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# Home Cooking Fires **Supporting Tables**

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## Home Cooking Fires: Supporting Tables

The tables in this document are a companion to the report of the same name. Firefighter deaths and injuries are excluded from this analysis.

Most tables— with the exception of fires by year — show estimates of 2013–2017 annual averages. Fires that occurred outside the home and not on the structure are excluded. Estimates were derived from the US Fire Administration’s National Fire Incident Reporting System (NFIRS) and NFPA’s annual Fire Experience Survey, and they include proportional shares of unknown or missing data. Fires are rounded to the nearest 100, deaths and injuries are rounded to the nearest ten, and property loss is rounded to the nearest million dollars. Inflation adjustments were made only for the trend table. Percentages were calculated on unrounded estimates.

Fires with NFIRS incident type code 113 indicating a confined cooking fire were analyzed separately from fires with non-confined structure fire incident types and then summed. Estimates include proportional shares of fires in which the equipment involved was unknown or not reported. Other causal factors were allocated separately. For more information on how these estimates were calculated, please see the [full report](#) and [How NFPA’s National Estimates Are Calculated for Home Structure Fires](#).

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**Table 1.  
Home Cooking Structure Fires, by Year**

<b>Year</b>	<b>Fires</b>	<b>Civilian Deaths</b>	<b>Civilian Injuries</b>	<b>Direct Property as Reported</b>	<b>Damage (in Millions) in 2017 Dollars</b>
1980	148,300	500	5,030	\$245	\$730
1981	153,500	530	5,090	\$766	\$2,061
1982	136,500	500	5,540	\$422	\$1,071
1983	125,200	470	5,610	\$343	\$843
1984	124,100	480	4,910	\$372	\$876
1985	127,500	450	4,870	\$350	\$796
1986	127,700	510	5,010	\$398	\$891
1987	125,100	410	5,500	\$397	\$856
1988	126,700	470	5,870	\$461	\$956
1989	119,800	480	5,480	\$451	\$892
1990	120,500	440	6,050	\$476	\$894
1991	122,100	360	6,060	\$621	\$1,117
1992	130,300	350	6,010	\$451	\$788
1993	128,400	430	6,530	\$548	\$929
1994	118,200	370	5,500	\$618	\$1,022
1995	111,700	370	5,390	\$446	\$717
1996	115,200	470	5,490	\$519	\$812
1997	117,500	380	5,760	\$565	\$863
1998	109,100	500	5,380	\$527	\$793
1999	85,800 (37,200)	300 (300)	2,620 (1,670)	\$497 (\$468)	\$731
2000	95,500 (34,500)	230 (230)	3,820 (2,540)	\$516 (\$474)	\$735
2001	120,600 (38,300)	500 (500)	4,470 (2,940)	\$521 (\$498)	\$721
2002	128,200 (37,700)	150 (150)	4,330 (2,930)	\$671 (\$642)	\$914
2003	143,400 (35,500)	530 (520)	4,520 (3,070)	\$768 (\$736)	\$1,024
2004	151,000 (35,900)	620 (610)	4,820 (3,290)	\$723 (\$697)	\$939
2005	147,000 (37,500)	500 (480)	4,740 (3,300)	\$874 (\$842)	\$1,097
2006	159,700 (40,100)	360 (360)	4,580 (3,120)	\$684 (\$663)	\$832
2007	158,200 (40,700)	420 (420)	4,940 (3,320)	\$541 (\$522)	\$639
2008	157,900 (39,600)	400 (400)	5,180 (3,490)	\$921 (\$897)	\$1,050
2009	154,200 (35,700)	300 (300)	4,600 (3,020)	\$965 (\$929)	\$1,102
2010	156,300 (37,400)	420 (420)	5,300 (3,560)	\$993 (\$967)	\$1,117
2011	156,300 (38,300)	470 (470)	5,390 (3,840)	\$1,002 (\$977)	\$1,093

**Table 1.**  
**Home Cooking Structure Fires, by Year (Continued)**

<b>Year</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions) as Reported in 2017 Dollars</b>		
2012	167,800	(44,700)	370	(370)	5,820	(4,200)	\$1,299	(\$1,274)	\$1,388
2013	172,000	(43,600)	570	(570)	5,430	(3,960)	\$1,115	(\$1,085)	\$1,172
2014	173,300	(42,900)	580	(580)	5,330	(4,030)	\$1,158	(\$1,131)	\$1,198
2015	179,000	(45,000)	560	(560)	5,200	(3,940)	\$1,151	(\$1,121)	\$1,190
2016	172,100	(43,500)	530	(530)	5,270	(3,890)	\$1,133	(\$1,106)	\$1,158
2017	172,800	(39,300)	500	(500)	4,500	(3,300)	\$1,184	(\$1,154)	\$1,184

Note: Numbers in parentheses exclude confined fires. Confined fires are fires reported as confined to a cooking vessel and involving cooking equipment, and they are analyzed separately. National estimates are projections. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire. Because of low participation in NFIRS Version 5.0 during 1999–2001, estimates for those years are highly uncertain and must be used with caution. The inflation adjustment to 2017 dollars was done using the US Consumer Price Index: Purchasing Power of the Consumer Dollar. Unknowns have been allocated proportionally.

Source: NFIRS and NFPA Fire Experience Survey.

**Table 2.**  
**Home Cooking Structure Fires, by Month**  
**2013–2017 Annual Averages**

Month	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
January	15,200	(9%)	90	(17%)	470	(9%)	\$109	(9%)
February	13,400	(8%)	60	(11%)	420	(8%)	\$101	(9%)
March	14,800	(9%)	60	(10%)	470	(9%)	\$106	(9%)
April	14,700	(8%)	50	(9%)	430	(9%)	\$105	(9%)
May	14,900	(9%)	30	(5%)	430	(9%)	\$110	(9%)
June	13,600	(8%)	10	(2%)	390	(8%)	\$100	(9%)
July	13,300	(8%)	30	(5%)	400	(8%)	\$81	(7%)
August	13,500	(8%)	30	(6%)	370	(7%)	\$102	(9%)
September	13,900	(8%)	40	(7%)	400	(8%)	\$89	(8%)
October	14,900	(9%)	60	(11%)	460	(9%)	\$85	(7%)
November	15,800	(9%)	40	(7%)	400	(8%)	\$86	(7%)
December	15,200	(9%)	50	(10%)	380	(8%)	\$92	(8%)
<b>Total</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Monthly average	14,400	(8%)	50	(8%)	420	(8%)	\$97	(8%)

