TRAFFIC SAFETY FACTS

DANGEROUS DRIVING, 2013

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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). This fact sheet summarizes Indiana *dangerous driving* data trends at state and county levels. Collision data come from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014.

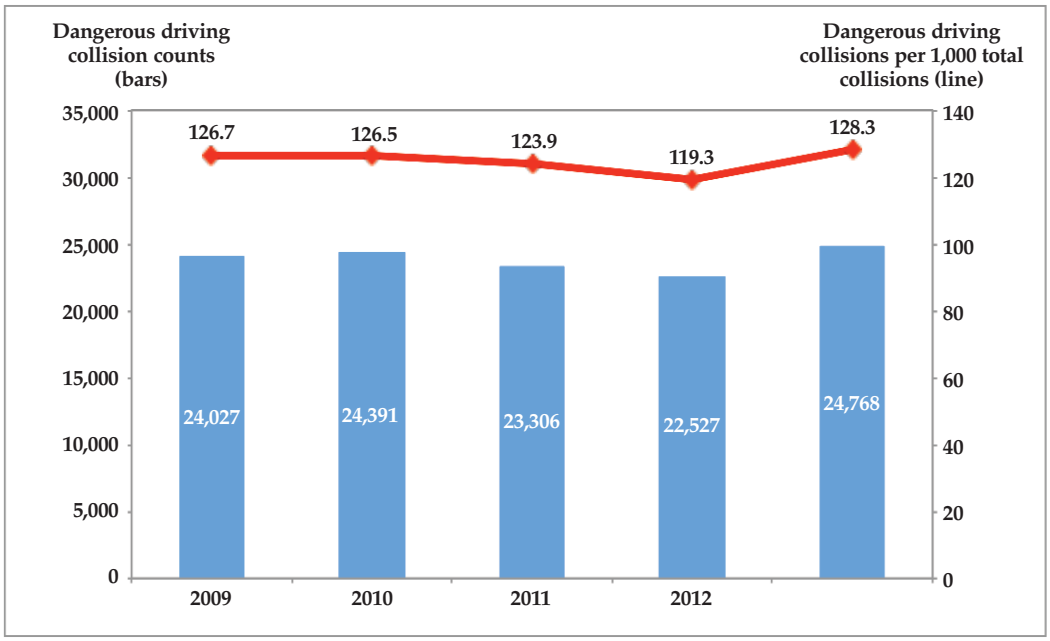
About three-quarters of Indiana dangerous driving collisions typically involve excessive speed. A recent publication by the National Highway Traffic Safety Administration (NHTSA) summarizes national attitudes and behavior on speeding. According to NHTSA, nearly half of all drivers, nationally, believe that speeding (the most common form of *dangerous driving* in Indiana) is a serious problem on U.S. roads; however, 25 percent of survey respondents admitted "speeding is something I do without thinking" (DOT HS 811 865).

The number of Indiana collisions involving dangerous driving increased for the first time since 2009 (from 22,527 collisions in 2012 to 24,768 collisions in 2013) (Figure 1). The rate of dangerous driving collisions per 1,000 total collisions also reached a five-year high of 128.3 per 1,000 in 2013.

HIGHLIGHTS

- **In 2013, 24,768 of the 193,013 traffic collisions (13 percent) that occurred in Indiana involved one or more actions defined as *dangerous driving.***
- **Thirty-three percent (253 of 777) of 2013 Indiana traffic fatalities occurred in *dangerous driving* collisions; 28 percent (214 of 777) of traffic fatalities occurred in collisions that involved a speeding driver.**
- **Male drivers, ages 15 to 20, represented the highest percentage of drivers engaged in dangerous driving behaviors in 2013 crashes across all age and gender categories.**
- **Twenty-eight percent of fatal dangerous driving collisions (61 of 219) involved a driver who was legally alcohol-impaired (BAC = 0.08+ g/DL).**
- **The relative risk of a fatality in 2013 crashes was 3.1 times greater when any type of dangerous driving was involved, and 3.3 times greater when speeding was involved.**

Figure 1. Indiana collisions that involve dangerous driving, 2009-2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

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GENERAL TRENDS

Nearly 13 percent of all 2013 collisions and 31 percent of all fatal collisions involved *dangerous driving* in 2013 (Table 1). The number of fatal *dangerous driving* collisions increased 14 percent from 2012 to 2013. When looking closer at specific *dangerous driving* actions, 3 percent (5,039) of all 2013 Indiana collisions involved *aggressive driving,* and 2 percent (4,171) involved a driver *disregarding a signal.* Ten percent (18,571) of all Indiana collisions involved speeding, and 26 percent (183 of 703) of all *fatal* collisions involved *speeding* (calculated from Table 1).

