



**RESEARCH**

# **Vehicle Fires**

## **Supporting Tables**

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## Vehicle Fires: Supporting Tables

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The tables in this document are companions to the [report of the same name](#). Firefighter deaths and injuries are excluded from this analysis.

Most tables, except fires by year, show estimates of 2013–2017 annual averages. All except Table 1 focus only on highway vehicle fires. Except for Table 3, all estimates were derived from the US Fire Administration’s National Fire Incident Reporting System (NFIRS) and the NFPA annual fire department experience survey. Fires are rounded to the nearest 10, deaths and injuries are rounded to the nearest one, and property loss is rounded to the nearest million dollars. National estimates are projections. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Percentages were calculated on the actual estimates, so two figures with the same rounded-off estimates might have different percentages. Except for trend tables, property loss is not adjusted for inflation. If a vehicle fire inside a structure spread to the structure itself, the incident would be considered a structure fire and would not be included in these tables. Inflation adjustments were made only for the trend tables.

To compensate for fires that were reported to local fire departments but not captured in NFIRS, estimates from NFPA’s fire department experience survey are divided by totals in NFIRS. The resulting multipliers are applied to the NFIRS data. For more information on how national estimates of fires are calculated, see [“How NFPA’s National Estimates Are Calculated for Home Structure Fires.”](#)

Vehicle fires were identified by NFIRS incident type codes 130–139. The NFIRS mobile property data element was used to classify vehicles by type, regardless of the vehicle fire incident type. A highway vehicle fire is a fire involving a vehicle intended for highway use, including passenger road vehicles and trucks or freight road vehicles. The term *highway* is used to describe the vehicle, not the place where the fire occurred. Unknown data was allocated proportionally for each data element except for the incident type and property use. Major causal factors were pulled from several NFIRS data elements, including factors contributing to ignition, heat sources, and causes of ignition. Double counting might have occurred. Reports of fires from departments providing mutual aid were excluded from the analysis.

Highway vehicles were identified by NFIRS mobile property codes 10–29, which are used to classify passenger road and freight road transport vehicles. Cars, large trucks, and buses were also examined separately.

Cars or automobiles were identified by mobile property code 11, buses (including school buses, trackless trolleys, and motor coaches) by mobile property code 12, and large trucks by mobile property codes 21 and 23–27 (general use trucks, dump trucks, fire apparatus, trailers or semitrailers, and tank trucks. Pickup trucks and unclassified trucks were omitted.

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**Table 1. Vehicle Fires by Type of Vehicle  
2013–2017 Annual Averages**

Vehicle Type	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
<b>Highway vehicles</b>	<b>181,680</b>	<b>(92%)</b>	<b>355</b>	<b>(91%)</b>	<b>1,172</b>	<b>(81%)</b>	<b>\$1,259</b>	<b>(74%)</b>
<i>Passenger road vehicles</i>	<i>161,060</i>	<i>(82%)</i>	<i>302</i>	<i>(77%)</i>	<i>1,105</i>	<i>(70%)</i>	<i>\$844</i>	<i>(49%)</i>
<i>Trucks or freight road vehicles</i>	<i>20,620</i>	<i>(10%)</i>	<i>53</i>	<i>(14%)</i>	<i>156</i>	<i>(11%)</i>	<i>\$415</i>	<i>(24%)</i>
Passenger road vehicles	161,060	(82%)	302	(77%)	1,105	(70%)	\$844	(49%)
Automobile or passenger car	117,370	(59%)	230	(59%)	694	(48%)	\$557	(33%)
Motor home, camper, or bookmobile	2,230	(1%)	8	(2%)	58	(4%)	\$63	(4%)
Motorcycle or trail bike	1,720	(1%)	3	(1%)	29	(2%)	\$5	(0%)
Bus, school bus, or trackless trolley	1,550	(1%)	0	(0%)	11	(1%)	\$28	(2%)
Travel trailer designed to be towed	1,500	(1%)	3	(1%)	24	(2%)	\$14	(1%)
Off-road recreational vehicle	1,450	(1%)	1	(0%)	13	(1%)	\$7	(0%)
Collapsible camping trailer	190	(0%)	1	(0%)	1	(0%)	\$1	(0%)
Mobile home or building or manufactured housing	140	(0%)	1	(0%)	4	(0%)	\$3	(0%)
Unclassified passenger road vehicle	34,920	(18%)	55	(14%)	182	(13%)	\$166	(10%)
Trucks or freight road vehicles	20,620	(10%)	53	(14%)	156	(11%)	\$415	(24%)
Semitrailer with or without tractor	6,350	(3%)	22	(6%)	46	(3%)	\$167	(10%)
General use truck, dump truck, or fire apparatus	3,780	(2%)	4	(1%)	35	(2%)	\$54	(3%)
Pickup truck or non-motorized hauling rig	3,510	(2%)	9	(2%)	27	(2%)	\$23	(1%)
Garbage, waste, or refuse truck	1,760	(1%)	0	(0%)	10	(1%)	\$39	(2%)
Tank truck for flammable or combustible liquid or chemical cargo	350	(0%)	6	(2%)	8	(1%)	\$13	(1%)
Tank truck for nonflammable cargo	290	(0%)	1	(0%)	2	(0%)	\$6	(0%)
Tank truck for compressed or LP-gas	40	(0%)	0	(0%)	1	(0%)	\$1	(0%)
Unclassified freight road transport vehicle	4,530	(2%)	11	(3%)	27	(2%)	\$111	(6%)

**Table 1. Vehicle Fires by Type of Vehicle  
2013–2017 Annual Averages (Continued)**

<b>Vehicle Type</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Industrial, agricultural, and construction vehicles	8,230	(4%)	2	(1%)	47	(3%)	\$262	(15%)
Agricultural vehicle, including baler or chopper	3,520	(2%)	1	(0%)	9	(1%)	\$95	(6%)
Construction vehicle, including bulldozer, shovel grader, scraper, trencher, and plow	1,390	(1%)	1	(0%)	15	(1%)	\$48	(3%)
Industrial loader, forklift, tow motor, or stacker	1,060	(1%)	0	(0%)	5	(0%)	\$32	(2%)
Timber harvest vehicle	440	(0%)	0	(0%)	2	(0%)	\$24	(1%)
Crane	50	(0%)	0	(0%)	1	(0%)	\$8	(0%)
Unclassified industrial, agricultural, or construction vehicle	1,760	(1%)	1	(0%)	14	(1%)	\$55	(3%)
<b>Water vehicles</b>	<b>1,560</b>	<b>(1%)</b>	<b>3</b>	<b>(1%)</b>	<b>99</b>	<b>(7%)</b>	<b>\$33</b>	<b>(2%)</b>
Boat under 65 ft	1,120	(1%)	2	(0%)	73	(5%)	\$21	(1%)
Personal watercraft	200	(0%)	0	(0%)	15	(1%)	\$1	(0%)
Boat or ship 65 ft or more and under 1,000 tons	40	(0%)	0	(0%)	0	(0%)	\$5	(0%)
Sailboat	40	(0%)	0	(0%)	5	(0%)	\$1	(0%)
Commercial fishing or processing vessel	30	(0%)	0	(0%)	2	(0%)	\$1	(0%)
Barge, petroleum balloon, or towable water vessel	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Cargo or military ship of 1,000 tons or more	10	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Cruise liner or passenger ship of 1,000 tons or more	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Tankship	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified water transport vessel	80	(0%)	1	(0%)	3	(0%)	\$1	(0%)
<b>Rail vehicles</b>	<b>760</b>	<b>(0%)</b>	<b>1</b>	<b>(0%)</b>	<b>76</b>	<b>(5%)</b>	<b>\$23</b>	<b>(1%)</b>
Engine or locomotive	290	(0%)	0	(0%)	0	(0%)	\$10	(1%)
Box, freight, or hopper car	180	(0%)	0	(0%)	0	(0%)	\$2	(0%)
Maintenance equipment car, including caboose or crane	80	(0%)	0	(0%)	0	(0%)	\$1	(0%)
Diner or passenger car	60	(0%)	0	(0%)	1	(0%)	\$1	(0%)

