severity, 2006-2010

	2006		2007		2008		2009		2010	
	Count	%	Count	%	Count	%	Count	%	Count	%
Total collisions involving school buses	**853**	**100.0%**	**826**	**100.0%**	**957**	**100.0%**	**837**	**100.0%**	**808**	**100.0%**
Fatal	3	0.4%	4	0.5%	1	0.1%	2	0.2%	3	0.4%
Incapacitating	5	0.6%	5	0.6%	9	0.9%	10	1.2%	5	0.6%
Non-incapacitating	124	14.5%	74	9.0%	59	6.2%	77	9.2%	79	9.8%
Property damage only	721	84.5%	743	90.0%	888	92.8%	748	89.4%	721	89.2%
Injuries										
Fatal	**4**	**100.0%**	**4**	**100.0%**	**4**	**100.0%**	**2**	**100.0%**	**3**	**100.0%**
School bus occupant	0	0.0%	1	25.0%	4	100.0%	0	0.0%	0	0.0%
Non-motorist	0	0.0%	2	50.0%	0	0.0%	2	100.0%	0	0.0%
Other vehicle occupant	4	100.0%	1	25.0%	0	0.0%	0	0.0%	3	100.0%
Incapacitating	**6**	**100.0%**	**5**	**100.0%**	**10**	**100.0%**	**10**	**100.0%**	**6**	**100.0%**
School bus occupant	1	16.7%	0	0.0%	4	40.0%	0	0.0%	2	33.3%
Non-motorist	0	0.0%	0	0.0%	1	10.0%	1	10.0%	0	0.0%
Other vehicle occupant	5	83.3%	5	100.0%	5	50.0%	9	90.0%	4	66.7%
Non-incapacitating	**318**	**100.0%**	**171**	**100.0%**	**188**	**100.0%**	**227**	**100.0%**	**198**	**100.0%**
School bus occupant	176	55.3%	98	57.3%	137	72.9%	167	73.6%	135	68.2%
Non-motorist	4	1.3%	7	4.1%	8	4.3%	5	2.2%	1	0.5%
Other vehicle occupant	138	43.4%	66	38.6%	43	22.9%	55	24.2%	62	31.3%

Source: Indiana State Police

Table 40. School buses, by the top primary collision factors and collision severity, 2010

	School buses involved in:	
Top primary collision factors	**All collisions**	**Serious injury collisions**
School buses	**817**	**9**
Other- driver	109	1
Following too closely	107	2
Failure to yield right of way	98	0
Improper turning	89	1
Unsafe backing	88	0
Speed too fast for weather conditions	36	1
Driver distracted	33	1
Improper lane usage	33	0
Overcorrecting/oversteering	27	0
Roadway surface condition	26	0
Left of Center	26	2
Top subtotal	*672*	*8*
Top as % of school bus total	*82.3%*	*88.9%*

Source: Indiana State Police

Note: Top primary factors are counts of vehicles, involved in collisions. For example, there were 107 school buses involved in collisions where the primary factor for each collision was *Following too closely*. Note that if the collision was a multi-vehicle collision, more than one vehicle may have contributing circumstances that match the primary factor.

Table 41. School buses involved in collisions by the top objects collided with and collision severity, 2010

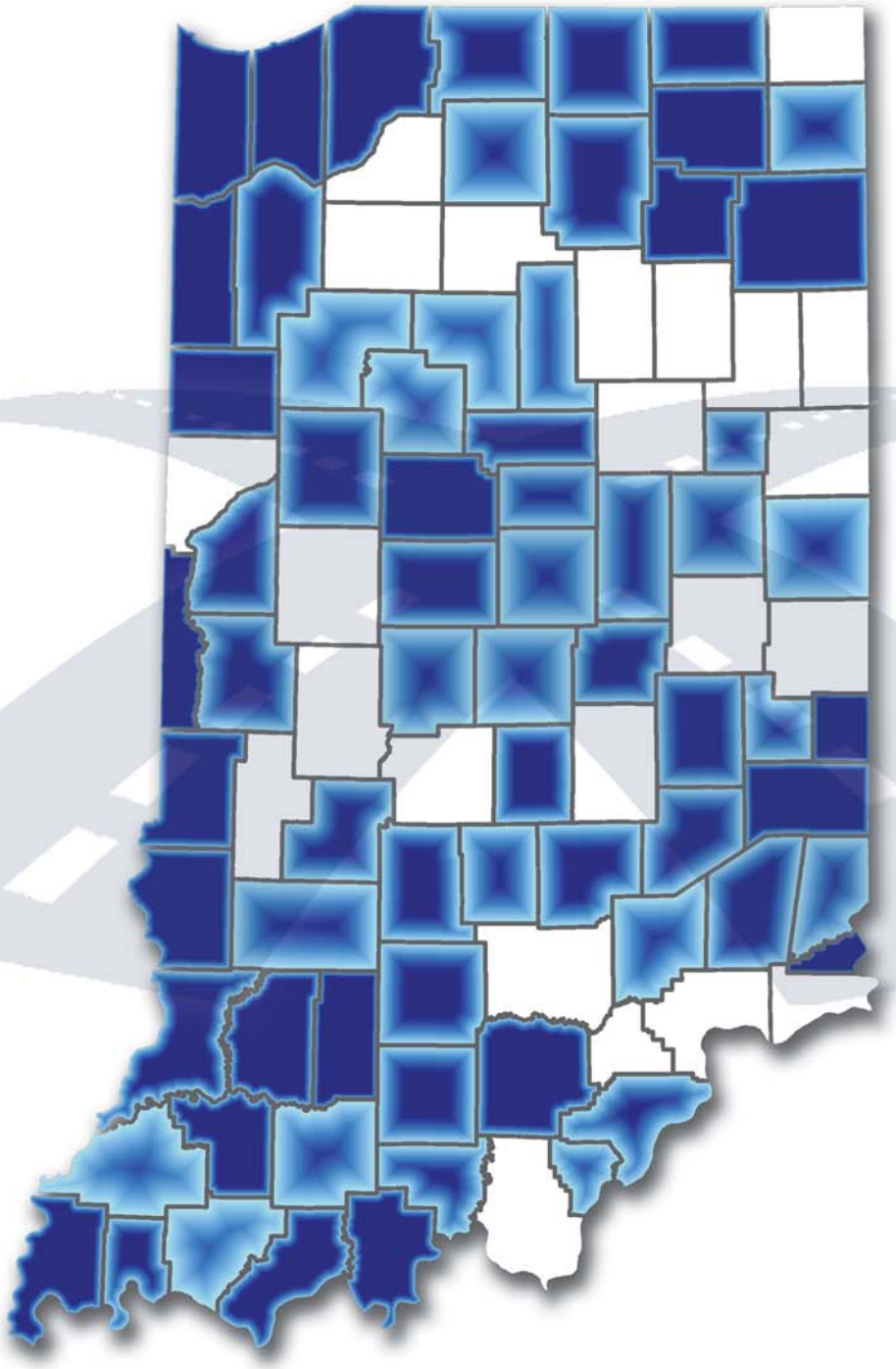
	School buses involved in:				
Object collided with	**All collisions**	**Fatal collisions**	**Incapacitating collisions**	**Non-incapacitating collisions**	**Property damage only collisions**
School buses	**817**	**3**	**6**	**80**	**728**
Another motor vehicle	726	3	6	72	645
Other	17	0	0	2	15
Deer	13	0	0	0	13
Unknown	10	0	0	0	10
Light/luminaire support	7	0	0	1	6
Wall/building/tunnel	7	0	0	1	6
Tree	6	0	0	0	6
Utility pole	5	0	0	0	5
Other post/pole or support	4	0	0	1	3
Ditch	3	0	0	0	3
Top subtotal	*798*	*3*	*6*	*77*	*712*
Top as % of school bus total	*97.7%*	*100.0%*	*100.0%*	*96.3%*	*97.8%*

Table 42. Vehicles that collided with a railway vehicle/train/engine, by vehicle type, traffic control type, and collision severity, 2010

Vehicle type/traffic control type	Vehicles involved in:			
	Fatal collisions	Incapacitating collisions	Non-incapacitating collisions	Property damage only collisions
Bus (9-15 person)	**0**	**0**	**0**	**1**
RR crossing signal/gate/sign	0	0	0	1
Combination vehicle	**0**	**0**	**0**	**1**
RR crossing signal/gate/sign	0	0	0	1
Farm vehicle	**1**	**0**	**0**	**1**
RR crossing signal/gate/sign	1	0	0	0
None	0	0	0	1
Large truck	**1**	**0**	**1**	**11**
RR crossing signal/gate/sign	1	0	1	7
Stop sign	0	0	0	4
Passenger car	**1**	**2**	**12**	**36**
RR crossing signal/gate/sign	1	2	9	22
Traffic signal/other regulatory sign	0	0	1	3
Stop sign	0	0	1	2
Lane control	0	0	0	2
None	0	0	1	7
Pickup truck	**1**	**2**	**4**	**8**
RR crossing signal/gate/sign	1	1	4	7
Stop sign	0	1	0	0
None	0	0	0	1
Sport utility vehicle	**0**	**2**	**2**	**5**
RR crossing signal/gate/sign	0	2	1	3
Traffic signal/other regulatory sign	0	0	0	1
None	0	0	1	1
Van	**0**	**0**	**1**	**4**
RR crossing signal/gate/sign	0	0	1	3
Stop sign	0	0	0	1
Total	**4**	**6**	**20**	**67**

Source: Indiana State Police

MOTORCYCLES



MOTORCYCLES, 2010

Collisions

Collisions involving motorcycles increased 4.7 percent in 2010, while fatal collisions decreased from 111 in 2009 to 110. About seven out of ten motorcycle collisions were injury-involved and since 2006, the proportion of motorcycle collisions resulting in at least one serious injury averaged about 17 percent. While fatal motorcycle collision rates were slightly higher in *multi-vehicle* crashes, serious injury collision rates were slightly higher for *single-vehicle* motorcycle crashes. Each year from 2006 to 2010, there were slightly more *multi-vehicle* than *single-vehicle* motorcycle collisions. In 2010, motorcycle collisions, as a proportion of all motor vehicle collisions, was highest for *multi-vehicle* crashes 6pm and later. *Single-vehicle* motorcycle collisions as a percent of all single-vehicle motor vehicle collisions increased from 8am and peaked at around 3pm.

Motorcycle collisions in 2010 occurred predominately during *clear* weather conditions, on *straight/level* roads not involving *road junctions*, on *local/city* roads, and during *daylight*. The probability of fatal motorcycle collisions was highest (i.e., five percent or more) on *curves* or on *highways*, and under *dark (unlighted)* conditions.

Single-vehicle motorcycle crashes were more likely to involve alcohol or *alcohol-impaired* motorcycle operators than *multi-vehicle* collisions. *Alcohol-related* motorcycle collisions occurred around the clock, with the largest number of collisions taking place around 8pm. The hourly percentage of all motorcycle collisions that were alcohol-related increased steadily from 5pm, peaking at 1am and dropping thereafter. Considering all *alcohol-related* collisions, motorcycle-involved crashes peak earlier in the evening (about 7 to 8pm) than *alcohol-related* collisions not involving motorcycles, which peak around 3am. From 2006 to 2010, collisions involving motorcycles were from two to six times more likely to be *alcohol-related* than collisions involving other vehicles.

In 2010, *multi-vehicle* collisions involving motorcycles most frequently involved some type of *unsafe action* by either or both the motorcyclist and the driver of the other vehicle. Overall, motorcyclists were about 27 percent less likely to be at fault (i.e., to have contributed to the collision's primary factor) than the other vehicles involved. However, *multi-vehicle* motorcycle collisions involving *following too closely, unsafe speed,* and *improper passing* were much more likely to be attributed to motorcyclists. In addition, motorcycles were more likely to be at fault when *primary factors* involved *cognitive/physical impairment* or *loss of control*. From 2006 to 2010, motorcycles were between 7 and 15 times more likely to be characterized as *speeding* than other vehicles.

Individuals

From 2009 to 2010, the number of motorcyclists killed dropped from 111 to 110, although the count of riders with *incapacitating* injuries increased 13 percent. From 2006 to 2010, *serious injuries* to motorcyclists increased 2.5 percent annually. Considering the objects with which motorcyclists collided in 2010, the most deadly were *trees* (14.3 percent fatality rate) and *posts, signs*, and *mailboxes* (12.8 percent). *Fixed posts* and *signs* were particularly dangerous. The least deadly *objects of impact* involved *falling from the vehicle*, and *wall-fence-buildings.* In 2010, serious injury rates were highest for motorcyclists colliding with *trees, road infrastructure, post-sign-mailboxes,* and *off-roadway* crashes.

The more serious the injury, the higher the likelihood the motorcycle operator was *alcohol-impaired*. In 2010, 38.3 percent of *single-vehicle* motorcycle fatalities involved an *alcohol-impaired* operator; about 10 percent of *multi-vehicle* motorcycle fatalities were *alcohol-impaired*.

In terms of certified *blood alcohol content (BAC)* results from 2006 to 2010, the numbers of motorcycle operators with a BAC of 0.08 g/dL or more grew annually: about 15 percent per year for operators with 0.08 to 0.14 g/dL, and about 8 percent a year for operators with 0.15 g/dL or more. From 2009 to 2010, the number of motorcycle operators with 0.01 or more g/dL increased.

Among the 110 motorcycle fatalities in 2010 for which *helmet use* and *age* were known, nearly 84 percent were not wearing helmets. However, controlling for age, *serious injury* rates were slightly higher for helmeted than for unhelmeted riders. Male motorcyclists in 2010 had higher fatality rates (3.2 percent) than female motorcyclists (1.8 percent). Approximately 50 percent of injured motorcyclists in 2010 had proper *motorcycle licenses or endorsements.* Considering the effects of *helmet use* and *age* in 2010, the youngest (under 21 years) and oldest (over 64 years) with helmet use reported had higher serious injury rates than similarly-aged unhelmeted riders; for all age groups in between, however, unhelmeted riders had higher serious injury rates.

In 2010, unhelmeted riders experienced injuries to the neck and above one-fourth of the time, compared to about seven percent of the time for riders with helmets. Helmeted riders

sustained proportionately more injuries to the *torso, arms,* and *legs* than did unhelmeted riders. Two-thirds of all motorcyclists killed in 2010 had injuries to the *neck or above*. Slightly more than half of motorcyclists killed were unhelmeted, with injuries to the *neck or above.*

Motorcycle operators and, especially, moped operators compared unfavorably to other motor vehicle operators in terms of *drivers' license status* and *history of traffic convictions.* Motorcycle operators involved in collisions in 2010 had a lower percentage of *valid drivers' licenses* (80 percent) than the operators of other motorized vehicles—with the exception of *moped operators,* who had a valid license only one-third of the time. More than one-half of moped operators involved in collisions in 2010 had *suspended licenses.* Thirteen percent of moped operators in collisions were classified as *habitual traffic violators.* Moped operators involved in crashes in 2010 were much more likely to have *prior alcohol offenses* and *prior licensing offenses* than operators of other vehicles, including motorcycles. Motorcycle operators involved in collisions were more likely to have *prior speeding offenses* than all except large truck operators.

Table 43. Number of collisions involving motorcycles by severity, 2006-2010

Motorcycle collision severity	2006	2007	2008	2009	2010	Annual rate of change 2006-10	Annual rate of change 2009-10
Fatal	104	117	125	111	110	1.4%	-0.9%
Incapacitating	440	525	462	438	493	2.9%	12.6%
Non-incapacitating	1,713	1,969	2,184	1,786	1,917	2.9%	7.3%
Property damage only	841	945	1,051	941	909	2.0%	-3.4%
Total	**3,098**	**3,556**	**3,822**	**3,276**	**3,429**	**2.6%**	**4.7%**
% injury collisions	72.9%	73.4%	72.5%	71.3%	73.5%		
% serious injury collisions	17.6%	18.1%	15.4%	16.8%	17.6%		

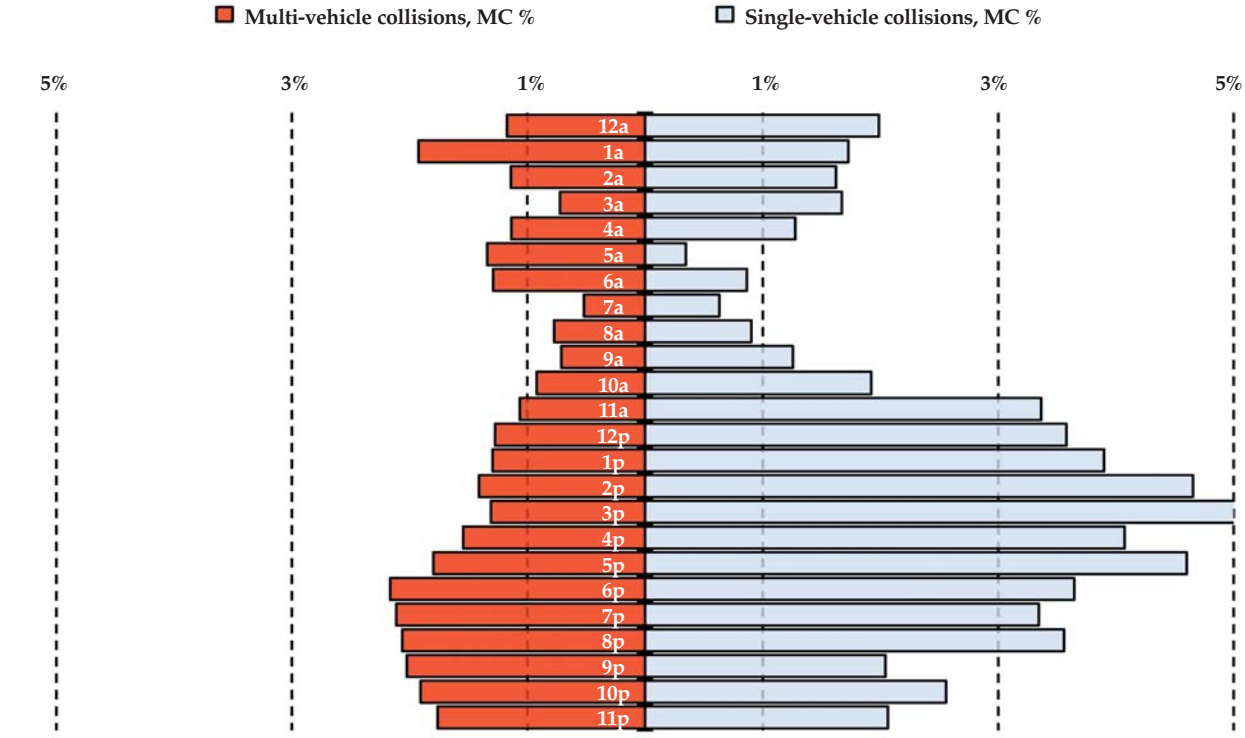
Source: Indiana State Police
Note: *Serious injury collisions* include *fatal* and *incapacitating* collisions.

Table 44. Probability of motorcycle collision severity by vehicles involved, 2006-2010

Type of motorcycle collision	Year	Total motorcycle collisions	Collision severity: Fatal	Incapacitating	Non-incapacitating	Property damage only	Serious injury percent
	2006	1,463	2.9%	16.6%	63.7%	16.8%	19.5%
	2007	1,644	3.1%	17.4%	63.3%	16.2%	20.5%
Single-vehicle	2008	1,794	3.0%	13.4%	65.9%	17.7%	16.3%
	2009	1,493	3.2%	15.3%	62.6%	19.0%	18.5%
	2010	1,557	3.1%	16.6%	62.8%	17.5%	19.7%
	2006	1,635	3.8%	12.0%	47.8%	36.4%	15.8%
	2007	1,912	3.5%	12.5%	48.6%	35.5%	16.0%
Multi-vehicle	2008	2,028	3.6%	10.9%	49.4%	36.1%	14.5%
	2009	1,783	3.5%	11.8%	47.8%	36.9%	15.3%
	2010	1,872	3.3%	12.6%	50.2%	34.0%	15.8%
Mean annual rates							
Single-vehicle		1,590	3.1%	15.8%	63.7%	17.4%	18.9%
Multi-vehicle		1,846	3.5%	12.0%	48.7%	35.8%	15.5%

Source: Indiana State Police
Note: *Serious injury collisions* include *fatal* and *incapacitating* collisions.

Figure 29. Proportion of total motor vehicle collisions with motorcycles (MC) involved, by time of day, 2010



Source: Indiana State Police

Notes:
N = 3,429 motorcycle collisions (single-vehicle = 1,557 and multi-vehicle = 1,872)
N = 189,461 other non-motorcycle collisions (single-vehicle = 58,477 and multi-vehicle = 130,984)
Bars present the differential involvement of motorcycles among all single- and multiple-vehicle collisions hourly across a daily cycle .

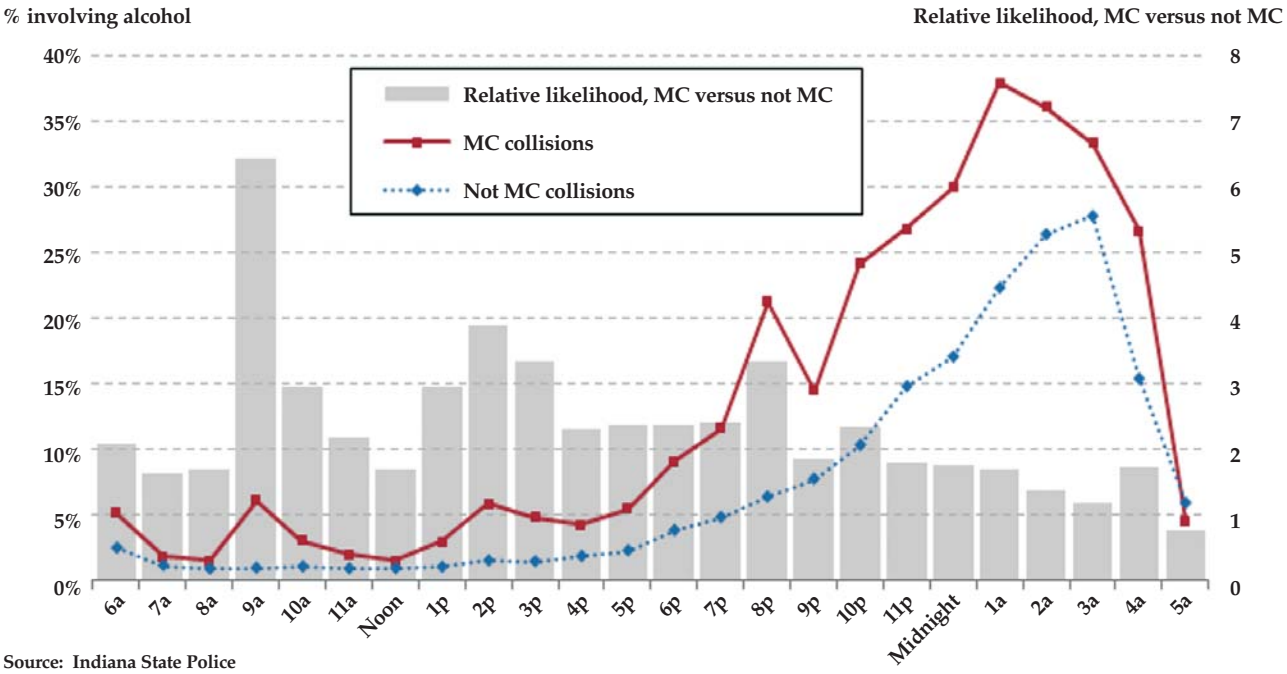
Table 45. Characteristics of motorcycle collisions by severity of collision, 2010

Characteristics	Number of collisions					Probability of collision severity			
	Fatal	Incapa-citating	Non-inca-pacitating	Property damage	Total	Fatal	Incapa-citating	Serious injury	Serious injury change, 2009-10
Weather conditions									
Clear	92	426	1,586	767	2,871	3.2%	14.8%	18.0%	1.4
Cloudy or poor visibility	15	55	271	115	456	3.3%	12.1%	15.4%	-4.7
Extreme weather	3	12	60	27	102	2.9%	11.8%	14.7%	6.9
Road junctions									
No junction involved	69	328	1,227	584	2,208	3.1%	14.9%	18.0%	1.7
Intersections	40	156	670	308	1,174	3.4%	13.3%	16.7%	-0.8
Interchange/ramp	1	9	20	16	46	2.2%	19.6%	21.7%	2.2
Road character									
Straight/level	59	282	1,268	662	2,271	2.6%	12.4%	15.0%	0.2
Curves	33	126	378	117	654	5.0%	19.3%	24.3%	2.9
Straight/grade/hillcrest	18	78	253	108	457	3.9%	17.1%	21.0%	1.1
Non-roadway crash		7	18	21	46	0.0%	15.2%	15.2%	4.1
Road class									
Local/city road	37	216	966	443	1,662	2.2%	13.0%	15.2%	0.7
Highway	47	150	518	219	934	5.0%	16.1%	21.1%	-0.4
County road	22	100	295	121	538	4.1%	18.6%	22.7%	3.9
Interstate	1	18	53	27	99	1.0%	18.2%	19.2%	1.8
Light conditions									
Daylight	67	361	1,413	681	2,522	2.7%	14.3%	17.0%	1.9
Dark (lighted)	18	55	224	106	403	4.5%	13.6%	18.1%	-3.8
Dark (not lghted)	20	50	195	82	347	5.8%	14.4%	20.2%	-4.1
Dawn/dusk	4	27	83	39	153	2.6%	17.6%	20.3%	4.8

Source: Indiana State Police

Notes:
Excludes collisions where characteristic was unknown or not reported.
Characteristics are re-grouped from collision characteristics reported in ARIES, as shown below:
***Weather conditions* are defined as follows:**
Cloudy or poor visibility* includes *cloudy, fog/smoke/smog,* and *blowing sand/soil/snow.
Extreme weather* includes *rain, severe cross wind, sleet/hail/freezing rain,* and *snow.
***Road junctions* are defined as follows:**
Intersections* includes *five point or more, four-way intersection, T-intersection, traffic circle/roundabout,* and *Y-intersection.
Interchange/ramp* includes *interchange* and *ramp.
***Road character* is defined as follows:**
Curves* includes *curve/grade, curve/hillcrest,* and *curve/level.
Straight/grade/hillcrest* includes *straight/grade and straight/hillcrest.
***Road class* is defined as follows:**
Highway* includes *state road* and *US route.
***Serious injury* includes *fatal* and *incapacitating* collision severity.**

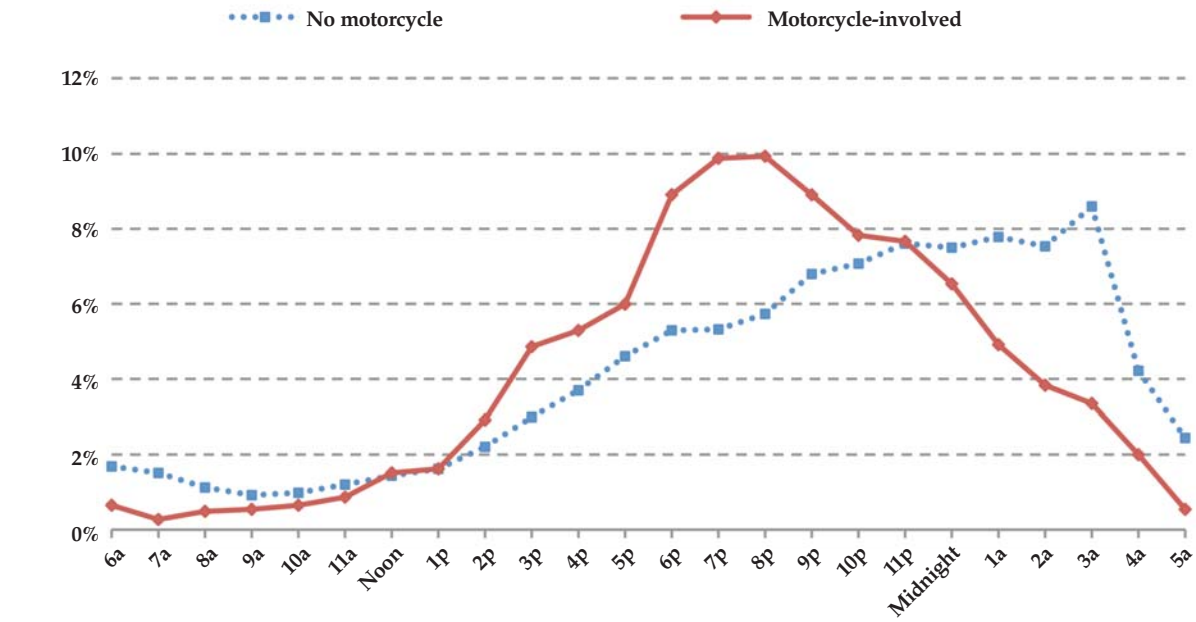
Figure 30. Motorcycle (MC) and non-motorcycle collisions involving alcohol, by hour of day, 2010



Source: Indiana State Police

Notes:
Total motorcycle collisions = 3,429. Total motorcycle alcohol-related collisions = 328.
Total non-motorcycle collisions = 189,454. Total non-motorcycle alcohol-related collisions = 8,011.

Figure 31. Hourly proportions of alcohol-related collisions among all collisions by motorcycle involvement, 2006-2010



Source: Indiana State Police

Notes:
N = 46,851 non-motorcycle alcohol-related collisions
N = 1,852 motorcycle alcohol-related collisions

Table 46. Vehicles involved in motorcycle collisions, by operator alcohol status, 2006-2010

Alcohol-related/Type of vehicle	2006	2007	2008	2009	2010	Annual rate of change 2006-10	Annual rate of change 2009-10
No alcohol							
Motorcycles	2,847	3,288	3,540	3,052	3,205	3.0%	5.0%
Other vehicles	1,606	1,889	2,021	1,760	1,858	3.7%	5.6%
Alcohol-related							
Motorcycles	316	368	375	302	290	-2.1%	-4.0%
Other vehicles	79	47	36	39	43	-14.1%	10.3%
Odds of alcohol-related (within vehicle type)							
Motorcycles	0.111	0.112	0.106	0.099	0.090		
Other vehicles	0.049	0.025	0.018	0.022	0.023		
Odds ratio (MC/other vehicles)	**2.3**	**4.5**	**5.9**	**4.5**	**3.9**		

Source: Indiana State Police

Notes:
***Other vehicles* includes *unknown* unit type; excludes *pedestrians* and *bicycles*.**
Odds of alcohol-related calculated as units alcohol-related/not alcohol-related

Table 47. Vehicles involved in multi-vehicle motorcycle (MC) collisions, by vehicle type, primary factor, and risk of vehicle attributability to collision occurrence, 2010

Primary factor	Count of vehicles attributable: MC	Count of vehicles attributable: Other vehicles	Count of vehicles not attributable: MC	Count of vehicles not attributable: Other vehicles	% Attributable: MC	% Attributable: Other vehicles	Risk of attributability
Unsafe actions	**580**	**917**	**951**	**600**	**37.9%**	**60.4%**	**0.63**
Failure to yield right of way	142	556	558	152	20.3%	78.5%	0.26
Following too closely	199	118	139	189	58.9%	38.4%	1.53
Unsafe backing	2	93	97	5	2.0%	94.9%	0.02
Disregard signal/reg sign	52	38	38	56	57.8%	40.4%	1.43
Unsafe speed	48	12	13	56	78.7%	17.6%	4.46
Improper turning	22	40	45	19	32.8%	67.8%	0.48
Improper lane usage	31	27	28	33	52.5%	45.0%	1.17
Improper passing	43	13	13	45	76.8%	22.4%	3.43
Left of center	31	18	19	36	62.0%	33.3%	1.86
Speed too fast for weather conditions	8	2	1	7	88.9%	22.2%	4.00
Wrong way on one way	2	0	0	2	100.0%	0.0%	--
Distractions	**29**	**30**	**33**	**32**	**46.8%**	**48.4%**	**0.97**
Driver distracted	29	27	30	32	49.2%	45.8%	1.07
Cell phone usage	0	2	2	0	0.0%	100.0%	--
Passenger distraction	0	1	1	0	0.0%	100.0%	--
Cognitive impairment	**6**	**6**	**6**	**12**	**50.0%**	**33.3%**	**1.50**
Alcoholic beverages	4	3	3	8	57.1%	27.3%	2.10
Driver illness	1	1	1	2	50.0%	33.3%	1.50
Driver asleep or fatigued	1	1	1	2	50.0%	33.3%	1.50
Illegal drugs	0	1	1	0	0.0%	100.0%	--
Loss of control	**19**	**5**	**5**	**15**	**79.2%**	**25.0%**	**3.17**
Overcorrecting/oversteering	10	3	3	10	76.9%	23.1%	3.33
Ran off road right	9	2	2	5	81.8%	28.6%	2.86
All other factors	**176**	**140**	**133**	**150**	**57.0%**	**48.3%**	**1.18**
Total	**810**	**1,098**	**1,128**	**809**	**41.8%**	**57.6%**	**0.73**

Source: Indiana State Police

Notes:
A vehicle is *attributable* to the occurrence of a collision when the officer marks a contributing circumstance for that vehicle that also matches the collision primary factor.
Data exclude single-vehicle collisions involving motorcycles.
***Risk of attributability* defined as ratio of *% attributable (motorcycles)* to *% attributable (other vehicles)*. A value greater than 1 indicates that motorcycles are more likely to have been attributable to the collision occurring for that particular factor.**

Table 48. Motorcycles and other vehicles by speeding involvement, 2006-2010

Speeding/Type of vehicle	2006	2007	2008	2009	2010	Annual rate of change 2006-10	Annual rate of change 2009-10
Not speeding							
Motorcycles	2,833	3,293	3,552	3,055	3,164	2.8%	3.6%
Other vehicles	1,646	1,894	2,022	1,766	1,866	3.2%	5.7%
Speeding							
Motorcycles	330	363	363	299	331	0.1%	10.7%
Other vehicles	26	14	22	16	20	-6.3%	25.0%
Odds of speeding (within vehicle type)							
Motorcycles	0.116	0.110	0.102	0.098	0.105		
Other vehicles	0.016	0.007	0.011	0.009	0.011		
Odds ratio (motorcycle/others)	**7.4**	**14.9**	**9.4**	**10.8**	**9.8**		

Source: Indiana State Police

Notes:
***Other vehicles* includes *unknown* unit type; excludes *pedestrians* and *bicycles*.**
Odds of speeding calculated as type of vehicle speeding/type of vehicle not speeding.

Table 49. Motorcycle rider injuries, 2006-2010

Injury status	2006	2007	2008	2009	2010	Annual rate of change 2006-10	Annual rate of change 2009-10
Serious injury	**578**	**690**	**628**	**579**	**639**	**2.5%**	**10.4%**
Fatal	108	122	130	111	110	0.5%	-0.9%
Incapacitating	470	568	498	468	529	3.0%	13.0%
Other injury	**2,020**	**2,231**	**2,497**	**2,018**	**2,183**	**2.0%**	**8.2%**
Non-incapacitating	1,935	2,176	2,459	1,986	2,158	2.8%	8.7%
Other injury	85	55	38	32	25	-26.4%	-21.9%
Not injured	**729**	**882**	**979**	**889**	**900**	**5.4%**	**1.2%**
Total	**3,327**	**3,803**	**4,104**	**3,486**	**3,722**	**2.8%**	**6.8%**
% injured	78.1%	76.8%	76.1%	74.5%	75.8%		
% serious injury	17.4%	18.1%	15.3%	16.6%	17.2%		

Source: Indiana State Police

Table 50. Probability of injury status of motorcycle operators and passengers by (first) object of impact, 2010

Object of impact	Total	Probability of injury status (sum = 100%)				Serious injury rate
		Fatal	Incapa-citating	Non-incapa-citating	Other	
Animals	**206**	**2.4%**	**10.7%**	**61.2%**	**25.7%**	**13.1%**
Deer	138	2.9%	9.4%	56.5%	31.2%	12.3%
Animal other than deer	68	1.5%	13.2%	70.6%	14.7%	14.7%
Another motor vehicle	**1,888**	**3.1%**	**13.6%**	**52.9%**	**30.5%**	**16.7%**
Fell from vehicle (non-collision)	**319**	**0.0%**	**14.1%**	**69.0%**	**16.9%**	**14.1%**
Off the roadway	**530**	**4.0%**	**17.5%**	**61.5%**	**17.0%**	**21.5%**
Off roadway	343	3.5%	19.0%	59.8%	17.8%	22.4%
Ditch	147	4.8%	15.0%	66.0%	14.3%	19.7%
Embankment	37	5.4%	13.5%	59.5%	21.6%	18.9%
Culvert	3	0.0%	33.3%	66.7%	0.0%	33.3%
Other actions	**460**	**1.7%**	**12.6%**	**64.3%**	**21.3%**	**14.3%**
Other	346	0.9%	9.8%	65.3%	24.0%	10.7%
Overturn/rollover	110	4.5%	21.8%	60.0%	13.6%	26.4%
Cargo/equipment shift or loss	3	0.0%	0.0%	100%	0.0%	0.0%
Jackknife	1	0.0%	0.0%	100%	0.0%	0.0%
Other traffic units	**40**	**0.0%**	**0.0%**	**65.0%**	**35.0%**	**0.0%**
Bicycle	14	0.0%	0.0%	64.3%	35.7%	0.0%
Pedestrian	14	0.0%	0.0%	57.1%	42.9%	0.0%
Animal drawn vehicle	10	0.0%	0.0%	70.0%	30.0%	0.0%
Work zone maintenance equipment	2	0.0%	0.0%	100%	0.0%	0.0%
Post, sign, mailbox	**47**	**12.8%**	**25.5%**	**44.7%**	**17.0%**	**38.3%**
Mailbox	20	5.0%	20.0%	60.0%	15.0%	25.0%
Other post/pole or support	11	27.3%	27.3%	27.3%	18.2%	54.5%
Highway traffic sign post	8	12.5%	12.5%	50.0%	25.0%	25.0%
Utility pole	6	16.7%	50.0%	16.7%	16.7%	
Light/luminaire support	1	0.0%	0.0%	100%	0.0%	0.0%
Overhead sign post	1	0.0%	100%	0.0%	0.0%	100%
Road/bridge infrastructure	**176**	**4.5%**	**20.5%**	**64.8%**	**10.2%**	**25.0%**
Curb	124	3.2%	16.1%	66.9%	13.7%	19.4%
Guardrail face	38	5.3%	36.8%	55.3%	2.6%	42.1%
Median barrier	8	0.0%	0.0%	100%	0.0%	
Guardrail end	3	0.0%	66.7%	33.3%	0.0%	66.7%
Bridge pier or abutment	1	100%	0.0%	0.0%	0.0%	100%
Bridge rail	1	0.0%	0.0%	100%	0.0%	0.0%
Impact attenuator/crash cushion	1	100%	0.0%	0.0%	0.0%	100%
Tree	**21**	**14.3%**	**14.3%**	**66.7%**	**4.8%**	**28.6%**
Wall, fence, building	**21**	**0.0%**	**9.5%**	**47.6%**	**42.9%**	**9.5%**
Fence	15	0.0%	6.7%	40.0%	53.3%	6.7%
Wall/building/tunnel	6	0.0%	16.7%	66.7%	16.7%	16.7%
Unknown	**14**	**7.1%**	**7.1%**	**50.0%**	**35.7%**	**14.3%**
Total	**3,722**	**3.0%**	**14.2%**	**58.0%**	**24.9%**	**17.2%**

Source: Indiana State Police

Note: *Serious injury* includes *fatal* and *incapacitating* injuries.

Table 51. Individuals involved in motorcycle collisions by vehicle type, driver alcohol status, and injury status, 2010

Type of vehicle/alcohol status	Individual injury status				Total
	Fatal	Incapacitating	Non-incapacitating	All other	
Single-vehicle collisions					
Motorcycles	**47**	**269**	**1,106**	**326**	**1,748**
Alcohol-related unit	19	56	134	23	232
% alcohol-related	*40.4%*	*20.8%*	*12.1%*	*7.1%*	*13.3%*
Alcohol-impaired unit	18	29	69	12	128
% alcohol-impaired	*38.3%*	*10.8%*	*6.2%*	*3.7%*	*7.3%*
Multi-vehicle collisions					
Motorcycles	**63**	**260**	**1,052**	**599**	**1,974**
Alcohol-related unit	8	22	49	14	93
% alcohol-related	*12.7%*	*8.5%*	*4.7%*	*2.3%*	*4.7%*
Alcohol-impaired unit	6	12	24	7	49
% alcohol-impaired	*9.5%*	*4.6%*	*2.3%*	*1.2%*	*2.5%*
All other units/vehicles	**2**	**7**	**106**	**1,651**	**1,766**
Alcohol-related unit	1		6	36	43
% alcohol-related	*50%*	*0%*	*5.7%*	*2.2%*	*2.4%*
Alcohol-impaired unit	1		5	17	23
% alcohol-impaired	*50%*	*0%*	*4.7%*	*1.0%*	*1.3%*

Source: Indiana State Police

Notes:
See glossary for definitions of *alcohol-related* and *alcohol-impaired*.
***All other* injury status includes *not reported, null, refused,* and *unknown*.**
Excludes *unknown* unit type, *pedestrians*, and *pedalcyclists*.

Table 52. Motorcycle operators involved in collisions by blood alcohol content (BAC) (g/dL), 2006-2010

BAC range, g/dL	2006	2007	2008	2009	2010	Annual rate of change 2006-10	Annual rate of change 2009-10
Total motorcycle operators	**3,008**	**3,468**	**3,726**	**3,180**	**3,338**	**2.6%**	**5.0%**
No BAC reported	2,805	3,269	3,485	2,938	3,060	2.2%	4.2%
% total operators	*93.3%*	*94.3%*	*93.5%*	*92.4%*	*91.7%*		
< 0.01	62	66	96	76	80	6.6%	5.3%
% total operators	*2.1%*	*1.9%*	*2.6%*	*2.4%*	*2.4%*		
0.01 < 0.08	33	23	40	32	38	3.6%	18.8%
% total operators	*1.1%*	*0.7%*	*1.1%*	*1.0%*	*1.1%*		
0.08 < 0.15	38	40	51	47	66	14.8%	40.4%
% total operators	*1.3%*	*1.2%*	*1.4%*	*1.5%*	*2.0%*		
0.15 and greater	70	70	54	87	94	7.6%	8.0%
% total operators	*2.3%*	*2.0%*	*1.4%*	*2.7%*	*2.8%*		

Source: Indiana State Police

Note: *g/dL = grams per deciliter.*

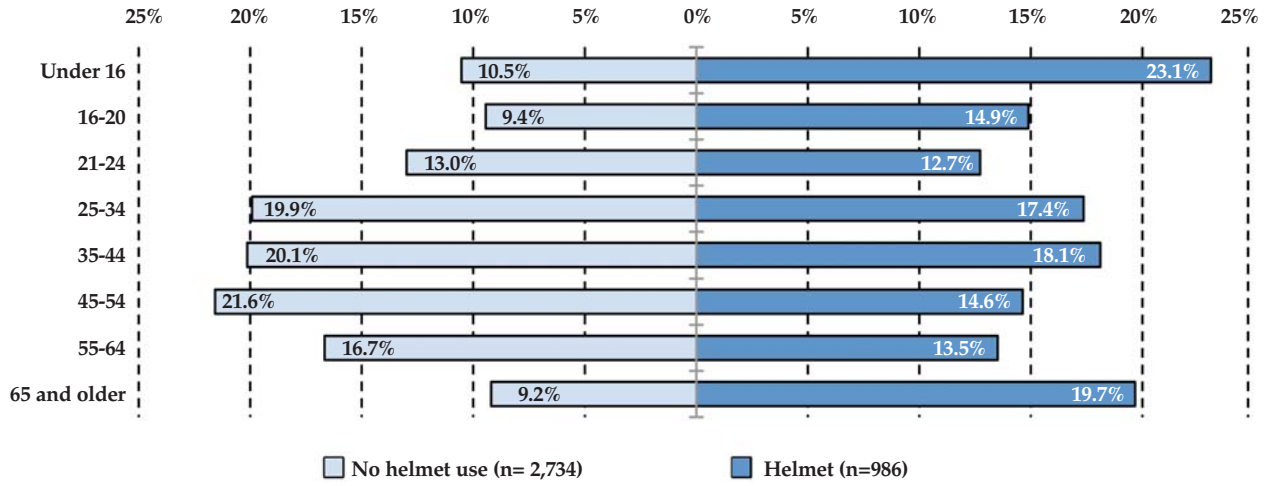
Table 53. Motorcyclists involved in collisions, by rider characteristics and injury status, 2010

Characteristics	Individual injury status				Total	Probability of injury status		
	Fatal	Incapaci-tating	Non-inca-pacitating	All other		Fatal	Incapaci-tating	Serious injury
Helmet use/Age								
Helmet	**18**	**137**	**574**	**257**	**986**	**1.8%**	**13.9%**	**15.7%**
Under 16	1	5	19	1	26	3.8%	19.2%	23.1%
16-20	2	12	60	20	94	2.1%	12.8%	14.9%
21-24	2	12	70	26	110	1.8%	10.9%	12.7%
25-34	2	27	82	56	167	1.2%	16.2%	17.4%
35-44	3	22	77	36	138	2.2%	15.9%	18.1%
45-54	2	28	123	52	205	1.0%	13.7%	14.6%
55-64	4	21	116	44	185	2.2%	11.4%	13.5%
65 and older	2	10	27	22	61	3.3%	16.4%	19.7%
No helmet indicated	**92**	**391**	**1,584**	**667**	**2,734**	**3.4%**	**14.3%**	**17.7%**
Under 16	1	11	77	25	114	0.9%	9.6%	10.5%
16-20	3	19	154	57	233	1.3%	8.2%	9.4%
21-24	5	28	141	80	254	2.0%	11.0%	13.0%
25-34	19	76	257	125	477	4.0%	15.9%	19.9%
35-44	27	91	335	133	586	4.6%	15.5%	20.1%
45-54	28	109	361	137	635	4.4%	17.2%	21.6%
55-64	8	50	198	92	348	2.3%	14.4%	16.7%
65 and older	1	7	61	18	87	1.1%	8.0%	9.2%
Gender								
Male	**99**	**428**	**1727**	**868**	**3,122**	**3.2%**	**13.7%**	**16.9%**
Operator	96	418	1672	858	3,044	3.2%	13.7%	16.9%
Injured occupant	3	10	55	10	78	3.8%	12.8%	16.7%
Female	**11**	**101**	**431**	**56**	**599**	**1.8%**	**16.9%**	**18.7%**
Operator	4	39	198	52	293	1.4%	13.3%	14.7%
Injured occupant	7	62	233	4	306	2.3%	20.3%	22.5%
Type of individual								
Operator	100	457	1870	911	3,338	3.0%	13.7%	16.7%
Injured occupant	10	72	288	14	384	2.6%	18.8%	21.4%
Operators' license status								
Motorcycle/endorsement	51	210	892	496	1,649	3.1%	12.7%	15.8%
Other operator license	46	187	719	309	1,261	3.6%	14.8%	18.5%
No License	3	53	226	95	377	0.8%	14.1%	14.9%
Percent with MC license	51.0%	46.7%	48.6%	55.1%	50.2%			

Source: Indiana State Police

Notes:
Non-incapacitating **includes** ***non-incapacitating*** **and** ***possible injuries.***
All other **injury status includes** ***not reported, null, refused,*** **and** ***unknown.***
Motorcycle/endorsement license status **includes** ***motorcycle, chauffeur w/MC endorsement, learner motorcycle, operators w/MC endorsement,*** **and** ***PP chauffeur w/MC endorsement.***
No helmet indicated **excludes** ***null*** **and** ***unknown*** **safety equipment types.**
Serious injury **includes** ***fatal*** **and** ***incapacitating*** **injuries.**

Figure 32. Serious injuries as percent of total motorcyclist injuries, by helmet use and age, 2010



Source: Indiana State Police

Notes:
Includes cases where *helmet use* and *age* are known
***Serious injury* includes *fatal* and *incapacitating* injuries.**

Table 54. Nature and location of injuries to motorcycle operators and passengers, by reported helmet use, 2010

Nature of injury	Location of injury						Total	Percent injuries by nature
	Neck and above	Entire body	Torso	Arms	Legs	No injury/ unknown		
No helmet indicated	**648**	**192**	**190**	**370**	**470**	**587**	**2,457**	***100%***
Burns	0	2	0	0	2	0	4	*0.2%*
Fracture/dislocation	60	20	20	74	135	0	309	*12.6%*
Internal	93	35	23	1	2	0	154	*6.3%*
Minor bleeding	156	17	4	56	46	0	279	*11.4%*
No injury/unknown	2	1	0	0	1	572	576	*23.4%*
None visible	4	1	0	1	3	11	20	*0.8%*
Other injuries	240	108	142	231	272	4	997	*40.6%*
Severe bleeding	92	7	1	7	4	0	111	*4.5%*
Severed	1	1	0	0	5	0	7	*0.3%*
Percent injuries by location	*26.4%*	*7.8%*	*7.7%*	*15.1%*	*19.1%*	*23.9%*	*100%*	
Helmet	**71**	**91**	**119**	**220**	**228**	**257**	**986**	***100%***
Burns	0	0	0	0	0	0	0	*0.0%*
Fracture/dislocation	5	9	10	49	61	0	134	*13.6%*
Internal	10	7	9	3	2	0	31	*3.1%*
Minor bleeding	12	8	1	20	21	0	62	*6.3%*
No injury/unknown	0	0	0	0	0	255	255	*25.9%*
None visible	1	4		2	2	1	10	*1.0%*
Other injuries	40	58	98	143	139	1	479	*48.6%*
Severe bleeding	2	4	1	2	2	0	11	*1.1%*
Severed	1	1	0	1	1	0	4	*0.4%*
Percent injuries by location	*7.2%*	*9.2%*	*12.1%*	*22.3%*	*23.1%*	*26.1%*	*100%*	

Source: Indiana State Police

Notes:
Other injuries* includes *abrasion, complaint of pain, contusion/bruise,* and *other.
Burns* includes *minor burn* and *severe burn.
***Location of injury* is defined as follows based on ARIES categories:**
Torso* includes *abdomen/pelvis, back,* and *chest.
Arms* includes *elbow/lower arm* and *shoulder/upper arm.
Neck and above* includes *eye, face, head,* and *neck.
Legs* includes *hip/upper leg* and *knee/lower leg/foot.
No injury/unknown* includes *null* and *invalid.
***No helmet* indicated excludes *null* and *unknown* safety equipment types.**

Table 55. Percentage of total motorcyclist fatalities by helmet use and nature and location of injuries, 2010

Helmet use/nature of injury	Location					Percent by nature	Total fatalities
	Neck and above	Entire body	Torso	Legs	No injury/ unknown		
No helmet use	**50.9%**	**20.0%**	**5.5%**	**2.7%**		***79.1%***	**87**
Fracture/dislocation	10.0%	0.9%		0.9%		*11.8%*	13
Internal	27.3%	13.6%	3.6%			*44.5%*	49
No injury/unknown	1.8%					*1.8%*	2
Other injuries	1.8%	2.7%	0.9%			*5.5%*	6
Severe bleeding	10.0%	1.8%	0.9%	0.9%		*13.6%*	15
Severed		0.9%		0.9%		*1.8%*	2
Helmet	**6.4%**	**4.5%**	**4.5%**		**0.9%**	***16.4%***	**18**
Fracture/dislocation	0.9%	1.8%				*2.7%*	3
Internal	4.5%	0.9%	1.8%			*7.3%*	8
Other injuries		0.9%	1.8%		0.9%	*3.6%*	4
Severe bleeding		0.9%	0.9%			*1.8%*	2
Severed	0.9%					*0.9%*	1
Unknown	**3.6%**	**0.9%**				***4.5%***	**5**
Internal	1.8%	0.9%				*2.7%*	3
Minor bleeding	0.9%					*0.9%*	1
Severe bleeding	0.9%					*0.9%*	1
Percent by location	***60.9%***	***25.5%***	***10.0%***	***2.7%***	***0.9%***	***100%***	
Total fatalities	**67**	**28**	**11**	**3**	**1**		**110**

Source: Indiana State Police
Note: *No helmet indicated* excludes *null* and *unknown* safety equipment types.

