



Pedestrian and Bicyclist Fatalities in Large Truck Crashes, 2013

From 2006 to 2013, pedestrian fatalities as a percentage of total fatalities in all motor vehicle crashes rose from 11.2 percent to 14.5 percent, and bicyclist fatalities as a percentage of total fatalities rose from 1.8 percent to 2.3 percent. Over this period, pedestrians' share of large truck crash fatalities grew from 6.3 percent to 8.5 percent, and bicyclists' share of large truck fatalities grew from 1.6 percent to 2.0 percent. This brief presents information on pedestrian and bicyclist fatalities in large truck crashes, using data from the National Highway Traffic Safety Administration's (NHTSA's) Fatality Analysis Reporting System (FARS).

In 2013, 338 pedestrians and 78 bicyclists were killed in crashes involving large trucks, accounting for 8.5 percent and 2.0 percent of the 3,964 total large truck crash fatalities, respectively (see Figure 1). Of those fatalities, 312 pedestrians (92 percent) and 76 bicyclists (97 percent) were struck and killed by large trucks, with the remainder struck and killed by other vehicle types involved in the crashes. Large trucks represented 6.6 percent of the vehicles that struck and killed pedestrians and 10.3 percent of the vehicles that struck and killed bicyclists.

FINDINGS

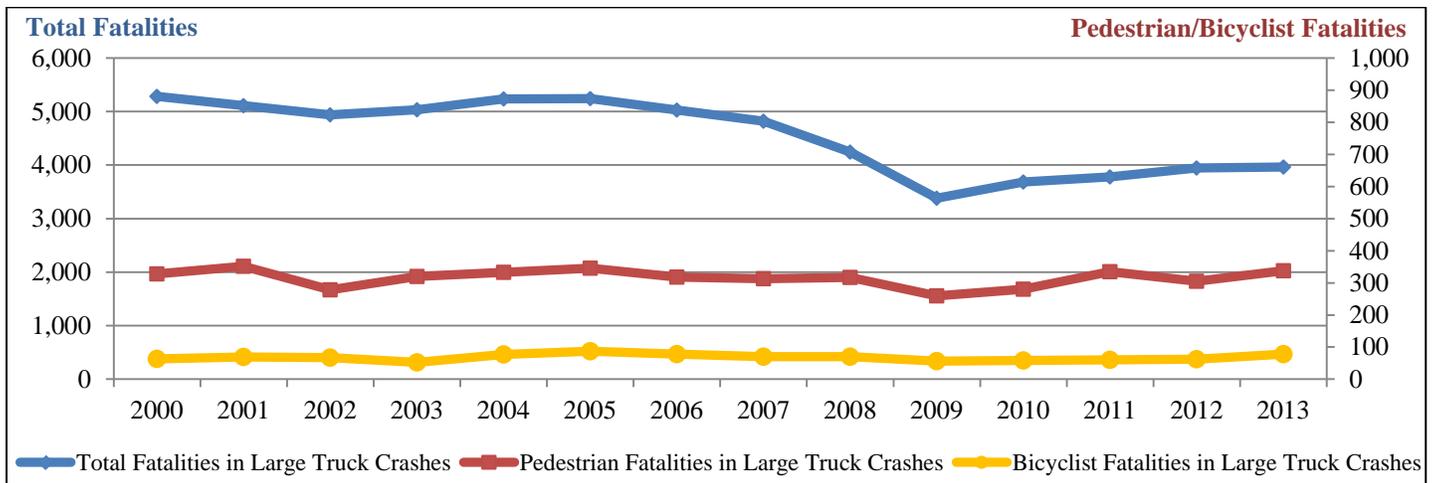
Pedestrian Fatalities

Table 1 (page 2) provides a list of the most common crash circumstances for the 338 pedestrian fatalities in large truck crashes in 2013.

Drugs and Alcohol

- Twenty-one percent of the pedestrians who died in crashes with large trucks in 2013 tested positive for having any alcohol in their system, compared to 1 percent of the large truck drivers involved in these crashes.
- Thirty-seven percent of the pedestrians who died in crashes with large trucks in 2013 tested positive for alcohol or drugs or were coded as being under the influence of alcohol, drugs, or other medication; 4 percent of the large truck drivers in those same crashes were so coded.
- The percent of pedestrian fatalities in large truck crashes who were tested for alcohol and tested positive has remained somewhat constant (around 40 percent) for the past several years, while for those who were tested for drugs, the percentage who tested positive has risen from 22.4 percent in 2007 to 32.5 percent in 2013.

