# INDIANA 2009 TRAFFIC SAFETY FACTS

May 2009

**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 2008 vehicle crash data from the Automated Reporting Information Exchange System (ARIES), maintained by the Indiana State Police. This marks the third 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 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, 2008, approximately 98 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 2008

In 2008, a total of 205,281 Indiana total traffic collisions were reported by law enforcement. Of those, 13,264 (6.5 percent) involved a large truck (Table 1).[1] One of every six fatal traffic collisions in 2008 involved a large truck (117/721). This fact sheet summarizes data trends on traffic collisions involving large trucks between 2004 and 2008, including alcohol use, injuries, speeding, 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, 2009.

## COLLISIONS

Indiana traffic collisions declined on average 0.3 percent each year from 2004 to 2008, while collisions involving large trucks declined on average 4.3 percent (Table 1). The proportion of collisions involving large trucks stayed the same from 2007 to 2008 at 6.5 percent of all collisions. Table 1 shows an overall average proportional decline in fatal collisions involving large trucks from 2004 to 2008 (1.6 percent). The largest average decline (18.7 percent) in collisions involving large trucks occurred in non-incapacitating injury collisions.

**Table 1: Large truck collisions as a proportion of all collisions, by collision severity, 2004-2008**

| | 2004 | 2005 | 2006 | 2007 | 2008 | Average Annual Change |
|---|---|---|---|---|---|---|
| **All collisions** | **208,682** | **208,359** | **192,721** | **204,999** | **205,281** | **-0.3%** |
| With large trucks involved | 16,056 | 15,557 | 12,849 | 13,398 | 13,264 | -4.3% |
| % all collisions | 7.7% | 7.5% | 6.7% | 6.5% | 6.5% | -4.2% |
| **Fatal collisions** | **857** | **855** | **817** | **804** | **721** | **-4.1%** |
| With large trucks involved | 150 | 132 | 123 | 133 | 117 | -5.7% |
| % all fatal collisions | 17.5% | 15.4% | 15.1% | 16.5% | 16.2% | -1.6% |
| **Incapacitating injury collisions** | **3,295** | **3,141** | **3,190** | **3,075** | **2,896** | **-3.1%** |
| With large trucks involved | 276 | 243 | 189 | 184 | 178 | -10.0% |
| % all incapacitating collisions | 8.4% | 7.7% | 5.9% | 6.0% | 6.1% | -6.8% |
| **Non-incapacitating injury collisions** | **40,008** | **38,620** | **35,659** | **34,341** | **32,431** | **-5.1%** |
| With large trucks involved | 2,474 | 2,380 | 1,482 | 897 | 951 | -18.7% |
| % all non-incapacitating collisions | 6.2% | 6.2% | 4.2% | 2.6% | 2.9% | -14.4% |
| **Property damage only collisions** | **164,522** | **165,743** | **153,055** | **166,779** | **169,233** | **0.9%** |
| With large trucks involved | 13,156 | 12,802 | 11,055 | 12,184 | 12,018 | -1.9% |
| % all property damage collisions | 8.0% | 7.7% | 7.2% | 7.3% | 7.1% | -2.9% |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**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, 2004-2008**

