



MCSAC FARS Briefing

July 19, 2021



U.S. Department of Transportation
Federal Motor Carrier Safety Administration

Agenda

- Data Sources
- Safety Breakouts:
 - Body Type
 - Land Use and Functional System
 - Driver-Related Factors
 - Issuing Authority
 - Critical Pre-Crash Events

Data Sources

- This presentation uses the National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS)
- FARS is a census of fatal motor vehicle crashes with a set of data files documenting all qualifying fatalities that occurred within the 50 States, the District of Columbia, and Puerto Rico since 1975. To qualify as a FARS case, the crash had to involve a motor vehicle traveling on a trafficway customarily open to the public, and must have resulted in the death of a motorist or a non-motorist within 30 days of the crash.
- FARS defines a large truck as a truck with a gross vehicle weight rating (GVWR) greater than 10,000 lbs.

Large Trucks in Fatal Crashes by Body Type, 2017–2019

Body Type	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Single-Unit Truck (10,000 to 19,500 lbs.)	346	19.67%	525	27.53%	489	25.15%
Single-Unit Truck (19,500 to 26,000 lbs.)	248	14.10%	287	15.05%	273	14.04%
Single-Unit Truck (GVWR>26,000 lbs)	662	37.64%	685	35.92%	726	37.35%
Single-Unit Straight Truck (GVWR unknown)	75	4.26%	5	0.26%	6	0.31%
Medium/Heavy Pickup (GVWR > 10,000 lbs, since 2001)	428	24.33%	405	21.24%	450	23.15%
Total	1,759	100.00%	1,907	100.00%	1,944	100.00%

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

- From 2018-2019:
 - the number of single-unit and medium/heavy large trucks in a fatal crash increased 1.9 percent

Large Trucks in Fatal Crashes by Land Use and Functional System, 2017-2019

Functional System	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Rural Crashes						
Interstate	114	6.5%	122	6.4%	127	6.5%
Freeway/Expressway	24	1.4%	32	1.7%	28	1.4%
Other Principal Arterial	285	16.2%	301	15.8%	275	14.1%
Minor Arterial	208	11.8%	219	11.5%	228	11.7%
Major Collector	149	8.5%	199	10.4%	206	10.6%
Minor Collector	38	2.2%	39	2.0%	47	2.4%
Local Roads	84	4.8%	72	3.8%	76	3.9%
Unknown	1	0.1%	0	0.0%	2	0.1%
Total Large Trucks in Fatal Crashes on Rural Roads	903	51.3%	984	51.6%	989	50.9%
Urban Crashes						
Interstate	175	9.9%	168	8.8%	167	8.6%
Freeway/Expressway	56	3.2%	73	3.8%	75	3.9%
Other Principal Arterial	310	17.6%	328	17.2%	353	18.2%
Minor Arterial	153	8.7%	192	10.1%	194	10.0%
Major Collector	52	3.0%	72	3.8%	77	4.0%
Minor Collector	17	1.0%	16	0.8%	9	0.5%
Local Roads	91	5.2%	72	3.8%	71	3.7%
Unknown	0	0.0%	0	0.0%	0	0.0%
Total Large Trucks in Fatal Crashes on Urban Roads	854	48.6%	921	48.3%	946	48.7%
Unknown Whether Rural or Urban	2	0.1%	2	0.1%	9	0.5%
Grand Total	1,759	100.0%	1,907	100.0%	1,944	100.0%

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

Single-Unit Large Trucks in Fatal Crashes by Land Use and Functional System, 2017-2019

Functional System	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Rural Crashes						
Interstate	83	6.2%	94	6.3%	93	6.2%
Freeway/Expressway	18	1.4%	26	1.7%	24	1.6%
Other Principal Arterial	209	15.7%	219	14.6%	196	13.1%
Minor Arterial	154	11.6%	180	12.0%	168	11.2%
Major Collector	103	7.7%	139	9.3%	144	9.6%
Minor Collector	23	1.7%	29	1.9%	30	2.0%
Local Roads	62	4.7%	57	3.8%	59	3.9%
Unknown	1	0.1%	0	0.0%	1	0.1%
Total Large Trucks in Fatal Crashes on Rural Roads	653	49.1%	744	49.5%	715	47.9%
Urban Crashes						
Interstate	142	10.7%	130	8.7%	141	9.4%
Freeway/Expressway	46	3.5%	54	3.6%	68	4.6%
Other Principal Arterial	240	18.0%	276	18.4%	293	19.6%
Minor Arterial	123	9.2%	158	10.5%	146	9.8%
Major Collector	35	2.6%	62	4.1%	61	4.1%
Minor Collector	13	1.0%	13	0.9%	7	0.5%
Local Roads	78	5.9%	64	4.3%	57	3.8%
Unknown	0	0.0%	0	0.0%	0	0.0%
Total Large Trucks in Fatal Crashes on Urban Roads	677	50.9%	757	50.4%	773	51.7%
Unknown Whether Rural or Urban	1	0.1%	1	0.1%	6	0.4%
Grand Total	1,331	100.0%	1,502	100.0%	1,494	100.0%

