

Large Trucks

About 1 in 10 highway deaths occurs in a crash involving a large truck.

Most deaths in large truck crashes are passenger vehicle occupants. The main problem is the vulnerability of people traveling in smaller vehicles. Trucks often weigh 20-30 times as much as passenger cars and are taller with greater ground clearance, which can result in smaller vehicles underriding trucks in crashes.

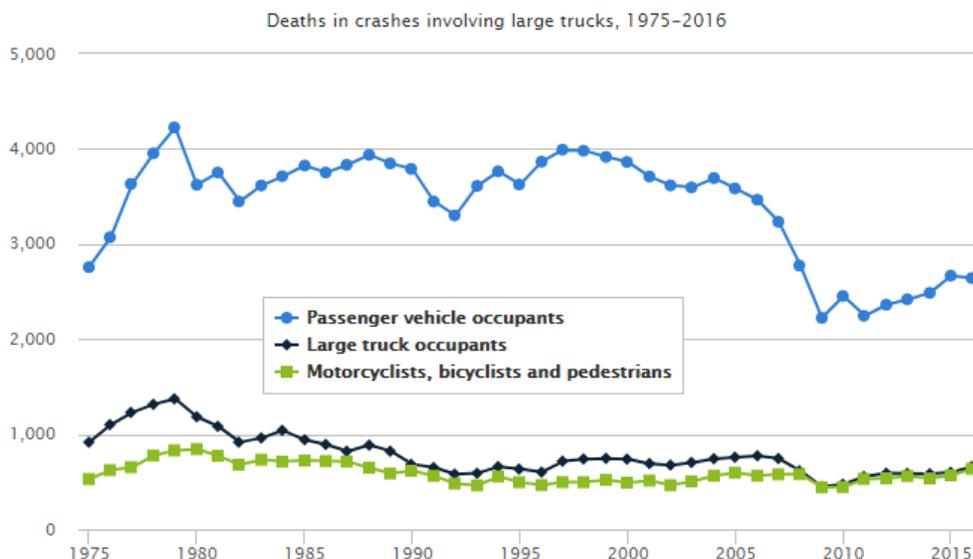
Truck braking capability can be a factor in truck crashes. Loaded tractor-trailers take 20-40 percent farther than cars to stop, and the discrepancy is greater on wet and slippery roads or with poorly maintained brakes. Truck driver fatigue also is a known crash risk. Drivers of large trucks are allowed by federal hours-of-service regulations to drive up to 11 hours at a stretch. Surveys indicate that many drivers violate the regulations and work longer than permitted.¹

The following facts are based on analysis of data from the [U.S. Department of Transportation's](#) Fatality Analysis Reporting System ([FARS](#)).

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Trends

A total of 3,986 people died in large truck crashes in 2016. Seventeen percent of these deaths were truck occupants, 66 percent were occupants of cars and other passenger vehicles, and 16 percent were pedestrians, bicyclists or motorcyclists. The number of people who died in large truck crashes was 27 percent higher in 2016 than in 2009, when it was the lowest it has been since the collection of fatal crash data began in 1975. The number of truck occupants who died was 47 percent higher than in 2009.