| Collisions involving large trucks in: | 2004 | 2005 | 2006 | 2007 | 2008 | Average Annual Change |
|---|---|---|---|---|---|---|
| **All collisions** | **16,056** | **15,557** | **12,849** | **13,398** | **13,264** | **-4.3%** |
| Fatal | 150 | 132 | 123 | 133 | 117 | -5.7% |
| Incapacitating | 276 | 243 | 189 | 184 | 178 | -10.0% |
| Non-incapacitating | 2,474 | 2,380 | 1,482 | 897 | 951 | -18.7% |
| Property damage only | 13,156 | 12,802 | 11,055 | 12,184 | 12,018 | -1.9% |
| **Rural collisions** | **6,943** | **7,120** | **5,993** | **5,656** | **5,725** | **-4.4%** |
| Fatal | 124 | 101 | 92 | 103 | 84 | -8.5% |
| Incapacitating | 158 | 163 | 127 | 113 | 104 | -9.5% |
| Non-incapacitating | 1,266 | 1,250 | 791 | 436 | 464 | -19.1% |
| Property damage only | 5,395 | 5,606 | 4,983 | 5,004 | 5,073 | -1.4% |
| **Urban collisions** | **9,086** | **8,406** | **6,846** | **7,724** | **7,530** | **-3.9%** |
| Fatal | 26 | 31 | 31 | 30 | 33 | 6.5% |
| Incapacitating | 118 | 80 | 62 | 71 | 74 | -9.0% |
| Non-incapacitating | 1,205 | 1,128 | 691 | 460 | 486 | -18.2% |
| Property damage only | 7,737 | 7,167 | 6,062 | 7,163 | 6,937 | -1.9% |
| **Single-vehicle collisions** | **3,238** | **3,369** | **3,007** | **2,894** | **3,143** | **-0.5%** |
| Fatal | 19 | 23 | 17 | 17 | 11 | -10.1% |
| Incapacitating | 40 | 37 | 37 | 29 | 33 | -3.8% |
| Non-incapacitating | 380 | 422 | 327 | 151 | 167 | -13.7% |
| Property damage only | 2,799 | 2,887 | 2,626 | 2,697 | 2,932 | 1.4% |
| **Multiple-vehicle collisions** | **12,818** | **12,188** | **9,842** | **10,504** | **10,121** | **-5.3%** |
| Fatal | 131 | 109 | 106 | 116 | 106 | -4.7% |
| Incapacitating | 236 | 206 | 152 | 155 | 145 | -10.9% |
| Non-incapacitating | 2,094 | 1,958 | 1,155 | 746 | 784 | -19.5% |
| Property damage only | 10,357 | 9,915 | 8,429 | 9,487 | 9,086 | -2.7% |
| **Probability of a fatal collision in:** | | | | | | |
| All collisions | 0.9% | 0.8% | 1.0% | 1.0% | 0.9% | |
| Rural collisions | 1.8% | 1.4% | 1.5% | 1.8% | 1.5% | |
| Urban collisions | 0.3% | 0.4% | 0.5% | 0.4% | 0.4% | |
| Single-vehicle collisions | 0.6% | 0.7% | 0.6% | 0.6% | 0.3% | |
| Multiple-vehicle collisions | 1.0% | 0.9% | 1.1% | 1.1% | 1.0% | |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**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 data were known.**

More collisions involving large trucks occurred in urban than in rural areas (Table 2). Fatal collisions involving large trucks in urban areas increased on average 6.5 percent from 2004 to 2008, while all other injury and non-injury collisions in urban areas involving large trucks decreased on average over the same time frame. Rural collisions involving large trucks also declined on average from 2004 to 2008.

There were more than three times as many multiple-vehicle collisions involving large trucks in 2008 than single-vehicle collisions. Multiple-vehicle collisions involving large trucks continue to decrease, with an average decline from 2004 to 2008 of 5.3 percent. Single-vehicle collisions involving large trucks also declined on average.

The highest probability of a fatal collision involving a large truck for all years was in rural collisions (Table 2). In 2008, the probability of a collision involving large trucks resulting in one or more fatalities was 1.5 percent in a rural locale. The lowest probability of collisions involving large trucks resulting in a fatality was for urban and single-vehicle collisions.

## Time and Location

Collisions involving large trucks tended to occur during the weekdays (Monday through Friday) and during daytime hours (7am to 5pm) (not shown). In 2008, December had the highest number of total large truck collisions, while July had the highest number of fatal collisions involving large trucks.

Table 3 shows that 54.5 percent of the collisions involving large trucks occurred on interstates (27.4 percent) and local/city roads (27.1 percent). Large truck collisions were least likely to occur on county roads (5.7 percent). Thirty-two percent of fatal collisions involving large trucks occurred on state roads and 30 percent on interstates.