Table 2 shows the relative risk of a traffic fatality in 2013 *dangerous driving* collisions, compared to collisions that do not involve dangerous driving. When a collision involves *aggressive driving,* the relative risk of a traffic fatality is three times that of collisions that do not involve *aggressive driving. Speeding* collisions are 3.3 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 3.1 times that of collisions that do not involve *dangerous driving.* With the exception of *disregarding a traffic signal,* relative risk ratios are significant at $p<0.05$.

Table 1. Indiana collisions, by dangerous driving involvement and collision severity, 2009-2013

Dangerous driving type/ Collision severity	Count of collisions					Annual rate of change	
	2009	2010	2011	2012	2013	2012-2013	2009-2013
Total collisions	**189,661**	**192,885**	**188,126**	**188,841**	**193,013**	**2.2%**	**0.4%**
Fatal	631	701	674	718	703	-2.1%	2.7%
Non-fatal injury	33,410	34,083	32,734	34,087	32,820	-3.7%	-0.4%
Property damage	155,620	158,101	154,718	154,036	159,490	3.5%	0.6%
All dangerous driving collisions	**24,027**	**24,391**	**23,306**	**22,527**	**24,768**	**9.9%**	**0.8%**
Fatal	160	155	155	193	219	13.5%	8.2%
Non-fatal injury	6,006	6,078	5,919	6,035	6,246	3.5%	1.0%
Property damage	17,861	18,158	17,232	16,299	18,303	12.3%	0.6%
Dangerous driving as % of total	**12.7%**	**12.6%**	**12.4%**	**11.9%**	**12.8%**	**7.6%**	**0.3%**
Fatal	25.4%	22.1%	23.0%	26.9%	31.2%	15.9%	5.3%
Non-fatal injury	18.0%	17.8%	18.1%	17.7%	19.0%	7.5%	1.4%
Property damage	11.5%	11.5%	11.1%	10.6%	11.5%	8.5%	0.0%
Aggressive	**3,947**	**4,133**	**4,319**	**4,494**	**5,039**	**12.1%**	**6.3%**
Fatal	22	20	30	33	54	63.6%	25.2%
Non-fatal injury	982	1,125	1,120	1,215	1,342	10.5%	8.1%
Property damage	2,943	2,988	3,169	3,246	3,643	12.2%	5.5%
Disregard signal	**3,983**	**4,011**	**3,955**	**4,009**	**4,171**	**4.0%**	**1.2%**
Fatal	14	15	15	22	18	-18.2%	6.5%
Non-fatal injury	1,506	1,519	1,451	1,577	1,523	-3.4%	0.3%
Property damage	2,463	2,477	2,489	2,410	2,630	9.1%	1.7%
Speed	**18,251**	**18,550**	**17,517**	**16,608**	**18,571**	**11.8%**	**0.4%**
Fatal	136	136	131	163	183	12.3%	7.7%
Non-fatal injury	4,117	4,143	4,104	4,054	4,264	5.2%	0.9%
Property damage	13,998	14,271	13,282	12,391	14,124	14.0%	0.2%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

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

Table 2. Risk of fatality in dangerous driving collisions, by dangerous driving (DD) action, 2013

Dangerous driving action	DD type? (Y/N)	Fatal	Non-fatal	Total	% Fatal	Relative risk	Lower limit	Upper limit
Aggressive driving	Yes	54	4,985	5,039	1.1%	3.1	2.4	4.1
	No	649	187,325	187,974	0.3%			
Disregard signal	Yes	18	4,153	4,171	0.4%	1.2	na	na
	No	685	188,157	188,842	0.4%			
Speeding	Yes	183	18,388	18,571	1.0%	3.3	2.8	3.9
	No	520	173,922	174,442	0.3%			
All dangerous driving	Yes	219	24,549	24,768	0.9%	3.1	2.6	3.6
	No	484	167,761	168,245	0.3%			

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

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).

