

# INDIANA TRAFFIC SAFETY FACTS

May 2007



## OCCUPANT PROTECTION 2006

Designing and implementing effective traffic safety policies requires data-driven analysis of traffic accidents. To help in the policy-making process, the Indiana University Center for Urban Policy and the Environment is collaborating with the Indiana Criminal Justice Institute to analyze data from the Vehicle Crash Records System database, maintained by the Indiana State Police. Research findings will be summarized in a series of Fact Sheets on various aspects of traffic accidents, including alcohol-related crashes, light trucks, large trucks, speeding, children, motorcycles, occupant protection, and young drivers. Additional briefs will provide information on county and municipality data. Portions of the content in these reports are based on guidelines provided by the U.S. National Highway Traffic Safety Administration (NHTSA). These Fact Sheets, combined with an annual Indiana Crash Fact Book, serve as the analytical foundation of traffic safety program planning and design in Indiana.



Indiana's observed seat belt use rate has increased from a low of 62.1 percent in 2000 to a high of 84.3 percent in 2006. Nevertheless, 54 percent of the persons killed in traffic collisions in Indiana in 2006 (where restraint usage was known) were unrestrained. Many of those individuals were male and driving a pickup truck. This fact sheet examines the use of protection devices such as safety belts, child restraint seats and airbags in motor vehicles, the laws governing the use of these, and the possible lives that could have been saved had protection devices been used. Collision data are taken from the Indiana State Police Vehicle Crash Records System (VCRS)<sup>1</sup> for 2003 to 2006 unless otherwise noted. Data for this fact sheet are limited to individuals in passenger vehicles (passenger cars, pickup trucks, SUVs, vans) who were killed or sustained an injury.

### Occupant Protection - What is It?

Occupant protection devices are designed for the specific purpose of reducing the occurrence and severity of injuries in crashes. These include safety belts, airbags, and helmets and are classified as either active or passive. Active devices provide protection only when their users perform specific acts, such as fastening safety belts or wearing motorcycle helmets. Passive devices provide protection without requiring any action by the user.

Technically, occupant protection devices are designed to spread the change in speed of the person's body, prior to becoming stationary, over a longer period of time. For example, if a car crashes into a barrier, a safety belt will have applied forces keeping the body more fixed to the seat, helping the occupant "ride-down" the crash, so the impact with the steering wheel or instrument panel is less likely or less severe. Safety belts also decrease the risk of occupants being ejected from a vehicle during crashes.<sup>2</sup>

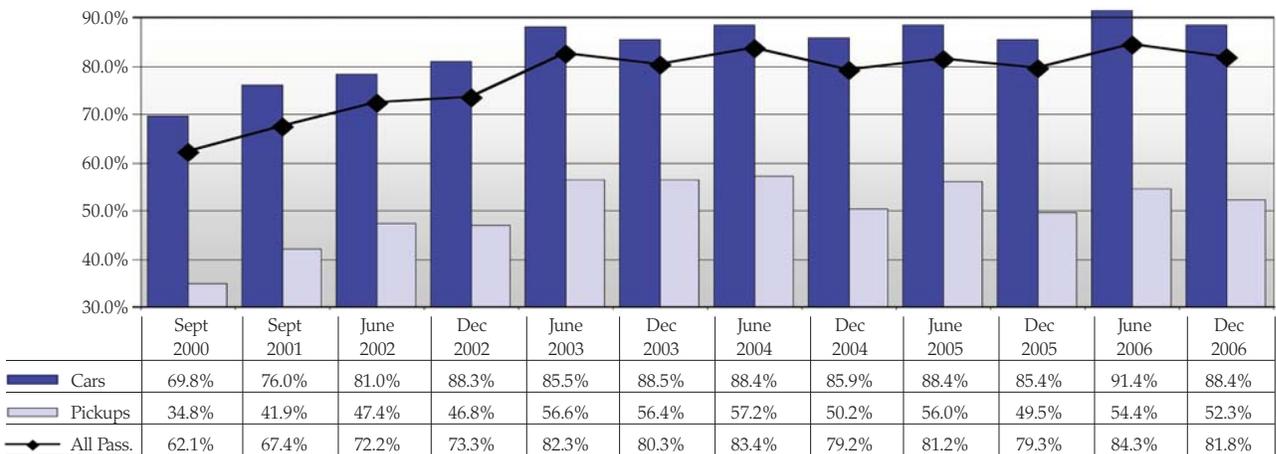
Airbags are restraint systems consisting of a bag that inflates rapidly when sensors detect an abrupt change in vehicle speed indicative of a crash. Instead of striking the steering wheel or instrument panel, the occupant rides down the crash in contact with the airbag, which spreads the impact forces over a larger area. A belted occupant can

<sup>1</sup>As of April 12, 2007 a new version of VCRS was launched and titled the Automated Reporting Information Exchange System (ARIES), incorporating other types of reports relating to traffic collisions. Data for this fact sheet were extracted April 9, 2007 and is sourced as VCRS.

<sup>2</sup>Evans, L. *Traffic Safety*, 2004. Bloomfield Hills, Michigan. Science Serving Society. p. 272.



**Figure 1: Indiana Observational Studies of Safety Belt Usage by Vehicle Type, 2000 to 2006**



Source: Indiana Criminal Justice Institute, January 2007

receive additional protection from an airbag because it may reduce loading forces on the safety belt. The airbag is designed to be used in conjunction with the safety belt.