**Table 1. Vehicle Fires by Type of Vehicle  
2013–2017 Annual Averages (Continued)**

Vehicle Type	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Container or piggyback car	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Rapid transit car or self-powered trolley	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Tank car	10	(0%)	0	(0%)	75	(5%)	\$5	(0%)
Unclassified rail transport vehicle	100	(0%)	0	(0%)	0	(0%)	\$2	(0%)
<b>Aircraft</b>	<b>310</b>	<b>(0%)</b>	<b>29</b>	<b>(6%)</b>	<b>21</b>	<b>(1%)</b>	<b>\$44</b>	<b>(3%)</b>
Personal, business or utility aircraft under 12,500 pounds	160	(0%)	18	(4%)	12	(1%)	\$6	(0%)
Jet or turbine-powered fixed-wing commercial aircraft	40	(0%)	1	(0%)	1	(0%)	\$15	(1%)
Personal, business, or utility aircraft of 12,500 pounds or more	30	(0%)	5	(1%)	4	(0%)	\$12	(1%)
Propeller-driven or turboprop fixed-wing commercial aircraft	30	(0%)	0	(0%)	0	(0%)	\$1	(0%)
Military fixed-wing aircraft	10	(0%)	1	(0%)	1	(0%)	\$8	(1%)
Non-military helicopter or gyrocopter	10	(0%)	1	(0%)	0	(0%)	\$1	(0%)
Military non-fixed-wing aircraft	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Balloon	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified air transport vehicle	30	(0%)	3	(1%)	2	(0%)	\$1	(0%)
<b>Miscellaneous vehicles</b>	<b>5,050</b>	<b>(3%)</b>	<b>3</b>	<b>(1%)</b>	<b>37</b>	<b>(3%)</b>	<b>\$72</b>	<b>(4%)</b>
Home or garden vehicle	1,810	(1%)	0	(0%)	19	(1%)	\$5	(0%)
Mechanically moved shipping contain	40	(0%)	0	(0%)	1	(0%)	\$1	(0%)
Armored vehicle	30	(0%)	0	(0%)	1	(0%)	\$2	(0%)
Aerial tramway vehicle	10	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Missile, rocket, or space vehicle	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified mobile property	3,160	(2%)	3	(1%)	16	(1%)	\$65	(4%)
<b>Total</b>	<b>197,500</b>	<b>(100%)</b>	<b>392</b>	<b>(100%)</b>	<b>1,442</b>	<b>(100%)</b>	<b>\$1,711</b>	<b>(100%)</b>

Note: Subcategories are only shown if they account for at least 1 percent of the fires. Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 2. Highway Vehicle Fires by Year  
1980–2018**

<b>Year</b>	<b>Fires</b>	<b>Civilian Deaths</b>	<b>Civilian Injuries</b>	<b>Direct Property Damage (in Millions)</b>	<b>Loss in 2018 Dollars (in Millions)</b>
1980	456,000	650	2,850	\$0.5	\$1.4
1981	453,000	770	2,900	\$0.5	\$1.4
1982	433,000	575	3,250	\$0.5	\$1.4
1983	435,500	670	3,400	\$0.6	\$1.5
1984	437,000	530	3,250	\$0.6	\$1.5
1985	437,000	770	3,250	\$0.7	\$1.6
1986	438,000	665	2,850	\$0.7	\$1.5
1987	451,000	755	2,900	\$0.7	\$1.6
1988	459,000	800	2,750	\$0.8	\$1.7
1989	415,500	560	2,750	\$0.8	\$1.6
1990	415,000	645	3,025	\$0.8	\$1.6
1991	406,500	530	2,675	\$0.8	\$1.5
1992	385,500	665	2,750	\$0.8	\$1.5
1993	402,000	540	2,400	\$0.9	\$1.5
1994	402,000	555	2,325	\$1.0	\$1.6
1995	386,000	490	2,275	\$1.0	\$1.7
1996	395,000	550	2,075	\$1.1	\$1.8
1997	377,000	450	1,950	\$1.1	\$1.7
1998	358,500	545	2,050	\$1.1	\$1.7
1999	345,000	450	1,600	\$1.1	\$1.7
2000	325,000	450	1,325	\$1.2	\$1.7
2001	327,000	470	1,750	\$1.3	\$1.8
2002	307,000	540	1,700	\$1.2	\$1.7
2003	286,000	455	1,400	\$1.1	\$1.5
2004	266,500	520	1,300	\$1.0	\$1.3
2005	259,000	500	1,450	\$1.0	\$1.3
2006	250,000	445	1,075	\$1.0	\$1.2
2007	227,500	365	1,500	\$1.1	\$1.3
2008	207,000	350	850	\$1.2	\$1.4
2009	190,500	260	1,455	\$1.0	\$1.2
2010	184,500	285	1,440	\$1.0	\$1.1
2011	187,500	270	1,020	\$1.0	\$1.1
2012	172,500	300	800	\$1.3	\$1.2
2013	164,000	300	925	\$1.1	\$1.1
2014	167,500	310	1,275	\$1.1	\$1.2
2015	174,000	445	1,550	\$1.2	\$1.4
2016	173,000	280	1,075	\$1.3	\$1.4
2017	168,000	400	1,370	\$1.4	\$1.5
2018	181,500	490	1,300	\$1.4	\$1.4

Source: NFPA fire department experience survey as presented in NFPA’s *Fire Loss in the United States* series of reports. Inflation adjustments were based on the consumer price index purchasing power of the dollar.

**Table 3. US Highway Vehicle Fire Problem by Type of Vehicle  
2013–2017 Annual Averages**

<b>Vehicle Type</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Passenger road vehicles	161,100	(89%)	302	(85%)	1,015	(87%)	\$844	(67%)
Automobile or passenger car	117,400	(65%)	230	(65%)	694	(59%)	\$557	(44%)
Motor home, camper, or bookmobile	2,200	(1%)	8	(2%)	58	(5%)	\$63	(5%)
Motorcycle or trail bike	1,700	(1%)	3	(1%)	29	(2%)	\$5	(0%)
Bus, school bus, or trackless trolley	1,500	(1%)	0	(0%)	11	(1%)	\$28	(2%)
Travel trailer designed to be towed	1,500	(1%)	3	(1%)	24	(2%)	\$14	(1%)
Off-road recreational vehicle	1,400	(1%)	1	(0%)	13	(1%)	\$7	(1%)
Collapsible camping trailer	200	(0%)	1	(0%)	1	(0%)	\$1	(0%)
Mobile home or building or manufactured housing	100	(0%)	1	(0%)	4	(0%)	\$3	(0%)
Unclassified passenger road vehicle	34,900	(19%)	55	(16%)	182	(16%)	\$166	(13%)
Trucks or freight road vehicles	20,600	(11%)	53	(15%)	156	(13%)	\$415	(33%)
Semitrailer with or without tractor	6,400	(3%)	22	(6%)	46	(4%)	\$167	(13%)
General use truck, dump truck, or fire apparatus	3,800	(2%)	4	(1%)	35	(3%)	\$54	(4%)
Pickup truck or non-motorized hauling rig	3,500	(2%)	9	(2%)	27	(2%)	\$23	(2%)
Garbage, waste, or refuse truck	1,800	(1%)	0	(0%)	10	(1%)	\$39	(3%)
Tank truck for flammable or combustible liquid or chemical cargo	300	(0%)	6	(2%)	8	(1%)	\$13	(1%)
Tank truck for nonflammable cargo	300	(0%)	1	(0%)	2	(0%)	\$6	(1%)
Tank truck for compressed or LP-gas	0	(0%)	0	(0%)	1	(0%)	\$1	(0%)
Unclassified freight road transport vehicle	4,500	(2%)	11	(3%)	27	(2%)	\$111	(9%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.



**Table 4. Highway Vehicle Fires by Month  
2013–2017 Annual Averages**

<b>Month</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
January	14,900	(8%)	23	(6%)	80	(7%)	\$95	(8%)
February	13,900	(8%)	29	(8%)	89	(8%)	\$91	(7%)
March	15,100	(8%)	27	(8%)	98	(8%)	\$126	(10%)
April	14,900	(8%)	32	(9%)	99	(8%)	\$103	(8%)
May	16,000	(9%)	29	(8%)	104	(9%)	\$109	(9%)
June	16,200	(9%)	24	(7%)	110	(9%)	\$110	(9%)
July	17,000	(9%)	31	(9%)	113	(10%)	\$112	(9%)
August	16,200	(9%)	32	(9%)	111	(10%)	\$109	(9%)
September	15,000	(8%)	28	(8%)	104	(9%)	\$95	(8%)
October	14,900	(8%)	37	(10%)	98	(8%)	\$111	(9%)
November	13,800	(8%)	35	(10%)	77	(7%)	\$103	(8%)
December	13,700	(8%)	29	(8%)	88	(8%)	\$94	(7%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>
<b>Average per month</b>	<b>15,100</b>	<b>(8%)</b>	<b>30</b>	<b>(8%)</b>	<b>98</b>	<b>(8%)</b>	<b>\$105</b>	<b>(8%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 5. Highway Vehicle Fires by Day of Week  
2013–2017 Annual Averages**

<b>Day of Week</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Sunday	24,100	(13%)	60	(17%)	155	(13%)	\$174	(14%)
Monday	26,400	(15%)	57	(16%)	156	(13%)	\$196	(16%)
Tuesday	25,800	(14%)	40	(11%)	163	(14%)	\$179	(14%)
Wednesday	25,700	(14%)	40	(11%)	163	(14%)	\$169	(13%)
Thursday	25,700	(14%)	45	(13%)	175	(15%)	\$175	(14%)
Friday	27,600	(15%)	51	(14%)	172	(15%)	\$182	(14%)
Saturday	26,300	(14%)	62	(18%)	188	(16%)	\$184	(15%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>
Average per day of week	26,000	(14%)	51	(14%)	167	(14%)	\$180	(14%)

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 6. Highway Vehicle Fires by Time of Day  
2013–2017 Annual Averages**

