INDIANA TRAFFIC SAFETY FACTS 2010

May 2010

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

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

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

INDIANA CRIMINAL JUSTICE INSTITUTE

CENTER FOR CRIMINAL JUSTICE RESEARCH

LARGE TRUCKS 2009

In 2009, a total of 189,676 traffic collisions were reported in Indiana by law enforcement. Of those, 10,542 (5.6 percent) involved a large truck (Table 1).[1] Nationally in 2008 (latest year data available), 3,733 of the 365,000 police-reported crashes (one percent) involving large trucks resulted in at least one fatality, and 64,000 (18 percent) resulted in at least one non-fatal injury.[2] In Indiana in 2009, less than one percent (82 /10,542) of the collisions involving large trucks resulted in one or more fatalities. This fact sheet summarizes data trends on traffic collisions involving large trucks between 2005 and 2009, including speeding, injuries, alcohol use, and other factors contributing to large truck collisions. Indiana data are taken from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2010.

COLLISIONS

Indiana traffic collisions involving large trucks declined on average 8.7 percent from 2005 to 2009, while all traffic collisions in Indiana declined 2.1 percent on average (Table 1). While the proportion of collisions involving large trucks remained the same from 2007 to 2008 (6.5 percent), there was nearly a one percent proportional decline in collisions involving large trucks from 2008 to 2009 (6.5 to 5.6 percent). Fatal collisions involving large trucks declined on average from 2005 to 2009 over 10 percent, with nearly a 30 percent decline from 2008 to 2009 (117 to 82). Non-incapacitating injury collisions (those collisions where the most serious injury was *non-incapacitating*) involving large trucks was the only category to increase (nearly 19 percent) from 2008 to 2009.

Table 1: Large truck collisions as a proportion of all collisions, by collision severity, 2005-2009

	2005	2006	2007	2008	2009	Average annual % change	% Change 2008 to 2009
All collisions	**208,359**	**192,721**	**204,999**	**205,452**	**189,676**	**-2.1%**	**-7.7%**
With large trucks involved	15,557	12,849	13,398	13,266	10,542	-8.7%	-20.5%
% all collisions	7.5%	6.7%	6.5%	6.5%	5.6%	-7.0%	
Fatal	**855**	**817**	**804**	**722**	**631**	**-7.2%**	**-12.6%**
With large trucks involved	132	123	133	117	82	-10.2%	-29.9%
% all fatal	15.4%	15.1%	16.5%	16.2%	13.0%	-3.6%	
Incapacitating injury	**3,141**	**3,190**	**3,075**	**2,898**	**2,732**	**-3.4%**	**-5.7%**
With large trucks involved	243	189	184	178	163	-9.1%	-8.4%
% all incapacitating	7.7%	5.9%	6.0%	6.1%	6.0%	-5.7%	
Non-incapacitating injury	**38,620**	**35,659**	**34,341**	**32,460**	**30,679**	**-5.6%**	**-5.5%**
With large trucks involved	2,380	1,482	897	952	1,131	-13.1%	18.8%
% all non-incapacitating	6.2%	4.2%	2.6%	2.9%	3.7%	-7.9%	
Property damage only	**165,743**	**153,055**	**166,779**	**169,372**	**155,634**	**-1.3%**	**-8.1%**
With large trucks involved	12,802	11,055	12,184	12,019	9,166	-7.1%	-23.7%
% all property damage	7.7%	7.2%	7.3%	7.1%	5.9%	-6.3%	

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

Note:
***Non-incapacitating* collisions include collisions with *non-incapacitating* and *possible* injuries.**

Table 2: Collisions involving large trucks by location, type of collision, and collision severity, 2005-2009