### Restraint Usage

Restraint usage of vehicle occupants is measured regularly both at the national and state levels. The National Highway Traffic Safety Administration (NHTSA) conducts the annual National Occupant Protection Use Survey. Nationally, the overall observed shoulder belt use rate was 81 percent in 2006, a one percent decrease from 2005.<sup>3</sup> The Indiana Criminal Justice Institute conducts regular observation studies, generally twice a year, June and December, for the state of Indiana. Figure 1 shows the trend in

observed usage percentages from September 2000 through December 2006. Overall, there has been a steady increase in usage from a low of 62.1 percent in September 2000 to a high in June 2006 of 84.3 percent. There was a slight decrease in observed usage in December 2006; however, this trend appears to be the norm. The usage rate in Indiana of 82 percent is comparable to the national percentage. Pickup truck restraint usage has consistently been about 30 percentage points lower than that of passenger cars.

In Indiana traffic collisions from 2003 to

2006, the reported (crash reports) restraint usage remained steady with 2006 usage increasing slightly to 81.3 percent from 80.2 percent in 2005 (Table 1). This reported usage is similar to the overall observed usage. Typically females were more apt to use their safety belts than males, either as a passenger or a driver, and were often restrained 10 to 12 percentage points more than a male. Restraint use among males increased slightly in 2006 (not shown in Table 1).

### Indiana Occupant Fatalities and Injuries by Vehicle Type and Restraint Usage

A total of 45,947 persons were injured or killed in traffic collisions in Indiana in 2006. Of those for which restraint usage is known

**Table 1: Individuals in Indiana collisions by restraint use, 2003 to 2006**

	2003		2004		2005		2006	
	#	%	#	%	#	%	#	%
Restraint Used	42,442	80.2%	45,198	80.7%	43,105	80.2%	40,253	81.3%
Unrestrained	6,620	12.5%	6,985	12.5%	6,439	12.0%	5,699	11.5%
Unknown/Other*	3,841	7.3%	3,853	6.9%	4,184	7.8%	3,561	7.2%
<b>Total</b>	<b>52,903</b>		<b>56,036</b>		<b>52,728</b>		<b>49,513</b>	

Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.

Note: Data includes individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

\*Includes helmets and other safety equipment.

<sup>3</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, Traffic Safety Facts, Crash Stats, *Seat Belt Use in 2006 – Use Rates in the States and Territories*, Washington, DC. DOT HS 810 690.

**Table 2: Individuals in Indiana collisions with Known Restraint Usage by Vehicle Type and Injury Status, 2006**

	Restraint Used		Restraint Not Used		TOTALS of Known Restraint Use
	Number	%	Number	%	Number
<b>Fatalities</b>					
Passenger Cars	196	55.4%	158	44.6%	354
Pickups	21	21.2%	78	78.8%	99
SUVs	25	31.6%	54	68.4%	79
Vans	17	48.6%	18	51.4%	35
<i>Totals</i>	259		308		567
<b>Incapacitating</b>					
Passenger Cars	1,319	76.8%	398	23.2%	1,717
Pickups	185	44.7%	229	55.3%	414
SUVs	219	67.4%	106	32.6%	325
Vans	163	75.5%	53	24.5%	216
<i>Totals</i>	1,886		786		2,672
<b>Non Incapacitating/Possible</b>					
Passenger Cars	25,562	92.4%	2,102	7.6%	27,664
Pickups	3,672	69.5%	1,609	30.5%	5,281
SUVs	5,155	90.7%	527	9.3%	5,682
Vans	3,719	91.0%	367	9.0%	4,086
<i>Totals</i>	38,108		4,605		42,713

Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.

Note: Data includes individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

**Table 3: 2006 Known Restraint Usage by Injury Status and Age Group in Indiana**

Age Groups	Restraint Used		Restraint Not Used		TOTALS	
	Number	Percent of Total Used	Number	Percent of Total Used		Percent Restraint Usage within Age Group
<b>Fatalities</b>						
<4	7	2.7%	4	1.3%	11	63.6%
4-7	3	1.2%	4	1.3%	7	42.9%
8-12	3	1.2%	4	1.3%	7	42.9%
13-15	4	1.5%	2	0.6%	6	66.7%
16-20	40	15.4%	65	21.1%	105	38.1%
21-24	33	12.7%	33	10.7%	66	50.0%
25-34	30	11.6%	63	20.5%	93	32.3%
35-44	23	8.9%	53	17.2%	76	30.3%
45-54	29	11.2%	34	11.0%	63	46.0%
55-64	31	12.0%	21	6.8%	52	59.6%
65-74	24	9.3%	10	3.2%	34	70.6%
75 and +	32	12.4%	15	4.9%	47	68.1%
<i>Totals</i>	259		308		567	
<b>Incapacitating</b>						
<4	17	0.9%	7	0.9%	24	70.8%
4-7	15	0.8%	11	1.4%	26	57.7%
8-12	31	1.7%	13	1.7%	44	70.5%
13-15	40	2.1%	27	3.5%	67	59.7%
16-20	293	15.6%	160	20.5%	453	64.7%
21-24	177	9.4%	106	13.6%	283	62.5%
25-34	355	18.9%	179	23.0%	534	66.5%
35-44	279	14.9%	107	13.7%	386	72.3%
45-54	277	14.8%	81	10.4%	358	77.4%
55-64	180	9.6%	51	6.5%	231	77.9%
65-74	110	5.9%	17	2.2%	127	86.6%
75 and +	103	5.5%	20	2.6%	123	83.7%
<i>Totals</i>	1,877		779		2,656	

Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.