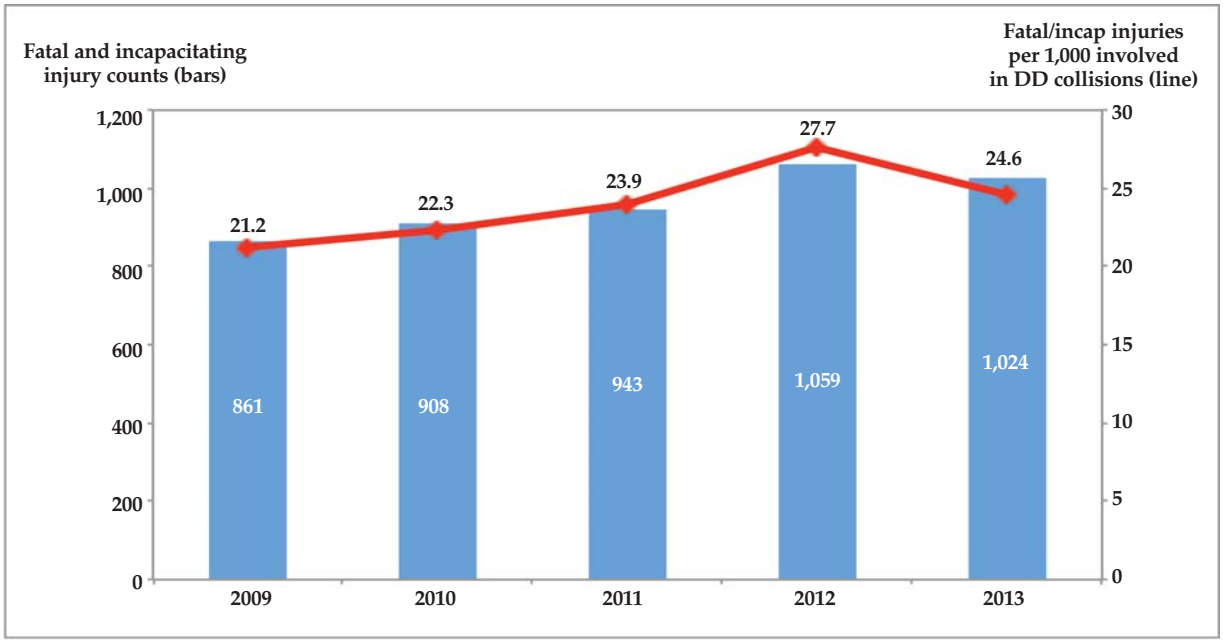
3) *Non-fatal collisions* include *incapacitating, non-incapacitating,* and *property damage* collision severity categories.

4) 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)*

The number of individuals suffering fatal or incapacitating injuries in *dangerous driving* collisions decreased 3 percent between 2012 (1,059) and 2013 (1,024) (calculated from Figure 2). The 2012-2013 decline in fatal and incapacitating injuries was the first in *dangerous driving* collisions since 2009. The rate of fatal and incapacitating injuries per 1,000 involved in *dangerous driving* collisions reached a five year high in 2012 at 27.7 per 1,000, before declining to 24.6 in 2013. The number of individuals injured in *dangerous driving* collisions grew 4 percent between 2012 and 2013, increasing from 9,581 to 9,979 (Table 3). The number of individuals killed in *dangerous driving* collisions increased 22 percent during this same period. The only *dangerous driving* type that saw a decline (-1 percent) in overall injuries between 2012 and 2013 occurred in collisions that involved a driver who *disregarded a traffic signal.* The most dramatic increase in 2013 was seen in fatal injuries that occurred in *aggressive driving* collisions (75 percent). Injuries that occurred in *speeding* collisions increased 5 percent, while speed-related fatalities increased 22 percent between 2012 and 2013.

Figure 2. Fatal and incapacitating injuries in Indiana dangerous driving collisions, 2009-2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Table 3. Injuries in Indiana collisions, by dangerous driving involvement and injury status, 2009-2013

Dangerous driving type/ Injury status	Count of injuries					Annual rate of change	
	2009	2010	2011	2012	2013	2012-2013	2009-2013
Total injuries in ALL collisions	**51,419**	**50,844**	**47,885**	**49,857**	**48,264**	**-3.2%**	**-1.6%**
Fatal	692	754	749	779	777	-0.3%	2.9%
Non-fatal	50,727	50,090	47,136	49,078	47,487	-3.2%	-1.6%
All dangerous driving collisions	**9,672**	**9,656**	**9,194**	**9,581**	**9,979**	**4.2%**	**0.8%**
Fatal	186	164	177	208	253	21.6%	8.0%
Non-fatal	9,486	9,492	9,017	9,373	9,726	3.8%	0.6%
Dangerous driving as % of total	**18.8%**	**19.0%**	**19.2%**	**19.2%**	**20.7%**	**7.6%**	**2.4%**
Fatal	26.9%	21.8%	23.6%	26.7%	32.6%	21.9%	4.9%
Non-fatal	18.7%	19.0%	19.1%	19.1%	20.5%	7.2%	2.3%
Aggressive	**1,626**	**1,951**	**1,886**	**2,039**	**2,303**	**12.9%**	**9.1%**
Fatal	25	21	39	36	63	75.0%	26.0%
Non-fatal	1,601	1,930	1,847	2,003	2,240	11.8%	8.8%
Disregard signal	**2,576**	**2,606**	**2,387**	**2,697**	**2,665**	**-1.2%**	**0.9%**
Fatal	16	15	17	23	19	-17.4%	4.4%
Non-fatal	2,560	2,591	2,370	2,674	2,646	-1.0%	0.8%
Speed	**6,488**	**6,348**	**6,209**	**6,191**	**6,503**	**5.0%**	**0.1%**
Fatal	158	145	150	175	214	22.3%	7.9%
Non-fatal	6,330	6,203	6,059	6,016	6,289	4.5%	-0.2%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014
Note: *Dangerous driving* categories are not mutally exclusive. *All dangerous driving* may not equal total of individual categories.