	Count of collisions involving large trucks						
Collision type / severity	2005	2006	2007	2008	2009	Average annual % change	% Change 2008 to 2009
All collisions	**15,557**	**12,849**	**13,398**	**13,266**	**10,542**	**-8.7%**	**-20.5%**
Fatal	132	123	133	117	82	-10.2%	-29.9%
Incapacitating	243	189	184	178	163	-9.1%	-8.4%
Non-incapacitating	2,380	1,482	897	952	1,131	-13.1%	18.8%
Property damage only	12,802	11,055	12,184	12,019	9,166	-7.1%	-23.7%
Rural collisions	**7,120**	**5,993**	**5,656**	**5,727**	**4,489**	**-10.5%**	**-21.6%**
Fatal	101	92	103	84	63	-10.1%	-25.0%
Incapacitating	163	127	113	104	104	-10.3%	-0.0%
Non-incapacitating	1,250	791	436	465	574	-12.9%	23.4%
Property damage only	5,606	4,983	5,004	5,074	3,748	-8.9%	-26.1%
Urban collisions	**8,406**	**6,846**	**7,724**	**7,530**	**6,043**	**-7.0%**	**-19.7%**
Fatal	31	31	30	33	19	-8.9%	-42.4%
Incapacitating	80	62	71	74	59	-6.0%	-20.3%
Non-incapacitating	1,128	691	460	486	557	-13.0%	14.6%
Property damage only	7,167	6,062	7,163	6,937	5,408	-5.6%	-22.0%
Single-vehicle collisions	**3,369**	**3,007**	**2,894**	**3,144**	**2,474**	**-6.8%**	**-21.3%**
Fatal	23	17	17	11	10	-17.6%	-9.1%
Incapacitating	37	37	29	33	28	-5.7%	-15.2%
Non-incapacitating	422	327	151	168	183	-14.0%	8.9%
Property damage only	2,887	2,626	2,697	2,932	2,253	-5.2%	-23.2%
Multiple-vehicle collisions	**12,188**	**9,842**	**10,504**	**10,122**	**8,068**	**-9.1%**	**-20.3%**
Fatal	109	106	116	106	72	-8.5%	-32.1%
Incapacitating	206	152	155	145	135	-9.4%	-6.9%
Non-incapacitating	1,958	1,155	746	784	948	-12.6%	20.9%
Property damage only	9,915	8,429	9,487	9,087	6,913	-7.6%	-23.9%
Probability of a fatal collision in:							
All collisions	0.8%	1.0%	1.0%	0.9%	0.8%		
Rural collisions	1.4%	1.5%	1.8%	1.5%	1.4%		
Urban collisions	0.4%	0.5%	0.4%	0.4%	0.3%		
Single-vehicle collisions	0.7%	0.6%	0.6%	0.3%	0.4%		
Multiple-vehicle collisions	0.9%	1.1%	1.1%	1.0%	0.9%		

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

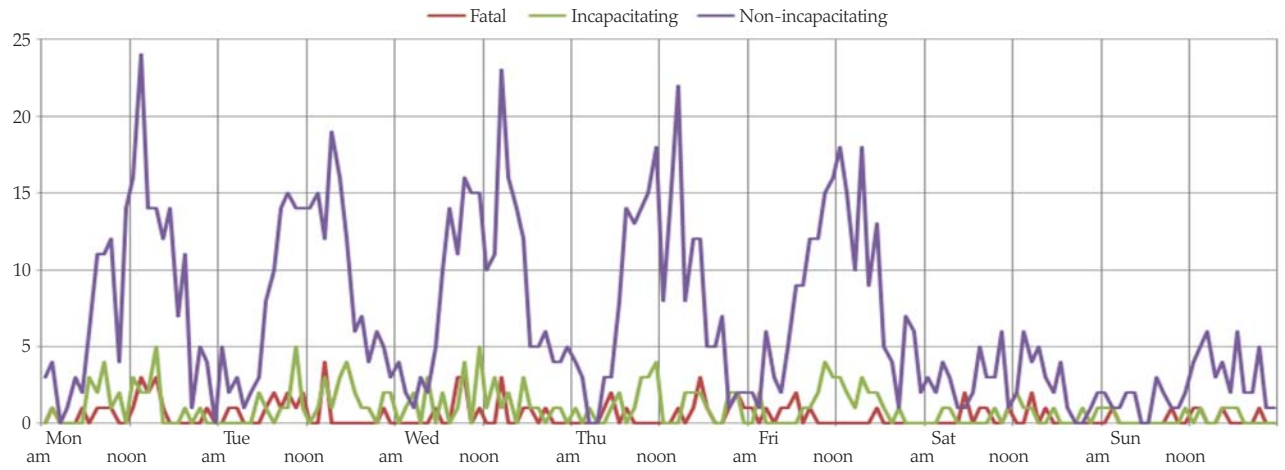
Notes:
***Non-incapacitating* collisions include collisions with *non-incapacitating* and *possible* injuries.**
***Urban* collisions are those that occurred within the incorporated limits of the city identified on the collision report.**
***Rural* collisions are those that occurred outside incorporated limits.**
Rural/urban collisions include only collisions where locality was identified on the *Indiana Crash Report*.

