TRAFFIC SAFETY FACTS

DANGEROUS DRIVING, 2012

JUNE 2013 • ISSUE 13-C05

A *dangerous driving* collision is defined as any collision where a driver takes any of the following actions: *aggressive driving, disregarding a signal,* or *speeding* (see last page for a full list of definitions, references, and data sources). In 2012, 22,527 of the 188,841 traffic collisions (12 percent) that occurred in Indiana involved one or more actions defined as *dangerous driving*. Twenty-seven percent (208 of 779) of 2012 Indiana traffic fatalities occurred in dangerous driving collisions, and 22 percent (175 of 779) occurred in speeding collisions. The National Highway Traffic Safety Administration (NHTSA) reports that, nationally in 2011 (latest data available), the number of speed-related fatalities (the most common form of *dangerous driving* in Indiana) decreased 5 percent, down from 10,508 in 2010 to 9,944 in 2011 (DOT HS 811 751).

NHTSA defines a crash as speed-related if "the driver was charged with a speeding-related offense or if an officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash." Thirty-one percent of 2011 U.S. traffic fatalities were speed-related. NHTSA estimates the cost of U.S. speed-related crashes each year to be greater than $40 billion (DOT HS 811 751). Both nationally and in Indiana, speeding drivers are more likely to be males under the age of 25, and speeding drivers are also more likely to be under the influence of alcohol.

This fact sheet summarizes *dangerous driving* data trends at national, regional, state, and county levels. Analyses include data from several sources. Indiana data come primarily from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 9, 2013.

In Indiana in 2012:

- 12 percent of all collisions, and 27 percent of fatal collisions involved *dangerous driving.*
- 208 people were killed in *dangerous driving* collisions.
- 175 people were killed in collisions that involved *speeding.*
- The relative risk of a fatality is 2.7 times greater when any type of *dangerous driving* is involved, and 3 times greater when *speeding* is involved.
- Nearly 8 percent of *dangerous driving* collisions involved alcohol; 4.4 percent involved a driver who was legally impaired (BAC ≥ 0.08 g/DL).

STATE COMPARISONS

Among the six states in the Great Lakes Region, Illinois consistently had the highest proportion of traffic fatalities that occurred in speed-related collisions between 2002 and 2011 (Table 1). In 2011, Illinois reached a ten year high in the percentage of fatalities that were speed-related at 47.8 percent (Table 1). Indiana (20.4 percent) had the lowest percentage of speed-related fatalities of all states in the region in 2011, a decrease of nearly 5 percentage points from 2010. Wisconsin and Indiana were the only states in the region that saw a decrease in the proportion of fatalities that occurred in speed-related collisions in 2011. Illinois, Michigan, and Ohio all experienced an average annual increase in the proportion of traffic fatalities that were speed-related between 2002 and 2011. During that period, the Indiana rate of speed-related fatalities declined about 1.5 percent annually.

Table 1. Proportion of traffic fatalities that occurred in speed-related collisions, by Great Lakes Region states, 2002-2011

	Speed-related collisions as % of total collisions										Annual rate of change	
State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2010-11 (percentage points)	2002-11 (% change)
Illinois	37.6%	39.0%	43.4%	38.6%	44.3%	41.9%	36.9%	35.7%	47.1%	47.8%	0.7	2.7%
Indiana	23.4%	26.0%	28.2%	27.5%	21.6%	22.2%	30.7%	25.1%	25.2%	20.4%	-4.8	-1.5%
Michigan	22.5%	22.8%	21.5%	21.5%	20.2%	22.2%	23.7%	23.5%	24.5%	26.8%	2.2	2.0%
Minnesota	27.2%	29.5%	25.4%	27.2%	25.9%	21.4%	29.4%	22.6%	23.4%	23.4%	0.0	-1.7%
Ohio	17.3%	20.7%	21.2%	20.9%	20.4%	22.0%	22.6%	28.1%	28.4%	29.4%	1.0	6.1%
Wisconsin	34.4%	36.1%	37.2%	36.1%	39.1%	36.9%	32.7%	36.2%	35.3%	33.5%	-1.8	-0.3%

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Source: Fatality Analysis Reporting System (FARS)

Notes: 1) FARS data not yet available for 2012.

2) Color-scale formatting is applied to individual years to illustrate the states with the highest proportion of speed-related fatalities for each year in the series.

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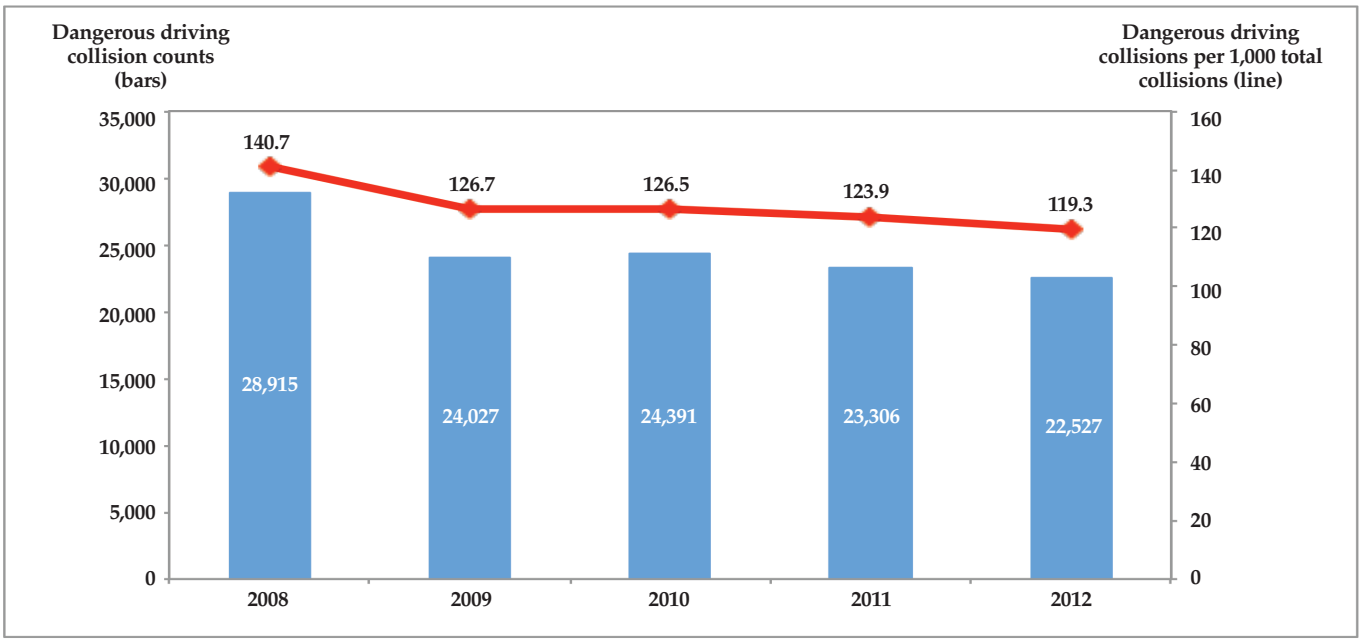
GENERAL TRENDS

