

INDIANA TRAFFIC SAFETY FACTS

May 2010



A collision produces three levels of data: collision, unit (vehicles), and individual. For this reason, readers should pay particular attention to the wording of statements about the data to avoid misinterpretations.

Designing and implementing effective traffic safety policies requires data-driven analysis of traffic collisions. To help in the policy-making process, the Indiana University Center for Criminal Justice Research is collaborating with the Indiana Criminal Justice Institute to analyze 2009 vehicle crash data from the Automated Reporting Information Exchange System (ARIES), maintained by the Indiana State Police. This marks the fourth year of this partnership. Research findings will be summarized in a series of fact sheets on various aspects of traffic collisions, including alcohol-related crashes, light and large trucks, dangerous driving, children, motorcycles, occupant protection, and young drivers. An additional publication will provide information on county and municipality data and the final publication will be the annual Indiana Crash Fact Book. These publications serve as the analytical foundation of traffic safety program planning and design in Indiana.

Indiana collision data are obtained from Indiana Crash Reports, as completed by law enforcement officers. As of December 31, 2009, approximately 99 percent of all collisions are entered electronically through the ARIES. Trends in collisions incidence as reported in these publications could incorporate the effects of changes to data elements on the Crash Report, agency-specific enforcement policy changes, re-engineered roadways, driver safety education programs and other unspecified effects. If you have questions regarding trends or unexpected results, please contact the Indiana Criminal Justice Institute, Traffic Safety Division for more information.

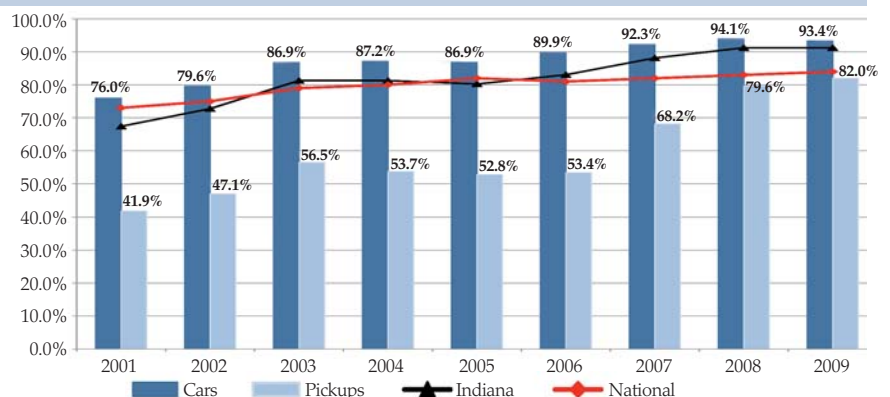


OCCUPANT PROTECTION 2009

In 2009, 45,181 passenger vehicle occupants were injured or killed in Indiana traffic collisions, more than 87 percent of whom were wearing proper safety restraints. The National Highway Traffic Safety Administration (NHTSA) identifies safety belt use as the most effective practice a person can employ to prevent deaths and injuries resulting from traffic collisions (see Text Box). This fact sheet summarizes occupant protection data trends, legislation, and public awareness efforts at the national, state, and county levels with a particular emphasis on restraint use and injuries resulting from passenger vehicle collisions between 2005 and 2009. Indiana data were extracted from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

NHTSA reports that, nationally in 2009, the overall observed seat belt use rate was 84 percent, up 11 percentage points since 2001 (Figure 1).¹ Passenger vehicle (defined as passenger cars, pickup trucks, vans, and SUVs) occupants represented 68 percent (25,351) of the 37,261 people killed in traffic collisions. Where restraint was known, 55 percent of passenger vehicle occupants killed in 2008 U.S. traffic collisions were unrestrained. According to the Indiana Criminal Justice Institute, Indiana observational studies of seat belt usage show that restraint usage rates continue to climb for all passenger vehicles. Figure 1 shows that restraint usage rates for all passenger vehicles increased nearly 24

Figure 1: Observed seat belt use rates in passenger vehicles, 2001 to 2009



Sources:

Indiana — Indiana Criminal Justice Institute, December 2009

National — National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Seat Belt Use in 2009—Overall Results*, DOT HS 811 100, Sept 2009.

Notes:

Indiana data represent the average annual rates of observed restraint use among all Indiana passenger vehicle occupants in a study conducted by ICJI twice per year. Car and pickup truck restraint usage rates are specific to Indiana only.

National data represent the rates of observed restraint use among all passenger vehicle occupants. Passenger vehicles are defined as *passenger cars, pickup trucks, SUVs, and vans*.