Note: Data includes individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

(42,713), nine percent of those in passenger cars were unrestrained, 11 percent of SUV occupants were unrestrained, 10 percent of van occupants were not restrained, and 33 percent of pickup truck occupants were unrestrained (not shown in table).

As shown in Table 2, seventy-nine (79) percent of the persons killed in pickup trucks in Indiana in 2006 were not wearing a safety belt. In addition, 68 percent of the SUV and 51 percent of van occupants killed were unrestrained; and 55 percent of the individuals in pickup trucks receiving incapacitating injuries were unrestrained. Thirty (30) percent of persons in pickup trucks who received non-incapacitating or possible injuries were not restrained. These statistics compare to eight percent of individuals in passenger cars, and nine percent each of individuals in SUVs and in vans who received non-incapacitating or possible injuries. Restraint non-use was disproportionate among the occupants of pickup trucks who receive any injury in traffic collisions, the occupants of SUVs and, to a lesser extent, vans involved in collisions resulting in fatal or incapacitating injuries.

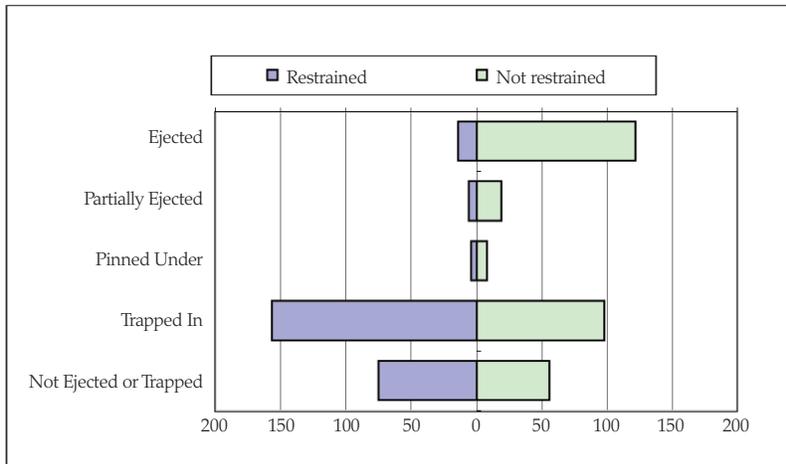
Currently, Indiana law exempts persons driving or riding in a pickup truck over the age of 16 from having to wear a safety belt. However, at the close of the 2007 session (April 30, 2007) the Indiana legislature passed House Bill 1237 that requires pickup truck, SUV, and van occupants to wear safety belts at all times. Occupant protection laws will be covered in more detail in a later section.

### Indiana Occupant Fatalities and Injuries by Age and Restraint Usage

In 2006 in Indiana, 654 occupants of passenger vehicles (passenger cars, vans, SUVs, pickup trucks) were killed in motor vehicle collisions, 73 percent of the 896 traffic fatalities reported for the year. Of the 567 fatalities for which restraint usage was known, 308 (54 percent) were unrestrained (Table 3).



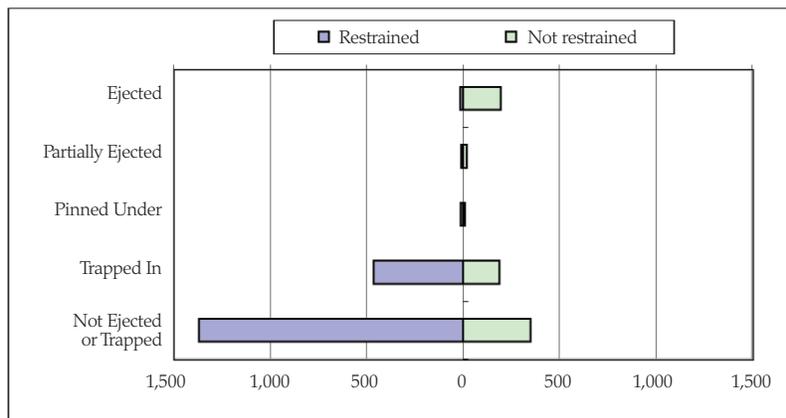
**Figure 2: Ejection status and Restraint Usage of Individuals Killed in Indiana Collisions, 2006**



Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.

Note: Data includes individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

**Figure 3: Individuals Suffering Incapacitating Injuries in Indiana Collisions, 2006 by Ejection Status and Restraint Use**



Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.

Note: Data includes individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

Indiana collision data suggest that older people tend to use restraints more often than younger persons. Twenty-one percent of vehicle occupants, aged 16 to 20, who were killed were unrestrained, as well as 20 percent of those aged 25 to 34. There were 34 vehicle occupant deaths of children aged 15 and younger in traffic collisions in 2006. Over half of the fatalities among 4 to 12 year olds were unrestrained. Four of the seven

fatalities of children under the age of four were unrestrained.

