

# INDIANA TRAFFIC SAFETY FACTS

June 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.



## CHILDREN 2009

### Ages 0 to 15

In 2009, over 4,300 children (ages 0 to 15) were injured or killed in Indiana motor vehicle collisions, a three percent decrease from 2008. Approximately five percent of all children involved in 2009 Indiana collisions experienced serious or life threatening injuries, 35 were fatal, and 235 were reported as incapacitating. This fact sheet summarizes data trends and safety legislation at the national, state, and local levels on traffic collisions involving children between 2005 and 2009. Indiana data were extracted from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

#### OVERVIEW

The National Highway Traffic Safety Administration (NHTSA) reports that motor vehicle collisions are the leading cause of death for children from 3 to 14 years old.<sup>1</sup> In 2008, 1,347 children (ages 14 and younger) were killed in traffic collisions, representing four percent of the 37,261 traffic fatalities in the United States.

Table 1 shows that, from 2008 to 2009, the number of children killed in Indiana traffic collisions decreased by 25.5 percent, and the number of children suffering incapacitating injuries decreased 5.6 percent. Data show that the largest portion of serious injuries occurred in the 8 to 15 year old age group between 2005 to 2009. Seventy-one percent of all child traffic fatalities and 65 percent of incapacitating injuries occurred in the 8 to 15 year old age group. These numbers are disproportionately high given that the 8 to 15 year old age group represents only 50 percent of the Indiana child population (Table 2). The less than 1 year old age group, representing 6.4 percent of the Indiana child population, also accounted for a disproportionately high share (8.6 percent) of 2009 fatal injuries in traffic collisions. Child traffic fatalities decreased in 2009 across all age group categories.

#### CHILD TRAFFIC INJURIES BY COUNTY

The distribution of child traffic injuries by county further illustrates the increased incidence of injuries in children ages 8 to 15 years old. Injury rates were also higher in the less than 1 year old age group. Maps 1 to 4 illustrate the distribution of child traffic accident injuries and fatalities by county and age group for 2009. The mean traffic injury rate per 1,000 county residents in the less than 1 year old age group was 3.0 (Map 1). Thirty-six counties in this age group had a traffic injury rate greater than 3 per 1,000. The highest rates appear in Scott (27.5), Posey (23.5), and Sullivan (13.0) counties, the only counties with injury rates in double digits. Thirty counties in the less than 1 year old age group had child injury rates of less than 1 per 1,000 of the population.

Map 2 illustrates lower county injury rates among the 1 to 3 year old age group. The mean traffic injury rate per 1,000 county residents in the 1 to 3 year old age group was 2.0, with the highest injury rates occurring in Rush (9.7) and Vigo (5.8) counties. In the 4 to 7 year old age group (Map 3), the mean rate of injury was 2.1, a rate similar to that of the 1 to 3 year old group. The highest injury rates in this age group occurred in Pulaski (7.8) and Vigo

