

2001

2001

2001

2001

2001

2001

2001

2001

**Special
Focus**

**Red-Light-Running
Heavy Truck/Bus**

RED-LIGHT-RUNNING CRASHES

INTERSECTION CRASH TYPE	MOST SEVERE OUTCOME IN CRASH					
	Crashes	Fatal	Injury			PDO
			A	B	C	
Related to intersection	126,892	356	2,993	7,733	22,884	92,926
In intersection	65,265	265	2,141	5,207	13,179	44,473
with traffic control signal	28,979	81	897	2328	6,368	19,305
with hazardous action	8,252	40	357	934	2,288	4,633

“Related to intersection” captures crashes that were related to or within 150 feet of an intersection. This corresponds to the crash information on page 138, *Intersection Crashes by Traffic Control Type*.

“In intersection” captures crashes within all types of intersections.

“With signal” captures crashes within the intersection and with a traffic control signal present.

“With hazardous action” captures crashes within the intersection, with a traffic control signal and with a hazardous action cited as “disregard of traffic control.” Information pertaining to red-light-running in the following tables is derived from this subset of **8,252** crashes.



RED-LIGHT-RUNNING - MOST SEVERE OUTCOME IN CRASH

SPEED LIMIT	MOST SEVERE OUTCOME IN CRASH					
	Crashes	Fatal	Injury			PDO
			A	B	C	
15 miles per hour	3	0	0	0	1	2
20 miles per hour	1	0	0	0	0	1
25 miles per hour	992	2	27	98	260	605
30 miles per hour	1,460	3	44	152	419	842
35 miles per hour	2,323	13	89	229	643	1,349
40 miles per hour	1,089	5	47	122	301	614
45 miles per hour	1,490	9	91	206	413	771
50 miles per hour	301	1	20	48	76	156
55 miles per hour	314	4	31	49	96	134
65 miles per hour	1	0	0	1	0	0
Unknown	278	3	8	29	79	159
TOTAL	8,252	40	357	934	2,288	4,633

CRASH TYPE	MOST SEVERE OUTCOME IN CRASH					
	Crashes	Fatal	Injury			PDO
			A	B	C	
Single Vehicle	47	2	5	16	9	15
Head on	83	0	3	12	28	40
Head on left	747	4	38	105	192	408
Angle	6,896	34	287	762	1,951	3,862
Rear end	43	0	3	4	13	23
Rear end left	18	0	0	1	3	14
Rear end right	4	0	0	0	0	4
Sideswipe same direction	102	0	3	4	16	79
Sideswipe opposite direction	64	0	3	5	13	43
Other	195	0	11	20	50	114
Unknown	53	0	4	5	13	31
TOTAL	8,252	40	357	934	2,288	4,633

RED-LIGHT-RUNNING

RED-LIGHT-RUNNING - MOST SEVERE OUTCOME IN CRASH (continued)

SPECIAL CIRCUMSTANCES	MOST SEVERE OUTCOME IN CRASH					
	Crashes	Fatal	Injury			PDO
			A	B	C	
School Bus Involved/Associated	31	1	5	0	6	19
Drinking Involved	276	12	25	45	92	102
Pedestrian Involved	50	2	5	14	19	10
Bicyclist Involved	62	0	10	26	11	15
Snowmobile Involved	3	0	0	1	1	1
Motorcycle Involved	37	0	6	14	9	8
Train Involved	1	0	0	0	0	1
Truck/Bus Involved	309	3	19	47	83	157
Emergency Vehicle Involved	77	2	2	13	26	34
Driver Hazardous Citation	4,774	6	221	599	1,368	2,580

POSSIBLE CONDITIONS OF DRIVER*	MOST SEVERE OUTCOME IN CRASH					
	Conditions Coded by Police	Fatal	Injury			PDO
			A	B	C	
Appeared Normal	6,340	19	263	745	1,779	3,534
Had Been Drinking	224	7	18	36	78	85
Illegal Drug Use	7	1	1	0	3	2
Sick	14	0	0	1	5	8
Fatigue	31	0	0	6	13	12
Asleep	8	0	1	0	3	4
Medication	10	0	2	3	3	2
Driver Distracted	136	0	7	28	37	64
Using Cellular Phone	39	0	4	4	12	19
Unknown	453	11	30	34	97	281

*Drivers may have more than 1 condition, including "Appeared Normal".