Table 56. Count of drivers involved in Indiana collisions, by vehicle type and license status, 2010

License status	Vehicle type						Total drivers by license status
	Motorcycle	Moped	Passenger car	Light truck	Large truck	Other vehicle types	
Valid	1,813	185	130,390	77,967	5,171	2,613	218,139
Suspended	431	299	21,596	12,797	861	264	36,248
Suspended - infraction	366	158	18,777	11,048	773	240	31,362
Suspended - misdemeanor	11	19	476	314	9	1	830
Suspended - prior	47	49	2,245	1,362	78	21	3,802
Habitual traffic violator	2	34	57	55	1	0	149
Habitual traffic violator - life	5	39	41	18	0	2	105
No license	26	71	2,174	1,066	29	16	3,382
Invalid - revoked	12	5	1,138	651	20	5	1,831
Unlicensed	14	66	1,036	415	9	11	1,551
Other status	5	8	262	174	12	5	466
Total drivers by vehicle type	**2,275**	**563**	**154,422**	**92,004**	**6,073**	**2,898**	**258,235**
Percent valid	*79.7*	*32.9*	*84.4*	*84.7*	*85.1*	*90.2*	*84.5*
Percent suspended	*18.9*	*53.1*	*14.0*	*13.9*	*14.2*	*9.1*	*14.0*
Percent habitual violater	*0.3*	*13.0*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*
Percent no license	*1.1*	*12.6*	*1.4*	*1.2*	*0.5*	*0.6*	*1.3*

Sources:
Drivers in collisions: Indiana State Police
Driver history: Indiana Bureau of Motor Vehicles
Note: *No helmet indicated* excludes *null* and *unknown* safety equipment types.

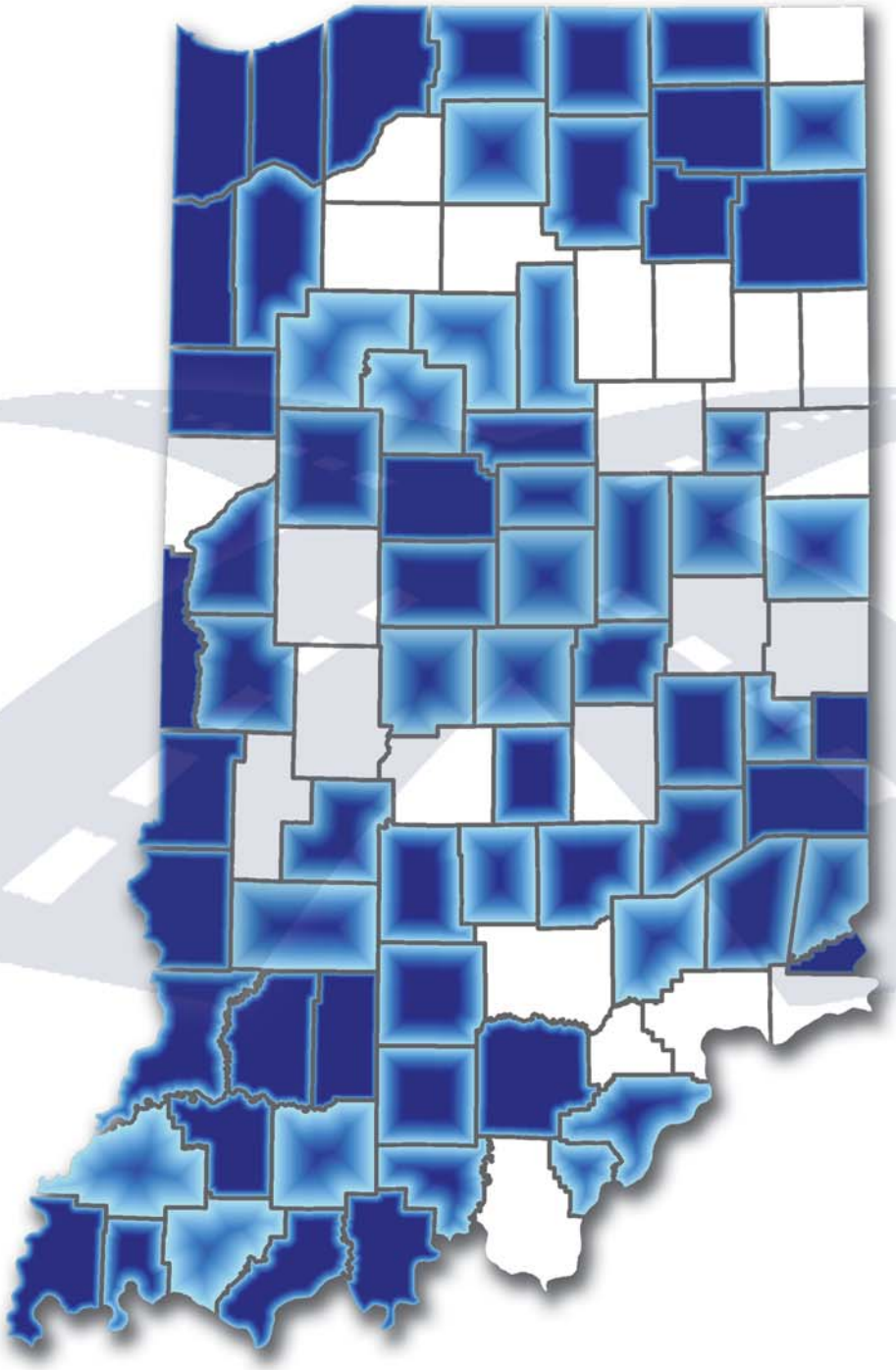
Table 57. Drivers in Indiana crashes, by vehicle type and history of traffic convictions, 2010

Vehicle type	Total drivers in crashes	Any prior convictions		Prior alcohol offenses		Prior licensing offenses		Prior speeding offenses		Other prior offenses	
		Count of drivers	Percent	Count of drivers	Percent	Count of drivers	Percent	Count of drivers	Percent	Count of drivers	Percent
Motorcycle	2,275	1,251	55.0	122	5.4	208	9.1	726	31.9	247	10.9
Moped	563	220	39.1	92	16.3	78	13.9	67	11.9	50	8.9
Passenger car	154,422	65,427	42.4	4,757	3.1	7,970	5.2	39,007	25.3	14,112	9.1
Light truck	92,004	39,171	42.6	3,178	3.5	4,121	4.5	22,365	24.3	7,610	8.3
Large truck	6,073	3,250	53.5	60	1.0	176	2.9	2,120	34.9	875	14.4
Other	2,898	976	33.7	47	1.6	51	1.8	552	19.0	190	6.6
All vehicle types	**258,235**	**110,295**	**42.7**	**8,256**	**3.2**	**12,604**	**4.9**	**64,837**	**25.1**	**23,084**	**8.9**

Sources:
Drivers in collisions: Indiana State Police
Driver history: Indiana Bureau of Motor Vehicles

Note: Limited to drivers identified within the Bureau Motor Vehicles database; *Prior convictions* include those drivers who were convicted of a traffic offense within five years of the crash date.

PEOPLE



PEOPLE, 2010

This section looks at individuals involved in Indiana fatal and non-fatal collisions in 2010 and trends from 2006 to 2010. Tables and figures summarize individuals involved (i.e., drivers, occupants, pedestrians, and pedalcyclists) by age, gender, location, type of injury, physical condition, and restraint use. More detailed information regarding drivers involved in collisions can be found in the previous CCJR publication, *Drivers, 2010.* In addition, motorcycle operators and occupants are covered in detail in a separate section of this publication.

In 2010, there were a total of 311,235 individuals involved in collisions; 95 percent of those were drivers of vehicles. Among the individuals involved in collisions were 1,796 pedestrians and 1,042 pedalcyclists. On average annually from 2006 to 2010, the number of males involved in collisions decreased 0.3 percent, while involvement of females remained consistent.

There were 754 individuals killed in collisions in 2010. Of those, 421 were drivers, 147 occupants, 110 motorcycle/moped riders (including operators and occupants), 62 pedestrians, and 14 pedalcyclists. Fatality risk is partly a function of how much protection is afforded the involved individual. Pedestrians were killed at a rate of 34.5 per 1,000 involved, and motorcyclists at 29.6. Vehicle drivers were killed at a rate of 1.4 per 1,000. Nearly 90 percent of the drivers involved in collisions were not injured.

In 2010, while the largest population age group for both males and females involved in collisions was ages 45 to 54, for each gender, those ages 18 to 20 had the highest fatality rate per 100,000 population. Males and females ages 25 to 34 had the highest numbers of non-fatal or unknown injuries, while for each gender, those ages 18 to 20 had the highest non-fatal/unknown injury rate per 100,000 population.

Drivers ages 18 to 20 years old had the highest rate of involvement in fatal collisions per 10,000 licensed drivers (2.7). Drivers ages 75 and over had the highest rate of drivers killed per 10,000 licensed (1.6). Young drivers (ages 16 to 20) generally had the highest rates of collision involvement.

The majority of drivers in fatal and in all collisions in 2010 were identified as having an apparent physical condition of *normal*. Of the drivers identified at the time of a collision as having an apparent physical condition of *had been drinking*, 61 percent were killed.

Of the drivers killed in collisions, three percent either had a learner's permit, probationary operator, or no license. Of the drivers with a commercial driver's license, 93 percent involved in collisions were not injured. Rates for motorcycle licenses are somewhat overstated because motorcycle collisions involve a substantial number of improperly licensed motorcycle operators.

The number of pedestrians and pedalcyclists (non-motorists) involved in collisions increased from 2009 to 2010 (1,719 to 1,796 and 975 to 1,042 respectively). Pedalcyclists killed doubled from 2009 to 2010 (7 to 14). For non-motorists, males ages 8 to 15 had the highest involvement in collisions, and males outnumbered females in all age groups, except for those ages 75 and over.

The majority of crashes involving non-motorists occurred in urbanized areas. Of the 62 pedestrians killed in collisions, 23 were crossing the road, but not at an intersection. Pedestrian activity on the shoulder of the road had the highest risk of fatality. Of the 14 pedalcyclists killed in collisions, 6 were either on the roadway, or riding with traffic at the time of the collision. Non-motorists generally were involved in collisions between the hours of 3pm and 7pm and on weekdays.

Overall, restraint use increased on average annually 1.4 percent from 2006 to 2010. While the numbers of persons fatally injured increased from 2009 to 2010, the proportion of those killed who were restrained decreased by three percent. In 2010, of the 565 vehicle occupants killed, only 46.5 percent were restrained. The extremes of restraint use fell into two age categories: 27 percent of vehicle occupants ages 21 to 24 who were killed were restrained, while 76 percent of those ages 75 and older who were killed were restrained. Restraint use among vehicle occupants of passenger cars involved in collisions was slightly higher than for occupants of other vehicle types. Generally, female vehicle occupants had a higher percentage of restraint use for all vehicle types than did male occupants.

Unrestrained passenger vehicle occupants were more likely to be *ejected, partially ejected*, or *pinned under* a vehicle than occupants who were restrained. Of passenger vehicle occupants *ejected*, 71 percent were not restrained, while 9 percent were restrained. Of those occupants *not ejected* or *trapped*, 54 percent were restrained, while 34 percent were not restrained.

If involved in a collision in 2010, the driver of a *passenger vehicle (passenger car, SUV, pickup truck*, or *van*) was 57 times more likely to have been killed if unrestrained than a driver who was restrained. In passenger vehicles, there were 423 drivers and 125 front seat passengers who were not restrained and were killed or suffered incapacitating injuries.

Table 58. Individuals involved in collisions in Indiana, by person type and gender, 2006-2010

	2006	2007	2008	2009	2010	Average annual % change	% change 2009-2010
Driver	**298,130**	**312,797**	**309,746**	**288,974**	**295,233**	**-0.1%**	**2.2%**
Male	166,810	177,674	174,238	160,335	164,383	-0.2%	2.5%
Female	129,598	134,284	134,886	128,024	130,259	0.2%	1.7%
Unknown gender	1,722	839	622	615	591	-20.5%	-3.9%
Injured occupant	**15,103**	**14,316**	**13,031**	**12,715**	**13,085**	**-3.4%**	**2.9%**
Male	5,820	5,553	4,994	4,811	4,984	-3.7%	3.6%
Female	9,066	8,651	8,009	7,855	8,094	-2.7%	3.0%
Unknown gender	217	112	28	49	7	-33.5%	-85.7%
Pedalcyclist	**1,024**	**1,170**	**1,100**	**975**	**1,042**	**0.9%**	**6.9%**
Male	751	906	852	785	837	3.4%	6.6%
Female	206	241	245	186	205	1.2%	10.2%
Unknown gender	67	23	3	4	0	-54.8%	-100.0%
Pedestrian	**1,637**	**1,846**	**1,898**	**1,719**	**1,796**	**2.7%**	**4.5%**
Male	918	1,029	1,088	972	1,017	2.9%	4.6%
Female	660	790	805	740	778	4.7%	5.1%
Unknown gender	59	27	5	7	1	-45.4%	-85.7%
Animal drawn vehicle operator	**na**	**na**	**na**	**6**	**79**	**na**	**na**
Male	na	na	na	5	55	na	na
Female	na	na	na	1	22	na	na
Unknown gender	na	na	na	0	2	na	na
All individuals	**315,894**	**330,129**	**325,775**	**304,389**	**311,235**	**-0.3%**	**2.2%**
Male	174,299	185,162	181,172	166,908	171,276	-0.3%	2.6%
Female	139,530	143,966	143,945	136,806	139,358	0.0%	1.9%
Unknown gender	2,065	1,001	658	675	601	-23.5%	-11.0%

Source: Indiana State Police

Note: *Animal drawn vehicle operator* was added as a person type in late 2009.

Table 59. Individuals involved in collisions, by person type and injury status, 2010

	Injury status							
Unit type/person type	Fatal	Fatalities per 1,000 total involved	Incapa-citating	Non-incapa-citating	Unknown/ other injury	Not injured	Total individuals	% not injured
Vehicle occupants								
Driver	421	1.4	1,815	28,515	2,338	258,883	291,974	88.7%
Passenger	147	11.6	767	11,445	95	247	12,701	1.9%
Motorcycle/moped riders	**110**	**29.6**	**529**	**2,158**	**25**	**900**	**3,722**	**24.2%**
Non-motorists								
Pedestrians	62	34.5	251	1,283	33	167	1,796	9.3%
Pedalcyclists	14	13.4	81	768	12	167	1,042	16.0%
TOTAL	**754**	**2.4**	**3,443**	**44,169**	**2,503**	**260,364**	**311,235**	**83.7%**

Source: Indiana State Police

Notes:
***Vehicle occupants* include *animal drawn vehicle* operators and passengers.**
Total driver count includes two persons who died from natural causes - they are not counted in the fatal column.
***Unknown/other injury* includes injury status of *not reported, unknown, refused (treatment)*, and invalid injury codes.**
***Non-incapacitating* includes *non-incapacitating* and *possible* injuries.**
Passengers are only entered into ARIES if some injury occurs, which explains the low number and percent of reported non-injury for passengers.

Table 60. Fatal and injured individuals involved in collisions, by age, gender, and injury status, 2010

Age group	Population			Fatalities			Fatalities per 100K population			Non-fatal/unknown injuries			Non-fatal/unknown injuries per 100K pop		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
< 4	183,004	175,184	358,188	5	2	7	2.7	1.1	2.0	389	373	768	212.6	212.9	214.4
4 - 7	179,066	171,020	350,086	5	1	6	2.8	0.6	1.7	428	424	854	239.0	247.9	243.9
8 - 15	357,234	342,222	699,456	12	8	20	3.4	2.3	2.9	1,263	1,441	2,707	353.5	421.1	387.0
16 - 17	93,462	88,173	181,635	11	7	18	11.8	7.9	9.9	1,410	1,671	3,082	1,508.6	1,895.1	1,696.8
18 - 20	146,760	139,751	286,511	56	22	78	38.2	15.7	27.2	2,439	2,757	5,198	1,661.9	1,972.8	1,814.2
21 - 24	182,264	175,145	357,409	52	15	67	28.5	8.6	18.7	2,359	2,589	4,951	1,294.3	1,478.2	1,385.2
25 - 34	424,914	413,974	838,888	75	30	105	17.7	7.2	12.5	4,094	4,535	8,634	963.5	1,095.5	1,029.2
35 - 44	428,615	421,547	850,162	88	22	110	20.5	5.2	12.9	3,524	3,762	7,286	822.2	892.4	857.0
45 - 54	465,936	473,235	939,171	93	31	124	20.0	6.6	13.2	3,467	3,701	7,170	744.1	782.1	763.4
55 - 64	356,841	376,175	733,016	64	16	80	17.9	4.3	10.9	2,389	2,702	5,094	669.5	718.3	694.9
65 - 74	201,454	235,218	436,672	38	29	67	18.9	12.3	15.3	1,121	1,361	2,483	556.5	578.6	568.6
75 and over	145,138	246,781	391,919	30	41	71	20.7	16.6	18.1	828	1,022	1,851	570.5	414.1	472.3
Unknown	0	0	0	0	1	1	na	na	na	21	13	37	na	na	na
TOTAL	**3,164,688**	**3,258,425**	**6,423,113**	**529**	**225**	**754**	**16.7**	**6.9**	**11.7**	**23,732**	**26,351**	**50,115**	**749.9**	**808.7**	**780.2**

Low High

Sources:
Individuals in collisions: Indiana State Police
Population: US Census Bureau, Population Estimates, State Characteristics; ***SC-EST2009-agesex-res: Annual Estimates of the Resident Population by Single-Year of Age and Sex for States: April 1,2000 to July 1, 2009.*** **Release date: June 2010. File: July 1, 2009**

Notes:
Gender totals include cases of individuals with unknown or unreported gender types, thus may not equal sum of male and female.
Non-fatal/unknown injuries **includes injury status of** ***incapacitating, non-incapacitating, possible, unknown, not reported, refused (treatment),*** **and invalid injury categories.**

Table 61. Drivers in collisions, by age and rate, 2010

Age	Licensed drivers		Drivers in fatal collisions			Drivers killed			Drivers in all collisions		
	Count	% Total	Count	% Total	Per 10,000 licensed	Count	% Total	Per 10,000 licensed	Count	% Total	Per 10,000 licensed
15	22,241	0.4%	2	0.2%	0.9	1	0.2%	0.4	347	0.1%	156.0
16 - 17	153,973	2.8%	30	2.8%	1.9	7	1.4%	0.5	15,125	5.1%	982.3
18 - 20	342,054	6.3%	91	8.4%	2.7	48	9.3%	1.4	29,905	10.2%	874.3
21 - 24	448,243	8.3%	104	9.6%	2.3	50	9.7%	1.1	31,173	10.6%	695.4
25 - 34	985,782	18.2%	190	17.6%	1.9	76	14.7%	0.8	57,219	19.5%	580.4
35 - 44	946,840	17.5%	178	16.5%	1.9	83	16.0%	0.9	49,940	17.0%	527.4
45 - 54	1,009,200	18.6%	212	19.7%	2.1	95	18.3%	0.9	48,197	16.4%	477.6
55 - 64	786,466	14.5%	124	11.5%	1.6	61	11.8%	0.8	34,418	11.7%	437.6
65 - 74	440,348	8.1%	81	7.5%	1.8	52	10.0%	1.2	16,723	5.7%	379.8
75 and over	290,096	5.3%	66	6.1%	2.3	45	8.7%	1.6	10,985	3.7%	378.7
Total	**5,425,243**	**100.0%**	**1,078**	**100.0%**	**2.0**	**518**	**100.0%**	**1.0**	**294,032**	**100.0%**	**542.0**

Low High

Sources:
Drivers in collisions: Indiana State Police
Licensed drivers: Indiana Bureau of Motor Vehicles

Table 62. Drivers involved in collisions, by apparent physical condition, and injury status, 2010

Apparent physical condition	In fatal collisions				In all collisions	In fatal collisions as % all collisions
	Killed	Survived	Total involved	Killed as % total involved		
Normal	153	445	598	25.6%	278,379	0.2%
Had been drinking	68	43	111	61.3%	7,287	1.5%
Handicapped	1	0	1	100.0%	311	0.3%
Illness	20	5	25	80.0%	1,599	1.6%
Asleep/fatigued	9	13	22	40.9%	2,820	0.8%
On drugs/medication	23	17	40	57.5%	1,243	3.2%
Other/unknown	277	43	320	86.6%	3,255	9.8%
Total	**518**	**560**	**1,078**	**48.1%**	**294,032**	**0.4%**

Source: Indiana State Police
Note: A driver can be assigned more than one condition type; totals will not match actual unique individual totals.

Table 63. Drivers involved in collisions, by license type and injury status, 2010

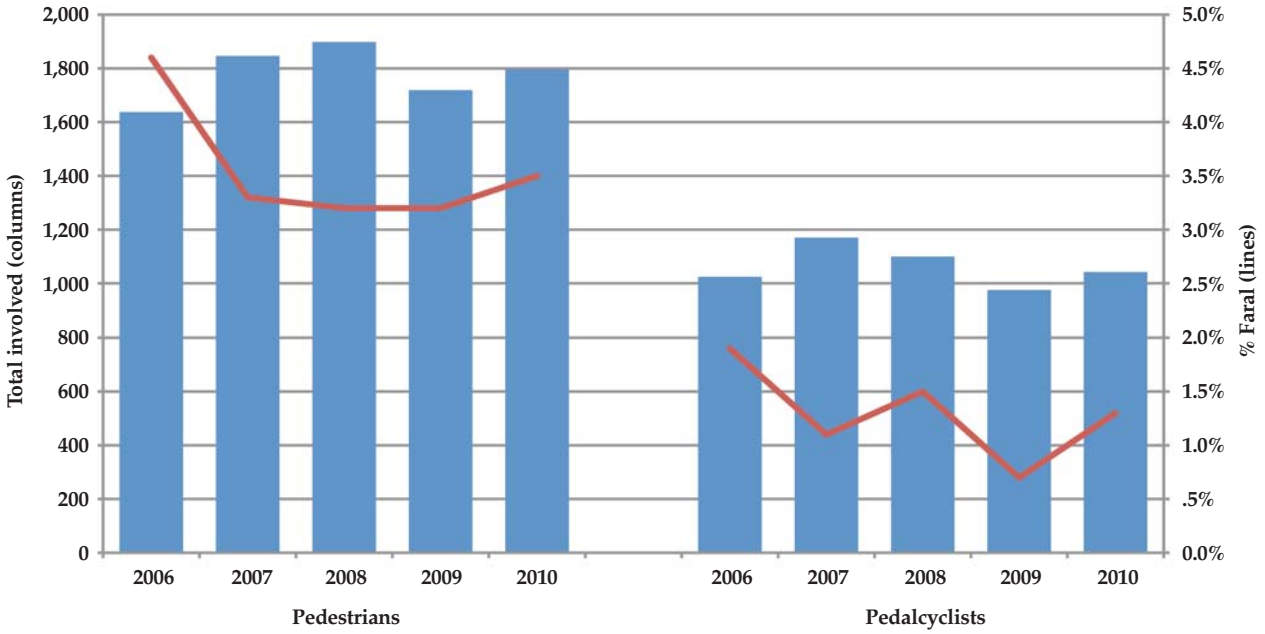
License type	Driver injury status								
	Fatal	% of total fatal	Incapa-citating	Non-inca-pacitating	Unknown/ other	No injury	% not injured	Total	Fatal, as % overall total
Operator	414	79.9%	1,760	26,522	2,021	227,549	88.1%	258,268	0.2%
Commercial driver	18	3.5%	73	806	131	14,798	93.5%	15,826	0.1%
Motorcycle	62	12.0%	247	1,321	59	5,403	76.2%	7,092	0.9%
Chauffeur	9	1.7%	29	409	29	4,009	89.4%	4,485	0.2%
No license	7	1.4%	99	680	37	3,497	80.9%	4,320	0.2%
Learner permit	7	1.4%	36	307	13	1,468	80.2%	1,831	0.4%
Probationary operator	1	0.2%	5	118	14	1,083	88.7%	1,221	0.1%
Unknown license type	0	0.0%	13	113	32	922	85.4%	1,080	0.0%
Total	**518**	**100.0%**	**2,262**	**30,276**	**2,336**	**258,729**	**88.0%**	**294,123**	**0.2%**

Low High

Source: Indiana State Police

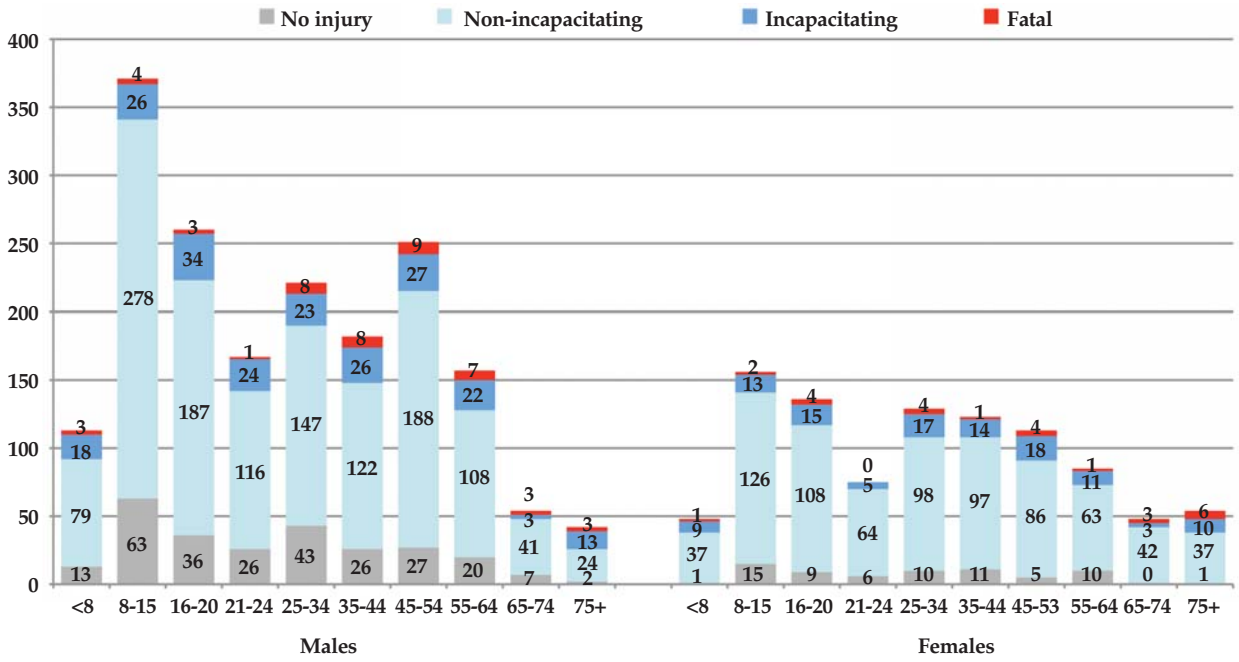
Notes:
Operator total includes two persons who died from natural causes; they are not listed in the fatal column.
Chauffeur* includes *chauffeur* and *public passenger chauffeur license.
Motorcycle* includes *motorcycle, chauffeur with MC endorsement, operators with MC endorsement,* and *public passenger chauffer with MC endorsement.
Learner permit* includes *learner permit, drivers education learners permit,* and *learner motorcycle.
***Non-incapacitating* includes *non-incapacitating* and *possible* injuries.**

Figure 33. Pedestrians and pedalcyclists involved in collisions, 2006-2010



Source: Indiana State Police

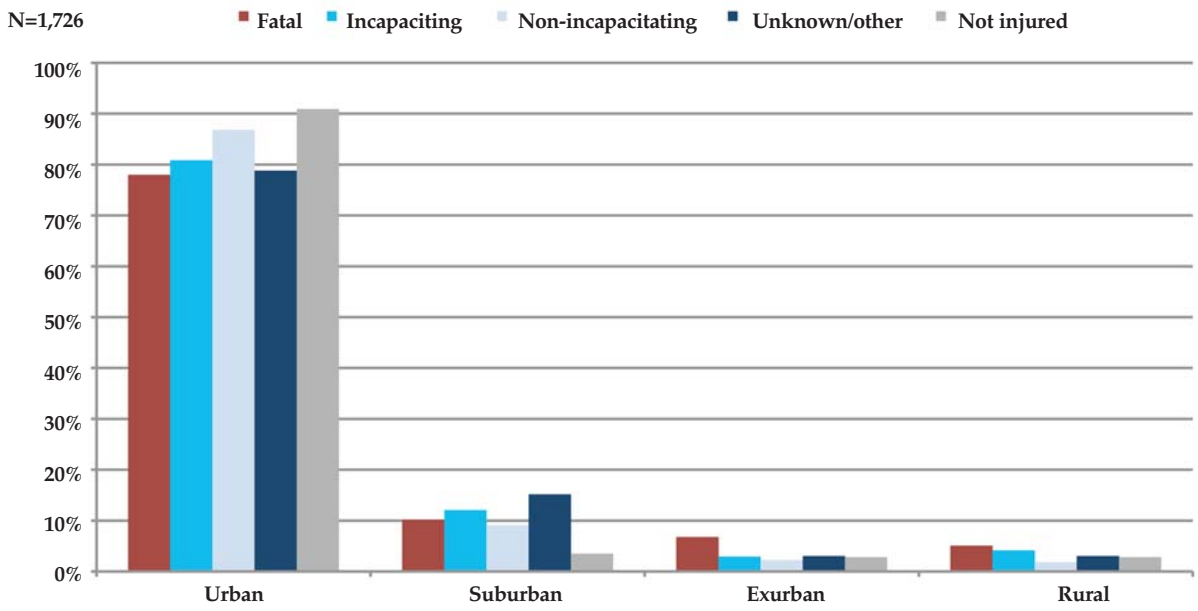
Figure 34. Non-motorists involved in motor vehicle collisions, by age, gender, and injury status, 2010



Source: Indiana State Police

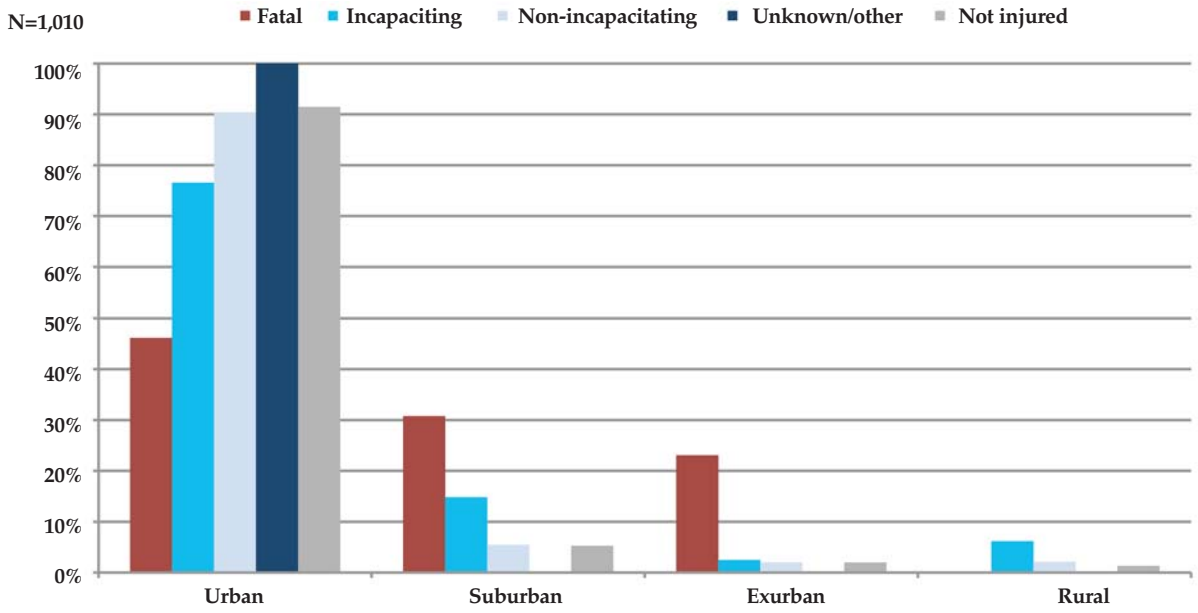
Notes:
Excludes non-motorists with missing or invalid ages or gender and unknown injuries.
Non-incapacitating includes injury statuses reported as *non-incapacitating* and *possible*.

Figure 35. Pedestrians involved in collisions, by injury status and locale, 2010



Source: Indiana State Police
Note: Excludes *pedestrians* where locale was unknown.

Figure 36. Pedalcyclists involved in collisions, by injury status and locale, 2010



Source: Indiana State Police
Note: Excludes *pedalcyclists* where locale was unknown.

Table 64. Pedestrians involved in motor vehicle collisions, by pedestrian action, 2010

Pedestrian action	Fatalities	Survivors	Total involved	% Fatal
On shoulder	5	39	44	11.4%
Crossing not at intersection	23	283	306	7.5%
Working	2	31	33	6.1%
On roadway	14	229	243	5.8%
Against traffic	2	33	35	5.7%
With traffic	2	37	39	5.1%
Unknown	2	59	61	3.3%
Not in roadway	3	113	116	2.6%
Getting in/out of vehicle	1	39	40	2.5%
Other	4	254	258	1.6%
Crossing at intersection	3	330	333	0.9%
Moving	1	134	135	0.7%
Standing	0	124	124	0.0%
Getting off/on school bus	0	4	4	0.0%
On designated non-motorist lane	0	25	25	0.0%
Total	**62**	**1,734**	**1,796**	**3.5%**

Source: Indiana State Police

Table 65. Pedalcyclists involved in motor vehicle collisions, by action, 2010

Action	Fatalities	Survivors	Total involved	% Fatal
With traffic	3	64	67	4.5%
Unknown	1	22	23	4.3%
Against traffic	2	63	65	3.1%
Crossing not at intersection	2	98	100	2.0%
On roadway	3	150	153	2.0%
Other	1	83	84	1.2%
Moving	1	122	123	0.8%
Crossing at intersection	1	350	351	0.3%
On shoulder	0	14	14	0.0%
Not in roadway	0	37	37	0.0%
Standing	0	4	4	0.0%
On designated non-motorist lane	0	21	21	0.0%
Total	**14**	**1,028**	**1,042**	**1.3%**

Source: Indiana State Police

Table 66. Non-motorists involved in collisions, by time of day and day of week, 2010

	Sun	Mon	Tues	Wed	Thur	Fri	Sat	Total by hour	% by hour
12am-	16	4	4	5	5	7	11	52	1.8%
1am-	9	3	2	2	3	2	5	26	0.9%
2am-	10	3	0	1	6	4	10	34	1.2%
3am-	7	4	1	1	4	9	11	37	1.3%
4am-	2	2	5	2	2	1	0	14	0.5%
5am-	1	1	6	3	5	5	2	23	0.8%
6am-	1	4	15	8	9	11	3	51	1.8%
7am-	3	23	22	26	22	15	3	114	4.0%
8am-	6	11	14	18	24	13	7	93	3.3%
9am-	2	13	13	17	14	19	14	92	3.2%
10am-	8	14	17	8	17	14	17	95	3.3%
11am-	12	16	29	16	21	16	17	127	4.5%
12pm-	20	20	28	21	16	16	19	140	4.9%
1pm-	13	18	30	17	24	28	26	156	5.5%
2pm-	25	25	30	27	25	34	20	186	6.6%
3pm-	20	33	41	38	38	42	25	237	8.4%
4pm-	27	33	43	37	45	48	19	252	8.9%
5pm-	21	46	42	48	51	38	25	271	9.5%
6pm-	35	34	35	19	38	25	23	209	7.4%
7pm-	20	36	28	25	24	37	26	196	6.9%
8pm-	18	23	27	23	20	20	26	157	5.5%
9pm-	7	19	16	16	24	21	21	124	4.4%
10pm-	9	13	18	8	12	15	17	92	3.2%
11pm-	5	9	6	10	11	9	10	60	2.1%
Total	**297**	**407**	**472**	**396**	**460**	**449**	**357**	**2,838**	**100%**
% by day	**10.5%**	**14.3%**	**16.6%**	**14.0%**	**16.2%**	**15.8%**	**12.6%**	**100%**	

Source: Indiana State Police

Note: Excludes non-motorists (*pedestrians, pedalcyclists*) with unknown time of day or day of week.

Table 67. Vehicle occupants involved in traffic collisions, by restraint use and injury status, 2006-2010

Individuals	2006	2007	2008	2009	2010	Average annual % change	% change 2009-2010
All occupants	**309,580**	**322,929**	**318,311**	**297,800**	**304,246**	**-0.3%**	**2.2%**
% restrained	85.6%	89.0%	90.2%	90.0%	90.6%	1.4%	0.6%
Fatal injuries	**695**	**698**	**607**	**519**	**565**	**-4.6%**	**8.9%**
% restrained	39.4%	43.4%	44.0%	48.0%	46.5%	4.4%	-3.0%
Incapacitating injuries	**3,021**	**2,786**	**2,588**	**2,433**	**2,576**	**-3.7%**	**5.9%**
% restrained	63.6%	64.8%	71.4%	71.5%	73.6%	3.8%	3.0%
Non-incapacitating injuries	**47,475**	**44,343**	**40,769**	**39,385**	**39,899**	**-4.2%**	**1.3%**
% restrained	82.0%	85.6%	87.3%	87.2%	88.4%	1.9%	1.4%
Unknown/other injuries	**21,665**	**8,411**	**5,818**	**4,075**	**2,425**	**-40.6%**	**-40.5%**
% restrained	84.2%	85.0%	88.5%	93.3%	88.3%	1.3%	-5.3%
Not injured	**236,724**	**266,691**	**268,529**	**251,388**	**258,779**	**2.5%**	**2.9%**
% restrained	86.8%	90.1%	91.0%	90.7%	91.2%	1.2%	0.6%

Source: Indiana State Police

Notes:
Excludes unit types of *farm vehicles, motorcycles* and *mopeds* and two persons who died from natural causes in 2010.
***Restraint use* includes the use of one of the following: *Lap belt only, harness, airbag deployed and harness, Child restraint,* or *lap and harness*.**
***Non-incapacitating injuries* include those injuries reported as *non-incapacitating* or *possible*.**
***Unknown/other injuries* include *not reported, unknown, refused* (treatment), and invalid injury codes.**
***Not injured* includes individuals reported with blank values in the injury status code field.**

Table 68. Vehicle occupants involved in collisions, by age, restraint use, and injury severity, 2010

	Injury status					
Age group	Fatal	Incapacitating	Non-incapacitating	Unknown/other injury	Not injured	Total
<16	**21**	**153**	**3,403**	**61**	**1,139**	**4,777**
% restrained	57.1%	70.6%	85.9%	75.4%	48.8%	76.3%
16 - 17	**15**	**140**	**2,552**	**168**	**13,199**	**16,074**
% restrained	33.3%	65.7%	85.7%	86.9%	91.4%	90.2%
18 - 20	**69**	**249**	**4,287**	**273**	**26,165**	**31,043**
% restrained	40.6%	67.5%	85.5%	85.7%	90.9%	89.8%
21 - 24	**59**	**275**	**3,977**	**223**	**27,411**	**31,945**
% restrained	27.1%	68.0%	84.6%	87.9%	90.9%	89.8%
25 - 34	**72**	**496**	**6,920**	**463**	**50,212**	**58,163**
% restrained	31.9%	70.6%	87.1%	86.4%	91.2%	90.4%
35 - 44	**71**	**367**	**5,737**	**382**	**43,854**	**50,411**
% restrained	43.7%	73.8%	89.2%	87.4%	91.4%	90.9%
45 - 54	**79**	**355**	**5,495**	**361**	**42,171**	**48,462**
% restrained	50.6%	78.6%	90.9%	92.2%	91.8%	91.6%
55 - 64	**60**	**263**	**3,970**	**255**	**30,107**	**34,656**
% restrained	48.3%	81.4%	92.8%	90.6%	92.0%	91.9%
65 - 74	**57**	**163**	**1,994**	**138**	**14,705**	**17,057**
% restrained	56.1%	81.6%	93.5%	95.7%	91.8%	91.8%
75 and over	**62**	**114**	**1,541**	**94**	**9,580**	**11,391**
% restrained	75.8%	82.5%	92.3%	94.7%	91.9%	91.8%

Source: Indiana State Police

Notes:
Includes only individuals with valid age.
Excludes unit types of *farm vehicles, motorcycles, mopeds, animal drawn vehicles, bicycles,* and *pedestrians*.
***Restraint use* includes the use of one of the following: *Lap belt only, harness, airbag deployed and harness, child restraint,* or *lap and harness*.**
***Non-incapacitating injuries* include those injuries reported as *non-incapacitating* or *possible*.**
***Unknown/other injuries* include *not reported, unknown, refused* (treatment), and invalid injury codes.**
***Not injured* includes individuals reported with blank values in the injury status code field (mainly drivers in property damage only collisions).**

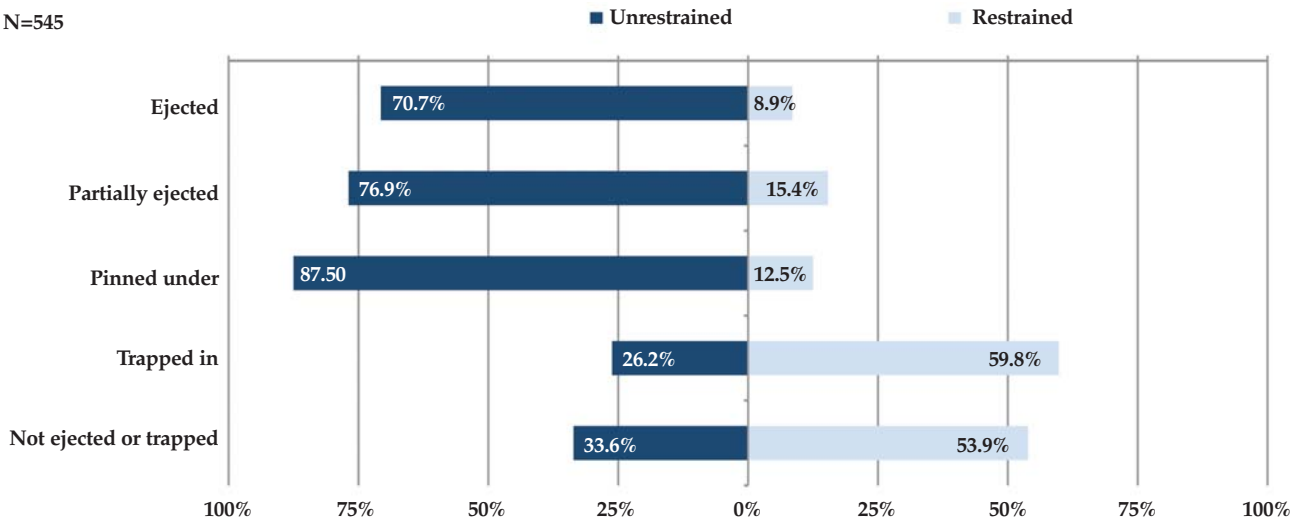
Table 69. Vehicle occupants killed and injured in collisions, by restraint use, vehicle type, and gender, 2010

Vehicle type	Fatal		Non-fatal injury		
	Male	Female	Male	Female	Total
Buses	**3**	**0**	**133**	**208**	**344**
% restrained	0.0%	na	23.3%	20.7%	21.5%
Passenger cars	**208**	**132**	**10,739**	**16,444**	**27,523**
% restrained	48.1%	57.6%	85.6%	92.3%	89.2%
Pickup trucks	**80**	**15**	**3,312**	**1,329**	**4,736**
% restrained	30.0%	40.0%	78.9%	83.3%	79.2%
SUVs	**39**	**27**	**2,339**	**3,820**	**6,225**
% restrained	51.3%	55.6%	85.2%	91.1%	88.5%
Vans	**36**	**11**	**1,419**	**1,996**	**3,462**
% restrained	36.1%	63.6%	84.8%	91.4%	88.0%
Large Trucks	**12**	**0**	**519**	**27**	**558**
% restrained	16.7%	na	83.8%	66.7%	81.5%
Other vehicle types	**0**	**1**	**24**	**9**	**34**
% restrained	na	0.0%	25.0%	44.4%	29.4%

Source: Indiana State Police

Notes:
Excludes unit types of *farm vehicles, motorcycles, mopeds, animal drawn vehicle, bicycle* and *pedestrian.*
Other vehicle types* consists of *unknown, combination vehicles,* and *motor homes/RVs.
Restraint use* includes the use of one of the following: *Lap belt only, Harness, Airbag deployed and harness, Child restraint,* or *Lap and harness.
Non-fatal injury* includes injury statuses of *incapacitating, non-incapacitating,* and *possible.
na=not applicable

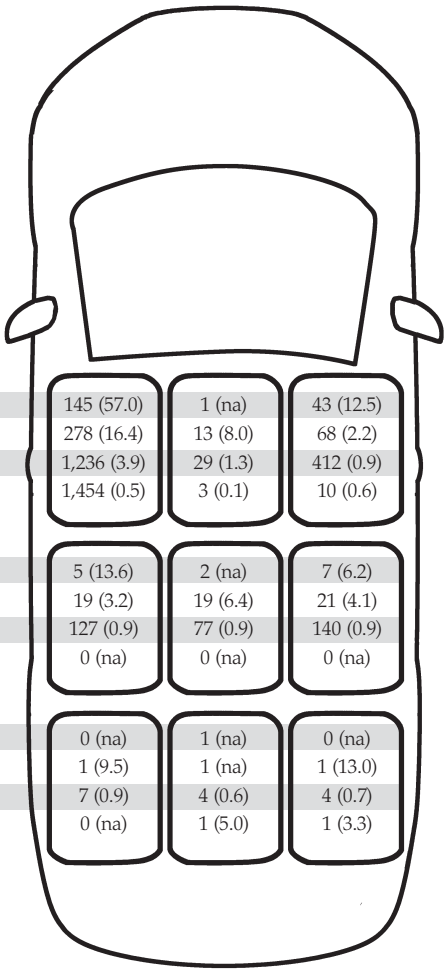
Figure 37. Passenger vehicle fatalities in traffic collisions, by ejection status and restraint use, 2010



Source: Indiana State Police

Notes:
Includes vehicle types of *passenger cars, pickup trucks, SUVs,* and *vans.*
Excludes unknown ejection status.
Percents are individuals killed known to be restrained or not restrained as a percent of the total of individuals for each ejection status. For example, 70.7 percent represents 58 individuals killed, ejected, and known not restrained of 82 individuals known to be ejected.