As shown on Map 1, Interstate 465 (around Indianapolis) had many large truck injury collisions, but few large truck fatal colli-

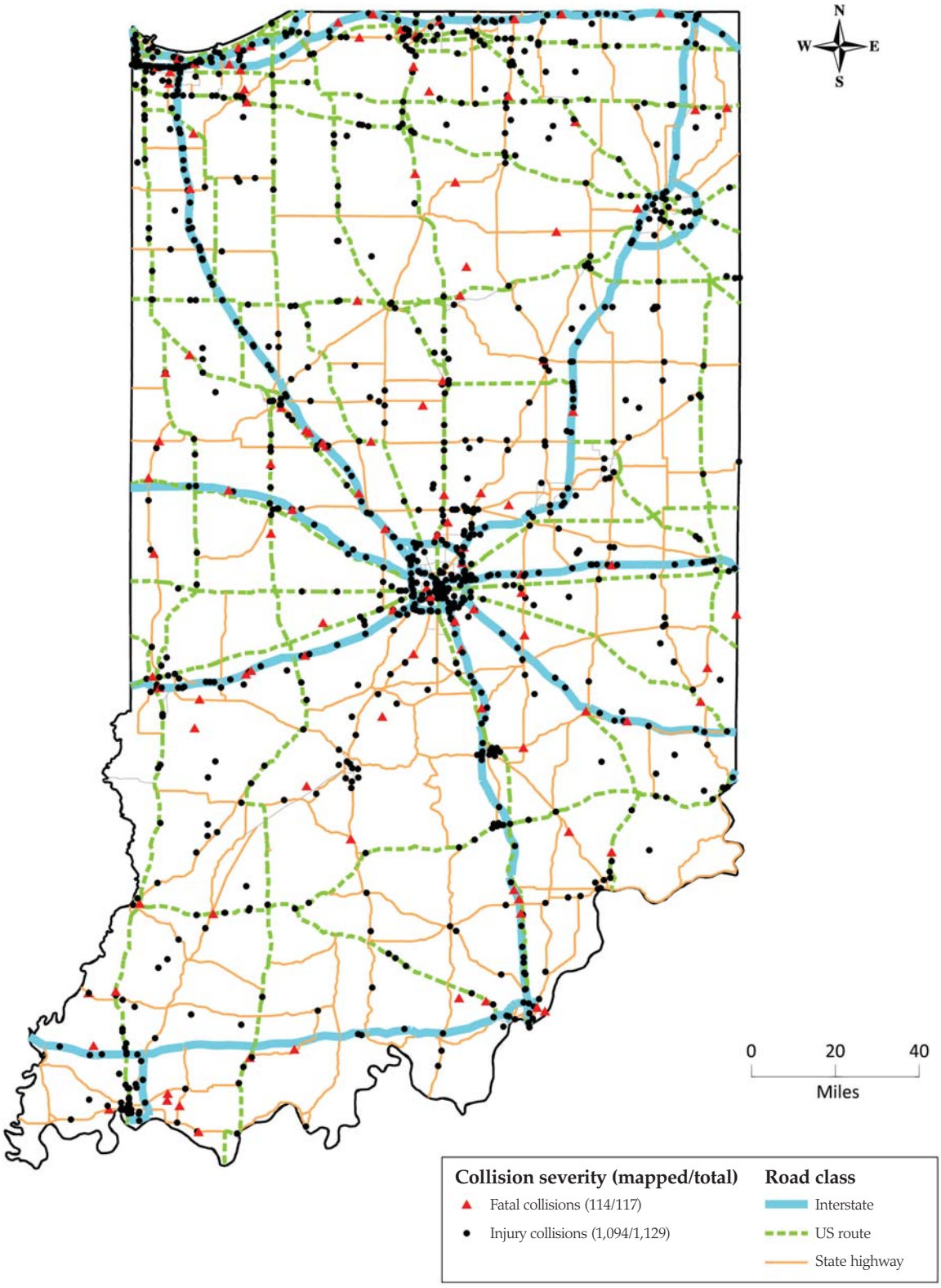
**Table 3: Collisions involving large trucks, by roadway class and collision severity, 2008**