**Table 1: Children injured or killed in Indiana traffic collisions by injury status and age group, 2005-2009**

|                                    | 2005         |              | 2006         |              | 2007         |              | 2008         |              | 2009         |              | % Change (2008-2009) |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------------|
|                                    | Count        | %            | Count        | %            | Count        | %            | Count        | %            | Count        | %            |                      |
| <b>Fatalities</b>                  | <b>47</b>    | <b>100.0</b> | <b>48</b>    | <b>100.0</b> | <b>49</b>    | <b>100.0</b> | <b>47</b>    | <b>100.0</b> | <b>35</b>    | <b>100.0</b> | <b>-25.5%</b>        |
| Less than 1 year old               | 5            | 10.6         | 3            | 6.3          | 2            | 4.1          | 4            | 8.5          | 3            | 8.6          | -25.0%               |
| 1 to 3 years old                   | 7            | 14.9         | 10           | 20.8         | 4            | 8.2          | 5            | 10.6         | 2            | 5.7          | -60.0%               |
| 4 to 7 years old                   | 11           | 23.4         | 12           | 25.0         | 6            | 12.2         | 10           | 21.3         | 5            | 14.3         | -50.0%               |
| 8 to 15 years old                  | 24           | 51.1         | 23           | 47.9         | 37           | 75.5         | 28           | 59.6         | 25           | 71.4         | -10.7%               |
| <b>Incapacitating Injuries</b>     | <b>299</b>   | <b>100.0</b> | <b>287</b>   | <b>100.0</b> | <b>305</b>   | <b>100.0</b> | <b>249</b>   | <b>100.0</b> | <b>235</b>   | <b>100.0</b> | <b>-5.6%</b>         |
| Less than 1 year old               | 8            | 2.7          | 15           | 5.2          | 13           | 4.3          | 11           | 4.4          | 14           | 6.0          | 27.3%                |
| 1 to 3 years old                   | 26           | 8.7          | 23           | 8.0          | 36           | 11.8         | 27           | 10.8         | 28           | 11.9         | 3.7%                 |
| 4 to 7 years old                   | 54           | 18.1         | 52           | 18.1         | 64           | 21.0         | 44           | 17.7         | 41           | 17.4         | -6.8%                |
| 8 to 15 years old                  | 211          | 70.6         | 197          | 68.6         | 192          | 63.0         | 167          | 67.1         | 152          | 64.7         | -9.0%                |
| <b>Non-incapacitating Injuries</b> | <b>5,181</b> | <b>100.0</b> | <b>4,818</b> | <b>100.0</b> | <b>4,691</b> | <b>100.0</b> | <b>4,072</b> | <b>100.0</b> | <b>3,986</b> | <b>100.0</b> | <b>-2.1%</b>         |
| Less than 1 year old               | 233          | 4.5          | 246          | 5.1          | 274          | 5.8          | 201          | 4.9          | 239          | 6.0          | 18.9%                |
| 1 to 3 years old                   | 583          | 11.3         | 526          | 10.9         | 560          | 11.9         | 433          | 10.6         | 496          | 12.4         | 14.5%                |
| 4 to 7 years old                   | 1,139        | 22.0         | 1,029        | 21.4         | 1,006        | 21.4         | 878          | 21.6         | 765          | 19.2         | -12.9%               |
| 8 to 15 years old                  | 3,226        | 62.3         | 3,017        | 62.6         | 2,851        | 60.8         | 2,560        | 62.9         | 2,486        | 62.4         | -2.9%                |
| <b>Other injuries</b>              | <b>419</b>   | <b>100.0</b> | <b>263</b>   | <b>100.0</b> | <b>112</b>   | <b>100.0</b> | <b>108</b>   | <b>100.0</b> | <b>73</b>    | <b>100.0</b> | <b>-32.4%</b>        |
| Less than 1 year old               | 44           | 10.5         | 39           | 14.8         | 31           | 27.7         | 36           | 33.3         | 19           | 26.0         | -47.2%               |
| 1 to 3 years old                   | 72           | 17.2         | 46           | 17.5         | 6            | 5.4          | 16           | 14.8         | 12           | 16.4         | -25.0%               |
| 4 to 7 years old                   | 58           | 13.8         | 34           | 12.9         | 24           | 21.4         | 10           | 9.3          | 10           | 13.7         | 0.0%                 |
| 8 to 15 years old                  | 245          | 58.5         | 144          | 54.8         | 51           | 45.5         | 46           | 42.6         | 32           | 43.8         | -30.4%               |
| <b>Not injured</b>                 | <b>1,162</b> | <b>100.0</b> | <b>1,206</b> | <b>100.0</b> | <b>1,527</b> | <b>100.0</b> | <b>1,560</b> | <b>100.0</b> | <b>1,537</b> | <b>100.0</b> | <b>-1.5%</b>         |
| Less than 1 year old               | 359          | 30.9         | 427          | 35.4         | 618          | 40.5         | 659          | 42.2         | 657          | 42.7         | -0.3%                |
| 1 to 3 years old                   | 18           | 1.5          | 39           | 3.2          | 25           | 1.6          | 35           | 2.2          | 19           | 1.2          | -45.7%               |
| 4 to 7 years old                   | 139          | 12.0         | 154          | 12.8         | 195          | 12.8         | 128          | 8.2          | 35           | 2.3          | -72.7%               |
| 8 to 15 years old                  | 646          | 55.6         | 586          | 48.6         | 689          | 45.1         | 738          | 47.3         | 826          | 53.7         | 11.9%                |

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.*

*Not injured status includes individuals involved in collisions reported as null values in the injury status code field.*

**Table 2: Indiana child population estimates, 2008**

|                      | Estimated IN population | Share of IN child population |
|----------------------|-------------------------|------------------------------|
| Less than 1 year old | 89,823                  | 6.4                          |
| 1 to 3 years old     | 264,865                 | 18.9                         |
| 4 to 7 years old     | 349,485                 | 24.9                         |
| 8 to 15 years old    | 697,724                 | 49.8                         |
| Total                | 1,401,897               | 100.0                        |

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

Note:

The most recent population estimates available by age and county are for the year 2008.

(6.5) counties. Map 4 illustrates the mean traffic injury rate in the 8 to 15 year old age group was 3.9, a rate higher than that of other child age groups. Sixty-two counties in this age group had traffic injury rates greater than 3 per 1,000, with the highest injury rate in Parke County (21.2). No counties had an injury rate less than one in the 8 to 15 year old age group.

**CHILD RESTRAINT USAGE**

Research has shown that child restraint use (including lap/shoulder safety belts and child safety seats) is one of the

most effective tools in preventing serious and fatal injuries to children who are vehicle occupants in traffic collisions. NHTSA reports that child safety seats, when used properly, can reduce the risk of fatal injury by 71 percent for children less than one year old and 54 percent for children between the ages of one and four years old.<sup>2</sup>

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.<sup>3</sup> Effective July 1, 2009, the Indiana child passenger safety law was amended to remove exemptions regarding antique motor vehicles (with the exception of vehicles manufactured without safety restraints) and out of state drivers (see Text Box). In addition to legislative efforts, child passenger safety experts have developed recommended safety standards and best practices. NHTSA advocates that child occupants graduate through four phases of restraint usage from birth to adulthood (Figure 1).