DRIVER AGE AND GENDER

Dangerous driving behavior can be linked to both age and gender of vehicle operators. Table 4 illustrates that the likelihood of drivers engaging in *dangerous driving* behavior decreases with age. Between 2009 and 2013, male drivers under the age of 25 consistently represented the highest proportion of drivers in *dangerous driving* collisions. In 2013, 15 percent of male drivers and 11 percent of female drivers in the 15- to 20-year-old age group engaged in *dangerous driving* behavior in collisions, while only 5 percent of male drivers and 6 percent of female drivers in the 75+ age group were reported to drive dangerously in collisions.

Table 4. Proportion of drivers engaged in dangerous driving behaviors in Indiana collisions, by age group and gender, 2009-2013

	2009		2010		2011		2012		2013	
Age group	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
15-20	14.1%	9.9%	14.3%	10.1%	14.0%	10.2%	14.0%	9.5%	14.6%	11.0%
21-24	12.4%	9.5%	12.1%	9.0%	12.2%	9.2%	12.2%	8.3%	12.7%	10.0%
25-34	9.7%	7.8%	9.9%	7.5%	9.4%	7.5%	9.4%	6.8%	10.6%	7.6%
35-44	7.4%	6.2%	7.3%	6.3%	7.1%	6.2%	7.1%	5.6%	7.5%	6.4%
45-54	6.1%	5.2%	6.3%	5.0%	6.3%	5.3%	6.3%	5.2%	6.2%	5.2%
55-64	5.3%	5.2%	5.6%	4.9%	5.3%	4.8%	5.3%	4.4%	5.5%	4.6%
65-74	4.8%	4.4%	4.8%	4.5%	5.0%	4.5%	5.0%	4.8%	4.9%	4.7%
75 +	5.0%	5.1%	5.8%	5.3%	5.5%	5.1%	5.5%	5.1%	5.2%	5.6%
All ages	**8.7%**	**7.1%**	**8.8%**	**6.9%**	**8.5%**	**7.0%**	**8.5%**	**6.4%**	**8.9%**	**7.2%**

Low < < > > High

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014
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 2009 and 2013 across all injury categories, with the exception of *not injured* (Table 5). Among individuals killed in *dangerous driving* collisions, the rate of restraint use remained largely unchanged between 2012 and 2013. Consistent with other traffic safety analyses, the rate of restraint use among individuals involved in *dangerous driving* collisions decreases as the severity of injury increases.

For example, among those who sustained no injuries in *dangerous driving* collisions in 2013, the rate of restraint use was 91 percent, while only 33 percent of individuals killed in *dangerous driving* collisions were restrained. The relative risk of obtaining a fatal or incapacitating injury in a collision was more than 4 times higher among *dangerously driven* vehicle occupants who were not wearing safety restraints than for those who were restrained (Table 6). All relative risk ratios for all *dangerous driving* types were significant at $p<0.05$.

Table 5. Individuals in vehicles where driver was reported to be driving dangerously, by restraint use and injury status, 2009-2013

Vehicle occupant injuries in dangerous driving collisions	2009	2010	2011	2012	2013	Annual rate of change 2012-2013	Annual rate of change 2009-2013
All occupants	**24,821**	**25,092**	**23,975**	**23,394**	**25,623**	**9.5%**	**0.8%**
Restrained	21,758	21,985	20,904	20,217	22,410	10.8%	0.7%
Restraint use rate	*87.7%*	*87.6%*	*87.2%*	*86.4%*	*87.5%*	*1.2%*	*-0.1%*
Fatalities	**153**	**130**	**136**	**160**	**207**	**29.4%**	**7.8%**
Restrained	54	38	46	52	69	32.7%	6.3%
Restraint use rate	*35.3%*	*29.2%*	*33.8%*	*32.5%*	*33.3%*	*2.6%*	*-1.4%*
Incapacitating injuries	**467**	**532**	**533**	**575**	**541**	**-5.9%**	**3.7%**
Restrained	251	294	278	290	270	-6.9%	1.8%
Restraint use rate	*53.7%*	*55.3%*	*52.2%*	*50.4%*	*49.9%*	*-1.0%*	*-1.8%*
Non-incapacitating injuries	**4,730**	**4,802**	**4,590**	**4,719**	**4,953**	**5.0%**	**1.2%**
Restrained	3,774	3,885	3,622	3,680	3,933	6.9%	1.0%
Restraint use rate	*79.8%*	*80.9%*	*78.9%*	*78.0%*	*79.4%*	*1.8%*	*-0.1%*
Other injuries	**322**	**201**	**180**	**208**	**221**	**6.3%**	**-9.0%**
Restrained	283	170	148	173	184	6.4%	-10.2%
Restraint use rate	*87.9%*	*84.6%*	*82.2%*	*83.2%*	*83.3%*	*0.1%*	*-1.3%*
Not injured	**19,149**	**19,427**	**18,536**	**17,732**	**19,701**	**11.1%**	**0.7%**
Restrained	17,396	17,598	16,810	16,022	17,954	12.1%	0.8%
Restraint use rate	*90.8%*	*90.6%*	*90.7%*	*90.4%*	*91.1%*	*0.9%*	*0.1%*

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014
Note: Counts are limited to *drivers* and *injured vehicle occupants* in vehicles where driver was driving dangerously.