**Table 3.**  
**Home Cooking Structure Fires, by Day of the Week**  
**2013–2017 Annual Averages**

Day of the Week	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Sunday	27,400	(16%)	80	(15%)	760	(15%)	\$180	(15%)
Monday	24,100	(14%)	50	(9%)	640	(13%)	\$162	(14%)
Tuesday	24,100	(14%)	80	(14%)	740	(15%)	\$166	(14%)
Wednesday	23,800	(14%)	80	(15%)	750	(15%)	\$168	(14%)
Thursday	24,800	(14%)	70	(13%)	720	(14%)	\$172	(15%)
Friday	23,100	(13%)	80	(15%)	670	(13%)	\$151	(13%)
Saturday	25,900	(15%)	110	(20%)	730	(15%)	\$167	(14%)
<b>Total</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Average by day of week	24,700	(14%)	80	(14%)	720	(14%)	\$167	(14%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 4.**  
**Home Cooking Structure 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.	3,600	(2%)	20	(4%)	140	(3%)	\$37	(3%)
1:00–1:59 a.m.	2,900	(2%)	30	(5%)	170	(3%)	\$29	(2%)
2:00–2:59 a.m.	2,400	(1%)	30	(6%)	100	(2%)	\$23	(2%)
3:00–3:59 a.m.	2,000	(1%)	40	(7%)	100	(2%)	\$38	(3%)
4:00–4:59 a.m.	1,700	(1%)	30	(6%)	90	(2%)	\$21	(2%)
5:00–5:59 a.m.	1,600	(1%)	20	(4%)	70	(1%)	\$18	(2%)
6:00–6:59 a.m.	2,000	(1%)	30	(6%)	60	(1%)	\$19	(2%)
7:00–7:59 a.m.	3,000	(2%)	30	(5%)	90	(2%)	\$20	(2%)
8:00–8:59 a.m.	4,500	(3%)	20	(4%)	130	(3%)	\$31	(3%)
9:00–9:59 a.m.	5,800	(3%)	20	(4%)	140	(3%)	\$41	(4%)
10:00–10:59 a.m.	7,200	(4%)	20	(3%)	170	(3%)	\$45	(4%)
11:00–11:59 a.m.	8,500	(5%)	10	(2%)	230	(5%)	\$48	(4%)
12:00–12:59 p.m.	9,600	(6%)	10	(2%)	260	(5%)	\$68	(6%)
1:00–1:59 p.m.	9,800	(6%)	20	(3%)	260	(5%)	\$67	(6%)
2:00–2:59 p.m.	9,800	(6%)	20	(4%)	260	(5%)	\$68	(6%)
3:00–3:59 p.m.	10,600	(6%)	20	(4%)	320	(6%)	\$74	(6%)
4:00–4:59 p.m.	12,100	(7%)	20	(3%)	300	(6%)	\$75	(6%)
5:00–5:59 p.m.	15,100	(9%)	20	(3%)	390	(8%)	\$90	(8%)
6:00–6:59 p.m.	16,000	(9%)	20	(5%)	430	(8%)	\$92	(8%)
7:00–7:59 p.m.	14,500	(8%)	30	(5%)	390	(8%)	\$76	(6%)
8:00–8:59 p.m.	11,500	(7%)	20	(3%)	330	(7%)	\$65	(6%)
9:00–9:59 p.m.	8,500	(5%)	20	(4%)	240	(5%)	\$51	(4%)
10:00–10:59 p.m.	6,000	(3%)	20	(3%)	190	(4%)	\$37	(3%)
11:00–11:59 p.m.	4,500	(3%)	30	(5%)	150	(3%)	\$33	(3%)
<b>Total</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
<b>Average by hour</b>	<b>7,200</b>	<b>(4%)</b>	<b>20</b>	<b>(4%)</b>	<b>210</b>	<b>(4%)</b>	<b>\$49</b>	<b>(4%)</b>

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 5.**  
**Home Cooking Structure Fires, by Area of Origin**  
**2013–2017 Annual Averages**

<b>Area of Origin</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Kitchen or cooking area	162,100	(94%)	510	(92%)	4,830	(96%)	\$1,016	(87%)
Non-confined fire	39,600	(23%)	510	(92%)	3,560	(71%)	\$988	(85%)
Confined fire	122,400	(71%)	0	(0%)	1,270	(25%)	\$27	(2%)
Unclassified area of origin	2,400	(1%)	0	(0%)	10	(0%)	\$1	(0%)
Non-confined fire	100	(0%)	0	(0%)	0	(0%)	\$1	(0%)
Confined fire	2,300	(1%)	0	(0%)	10	(0%)	\$0	(0%)
Courtyard, patio, terrace	1,700	(1%)	0	(0%)	30	(1%)	\$20	(2%)
Non-confined fire	400	(0%)	0	(0%)	20	(0%)	\$20	(2%)
Confined fire	1,200	(1%)	0	(0%)	10	(0%)	\$0	(0%)
Unclassified outside area	1,600	(1%)	0	(0%)	10	(0%)	\$7	(1%)
Non-confined fire	200	(0%)	0	(0%)	10	(0%)	\$7	(1%)
Confined fire	1,400	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Exterior balcony or unenclosed porch	1,500	(1%)	0	(1%)	30	(1%)	\$51	(4%)
Non-confined fire	700	(0%)	0	(1%)	30	(1%)	\$51	(4%)
Confined fire	800	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Other known area of origin	4,000	(2%)	40	(7%)	110	(2%)	\$71	(6%)
Non-confined fire	1,400	(1%)	40	(7%)	100	(2%)	\$70	(6%)
Confined fire	2,600	(1%)	0	(0%)	10	(0%)	\$1	(0%)
<b>Total</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Non-confined fire	42,500	(25%)	550	(100%)	3,720	(74%)	\$1,138	(98%)
Confined fire	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)
Less than 2% of the fires but at least 2% of the deaths resulted from fires in the following other known areas:								
Living room			10	(3%)				

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 6**  
**Home Cooking Structure Fires, by Factor Contributing to Ignition**  
**2013–2017 Annual Averages**