<b>Time of Day</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Midnight–12:59 a.m.	5,700	(3%)	26	(7%)	38	(3%)	\$51	(4%)
1:00–1:59 a.m.	5,200	(3%)	20	(6%)	31	(3%)	\$45	(4%)
2:00–2:59 a.m.	5,100	(3%)	27	(8%)	43	(4%)	\$49	(4%)
3:00–3:59 a.m.	4,700	(3%)	24	(7%)	30	(3%)	\$52	(4%)
4:00–4:59 a.m.	4,400	(2%)	19	(5%)	19	(2%)	\$72	(6%)
5:00–5:59 a.m.	4,400	(2%)	11	(3%)	24	(2%)	\$43	(3%)
6:00–6:59 a.m.	4,900	(3%)	15	(4%)	23	(2%)	\$34	(3%)
7:00–7:59 a.m.	5,800	(3%)	8	(2%)	24	(2%)	\$35	(3%)
8:00–8:59 a.m.	6,300	(3%)	10	(3%)	33	(3%)	\$39	(3%)
9:00–9:59 a.m.	6,600	(4%)	11	(3%)	39	(3%)	\$46	(4%)
10:00–10:59 a.m.	7,400	(4%)	15	(4%)	55	(5%)	\$45	(4%)
11:00–11:59 a.m.	8,400	(5%)	11	(3%)	59	(5%)	\$52	(4%)
Noon–12:59 p.m.	9,400	(5%)	10	(3%)	74	(6%)	\$58	(5%)
1:00–1:59 p.m.	10,000	(6%)	9	(3%)	65	(6%)	\$64	(5%)
2:00–2:59 p.m.	10,800	(6%)	15	(4%)	83	(7%)	\$73	(6%)
3:00–3:59 p.m.	11,500	(6%)	11	(3%)	73	(6%)	\$68	(5%)
4:00–4:59 p.m.	11,400	(6%)	12	(3%)	80	(7%)	\$59	(5%)
5:00–5:59 p.m.	11,200	(6%)	13	(4%)	79	(7%)	\$65	(5%)
6:00–6:59 p.m.	10,200	(6%)	15	(4%)	77	(7%)	\$56	(4%)
7:00–7:59 p.m.	9,000	(5%)	13	(4%)	56	(5%)	\$53	(4%)
8:00–8:59 p.m.	8,300	(5%)	11	(3%)	54	(5%)	\$48	(4%)
9:00–9:59 p.m.	7,700	(4%)	15	(4%)	42	(4%)	\$48	(4%)
10:00–10:59 p.m.	6,900	(4%)	19	(5%)	30	(3%)	\$51	(4%)
11:00–11:59 p.m.	6,200	(3%)	15	(4%)	42	(4%)	\$54	(4%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>
<b>Average per hour of alarm</b>	<b>7,600</b>	<b>(4%)</b>	<b>15</b>	<b>(4%)</b>	<b>49</b>	<b>(4%)</b>	<b>\$52</b>	<b>(4%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 7. Highway Vehicle Fires by Property Use Where Fire Occurred  
2013–2017 Annual Averages**

<b>Fixed Property Use</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Outside or special property	139,500	(77%)	313	(88%)	879	(75%)	\$921	(73%)
<i>Highway, street, or parking area</i>	<i>128,900</i>	<i>(71%)</i>	<i>280</i>	<i>(79%)</i>	<i>806</i>	<i>(69%)</i>	<i>\$834</i>	<i>(66%)</i>
Highway or divided highway	40,800	(22%)	155	(44%)	251	(21%)	\$352	(28%)
Residential street, road, or residential driveway	32,500	(18%)	59	(17%)	196	(17%)	\$159	(13%)
Vehicle parking area	29,000	(16%)	14	(4%)	203	(17%)	\$181	(14%)
Street or road in commercial area	15,600	(9%)	33	(9%)	70	(6%)	\$77	(6%)
Unclassified street	11,000	(6%)	19	(5%)	87	(7%)	\$65	(5%)
<i>Open land, beach, or campsite</i>	<i>6,800</i>	<i>(4%)</i>	<i>21</i>	<i>(6%)</i>	<i>55</i>	<i>(5%)</i>	<i>\$50</i>	<i>(4%)</i>
Open land or field	3,700	(2%)	12	(3%)	24	(2%)	\$28	(2%)
Vacant lot	1,600	(1%)	5	(2%)	6	(1%)	\$11	(1%)
Graded or cared-for plot of land	1,300	(1%)	3	(1%)	16	(1%)	\$8	(1%)
<i>Unclassified outside or special property</i>	<i>2,600</i>	<i>(1%)</i>	<i>5</i>	<i>(1%)</i>	<i>5</i>	<i>(0%)</i>	<i>\$14</i>	<i>(1%)</i>
<b>Residential</b>	<b>14,200</b>	<b>(8%)</b>	<b>13</b>	<b>(4%)</b>	<b>114,</b>	<b>(10%)</b>	<b>\$87</b>	<b>(7%)</b>
One- or two-family home	11,100	(6%)	10	(3%)	93	(8%)	\$66	(5%)
Apartment or multifamily home	1,600	(1%)	1	(0%)	10	(1%)	\$9	(1%)
Unclassified or unknown-type residential	1,300	(1%)	2	(1%)	11	(1%)	\$11	(1%)
<b>Mercantile or business</b>	<b>10,500</b>	<b>(6%)</b>	<b>5</b>	<b>(1%)</b>	<b>86</b>	<b>(7%)</b>	<b>\$90</b>	<b>(7%)</b>
Service station or gas station	2,300	(1%)	1	(0%)	23	(2%)	\$12	(1%)
Grocery or convenience store	2,200	(1%)	2	(1%)	25	(2%)	\$46	(4%)
Motor vehicle or boat sales, service or repair	2,200	(1%)	1	(0%)	16	(1%)	\$8	(1%)
<b>Storage</b>	<b>3,100</b>	<b>(2%)</b>	<b>2</b>	<b>(0%)</b>	<b>38</b>	<b>(3%)</b>	<b>\$56</b>	<b>(4%)</b>
Vehicle storage, garage, or fire station	2,200	(1%)	0	(0%)	25	(2%)	\$42	(3%)
<b>Public assembly</b>	<b>2,300</b>	<b>(1%)</b>	<b>6</b>	<b>(2%)</b>	<b>15</b>	<b>(1%)</b>	<b>\$13</b>	<b>(1%)</b>
<b>Industrial, utility, defense, agriculture, or mining</b>	<b>1,100</b>	<b>(1%)</b>	<b>2</b>	<b>(1%)</b>	<b>4</b>	<b>(0%)</b>	<b>\$19</b>	<b>(2%)</b>
<b>Educational</b>	<b>800</b>	<b>(0%)</b>	<b>0</b>	<b>(0%)</b>	<b>4</b>	<b>(0%)</b>	<b>\$3</b>	<b>(0%)</b>

**Table 7. Highway Vehicle Fires by Property Use Where Fire Occurred  
2013–2017 Annual Averages (Continued)**

<b>Fixed Property Use</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Health care, detention, and correction	600	(0%)	1	(0%)	2	(0%)	\$3	(0%)
Manufacturing or processing	500	(0%)	0	(0%)	2	(0%)	\$8	(1%)
Unclassified or unknown property use	9,100	(5%)	13	(4%)	27	(2%)	\$59	(5%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 8. Highway Vehicle Fires by Cause of Ignition  
2013–2017 Annual Averages**

<b>Cause</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Unintentional	102,600	(56%)	285	(80%)	845	(72%)	\$677	(54%)
Failure of equipment or heat source	58,700	(32%)	23	(6%)	245	(21%)	\$377	(30%)
Intentional	12,200	(7%)	34	(9%)	59	(5%)	\$99	(8%)
Unclassified	7,400	(4%)	10	(3%)	21	(2%)	\$102	(8%)
Act of nature	700	(0%)	3	(1%)	1	(0%)	\$4	(0%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 9. Highway Vehicle Fires by Factor Contributing to Ignition  
2013–2017 Annual Averages**