The number of Indiana collisions involving *dangerous driving* declined steadily between 2008 (28,915 collisions) and 2012 (22,527 collisions) (Figure 1). The rate of *dangerous driving* collisions per 1,000 total collisions also fell during this period to a five-year low of 119.3 per 1,000 in 2012. Twelve percent of all 2012 collisions and 27 percent (193) of all fatal collisions involved *dangerous driving* in 2012 (Table 2). The number of fatal *dangerous driving* collisions increased 17 percent from 2011 to 2012. When looking closer at specific *dangerous driving* actions, 2 percent (4,494) of all 2012 Indiana collisions involved aggressive driving, and 2 percent (4,009) involved a driver *disregarding a signal.* Nine percent (16,608) of all Indiana collisions involved *speeding*, and 23 percent (163/718) of all *fatal* collisions involved speeding.

Figure 1. Indiana collisions that involved dangerous driving, 2008-2012



Source: Indiana State Police

Table 2. Indiana collisions, by dangerous driving involvement and collision severity, 2008-2012

Dangerous driving type/ Collision severity	Count of collisions					Annual rate of change	
	2008	2009	2010	2011	2012	2011-12	2008-12
Total collisions	**205,452**	**189,661**	**192,885**	**188,126**	**188,841**	**0.4%**	**-2.1%**
Fatal	722	631	701	674	718	6.5%	-0.1%
Non-fatal	35,358	33,410	34,083	32,734	34,087	4.1%	-0.9%
Property damage	169,372	155,620	158,101	154,718	154,036	-0.4%	-2.3%
All dangerous driving collisions	**28,915**	**24,027**	**24,391**	**23,306**	**22,527**	**-3.3%**	**-6.1%**
Fatal	211	160	155	155	193	24.5%	-2.2%
Non-fatal	6,661	6,006	6,078	5,919	6,035	2.0%	-2.4%
Property damage	22,043	17,861	18,158	17,232	16,299	-5.4%	-7.3%
Dangerous driving as % of total	***14.1%***	***12.7%***	***12.6%***	***12.4%***	***11.9%***	**-3.7%**	**-4.0%**
Fatal	*29.2%*	*25.4%*	*22.1%*	*23.0%*	*26.9%*	16.9%	-2.1%
Non-fatal	*18.8%*	*18.0%*	*17.8%*	*18.1%*	*17.7%*	-2.1%	-1.5%
Property damage	*13.0%*	*11.5%*	*11.5%*	*11.1%*	*10.6%*	-5.0%	-5.0%
Aggressive	**4,018**	**3,947**	**4,133**	**4,319**	**4,494**	**4.1%**	**2.8%**
Fatal	24	22	20	30	33	10.0%	8.3%
Non-fatal	983	982	1,125	1,120	1,215	8.5%	5.4%
Property damage	3,011	2,943	2,988	3,169	3,246	2.4%	1.9%
Disregard signal	**4,343**	**3,983**	**4,011**	**3,955**	**4,009**	**1.4%**	**-2.0%**
Fatal	16	14	15	15	22	46.7%	8.3%
Non-fatal	1,590	1,506	1,519	1,451	1,577	8.7%	-0.2%
Property damage	2,737	2,463	2,477	2,489	2,410	-3.2%	-3.1%
Speed	**22,820**	**18,251**	**18,550**	**17,517**	**16,608**	**-5.2%**	**-7.6%**
Fatal	188	136	136	131	163	24.4%	-3.5%
Non-fatal	4,711	4,117	4,143	4,104	4,054	-1.2%	-3.7%
Property damage	17,921	13,998	14,271	13,282	12,391	-6.7%	-8.8%

Source: Indiana State Police

Note: *Dangerous driving* categories are not mutually exclusive. *All dangerous driving* may not equal total of individual categories.

GENERAL TRENDS *(continued)*

Table 3 shows the relative risk of a traffic fatality in *dangerous driving* collisions. When a collision involves *aggressive driving,* the relative risk of a traffic fatality is twice that of collisions that do not involve *aggressive driving. Speeding* collisions are 3 times more likely to involve a fatality than non-speed-related collisions. The relative risk of a fatality in collisions that involve any *dangerous driving* action is 2.7 times that of collisions that do not involve dangerous driving. With the exception of *disregarding a traffic signal,* all relative risk ratios are significant at $p<0.05$.