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Equipment unattended	54,200	(31%)	270	(48%)	2,230	(44%)	\$475	(41%)
Non-confined fire	16,400	(9%)	270	(48%)	1,730	(34%)	\$466	(40%)
Confined fire	37,800	(22%)	0	(0%)	500	(10%)	\$9	(1%)
Abandoned or discarded materials or products	17,800	(10%)	70	(12%)	490	(10%)	\$106	(9%)
Non-confined fire	3,700	(2%)	70	(12%)	370	(7%)	\$103	(9%)
Confined fire	14,100	(8%)	0	(0%)	120	(2%)	\$3	(0%)
Heat source too close to combustibles	16,100	(9%)	100	(18%)	580	(11%)	\$154	(13%)
Non-confined fire	5,200	(3%)	100	(18%)	450	(9%)	\$151	(13%)
Confined fire	10,900	(6%)	0	(0%)	120	(2%)	\$3	(0%)
Unclassified misuse of material or product	14,800	(9%)	20	(4%)	380	(8%)	\$61	(5%)
Non-confined fire	2,600	(1%)	20	(4%)	230	(5%)	\$58	(5%)
Confined fire	12,200	(7%)	0	(0%)	150	(3%)	\$2	(0%)
Failure to clean	13,500	(8%)	0	(1%)	90	(2%)	\$15	(1%)
Non-confined fire	1,300	(1%)	0	(1%)	50	(1%)	\$13	(1%)
Confined fire	12,300	(7%)	0	(0%)	40	(1%)	\$1	(0%)
Unintentionally turned on or not turned off	13,000	(7%)	40	(8%)	390	(8%)	\$149	(13%)
Non-confined fire	4,400	(3%)	40	(8%)	320	(6%)	\$147	(13%)
Confined fire	8,500	(5%)	0	(0%)	70	(1%)	\$2	(0%)
Unclassified factors contributing to ignition	10,000	(6%)	30	(5%)	300	(6%)	\$40	(3%)
Non-confined fire	1,600	(1%)	30	(5%)	160	(3%)	\$38	(3%)
Confined fire	8,400	(5%)	0	(0%)	140	(3%)	\$2	(0%)
Mechanical failures or malfunctions	9,100	(5%)	10	(1%)	90	(2%)	\$49	(4%)
Non-confined fire	2,000	(1%)	10	(1%)	70	(1%)	\$47	(4%)
Confined fire	7,100	(4%)	0	(0%)	20	(0%)	\$1	(0%)
Electrical failures or malfunctions	8,300	(5%)	10	(2%)	140	(3%)	\$66	(6%)
Non-confined fire	2,800	(2%)	10	(2%)	130	(3%)	\$65	(6%)
Confined fire	5,500	(3%)	0	(0%)	10	(0%)	\$1	(0%)
Equipment not operated properly	4,400	(3%)	10	(3%)	110	(2%)	\$21	(2%)
Non-confined fire	800	(0%)	10	(3%)	80	(2%)	\$20	(2%)
Confined fire	3,500	(2%)	0	(0%)	30	(1%)	\$1	(0%)
Unclassified operational deficiency	3,700	(2%)	10	(2%)	80	(2%)	\$12	(1%)
Non-confined fire	600	(0%)	10	(2%)	50	(1%)	\$12	(1%)
Confined fire	3,100	(2%)	0	(0%)	30	(1%)	\$1	(0%)



**Table 6.**  
**Home Cooking Structure Fires, by Factor Contributing to Ignition**  
**2013–2017 Annual Averages (Continued)**

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Improper container or storage procedure	3,500	(2%)	0	(0%)	50	(1%)	\$10	(1%)
Non-confined fire	500	(0%)	0	(0%)	30	(1%)	\$9	(1%)
Confined fire	3,000	(2%)	0	(0%)	20	(0%)	\$1	(0%)
Flammable liquid or gas spilled	2,800	(2%)	0	(1%)	130	(3%)	\$16	(1%)
Non-confined fire	700	(0%)	0	(1%)	90	(2%)	\$15	(1%)
Confined fire	2,100	(1%)	0	(0%)	40	(1%)	\$1	(0%)
Other known factor	6,700	(4%)	20	(4%)	210	(4%)	\$75	(6%)
Non-confined fire	2,000	(1%)	20	(4%)	170	(3%)	\$74	(6%)
Confined fire	4,600	(3%)	0	(0%)	40	(1%)	\$1	(0%)
<b>Total fires</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Non-confined	42,500	(25%)	550	(100%)	3,720	(74%)	\$1,138	(98%)
Confined	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)
<b>Total factors</b>	<b>177,700</b>	<b>(103%)</b>	<b>590</b>	<b>(106%)</b>	<b>5,270</b>	<b>(105%)</b>	<b>\$1,248</b>	<b>(107%)</b>
Non-confined	44,700	(26%)	590	(106%)	3,930	(78%)	\$1,219	(104%)
Confined	133,000	(77%)	0	(0%)	1,340	(27%)	\$30	(3%)
Less than 2% of the fires but at least 2% of the deaths resulted from fires with the following other known factors:								
Equipment used for unintended purpose			10	(2%)				

Note: Multiple entries are allowed, resulting in more factor entries than fires. Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 7A.**  
**Home Cooking Structure Fires, by Human Factor Contributing to Ignition**  
**2013–2017 Annual Averages**

