

INDIANA TRAFFIC SAFETY FACTS

June 2008



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 accidents. 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 2007 vehicle crash data from the Automated Reporting Information Exchange System (ARIES), formally the Vehicle Crash Reporting System (VCRS), maintained by the Indiana State Police. 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 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 police officers. As of January 1, 2008, approximately 95 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.



LARGE TRUCKS 2007

In 2007 in Indiana, there were 204,943 total traffic collisions reported by law enforcement. Of those 13,393 (6.5 percent) involved a large truck.¹ One of every six fatal traffic collisions in 2007 involved a large truck (133/803). This fact sheet summarizes data trends on traffic collisions involving large trucks between 2003 and 2007, provides information on alcohol and restraint use, and other general data regarding collisions and injuries involving large trucks. Indiana data are taken from the Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 16, 2008.

Collisions

Indiana total traffic collisions declined annually from 2003 to 2007 on average 0.7 percent, while collisions involving large trucks declined on average 3.5 percent for the same time frame. The proportion of collisions involving large trucks declined from 7.4 percent in 2003 to 6.5 percent in 2007. Table 1 shows a steady decline in large truck

Table 1. Large truck collisions as a proportion of all collisions, by collision severity, 2003-2007

	2003	2004	2005	2006	2007	Average Annual Change
All collisions	211,731	208,682	208,359	192,721	204,943	-0.7%
With large trucks involved	15,723	16,056	15,557	12,849	13,393	-3.5%
% all collisions	7.4%	7.7%	7.5%	6.7%	6.5%	-3.0%
Fatal collisions	753	857	855	817	803	1.9%
With large trucks involved	147	150	132	123	133	-2.2%
% all fatal collisions	19.5%	17.5%	15.4%	15.1%	16.6%	-3.7%
Incapacitating injury collisions	3,339	3,295	3,141	3,190	3,076	-2.0%
With large trucks involved	260	276	243	189	184	-7.7%
% all incapacitating collisions	7.8%	8.4%	7.7%	5.9%	6.0%	-5.6%
Non-incapacitating injury collisions	37,641	40,008	38,620	35,659	34,337	-2.1%
With large trucks involved	2,170	2,474	2,380	1,482	897	-16.7%
% all non-incapacitating collisions	5.8%	6.2%	6.2%	4.2%	2.6%	-15.7%
Property damage only collisions	169,998	164,522	165,743	153,055	166,727	-0.3%
With large trucks involved	13,146	13,156	12,802	11,055	12,179	-1.5%
% all property damage collisions	7.7%	8.0%	7.7%	7.2%	7.3%	-1.3%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

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

¹A 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.

Table 2: Collisions involving large trucks by type of collision and collision severity, 2003-2007

Collisions involving large trucks in:	2003	2004	2005	2006	2007	Average Annual Change
All collisions	15,723	16,056	15,557	12,849	13,393	-3.5%
Fatal	147	150	132	123	133	-2.2%
Incapacitating	260	276	243	189	184	-7.7%
Non-incapacitating	2,170	2,474	2,380	1,482	897	-16.7%
Property damage only	13,146	13,156	12,802	11,055	12,179	-1.5%
Rural	6,699	6,943	7,120	5,993	5,656	-3.8%
Fatal	110	124	101	92	103	-0.7%
Incapacitating	156	158	163	127	113	-7.2%
Non-incapacitating	1,047	1,266	1,250	791	436	-15.5%
Property damage only	5,386	5,395	5,606	4,983	5,004	-1.7%
Urban	8,945	9,086	8,406	6,846	7,719	-2.9%
Fatal	37	26	31	31	30	-3.4%
Incapacitating	104	118	80	62	71	-6.7%
Non-incapacitating	1,119	1,205	1,128	691	460	-17.7%
Property damage only	7,685	7,737	7,167	6,062	7,158	-1.0%
Single-vehicle	3,318	3,238	3,369	3,007	2,893	-3.2%
Fatal	16	19	23	17	17	3.4%
Incapacitating	48	40	37	37	29	-11.4%
Non-incapacitating	337	380	422	327	151	-13.1%
Property damage only	2,917	2,799	2,887	2,626	2,696	-1.8%
Multiple-vehicle	12,405	12,818	12,188	9,842	10,500	-3.5%
Fatal	131	131	109	106	116	-2.5%
Incapacitating	212	239	206	152	155	-6.3%
Non-incapacitating	1,833	2,094	1,958	1,155	746	-17.2%
Property damage only	10,229	10,357	9,915	8,429	9,483	-1.4%
Probability of a fatal collision in:						
All collisions	0.9%	0.9%	0.8%	1.0%	1.0%	
Rural collisions	1.6%	1.8%	1.4%	1.5%	1.8%	
Urban collisions	0.4%	0.3%	0.4%	0.5%	0.4%	
Single-vehicle collisions	0.5%	0.6%	0.7%	0.6%	0.6%	
Multiple-vehicle collisions	1.1%	1.0%	0.9%	1.1%	1.1%	