Occupant Protection Laws and Best Practices

NHTSA identifies safety belt use as the most effective strategy a person can employ to prevent deaths and injuries resulting from traffic collisions.ⁱ NHTSA reports that states with primary enforcement laws achieve higher restraint usage than states with secondary enforcement laws.ⁱⁱ Primary (standard) restraint laws allow a law enforcement officer to stop a vehicle and issue a citation when the officer observes an unrestrained driver or passenger. Secondary enforcement means that a citation for being unrestrained can only be written after the officer stops the vehicle or cites the offender for another infraction. A NHTSA report also suggests that states with primary enforcement laws have significantly lower fatality rates than states without primary enforcement.ⁱⁱⁱ

Indiana Occupant Protection Laws

Effective July 1, 2007, Indiana law required all passenger vehicle occupants 16 and older to ride properly restrained in a seat belt. This law applies to all seating positions in all vehicles, including pick-up trucks and SUVs.^{iv}

The current Indiana child passenger restraint law requires all child occupants (ages 15 and younger) to be properly restrained in a child restraint device or seat belt in all seating positions in all vehicles.^v In addition to legislative efforts, child passenger safety experts have developed recommended safety standards and best practices that include the use of rear facing child safety seats as long as possible, or, at a minimum, until a child is one year old and weighs at least 20 pounds. These guidelines also include the use of booster safety seats for children who have outgrown child safety seats with harnesses. Children then may transition to the use of adult seat belts. It is recommended that all children under the age of 13 ride in the back seat of the vehicle.

ⁱNational Highway Traffic Safety Administration, Initiatives to Address Safety Belt Use, Washington, DC, July 2003.

ⁱⁱNational Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts: Occupant Protection (2008 data)*, Washington, DC. DOT HS 811 160.

ⁱⁱⁱNational Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts: States with Primary Enforcement Laws have Lower Fatality Rates (February 2008)*, Washington, DC. DOT HS 810 921.

^{iv}Passenger Restraint Systems, IC 9-19-10-2; available at <http://www.ai.org/legislative/ic/code/title9/ar19/ch10.html>

^vPassenger Restraint Systems, IC 9-19-10-2; available at <http://www.ai.org/legislative/ic/code/title9/ar19/ch10.html>

Table 1: Restraint use and injury status among individuals involved in Indiana passenger vehicles collisions, 2005-2009

Occupant injury status	2005	2006	2007	2008	2009	% change ('08-'09)
All injured occupants	318,219	291,462	304,148	300,918	283,573	-5.8%
Properly restrained	269,263	250,582	271,800	272,300	256,131	-5.9%
Restraint use rate	84.6%	86.0%	89.4%	90.5%	90.3%	-0.2%
Fatalities	711	656	670	588	497	-15.5%
Properly restrained	296	261	295	258	239	-7.4%
Restraint use rate	41.6%	39.8%	44.0%	43.9%	48.1%	9.6%
Incapacitating injuries	2,993	2,911	2,691	2,508	2,358	-6.0%
Properly restrained	1,863	1,884	1,767	1,820	1,713	-5.9%
Restraint use rate	62.2%	64.7%	65.7%	72.6%	72.6%	0.1%
Non-incapacitating injuries	50,024	45,957	43,440	39,936	38,440	-3.7%
Properly restrained	40,946	38,118	37,525	35,182	33,929	-3.6%
Restraint use rate	81.9%	82.9%	86.4%	88.1%	88.3%	0.2%
Other injuries	32,398	20,413	7,731	5,506	3,886	-29.4%
Properly restrained	27,551	17,326	6,603	4,898	3,638	-25.7%
Restraint use rate	85.0%	84.9%	85.4%	89.0%	93.6%	5.2%
No injuries	232,093	221,525	249,616	252,380	238,392	-5.5%
Properly restrained	198,607	192,993	225,610	230,142	216,612	-5.9%
Restraint use rate	85.6%	87.1%	90.4%	91.2%	90.9%	-0.4%

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Notes:

Non-incapacitating injuries include those injuries reported as *non-incapacitating* or *possible*.

Other injury status includes *not reported*, *unknown*, and *refused (treatment)* status codes.

No injury status includes individuals involved in collisions reported as *null* values in the injury status code field.

Includes only injuries occurring in passenger vehicles (defined as *passenger cars*, *pickup trucks*, *SUVs*, and *vans*). Excludes all other vehicle types including those identified as *pedestrians* and *pedalcyclists*.

For the purposes of this fact sheet, vehicle occupants injured in Indiana collisions are counted as having been restrained when the reporting officer selected any one of the following safety equipment categories on the Indiana Crash Report: (1) *Lap belt only*; (2) *Harness*; (3) *Airbag deployed and harness*; (4) *Child restraint*; or (5) *Lap and harness*.

percentage points from 67 percent in 2001 to over 91 percent in 2009. Likewise, observed rates of restraint use in passenger cars increased from 76 percent in 2001 to over 93 percent in 2009. Pickup truck occupants exhibited the most dramatic improvements in restraint use during this same period, increasing from 42 percent in 2001 to 82 percent in 2009. Between 2006 (53 percent) and 2009, restraint usage among pickup truck occupants increased by nearly 29 percentage points. Increases are likely due in part to revisions to the Indiana passenger restraint law (that occurred in July 2007) requiring all passengers to be properly restrained in all passenger vehicles, including pickup trucks and SUVs (registered as trucks) that were previously exempted from the law.