| | Severity of collision | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fatal | | Incapacitating | | Non-incapacitating | | Property damage only | | Total | |
| Roadway classification | Count | % | Count | % | Count | % | Count | % | Count | % |
| Interstate | 35 | 29.9% | 45 | 25.3% | 283 | 29.8% | 3,275 | 27.3% | 3,638 | 27.4% |
| Local/city road | 13 | 11.1% | 34 | 19.1% | 205 | 21.6% | 3,345 | 27.8% | 3,597 | 27.1% |
| State road | 37 | 31.6% | 38 | 21.3% | 193 | 20.3% | 1,654 | 13.8% | 1,922 | 14.5% |
| US Route | 27 | 23.1% | 45 | 25.3% | 193 | 20.3% | 1,564 | 13.0% | 1,829 | 13.8% |
| Unknown | 1 | 0.9% | 4 | 2.2% | 25 | 2.6% | 1,487 | 12.4% | 1,517 | 11.4% |
| County road | 4 | 3.4% | 12 | 6.7% | 52 | 5.5% | 693 | 5.8% | 761 | 5.7% |
| **Total** | **117** | **100.0%** | **178** | **100.0%** | **951** | **100.0%** | **12,018** | **100.0%** | **13,264** | **100.0%** |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**Notes:**
***Non-incapacitating* collisions include collisions with *non-incapacitating* and *possible* injuries.**
**Due to rounding, totals may not equal 100 percent.**

## Map 1: Indiana collisions involving large trucks by injury severity, 2008




**Source: Indiana State Police Automated Reporting Information Exchange System (ARIES), as of March 1, 2009.**

**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 4: Vehicles involved in large truck collisions, 2004-2008**

| Vehicle types | 2004 | 2005 | 2006 | 2007 | 2008 | Average Annual Change |
|---|---|---|---|---|---|---|
| **Large trucks** | **17,795** | **17,262** | **14,374** | **15,033** | **14,794** | **-4.2%** |
| **Other vehicles** | **12,373** | **11,647** | **9,288** | **9,929** | **9,521** | **-5.8%** |
| Buses | 93 | 94 | 60 | 69 | 86 | 1.1% |
| Light trucks | 4,607 | 4,367 | 3,377 | 3,507 | 3,246 | -7.9% |
| Motorcycles | 60 | 46 | 35 | 50 | 44 | -4.1% |
| Passenger cars | 7,403 | 6,904 | 5,572 | 5,992 | 5,903 | -5.0% |
| Other vehicle types | 70 | 75 | 66 | 77 | 62 | -1.9% |
| Unknown vehicle types | 140 | 161 | 178 | 234 | 180 | 8.5% |
| **TOTAL** | **30,168** | **28,909** | **23,662** | **24,962** | **24,315** | **-4.9%** |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**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.**

*Indiana traffic collisions declined on average 0.3 percent each year from 2004 to 2008, while collisions involving large trucks declined on average 4.3 percent.*

**Table 5: Large trucks involved in collisions by type of truck and collision severity, 2008**

| Large trucks involved in: | Large trucks Count | % |
|---|---|---|
| **Fatal collisions** | **133** | **100.0%** |
| Pickup truck | 4 | 3.0% |
| Tractor/Double trailer | 6 | 4.5% |
| Tractor/One semi trailer | 94 | 70.7% |
| Truck (Single 2 axle, 6 tires) | 13 | 9.8% |
| Truck (Single 3 or more axles) | 16 | 12.0% |
| **Injury collisions** | **1,236** | **100.0%** |
| Tractor (cab only, no trailer) | 48 | 3.9% |
| Tractor/Double trailer | 24 | 1.9% |
| Tractor/One semi trailer | 745 | 60.3% |
| Truck (Single 2 axle, 6 tires) | 262 | 21.2% |
| Truck (Single 3 or more axles) | 135 | 10.9% |
| Truck/Trailer (not semi) | 22 | 1.8% |
| **Property damage only collisions** | **13,425** | **100.0%** |
| Pickup truck | 5 | 0.0% |
| Tractor (cab only, no trailer) | 474 | 3.5% |
| Tractor/Double trailer | 215 | 1.6% |
| Tractor/One semi trailer | 8,223 | 61.3% |
| Tractor/Triple trailer | 10 | 0.1% |
| Truck (Single 2 axle, 6 tires) | 2,964 | 22.1% |
| Truck (Single 3 or more axles) | 1,250 | 9.3% |
| Truck/Trailer (not semi) | 284 | 2.1% |
| **All collisions** | **14,794** | **100.0%** |
| Pickup truck | 9 | 0.1% |
| Tractor (cab only, no trailer) | 522 | 3.5% |
| Tractor/Double trailer | 245 | 1.7% |
| Tractor/One semi trailer | 9,062 | 61.3% |
| Tractor/Triple trailer | 10 | 0.1% |
| Truck (Single 2 axle, 6 tires) | 3,239 | 21.9% |
| Truck (Single 3 or more axles) | 1,401 | 9.5% |
| Truck/Trailer (not semi) | 306 | 2.1% |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**Notes:**
***Injury* collisions include collisions with *incapacitating, non-incapacitating,* and *possible* injuries.**
**Due to rounding, totals may not equal 100 percent.**