Human Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Unattended or unsupervised person	24,000	(14%)	70	(12%)	780	(15%)	\$219	(19%)
Non-confined fire	6,900	(4%)	70	(12%)	560	(11%)	\$212	(18%)
Confined fire	17,100	(10%)	0	(0%)	210	(4%)	\$7	(1%)
Asleep	8,400	(5%)	140	(25%)	580	(11%)	\$112	(10%)
Non-confined fire	2,600	(2%)	140	(25%)	430	(9%)	\$110	(9%)
Confined fire	5,800	(3%)	0	(0%)	140	(3%)	\$2	(0%)
Possibly impaired by alcohol or drugs	2,800	(2%)	80	(15%)	290	(6%)	\$30	(3%)
Non-confined fire	800	(0%)	80	(15%)	220	(4%)	\$29	(3%)
Confined fire	2,000	(1%)	0	(0%)	70	(1%)	\$0	(0%)
Age was a factor	2,400	(1%)	50	(8%)	150	(3%)	\$21	(2%)
Non-confined fire	700	(0%)	50	(8%)	110	(2%)	\$20	(2%)
Confined fire	1,700	(1%)	0	(0%)	40	(1%)	\$1	(0%)
Possibly mentally disabled	1,100	(1%)	10	(2%)	70	(1%)	\$11	(1%)
Non-confined fire	400	(0%)	10	(2%)	50	(1%)	\$11	(1%)
Confined fire	700	(0%)	0	(0%)	10	(0%)	\$0	(0%)
Multiple persons involved	600	(0%)	10	(1%)	50	(1%)	\$11	(1%)
Non-confined fire	200	(0%)	10	(1%)	30	(1%)	\$11	(1%)
Confined fire	400	(0%)	0	(0%)	10	(0%)	\$0	(0%)
Physically disabled	600	(0%)	30	(5%)	50	(1%)	\$6	(1%)
Non-confined fire	200	(0%)	30	(5%)	30	(1%)	\$6	(1%)
Confined fire	400	(0%)	0	(0%)	20	(0%)	\$0	(0%)
None	134,900	(78%)	240	(43%)	3,260	(65%)	\$782	(67%)
Non-confined fire	31,200	(18%)	240	(43%)	2,420	(48%)	\$762	(65%)
Confined fire	103,700	(60%)	0	(0%)	840	(17%)	\$19	(2%)
<b>Total fires</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Non-confined fire	42,500	(25%)	550	(100%)	3,720	(74%)	\$1,138	(98%)
Confined fire	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)
<b>Total factors</b>	<b>175,000</b>	<b>(101%)</b>	<b>620</b>	<b>(112%)</b>	<b>5,220</b>	<b>(104%)</b>	<b>\$1,192</b>	<b>(102%)</b>
Non-confined fire	43,000	(25%)	620	(112%)	3,870	(77%)	\$1,163	(100%)
Confined fire	131,900	(76%)	0	(0%)	1,350	(27%)	\$29	(3%)

Note: Multiple entries are allowed, resulting in more factor entries than fires. Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 7B.**  
**Home Cooking Structure Fires Reported Between 11 p.m. and 7 a.m.**  
**by Human Factor Contributing to Ignition**  
**2013–2017 Annual Averages**

<b>Human Factor Contributing to Ignition</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Asleep	4,400	(21%)	100	(42%)	290	(32%)	\$65	(30%)
Non-confined fire	1,300	(6%)	100	(42%)	220	(25%)	\$64	(30%)
Confined fire	3,100	(15%)	0	(0%)	60	(7%)	\$1	(0%)
Unattended or unsupervised person	2,700	(13%)	30	(14%)	150	(17%)	\$32	(15%)
Non-confined fire	800	(4%)	30	(14%)	120	(14%)	\$32	(14%)
Confined fire	1,900	(9%)	0	(0%)	30	(3%)	\$1	(0%)
Possibly impaired by alcohol or drugs	1,300	(6%)	40	(19%)	120	(13%)	\$13	(6%)
Non-confined fire	300	(2%)	40	(19%)	90	(10%)	\$13	(6%)
Confined fire	900	(4%)	0	(0%)	30	(3%)	\$0	(0%)
Age was a factor	200	(1%)	10	(5%)	20	(2%)	\$2	(1%)
Non-confined fire	100	(0%)	10	(5%)	10	(1%)	\$2	(1%)
Confined fire	200	(1%)	0	(0%)	10	(1%)	\$0	(0%)
Possibly mentally disabled	200	(1%)	0	(0%)	20	(2%)	\$2	(1%)
Non-confined fire	100	(0%)	0	(0%)	20	(2%)	\$2	(1%)
Confined fire	100	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Physically disabled	100	(0%)	0	(1%)	0	(0%)	\$1	(1%)
Non-confined fire	0	(0%)	0	(1%)	0	(0%)	\$1	(1%)
Confined fire	100	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Multiple persons involved	100	(0%)	0	(0%)	0	(0%)	\$5	(2%)
Non-confined fire	0	(0%)	0	(0%)	0	(0%)	\$5	(2%)
Confined fire	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
None	12,400	(60%)	80	(33%)	370	(41%)	\$107	(49%)
Non-confined fire	3,500	(17%)	80	(33%)	300	(33%)	\$106	(48%)
Confined fire	8,900	(43%)	0	(0%)	70	(8%)	\$2	(1%)
<b>Total fires</b>	<b>20,600</b>	<b>(100%)</b>	<b>240</b>	<b>(100%)</b>	<b>890</b>	<b>(100%)</b>	<b>\$218</b>	<b>(100%)</b>
Non-confined fire	5,900	(29%)	240	(100%)	710	(80%)	\$215	(99%)
Confined fire	14,700	(71%)	0	(0%)	180	(20%)	\$3	(1%)
<b>Total factors</b>	<b>21,300</b>	<b>(103%)</b>	<b>270</b>	<b>(113%)</b>	<b>960</b>	<b>(108%)</b>	<b>\$226</b>	<b>(104%)</b>
Non-confined fire	6,100	(30%)	270	(113%)	760	(86%)	\$223	(102%)
Confined fire	15,200	(74%)	0	(0%)	200	(22%)	\$3	(1%)

Note: Multiple entries are allowed, resulting in more factor entries than fires. Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 7C.**  
**Home Cooking Structure Fires Reported Between 7 a.m. and 11 p.m.**  
**by Human Factor Contributing to Ignition**  
**2013–2017 Annual Averages**