Table 6. Risk of fatal and incapacitating injury to occupants of vehicles driven dangerously, by dangerous driving action and restraint use, 2013

Dangerous driving action	Restrained?	Fatal and incapacitating injuries	Non-serious injuries	Total	% Fatal/ incap injury	Relative risk	Lower limit	Upper limit
Aggressive driving	No	41	118	159	25.8%	3.3	2.3	4.7
	Yes	61	716	777	7.9%			
Disregard signal	No	13	53	66	19.7%	4.4	2.5	7.7
	Yes	45	958	1,003	4.5%			
Speeding	No	308	635	943	32.7%	3.8	3.3	4.4
	Yes	272	2,892	3,164	8.6%			
All dangerous driving	No	329	722	1,051	31.3%	4.1	3.6	4.7
	Yes	339	4,117	4,456	7.6%			

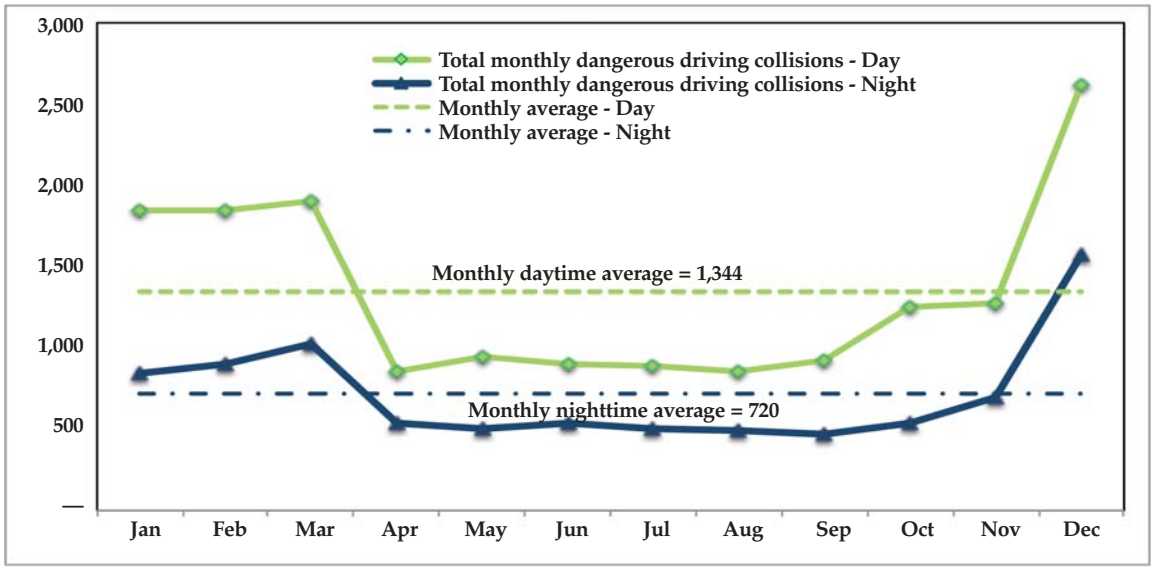
Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014
Notes:
1) Limited to *drivers* and *injured occupants* of vehicles driven dangerously with valid restraint use identified. NULL restraint use values are excluded.
2) Non-serious injuries excludes NULL values in the injury status code field.
3) Relative risk of fatal/incap injury = the percent of *unrestrained* fatal/incap injuries in a given dangerous driving type divided by the percent of *restrained* fatal/incap injuries in the same dangerous driving type.
4) 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.
5) *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 daytime *dangerous driving* collisions in 2013 was 1,344. The monthly average of nighttime *dangerous driving* collisions was 720. The months with monthly totals of *dangerous driving* collisions that exceeded the monthly average (for both daytime and nighttime collisions) were the winter months of December, January, February, and March.