## INDIANA PASSENGER RESTRAINT SYSTEMS FOR CHILDREN

### IC 9-19-11-1

Exemptions: operators of: school buses; taxicabs; ambulances; public passenger buses; motor vehicles having a seating capacity of nine (9) that are owned or leased and operated by a religious or not-for-profit youth organization; antique motor vehicles; motorcycles; motor vehicles owned or leased by a government unit and is being used in the performance of official law enforcement duties; motor vehicles being used in an emergency; and motor vehicles used in the operation of funeral services when used in a funeral procession or return trip to a funeral home.

### IC 9-19-11-2

A person who operates a motor vehicle in which there is a child under eight (8) years of age who is not properly fastened and restrained by a child passenger restraint system in accordance with the manufacturer's instructions commits a Class D infraction, unless the person carries a certificate from a physician, physician's assistant, or advanced practice nurse stating that the child is unable to be restrained because of a physical condition (including physical deformity) or a medical condition of the child and presents the certificate to the police officer or court.

### IC 9-19-11-3.6

A person who operates a motor vehicle in which there is a child and that is equipped with a safety belt meeting the standards stated in the Federal Motor Vehicle Safety Standard Number 208 (49 CFR 571.208) commits a Class D infraction if the child is at least eight (8) but less than sixteen (16) years of age and not properly fastened and restrained according to the child restraint system manufacturer's instructions by a child restraint system or safety belt.

### IC 9-19-11-3.7

A person may operate a motor vehicle in which there is a child who weighs more than forty (40) pounds and who is properly restrained and fastened by a lap safety belt if the motor vehicle is not equipped with lap and shoulder safety belts or, not including the operator's seat or the front passenger seat, or the motor vehicle is equipped with one (1) or more lap and shoulder safety belts and all lap and shoulder safety belts are being used to properly restrain other children who are less than sixteen (16) years of age (not including the operator's seat or the front passenger seat).

### IC 9-19-11-8

Failure to comply with this chapter does not constitute contributory negligence.

### IC 9-19-11-9

The child restraint system account shall be administered by the Indiana Criminal Justice Institute who, upon the recommendation of the Governor's Council and Impaired and Dangerous Driving, shall use the account to make grants to public and private organizations to purchase child restraint systems and distribute them at minimum or no cost to persons who are otherwise unable to afford the purchase of a child restraint system.

### IC 9-19-11-10

The Bureau of Motor Vehicles may not assess points under the point system for a violation of this chapter.





### IC 9-19-11-11

A violation of this chapter may not be included in a determination of habitual violator status under IC 9-30-10-4.

Source: <http://www.in.gov/legislative/ic/code/title9/ar19/ch11.pdf>

## Figure 1: NHTSA's four steps for kids

**GROWING UP SAFE: It's a four-step process.** As children grow, how they sit in your car, truck or SUV should change. Save your child from injury or death by observing all four steps.

|   |   |
|---|---|
|  <b>REAR-FACING SEATS</b>    | 1<br>For the best possible protection, keep infants in the back seat, in rear-facing child safety seats, as long as possible up to the height or weight limit of the particular seat. At a minimum, keep infants rear-facing until a minimum of age 1 <b>and</b> at least 20 pounds.  |
|  <b>FORWARD-FACING SEATS</b> | 2<br>When children outgrow their rear-facing seats (at a minimum age 1 <b>and</b> at least 20 pounds), they should ride in forward-facing child safety seats, in the back seat, until they reach the upper weight or height limit of the particular seat (usually around age 4 and 40 pounds).  |
|  <b>BOOSTER SEATS</b>        | 3<br>Once children outgrow their forward-facing seats (usually around age 4 and 40 pounds), they should ride in booster seats, in the back seat, until the vehicle seat belts fit properly. Seat belts fit properly when the lap belt lays across the upper thighs and the shoulder belt fits across the chest (usually at age 8 or when they are 4'9" tall). |
|  <b>SEAT BELTS</b>           | 4<br>When children outgrow their booster seats (usually at age 8 or when they are 4'9" tall), they can use the adult seat belt in the back seat, if it fits properly (lap belt lays across the upper thighs and the shoulder belt fits across the chest).   |

Source: <http://www.nhtsa.gov/Driving+Safety/Child+Safety/4+Steps+for+Kids:+Rear-Facing+Seats>