Vehicle occupants injured in Indiana collisions are counted as having been restrained when the investigating officer selected any one of the following safety equipment categories on the Indiana Crash Report: (1) *Lap belt only*; (2) *Harness*; (3) *Airbag deployed and harness*; (4) *Child restraint*; or (5) *Lap and harness*. By this standard, over 90 percent of passenger vehicle occupants involved in 2009 Indiana traffic collisions were wearing the

Table 2: Passenger vehicle occupants involved in collisions, by vehicle type, restraint use, and injury status, 2009

Restraint use and injury status	Passenger cars		Pickup trucks		SUVs		Vans	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total
Restrained (R)	158,512	100.0	37,737	100.0	39,902	100.0	19,980	100.0
Fatal	171	0.1	27	0.1	19	0.0	22	0.1
Incapacitating	1,156	0.7	202	0.5	219	0.5	136	0.7
Non-incapacitating	22,248	14.0	3,635	9.6	5,280	13.2	2,766	13.8
Other	2,035	1.3	602	1.6	670	1.7	331	1.7
No injury	132,902	83.8	33,271	88.2	33,714	84.5	16,725	83.7
Not restrained (NR)	2,613	100.0	1,091	100.0	698	100.0	312	100.0
Fatal	97	3.7	51	4.7	49	7.0	7	2.2
Incapacitating	255	9.8	99	9.1	73	10.5	24	7.7
Non-incapacitating	1,350	51.7	467	42.8	335	48.0	158	50.6
Other	19	0.7	15	1.4	9	1.3	2	0.6
No injury	892	34.1	459	42.1	232	33.2	121	38.8
Relative risk of serious injury (% NR / % R)								
Fatal				65.3		147.4		20.4
Incapacitating		34.4		17.0		19.1		11.3

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Notes:

Non-incapacitating injuries include those injuries reported as *non-incapacitating* or *possible*.

Other injury status includes *not reported*, *unknown*, and *refused* (treatment) injury status codes.

No injury status includes individuals involved in collisions reported as *null* values in the injury status code field.

Includes only injuries occurring in passenger vehicles (defined as *passenger cars*, *pickup trucks*, *SUVs*, and *vans*). Excludes all other vehicle types including those identified as *pedestrians* and *pedalcyclists*.

For the purposes of this fact sheet, vehicle occupants injured in Indiana collisions are counted as having been restrained when the reporting officer selected any one of the following safety equipment categories on the Indiana Crash Report: (1) *Lap belt only*; (2) *Harness*; (3) *Airbag deployed and harness*; (4) *Child restraint*; or (5) *Lap and harness*.

Excludes individuals involved in collisions where restraint use was *unknown*.

Percent totals may not add up to 100 due to rounding.

Table 3: Individuals involved in Indiana collisions by age group, injury status, and restraint use, 2009

Age group	Minor or no injuries			Fatal injuries			Incapacitating injuries		
	Total	Properly restrained	Restraint use rate	Total	Properly restrained	Restraint use rate	Total	Properly restrained	Restraint use rate
< 1	777	424	54.6	2	2	100.0	10	7	70.0
1 - 3	485	454	93.6	2	1	50.0	18	16	88.9
4 - 7	689	622	90.3	4	3	75.0	25	21	84.0
8 - 15	2,477	1,999	80.7	14	6	42.9	86	62	72.1
16 - 20	48,984	44,225	90.3	69	27	39.1	405	238	58.8
21 - 24	30,021	26,945	89.8	55	25	45.5	243	156	64.2
25 - 34	53,883	48,453	89.9	83	35	42.2	427	295	69.1
35 - 44	45,163	41,123	91.1	67	23	34.3	328	253	77.1
45 - 54	42,218	38,514	91.2	64	31	48.4	327	261	79.8
55 - 64	29,917	27,528	92.0	40	21	52.5	243	198	81.5
65 - 74	15,211	13,975	91.9	45	29	64.4	131	109	83.2
75 and over	10,853	9,903	91.2	52	36	69.2	115	97	84.3
Unknown	40	14	35.0	0	0	n/a	0	0	n/a
Total	280,718	254,179	90.5	497	239	48.1	2,358	1,713	72.6

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Notes:

Minor or no injuries includes individuals with injuries reported as *non-incapacitating*, *possible*, *not reported*, *unknown*, *refused* (treatment), and *null* values. Total columns include individuals reported with unknown and invalid safety equipment type.

Includes only injuries occurring in passenger vehicles (defined as *passenger cars*, *pickup trucks*, *SUVs*, and *vans*). Excludes all other vehicle types including those identified as *pedestrians* and *pedalcyclists*.

For the purposes of this fact sheet, vehicle occupants injured in Indiana collisions are counted as having been restrained when the reporting officer selected any one of the following safety equipment categories on the Indiana Crash Report: (1) *Lap belt only*; (2) *Harness*; (3) *Airbag deployed and harness*; (4) *Child restraint*; or (5) *Lap and harness*.