Table 2 indicates that more collisions involving large trucks occur in urban than rural areas. Urban and rural area fatal crashes involving large trucks decreased from 2008 to 2009 (42.4 and 25 percent, respectively). In both locales (rural and urban) non-incapacitating injury collisions increased substantially from 2008 to 2009 (23.4 and 14.6 percent, respectively). All collision severities involving large trucks in rural and urban areas declined on average from 2005 to 2009.

As in previous years, in 2009 there were more than three times as many multiple-vehicle collisions involving large trucks than single-vehicle collisions (Table 2). Large trucks were three times more likely to have collided with another vehicle than to have hit an object or non-motorist (not shown). Fatal single-vehicle collisions involving large trucks decreased by one from 2008 to 2009 (11 to 10), while multiple-vehicle collisions decreased from 106 to 72 (32.1 percent). Multiple-vehicle collisions involving large trucks declined on average 9.1 percent per year from 2005 to 2009.

For all years, the highest probability of a fatal collision involving a large truck was in rural collisions. The probability of a collision involving a large truck resulting in one or more fatalities was 1.4 percent in a rural locale in 2009. This compared to

Figure 1: Injury collisions involving large trucks by time of day, weekday, and collision severity, 2009.



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

Note: Includes only injury collisions where time of day and weekday were identified on the *Indiana Crash Report*.

Table 3: Collisions involving large trucks, by roadway class and collision severity, 2009

Roadway classification	Severity of collision: Fatal Count	Fatal % Severity total	Incapacitating Count	Incapacitating % Severity total	Non-incapacitating Count	Non-incapacitating % Severity total	Property damage only Count	Property damage only % Severity total	Total Count	Total % Severity total
Local/city road	9	11.0%	32	19.6%	260	23.0%	2,650	28.9%	2,951	28.0%
Interstate	23	28.0%	42	25.8%	322	28.5%	2,503	27.3%	2,890	27.4%
State road	22	26.8%	33	20.2%	224	19.8%	1,155	12.6%	1,434	13.6%
US route	27	32.9%	42	25.8%	233	20.6%	1,015	11.1%	1,317	12.5%
Unknown	0	0.0%	2	1.2%	21	1.9%	1,246	13.6%	1,269	12.0%
County road	1	1.2%	12	7.4%	71	6.3%	597	6.5%	681	6.5%
Total	**82**	**100.0%**	**163**	**100.0%**	**1,131**	**100.0%**	**9,166**	**100.0%**	**10,542**	**100.0%**

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

Notes:
***Non-incapacitating* collisions include collisions with *non-incapacitating* and *possible* injuries.**
***Unknown* road class includes collisions reported as *Unknown* and those with no road class code reported.**

0.9 percent for multiple-vehicle collisions, 0.8 percent for all collisions, 0.4 percent for single-vehicle collisions, and 0.3 percent for urban collisions.

TIME AND LOCATION

In 2009, collisions involving large trucks occurred mainly during weekdays, Monday through Friday, and during daylight hours (Figure 1). The highest number of non-fatal collisions involving large trucks occurred on Wednesdays. Fatal collisions involving large trucks peaked on Tuesdays, with a high of 4 fatal collisions in the 2:00pm hour. Generally, afternoon hours (noon to 4:00pm) were the peak period of collisions involving large trucks each day.

Overall, collisions involving large trucks occurred mainly on local/city roads (28 percent) and on interstates (27.4 percent) (Table 3). Large truck collisions were least likely to occur on county roads (6.5 percent). Fatal collisions involving large trucks occurred mainly on US routes (32.9 percent) and interstates (28 percent).

As shown in Map 1, Interstate 465 (around Indianapolis) had many large truck collisions with non-fatal injury, but relatively few large truck fatal collisions. Interstate 65 from Indianapolis north to the Gary area shows many large truck injury collisions and several fatal large truck collisions. The large truck fatal collisions were scattered and not focused in any particular portion of the state. The majority of large truck injury collisions occurred in the northern half of the state (Indianapolis and north).

VEHICLES

In 2009, there were a total of 19,379 vehicles, including large trucks, in collisions involving large trucks (Table 4). The number of large trucks involved in collisions decreased on average 8.8 percent each year from 2005 to 2009, and decreased 21.7 percent from 2008 to 2009. All other vehicles involved in large truck collisions decreased on average each year 8.9 percent, and decreased 18.2 percent from 2008 to 2009. From 2008 to 2009, the number of buses involved in large truck collisions decreased from 86 to 58 (32.6 percent) and the number of light trucks decreased 20.9 percent (3,246 to 2,567).