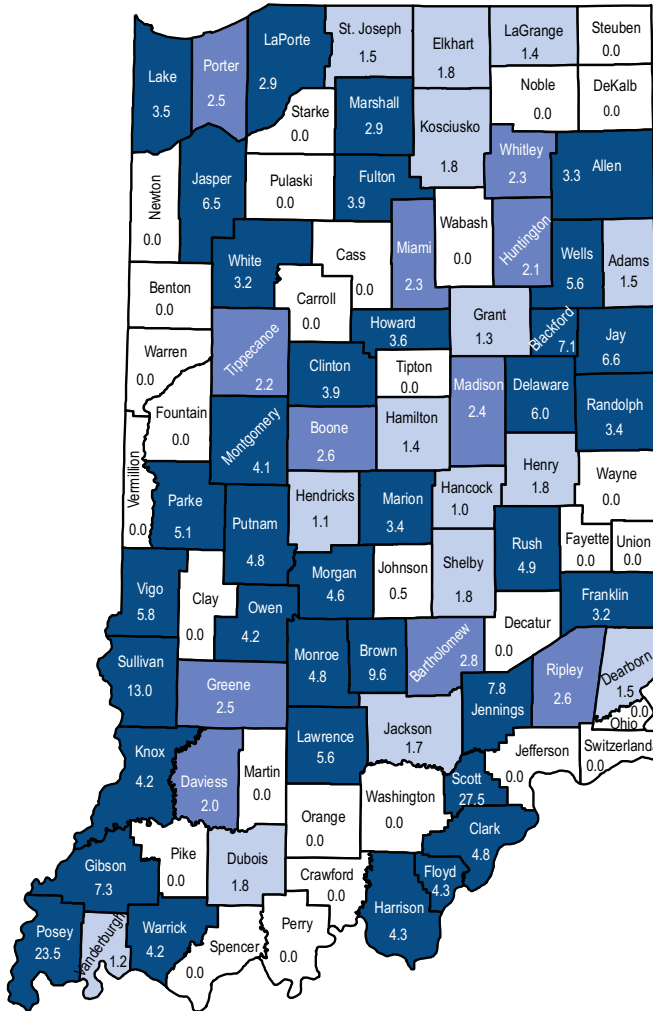
Note:

All children under age 13 should ride in the back seat. Always read the child restraint instructions and the vehicle owner's manual.

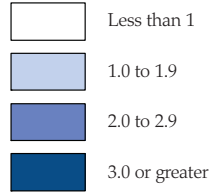
## Child injury/fatality rates in Indiana traffic collisions by county (2009)