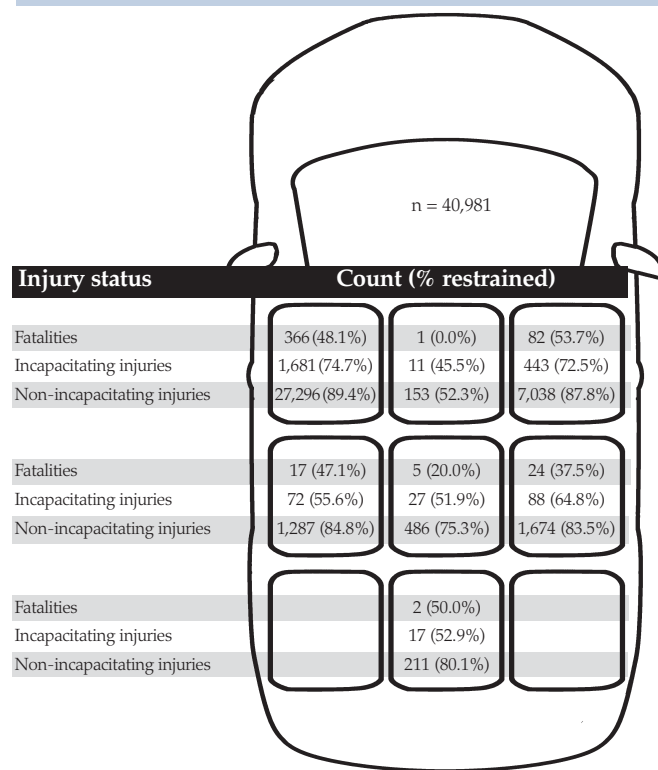
proper safety restraint (Table 1). The rate of restraint usage among passenger vehicle occupants injured or killed in Indiana crashes increased steadily between 2005 and 2009, while the number of fatal and incapacitating injuries decreased during this same period. Rates of restraint usage among passenger vehicle occupants injured in Indiana traffic collisions were lower for individuals suffering more severe injuries. Among the 497 passenger vehicle occupants killed in 2009 collisions, 48 percent were properly restrained. This represents a 4 percentage point increase from 2008 (43.9 percent). The rate of restraint usage

among the 2,358 individuals suffering incapacitating injuries was nearly 73 percent.

RESTRAINT USE AND VEHICLE TYPE

The relative risk of serious injury increases when vehicle occupants are unrestrained. Table 2 depicts the number and percentage of passenger vehicle occupants injured or killed in Indiana traffic collisions in 2009 by vehicle type, restraint usage, and injury status. Among those individuals wearing proper restraints injured in passenger cars, only one-tenth of a percent were fatally injured, while 3.7 percent of unrestrained injured

Figure 2: Individuals in Indiana passenger vehicle collisions by injury status, seating position, and restraint use, 2009



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Notes:

Injuries include only individuals obtaining fatal, incapacitating, non-incapacitating, and possible injuries where valid seating position was identified. Non-incapacitating injuries include those injuries reported as non-incapacitating or possible.

Includes only individuals injured in passenger vehicles (defined as passenger cars, pickup trucks, SUVs, and vans). Excludes all other vehicle types including those identified as pedestrians and bicyclists.

Includes only those injuries where valid seating position was reported.

Percentages depicted are the percentage of individuals properly restrained by injury type in each seating position.

passenger car occupants were fatally injured, indicating that an individual is more than 34 times more likely to be killed in a passenger car when unrestrained. Likewise, unrestrained occupants of pickup trucks were 65 times more likely to be killed and 17 times more likely to suffer incapacitating injuries in traffic collisions than occupants using proper safety restraints. The relative risk of fatal injury to unrestrained occupants of an SUV was 147 times greater than SUV occupants wearing proper restraints.

INDIANA RESTRAINT USE AND AGE

Rates of restraint use among passenger vehicle occupants injured in Indiana traffic collisions were lower for individuals suffering serious injuries across all age groups, with the exception of less than 1 year old age group. Table 3 shows that the lowest rates of restraint use occurred among passenger vehicle occupants killed in 2009 collisions in the 35 to 44 (34.3 percent), 16 to 20 (39.1 percent), and 25 to 34 (42.2 percent) age groups. Among passenger vehicle occupants suffering incapacitating injuries, individuals in the 16 to 20, 21 to 24, and 25 to 34 year old age groups demonstrated the lowest rates of restraint use.

TRAFFIC INJURIES AND VEHICLE SEATING POSITION

Research shows that vehicle seating position is linked to the risk of injury for all vehicle occupants. NHTSA reports that proper restraint use reduces the risk of fatal injury to passenger car occupants riding in the front seat of the vehicle by 45 percent.² The federal Centers for Disease Control and Prevention report that children less than 16 years old, riding in the back seat, are 40 percent less likely to be seriously injured in traffic collisions.³ NHTSA recommends that all children under the age of 13 ride in the back seat of the vehicle.

Figure 2 shows the number and restraint usage rates for 2009 injuries by injury type and vehicle seating position. The greatest number of fatalities occurred in the driver seating position (366), among which 48 percent were properly restrained. Only 54 percent of the 82 individuals killed in the front right passenger seat were properly restrained. Restraint usage rates were lower among the middle front and all back seating positions across all injury types. Forty-seven percent of individuals killed in the back left seating position (located directly behind the driver) were properly restrained, while less than 38 percent of individuals killed in the back right seating position were properly restrained.