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

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.

involvement in fatal collisions from 2003 through 2006; however, a significant increase is shown in fatal collisions involving large trucks from 2006 to 2007 (15.1 to 16.6 percent). The most significant proportional change in large truck collisions occurred in non-incapacitating injury collisions from 2005 to 2007 (6.2 to 2.6 percent).

Table 2 indicates on average, large truck collisions of all severity levels decreased from 2003 to 2007, with non-incapacitating collisions having the largest average annual decrease (16.7 percent). Rural and urban large truck collisions followed the same general average decrease. Single and multiple vehicle large truck collisions showed the same general pattern. However,

single-vehicle incapacitating collisions had a larger average annual decrease than other types of incapacitating collisions, 11.4 percent (compared to 7.7, 7.2, 6.7 and 6.3).

The highest probability of a fatal collision involving a large truck for all years was in rural collisions (Table 2). In 2007, the probability of a collision involving large trucks resulting in one or more fatalities was 1.8 percent in a rural locale. The lowest probability of collisions involving large trucks resulting in a fatality was for urban and single-vehicle collisions.

Collisions involving large trucks tended to occur during week days (Monday through Friday) and during day-time hours (6am to 5:59pm) (not shown). In 2007 the most frequent total injury collisions involving large trucks occurred in February, while the most frequent fatal injury collisions occurred in August.

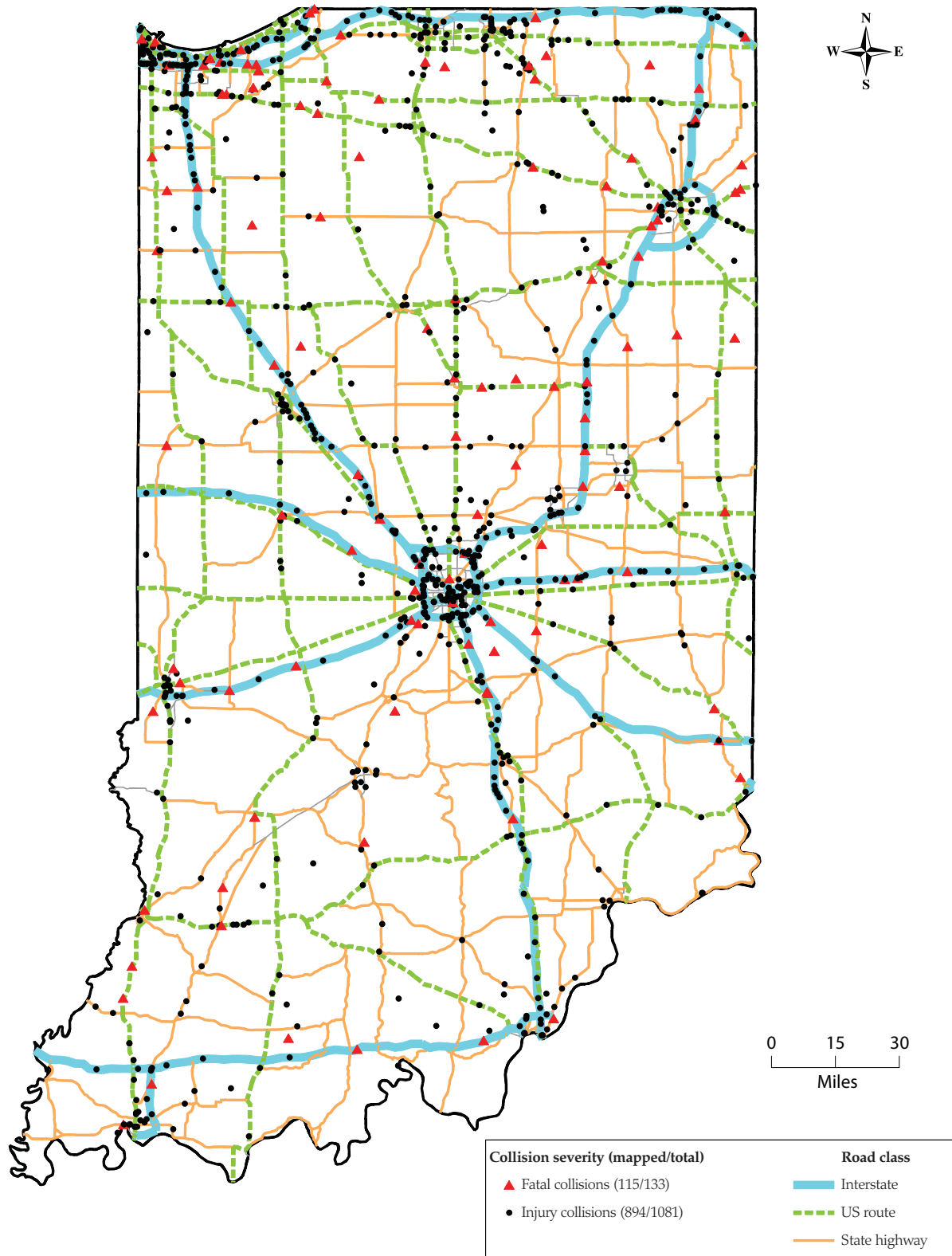
Interstate highways incur the majority of injury collisions involving large trucks (Map 1). Interstate 465 around Indianapolis had many injury large truck collisions, but very few fatal large truck collisions.