Twenty-nine percent of the persons receiving incapacitating injuries in traffic collisions were unrestrained; 57 percent of those were between the ages of 16 and 34, and 20 percent were between 16 and 20 years of age. In addition, over 40 percent (11 of 26) of the children ages 4 to 7 were unrestrained. The use of proper restraints for youngsters age four and older as required by law continues to be an issue and will be addressed later under Child Restraint Usage.

### Ejection and Restraint Usage

The use of safety belts affects a person's likelihood of ejection from a motor vehicle during a traffic crash. As seen in Figures 2 and 3, an occupant of a vehicle who is not wearing a safety belt is ejected more often than a person who is restrained. Likewise, persons not wearing restraints will more likely suffer fatal or incapacitating injuries than those who are restrained.

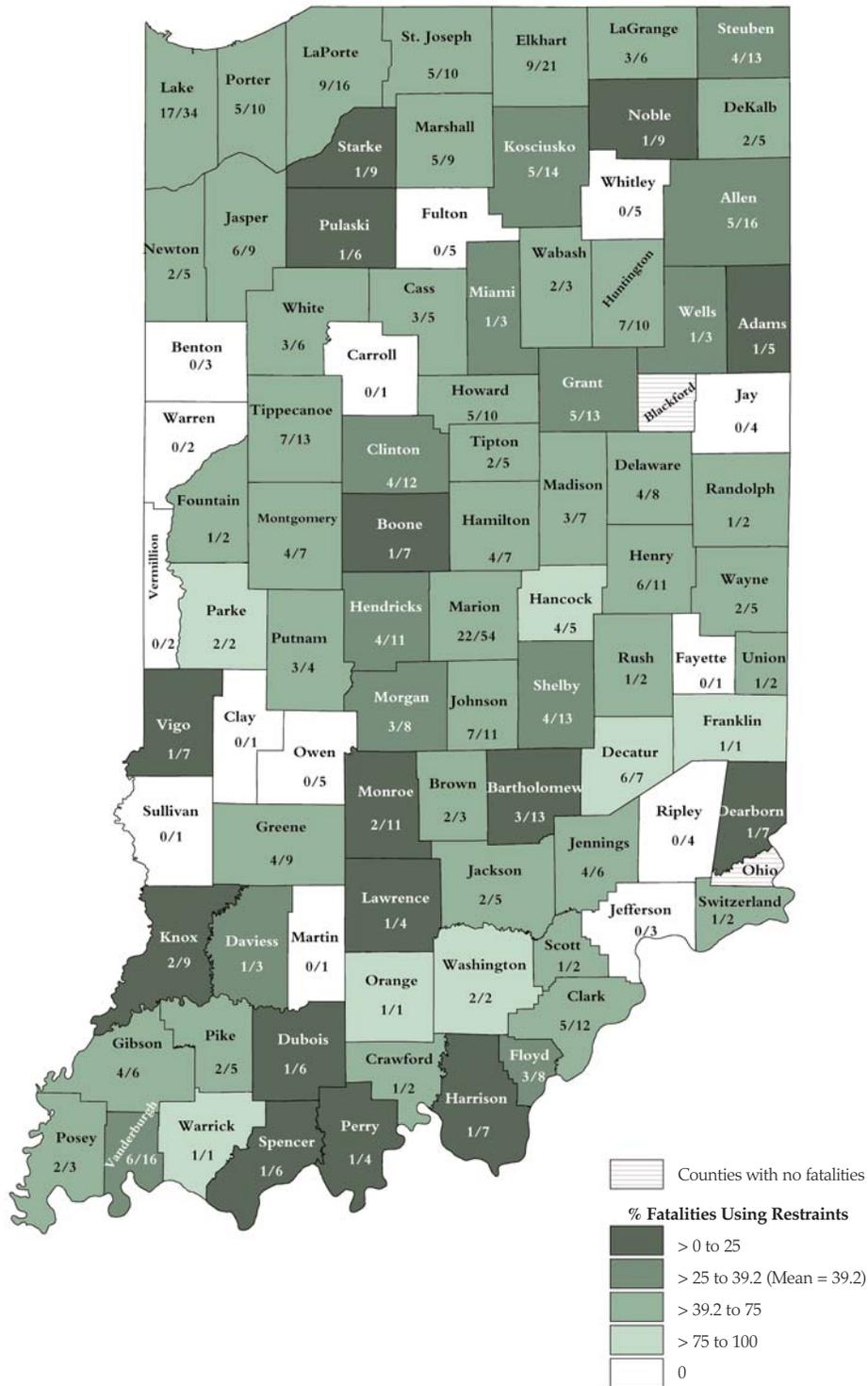
Considering the 654 fatalities in 2006, 173 occupants were known to be either fully or partially ejected. Of those, 149 (86 percent) were not wearing safety belts (Figure 2), of which seven were age eight or under and 20 were between the ages of 16 and 18.

There were also 259 occupants sustaining incapacitating injuries who were either fully or partially ejected during a motor vehicle collision. Two hundred and twenty-four (224), or 86 percent, of those were not restrained (Figure 3). Five were age eight or younger, and 31 were between the ages of 16 and 18.