EJECTION AND RESTRAINT USE

Research findings suggest that "ejection from a vehicle is one of the most injurious events that can happen to a person in a crash" and that proper restraint usage greatly decreases the likelihood of ejection from passenger vehicles in traffic collisions.⁴ Table 4 shows serious injuries occurring in 2009 passenger vehicle collisions by restraint use and ejection status. Nearly 24 percent of all fatal injuries were reported as ejected. Among those individuals who were properly restrained, only 7 percent of individuals fatally injured were ejected, while 45 percent of individuals who were unrestrained were ejected from the vehicle. More than 32 percent of unrestrained passenger vehicle occupants obtaining incapacitating injuries were ejected from the vehicle.

TIME OF DAY AND RESTRAINT USE

Figure 3 illustrates the inverse relationship that exists between higher proportions of serious injuries and lower rates of restraint use. In 2009, most serious injuries occurred during morning rush hour periods and late night hours. Specifically, the early morning hours of Mondays and Fridays had the highest rates of serious injury. Data also suggest that rates of restraint usage during overnight hours are dramatically lower than during other periods of the day. The lowest rates of restraint use occurred on Saturday (72 percent) and Tuesday (72 percent) during the early morning hours.

GEOGRAPHY OF INDIANA TRAFFIC INJURIES AND RESTRAINT USE

Maps 1 and 2 illustrate the distribution of fatal and incapacitating passenger vehicle occupant injuries and rates of restraint use by county. As suggested by the direct relationship between restraint use and decreased likelihood of serious injury, many counties demonstrating lower rates of serious injury per 10,000 county residents (Map 1) tend to have higher rates of restraint

Table 4: Serious injuries occurring in passenger vehicles by restraint use and ejection status, 2009

	Restrained	%	Unrestrained	%	Unknown	%	Total	%
Fatalities	239	100.0	204	100.0	54	100.0	497	100.0
Ejected	17	7.1	92	45.1	10	18.5	119	23.9
Not ejected	221	92.5	110	53.9	42	77.8	373	75.1
Unknown	1	0.4	2	1.0	2	3.7	5	1.0
Incapacitating injuries	1,713	100.0	451	100.0	194	100.0	2,358	100.0
Ejected	17	1.0	146	32.4	28	14.4	191	8.1
Not ejected	1,688	98.5	299	66.3	153	78.9	2,140	90.8
Unknown	8	0.5	6	1.3	13	6.7	27	1.1

Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Notes:

Ejected includes individuals reported with an ejection status of *ejected*, *partially ejected*, or *pinned under*.

Not ejected includes individuals reported with an ejection status of *trapped in* or *not ejected* or *trapped*.

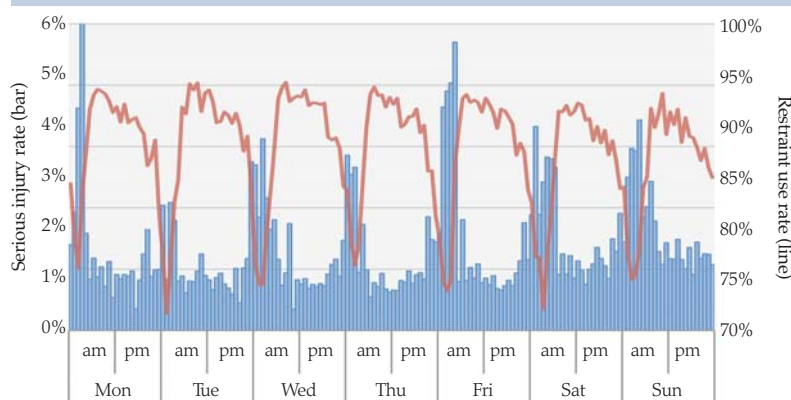
Includes only individuals injured in passenger vehicles (defined as *passenger cars*, *pickup trucks*, *SUVs*, and *vans*). Excludes all other vehicle types including those identified as *pedestrians* and *pedalcyclists*.

Individuals injured counts include only individuals identified as *drivers* and *injured occupants* obtaining injuries reported as *fatal* and *incapacitating*.

Unknown ejection status includes those injuries reported as *unknown* and *null* values.

For the purposes of this fact sheet, vehicle occupants injured in Indiana collisions are counted as having been restrained when the reporting officer selected any one of the following safety equipment categories on the Indiana Crash Report: (1) *Lap belt only*; (2) *Harness*; (3) *Airbag deployed and harness*; (4) *Child restraint*; or (5) *Lap and harness*.

Figure 3: Serious injuries and restraint use, by hour and day of week, 2009



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Notes:

Serious injury collision rate is collisions with *fatal* or *incapacitating* injuries as a proportion of all collisions.

Data exclude collisions with invalid time reported.

Restraint use rate includes individuals reported with *unknown* and invalid safety equipment type.