Table 3. Risk of fatality in dangerous driving collisions, by dangerous driving action, 2012

Dangerous driving action	DD type? (Y/N)	Fatal	Non-fatal	Total	% Fatal	Relative risk	Lower limit	Upper limit
Aggressive driving	Yes	33	4,461	4,494	0.7%	2.0	1.4	2.8
	No	685	183,662	184,347	0.4%			
Disregard signal	Yes	22	3,987	4,009	0.5%	1.5	1.0	2.2
	No	696	184,136	184,832	0.4%			
Speeding	Yes	163	16,445	16,608	1.0%	3.0	2.6	3.6
	No	555	171,678	172,233	0.3%			
All dangerous driving	Yes	193	22,334	22,527	0.9%	2.7	2.3	3.2
	No	525	165,789	166,314	0.3%			

Source: Indiana State Police

Notes:

1) *Dangerous driving* categories are not mutally exclusive. *All dangerous driving* may not equal total of individual categories.

2) Relative risk defined as ratio of % fatal (dangerous driving type involved) to % fatal (no dangerous driving involved).

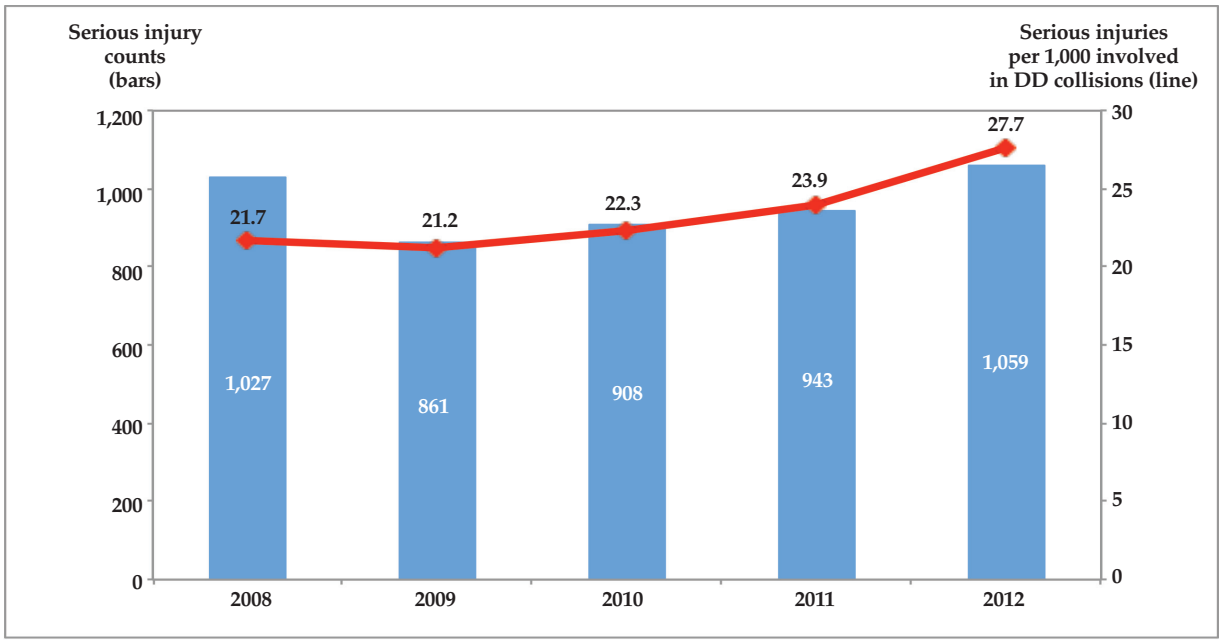
3) With the exception of *disregarding a traffic signal*, all relative risk ratios are significant at $p<0.05$. For example, in 95 out of 100 cases, the relative risk would fall within the lower and upper limit range presented.

GENERAL TRENDS *(continued)*

Since 2009, Indiana has seen annual increases in the number of individuals suffering serious injuries (fatal or incapacitating) in *dangerous driving* collisions (Figure 2). The rate of serious injuries per 1,000 involved in *dangerous driving* collisions reached a five year high in 2012 at 27.7 per 1,000. The number of individuals injured in *dangerous driving* collisions grew 4.2 percent between 2011 and 2012, increasing from 9,194 to 9,581 (Table 4).

The number of individuals killed in *dangerous driving* collisions increased 17.5 percent during this same period. The only dangerous driving type that saw a decline (-0.3 percent) in overall injuries between 2011 and 2012 was *speeding* collisions; however, speed-related fatalities increased nearly 17 percent during this period. Since 2008, both the total number of speed-related injuries and fatal speed-related injuries decreased annually (-4.7 percent and -6.1 percent, respectively).

Figure 2. Individuals seriously injured in Indiana dangerous driving (DD) collisions, 2008-2012



Source: Indiana State Police

Note: *Serious injuries* are defined as injuries reported as *fatal* or *incapacitating*.

Table 4. Injuries in Indiana collisions, by dangerous driving involvement and injury status, 2008-2012

Dangerous driving type/ Injury status	Count of injuries					Annual rate of change	
	2008	2009	2010	2011	2012	2011-12	2008-12
Total injuries in ALL collisions	**55,570**	**51,419**	**50,842**	**47,885**	**49,857**	**4.1%**	**-2.7%**
Fatal	815	692	754	749	779	4.0%	-1.1%
Non-fatal	54,755	50,727	50,088	47,136	49,078	4.1%	-2.7%
All dangerous driving collisions	**10,834**	**9,672**	**9,656**	**9,194**	**9,581**	**4.2%**	**-3.0%**
Fatal	250	186	164	177	208	17.5%	-4.5%
Non-fatal	10,584	9,486	9,492	9,017	9,373	3.9%	-3.0%
Dangerous driving as % of total	***19.5%***	***18.8%***	***19.0%***	***19.2%***	***19.2%***	**0.1%**	**-0.4%**
Fatal	*30.7%*	*26.9%*	*21.8%*	*23.6%*	*26.7%*	13.0%	-3.4%
Non-fatal	*19.3%*	*18.7%*	*19.0%*	*19.1%*	*19.1%*	-0.2%	-0.3%
Aggressive	**1,742**	**1,626**	**1,951**	**1,886**	**2,039**	**8.1%**	**4.0%**
Fatal	30	25	21	39	36	-7.7%	4.7%
Non-fatal	1,712	1,601	1,930	1,847	2,003	8.4%	4.0%
Disregard signal	**2,721**	**2,576**	**2,606**	**2,387**	**2,697**	**13.0%**	**-0.2%**
Fatal	16	16	15	17	23	35.3%	9.5%
Non-fatal	2,705	2,560	2,591	2,370	2,674	12.8%	-0.3%
Speed	**7,516**	**6,488**	**6,348**	**6,209**	**6,191**	**-0.3%**	**-4.7%**
Fatal	225	158	145	150	175	16.7%	-6.1%
Non-fatal	7,291	6,330	6,203	6,059	6,016	-0.7%	-4.7%