U.S. Highways 30 (from Fort Wayne to Merrillville), 31 (from Indianapolis to South Bend) and 24 (from Fort Wayne to Kentland) show many large truck injury collisions. The majority of the large truck injury collisions occur in the northern half of the state (Indianapolis and north). The northwestern corner of the state, with many interstate and US highways converging, also had many large truck injury collisions.

Vehicles

In 2007, there were 24,953 motor vehicles involved in large truck collisions (including large trucks). There was an average annual

Map 1: Indiana collisions involving large trucks by injury severity, 2007



Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 16, 2008

Notes: Includes collisions with valid latitude and longitude values

Table 3: Vehicles involved in large truck collisions, 2003-2007

Vehicle types	2003	2004	2005	2006	2007	Average Annual Change
Large trucks	17,360	17,795	17,262	14,374	15,028	-3.2%
Other vehicles	12,032	12,373	11,647	9,288	9,925	-4.1%
Buses	104	93	94	60	69	-7.7%
Light trucks	4,241	4,607	4,367	3,377	3,507	-3.8%
Motorcycles	32	60	46	35	50	20.8%
Passenger cars	7,334	7,403	6,904	5,572	5,988	-4.4%
Other vehicle type	62	70	75	66	77	6.2%
Unknown vehicle type	259	140	161	178	234	2.8%
TOTAL	29,392	30,168	28,909	23,662	24,953	-3.6%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

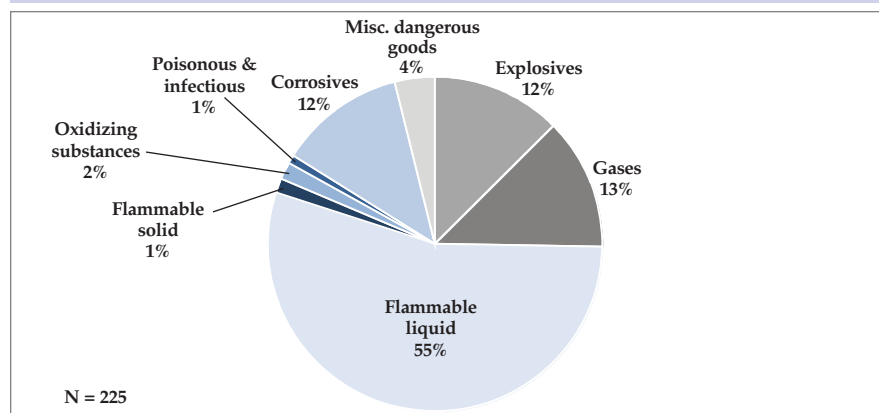
Notes: Motorcycles include mopeds and other such vehicles.