Figure 38. Individuals known to be unrestrained in passenger vehicles involved in collisions, by seat position, injury status, and relative risk of injury, 2010



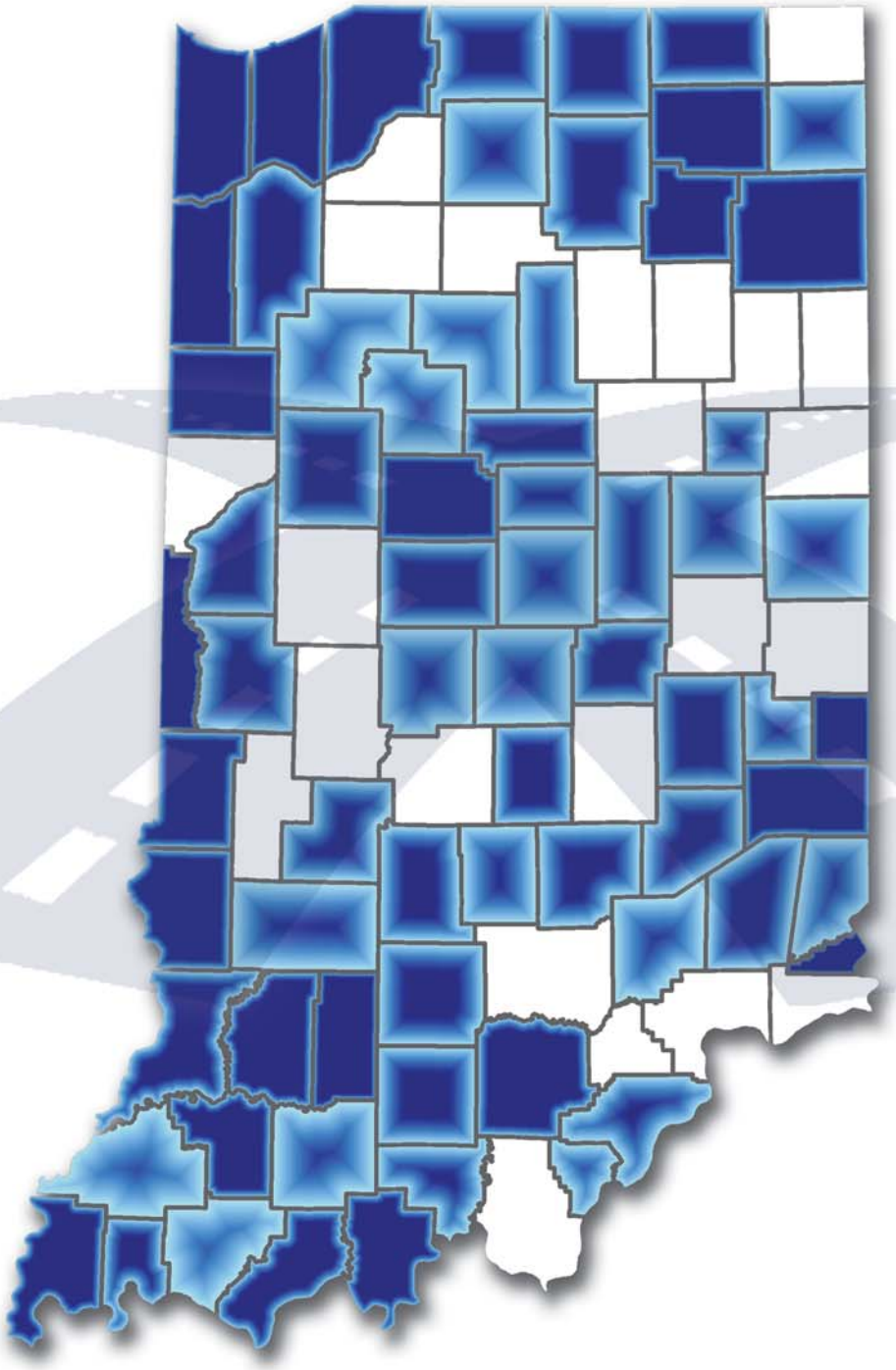
FRONT SEATS			
Fatal	145 (57.0)	1 (na)	43 (12.5)
Incapacitating	278 (16.4)	13 (8.0)	68 (2.2)
Non-incapacitating	1,236 (3.9)	29 (1.3)	412 (0.9)
No injury	1,454 (0.5)	3 (0.1)	10 (0.6)
REAR SEATS			
Fatal	5 (13.6)	2 (na)	7 (6.2)
Incapacitating	19 (3.2)	19 (6.4)	21 (4.1)
Non-incapacitating	127 (0.9)	77 (0.9)	140 (0.9)
No injury	0 (na)	0 (na)	0 (na)
THIRD ROW			
Fatal	0 (na)	1 (na)	0 (na)
Incapacitating	1 (9.5)	1 (na)	1 (13.0)
Non-incapacitating	7 (0.9)	4 (0.6)	4 (0.7)
No injury	0 (na)	1 (5.0)	1 (3.3)

Unrestrained in pickup bed
1 Fatal
2 Incapacitating
7 Non-incapacitating

Source: Indiana State Police

Notes:
Calculations include only individuals where injury status, restraint use and seat position were known.
Excludes positions of *outside left, outside center, outside right,* and *outside rear.*
Numbers shown represent the number of known unrestrained persons in each seat position and the relative risk of injury (in parenthesis) for that injury and seat position if unrestrained.
Relative risk of injury is defined as the ratio of persons who incurred the injury given they were unrestrained, to those who incurred the injury given they were restrained.
Includes persons in passenger vehicles only (*passenger cars, SUVs, vans, pickup trucks*) and where restraint use is known.
na = not applicable; there were no persons in that seat position or no persons in that seat position restrained.

ALCOHOL



ALCOHOL, 2010

In 2010, there were 130 fatal crashes and 135 fatalities involving a vehicle driver legally impaired by alcohol (blood alcohol content at or above .08 g/dL). As a share of all fatal crashes, those involving an impaired driver declined over five percent annually since 2006 and 17 percent from 2009 to 2010. The incidence of alcohol impairment among drivers in fatal crashes decreased 2.3 percent annually since 2001 and over nine percent annually since 2006. The incidence of alcohol-impaired drivers ages 25-34 in fatal crashes decreased fastest among all age groups from 2006 to 2010. However, the number of alcohol impaired drivers ages 21 to 24 years increased 41 percent from 2009 to 2010.

Young males have traditionally been and continue to be the most frequent and likely to have been impaired in crashes among age and gender categories. Per 10,000 licensed drivers, males ages 21 to 24 and males ages 25 to 34 had the highest rates of alcohol impairment in traffic crashes in 2010. Twenty-six percent of all males ages 21 to 24 in fatal crashes were impaired. This rate is nearly twice that of females in the same age group. In general, about one of every 44 males and one of every 111 females involved in crashes were legally impaired.

Continuing a five-year trend, about seven of every 10 drivers involved in fatal crashes in Indiana were tested for alcohol consumption. Among those with positive results in 2010, 87 percent of drivers were legally impaired. Testing rates are generally higher for younger drivers and for drivers in more severe crashes. Over 75 percent of fatally injured drivers between the ages of 21 and 34 were tested for alcohol, compared to an average of about 57 percent for drivers over age 45. Among drivers killed in Indiana crashes in 2010, the likelihood of those drivers being impaired by alcohol was highest for the 21-to-24 year old age group. One in every five drivers killed in crashes in 2010 had a BAC result of 0.15 g/dL or above.

Fatalities in crashes involving an impaired driver were most common on local/city roads and county roads. In 2010, about 26 percent of all fatalities on local roads involved an impaired driver. In addition, alcohol-impaired fatalities were most common in urban areas (45 percent), and represented the highest proportion of total fatalities of any geographic locality.

In 2010 the months of March, May, August, and October had the highest rates of fatalities and injuries in crashes involving alcohol impaired drivers. In May 2010, 21 people were killed in alcohol-impaired crashes, about 35 percent of all fatalities for that month. Broken down by day of the week and time of day, the probability that drivers in crashes were alcohol-impaired are highest on weekend nights, with 21-to-24 year olds having the greatest likelihoods of alcohol impairment.

In 2010, about half of all alcohol-impaired drivers were in single-vehicle collisions, compared to 19 percent of non-impaired drivers. Drivers under age 24 have even higher rates of single-vehicle crashes when impaired (about 61 to 65 percent). Impaired drivers were much more likely than all drivers to have collided with something other than another vehicle. Nearly half of all impaired drivers in fatal crashes collided with a fixed object, compared to just 17 percent of drivers generally.

Regardless of crash severity, motorcycle and moped operators have the highest rates of alcohol-impaired driving in crashes of any vehicle class. In 2010, about one in every five motorcycle operators and one in every four moped operators in fatal crashes were legally impaired. More generally, one in every 25 motorcyclists and one in 14 moped operators in crashes were legally impaired by alcohol.

Table 70. Indiana fatal crashes and fatalities involving an alcohol-impaired driver, 2001-2010

Year	Count of fatal crashes			Count of fatalities		
	Alcohol-impaired	Total	Impaired as % of total	Alcohol-impaired	Total	Impaired as % of total
2001	161	825	19.5	176	909	19.4
2002	168	714	23.5	185	792	23.4
2003	157	753	20.8	177	833	21.2
2004	181	857	21.1	204	947	21.5
2005	185	855	21.6	207	938	22.1
2006	190	820	23.2	204	902	22.6
2007	172	804	21.4	190	898	21.2
2008	164	727	22.6	182	820	22.2
2009	142	632	22.5	150	693	21.6
2010	130	701	18.5	135	754	17.9
Annualized rate of change (%)						
2001-10	-2.3	-1.8	-0.6	-2.9	-2.1	-0.9
2006-10	-9.1	-3.8	-5.4	-9.8	-4.4	-5.7
2009-10	-8.5	10.9	-17.5	-10.0	8.8	-17.3

Sources: Fatality Analysis Reporting System (2001-9); Indiana State Police (2010)

Table 71. Alcohol-impaired drivers in Indiana fatal crashes by driver age, 2001-2010

Year	Under 15 years	15 to 20 years	21 to 24 years	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 years and older	Total
2001	1	19	33	35	40	27	7	3	-	165
2002	-	22	30	38	46	23	8	2	2	171
2003	-	15	36	31	42	24	8	4	1	161
2004	-	30	26	54	34	31	5	1	1	182
2005	-	20	30	49	42	34	10	1	1	187
2006	-	17	40	59	51	17	12	1	-	197
2007	-	20	30	45	30	34	9	4	-	172
2008	-	19	28	51	25	31	10	1	1	166
2009	-	10	17	47	40	21	10	-	-	145
2010	1	9	24	30	33	27	7	2	-	133
Annual rates of change (%)										
2001-10	-	-8.0	-3.5	-1.7	-2.1	-	-	-4.4	n/a	-2.4
2006-10	n/a	-14.7	-12.0	-15.6	-10.3	12.3	-12.6	18.9	n/a	-9.4
2009-10	n/a	-10.0	41.2	-36.2	-17.5	28.6	-30.0	n/a	n/a	-8.3

Sources: Fatality Analysis Reporting System (2001-9); Indiana State Police (2010)

Table 72. Indiana crashes and injuries in crashes involving alcohol-impaired drivers, 2006-2010

Crashes involving an alcohol-impaired driver

	Count of crashes					Annual rate of change (%)	
Crash severity	**2006**	**2007**	**2008**	**2009**	**2010**	**2006-10**	**2009-10**
Fatal	183	169	156	119	130	-8.2	9.2
Incapacitating	139	95	77	126	212	11.1	68.3
Non-incapacitating	1,294	1,048	804	1,078	1,288	-0.1	19.5
Property damage	3,087	2,688	2,362	2,838	3,275	1.5	15.4
Total	**4,703**	**4,000**	**3,399**	**4,161**	**4,905**	**1.1**	**17.9**

Individuals injured in crashes involving an alcohol-impaired driver

	Count of injuries					Annual rate of change (%)	
Injury status	**2006**	**2007**	**2008**	**2009**	**2010**	**2006-10**	**2009-10**
Fatal	198	186	173	126	135	-9.1	7.1
Incapacitating	189	134	100	153	261	8.4	70.6
Non-incapacitating	1,825	1,534	1,172	1,494	1,818	-0.1	21.7
Total	**2,212**	**1,854**	**1,445**	**1,773**	**2,214**	**0.0**	**24.9**

Source: Indiana State Police

Table 73. Drivers in Indiana crashes by age, gender, and alcohol impairment, 2010

Drivers involved in fatal crashes

	Females			Males			All drivers		
Driver age	**Alcohol-impaired**	**Total involved**	**% impaired**	**Alcohol-impaired**	**Total involved**	**% impaired**	**Alcohol-impaired**	**Total involved**	**% impaired**
Under 15 years	-	1	-	1	3	33.3	1	5	20.0
15 to 20 years	-	32	-	9	91	9.9	9	123	7.3
21 to 24 years	3	22	13.6	21	82	25.6	24	104	23.1
25 to 34 years	4	61	6.6	26	129	20.2	30	190	15.8
35 to 44 years	3	42	7.1	30	136	22.1	33	178	18.5
45 to 54 years	2	53	3.8	25	159	15.7	27	212	12.7
55 to 64 years	-	24	-	7	100	7.0	7	124	5.6
65 to 74 years	-	26	-	2	55	3.6	2	81	2.5
75 years and older	-	31	-	-	35	-	-	66	-
Unknown age	-	-	-	-	-	-	-	-	-
Total	**12**	**292**	**4.1**	**121**	**790**	**15.3**	**133**	**1,083**	**12.3**

Drivers involved in all crashes

	Females			Males			All drivers		
Driver age	**Alcohol-impaired**	**Total involved**	**% impaired**	**Alcohol-impaired**	**Total involved**	**% impaired**	**Alcohol-impaired**	**Total involved**	**% impaired**
Under 15 years	1	228	0.4	10	422	2.4	11	955	1.2
15 to 20 years	88	20,944	0.4	324	24,394	1.3	413	45,377	0.9
21 to 24 years	220	14,506	1.5	729	16,659	4.4	949	31,173	3.0
25 to 34 years	337	25,948	1.3	996	31,248	3.2	1,333	57,219	2.3
35 to 44 years	247	21,834	1.1	727	28,090	2.6	974	49,940	2.0
45 to 54 years	207	20,536	1.0	593	27,646	2.1	801	48,197	1.7
55 to 64 years	57	14,242	0.4	289	20,163	1.4	346	34,418	1.0
65 to 74 years	14	7,016	0.2	71	9,704	0.7	85	16,723	0.5
75 years and older	2	4,979	0.0	14	5,980	0.2	16	10,985	0.1
Unknown age	-	26	-	-	77	-	-	246	-
Total	**1,173**	**130,259**	**0.9**	**3,753**	**164,383**	**2.3**	**4,928**	**295,233**	**1.7**

Source: Indiana State Police

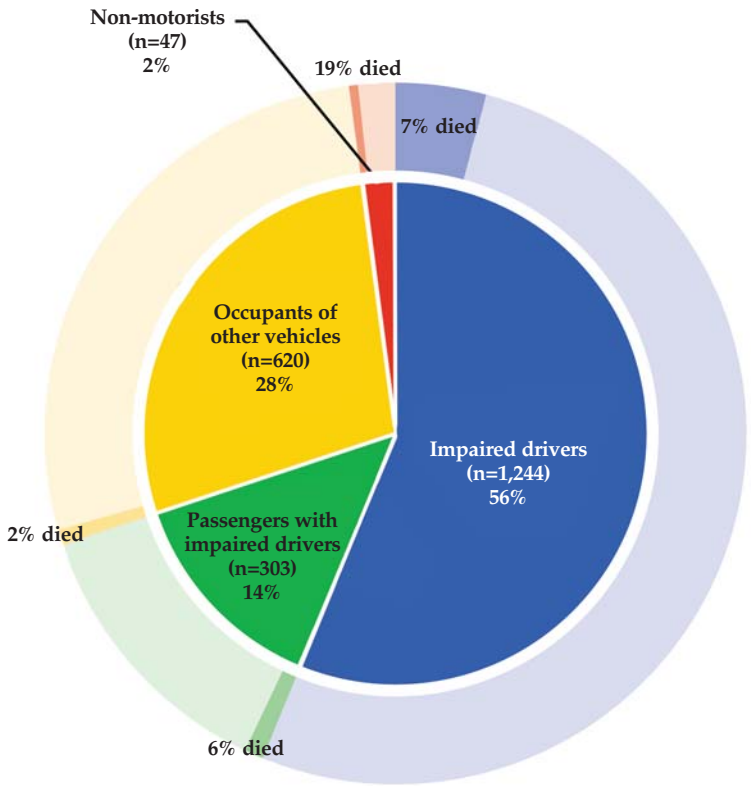
Note: *All drivers* includes cases where gender information was not reported.

Table 74. Rate of alcohol-impaired drivers involved in Indiana crashes per 10,000 licenses, by age and gender, 2010

Driver age	Females			Males			All drivers		
	Alcohol-impaired in crashes	Total licensed (000s)	Rate per 10K licensed	Alcohol-impaired in crashes	Total licensed (000s)	Rate per 10K licensed	Alcohol-impaired in crashes	Total licensed (000s)	Rate per 10K licensed
15 to 20 years	88	247	3.6	324	271	11.9	413	518	8.0
21 to 24 years	220	225	9.8	729	223	32.7	949	448	21.2
25 to 34 years	337	495	6.8	996	491	20.3	1,333	986	13.5
35 to 44 years	247	472	5.2	727	475	15.3	974	947	10.3
45 to 54 years	207	508	4.1	593	501	11.8	801	1,009	7.9
55 to 64 years	57	398	1.4	289	388	7.4	346	786	4.4
65 to 74 years	14	230	0.6	71	211	3.4	85	440	1.9
75 years and older	2	162	0.1	14	129	1.1	16	290	0.6
Total	**1,172**	**2,736**	**4.3**	**3,743**	**2,689**	**13.9**	**4,917**	**5,425**	**9.1**

Sources: Indiana State Police; Indiana Bureau of Motor Vehicles
Note: *All drivers* includes cases where gender information was not reported.

Figure 39. Individuals injured in crashes involving an alcohol-impaired driver, by person type and injury severity, 2010



Inner pie: Classes of people injured
Outer ring: Percent of class that died

Source: Indiana State Police
Note: Limited to individuals with *fatal, incapacitating, non-incapacitating,* or *possible* injuries.

Table 75. Drivers involved in Indiana fatal crashes, by substance test results and injury status, 2006-2010

	Surviving drivers					Killed drivers				
Count of drivers	**2006**	**2007**	**2008**	**2009**	**2010**	**2006**	**2007**	**2008**	**2009**	**2010**
Total in fatal crashes	**631**	**610**	**561**	**500**	**563**	**609**	**626**	**554**	**491**	**520**
By test type given										
Alcohol/drug	422	422	417	316	410	394	435	390	315	341
Refused	2	-	-	-	1	-	-	-	-	-
None	190	99	101	94	47	202	92	112	124	62
Not reported	17	89	43	90	105	13	99	52	52	117
Tested, as % all	67%	69%	74%	63%	73%	65%	69%	70%	64%	66%
By BAC result (g/dL)										
Not reported	257	258	172	250	224	262	244	188	239	238
Reported	374	352	389	250	339	347	382	366	252	282
.00	315	305	337	215	292	185	229	229	136	176
.01+	59	47	52	35	47	162	153	137	116	106
.08+	49	34	38	26	41	141	136	121	96	92
.15+	25	22	24	17	31	102	107	84	67	64
Reported, as % all	59%	58%	69%	50%	60%	57%	61%	66%	51%	54%
.01+ as % reported	16%	13%	13%	14%	14%	47%	40%	37%	46%	38%
.08+ as % positive	83%	72%	73%	74%	87%	87%	89%	88%	83%	87%
.15+ as % positive	42%	47%	46%	49%	66%	63%	70%	61%	58%	60%

Source: Indiana State Police

Table 76. Drivers in crashes that were tested for alcohol or other substances, by age and injury severity, 2010

	Fatal injuries			Incapacitating injuries			Non-incapacitating injuries			Other injury status		
Driver Age	**Tested / refused**	**Total**	**Tested as % total**	**Tested / refused**	**Total**	**Tested as % total**	**Tested / refused**	**Total**	**Tested as % total**	**Tested / refused**	**Total**	**Tested as % total**
Under 15 years	1	2	50.0	2	7	28.6	3	78	3.8	15	868	1.7
15 to 20 years	42	56	75.0	57	289	19.7	349	4,911	7.1	701	40,121	1.7
21 to 24 years	38	50	76.0	62	223	27.8	392	3,178	12.3	1,221	27,722	4.4
25 to 34 years	54	76	71.1	120	478	25.1	654	5,813	11.3	1,908	50,852	3.8
35 to 44 years	63	83	75.9	103	381	27.0	490	5,064	9.7	1,392	44,412	3.1
45 to 54 years	60	95	63.2	80	401	20.0	410	4,960	8.3	1,215	42,741	2.8
55 to 64 years	41	61	67.2	41	266	15.4	206	3,551	5.8	507	30,540	1.7
65 to 74 years	28	52	53.8	21	146	14.4	61	1,626	3.8	169	14,899	1.1
75 years and older	21	45	46.7	9	78	11.5	19	1,173	1.6	54	9,689	0.6
Total	**348**	**520**	**66.9**	**495**	**2,269**	**21.8**	**2,584**	**30,354**	**8.5**	**7,182**	**261,844**	**2.7**

Source: Indiana State Police

Note: *Tested/refused* includes drivers that (1) were given an alcohol/drug test, (2) refused a test, or (3) had a positive BAC result listed on the crash report.

Table 77. Drivers killed in crashes, by blood alcohol content (BAC) test results, 2010

Driver Age	Total driver fatalities	Drivers tested	BAC results (g/dL)					Impaired (.08+) as % tested	Felony impaired (.15+) as % tested
			.00	.01 to .07	.08 to .14	.15 and above	Not reported		
Under 15 years	2	1	-	-	-	1	-	100	100
15 to 20 years	56	42	24	-	2	6	10	19.0	14.3
21 to 24 years	50	38	12	-	4	12	10	42.1	31.6
25 to 34 years	76	54	18	6	5	12	13	31.5	22.2
35 to 44 years	83	63	27	2	9	17	8	41.3	27.0
45 to 54 years	95	60	32	4	4	13	7	28.3	21.7
55 to 64 years	61	41	25	2	3	3	8	14.6	7.3
65 to 74 years	52	28	19	-	1	-	8	3.6	-
75 years and older	45	21	19	-	-	-	2	-	-
Total	**520**	**348**	**176**	**14**	**28**	**64**	**66**	**26.4**	**18.4**

Source: Indiana State Police

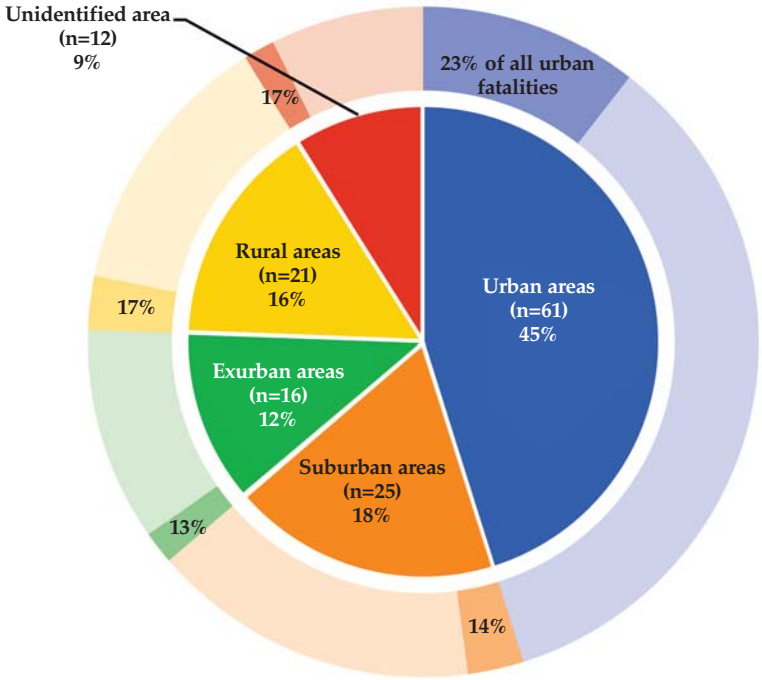
Note: *Drivers tested* includes drivers (1) given a alcohol/drug test, (2) that refused a test, or (3) had a BAC result on the crash report.

Table 78. Crashes and injuries involving an alcohol-impaired driver, by road class, 2010

Road class	Count of crashes involving an alcohol-impaired driver		Count of injuries in crashes involving an alcohol-impaired driver by injury status					
			Fatalities		Incapacitating		Non-incapacitating	
	Count	As % all crashes	Count	As % all	Count	As % all	Count	As % all
Local/city roads	2,374	2.8	49	26.2	97	8.1	832	4.0
County roads	876	3.8	36	22.0	62	10.0	338	6.1
State roads	557	2.0	23	11.6	43	5.5	271	3.3
US routes	383	2.1	16	12.7	36	7.6	182	3.4
Interstates	334	2.2	8	12.9	16	7.0	146	5.2
Not reported	381	1.7	3	18.8	7	5.0	49	3.4
Total	**4,905**	**2.5**	**135**	**17.9**	**261**	**7.6**	**1,818**	**4.1**

Source: Indiana State Police

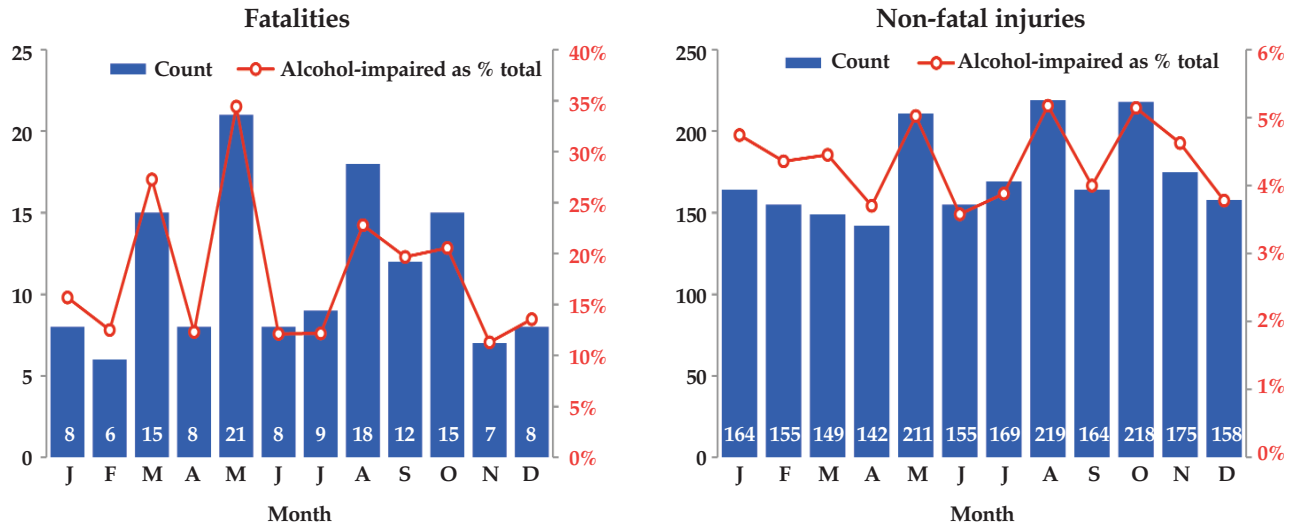
Figure 40. Fatalities in crashes involving an alcohol-impaired driver, by crash locality, 2010



Inner pie: Geographic distribution of alcohol-impaired fatalities
Outer ring: Alcohol-impaired as % all fatalities by geography

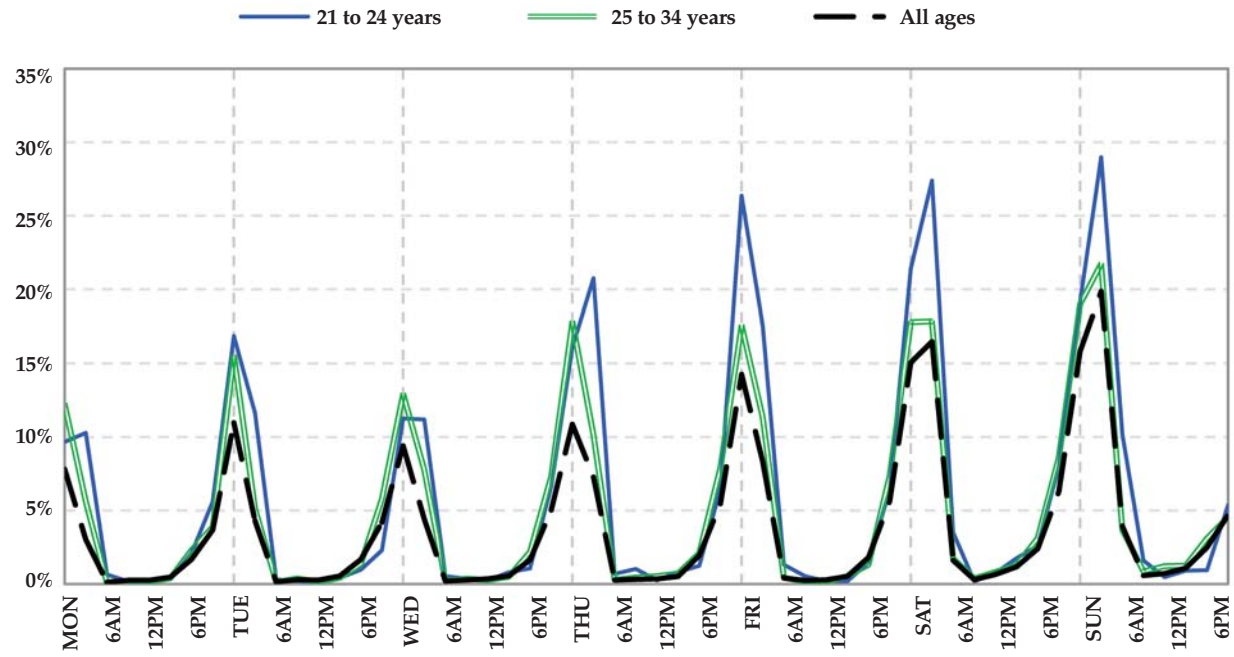
Source: Indiana State Police

Figure 41. Fatalities and injuries in crashes involving an alcohol-impaired driver, by month, 2010



Source: Indiana State Police

Figure 42. Percent of drivers that were alcohol-impaired in crashes, by age, day, and time, 2010



Source: Indiana State Police

Table 79. Drivers in Indiana crashes, by driver age, alcohol impairment, and number of vehicles involved, 2010

	Alcohol-impaired			Not alcohol-impaired		
Driver age	**Single-vehicle**	**Multiple-vehicle**	**% Single-vehicle**	**Single-vehicle**	**Multiple-vehicle**	**% Single-vehicle**
Under 15 years	3	8	27.3	223	721	23.6
15 to 20 years	271	142	65.6	9,640	35,324	21.4
21 to 24 years	580	369	61.1	6,006	24,218	19.9
25 to 34 years	710	623	53.3	10,777	45,109	19.3
35 to 44 years	495	479	50.8	9,284	39,682	19.0
45 to 54 years	368	433	45.9	8,890	38,506	18.8
55 to 64 years	156	190	45.1	5,889	28,183	17.3
65 to 74 years	28	57	32.9	2,525	14,113	15.2
75 years and older	7	9	43.8	1,330	9,639	12.1
Total	**2,618**	**2,310**	**53.1**	**54,564**	**235,495**	**18.8**

Source: Indiana State Police

Table 80. Drivers involved in Indiana crashes, by alcohol impairment, crash severity, and object collided with, 2010

	Count of impaired drivers, by crash severity					Count of all drivers, by crash severity				
Object collided with	**Fatal**	**Incapac-itating**	**Non-incap.**	**Property damage**	**Total**	**Fatal**	**Incapac-itating**	**Non-incap.**	**Property damage**	**Total**
Other vehicle	**38**	**71**	**557**	**1,546**	**2,212**	**696**	**3,103**	**43,287**	**186,891**	**233,977**
Motor vehicle	38	69	554	1,537	2,198	689	3,089	43,183	186,265	233,226
Animal drawn vehicle	-	2	1	4	7	3	8	85	572	668
Railway vehicle	-	-	2	5	7	4	6	19	54	83
Fixed object	**63**	**77**	**445**	**1,158**	**1,743**	**186**	**606**	**5,102**	**19,972**	**25,866**
Ditch	13	15	76	181	285	30	107	949	2,705	3,791
Tree	16	13	75	136	240	59	117	840	2,038	3,054
Utility pole	7	8	70	148	233	19	78	816	2,591	3,504
Curb	8	6	30	110	154	14	45	247	1,056	1,362
Guardrail face	2	3	37	59	101	9	33	315	1,617	1,974
Fence	2	2	11	79	94	4	18	168	1,205	1,395
Mailbox	-	1	12	81	94	2	20	146	1,032	1,200
Other post/support	3	2	17	71	93	7	21	213	1,614	1,855
Median barrier	-	5	14	57	76	2	29	264	1,182	1,477
Embankment	2	3	24	46	75	9	43	352	914	1,318
Wall/building/tunnel	2	3	15	45	65	6	23	161	1,006	1,196
Highway traffic sign post	1	1	9	46	57	3	3	75	761	842
Guardrail end	2	2	15	34	53	2	13	126	378	519
Light/luminaire support	-	2	9	25	36	3	6	86	514	609
Culvert	1	2	15	10	28	8	22	129	319	478
Bridge rail	2	2	6	10	20	3	5	98	403	509
Bridge pier or abutment	1	3	2	5	11	2	8	40	124	174
Impact attenuator	-	1	5	5	11	2	5	34	137	178
Work zone equipment	-	-	1	6	7	-	1	13	113	127
Bridge parapet end	-	2	1	2	5	-	5	9	26	40
Overhead sign post	-	1	1	2	4	1	2	11	60	74
Bridge overhead structure	1	-	-	-	1	1	2	10	177	190
Offroad/Non-collision	**20**	**52**	**227**	**413**	**712**	**105**	**417**	**2,644**	**7,145**	**10,311**
Off roadway	20	39	199	398	656	87	307	2,017	5,786	8,197
Overturn/rollover	-	6	19	10	35	11	50	348	399	808
Fell from vehicle	-	7	9	2	18	2	56	230	341	629
Immersion	-	-	-	2	2	1	-	2	25	28
Fire/explosion	-	-	-	1	1	1	2	3	136	142
Cargo shift/loss	-	-	-	-	-	3	2	29	310	344
Jackknife	-	-	-	-	-	-	-	15	148	163
Non-motorist	**8**	**9**	**15**	**5**	**37**	**66**	**265**	**1,621**	**353**	**2,305**
Pedestrian	8	8	13	4	33	54	192	982	142	1,370
Bicyclist	-	1	2	1	4	12	73	639	211	935
Other/Not reported	**4**	**5**	**52**	**163**	**224**	**30**	**154**	**1,287**	**21,303**	**22,774**
Total	**133**	**214**	**1,296**	**3,285**	**4,928**	**1,083**	**4,545**	**53,941**	**235,664**	**295,233**
% other vehicles	28.6	33.2	43.0	47.1	44.9	64.3	68.3	80.2	79.3	79.3
% fixed objects	47.4	36.0	34.3	35.3	35.4	17.2	13.3	9.5	8.5	8.8
% offroad/non-collisions	15.0	24.3	17.5	12.6	14.4	9.7	9.2	4.9	3.0	3.5
% non-motorists	6.0	4.2	1.2	0.2	0.8	6.1	5.8	3.0	0.1	0.8
% other	3.0	2.3	4.0	5.0	4.5	2.8	3.4	2.4	9.0	7.7

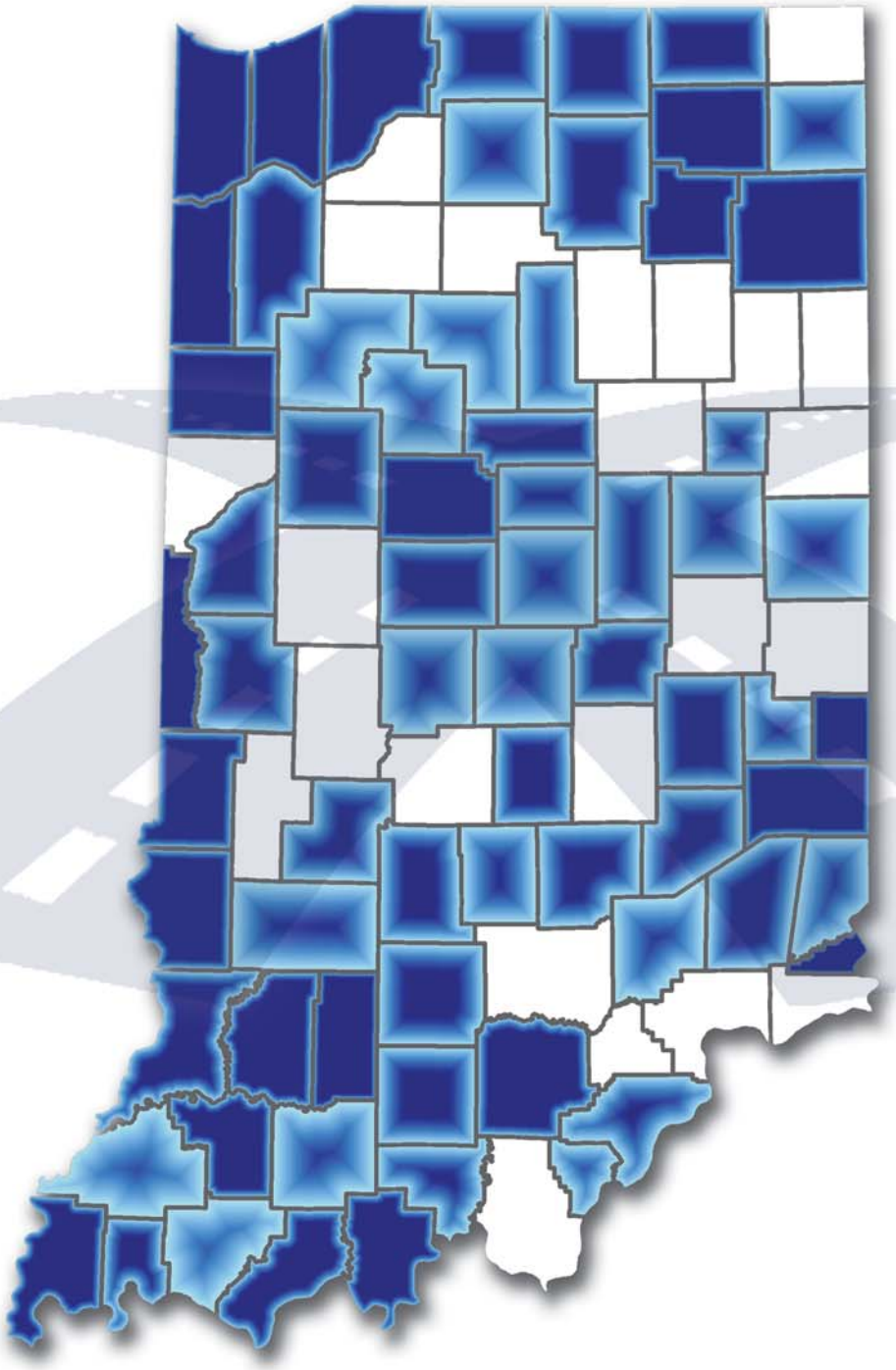
Source: Indiana State Police

Table 81. Drivers involved in Indiana crashes, by vehicle type, crash severity, and alcohol impairment, 2010

Vehicle type	Count of drivers, by crash severity and alcohol impairment														
	Fatal			Incapacitating			Non-incapacitating			Property damage only			All crashes		
	Alcohol-impaired	Total involved	% impaired	Alcohol-impaired	Total involved	% impaired	Alcohol-impaired	Total involved	% impaired	Alcohol-impaired	Total involved	% impaired	Alcohol-impaired	Total involved	% impaired
Passenger car	62	468	13.2	100	2,326	4.3	739	31,832	2.3	2,022	138,968	1.5	2,923	173,594	1.7
Light truck	46	377	12.2	70	1,461	4.8	468	18,207	2.6	1,229	82,953	1.5	1,813	102,998	1.8
Large truck	-	111	-	-	187	-	3	1,538	0.2	13	10,031	0.1	16	11,867	0.1
Motorcycle	23	104	22.1	28	386	7.3	43	1,433	3.0	8	630	1.3	102	2,553	4.0
Moped	2	8	25.0	13	122	10.7	37	505	7.3	6	150	4.0	58	785	7.4
Bus	-	6	-	-	15	-	-	192	-	1	1,445	0.1	1	1,658	0.1
Other vehicle type	-	9	-	3	48	6.3	6	234	2.6	6	1,487	0.4	15	1,778	0.8
Total	**133**	**1,083**	**12.3**	**214**	**4,545**	**4.7**	**1,296**	**53,941**	**2.4**	**3,285**	**235,664**	**1.4**	**4,928**	**295,233**	**1.7**

Source: Indiana State Police

SPEED



SPEED, 2010

A collision is defined as speed-related if any one of the following conditions is met: (1) *Unsafe speed* or *speed too fast for weather conditions* is listed as the primary or a contributing factor of the collision; or (2) a vehicle driver is issued a speeding citation.

In Indiana in 2010, nearly ten percent of all collisions were *speed-related* and the number of *speed-related* collisions (18,551) increased two percent over 2009. These collisions involved 18,588 speeding motor vehicles (5.5 percent of all motor vehicles in collisions), 10,229 motor vehicles that were not speeding, and 28,011 *drivers, injured occupants, pedestrians,* and *pedalcyclists* (nine percent of all individuals in collisions).

Trends in speed-related collisions

From 2000 to 2009, Indiana reported fewer fatal *speed-related* collisions per one billion vehicle miles travelled (VMT) than the Great Lakes region, each of the other nine United States regions, and the United States as a whole, for all years except 2005 and 2008. During this ten-year period, the Indiana rate declined less on average each year than the United States (1.4 percent versus 2.2 percent) and less than all but two of the other U.S. regions. More recently, however, during the five-year period from 2005 to 2009, Indiana's fatal *speed-related* collision rate dropped 7.5 percent on average each year, more than all other geographic areas except the Pacific region.