Source: Indiana State Police

Note: *Dangerous driving* categories are not mutually exclusive. *All dangerous driving* may not equal total of individual categories.

DRIVER AGE AND GENDER

Both age and gender are indicators of *dangerous driving* behavior. Table 5 illustrates that the likelihood of drivers engaging in *dangerous driving* behavior decreases with age. Between 2008 and 2012, male drivers under the age of 25 consistently represented the highest proportion of drivers in *dangerous driving* collisions. In 2012, 14.3 percent of male drivers and 9.5 percent of female drivers in the 16- to 20-year-old age group engaged in *dangerous driving* behavior in collisions, while only 5.7 percent of male drivers and 5.1 percent of female drivers in the 75+ age group were reported to drive *dangerously* in collisions.

Table 5. Proportion of drivers in Indiana collisions engaged in dangerous driving behaviors, by age group and gender, 2008-2012

	2008		2009		2010		2011		2012	
Age group	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
16-20	14.8%	11.4%	14.1%	9.9%	14.3%	10.1%	14.0%	10.3%	14.3%	9.5%
21-24	13.8%	10.2%	12.4%	9.5%	12.1%	9.0%	12.2%	9.2%	11.6%	8.3%
25-34	10.8%	8.9%	9.7%	7.8%	9.9%	7.5%	9.4%	7.5%	9.4%	6.8%
35-44	8.2%	7.2%	7.4%	6.2%	7.3%	6.3%	7.1%	6.2%	6.9%	5.6%
45-54	6.9%	6.1%	6.1%	5.2%	6.3%	5.0%	6.3%	5.3%	6.1%	5.2%
55-64	6.1%	6.0%	5.3%	5.2%	5.6%	4.9%	5.3%	4.8%	5.2%	4.4%
65-74	5.2%	5.2%	4.8%	4.4%	4.8%	4.5%	5.0%	4.5%	5.0%	4.8%
75 +	5.8%	5.9%	5.0%	5.1%	5.8%	5.3%	5.5%	5.1%	5.7%	5.1%
All ages	**9.6%**	**8.2%**	**8.7%**	**7.1%**	**8.8%**	**6.9%**	**8.5%**	**7.0%**	**8.4%**	**6.4%**

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Source: Fatality Analysis Reporting System (FARS)
Note: Data limited to drivers with valid gender and age reported.

RESTRAINT USE AND DANGEROUS DRIVING

Restraint use rates among vehicle occupants involved in *dangerous driving* collisions decreased annually between 2008 and 2012 across all injury categories (Table 6). Among individuals killed in *dangerous driving collisions,* the rate of restraint use decreased 12 percent between 2011 and 2012. The rate of restraint use among individuals involved in *dangerous driving* collisions decreases as the severity of injury increases. For instance, among those who sustained no injuries in *dangerous driving* collisions in 2012, the rate of restraint use was 91.6 percent, while only 36.1 percent of individuals killed in *dangerous driving* collisions were properly restrained. The relative risk of obtaining a serious bodily injury in a collision was more than 3 times higher among *dangerously driven* vehicle occupants who were not wearing proper safety restraints than for those who were properly restrained (Table 7). Relative risk ratios for all *dangerous driving* types were significant at p<0.01.

Table 6. Restraint use and injury status among vehicle occupants involved in dangerous driving collisions, 2008-2012

Vehicle occupant injuries in dangerous driving collisions						Annual rate of change	
	2008	2009	2010	2011	2012	2011-12	2008-12
All occupants	**47,272**	**40,420**	**40,523**	**39,271**	**38,133**	**-2.9%**	**-5.2%**
Properly restrained	42,550	36,392	36,400	35,215	33,918	-3.7%	-5.5%
Restraint use rate	*90.0%*	*90.0%*	*89.8%*	*89.7%*	*88.9%*	*-0.8%*	*-0.3%*
Fatalities	**243**	**182**	**157**	**170**	**202**	**18.8%**	**-4.5%**
Properly restrained	89	75	53	70	73	4.3%	-4.8%
Restraint use rate	*36.6%*	*41.2%*	*33.8%*	*41.2%*	*36.1%*	*-12.2%*	*-0.3%*
Incapacitating injuries	**762**	**662**	**729**	**745**	**828**	**11.1%**	**2.1%**
Properly restrained	498	421	462	447	501	12.1%	0.2%
Restraint use rate	*65.4%*	*63.6%*	*63.4%*	*60.0%*	*60.5%*	*0.8%*	*-1.9%*
Non-incapacitating injuries	**8,957**	**8,158**	**8,267**	**7,812**	**8,060**	**3.2%**	**-2.6%**
Properly restrained	7,543	6,949	7,015	6,599	6,745	2.2%	-2.8%
Restraint use rate	*84.2%*	*85.2%*	*84.9%*	*84.5%*	*83.7%*	*-0.9%*	*-0.2%*
Other injuries	**752**	**546**	**367**	**325**	**349**	**7.4%**	**-17.5%**
Properly restrained	668	494	322	280	304	8.6%	-17.9%
Restraint use rate	*88.8%*	*90.5%*	*87.7%*	*86.2%*	*87.1%*	*1.1%*	*-0.5%*
Not injured	**36,558**	**30,872**	**31,003**	**30,219**	**28,694**	**-5.0%**	**-5.9%**
Properly restrained	33,752	28,453	28,548	27,819	26,295	-5.5%	-6.1%
Restraint use rate	*92.3%*	*92.2%*	*92.1%*	*92.1%*	*91.6%*	*-0.5%*	*-0.2%*

Source: Indiana State Police

Note: Counts are limited to *drivers* and *injured vehicle occupants* in dangerous driving collisions.