Human Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Unattended or unsupervised person	21,300	(14%)	30	(11%)	630	(15%)	\$187	(20%)
Non-confined fire	6,100	(4%)	30	(11%)	440	(11%)	\$180	(19%)
Confined fire	15,200	(10%)	0	(0%)	190	(5%)	\$6	(1%)
Asleep	4,200	(3%)	40	(12%)	290	(7%)	\$47	(5%)
Non-confined fire	1,400	(1%)	40	(12%)	210	(5%)	\$46	(5%)
Confined fire	2,900	(2%)	0	(0%)	80	(2%)	\$1	(0%)
Age was a factor	2,200	(1%)	30	(11%)	130	(3%)	\$19	(2%)
Non-confined fire	700	(0%)	30	(11%)	100	(2%)	\$19	(2%)
Confined fire	1,500	(1%)	0	(0%)	30	(1%)	\$1	(0%)
Possibly impaired by alcohol or drugs	1,600	(1%)	40	(12%)	170	(4%)	\$17	(2%)
Non-confined fire	500	(0%)	40	(12%)	130	(3%)	\$16	(2%)
Confined fire	1,100	(1%)	0	(0%)	50	(1%)	\$0	(0%)
Possibly mentally disabled	900	(1%)	10	(4%)	50	(1%)	\$10	(1%)
Non-confined fire	300	(0%)	10	(4%)	40	(1%)	\$10	(1%)
Confined fire	600	(0%)	0	(0%)	10	(0%)	\$0	(0%)
Multiple persons involved	600	(0%)	10	(3%)	40	(1%)	\$7	(1%)
Non-confined fire	200	(0%)	10	(3%)	30	(1%)	\$7	(1%)
Confined fire	400	(0%)	0	(0%)	10	(0%)	\$0	(0%)
Physically disabled	500	(0%)	30	(8%)	50	(1%)	\$5	(1%)
Non-confined fire	200	(0%)	30	(8%)	30	(1%)	\$5	(1%)
Confined fire	400	(0%)	0	(0%)	20	(0%)	\$0	(0%)
None	122,300	(80%)	160	(51%)	2,890	(70%)	\$675	(71%)
Non-confined fire	27,700	(18%)	160	(51%)	2,130	(52%)	\$657	(69%)
Confined fire	94,700	(62%)	0	(0%)	770	(19%)	\$18	(2%)
<b>Total fires</b>	<b>152,500</b>	<b>(100%)</b>	<b>320</b>	<b>(100%)</b>	<b>4,130</b>	<b>(100%)</b>	<b>\$949</b>	<b>(100%)</b>
Non-confined fire	36,500	(24%)	320	(100%)	3,000	(73%)	\$922	(97%)
Confined fire	116,000	(76%)	0	(0%)	1,120	(27%)	\$26	(3%)
<b>Total factors</b>	<b>153,700</b>	<b>(101%)</b>	<b>350</b>	<b>(110%)</b>	<b>4,260</b>	<b>(103%)</b>	<b>\$966</b>	<b>(102%)</b>
Non-confined fire	36,900	(24%)	350	(110%)	3,100	(75%)	\$940	(99%)
Confined fire	116,800	(77%)	0	(0%)	1,150	(28%)	\$26	(3%)

Note: Multiple entries are allowed, resulting in more factor entries than fires. Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 8.**  
**Home Cooking Structure Fires, by Item First Ignited**  
**2013–2017 Annual Average**

<b>Item First Ignited</b>	<b>Fires</b>		<b>Civilian Deaths</b>		<b>Civilian Injuries</b>		<b>Direct Property Damage (in Millions)</b>	
Cooking materials, including food	114,800	(66%)	280	(50%)	3,380	(67%)	\$586	(50%)
Non-confined fire	23,600	(14%)	280	(50%)	2,470	(49%)	\$568	(49%)
Confined fire	91,200	(53%)	0	(0%)	910	(18%)	\$18	(2%)
Appliance housing or casing	10,700	(6%)	20	(5%)	200	(4%)	\$61	(5%)
Non-confined fire	3,000	(2%)	20	(5%)	160	(3%)	\$59	(5%)
Confined fire	7,700	(4%)	0	(0%)	40	(1%)	\$2	(0%)
Household utensils	9,300	(5%)	10	(3%)	220	(4%)	\$38	(3%)
Non-confined fire	1,800	(1%)	10	(3%)	130	(3%)	\$36	(3%)
Confined fire	7,500	(4%)	0	(0%)	90	(2%)	\$2	(0%)
Unclassified item first ignited	8,600	(5%)	10	(1%)	160	(3%)	\$34	(3%)
Non-confined fire	1,300	(1%)	10	(1%)	70	(1%)	\$32	(3%)
Confined fire	7,200	(4%)	0	(0%)	90	(2%)	\$2	(0%)
Flammable or combustible liquid or gas, piping, or filter	6,000	(3%)	30	(5%)	350	(7%)	\$67	(6%)
Non-confined fire	2,300	(1%)	30	(5%)	270	(5%)	\$65	(6%)
Confined fire	3,800	(2%)	0	(0%)	80	(2%)	\$1	(0%)
Cabinetry	3,500	(2%)	20	(4%)	160	(3%)	\$105	(9%)
Non-confined fire	2,500	(1%)	20	(4%)	140	(3%)	\$104	(9%)
Confined fire	1,000	(1%)	0	(0%)	20	(0%)	\$1	(0%)
Other known item first ignited	20,300	(12%)	180	(32%)	540	(11%)	\$276	(24%)
Non-confined fire	8,000	(5%)	180	(32%)	470	(9%)	\$273	(23%)
Confined fire	12,200	(7%)	0	(0%)	80	(2%)	\$3	(0%)
<b>Total fires</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Non-confined fire	42,500	(25%)	550	(100%)	3,720	(74%)	\$1,138	(98%)
Confined fire	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)

The following other known items were first ignited in less than 2% of the fires but in at least 10, or 2%, of the deaths:

Clothing	80	(14%)
Multiple items first ignited	10	(2%)
Interior wall covering	10	(2%)
Unclassified furniture or utensil	10	(3%)
Unclassified structural component or finish	10	(2%)
Upholstered furniture	10	(2%)
Unclassified organic material	10	(2%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 9.**  
**Home Cooking Structure Fires That Began with Cooking Materials, Including Food,**  
**by Type of Material First Ignited**  
**2013–2017 Annual Averages**

Type of Material First Ignited	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Food or starch, excluding fat and grease	42,900	(37%)	70	(25%)	590	(18%)	\$80	(14%)
Non-confined fire	3,900	(3%)	70	(25%)	370	(11%)	\$76	(13%)
Confined fire	39,000	(34%)	0	(0%)	230	(7%)	\$4	(1%)
Cooking oil or other Class IIIB combustible liquid	36,100	(31%)	130	(48%)	1,760	(52%)	\$323	(55%)
Non-confined fire	11,700	(10%)	130	(48%)	1,320	(39%)	\$315	(54%)
Confined fire	24,400	(21%)	0	(0%)	440	(13%)	\$8	(1%)
Fat, grease, butter, margarine, or lard	24,500	(21%)	50	(17%)	820	(24%)	\$130	(22%)
Non-confined fire	6,100	(5%)	50	(17%)	630	(19%)	\$127	(22%)
Confined fire	18,500	(16%)	0	(0%)	200	(6%)	\$4	(1%)
Unclassified type of material first ignited	3,100	(3%)	10	(2%)	20	(1%)	\$5	(1%)
Non-confined fire	300	(0%)	10	(2%)	10	(0%)	\$4	(1%)
Confined fire	2,800	(2%)	0	(0%)	10	(0%)	\$0	(0%)
Plastic	2,400	(2%)	10	(2%)	40	(1%)	\$4	(1%)
Non-confined fire	400	(0%)	10	(2%)	30	(1%)	\$3	(1%)
Confined fire	2,000	(2%)	0	(0%)	10	(0%)	\$1	(0%)
Other known type of material	5,700	(5%)	20	(6%)	140	(4%)	\$44	(7%)
Non-confined fire	1,300	(1%)	20	(6%)	120	(3%)	\$42	(7%)
Confined fire	4,400	(4%)	0	(0%)	20	(1%)	\$1	(0%)
<b>Total fires</b>	<b>114,800</b>	<b>(100%)</b>	<b>280</b>	<b>(100%)</b>	<b>3,380</b>	<b>(100%)</b>	<b>\$586</b>	<b>(100%)</b>
Non-confined fire	23,600	(21%)	280	(100%)	2,470	(73%)	\$568	(97%)
Confined fire	91,200	(79%)	0	(0%)	910	(27%)	\$18	(3%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 10.**  
**Death and Injury Rates per 1,000 Fires and Average Loss per Fire in Reported Home Cooking Fires That Began with Cooking Materials or Food for Leading Types of Material**  
**2013–2017 Annual Averages**