On average from 2006 to 2010, the number of *speed-related* collisions in Indiana increased 8 percent each year, while collisions not involving speeding decreased 0.5 percent. The number of fatal *speed-related* collisions did not change from 2009 to 2010, but fatal collisions not involving speeding increased 14 percent, from 495 to 565. In 2010, *speed-related* collisions were 2.3 times more likely than collisions not involving speeding to result in a fatality, down from 2.6 in 2009 and the lowest in five years.

Individuals and vehicles involved in speed-related collisions

Fewer individuals were killed in *speed-related* collisions in 2010 despite the same number of fatal *speed-related* collisions. In 2009, 136 fatal *speed-related* collisions resulted in 158 deaths. In 2010, the same number of fatal *speed-related* collisions resulted in 145 deaths, 13 fewer.

Compared to 2009, vehicles involved in collisions in 2010 were slightly less likely to have been speeding (6 percent versus 6.1 percent). Among vehicle types, *motorcycles* were the most likely to have been speeding at the time of collision (9.8 percent) and one of three vehicle types more likely to have been speeding in 2010 than 2009 (the other two were *large trucks* and *motorhomes/RVs*).

Injury rates and drivers involved in speed-related collisions

Given involvement in a collision in 2010, occupants riding in speeding vehicles were more likely to suffer an injury than occupants riding in vehicles that were not speeding. For occupants involved in collisions, 225 of every 1,000 riding in speeding vehicles suffered an injury, compared to 152 of every 1,000 in vehicles not speeding. Occupants in speeding *motorhomes/RVs* were 3.7 times more likely to suffer an injury than occupants in *motorhomes/RVs* not speeding.

Generally, serious injury (i.e., *fatal and incapacitating injuries*) rates were greater for persons involved in collisions in areas with higher posted speed limits. And regardless of posted speed limit, *speed-related* collisions were more likely to result in serious injury than collisions not involving speeding. In collisions occurring in a 40-44 mph speed limit zone, persons involved were 2.7 times more likely to sustain a serious injury if the collision was *speed-related* than if it was not.

The likelihood that a driver involved in a collision was speeding depends largely on the driver's age and gender. In 2010, male drivers involved in collisions were more likely to have been speeding than female drivers, and young drivers were more likely to have been speeding than older drivers. More than 12 percent of young male drivers ages 16 to 20 involved in collisions in 2010 were speeding, a rate higher than any other driver demographic.

Drivers involved in collisions who were speeding were more likely to suffer serious injuries than drivers who were not speeding. For male drivers, this "relative risk" generally decreased with age; for female drivers, the relative risk increased with age up to ages 45 to 54. In 2010, male drivers ages 25 to 34 who were speeding and involved in a collision were 3.4 times more likely to suffer a serious injury than male drivers of the same age who were not speeding; female drivers 75 years of age and older who were speeding were 2.8 times more likely to suffer a serious injury than female drivers of the same age who were not speeding.

Given involvement in a collision in 2010, occupants riding in vehicles where the driver was speeding were 3.2 times more

likely to suffer a fatality than occupants in vehicles where the driver was not speeding. If the driver was speeding and *impaired*, occupants were 6.6 times more likely to suffer a fatality than if the driver was only speeding.

Time and location of speed-related collisions

Generally, collisions occurring during morning hours (12am-11:59am) and on the weekend (Saturday and Sunday) were more likely to be *speed-related* than those in the afternoon and on weekdays, with rates declining from 12am through 1pm and increasing steadily thereafter, and rates declining from Sunday through Friday and increasing on Saturday. Though less pronounced, for the most part these same trends were observed when looking at *speed-related* collisions as a proportion of all serious injury collisions: serious injury collisions occurring during morning hours and on the weekend were more likely to be *speed-related* than those in the afternoon and on most weekdays.

The likelihood of speed and alcohol involvement in collisions varies by locale. In Indiana in 2010, collisions occurring farther away from *urban* areas were generally more likely to be *speed-related*. However, speed-related collisions in urban areas were more likely to involve alcohol than *speed-related* collisions in other locales.

Considering road class, speed-related collision rates were up slightly on *county roads* and *interstates* in 2010 and down slightly on other road types. Rates of *speed-related* collisions with serious injury increased slightly on *interstates* and *state roads* and decreased for all other road types. In 2010 and historically, *speed-related* and serious injury *speed-related* collisions have been more than twice as likely on *interstates* than *local/city roads, state roads,* or *U.S. routes.*

Table 82. Rate of fatal speed-related collisions per 1 billion vehicle miles travelled (VMT), by region, 2000-2009

Geography	Fatal speed-related collisions per 1 billion VMT										Average annual % change	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2000-09	2005-09
INDIANA	2.9	2.8	2.2	2.7	3.1	3.2	2.5	2.5	3.0	2.2	-1.4%	-7.5%
UNITED STATES	4.0	4.1	4.2	4.1	3.9	4.0	4.0	3.9	3.6	3.2	-2.2%	-5.1%
Upper New England (CT, ME, MA, NH, RI, VT)	3.4	3.5	3.7	3.2	3.3	3.1	2.9	2.8	2.3	2.4	-3.3%	-6.0%
Lower New England (NJ, NY, PA)	3.3	3.4	3.7	3.4	3.3	3.7	3.3	3.6	3.5	3.2	0.0%	-3.3%
Mid-Atlantic (DE, DC, KY, MD, NC, VA, WV)	3.8	4.0	4.2	4.0	4.1	4.0	3.7	4.0	3.4	3.4	-1.2%	-4.0%
Southern Atlantic (AL, FL, GA, SC, TN)	4.1	4.2	4.0	3.9	3.9	3.9	4.3	3.9	3.6	3.2	-2.6%	-4.7%
Great Lakes (IL, IN, MI, MN, OH, WI)	3.2	3.1	3.1	3.3	3.2	3.0	2.9	2.9	2.6	2.3	-3.2%	-6.1%
Southern Central (LA, MS, NM, OK, TX)	5.2	5.2	5.6	5.6	5.3	5.2	5.7	5.2	5.2	4.4	-1.6%	-3.9%
Central (AR, IA, KS, MO, NE)	4.1	4.2	5.1	4.4	3.9	4.2	3.8	3.4	3.2	3.3	-1.8%	-5.4%
West (CO, NV, ND, SD, UT, WY)	5.4	6.0	5.8	5.2	4.9	4.2	3.9	4.2	3.9	3.7	-3.7%	-2.6%
Pacific (AZ, CA, HI)	4.1	4.5	4.5	4.4	4.0	4.5	4.5	4.4	3.6	3.2	-2.4%	-8.3%
Upper Northwest (AK, ID, MT, OR, WA)	4.7	4.4	4.6	4.5	4.1	4.6	4.3	4.0	4.1	4.0	-1.5%	-3.2%

Sources:
Collisions - Fatality Analysis Reporting System
VMT: U.S. Federal Highway Administration Traffic Volume Trends, as of March 1, 2011

Note: Geographic regions are defined by the National Highway Traffic Safety Administration.

Table 83. Indiana collisions, by speed involvement and collision severity, 2006-2010

Speed involvement/collision severity	2006	2007	2008	2009	2010	% 2010 total	% change '09-'10	Average annual change
All collisions	**192,721**	**204,999**	**205,452**	**189,661**	**192,890**	**100.0%**	**1.7%**	**0.2%**
Speed-related	**14,570**	**18,492**	**22,820**	**18,251**	**18,551**	**100.0%**	**1.6%**	**8.0%**
Fatal	159	165	188	136	136	0.7%	0.0%	-2.5%
Incapacitating	473	459	484	425	461	2.5%	8.5%	-0.3%
Non-incapacitating	3,844	3,918	4,227	3,692	3,683	19.9%	-0.2%	-0.8%
Property damage	10,094	13,950	17,921	13,998	14,271	76.9%	2.0%	11.7%
Non-speed-related	**178,151**	**186,507**	**182,632**	**171,410**	**174,339**	**100.0%**	**1.7%**	**-0.5%**
Fatal	658	639	534	495	565	0.3%	14.1%	-3.1%
Incapacitating	2,717	2,616	2,414	2,307	2,451	1.4%	6.2%	-2.4%
Non-incapacitating	31,815	30,423	28,233	26,986	27,489	15.8%	1.9%	-3.5%
Property damage	142,961	152,829	151,451	141,622	143,834	82.5%	1.6%	0.3%
% Speed-related	**7.6%**	**9.0%**	**11.1%**	**9.6%**	**9.6%**	**--**	**--**	**--**
Fatal	19.5%	20.5%	26.0%	21.6%	19.4%	--	--	--
Incapacitating	14.8%	14.9%	16.7%	15.6%	15.8%	--	--	--
Non-incapacitating	10.8%	11.4%	13.0%	12.0%	11.8%	--	--	--
Property damage	6.6%	8.4%	10.6%	9.0%	9.0%	--	--	--
Relative risk								
Fatal	3.0	2.6	2.8	2.6	2.3	--	--	--
Incapacitating	2.1	1.8	1.6	1.7	1.8	--	--	--
Non-incapacitating	1.5	1.3	1.2	1.3	1.3	--	--	--

Source: Indiana State Police

Notes:
Relative risk defined as ratio of *speed-related* rate (fatal, as % of total *speed-related*) to non-speed-related rate (fatal, as % of total *non-speed-related*).
***Non-incapacitating* includes *non-incapacitating* and *possible* collision severities.**

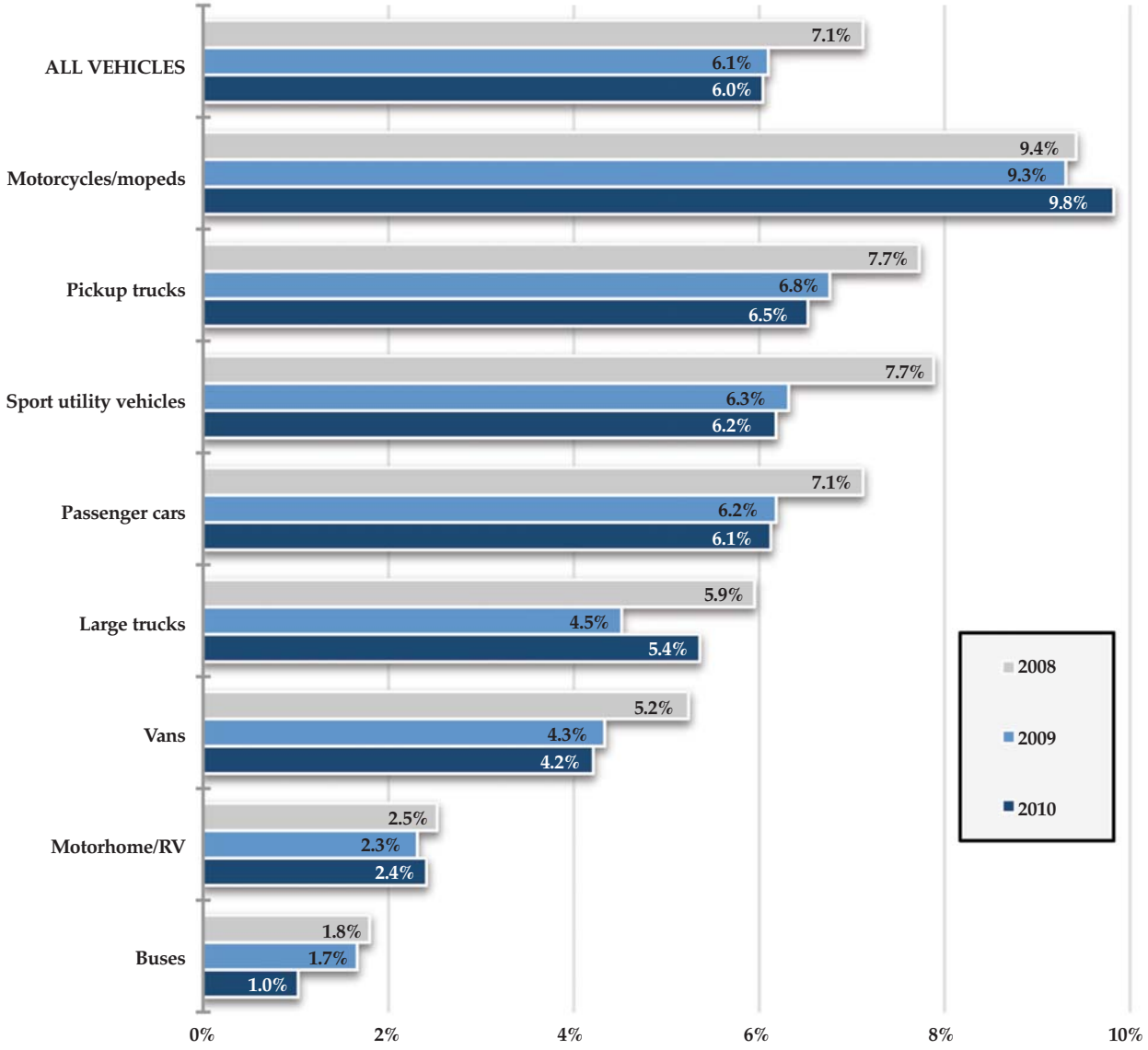
Table 84. Individuals involved in Indiana collisions, by speed involvement and injury status, 2006-2010

Speed involvement/injury severity	2006	2007	2008	2009	2010	% 2010 total	% change '09-'10	Average annual change
All individuals	**315,894**	**330,129**	**325,775**	**304,389**	**311,235**	**100.0%**	**2.2%**	**-0.3%**
Speed-related	**23,444**	**28,417**	**34,398**	**28,127**	**28,011**	**100.0%**	**-0.4%**	**5.9%**
Fatal	174	187	225	158	145	0.5%	-8.2%	-2.6%
Incapacitating	607	559	585	514	566	2.0%	10.1%	-1.3%
Non-incapacitating	5,733	5,840	6,174	5,433	5,416	19.3%	-0.3%	-1.2%
Other injury	1,558	706	532	385	226	0.8%	-41.3%	-37.1%
Not injured	15,372	21,125	26,882	21,637	21,658	77.3%	0.1%	11.3%
Non-speed-related	**292,450**	**301,712**	**291,377**	**276,262**	**283,224**	**100.0%**	**2.5%**	**-0.7%**
Fatal	725	711	590	534	609	0.2%	14.0%	-3.6%
Incapacitating	3,200	3,102	2,797	2,665	2,877	1.0%	8.0%	-2.4%
Non-incapacitating	45,656	42,964	39,281	37,977	38,753	13.7%	2.0%	-3.9%
Other injury	20,258	7,835	5,387	3,768	2,279	0.8%	-39.5%	-40.5%
Not injured	222,611	247,100	243,322	231,318	238,706	84.3%	3.2%	1.9%
% Speed-related	**7.4%**	**8.6%**	**10.6%**	**9.2%**	**9.0%**	**--**	**--**	**--**
Fatal	19.4%	20.8%	27.6%	22.8%	19.2%	--	--	--
Incapacitating	15.9%	15.3%	17.3%	16.2%	16.4%	--	--	--
Non-incapacitating	11.2%	12.0%	13.6%	12.5%	12.3%	--	--	--
Other injury	7.1%	8.3%	9.0%	9.3%	9.0%	--	--	--
Not injured	6.5%	7.9%	9.9%	8.6%	8.3%	--	--	--
Relative risk								
Fatal	3.0	2.8	3.2	2.9	2.4	--	--	--
Incapacitating	2.4	1.9	1.8	1.9	2.0	--	--	--
Non-incapacitating	1.6	1.4	1.3	1.4	1.4	--	--	--

Source: Indiana State Police

Notes:
***Relative risk* defined as ratio of *speed-related* rate (fatal, as % total speed-related) to *non-speed-related* rate (fatal, as % of total non-speed-related).**
***Non-incapacitating* includes *non-incapacitating* and *possible* injuries.**
***Other injury* includes injuries reported as *refused, unknown,* and *not reported*.**
***Not injured* is defined as individuals with no injury status reported.**

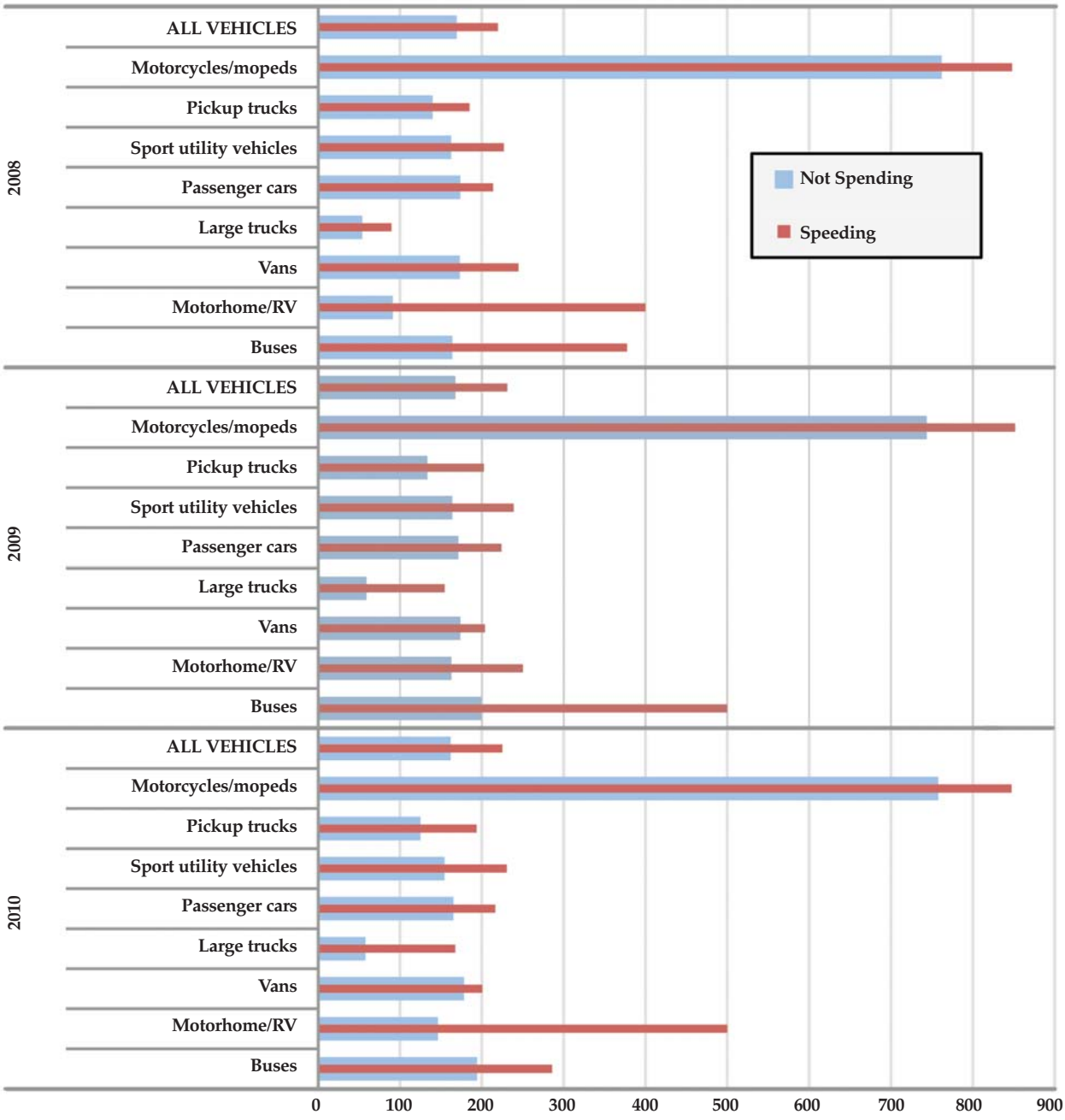
Figure 43. Vehicles speeding as a percent of all vehicles involved in Indiana collisions, by vehicle type, 2008-2010



Source: Indiana State Police

Note: Excludes vehicle types of *farm vehicle, combination vehicle, pedestrian, bicycle,* and *unknown* type.

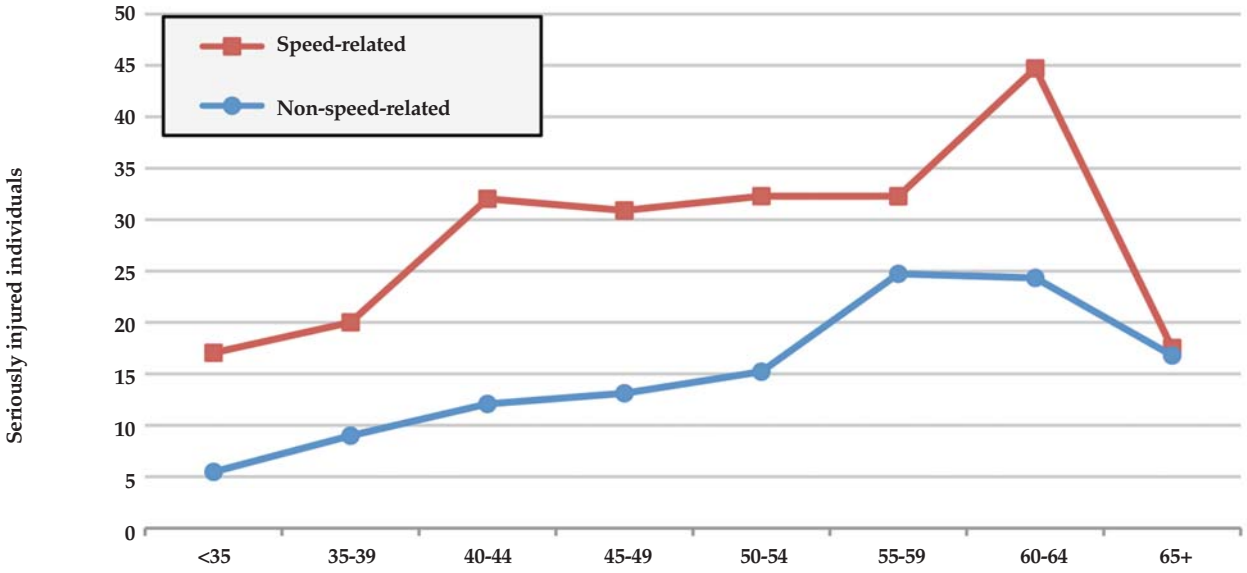
Figure 44. Injury rates per 1,000 occupants involved in Indiana collisions, by unit type and speed status, 2008-2010



Source: Indiana State Police

Notes:
Excludes vehicle types of *farm vehicle, combination vehicle, pedestrian, bicycle,* and *unknown* type.
Injury includes *fatal, incapacitating, non-incapacitating, possible,* and other injury types.

Figure 45. Seriously injured individuals per 1,000 involved in collisions, by speed limit group and collision speed status, 2010



Source: Indiana State Police

Note: Serious injuries defined as *fatal* and *incapacitating* injuries.

Table 85. Drivers speeding as a percent of all drivers involved in Indiana collisions, by age group and gender, 2006-2010

	2006		2007		2008		2009		2010	
Age group	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
16-20	10.9%	6.3%	12.0%	7.3%	12.9%	9.2%	12.2%	7.9%	12.2%	8.2%
21-24	8.3%	4.9%	9.4%	6.0%	11.6%	8.3%	10.1%	7.4%	9.9%	6.7%
25-34	5.8%	3.7%	7.3%	4.9%	9.0%	7.0%	7.8%	5.7%	8.0%	5.5%
35-44	4.0%	2.9%	5.2%	4.0%	6.7%	5.6%	5.8%	4.4%	5.7%	4.6%
45-54	3.4%	2.3%	4.0%	3.3%	5.3%	4.4%	4.5%	3.7%	4.8%	3.3%
55-64	2.3%	1.7%	3.0%	2.4%	4.4%	3.8%	3.6%	3.0%	3.8%	2.7%
65-74	2.0%	1.4%	2.5%	1.7%	3.2%	2.4%	2.6%	1.9%	2.9%	1.9%
75 +	1.9%	1.2%	2.2%	1.1%	3.0%	1.9%	2.3%	1.7%	2.9%	1.8%
all ages	**5.5%**	**3.6%**	**6.5%**	**4.5%**	**7.8%**	**6.1%**	**6.8%**	**5.1%**	**6.9%**	**4.9%**

Table 86. Relative risk of serious injury, speeding drivers versus non-speeding drivers, by age group and gender, 2006-2010

	2006		2007		2008		2009		2010	
Age group	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
16-20	2.7	1.9	2.6	2.6	2.9	2.0	2.8	1.7	3.0	2.0
21-24	5.7	2.8	2.7	1.1	3.4	2.1	3.8	2.6	2.4	2.0
25-34	4.8	1.5	3.8	2.2	2.9	2.1	3.0	1.8	3.4	2.2
35-44	4.4	2.8	3.9	1.7	2.7	1.5	3.0	2.1	2.6	2.5
45-54	2.6	3.7	3.1	1.5	2.6	3.8	2.9	1.8	2.8	2.5
55-64	4.5	2.3	1.4	2.2	1.7	1.4	2.4	3.2	2.4	2.4
65-74	1.8	1.0	1.6	2.2	3.5	1.9	2.8	2.9	2.0	1.4
75 +	1.2	0.0	1.1	0.0	0.9	4.3	3.9	0.0	1.1	2.8
all ages	**3.6**	**2.1**	**2.9**	**1.8**	**2.6**	**2.1**	**2.8**	**1.9**	**2.6**	**2.1**

Source: Indiana State Police

Low High

Notes:
Data limited to drivers with valid gender and age reported.
Serious injuries defined as *fatal* and *incapacitating* injuries.
Relative risk defined as ratio of speed-related rate (serious injury, as % of total speed-related) to non-speed-related rate (serious injury, as % of total non-speed-related). A value greater than one indicates that speeding drivers are more likely to suffer a serious injury than drivers who were not speeding (e.g., In 2010, 16-20 year old males drivers involved in collisions who were speeding were three times more likely to suffer a serious injury than 16-20 year old male drivers who were not speeding).
Color scales are year-specific.

Table 87. Vehicle occupants involved in traffic collisions, by driver speed involvement and alcohol impairment, 2010

Vehicle driver speeding?	Vehicle driver impaired?	Vehicle occupants killed	Vehicle occupants surviving	Total occupants involved	Killed, as % total	Risk of fatality
Yes	Yes	29	869	898	3.2%	6.6
	No	89	17,989	18,078	0.5%	
	Total	118	18,858	18,976		
No	Yes	82	4,262	4,344	1.9%	11.3
	No	477	284,521	284,998	0.2%	
	Total	559	288,783	289,342		
All	Yes	111	5,131	5,242	2.1%	11.3
	No	566	302,510	303,076	0.2%	
	Total	677	307,641	308,318		
Yes	All	118	18,858	18,976	0.6%	3.2
No		559	288,783	289,342	0.2%	
	Total	677	307,641	308,318		

Source: Indiana State Police

Notes:
***Driver impaired*: BAC = 0.08+**
***Risk of fatality* defined as ratio of the rate of *vehicle occupants killed where driver was impaired* (fatal, as % total driver impaired) to *rate of vehicle occupants killed where driver was NOT impaired* (fatal, as % of total driver not impaired).**

Table 88. Speed-related collisions as a percent of all Indiana collisions, by time of day and day of week, 2010

Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat	% Speed-related by hour
12am-	13.6%	16.2%	15.5%	11.5%	16.5%	18.1%	15.2%	15.1%
1am-	14.8%	13.8%	16.1%	15.1%	13.9%	15.5%	13.2%	14.5%
2am-	14.8%	11.7%	14.7%	12.0%	18.2%	13.9%	16.8%	15.0%
3am-	12.7%	19.4%	14.4%	8.5%	14.9%	13.4%	16.7%	14.2%
4am-	12.2%	13.2%	15.9%	17.2%	13.9%	13.2%	15.9%	14.4%
5am-	9.5%	12.1%	18.2%	11.6%	12.8%	9.8%	13.7%	12.7%
6am-	12.0%	11.4%	14.6%	14.8%	13.9%	8.7%	17.1%	13.2%
7am-	12.6%	9.4%	15.2%	10.5%	11.8%	7.9%	20.9%	11.9%
8am-	13.0%	12.1%	15.9%	12.4%	13.0%	8.1%	17.3%	13.0%
9am-	11.1%	12.0%	14.5%	14.9%	12.7%	8.4%	16.8%	13.0%
10am-	9.5%	9.1%	9.7%	10.6%	11.9%	5.9%	12.0%	9.8%
11am-	10.6%	7.6%	7.5%	7.1%	9.8%	6.1%	7.3%	7.8%
12pm-	9.6%	7.0%	6.3%	5.9%	8.3%	4.6%	7.1%	6.8%
1pm-	9.9%	6.2%	5.2%	6.4%	7.9%	5.5%	7.2%	6.8%
2pm-	12.0%	5.7%	6.2%	6.7%	6.0%	6.4%	8.6%	7.1%
3pm-	13.3%	6.2%	7.1%	6.9%	5.9%	6.4%	8.4%	7.3%
4pm-	14.6%	6.8%	8.0%	8.0%	6.2%	7.8%	6.9%	8.0%
5pm-	9.8%	7.8%	7.8%	7.8%	7.0%	10.2%	8.3%	8.3%
6pm-	10.1%	9.0%	7.9%	7.9%	5.6%	9.1%	6.1%	8.0%
7pm-	10.4%	12.4%	8.0%	8.2%	7.3%	9.6%	7.7%	9.1%
8pm-	10.6%	12.7%	9.1%	9.0%	7.7%	11.2%	7.7%	9.7%
9pm-	9.3%	14.7%	8.6%	12.3%	10.4%	12.3%	8.6%	10.9%
10pm-	13.3%	15.5%	10.0%	16.1%	9.1%	13.7%	9.7%	12.4%
11pm-	12.9%	15.1%	10.9%	16.4%	13.5%	14.2%	10.8%	13.3%
% Speed-related by day	**11.6%**	**9.4%**	**9.7%**	**9.4%**	**9.1%**	**8.6%**	**10.3%**	**9.6%**

Table 89. Speed-related collisions as a percent of all Indiana serious injury collisions, by time of day and day of week, 2010

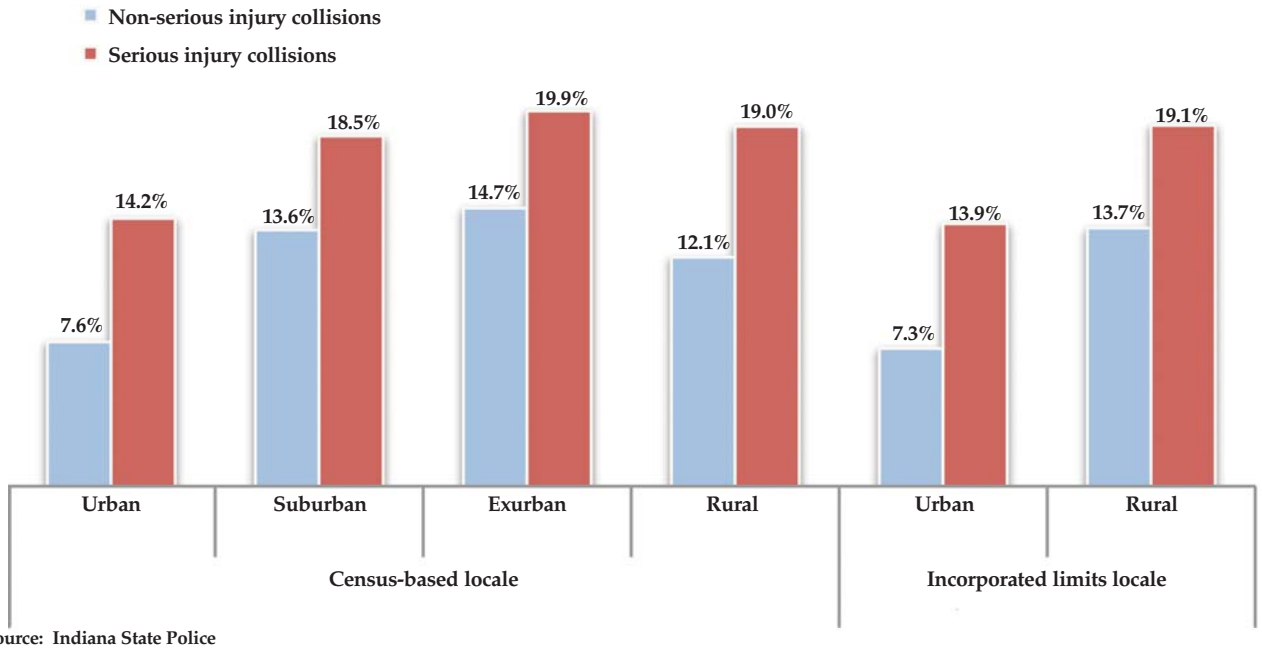
Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat	% Speed-related by hour
12am-	43.5%	30.8%	18.2%	16.7%	23.1%	21.4%	13.3%	25.7%
1am-	30.4%	0.0%	18.2%	33.3%	28.6%	28.6%	16.7%	23.0%
2am-	20.0%	33.3%	50.0%	20.0%	0.0%	21.4%	36.4%	24.1%
3am-	16.1%	50.0%	0.0%	33.3%	12.5%	0.0%	37.5%	21.7%
4am-	38.5%	0.0%	30.8%	33.3%	33.3%	12.5%	36.4%	30.0%
5am-	16.7%	0.0%	18.2%	25.0%	16.7%	21.4%	18.2%	16.4%
6am-	10.0%	18.8%	27.8%	21.4%	14.3%	13.6%	16.7%	17.6%
7am-	33.3%	20.8%	16.7%	13.6%	20.0%	5.9%	42.9%	20.2%
8am-	14.3%	20.0%	19.0%	21.1%	0.0%	19.0%	8.7%	14.5%
9am-	14.3%	23.1%	28.6%	15.8%	20.0%	26.1%	14.3%	20.8%
10am-	11.1%	14.3%	7.1%	13.3%	12.0%	10.5%	12.8%	11.9%
11am-	0.0%	4.5%	6.3%	10.0%	34.6%	12.1%	19.0%	13.4%
12pm-	20.0%	8.0%	4.0%	13.6%	14.3%	13.0%	7.4%	10.9%
1pm-	12.1%	21.7%	3.6%	10.7%	5.3%	12.5%	12.5%	10.8%
2pm-	15.6%	6.7%	10.0%	23.3%	20.8%	25.6%	16.1%	17.1%
3pm-	9.1%	9.4%	17.1%	14.0%	21.2%	20.0%	15.4%	15.2%
4pm-	13.2%	15.2%	10.5%	17.6%	12.5%	16.3%	13.5%	14.1%
5pm-	21.2%	10.0%	3.8%	27.0%	11.1%	9.8%	23.1%	15.1%
6pm-	33.3%	17.4%	10.0%	19.4%	8.3%	5.1%	10.7%	13.8%
7pm-	12.5%	6.9%	17.6%	19.0%	15.0%	18.9%	18.2%	15.5%
8pm-	14.3%	26.3%	17.6%	6.7%	16.7%	15.4%	14.3%	16.1%
9pm-	12.5%	26.3%	18.8%	21.4%	20.8%	25.0%	12.5%	19.9%
10pm-	26.3%	11.1%	9.1%	35.7%	31.3%	18.2%	31.6%	23.5%
11pm-	27.3%	26.7%	11.8%	20.8%	16.7%	13.6%	11.5%	17.4%
% Speed-related by day	**18.8%**	**15.2%**	**13.5%**	**18.5%**	**15.8%**	**16.0%**	**17.7%**	**16.5%**

Source: Indiana State Police

Low — High

Notes:
Includes collisions where valid time was reported.
Serious injury collision defined as collision with at least one *fatal* or *incapacitating* injury.
Color scales apply to all days/times.

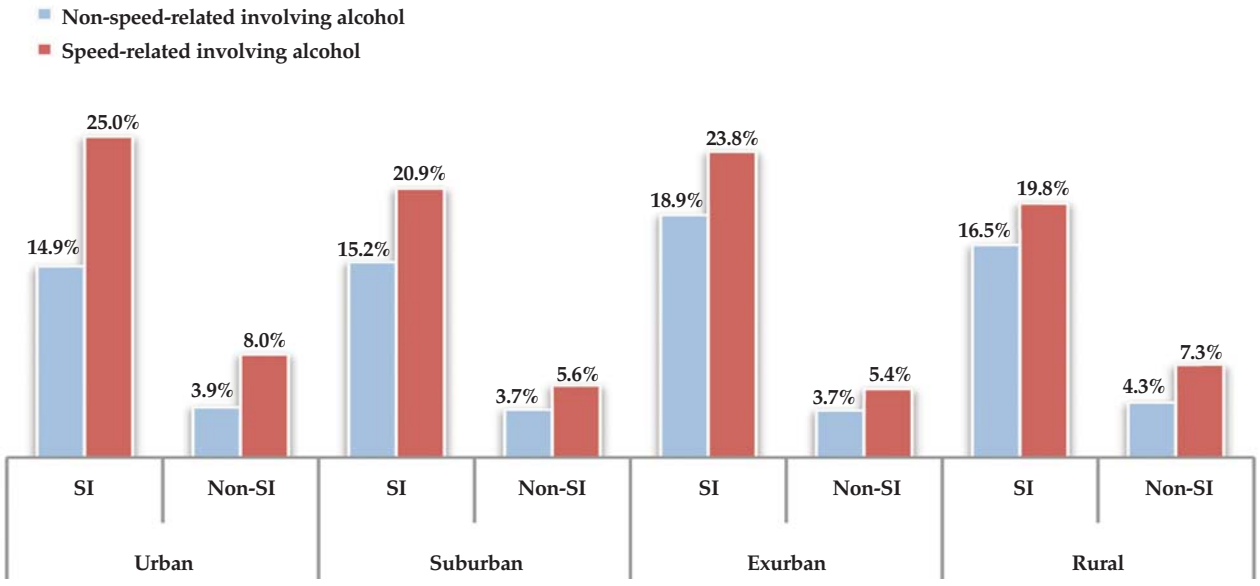
Figure 46. Speed-related collisions as a percent of all Indiana collisions, by collision severity and locale, 2010



Source: Indiana State Police

Notes:
Serious injury collision defined as collision with at least one fatal or incapacitating injury.
See glossary for definition of *Census-based* locale.
See glossary for definition of *incorporated limits* locale.

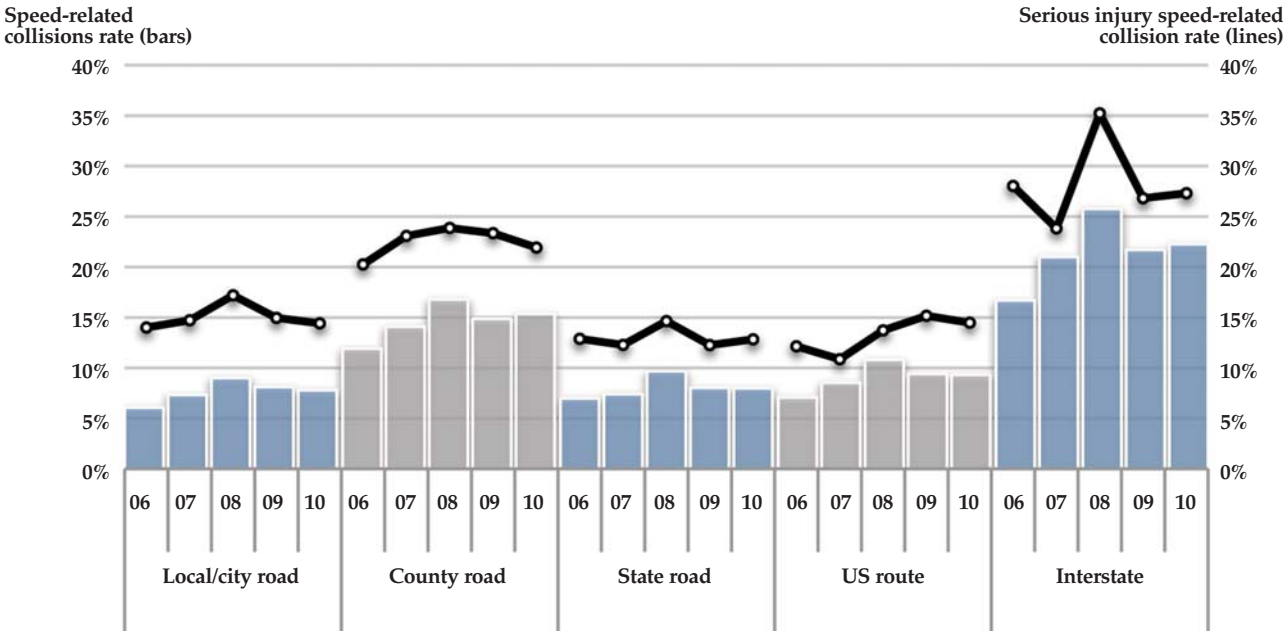
Figure 47. Speed-related and non-speed-related collisions involving alcohol as a percent of all collisions, by collision severity and locale, 2010



Source: Indiana State Police

Notes:
SI = Serious injury collision; Non-SI = Non-serious injury collision.
Serious injury collision defined as collision with at least one *fatal* or *incapacitating* injury.
See glossary for definition of *Census-based* locale.
See glossary for definition of *incorporated limits* locale.

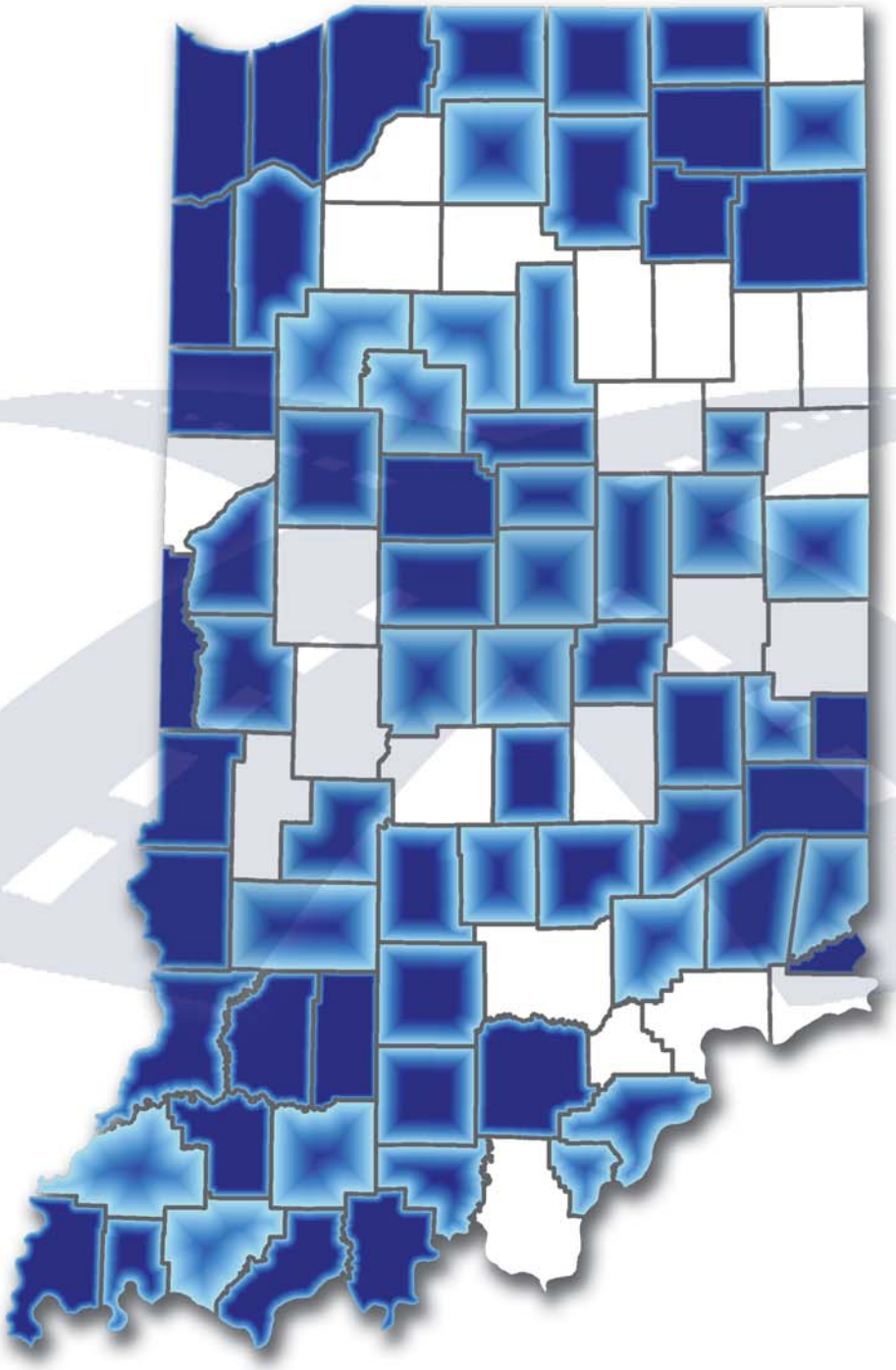
Figure 48. Speed-related and serious injury speed-related collisions as a percent of all collisions and serious injury collisions, by road class, 2006-2010



Source: Indiana State Police

Notes:
Includes collisions where valid road class was reported.
Serious injury collision defined as collision with at least one *fatal* or *incapacitating* injury.

COUNTIES



COUNTIES, 2010

Understanding the spatial distribution of traffic collisions and injuries can assist officials in developing policies and targeting resources to address the varying issues related to those crashes. A variety of factors may influence the volume of traffic collisions that occur in a given area, including the size and makeup of the population, the number of registered vehicles and licensed drivers, and the number of vehicle miles travelled (VMT). The following *choropleth* and *density grid* maps show counties with the highest collision and injury rates in Indiana in 2010. Additionally, Indiana counties are ranked on a variety of collision metrics. Economic costs associated with collisions are also reported for each county.

Notes:
All density grid maps were created using a ten-mile search radius.

Choropleth maps are presented in quartiles using themes, such as color shading, to depict spatial values for a given attribute of collision features. Themes are typically based on different categories of the mapped attribute.

Collision severity and injuries

In 2010, 192,890 collisions occurred in Indiana, 701 of which were fatal. The mean number of collisions per county was 2,097, and the mean number of fatal collisions per county was 8. Marion County ranked highest in the total number of collisions (27,519), and Union County ranked highest in the percentage of all collisions that were fatal (1.9), followed by Benton and Sullivan counties (1.8). The mean county rate of collisions per 100m VMT was 229.7. Tippecanoe County had the highest rate of collisions per 100m VMT (485.2), and Pike County had the lowest (100.0).

The total number of individuals involved in 2010 Indiana collisions was 311,235, and the mean number of individuals involved in collisions per county was 3,383. Marion County had the largest number of individuals involved (48,027) and the largest number of traffic fatalities (73), but ranked 79th out of 92 counties in the percentage of all injuries that were fatal. Counties with the highest traffic fatality rates included Union, Benton, Sullivan, and Jasper.

