NFPA® RESEARCH



Smoke Alarms in US Home Fires:

Supporting Tables

June 2024

Tucker McGree

Copyright © 2024 National Fire Protection Association® (NFPA®)

Smoke Alarms in US Home 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. While most of the tables show national estimates of reported fires, some show data from other sources.

National estimates of fires and losses are presented as 2018–2022 annual averages. Estimates were derived from the US Fire Administration's National Fire Incident Reporting System (NFIRS) and NFPA's annual fire department experience survey and include proportional shares of unknown or missing data. Fires are rounded to the nearest 100, deaths and injuries are rounded to the nearest 10, and property loss is rounded to the nearest million dollars. Property loss was not adjusted for inflation. Percentages were calculated on unrounded estimates.

Confined fires—that is, fires with NFIRS incident type codes 113–118 indicating confined cooking fires, confined chimney or flue fires, confined trash fires, confined fuel burner or boiler fires, confined commercial compactor fires, and confined incinerator fires—were analyzed separately from fires with non-confined structure fire incident types (NFIRS incident type codes 110–123, excluding 113–118) and summed. Estimates include proportional shares of fires with unknown data. 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*.

Smoke alarms were more likely to be present and to have operated in confined fires than in non-confined fires. Also, a larger percentage of confined fires were too small to operate the smoke alarms. Note that NFIRS, the source of detailed data about fire department responses, does not capture information about whether the detection is monitored. Monitored detection may result in more fire department responses to very small fires.

List of Tables

Table	Smoke Alarms in US Home Fires s	Page
	Home Structure Fires	
Table 1.	By Smoke Alarm Performance	3
Table 1A.	Death Rates per 1,000 Reported Home Structure Fires by Fire Protection Type and Power Source	4
Table 2.	By Type of Detection Equipment	5
Table 3.	By Smoke Alarm Power Source	6
Table 4.	Considered Large Enough to Activate Alarm by Operating Alarms and Power Source	7
Table 5.	By Smoke Alarm Power Source When Smoke Alarms Did Not Operate	8
Table 6.	By Power Source and Reason When Smoke Alarm Did Not Operate	9
Table 7.	With Hardwired Smoke Alarms (Includes Alarms with and without Battery Backup) by Extent of Flame Damage	13
Table 8.	With Battery-Powered Smoke Alarms by Extent of Flame Damage	13
	One- or Two-Family Home Fires	
Table 9.	By Smoke Alarm Performance	14
Table 10.	By Type of Detection Equipment	15
Table 11.	By Smoke Alarm Power Source	16
	Apartment Fires	
Table 12.	By Smoke Alarm Performance	17
Table 13.	By Type of Detection Equipment	18
Table 14.	By Smoke Alarm Power Source	19
	Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Death	
Table 15.	By Victim's Location and Involvement at Time of Fire Incident	20
Table 16.	By Extent of Flame Damage	21
Table 17.	By Activity at Time of Fatal Injury	21
Table 18.	By Human Factor Contributing to Injury	22
Table 19.	By Victim's Age	23
	Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Non-Fatal Injury	
Table 20.	By Victim's Activity at Time of Injury	24

Table 1. Home Structure Fires by Smoke Alarm Performance: 2018–2022 Annual Averages

Detection Performance	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Total	336,848	(100%)	2,596	(100%)	11,006	(100%)	$8,379	(100%)
Non-confined fire	172,075	(51%)	2,596	(100%)	9,805	(89%)	$8,335	(99%)
Confined fire	164,772	(49%)	0	(0%)	1,201	(11%)	$44	(1%)
Smoke alarm present	250,389	(74%)	1,474	(57%)	7,571	(69%)	$6,225	(74%)
Non-confined fire	107,175	(32%)	1,474	(57%)	6,577	(60%)	$6,187	(74%)
Confined fire	143,214	(43%)	0	(0%)	994	(9%)	$38	(0%)
Fire too small to operate alarm	50,122	(15%)	16	(1%)	557	(5%)	$206	(2%)
Non-confined fire	18,561	(6%)	16	(1%)	347	(3%)	$200	(2%)
Confined fire	31,561	(9%)	0	(0%)	210	(2%)	$6	(0%)
Smoke alarm present and fire large enough to operate alarm	200,267	(59%)	1,457	(56%)	7,014	(64%)	$6,019	(72%)
Non-confined fire	88,614	(26%)	1,457	(56%)	6,230	(57%)	$5,987	(71%)
Confined fire	111,653	(33%)	0	(0%)	784	(7%)	$32	(0%)
Smoke alarm operated	181,148	(54%)	1,054	(41%)	5,962	(54%)	$5,450	(65%)
Non-confined fire	77,498	(23%)	1,054	(41%)	5,263	(48%)	$5,421	(65%)
Confined fire	103,651	(31%)	0	(0%)	699	(6%)	$30	(0%)
Smoke alarm present but did not operate	19,119	(6%)	403	(16%)	1,052	(10%)	$569	(7%)
Non-confined fire	11,117	(3%)	403	(16%)	967	(9%)	$566	(7%)
Confined fire	8,002	(2%)	0	(0%)	85	(1%)	$3	(0%)
No smoke alarm	**86,459**	**(26%)**	**1,122**	**(43%)**	**3,435**	**(31%)**	**$2,154**	**(26%)**
Non-confined fire	64,900	(19%)	1,122	(43%)	3,228	(29%)	$2,149	(26%)
Confined fire	21,558	(6%)	0	(0%)	207	(2%)	$5	(0%)
Operating alarms as share of those present in fires large enough to activate	**181,148**	**(90%)**	**1,054**	**(72%)**	**5,962**	**(85%)**	**$5,450**	**(91%)**
Rate per thousand fires			5.8		32.9		30.1	
Fires with no smoke alarms or none that operated	**105,578**	**(31%)**	**1,525**	**(59%)**	**4,486**	**(41%)**	**$2,723**	**(32%)**
Rate per thousand fires			14.4		42.5		25.8	
Rate per thousand fires difference, operating alarms vs. no alarms or none that operated			60%		23%		−17%	

Note: Sums may not equal totals due to rounding errors. Confined and non-confined fires were analyzed separately. Smoke alarm presence or absence was reported in 68 percent of non-confined fires and 7 percent of confined fires. Fires with unknown or missing data were allocated proportionally among fires with missing data.