### Indiana County Fatalities and Restraint Usage

Map 1 shows the percent of restraint usage among fatal collisions that occurred in Indiana counties in 2006. The county

Map 1: County restraint use among traffic collisions involving fatalities, 2006

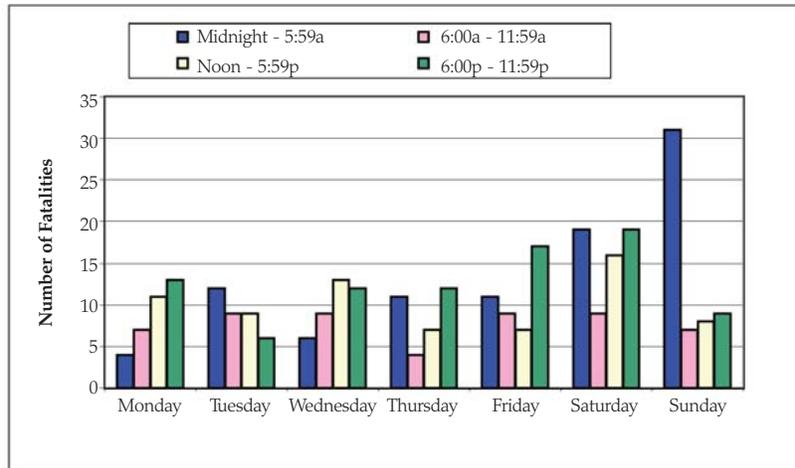


Numbers represent the number of fatalities restrained/total number of fatalities in collisions occurring in the county. Data represents individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.



**Figure 4: Individuals Killed by Indiana Collisions who were Not Restrained, 2006 by Time of Day of Collision**



Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.

Note: Data includes individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

mean of restraint usage was 39.2 percent. There were 14 counties where every person (38) who died was not wearing a seat belt (counties noted as white on map). Geographically, these counties appear to be mostly rural. An additional 28 counties had restraint usage below the state mean, with 178 more fatalities who were not wearing safety belts. Some proportion of these lives might have been saved had safety belts been worn.<sup>4</sup>

### Time of Day and Restraint Use

As stated earlier, in 2006 there were 654 fatalities in Indiana motor vehicle collisions of people in passenger cars, SUVs, vans and pickup trucks. Of the 567 fatalities for which restraint usage was known, 308 were unrestrained. The largest number of unrestrained fatalities (31) occurred between midnight and 5:59am on Sunday mornings. Figure 4 shows that the largest number of fatal collisions with unrestrained occupants occurred between 6pm and 6am (green and blue), essentially on Friday and Saturday nights. This is consistent with all traffic crashes, fatal and non-fatal, peaking during evenings and early mornings. These findings suggest that restraint usage might decrease at night and conducting nighttime safety belt observation studies could be of benefit.

### Seat Position and Restraint Usage

According to Winston (2005, p.3), “the single most important life-saving decision parents can make for their child is to use the rear seat and age- and size-appropriate restraint on every trip, every time.”<sup>5</sup> Research shows seat positioning and restraint usage correlates significantly with risk of injury. Because the rear-center seating position is furthest from crash impact, many people, especially parents, would prefer to restrain children in that rear center seat. However, as of December 2004, 23 percent of new passenger cars and 51 percent of new vans and light trucks (SUVs and pickup trucks) were equipped with only lap belts for use by rear-center passengers. Similarly, the majority of older vehicles are equipped the same way. Lap-only belts are not optimal for older children using seat belts

and should never be used with belt-positioning boosters, which require a lap-and-shoulder seat belt.<sup>6</sup>

Figure 5 shows the frequency of injuries by seating positions of individuals who were *unrestrained*. Over 200 fatalities and 500 incapacitating injuries occurred among drivers who were not wearing safety belts. As indicated by the unrestrained risk factor (in parentheses after the injury count), unrestrained drivers were ten times as likely to experience a fatal crash as were restrained drivers. Regardless of the seat position, an unrestrained occupant was at least five times as likely to have died in a collision compared to a person wearing a safety belt. Again, these data suggest that a number of lives in Indiana might have been saved if seat belts were consistently worn.

### Potential Lives Saved

Research has found that lap and shoulder safety belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. For light truck occupants, safety belts

<sup>4</sup>Glassbrenner, D., (no date; post 2003). “Estimating the Lives Saved by Safety Belts and Air Bags”, National Highway Traffic Safety Administration, Washington, DC.

<sup>5</sup>Quote from Flaura K. Winston, M.D., Ph.D., F.A.A.P.; scientific director of TraumaLink at The Children’s Hospital of Philadelphia and the principal investigator of Partners for Child Passenger Safety (PCPS). CPS Issue Report, May 2005.