Speed-related collisions

Speed-related collisions accounted for 9.6 percent of all Indiana collisions in 2010, and 19.4 percent of all fatal collisions. The mean number of speed-related collisions per county was 202. Tipton County ranked first in the percentage of all collisions that were speed-related (18.8 percent). The mean percent of speed-related collisions by county was 9.7. Many counties with the higher percentages of speed-related collisions were clustered in northern portions of the state.

Alcohol collisions

Alcohol-related collisions accounted for 4.3 percent of all Indiana collisions in 2010, and 24.7 percent of all fatal collisions. The mean number of alcohol-related collisions per county was 91, and mean number of fatal alcohol-related collisions per county was 2. The mean percent of alcohol-related collisions by county was 4.3. Pike County had the highest percentage of alcohol-related collisions (13 percent), and Jay County had the lowest (2.1 percent). The southwestern region of Indiana has more counties with high percentages of alcohol-related collisions than other areas in the state.

Collisions that involved an alcohol-impaired driver (a driver that tested positive for blood alcohol content at or above .08 g/dL) accounted for 2.6 percent of all 2010 Indiana collisions. Pike County had the highest percentage of alcohol-impaired driver collisions (6.2 percent), and Pulaski County had the lowest (0.9 percent).

Deer collisions

A large percentage of collisions in rural counties throughout the state involved a deer. Counties with the highest percentage of deer-involved collisions were clustered in the northern and southern regions of the state. Counties located in the east central portions of Indiana have lower percentages of deer-involved collisions than other areas of the state. Pulaski County had the highest percentage of deer-involved collisions (49.2 percent).

Work zone collisions

There were 4,683 work zone collisions in Indiana in 2010. The mean county rate of work zone collisions per 1,000 total collisions was 14.3. Warrick County, located in southwestern Indiana had the highest rate of work zone collisions (87.6 per 1,000 collisions). Counties that are part of the Indianapolis, Gary, and Fort Wayne metropolitan areas had among the highest work zone collision rates in 2010. It is worth noting that work zone locations are constantly changing throughout the state, a fact that will likely impact which counties have the highest work zone collision rates. Counties with higher levels of road construction are likely to experience higher rates of work zone collisions at any given period of time.

Restraint use

Forty-five percent of vehicle occupants killed in Indiana collisions were unrestrained in 2010, while 9.2 percent of individuals suffering non-incapacitating injuries were unrestrained. The mean county percent of individuals involved in collisions who were unrestrained was 3.5 percent. Daviess and Switzerland counties had the highest rates of vehicle occupants in collisions who were unrestrained at 9.3 percent and 8 percent, respectively. Counties composing the Indianapolis, Gary, Fort Wayne, West Lafayette, and Evansville areas had some of the lowest rates of unrestrained injuries.

Young drivers

In 2010, 45,376 young drivers (ages 15 to 20) were involved in collisions (15 percent of all persons involved), of whom 56 suffered fatal injuries, 5,199 personal injuries, and 40,121 other injury types or no injuries. On average, 16 percent of persons involved in collisions in Indiana counties were young drivers;

the smallest proportion was reported in Marion County (11.3 percent) and the largest in Franklin County (21.7 percent). The mean county rate of young driver involvement in collisions was 78.2 per 1,000 licensed young drivers. Counties that are the locations of large universities (Tippecanoe, Monroe, Delaware, Vanderburgh, and Vigo) had the highest rates of young driver involvement in collisions.

Motorcycle collisions

Of the 192,890 collisions occurring in Indiana in 2010, 3,429 (1.8 percent) involved motorcycles, 110 of which were fatal. On average, 2 percent of collisions in Indiana counties involved motorcycles; the smallest proportion was reported in Posey County (0.8 percent) and the largest in Brown County (7.5 percent). Franklin, Martin, and Daviess counties also have high motorcycle collision rates. While motorcycle collisions comprised only 1.8 percent of all collisions, they accounted for 15.7 percent of fatal collisions and 7.1 percent of personal injury collisions. In Brown County, one of every four personal injury collisions involved a motorcycle.

County ranks

Indiana counties were ranked on six collision-related rates: total collisions, alcohol-involved collisions, speed-related collisions, dangerous driving collisions, motorcycle-involved collisions, and unrestrained serious injuries. A composite index consisting of the average of the six ranks was calculated to provide an overall indication of a county's overall traffic safety environment. A number of factors not accounted for here—such as different population compositions, road types, general driving conditions, reporting practices, etc.—may influence collision occurrence rankings. Readers should be mindful of these differences when viewing county ranks.

Generally, higher dangerous driving collision rates were observed in the northern half (i.e., north of Marion County) of the state, with Tipton County ranking highest (21 percent of collisions involved dangerous driving actions). Conversely, the southern portion of the state—which offers more desirable and scenic riding routes—observed the highest rates of motorcycle-involved collisions, with Brown County ranking highest (nearly eight percent of collisions involved motorcycles).

Considering all collision metrics together reveals that selected areas in Indiana had more challenging traffic safety environments than others. Counties on the northern border of the state around the Gary/Chicago area (e.g., Lake, Porter, Newton) and along interstates 80/90 (e.g., LaPorte, St. Joseph, Marshall, Elkhart, LaGrange, Noble) reported worse collision occurrences in 2010 than many areas of the state. Several counties along State Highway 7 from Tippecanoe County to Delaware County and along State Highway 19 and Interstate 69 from Miami County to Delaware County also ranked poorly. Certain Bloomington MSA counties (e.g., Owen, Monroe), a number of counties immediately south of the Bloomington MSA (e.g., Knox, Daviess, Martin), and several counties between the Bloomington MSA and Cincinnati-Middletown, OH-KY-IN MSA (e.g., Johnson, Shelby, Rush, Decatur, Ripley, Franklin) also reported worse collision occurrences in 2010 than many other counties. Of the 23 counties in the top quartile, 12 were located in heavily populated MSAs.

Economic Costs

Two maps were produced to show economic costs associated with collisions: total costs and costs per capita. Because costs are based on the number of collisions and injuries that occur and because more heavily populated areas tend to record higher numbers of collisions and injuries, counties with larger populations had the highest total economic costs of collisions in 2010. In addition, crashes involving alcohol, speed, young drivers, etc., tend to result in more severe injuries and higher economic costs per crash. Since there is a spatial relationship between these factors and the locality in which the crash occurs, economic costs will vary by geography. Marion County recorded the highest estimated economic costs with $608 million, followed by Lake County ($364 million), Allen County ($239 million), Hamilton County ($161 million), and St. Joseph County ($152 million). (These are the five most populated counties in Indiana). By comparison, the sum of economic costs for counties below the median cost ($23.7 million) was $633 million.

When normalizing for population differences, the distribution of economic costs for counties changes. While many counties in the northern half of Indiana recorded higher total costs associated with collisions, many counties in the southern portion of the state reported higher per capita costs. In fact, only 10 of the 23 counties with the highest total costs were in the southern part of the state, while 19 of the 23 counties with the highest per capita costs were in the southern half of the state. Additionally, 20 of the 23 counties with the highest total costs were located in heavily populated urban and suburban counties, while only 10 of the 23 counties with the highest per capita costs were in these areas.

Table 90. Indiana collisions by severity and county, 2010

	Total collisions		Fatal			Personal injury		Property damage only	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total
Indiana	**192,890**	**n/a**	**701**	**0.4**	**n/a**	**34,084**	**17.7**	**158,105**	**82.0**
Mean	2,097	n/a	8	0.6	n/a	370	17.4	1,719	82.0
Minimum	159	n/a	0	0.0	n/a	26	9.9	125	63.3
Maximum	27,519	n/a	71	1.9	n/a	5,084	35.1	22,364	90.1
Adams	652	61	2	0.3	63	80	12.3	570	87.4
Allen	11,338	3	20	0.2	86	2,175	19.2	9,143	80.6
Bartholomew	2,211	22	10	0.5	44	544	24.6	1,657	74.9
Benton	168	91	3	1.8	3	26	15.5	139	82.7
Blackford	303	84	0	0.0	91	40	13.2	263	86.8
Boone	1,802	25	7	0.4	52	251	13.9	1,544	85.7
Brown	517	71	2	0.4	53	124	24.0	391	75.6
Carroll	603	65	4	0.7	26	79	13.1	520	86.2
Cass	1,276	34	7	0.5	33	177	13.9	1,092	85.6
Clark	4,188	11	13	0.3	62	719	17.2	3,456	82.5
Clay	816	54	3	0.4	56	124	15.2	689	84.4
Clinton	1,180	37	5	0.4	47	157	13.3	1,018	86.3
Crawford	272	85	2	0.7	22	41	15.1	229	84.2
Daviess	387	80	6	1.6	4	136	35.1	245	63.3
Dearborn	1,981	24	8	0.4	50	288	14.5	1,685	85.1
Decatur	798	56	7	0.9	18	116	14.5	675	84.6
DeKalb	1,273	35	6	0.5	42	182	14.3	1,085	85.2
Delaware	4,408	10	10	0.2	78	791	17.9	3,607	81.8
Dubois	904	49	2	0.2	80	188	20.8	714	79.0
Elkhart	6,098	8	23	0.4	55	824	13.5	5,251	86.1
Fayette	543	69	4	0.7	21	91	16.8	448	82.5
Floyd	2,554	18	6	0.2	77	502	19.7	2,046	80.1
Fountain	448	77	3	0.7	25	52	11.6	393	87.7
Franklin	516	72	4	0.8	20	103	20.0	409	79.3
Fulton	519	70	2	0.4	54	65	12.5	452	87.1
Gibson	1,071	42	7	0.7	27	185	17.3	879	82.1
Grant	2,375	21	7	0.3	66	355	14.9	2,013	84.8
Greene	887	50	6	0.7	24	125	14.1	756	85.2
Hamilton	6,671	6	18	0.3	71	1,001	15.0	5,652	84.7
Hancock	1,441	29	8	0.6	32	263	18.3	1,170	81.2
Harrison	1,143	38	11	1.0	16	197	17.2	935	81.8
Hendricks	3,476	15	11	0.3	61	591	17.0	2,874	82.7
Henry	1,089	41	3	0.3	69	192	17.6	894	82.1
Howard	2,455	19	6	0.2	75	495	20.2	1,954	79.6
Huntington	1,122	39	4	0.4	57	174	15.5	944	84.1
Jackson	1,514	28	12	0.8	19	218	14.4	1,284	84.8
Jasper	1,230	36	15	1.2	8	215	17.5	1,000	81.3
Jay	660	60	1	0.2	87	103	15.6	556	84.2
Jefferson	920	48	3	0.3	58	154	16.7	763	82.9
Jennings	863	52	8	0.9	17	153	17.7	702	81.3
Johnson	2,986	17	9	0.3	64	614	20.6	2,363	79.1
Knox	1,031	44	11	1.1	12	246	23.9	774	75.1
Kosciusko	2,434	20	7	0.3	68	336	13.8	2,091	85.9
LaGrange	874	51	10	1.1	10	115	13.2	749	85.7
Lake	16,964	2	44	0.3	73	2,854	16.8	14,066	82.9
LaPorte	3,386	16	15	0.4	45	678	20.0	2,693	79.5
Lawrence	1,389	31	6	0.4	46	322	23.2	1,061	76.4
Madison	3,934	13	16	0.4	49	686	17.4	3,232	82.2

continued on next page

Table 90. *(continued)*

	Total collisions		Fatal			Personal injury		Property damage only	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total
Marion	27,519	1	71	0.3	74	5,084	18.5	22,364	81.3
Marshall	1,415	30	7	0.5	39	224	15.8	1,184	83.7
Martin	257	87	3	1.2	9	53	20.6	201	78.2
Miami	1,016	45	2	0.2	83	166	16.3	848	83.5
Monroe	4,053	12	13	0.3	59	918	22.6	3,122	77.0
Montgomery	1,035	43	3	0.3	67	197	19.0	835	80.7
Morgan	1,532	26	3	0.2	85	324	21.1	1,205	78.7
Newton	369	82	1	0.3	70	55	14.9	313	84.8
Noble	1,301	33	8	0.6	30	167	12.8	1,126	86.5
Ohio	208	89	1	0.5	41	28	13.5	179	86.1
Orange	595	66	6	1.0	14	105	17.6	484	81.3
Owen	545	68	4	0.7	23	93	17.1	448	82.2
Parke	583	67	3	0.5	36	66	11.3	514	88.2
Perry	473	75	2	0.4	48	82	17.3	389	82.2
Pike	193	90	2	1.0	13	51	26.4	140	72.5
Porter	4,725	9	27	0.6	31	988	20.9	3,710	78.5
Posey	485	74	3	0.6	29	79	16.3	403	83.1
Pulaski	463	76	1	0.2	82	60	13.0	402	86.8
Putnam	832	53	2	0.2	76	145	17.4	685	82.3
Randolph	513	73	2	0.4	51	83	16.2	428	83.4
Ripley	767	57	5	0.7	28	122	15.9	640	83.4
Rush	380	81	1	0.3	72	80	21.1	299	78.7
St. Joseph	6,855	5	15	0.2	81	1,399	20.4	5,441	79.4
Scott	616	64	7	1.1	11	190	30.8	419	68.0
Shelby	1,112	40	14	1.3	7	268	24.1	830	74.6
Spencer	628	62	8	1.3	6	105	16.7	515	82.0
Starke	679	59	9	1.3	5	104	15.3	566	83.4
Steuben	1,377	32	1	0.1	90	136	9.9	1,240	90.1
Sullivan	441	78	8	1.8	2	90	20.4	343	77.8
Switzerland	213	88	1	0.5	43	32	15.0	180	84.5
Tippecanoe	7,140	4	9	0.1	88	1,030	14.4	6,101	85.4
Tipton	336	83	1	0.3	65	85	25.3	250	74.4
Union	159	92	3	1.9	1	31	19.5	125	78.6
Vanderburgh	6,394	7	6	0.1	89	1,164	18.2	5,224	81.7
Vermillion	395	79	2	0.5	37	76	19.2	317	80.3
Vigo	3,493	14	17	0.5	40	759	21.7	2,717	77.8
Wabash	1,002	46	10	1.0	15	143	14.3	849	84.7
Warren	262	86	0	0.0	91	40	15.3	222	84.7
Warrick	1,530	27	3	0.2	84	201	13.1	1,326	86.7
Washington	748	58	4	0.5	34	130	17.4	614	82.1
Wayne	2,211	22	5	0.2	79	423	19.1	1,783	80.6
Wells	624	63	2	0.3	60	82	13.1	540	86.5
White	943	47	5	0.5	35	137	14.5	801	84.9
Whitley	801	55	4	0.5	38	141	17.6	656	81.9
Unknown	2	n/a	0	0.0	n/a	1	50.0	1	50.0

Source: Indiana State Police

Note: ***Personal injury*** **collisions include collisions with** ***incapacitating, non-incapacitating*** **and** ***possible*** **injuries.**

Table 91. Individuals involved in Indiana collisions, by injury status and county, 2010

	Total individuals involved		Fatal			Incapacitating		Non-incapacitating		Other/no injury	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total	Count	As % county total
Indiana	**311,235**	**n/a**	**754**	**0.2**	**n/a**	**3,443**	**1.1**	**44,169**	**14.2**	**262,869**	**84.5**
Mean	3,383	n/a	8	0.4	n/a	37	1.5	480	14.9	2,857	83.2
Minimum	213	n/a	0	0.0	n/a	1	0.2	33	9.8	159	67.9
Maximum	48,027	n/a	73	1.9	n/a	417	5.3	6,480	29.1	41,057	89.1
Adams	940	61	2	0.2	62	19	2.0	99	10.5	820	87.2
Allen	18,753	3	21	0.1	86	189	1.0	2,877	15.3	15,666	83.5
Bartholomew	3,775	20	12	0.3	45	38	1.0	717	19.0	3,008	79.7
Benton	227	91	3	1.3	2	2	0.9	33	14.5	189	83.3
Blackford	413	84	0	0.0	91	1	0.2	52	12.6	360	87.2
Boone	2,671	25	7	0.3	55	35	1.3	302	11.3	2,327	87.1
Brown	730	71	2	0.3	53	39	5.3	131	17.9	558	76.4
Carroll	815	67	4	0.5	28	20	2.5	87	10.7	704	86.4
Cass	1,821	34	7	0.4	34	13	0.7	249	13.7	1,552	85.2
Clark	6,876	11	14	0.2	64	71	1.0	953	13.9	5,838	84.9
Clay	1,161	55	3	0.3	56	9	0.8	152	13.1	997	85.9
Clinton	1,656	39	5	0.3	48	24	1.4	212	12.8	1,415	85.4
Crawford	356	86	2	0.6	21	6	1.7	56	15.7	292	82.0
Daviess	667	76	7	1.0	6	13	1.9	194	29.1	453	67.9
Dearborn	2,946	24	9	0.3	47	46	1.6	372	12.6	2,519	85.5
Decatur	1,192	54	7	0.6	19	13	1.1	142	11.9	1,030	86.4
DeKalb	1,843	32	7	0.4	36	29	1.6	233	12.6	1,574	85.4
Delaware	7,048	10	10	0.1	81	52	0.7	1,045	14.8	5,941	84.3
Dubois	1,408	47	2	0.1	80	12	0.9	227	16.1	1,167	82.9
Elkhart	9,508	8	24	0.3	58	84	0.9	1,075	11.3	8,325	87.6
Fayette	868	65	4	0.5	30	10	1.2	110	12.7	744	85.7
Floyd	4,251	19	8	0.2	72	33	0.8	691	16.3	3,519	82.8
Fountain	599	78	3	0.5	26	8	1.3	63	10.5	525	87.6
Franklin	727	72	4	0.6	22	6	0.8	133	18.3	584	80.3
Fulton	706	73	2	0.3	51	8	1.1	86	12.2	610	86.4
Gibson	1,593	42	9	0.6	20	19	1.2	250	15.7	1,315	82.5
Grant	3,581	22	7	0.2	65	28	0.8	459	12.8	3,087	86.2
Greene	1,211	53	6	0.5	27	14	1.2	162	13.4	1,029	85.0
Hamilton	11,843	4	19	0.2	78	80	0.7	1,297	11.0	10,447	88.2
Hancock	2,427	27	8	0.3	43	34	1.4	343	14.1	2,042	84.1
Harrison	1,701	37	11	0.6	17	36	2.1	246	14.5	1,408	82.8
Hendricks	5,845	14	11	0.2	71	70	1.2	745	12.7	5,019	85.9
Henry	1,571	43	3	0.2	70	32	2.0	245	15.6	1,291	82.2
Howard	4,289	18	6	0.1	82	57	1.3	648	15.1	3,578	83.4
Huntington	1,596	41	4	0.3	59	27	1.7	233	14.6	1,332	83.5
Jackson	2,210	29	13	0.6	18	38	1.7	276	12.5	1,883	85.2
Jasper	1,733	36	20	1.2	4	24	1.4	274	15.8	1,415	81.7
Jay	926	62	1	0.1	87	19	2.1	114	12.3	792	85.5
Jefferson	1,363	50	4	0.3	49	27	2.0	168	12.3	1,164	85.4
Jennings	1,390	49	10	0.7	15	38	2.7	196	14.1	1,146	82.4
Johnson	5,270	16	9	0.2	75	75	1.4	767	14.6	4,419	83.9
Knox	1,625	40	11	0.7	16	37	2.3	313	19.3	1,264	77.8
Kosciusko	3,582	21	7	0.2	66	39	1.1	416	11.6	3,120	87.1
LaGrange	1,116	57	11	1.0	9	10	0.9	160	14.3	935	83.8
Lake	28,756	2	49	0.2	76	252	0.9	3,790	13.2	24,665	85.8
LaPorte	5,174	17	18	0.3	42	57	1.1	881	17.0	4,218	81.5
Lawrence	2,178	30	6	0.3	52	37	1.7	435	20.0	1,700	78.1
Madison	6,240	13	16	0.3	57	67	1.1	906	14.5	5,251	84.2

continued on next page

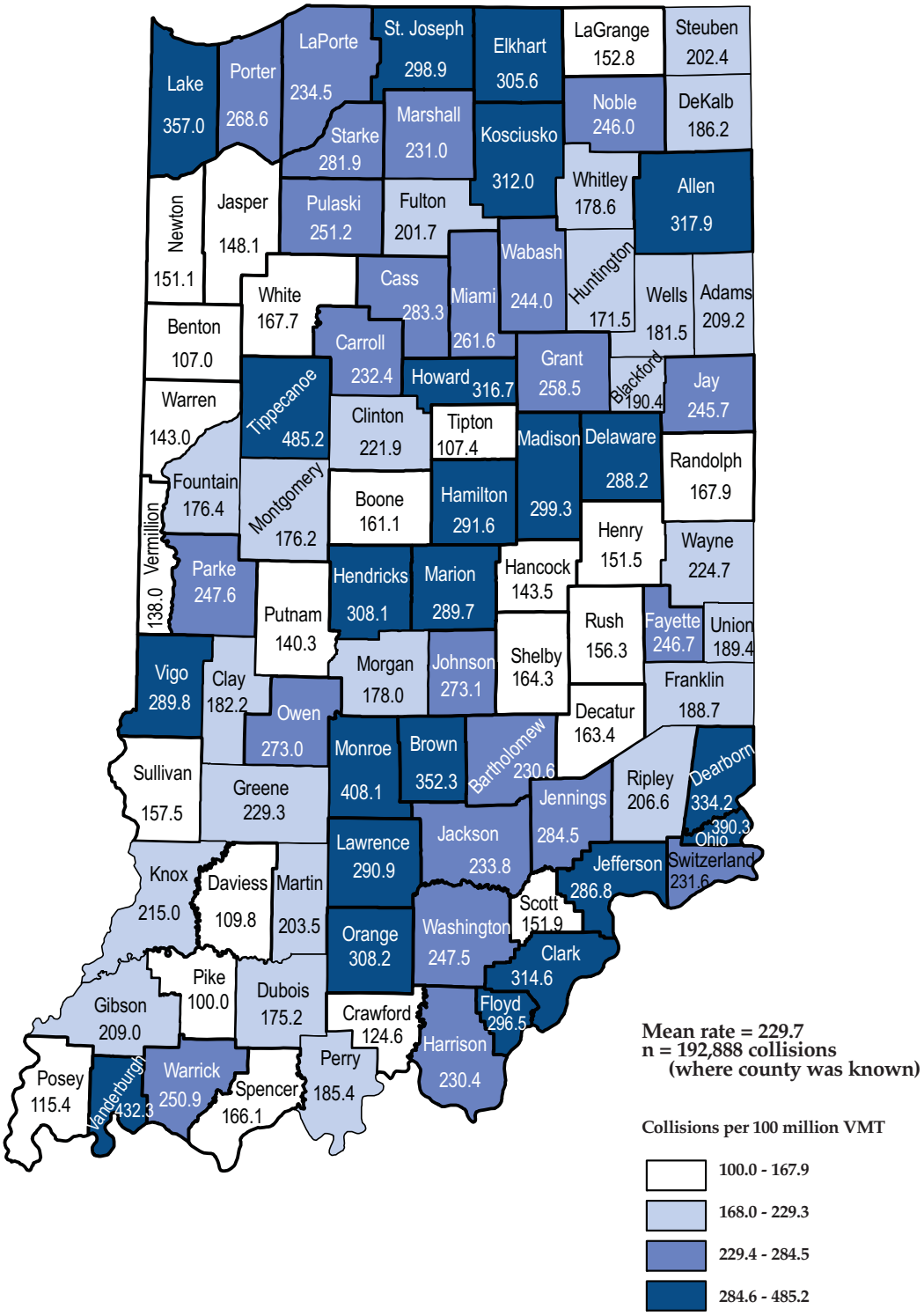
Table 91. *(continued)*

	Total individuals involved		Fatal			Incapacitating		Non-incapacitating		Other/no injury	
	Count	County rank	Count	As % county total	County rank (on %)	Count	As % county total	Count	As % county total	Count	As % county total
Marion	48,027	1	73	0.2	79	417	0.9	6,480	13.5	41,057	85.5
Marshall	1,954	31	7	0.4	40	19	1.0	291	14.9	1,637	83.8
Martin	360	85	4	1.1	5	9	2.5	54	15.0	293	81.4
Miami	1,426	45	3	0.2	63	25	1.8	219	15.4	1,179	82.7
Monroe	6,673	12	13	0.2	67	83	1.2	1,150	17.2	5,427	81.3
Montgomery	1,552	44	3	0.2	68	16	1.0	285	18.4	1,248	80.4
Morgan	2,514	26	3	0.1	85	27	1.1	448	17.8	2,036	81.0
Newton	480	82	2	0.4	33	6	1.3	70	14.6	402	83.8
Noble	1,785	35	9	0.5	25	43	2.4	204	11.4	1,529	85.7
Ohio	261	90	1	0.4	35	1	0.4	37	14.2	222	85.1
Orange	834	66	8	1.0	10	13	1.6	142	17.0	671	80.5
Owen	787	68	4	0.5	24	12	1.5	108	13.7	663	84.2
Parke	735	70	4	0.5	23	25	3.4	73	9.9	633	86.1
Perry	697	75	2	0.3	50	13	1.9	91	13.1	591	84.8
Pike	297	88	3	1.0	8	7	2.4	60	20.2	227	76.4
Porter	7,540	9	28	0.4	37	86	1.1	1,304	17.3	6,122	81.2
Posey	701	74	3	0.4	32	8	1.1	94	13.4	596	85.0
Pulaski	567	79	1	0.2	74	14	2.5	82	14.5	470	82.9
Putnam	1,237	51	2	0.2	77	16	1.3	184	14.9	1,035	83.7
Randolph	742	69	2	0.3	54	13	1.8	109	14.7	618	83.3
Ripley	1,117	56	5	0.4	31	18	1.6	183	16.4	911	81.6
Rush	523	81	1	0.2	69	14	2.7	93	17.8	415	79.3
St. Joseph	11,777	5	15	0.1	83	119	1.0	1,814	15.4	9,829	83.5
Scott	1,084	58	8	0.7	14	52	4.8	235	21.7	789	72.8
Shelby	1,697	38	16	0.9	11	16	0.9	353	20.8	1,312	77.3
Spencer	874	64	8	0.9	12	15	1.7	125	14.3	726	83.1
Starke	955	60	10	1.0	7	24	2.5	164	17.2	757	79.3
Steuben	1,834	33	1	0.1	89	20	1.1	179	9.8	1,634	89.1
Sullivan	625	77	8	1.3	3	25	4.0	118	18.9	474	75.8
Switzerland	278	89	1	0.4	38	3	1.1	41	14.7	233	83.8
Tippecanoe	11,373	7	10	0.1	88	59	0.5	1,320	11.6	9,984	87.8
Tipton	467	83	1	0.2	61	6	1.3	109	23.3	351	75.2
Union	213	92	4	1.9	1	5	2.3	45	21.1	159	74.6
Vanderburgh	11,735	6	6	0.1	90	76	0.6	1,581	13.5	10,072	85.8
Vermillion	563	80	2	0.4	41	12	2.1	96	17.1	453	80.5
Vigo	5,824	15	18	0.3	46	84	1.4	973	16.7	4,749	81.5
Wabash	1,426	45	12	0.8	13	18	1.3	187	13.1	1,209	84.8
Warren	327	87	0	0.0	91	5	1.5	45	13.8	277	84.7
Warrick	2,373	28	3	0.1	84	19	0.8	240	10.1	2,111	89.0
Washington	1,061	59	5	0.5	29	12	1.1	174	16.4	870	82.0
Wayne	3,242	23	6	0.2	73	41	1.3	535	16.5	2,660	82.0
Wells	912	63	2	0.2	60	16	1.8	95	10.4	799	87.6
White	1,392	48	5	0.4	39	20	1.4	185	13.3	1,182	84.9
Whitley	1,215	52	4	0.3	44	14	1.2	177	14.6	1,020	84.0
Unknown	2	n/a	0	n/a	n/a	0	n/a	2	n/a	0	n/a

Source: Indiana State Police

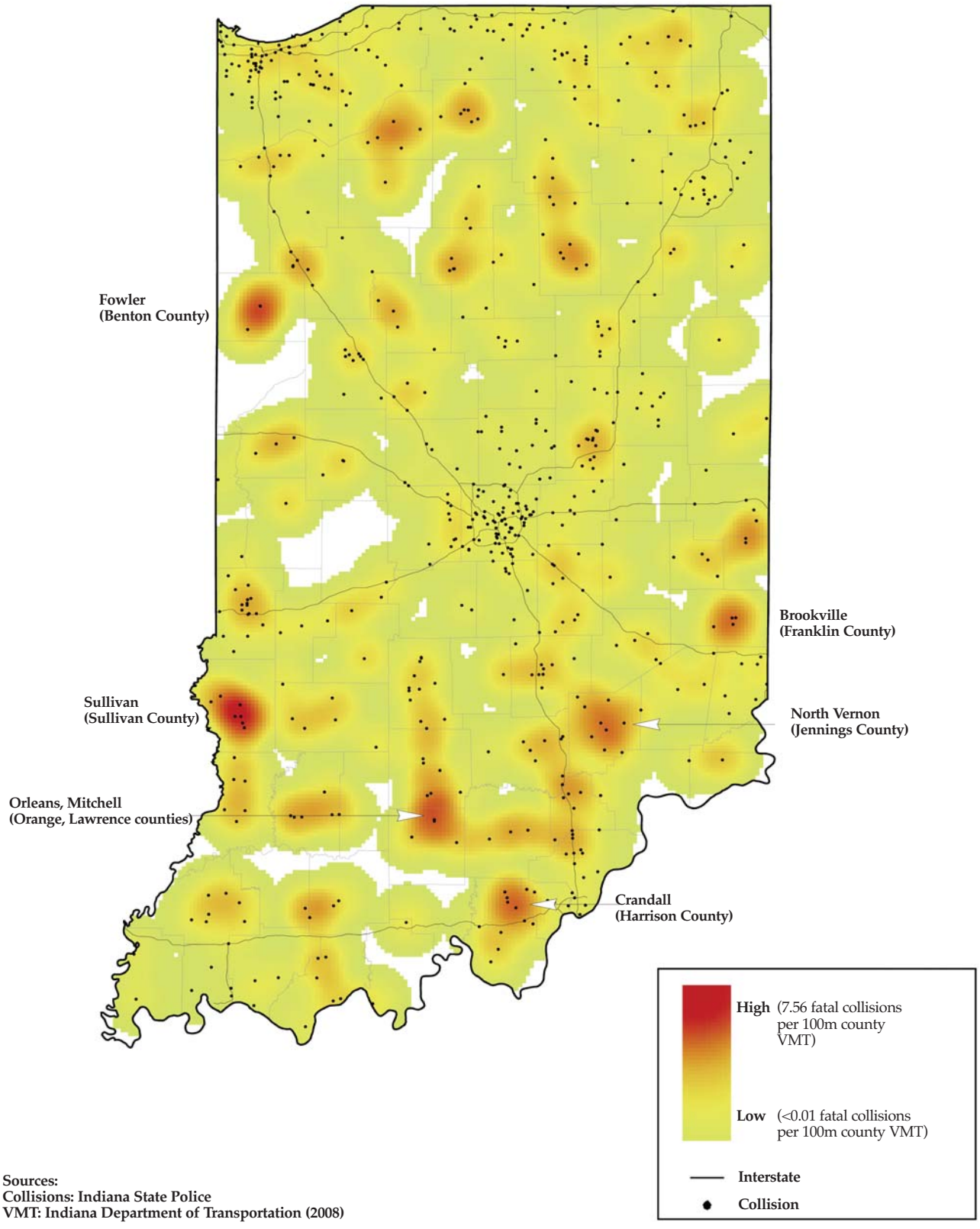
Notes:
***Non-incapacitating* injuries include those reported as *non-incapacitating* and *possible* injuries.**
***Other/no injury* counts include injury type values identified as *not reported, refused, unknown*, invalid and missing codes.**

Map 1. Traffic collisions per 100m vehicle miles travelled (VMT), by county, 2010



Sources:
Collisions: Indiana State Police
VMT: Indiana Department of Transportation (2008)

Map 2. Indiana fatal collision concentrations per 100m vehicle miles travelled (VMT), 2010



Sources:
Collisions: Indiana State Police
VMT: Indiana Department of Transportation (2008)

Note: Density grid is based on points with valid coordinates (637/701).

Table 92. Indiana speed-related collisions by severity and county, 2010

	All collisions			Fatal			Personal injury		Property damage only	
	Speed-related collisions	Speed-related as % of total collisions	County rank (on %)	Count	Speed-related as % of total fatal collisions	County rank (on %)	Count	Speed-related as % of total personal injury collisions	Count	Speed-related as % of total property damage collisions
Indiana	**18,551**	**9.6**	**n/a**	**136**	**19.4**	**n/a**	**4,144**	**12.2**	**14,271**	**9.0**
Mean	202	9.7	n/a	1	15.7	n/a	45	13.6	155	9.0
Minimum	7	3.0	n/a	0	0.0	n/a	0	0.0	5	2.8
Maximum	2,208	18.8	n/a	16	100.0	n/a	517	29.3	1,675	17.2
Adams	55	8.4	57	1	50.0	5	12	15.0	42	7.4
Allen	999	8.8	53	6	30.0	17	209	9.6	784	8.6
Bartholomew	140	6.3	72	1	10.0	49	35	6.4	104	6.3
Benton	15	8.9	50	0	0.0	53	6	23.1	9	6.5
Blackford	9	3.0	92	0	0.0	53	1	2.5	8	3.0
Boone	194	10.8	34	1	14.3	38	47	18.7	146	9.5
Brown	70	13.5	17	0	0.0	53	26	21.0	44	11.3
Carroll	106	17.6	2	1	25.0	23	20	25.3	85	16.3
Cass	96	7.5	67	0	0.0	53	17	9.6	79	7.2
Clark	302	7.2	69	1	7.7	51	85	11.8	216	6.3
Clay	46	5.6	82	0	0.0	53	14	11.3	32	4.6
Clinton	161	13.6	15	0	0.0	53	24	15.3	137	13.5
Crawford	39	14.3	12	0	0.0	53	12	29.3	27	11.8
Daviess	24	6.2	74	1	16.7	34	10	7.4	13	5.3
Dearborn	157	7.9	64	1	12.5	41	51	17.7	105	6.2
Decatur	85	10.7	37	4	57.1	4	21	18.1	60	8.9
DeKalb	173	13.6	16	0	0.0	53	39	21.4	134	12.4
Delaware	488	11.1	29	2	20.0	30	96	12.1	390	10.8
Dubois	122	13.5	18	0	0.0	53	27	14.4	95	13.3
Elkhart	783	12.8	19	7	30.4	16	111	13.5	665	12.7
Fayette	27	5.0	85	0	0.0	53	8	8.8	19	4.2
Floyd	149	5.8	78	0	0.0	53	39	7.8	110	5.4
Fountain	37	8.3	59	0	0.0	53	10	19.2	27	6.9
Franklin	86	16.7	6	1	25.0	23	23	22.3	62	15.2
Fulton	50	9.6	44	0	0.0	53	11	16.9	39	8.6
Gibson	103	9.6	45	2	28.6	19	17	9.2	84	9.6
Grant	329	13.9	14	2	28.6	19	51	14.4	276	13.7
Greene	54	6.1	76	1	16.7	34	15	12.0	38	5.0
Hamilton	400	6.0	77	7	38.9	11	76	7.6	317	5.6
Hancock	122	8.5	56	2	25.0	23	22	8.4	98	8.4
Harrison	92	8.0	62	0	0.0	53	26	13.2	66	7.1
Hendricks	372	10.7	35	3	27.3	21	72	12.2	297	10.3
Henry	125	11.5	26	0	0.0	53	27	14.1	98	11.0
Howard	139	5.7	80	1	16.7	34	41	8.3	97	5.0
Huntington	129	11.5	25	1	25.0	23	26	14.9	102	10.8
Jackson	139	9.2	49	1	8.3	50	24	11.0	114	8.9
Jasper	130	10.6	39	5	33.3	14	29	13.5	96	9.6
Jay	21	3.2	91	0	0.0	53	5	4.9	16	2.9
Jefferson	52	5.7	81	0	0.0	53	6	3.9	46	6.0
Jennings	49	5.7	79	1	12.5	41	13	8.5	35	5.0
Johnson	276	9.2	48	1	11.1	46	86	14.0	189	8.0
Knox	114	11.1	30	0	0.0	53	40	16.3	74	9.6
Kosciusko	213	8.8	54	1	14.3	38	44	13.1	168	8.0
LaGrange	147	16.8	5	3	30.0	17	30	26.1	114	15.2
Lake	2,148	12.7	21	15	34.1	13	478	16.7	1,655	11.8
LaPorte	382	11.3	27	4	26.7	22	75	11.1	303	11.3
Lawrence	99	7.1	70	0	0.0	53	41	12.7	58	5.5
Madison	319	8.1	60	1	6.3	52	57	8.3	261	8.1

continued on next page

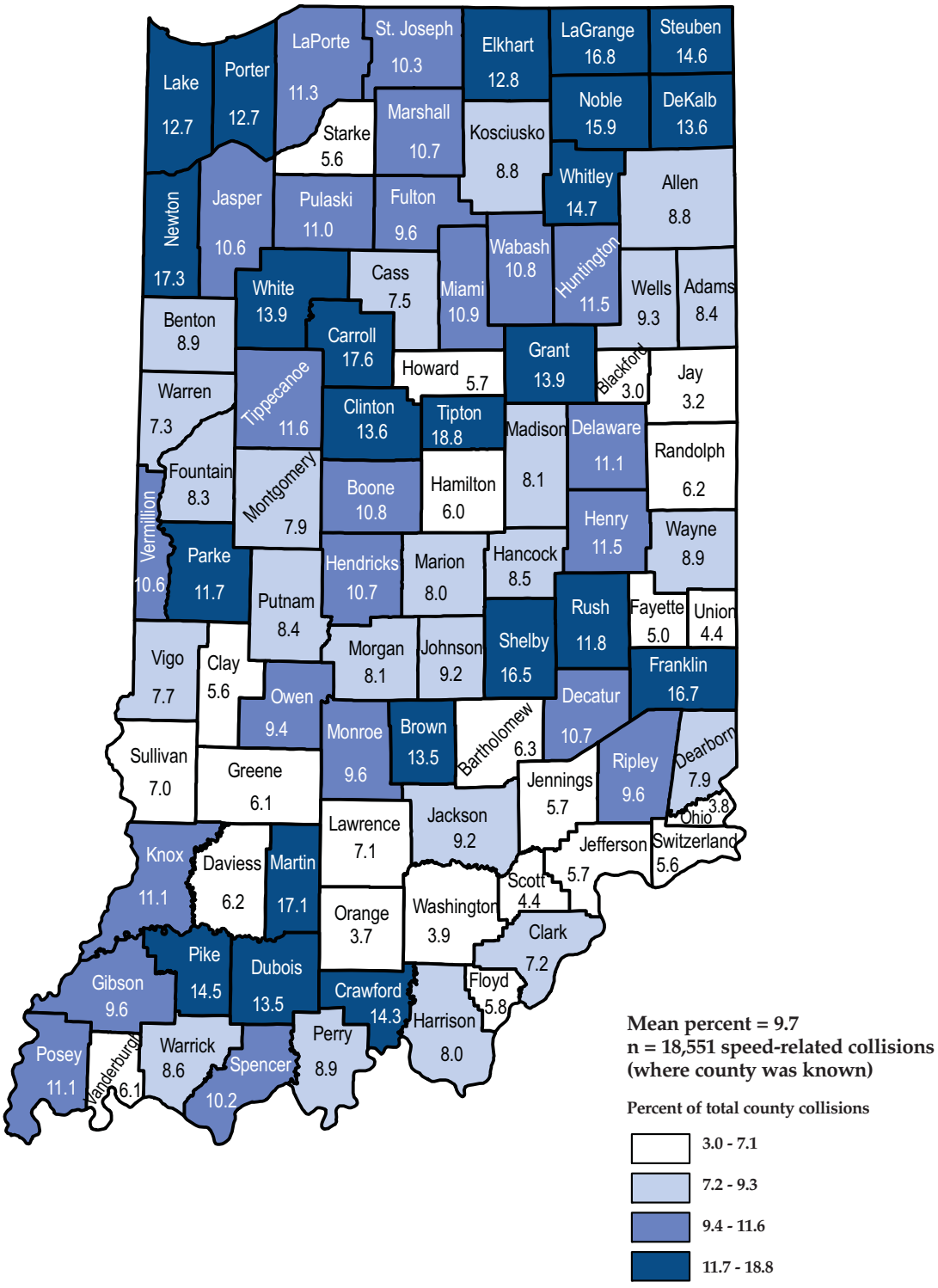
Table 92. *(continued)*

	All collisions			Fatal			Personal injury		Property damage only	
	Speed-related collisions	Speed-related as % of total collisions	County rank (on %)	Count	Speed-related as % of total fatal collisions	County rank (on %)	Count	Speed-related as % of total personal injury collisions	Count	Speed-related as % of total property damage collisions
Marion	2,208	8.0	63	16	22.5	27	517	10.2	1,675	7.5
Marshall	151	10.7	36	1	14.3	38	39	17.4	111	9.4
Martin	44	17.1	4	0	0.0	53	11	20.8	33	16.4
Miami	111	10.9	32	0	0.0	53	30	18.1	81	9.6
Monroe	391	9.6	43	6	46.2	10	99	10.8	286	9.2
Montgomery	82	7.9	65	1	33.3	14	17	8.6	64	7.7
Morgan	124	8.1	61	0	0.0	53	34	10.5	90	7.5
Newton	64	17.3	3	0	0.0	53	13	23.6	51	16.3
Noble	207	15.9	8	1	12.5	41	47	28.1	159	14.1
Ohio	8	3.8	89	0	0.0	53	3	10.7	5	2.8
Orange	22	3.7	90	0	0.0	53	8	7.6	14	2.9
Owen	51	9.4	46	0	0.0	53	8	8.6	43	9.6
Parke	68	11.7	23	0	0.0	53	10	15.2	58	11.3
Perry	42	8.9	51	1	50.0	5	7	8.5	34	8.7
Pike	28	14.5	11	1	50.0	5	9	17.6	18	12.9
Porter	602	12.7	20	3	11.1	46	143	14.5	456	12.3
Posey	54	11.1	28	2	66.7	2	13	16.5	39	9.7
Pulaski	51	11.0	31	0	0.0	53	17	28.3	34	8.5
Putnam	70	8.4	58	0	0.0	53	20	13.8	50	7.3
Randolph	32	6.2	73	0	0.0	53	7	8.4	25	5.8
Ripley	74	9.6	42	3	60.0	3	18	14.8	53	8.3
Rush	45	11.8	22	0	0.0	53	14	17.5	31	10.4
St. Joseph	707	10.3	40	3	20.0	30	148	10.6	556	10.2
Scott	27	4.4	87	0	0.0	53	9	4.7	18	4.3
Shelby	183	16.5	7	3	21.4	29	46	17.2	134	16.1
Spencer	64	10.2	41	3	37.5	12	17	16.2	44	8.5
Starke	38	5.6	84	1	11.1	46	13	12.5	24	4.2
Steuben	201	14.6	10	1	100.0	1	32	23.5	168	13.5
Sullivan	31	7.0	71	1	12.5	41	9	10.0	21	6.1
Switzerland	12	5.6	83	0	0.0	53	1	3.1	11	6.1
Tippecanoe	829	11.6	24	2	22.2	28	162	15.7	665	10.9
Tipton	63	18.8	1	0	0.0	53	20	23.5	43	17.2
Union	7	4.4	86	0	0.0	53	0	0.0	7	5.6
Vanderburgh	391	6.1	75	1	16.7	34	90	7.7	300	5.7
Vermillion	42	10.6	38	0	0.0	53	6	7.9	36	11.4
Vigo	269	7.7	66	2	11.8	45	78	10.3	189	7.0
Wabash	108	10.8	33	2	20.0	30	20	14.0	86	10.1
Warren	19	7.3	68	0	0.0	53	6	15.0	13	5.9
Warrick	132	8.6	55	0	0.0	53	33	16.4	99	7.5
Washington	29	3.9	88	0	0.0	53	7	5.4	22	3.6
Wayne	196	8.9	52	1	20.0	30	51	12.1	144	8.1
Wells	58	9.3	47	1	50.0	5	12	14.6	45	8.3
White	131	13.9	13	0	0.0	53	25	18.2	106	13.2
Whitley	118	14.7	9	2	50.0	5	20	14.2	96	14.6

Source: Indiana State Police

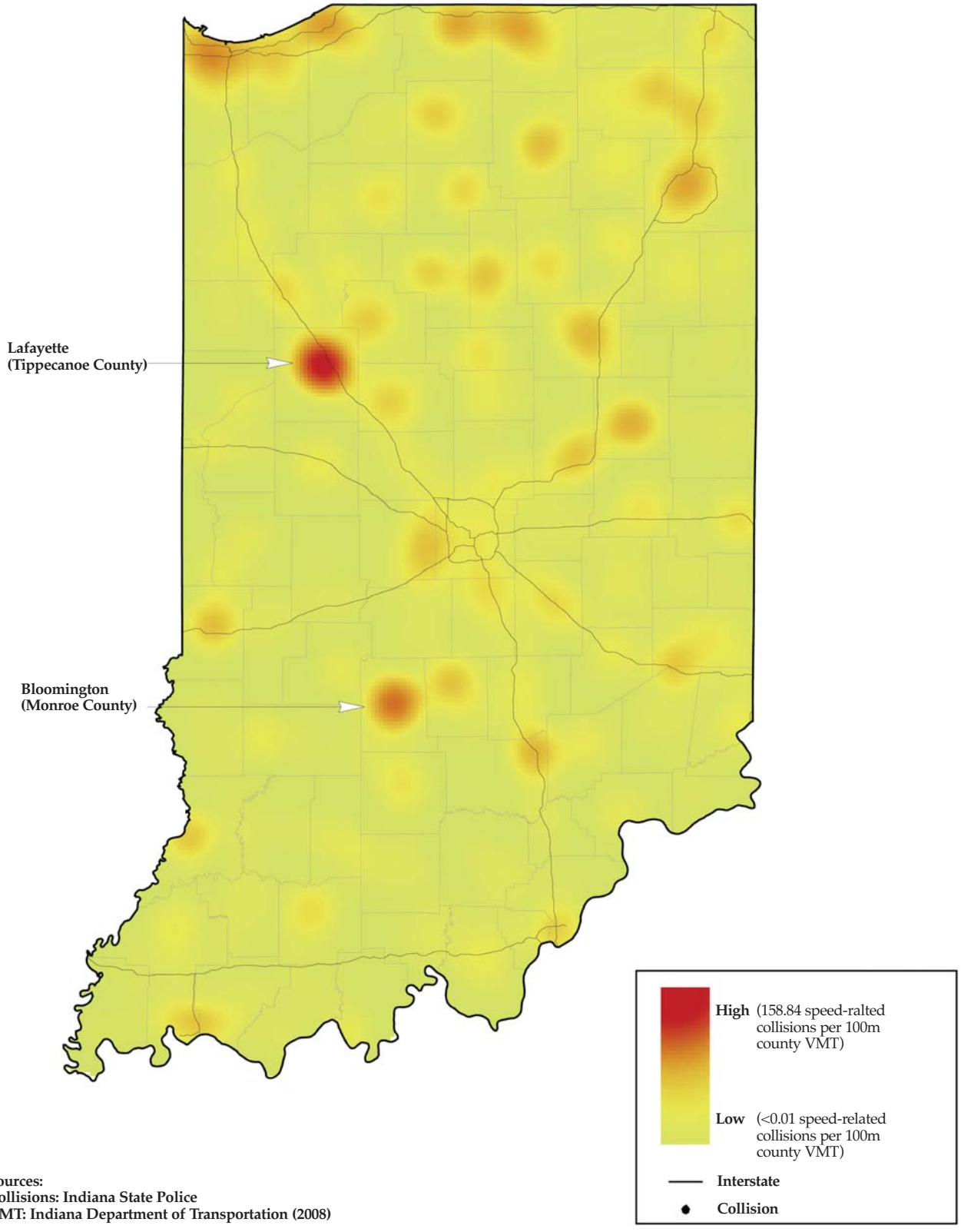
Notes:
Percent calculations represent the percent of total county collisions (presented in Table 90) in each injury category that are *speed-related*.
***Personal injury* collisions include collisions with *incapacitating*, *non-incapacitating*, and *possible* injuries.**
Fatal *speed-related* county rank values may result in a tie due to the fact that a number of counties have the same value for *speed-related* fatal collisions as a percentage of total county fatal collisions.