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 marked as *unknown*, those with multiple codes marked, and blanks.

Figure 1. Large trucks carrying hazardous materials involved in collisions by type of hazardous material, 2007



Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

Note: Includes only those large trucks with a valid hazard class indicated on the crash report.

Table 4. Motor vehicles in multiple-vehicle large truck collisions with driver and vehicle primary factors, by collision severity, 2007

Count of vehicles involved in collisions	Collision Severity				All collisions
	Fatal	Incapacitating	Non-incapacitating	Property damage only	
Vehicles with driver action as primary factor in collision					
Attributable to large truck	35	53	366	5,274	5,728
% All large trucks involved	27.8%	32.5%	48.9%	53.3%	52.4%
Attributable to other vehicle	80	99	370	3,633	4,182
% All other vehicles involved	61.1%	56.6%	46.0%	46.4%	46.8%
Ratio (other veh. / large tr.)	2.2	1.7	0.9	0.9	0.9
Vehicles with vehicle circumstances as primary factor in collision					
Attributable to large truck	2	4	9	374	389
% All large trucks involved	66.7%	44.4%	60.0%	63.3%	62.9%
Attributable to other vehicle	1	2	6	113	122
% All other vehicles involved	33.3%	50.0%	35.3%	24.2%	24.9%
Ratio (other veh. / large tr.)	0.5	1.1	0.6	0.4	0.4

Notes: Driver primary factors include but are not limited to: driver asleep or fatigued, driver illness, unsafe speed, failure to yield right of way, left of center, improper passing, following too closely, cell phone usage. Vehicle primary factors include but are not limited to: engine failure or defective, accelerator failure or defective, brake failure or defective, steering failure, oversize or overweight load, tow hitch failure. Some collisions may have multiple vehicles associated with the primary factor.

3.2 percent decrease of large trucks involved in collisions from 2003 to 2007 (Table 3). Over 15,000 large trucks were involved in collisions with nearly 10,000 other vehicles in 2007. Motorcycle involvement in collisions with large trucks has increased on average 20.8 percent annually from 2003 to 2007, numbering 50 in 2007. Passenger car involvement decreased from over 7,000 in 2003 to under 6,000 in 2007, reflecting an average annual decrease since 2003 of 4.4 percent.

Large trucks carrying hazardous materials (225 in 2007) made up a small fraction of all large trucks involved in collisions. Of those carrying hazardous materials, the majority (55 percent) were transporting flammable liquid (Figure 1). Large trucks carrying gases comprised 13 percent of those involved in collisions, while 12 percent each of large trucks carrying explosives and corrosives were involved. Of the 225 large trucks involved in collisions carrying hazardous materials, 19 (8.4 percent) did not display a placard stating they were carrying hazardous materials. In addition, of the 225 large trucks involved in collisions and carrying hazardous materials, 49 reportedly had a hazardous release at the time of the collision, the majority (24) being flammable liquids. However, 13 of 49 were explosives release.

The *Indiana Officers Standard Crash Report* requires investigating officers to indicate the 'primary factor' of a collision, which includes 54 possible factors classified as contributing circumstances associated with the driver, the vehicle, or the environ-

Table 5: Collisions and vehicles involved in multiple-vehicle fatal collisions involving a large truck, by primary factor, 2007

Primary Factor	Total multiple vehicle fatal large truck collisions	Total # vehicles involved in multiple vehicle large truck fatal collisions	Number large trucks attributed to primary factor	% of total # of vehicles involved attributed to large trucks
Driver factors				
Alcoholic beverages	2	4	0	0.0%
Disregarding signal/sign	11	24	5	20.8%
Driver asleep/fatigued	2	5	0	0.0%
Driver distracted	2	10	1	10.0%
Failure to yield right of way	22	44	4	9.1%
Following too closely	3	8	3	37.5%
Improper lane usage	1	2	0	0.0%
Improper passing	4	9	1	11.1%
Improper turning	1	2	1	50.0%
Jackknifing	1	2	1	50.0%
Left of center	22	49	2	4.1%
Other - driver (explained)	15	39	7	17.9%
Pedestrian action	1	3	1	33.3%
Ran off road right	5	11	0	0.0%
Speed too fast for weather conditions	3	9	2	22.2%
Unsafe speed	13	32	7	21.9%
Wrong way on one way	2	5	0	0.0%
Vehicle factors				
Other - vehicle (explained)	3	7	2	28.6%
Environmental factors				
Roadway surface condition	3	9	2	22.2%
TOTAL	116	274	39	14.2%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

Notes: Counts only collisions where primary factor indicated.