Source: NFIRS and NFPA's fire experience survey.

Table 1A. Death Rates per 1,000 Reported Home Structure Fires by Fire Protection Type and Power Source: 2018–2022

Detection Presence	Detection Power Supply	Fires	Civilian Deaths	Civilian Injuries	Death Rate by 1,000 Fires	Injury Rate by 1,000 Fires	Death Rate Reduction Compared to No Smoke Alarm	Injury Rate Reduction Compared to No Smoke Alarm
No smoke alarm	Total	86,459	1,122	3,435	12.98	39.73	0	0
Smoke alarm present with AES	Total	28,984	38	627	1.33	21.65	90%	46%
	Battery only	2,942	0	53	0	17.89	100%	55%
	Any hardwired alarm	22,254	34	483	1.51	21.69	88%	45%
	Hardwire only	7,107	11	144	1.55	20.19	88%	49%
	Hardwire with battery	15,147	23	339	1.49	22.39	88%	44%
	Multiple detectors and power supplies	2,287	5	55	2.12	23.84	84%	40%
Smoke alarm present with no AES	Total	219,925	1,430	6,863	6.50	31.21	50%	21%
	Other	1,791	6	64	3.59	35.67	72%	10%
	Battery only	106,482	964	3,905	9.06	36.67	30%	8%
	Any hardwired alarm	101,232	397	2,555	3.92	25.24	70%	36%
	Hardwire only	21,726	94	530	4.32	24.39	67%	39%
	Hardwire with battery	79,506	303	2,025	3.82	25.47	71%	36%
	Plug in with battery	3,598	15	86	4.13	23.83	68%	40%
	Multiple detectors and power supplies	6,073	44	244	7.17	40.18	45%	−1%

Note: Categories with an average of less than 1,000 fires during the period under review were excluded from this table and account for sums not equaling totals.

Source: NFIRS and NFPA's fire experience survey.

Table 2. Home Structure Fires with Detection Equipment by Type of Detection: 2018–2022 Annual Averages

Type of Detection Equipment	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Smoke	219,833	(88%)	1,363	(92%)	6,880	(91%)	$5,471	(88%)
Non-confined fire	96,797	(39%)	1,363	(92%)	6,007	(79%)	$5,442	(87%)
Confined fire	123,036	(49%)	0	(0%)	873	(12%)	$30	(0%)
Combination smoke and heat	16,983	(7%)	51	(3%)	303	(4%)	$408	(7%)
Non-confined fire	5,775	(2%)	51	(3%)	259	(3%)	$404	(6%)
Confined fire	11,208	(4%)	0	(0%)	44	(1%)	$3	(0%)
More than one type present	8,165	(3%)	36	(2%)	259	(3%)	$235	(4%)
Non-confined fire	2,577	(1%)	36	(2%)	209	(3%)	$232	(4%)
Confined fire	5,589	(2%)	0	(0%)	49	(1%)	$3	(0%)
Unclassified detection equipment	1,813	(1%)	13	(1%)	35	(0%)	$43	(1%)
Non-confined fire	684	(0%)	13	(1%)	31	(0%)	$43	(1%)
Confined fire	1,129	(0%)	0	(0%)	4	(0%)	$0	(0%)
Sprinkler with water flow detection	2,421	(1%)	3	(0%)	56	(1%)	$50	(1%)
Non-confined fire	925	(0%)	3	(0%)	36	(0%)	$47	(1%)
Confined fire	1,496	(1%)	0	(0%)	20	(0%)	$2	(0%)
Heat	1,174	(0%)	8	(1%)	38	(1%)	$18	(0%)
Non-confined fire	418	(0%)	8	(1%)	34	(0%)	$18	(0%)
Confined fire	756	(0%)	0	(0%)	5	(0%)	$0	(0%)
Total	250,389	(100%)	1,474	(100%)	7,571	(100%)	$6,225	(100%)
Non-confined fire	107,175	(43%)	1,474	(100%)	6,577	(87%)	$6,187	(99%)
Confined fire	143,214	(57%)	0	(0%)	994	(13%)	$38	(1%)

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

Source: NFIRS and NFPA's fire experience survey.

Table 3. Home Structure Fires in Which Smoke Alarms Were Present by Smoke Alarm Power Source: 2018–2022 Annual Averages