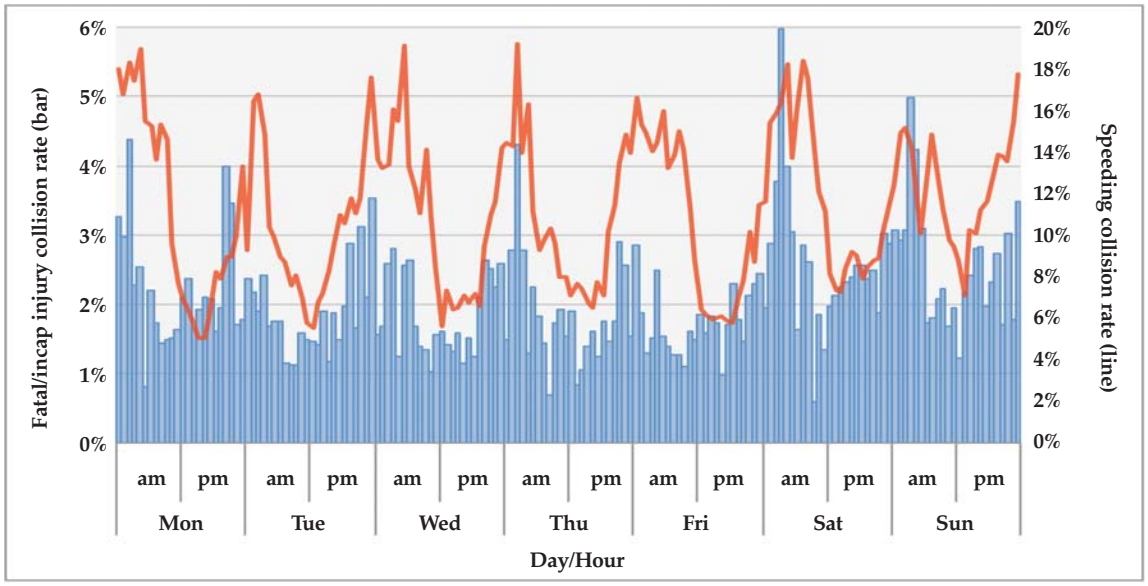
In 2013, hourly rates of fatal and incapacitating injury collisions and speed-related collisions generally followed a similar pattern, with both peaking in late overnight hours (Figure 4). The highest hourly percentage of *speeding* collisions occurred on Mondays, Wednesdays, and Thursdays between midnight and 4am (19 percent). The highest hourly percentage of fatal and incapacitating injury collisions occurred on Saturdays between 3am and 4am (6 percent).

Figure 3. Indiana dangerous driving collisions by month and day/night, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014
Note: Day is defined as 6am - 5:59pm. Night is defined as 6pm - 5:59am.

Figure 4. Indiana fatal and incapacitating injury collisions and speed-related collisions, by hour and day of week, 2013



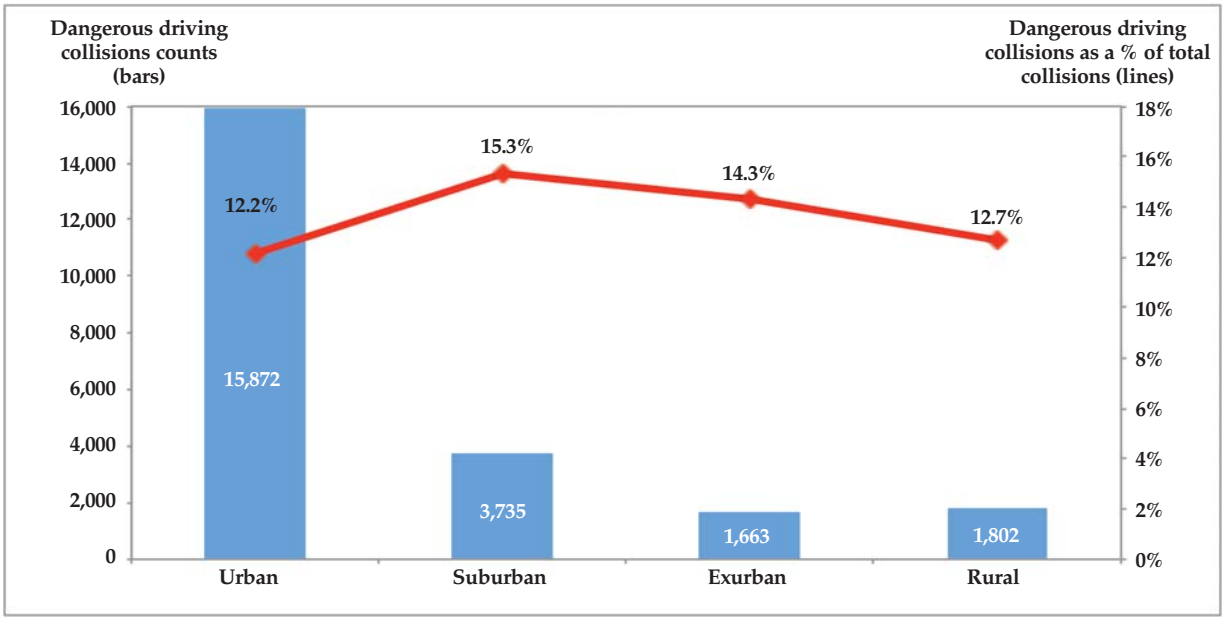
Source: Indiana State Police
Notes:
1) *Fatal/incap collision rate* is the percent of all hourly collisions with a reported collision severity of *fatal* or *incapacitating*.
2) *Speeding collision rate* is the percent of all hourly collisions that are .
3) Data exclude collisions with invalid time reported.