Figure 1. Line graph. Fatality trends in large truck crashes, 2000–13.



Data Source: National Highway Traffic Safety Administration (NHTSA), Fatality Analysis Reporting System (FARS).

Table 1. Top 23 crash circumstances for the 338 pedestrian fatalities in large truck crashes in 2013.

Crash Circumstances	Category	Number	Percent
The area of the crash was dark and not lighted	Environment	145	42.9%
It was raining	Environment	23	6.8%
The crash occurred in a work zone	Environment	21	6.2%
The pedestrian tested positive for at least one drug	Pedestrian	76	22.5%
The pedestrian had a blood alcohol content of .08 or above	Pedestrian	68	20.1%
The pedestrian was in the roadway working or playing	Pedestrian	65	19.2%
The pedestrian was in the roadway improperly	Pedestrian	65	19.2%
The pedestrian failed to yield	Pedestrian	50	14.8%
The pedestrian darted or dashed	Pedestrian	49	14.5%
The pedestrian was under the influence of alcohol, drugs, or medication	Pedestrian	36	10.7%
The pedestrian was jaywalking	Pedestrian	15	4.4%
The large truck driver was distracted or inattentive	Large Truck Driver	49	14.5%
The large truck was skidding, swerving, or sliding	Large Truck Driver	33	9.8%
The critical event for the large truck was its own movement	Large Truck Driver	31	9.2%
The large truck driver's vision was obscured	Large Truck Driver	25	7.4%
The large truck failed to yield	Large Truck Driver	19	5.6%
The first harmful event in the crash was not a collision with the pedestrian	Other	53	15.7%
The pedestrian was coded as being at work	Other	31	9.2%
The pedestrian was working on a disabled vehicle	Other	30	8.9%
An action of another vehicle (e.g., passenger vehicle) was the critical precrash event	Other	26	7.7%
Another vehicle (e.g., passenger vehicle) driver was distracted or inattentive	Other	22	5.9%
There were more than three vehicles in the crash	Other	21	6.2%
There was a driver-less vehicle (e.g., a car parked beside the road) in the crash	Other	19	5.6%

Data Source: FMCSA analysis of FARS data.

Notes: More than one crash circumstance can be coded for a pedestrian fatality. Totals in the percent column exceed 100 percent due to the possibility of multiple crash circumstances being coded for the same crash. If intoxication levels are not known immediately after a fatal crash, many pedestrian fatalities (who were later found to have high blood alcohol content) are not coded as being under the influence of alcohol, drugs, or other medication. FARS divides most aspects of a crash, such as environmental conditions, motorist actions, and other qualities, into several distinct variables, which limits a comprehensive examination of all of the circumstances around crashes of a particular type. For example, most drivers and pedestrians are coded with drug and alcohol test results, which facilitates listing those results on a person-level, but it can be more difficult to determine the total number of crashes that involved at least one driver who tested positive for drugs or alcohol. With some effort, crashes of a particular type (for example, large truck crashes with pedestrian fatalities) can be isolated, and the relevant FARS data may be reorganized to facilitate a more comprehensive analysis of circumstances surrounding the crashes.

Other Crash Circumstances

- At least one crash circumstance was coded for 69 percent of the pedestrians who died in fatal crashes involving large trucks in 2013 (i.e., the crash circumstance was attributed to the pedestrian); conversely, at least one crash circumstance was coded for 34 percent of the large truck drivers in those crashes.
- In 2013, 15 percent of the pedestrians who died in large truck crashes were coded as “the pedestrian failed to yield.”
- In 2013, 25 percent of the pedestrians who died in large truck crashes and 21 percent of the pedestrians who died in all crashes were found to have taken no improper action.
- In 2013, the first harmful event was something other than a collision with a pedestrian (such as a collision with a motor vehicle in transport) for 16 percent of pedestrian fatalities in crashes involving a large truck and for 6 percent of all pedestrian fatalities.
- Of the pedestrians who died in fatal crashes with large trucks, 6 percent were involved in crashes involving three or more vehicles, versus 2 percent of pedestrian fatalities in general.
- In 2013, large trucks that struck and killed pedestrians in single-vehicle crashes had an initial point of impact in an area other than the front of the vehicle about three times as often as passenger vehicles that struck and killed pedestrians in single-vehicle crashes (24 percent versus 8 percent).
- From 2004 to 2013, 7 percent of crashes involving large trucks and pedestrian fatalities were in work zones, compared with 2 percent of all crashes with pedestrian fatalities that were in work zones.