Map 3. Percentage of county collisions that were speed-related, 2010



Source: Indiana State Police

Map 4. Indiana speed-related collision concentrations per 100m vehicle miles travelled (VMT), 2010



Sources:
Collisions: Indiana State Police
VMT: Indiana Department of Transportation (2008)

Note: Density grid is based on points with valid coordinates (15,957/18,252).

Table 93. Indiana alcohol-related collisions by severity and county, 2010

	All collisions			Fatal			Personal injury		Property damage only	
	Alcohol-related collisions	Alcohol - related as % of total collisions	County rank (on %)	Count	Alcohol - related as % of total fatal collisions	County rank (on %)	Count	Alcohol - related as % of total personal injury collisions	Count	Alcohol - related as % of total property damage collisions
Indiana	**8,339**	**4.3**	**n/a**	**173**	**24.7**	**n/a**	**2,781**	**8.2**	**5,385**	**3.4**
Mean	91	4.3	n/a	2	20.3	n/a	30	9.1	59	3.2
Minimum	6	2.1	n/a	0	0.0	n/a	2	2.9	1	0.6
Maximum	1,129	13.0	n/a	30	100.0	n/a	358	27.5	741	7.8
Adams	22	3.4	68	0	0.0	58	11	13.8	11	1.9
Allen	593	5.2	20	2	10.0	53	190	8.7	401	4.4
Bartholomew	88	4.0	52	4	40.0	13	40	7.4	44	2.7
Benton	8	4.8	26	0	0.0	58	4	15.4	4	2.9
Blackford	13	4.3	36	0	0.0	58	5	12.5	8	3.0
Boone	62	3.4	66	3	42.9	10	17	6.8	42	2.7
Brown	23	4.4	32	0	0.0	58	8	6.5	15	3.8
Carroll	17	2.8	86	0	0.0	58	5	6.3	12	2.3
Cass	40	3.1	79	2	28.6	31	6	3.4	32	2.9
Clark	159	3.8	58	2	15.4	45	45	6.3	112	3.2
Clay	34	4.2	41	1	33.3	21	10	8.1	23	3.3
Clinton	62	5.3	18	1	20.0	41	23	14.6	38	3.7
Crawford	9	3.3	72	0	0.0	58	2	4.9	7	3.1
Daviess	26	6.7	6	1	16.7	43	12	8.8	13	5.3
Dearborn	79	4.0	51	2	25.0	34	22	7.6	55	3.3
Decatur	33	4.1	43	3	42.9	10	12	10.3	18	2.7
DeKalb	41	3.2	75	1	16.7	43	19	10.4	21	1.9
Delaware	179	4.1	47	2	20.0	41	73	9.2	104	2.9
Dubois	42	4.6	28	0	0.0	58	13	6.9	29	4.1
Elkhart	207	3.4	67	5	21.7	40	44	5.3	158	3.0
Fayette	28	5.2	21	3	0.0	58	8	8.8	17	3.8
Floyd	95	3.7	59	0	0.0	58	35	7.0	60	2.9
Fountain	18	4.0	50	1	33.3	21	4	7.7	13	3.3
Franklin	24	4.7	27	1	25.0	34	10	9.7	13	3.2
Fulton	15	2.9	85	0	0.0	58	9	13.8	6	1.3
Gibson	38	3.5	63	0	0.0	58	14	7.6	24	2.7
Grant	78	3.3	74	2	28.6	31	17	4.8	59	2.9
Greene	37	4.2	40	0	0.0	58	11	8.8	26	3.4
Hamilton	239	3.6	62	9	50.0	6	59	5.9	171	3.0
Hancock	64	4.4	34	1	12.5	49	18	6.8	45	3.8
Harrison	30	2.6	90	1	9.1	55	14	7.1	15	1.6
Hendricks	117	3.4	69	1	9.1	55	45	7.6	71	2.5
Henry	30	2.8	89	1	33.3	21	14	7.3	15	1.7
Howard	105	4.3	37	2	33.3	21	41	8.3	62	3.2
Huntington	33	2.9	83	1	25.0	34	11	6.3	21	2.2
Jackson	50	3.3	73	1	8.3	57	17	7.8	32	2.5
Jasper	55	4.5	31	4	26.7	33	20	9.3	31	3.1
Jay	14	2.1	92	1	100.0	1	3	2.9	10	1.8
Jefferson	36	3.9	54	0	0.0	58	13	8.4	23	3.0
Jennings	31	3.6	61	2	25.0	34	8	5.2	21	3.0
Johnson	124	4.2	42	0	0.0	58	39	6.4	85	3.6
Knox	60	5.8	9	4	36.4	19	22	8.9	34	4.4
Kosciusko	94	3.9	56	4	57.1	5	32	9.5	58	2.8
LaGrange	43	4.9	22	4	40.0	13	15	13.0	24	3.2
Lake	935	5.5	12	15	34.1	20	313	11.0	607	4.3
LaPorte	162	4.8	25	6	40.0	13	51	7.5	105	3.9
Lawrence	59	4.2	39	0	0.0	58	26	8.1	33	3.1
Madison	175	4.4	33	5	31.3	29	48	7.0	122	3.8

continued on next page

Table 93. *(continued)*

	All collisions			Fatal			Personal injury		Property damage only	
	Alcohol - related collisions	Alcohol - related as % of total collisions	County rank (on %)	Count	Alcohol - related as % of total fatal collisions	County rank (on %)	Count	Alcohol - related as % of total personal injury collisions	Count	Alcohol - related as % of total property damage collisions
Marion	1,129	4.1	45	30	42.3	12	358	7.0	741	3.3
Marshall	57	4.0	49	0	0.0	58	22	9.8	35	3.0
Martin	15	5.8	8	1	33.3	21	4	7.5	10	5.0
Miami	42	4.1	44	0	0.0	58	13	7.8	29	3.4
Monroe	221	5.5	14	2	15.4	45	81	8.8	138	4.4
Montgomery	38	3.7	60	2	66.7	4	17	8.6	19	2.3
Morgan	51	3.3	71	0	0.0	58	20	6.2	31	2.6
Newton	17	4.6	29	1	100.0	1	8	14.5	8	2.6
Noble	63	4.8	24	1	12.5	49	24	14.4	38	3.4
Ohio	17	8.2	3	0	0.0	58	3	10.7	14	7.8
Orange	19	3.2	78	2	33.3	21	7	6.7	10	2.1
Owen	25	4.6	30	0	0.0	58	15	16.1	10	2.2
Parke	23	3.9	53	0	0.0	58	6	9.1	17	3.3
Perry	34	7.2	5	0	0.0	58	11	13.4	23	5.9
Pike	25	13.0	1	1	50.0	6	14	27.5	10	7.1
Porter	259	5.5	13	4	14.8	47	118	11.9	137	3.7
Posey	29	6.0	7	1	33.3	21	10	12.7	18	4.5
Pulaski	13	2.8	88	0	0.0	58	7	11.7	6	1.5
Putnam	25	3.0	81	1	50.0	6	11	7.6	13	1.9
Randolph	15	2.9	84	0	0.0	58	6	7.2	9	2.1
Ripley	31	4.0	48	2	40.0	13	12	9.8	17	2.7
Rush	21	5.5	11	0	0.0	58	8	10.0	13	4.3
St. Joseph	337	4.9	23	6	40.0	13	103	7.4	228	4.2
Scott	19	3.1	80	1	14.3	48	10	5.3	8	1.9
Shelby	33	3.0	82	0	0.0	58	14	5.2	19	2.3
Spencer	34	5.4	15	1	12.5	49	15	14.3	18	3.5
Starke	29	4.3	38	0	0.0	58	10	9.6	19	3.4
Steuben	46	3.3	70	0	0.0	58	13	9.6	33	2.7
Sullivan	41	9.3	2	3	37.5	18	18	20.0	20	5.8
Switzerland	6	2.8	87	1	0.0	58	4	12.5	1	0.6
Tippecanoe	291	4.1	46	1	11.1	52	86	8.3	204	3.3
Tipton	13	3.9	55	0	0.0	58	6	7.1	7	2.8
Union	9	5.7	10	1	33.3	21	4	12.9	4	3.2
Vanderburgh	276	4.3	35	3	50.0	6	84	7.2	189	3.6
Vermillion	29	7.3	4	2	100.0	1	10	13.2	17	5.4
Vigo	183	5.2	19	5	29.4	30	61	8.0	117	4.3
Wabash	32	3.2	77	1	10.0	53	7	4.9	24	2.8
Warren	10	3.8	57	0	0.0	58	4	10.0	6	2.7
Warrick	54	3.5	64	0	0.0	58	14	7.0	40	3.0
Washington	40	5.3	17	1	25.0	34	15	11.5	24	3.9
Wayne	71	3.2	76	0	0.0	58	18	4.3	53	3.0
Wells	15	2.4	91	0	0.0	58	5	6.1	10	1.9
White	33	3.5	65	0	0.0	58	11	8.0	22	2.7
Whitley	43	5.4	16	1	25.0	34	16	11.3	26	4.0

Source: Indiana State Police

Notes:
Percent calculations represent the percent of total county collisions (presented in Table 90) in each injury category that are *alcohol-related*.
***Personal injury* collisions include collisions with *incapacitating, non-incapacitating,* and *possible* injuries.**
Fatal *alcohol-related* county rank values may result in a tie due to the fact that a number of counties have the same value for *alcohol-related* fatal collisions as a percentage of total county fatal collisions.
See glossary for definition of *alcohol-related*.

Table 94. Indiana collisions involving an alcohol-impaired driver or non-motorist, by severity and county, 2010

	Total		Fatal		Personal injury		Property damage	
County	Count	Alcohol-impaired as % of total collisions	Count	Alcohol-impaired as % of total fatal collisions	Count	Alcohol-impaired as % of total personal injury collisions	Count	Alcohol-impaired as % of total property damage collisions
All counties	**4,978**	**2.6**	**130**	**18.5**	**1,517**	**4.5**	**3,331**	**2.1**
Mean	54	2.6	1	16.7	16	4.7	36	2.1
Minimum	3	0.9	0	0.0	1	0.7	0	0.0
Maximum	601	6.2	24	100.0	185	12.0	424	5.0
Adams	12	1.8	0	0.0	5	6.3	7	1.2
Allen	404	3.6	2	10.0	136	6.3	266	2.9
Bartholomew	59	2.7	3	30.0	28	5.1	28	1.7
Benton	6	3.6	0	0.0	2	7.7	4	2.9
Blackford	7	2.3	0	0.0	1	2.5	6	2.3
Boone	45	2.5	3	42.9	12	4.8	30	1.9
Brown	12	2.3	0	0.0	2	1.6	10	2.6
Carroll	12	2.0	0	0.0	3	3.8	9	1.7
Cass	25	2.0	2	28.6	3	1.7	20	1.8
Clark	105	2.5	1	7.7	29	4.0	75	2.2
Clay	13	1.6	0	0.0	3	2.4	10	1.5
Clinton	36	3.1	1	20.0	10	6.4	25	2.5
Crawford	7	2.6	0	0.0	1	2.4	6	2.6
Daviess	16	4.1	1	16.7	8	5.9	7	2.9
Dearborn	44	2.2	2	25.0	12	4.2	30	1.8
Decatur	20	2.5	2	28.6	6	5.2	12	1.8
DeKalb	28	2.2	0	0.0	13	7.1	15	1.4
Delaware	99	2.2	1	10.0	32	4.0	66	1.8
Dubois	20	2.2	0	0.0	3	1.6	17	2.4
Elkhart	149	2.4	3	13.0	33	4.0	113	2.2
Fayette	11	2.0	0	0.0	7	7.7	4	0.9
Floyd	58	2.3	0	0.0	24	4.8	34	1.7
Fountain	12	2.7	1	33.3	2	3.8	9	2.3
Franklin	16	3.1	1	25.0	8	7.8	7	1.7
Fulton	10	1.9	0	0.0	7	10.8	3	0.7
Gibson	25	2.3	0	0.0	7	3.8	18	2.0
Grant	41	1.7	2	28.6	5	1.4	34	1.7
Greene	18	2.0	0	0.0	5	4.0	13	1.7
Hamilton	140	2.1	5	27.8	29	2.9	106	1.9
Hancock	38	2.6	0	0.0	9	3.4	29	2.5
Harrison	21	1.8	1	9.1	8	4.1	12	1.3
Hendricks	77	2.2	0	0.0	25	4.2	52	1.8
Henry	21	1.9	1	33.3	8	4.2	12	1.3
Howard	64	2.6	0	0.0	27	5.5	37	1.9
Huntington	21	1.9	1	25.0	7	4.0	13	1.4
Jackson	29	1.9	0	0.0	7	3.2	22	1.7
Jasper	36	2.9	4	26.7	11	5.1	21	2.1
Jay	10	1.5	1	100.0	2	1.9	7	1.3
Jefferson	16	1.7	0	0.0	4	2.6	12	1.6
Jennings	18	2.1	2	25.0	5	3.3	11	1.6
Johnson	77	2.6	0	0.0	21	3.4	56	2.4
Knox	39	3.8	2	18.2	11	4.5	26	3.4
Kosciusko	63	2.6	4	57.1	20	6.0	39	1.9
LaGrange	26	3.0	4	40.0	8	7.0	14	1.9
Lake	526	3.1	12	27.3	185	6.5	329	2.3
LaPorte	106	3.1	6	40.0	35	5.2	65	2.4
Lawrence	34	2.4	0	0.0	13	4.0	21	2.0
Madison	84	2.1	3	18.8	20	2.9	61	1.9

continued on next page

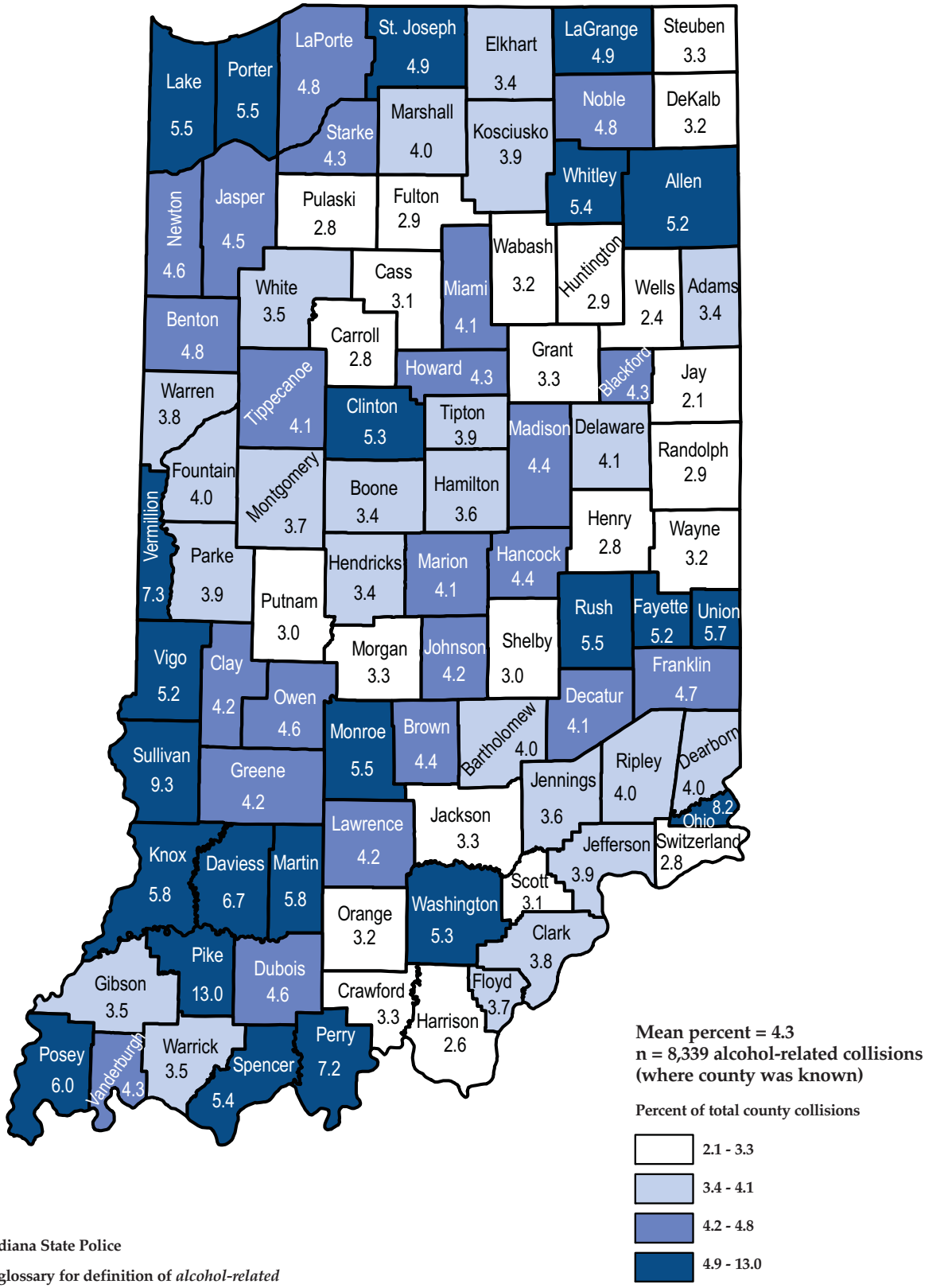
Table 94. *(continued)*

County	Total		Fatal		Personal injury		Property damage	
	Count	Alcohol-impaired as % of total collisions	Count	Alcohol-impaired as % of total fatal collisions	Count	Alcohol-impaired as % of total personal injury collisions	Count	Alcohol-impaired as % of total property damage collisions
Marion	601	2.2	24	33.8	153	3.0	424	1.9
Marshall	31	2.2	0	0.0	10	4.5	21	1.8
Martin	8	3.1	1	33.3	3	5.7	4	2.0
Miami	21	2.1	0	0.0	5	3.0	16	1.9
Monroe	103	2.5	1	7.7	27	2.9	75	2.4
Montgomery	13	1.3	2	66.7	4	2.0	7	0.8
Morgan	25	1.6	0	0.0	9	2.8	16	1.3
Newton	12	3.3	1	100.0	6	10.9	5	1.6
Noble	45	3.5	1	12.5	20	12.0	24	2.1
Ohio	10	4.8	0	0.0	1	3.6	9	5.0
Orange	16	2.7	2	33.3	5	4.8	9	1.9
Owen	14	2.6	0	0.0	7	7.5	7	1.6
Parke	14	2.4	0	0.0	4	6.1	10	1.9
Perry	22	4.7	0	0.0	7	8.5	15	3.9
Pike	12	6.2	0	0.0	5	9.8	7	5.0
Porter	168	3.6	4	14.8	72	7.3	92	2.5
Posey	22	4.5	1	33.3	7	8.9	14	3.5
Pulaski	4	0.9	0	0.0	3	5.0	1	0.2
Putnam	16	1.9	0	0.0	7	4.8	9	1.3
Randolph	12	2.3	0	0.0	5	6.0	7	1.6
Ripley	21	2.7	1	20.0	7	5.7	13	2.0
Rush	11	2.9	0	0.0	2	2.5	9	3.0
Scott	199	2.9	4	26.7	61	4.4	134	2.5
Shelby	8	1.3	1	14.3	4	2.1	3	0.7
Spencer	20	1.8	0	0.0	7	2.6	13	1.6
St. Joseph	19	3.0	0	0.0	8	7.6	11	2.1
Starke	12	1.8	0	0.0	2	1.9	10	1.8
Steuben	26	1.9	0	0.0	3	2.2	23	1.9
Sullivan	25	5.7	2	25.0	8	8.9	15	4.4
Switzerland	3	1.4	1	100.0	2	6.3	0	0.0
Tippecanoe	210	2.9	1	11.1	59	5.7	150	2.5
Tipton	8	2.4	0	0.0	3	3.5	5	2.0
Union	5	3.1	0	0.0	1	3.2	4	3.2
Vanderburgh	174	2.7	3	50.0	46	4.0	125	2.4
Vermillion	22	5.6	2	100.0	7	9.2	13	4.1
Vigo	111	3.2	4	23.5	31	4.1	76	2.8
Wabash	17	1.7	1	10.0	1	0.7	15	1.8
Warren	3	1.1	0	0.0	1	2.5	2	0.9
Warrick	32	2.1	0	0.0	6	3.0	26	2.0
Washington	24	3.2	1	25.0	5	3.8	18	2.9
Wayne	42	1.9	0	0.0	12	2.8	30	1.7
Wells	11	1.8	0	0.0	2	2.4	9	1.7
White	21	2.2	0	0.0	7	5.1	14	1.7
Whitley	29	3.6	1	25.0	10	7.1	18	2.7

Source: Indiana State Police .

Notes:
Percent calculations represent the percent of total county collisions (presented in Table 90) in each injury category that are *alcohol-impaired*.
Excludes records where county is unknown.
Includes collisions where at least one *alcohol-impaired* driver or non-motorist was involved.
***Personal injury* includes *incapacitating, non-incapacitating,* and *possible* injury collisions.**
See glossary for definition of *alcohol-impaired*.

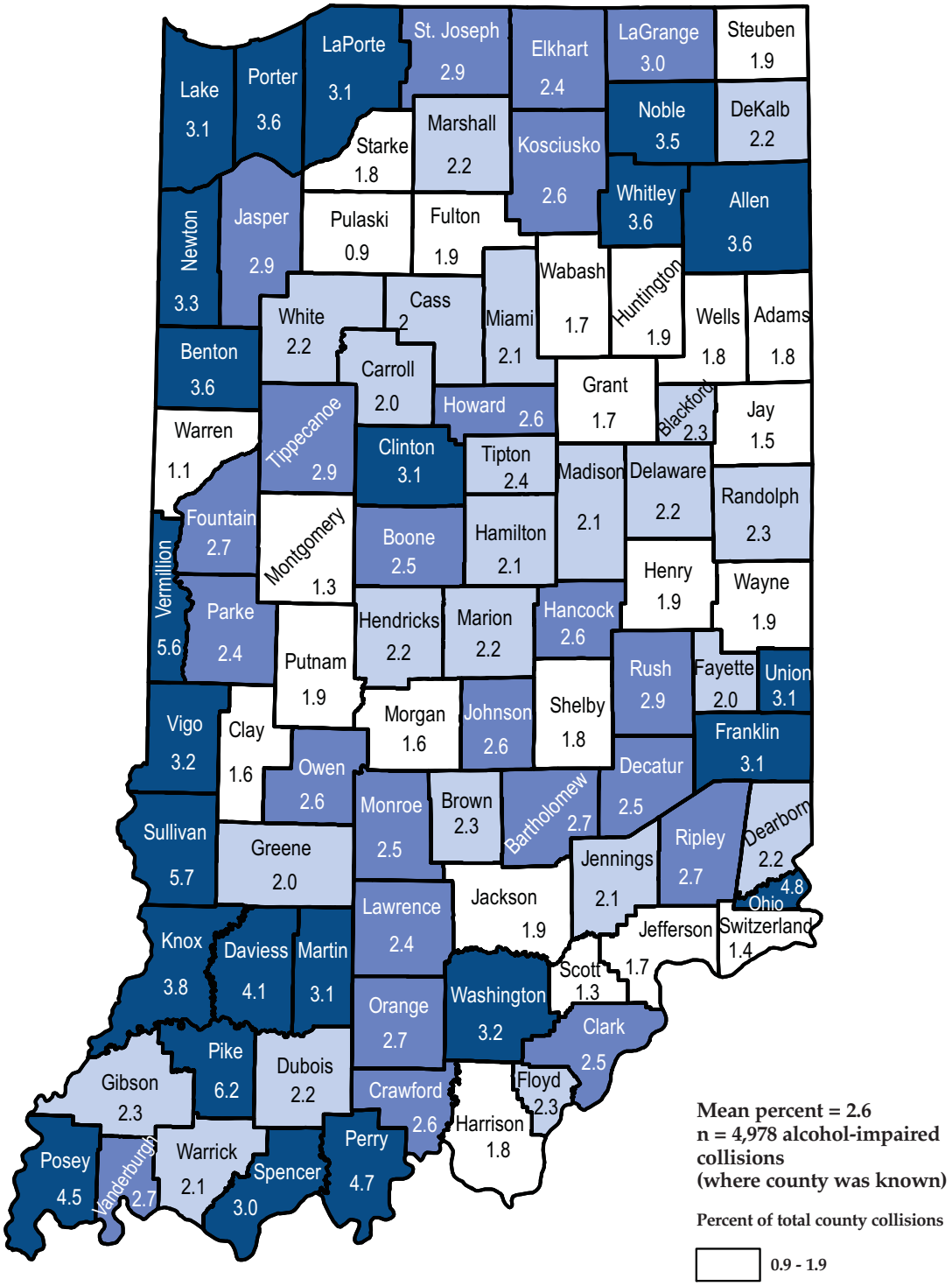
Map 5. Percentage of county collisions that were alcohol-related, 2010



Source: Indiana State Police

Note: See glossary for definition of *alcohol-related*

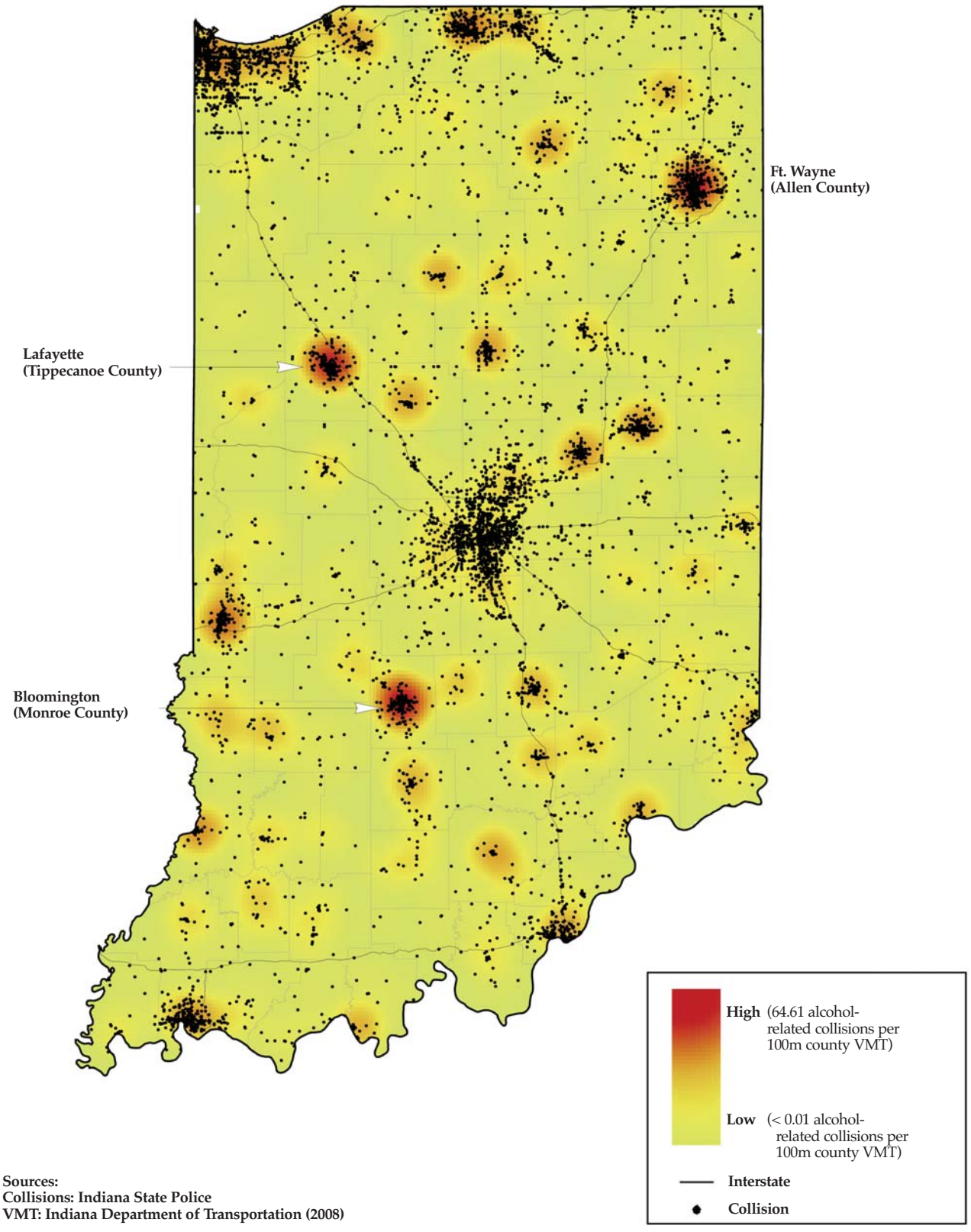
Map 6. Percentage of county collisions that involved an alcohol-impaired driver or non-motorist, 2010



Source: Indiana State Police

Notes:
See glossary for definition of *alcohol-impaired*
Includes collisions where at least one *alcohol-impaired* driver or non-motorist was involved.

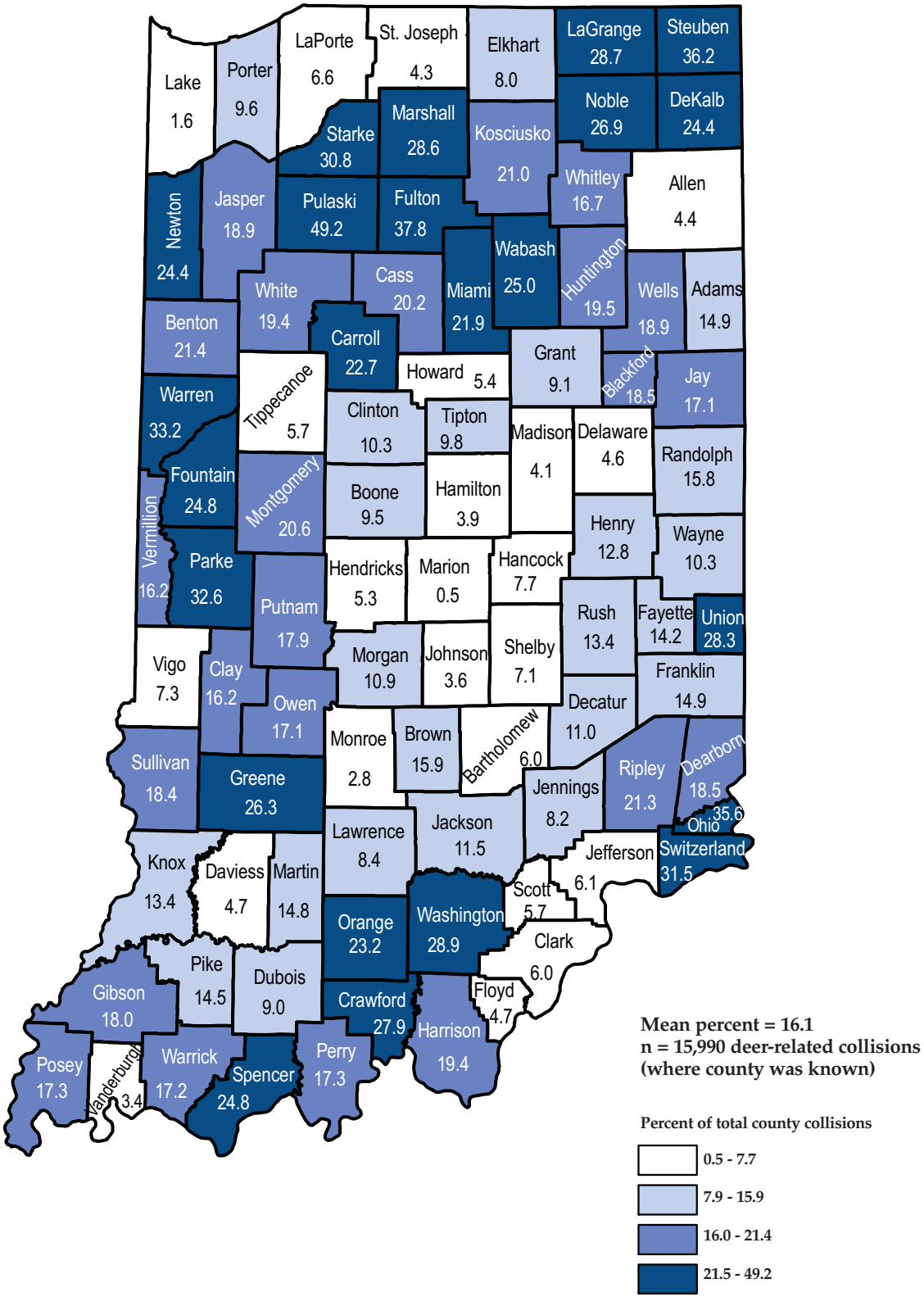
Map 7. Indiana alcohol-related collision concentrations per 100m vehicle miles travelled (VMT), 2010



Sources:
Collisions: Indiana State Police
VMT: Indiana Department of Transportation (2008)

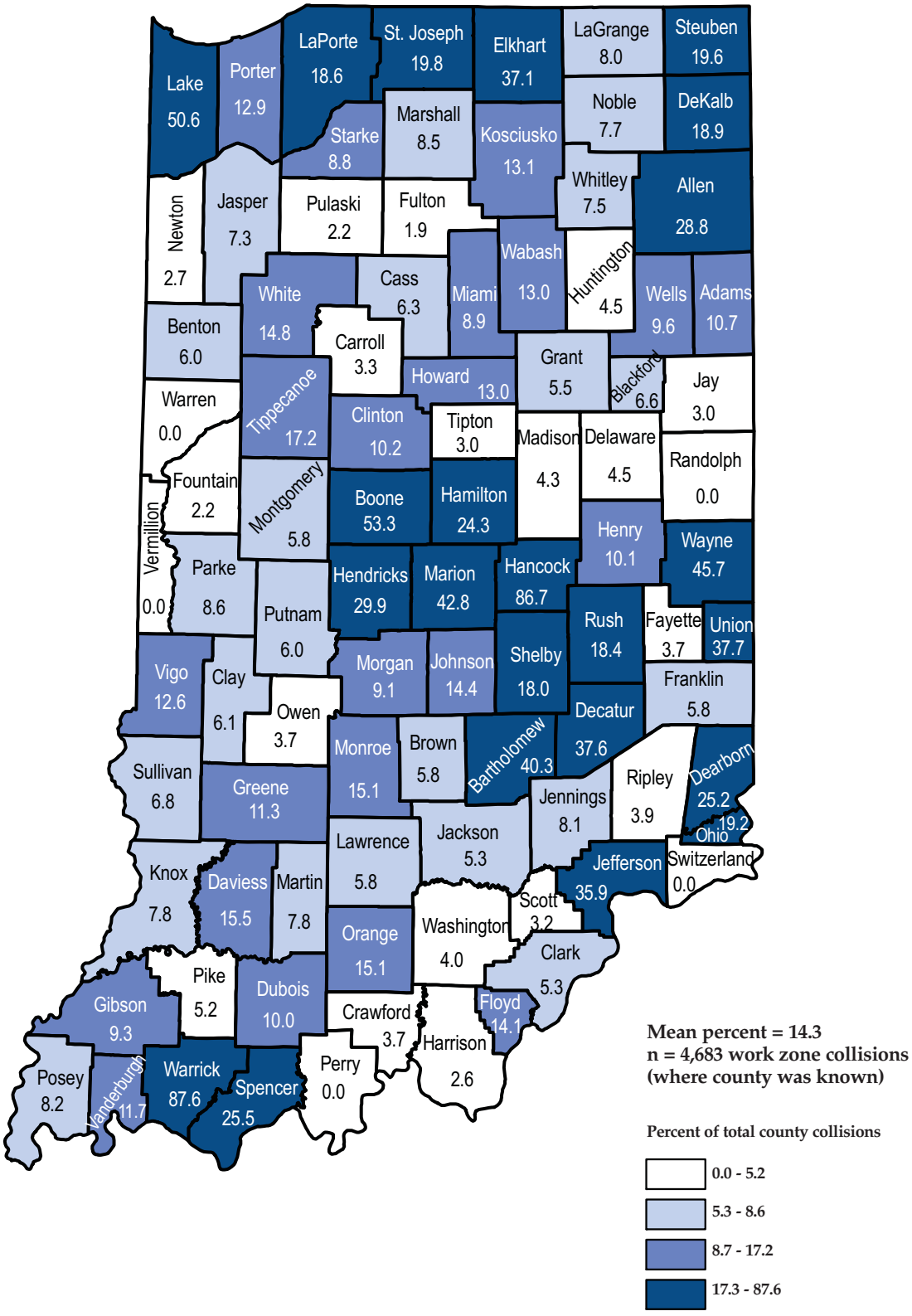
Note: Density grid is based on points with valid coordinates (7,341/8,339).

Map 8. Percentage of county collisions that involved a deer, 2010



Source: Indiana State Police

Map 9. Work zone collisions per 1,000 total county collisions, 2010



Source: Indiana State Police

Table 95. Vehicle occupants injured in Indiana collisions by injury status, restraint use, and county, 2010

	Fatal			Incapacitating			Non- incapacitating		
	Total	Unrestrained	% unrestrained	Total	Unrestrained	% unrestrained	Total	Unrestrained	% unrestrained
Indiana	**677**	**306**	**45.2**	**3,109**	**820**	**26.4**	**42,087**	**3,871**	**9.2**
Mean	7	3	43.4	34	9	31.3	457	42	12.1
Minimum	0	0	0.0	0	0	0.0	33	3	2.8
Maximum	57	26	100.0	364	75	75.0	6,103	448	32.5
Adams	2	2	100.0	19	10	52.6	91	21	23.1
Allen	19	8	42.1	164	43	26.2	2,715	174	6.4
Bartholomew	11	5	45.5	37	15	40.5	687	66	9.6
Benton	3	1	33.3	2	0	0.0	33	8	24.2
Blackford	0	0	n/a	0	0	n/a	50	8	16.0
Boone	7	2	28.6	31	6	19.4	293	25	8.5
Brown	2	0	0.0	39	13	33.3	129	23	17.8
Carroll	4	0	0.0	19	6	31.6	86	9	10.5
Cass	7	4	57.1	11	2	18.2	238	44	18.5
Clark	12	4	33.3	64	18	28.1	920	81	8.8
Clay	3	2	66.7	9	1	11.1	152	17	11.2
Clinton	4	2	50.0	21	8	38.1	203	20	9.9
Crawford	2	2	100.0	6	4	66.7	56	10	17.9
Daviess	7	6	85.7	13	4	30.8	189	38	20.1
Dearborn	8	5	62.5	46	10	21.7	366	25	6.8
Decatur	7	6	85.7	12	5	41.7	135	24	17.8
DeKalb	7	1	14.3	27	2	7.4	224	21	9.4
Delaware	10	5	50.0	46	12	26.1	981	110	11.2
Dubois	2	1	50.0	9	1	11.1	222	24	10.8
Elkhart	19	9	47.4	76	11	14.5	999	88	8.8
Fayette	3	2	0.0	9	2	22.2	103	4	3.9
Floyd	6	4	66.7	31	9	29.0	675	69	10.2
Fountain	3	2	66.7	8	3	37.5	61	8	13.1
Franklin	4	2	50.0	6	0	0.0	133	28	21.1
Fulton	2	1	50.0	8	4	50.0	83	8	9.6
Gibson	8	3	37.5	19	6	31.6	241	16	6.6
Grant	6	3	50.0	25	9	36.0	438	52	11.9
Greene	4	4	100.0	12	6	50.0	158	19	12.0
Hamilton	18	6	33.3	73	13	17.8	1,249	73	5.8
Hancock	8	4	50.0	32	2	6.3	334	39	11.7
Harrison	10	5	50.0	35	10	28.6	241	33	13.7
Hendricks	10	7	70.0	65	10	15.4	723	50	6.9
Henry	1	0	0.0	31	9	29.0	235	31	13.2
Howard	4	1	25.0	49	10	20.4	613	55	9.0
Huntington	4	2	50.0	25	7	28.0	224	16	7.1
Jackson	10	5	50.0	36	11	30.6	265	34	12.8
Jasper	19	6	31.6	23	8	34.8	269	37	13.8
Jay	1	1	100.0	19	7	36.8	110	14	12.7
Jefferson	4	1	25.0	24	7	29.2	162	18	11.1
Jennings	10	6	60.0	37	9	24.3	192	21	10.9
Johnson	7	3	42.9	73	11	15.1	743	60	8.1
Knox	11	4	36.4	35	9	25.7	299	34	11.4
Kosciusko	7	3	42.9	38	5	13.2	399	40	10.0
LaGrange	10	8	80.0	8	3	37.5	140	21	15.0
Lake	40	19	47.5	201	60	29.9	3,578	284	7.9
LaPorte	17	6	35.3	47	11	23.4	825	67	8.1
Lawrence	6	3	50.0	36	14	38.9	423	59	13.9
Madison	12	5	41.7	61	16	26.2	866	63	7.3

continued on next page

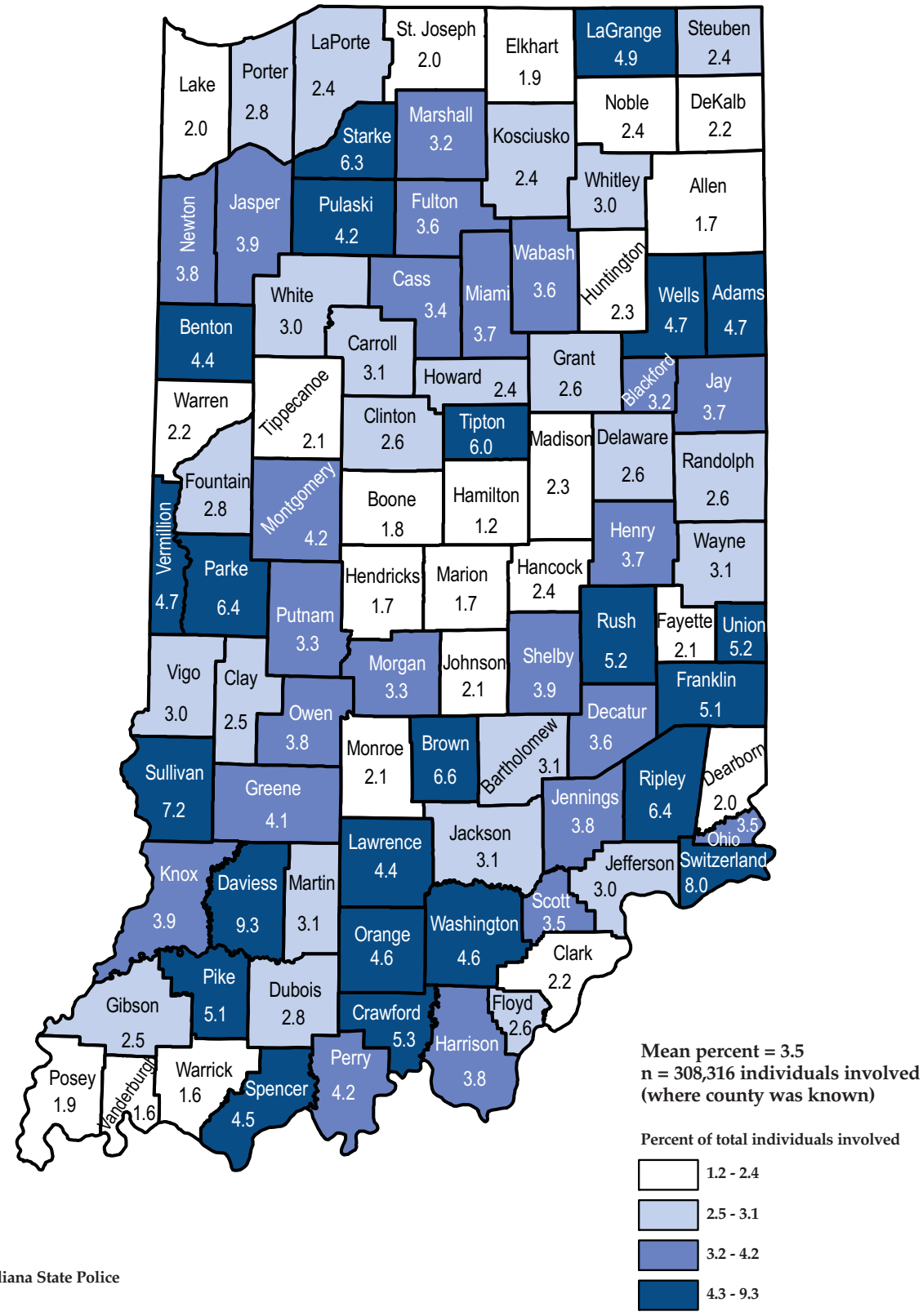
Table 95. *(continued)*

	Fatal			Incapacitating			Non- incapacitating		
	Total	Unrestrained	% unrestrained	Total	Unrestrained	% unrestrained	Total	Unrestrained	% unrestrained
Marion	57	26	45.6	364	75	20.6	6,103	448	7.3
Marshall	6	1	16.7	16	8	50.0	274	31	11.3
Martin	4	1	25.0	9	1	11.1	53	5	9.4
Miami	3	0	0.0	23	11	47.8	211	24	11.4
Monroe	12	4	33.3	70	10	14.3	1,060	79	7.5
Montgomery	3	0	0.0	16	3	18.8	274	42	15.3
Morgan	3	2	66.7	24	4	16.7	444	48	10.8
Newton	2	1	50.0	4	3	75.0	66	5	7.6
Noble	8	3	37.5	40	9	22.5	200	18	9.0
Ohio	1	0	0.0	0	0	n/a	37	5	13.5
Orange	8	1	12.5	13	4	30.8	139	19	13.7
Owen	4	1	25.0	11	5	45.5	107	10	9.3
Parke	4	2	50.0	23	6	26.1	72	19	26.4
Perry	2	2	100.0	12	4	33.3	88	12	13.6
Pike	3	0	0.0	7	5	71.4	60	8	13.3
Porter	22	10	45.5	81	22	27.2	1,250	123	9.8
Posey	3	2	66.7	6	3	50.0	88	4	4.5
Pulaski	1	0	0.0	12	4	33.3	82	11	13.4
Putnam	2	1	50.0	15	6	40.0	182	25	13.7
Randolph	2	0	0.0	12	6	50.0	106	3	2.8
Ripley	5	5	100.0	16	6	37.5	181	43	23.8
Rush	1	0	0.0	14	6	42.9	92	14	15.2
St. Joseph	15	7	46.7	107	22	20.6	1,705	110	6.5
Scott	8	2	25.0	50	10	20.0	231	16	6.9
Shelby	16	6	37.5	15	7	46.7	334	33	9.9
Spencer	8	2	25.0	15	5	33.3	125	15	12.0
Starke	10	4	40.0	22	10	45.5	163	35	21.5
Steuben	1	0	0.0	18	6	33.3	173	18	10.4
Sullivan	8	5	62.5	25	8	32.0	117	20	17.1
Switzerland	1	1	0.0	3	2	66.7	40	13	32.5
Tippecanoe	7	2	28.6	49	13	26.5	1,229	122	9.9
Tipton	1	0	0.0	6	4	66.7	108	20	18.5
Union	4	2	50.0	5	1	20.0	44	5	11.4
Vanderburgh	6	3	50.0	66	18	27.3	1,514	106	7.0
Vermillion	2	2	100.0	10	6	60.0	92	15	16.3
Vigo	18	9	50.0	72	17	23.6	915	99	10.8
Wabash	12	7	58.3	18	5	27.8	178	17	9.6
Warren	0	0	n/a	5	0	0.0	44	5	11.4
Warrick	3	2	66.7	19	8	42.1	236	17	7.2
Washington	3	3	100.0	11	5	45.5	174	26	14.9
Wayne	6	2	33.3	39	15	38.5	501	42	8.4
Wells	2	1	50.0	15	5	33.3	91	15	16.5
White	5	2	40.0	20	5	25.0	181	21	11.6
Whitley	4	1	25.0	14	5	35.7	172	16	9.3

Source: Indiana State Police

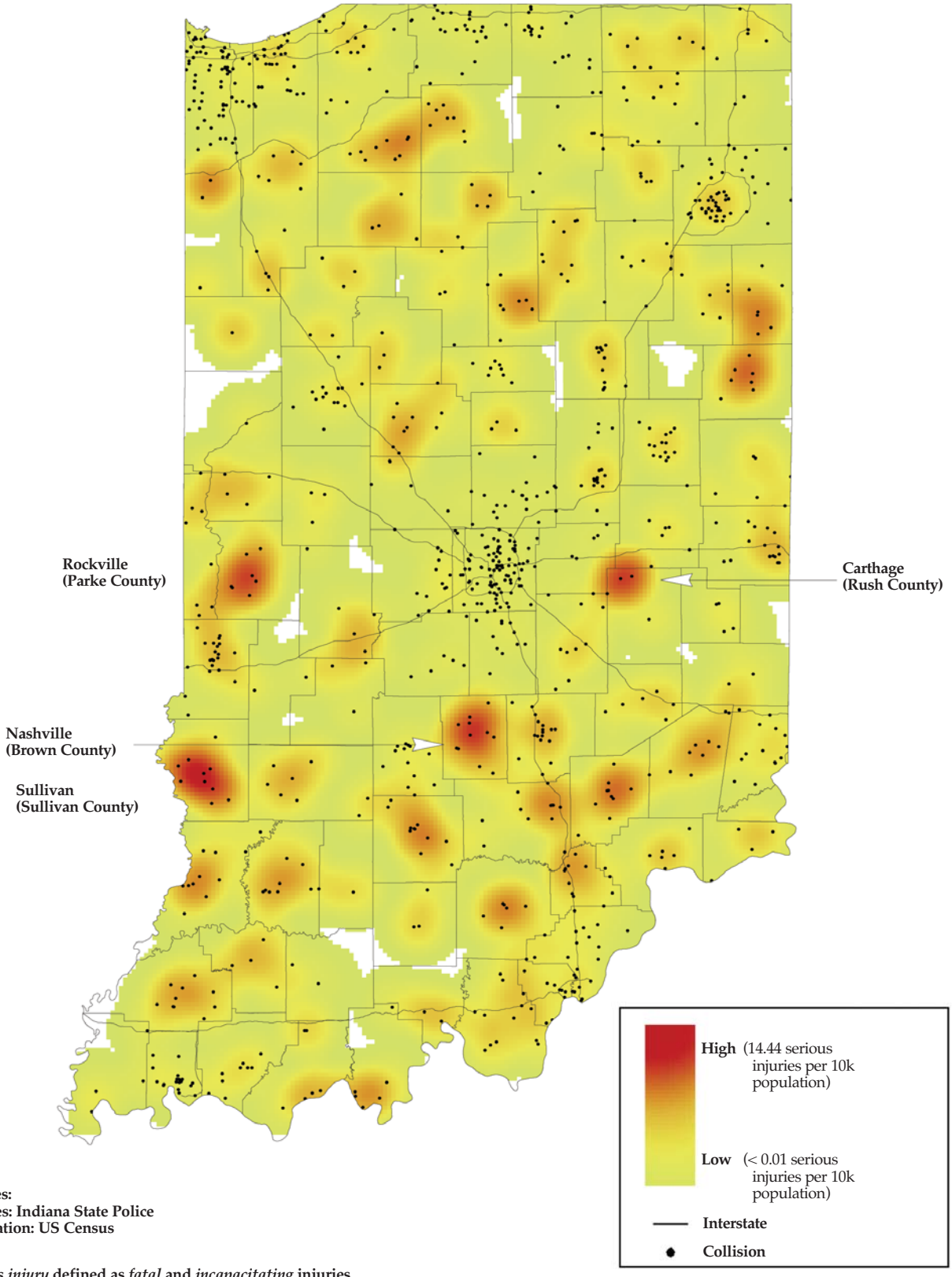
Notes:
***Non-incapacitating* injuries include those reported as *non-incapacitating* and *possible*.**
Includes only vehicle occupants (*drivers* and *passengers*). *Pedestrians* and *pedalcyclists* are excluded.
Total counts include vehicle occupants identified as *restrained, unrestrained,* and *unknown* restraint usage.