Deaths in crashes involving large trucks, 1975-2016

Year	Passenger vehicle occupants		Large truck occupants		Motorcyclists, bicyclists and pedestrians		Total ^a	
	Number	%	Number	%	Number	%	Number	%
1975	2,757	64	916	21	528	12	4,305	100
1976	3,071	63	1,100	22	622	13	4,893	100
1977	3,631	65	1,229	22	653	12	5,614	100
1978	3,954	64	1,315	21	776	13	6,160	100
1979	4,226	65	1,372	21	830	13	6,539	100
1980	3,623	63	1,183	21	844	15	5,740	100
1981	3,752	66	1,082	19	772	14	5,680	100
1982	3,448	67	917	18	679	13	5,125	100
1983	3,615	67	960	18	732	14	5,404	100
1984	3,713	67	1,040	19	712	13	5,550	100
1985	3,825	68	941	17	724	13	5,613	100
1986	3,752	69	892	16	718	13	5,468	100
1987	3,833	70	821	15	712	13	5,471	100
1988	3,938	71	886	16	647	12	5,566	100
1989	3,847	72	822	15	587	11	5,360	100
1990	3,790	73	684	13	615	12	5,174	100
1991	3,447	73	650	14	562	12	4,728	100
1992	3,300	75	580	13	481	11	4,422	100
1993	3,611	76	590	12	462	10	4,778	100
1994	3,764	74	658	13	555	11	5,069	100
1995	3,626	75	634	13	495	10	4,834	100
1996	3,866	77	602	12	465	9	5,048	100
1997	3,992	75	717	14	497	9	5,295	100
1998	3,981	75	739	14	495	9	5,316	100
1999	3,916	74	747	14	519	10	5,299	100
2000	3,863	75	737	14	490	9	5,173	100
2001	3,709	74	691	14	513	10	5,012	100
2002	3,616	75	675	14	464	10	4,846	100
2003	3,595	73	703	14	504	10	4,905	100
2004	3,693	72	743	15	564	11	5,099	100
2005	3,584	71	758	15	595	12	5,049	100
2006	3,466	71	774	16	564	12	4,886	100
2007	3,234	70	745	16	578	13	4,613	100
2008	2,774	69	615	15	580	14	4,017	100
2009	2,223	71	449	14	443	14	3,147	100
2010	2,453	72	475	14	445	13	3,418	100
2011	2,245	66	555	16	530	16	3,384	100
2012	2,362	67	590	17	537	15	3,529	100
2013	2,418	67	589	16	560	15	3,616	100
2014	2,486	68	585	16	535	15	3,663	100
2015	2,667	69	598	15	568	15	3,876	100
2016	2,642	66	660	17	637	16	3,986	100

^aTotal includes other and/or unknowns

Ninety-seven percent of vehicle occupants killed in two-vehicle crashes involving a passenger vehicle and a large truck in 2016 were occupants of the passenger vehicles.

Occupant deaths in two-vehicle crashes involving a large truck and a passenger vehicle, 2016

Occupant type	Deaths	%
Passenger vehicle occupants	2,056	97
Large truck occupants	56	3
All occupant deaths	2,112	100

Eleven percent of all motor vehicle crash deaths in 2016 occurred in large truck crashes.

Motor vehicle crash deaths occurring in large truck crashes and other crashes, 2016

Crash type	Deaths	%
Large truck crashes	3,986	11
Other crashes	33,475	89
All crashes	37,461	100

Seventy-three percent of deaths in large truck crashes in 2016 were in crashes involving tractor-trailers and 21 percent were in crashes involving single-unit trucks. Some crashes involved both a tractor-trailer and a single-unit truck.

Deaths in large truck crashes by truck type involved, 2016

Truck type	Deaths	%
Tractor-trailer	2,920	73
Single-unit	826	21
Truck type unknown	327	8

NOTE: More than one large truck may be involved in a single crash and the deaths associated with that crash.

Sixty-seven percent of large truck occupants killed in multiple-vehicle crashes in 2016 occurred in collisions involving another large truck.

Deaths of large truck occupants in multiple-vehicle crashes by number of large trucks involved, 2016