Power Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Battery only	109,153	(44%)	968	(66%)	3,945	(52%)	$2,644	(42%)
Non-confined fire	56,440	(23%)	968	(66%)	3,538	(47%)	$2,630	(42%)
Confined fire	52,713	(21%)	0	(0%)	407	(5%)	$14	(0%)
Hardwired with battery backup	95,417	(38%)	328	(22%)	2,407	(32%)	$2,700	(43%)
Non-confined fire	36,494	(15%)	328	(22%)	1,989	(26%)	$2,683	(43%)
Confined fire	58,923	(24%)	0	(0%)	418	(6%)	$17	(0%)
Hardwired only	29,424	(12%)	105	(7%)	708	(9%)	$428	(7%)
Non-confined fire	8,158	(3%)	105	(7%)	614	(8%)	$423	(7%)
Confined fire	21,266	(8%)	0	(0%)	94	(1%)	$5	(0%)
Multiple detection devices and power supplies	8,587	(3%)	48	(3%)	315	(4%)	$263	(4%)
Non-confined fire	3,009	(1%)	48	(3%)	286	(4%)	$261	(4%)
Confined fire	5,578	(2%)	0	(0%)	29	(0%)	$1	(0%)
Plug in with battery backup	4,210	(2%)	16	(1%)	100	(1%)	$103	(2%)
Non-confined fire	1,816	(1%)	16	(1%)	82	(1%)	$103	(2%)
Confined fire	2,394	(1%)	0	(0%)	18	(0%)	$1	(0%)
Unclassified power source	2,309	(1%)	6	(0%)	80	(1%)	$65	(1%)
Non-confined fire	806	(0%)	6	(0%)	57	(1%)	$65	(1%)
Confined fire	1,504	(1%)	0	(0%)	23	(0%)	$0	(0%)
Plug in	935	(0%)	2	(0%)	6	(0%)	$15	(0%)
Non-confined fire	316	(0%)	2	(0%)	4	(0%)	$14	(0%)
Confined fire	619	(0%)	0	(0%)	2	(0%)	$0	(0%)
Mechanical	354	(0%)	2	(0%)	10	(0%)	$7	(0%)
Non-confined fire	136	(0%)	2	(0%)	6	(0%)	$7	(0%)
Confined fire	218	(0%)	0	(0%)	4	(0%)	$0	(0%)
Total	250,389	(100%)	1,474	(100%)	7,571	(100%)	$6,225	(100%)
Non-confined fire	107,175	(43%)	1,474	(100%)	6,577	(87%)	$6,187	(99%)
Confined fire	143,214	(57%)	0	(0%)	994	(13%)	$38	(1%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally. Smoke alarm presence, operation, and power source are not required fields in NFIRS 5.0. Smoke alarm presence was reported in 67 percent of non-confined fires but only 4 percent of confined fires. Estimates of these elements in non-confined fires are therefore more reliable than estimates for confined fires and totals but non-confined estimates do not include many minor fires.

Source: NFIRS and NFPA's fire experience survey.

Table 4. Home Structure Fires Considered Large Enough to Activate Alarm by Operating Alarms and Power Source: 2018–2022 Annual Averages

Power Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Battery only	71,352	(85%)	610	(63%)	2,818	(77%)	$2,173	(86%)
Non-confined fire	38,079	(83%)	610	(63%)	2,581	(77%)	$2,163	(86%)
Confined fire	33,273	(87%)	0	(0%)	237	(80%)	$9	(83%)
All hardwired	97,074	(94%)	379	(81%)	2,708	(92%)	$2,852	(93%)
Non-confined fire	34,754	(92%)	379	(81%)	2,313	(91%)	$2,835	(93%)
Confined fire	62,320	(96%)	0	(0%)	396	(95%)	$18	(95%)
Hardwired with battery	72,713	(95%)	289	(81%)	2,070	(92%)	$2,465	(94%)
Non-confined fire	28,329	(93%)	289	(81%)	1,753	(91%)	$2,451	(94%)
Confined fire	44,384	(96%)	0	(0%)	317	(95%)	$14	(96%)
Hardwired only	24,361	(94%)	90	(82%)	639	(91%)	$388	(88%)
Non-confined fire	6,425	(90%)	90	(82%)	560	(90%)	$384	(88%)
Confined fire	17,935	(96%)	0	(0%)	79	(94%)	$4	(94%)
All power sources	181,148	(90%)	1,054	(72%)	5,962	(85%)	$5,450	(91%)
Non-confined fire	77,498	(39%)	1,054	(72%)	5,263	(75%)	$5,421	(90%)
Confined fire	103,651	(52%)	0	(0%)	699	(10%)	$30	(0%)

Note: Sums may not equal totals due to rounding errors. Unknowns have been allocated proportionally. Smoke alarm presence, operation, and power source are not required fields in NFIRS 5.0. Smoke alarm presence was reported in 67 percent of non-confined fires but only 4 percent of confined fires. Estimates of these elements in non-confined fires are therefore more reliable than estimates for confined fires and totals, but non-confined estimates do not include many minor fires. Operation was calculated based on the number of fires in which smoke alarms were present and operated divided by the number present that operated and failed to operate. Fires that were too small for the alarms to operate were not included. Minor power sources are not shown separately but are included in the entry for all power sources.

Source: NFIRS and NFPA's fire experience survey.

Table 5. Home Structure Fires Considered Large Enough to Activate Alarm by Smoke Alarm Power Source When Smoke Alarms Did Not Operate: 2018–2022 Annual Averages

Power Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Battery only	12,694	(15%)	316	(37%)	776	(23%)	$343	(14%)
Non-confined fire	7,828	(17%)	316	(37%)	719	(23%)	$341	(14%)
Confined fire	4,865	(13%)	0	(0%)	57	(20%)	$2	(17%)
All hardwired	5,656	(6%)	81	(19%)	233	(8%)	$199	(7%)
Non-confined fire	2,845	(8%)	81	(19%)	212	(9%)	$198	(7%)
Confined fire	2,811	(4%)	0	(0%)	22	(5%)	$1	(5%)
Hardwired with battery	4,121	(5%)	63	(20%)	171	(8%)	$148	(6%)
Non-confined fire	2,143	(7%)	63	(20%)	154	(9%)	$147	(6%)
Confined fire	1,978	(4%)	0	(0%)	16	(5%)	$1	(4%)
Hardwired only	1,535	(6%)	17	(18%)	63	(9%)	$51	(12%)
Non-confined fire	702	(10%)	17	(18%)	57	(10%)	$51	(12%)
Confined fire	833	(4%)	0	(0%)	5	(7%)	$0	(6%)
All power sources	19,119	(100%)	403	(100%)	1,052	(100%)	$569	(100%)
Non-confined fire	11,117	(58%)	403	(100%)	967	(92%)	$566	(100%)
Confined fire	8,002	(42%)	0	(0%)	85	(8%)	$3	(0%)

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

Source: NFIRS and NFPA's fire experience survey.