Indiana traffic collisions involving large trucks declined on average 8.7 percent from 2005 to 2009, while all traffic collisions in Indiana declined 2.1 percent on average.

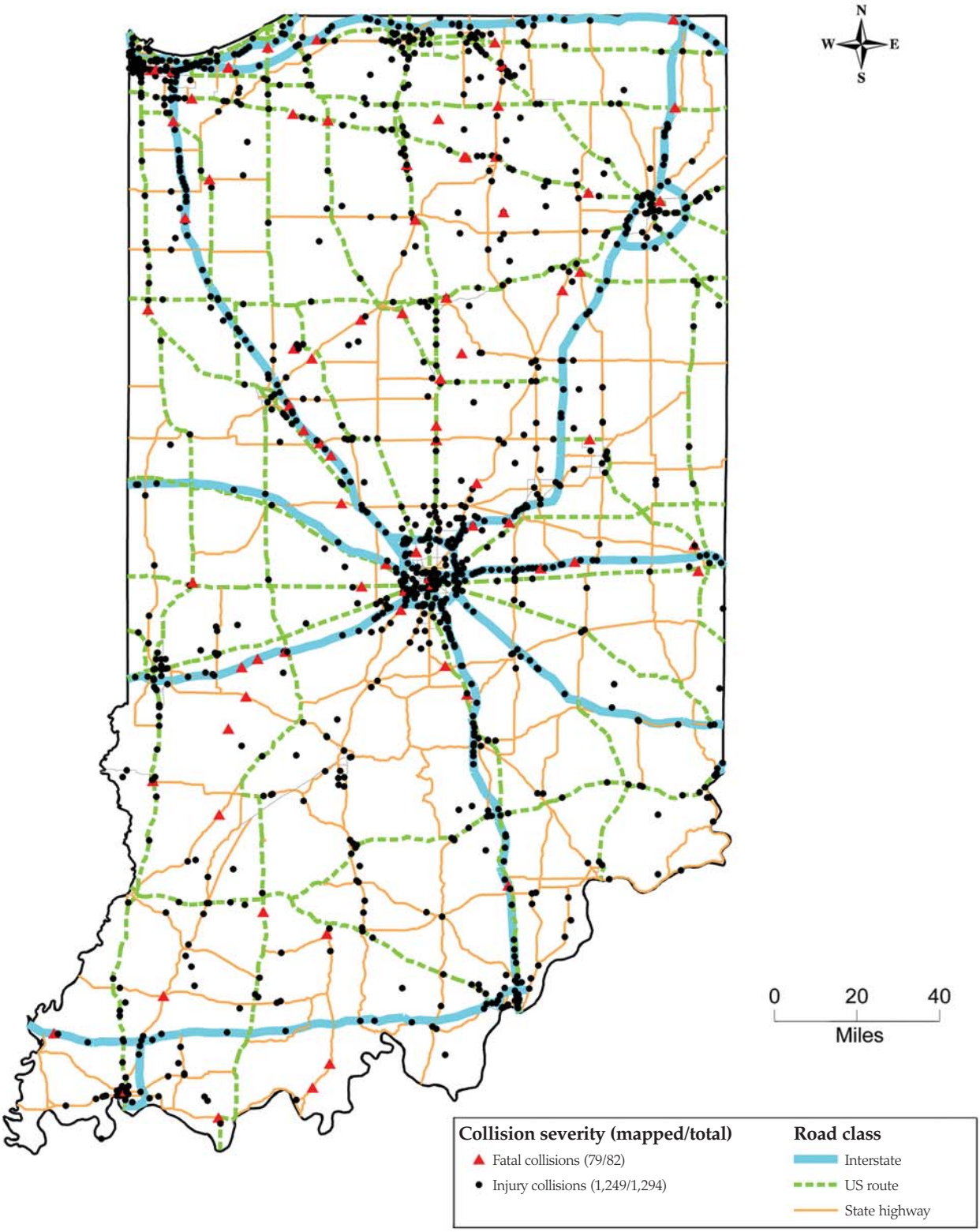
Table 4: Vehicles involved in large truck collisions, 2005-2009