Number of large trucks	Deaths	%
1	83	33
≥ 2	168	67
Total	251	100

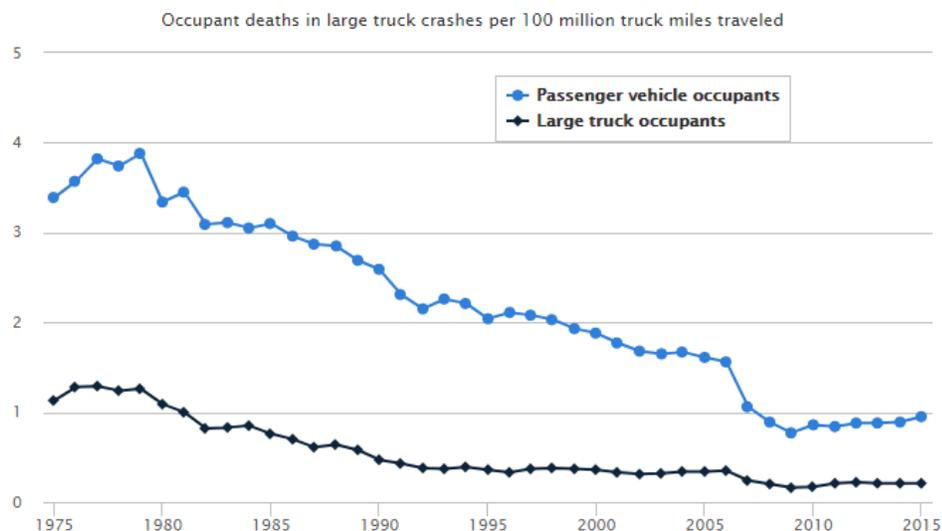
Eleven percent of all passenger vehicle occupant deaths and 21 percent of passenger vehicle occupant deaths in multiple-vehicle crashes in 2016 occurred in crashes with large trucks.

Passenger vehicle occupant deaths by crash type and large truck involvement, 2016

Crash type	Large truck crashes		Other crashes		All crashes
	Number	%	Number	%	Number
Single-vehicle	0	0	11,365	100	11,365
Multiple-vehicle	2,642	21	9,786	79	12,428
All crashes*	2,642	11	21,151	89	23,793

**Total includes other and/or unknowns*

Among vehicle occupants killed in large truck crashes, both the rate of passenger vehicle occupant deaths per truck mile traveled and the rate of large truck occupant deaths per truck mile traveled have declined substantially since 1975.



Occupant deaths in large truck crashes per 100 million truck miles traveled, 1975-2015

Year	Truck miles traveled in millions	Passenger vehicle occupants		Large truck occupants	
		Number	Rate	Number	Rate
1975	81,330	2,757	3.39	916	1.13
1976	86,070	3,071	3.57	1,100	1.28
1977	95,021	3,631	3.82	1,229	1.29
1978	105,739	3,954	3.74	1,315	1.24
1979	109,004	4,226	3.88	1,372	1.26
1980	108,491	3,623	3.34	1,183	1.09
1981	108,702	3,752	3.45	1,082	1.00
1982	111,423	3,448	3.09	917	0.82
1983	116,132	3,615	3.11	960	0.83
1984	121,796	3,713	3.05	1,040	0.85
1985	123,504	3,825	3.10	941	0.76
1986	126,675	3,752	2.96	892	0.70
1987	133,517	3,833	2.87	821	0.61
1988	137,985	3,938	2.85	886	0.64
1989	142,749	3,847	2.69	822	0.58
1990	146,242	3,790	2.59	684	0.47
1991	149,543	3,447	2.31	650	0.43
1992	153,384	3,300	2.15	580	0.38
1993	159,888	3,611	2.26	590	0.37
1994	170,216	3,764	2.21	658	0.39
1995	178,162	3,626	2.04	634	0.36
1996	182,971	3,866	2.11	602	0.33
1997	191,477	3,992	2.08	717	0.37
1998	196,380	3,981	2.03	739	0.38
1999	202,688	3,916	1.93	747	0.37
2000	205,520	3,863	1.88	737	0.36
2001	209,032	3,709	1.77	691	0.33
2002	214,603	3,616	1.68	675	0.31
2003	217,917	3,595	1.65	703	0.32
2004	220,792	3,693	1.67	743	0.34
2005	222,523	3,584	1.61	758	0.34
2006	222,513	3,466	1.56	774	0.35
2007	304,178	3,234	1.06	745	0.24
2008	310,680	2,774	0.89	615	0.20
2009	288,306	2,223	0.77	449	0.16
2010	286,527	2,453	0.86	475	0.17
2011	267,594	2,245	0.84	555	0.21
2012	269,207	2,362	0.88	590	0.22
2013	275,017	2,418	0.88	589	0.21
2014	279,132	2,486	0.89	585	0.21
2015	279,844	2,667	0.95	598	0.21

NOTE: The method of estimating truck miles traveled was changed beginning in 2007, and these results are not comparable to those of past years. For more information, visit <http://www.fhwa.dot.gov>

Where and when large truck crashes occurred

Sixty percent of deaths in large truck crashes in 2016 occurred on major roads other than interstates and freeways, 32 percent occurred on interstates and freeways, and seven percent occurred on minor roads.