Table 7. Risk of serious injury to occupants of vehicles driven dangerously, by dangerous driving action and restraint use, 2012

Dangerous driving action	Restrained?	Serious injuries	Non-serious injuries	Total	% Serious injury	Relative risk	Lower limit	Upper limit
Aggressive driving	No	70	147	217	32.3%	3.7	2.7	5.2
	Yes	145	1,529	1,674	8.7%			
Disregard signal	No	27	113	140	19.3%	3.4	2.1	5.6
	Yes	136	2,275	2,411	5.6%			
Speeding	No	315	748	1,063	29.6%	3.4	2.9	4.0
	Yes	403	4,220	4,623	8.7%			
All dangerous driving	No	358	904	1,262	28.4%	3.8	3.2	4.4
	Yes	574	7,049	7,623	7.5%			

Source: Indiana State Police

Notes:

1) Limited to *drivers* and *injured occupants* of vehicles driven dangerously with valid restraint use identified.

2) Serious injuries include those reported as *fatal* and *incapacitating*.

3) Non-serious injuries excludes NULL values in the injury status code field.

4) Relative risk of serious injury = the percent of *unrestrained* serious injuries in a given dangerous driving type divided by the percent of *restrained* serious injuries in the same dangerous driving type.

5) All relative risk ratios are significant at p<0.01. For example, in 99 out of 100 cases, the relative risk would fall within the lower and upper limit range presented.

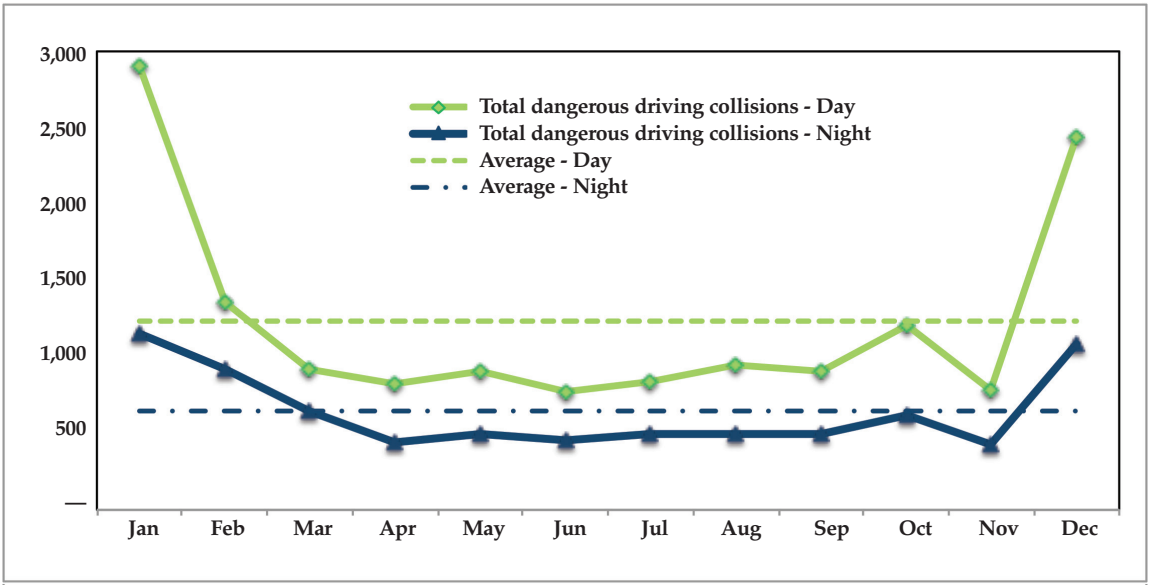
6) *Dangerous driving* categories are not mutally exclusive. *All dangerous driving* may not equal total of individual categories.

DANGEROUS DRIVING BY MONTH AND TIME OF DAY

Figure 3 shows the number of *dangerous driving* collisions by month and time of day (day/night). The monthly average count of day time *dangerous driving* collisions in 2012 was 1,234. The monthly average of night time dangerous driving collisions was 644. The only months with monthly totals of *dangerous driving* collisions that exceeded the monthly average (for both day- and night-time collisions) were January, February, and December.