sions. Interstate 65 from the southern Indiana border to the north intersection with the Indiana toll road shows many injury collisions, including several fatal large truck collisions. The majority of large truck injury collisions occurred in the northern half of the state (Indianapolis and north).

## VEHICLES

In 2008, there were 24,315 motor vehicles, including large trucks, involved in large truck collisions (Table 4). On average from 2004 to 2008, the number of large trucks involved in collisions decreased 4.2 percent each year, while the number of other vehicles involved in large truck collisions decreased 5.8 percent. Buses involved in large truck collisions increased from 2007 to 2008 (69 to 86, 24.6 percent), while light truck involvement decreased from 3,507 in 2007 to 3,246 in 2008 (8 percent).

Large truck tractors pulling one semi trailer accounted for 61 percent of the large trucks involved in collisions in 2008 (Table 5) and 71 percent of the large trucks involved in fatal collisions. Single large trucks with two axles and six tires had the second highest proportion of involvement in collisions involving large trucks (22 percent), while single trucks with three or more axles had the second highest proportion in fatal collisions (12 percent).

## Primary factors

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 environment. As shown in Table 6, in fatal collisions involving large trucks where driver actions were listed as the primary factor, the actions of 27 percent of large truck drivers were attributable to the occurrence of the collision (i.e., contributing circumstances associated with the large truck matched the primary factor of the collision), compared to 64 percent for other vehicle types. Large trucks were 2.5 times (relative risk) more likely than drivers of other vehicles to be attributable to the occurrence of the collision in instances where distracted driving was listed as the primary factor. In non-fatal collisions, vehicle circumstances

**Table 6: Vehicles involved in multiple vehicle collisions involving a large truck, by primary factor, vehicle type, and collision severity, 2008**

| | | Vehicles involved | | Vehicles whose factors were attributable to crash outcome | | % attributable | | |
|---|---|---|---|---|---|---|---|---|
| Collision severity | Primary factor | Large trucks | Other vehicles | Large trucks | Other vehicles | Large trucks | Other vehicles | Relative risk |
| **Fatal** | **Driver actions** | **114** | **112** | **31** | **72** | **27.2%** | **64.3%** | **0.4** |
| | Distracted driving | 4 | 5 | 2 | 1 | 50.0% | 20.0% | 2.5 |
| | Errant/Risky driving | 92 | 90 | 21 | 60 | 22.8% | 66.7% | 0.3 |
| | Impaired driving | 3 | 3 | 0 | 3 | 0.0% | 100.0% | -- |
| | Other | 15 | 14 | 8 | 8 | 53.3% | 57.1% | 0.9 |
| | **Vehicle circumstances** | **3** | **4** | **1** | **1** | **33.3%** | **25.0%** | **1.3** |
| | **Environment** | **5** | **6** | **1** | **5** | **20.0%** | **83.3%** | **0.2** |
| | **TOTAL** | **122** | **122** | **33** | **78** | **27.0%** | **63.9%** | **0.4** |
| **Non-fatal** | **Driver actions** | **10,212** | **8,322** | **5,291** | **3,969** | **51.8%** | **47.7%** | **1.1** |
| | Distracted driving | 359 | 295 | 177 | 136 | 49.3% | 46.1% | 1.1 |
| | Errant/Risky driving | 8,282 | 6,777 | 4,174 | 3,158 | 50.4% | 46.6% | 1.1 |
| | Impaired driving | 183 | 186 | 24 | 147 | 13.1% | 79.0% | 0.2 |
| | Other | 1,388 | 1,064 | 916 | 528 | 66.0% | 49.6% | 1.3 |
| | **Vehicle circumstances** | **554** | **425** | **358** | **119** | **64.6%** | **28.0%** | **2.3** |
| | **Environment** | **731** | **625** | **474** | **471** | **64.8%** | **75.4%** | **0.9** |
| | **TOTAL** | **11,497** | **9,372** | **6,123** | **4,559** | **53.3%** | **48.6%** | **1.1** |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**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.***