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Mechanical failure or malfunction	84,700	(47%)	28	(8%)	304	(26%)	\$502	(40%)
Unclassified mechanical failure or malfunction	60,300	(33%)	13	(4%)	177	(15%)	\$386	(31%)
Leak or break	14,100	(8%)	14	(4%)	83	(7%)	\$72	(6%)
Worn out	6,200	(3%)	0	(0%)	8	(1%)	\$26	(2%)
Backfire	2,900	(2%)	0	(0%)	27	(2%)	\$9	(1%)
Electrical failure or malfunction	38,500	(21%)	3	(1%)	124	(11%)	\$221	(18%)
Other factors	65,400	(36%)	340	(96%)	800	(68%)	\$589	(47%)
Unclassified factor contributed to ignition	11,700	(6%)	55	(16%)	90	(8%)	\$111	(9%)
Exposure fire	10,500	(6%)	5	(1%)	18	(2%)	\$150	(12%)
Collision, knockdown, run over, or overturn	7,800	(4%)	212	(60%)	220	(19%)	\$110	(9%)
Heat source too close to combustibles	6,500	(4%)	9	(3%)	89	(8%)	\$42	(3%)
Unclassified misuse of material or product	4,600	(3%)	13	(4%)	74	(6%)	\$23	(2%)
Flammable liquid or gas spilled	4,600	(3%)	21	(6%)	94	(8%)	\$36	(3%)
Abandoned or discarded material or product	3,500	(2%)	1	(0%)	24	(2%)	\$14	(1%)
Unclassified operational deficiency	2,400	(1%)	2	(1%)	9	(1%)	\$11	(1%)
Equipment not being operated properly	1,800	(1%)	6	(2%)	25	(2%)	\$13	(1%)
Flammable liquid used to kindle fire	1,700	(1%)	4	(1%)	9	(1%)	\$13	(1%)
Unclassified fire spread or control	1,100	(1%)	5	(2%)	6	(1%)	\$9	(1%)
Cutting or welding too close to combustible	1,000	(1%)	0	(0%)	28	(2%)	\$4	(0%)
Equipment overloaded	900	(1%)	0	(0%)	3	(0%)	\$5	(0%)
<b>Total fires*</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>
<b>Total factors*</b>	<b>188,700</b>	<b>(104%)</b>	<b>372</b>	<b>(105%)</b>	<b>1,227</b>	<b>(105%)</b>	<b>\$1,312</b>	<b>(104%)</b>

\* Multiple entries are allowed, resulting in more factors than fires.

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 10. Highway Vehicle Fires by Heat Source  
2013–2017 Annual Averages**

<b>Heat Source</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Unclassified heat from powered equipment	40,800	(22%)	64	(18%)	206	(18%)	\$276	(22%)
Radiated or conducted heat from operating equipment	32,600	(18%)	48	(14%)	186	(16%)	\$191	(15%)
Arcing	29,200	(16%)	8	(2%)	123	(10%)	\$168	(13%)
Unclassified heat source	16,000	(9%)	59	(17%)	80	(7%)	\$120	(10%)
Spark, ember, or flame from operating equipment	13,600	(8%)	53	(15%)	186	(16%)	\$96	(8%)
Unclassified hot or smoldering object	10,400	(6%)	13	(4%)	35	(3%)	\$66	(5%)
Heat or spark from friction	10,300	(6%)	33	(9%)	69	(6%)	\$85	(7%)
Backfire from internal combustion engine	3,900	(2%)	1	(0%)	28	(2%)	\$18	(1%)
Radiated heat from another fire	3,300	(2%)	1	(0%)	4	(0%)	\$59	(5%)
Smoking materials	2,900	(2%)	3	(1%)	40	(3%)	\$13	(1%)
Heat from direct flame or convection currents	2,800	(2%)	4	(1%)	20	(2%)	\$33	(3%)
Lighter	2,200	(1%)	12	(3%)	68	(6%)	\$15	(1%)
Hot ember or ash	2,000	(1%)	1	(0%)	20	(2%)	\$9	(1%)
Multiple heat sources, including multiple ignitions	1,800	(1%)	38	(11%)	21	(2%)	\$30	(2%)
Molten or hot material	1,600	(1%)	1	(0%)	5	(0%)	\$12	(1%)
Unclassified heat spread from another fire	1,400	(1%)	1	(0%)	7	(1%)	\$19	(2%)
Flame or torch used for lighting	1,200	(1%)	2	(1%)	16	(1%)	\$9	(1%)
Match	1,200	(1%)	3	(1%)	8	(1%)	\$9	(1%)
Incendiary device	1,200	(1%)	1	(0%)	2	(0%)	\$9	(1%)
Other known heat source	3,200	(2%)	11	(3%)	47	(4%)	\$22	(2%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.



**Table 11. Highway Vehicle Fires by Area of Fire Origin  
2013–2017 Annual Averages**

<b>Area of Fire Origin</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Engine area, running gear, or wheel area	113,600	(63%)	122	(34%)	505	(43%)	\$695	(55%)
Passenger area	20,500	(11%)	71	(20%)	214	(18%)	\$156	(12%)
Unclassified vehicle area	16,900	(9%)	75	(21%)	100	(9%)	\$126	(10%)
Cargo or trunk area	8,400	(5%)	7	(2%)	105	(9%)	\$81	(6%)
Exterior or exposed vehicle surface	6,100	(3%)	4	(1%)	35	(3%)	\$37	(3%)
Unclassified area of origin	3,900	(2%)	7	(2%)	17	(1%)	\$30	(2%)
Fuel tank or fuel line	3,000	(2%)	45	(13%)	95	(8%)	\$33	(3%)
On or near highway, parking lot, or street	2,800	(2%)	10	(3%)	19	(2%)	\$19	(1%)
Unclassified outside area	1,900	(1%)	1	(0%)	13	(1%)	\$12	(1%)
Garage or vehicle storage area*	900	(1%)	0	(0%)	22	(2%)	\$13	(1%)
Other known area	3,600	(2%)	12	(3%)	46	(4%)	\$58	(5%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 12. Highway Vehicle Fires by Item First Ignited  
2013–2017 Annual Averages**

<b>Item First Ignited</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Electrical wire or cable insulation	51,500	(28%)	4	(1%)	142	(12%)	\$308	(24%)
Flammable or combustible liquid, gas filter, or piping	47,900	(26%)	232	(65%)	595	(51%)	\$331	(26%)
Unclassified item first ignited	30,000	(17%)	39	(11%)	120	(10%)	\$217	(17%)
Multiple items first ignited	12,800	(7%)	46	(13%)	86	(7%)	\$109	(9%)
Tire	11,300	(6%)	7	(2%)	31	(3%)	\$130	(10%)
Upholstered furniture or vehicle seat	8,500	(5%)	9	(3%)	58	(5%)	\$54	(4%)
Light vegetation, including grass	3,300	(2%)	6	(2%)	24	(2%)	\$18	(1%)
Rubbish, trash, or waste	2,900	(2%)	0	(0%)	11	(1%)	\$13	(1%)
Conveyor belt, drive belt, or V-belt	1,800	(1%)	1	(0%)	3	(0%)	\$8	(1%)
Magazine, newspaper, or writing paper	1,200	(1%)	1	(0%)	14	(1%)	\$6	(0%)
Unclassified organic materials	1,200	(1%)	0	(0%)	8	(1%)	\$5	(0%)
Box, carton, bag, basket, or barrel	1,000	(1%)	0	(0%)	12	(1%)	\$5	(0%)
Other known item	8,200	(5%)	10	(3%)	67	(6%)	\$55	(4%)
<b>Total</b>	<b>181,700</b>	<b>(100%)</b>	<b>355</b>	<b>(100%)</b>	<b>1,172</b>	<b>(100%)</b>	<b>\$1,259</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 13. Highway Vehicle Fires in Which Flammable or Combustible Liquids or Gases or Piping or Filters Were the Items First Ignited by Type of Material First Ignited  
2013–2017 Annual Averages**

Type of Material	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Flammable or combustible liquid	34,400	(72%)	200	(86%)	445	(75%)	\$251	(76%)
Gasoline	19,700	(41%)	154	(67%)	329	(55%)	\$122	(37%)
Class IIIB combustible liquid, including lubricating, transformer, or cooking oil	4,100	(8%)	0	(0%)	5	(1%)	\$13	(4%)
Class II combustible liquid, including kerosene, numbers 1 and 2 fuel oil, and diesel-type liquid	900	(2%)	14	(6%)	14	(2%)	\$38	(12%)
Unclassified flammable or combustible liquid	9,300	(19%)	30	(13%)	92	(15%)	\$76	(23%)
Flammable gas	5,000	(10%)	21	(9%)	102	(17%)	\$33	(10%)
Plastic	3,900	(8%)	2	(1%)	22	(4%)	\$19	(6%)
Multiple types of material	1,600	(3%)	7	(3%)	9	(1%)	\$12	(4%)
Unclassified material compounded with oil	800	(2%)	0	(0%)	2	(0%)	\$3	(1%)
Unclassified type of material	700	(2%)	2	(1%)	1	(0%)	\$4	(1%)
Rubber, excluding synthetic rubber	600	(1%)	0	(0%)	4	(1%)	\$3	(1%)
Other known type of material	900	(2%)	1	(0%)	12	(2%)	\$5	(2%)
<b>Total</b>	<b>47,900</b>	<b>(100%)</b>	<b>232</b>	<b>(100%)</b>	<b>595</b>	<b>(100%)</b>	<b>\$331</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 14. Fire Deaths and Injuries in Reported Highway Vehicle Fires by Age Group  
2013–2017 Annual Averages**