<sup>6</sup>CPS Issue Report, *Center versus Outboard Seating*, May 2005, p.5.

reduce the risk of fatal injury by 60 percent and moderate-to-critical-injury by 65 percent.<sup>7</sup> According to NHTSA in 2005, among passenger vehicle occupants over age 4, safety belts saved an estimated 15,632 lives. If all passenger vehicle occupants over age 4 had worn safety belts, an additional 5,328 lives could have been saved.<sup>8</sup>

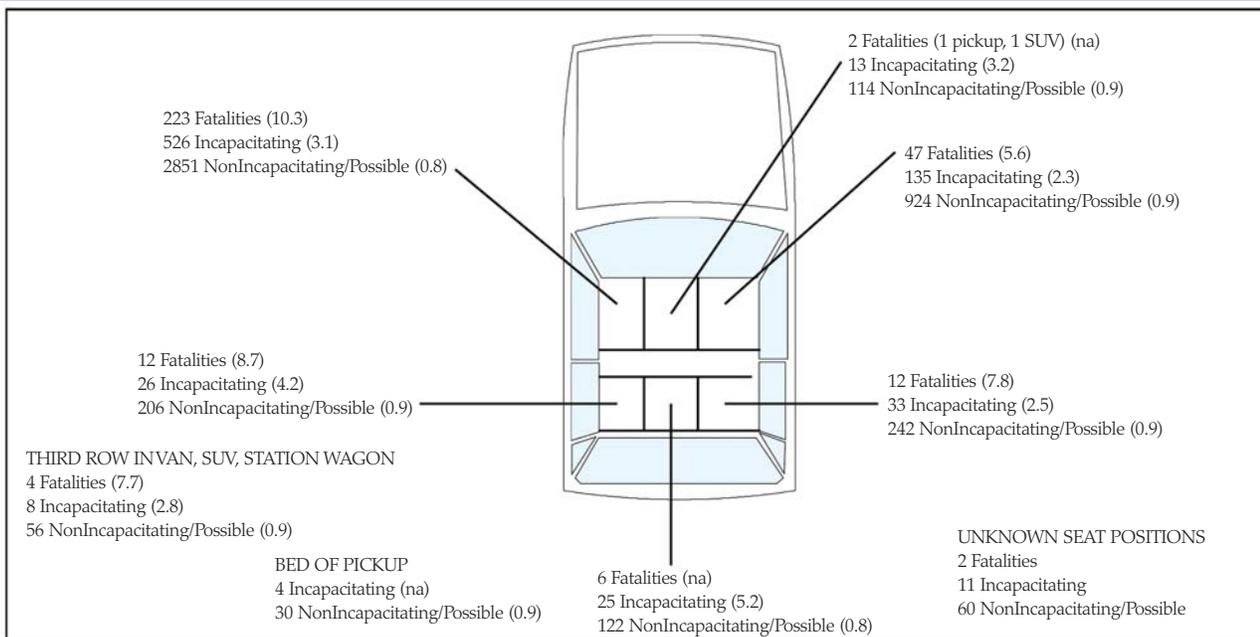
In Indiana, restraint usage for those in fatal traffic collisions was only at 40 percent, which suggests a potential of 261 persons that have been saved due to wearing safety belts. Applying NHTSA's model to determine lives saved, had the usage in Indiana been as much as 50 percent, just 10 percentage points

more, the potential of lives saved might have increased to a total of 306, an additional 45 lives. If all passenger vehicle occupants had used restraints an additional 198 lives, a total of 459 children and adults, might have been saved. This would equate to an economic savings of \$45 million, not to mention the emotional savings on the victims' families.<sup>9</sup>

### Child Safety Seats

Research on child safety seats in passenger cars has found the safety seats reduce fatal injury by 71 percent for infants less than 1 year old and by 54 percent for toddlers (1 to 4 years old). Nationally in 2005, there were 450 passenger vehicle occupant

**Figure 5: Seat positions by Injury Type of Known Unrestrained Individuals and Unrestrained Risk Factor, Indiana 2006**



Source: Indiana State Police, Vehicle Crash Records System (VCRS), April 9, 2007.

Numbers in parentheses indicate the unrestrained risk factor.

'Unrestrained risk factor' is defined for each injury type and seat position as the ratio of individuals who incurred the injury, given they were unrestrained, to those who incurred the injury, given they were restrained.

'na' in parenthesis indicates there were no individuals in that seat position with that injury type.

Note: Data includes individuals in passenger vehicles only (passenger cars, SUVs, vans, pickup trucks).

<sup>7</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts, Occupant Protection*, Washington, DC. DOT HS 810 621.

<sup>8</sup>DOT HS 810 621.

<sup>9</sup>BELTUSE, National Highway Traffic Safety Administration software program designed to estimate lives saved and economic savings with safety belt use.



fatalities among children under 5 years of age. Of those fatalities, where restraint use was known (428), 151 (35 percent) were unrestrained.<sup>10</sup>

In 2001 NHTSA awarded funding for a Child Restraint System (CRS) study, in which the objective was to obtain a measure of the current level of CRS misuse among the general public. Key findings indicated 72.6 percent of 3,442 observed CRSs had one or more critical misuses; the most common were loose vehicle safety belt attachment to the CRS and loose harness straps securing the child to the CRS. Another finding showed 11.8 percent of the children observed were not using any type of occupant restraint, neither CRS nor safety belt. Among children weighing 60 to 79 pounds, almost one-in-four (24 percent) was unrestrained.<sup>11</sup>

Preventing fatalities or injuries of children during motor vehicle crashes can be helped by always using child restraint systems and safety belts correctly. The safest place for all children to ride is in the back seat. All infants should ride rear-facing until they have reached at least one year of age and weigh at least 20 pounds.<sup>12</sup>