**Table 7: Vehicles speeding in large truck collisions, by collision severity, 2004-2008**

| Vehicles that were speeding in: | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|
| **Fatal collisions** | **26** | **28** | **21** | **26** | **25** |
| # Lg trucks speeding | 13 | 9 | 8 | 12 | 8 |
| Lg truck speeding as % of total vehicles | 50.0% | 32.1% | 38.1% | 46.2% | 32.0% |
| **Incapacitating collisions** | **63** | **45** | **41** | **38** | **39** |
| # Lg trucks speeding | 26 | 23 | 20 | 13 | 13 |
| Lg truck speeding as % of total vehicles | 41.3% | 51.1% | 48.8% | 34.2% | 33.3% |
| **Non-incapacitating collisions** | **403** | **446** | **253** | **148** | **196** |
| # Lg trucks speeding | 219 | 243 | 154 | 78 | 94 |
| Lg truck speeding as % of total vehicles | 54.3% | 54.5% | 60.9% | 52.7% | 48.0% |
| **Property damage collisions** | **891** | **1,037** | **678** | **1,099** | **1,359** |
| # Lg trucks speeding | 447 | 533 | 359 | 528 | 682 |
| Lg truck speeding as % of total vehicles | 50.2% | 51.4% | 52.9% | 48.0% | 50.2% |
| **All collisions** | **1,383** | **1,556** | **993** | **1,311** | **1,619** |
| # Lg trucks speeding | 705 | 808 | 541 | 631 | 797 |
| Lg truck speeding as % of total vehicles | 51.0% | 51.9% | 54.5% | 48.1% | 49.2% |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**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.**

associated with large trucks were 2.3 times (relative risk) more likely to be attributable as the primary factor.

In total collisions from 2004 to 2008 involving large trucks where speeding was a factor, the large truck involved was reportedly speeding about half the time (Table 7). In fatal collisions involving large trucks in 2008, only 32 percent of the speeding vehicles were large trucks, a decrease of 14 percentage points from 2007 (46.2 to 32 percent).