### Map 1: Less than 1 year old

Mean county injury/fatality rate = 3.0

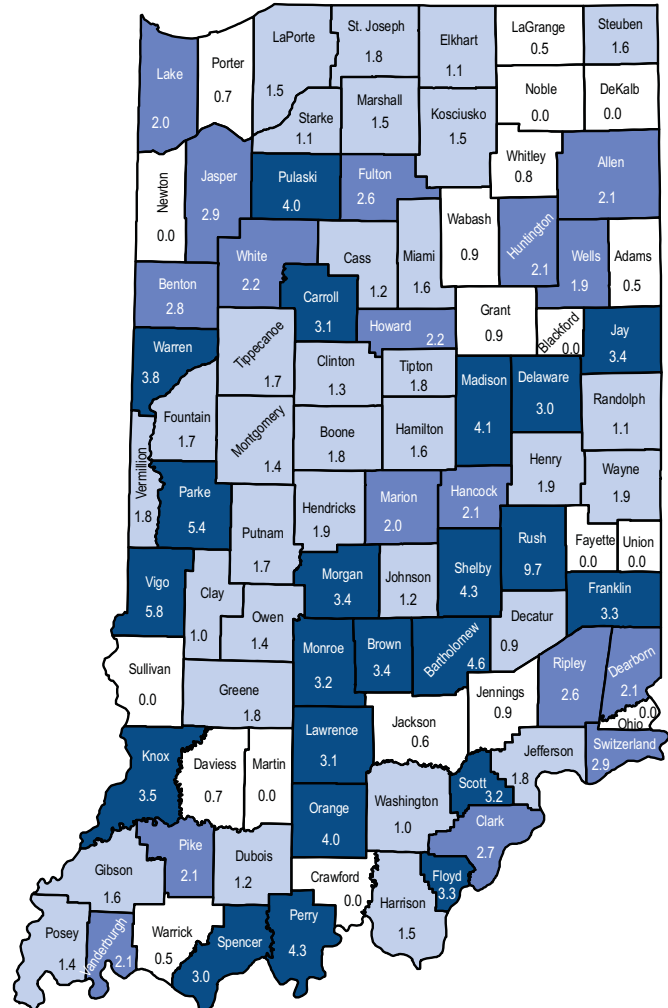


Injury/fatality rate per 1,000 population



### Map 2: Ages 1 to 3 years old

Mean county injury/fatality rate = 2.0



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

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

**Notes:**

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

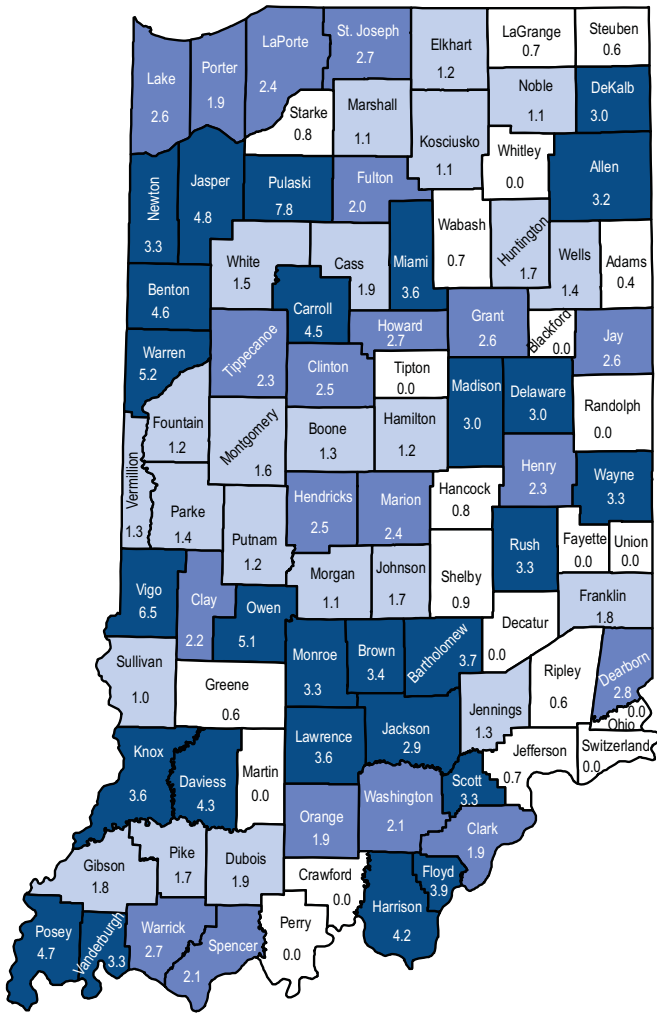
Injuries depicted include only those reported as *fatal, incapacitating, non-incapacitating, and possible.*

Injury rates are calculated using 2008 county population data. At the time of this publication, 2009 data were not yet available.

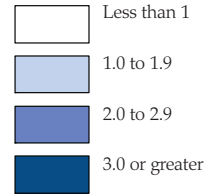


Child injury/fatality rates in Indiana traffic collisions by county (2009)

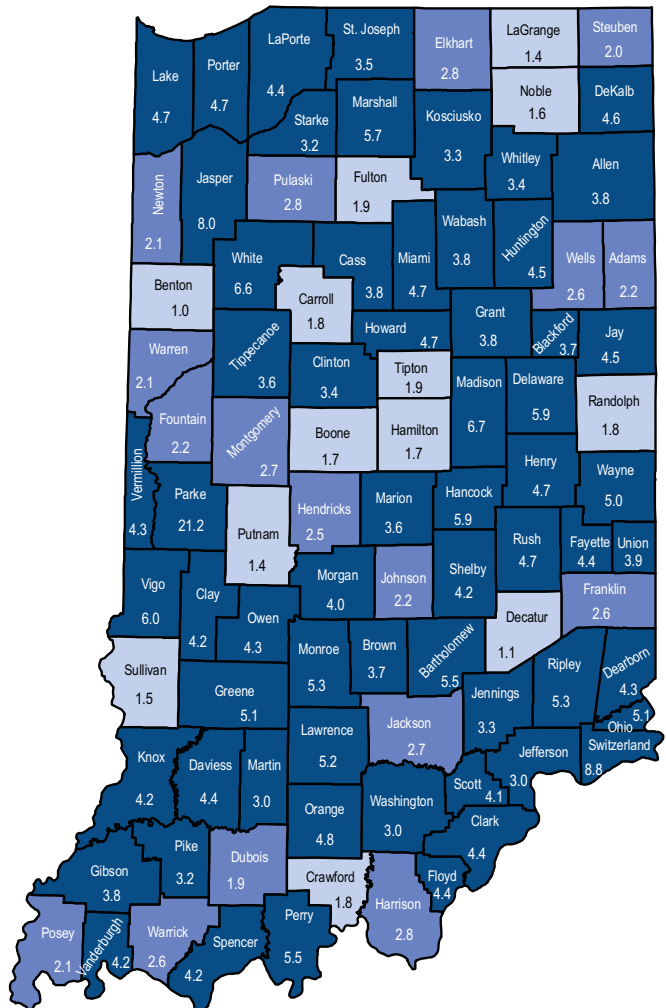
Map 3: Ages 4 to 7 years old  
Mean county injury/fatality rate = 2.1



Injury/fatality rate per 1,000 population



Map 4: Ages 8 to 15 years old  
Mean county injury/fatality rate = 3.9



Sources: Indiana State Police Automated Reporting Information Exchange System (ARIES), as March 1, 2010.  
Population - Indiana Business Research Center, in collaboration with the National Center for Health Statistics, as of February 5, 2010.

Notes:  
Due to the lack of available address-level data on traffic collision victims, it is assumed that children injured in collisions live in the county in which they were injured.  
Injuries depicted include only those reported as fatal, incapacitating, non-incapacitating, and possible.  
Injury rates are calculated using 2008 county population data. At the time of this publication, 2009 data were not yet available.