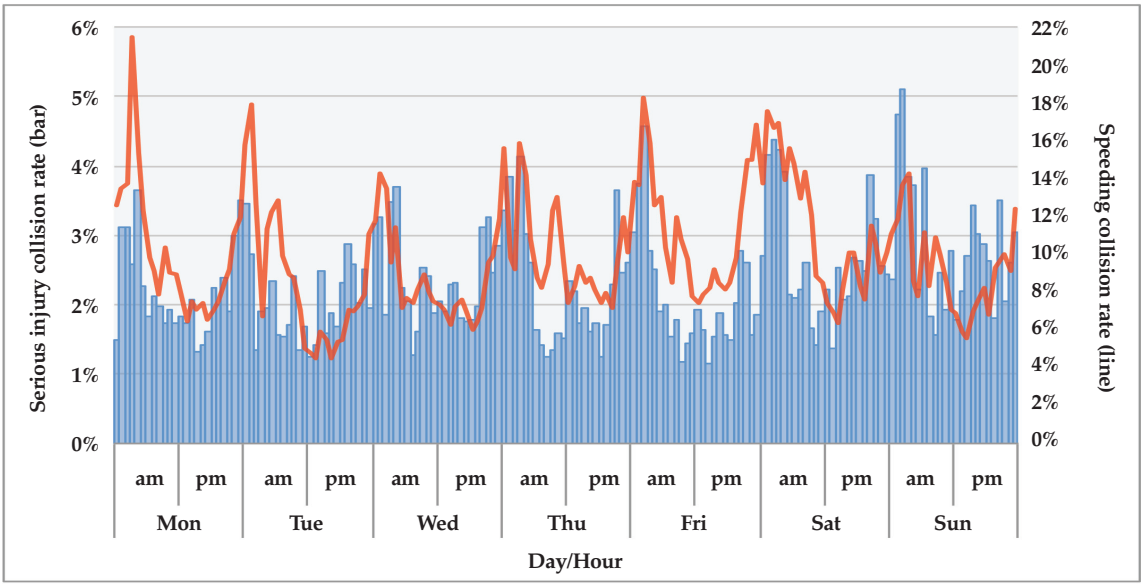
In 2012, hourly rates of serious injury collisions and speed-related collisions generally followed a similar pattern, with both peaking in late overnight hours (Figure 4). The highest hourly percentage of *speeding* collisions occurred on Mondays at 4am (21 percent). The highest hourly percentage of serious injury collisions occurred on Sundays between 2am and 3am (5 percent).

Figure 3. Indiana dangerous driving collisions, by month and day/night, 2012



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

Figure 4. Indiana serious injury collisions and speed-related collisions, by hour and day of week, 2012



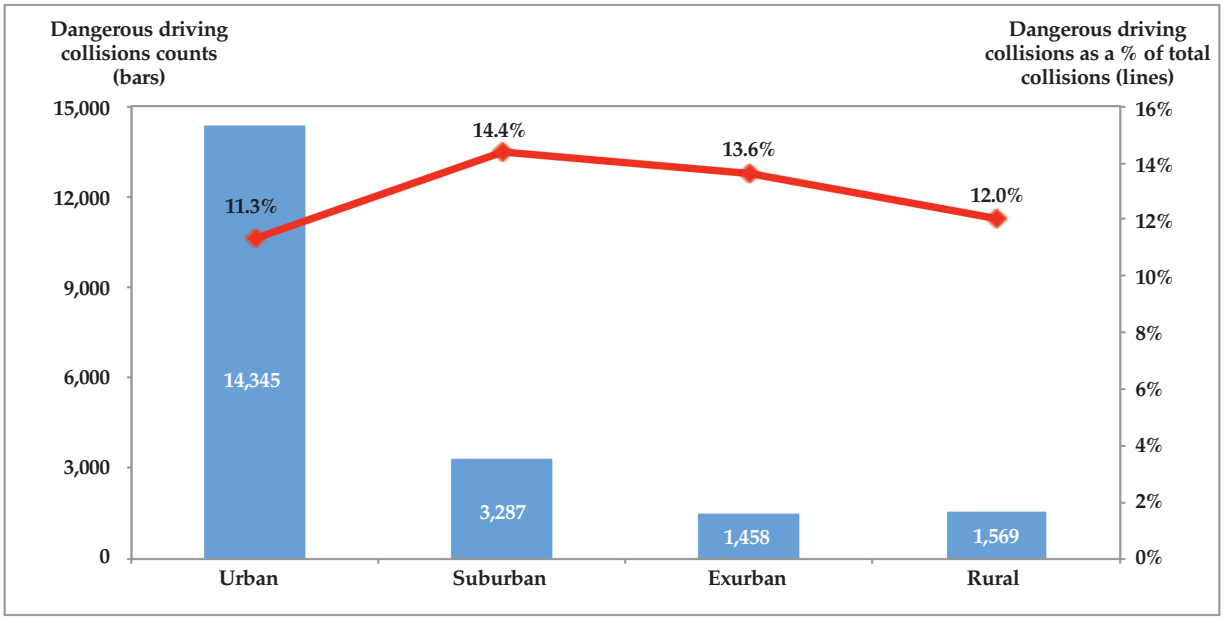
Source: Indiana State Police
Notes:
1) *Serious injury collision rate* represents *fatal* or *incapacitating* collisions as a proportion of all collisions.
2) Data exclude collisions with invalid time reported.

GEOGRAPHY OF DANGEROUS DRIVING IN INDIANA

Figure 5 shows 2012 Indiana *dangerous driving* collisions by locale. The number of *dangerous driving* collisions that occurred in *urban* areas was 14,345 (64 percent of all dangerous driving collisions). When looking at the proportion of *dangerous driving* collisions within each locale, the highest proportions occurred in *suburban* (14.4 percent) and *exurban* (13.6 percent) areas.