Vehicle types	2005	2006	2007	2008	2009	Average annual % change	% Change 2008 to 2009
Large trucks	**17,262**	**14,374**	**15,033**	**14,796**	**11,591**	**-8.8%**	**-21.7%**
Other vehicles	**11,647**	**9,288**	**9,929**	**9,522**	**7,788**	**-8.9%**	**-18.2%**
Passenger cars	6,904	5,572	5,992	5,904	4,934	-7.4%	-16.4%
Light trucks	4,367	3,377	3,507	3,246	2,567	-11.8%	-20.9%
Unknown vehicle	161	178	234	180	137	-1.2%	-23.9%
Buses	94	60	69	86	58	-7.3%	-32.6%
Other vehicle	75	66	77	62	53	-7.3%	-14.5%
Motorcyles	46	35	50	44	39	-1.1%	-11.4%
TOTAL	**28,909**	**23,662**	**24,962**	**24,318**	**19,379**	**-8.9%**	**-20.3%**

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

Notes:
***Motorcycles* include mopeds.**
***Light trucks* include *pickup trucks* under 10,001 pounds, *SUVs*, and *vans*.**
***Other vehicle* type includes *motor homes*, *farm vehicles*, and *combination vehicles*.**
***Unknown vehicle* type includes those reported as *unknown* or invalid vehicle types.**
Excludes *pedestrians* and *bicycles* as units.

Map 1: Indiana fatal and injury collisions involving large trucks, 2009



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

Notes:
Includes collisions with valid latitude and longitude values.
Injury collisions defined as collisions with no fatalities and at least one *incapacitating*, *non-incapacitating* or *possible* injury.

Table 5: Vehicles involved in multiple-vehicle collisions involving a large truck, by primary factor, vehicle type, and collision severity, 2009

	Vehicles involved		Vehicles whose factors were attributable to crash outcome		% attributable		
Collision severity by primary factor	Large trucks	Other vehicles	Large trucks	Other vehicles	Large trucks	Other vehicles	Relative risk
Fatal	**100**	**110**	**31**	**62**	**31.0%**	**56.4%**	**0.6**
Driver actions	**97**	**107**	**29**	**60**	**29.9%**	**56.1%**	**0.5**
Distracted driving	4	5	0	3	0.0%	60.0%	0.0
Errant/risky driving	73	85	22	48	30.1%	56.5%	0.5
Impaired driving	4	4	0	3	0.0%	75.0%	--
Other	16	13	7	6	43.8%	46.2%	0.9
Vehicle circumstances	**2**	**2**	**1**	**1**	**50.0%**	**50.0%**	**1.0**
Environment	**1**	**1**	**1**	**1**	**100.0%**	**100.0%**	**1.0**
Non-fatal	**8,958**	**7,622**	**4,763**	**3,626**	**53.2%**	**47.6%**	**1.1**
Driver actions	**8,038**	**6,844**	**4,176**	**3,243**	**52.0%**	**47.4%**	**1.1**
Distracted driving	308	259	141	131	45.8%	50.6%	0.9
Errant/risky driving	6,359	5,501	3,220	2,537	50.6%	46.1%	1.1
Impaired driving	156	147	20	120	12.8%	81.6%	0.2
Other	1,215	937	795	455	65.4%	48.6%	1.3
Vehicle circumstances	**486**	**391**	**313**	**93**	**64.4%**	**23.8%**	**2.7**
Environment	**434**	**387**	**274**	**290**	**63.1%**	**74.9%**	**0.8**

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

Notes:
***Non-fatal* includes *incapacitating, non-incapacitating, possible,* and *property damage only* collisions.**
Data exclude *driver not a factor* and collisions where *primary factor* was not reported.
Multiple circumstances can be attached to each vehicle, thus percentages will not total 100%.
***Relative risk* is the ratio of % large trucks attributable to % other vehicles attributable. Values greater than 1 indicate large trucks are more likely to be attributable.**
Errant/risky driving* includes but not limited to: *disregard signal/reg sign, failure to yield right of way, following too closely, improper passing, left of center, unsafe speed.
Impaired driving* includes *alcoholic beverages, driver asleep or fatigued.
Vehicle circumstances* include *tire failure or defective.
Environment* includes *glare, roadway surface condition.

PRIMARY FACTORS

The *Indiana Officers Standard Crash Report* requires investigating officers to indicate the primary factor of a collision, which includes 55 possible factors classified as contributing circumstances associated with the driver, the vehicle, or the environment. Table 5 indicates that in fatal collisions involving large trucks where driver actions were listed as the primary factor, the actions of nearly 30 percent of large truck drivers attributed to the occurrence of the collision (i.e., contributing circumstances associated with the large truck matched the primary factor of the collision), compared to 56 percent for other vehicle types. In non-fatal collisions where driver actions were listed as the primary factor, 52 percent of large truck drivers attributed to the occurrence of the collision, compared to 47 percent for other vehicle types. Large trucks were 2.7 times more likely to have vehicle circumstances attribute to the occurrence in non-fatal collisions than other vehicle types.