## CHILD RESTRAINT USAGE IN INDIANA

Restraint use rates among children in collisions generally decline as children get older (Figure 2). While the rate of restraint use among 8 to 15 year olds increased 3 percentage points between 2005 and 2009, the rate of restraint use in this age group in 2008 (82.1 percent) was approximately 10 percentage points or more lower than that of other child age groups. This is consistent with national trends in restraint usage among older children. A recent NHTSA study suggests that lower rates of restraint usage among 8 to 15 year olds may be due in part to insufficient public awareness efforts geared towards older children. Study participants reported that nearly all of the information provided to them on child safety restraints was geared towards infants and toddlers.<sup>4</sup> The high-

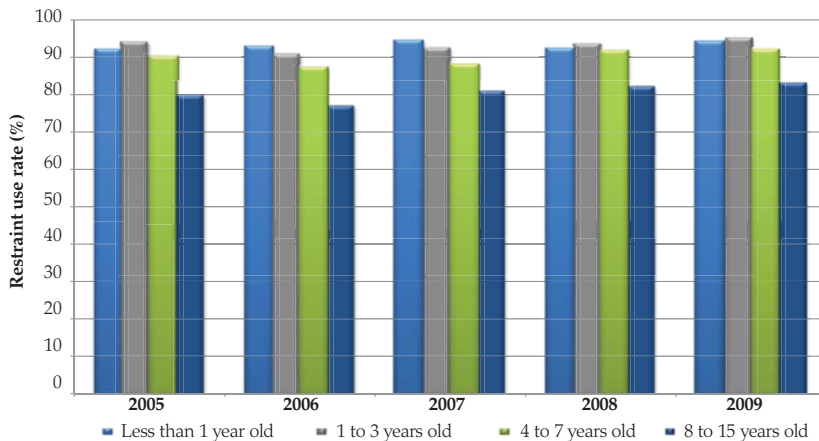
est rate of child restraint use occurred in the 1 to 3 year old age group (95.0 percent).

Table 3 depicts the number and percentage of children injured or killed in Indiana traffic collisions in 2009 by age group, injury status, and restraint usage. Among children in the 8 to 15 year old age group who were wearing proper restraints, only about 0.3 percent of injuries were fatal, and 3.1 percent of injuries were incapacitating. Children in this age group who were not properly restrained were 4 times more likely to be fatally injured and 2.5 times more likely to suffer incapacitating injuries than those wearing the proper safety equipment.

## CHILDREN IN ALCOHOL-RELATED COLLISIONS

In 2009, 199 children were injured or killed (4 fatal, 15 incapacitating) in Indiana alcohol-related motor vehicle collisions (Table 4). The number of child traffic injuries occurring in alcohol-related collisions has steadily declined since 2005. The total number of child traffic injuries occurring in alcohol-related collisions decreased nearly 12 percent between 2008 and 2009. Likewise, the number of child fatalities occurring in alcohol-related collisions decreased from 9 fatalities in 2008 to 4 in 2009. Over 11 percent of all child traffic fatalities and 6 percent of all child incapacitating injuries occurred in alcohol-related collisions in 2009.

**Figure 2: Restraint use among children involved in Indiana traffic collisions by age group, 2005-2009**



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

Note: Restraint use percentages were calculated based on individuals identified as driver or injured occupant where restraint use was known.

**Table 3: Child occupants involved in collisions, by age group, restraint use, and injury status, 2009**

| Restraint use and injury status                | Less than 1 year old |              | 1 to 3 years old |              | 4 to 7 years old |              | 8 to 15 years old |              |
|--|----------------------|--------------|------------------|--------------|------------------|--------------|-------------------|--------------|
|  | Count                | %            | Count            | %            | Count            | %            | Count             | %            |
| <b>Restrained ( R )</b>                        | <b>449</b>           | <b>100.0</b> | <b>475</b>       | <b>100.0</b> | <b>648</b>       | <b>100.0</b> | <b>2,111</b>      | <b>100.0</b> |
| Fatal  | 2                    | 0.4          | 1                | 0.2          | 3                | 0.5          | 6                 | 0.3          |
| Incapacitating                                 | 7                    | 1.6          | 16               | 3.4          | 21               | 3.2          | 66                | 3.1          |
| Non-incapacitating                             | 215                  | 47.9         | 435              | 91.6         | 609              | 94.0         | 1,591             | 75.4         |
| Other  | 12                   | 2.7          | 11               | 2.3          | 6                | 0.9          | 26                | 1.2          |
| No injury                                      | 213                  | 47.4         | 12               | 2.5          | 9                | 1.4          | 422               | 20.0         |
| <b>Not restrained ( NR )</b>                   | <b>27</b>            | <b>100.0</b> | <b>25</b>        | <b>100.0</b> | <b>56</b>        | <b>100.0</b> | <b>433</b>        | <b>100.0</b> |
| Fatal  | 0                    | 0.0          | 0                | 0.0          | 1                | 1.8          | 5                 | 1.2          |
| Incapacitating                                 | 3                    | 11.1         | 4                | 16.0         | 7                | 12.5         | 34                | 7.9          |
| Non-incapacitating                             | 9                    | 33.3         | 19               | 76.0         | 39               | 69.6         | 328               | 75.8         |
| Other  | 0                    | 0.0          | 1                | 4.0          | 0                | 0.0          | 2                 | 0.5          |
| No injury                                      | 15                   | 55.6         | 1                | 4.0          | 9                | 16.1         | 64                | 14.8         |
| <b>Serious injury risk factor (% NR / % R)</b> |                      |              |                  |              |                  |              |                   |              |
| Fatal  | 0.0                  |              | 0.0              |              | 3.9              |              | 4.1               |              |
| Incapacitating                                 | 7.1                  |              | 4.8              |              | 3.9              |              | 2.5               |              |