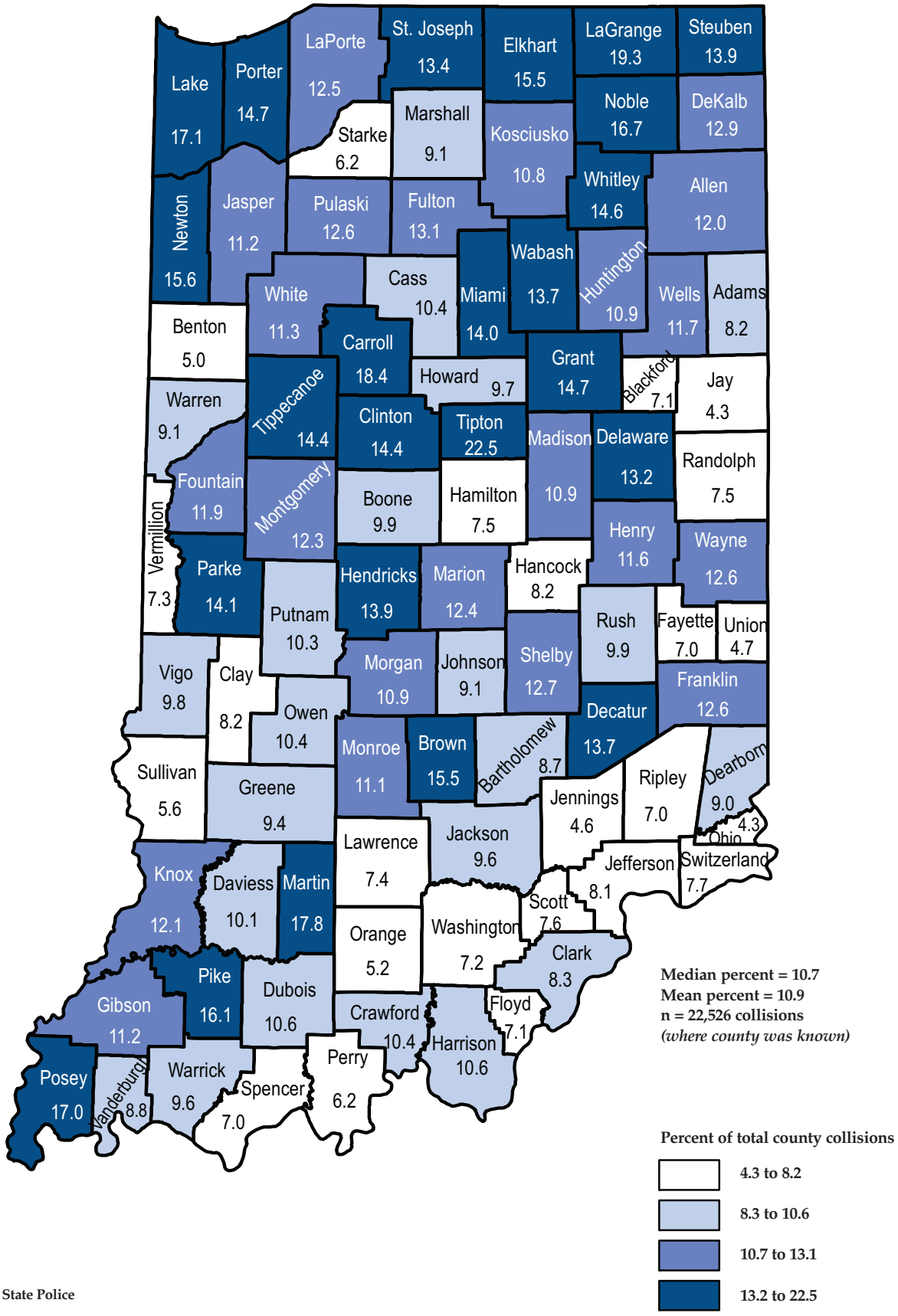
Map 1 shows the percentage of county collisions that involved *dangerous driving* in 2012. The map illustrates clusters of counties with higher dangerous driving collision rates located in northern regions of the state. Tipton County, located in north central Indiana, had the highest percentage of *dangerous driving* collisions (22.5 percent), while Jay and Ohio counties had the lowest percentage of *dangerous driving* collisions (both at 4.3 percent). The median rate of county *dangerous driving* collisions was 10.7 percent, while the mean rate was 10.9 percent.

Figure 5. Indiana collisions involving dangerous driving, by locale, 2012



Source: Indiana State Police

Map 1. Percentage of county collisions that involved dangerous driving behavior, 2012



Source: Indiana State Police

ALCOHOL AND DANGEROUS DRIVING

In 2012, 4.4 percent of all *dangerous driving* collisions (1,002 of 22,527) involved an alcohol-impaired driver. Twenty-seven percent of fatal *dangerous driving* collisions involved a legally impaired driver (Table 8). The relative risk of serious injury is 2 times greater for drivers in *dangerous driving* collisions when the driver is legally impaired. *Aggressive* drivers who were legally impaired were 14 times more likely to suffer serious injuries than those who were not impaired. Relative risk ratios for all *dangerous driving* types were significant at p<0.01.

Table 8. Dangerous driving (DD) collisions in Indiana, by alcohol impairment and collision severity, 2008-2012

	Count of collisions					Annual rate of change	
	2008	2009	2010	2011	2012	2011-12	2008-12
Dangerous driving collisions	**28,915**	**24,027**	**24,391**	**23,306**	**22,527**	**-3.3%**	**-6.1%**
Fatal	211	160	155	155	193	24.5%	-2.2%
Non-fatal	6,661	6,006	6,078	5,919	6,035	2.0%	-2.4%
Property damage	22,043	17,861	18,158	17,232	16,299	-5.4%	-7.3%
DD alcohol-impaired (BAC = 0.08+ g/dL)	**494**	**621**	**901**	**957**	**1,002**	**4.7%**	**19.3%**
Fatal	58	45	41	49	52	6.1%	-2.7%
Non-fatal	150	224	355	383	380	-0.8%	26.2%
Property damage	286	352	505	525	570	8.6%	18.8%
% DD alcohol-impaired	***1.7%***	***2.6%***	***3.7%***	***4.1%***	***4.4%***	**8.3%**	**27.0%**
Fatal	*27.5%*	*28.1%*	*26.5%*	*31.6%*	*26.9%*	-14.8%	-0.5%
Non-fatal	*2.3%*	*3.7%*	*5.8%*	*6.5%*	*6.3%*	-2.7%	29.3%
Property damage	*1.3%*	*2.0%*	*2.8%*	*3.0%*	*3.5%*	14.8%	28.1%

Source: Indiana State Police

Table 9. Risk of serious injury to drivers of vehicles driven dangerously, by dangerous driving action and alcohol impairment, 2012