Map 10. Percentage of individual injuries, by county where victim was not properly restrained, 2010



Source: Indiana State Police

Map 11. Concentrations of serious injuries in Indiana collisions where victim was unrestrained per 10,000 county population, 2010



Sources:
Injuries: Indiana State Police
Population: US Census

Notes:
***Serious injury* defined as *fatal* and *incapacitating* injuries.**
Density grid is based on points with valid coordinates (1,051/1,126).

Table 96. Young drivers (ages 15 to 20) involved in Indiana collisions, by injury severity and county, 2010

County	Total		Fatal		Personal injury		Other/no injury	
	Count	% of all county injury statuses	Count	% of all county fatal injuries	Count	% of all county personal injuries	Count	% of all county other injury status
Indiana	**45,376**	**14.6**	**56**	**7.4**	**5,199**	**10.9**	**40,121**	**15.3**
Mean	493	16.0	1	6.5	57	13.2	436	16.6
Minimum	36	11.3	0	0.0	4	6.7	29	12.0
Maximum	5,440	21.7	5	50.0	522	25.0	4,915	23.8
Adams	147	15.6	0	0.0	10	8.5	137	16.7
Allen	2,881	15.4	3	14.3	314	10.2	2,564	16.4
Bartholomew	603	16.0	1	8.3	93	12.3	509	16.9
Benton	49	21.6	0	0.0	6	17.1	43	22.8
Blackford	64	15.5	0	0.0	7	13.2	57	15.8
Boone	401	15.0	0	0.0	44	13.1	357	15.3
Brown	129	17.7	0	0.0	29	17.1	100	17.9
Carroll	147	18.0	0	0.0	22	20.6	125	17.8
Cass	240	13.2	0	0.0	28	10.7	212	13.7
Clark	847	12.3	1	7.1	103	10.1	743	12.7
Clay	214	18.4	0	0.0	29	18.0	185	18.6
Clinton	272	16.4	0	0.0	38	16.1	234	16.5
Crawford	55	15.4	0	0.0	10	16.1	45	15.4
Daviess	131	19.6	1	14.3	29	14.0	101	22.3
Dearborn	462	15.7	0	0.0	65	15.6	397	15.8
Decatur	185	15.5	1	14.3	23	14.8	161	15.6
DeKalb	310	16.8	1	14.3	45	17.2	264	16.8
Delaware	1,129	16.0	2	20.0	122	11.1	1,005	16.9
Dubois	275	19.5	0	0.0	39	16.3	236	20.2
Elkhart	1,297	13.6	2	8.3	103	8.9	1,192	14.3
Fayette	131	15.1	0	0.0	16	13.3	115	15.5
Floyd	659	15.5	1	12.5	74	10.2	584	16.6
Fountain	95	15.9	0	0.0	13	18.3	82	15.6
Franklin	158	21.7	0	0.0	19	13.7	139	23.8
Fulton	111	15.7	0	0.0	7	7.4	104	17.0
Gibson	266	16.7	1	11.1	30	11.2	235	17.9
Grant	549	15.3	1	14.3	64	13.1	484	15.7
Greene	196	16.2	0	0.0	15	8.5	181	17.6
Hamilton	1,839	15.5	5	26.3	148	10.7	1,686	16.1
Hancock	390	16.1	1	12.5	48	12.7	341	16.7
Harrison	303	17.8	0	0.0	50	17.7	253	18.0
Hendricks	964	16.5	0	0.0	95	11.7	869	17.3
Henry	243	15.5	0	0.0	34	12.3	209	16.2
Howard	698	16.3	0	0.0	81	11.5	617	17.2
Huntington	267	16.7	0	0.0	32	12.3	235	17.6
Jackson	288	13.0	2	15.4	30	9.6	256	13.6
Jasper	279	16.1	0	0.0	57	19.1	222	15.7
Jay	140	15.1	0	0.0	17	12.8	123	15.5
Jefferson	215	15.8	1	25.0	22	11.3	192	16.5
Jennings	257	18.5	0	0.0	36	15.4	221	19.3
Johnson	922	17.5	0	0.0	102	12.1	820	18.6
Knox	262	16.1	1	9.1	44	12.6	217	17.2
Kosciusko	580	16.2	0	0.0	50	11.0	530	17.0
LaGrange	187	16.8	0	0.0	21	12.4	166	17.8
Lake	3,416	11.9	1	2.0	313	7.7	3,102	12.6
LaPorte	689	13.3	2	11.1	98	10.4	589	14.0
Lawrence	376	17.3	0	0.0	72	15.3	304	17.9
Madison	871	14.0	1	6.3	110	11.3	760	14.5

continued on next page

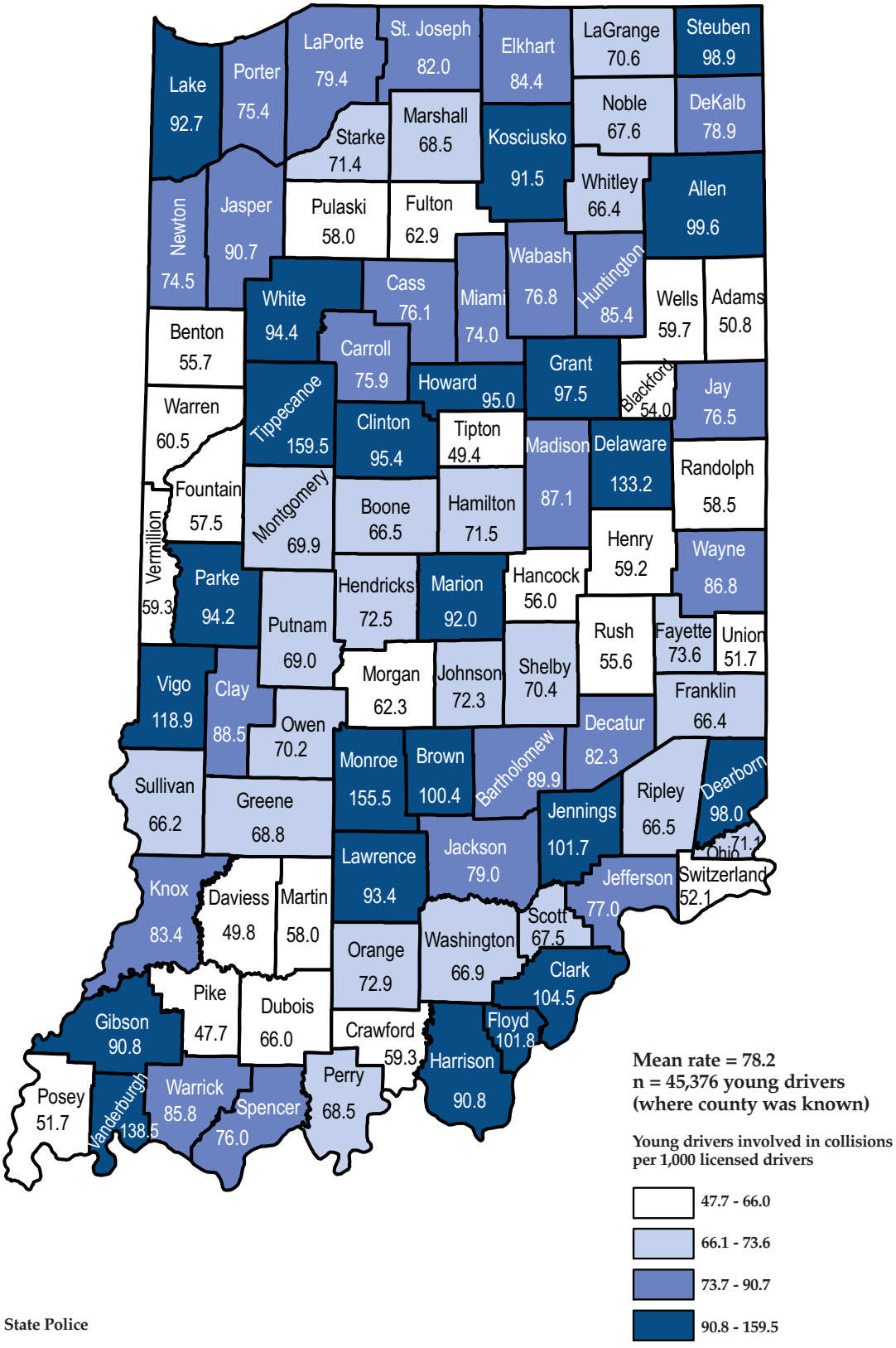
Table 96. *(continued)*

County	Total		Fatal		Personal injury		Other/no injury	
	Count	% of all county injury statuses	Count	% of all county fatal injuries	Count	% of all county personal injuries	Count	% of all county other injury status
Marion	5,440	11.3	3	4.1	522	7.6	4,915	12.0
Marshall	289	14.8	0	0.0	46	14.8	243	14.8
Martin	55	15.3	0	0.0	7	11.1	48	16.4
Miami	221	15.5	0	0.0	24	9.8	197	16.7
Monroe	1,268	19.0	1	7.7	138	11.2	1,129	20.8
Montgomery	234	15.1	1	33.3	45	15.0	188	15.1
Morgan	411	16.3	0	0.0	64	13.5	347	17.0
Newton	91	19.0	0	0.0	19	25.0	72	17.9
Noble	274	15.4	2	22.2	31	12.6	241	15.8
Ohio	36	13.8	0	0.0	7	18.4	29	13.1
Orange	131	15.7	1	12.5	20	12.9	110	16.4
Owen	126	16.0	0	0.0	21	17.5	105	15.8
Parke	127	17.3	0	0.0	13	13.3	114	18.0
Perry	105	15.1	0	0.0	7	6.7	98	16.6
Pike	56	18.9	0	0.0	11	16.4	45	19.8
Porter	1,072	14.2	2	7.1	153	11.0	917	15.0
Posey	132	18.8	0	0.0	19	18.6	113	19.0
Pulaski	77	13.6	0	0.0	10	10.4	67	14.3
Putnam	211	17.1	1	50.0	18	9.0	192	18.6
Randolph	133	17.9	0	0.0	25	20.5	108	17.5
Ripley	176	15.8	1	20.0	28	13.9	147	16.1
Rush	83	15.9	0	0.0	9	8.4	74	17.8
Scott	140	12.9	1	12.5	33	11.5	106	13.4
Shelby	283	16.7	4	25.0	58	15.7	221	16.8
Spencer	156	17.8	1	12.5	19	13.6	136	18.7
St. Joseph	1,581	13.4	0	0.0	185	9.6	1,396	14.2
Starke	142	14.9	1	10.0	27	14.4	114	15.1
Steuben	266	14.5	0	0.0	23	11.6	243	14.9
Sullivan	114	18.2	1	12.5	16	11.2	97	20.5
Switzerland	39	14.0	0	0.0	4	9.1	35	15.0
Tippecanoe	1,923	16.9	2	20.0	157	11.4	1,764	17.7
Tipton	74	15.8	0	0.0	14	12.2	60	17.1
Union	37	17.4	0	0.0	6	12.0	31	19.5
Vanderburgh	1,748	14.9	1	16.7	156	9.4	1,591	15.8
Vermillion	81	14.4	0	0.0	11	10.2	70	15.5
Vigo	941	16.2	2	11.1	128	12.1	811	17.1
Wabash	209	14.7	0	0.0	32	15.6	177	14.6
Warren	51	15.6	0	0.0	9	18.0	42	15.2
Warrick	495	20.9	0	0.0	48	18.5	447	21.2
Washington	162	15.3	0	0.0	24	12.9	138	15.9
Wayne	425	13.1	0	0.0	66	11.5	359	13.5
Wells	162	17.8	1	50.0	22	19.8	139	17.4
White	208	14.9	1	20.0	31	15.1	176	14.9
Whitley	202	16.6	0	0.0	36	18.8	166	16.3

Source: Indiana State Police

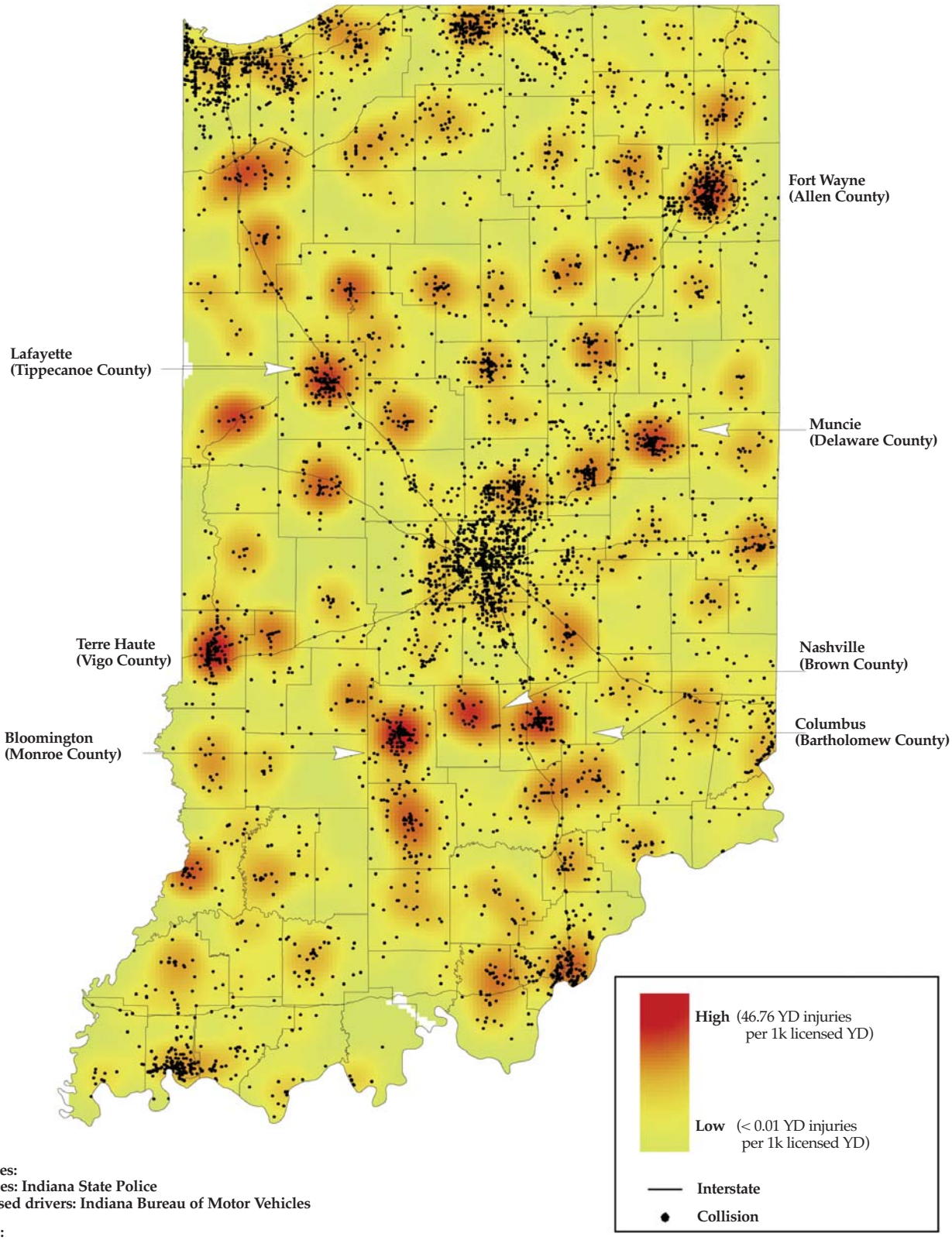
Notes:
Excludes drivers with invalid age.
Excludes records where county is unknown.
***Personal injury* includes *incapacitating, non-incapacitating,* and *possible* injury collisions.**

Map 12. Young drivers (ages 15 to 20) involved in collisions per 1,000 licensed young drivers, 2010



Source: Indiana State Police

Map 13. Concentrations of young driver (ages 15 to 20) injuries in Indiana collisions per 1,000 county licensed young drivers, 2010



Sources:
Injuries: Indiana State Police
Licensed drivers: Indiana Bureau of Motor Vehicles

Notes:
Includes all injury types.
Density grid is based on points with valid coordinates (5,454/5,692).

Table 97. Indiana collisions involving motorcycles, by severity and county, 2010

County	Total		Fatal		Personal injury		Other/no injury	
	Count	% of all county injury statuses	Count	% of all county fatal injuries	Count	% of all county personal injuries	Count	% of all county other injury status
Indiana	**3,429**	**1.8**	**110**	**15.7**	**2,410**	**7.1**	**909**	**0.6**
Mean	37	2.1	1	13.6	26	8.6	10	0.6
Minimum	2	0.8	0	0.0	1	2.5	0	0.0
Maximum	335	7.5	16	66.7	234	25.8	85	1.8
Adams	9	1.4	0	0.0	8	10.0	1	0.2
Allen	176	1.6	2	10.0	127	5.8	47	0.5
Bartholomew	52	2.4	2	20.0	45	8.3	5	0.3
Benton	2	1.2	1	33.3	1	3.8	0	0.0
Blackford	4	1.3	0	0.0	2	5.0	2	0.8
Boone	22	1.2	2	28.6	16	6.4	4	0.3
Brown	39	7.5	0	0.0	32	25.8	7	1.8
Carroll	10	1.7	0	0.0	8	10.1	2	0.4
Cass	23	1.8	2	28.6	20	11.3	1	0.1
Clark	85	2.0	2	15.4	53	7.4	30	0.9
Clay	10	1.2	0	0.0	8	6.5	2	0.3
Clinton	21	1.8	0	0.0	11	7.0	10	1.0
Crawford	4	1.5	0	0.0	3	7.3	1	0.4
Daviess	16	4.1	2	33.3	13	9.6	1	0.4
Dearborn	27	1.4	2	25.0	17	5.9	8	0.5
Decatur	15	1.9	2	28.6	10	8.6	3	0.4
DeKalb	22	1.7	1	16.7	17	9.3	4	0.4
Delaware	84	1.9	2	20.0	56	7.1	26	0.7
Dubois	15	1.7	0	0.0	14	7.4	1	0.1
Elkhart	106	1.7	5	21.7	63	7.6	38	0.7
Fayette	8	1.5	0	0.0	6	6.6	2	0.4
Floyd	42	1.6	2	33.3	33	6.6	7	0.3
Fountain	9	2.0	0	0.0	5	9.6	4	1.0
Franklin	26	5.0	2	50.0	19	18.4	5	1.2
Fulton	9	1.7	0	0.0	6	9.2	3	0.7
Gibson	18	1.7	0	0.0	13	7.0	5	0.6
Grant	57	2.4	1	14.3	37	10.4	19	0.9
Greene	16	1.8	2	33.3	12	9.6	2	0.3
Hamilton	91	1.4	1	5.6	70	7.0	20	0.4
Hancock	20	1.4	2	25.0	13	4.9	5	0.4
Harrison	23	2.0	4	36.4	17	8.6	2	0.2
Hendricks	40	1.2	2	18.2	30	5.1	8	0.3
Henry	27	2.5	0	0.0	21	10.9	6	0.7
Howard	60	2.4	1	16.7	49	9.9	10	0.5
Huntington	14	1.2	0	0.0	10	5.7	4	0.4
Jackson	39	2.6	1	8.3	26	11.9	12	0.9
Jasper	19	1.5	2	13.3	14	6.5	3	0.3
Jay	13	2.0	0	0.0	12	11.7	1	0.2
Jefferson	29	3.2	1	33.3	17	11.0	11	1.4
Jennings	12	1.4	0	0.0	8	5.2	4	0.6
Johnson	74	2.5	1	11.1	61	9.9	12	0.5
Knox	27	2.6	2	18.2	20	8.1	5	0.6
Kosciusko	41	1.7	2	28.6	22	6.5	17	0.8
LaGrange	23	2.6	1	10.0	16	13.9	6	0.8
Lake	199	1.2	2	4.5	123	4.3	74	0.5
LaPorte	72	2.1	2	13.3	59	8.7	11	0.4
Lawrence	44	3.2	1	16.7	31	9.6	12	1.1
Madison	65	1.7	1	6.3	40	5.8	24	0.7

continued on next page

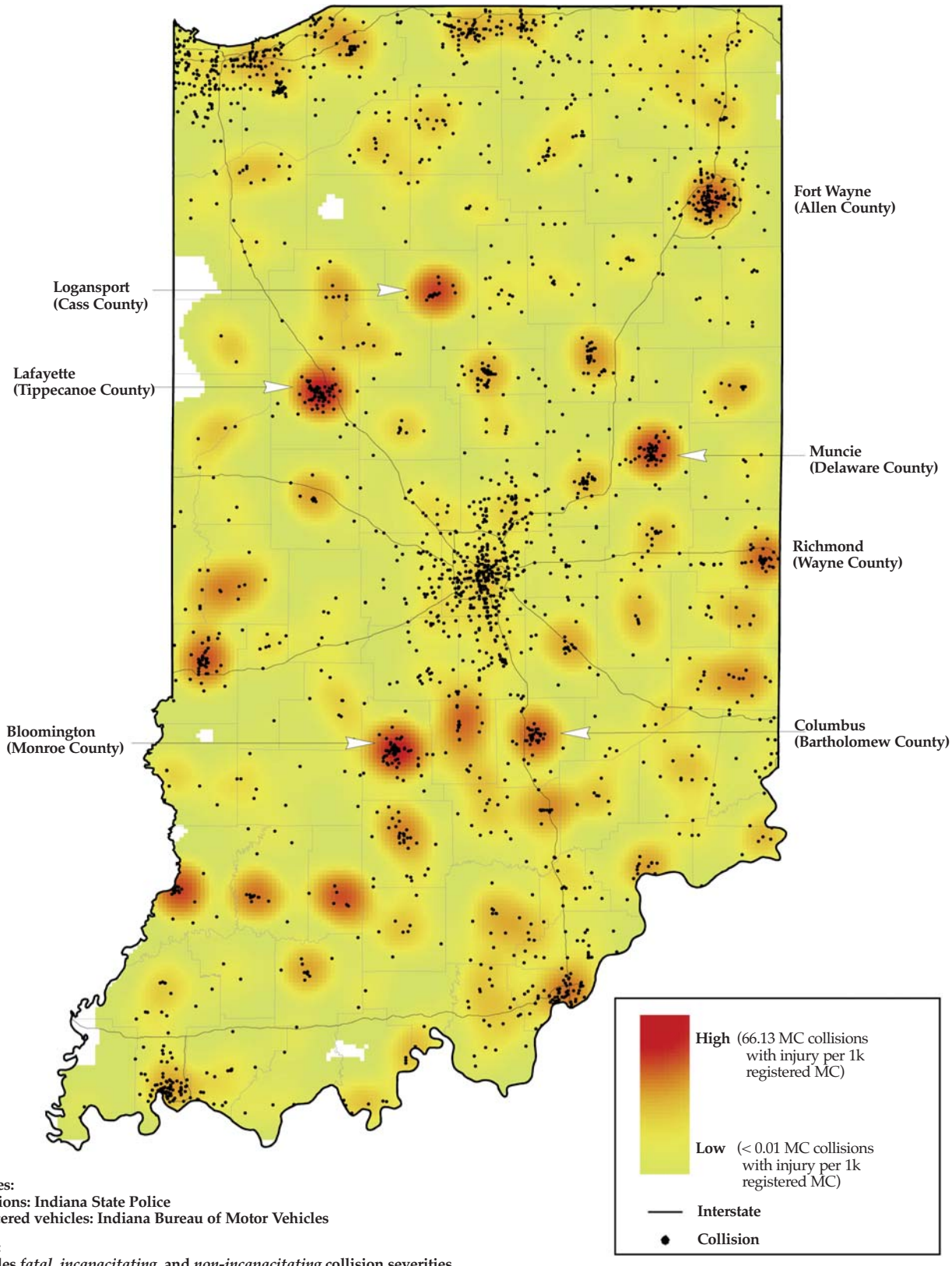
Table 97. *(continued)*

County	Total		Fatal		Personal injury		Other/no injury	
	Count	% of all county injury statuses	Count	% of all county fatal injuries	Count	% of all county personal injuries	Count	% of all county other injury status
Marion	335	1.2	16	22.5	234	4.6	85	0.4
Marshall	30	2.1	2	28.6	23	10.3	5	0.4
Martin	11	4.3	1	33.3	8	15.1	2	1.0
Miami	23	2.3	0	0.0	13	7.8	10	1.2
Monroe	86	2.1	1	7.7	68	7.4	17	0.5
Montgomery	16	1.5	0	0.0	13	6.6	3	0.4
Morgan	51	3.3	1	33.3	35	10.8	15	1.2
Newton	7	1.9	0	0.0	4	7.3	3	1.0
Noble	22	1.7	1	12.5	13	7.8	8	0.7
Ohio	2	1.0	0	0.0	2	7.1	0	0.0
Orange	12	2.0	0	0.0	8	7.6	4	0.8
Owen	14	2.6	1	25.0	10	10.8	3	0.7
Parke	19	3.3	2	66.7	10	15.2	7	1.4
Perry	13	2.7	0	0.0	10	12.2	3	0.8
Pike	2	1.0	0	0.0	2	3.9	0	0.0
Porter	121	2.6	5	18.5	90	9.1	26	0.7
Posey	4	0.8	0	0.0	2	2.5	2	0.5
Pulaski	7	1.5	0	0.0	3	5.0	4	1.0
Putnam	11	1.3	0	0.0	7	4.8	4	0.6
Randolph	10	1.9	0	0.0	6	7.2	4	0.9
Ripley	14	1.8	0	0.0	12	9.8	2	0.3
Rush	8	2.1	0	0.0	8	10.0	0	0.0
Scott	12	1.9	0	0.0	10	5.3	2	0.5
Shelby	34	3.1	1	7.1	27	10.1	6	0.7
Spencer	8	1.3	0	0.0	6	5.7	2	0.4
St. Joseph	112	1.6	4	26.7	75	5.4	33	0.6
Starke	23	3.4	1	11.1	14	13.5	8	1.4
Steuben	22	1.6	0	0.0	16	11.8	6	0.5
Sullivan	8	1.8	1	12.5	5	5.6	2	0.6
Switzerland	8	3.8	0	0.0	6	18.8	2	1.1
Tippecanoe	125	1.8	1	11.1	77	7.5	47	0.8
Tipton	10	3.0	0	0.0	8	9.4	2	0.8
Union	6	3.8	0	0.0	4	12.9	2	1.6
Vanderburgh	114	1.8	2	33.3	87	7.5	25	0.5
Vermillion	10	2.5	1	50.0	9	11.8	0	0.0
Vigo	81	2.3	2	11.8	56	7.4	23	0.8
Wabash	21	2.1	4	40.0	10	7.0	7	0.8
Warren	3	1.1	0	0.0	2	5.0	1	0.5
Warrick	25	1.6	1	33.3	17	8.5	7	0.5
Washington	26	3.5	2	50.0	19	14.6	5	0.8
Wayne	70	3.2	2	40.0	45	10.6	23	1.3
Wells	8	1.3	0	0.0	4	4.9	4	0.7
White	19	2.0	0	0.0	12	8.8	7	0.9
Whitley	7	0.9	0	0.0	6	4.3	1	0.2

Source: Indiana State Police

Notes:
Excludes records where county is unknown.
Includes collisions where at least one motorcycle or moped was involved.
***Personal injury* includes *incapacitating, non-incapacitating,* and *possible* injury collisions.**

Map 14. Concentrations of motorcycle (MC) collisions with injuries in Indiana per 1,000 county registered motorcycles, 2010

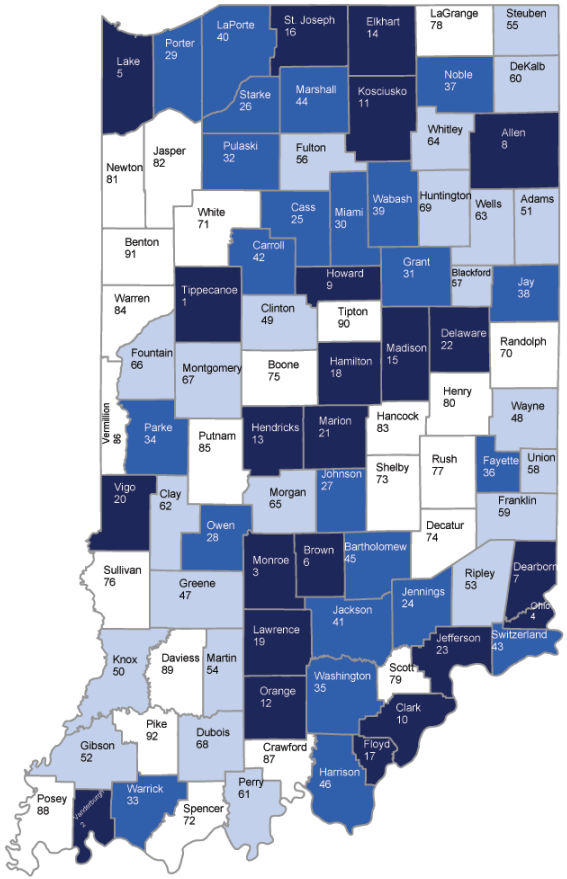


Sources:
Collisions: Indiana State Police
Registered vehicles: Indiana Bureau of Motor Vehicles

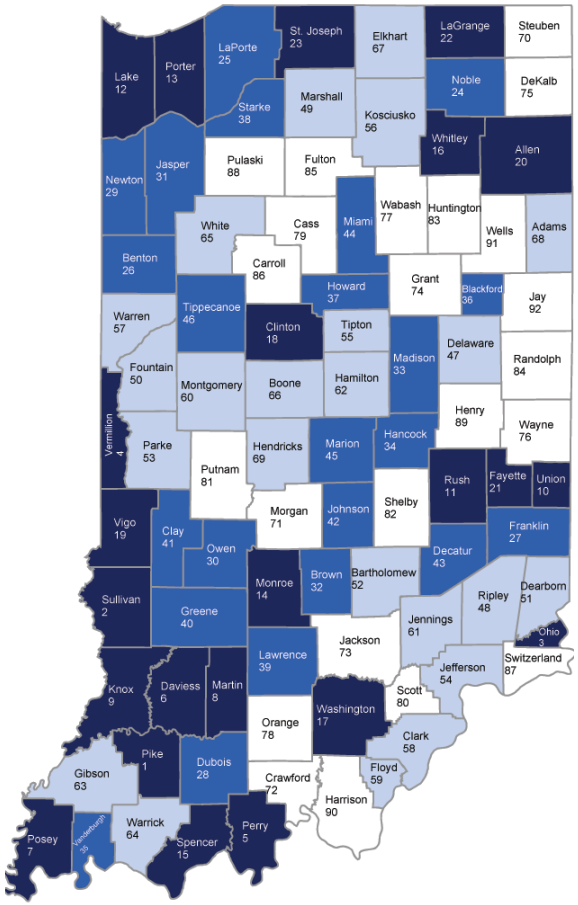
Notes:
Includes *fatal, incapacitating,* and *non-incapacitating* collision severities.
Includes collisions where at least one motorcycle or moped was involved.
Density grid is based on points with valid coordinates (2,403/2,520).

County ranks (descending order), by collisions metric, 2010

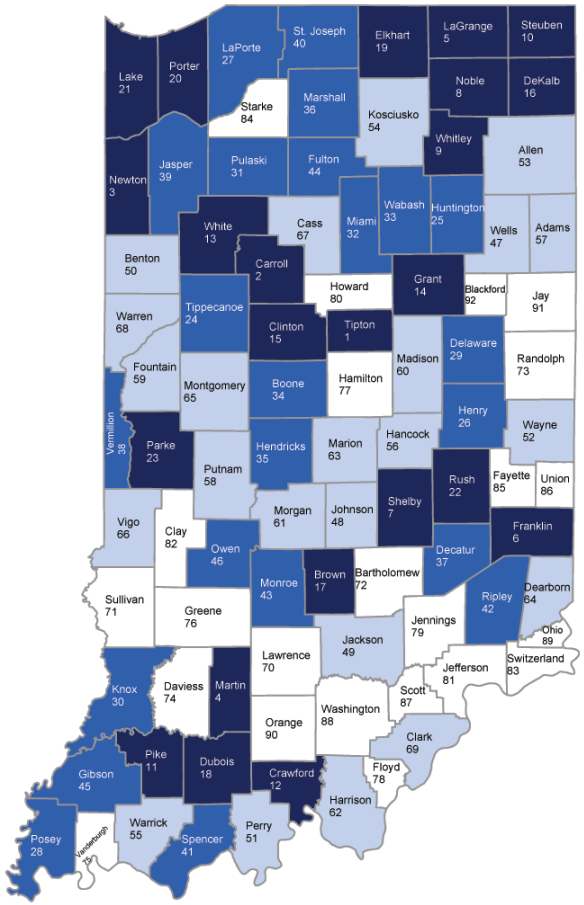
Map 15. Total collisions, per 100m vehicle miles travelled (VMT)



Map 16. Alcohol-related collisions, as % of total collisions



Map 17. Speed-related collisions, as % of total collisions



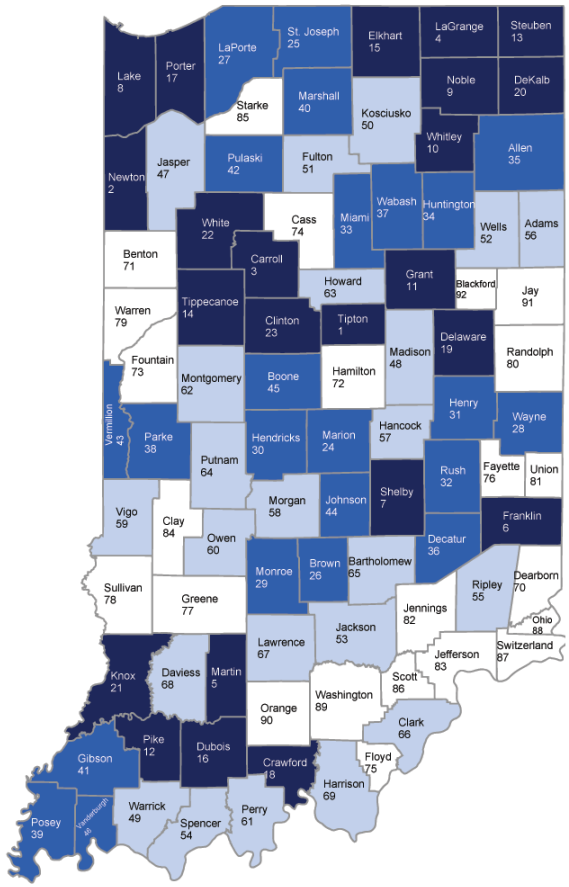
Rank quartile

- 1 - 23 (worst)
- 24 - 46
- 47 - 69
- 70 - 92 (best)

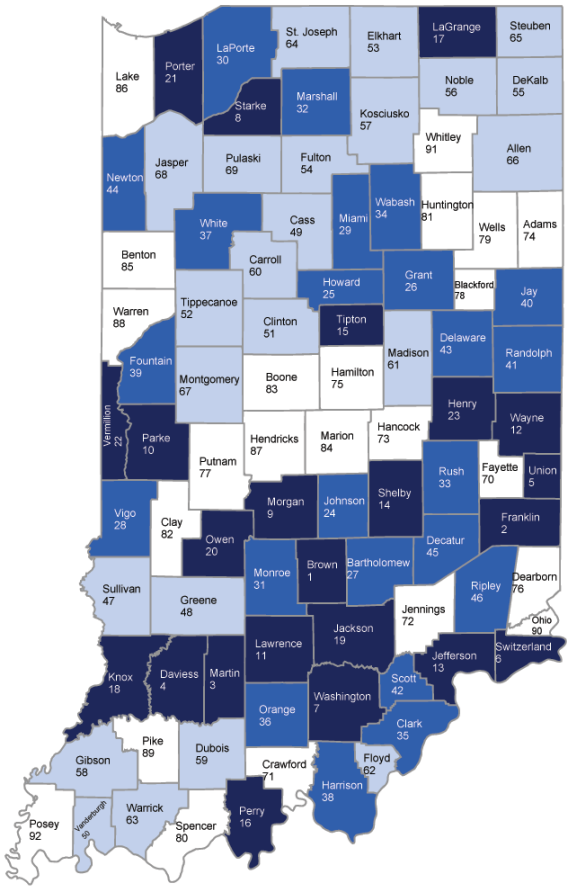
Source: Indiana State Police

County ranks (descending order), by collision metric, 2010

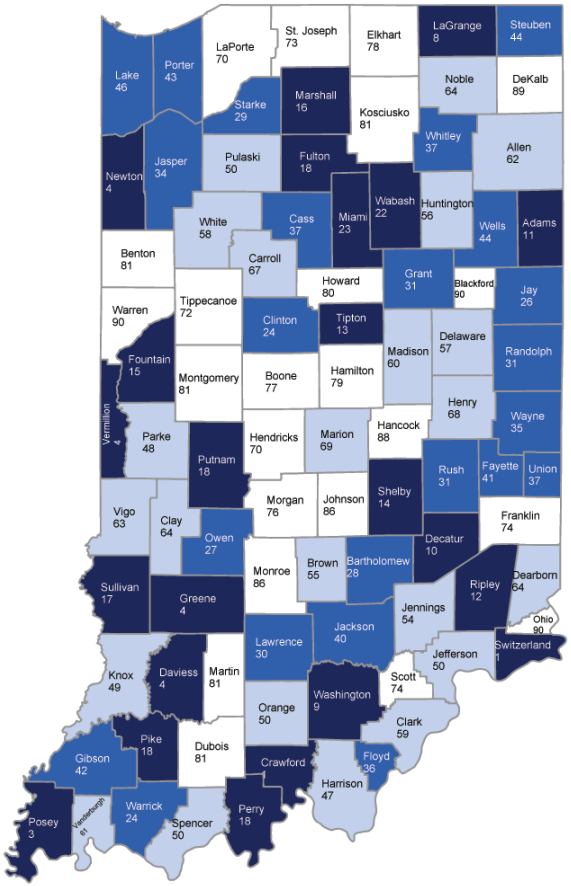
Map 18. Dangerous driving collisions, as % of total collisions



Map 19. Motorcycle-involved collisions, as % of total collisions



Map 20. Unrestrained serious injuries, as % of total serious injuries



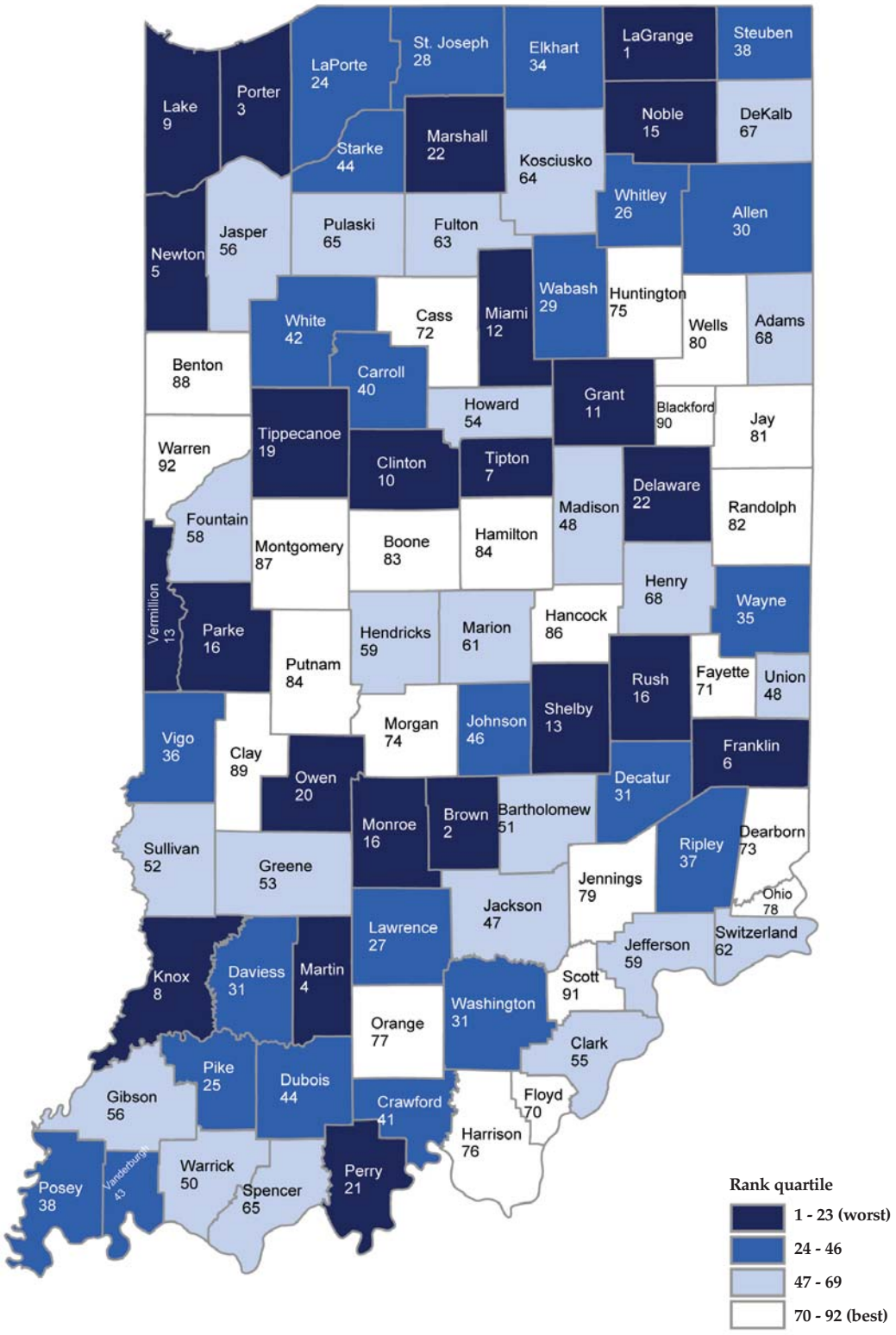
Rank quartile

- 1 - 23 (worst)
- 24 - 46
- 47 - 69
- 70 - 92 (best)

Source: Indiana State Police

Notes:
Dangerous driving includes collisions involving *aggressive driving, disregarding traffic signals,* or *speeding.*
Motorcycle collisions defined as collisions with at least one motorcycle or moped involved.
Serious injuries defined as *fatal* and *incapacitating* injuries.
Ties received the same rank.