Some collisions may have multiple vehicles associated with the primary factor.

Some collisions have multiple large trucks involved.

Only the number of large trucks associated with the listed primary factor is counted.

Table 6: Vehicles speeding in large truck collisions, 2003-2007

Vehicles that were speeding in:	2003	2004	2005	2006	2007
Fatal collisions	32	26	28	21	26
# Large trucks speeding	10	13	9	8	12
Large truck speeding as % of total vehicles	31.3%	50.0%	32.1%	38.1%	46.2%
Incapacitating collisions	46	63	45	41	38
# Large trucks speeding	27	26	23	20	13
Large truck speeding as % of total vehicles	58.7%	41.3%	51.1%	48.8%	34.2%
Non-incapacitating collisions	316	403	446	253	148
# Large trucks speeding	163	219	243	154	78
Large truck speeding as % of total vehicles	51.6%	54.3%	54.5%	60.9%	52.7%
Property damage collisions	904	891	1037	678	1,099
# Large trucks speeding	490	447	533	359	528
Large truck speeding as % of total vehicles	54.2%	50.2%	51.4%	52.9%	48.0%
Total collisions	1,298	1,383	1,556	993	1,311
# Large trucks speeding	690	705	808	541	631
Large truck speeding as % of total vehicles	53.2%	51.0%	51.9%	54.5%	48.1%

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

Notes: Includes only collisions where a large truck was involved.

Excludes pedestrians and pedalcyclists.

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.

ment. Table 4 shows the driver and vehicle primary factors for all collisions involving large trucks in 2007 and displays whether the investigating officer indicated that the primary factor was attributed to the large truck or to another vehicle involved in the

collision. In fatal collisions with a driver action indicated as a primary factor, other vehicles were over twice as likely to have the primary factor attributed to their vehicle as opposed to the large truck involved. Generally, in all collision severities where a vehicle circumstance was the primary factor, the large truck was more likely to have been associated with that factor.

Table 5 breaks down the multiple-vehicle large truck fatal collision factors further. In 2007 there were 274 vehicles involved in multiple-vehicle large truck fatal collisions. Overall, 39 of the 274 vehicles (14.2 percent) were large trucks where the primary factor was attributed to the large truck. There were 44 vehicles involved in the 22 fatal collisions with a primary factor of *failure to yield right of way*; of those 44 vehicles only 4 (9.1 percent) were attributed to the large truck involved. In addition, only two of the 49 vehicles involved in the 22 collisions where *left of center* was primary factor were attributed to the large trucks. On the other hand, 37.5 percent (3 of 8) of the vehicles involved in the three collisions where *following too closely* was the primary factor were attributed to the large trucks.

In total collisions from 2003 to 2006 involving large trucks where speeding was a factor, the large truck involved was reportedly speeding more than half the time, dropping to 48.1 percent in 2007 (Table 6). However, in fatal

speed-related collisions involving large trucks (2003 to 2007), the large truck was indicated to be speeding less than 40 percent of the time during three of the five years. The percent of large trucks speeding in incapacitating collisions involving large