GEOGRAPHY OF DANGEROUS DRIVING IN INDIANA

Figure 5 shows 2013 Indiana *dangerous driving* collisions by locale. The number of *dangerous driving* collisions that occurred in *urban* areas was 15,872 (69 percent of all *dangerous driving* collisions, where locale was known). When looking at the proportion of *dangerous driving* collisions within each locale, the highest proportions occurred in *suburban* (15 percent) and *exurban* (14 percent) areas.

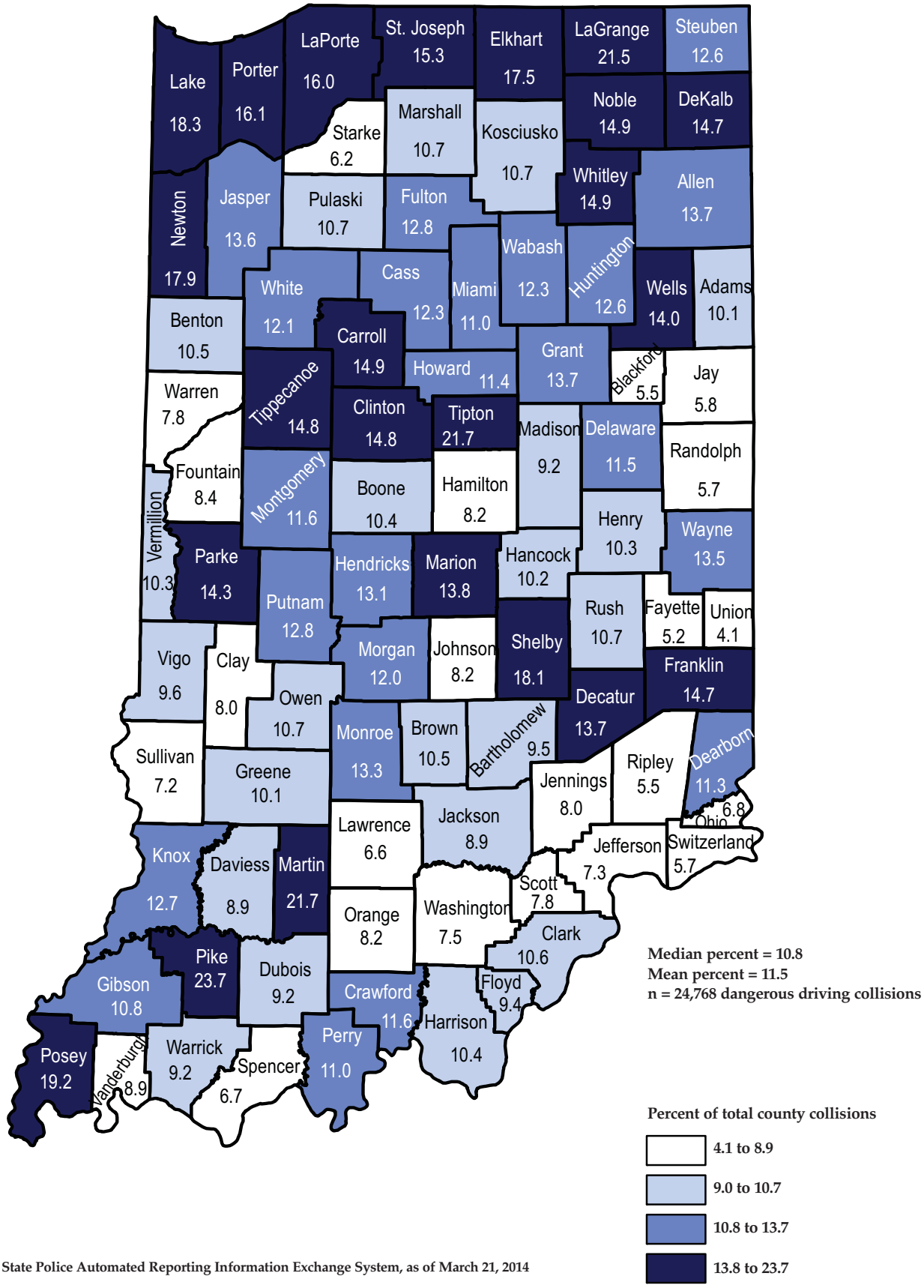
Map 1 shows the percentage of county collisions that involved *dangerous driving* in 2013. The map illustrates clusters of counties with higher *dangerous driving* collision rates located in the far northern region of the state. Pike County, located in southwestern Indiana, had the highest percentage of *dangerous driving* collisions (24 percent), while Union County, located in eastern Indiana, had the lowest percentage of *dangerous driving* collisions (41 percent). The median rate of county dangerous driving collisions was 10.8 percent, while the mean rate was 11.5 percent.