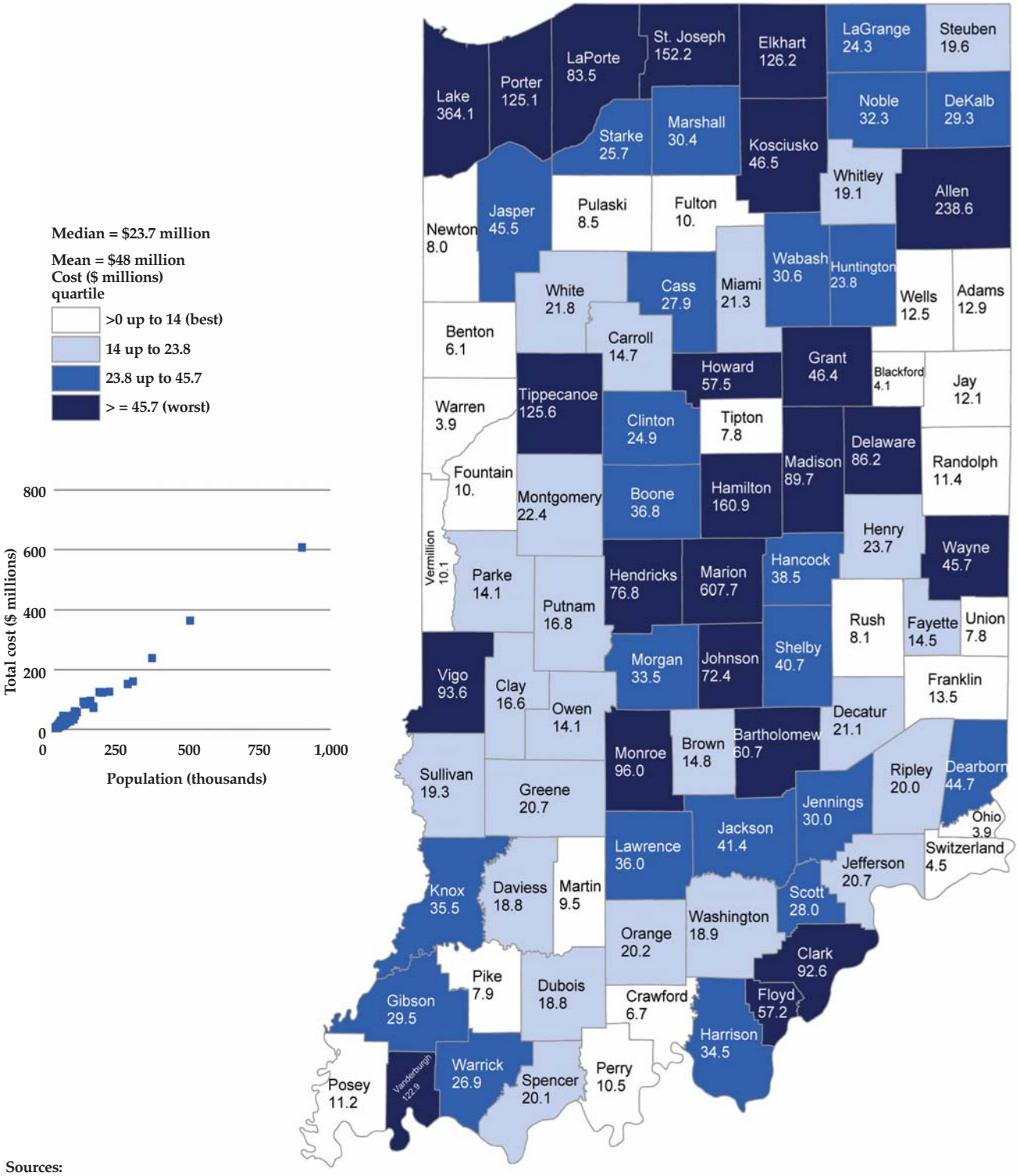
Map 21. County rank composite (average, six metrics), 2010



Source: Indiana State Police

Notes:
Composite rank is the ascending order rank of the average county ranks. For example, the average rank of the six metrics for Adams County is 52.8. This results in a composite rank of 68 when compared to the average ranks of the remaining 91 counties.
Ties received the same rank.

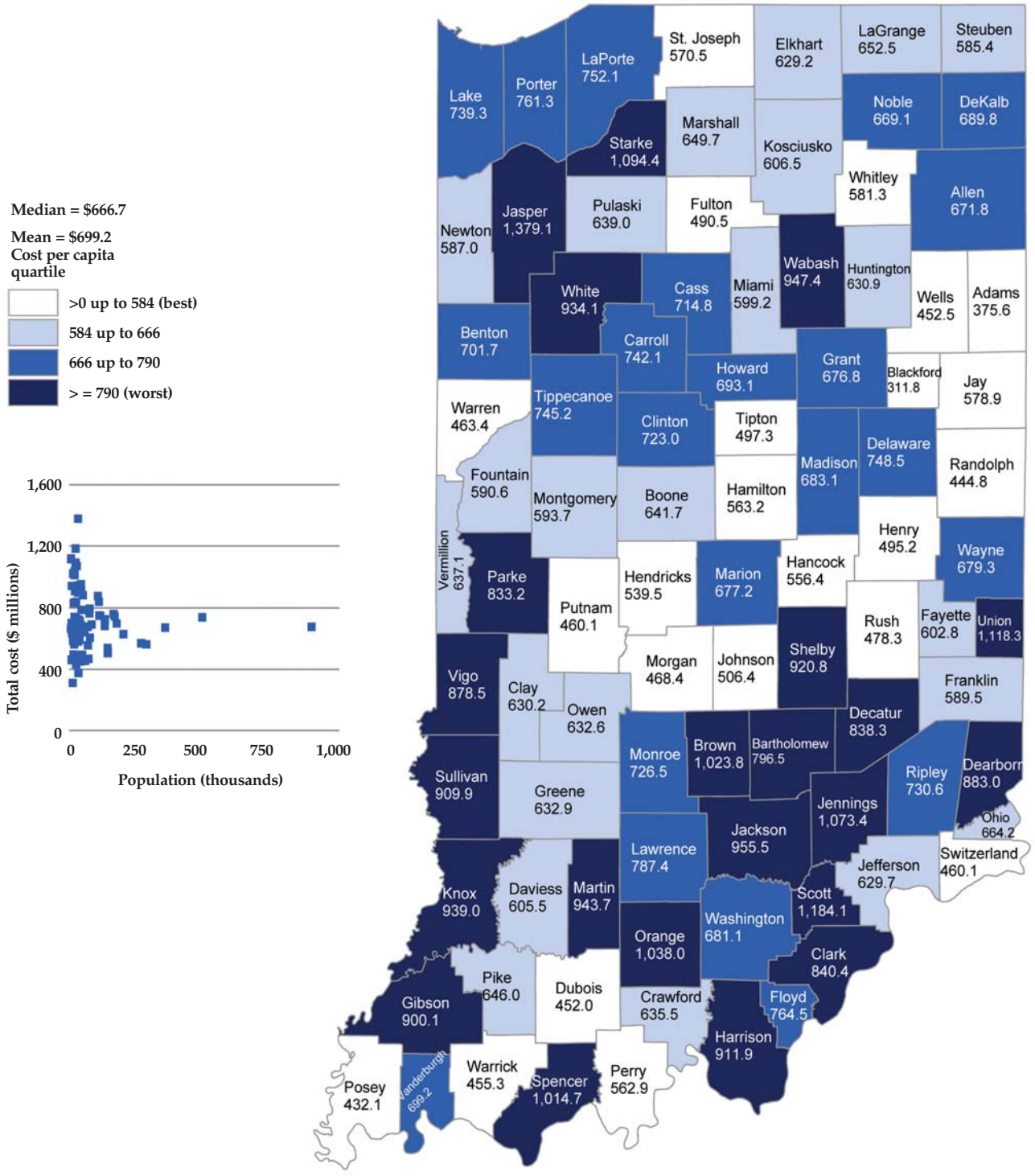
Map 22. Estimated costs of Indiana collisions ($ millions), by county, 2010



Sources:
Collisions: Indiana State Police
Cost: Blincoe, L., Seay, A., Zaloshnja, E., Miller, T., Romano, E., Luchter, S., Spicer, R. (2000)
The economic impact of motor vehicle crashes, 2000. National Highway Traffic Safety Administration, DOT HS 809 446
Bureau of Labor Statistics, http://www.bls.gov

Notes:
All costs in 2010 dollars.
See Appendix A for discussion of cost calculations.

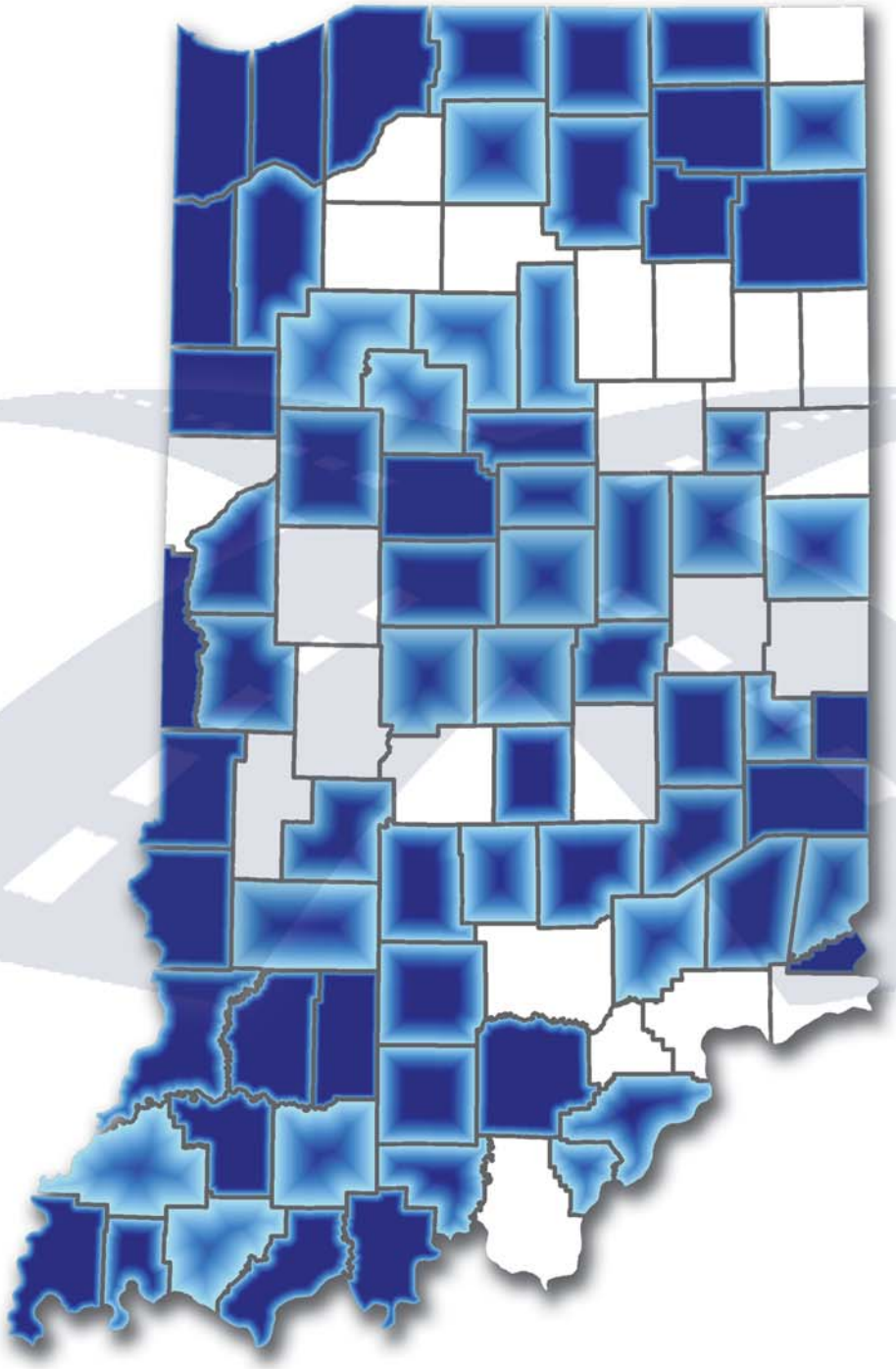
Map 23. Estimated costs per capita of Indiana collisions, by county, 2010



Sources:
Collisions: Indiana State Police
Population: US Census
Cost: Blincoe, L., Seay, A., Zaloshnja, E., Miller, T., Romano, E., Luchter, S., Spicer, R. (2000)
***The economic impact of motor vehicle crashes, 2000*. National Highway Traffic Safety Administration, DOT HS 809 446**
Bureau of Labor Statistics, http://www.bls.gov

Notes:
All costs in 2010 dollars.
See Appendix A for discussion of cost calculations.

DATA SOURCES

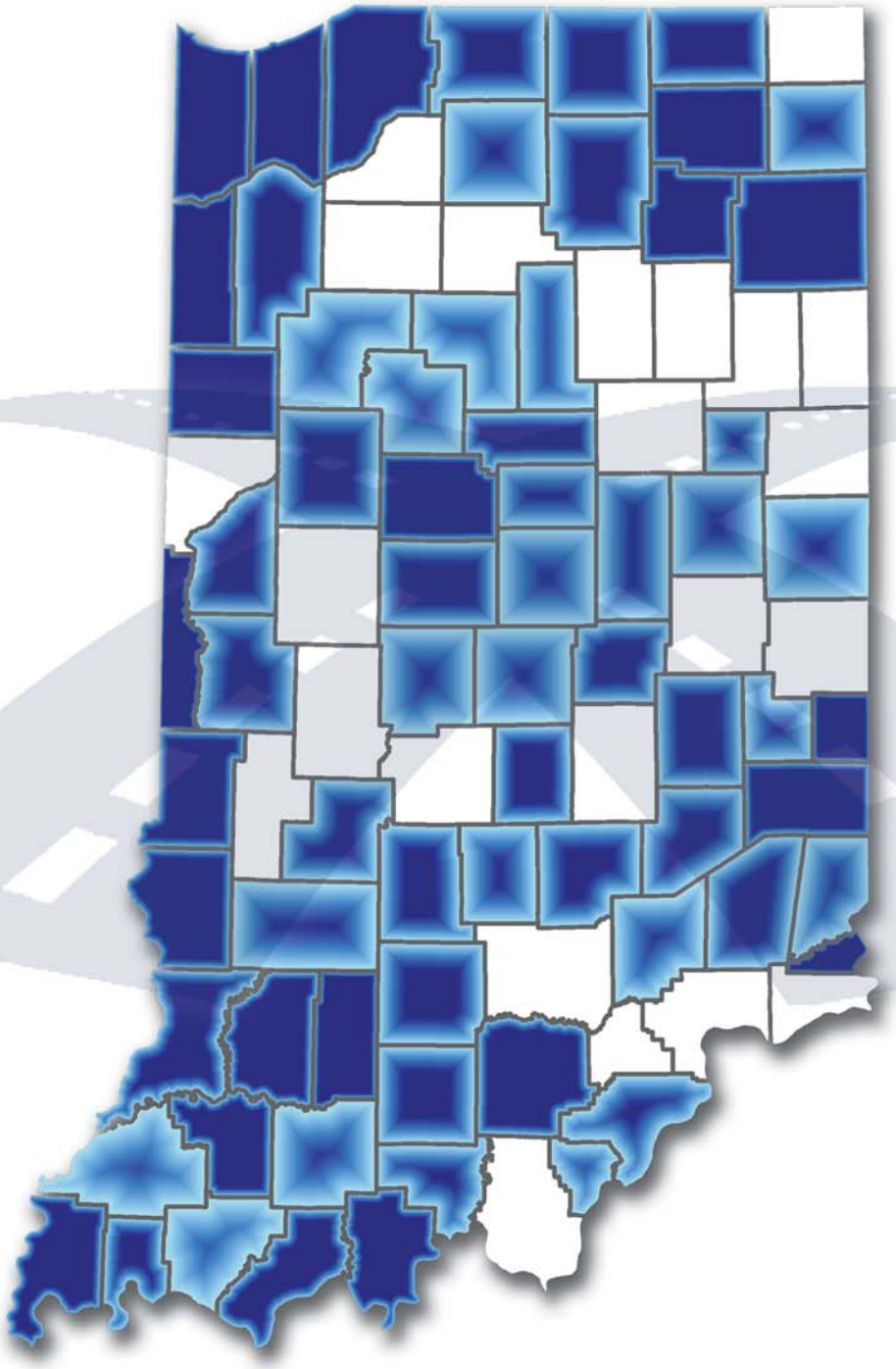


DATA SOURCES

Data in this publication come from the following sources:

- Indiana State Police Automated Reporting Information Exchange System (ARIES), current as of March 1, 2011
- Indiana Bureau of Motor Vehicles, current as of March 1, 2011
- Indiana Department of Transportation, county-level VMT, 2008. Received March 1, 2009.
- Bureau of Transportation Statistics, State Transportation Statistics, current as of March 15, 2011. Retrieved from http://www.bts.gov/publications/state_transportation_statistics/
- Fatality Analysis Reporting System, National Highway Traffic Safety Administration, current as of February 1, 2011. Retrieved from http://www-fars.nhtsa.dot.gov/Main/index.aspx
- Federal Highway Administration, Traffic Volume Trends, current as of March 15, 2011. Retrieved from http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm
- US Census Bureau, Annual Estimates of the Resident Population by Single-Year of Age and Sex for the United States and States: April 1, 2000 to July 1, 2009. Retrieved from http://www.census.gov/popest/states/asrh/

INDIANA STANDARD CRASH REPORT, GLOSSARY, APPENDIX



INDIANA OFFICER'S STANDARD CRASH REPORT

INDIANA OFFICER'S STANDARD CRASH REPORT

Electronic Version

Page | of

Local ID

Date of Crash	Day of Week	Actual Local Time	County	Township	# Motor Vehicles	# Injured	# Dead	# Commercial Vehicles	# Deer

Road Crash Occurred On	Nearest/Intersecting Road/MileMarker/Interchange	If not an intersection, number of feet from	Direction	Road Classification

Inside Corporate Limits?	City/Town or Nearest City/Town	Property?	Crash Latitude	Crash Longitude

Driver #1	Driver #2	Driver #3	Driver #4

Driver Contributing Circumstances	Primary Cause	Vehicle 1	Vehicle 2	Vehicle 3	Vehicle 4
Alcoholic Beverages					
Illegal Drugs					
Prescription Drugs					
Driver Asleep or Fatigued					
Driver Illness					
Unsafe Speed					
Failure to Yield					
Disregard Signal					
Left of Center					
Improper Passing					
Improper Turning					
Improper Lane Usage					
Following Too Closely					
Unsafe Backing					
Overcorrecting					
Ran off Road					
Wrong Way on One Way					
Pedestrian's Action					
Passenger Distraction					
Restriction Violation					
Jackknifing					
Cell Phone Usage					
Other Telematics					
Driver Distracted					
Speed/Weather Conditions					
Other					
None					

Vehicle Contributing Circumstances	Primary Cause	Vehicle 1	Vehicle 2	Vehicle 3	Vehicle 4
Engine Failure or Defective					
Accelerator Failure or Defective					
Brake Failure or Defective					
Tire Failure or Defective					
Headlight(s) Defective or Not On					
Other Lights Defective					
Steering Failure					
Window/Windshield Defective					
Oversize/Overweight Load					
Insecure/Leaky Load					
Tow Hitch Failure					
Other					
None					

Environment Contributing Circumstances	Primary Cause	Vehicle 1	Vehicle 2	Vehicle 3	Vehicle 4
Glare					
Roadway Surface					
Holes/Ruts in Surface					
Shoulder Defective					
Road Under Construction					
Severe Crosswinds					
Obstruction Not Marked					
Lane Marking Obscured					
View Obstructed					
Animal/Object in Roadway					
Traffic Ctl Inop/Missing/Obscure					
Utility Work					
Other					
None					

Area Information
Hit and Run
School Zone
Rumble Strips
Locality
Light Condition
Weather Conditions
Surface Condition
Type of Median
Type of Roadway Junction
Road Character
Roadway Surface
Construction / If Yes, Construction Type
Traffic Control Devices
Traffic Control Device Operational?
Was this crash the result of aggressive driving?

Total Estimate of all damage in the Crash:

Other Property Damage (1)	State Property	Owner's Name and Address
Other Property Damage (2)	State Property	Owner's Name and Address

Witness/Other Participant		
☐ Witness ☐ Other Participant	#	Name
Address etc.		
Phone #	Location at Time of Crash	
☐ Witness ☐ Other Participant	#	Name
Address etc.		
Phone #	Location at Time of Crash	

Non-Motorist	
(Last Name, First Name, MI)	
Non-Motorist Type	Non-Motorist Action
Apparent Physical Condition	
Cited? / Direction	
Street/Highway	
Traffic Control?	If yes, was traffic control operational?

Page of

Local ID

Type of Crash					
Time Notified	Time Arrived	Other Location of Investigation			
Assisting Officer		ID No.	Agency	Investigation Complete?	Photos Taken?
Assisting Officer		ID No.	Agency	Date of Report	
Investigating Officer		ID No.	Agency	Reviewing Officer	

Narrative

UNIT INFORMATION

Page of

Local ID

Driver's Name (Last, First, MI)

Address (Street, City, State, Zip)

Date of Birth | Age | Gender

Driver's License # | Lic Type | CDL Class | Lic State

Apparent Physical Status
- Normal
- Had Been Drinking
- Handicapped
- Ill
- Asleep/Fatigued
- Drugs/Medication
- Unknown

Restrictions
- Glasses/Contact Lenses
- Outside Rearview Mirror
- Daylight Driving
- Automatic Transmission
- Special Controls
- Employment Only
- Motorcycle Only
- To/From Employment
- Employer's Vehicle Only
- State-Owned Vehicles
- PP Chauffeurs Taxi Only
- Power Steering
- Special Restrictions
- Probation DWI
- Probation HTO
- None

Test Given: NONE

Type Given: Blood | Urine | Breath | SFST | PBT

Alcohol Results: PBT | Certified Test | Pending

Drug Results

Veh# | Color | Vehicle Year | Make | Model | Style

Occupants | Lic Year | License # | License State

Axles | Speed Limit | Insured By | Phone Number

Vehicle Identification#

Registered Owner's Name (Last, First, MI) | Same as Driver

Address (Street, City, State, Zip)

Towed? | To / By | Reason

Lic State | Lic Year | Registered Owner's Name (Last, First, MI) | Same as Driver

License# | Address (Street, City, State, Zip)

Veh Year | Make

Lic State | Lic Year | Registered Owner's Name (Last, First, MI) | Same as Driver

License# | Address (Street, City, State, Zip)

Veh Year | Make

Commercial Vehicle: Carrier's Name and Address

HAZMAT Proper Shipping Name: | State DOT#

US DOT# | ICC# | CMV Inspection | If Yes

Gross Vehicle Weight Rating | Cargo Body Type

HAZMAT Placard | HAZMAT Release of Cargo | HAZMAT 4-Digit ID# | Hazzard Class #

Safety Equipment Used

Safety Equipment Effective?

Ejection/Trapped

EMS No. | Immed Attn | Driver Injury Status

Nature of Most Severe Injury

Location of Most Severe Injury

If Cited?
- Infraction
- Misdemeanor
- Felony

IC Codes

Initial Impact Area
- Undercarriage
- Trailer
- None
- Unknown

Areas Damaged (Multiples)
- Undercarriage
- Trailer
- None
- Unknown

Vehicle Use

Emergency Run? | Fire? NO

Vehicle Type

Pre-Crash Vehicle Action

Direction of Travel

Type of Primary/Secondary Roadway

One Way Traffic
- One Lane
- Two Lanes
- Multi-Lanes (3 or more)

Two Way Traffic
- Two Lanes
- Multi-Lane Divided (3 or more)
- Multi-Lane Undivided 2 way left turn
- Multi-Lane Undivided (3 or more)

Private Drive

Alley

Event Collision With

GLOSSARY

Aggressive Driving
A collision is defined as involving aggressive driving when the driver of a motor vehicle was engaged in at least two of the following actions: (1) driving at an unsafe speed; (2) failing to yield right of way; (3) disregarding a regulatory signal/sign; (4) improper passing; (5) improper turning; (6) improper lane usage; or (7) following too closely.

Alcohol Involvement/Alcohol-related
The terms "alcohol-related" or "alcohol-involved" do not indicate that a crash or fatality was caused by the presence of alcohol.

National Highway Traffic Safety Administration (NHTSA) defines a fatal crash as alcohol-related or alcohol-involved if at least one driver or nonoccupant (such as a pedestrian or pedalcyclist) involved in the crash is determined to have had a Blood Alcohol Concentration (BAC) of .01 gram per deciliter (g/dL) or higher. NHTSA defines a nonfatal crash as alcohol-related or alcohol-involved if police indicate on the police accident report that there is evidence of alcohol present. The code does not necessarily mean that a driver or nonoccupant was tested for alcohol.

Indiana defines a crash as alcohol-related or alcohol-involved if any of the following are true: (1) *alcoholic beverages* is listed as the primary factor of the collision; (2) *alcoholic beverages* is listed as a contributing circumstance in the collision; (3) any vehicle driver or non-motorist (pedestrian, pedalcyclist) involved in the collision had a BAC test result greater than zero; (4) the collision report lists the apparent physical condition of any vehicle driver or non-motorist involved as had been drinking; or (5) a vehicle driver is issued an Operating While Intoxicated (OWI) citation.

Alcohol-impaired
A collision in which any vehicle driver involved has a BAC test result at or above 0.08 g/dL. Note that this definition is limited to vehicle drivers, whereas the BAC levels of any driver or non-motorist are included in the definition alcohol-related.

Automated Reporting Information Exchange System (ARIES)
Formerly the Vehicle Crash Reporting System (VCRS). The computer data information system in which all local and state law enforcement officers enter the information from the *Indiana Officer's Standard Crash Report*. This data system provides the data found in this report as well as the *Indiana Traffic Fact Sheets.*

Blood Alcohol Concentration
The BAC is measured as a percentage by weight of alcohol in the blood (grams/deciliter). A positive BAC level (.01 g/dL and higher) indicates that alcohol was consumed by the person tested; a BAC level of .08 g/dL or more indicates that the person was impaired.

Bus
Large motor vehicles used to carry nine or more passengers, including school buses, inter-city buses, and transit buses.

Census-based Locale
Urban is defined as Census 2000 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).

Cited/Citation
When a person involved in a collision is charged (traffic or criminal) with a violation relating to the motor vehicle crash. The document produced is a citation.

Combination Vehicle
A truck consisting primarily of a transport device which is a single-unit truck or truck tractor together with one or more attached trailers.

Commercial Vehicle
1. *A Truck.* A vehicle equipped for carrying property and having a Gross Vehicle Weight Rating (GVWR) or Gross Combination Weight Rating (GCWR) over 10,000 pounds.
2. *A Bus.* A motor vehicle designed to transport nine or more occupants.
3. *Any Vehicle.* Displaying a hazardous materials placard.

Contributing Circumstance
Actions of the driver, apparent environmental conditions, or apparent vehicle conditions that contributed to the collision. See also *General Contributing Factors.*

Collision/Crash
An event that produces injury and/or property damage, involves a motor vehicle in transport, and occurs on a trafficway or while the vehicle is still in motion after running off the trafficway.

Collision/Crash Severity
1. *Fatal Crash.* A police-reported crash involving a motor vehicle in transport on a trafficway in which at least one person dies within 30 days of the crash.
2. *Injury Crash.* A police-reported crash involving a motor vehicle in transport on a trafficway in which no one died but a least one person was reported to have: (1) an incapacitating injury; (2) a visible but not incapacitating injury; (3) a possible, not visible injury; or (4) an injury of unknown severity.
3. *Property Damage Only Crash.* A police-reported crash involving a motor vehicle in transport on a trafficway in which no one involved in the crash suffered any injuries. Indiana statute states the estimated property damage must be $1000 or more. Note: All collisions reported as property damage collisions, regardless of estimated damage costs, are reported in the 2008 *Indiana Crash Fact Book.*

Glossary, continued

Dark (Lighted)
The time between dusk and dawn, and where there are lights designed and installed to illuminate the roadway. This does not include lighting from storefronts, houses, etc.

Dark (Not lighted)
The time between dusk and dawn, and where there are no lights designed or installed to illuminate the roadway.

Day
From 6:00a to 5:59p.

Disregarding Traffic Signal
A collision where one or more drivers disregarded a traffic signal or flashing signal at a road intersection (excludes interstates).

Driver
An occupant of a vehicle who is in physical control of a motor vehicle in transport, or for an out-of-control vehicle, an occupant who was in control until control was lost.

Ejection
Refers to occupants being totally or partially thrown from the vehicle as a result of an impact or rollover.

Fatal Injury
Any injury that results in death within a 30-day period after the crash occurred.

Fixed/Immoveable Object
Stationary structures or substantial vegetation attached to the terrain. Examples include guardrail, bridge railing or abutments, trees, utility poles, ditches, culverts, and buildings.

General Contributing Factor(s)
The factors which the investigating officer believes to have contributed to the collision's occurrence – one of these may or may not have been the primary factor. Each collision may have two driver contributing factors, one environmental, and one vehicle factor. See also *Contributing Circumstance.*

Gross Combination Weight Rating (GCWR)
The value specified by the manufacturer as the loaded weight of a combination (articulated) motor vehicle. In absence of a value specified by the manufacturer, GCWR will be determined by adding the GVWR of the power unit and the total weight of the towed unit and any load thereon.

Gross Vehicle Weight Rating (GVWR)
The maximum rated capacity of a vehicle, including the weight of the base vehicle, all added equipment, driver and passengers, and all cargo loaded into or on the vehicle. Actual weight may be less than or greater than GVWR.

Harmful Event
The event during a crash for a particular vehicle that is judged to have produced the greatest personal injury or property damage.

Hazardous Materials
Any substance or material which has been determined by the U.S. Department of Transportation, or other authorizing entity, to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. Any motor vehicle transporting quantities of hazardous materials in quantities above the thresholds established by the USDOT, or other authorized entity, is required to display a hazardous materials placard.

Hazardous Materials Placard
A sign that must be affixed to any motor vehicle transporting hazardous materials in quantities above the thresholds established by the USDOT, or other authorized entity. This placard identifies the hazard class division number, four-digit hazardous material identification number or name of the hazardous material being transported.

ICJI
Indiana Criminal Justice Institute.

Incapacitating Injury
A non-fatal injury that prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred. Hospitalization is usually required. Examples are severe lacerations, broken limbs, skull fracture, crushed chest, internal injuries, etc.

Incorporated Limits Locale
Urban is defined as any area inside the incorporated limits of a city. *Rural* is defined as any area outside the incorporated limits of a city.

Intersection
An area of roadway which is: (1) at a crossing or connection of two or more roadways not classified as a driveway; and (2) the area of the roadway measured less than 33 feet from the apex of two roadways at the curb or boundary line. Types of intersections noted on the Indiana Crash Report are: 1) T-intersections; 2) Y-intersections; 3) Four-way intersection; 4) Interchange; 5) Five points or more; 6) Ramp; and 7) Traffic circle/roundabout.

ISP
Indiana State Police.

Jackknife
Jackknife can occur at any time during the crash sequence. Jackknifing is generally restricted to truck tractors pulling a trailing unit in which the trailing unit and the pulling vehicle rotate with respect to each other.

Junction
Area formed by the connection of two roadways, including intersections, interchange areas, and entrance/exit ramps.

Lane Control
Visible lane markings such as hash marks or lines that separate lanes of travel.

Large Trucks
Trucks over 10,000 pounds gross vehicle weight rating, including single unit trucks and truck tractors.

Licensed Drivers
The annual count of licensed drivers in a given location (e.g., county, state, nation).

Light Trucks
Trucks of 10,000 pounds gross vehicle weight rating or less, including pickups, vans, truck-based station wagons, and sport utility vehicles.

Motorcycle
A two- or three-wheeled motor vehicle designed to transport one or two people. This category can include motor scooters, minibikes, and mopeds, etc.; however, the Indiana reporting system separates the two categories.

Motor Vehicle in Transport
A motor vehicle in motion on the trafficway or any other motor vehicle on the roadway, including stalled, disabled, or abandoned vehicles.

Night
From 6:00p to 5:59a.

Non-incapacitating Injury
An injury, other than a fatal or incapacitating injury, which is evident to the officer at the scene of the crash and may require medical treatment, although hospitalization is usually not required. Examples are abrasions, minor bleeding, and lacerations.

Non-occupant/Non-motorist
Any person who is not an occupant of a motor vehicle in transport and includes the following: (1) pedestrians; (2) pedalcyclists; (3) occupants of parked motor vehicles; (4) others such as joggers, skateboard riders, people riding on animals, and persons riding in animal-drawn conveyances.

Not Injured
Any blank value in the injury status code field of the Indiana Crash Report. These are generally drivers of vehicles involved in property damage only collisions.

Occupant
Any person who is in or upon a motor vehicle in transport. Includes the driver, passengers, and persons riding on the exterior of a motor vehicle.

Passenger
Any occupant of a motor vehicle who is not a driver.

Passenger Car
Motor vehicles used primarily for carrying passengers, including convertibles, sedans, and station wagons.

Passenger Vehicles
Passenger vehicles are defined as *passenger cars, pickup trucks, SUVs,* and *vans*.

Pedalcyclist
A person on a bicycle or vehicle that is powered solely by pedals.

Pedestrian
Any person not in or upon a motor vehicle or other vehicle.

Pedestrian Collision
A collision in which a pedestrian was involved or *pedestrian action* was listed as a contributing factor to the collision. NOTE: Sometimes a collision had a contributing factor of *pedestrian action* where there was not information regarding a pedestrian individual – these collisions were counted as pedestrian collisions.

Pickup Truck
A motor vehicle designed to carry ten persons or less, with an exposed bed.

Possible Injury
Any injury reported or claimed which is not visible. Example: the complaint of back or neck pain.

Primary Factor
The single factor which the investigating officer believes to be the main or primary factor which contributed to the collision's occurrence. Each collision may have only one primary factor.

Property Damage Only Collision
A police-reported crash involving a motor vehicle in transport on a trafficway in which no one involved in the crash suffered any injuries but at least one vehicle or property was damaged.

Registered Vehicles
The annual count of registered vehicles in a given location (e.g., county, state, nation).

Glossary, continued

Restraint Use
The occupant's use of available vehicle restraints including lap belt, shoulder belt, or automatic belt.

Roadway
That part of a trafficway designed, improved, and ordinarily used for motor vehicle travel.

Rollover
Rollover is defined as any vehicle rotation of 90 degrees or more about any true longitudinal or lateral axis. Includes rollovers occurring as a first harmful event or subsequent event.

Seating Position
The location of the occupants in the vehicle. More than one can be assigned the same seat position; however, this is allowed only when a person is sitting on someone's lap.

Semi-trailer
A trailer, other than a pole trailer, designed for carrying property and so constructed that part of its weight rest upon or is carried by the power unit.

Serious Injury
An injury reported as *fatal* or *incapacitating*.

Serious Injury Collision
A collision with at least one *fatal* or *incapacitating* injury.

Single-unit Truck
A medium or heavy truck in which the engine, cab, drive train, and cargo area are all on one chassis. (Can have two axles and six tires on the ground, or three or more axles).

Speed-related
A collision is identified as speed-related if any one of the following conditions is met: (1) *unsafe speed* or *speed too fast for weather conditions* is listed as the primary or contributing factor of the collision; (2) a vehicle driver is issued a speeding citation.

Sport Utility Vehicle (SUV)
A multi-purpose motor vehicle designed for carrying less than ten persons, which is constructed on a truck chassis or with special features for occasional off-road operation, other than a pickup truck. These vehicles are generally four-wheel-drive (4x4) and have increased ground clearance, and a gross vehicle weight rating (GVWR) of 10,000 pounds or less.

Tractor (Semi)
A motor vehicle consisting of a single power unit device designed primarily for pulling semi-trailers.

Traffic Circle/Roundabout
An intersection of roads where vehicles must travel around a circle to continue on the same road or to connect to an intersecting road.

Traffic Control Signal
Includes the red/green/yellow signal and/or a flashing signal.

Trapped
Persons who are restrained in the vehicle by damaged vehicle components as a result of a crash, and who have to be freed from the vehicle.

Unit
Denotes a motor vehicle, pedestrian, pedalcyclist, or other entity involved in the collision.

Unknown Injury
Injuries reported on the *Indiana Crash Report* as: 1) *refused* (treatment); 2) *unknown*; 3) *not reported*; and 4) invalid codes.

Van
A motor vehicle consisting primarily of a transport device that has a gross vehicle weight rating of 10,000 pounds or less and is basically a "box on wheels" that is identifiable by its enclosed passenger and/or cargo area, step-up floor, and relatively short (or nonexistent) hood. Examples are passenger vans, cargo or delivery vans, and van-based mini-motor homes.

Vehicle Miles Travelled
The annual vehicle distance travelled in miles (VMT).

Weekday
From 6:00a Monday to 5:59p Friday.

Weekend
From 6:00p Friday to 5:59a Monday.

Work Zone
An area of a trafficway where construction, maintenance, or utility work activities are identified by warning signs/signals/indicators, including those on transport devices (e.g., signs, flashing lights, channelizing devices, barriers, pavement markings, flagmen, warning signs, and arrow boards mounted on the vehicles in a mobile maintenance activity) that mark the beginning and end of a construction, maintenance, or utility work activity.

It extends from the first warning sign, signal, or flashing lights to the END ROAD WORK sign or the last traffic control device pertinent for that work activity.

Work zones also include roadway sections where there is ongoing, moving (mobile) work activity such as lane line painting or roadside mowing only if the beginning of the ongoing, moving (mobile) work activity is designated by warning signs or signals.

Young Driver
A driver of a motor vehicle whose age is between the ages of 15 and 20 years old.

APPENDIX A: Methods for producing economic costs of traffic collisions in Indiana

For the purposes of *Indiana Crash Facts, economic costs* represent the monetary and non-monetary impacts produced by injuries and property damage in traffic collisions. These costs are calculated by taking existing estimates of costs, broken down into various impact categories, by the incidence of traffic injuries and property damage to vehicles in collisions. The general methodology used here follows that in economic cost reports produced by the National Highway Traffic Safety Administration (NHTSA).[1] Several intermediate procedures were performed on the data to arrive at final cost estimates.

1. Injury classifications

Cost estimates are based on the *Maximum Abbreviated Injury Scale* (MAIS), a medical assessment of the most severe injury incurred.[2] The MAIS scale ranges from MAIS 0 (no injury), to MAIS 6 (fatality), with incremental levels representing increasing levels of bodily damage (i.e., decreasing probabilities of survival). Indiana crash reports, however, use the KABCO (K=fatal; A=incapacitating; B=non-incapacitating; C=possible; O=not injured) system of injury classification, in which an officer with no medical training can make a general assessment of the injury severity to individuals involved in the collision. As such, Indiana injury data classifications must be converted to the MAIS system to obtain the cost estimates.

Data taken from the National Automotive Sampling System (NASS) from 1982 to 1986 were used to create this injury "translator." [3,4] These data encompass a representative sample of crashes in the United States and provide individual-level information on individuals involved; from it, KABCO injuries can be proportionally distributed into MAIS categories. Data were taken from this time period because it represents the most recent data that contains both KABCO and MAIS designations of injury at the individual level. Note that the injury translator can apportion fatalities (K) to MAIS designations, but the data in Indiana Crash Facts does not do this for ease of interpretation.

2. Cost estimates and price deflation

Economic cost estimates were obtained from NHTSA economic cost reports.[5] The data are in year 2000 US dollars and accordingly must be adjusted for the effects of the time value of money. Price deflators were obtained from the Bureau of Labor statistics and were applied as follows:

a. *Medical care and emergency services*

Consumer Price Index (CPI) - Medical care (Midwest region). Bureau of Labor Statistics. http://www.bls.gov/cpi/cpi_dr.htm

b. *Market productivity, household productivity, travel delay*

Productivity Index - Output per hour of all persons, business sector (annual). Bureau of Labor Statistics. http://www.bls.gov/schedule/archives/prod_nr.htm

c. *Insurance administration, legal costs, property damage*

Consumer Price Index - Services less medical care services (Midwest region). Bureau of Labor Statistics. http://www.bls.gov/cpi/cpi_dr.htm

d. *Workplace costs*

Employment Cost Index - Total compensation, all civilian workers, (Q4, not seasonally adjusted). Bureau of Labor Statistics. http://www.bls.gov/ect/. Note that 2000 data were not available for this series; 2001 data used as a proxy.

Once costs were adjusted to current economic conditions, the values were multiplied by the incidence of injuries and vehicles that sustained property damage only (i.e., no injured occupants) to arrive at total cost estimates.

[1]Blincoe, L., Seay, A., Zaloshnja, E., Miller, T., Romano, E., Luchter, S., & Spicer, R. (May 2002). *The economic impact of motor vehicle crashes, 2000.* (DOT HS809 446). Washington D.C.: National Highway Traffic Safety Administration.

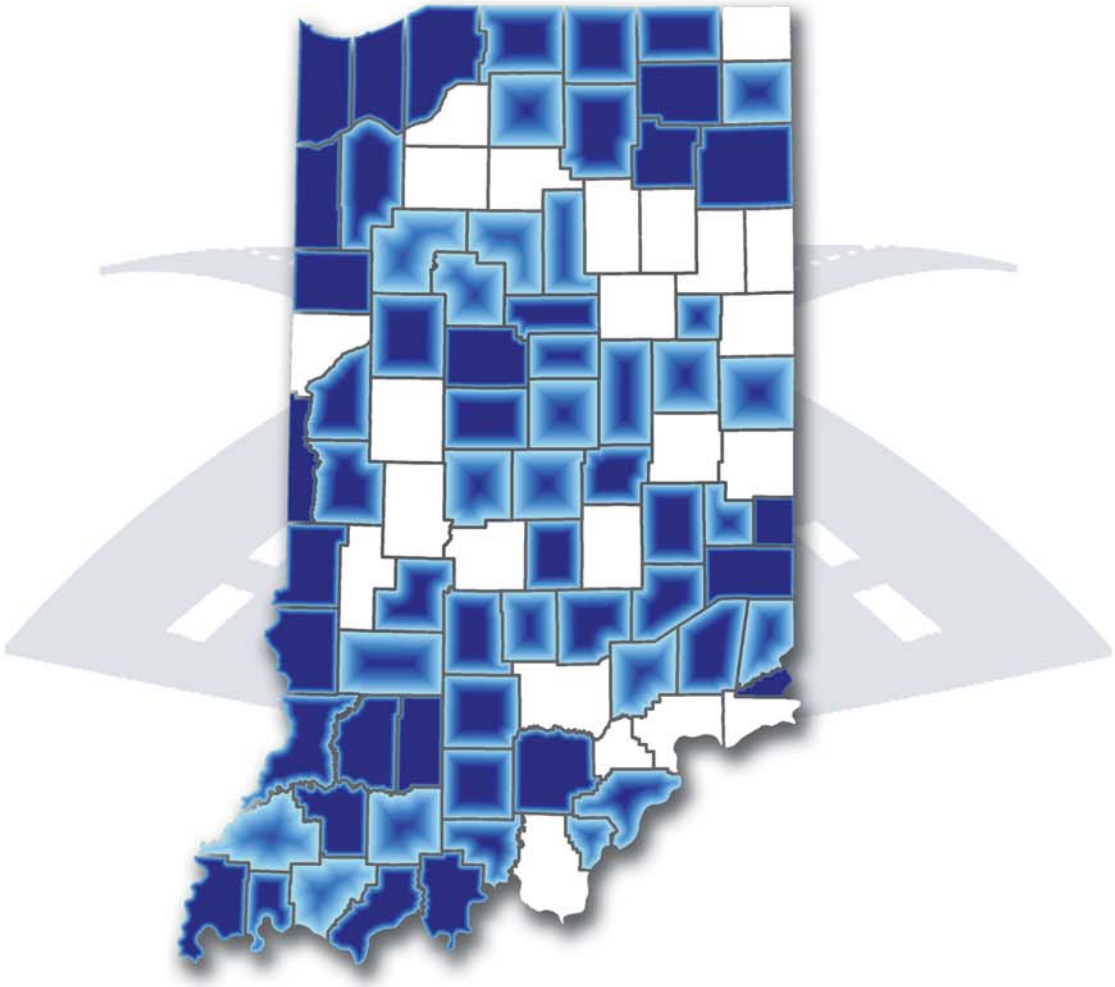
[2]Association for the Advancement of Automotive Medicine. Retrieved from http://www.carcrash.org

[3]http://www.nhtsa-tsis.net/projects/NHTSA/NHTSA_NASS.htm

[4]National Automotive Sampling System, 1982-1986; *Ejection Mitigation Using Advanced Glazing: A Status Report, November 1995,* NHTSA

[5]Blincoe et al., 2002.

INDIANA CRASH FACTS



2010

An electronic copy of this document can be accessed via the Center website (www.ccjr.iupui.edu), the ICJI traffic safety website (www.in.gov/cji/), or you may contact the Center for Criminal Justice Research at 317-261-3000.

11-C12

INDIANA CRIMINAL JUSTICE INSTITUTE

CENTER FOR CRIMINAL JUSTICE RESEARCH

SCHOOL OF PUBLIC AND ENVIRONMENTAL AFFAIRS
INDIANA UNIVERSITY
IUPUI