In all large truck collisions from 2005 to 2009 where speeding was a factor, the large truck involved was reportedly speeding about half the time (Table 6). In those large truck collisions involving an injury (fatal, incapacitating, non-incapacitating), the percentage of large trucks that were speeding increased from 2008 to 2009. Fatal collisions where the large truck was speeding increased 3 percentage points (32 to 35.1 percent) from 2008 to 2009, and incapacitating collisions where the large truck was speeding increased 11 percentage points (33.3 to 44.4 percent).

Table 6: Vehicles speeding in large truck collisions, by collision severity, 2005-2009

Vehicles that were speeding in:	2005	2006	2007	2008	2009
Fatal collisions	**28**	**21**	**26**	**25**	**37**
# Lg trucks speeding	9	8	12	8	13
Lg truck as % of total	32.1%	38.1%	46.2%	32.0%	35.1%
Incapacitating collisions	**45**	**41**	**38**	**39**	**27**
# Lg trucks speeding	23	20	13	13	12
Lg truck as % of total	51.1%	48.8%	34.2%	33.3%	44.4%
Non-incapacitating collisions	**446**	**253**	**148**	**196**	**194**
# Lg trucks speeding	243	154	78	94	95
Lg truck as % of total	54.5%	60.9%	52.7%	48.0%	49.0%
Property damage only collisions	**1,037**	**678**	**1,099**	**1,359**	**778**
# Lg trucks speeding	533	359	528	682	366
Lg truck as % of total	51.4%	52.9%	48.0%	50.2%	47.0%
All collisions	**1,556**	**993**	**1,311**	**1,619**	**1,036**
# Lg trucks speeding	808	541	631	797	486
Lg truck as % of total	51.9%	54.5%	48.1%	49.2%	46.9%

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

Notes:
Excludes pedestrians and pedalcyclists as units.
Speed-related collision defined as if the driver was charged with a speeding-related offense or if an officer indicated that the driver was driving at an *unsafe speed* or at a *speed too fast for the weather conditions*.

INJURIES, LICENSING, AGE, AND RESTRAINTS

In traffic collisions, there is a direct relationship between the size of a vehicle and the risk of

Table 7: Drivers injured in two-vehicle collisions, by own vehicle type, injury status, and vehicle type collided with, 2005-2009

(Count of driver injuries)		Vehicle type collided with:				
Driver injury status	Driver vehicle type	Large truck	Light truck	Passenger car	Motorcycle /Moped	Smaller vehicles
Fatal	Large truck	8	3	3	0	6
	Light truck	77	104	69	0	173
	Passenger car	108	251	144	1	396
	Motorcycle/Moped	7	69	75	6	150
Non-fatal	Large truck	4,776	6,844	12,096	126	19,066
	Light truck	4,993	81,934	130,873	1,792	214,599
	Passenger car	9,885	108,050	209,750	2,936	320,736
	Motorcycle/Moped	42	1,126	2,319	237	3,682
% Fatal	Large truck	0.17%	0.04%	0.02%	0%	0%
	Light truck	1.52%	0.13%	0.05%	0%	0%
	Passenger car	1.08%	0.23%	0.07%	0.03%	0.12%
	Motorcycle/Moped	14.29%	5.77%	3.13%	2.47%	3.91%
Fatality relative risk	Large truck	--	3.82	6.74	n/a	5.32
	Light truck	--	11.98	28.82	n/a	18.85
	Passenger car	--	4.66	15.75	31.74	8.76
	Motorcycle/Moped	--	2.47	4.56	5.79	3.65

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

Notes:
***Non-fatal* injury status includes all other injury types, including drivers not injured.**
***Fatality relative risk* is the ratio of % Fatal for collisions with a large truck to % Fatal for collisions with other vehicle type.**
***Smaller vehicles* is the sum of Light truck, Passenger car, and Motorcycle/Moped vehicle types.**
Data limited to driver injuries because drivers are the only vehicle occupant included in a crash report if they were not injured.