Many state laws only require child restraints through age four. When children are prematurely transitioned into adult seat belts, the lap portion of the belt rides up over the abdomen and the shoulder portion crosses the neck or face, causing many children to place the shoulder belt behind them or under their arm. Belt-positioning booster seats are extremely effective at preventing serious injury to children in crashes by correctly positioning the lap and shoulder belt safety belt over an older child.<sup>13</sup>

The medical director of the Automotive Safety Program at Riley Children's Hospital in Indianapolis states, "while any restraint is better than no restraint at all, we know that a booster seat provides optimal protection." Dr. Bull continues, "a booster positions a child so that the belt fits his anatomy more like it would fit an adult's anatomy." She further states that most children are between ages 9 and 13 years old before they grow into the height range in which seat belts achieve a safe fit.<sup>14</sup> It is important for parents to transition their children

from child safety seats directly to booster seats and keep them in the booster seat until the lap/shoulder belt fits properly. This will provide optimal safety.

### **Airbags and their Benefits**

While airbags were originally intended to be primary occupant protection devices, all vehicle manufacturers now explicitly state that they are supplemental devices aimed at enhancing the effectiveness of the primary occupant protection device, the lap/shoulder belt. Airbags and lap/shoulder belts combined offer the most effective safety protection available today. NHTSA estimates that, as of 2005, more than 160 million passenger vehicles on the

road were equipped with air bags; 146 million of those had dual air bags.<sup>15</sup>

There has been controversy regarding the safety of airbags. Some deaths have been attributed to airbag deployment. However, it is difficult to determine that the cause of death is entirely attributable to an airbag. In many of the deaths, the people were not wearing a safety belt, or were using them incorrectly. Serious injuries occur primarily because of the position of the person when airbags are inflated. Regardless of age or size, anyone who is on top of, or very close to, an

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*Nationally in 2005,  
there were 450  
passenger vehicle  
occupant fatalities  
among children under  
5 years of age. 35%  
were unrestrained.*

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<sup>10</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts, Children*, Washington, DC. DOT HS 810 618.

<sup>11</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts, Research Note*, Washington, DC. DOT HS 809 851. March 2005.

<sup>12</sup>Child Passenger Safety Issue Report, May 2005, *Safe Seating Position for Children*.

<sup>13</sup>*The Forgotten Child, Children Who Move to Seat Belts Too Soon*, Partners for Child Passenger Safety, July 2004, p .3.

<sup>14</sup>Quote from Marilyn Bull, M.D., F.A.A.P., medical director of the Automotive Safety Program at Riley Children's Hospital at Indiana University. *The Forgotten Child, Children Who Move to Seat Belts Too Soon*, Partners for Child Passenger Safety, July 2004.

<sup>15</sup>DOT HS 810 621.

inflating airbag is at risk. A driver should be at least 10 inches from the steering wheel, and the occupant in the passenger seat should have the seat positioned as far back as possible.<sup>16</sup> Children under 13 years old should be in the rear seat and all should be properly restrained. Most 1998 and later cars have redesigned airbags with less powerful inflators that reduce injury risk.

Front airbags are designed to deploy only in frontal and near-frontal collisions equivalent to about 12 miles per hour into a fixed barrier. A frontal air bag is not designed to deploy in rear, rollover or second collisions or lower-severity frontal impacts.<sup>17</sup> Side airbags also exist in some newer vehicles. They are designed to activate in crashes where the point of impact is on the side of the vehicle. A NHTSA warning states, "Children in rear-facing child safety seats should not be placed in the front seat of vehicles equipped with passenger-side air bags. The impact of a deploying air bag striking a rear-facing child safety seat could result in injury to the child."<sup>18</sup>

In 2006, airbags were reported as deployed for 174 of the 654 people killed in Indiana passenger vehicle collisions. One hundred and eight (108) of those people were involved in front impact collisions, which, as stated earlier, is when the airbag is supposed to inflate if the impact is strong enough. Of the 174 fatalities, 100 people were also wearing safety belts. In addition, 250 people were killed in front impact collisions where the airbag was known not to inflate.<sup>19</sup> Only 75 of those were known to be wearing their safety belts.

NHTSA rates the effectiveness of safety belts and airbags in preventing fatalities. They have determined that three-point belts in conjunction with airbags are 53.7 percent effective for occupants over 12 years old. This means that 53.7 percent of the drivers over 12 years of age who would die without a belt and airbag would live if they buckled their safety belt and had an airbag.<sup>20</sup>



### Occupant Protection Laws

Primary enforcement of a safety belt law allows a law enforcement officer to stop a vehicle and issue a citation when the officer observes an unbelted driver or passenger. Secondary enforcement means that a citation for not wearing a safety belt can only be written after the officer stops the vehicle or cites the offender for another infraction. NHTSA supports the enactment of primary, as opposed to secondary, safety belt enforcement laws.<sup>21</sup> In 2006 the average safety belt use rate in

<sup>16</sup>*About Your Airbags*, sponsored by multiple Insurance companies, web accessed March 21, 2007.

<sup>17</sup>*Frequently Asked Questions*, Automotive Occupant Restraints Council, Lexington, KY. <http://www.aorc.org/faq.asp>. Accessed April 2007.

<sup>18</sup>DOT HS 810 621.

<sup>19</sup>It is assumed that these vehicles had airbags due to the data indicating one did not deploy; however, it is possible that an airbag was not available and thus the data may be inflated.