Age	Population in Millions	Civilian Deaths	Deaths per Million	Relative Risk	Civilian Injuries	Injuries per Million	Relative Risk
Under 5	20 (6%)	12 (3%)	0.6	0.5	18 (1%)	0.9	0.2
5–9	20 (6%)	3 (1%)	0.1	0.1	6 (1%)	0.3	0.1
10–14	21 (6%)	2 (1%)	0.1	0.1	12 (1%)	0.6	0.2
15–24	44 (14%)	74 (21%)	1.7	1.5	195 (17%)	4.5	1.2
25–34	44 (14%)	82 (23%)	1.9	1.7	256 (22%)	5.8	1.6
35–44	41 (13%)	57 (16%)	1.4	1.3	209 (18%)	5.1	1.4
45–54	43 (13%)	49 (14%)	1.1	1.0	215 (18%)	5.0	1.4
55–64	41 (13%)	41 (12%)	1.0	0.9	151 (13%)	3.7	1.0
65–74	27 (9%)	18 (5%)	0.7	0.6	64 (5%)	2.3	0.6
75–84	14 (4%)	9 (3%)	0.7	0.6	33 (3%)	2.4	0.6
85+	6 (2%)	7 (2%)	1.2	1.1	14 (1%)	2.2	0.6
<b>Total</b>	<b>321 (100%)</b>	<b>355 (100%)</b>	<b>1.1</b>	<b>1.0</b>	<b>1,172 (100%)</b>	<b>3.6</b>	<b>1.0</b>
<b>Selected age groups</b>							
14 and under	61 (19%)	17 (5%)	0.3	0.3	35 (3%)	0.6	0.2
65 and over	48 (15%)	35 (10%)	0.7	0.7	110 (9%)	2.3	0.6

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS 5.0 and NFPA survey, US Census Bureau.

**Table 15. Car Fires by Property Use Where Fire Occurred  
2013–2017 Annual Averages**

<b>Fixed Property Use</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Outside or special property	91,400	(78%)	204	(89%)	524	(76%)	\$432	(78%)
<i>Highway, street, or parking area</i>	85,500	(73%)	182	(79%)	493	(71%)	\$399	(72%)
Highway or divided highway	24,200	(21%)	86	(38%)	140	(20%)	\$122	(22%)
Residential street, road, or residential driveway	23,600	(20%)	48	(21%)	129	(19%)	\$101	(18%)
Vehicle parking area	20,300	(17%)	10	(4%)	128	(18%)	\$94	(17%)
Unclassified street	9,900	(8%)	24	(10%)	43	(6%)	\$44	(8%)
Street or road in commercial area	7,500	(6%)	14	(6%)	53	(8%)	\$38	(7%)
Highway or divided highway	24,200	(21%)	86	(38%)	140	(20%)	\$122	(22%)
<i>Open land, beach, or campsite</i>	4,000	(3%)	15	(6%)	23	(3%)	\$24	(4%)
Open land or field	2,200	(2%)	9	(4%)	10	(2%)	\$15	(3%)
Vacant lot	1,000	(1%)	3	(1%)	2	(0%)	\$6	(1%)
Graded or cared-for plot of land	800	(1%)	2	(1%)	9	(1%)	\$4	(1%)
<i>Unclassified outside or special property</i>	1,300	(1%)	2	(1%)	2	(0%)	\$5	(1%)
<b>Residential</b>	9,300	(8%)	6	(3%)	66	(10%)	\$51	(9%)
One- or two-family home	7,400	(6%)	6	(2%)	53	(8%)	\$38	(7%)
Apartment or multifamily home	1,200	(1%)	0	(0%)	7	(1%)	\$6	(1%)
<b>Mercantile or business</b>	6,600	(6%)	3	(1%)	49	(7%)	\$26	(5%)
Service station or gas station	1,500	(1%)	1	(0%)	13	(2%)	\$5	(1%)
Grocery or convenience store	1,400	(1%)	0	(0%)	10	(2%)	\$4	(1%)
Motor vehicle or boat sales, service, or repair	1,400	(1%)	1	(1%)	14	(2%)	\$9	(2%)
Unclassified or unknown-type mercantile or business	600	(1%)	0	(0%)	2	(0%)	\$2	(0%)
<b>Storage</b>	1,700	(1%)	1	(1%)	25	(4%)	\$11	(2%)
Vehicle storage, garage, or fire station	1,300	(1%)	0	(0%)	17	(2%)	\$9	(2%)
<b>Public assembly</b>	1,500	(1%)	5	(2%)	11	(2%)	\$6	(1%)
<b>Industrial, utility, defense, agriculture, or mining</b>	500	(0%)	2	(1%)	2	(0%)	\$3	(1%)
<b>Educational</b>	500	(0%)	0	(0%)	3	(0%)	\$2	(0%)

**Table 15. Car Fires by Property Use Where Fire Occurred  
2013–2017 Annual Averages (Continued)**

<b>Fixed Property Use</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Health care, detention, and correction	400	(0%)	0	(0%)	2	(0%)	\$2	(0%)
Manufacturing or processing	200	(0%)	0	(0%)	0	(0%)	\$1	(0%)
Unclassified or unknown property use	5,200	(4%)	8	(3%)	13	(2%)	\$23	(4%)
<b>Total</b>	<b>117,400</b>	<b>(100%)</b>	<b>230</b>	<b>(100%)</b>	<b>694</b>	<b>(100%)</b>	<b>\$557</b>	<b>(100%)</b>

Note: Subcategories are only shown if they account for at least 1 percent of the fires. Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table16. Car Fires by Cause of Ignition  
2013–2017 Annual Averages**

<b>Cause</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Unintentional	65,400	(56%)	183	(79%)	500	(72%)	\$299	(54%)
Failure of equipment or heat source	37,400	(32%)	11	(5%)	138	(20%)	\$150	(27%)
Intentional	9,200	(8%)	28	(12%)	46	(7%)	\$72	(13%)
Unclassified	5,000	(4%)	6	(3%)	10	(1%)	\$33	(6%)
Act of nature	400	(0%)	1	(1%)	0	(0%)	\$2	(0%)
<b>Total</b>	<b>117,400</b>	<b>(100%)</b>	<b>230</b>	<b>(100%)</b>	<b>694</b>	<b>(100%)</b>	<b>\$557</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 17. Car Fires by Factor Contributing to Ignition  
2013–2017 Annual Averages**

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Mechanical failure or malfunction	52,500	(45%)	15	(7%)	168	(24%)	\$193	(35%)
Unclassified mechanical failure or malfunction	36,100	(31%)	6	(2%)	109	(16%)	\$139	(25%)
Leak or break	9,900	(8%)	8	(4%)	40	(6%)	\$33	(6%)
Worn out	3,900	(3%)	0	(0%)	4	(1%)	\$13	(2%)
Backfire	2,000	(2%)	0	(0%)	10	(1%)	\$5	(1%)
Electrical failure or malfunction	26,600	(23%)	0	(0%)	70	(10%)	\$111	(20%)
Other factors	65,400	(36%)	340	(96%)	800	(68%)	\$589	(47%)
Unclassified factor contributed to ignition	7,600	(6%)	34	(15%)	61	(9%)	\$71	(13%)
Exposure fire	7,400	(6%)	4	(2%)	9	(1%)	\$51	(9%)
Collision, knockdown, run over, or overturn	6,000	(5%)	145	(63%)	163	(24%)	\$56	(10%)
Heat source too close to combustibles	3,800	(3%)	4	(2%)	41	(6%)	\$15	(3%)
Unclassified misuse of material or product	3,100	(3%)	10	(4%)	53	(8%)	\$15	(3%)
Flammable liquid or gas spilled	3,000	(3%)	12	(5%)	52	(7%)	\$15	(3%)
Abandoned or discarded material or product	2,200	(2%)	0	(0%)	12	(2%)	\$8	(2%)
Unclassified operational deficiency	1,400	(1%)	1	(1%)	4	(1%)	\$5	(1%)
Flammable liquid used to kindle fire	1,400	(1%)	2	(1%)	4	(1%)	\$9	(2%)
Equipment not being operated properly	1,100	(1%)	3	(1%)	13	(2%)	\$5	(1%)
Unclassified fire spread or control	600	(1%)	1	(1%)	3	(0%)	\$4	(1%)
Other known factor	5,200	(4%)	6	(3%)	75	(11%)	\$21	(4%)
<b>Total fires</b>	<b>117,400</b>	<b>(100%)</b>	<b>230</b>	<b>(100%)</b>	<b>694</b>	<b>(100%)</b>	<b>\$557</b>	<b>(100%)</b>
<b>Total factors*</b>	<b>121,900</b>	<b>(104%)</b>	<b>239</b>	<b>(104%)</b>	<b>729</b>	<b>(105%)</b>	<b>\$579</b>	<b>(104%)</b>

\* Multiple entries are allowed, resulting in more factors than fires.

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.