Table 8: Injuries as a result of multiple-vehicle collisions involving large trucks, by injury and person type, 2005-2009

Injuries	2004	2005	2006	2007	2008	Average annual % change
Fatalities	**124**	**128**	**138**	**133**	**86**	**-7.0%**
Driver - large truck	16	14	10	6	8	-11.9%
Driver - other vehicle	82	74	94	84	58	-6.1%
Occupant - large truck	0	2	0	0	1	--
Occupant - other vehicle	22	31	31	39	18	3.2%
Non-motorist	4	7	3	4	1	-6.0%
Non-fatal injuries	**3,088**	**1,944**	**1,334**	**1,354**	**1,546**	**-13.2%**
Driver - large truck	484	308	165	165	184	-17.8%
Driver - other vehicle	1,842	1,147	805	806	969	-11.8%
Occupant - large truck	85	49	23	19	27	-17.7%
Occupant - other vehicle	663	435	336	352	355	-12.9%
Non-motorist	14	5	5	12	11	16.8%
Total injuries	**3,212**	**2,072**	**1,472**	**1,487**	**1,632**	**-13.4%**
Driver - large truck	500	322	175	171	192	-17.8%
Driver - other vehicle	1,924	1,221	899	890	1,027	-12.1%
Occupant - large truck	85	51	23	19	28	-16.2%
Occupant - other vehicle	685	466	367	391	373	-12.8%
Nonmotorist	18	12	8	16	12	2.1%
Probability of fatality						
Driver - large truck	3.2%	4.3%	5.7%	3.5%	4.2%	
Driver - other vehicle	4.3%	6.1%	10.5%	9.4%	5.6%	
Occupant - large truck	0.0%	3.9%	0.0%	0.0%	3.6%	
Occupant - other vehicle	3.2%	6.7%	8.4%	10.0%	4.8%	
Non-motorist	22.2%	58.3%	37.5%	25.0%	8.3%	

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

Notes:
***Non-fatal known injuries* includes *incapacitating, non-incapacitating,* and *possible* injuries.**
***Nonmotorist* includes pedestrians and pedalcyclists.**
Excludes unknown injuries.

fatality among drivers. Eight drivers of large trucks were killed in collisions with another large truck (Table 7); 77 light truck drivers were killed in a collision with a large truck. Fourteen percent of motorcycle operators that collided with a large truck were killed, while only 0.17 percent of all large truck drivers involved in a collision with another large truck were killed. Drivers of light trucks were 12 times more likely to have been killed in a collision with a large truck, relative to a collision with another light truck. Drivers of passenger cars were 16 times more likely to have been killed in a collision with a large truck, relative to a collision with another passenger car.

Most deaths in multiple-vehicle collisions involving large trucks were drivers and occupants of the other vehicle rather than drivers or occupants of the large truck (Table 8). In 2009, there were 1,632 people killed or injured in multiple-vehicle collisions involving large trucks. While this number is an increase from 2008 (1,487), the number of people killed or injured in multiple-vehicle large truck collisions has decreased on average 13.4 percent each year from 2005 to 2009. Fatalities decreased annually on average seven percent from 2005 to 2009. In 2009, the driver of the other vehicle in multiple-vehicle large truck collisions was likely to be killed 5.6 percent of the time compared to 4.2 percent for the driver of the large truck. A non-motorist (pedestrian, pedalcyclist) was likely to be killed 8.3 percent of the time.

Drivers of large trucks generally tend to exhibit proper commercial driver licensing (not shown). There were a total of 10,361 drivers of large trucks involved in collisions in 2009. Of those, 8,116 (78.3 percent) had a proper commercial driver's license, and an additional 2,151 (20.8 percent) had an operator or chauffeur's license. There were nine drivers with no license and five with learner's permits or probationary licenses.

Over 70 percent of the drivers of large trucks involved in collisions where the age was known were between the ages of 35 and 64 (not shown); 84 were between 16 and 20, and 429 were age 65 or over. Of the 10,361 drivers of large trucks involved in collisions, 89.5 percent were properly restrained.

Table 9: Drivers involved in large truck collisions, by vehicle type, blood alcohol concentration (BAC), and injury severity, 2009