Type of Material Ignited	Fires	Deaths per 1,000 Fires	Injuries per 1,000 Fires	Average Loss per Fire
Food or starch, excluding fat or grease	42,900	1.6	13.8	\$1,900
Cooking oil or other Class IIIB combustible liquid	36,100	3.7	48.8	\$8,900
Fat, grease, butter, margarine, or lard	24,500	1.9	33.6	\$5,300
Other known types of material	11,200	2.6	17.7	\$4,700
<b>Total</b>	<b>114,800</b>	<b>2.4</b>	<b>29.4</b>	<b>\$5,100</b>

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 11.**  
**Home Cooking Structure Fires, by Extent of Flame Damage**  
**2013–2017 Annual Averages**

Extent of Flame Damage	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Confined fire identified by incident type	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)
Confined to object of origin	6,400	(4%)	20	(3%)	290	(6%)	\$40	(3%)
Confined to room of origin	28,500	(16%)	150	(27%)	2,530	(50%)	\$427	(37%)
Confined to floor of origin	2,500	(1%)	90	(17%)	330	(7%)	\$149	(13%)
Confined to building of origin	4,700	(3%)	250	(46%)	510	(10%)	\$470	(40%)
Extended beyond building of origin	400	(0%)	40	(7%)	60	(1%)	\$52	(4%)
<b>Total</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Fire extended beyond room of origin	7,600	(4%)	390	(70%)	900	(18%)	\$670	(57%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 12.**  
**Home Cooking Structure Fires, by Equipment Involved in Ignition**  
**2013–2017 Annual Averages**

Equipment Involved in Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Range or cooktop	107,200	(62%)	490	(89%)	3,940	(79%)	\$861	(74%)
Non-confined fire	33,300	(19%)	490	(89%)	3,160	(63%)	\$843	(72%)
Confined fire	73,900	(43%)	0	(0%)	780	(16%)	\$18	(2%)
Oven or rotisserie	22,600	(13%)	20	(4%)	250	(5%)	\$48	(4%)
Non-confined fire	2,900	(2%)	20	(4%)	160	(3%)	\$44	(4%)
Confined fire	19,700	(11%)	0	(0%)	90	(2%)	\$3	(0%)
Portable cooking or warming device	7,900	(5%)	20	(4%)	230	(5%)	\$73	(6%)
Non-confined fire	2,000	(1%)	20	(4%)	170	(3%)	\$72	(6%)
Confined fire	5,900	(3%)	0	(0%)	60	(1%)	\$1	(0%)
Microwave oven	7,100	(4%)	10	(1%)	120	(2%)	\$37	(3%)
Non-confined fire	1,600	(1%)	10	(1%)	100	(2%)	\$36	(3%)
Confined fire	5,500	(3%)	0	(0%)	20	(0%)	\$1	(0%)
Grill, barbeque, or hibachi*	4,500	(3%)	10	(1%)	110	(2%)	\$118	(10%)
Non-confined fire	1,800	(1%)	10	(1%)	90	(2%)	\$117	(10%)
Confined fire	2,700	(2%)	0	(0%)	20	(0%)	\$0	(0%)
Deep fryer	700	(0%)	0	(1%)	20	(0%)	\$18	(2%)
Non-confined fire	400	(0%)	0	(1%)	20	(0%)	\$18	(2%)
Confined fire	400	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Grease hood or duct exhaust fan	600	(0%)	0	(0%)	20	(0%)	\$6	(1%)
Non-confined fire	400	(0%)	0	(0%)	20	(0%)	\$6	(1%)
Confined fire	200	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Confined cooking fire incident type but equipment involved was not primarily cooking equipment	22,500	(13%)	0	(0%)	330	(7%)	\$5	(0%)
Heating stove	17,400	(10%)	0	(0%)	230	(5%)	\$3	(0%)
Other known equipment involved in cooking fire	1,600	(1%)	0	(0%)	10	(0%)	\$1	(0%)
Coded as no equipment involved in confined cooking fire	3,600	(2%)	0	(0%)	90	(2%)	\$1	(0%)
<b>Total</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Non-confined fire	42,500	(25%)	550	(100%)	3,720	(74%)	\$1,138	(98%)
Confined fire	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)

\* Grill, hibachi or barbecue fires that were coded as outside fires are not included here.

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.



**Table 13.**  
**Death and Injury Rates per 1,000 Reported Fires and Average Loss per Fire by Equipment Involved in**  
**Reported Home Cooking Fires**  
**2013–2017 Annual Averages**

<b>Equipment Involved</b>	<b>Fires</b>	<b>Civilian Deaths per 1,000 Fires</b>	<b>Civilian Injuries per 1,000 Fires</b>	<b>Average Loss per Fire</b>
Specific types of cooking equipment*	150,700	3.6	31.1	\$7,700
Range or cooktop	107,200	4.6	36.8	\$8,000
Oven or rotisserie	22,600	0.9	11.1	\$2,100
Portable cooking or warming equipment	7,900	2.5	29.1	\$9,200
Microwave oven	7,100	1.4	16.9	\$5,200
Grill, hibachi or barbecue**	4,500	2.2	24.4	\$26,200
Deep fryer	700	0.0	28.6	\$25,700
Grease hood or duct exhaust fan	600	0.0	33.3	\$10,000
	172,100	3.2	29.0	\$6,700
Non-confined fire	43,500	12.9	87.5	\$26,800
Confined fire	128,600	0.0	9.9	\$200

\* The 22,500 fires per year that had the confined cooking fire incident type, but in which the equipment involved in ignition was not coded as a type of cooking equipment, are not included here.