Table 6. Home Structure Fires Considered Large Enough to Activate Alarm by Power Source and Reason Smoke Alarm Did Not Operate: 2018–2022 Annual Averages

A. All Power Sources Combined

Reason for Failure	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Missing or disconnected battery	6,761	(35%)	227	(56%)	481	(46%)	$184	(32%)
Non-confined fire	4,099	(21%)	227	(56%)	440	(42%)	$183	(32%)
Confined fire	2,662	(14%)	0	(0%)	41	(4%)	$1	(0%)
Dead or discharged battery	4,575	(24%)	71	(18%)	224	(21%)	$100	(18%)
Non-confined fire	2,762	(14%)	71	(18%)	205	(19%)	$100	(18%)
Confined fire	1,814	(9%)	0	(0%)	19	(2%)	$0	(0%)
Unclassified reason for failure	2,891	(15%)	31	(8%)	87	(8%)	$146	(26%)
Non-confined fire	1,654	(9%)	31	(8%)	87	(8%)	$146	(26%)
Confined fire	1,237	(6%)	0	(0%)	0	(0%)	$0	(0%)
Lack of cleaning	1,548	(8%)	32	(8%)	77	(7%)	$44	(8%)
Non-confined fire	868	(5%)	32	(8%)	73	(7%)	$43	(8%)
Confined fire	680	(4%)	0	(0%)	4	(0%)	$0	(0%)
Hardwired power failure, shut off, or disconnected	1,086	(6%)	30	(7%)	83	(8%)	$56	(10%)
Non-confined fire	676	(4%)	30	(7%)	77	(7%)	$56	(10%)
Confined fire	411	(2%)	0	(0%)	6	(1%)	$0	(0%)
Defective unit	1,494	(8%)	1	(0%)	56	(5%)	$20	(3%)
Non-confined fire	624	(3%)	1	(0%)	45	(4%)	$19	(3%)
Confined fire	870	(5%)	0	(0%)	11	(1%)	$0	(0%)
Improper installation or placement	763	(4%)	11	(3%)	44	(4%)	$19	(3%)
Non-confined fire	434	(2%)	11	(3%)	41	(4%)	$19	(3%)
Confined fire	329	(2%)	0	(0%)	3	(0%)	$0	(0%)
All power sources	19,119	(100%)	403	(100%)	1,052	(100%)	$569	(100%)
Non-confined fire	11,117	(58%)	403	(100%)	967	(92%)	$566	(100%)
Confined fire	8,002	(42%)	0	(0%)	85	(8%)	$3	(0%)

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

Source: NFIRS and NFPA's fire experience survey.

Table 6. Home Structure Fires Considered Large Enough to Activate Alarm by Power Source and Reason Smoke Alarm Did Not Operate: 2018–2022 Annual Averages (continued)

B. Battery Only

Reason for Failure	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Missing or disconnected battery	5,286	(42%)	202	(64%)	414	(53%)	$151	(44%)
Non-confined fire	3,405	(27%)	202	(64%)	378	(49%)	$150	(44%)
Confined fire	1,880	(15%)	0	(0%)	36	(5%)	$1	(0%)
Dead or discharged battery	4,086	(32%)	68	(21%)	210	(27%)	$95	(28%)
Non-confined fire	2,552	(20%)	68	(21%)	198	(25%)	$94	(27%)
Confined fire	1,534	(12%)	0	(0%)	12	(2%)	$0	(0%)
Unclassified reason for failure	1,238	(10%)	18	(6%)	38	(5%)	$56	(16%)
Non-confined fire	769	(6%)	18	(6%)	38	(5%)	$56	(16%)
Confined fire	469	(4%)	0	(0%)	0	(0%)	$0	(0%)
Lack of cleaning	777	(6%)	17	(5%)	48	(6%)	$20	(6%)
Non-confined fire	479	(4%)	17	(5%)	48	(6%)	$20	(6%)
Confined fire	297	(2%)	0	(0%)	0	(0%)	$0	(0%)
Defective unit	853	(7%)	0	(0%)	30	(4%)	$10	(3%)
Non-confined fire	361	(3%)	0	(0%)	25	(3%)	$10	(3%)
Confined fire	492	(4%)	0	(0%)	5	(1%)	$0	(0%)
Improper installation or placement	454	(4%)	12	(4%)	35	(5%)	$11	(3%)
Non-confined fire	262	(2%)	12	(4%)	32	(4%)	$11	(3%)
Confined fire	192	(2%)	0	(0%)	3	(0%)	$0	(0%)
Total	12,693	(100%)	316	(100%)	776	(100%)	$343	(100%)
Non-confined fire	7,828	(62%)	316	(100%)	719	(93%)	$341	(99%)
Confined fire	4,865	(38%)	0	(0%)	57	(7%)	$2	(1%)

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

Source: NFIRS and NFPA's fire experience survey.

Table 6. Home Structure Fires Considered Large Enough to Activate Alarm by Power Source and Reason Smoke Alarm Did Not Operate: 2018–2022 Annual Averages (continued)

C. Hardwired Only

Reason for Failure	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Hardwired power failure, shut off, or disconnected	471	(31%)	11	(66%)	48	(76%)	$22	(43%)
Non-confined fire	295	(19%)	11	(66%)	42	(68%)	$22	(43%)
Confined fire	176	(11%)	0	(0%)	5	(9%)	$0	(0%)
Unclassified reason for failure	444	(29%)	0	(0%)	1	(2%)	$17	(34%)
Non-confined fire	163	(11%)	0	(0%)	1	(2%)	$17	(33%)
Confined fire	280	(18%)	0	(0%)	0	(0%)	$0	(0%)
Lack of cleaning	214	(14%)	3	(19%)	3	(6%)	$5	(9%)
Non-confined fire	93	(6%)	3	(19%)	3	(6%)	$5	(9%)
Confined fire	121	(8%)	0	(0%)	0	(0%)	$0	(0%)
Defective unit	294	(19%)	3	(16%)	9	(14%)	$6	(12%)
Non-confined fire	118	(8%)	3	(16%)	9	(14%)	$6	(12%)
Confined fire	176	(11%)	0	(0%)	0	(0%)	$0	(0%)
Improper installation or placement	112	(7%)	0	(0%)	1	(2%)	$1	(2%)
Non-confined fire	32	(2%)	0	(0%)	1	(2%)	$1	(2%)
Confined fire	80	(5%)	0	(0%)	0	(0%)	$0	(0%)
Total	1,535	(100%)	17	(100%)	63	(100%)	$51	(100%)
Non-confined fire	702	(46%)	17	(100%)	57	(91%)	$51	(100%)
Confined fire	833	(54%)	0	(0%)	5	(9%)	$0	(0%)

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

Source: NFIRS and NFPA's fire experience survey.