**Table 8: Known injuries as a result of collisions involving large trucks, 2004-2008**

| Injuries | 2004 | 2005 | 2006 | 2007 | 2008 | Average Annual Change |
|---|---|---|---|---|---|---|
| **Fatalities** | **169** | **147** | **145** | **155** | **144** | **-3.6%** |
| **Single-vehicle collisions** | | | | | | |
| Driver - large truck | 12 | 13 | 11 | 14 | 4 | -12.8% |
| Occupant - large truck | 0 | 1 | 0 | 0 | 1 | — |
| Nonmotorist | 8 | 9 | 6 | 3 | 6 | 7.3% |
| **Multiple-vehicle collisions** | | | | | | |
| Driver - large truck | 14 | 16 | 14 | 10 | 6 | -16.7% |
| Driver - other vehicle | 94 | 82 | 74 | 94 | 84 | -1.5% |
| Occupant - large truck | 3 | 0 | 2 | 0 | 0 | — |
| Occupant - other vehicle | 31 | 22 | 31 | 31 | 39 | 9.4% |
| Nonmotorist | 7 | 4 | 7 | 3 | 4 | 2.1% |
| **Non-fatal known injuries** | **3,942** | **3,582** | **2,344** | **1,530** | **1,573** | **-18.9%** |
| **Single-vehicle collisions** | | | | | | |
| Driver - large truck | 365 | 408 | 325 | 150 | 166 | -12.9% |
| Occupant - large truck | 55 | 52 | 50 | 24 | 21 | -18.5% |
| Nonmotorist | 35 | 34 | 25 | 22 | 32 | 1.0% |
| **Multiple-vehicle collisions** | | | | | | |
| Driver - large truck | 513 | 484 | 308 | 165 | 165 | -22.1% |
| Driver - other vehicle | 2,039 | 1,842 | 1,147 | 805 | 806 | -19.3% |
| Occupant - large truck | 146 | 85 | 49 | 23 | 19 | -38.6% |
| Occupant - other vehicle | 774 | 663 | 435 | 336 | 352 | -16.7% |
| Nonmotorist | 15 | 14 | 5 | 5 | 12 | 17.3% |
| **Total injuries** | **4,111** | **3,729** | **2,489** | **1,685** | **1,717** | **-18.2%** |
| **Single-vehicle collisions** | | | | | | |
| Driver - large truck | 377 | 421 | 336 | 164 | 170 | -14.0% |
| Occupant - large truck | 55 | 53 | 50 | 24 | 22 | -17.4% |
| Nonmotorist | 43 | 43 | 31 | 25 | 38 | 1.2% |
| **Multiple-vehicle collisions** | | | | | | |
| Driver - large truck | 527 | 500 | 322 | 175 | 171 | -22.2% |
| Driver - other vehicle | 2,133 | 1,924 | 1,221 | 899 | 890 | -18.4% |
| Occupant - large truck | 149 | 85 | 51 | 23 | 19 | -38.8% |
| Occupant - other vehicle | 805 | 685 | 466 | 367 | 391 | -15.4% |
| Nonmotorist | 22 | 18 | 12 | 8 | 16 | 3.8% |
| **Probability of fatality** | | | | | | |
| **Single-vehicle collisions** | | | | | | |
| Driver - large truck | 3.2% | 3.1% | 3.3% | 8.5% | 2.4% | |
| Occupant - large truck | 0.0% | 1.9% | 0.0% | 0.0% | 4.5% | |
| Nonmotorist | 18.6% | 20.9% | 19.4% | 12.0% | 15.8% | |
| **Multiple-vehicle collisions** | | | | | | |
| Driver - large truck | 2.7% | 3.2% | 4.3% | 5.7% | 3.5% | |
| Driver - other vehicle | 4.4% | 4.3% | 6.1% | 10.5% | 9.4% | |
| Occupant - large truck | 2.0% | 0.0% | 3.9% | 0.0% | 0.0% | |
| Occupant - other vehicle | 3.9% | 3.2% | 6.7% | 8.4% | 10.0% | |
| Nonmotorist | 31.8% | 22.2% | 58.3% | 37.5% | 25.0% | |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

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

## INJURIES, LICENSING, AND RESTRAINTS

Most deaths in multiple vehicle large truck collisions were drivers and occupants of other vehicles rather than drivers or occupants of large trucks (Table 8). Trucks weigh 20 to 30 times more than passenger cars, making the passenger car occupants more vulnerable. Loaded tractor-trailers require 20 to 40 percent more roadway than cars to stop, and the discrepancy is greater on wet and slippery roads, or with poorly maintained brakes.[2]

In 2008, there were 1,717 people killed or injured in collisions involving large trucks, less than half of those killed or injured in 2004 (4,111) – an 18.2 percent average annual decrease from 2004 to 2008. Fatalities decreased annually on average 3.6 percent. In 2008, the driver of the other vehicle involved in a large truck collision was likely to be killed 9.4 percent of the time, while the occupant of the other vehicle was likely to be killed 10 percent of the time. The driver of the large truck is likely to be killed 3.5 percent of the time in multiple-vehicle collisions.

Drivers of large trucks tend generally to exhibit proper commercial driver licensing (not shown). There were a total of 13,143 drivers of large trucks involved in collisions in 2008. Of those, 10,583 (80.5 percent) had a proper commercial driver's license, and an additional 2,448 (18.6 percent) had an operator or chauffeur's license. There were ten drivers with no license. Of the 13,143 drivers of large trucks involved in collisions, 89.6 percent were known to be properly restrained.

### Driver Impairment

Alcohol appeared to be a minor contributor to the collisions involving large trucks. Only two of the 341 large truck drivers (0.6 percent) involved in known injury collisions (fatal, incapacitating, non-incapacitating) were reported as having a blood alcohol concentration (BAC) greater than 0.00 grams per deciliter (g/dL) (Table 9). This compared to 22 drivers (2.5 percent) of other vehicles involved in large truck injury collisions. Eighteen of the 22 drivers of the other vehicles involved in injury collisions had a BAC of greater than 0.08, the legal limit. Drivers of other vehicles (38 percent) were more likely to be legally intoxicated than drivers of large trucks (3.8 percent).