Dangerous driving action	Driver alcohol-impaired?	Serious injuries	Non-serious injuries	Total	% Serious injury	Relative risk	Lower limit	Upper limit
Aggressive driving	No	78	4,491	4,569	1.7%	14.4	7.6	27.4
	Yes	15	46	61	24.6%			
Disregard signal	No	54	782	836	6.5%	5.2	1.7	15.6
	Yes	4	8	12	33.3%			
Speeding	No	370	2,351	2,721	13.6%	1.8	1.3	2.3
	Yes	79	252	331	23.9%			
All dangerous driving	No	442	3,319	3,761	11.8%	2.0	1.5	2.6
	Yes	82	266	348	23.6%			

Source: Indiana State Police

Notes:
1) Limited to *drivers* of vehicles driven dangerously.
2) *Serious injuries* include those reported as *fatal* and *incapacitating*.
3) *Non-serious injuries* excludes NULL values in the injury status code field.
4) Relative risk of serious injury = the percent of *alcohol-impaired* serious injuries in a given dangerous driving type divided by the percent of non-impaired serious injuries in the same dangerous driving type.
5) All relative risk ratios are significant at p<0.01. For example, in 99 out of 100 cases, the relative risk would fall within the lower and upper limit range presented.
6) *Dangerous driving* categories are not mutally exclusive; *All dangerous driving* may not equal total of individual categories.

DEFINITIONS

Aggressive driving applies when the investigating officer determines that a driver was engaged in at least two of the following: *Unsafe speed; speed too fast for weather conditions; failing to yield right of way; disregarding a traffic signal/sign; improper passing/turning/lane usage;* or *following too closely.* Indiana Code IC 9-21-8-55 requires three or more of these and similar actions to be considered an aggressive-driving violation.

Disregarding a traffic signal applies when a vehicle driver was involved in a collision at an intersection of two or more roads and disregarded a traffic signal/sign.

Speeding applies when a vehicle driver was issued a speeding citation or was driving at an unsafe speed, as indicated by *unsafe speed* or *speed too fast for weather conditions* as a contributing factor to the collision. Indiana Code 9-21-5-1 delineates this action from the legal perspective.

Dangerous driving in this factsheet applies when a driver takes any of the above actions in a collision.

Annual rate of change (ARC) — The rate that a beginning value must increase/decrease each period (e.g., month, quarter, year) in a time series to arrive at the ending value in the time series. ARC is a "smoothed" rate of change because it measures change in a variable as if the change occurred at a steady rate each period with compounding. For example, to measure change in a variable from 2008 to 2012, it is calculated as $(\text{Value in 2012} / \text{Value in 2008})^{1/4} - 1$.

Locale – *Urban* is defined as Census 2000 Urban Areas (2007-2009) or Census 2010 Urban Areas (2010-2011), *suburban* as areas within 2.5 miles of urban boundaries, *exurban* as areas within 2.5 miles of suburban boundaries, and *rural* as areas beyond exurban boundaries (i.e., everything else).

Non-fatal collision severity applies when no fatalities and at least one i*ncapacitating, non-incapacitating,* or *possible* injury occurred.

Non-fatal injury includes *incapacitating, non-incapacitating, possible, not reported, unknown, refused (treatment),* and invalid injury categories.

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

Not injured status includes individuals involved in collisions reported as *null* values in the injury status code field. NOTE: The *not injured* category in ARIES should include only *uninjured drivers*; nonetheless, *vehicle occupants* are sometimes reported as *not injured* on the crash report completed by the investigating officer.

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

Restraint use — Vehicle occupants injured in Indiana collisions are counted as having been restrained when the investigating officer selects any one of the following passenger vehicle 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.*

REFERENCE

National Center for Statistics and Analysis (2013). *Traffic safety facts: Speeding (2011 data),* DOT HS 811 751. Washington, DC: National Highway Traffic Safety Administration.

DATA SOURCES

Indiana State Police Automated Reporting Information Exchange System (ARIES), as of April 9, 2013.

Fatality Analysis Reporting System, National Highway Traffic Safety Administration, current as of May 15, 2013 (see http://www-fars.nhtsa.dot.gov/Main/index.aspx).

This publication was prepared on behalf of the Indiana Criminal Justice Institute (ICJI) 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 ICJI 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.

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Traffic Safety Project

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

Designing and implementing effective traffic safety policies requires data-driven analysis of traffic collisions. To help in the policy-making process, the Indiana University Center for Criminal Justice Research is collaborating with the Indiana Criminal Justice Institute to analyze 2012 vehicle crash data from the Automated Reporting Information Exchange System (ARIES), maintained by the Indiana State Police. This marks the seventh year of this partnership. Research findings are summarized in a series of fact sheets on various aspects of traffic collisions, including alcohol-related crashes, trucks, dangerous driving, children, motorcycles, occupant protection, and drivers. An additional publication provides information on county and municipality data. and the final publication produced is the annual Indiana Crash Fact Book. These publications serve as the analytical foundation of traffic safety program planning and design in Indiana.

Indiana collision data are obtained from Indiana Crash Reports, as completed by law enforcement officers. As of December 31, 2012, approximately 99 percent of all collisions are entered electronically through ARIES. Trends in collisions incidence as reported in these publications incorporate the effects of changes to data elements on the Crash Report, agency-specific enforcement policy changes, re-engineered roadways, driver safety education programs, and other unspecified effects. If you have questions regarding trends or unexpected results, please contact the Indiana Criminal Justice Institute, Traffic Safety Division for more information.

The Indiana Criminal Justice Institute

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

The Governor's Council on Impaired & Dangerous Driving

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

Indiana University Public Policy Institute

The Indiana University Public Policy Institute (PPI) is a collaborative, multidisciplinary research institute within the Indiana University School of Public and Environmental Affairs (SPEA), Indianapolis. PPI 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. PPI also supports the Indiana Advisory Commission on Intergovernmental Relations (IACIR).

The Center for Criminal Justice Research

The Center for Criminal Justice Research (CCJR), 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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