Deaths in large truck crashes by road type, 2016

Road type	Deaths	%
Interstates and freeways	1,277	32
Other major roads	2,373	60
Minor roads	281	7
Unknown	55	1
All road types	3,986	100

Forty-eight percent of large truck crash deaths in 2016 occurred from 6 a.m. to 3 p.m., compared with 30 percent of crash deaths not involving large trucks.

Deaths in large truck crashes and other crashes by time of day, 2016

Time of day	Large truck crashes		Other crashes		All crashes	
	Deaths	%	Deaths	%	Deaths	%
Midnight - 3 a.m.	362	9	4,019	12	4,381	12
3 a.m. - 6 a.m.	461	12	2,804	8	3,265	9
6 a.m. - 9 a.m.	593	15	3,053	9	3,646	10
9 a.m. - noon	668	17	2,825	8	3,493	9
Noon - 3 p.m.	667	17	4,120	12	4,787	13
3 p.m. - 6 p.m.	575	14	5,406	16	5,981	16
6 p.m. - 9 p.m.	350	9	5,905	18	6,255	17
9 p.m. - midnight	303	8	5,070	15	5,373	14
Total*	3,986	100	33,475	100	37,461	100

**Total includes other and/or unknowns*

Sixteen percent of large truck crash deaths in 2016 occurred on Saturday and Sunday, compared with 34 percent of crash deaths not involving large trucks.

Deaths in large truck crashes and other crashes by day of week, 2016

Day of Week	Large truck crashes		Other crashes		All crashes	
	Deaths	%	Deaths	%	Deaths	%
Sunday	257	6	5,552	17	5,809	16
Monday	677	17	4,206	13	4,883	13
Tuesday	608	15	3,836	11	4,444	12
Wednesday	728	18	3,967	12	4,695	13
Thursday	636	16	4,366	13	5,002	13
Friday	692	17	5,134	15	5,826	16
Saturday	388	10	6,414	19	6,802	18
Total*	3,986	100	33,475	100	37,461	100

**Total includes other and/or unknowns*

Comparison of large truck and passenger vehicle crashes

Fifty-five percent of large truck occupant deaths in 2016 occurred in crashes in which their vehicles rolled over. This was slightly higher than the percentage of SUV occupant deaths and pickup occupant deaths that occurred in rollover crashes and much higher than the percentage of occupant deaths in cars (22 percent) involving rollovers

Occupant deaths by rollover occurrence and vehicle type, 2016

Vehicle type	No rollover		Rollover		All crashes	
	Number	%	Number	%	Number	%
Large truck	300	45	360	55	660	100
SUV	2,578	53	2,295	47	4,873	100
Pickup	2,639	57	1,959	43	4,598	100
Car	10,838	78	3,092	22	13,930	100
Total*	22,203	73	8,179	27	30,382	100

**Total includes other and/or unknowns*

Sixty-two percent of large truck occupant deaths in 2016 occurred in single-vehicle crashes, compared with 48 percent of passenger vehicle occupant deaths.

Occupant deaths in large trucks and passenger vehicles by number of vehicles involved, 2016

Crash type	Large truck occupants		Passenger vehicle occupants	
	Number	%	Number	%
Single-vehicle	409	62	11,365	48
Multiple-vehicle	251	38	12,428	52
All crashes*	660	100	23,793	100

**Total includes other and/or unknowns*

Nineteen percent of large trucks in fatal crashes in 2016 were involved in single-vehicle crashes; in contrast, 38 percent of passenger vehicles in fatal crashes were involved in single-vehicle crashes.