For the purposes of this fact sheet, vehicle occupants injured in Indiana collisions are counted as having been restrained when the reporting officer selected any one of the following safety equipment categories on the Indiana Crash Report: (1) *Lap belt only*; (2) *Harness*; (3) *Airbag deployed and harness*; (4) *Child restraint*; or (5) *Lap and harness*.

use (Map 2). The mean fatal and incapacitating injury rate was 5.6 per 10,000 county residents, while the mean rate of county restraint use reported in Indiana collisions was 86.5 percent. Counties with the lowest rates of serious injury included Benton (0.0), Fayette (1.6), Decatur (2.0), and Washington (2.1). Counties with the highest fatal and incapacitating injury rates per 10,000 include Brown (17.2), Pulaski (14.6), and Warren (12.9). Thirty-seven counties had serious injury rates greater than the mean rate of 5.6. Hamilton County (97.4) had the highest rate of restraint usage, while Greene County (67.9) had the lowest. Restraint usage in collisions appears to be higher in

metropolitan (urban and suburban) counties and lower in the western and southern regions of the state.

Pickup Trucks and Restraint Use

Nationally, in 2008, 67 percent of pickup truck drivers killed in motor vehicle collisions were not properly restrained. Map 3 illustrates that restraint usage rates among pickup truck occupants involved in Indiana collisions is lower than in other passenger vehicles. In 2009, the mean county restraint use rate of pickup truck occupants was 83.1 percent, a rate more than 3 percentage points lower than the mean county rate of restraint use (86.5 percent) for all passenger vehicles.

The lowest rates of restraint use occurred among pickup truck occupants involved in collisions in counties located in the southwestern region of the state. Union County had the highest rate of restraint usage in pickup trucks (100.0), while Greene County had the lowest (58.1). Pickup truck restraint usage rates appear to be much lower in predominantly rural counties.

CONCLUSION

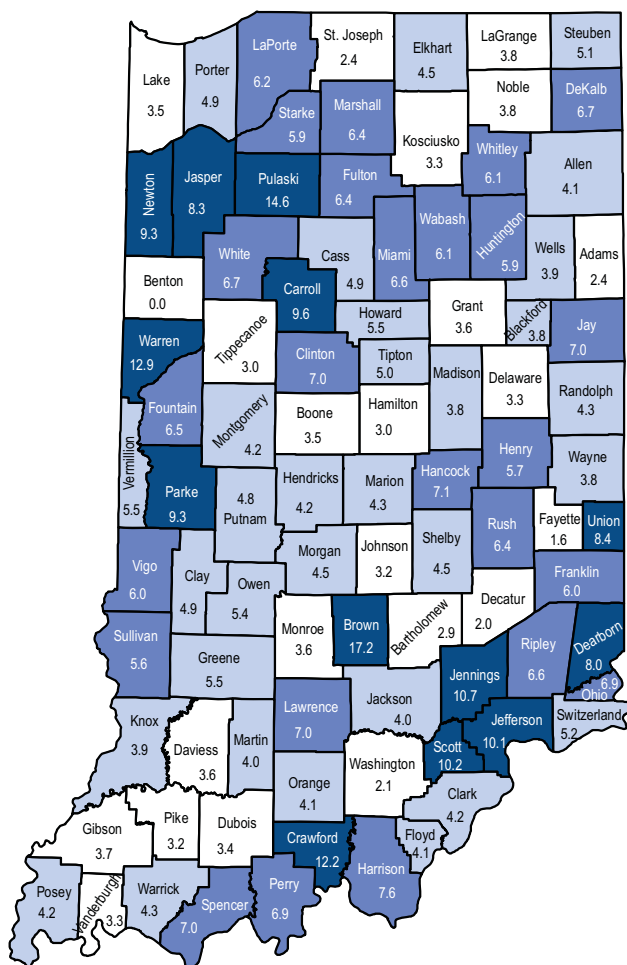
NHTSA suggests that proper restraint usage is the most effective strategy in preventing deaths or injuries resulting from traffic collisions, and research shows that primary enforcement laws increase rates of restraint use and decrease traffic fatality rates. While restraint use continues to be lower among pickup trucks, preliminary findings suggest that recent changes to the Indiana restraint law may have contributed to increased rates of restraint use in pickup trucks. However, lower rates of restraint use among pickup truck occupants and other passenger vehicle occupants killed or suffering serious injury illustrate a continuing need for targeted law enforcement and public awareness campaigns, particularly in rural counties located in the southwestern portion of the state. Campaigns such as

Click it or Ticket and high visibility enforcement may help reduce the number of traffic fatalities and injuries in problem areas across Indiana. This spring, the Indiana Criminal Justice Institute (ICJI) will again partner with state and local law enforcement agencies in the Rural Demonstration Project (RDP), a cooperative effort centering on seat belt enforcement in rural areas. Through grants administered by ICJI, approximately 25 law enforcement agencies will participate in the RDP. While officers will be monitoring restraint use among all motorists during the enforcement, planned activities allow for a specific focus on pickup trucks.