<sup>20</sup>Glassbrenner, D. (no date, after 2003), p. 133.

<sup>21</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Strengthening Safety Belt Use Laws*, Washington, DC. January 2006.



states with primary enforcement laws was 10 percentage points higher than states without primary enforcement laws (85 versus 74 percent).<sup>22</sup>

As of January 2007, 25 states and the District of Columbia have primary enforcement laws, 24 states have secondary enforcement and one state, New Hampshire, has no safety belt law. Of the Great Lakes Region states (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin), Illinois, Indiana, and Michigan are primary enforcement states, while the other three have secondary enforcement.<sup>23</sup>

Indiana's primary enforcement law currently covers front-seat occupants only and exempts recreational vehicles, pickup trucks, and SUVs that obtain a light truck license plate.<sup>24</sup> Indiana was the only Great Lakes region state exempting pickup trucks from safety belt requirements. However, Indiana legislature in April 2007 passed a bill removing this exemption.

Booster seat laws have been enacted in 38 states and the District of Columbia (DC). Only 15 of those, including

Indiana, and DC have laws that provide protection for children up to age 8, which is recommended by NHTSA. Twelve states have no booster seat law at all.<sup>25</sup>

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*Safety belt use is the single most effective strategy a person can employ to prevent deaths and injuries and reduce the social and economic costs associated with motor vehicle crashes.*

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NATIONAL HIGHWAY  
TRAFFIC SAFETY  
ADMINISTRATION

Nationally in 2006, state legislators debated nearly 100 bills regarding occupant protection. Three states passed primary enforcement laws, while eleven others considered primary bills. Twenty states considered ways to strengthen existing child passenger protection laws. Three states passed booster seat laws.<sup>26</sup>

In August 2005, President Bush signed into law the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This legislation authorizes close to \$300 billion in funding for highways, traffic safety and transit. It contains incentive programs that target occupant protection, including child safety seat and booster seat use. It authorizes \$100 million for the Occupant Protection Incentive Grant

program, providing funds to states if they meet four of six eligibility criteria. SAFETEA-LU also authorizes nearly \$500 million for one-time safety belt performance grants.

<sup>22</sup>National Center for Statistics and Analysis, National Highway Traffic Safety Administration, *Traffic Safety Facts Research Note, Safety Belt Use in 2006 – Overall Results*. Washington, DC. November 2006.

<sup>23</sup>Advocates for Highway and Auto Safety, *The 2007 Roadmap to State Highway Safety Laws*. January 2007.

<sup>24</sup>Indiana Code 9-19-10-2

<sup>25</sup>Advocates for Highway and Auto Safety, *The 2007 Roadmap to State Highway Safety Laws*. January 2007.

<sup>26</sup>National Conference of State Legislators, *Transportation Series, Traffic Safety and Public Health: State Legislative Action 2006*. March 2007, No. 31.



## Conclusion

Safety belt use is the single most effective strategy a person can employ to prevent deaths and injuries and reduce the social and economic costs associated with motor vehicle crashes.<sup>27</sup> The Uniform Vehicle Code (UVC) as revised by the National Committee on Uniform Traffic Laws and Ordinances in 2000, states that a person is required to use a safety belt when operating a motor vehicle. This applies to vehicles that have seating positions with safety belts. It requires that all passengers be secured in a safety belt.

Statistics and research findings suggest that upgrading Indiana's restraint law to include all seating positions in pickup trucks and SUVs with truck plates will enhance the effectiveness of the existing state mandatory use law and save lives.

Sustained enforcement can help to motivate people to wear their safety belts with additional weekend and nighttime enforcement to help during those critical hours of potential collisions. Developing programs to educate parents and the public regarding proper child restraint seats, proper time to graduate a child to a booster seat, and when to transition a child to an adult lap/shoulder belt could result in significantly lower child fatalities and injuries in motor vehicle collisions. Continuous public awareness is vital to saving lives.

Evidence based legislation free of loopholes and supported by enforcement and consistent public education messages could result in a significant lower number of fatalities and injuries from motor vehicle crashes. Lives are worth closing the gaps.

<sup>27</sup>National Highway Traffic Safety Administration, Initiatives to Address Safety Belt Use, Washington, DC. July 2003.

# INDIANA TRAFFIC SAFETY FACTS



This publication was prepared on behalf of the Indiana Criminal Justice Institute by the Center for Urban Policy and the Environment. 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 Center website ([www.urbancenter.iupui.edu/trafficsafety/](http://www.urbancenter.iupui.edu/trafficsafety/)), the ICJI traffic safety website ([www.in.gov/cji/traffic/](http://www.in.gov/cji/traffic/)), or you may contact the Center for Urban Policy and the Environment 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.

## The Center for Urban Policy and the Environment

The Indiana University Center for Urban Policy and the Environment is devoted to supporting economic success for Indiana and a high quality of life for all Hoosiers. An applied research organization, the Center was created by the Indiana University School of Public and Environmental Affairs in 1992. The Center works in partnership with community leaders, business and civic organizations, nonprofits, and government. The Center's work is focused on urban and community development, health policy, and criminal justice research essential to developing strategies to strengthen Indiana's economy and quality of life.

## 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:** Kathy Lisby



CENTER FOR URBAN POLICY  
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ADDRESS SERVICE REQUESTED

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



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