Figure 5. Indiana collisions involving dangerous driving, by locale, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Map 1. Percentage of county collisions that involved dangerous driving behavior, 2013



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

ALCOHOL AND DANGEROUS DRIVING

In 2013, four percent of all *dangerous driving* collisions (976 of 24,768) involved an alcohol-impaired driver. Twenty-eight percent of fatal *dangerous driving* collisions involved a legally impaired driver (Table 7). The relative risk of fatal and incapacitating injury is 2.2 times greater for drivers in dangerous driving collisions when the driver is legally impaired. *Aggressive* drivers who were legally impaired were 2.4 times more likely to suffer fatal and incapacitating injuries than those who were not impaired (Table 8). With the exception of *disregard signal,* relative risk ratios for all *dangerous driving* types were significant at $p<0.05$.

Table 7. Dangerous driving (DD) collisions in Indiana, by alcohol impairment and collision severity, 2009-2013

	Count of collisions					Annual rate of change	
	2009	2010	201	2012	2013	2012-2013	2009-2013
Dangerous driving collisions	**24,027**	**24,391**	**23,306**	**22,527**	**24,768**	**9.9%**	**0.8%**
Fatal	160	155	155	193	219	13.5%	8.2%
Non-fatal	6,006	6,078	5,919	6,035	6,246	3.5%	1.0%
Property damage	17,861	18,158	17,232	16,299	18,303	12.3%	0.6%
DD alcohol-impaired (BAC = 0.08+ g/DL)	**621**	**901**	**957**	**1,002**	**976**	**-2.6%**	**12.0%**
Fatal	45	41	49	52	61	17.3%	7.9%
Non-fatal	224	355	383	380	400	5.3%	15.6%
Property damage	352	505	525	570	515	-9.6%	10.0%
% DD alcohol-impaired	**2.6%**	**3.7%**	**4.1%**	**4.4%**	**3.9%**	**-11.4%**	**11.1%**
Fatal	28.1%	26.5%	31.6%	26.9%	27.9%	3.4%	-0.2%
Non-fatal	3.7%	5.8%	6.5%	6.3%	6.4%	1.7%	14.5%
Property damage	2.0%	2.8%	3.0%	3.5%	2.8%	-19.5%	9.3%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Table 8. Risk of fatal and incapacitating injury to drivers of vehicles driven dangerously, by dangerous driving action and alcohol impairment, 2013

Dangerous driving action	Driver alcohol-impaired?	Fatal/incap injuries	Non-serious injuries	Total	% Fatal/incap injury	Relative risk	Lower limit	Upper limit
Aggressive driving	No	62	607	669	9.3%	2.4	1.5	3.9
	Yes	16	56	72	22.2%			
Disregard signal	No	43	765	808	5.3%	0.9	na	na
	Yes	1	21	22	4.5%			
Speeding	No	377	2,481	2,858	13.2%	2.0	1.7	2.5
	Yes	94	258	352	26.7%			
All dangerous driving	No	439	3,458	3,897	11.3%	2.2	1.8	2.7
	Yes	96	288	384	25.0%			

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 21, 2014

Notes:

1) Limited to *drivers* of vehicles driven dangerously.

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

3) Relative risk of fatal/incapacitating injury = the percent of *alcohol-impaired* fatal/incap injuries in a given dangerous driving type divided by the percent of non-impaired fatal/incap injuries in the same dangerous driving type.

4) With the exception of *Disregard 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.

5) 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 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)*** is the rate that a beginning value must increase/decrease each period (e.g. month, quarter, or 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 2009 to 2013, it is calculated as $(\text{Value in 2013} / \text{Value in 2009})^{1/4} - 1$.
- ***Census 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 *incapacitating, non-incapacitating,* or *possible* injury occurred.
- ***Non-fatal*** injury includes *incapacitating, non-incapacitating, possible, not reported, unknown,* and *refused (treatment)* 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.*

REFERENCES

Schroeder, P., Kostyniuk, L., & Mack, M. (2013, December). *2011 National Survey of Speeding Attitudes and Behaviors.* (DOT HS 811 865). Washington, DC: National Highway Traffic Safety Administration.

DATA SOURCES

- Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 21, 2014.

This publication was prepared on behalf of the Indiana Criminal Justice Institute (ICJI) by the Indiana University Public Policy Institute (PPI). 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 PPI website (www.policyinstitute.iu.edu), the ICJI website (www.in.gov/cji/), or you may contact the PPI at 317-261-3000.

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 Public Policy Institute is collaborating with the Indiana Criminal Justice Institute to analyze 2013 vehicle crash data from the Automated Reporting Information Exchange System (ARIES), maintained by the Indiana State Police. This marks the eighth 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, 2013, 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 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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