HEAVY TRUCK/BUS

The crashes highlighted in this section all involve a heavy truck/bus - defined as having a Gross Vehicle Weight Rating (GVWR) over 10,000 lbs. These vehicles require a Commercial Driver's License (CDL).

Heavy truck/bus crashes differ from other vehicle crashes in a number of ways, many reflecting the size and use of these vehicles. When compared to the overall crash picture, heavy truck/bus crashes involve:

- More turning, backing and changing lanes (see Driver Action Prior)
- More separation of units, fire/explosion, jackknife, cargo loss/shift and other non-collisions (see Most Harmful Event)
- Fewer single-vehicle crashes but more sideswipes (see Crash Type)
- Fewer drivers indicated to be speeding and failing to yield, but more drivers indicated to be making backing, lane use and turning errors (see Hazardous Action, Citation)
- More on road crashes (see Location of First Impact in Crash - On Road)
- More crashes between the hours of 6:00 AM and 2:59 PM, but fewer crashes between 3:00 PM and 5:59 AM (see Time of Day)
- More weekday crashes (see Day of Week)

HEAVY TRUCK/BUS INVOLVED CRASHES

HEAVY TRUCK/BUS DRIVER ACTION PRIOR TO CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Going straight ahead	7,829	42.8	89	66.4	1,569	48.9
Turning left	1,573	8.6	3	2.2	225	7.0
Turning right	1,534	8.4	4	3.0	155	4.8
Stopped on roadway	1,218	6.7	11	8.2	262	8.2
In prior crash	16	0.1	0	0.0	2	0.1
Changing lanes	741	4.1	1	0.7	99	3.1
Backing	1,184	6.5	0	0.0	69	2.2
Slowing/stopping on roadway	1,193	6.5	2	1.5	300	9.4
Slowing/stopping other	20	0.1	0	0.0	5	0.2
Starting up on roadway	389	2.1	3	2.2	79	2.5
Starting up other	20	0.1	0	0.0	2	0.1
Entering parking	36	0.2	1	0.7	2	0.1
Leaving parking	42	0.2	0	0.0	4	0.1
Entering roadway	210	1.1	0	0.0	47	1.5
Leaving roadway	31	0.2	0	0.0	7	0.2
Making U-turn	43	0.2	0	0.0	9	0.3
Overtaking or passing	149	0.8	0	0.0	18	0.6
Avoiding object	34	0.2	0	0.0	6	0.2
Avoiding animal	10	0.1	0	0.0	4	0.1
Avoiding pedestrian	3	0.0	0	0.0	1	0.0
Avoiding vehicle (front/back)	223	1.2	9	6.7	53	1.7
Avoiding vehicle (angle)	67	0.4	1	0.7	15	0.5
Driverless moving	26	0.1	0	0.0	1	0.0
Parked	394	2.2	5	3.7	67	2.1
Crossing at intersection	1	0.0	0	0.0	0	0.0
Crossing not at intersection	1	0.0	0	0.0	1	0.0
Getting on/off vehicle	0	0.0	0	0.0	0	0.0
In roadway with traffic	0	0.0	0	0.0	0	0.0
In roadway against traffic	0	0.0	0	0.0	0	0.0
Standing/lying in roadway	0	0.0	0	0.0	0	0.0
Pushing/working on vehicle	1	0.0	0	0.0	0	0.0
Other working in roadway	1	0.0	0	0.0	0	0.0
Playing in roadway	0	0.0	0	0.0	0	0.0
In roadway other reason	0	0.0	0	0.0	0	0.0
Not in roadway	0	0.0	0	0.0	0	0.0
Other	40	0.2	0	0.0	5	0.2
Unknown	1,252	6.8	5	3.7	199	6.2
Total	18,281	100.0	134	100.0	3,206	100.0

HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

MOST HARMFUL EVENT IN A NONCOLLISION	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Loss of control	43	0.2	0	0.0	13	0.4
Cross center/median	23	0.1	0	0.0	3	0.1
Ran off road left	19	0.1	0	0.0	2	0.1
Ran off road right	40	0.2	0	0.0	7	0.2
Re-enter road	4	0.0	0	0.0	1	0.0
Overturn	236	1.3	4	3.0	98	3.1
Separation of units	38	0.2	0	0.0	5	0.2
Fire/explosion	36	0.2	2	1.5	2	0.1
Immersion	3	0.0	0	0.0	0	0.0
Jackknife	122	0.7	0	0.0	12	0.4
Downhill runaway	6	0.0	0	0.0	2	0.1
Cargo loss/shift	237	1.3	0	0.0	18	0.6
Individual fell off	7	0.0	1	0.7	4	0.1
Other noncollision	212	1.2	0	0.0	20	0.6
NONCOLLISION Subtotal	1,026	5.6	7	5.2	187	5.8