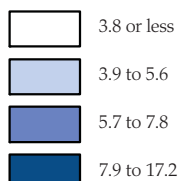
Serious injury and restraint use rates in Indiana traffic collisions by county (2009)

Map 1: County fatal and incapacitating injury rates

Indiana overall serious injury rate = 4.9
Mean county serious injury rate = 5.6
n = 2,855 fatal/incapacitating injuries

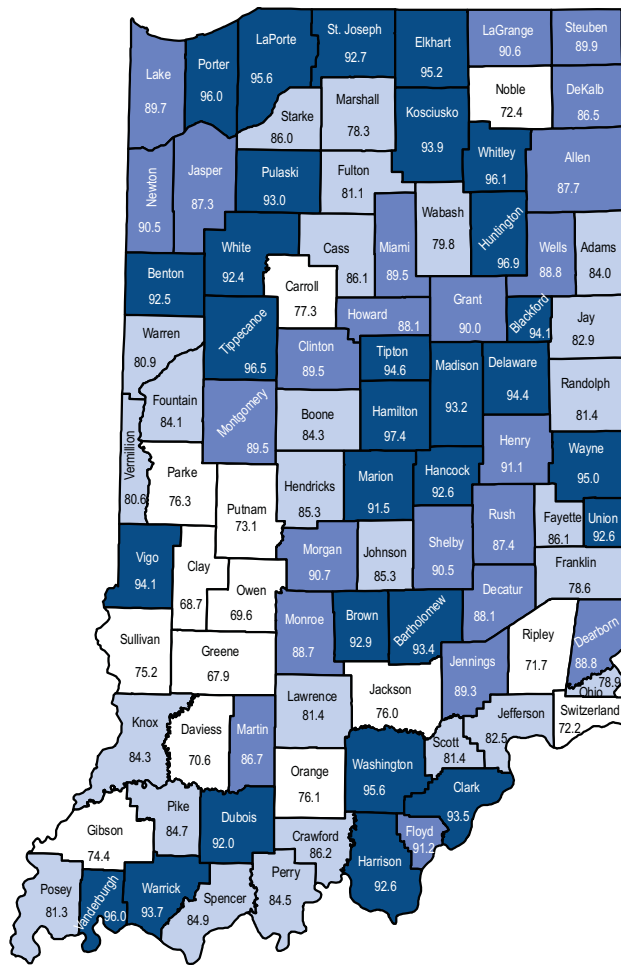


Injury rate per 10k population

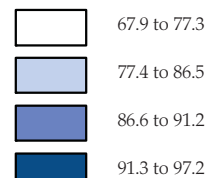


Map 2: Restraint use rates

Indiana overall restraint use rate = 90.3
Mean county restraint use rate = 86.5
n = 283,573 drivers or occupants injured or involved in collisions



Percent restraint usage



Sources:

Injuries — Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Population — Indiana Business Research Center in collaboration with the National Center for Health Statistics, as of February 5, 2010.

Notes:

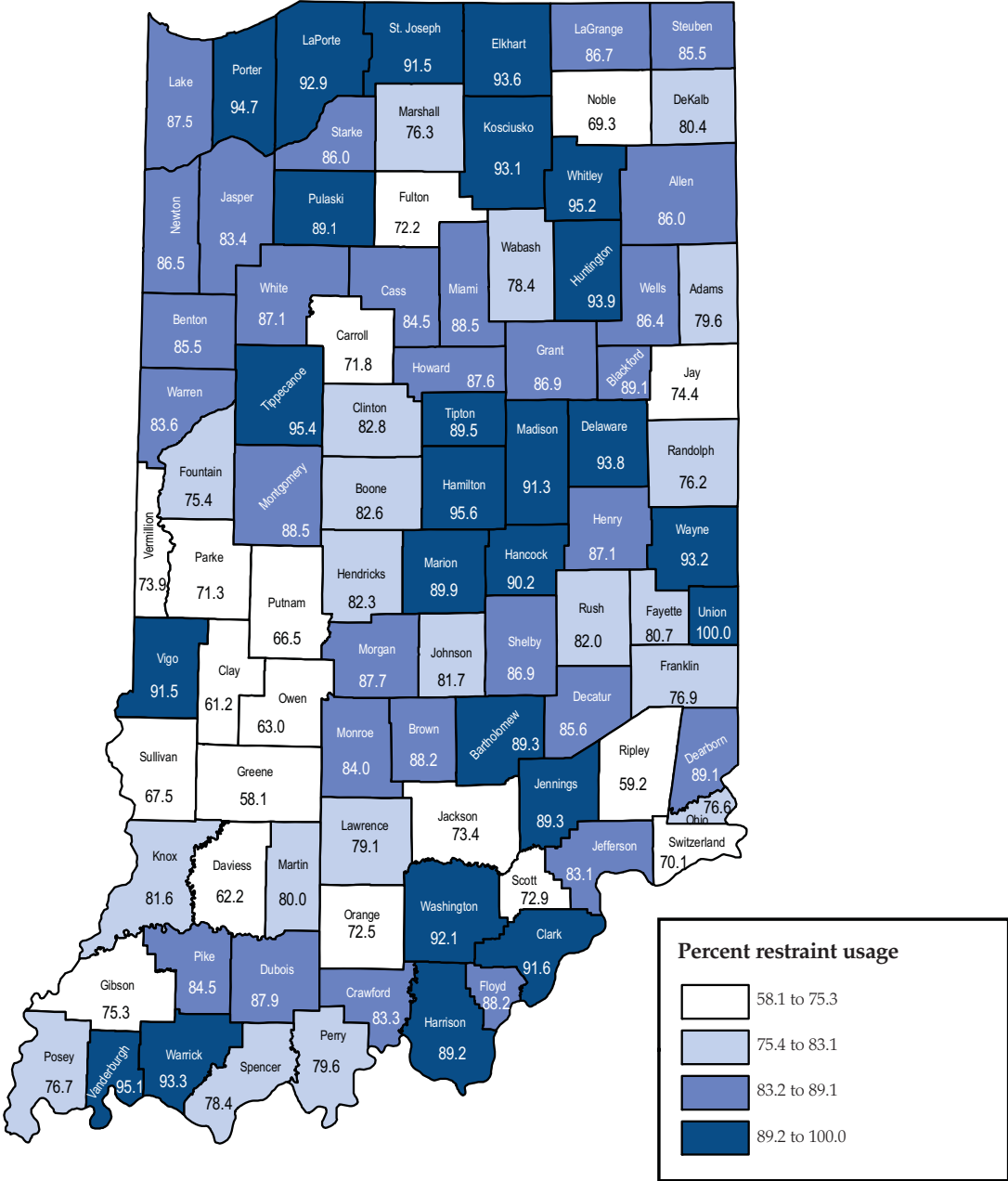
Serious injury rates include only *fatal* and *incapacitating* injuries occurring in passenger vehicles (defined as *passenger cars, pickup trucks, SUVs, and vans*). Excludes all other vehicle types including those identified as *pedestrians* and *pedalcyclists*.