Pedestrian fatalities in large truck crashes where the pedestrian was coded as being “at work” occurred at almost five times the rate of pedestrian fatalities in general (10 percent versus 2 percent).

- Smaller (10,000–19,500 pounds) single-unit trucks and medium/heavy pickup trucks may be more likely to travel in areas with pedestrians, and the number of these vehicles in fatal crashes increased from 162 to 291 and 30 to 139, respectively, from 2004 to 2013.
- Between 2011 and 2013, 35 percent of pedestrians who died in large truck crashes were on interstates, versus 10 percent of pedestrians who died in all crashes; 40 percent of pedestrians who died in large truck crashes were in rural areas versus 26 percent of pedestrians who died in all crashes.
- From 2011 to 2013, 73 percent of all pedestrian fatalities occurred in urban areas, but 60 percent of pedestrian fatalities involving large trucks occurred in urban areas.

Bicyclist Fatalities

Table 2 provides a list of the most common crash circumstances for the 78 bicyclist fatalities in large truck crashes in 2013.

Drugs and Alcohol

- Fourteen percent of the bicyclists who died in crashes with large trucks in 2013 tested positive for having any alcohol in their system, while none of the large truck drivers in these crashes tested positive for alcohol.
- Eighteen percent of the bicyclists who died in crashes with large trucks in 2013 tested positive for alcohol or drugs or were coded as being under the influence of alcohol, drugs, or other medication; 2 percent of the large truck drivers in those same crashes were so coded.

Other Crash Circumstances

- At least one crash circumstance was coded for 76 percent of the bicyclists who died in crashes involving large trucks in 2013 (i.e., the crash circumstance was attributed to the bicyclist); conversely, at least one crash circumstance was coded for 27 percent of the large truck drivers in those crashes.
- In 2013, 31 percent of the bicyclists who died in large truck crashes were coded as “the bicyclist failed to yield.”
- In 2013, 18 percent of the bicyclists who died in

large truck crashes and 32 percent of the bicyclists who died in all crashes were found to have taken no improper action.

Table 2. Top 10 crash circumstances for the 78 bicyclist fatalities in large truck crashes in 2013.

Crash Circumstances	Category	Number	Percent
Bicyclist failed to yield	Bicyclist	24	30.8%
Bicyclist tested positive for at least one drug	Bicyclist	13	16.7%
Bicyclist was younger than 15 years old	Bicyclist	10	12.8%
Bicyclist was under the influence of alcohol, drugs, or other medication	Bicyclist	7	9.0%
Bicyclist darted or dashed	Bicyclist	7	9.0%
Bicyclist had a blood alcohol content of .08 or above	Bicyclist	7	9.0%
Bicyclist made an improper turn	Bicyclist	5	6.4%
Large truck failed to yield	Truck Driver	6	7.7%
Area of the crash was dark and not lighted	Environment	9	11.5%
It was raining	Environment	5	6.4%

Data Source: NHTSA, FARS.

Note: More than one circumstance may be coded for each bicyclist fatality.

- Ninety-eight percent of the large trucks in crashes with bicyclist fatalities from 2004 to 2013 were the vehicle that actually struck and killed the bicyclist, while 89 percent of the large trucks in crashes with pedestrian fatalities from 2004 to 2013 were the vehicle that actually struck and killed the pedestrian.
- For 38 percent of the large trucks that struck and killed bicyclists in single-vehicle crashes in 2013, the initial point of impact was on the front of the vehicle; this is much lower than the 87 percent of other vehicles (passenger vehicles, buses, motorcycles, etc.) that struck and killed bicyclists in single-vehicle crashes with the initial point of impact on the front of the vehicle.
- From 2011 to 2013, 68 percent of all bicyclist fatalities occurred in urban areas, but 74 percent of bicyclist fatalities involving large trucks occurred in urban areas.
- Four percent of bicyclist fatalities in large truck crashes from 2011 to 2013 occurred on interstate highways, significantly less than the 35 percent of pedestrian fatalities in large truck crashes on interstate highways over this period.