MOST HARMFUL EVENT IN A COLLISION WITH A NONFIXED OBJECT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Pedestrian	59	0.3	7	5.2	47	1.5
Pedalcycle	20	0.1	1	0.7	17	0.5
Motor vehicle in transport	12,007	65.7	105	78.4	2,405	75.0
Parked motor vehicle	790	4.3	2	1.5	33	1.0
Railway train	10	0.1	1	0.7	2	0.1
Animal	526	2.9	0	0.0	10	0.3
Other nonfixed objects	237	1.3	0	0.0	7	0.2
COLLISION NONFIXED Subtotal	13,649	74.7	116	86.6	2,521	78.6

HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

MOST HARMFUL EVENT IN A COLLISION WITH A FIXED OBJECT	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Bridge/pier/abutment	100	0.5	0	0.0	7	0.2
Bridge parapet end	7	0.0	0	0.0	0	0.0
Bridge rail	15	0.1	0	0.0	0	0.0
Guardrail face	51	0.3	0	0.0	7	0.2
Guardrail end	15	0.1	0	0.0	1	0.0
Median barrier	45	0.2	0	0.0	13	0.4
Highway traffic sign post	59	0.3	0	0.0	5	0.2
Signal post	19	0.1	0	0.0	0	0.0
Luminaire/light support	39	0.2	0	0.0	1	0.0
Utility pole	148	0.8	0	0.0	7	0.2
Other pole	36	0.2	0	0.0	1	0.0
Culvert	5	0.0	0	0.0	2	0.1
Curb	17	0.1	0	0.0	3	0.1
Ditch	123	0.7	1	0.7	30	0.9
Embankment	37	0.2	0	0.0	7	0.2
Fence	24	0.1	0	0.0	0	0.0
Mailbox	30	0.2	0	0.0	0	0.0
Tree	118	0.6	1	0.7	28	0.9
Rail crossing signal	35	0.2	0	0.0	0	0.0
Building	19	0.1	0	0.0	2	0.1
Traffic island	2	0.0	0	0.0	0	0.0
Fire hydrant	34	0.2	0	0.0	0	0.0
Impact attenuator	0	0.0	0	0.0	0	0.0
Other fixed object	236	1.3	0	0.0	8	0.2
COLLISION FIXED Subtotal	1,214	6.6	2	1.5	122	3.8

	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Total
Unknown Event	2,392	13.1	9	6.7	376	11.7
TOTAL MOST HARMFUL EVENT	18,281	100.0	134	100.0	3,206	100.0

HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

CRASH TYPE	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Single Vehicle	2,461	13.5	12	9.0	286	8.9
Head On	283	1.5	24	17.9	105	3.3
Head On - Left Turn	216	1.2	3	2.2	89	2.8
Angle	2,995	16.4	45	33.6	823	25.7
Rear End	4,159	22.8	33	24.6	1,078	33.6
Rear End - Left Turn	171	0.9	4	3.0	42	1.3
Rear End - Right Turn	180	1.0	0	0.0	27	0.8
Sideswipe - Same Direction	4,358	23.8	2	1.5	381	11.9
Sideswipe - Opposite Direct	1,169	6.4	4	3.0	136	4.2
Other	2,079	11.4	7	5.2	208	6.5
Unknown	210	1.1	0	0.0	31	1.0
Total	18,281	100.0	134	100.0	3,206	100.0