Table 6. Home Structure Fires Considered Large Enough to Activate Alarm by Power Source and Reason Smoke Alarm Did Not Operate: 2018–2022 Annual Averages (continued)

D. Hardwired with Battery Backup

Reason for Failure	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Missing or disconnected battery	1,133	(27%)	17	(26%)	55	(32%)	$26	(18%)
Non-confined fire	550	(13%)	17	(26%)	50	(30%)	$26	(18%)
Confined fire	583	(14%)	0	(0%)	4	(3%)	$0	(0%)
Unclassified reason for failure	1,001	(24%)	12	(19%)	40	(24%)	$62	(42%)
Non-confined fire	560	(14%)	12	(19%)	40	(24%)	$62	(42%)
Confined fire	440	(11%)	0	(0%)	0	(0%)	$0	(0%)
Hardwired power failure, shut off, or disconnected	657	(16%)	27	(43%)	35	(20%)	$30	(20%)
Non-confined fire	396	(10%)	27	(43%)	31	(18%)	$29	(20%)
Confined fire	262	(6%)	0	(0%)	4	(2%)	$0	(0%)
Lack of cleaning	505	(12%)	6	(10%)	15	(9%)	$17	(11%)
Non-confined fire	251	(6%)	6	(10%)	11	(6%)	$17	(11%)
Confined fire	254	(6%)	0	(0%)	4	(2%)	$0	(0%)
Defective unit	422	(10%)	0	(0%)	10	(6%)	$3	(2%)
Non-confined fire	159	(4%)	0	(0%)	10	(6%)	$3	(2%)
Confined fire	263	(6%)	0	(0%)	0	(0%)	$0	(0%)
Dead or discharged battery	236	(6%)	2	(3%)	10	(6%)	$5	(3%)
Non-confined fire	118	(3%)	2	(3%)	6	(4%)	$5	(3%)
Confined fire	118	(3%)	0	(0%)	4	(2%)	$0	(0%)
Improper installation or placement	167	(4%)	0	(0%)	6	(3%)	$6	(4%)
Non-confined fire	109	(3%)	0	(0%)	6	(3%)	$6	(4%)
Confined fire	59	(1%)	0	(0%)	0	(0%)	$0	(0%)
Total	4,121	(100%)	63	(100%)	171	(100%)	$148	(100%)
Non-confined fire	2,143	(52%)	63	(100%)	154	(90%)	$147	(100%)
Confined fire	1,978	(48%)	0	(0%)	16	(10%)	$1	(0%)

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

Source: NFIRS and NFPA's fire experience survey.

Table 7. Home Structure Fires with Hardwired Smoke Alarms (Includes Alarms with and without Battery Backup) by Extent of Flame Damage: 2018–2022 Annual Averages

Extent of Flame Damage	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Confined fire identified by incident type	80,189	(64%)	0	(0%)	512	(16%)	$22	(1%)
Confined to room of origin	21,887	(18%)	168	(39%)	1,380	(44%)	$579	(19%)
Confined to building of origin	8,515	(7%)	149	(34%)	580	(19%)	$1,783	(57%)
Confined to object of origin	9,255	(7%)	16	(4%)	265	(8%)	$89	(3%)
Confined to floor of origin	4,039	(3%)	66	(15%)	301	(10%)	$363	(12%)
Beyond building of origin	957	(1%)	33	(8%)	78	(3%)	$293	(9%)
Total	124,841	(100%)	433	(100%)	3,115	(100%)	$3,128	(100%)

Table 8. Home Structure Fires with Battery-Powered Smoke Alarms by Extent of Flame Damage: 2018–2022 Annual Averages

Extent of Flame Damage	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Confined fire identified by incident type	52,713	(48%)	0	(0%)	407	(10%)	$14	(1%)
Confined to object of origin	10,093	(9%)	24	(2%)	253	(6%)	$69	(3%)
Confined to room of origin	24,675	(23%)	255	(26%)	1,503	(38%)	$459	(17%)
Confined to floor of origin	6,258	(6%)	158	(16%)	550	(14%)	$363	(14%)
Confined to building of origin	13,743	(13%)	473	(49%)	1,079	(27%)	$1,458	(55%)
Extended beyond building of origin	1,671	(2%)	59	(6%)	152	(4%)	$281	(11%)
Total	109,153	(100%)	968	(100%)	3,945	(100%)	$2,644	(100%)

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

Source: NFIRS and NFPA's fire experience survey.