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 injured status includes individuals involved in collisions reported as null values in the injury status code field. Includes only individuals identified as driver or injured occupant where valid restraint use type was reported. 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.

## CHILD PEDESTRIANS AND PEDALCYCLISTS

NHTSA reports that in 2008, 270 child pedestrian fatalities occurred in the United States, or 6 percent of all U.S. pedestrian fatalities and 20 percent of all child traffic fatalities.<sup>5</sup> Nationally, in 2008, 81 child pedalcyclist fatalities occurred in traffic collisions. This number represents 11 percent of all U.S. pedalcyclist fatalities. According to Safe Kids Worldwide, "helmets can reduce the risk of severe brain injuries by 88 percent; however, only 15 to 25 percent of children 14 and under usually wear a bicycle helmet."<sup>6</sup>

Table 5 shows the number of children injured or killed in traffic incidents by injury status and person type (including vehicle occupants, pedestrians, and pedalcyclists) in Indiana.

The ten child pedestrian fatalities accounted for 29 percent of all Indiana child traffic fatalities in 2009, greater than a 9 percentage point increase from 2008. Nearly 19 percent of all child incapacitating injuries were pedestrians; child incapacitating injuries decreased from 47 in 2008 to 44 in 2009.

There were no child pedalcyclist fatalities in Indiana traffic collisions in 2009. Eight percent of all incapacitating child injuries were pedalcyclists (19). Similar to the numbers for pedestrian injuries, the number of child pedalcyclists suffering incapacitating injuries decreased from 22 in 2008 to 19 in 2009.

## CONCLUSION

Research findings suggest that older children (ages 8 to 15) are at greater risk of suffering serious injuries and fatalities than the other child age groups. This higher vulnerability is likely due in part to lower rates of restraint usage among child passengers in this age group. NHTSA emphasizes continued efforts in developing strong child passenger safety legislation and public awareness campaigns to educate citizens on laws and best practices,

the correct use of child restraints, the potential dangers to children associated with failure to use proper restraints, as well as dangers to child passengers when drivers are under the influence of alcohol. A recent NHTSA study suggests that such public awareness campaigns need to be developed specifically for children in the 8 to 15 year old age group in an effort to promote the importance of using proper safety restraints in motor vehicles.<sup>7</sup> In Indiana, the Indiana Criminal Justice Institute, the Governor's Council on Impaired and Dangerous Driving, the Automotive Safety Program at Riley Hospital for Children, Safe Kids Indiana, the Indiana State Police, and other partners contribute to public awareness, education, and training programs to improve child safety efforts related to traffic collisions. Effective July 1, 2009, the Indiana child passenger safety law was amended to remove exemptions regarding antique motor vehicles (with the exception of vehicles manufactured without safety restraints) and out-of-state drivers. This move reflects a portion of the continued efforts of legislators, ICJI, and partnering organizations to improve child passenger safety for all Indiana children.

**Table 4: Child injuries and fatalities occurring in Indiana alcohol-related traffic collisions, 2005-2009**

|                             | 2005                     |                      |                               | 2006                     |                      |                               | 2007                     |                      |                               | 2008                     |                      |                               | 2009                     |                      |                               | % Change (2008-2009) |
|-----------------------------|--------------------------|----------------------|-------------------------------|--------------------------|----------------------|-------------------------------|--------------------------|----------------------|-------------------------------|--------------------------|----------------------|-------------------------------|--------------------------|----------------------|-------------------------------|----------------------|
|                             | Alcohol-related injuries | Total child injuries | Alcohol-related as % of total | Alcohol-related injuries | Total child injuries | Alcohol-related as % of total | Alcohol-related injuries | Total child injuries | Alcohol-related as % of total | Alcohol-related injuries | Total child injuries | Alcohol-related as % of total | Alcohol-related injuries | Total child injuries | Alcohol-related as % of total |                      |
| Fatalities                  | 9                        | 47                   | 19.1                          | 9                        | 48                   | 19.1                          | 6                        | 49                   | 12.2                          | 9                        | 47                   | 19.1                          | 4                        | 35                   | 11.4                          | -55.6%               |
| Incapacitating injuries     | 23                       | 299                  | 7.7                           | 28                       | 287                  | 7.7                           | 20                       | 305                  | 6.6                           | 17                       | 249                  | 6.8                           | 15                       | 235                  | 6.4                           | -11.8%               |
| Non-incapacitating injuries | 331                      | 5,181                | 6.4                           | 298                      | 4,818                | 6.4                           | 271                      | 4,691                | 5.8                           | 199                      | 4,072                | 4.9                           | 180                      | 3,986                | 4.5                           | -9.5%                |
| Total                       | 363                      | 5,527                | 6.6                           | 335                      | 5,153                | 6.6                           | 297                      | 5,045                | 5.9                           | 225                      | 4,368                | 5.2                           | 199                      | 4,256                | 4.7                           | -11.6%               |