Large truck and passenger vehicle involvement in fatal crashes by number of vehicles involved, 2016

Crash type	Large trucks		Passenger vehicles	
	Number	%	Number	%
Single vehicle	722	19	15,826	38
Two vehicles	2,340	60	18,611	45
> 2 vehicles	809	21	6,859	17
All crashes*	3,871	100	41,296	100

**Total includes other and/or unknowns*

Forty-four percent of fatally injured large truck drivers in 2016 were using safety belts, compared with 48 percent of fatally injured passenger vehicle drivers. Belt use was unknown for 21 percent of fatally injured large truck drivers, compared with 8 percent of fatally injured passenger vehicle drivers.

Safety belt use among fatally injured large truck and passenger vehicle drivers, 2016

Belt use	Large truck drivers		Passenger vehicle drivers	
	Number	%	Number	%
Belt used	261	44	8,424	48
Unbelted	203	35	7,670	44
Unknown	123	21	1,444	8
Total	587	100	17,538	100

Thirty-one percent of passenger vehicle occupants killed in two-vehicle crashes with a large truck in 2016 were in head-on crashes with the truck. Twenty percent involved the front of the passenger vehicle striking the rear of the large truck.

Passenger vehicle occupant deaths in 2-vehicle crashes with a large truck, 2016

Large truck	Passenger vehicle								Total	
	Front		Side		Rear		Other			
	Number	%	Number	%	Number	%	Number	%	Number	%
Front	639	31	509	25	121	6	12	1	1281	62
Side	242	12	58	3	2	<1	9	<1	311	15
Rear	413	20	7	<1	2	<1	2	<1	424	21
Other	16	1	5	<1	0	0	19	1	40	2
Total	1310	64	579	28	125	6	42	2	2056	100

Large truck drivers killed in fatal crashes rarely have high blood alcohol concentrations (BACs). Truck drivers are subject to strict government regulations concerning drinking and driving. Three percent of fatally injured large truck drivers in 2016 had BACs at or above 0.08 percent, down from 17 percent in 1982. For comparison, 29 percent of fatally injured passenger vehicle drivers in 2016 had BACs at or above 0.08 percent, down from 51 percent in 1982.

Estimated percent and number of fatally injured large truck and passenger vehicle drivers with BACs \geq 0.08 percent, 1982-2016

Year	Large truck drivers			Passenger vehicle drivers		
	Deaths	Estimated deaths with BACs \geq 0.08		Deaths	Estimated deaths with BACs \geq 0.08	
	Number	Number	%	Number	Number	%
1990	570	50	9	21,953	8,973	41
1991	550	39	7	20,551	8,242	40
1992	506	26	5	19,573	7,434	38
1993	504	26	5	20,036	7,328	37
1994	545	36	7	20,647	7,083	34
1995	546	31	6	21,457	7,488	35
1996	525	34	6	21,631	7,336	34
1997	616	19	3	21,711	7,069	33
1998	628	30	5	21,627	6,944	32
1999	631	28	4	21,899	6,994	32
2000	641	28	4	21,819	7,127	33
2001	591	22	4	21,862	7,205	33
2002	582	38	7	22,537	7,381	33
2003	608	23	4	22,200	7,120	32
2004	624	24	4	21,952	6,952	32
2005	663	22	3	21,953	7,104	32
2006	678	30	4	21,592	7,164	33
2007	663	17	3	20,542	7,057	34
2008	534	19	4	18,266	6,280	34
2009	399	16	4	16,834	5,791	34
2010	426	17	4	16,029	5,177	32
2011	493	9	2	15,561	5,064	33
2012	524	14	3	15,915	5,204	33
2013	529	17	3	15,577	5,108	33
2014	536	16	3	15,495	4,906	32
2015	536	16	3	16,629	4,916	30
2016	587	16	3	17,538	5,024	29

References

- ¹ McCartt, A.T.; Hellinga L.A.; and Solomon, M.G. 2008. Work schedules of long-distance truck drivers before and after 2004 hours-of-service rule change. *Traffic Injury Prevention* 9:201-10.
- ² Federal Highway Administration. 2015. Highway statistics, 2014. Washington, DC: U.S. Department of Transportation.