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

Medium/Heavy Large Trucks in Fatal Crashes by Land Use and Functional System, 2017-2019

Functional System	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Rural Crashes						
Interstate	31	7.2%	28	6.9%	34	7.6%
Freeway/Expressway	6	1.4%	6	1.5%	4	0.9%
Other Principal Arterial	76	17.8%	82	20.2%	79	17.6%
Minor Arterial	54	12.6%	39	9.6%	60	13.3%
Major Collector	46	10.7%	60	14.8%	62	13.8%
Minor Collector	15	3.5%	10	2.5%	17	3.8%
Local Roads	22	5.1%	15	3.7%	17	3.8%
Unknown	0	0.0%	0	0.0%	1	0.2%
Total Large Trucks in Fatal Crashes on Rural Roads	250	58.4%	240	59.3%	274	60.9%
Urban Crashes						
Interstate	33	7.7%	38	9.4%	26	5.8%
Freeway/Expressway	10	2.3%	19	4.7%	7	1.6%
Other Principal Arterial	70	16.4%	52	12.8%	60	13.3%
Minor Arterial	30	7.0%	34	8.4%	48	10.7%
Major Collector	17	4.0%	10	2.5%	16	3.6%
Minor Collector	4	0.9%	3	0.7%	2	0.4%
Local Roads	13	3.0%	8	2.0%	14	3.1%
Unknown	0	0.0%	0	0.0%	0	0.0%
Total Large Trucks in Fatal Crashes on Urban Roads	177	41.4%	164	40.5%	173	38.4%
Unknown Whether Rural or Urban	1	0.2%	1	0.2%	3	0.7%
Grand Total	428	100.0%	405	100.0%	450	100.0%

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

Top 10 Driver-Related Factors for Large Trucks, 2017-2019

Driver-Related Factors	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Speeding of Any Kind	141	8.2%	144	7.7%	140	7.3%
Impairment (Fatigue, Alcohol, Illness, etc.)	117	6.8%	144	7.7%	133	7.0%
Distraction/Inattention (Cell Phone, Lost in Thought, Eating, etc.)	130	7.5%	133	7.1%	130	6.8%
Careless Driving	86	5.0%	105	5.6%	116	6.1%
Failure to Yield Right of Way	105	6.1%	112	6.0%	113	5.9%
Failure to Keep in Proper Lane	67	3.9%	85	4.6%	76	4.0%
Failure to Obey Actual Traffic Sign, Traffic Control Devices, or Traffic Officers; Failure to Obey Safety Zone Traffic	69	4.0%	54	2.9%	64	3.3%
Vision Obscured (by Weather, Roadway Design, Vehicles, etc.)	67	3.9%	56	3.0%	62	3.2%
Following Improperly	25	1.4%	41	2.2%	37	1.9%
Overcorrecting	37	2.1%	43	2.3%	34	1.8%
At Least One Driver-Related Factor Recorded	669	38.7%	714	38.4%	721	37.7%
No Driver-Related Factors Recorded	1,058	61.3%	1,147	61.6%	1,190	62.3%
Total	1,727	100.0%	1,861	100.0%	1,911	100.0%
At Least One Moving Violation Recorded	179	11.6%	208	11.6%	221	11.6%
No Moving Violations Recorded	1,548	88.4%	1,653	88.4%	1,690	88.4%
Total	1,727	100.0%	1,861	100.0%	1,911	100.0%

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

In 2019, 37.7% single-unit and medium/heavy large truck drivers had at least one driver related factor recorded at the time of crash. Of those:

- 7.3% of drivers were speeding
- 7.0% of drivers were impaired at time of crash

Single-Unit Top 10 Driver-Related Factors for Large Trucks, 2017-2019

Driver-Related Factors	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Distraction/Inattention (Cell Phone, Lost in Thought, Eating, etc.)	87	6.7%	94	6.4%	100	6.8%
Speeding of Any Kind	97	7.4%	105	7.2%	88	6.0%
Failure to Yield Right of Way	86	6.6%	94	6.4%	87	6.0%
Careless Driving	53	4.1%	82	5.6%	86	5.9%
Impairment (Fatigue, Alcohol, Illness, etc.)	65	5.0%	85	5.8%	77	5.3%
Vision Obscured (by Weather, Roadway Design, Vehicles, etc.)	54	4.1%	48	3.3%	45	3.1%
Failure to Keep in Proper Lane	39	3.0%	64	4.4%	44	3.0%
Failure to Obey Actual Traffic Sign, Traffic Control Devices, or Traffic Officers; Failure to Obey Safety Zone Traffic	49	3.8%	43	2.9%	41	2.8%
Overcorrecting	31	2.4%	37	2.5%	29	2.0%
Following Improperly	20	1.5%	36	2.5%	26	1.8%
At Least One Driver-Related Factor Recorded	479	36.7%	551	37.8%	528	36.1%
No Driver-Related Factors Recorded	827	63.3%	908	62.2%	933	63.9%
Total	1,306	100.0%	1,459	100.0%	1,461	100.0%
At Least One Moving Violation Recorded	122	11.6%	153	11.6%	153	11.6%
No Moving Violations Recorded	1,184	88.4%	1,306	88.4%	1,308	88.4%
Total	1,306	100.0%	1,459	100.0%	1,461	100.0%

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

In 2019, 36.1% single-unit large truck drivers had at least one driver related factor recorded at the time of crash. Of those:

- 6.8% of drivers were distracted
- 6.0% of drivers were speeding

Medium/Heavy Top 10 Driver-Related Factors for Large Trucks, 2017-2019

Driver-Related Factors	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Impairment (Fatigue, Alcohol, Illness, etc.)	52	12.4%	59	14.7%	56	12.4%
Speeding of Any Kind	44	10.5%	39	9.7%	52	11.6%
Failure to Keep in Proper Lane	28	6.7%	21	5.2%	32	7.1%
Distraction/Inattention (Cell Phone, Lost in Thought, Eating, etc.)	43	10.2%	39	9.7%	30	6.7%
Careless Driving	33	7.8%	23	5.7%	30	6.7%
Failure to Yield Right of Way	19	4.5%	18	4.5%	26	5.8%
Failure to Obey Actual Traffic Sign, Traffic Control Devices, or Traffic Officers; Failure to Obey Safety Zone Traffic	20	4.8%	11	2.7%	23	5.1%
Vision Obscured (by Weather, Roadway Design, Vehicles, etc.)	13	3.1%	8	2.0%	17	3.8%
Driving on Wrong Side of Road (Intentional or Unintentional)	12	2.9%	8	2.0%	12	2.7%
Following Improperly	5	1.2%	5	1.2%	11	2.4%
At Least One Driver-Related Factor Recorded	190	45.1%	163	40.5%	193	42.9%
No Driver-Related Factors Recorded	231	54.9%	239	59.5%	257	57.1%
Total	421	100.0%	402	100.0%	450	100.0%
At Least One Moving Violation Recorded	57	11.6%	55	11.6%	68	11.6%
No Moving Violations Recorded	364	88.4%	347	88.4%	382	88.4%
Total	421	100.0%	402	100.0%	450	100.0%

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

In 2019, 42.9% medium/heavy large truck drivers had at least one driver related factor recorded at the time of crash. Of those:

- 12.4% of drivers were impaired at the time of crash
- 11.6% of drivers were speeding

Issuing Authority of Large Trucks, 2017-2019

Single-Unit Large Trucks						
Issuing Authority	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
FARS State Code	156	11.4%	158	10.5%	154	10.3%
US DOT	36	2.6%	719	47.9%	767	51.3%
MC/MX (ICC) ^a	680	49.9%	3	0.2%	3	0.2%
Canada	3	0.2%	1	0.1%	1	0.1%
None	304	22.3%	368	24.5%	350	23.4%
Unknown	185	13.6%	253	16.8%	219	14.7%
Total	1,364	100.0%	1,502	100.0%	1,494	100.0%