Table 9. One- and Two-Family Home Fires by Smoke Alarm Performance: 2018–2022 Annual Averages

Smoke Alarm Status	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Total	230,568	(100%)	2,203	(100%)	7,315	(100%)	$6,620	(100%)
Total — Non-confined fire	140,552	(61%)	2,203	(100%)	6,714	(92%)	$6,593	(100%)
Total — Confined fire	90,015	(39%)	0	(0%)	601	(8%)	$28	(0%)
Smoke alarm present	155,093	(67%)	1,105	(50%)	4,592	(63%)	$4,667	(70%)
Non-confined fire	81,086	(35%)	1,105	(50%)	4,138	(57%)	$4,644	(70%)
Confined fire	74,007	(32%)	0	(0%)	453	(6%)	$23	(0%)
Fire too small to operate alarm	36,082	(16%)	12	(1%)	355	(5%)	$179	(3%)
Non-confined fire	14,656	(6%)	12	(1%)	238	(3%)	$174	(3%)
Confined fire	21,426	(9%)	0	(0%)	118	(2%)	$5	(0%)
Smoke alarm present and fire large enough to operate alarm	119,011	(52%)	1,093	(50%)	4,236	(58%)	$4,488	(68%)
Non-confined fire	66,430	(29%)	1,093	(50%)	3,900	(53%)	$4,469	(68%)
Confined fire	52,581	(23%)	0	(0%)	336	(5%)	$18	(0%)
Smoke alarm operated	105,527	(46%)	744	(34%)	3,490	(48%)	$4,028	(61%)
Non-confined fire	57,611	(25%)	744	(34%)	3,194	(44%)	$4,011	(61%)
Confined fire	47,916	(21%)	0	(0%)	295	(4%)	$16	(0%)
Smoke alarm present but did not operate	13,484	(6%)	349	(16%)	747	(10%)	$460	(7%)
Non-confined fire	8,820	(4%)	349	(16%)	706	(10%)	$458	(7%)
Confined fire	4,664	(2%)	0	(0%)	41	(1%)	$2	(0%)
No smoke alarm	**75,474**	**(33%)**	**1,098**	**(50%)**	**2,723**	**(37%)**	**$1,953**	**(30%)**
Non-confined fire	59,466	(26%)	1,098	(50%)	2,576	(35%)	$1,949	(29%)
Confined fire	16,009	(7%)	0	(0%)	147	(2%)	$5	(0%)
Operating alarms as share of those present in fires considered large enough to activate	**105,527**	**(89%)**	**744**	**(68%)**	**3,490**	**(82%)**	**4,028**	**(90%)**
Fires with no smoke alarms or none that operated	**88,959**	**(39%)**	**1,446**	**(66%)**	**3,470**	**(47%)**	**2,414**	**(36%)**

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

Source: NFIRS and NFPA's fire experience survey.

Table 10. One- and Two-Family Home Structure Fires with Detection Equipment Present by Type of Detection: 2018–2022 Annual Averages

Type of Detection Equipment	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Smoke	141,687	(91%)	1,053	(95%)	4,348	(95%)	$4,192	(90%)
Non-confined fire	74,999	(48%)	1,053	(95%)	3,944	(86%)	$4,172	(89%)
Confined fire	66,687	(43%)	0	(0%)	404	(9%)	$20	(0%)
Combination smoke and heat	9,235	(6%)	28	(2%)	156	(3%)	$329	(7%)
Non-confined fire	4,193	(3%)	28	(2%)	131	(3%)	$328	(7%)
Confined fire	5,042	(3%)	0	(0%)	25	(1%)	$1	(0%)
More than one type present	2,453	(2%)	9	(1%)	61	(1%)	$101	(2%)
Non-confined fire	1,065	(1%)	9	(1%)	40	(1%)	$99	(2%)
Confined fire	1,388	(1%)	0	(0%)	21	(0%)	$1	(0%)
Unclassified detection equipment	1,023	(1%)	11	(1%)	15	(0%)	$29	(1%)
Non-confined fire	479	(0%)	11	(1%)	12	(0%)	$29	(1%)
Confined fire	544	(0%)	0	(0%)	4	(0%)	$0	(0%)
Heat	496	(0%)	4	(0%)	10	(0%)	$11	(0%)
Non-confined fire	245	(0%)	4	(0%)	10	(0%)	$11	(0%)
Confined fire	251	(0%)	0	(0%)	0	(0%)	$0	(0%)
Sprinklers with waterflow detection	200	(0%)	0	(0%)	1	(0%)	$4	(0%)
Non-confined fire	106	(0%)	0	(0%)	1	(0%)	$4	(0%)
Confined fire	94	(0%)	0	(0%)	0	(0%)	$0	(0%)
Total	155,093	(100%)	1,105	(100%)	4,592	(100%)	$4,667	(100%)
Non-confined fire	81,086	(52%)	1,105	(100%)	4,138	(90%)	$4,644	(100%)
Confined fire	74,007	(48%)	0	(0%)	453	(10%)	$23	(0%)

Note: Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may have rounded to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 11. One- and Two-Family Home Structure Fires in which Smoke Alarms Were Present by Smoke Alarm Power Source: 2018–2022 Annual Averages

Power Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Battery only	82,705	(53%)	821	(74%)	2,838	(62%)	$2,122	(45%)
Non-confined fire	47,495	(31%)	821	(74%)	2,620	(57%)	$2,112	(45%)
Confined fire	35,210	(23%)	0	(0%)	218	(5%)	$11	(0%)
Hardwired with battery backup	55,051	(35%)	214	(19%)	1,354	(29%)	$2,053	(44%)
Non-confined fire	25,849	(17%)	214	(19%)	1,150	(25%)	$2,044	(44%)
Confined fire	29,202	(19%)	0	(0%)	204	(4%)	$9	(0%)
Hardwired only	9,997	(6%)	45	(4%)	208	(5%)	$239	(5%)
Non-confined fire	4,090	(3%)	45	(4%)	190	(4%)	$237	(5%)
Confined fire	5,907	(4%)	0	(0%)	18	(0%)	$2	(0%)
Multiple detectors and power supplies	2,804	(2%)	7	(1%)	91	(2%)	$111	(2%)
Non-confined fire	1,416	(1%)	7	(1%)	85	(2%)	$111	(2%)
Confined fire	1,388	(1%)	0	(0%)	6	(0%)	$0	(0%)
Plug in with battery backup	2,738	(2%)	11	(1%)	63	(1%)	$85	(2%)
Non-confined fire	1,408	(1%)	11	(1%)	58	(1%)	$85	(2%)
Confined fire	1,330	(1%)	0	(0%)	5	(0%)	$1	(0%)
Unclassified power source	1,180	(1%)	4	(0%)	35	(1%)	$39	(1%)
Non-confined fire	542	(0%)	4	(0%)	33	(1%)	$39	(1%)
Confined fire	638	(0%)	0	(0%)	2	(0%)	$0	(0%)
Plug in only	551	(0%)	2	(0%)	2	(0%)	$13	(0%)
Non-confined fire	238	(0%)	2	(0%)	2	(0%)	$13	(0%)
Confined fire	314	(0%)	0	(0%)	0	(0%)	$0	(0%)
Mechanical	67	(0%)	1	(0%)	1	(0%)	$3	(0%)
Non-confined fire	48	(0%)	1	(0%)	1	(0%)	$3	(0%)
Confined fire	19	(0%)	0	(0%)	0	(0%)	$0	(0%)
Total	155,093	(100%)	1,105	(100%)	4,592	(100%)	$4,667	(100%)
Non-confined fire	81,086	(52%)	1,105	(100%)	4,138	(90%)	$4,644	(100%)
Confined fire	74,007	(48%)	0	(0%)	453	(10%)	$23	(0%)