Table 7: Injuries as a result of collisions involving large trucks, 2003-2007

Injuries	2003	2004	2005	2006	2007	Average Annual Change
Fatalities	161	169	147	145	154	-0.8%
Driver - large truck	23	26	29	25	24	1.7%
Driver - other vehicle	99	94	82	74	94	-0.1%
Occupant - large truck	1	3	1	2	0	33.3%
Occupant - other vehicle	31	31	22	31	30	2.2%
Nonmotorist	7	15	13	13	6	11.8%
Incapacitating	315	351	293	240	218	-8.1%
Driver - large truck	62	48	53	37	43	-6.5%
Driver - other vehicle	180	195	156	144	126	-8.0%
Occupant - large truck	6	17	11	15	9	36.1%
Occupant - other vehicle	51	76	62	37	35	-3.8%
Nonmotorist	16	15	11	7	5	-24.5%
Non-incapacitating	3,095	3,591	3,289	2,104	1,312	-16.5%
Driver - large truck	770	830	839	596	272	-18.6%
Driver - other vehicle	1,510	1,844	1,686	1,003	679	-14.8%
Occupant - large truck	162	184	126	84	38	-26.5%
Occupant - other vehicle	612	698	601	398	301	-14.5%
Nonmotorist	41	35	37	23	22	-12.8%
Total injuries	3,571	4,111	3,729	2,489	1,684	-14.9%
Driver - large truck	855	904	921	658	339	-17.4%
Driver - other vehicle	1,789	2,133	1,924	1,221	899	-13.4%
Occupant - large truck	169	204	138	101	47	-23.0%
Occupant - other vehicle	694	805	685	466	366	-13.1%
Nonmotorist	64	65	61	43	33	-14.3%
Probability of fatality						
Driver - large truck	2.7%	2.9%	3.1%	3.8%	7.1%	
Driver - other vehicle	5.5%	4.4%	4.3%	6.1%	10.5%	
Occupant - large truck	0.6%	1.5%	0.7%	2.0%	0.0%	
Occupant - other vehicle	4.5%	3.9%	3.2%	6.7%	8.2%	
Nonmotorist	10.9%	23.1%	21.3%	30.2%	18.2%	

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

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

trucks decreased from 59 percent in 2003 to 34 percent in 2007 and decreased in property damage collisions from 54 to 48 percent in the same time frame.

People

Large trucks have higher fatal crash rates per vehicle mile travelled than passenger vehicles (1.54 compared to 1.02 per 100 million vehicle miles travelled).² However, most deaths in large truck crashes are passenger vehicle occupants rather than occupants of the large truck (Table 7). Trucks weigh 20 to 30 times more than passenger cars, making the passenger car occupants more vulnerable. Loaded tractor-trailers take 20 to 40 percent farther than cars to stop, and the discrepancy is greater when trailers are empty, on wet and slippery roads, or with poorly maintained brakes.³

In 2007, there were 1,684 people killed or injured in collisions involving large trucks, less than half of the total killed or injured in 2003 (3,571) – a nearly 15 percent average annual decrease from 2003 to 2007. Table 7 shows that all severity levels of injuries decreased on average over the five year period from 2003 to 2007. Fatalities decreased on average 0.8 percent; incapacitating injuries decreased 8.1 percent on average, and non-incapacitating injuries showed an average annual decrease of 16.5 percent. It is also evident that the occupants and drivers of the other vehicle involved in the collision were more likely to be injured or killed than the occupants or drivers of the large truck. In 2007, the driver of the other vehicle involved in a large truck collision was likely to be killed 10.5 percent of the time.

Drivers of large trucks tend generally to exhibit proper commercial driver licensing (not shown in tables). There were a total of 13,338 drivers of large trucks involved in collisions in 2007. Of those, 10,997 (82.4 percent) were known to have had the proper commercial driver's license, and an additional 1,506 (11.3 percent) had an operator's license. There were seven drivers who had some form of learner's permit, five with probationary licenses, and five with no license. Of the 94 drivers of other vehicles killed in collisions involving a large truck, 59.6 percent (56) were known to be restrained (not shown). In addition, only 29 percent (7) of the large truck drivers killed were known to be restrained.

Driver impairment

Truck driver fatigue is a known crash risk. Drivers of large trucks are allowed by federal hours-of-service regulations to

²Calculated from Indiana Department of Transportation's 2006 Travel Activity data – 2007 data not available.

³National Highway Traffic Safety Administration. (1987). *Heavy truck safety study*. DOT HS 807 109. Washington, DC: U.S. Department of Transportation.

drive up to 11 hours at a stretch and up to 77 hours over a 7-day period. Surveys indicate that many drivers violate the regulations and work longer than permitted.^{4,5}

While the numbers of drivers indicated as being fatigued by the investigating officer were small in 2007, it is still a concern that fatigued drivers exist. Of the 1,238 drivers involved in large truck fatal or non-fatal injury collisions, only 22 large truck drivers and 15 other vehicle drivers had a contributing factor of fatigue (not shown).⁶

Alcohol appeared to be a minor contributor to the collisions involving large trucks. Only three (0.9 percent) of the 339 large truck drivers in injury collisions had a blood alcohol concentration (BAC) greater than 0.00 grams per deciliter (g/dL) (Table 8). This compared to 28 drivers (3.1 percent) of other vehicles involved in large truck injury collisions. Twenty of the 28 drivers of the other vehicles involved in injury collisions involved had a BAC of greater than 0.08, the legal limit. As stated earlier, large trucks are most often involved in collisions during business hours, and are therefore less likely to involve alcohol.