In 2019:
23.4% had no issuing authority

51.3% has a USDOT number

Medium/Heavy Large Trucks						
Issuing Authority	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
FARS State Code	2	0.5%	0	0.0%	6	1.3%
US DOT	33	7.7%	22	5.4%	31	6.9%
MC/MX (ICC) ^a	0	0.0%	0	0.0%	0	0.0%
Canada	0	0.0%	0	0.0%	0	0.0%
None	350	81.8%	331	81.7%	335	74.4%
Unknown	43	10.0%	52	12.8%	78	17.3%
Total	428	100.0%	405	100.0%	450	100.0%

In 2019:
74.4% had no issuing authority

6.9% has a USDOT number

^aMC/MX (ICC) refers to interstate for-hire motor carriers and brokers that apply for operating authority. The MX number is assigned to carriers domiciled in Mexico, and the MC number is for all other carriers and brokers. The majority of large trucks assigned MC/MX (ICC) numbers also have US DOT numbers. If a US DOT or State number is not available at the time of the crash, the MC/MX (ICC) number is reported on the Police Accident Report.

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

Large Trucks in Fatal Crashes by Critical Pre-crash Event, 2017-2019

Critical Precrash Event ^a	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Large Truck's Loss of Control ^b	60	3.4%	98	5.1%	88	4.5%
Large Truck's Movement ^c	417	23.7%	424	22.2%	449	23.1%
Other Vehicle in Large Truck's Lane ^d	391	22.2%	424	22.2%	423	21.8%
Other Vehicle's Encroachment into Large Truck's Lane ^e	622	35.4%	664	34.8%	685	35.2%
Pedestrian	130	7.4%	167	8.8%	167	8.6%
Pedalcyclist	59	3.4%	47	2.5%	56	2.9%
Animal	6	0.3%	2	0.1%	4	0.2%
Object	10	0.6%	19	1.0%	12	0.6%
Other	61	3.5%	56	2.9%	54	2.8%
Unknown	3	0.2%	6	0.3%	6	0.3%
Total	1,759	100.0%	1,907	100.0%	1,944	100.0%

^aThe critical precrash event is defined as the event which made this crash imminent (i.e., something occurred which made the collision possible).

^b"Large Truck's Loss of Control" includes events such as loss of control due to a blow out/flat tire, stalled engine, poor road conditions, traveling too fast for conditions, and other disabling (e.g., wheel fell off) or non-disabling (e.g., hood flew up) vehicle problems.

^c"Large Truck's Movement" includes events such as crossing an intersection, turning left or right, crossing lane lines, and deceleration.

^d"Other Vehicle in Large Truck's Lane" includes events which involved another vehicle in the same lane as the large truck, and the other vehicle did something to make the crash imminent.

^e"Other Vehicle's Encroachment into Large Truck's Lane" includes events in which encroachment by another vehicle from areas such as an adjacent lane (traveling in the same or opposite direction), crossing street, driveway, parking lane, or highway entrance made the crash imminent.

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

Single-Unit Large Trucks in Fatal Crashes by Critical Pre-crash Event, 2017-2019

Critical Precrash Event ^a	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Large Truck's Loss of Control ^b	40	3.0%	81	5.4%	66	4.4%
Large Truck's Movement ^c	294	22.1%	322	21.4%	326	21.8%
Other Vehicle in Large Truck's Lane ^d	314	23.6%	337	22.4%	339	22.7%
Other Vehicle's Encroachment into Large Truck's Lane ^e	470	35.3%	516	34.4%	528	35.3%
Pedestrian	99	7.4%	131	8.7%	130	8.7%
Pedalcyclist	52	3.9%	42	2.8%	45	3.0%
Animal	5	0.4%	2	0.1%	3	0.2%
Object	7	0.5%	18	1.2%	11	0.7%
Other	47	3.5%	47	3.1%	43	2.9%
Unknown	3	0.2%	6	0.4%	3	0.2%
Total	1,331	100.0%	1,502	100.0%	1,494	100.0%

^aThe critical precrash event is defined as the event which made this crash imminent (i.e., something occurred which made the collision possible).

^b"Large Truck's Loss of Control" includes events such as loss of control due to a blow out/flat tire, stalled engine, poor road conditions, traveling too fast for conditions, and other disabling (e.g., wheel fell off) or non-disabling (e.g., hood flew up) vehicle problems.