Note: Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may round to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 12. Apartment Fires by Smoke Alarm Performance: 2018–2022 Annual Averages

Smoke Alarm Status	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Total	106,280	(100%)	393	(100%)	3,691	(100%)	$1,759	(100%)
Non-confined fire	31,523	(30%)	393	(100%)	3,091	(84%)	$1,743	(99%)
Confined fire	74,757	(70%)	0	(0%)	600	(16%)	$16	(1%)
Smoke alarm present	94,246	(89%)	318	(81%)	2,915	(79%)	$1,507	(86%)
Non-confined fire	24,892	(23%)	318	(81%)	2,367	(64%)	$1,492	(85%)
Confined fire	69,353	(65%)	0	(0%)	548	(15%)	$15	(1%)
Fire too small to operate alarm	13,958	(13%)	3	(1%)	197	(5%)	$31	(2%)
Non-confined fire	3,828	(4%)	3	(1%)	109	(3%)	$29	(2%)
Confined fire	10,131	(10%)	0	(0%)	88	(2%)	$1	(0%)
Smoke alarm present and fire large enough to operate alarm	80,287	(76%)	314	(80%)	2,718	(74%)	$1,476	(84%)
Non-confined fire	21,065	(20%)	314	(80%)	2,258	(61%)	$1,463	(83%)
Confined fire	59,223	(56%)	0	(0%)	460	(12%)	$14	(1%)
Smoke alarm operated	74,684	(70%)	255	(65%)	2,404	(65%)	$1,365	(78%)
Non-confined fire	18,806	(18%)	255	(65%)	1,988	(54%)	$1,352	(77%)
Confined fire	55,879	(53%)	0	(0%)	416	(11%)	$13	(1%)
Smoke alarm present but did not operate	5,603	(5%)	59	(15%)	314	(9%)	$111	(6%)
Non-confined fire	2,259	(2%)	59	(15%)	270	(7%)	$111	(6%)
Confined fire	3,344	(3%)	0	(0%)	44	(1%)	$1	(0%)
No smoke alarm	12,034	(11%)	75	(19%)	776	(21%)	$252	(14%)
Non-confined fire	6,631	(6%)	75	(19%)	724	(20%)	$251	(14%)
Confined fire	5,403	(5%)	0	(0%)	52	(1%)	$1	(0%)
Operating alarms as share of those present in fires large enough to activate	74,684	(93%)	255	(81%)	2,404	(88%)	$1,365	(92%)
Fires with no smoke alarms or none that operated	17,637	(17%)	134	(34%)	1,089	(30%)	$363	(21%)

Note: Sums may not equal totals due to rounding errors. Confined and non-confined fires were analyzed separately. Smoke alarm presence or absence was reported in 79 percent of non-confined fires and 4 percent of confined fires. Fires with unknown or missing data were allocated proportionally among fires with missing data.

Source: NFIRS and NFPA's fire experience survey.

Table 13. Apartment Fires with Detection Equipment Present by Type of Detection: 2018–2022 Annual Averages

Type of Detection Equipment	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Smoke	77,481	(82%)	273	(86%)	2,506	(86%)	$1,254	(83%)
Non-confined fire	21,064	(22%)	273	(86%)	2,031	(70%)	$1,244	(83%)
Confined fire	56,417	(60%)	0	(0%)	475	(16%)	$10	(1%)
Combination smoke and heat	7,666	(8%)	18	(6%)	137	(5%)	$79	(5%)
Non-confined fire	1,483	(2%)	18	(6%)	119	(4%)	$77	(5%)
Confined fire	6,183	(7%)	0	(0%)	18	(1%)	$2	(0%)
More than one type present	5,550	(6%)	19	(6%)	178	(6%)	$116	(8%)
Non-confined fire	1,308	(1%)	19	(6%)	149	(5%)	$115	(8%)
Confined fire	4,241	(5%)	0	(0%)	29	(1%)	$1	(0%)
Sprinklers with waterflow detection	2,115	(2%)	2	(1%)	51	(2%)	$39	(3%)
Non-confined fire	693	(1%)	2	(1%)	30	(1%)	$37	(2%)
Confined fire	1,422	(2%)	0	(0%)	21	(1%)	$2	(0%)
Unclassified detection equipment	770	(1%)	2	(1%)	18	(1%)	$13	(1%)
Non-confined fire	190	(0%)	2	(1%)	18	(1%)	$12	(1%)
Confined fire	580	(1%)	0	(0%)	0	(0%)	$0	(0%)
Heat	665	(1%)	3	(1%)	26	(1%)	$7	(0%)
Non-confined fire	154	(0%)	3	(1%)	21	(1%)	$6	(0%)
Confined fire	511	(1%)	0	(0%)	5	(0%)	$0	(0%)
Total	94,246	(100%)	318	(100%)	2,915	(100%)	$1,507	(100%)
Non-confined fire	24,892	(26%)	318	(100%)	2,367	(81%)	$1,492	(99%)
Confined fire	69,353	(74%)	0	(0%)	548	(19%)	$15	(1%)