**Table 18. Car Fires by Heat Source  
2013–2017 Annual Averages**

Heat Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Unclassified heat from powered equipment	26,500	(23%)	45	(19%)	111	(16%)	\$113	(20%)
Radiated or conducted heat from operating equipment	21,200	(18%)	36	(15%)	112	(16%)	\$79	(14%)
Arcing	20,200	(17%)	4	(2%)	74	(11%)	\$82	(15%)
Spark, ember, or flame from operating equipment	9,500	(8%)	33	(14%)	116	(17%)	\$45	(8%)
Unclassified heat source	9,500	(8%)	31	(14%)	41	(6%)	\$69	(12%)
Unclassified hot or smoldering object	5,900	(5%)	10	(4%)	20	(3%)	\$23	(4%)
Heat or spark from friction	4,900	(4%)	22	(9%)	40	(6%)	\$21	(4%)
Backfire from internal combustion engine	2,600	(2%)	1	(0%)	16	(2%)	\$10	(2%)
Radiated heat from another fire	2,400	(2%)	1	(0%)	2	(0%)	\$11	(2%)
Heat from direct flame or convection currents	2,000	(2%)	1	(0%)	10	(1%)	\$16	(3%)
Smoking materials	1,900	(2%)	2	(1%)	26	(4%)	\$8	(1%)
Lighter	1,700	(1%)	11	(5%)	49	(7%)	\$11	(2%)
Multiple heat sources, including multiple ignitions	1,200	(1%)	22	(10%)	11	(2%)	\$17	(3%)
Hot ember or ash	1,200	(1%)	0	(0%)	17	(2%)	\$5	(1%)
Molten or hot material	1,000	(1%)	1	(0%)	3	(0%)	\$8	(1%)
Incendiary device	1,000	(1%)	1	(0%)	2	(0%)	\$8	(1%)
Match	1,000	(1%)	3	(1%)	6	(1%)	\$7	(1%)
Flame or torch used for lighting	800	(1%)	1	(0%)	6	(1%)	\$6	(1%)
Unclassified heat spread from another fire	800	(1%)	1	(0%)	3	(0%)	\$7	(1%)
Other known heat source	1,900	(2%)	6	(3%)	29	(4%)	\$10	(2%)
<b>Total</b>	<b>117,400</b>	<b>(100%)</b>	<b>230</b>	<b>(100%)</b>	<b>694</b>	<b>(100%)</b>	<b>\$557</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 19. Car Fires by Area of Fire Origin  
2013–2017 Annual Averages**

<b>Area of Fire Origin</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Engine area, running gear, or wheel area	77,100	(66%)	81	(35%)	329	(47%)	\$324	(58%)
Passenger area	14,800	(13%)	50	(22%)	146	(21%)	\$83	(15%)
Unclassified vehicle area	9,100	(8%)	50	(22%)	49	(7%)	\$43	(8%)
Cargo or trunk area	4,300	(4%)	5	(2%)	55	(8%)	\$30	(5%)
Exterior or exposed vehicle surface	3,400	(3%)	3	(1%)	16	(2%)	\$15	(3%)
Unclassified area of origin	2,100	(2%)	3	(1%)	10	(1%)	\$19	(3%)
Fuel tank or fuel line	1,800	(2%)	28	(12%)	52	(8%)	\$14	(2%)
On or near a highway, parking lot, or street	1,700	(1%)	5	(2%)	10	(2%)	\$9	(2%)
Unclassified outside area	900	(1%)	1	(0%)	5	(1%)	\$4	(1%)
Other known area	2,000	(2%)	5	(2%)	21	(3%)	\$16	(3%)
<b>Total</b>	<b>117,400</b>	<b>(100%)</b>	<b>230</b>	<b>(100%)</b>	<b>694</b>	<b>(100%)</b>	<b>\$557</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 20. Car Fires by Item First Ignited  
2013–2017 Annual Averages**

<b>Item First Ignited</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property (in Millions)</b>	
Electrical wire or cable insulation	36,600	(31%)	2	(1%)	85	(12%)	\$148	(27%)
Flammable or combustible liquid, gas filter, or piping	33,400	(28%)	156	(68%)	340	(49%)	\$158	(28%)
Unclassified item first ignited	17,900	(15%)	22	(9%)	72	(10%)	\$105	(19%)
Multiple items first ignited	9,300	(8%)	28	(12%)	65	(9%)	\$52	(9%)
Upholstered furniture or vehicle seat	6,600	(6%)	4	(2%)	44	(6%)	\$39	(7%)
Tire	3,100	(3%)	7	(3%)	12	(2%)	\$18	(3%)
Light vegetation, including grass	2,100	(2%)	4	(2%)	18	(3%)	\$10	(2%)
Drive belt or V-belt	1,300	(1%)	1	(0%)	3	(0%)	\$4	(1%)
Rubbish, trash, or waste	1,100	(1%)	0	(0%)	3	(0%)	\$4	(1%)
Magazine, newspaper, or writing paper	600	(1%)	1	(0%)	10	(2%)	\$2	(0%)
Clothing	600	(1%)	0	(0%)	6	(1%)	\$2	(0%)
Other known item	4,700	(4%)	5	(2%)	37	(5%)	\$16	(3%)
<b>Total</b>	<b>117,400</b>	<b>(100%)</b>	<b>230</b>	<b>(100%)</b>	<b>694</b>	<b>(100%)</b>	<b>\$557</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 21. Large Truck Fires by Property Use Where Fire Occurred  
2013–2017 Annual Averages**

<b>Fixed Property Use</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Outside or special property	10,100	(81%)	31	(91%)	87	(85%)	\$211	(75%)
<i>Highway, street, or parking area</i>	9,400	(75%)	30	(89%)	80	(78%)	\$188	(67%)
Highway or divided highway	5,500	(44%)	26	(79%)	42	(41%)	\$121	(43%)
Vehicle parking area	1,400	(11%)	0	(1%)	17	(17%)	\$35	(13%)
Residential street, road, or residential driveway	1,100	(9%)	1	(4%)	15	(15%)	\$15	(5%)
Street or road in commercial area	800	(6%)	1	(3%)	3	(3%)	\$9	(3%)
Unclassified street	600	(5%)	0	(1%)	2	(2%)	\$7	(3%)
<i>Open land, beach, or campsite</i>	300	(3%)	0	(1%)	4	(4%)	\$6	(2%)
<i>Dump or sanitary landfill</i>	100	(1%)	0	(0%)	0	(0%)	\$3	(1%)
<i>Industrial plant yard or area</i>	100	(1%)	0	(0%)	2	(2%)	\$5	(2%)
<i>Unclassified or unknown-type special property</i>	100	(1%)	0	(0%)	0	(0%)	\$3	(1%)
Mercantile or business	700	(6%)	1	(2%)	5	(4%)	\$13	(5%)
Service station or gas station	200	(2%)	0	(1%)	2	(2%)	\$3	(1%)
Motor vehicle or boat sales, service, or repair	200	(1%)	0	(1%)	1	(1%)	\$4	(1%)
Grocery or convenience store	100	(1%)	0	(1%)	0	(0%)	\$1	(0%)
Unclassified or unknown-type mercantile business	100	(1%)	0	(0%)	0	(0%)	\$2	(1%)
Storage	400	(3%)	0	(1%)	2	(2%)	\$26	(9%)
Vehicle storage, garage, or fire station	200	(2%)	0	(0%)	1	(1%)	\$21	(7%)
Warehouse	100	(1%)	0	(0%)	1	(1%)	\$3	(1%)
Residential	200	(2%)	0	(0%)	4	(4%)	\$3	(1%)
One- or two-family home	200	(1%)	0	(0%)	4	(4%)	\$3	(1%)
Industrial, utility, defense, agriculture, or mining	200	(2%)	0	(0%)	2	(2%)	\$8	(3%)
Utility or distribution system	100	(1%)	0	(0%)	1	(1%)	\$4	(1%)
Manufacturing or processing	100	(1%)	0	(0%)	0	(0%)	\$5	(2%)
Public assembly	100	(1%)	0	(0%)	0	(0%)	\$2	(1%)
Other, unclassified, or unknown property	600	(5%)	2	(6%)	2	(2%)	\$12	(4%)
<b>Total</b>	<b>12,600</b>	<b>(100%)</b>	<b>33</b>	<b>(100%)</b>	<b>102</b>	<b>(100%)</b>	<b>\$281</b>	<b>(100%)</b>

Note: Subcategories are only shown if they account for at least 1 percent of the fires. Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 22. Large Truck Fires by Cause of Ignition  
2013–2017 Annual Averages**

Cause	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Unintentional	6,700	(54%)	29	(86%)	70	(69%)	\$158	(56%)
Failure of equipment or heat source	5,300	(42%)	2	(7%)	28	(27%)	\$108	(39%)
Intentional	300	(3%)	1	(3%)	2	(2%)	\$10	(3%)
Unclassified	200	(2%)	0	(1%)	2	(2%)	\$5	(2%)
Act of nature	100	(1%)	1	(3%)	0	(0%)	\$1	(0%)
<b>Total</b>	<b>12,600</b>	<b>(100%)</b>	<b>33</b>	<b>(100%)</b>	<b>102</b>	<b>(100%)</b>	<b>\$281</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 23. Large Truck Fires by Factor Contributing to Ignition  
2013–2017 Annual Averages**