**Table 9: Drivers involved in large truck collisions, by vehicle type, blood alcohol concentration (BAC), and injury severity, 2008**

| | Individual injury status | | | | | |
|---|---|---|---|---|---|---|
| BAC results for drivers of: | Fatal | Incapacitating | Non-incapacitating | Other | Not injured | Total |
| **Large truck** | **10** | **38** | **293** | **237** | **12,565** | **13,143** |
| BAC not reported | 0 | 36 | 262 | 220 | 12,334 | 12,852 |
| g/dL = 0.00 | 10 | 2 | 29 | 17 | 217 | 275 |
| g/dL 0.01 - 0.07 | 0 | 0 | 0 | 0 | 5 | 5 |
| g/dL 0.08 - 0.14 | 0 | 0 | 0 | 0 | 7 | 7 |
| g/dL 0.15+ | 0 | 0 | 2 | 0 | 2 | 4 |
| *g/dL >0, as % reported* | *0.0%* | *0.0%* | *6.5%* | *0.0%* | *6.1%* | *5.5%* |
| *g/dL =0.08+, as % reported* | *0.0%* | *0.0%* | *6.5%* | *0.0%* | *3.9%* | *3.8%* |
| **Other vehicle** | **84** | **117** | **689** | **104** | **7,336** | **8,330** |
| BAC not reported | 36 | 114 | 662 | 99 | 7,227 | 8,138 |
| g/dL = 0.00 | 42 | 2 | 12 | 2 | 32 | 90 |
| g/dL 0.01 - 0.07 | 0 | 1 | 3 | 1 | 24 | 29 |
| g/dL 0.08 - 0.14 | 3 | 0 | 6 | 1 | 27 | 37 |
| g/dL 0.15+ | 3 | 0 | 6 | 1 | 26 | 36 |
| *g/dL >0, as % reported* | *12.5%* | *33.3%* | *55.6%* | *60.0%* | *70.6%* | *53.1%* |
| *g/dL =0.08+, as % reported* | *12.5%* | *0.0%* | *44.4%* | *40.0%* | *48.6%* | *38.0%* |
| **All drivers** | **94** | **155** | **982** | **341** | **19,901** | **21,473** |
| BAC not reported | 36 | 150 | 924 | 319 | 19,561 | 20,990 |
| g/dL = 0.00 | 52 | 4 | 41 | 19 | 249 | 365 |
| g/dL 0.01 - 0.07 | 0 | 1 | 3 | 1 | 29 | 34 |
| g/dL 0.08 - 0.14 | 3 | 0 | 6 | 1 | 34 | 44 |
| g/dL 0.15+ | 3 | 0 | 8 | 1 | 28 | 40 |
| *g/dL >0, as % reported* | *10.3%* | *20.0%* | *29.3%* | *13.6%* | *26.8%* | *24.4%* |
| *g/dL =0.08+, as % reported* | *10.3%* | *0.0%* | *24.1%* | *9.1%* | *18.2%* | *17.4%* |

**Source: Indiana State Police Automated Reporting Information Exchange System, as of March 1, 2009.**

**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.**

## SUMMARY

Collisions involving large trucks declined on average 4.3 percent from 2004 to 2008. Fatal collisions involving large trucks in urban areas increased on average 6.5 percent in the same time frame. Fifty-four percent of the collisions involving large trucks occurred on interstates and local/city roads. Large truck tractors pulling one semi trailer accounted for 61 percent of the large trucks involved in collisions in 2008. Most deaths in multiple-vehicle large truck collisions are drivers and occupants of other vehicles rather than drivers or occupants of large trucks.

The U. S. Department of Transportation is working to ensure interstate truck companies are safe and safely operated. Some of their safety reforms for this past year included: 1) increased the number of roadside safety inspections and onsite compliance reviews to yearly record levels; and 2) strengthened trucker hours-of-service rules, tightened medical requirements, and improved commercial driver licensing.[3]

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

[3]*Administration's Focus on Safety—on Highways, Railways, Seaways and Airways—Has Led to One of the Safest Periods in the Nation's Transportation History.* U.S. Department of Transportation. Accessed February 17, 2009 at http://www.dot.gov/affairs/SafetyFactSheet.htm.

# INDIANA 2009 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.criminaljustice.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, 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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