\*\* Grill, hibachi, or barbecue fires that were coded as outside fires are not included here.

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 14.**  
**Comparative Risks of Reported Fires and Associated Losses**  
**of Gas Versus Electric Ranges**

**A. Input Data**

Annual Average of 2013–2017					
	US Households Using This Power as Primary Cooking Power (in Millions) in 2015	US Home Structure Fires <u>Involving Range or Stove with This Power</u>			
		Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)
Gas	46.4	22,100	100	510	\$130
Electricity	71.3	84,900	390	3,420	\$729
All	117.8	107,200	490	3,940	\$861

Note: “All” includes households with any cooking fuel, including fuels other than gas or electricity.

Source: Fire and loss estimates from NFIRS and NFPA Fire Experience Survey. Primary cooking power data from [American Housing Survey’s Table Creator](#), accessed October 2019.

**B. Comparative United States Risk Relative to Usage**

	Fires per Million Households	Civilian Deaths per Million Households	Civilian Injuries per Million Households	Direct Property Damage per Household (in Millions)
Gas	476	2.1	11.1	\$2.80
Electricity	1,192	5.5	48.0	\$10.23
All ranges	910	4.2	33.4	\$7.31

**Table 15.**  
**Home Cooking Structure Fires, by Smoke Alarm Status**  
**2013–2017 Annual Averages**

Smoke Alarm Status	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
<b>Total cooking fires</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Non-confined	42,500	(25%)	550	(100%)	3,720	(74%)	\$1,138	(98%)
Confined	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)
<i>Smoke alarm present</i>	<i>151,700</i>	<i>(88%)</i>	<i>390</i>	<i>(70%)</i>	<i>4,190</i>	<i>(84%)</i>	<i>\$988</i>	<i>(85%)</i>
Non-confined	34,400	(20%)	390	(70%)	3,020	(60%)	\$962	(82%)
Confined	117,300	(68%)	0	(0%)	1,170	(23%)	\$26	(2%)
<i>Fire too small to operate alarm</i>	<i>19,600</i>	<i>(11%)</i>	<i>20</i>	<i>(3%)</i>	<i>280</i>	<i>(6%)</i>	<i>\$19</i>	<i>(2%)</i>
Non-confined	2,500	(1%)	20	(3%)	140	(3%)	\$17	(1%)
Confined	17,100	(10%)	0	(0%)	150	(3%)	\$2	(0%)
<i>Smoke alarm present and fire large enough to operate alarm</i>	<i>132,100</i>	<i>(76%)</i>	<i>370</i>	<i>(67%)</i>	<i>3,910</i>	<i>(78%)</i>	<i>\$970</i>	<i>(83%)</i>
Non-confined	32,000	(18%)	370	(67%)	2,890	(58%)	\$945	(81%)
Confined	100,200	(58%)	0	(0%)	1,030	(20%)	\$24	(2%)
<i>Smoke alarm operated</i>	<i>120,000</i>	<i>(69%)</i>	<i>280</i>	<i>(50%)</i>	<i>3,310</i>	<i>(66%)</i>	<i>\$825</i>	<i>(71%)</i>
Non-confined	27,100	(16%)	280	(50%)	2,400	(48%)	\$804	(69%)
Confined	92,800	(54%)	0	(0%)	920	(18%)	\$22	(2%)
<i>Smoke alarm present but did not operate</i>	<i>12,200</i>	<i>(7%)</i>	<i>90</i>	<i>(17%)</i>	<i>600</i>	<i>(12%)</i>	<i>\$144</i>	<i>(12%)</i>
Non-confined	4,800	(3%)	90	(17%)	490	(10%)	\$142	(12%)
Confined	7,300	(4%)	0	(0%)	110	(2%)	\$3	(0%)
<i>No smoke alarm</i>	<i>21,500</i>	<i>(12%)</i>	<i>170</i>	<i>(30%)</i>	<i>820</i>	<i>(16%)</i>	<i>\$178</i>	<i>(15%)</i>
Non-confined	8,000	(5%)	170	(30%)	690	(14%)	\$176	(15%)
Confined	13,500	(8%)	0	(0%)	130	(3%)	\$3	(0%)
<i>No working smoke alarm (sum of no smoke alarms and alarms that were present but did not operate)</i>	<i>33,600</i>	<i>(19%)</i>	<i>260</i>	<i>(47%)</i>	<i>1,420</i>	<i>(28%)</i>	<i>\$323</i>	<i>(28%)</i>
Non-confined	12,900	(7%)	260	(47%)	1,180	(24%)	\$317	(27%)
Confined	20,800	(12%)	0	(0%)	240	(5%)	\$6	(0%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS and NFPA Fire Experience Survey.

**Table 16.**  
**Home Cooking Structure Fires, by Sprinkler Status**  
**2013–2017 Annual Averages**

Sprinkler Status	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
<b>Total cooking fires</b>	<b>173,200</b>	<b>(100%)</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>	<b>\$1,167</b>	<b>(100%)</b>
Non-confined	42,500	(25%)	550	(100%)	3,720	(74%)	\$1,138	(98%)
Confined	130,700	(75%)	0	(0%)	1,300	(26%)	\$29	(2%)
<i>Sprinkler (not partial system) present in fire area</i>								
	17,700	(10%)	10	(2%)	400	(8%)	\$66	(6%)
Non-confined	2,900	(2%)	10	(2%)	210	(4%)	\$60	(5%)
Confined	14,800	(9%)	0	(0%)	190	(4%)	\$5	(0%)
<i>Fire too small to operate sprinkler</i>								
	11,700	(7%)	10	(1%)	200	(4%)	\$5	(0%)
Non-confined	800	(0%)	10	(1%)	70	(1%)	\$4	(0%)
Confined	10,900	(6%)	0	(0%)	130	(3%)	\$1	(0%)
<i>Sprinkler present and fire large enough to operate</i>								
	6,000	(3%)	0	(1%)	200	(4%)	\$61	(5%)
Non-confined	2,000	(1%)	0	(1%)	130	(3%)	\$57	(5%)
Confined	3,900	(2%)	0	(0%)	70	(1%)	\$4	(0%)
<i>Sprinkler operated</i>								
	5,100	(3%)	0	(1%)	180	(4%)	\$59	(5%)
Non-confined	1,900	(1%)	0	(1%)	120	(2%)	\$54	(5%)
Confined	3,200	(2%)	0	(0%)	50	(1%)	\$4	(0%)
<i>Sprinkler present but did not operate</i>								
	800	(0%)	0	(0%)	20	(0%)	\$2	(0%)
Non-confined	100	(0%)	0	(0%)	0	(0%)	\$2	(0%)
Confined*	700	(0%)	0	(0%)	20	(0%)	\$0	(0%)
<i>Unclassified sprinkler operation</i>								
	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Non-confined	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Confined	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
<i>Partial automatic extinguishing system (AES) or not in area and did not operate</i>								
	1,000	(1%)	0	(0%)	30	(1%)	\$5	(0%)
Non-confined	200	(0%)	0	(0%)	20	(0%)	\$5	(0%)
Confined	700	(0%)	0	(0%)	0	(0%)	\$0	(0%)

\*It is likely that many of the confined fires in which sprinklers did not operate never grew large enough to activate the sprinkler.