<b>Factor Contributing to Ignition</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Mechanical failure or malfunction	7,400	(59%)	4	(11%)	39	(38%)	\$156	(56%)
Unclassified mechanical failure or malfunction	5,400	(43%)	1	(4%)	18	(17%)	\$122	(43%)
Leak or break	900	(7%)	2	(6%)	17	(16%)	\$22	(8%)
Wear out	900	(7%)	0	(0%)	3	(3%)	\$9	(3%)
Automatic control failure	100	(1%)	0	(0%)	0	(0%)	\$1	(0%)
Manual control failure	100	(1%)	0	(0%)	0	(0%)	\$1	(0%)
Backfire	100	(1%)	0	(0%)	2	(2%)	\$1	(0%)
Electrical failure or malfunction	1,700	(13%)	0	(0%)	7	(7%)	\$35	(12%)
Other factors	3,800	(30%)	32	(96%)	60	(58%)	\$106	(38%)
Unclassified factor contributed to ignition	600	(5%)	4	(11%)	9	(9%)	\$15	(5%)
Heat source too close to combustible	500	(4%)	1	(2%)	7	(6%)	\$8	(3%)
Exposure fire	400	(4%)	1	(3%)	3	(3%)	\$15	(5%)
Collision, knockdown, run over, or overturn	300	(3%)	21	(64%)	17	(17%)	\$31	(11%)
Abandoned or discarded material or product	300	(2%)	0	(0%)	2	(2%)	\$2	(1%)
Unclassified operational deficiency	200	(2%)	0	(1%)	1	(1%)	\$3	(1%)
Equipment not being operated properly	200	(1%)	0	(1%)	0	(0%)	\$4	(2%)
Equipment overloaded	100	(1%)	0	(0%)	0	(0%)	\$1	(0%)
Flammable liquid or gas spilled	100	(1%)	3	(10%)	3	(3%)	\$11	(4%)
Cutting or welding too close to combustible materials	100	(1%)	0	(0%)	2	(2%)	\$1	(0%)
Unclassified misuse of material or product	100	(1%)	0	(0%)	3	(3%)	\$2	(1%)
Failure to clean	100	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified natural condition	100	(1%)	0	(0%)	0	(0%)	\$1	(0%)
Rekindle	100	(1%)	0	(0%)	0	(0%)	\$1	(0%)
Other known factor	500	(4%)	1	(4%)	12	(12%)	\$11	(4%)
<b>Total fires</b>	<b>12,600</b>	<b>(100%)</b>	<b>33</b>	<b>(100%)</b>	<b>102</b>	<b>(100%)</b>	<b>\$281</b>	<b>(100%)</b>
<b>Total factors*</b>	<b>12,900</b>	<b>(103%)</b>	<b>36</b>	<b>(107%)</b>	<b>106</b>	<b>(104%)</b>	<b>\$296</b>	<b>(106%)</b>

\* Multiple entries are allowed, resulting in more factors than fires.

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 24. Large Truck Fires by Heat Source  
2013–2017 Annual Averages**

<b>Heat Source</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Radiated or conducted heat from operating equipment	3,500	(28%)	3	(9%)	26	(25%)	\$58	(21%)
Heat or spark from friction	2,100	(17%)	6	(17%)	12	(12%)	\$38	(13%)
Unclassified heat from powered equipment	1,800	(14%)	2	(7%)	15	(14%)	\$70	(25%)
Arcing	1,300	(10%)	1	(4%)	7	(7%)	\$27	(10%)
Unclassified heat source	1,000	(8%)	6	(18%)	11	(11%)	\$18	(7%)
Unclassified hot or smoldering object	800	(7%)	1	(2%)	1	(1%)	\$16	(6%)
Spark, ember, or flame from operating equipment	700	(5%)	7	(21%)	13	(12%)	\$24	(8%)
Hot ember or ash	200	(2%)	0	(0%)	1	(1%)	\$1	(0%)
Molten or hot material	200	(2%)	0	(0%)	0	(0%)	\$2	(1%)
Radiated heat from another fire	100	(1%)	0	(0%)	0	(0%)	\$4	(2%)
Heat from direct flame or convection current	100	(1%)	0	(0%)	2	(2%)	\$4	(1%)
Smoking materials	100	(1%)	0	(0%)	1	(1%)	\$1	(0%)
Backfire from internal combustion engine	100	(1%)	0	(0%)	1	(1%)	\$2	(1%)
Chemical reaction or spontaneous combustion	100	(1%)	1	(2%)	2	(2%)	\$1	(0%)
Multiple heat sources, including multiple ignitions	100	(1%)	5	(16%)	2	(2%)	\$5	(2%)
Unclassified heat spread from another fire	100	(1%)	0	(0%)	0	(0%)	\$3	(1%)
Other known heat source	200	(2%)	1	(4%)	10	(10%)	\$6	(2%)
<b>Total</b>	<b>12,600</b>	<b>(100%)</b>	<b>33</b>	<b>(100%)</b>	<b>102</b>	<b>(100%)</b>	<b>\$281</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 25. Large Truck Fires by Area of Fire Origin  
2013–2017 Annual Averages**

<b>Area of Fire Origin</b>	<b>Fires</b>	<b>Civilian Deaths</b>	<b>Civilian Injuries</b>	<b>Direct Property Damage (in Millions)</b>
Engine area, running gear, or wheel area	6,900 (55%)	10 (31%)	38 (37%)	\$147 (52%)
Cargo or trunk area	1,600 (12%)	1 (4%)	18 (18%)	\$30 (11%)
Unclassified vehicle area	1,200 (10%)	3 (10%)	9 (9%)	\$26 (9%)
Exterior or exposed vehicle surface	1,000 (8%)	1 (3%)	5 (5%)	\$11 (4%)
Operator or passenger area	800 (6%)	6 (17%)	5 (4%)	\$23 (8%)
Unclassified area of origin	200 (2%)	1 (3%)	2 (2%)	\$2 (1%)
Separate operating or control area of vehicle	200 (2%)	1 (3%)	8 (8%)	\$20 (7%)
On or near a highway, parking lot, or street	200 (2%)	2 (7%)	2 (2%)	\$3 (1%)
Fuel tank or fuel line	200 (1%)	7 (21%)	13 (13%)	\$9 (3%)
Unclassified outside area	100 (1%)	0 (0%)	0 (0%)	\$2 (1%)
Trash or rubbish chute, area, or container	100 (1%)	0 (0%)	0 (0%)	\$0 (0%)
Other known area	200 (2%)	0 (1%)	3 (3%)	\$5 (2%)
<b>Total</b>	<b>12,600 (100%)</b>	<b>33 (100%)</b>	<b>102 (100%)</b>	<b>\$281 (100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.



**Table 26. Large Truck Fires by Item First Ignited  
2013–2017 Annual Averages**

Item First Ignited	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Tire	3,800	(30%)	0	(1%)	14	(14%)	\$66	(24%)
Flammable or combustible liquid, gas filter, or piping	2,000	(16%)	23	(70%)	56	(55%)	\$69	(25%)
Unclassified item first ignited	1,900	(15%)	3	(10%)	6	(5%)	\$36	(13%)
Electrical wire or cable insulation	1,900	(15%)	1	(2%)	7	(7%)	\$62	(22%)
Rubbish, trash, or waste	800	(7%)	0	(0%)	3	(3%)	\$7	(2%)
Multiple items first ignited	500	(4%)	5	(16%)	7	(7%)	\$17	(6%)
Magazine, newspaper, or writing paper	200	(2%)	0	(0%)	2	(2%)	\$2	(1%)
Box, carton, bag, basket, or barrel	200	(1%)	0	(0%)	0	(0%)	\$2	(1%)
Light vegetation, including grass	200	(1%)	0	(1%)	0	(0%)	\$1	(0%)
Unclassified organic materials	100	(1%)	0	(0%)	1	(1%)	\$1	(0%)
Upholstered furniture or vehicle seat	100	(1%)	0	(0%)	3	(3%)	\$2	(1%)
Dust, fiber, or lint, including sawdust or excelsior	100	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Agricultural crops, including fruits and vegetables	100	(1%)	0	(0%)	0	(0%)	\$2	(1%)
Film or residue, including paint, resin, and creosote	100	(1%)	0	(0%)	0	(0%)	\$1	(0%)
Other known item	600	(5%)	0	(0%)	4	(4%)	\$13	(4%)
<b>Total</b>	<b>12,600</b>	<b>(100%)</b>	<b>33</b>	<b>(100%)</b>	<b>102</b>	<b>(100%)</b>	<b>\$281</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 27. Bus Fires by Property Use Where Fire Occurred  
2013–2017 Annual Averages**