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

### Notes:

A collision is identified as *alcohol-related* if any vehicle driver or non-motorist (pedestrian, pedalcyclist) involved in the collision has a measurable blood-alcohol content (BAC) result or appears to have been drinking, if alcoholic beverages are listed as contributing or primary factors in the collision, or if an *Operating While Intoxicated (OWI)* citation is issued to a driver.

Child injuries include only individuals obtaining *fatal, incapacitating, non-incapacitating, and possible* injuries.

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

**Table 5: Children seriously injured or killed in Indiana traffic collisions by injury status and person type, 2005-2009**

|                                | 2005  |       | 2006  |       | 2007  |       | 2008  |       | 2009  |       | % Change (2008-2009) |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
|                                | Count | %     | Count | %     | Count | %     | Count | %     | Count | %     |                      |
| <b>Fatalities</b>              |       |       |       |       |       |       |       |       |       |       |                      |
| Driver                         | 2     | 4.3   | 1     | 2.1   | 5     | 10.2  | 5     | 10.6  | 3     | 8.6   | -40.0%               |
| Injured occupant               | 32    | 68.1  | 34    | 70.8  | 35    | 71.4  | 29    | 61.7  | 22    | 62.9  | -24.1%               |
| Pedalcyclist                   | 3     | 6.4   | 3     | 6.3   | 3     | 6.1   | 4     | 8.5   | 0     | 0.0   | -100.0%              |
| Pedestrian                     | 10    | 21.3  | 10    | 20.8  | 6     | 12.2  | 9     | 19.1  | 10    | 28.6  | 11.1%                |
| Total                          | 47    | 100.0 | 48    | 100.0 | 49    | 100.0 | 47    | 100.0 | 35    | 100.0 | -25.5%               |
| <b>Incapacitating Injuries</b> |       |       |       |       |       |       |       |       |       |       |                      |
| Driver                         | 21    | 7.0   | 20    | 7.0   | 25    | 8.2   | 17    | 6.8   | 24    | 10.2  | 41.2%                |
| Injured occupant               | 193   | 64.5  | 180   | 62.7  | 195   | 63.9  | 163   | 65.5  | 148   | 63.0  | -9.2%                |
| Pedalcyclist                   | 29    | 9.7   | 36    | 12.5  | 27    | 8.9   | 22    | 8.8   | 19    | 8.1   | -13.6%               |
| Pedestrian                     | 56    | 18.7  | 51    | 17.8  | 58    | 19.0  | 47    | 18.9  | 44    | 18.7  | -6.4%                |
| Total                          | 299   | 100.0 | 287   | 100.0 | 305   | 100.0 | 249   | 100.0 | 235   | 100.0 | -5.6%                |

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

### Note:

Serious injuries include individuals obtaining fatal or incapacitating injuries where person type was identified.

## Endnotes:

<sup>1</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts: Children (2008 data)*, DOT HS 811 157.

<sup>2</sup>NHTSA DOT HS 811 157.

<sup>3</sup>Passenger Restraint Systems for Children, IC 9-19-11; available at <http://www.in.gov/legislative/ic/code/title9/ar19/ch11.pdf>.

<sup>4</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Increasing Seat Belt Use Among 8- to 15-Year-Olds*, NHTSA DOT HS 810 965, May 2008.

<sup>5</sup>NHTSA DOT HS 811 157.

<sup>6</sup>Safe Kids Worldwide, *Facts About Injuries to Children Riding Bicycles*, May 2009, available at [www.safekids.org](http://www.safekids.org)

<sup>7</sup>NHTSA DOT HS 810 965.

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.cjcr.iupui.edu](http://www.cjcr.iupui.edu)), the ICJI website ([www.in.gov/cji/](http://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.

**Author: Dona Sapp**



CENTER FOR  
CRIMINAL JUSTICE RESEARCH

ADDRESS SERVICE REQUESTED

334 North Senate Avenue, Suite 300  
Indianapolis, IN 46204-1708  
[www.criminaljustice.iupui.edu](http://www.criminaljustice.iupui.edu)



SCHOOL OF PUBLIC AND  
ENVIRONMENTAL AFFAIRS

INDIANA UNIVERSITY  
IUPUI