**Table 16.**  
**Home Cooking Structure Fires, by Sprinkler Status**  
**2013–2017 Annual Averages (Continued)**

Sprinkler Status	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
<i>No automatic extinguishing system (AES)</i>	153,500	(89%)	540	(98%)	4,550	(91%)	\$1,095	(94%)
Non-confined	39,200	(23%)	540	(98%)	3,460	(69%)	\$1,071	(92%)
Confined	114,300	(66%)	0	(0%)	1,090	(22%)	\$23	(2%)
<i>Non-sprinkler automatic extinguishing system (AES) present</i>	1,000	(1%)	0	(0%)	40	(1%)	\$1	(0%)
Non-confined	200	(0%)	0	(0%)	20	(0%)	\$1	(0%)
Confined	800	(0%)	0	(0%)	20	(0%)	\$0	(0%)
<i>No working sprinkler (sum of no AES and sprinklers that were present but did not operate)</i>	154,300	(89%)	540	(98%)	4,570	(91%)	\$1,097	(94%)
Non-confined	39,300	(23%)	540	(98%)	3,470	(69%)	\$1,073	(92%)
Confined	115,100	(66%)	0	(0%)	1,100	(22%)	\$23	(2%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 17.**  
**Home Cooking Structure Fire Casualties by Victim’s Location at Time of Incident**  
**2013–2017 Annual Averages**

<b>Victim’s Location at Time of Incident</b>	<b>Civilian Deaths</b>		<b>Civilian Injuries</b>	
In area of origin and not involved	50	(10%)	1,500	(30%)
Not in area of origin and not involved	250	(45%)	1,100	(22%)
Not in area of origin but involved	130	(23%)	530	(11%)
In area of origin and involved	130	(23%)	1,890	(38%)
Unclassified	0	(0%)	30	(1%)
<b>Total</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>
Involved in ignition, regardless of location	250	(46%)	2,420	(48%)
In area of origin, regardless of involvement	180	(32%)	3,390	(68%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 18.**  
**Home Cooking Structure Fire Casualties by Victim’s Activity at Time of Injury**  
**2013–2017 Annual Averages**

<b>Victim’s Activity at Time of Injury</b>	<b>Civilian Deaths</b>		<b>Civilian Injuries</b>	
Sleeping	170	(30%)	380	(8%)
Escaping	140	(26%)	780	(15%)
Unable to act	70	(13%)	160	(3%)
Fire control	60	(11%)	2,660	(53%)
Unclassified activity	40	(7%)	380	(8%)
Returning to vicinity of fire before control	30	(5%)	360	(7%)
Irrational act	20	(4%)	110	(2%)
Rescue attempt	20	(3%)	160	(3%)
Returning to vicinity of fire after control	0	(1%)	30	(1%)
<b>Total</b>	<b>550</b>	<b>(100%)</b>	<b>5,020</b>	<b>(100%)</b>

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

## Methodology

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The statistics in this analysis are estimates derived from the US Fire Administration's [National Fire Incident Reporting System \(NFIRS\)](#) and the NFPA's annual survey of US fire departments. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates.

Only civilian (non-firefighter) casualties are discussed in this analysis.

NFPA's Fire Experience Survey provides estimates of the big picture. NFIRS is a voluntary system through which participating fire departments report detailed factors about the fires to which they respond. To compensate for fires reported to local fire departments but not captured in NFIRS, a scaling ratio was calculated and then applied to the NFIRS database using the formula below:

$$\frac{\text{NFPA's Fire Experience Survey projections}}{\text{NFIRS totals}}$$

Cooking equipment refers to equipment used to cook, heat, or warm food [NFIRS Equipment involved in ignition (EII) codes 630-649 and 654]. Fires in which ranges, ovens or microwave ovens, food warming appliances, fixed or portable cooking appliances, deep fat fryers, open-fired charcoal or gas grills, grease hoods or ducts, or other cooking appliances were involved in the ignition are classified as being caused by cooking equipment. Food preparation devices that do not involve heating, such as can openers or food processors, are not included here.

All fires with incident type 113, "Cooking fire in or on a structure and confined to the vessel of origin," were considered cooking fires regardless of the equipment involved in ignition. Fires with other confined fire incident types were excluded from the analysis.

NFIRS 5.0 originally defined EII as the piece of equipment that provided the principal heat source that caused ignition if the equipment malfunctioned or was used improperly. NFPA noticed that many fires in which EII was coded as None (NNN) had other causal factors that indicated equipment was a factor or were completely unknown. To compensate, NFPA treats fires in which EII = NNN and the heat source is not in the range of 40-99 as an additional unknown.

To allocate unknown data for EII, the known data is multiplied by:

$$\frac{\text{All fires}}{(\text{All fires} - \text{blank} - \text{undetermined} - [\text{fires in which EII} = \text{NNN and heat source} < 40-99])}$$

In addition, fires and losses associated with code EII 600, "Kitchen and cooking equipment, other," were allocated proportionally across specific kitchen and equipment codes, such as EII codes 611-699. Equipment that is totally unclassified is not allocated further. Unfortunately, equipment that is truly different can erroneously be assigned to other categories.

For more information on the methodology used for this report, see [How NFPA's National Estimates Are Calculated for Home Structure Fires](#).

## Acknowledgements

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The National Fire Protection Association thanks all the fire departments and state fire authorities who participate in the NFIRS and the annual NFPA Fire Experience Survey. These firefighters are the original sources of the detailed data that make this analysis possible. Their contributions allow us to estimate the size of the fire problem.

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