HAZARDOUS ACTION OF HEAVY TRUCK/BUS	Truck/Bus Crashes		Fatal Crashes		Injury Crashes		Hazardous Citation Issued	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury	Number of Heavy Trucks	% of Issued
None	7,864	43.0	92	68.7	1,539	48.0	20	0.7
Speed too fast	521	2.8	4	3.0	145	4.5	230	7.7
Speed too slow	17	0.1	1	0.7	5	0.2	9	0.3
Failed to yield	965	5.3	0	0.0	233	7.3	402	13.4
Disregard traffic control	224	1.2	4	3.0	96	3.0	119	4.0
Drove wrong way	6	0.0	0	0.0	1	0.0	3	0.1
Drove left of center	113	0.6	3	2.2	18	0.6	29	1.0
Improper passing	145	0.8	0	0.0	11	0.3	28	0.9
Improper lane use	968	5.3	0	0.0	93	2.9	269	9.0
Improper turn	831	4.5	1	0.7	60	1.9	241	8.0
Improper/no signal	39	0.2	0	0.0	4	0.1	14	0.5
Improper backing	1,016	5.6	0	0.0	42	1.3	264	8.8
Unable to stop in assured clear distance	1,734	9.5	11	8.2	475	14.8	805	26.9
Reckless driving	16	0.1	0	0.0	3	0.1	5	0.2
Careless/Negligent driving	325	1.8	5	3.7	86	2.7	152	5.1
Other	1,835	10.0	6	4.5	158	4.9	358	11.9
Unknown	1,662	9.1	7	5.2	237	7.4	48	1.6
Total	18,281	100.0	134	100.0	3,206	100.0	2,996	100.0

HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

RELATIONSHIP TO ROADWAY (LOCATION OF FIRST IMPACT IN CRASH)	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
On Road	16,518	90.4	124	92.5	2,939	91.7
Median	84	0.5	2	1.5	20	0.6
Shoulder	578	3.2	6	4.5	86	2.7
Outside of Shoulder/Curb	639	3.5	1	0.7	105	3.3
Gore	26	0.1	0	0.0	5	0.2
Other/Unknown	436	2.4	1	0.7	51	1.6
Total	18,281	100.0	134	100.0	3,206	100.0

TIME OF DAY IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
12:00 mid. - 02:59 a.m.	477	2.6	10	7.5	104	3.2
03:00 a.m. - 05:59 a.m.	539	2.9	9	6.7	103	3.2
06:00 a.m. - 08:59 a.m.	3,094	16.9	24	17.9	556	17.3
09:00 a.m. - 11:59 a.m.	3,607	19.7	18	13.4	608	19.0
12:00 noon - 02:59 p.m.	3,835	21.0	41	30.6	681	21.2
03:00 p.m. - 05:59 p.m.	3,684	20.2	21	15.7	619	19.3
06:00 p.m. - 08:59 p.m.	1,212	6.6	3	2.2	221	6.9
09:00 p.m. - 11:59 p.m.	663	3.6	6	4.5	110	3.4
Unknown	1,170	6.4	2	1.5	204	6.4
Total	18,281	100.0	134	100.0	3,206	100.0

ROADWAY TYPE IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Interstate Routes	2,995	16.4	27	20.1	570	17.8
U.S. & Michigan Roads	3,597	19.7	49	36.6	740	23.1
County & City Roads	11,689	63.9	58	43.3	1,896	59.1
Total	18,281	100.0	134	100.0	3,206	100.0

HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

DAY OF WEEK IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Sunday	463	2.5	6	4.5	102	3.2
Monday	3,389	18.5	17	12.7	624	19.5
Tuesday	3,312	18.1	31	23.1	565	17.6
Wednesday	3,416	18.7	33	24.6	602	18.8
Thursday	3,320	18.2	12	9.0	551	17.2
Friday	3,413	18.7	21	15.7	577	18.0
Saturday	968	5.3	14	10.4	185	5.8
Total	18,281	100.0	134	100.0	3,206	100.0

DRIVER GENDER IN CRASH	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Male	14,777	80.8	120	89.6	2,691	83.9
Female	1,993	10.9	7	5.2	326	10.2
Unknown	1,511	8.3	7	5.2	189	5.9
Total	18,281	100.0	134	100.0	3,206	100.0

NUMBER OF OCCUPANTS in Heavy Truck/Bus	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Total	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
1 occupant	13,599	74.4	110	82.1	2,345	73.1
2 occupants	1,475	8.1	11	8.2	298	9.3
3 occupants	314	1.7	1	0.7	74	2.3
4 occupants	168	0.9	1	0.7	38	1.2
5 occupants	99	0.5	1	0.7	24	0.7
6 + occupants	913	5.0	3	2.2	189	5.9
0 occupants	359	2.0	5	3.7	61	1.9
Unknown	1,354	7.4	2	1.5	177	5.5
Total	18,281	100.0	134	100.0	3,206	100.0

HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

VEHICLE TYPES Involved in Crash with Heavy Truck/Bus	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Vehicles	% of Subtotal	Number of Vehicles	% of Fatal	Number of Vehicles	% of Injury
Passenger Car and Station Wagon	11,164	70.6	111	68.1	2,357	70.5
Van and Motorhome	1,328	8.4	11	6.7	277	8.3
Pickup	2,190	13.8	23	14.1	457	13.7
Small Truck (under 10,000 lbs.)	335	2.1	0	0.0	61	1.8
Motorcycle	33	0.2	5	3.1	19	0.6
Moped	2	0.0	0	0.0	1	0.0
Go Cart	0	0.0	0	0.0	0	0.0
Snowmobile	7	0.0	0	0.0	1	0.0
Off Road Vehicle	1	0.0	0	0.0	1	0.0
Other	92	0.6	1	0.6	15	0.4
Unknown	661	4.2	12	7.4	156	4.7
Subtotal	15,813	100.0	163	100.0	3,345	100.0

HEAVY TRUCK/BUS VEHICLE TYPES	All Crashes		Fatal Crashes		Injury Crashes	
	Number of Heavy Trucks	% of Subtotal	Number of Heavy Trucks	% of Fatal	Number of Heavy Trucks	% of Injury
Commercial Vehicle: Group A	7,632	41.7	80	59.7	1,370	42.7
Commercial Vehicle: Group B	3,729	20.4	28	20.9	687	21.4
Commercial Vehicle: Group C	548	3.0	2	1.5	110	3.4
Other Truck	911	5.0	3	2.2	166	5.2
Unknown Truck	5,461	29.9	21	15.7	873	27.2
Subtotal	18,281	100.0	134	100.0	3,206	100.0

Total Vehicle Types in Heavy Truck/Bus Crashes	34,094		297		6,551	
---	---------------	--	------------	--	--------------	--

Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

HEAVY TRUCK/BUS INVOLVED CRASHES (continued)

Hazardous Citation Issued	Heavy Truck/Bus				Passenger Vehicles Involved with Heavy Trucks					
	Single Vehicle Crash		Multi-Vehicle Crash		Single Vehicle Crash		Multi-Vehicle All Crashes		Multi-Vehicle Heavy Truck /Bus Involved Crash	
	Number of Vehicles	% of citation	Number of Vehicles	% of citation	Number of Vehicles	% of citation	Number of Vehicles	% of citation	Number of Vehicles	% of citation
None	7	1.2	13	0.5	82	0.5	431	0.4	11	0.5
Speed too fast	167	27.7	63	2.6	7,089	39.0	3,352	3.4	236	9.8
Speed too slow	5	0.8	4	0.2	52	0.3	208	0.2	3	0.1
Failed to yield	5	0.8	397	16.6	88	0.5	29,521	30.3	527	21.9
Disregard traffic control	10	1.7	109	4.6	129	0.7	7,180	7.4	157	6.5
Drove wrong way	1	0.2	2	0.1	20	0.1	140	0.1	5	0.2
Drove left of center	1	0.2	28	1.2	180	1.0	993	1.0	57	2.4
Improper passing	3	0.5	25	1.0	85	0.5	1,174	1.2	108	4.5
Improper lane use	26	4.3	243	10.2	402	2.2	4,003	4.1	201	8.4
Improper turn	60	10.0	181	7.6	82	0.5	2,489	2.6	66	2.7
Improper/no signal	0	0.0	14	0.6	8	0.0	171	0.2	9	0.4
Improper backing	43	7.1	221	9.2	1,131	6.2	1,664	1.7	20	0.8
Unable to stop in assured clear distance	28	4.6	777	32.5	981	5.4	38,680	39.7	646	26.9
Reckless driving	4	0.7	1	0.0	693	3.8	336	0.3	15	0.6
Careless/Negligent driving	92	15.3	60	2.5	3,902	21.5	1,998	2.0	146	6.1
Other	143	23.7	215	9.0	2,722	15.0	3,121	3.2	136	5.7
Unknown	8	1.3	40	1.7	521	2.9	2,025	2.1	59	2.5
Total Cited Vehicles	603	100.0	2,393	100.0	18,167	100.0	97,486	100.0	2,402	100.0
Percent of Total Vehicles		15.1		16.8		10.7		21.7		17.3
Vehicles with No Citation Issued	3,382	84.9	11,885	83.2	150,877	89.3	352,412	78.3	11,472	82.7
Total Vehicles Involved	3,985	100.0	14,278	100.0	169,044	100.0	449,898	100.0	13,874	100.0