Summary

Driver-related factors contributed to 95 percent of the multiple-vehicle fatal collisions involving large trucks, most of which were attributed to the vehicle other than the large truck. The most common factor was driving left of center. Therefore, efforts to reduce injuries resulting from large truck collisions should focus on driver behaviors in other vehicles as well as those of large truck drivers.

The mission of the Federal Motor Carrier Safety Administration (FMCSA) is to promote the safe operation of commercial vehicles on our nation's highways. To help reduce crashes and fatalities involving large trucks, in 2004 Congress directed the FMCSA and the National Highway Traffic Safety Administration (NHTSA) to work together to educate motorists on how to share the road safely with commercial motor vehicles (CMV). This resulted in the development of the Ticketing Aggressive Cars and Trucks (TACT) program, a high visibility traffic enforcement program that uses communication, enforcement, and evaluation activities to reduce CMV-related crashes, fatalities

and injuries. While states are familiar with high visibility traffic enforcement programs, such as *Click It or Ticket*, drivers on the roadways are now seeing many large trucks as well as other vehicles being stopped by law enforcement officers. The Indiana Criminal Justice Institute (ICJI) continues to produce educational/informational materials and coordinate special enforcement efforts with state and local law enforcement agencies to help reduce the number of people killed and injured on Indiana roadways. It is the hope that these efforts will make all drivers more aware of their driving behavior and share the road safely.

Table 8: Driver injuries in large truck collisions, by blood alcohol concentration (BAC, in grams per deciliter, g/dL) test results and injury severity, 2007

Drivers of:	Injury status					Total
	Fatal	Incapacitating	Non-incapacitating	Other	No injury	
Large truck	24	43	272	367	12,632	13,338
BAC not reported	8	39	245	348	12,400	13,040
g/dL = 0.00	16	4	24	18	206	268
0.00 < g/dL < 0.08	0	0	1	0	9	10
0.08 ≤ g/dL < 0.15	0	0	1	1	7	9
0.15 ≤ g/dL < 0.59	0	0	1	0	10	11
Other motor vehicle	94	126	679	190	7,666	8,755
BAC not reported	50	115	645	183	7,560	8,553
g/dL = 0.00	35	5	21	4	29	94
0.00 < g/dL < 0.08	1	1	6	2	21	31
0.08 ≤ g/dL < 0.15	1	1	3	0	22	27
0.15 ≤ g/dL < 0.59	7	4	4	1	34	50
Total	118	169	951	557	20,298	22,093
BAC not reported	58	154	890	531	19,960	21,593
g/dL = 0.00	51	9	45	22	235	362
0.00 < g/dL < 0.08	1	1	7	2	30	41
0.08 ≤ g/dL < 0.15	1	1	4	1	29	36
0.15 ≤ g/dL < 0.59	7	4	5	1	44	61

Source: Indiana State Police Automated Reporting Information Exchange System, as of March 16, 2008

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.

⁴McCartt, A.T.; Hammer, M.C.; and Fuller, S.Z. (1997). Work and sleep/rest factors associated with driving while drowsy: experiences among long-distance truck drivers. *Proceedings of the 41st Annual Conference of the Association for the Advancement of Automotive Medicine*, 95-108. Des Plaines, IL: Association for the Advancement of Automotive Medicine.

⁵McCartt, A.T.; Hellinga L.A.; and Solomon, M.G. (2005). Work schedules before and after 2004 hours-of-service rule change and predictors of reported rule violations in 2004: survey of long-distance truck drivers. *Proceedings of the 2005 International Truck and Bus Safety and Security Symposium*, (CD-ROM). Itasca, IL: National Safety Council.

⁶Note this number is likely underreported as currently officers are only allowed to enter two driver contributing circumstances on the crash report.

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.criminaljustice.iupui.edu), the ICJI traffic safety website (www.in.gov/cji/traffic/), 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, the Center for Health Policy, 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 three 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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