Restraint use rates are calculated based on individuals properly restrained across all injury categories.

Due to the lack of available address-level data on traffic collision victims, it is assumed that individuals injured in collisions live in the county in which they were injured.

Map 3: Pickup truck restraint use rates in Indiana traffic collisions by county, 2009

Indiana overall restraint use rate = 87.1
 Mean county restraint use rate = 83.1
 n = 43,323 drivers and injured occupants in pickup trucks



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

Note:

Restraint use rates are calculated based on individuals reported as *drivers* or *injured occupants* of pickup trucks properly restrained across all injury categories.

Endnotes:

¹National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Seat Belt Use in 2009—Overall Results*, DOT HS 811 100, Sept 2009.

²National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts: Occupant Protection (2008 data)*, Washington, DC. DOT HS 811 160.

³Centers for Disease Control and Prevention, Department of Health and Human Services, *Child Passenger Safety: Fact Sheet*, extracted from website, November 19, 2007, <http://www.cdc.gov/ncipc/factsheets/childpas.htm>

⁴National Center for Statistics and Analysis, National Highway Traffic Safety Administration, DOT HS 811 160.

This publication was prepared on behalf of the Indiana Criminal Justice Institute by the Indiana University Center for Criminal Justice Research (CCJR). Please direct any questions concerning data in this document to ICJI at 317-232-1233.

This publication is one of a series of fact sheets that, along with the annual Indiana Crash Fact Book, form the analytical foundation of traffic safety program planning and design in the state of Indiana. Funding for these publications is provided by the Indiana Criminal Justice Institute and the National Highway Traffic Safety Administration.

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

The Indiana Criminal Justice Institute (ICJI)

Guided by a Board of Trustees representing all components of Indiana's criminal and juvenile justice systems, the Indiana Criminal Justice Institute serves as the state's planning agency for criminal justice, juvenile justice, traffic safety, and victim services. ICJI develops long-range strategies for the effective administration of Indiana's criminal and juvenile justice systems and administers federal and state funds to carry out these strategies.

The Governor's Council on Impaired & Dangerous Driving

The Governor's Council on Impaired & Dangerous Driving, a division of the Indiana Criminal Justice Institute, serves as the public opinion catalyst and the implementing body for statewide action to reduce death and injury on Indiana roadways. The Council provides grant funding, training, coordination and ongoing support to state and local traffic safety advocates.

Indiana University Public Policy Institute

The Indiana University (IU) Public Policy Institute is a collaborative, multidisciplinary research institute within the Indiana University School of Public and Environmental Affairs (SPEA), Indianapolis. The Institute serves as an umbrella organization for research centers affiliated with SPEA, including the Center for Urban Policy and the Environment and the Center for Criminal Justice Research. The Institute also supports the Office of International Community Development and the Indiana Advisory Commission on Intergovernmental Relations (IACIR).

The Center for Criminal Justice Research (CCJR)

The Center for Criminal Justice Research, one of two applied research centers currently affiliated with the Indiana University Public Policy Institute, works with public safety agencies and social services organizations to provide impartial applied research on criminal justice and public safety issues. CCJR provides analysis, evaluation, and assistance to criminal justice agencies; and community information and education on public safety questions. CCJR research topics include traffic safety, crime prevention, criminal justice systems, drugs and alcohol, policing, violence and victimization, and youth.

The National Highway Traffic Safety Administration (NHTSA)

NHTSA provides leadership to the motor vehicle and highway safety community through the development of innovative approaches to reducing motor vehicle crashes and injuries. The mission of NHTSA is to save lives, prevent injuries and reduce economic costs due to road traffic crashes, through education, research, safety standards and enforcement activity.

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