^c"Large Truck's Movement" includes events such as crossing an intersection, turning left or right, crossing lane lines, and deceleration.

^d"Other Vehicle in Large Truck's Lane" includes events which involved another vehicle in the same lane as the large truck, and the other vehicle did something to make the crash imminent.

^e"Other Vehicle's Encroachment into Large Truck's Lane" includes events in which encroachment by another vehicle from areas such as an adjacent lane (traveling in the same or opposite direction), crossing street, driveway, parking lane, or highway entrance made the crash imminent.

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

Medium/Heavy Large Trucks in Fatal Crashes by Critical Pre-crash Event, 2017-2019

Critical Precrash Event ^a	2017		2018		2019	
	Number	Percent	Number	Percent	Number	Percent
Large Truck's Loss of Control ^b	20	4.7%	17	4.2%	22	4.9%
Large Truck's Movement ^c	123	28.7%	102	25.2%	123	27.3%
Other Vehicle in Large Truck's Lane ^d	77	18.0%	87	21.5%	84	18.7%
Other Vehicle's Encroachment into Large Truck's Lane ^e	152	35.5%	148	36.5%	157	34.9%
Pedestrian	31	7.2%	36	8.9%	37	8.2%
Pedalcyclist	7	1.6%	5	1.2%	11	2.4%
Animal	1	0.2%	0	0.0%	1	0.2%
Object	3	0.7%	1	0.2%	1	0.2%
Other	14	3.3%	9	2.2%	11	2.4%
Unknown	0	0.0%	0	0.0%	3	0.7%
Total	428	100.0%	405	100.0%	450	100.0%

^aThe critical precrash event is defined as the event which made this crash imminent (i.e., something occurred which made the collision possible).

^b"Large Truck's Loss of Control" includes events such as loss of control due to a blow out/flat tire, stalled engine, poor road conditions, traveling too fast for conditions, and other disabling (e.g., wheel fell off) or non-disabling (e.g., hood flew up) vehicle problems.

^c"Large Truck's Movement" includes events such as crossing an intersection, turning left or right, crossing lane lines, and deceleration.

^d"Other Vehicle in Large Truck's Lane" includes events which involved another vehicle in the same lane as the large truck, and the other vehicle did something to make the crash imminent.

^e"Other Vehicle's Encroachment into Large Truck's Lane" includes events in which encroachment by another vehicle from areas such as an adjacent lane (traveling in the same or opposite direction), crossing street, driveway, parking lane, or highway entrance made the crash imminent.

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

Class 2 Trucks in Fatal Crashes, 2017 - 2019

GVWRANGE	2017	2018	2019	Total
6,001 - 10,000#	10,313	10,225	10,470	31,008
Total	10,313	10,225	10,470	31,008

Body Type	2017	2018	2019	Total
Not Provided	45	35	44	124
Passenger Car	189	166	177	532
Other / Unknown	3	0	1	4
Light Truck	10,075	10,021	10,247	30,343
Single-Unit Truck (10,000 to 19,500 lbs.)	0	1	0	1
Truck/Tractor (cab only, or trailing units)	0	2	0	2
Medium/Heavy Pickup (GVWR > 10,000 lbs, since 2001)	1	0	1	2
Total	10,313	10,225	10,470	31,008

Issuing Authority	2017	2018	2019	Total
Not Provided	45	35	44	124
G Unknown / Not Reported / not applicable	10,237	10,150	10,377	30,764
A FARS State Code	0	4	1	5
B US DOT	12	15	13	40
F None	19	21	35	75
Total	10,313	10,225	10,470	31,008

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

Summary

- In 2019:
 - There were 1,494 single-unit large trucks in a fatal crash:
 - 47.9% occurred in rural areas and 51.7% occurred in urban areas
 - 23.4% had no issuing authority and 51.3% had a USDOT number
 - 3.9% occurred on a local road
 - 36.1% had at least one driver related factor recorded at the time of crash
 - 57% were due to large truck movement
 - There were 450 medium/heavy large trucks in a fatal crash.
 - 60.9% occurred in rural areas and 38.4% occurred in urban areas
 - 74.6% had no issuing authority and 6.9% had a USDOT number
 - 7.4% occurred on an interstate or a freeway/expressway
 - 37.7% had at least one driver related factor recorded at the time of crash
 - 57% were due to another vehicle in the truck's lane

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