	Individual injury status					
BAC results for drivers of:	Fatal	Incapacitating	Non-incapacitating	Other	Not injured	Total
Large truck	**14**	**30**	**342**	**129**	**9,846**	**10,361**
BAC not reported	7	29	309	124	9,692	10,161
g/dL = 0.00	5	1	33	5	138	182
g/dL 0.01 - 0.07	0	0	0	0	2	2
g/dL 0.08 - 0.14	0	0	0	0	8	8
g/dL 0.15+	2	0	0	0	6	8
g/dL >0, as % reported	28.6%	0.0%	0.0%	0.0%	10.4%	9.0%
g/dL =0.08+, as % reported	28.6%	0.0%	0.0%	0.0%	9.1%	8.0%
Other vehicle	**58**	**103**	**866**	**58**	**5,734**	**6,819**
BAC not reported	32	97	836	55	5,661	6,681
g/dL = 0.00	21	4	11	1	25	62
g/dL 0.01 - 0.07	1	0	3	1	11	16
g/dL 0.08 - 0.14	1	1	9	1	14	26
g/dL 0.15+	3	1	7	0	23	34
g/dL >0, as % reported	19.2%	33.3%	63.3%	66.7%	65.8%	55.1%
g/dL =0.08+, as % reported	15.4%	33.3%	53.3%	33.3%	50.7%	43.5%
All vehicles	**72**	**133**	**1,208**	**187**	**15,580**	**17,180**
BAC not reported	39	126	1,145	179	15,353	16,842
g/dL = 0.00	26	5	44	6	163	244
g/dL 0.01 - 0.07	1	0	3	1	13	18
g/dL 0.08 - 0.14	1	1	9	1	22	34
g/dL 0.15+	5	1	7	0	29	42
g/dL >0, as % reported	21.2%	28.6%	30.2%	25.0%	28.2%	27.8%
g/dL =0.08+, as % reported	18.2%	28.6%	25.4%	12.5%	22.5%	22.5%

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

Notes:
***Non-incapacitating* includes *non-incapacitating* and *possible* injuries.**
***BAC not reported* includes drivers where no test was given and drivers where it was unknown if a test was given; however, no results were listed.**
***Other* injury status includes *Not Reported, Unknown, Refused* (treatment), and invalid entries.**
***Other vehicle* excludes *pedestrians* and *bicycles* as units.**
g/dL = grams per deciliter.

Driver Impairment

Alcohol was more of an issue for the driver of the other vehicle than for the driver of the large truck in large truck collisions (Table 9). Of the drivers with reported blood alcohol concentration (BAC) levels, 55.1 percent of the drivers of the other vehicle had positive BAC levels (> than 0 g/dL) and 43.5 percent had BAC levels equal to or greater than 0.08 g/dL. This compared to 9 percent of the drivers of the large trucks who had positive BAC levels, and 8 percent with BAC levels 0.08 or greater. In fatal collisions involving large trucks, 28.6 percent of the drivers of large trucks were legally intoxicated (BAC 0.08 g/dL or greater), while 15.4 percent of drivers of other vehicles in fatal collisions were legally intoxicated.

SUMMARY

In 2009, a total of 189,676 traffic collisions were reported in Indiana by law enforcement. Of those, 10,542 (5.6 percent) involved a large truck and less than one percent (82) resulted in one or more fatalities. Fatal collisions involving large trucks declined on average from 2005 to 2009 over 10 percent, with nearly a 30 percent decline from 2008 to 2009. More collisions involving large trucks occur in urban than rural areas. Overall, collisions involving large trucks occurred mainly on local/city roads and on interstates. The number of large trucks involved in collisions decreased on average 8.8 percent each year from 2005 to 2009, and decreased 21.7 percent from 2008 to 2009. Fatal collisions where the large truck was speeding increased 3 percentage points (32 to 35.1 percent) from 2008 to 2009. In 2009, there were 1,632 people killed or injured in multiple-vehicle collisions involving large trucks. Of the 10,361 drivers of large trucks involved in collisions, 89.5 percent were properly restrained.

The Federal Motor Carrier Safety Administration Office of Analysis, Research and Technology is currently conducting programs in order to produce safer drivers, improve safety of commercial motor vehicles, produce safer carriers, advance safety through information-based initiatives, and improve security through safety initiatives. Improved safety is a continual goal.

Endnotes:

[1]A large truck is defined as one of the following types, as defined on the Indiana Crash Report: (1) truck (single, 2 axle, 6 tires), (2) truck (single 3 or more axles), (3) truck/trailer (not semi), (4) tractor/one semi-trailer, (5) tractor/double trailer, (6) tractor/triple trailer, (7) tractor (cab only, no trailer), (8) pickup truck with gross vehicle weight rating greater than 10,000 pounds.

[2]Federal Motor Carrier Safety Administration, Analysis Division (March, 2010). Large Truck and Bus Crash Facts 2008. U.S. Department of Transportation.

2010 INDIANA TRAFFIC SAFETY FACTS

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

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

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

The Indiana Criminal Justice Institute (ICJI)

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

The Governor's Council on Impaired & Dangerous Driving

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

Indiana University Public Policy Institute

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

The Center for Criminal Justice Research (CCJR)

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

The National Highway Traffic Safety Administration (NHTSA)

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

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