<b>Fixed Property Use</b>	<b>Fires</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Outside or special property	1,230	(80%)	9	(86%)	\$20	(72%)
<i>Highway, street, or parking area</i>	<i>1,190</i>	<i>(76%)</i>	<i>9</i>	<i>(86%)</i>	<i>\$20</i>	<i>(70%)</i>
Highway or divided highway	360	(23%)	2	(23%)	\$8	(29%)
Residential street, road, or residential driveway	240	(16%)	1	(10%)	\$2	(8%)
Vehicle parking area	220	(14%)	1	(11%)	\$5	(16%)
Street or road in commercial area	190	(12%)	0	(5%)	\$3	(11%)
Unclassified street	180	(11%)	4	(38%)	\$2	(6%)
<i>Open land, beach, or campsite</i>	<i>20</i>	<i>(2%)</i>	<i>0</i>	<i>(0%)</i>	<i>\$0</i>	<i>(1%)</i>
<i>Unclassified or unknown-type special property</i>	<i>20</i>	<i>(1%)</i>	<i>0</i>	<i>(0%)</i>	<i>\$0</i>	<i>(0%)</i>
Mercantile or business	60	(4%)	1	(9%)	\$2	(8%)
Motor vehicle or boat sales, service, or repair	30	(2%)	1	(5%)	\$1	(2%)
Office, bank, or mail facility	10	(1%)	0	(0%)	\$0	(1%)
Service station or gas station	10	(1%)	0	(0%)	\$0	(1%)
Educational	60	(4%)	0	(0%)	\$1	(3%)
Preschool through grade 12	50	(3%)	0	(0%)	\$1	(2%)
Public assembly	50	(3%)	0	(0%)	\$1	(5%)
Passenger terminal	20	(1%)	0	(0%)	\$1	(2%)
Church, mosque, synagogue, temple, or chapel	10	(1%)	0	(0%)	\$0	(1%)
Storage	40	(3%)	0	(0%)	\$2	(7%)
Vehicle storage, garage, or fire station	40	(2%)	0	(0%)	\$2	(5%)
Residential	20	(1%)	0	(0%)	\$0	(1%)
One- or two-family home	10	(1%)	0	(0%)	\$0	(1%)
Health care, detention, and correction	10	(0%)	0	(0%)	\$0	(1%)
Other known occupancy	10	(0%)	0	(0%)	\$0	(1%)
Unclassified or unknown property use	70	(4%)	1	(5%)	\$1	(3%)
<b>Total</b>	<b>1,550</b>	<b>(100%)</b>	<b>11</b>	<b>(100%)</b>	<b>\$28</b>	<b>(100%)</b>

Note: Subcategories are only shown if they account for at least 1 percent of the fires. Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 28. Bus Fires by Cause of Ignition  
2013–2017 Annual Averages**

<b>Cause of Ignition</b>	<b>Fires</b>	<b>Civilian Injuries</b>	<b>Direct Property Damage (in Millions)</b>
Failure of equipment or heat source	750 (48%)	7 (65%)	\$12 (42%)
Unintentional	690 (45%)	4 (35%)	\$11 (40%)
Unclassified	60 (4%)	0 (0%)	\$4 (14%)
Intentional	40 (3%)	0 (0%)	\$1 (4%)
Act of nature	10 (0%)	0 (0%)	\$0 (0%)
<b>Total</b>	<b>1,550 (100%)</b>	<b>11 (100%)</b>	<b>\$28 (100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 29. Bus Fires by Factor Contributing to Ignition  
2013–2017 Annual Averages**

Factor Contributing to Ignition	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)
Mechanical failure or malfunction	920	(59%)	3	(32%)	\$15	(53%)
Leak or break	140	(9%)	0	(0%)	\$1	(3%)
Worn out	80	(5%)	0	(0%)	\$1	(5%)
Automatic control failure	10	(1%)	0	(0%)	\$0	(0%)
Manual control failure	10	(1%)	0	(0%)	\$0	(0%)
Backfire	10	(1%)	0	(0%)	\$0	(0%)
Unclassified mechanical failure or malfunction	680	(44%)	3	(32%)	\$12	(44%)
Electrical failure or malfunction	350	(23%)	5	(45%)	\$5	(18%)
Other factors	330	(22%)	2	(23%)	\$10	(35%)
Exposure fire	60	(4%)	0	(0%)	\$6	(20%)
Unclassified factor contributed to ignition	60	(4%)	0	(0%)	\$1	(4%)
Heat source too close to combustibles	40	(2%)	0	(0%)	\$1	(2%)
Unclassified operational deficiency	20	(2%)	0	(0%)	\$0	(1%)
Equipment overloaded	20	(1%)	0	(0%)	\$0	(1%)
Flammable liquid or gas spilled	20	(1%)	0	(0%)	\$0	(1%)
Unclassified misuse of material or product	20	(1%)	0	(0%)	\$0	(1%)
Equipment not being operated properly	20	(1%)	0	(0%)	\$0	(1%)
Abandoned or discarded material or product	10	(1%)	2	(23%)	\$0	(0%)
Unclassified design, manufacturing, or installation deficiency	10	(1%)	0	(0%)	\$0	(0%)
Collision, knockdown, run over, or overturn	10	(1%)	0	(0%)	\$0	(2%)
Other known factors	60	(4%)	0	(0%)	\$0	(2%)
<b>Total fires</b>	<b>1,550</b>	<b>(100%)</b>	<b>11</b>	<b>(100%)</b>	<b>\$28</b>	<b>(100%)</b>
<b>Total entries*</b>	<b>1,610</b>	<b>(104%)</b>	<b>11</b>	<b>(100%)</b>	<b>\$30</b>	<b>(107%)</b>

\* Multiple entries are allowed, resulting in sums greater than the totals.

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 30. Bus Fires by Heat Source  
2013–2017 Annual Averages**

<b>Heat Source</b>	<b>Fires</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Unclassified heat from powered equipment	400	(26%)	5	(48%)	\$8	(28%)
Radiated or conducted heat from operating equipment	340	(22%)	1	(10%)	\$5	(16%)
Arcing	270	(17%)	3	(28%)	\$5	(17%)
Unclassified heat source	130	(8%)	0	(0%)	\$1	(3%)
Heat or spark from friction	130	(8%)	0	(0%)	\$3	(9%)
Spark, ember, or flame from operating equipment	80	(5%)	0	(0%)	\$3	(9%)
Unclassified hot or smoldering object	80	(5%)	0	(0%)	\$1	(3%)
Heat from direct flame or convection current	20	(1%)	0	(0%)	\$1	(3%)
Smoking materials	20	(1%)	2	(14%)	\$2	(6%)
Candle	20	(1%)	0	(0%)	\$1	(3%)
Molten or hot material	20	(1%)	0	(0%)	\$0	(0%)
Flame or torch used for lighting	10	(1%)	0	(0%)	\$0	(0%)
Radiated heat from another fire	10	(1%)	0	(0%)	\$0	(1%)
Multiple heat sources, including multiple ignitions	10	(1%)	0	(0%)	\$0	(1%)
Other known heat source	30	(2%)	0	(0%)	\$0	(1%)
<b>Total</b>	<b>1,550</b>	<b>(100%)</b>	<b>11</b>	<b>(100%)</b>	<b>\$28</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 31. Bus Fires by Area of Fire Origin  
2013–2017 Annual Averages**

<b>Area of Fire Origin</b>	<b>Fires</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Engine area, running gear, or wheel area	1,070	(69%)	8	(75%)	\$19	(70%)
Operator or passenger area	160	(10%)	1	(5%)	\$4	(15%)
Unclassified vehicle area	140	(9%)	2	(16%)	\$2	(9%)
Exterior or exposed vehicle surface	50	(3%)	0	(0%)	\$1	(2%)
Unclassified area of origin	50	(3%)	0	(0%)	\$0	(1%)
On or near a highway, parking lot, or street	20	(1%)	0	(0%)	\$0	(1%)
Cargo or trunk area	20	(1%)	0	(0%)	\$0	(1%)
Separate operating or control area of vehicle	10	(1%)	0	(0%)	\$0	(0%)
Unclassified outside area	10	(1%)	0	(0%)	\$0	(0%)
Other known area	30	(2%)	1	(5%)	\$0	(1%)
<b>Total</b>	<b>1,550</b>	<b>(100%)</b>	<b>11</b>	<b>(100%)</b>	<b>\$28</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

**Table 32. Bus Fires by Item First Ignited  
2013–2017 Annual Averages**

<b>Item First Ignited</b>	<b>Fires</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Electrical wire or cable insulation	520	(33%)	6	(55%)	\$10	(34%)
Flammable or combustible liquid, gas filter, or piping	320	(21%)	1	(13%)	\$4	(15%)
Unclassified item first ignited	300	(19%)	0	(0%)	\$4	(14%)
Tire	190	(12%)	1	(13%)	\$5	(18%)
Multiple items first ignited	70	(5%)	0	(0%)	\$4	(13%)
Conveyor belt, drive belt, or V-belt	40	(3%)	0	(0%)	\$0	(2%)
Upholstered furniture or vehicle seat	30	(2%)	0	(0%)	\$0	(1%)
Light vegetation, including grass	10	(1%)	0	(0%)	\$0	(1%)
Film or residue, including paint, resin, and creosote	10	(1%)	0	(0%)	\$0	(0%)
Other known item	60	(4%)	2	(19%)	\$0	(2%)
<b>Total</b>	<b>1,550</b>	<b>(100%)</b>	<b>11</b>	<b>(100%)</b>	<b>\$28</b>	<b>(100%)</b>

Note: Sums might not equal totals due to rounding errors.

Sources: NFIRS and NFPA fire department experience survey.

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