Note: Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may have rounded to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 14. Apartment Structure Fires in Which Smoke Alarms Were Present by Smoke Alarm Power Source: 2018–2022 Annual Averages

Power Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Hardwired with battery backup	39,651	(42%)	93	(29%)	1,010	(35%)	$629	(42%)
Non-confined fire	9,887	(10%)	93	(29%)	795	(27%)	$622	(41%)
Confined fire	29,764	(32%)	0	(0%)	214	(7%)	$8	(1%)
Battery only	26,905	(29%)	147	(46%)	1,154	(40%)	$526	(35%)
Non-confined fire	9,271	(10%)	147	(46%)	965	(33%)	$523	(35%)
Confined fire	17,634	(19%)	0	(0%)	189	(6%)	$3	(0%)
Hardwired only	18,894	(20%)	44	(14%)	453	(16%)	$169	(11%)
Non-confined fire	3,561	(4%)	44	(14%)	374	(13%)	$167	(11%)
Confined fire	15,332	(16%)	0	(0%)	79	(3%)	$3	(0%)
Multiple detectors and power supplies	5,578	(6%)	29	(9%)	201	(7%)	$134	(9%)
Non-confined fire	1,387	(1%)	29	(9%)	177	(6%)	$133	(9%)
Confined fire	4,191	(4%)	0	(0%)	24	(1%)	$1	(0%)
Plug in with battery backup	1,463	(2%)	3	(1%)	38	(1%)	$19	(1%)
Non-confined fire	395	(0%)	3	(1%)	25	(1%)	$19	(1%)
Confined fire	1,068	(1%)	0	(0%)	13	(0%)	$0	(0%)
Unclassified power source	1,101	(1%)	2	(1%)	46	(2%)	$23	(2%)
Non-confined fire	241	(0%)	2	(1%)	23	(1%)	$23	(2%)
Confined fire	860	(1%)	0	(0%)	23	(1%)	$0	(0%)
Plug in only	379	(0%)	0	(0%)	4	(0%)	$2	(0%)
Non-confined fire	74	(0%)	0	(0%)	1	(0%)	$2	(0%)
Confined fire	304	(0%)	0	(0%)	2	(0%)	$0	(0%)
Mechanical	275	(0%)	1	(0%)	9	(0%)	$4	(0%)
Non-confined fire	76	(0%)	1	(0%)	5	(0%)	$4	(0%)
Confined fire	199	(0%)	0	(0%)	4	(0%)	$0	(0%)
Total	94,246	(100%)	318	(100%)	2,915	(100%)	$1,507	(100%)
Non-confined fire	24,892	(26%)	318	(100%)	2,367	(81%)	$1,492	(99%)
Confined fire	69,353	(74%)	0	(0%)	548	(19%)	$15	(1%)

Note: Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may round to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 15. Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Death by Victim's Location at Time of Fire Incident and Involvement in Ignition: 2018–2022 Annual Averages

Victim's Location and Involvement	Present and Operated		None or Not Working	
In area of origin and involved	387	(37%)	424	(28%)
In area of origin and not involved	159	(15%)	255	(17%)
Subtotal — in area of origin	545	(52%)	679	(45%)
Not in area of origin and not involved	305	(29%)	531	(35%)
Not in area of origin but involved	198	(19%)	299	(20%)
Subtotal — not in area of origin	503	(48%)	830	(54%)
Unclassified	6	(1%)	16	(1%)
Total	1,054	(100%)	1,525	(100%)

Note: Fire deaths resulting from fires that were too small to activate the smoke alarms are not included in these tables. Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may have rounded to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 16. Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Death by Extent of Flame Damage: 2018–2022 Annual Averages

Extent of Flame Damage	Present and Operated		None or Not Working	
Confined to object of origin	31	(3%)	32	(2%)
Confined to room of origin	314	(30%)	295	(19%)
Confined to floor of origin	162	(15%)	208	(14%)
Confined to building of origin	461	(44%)	846	(55%)
Extended beyond building of origin	86	(8%)	144	(9%)
Total	1,054	(100%)	1,525	(100%)

Table 17. Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Death by Victim's Activity at Time of Fatal Injury: 2018–2022 Annual Averages

Activity	Present and Operated		None or Not Working	
Escaping	342	(32%)	606	(40%)
Sleeping	304	(29%)	518	(34%)
Unable to act	158	(15%)	176	(12%)
Irrational act	73	(7%)	54	(4%)
Unclassified activity	68	(6%)	61	(4%)
Returning to vicinity of fire before control	56	(5%)	40	(3%)
Rescue attempt	27	(3%)	34	(2%)
Fire control	26	(2%)	31	(2%)
Returning to vicinity of fire after control	2	(0%)	4	(0%)
Total	1,054	(100%)	1,525	(100%)

Note: Fire deaths resulting from fires that were too small to activate the smoke alarms are not included in these tables. Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may have rounded to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 18. Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Death by Human Factor Contributing to Injury: 2018–2022 Annual Averages

Human Factor	Present and Operated		None or Not Working	
Asleep	255	(24%)	532	(35%)
Physically disabled	246	(23%)	238	(16%)
Possibly impaired by alcohol	100	(10%)	141	(9%)
Possibly mentally disabled	69	(7%)	55	(4%)
Possibly impaired by another drug or chemical	44	(4%)	69	(5%)
Unconscious	40	(4%)	50	(3%)
Unattended or unsupervised person	37	(4%)	57	(4%)
Physically restrained	4	(0%)	1	(0%)
None	370	(35%)	503	(33%)
Total	1,054	(100%)	1,525	(100%)
Total Factors	1,165	(111%)	1,645	(108%)

* Multiple factors are allowed, meaning that the totals will exceed the sums.

Note: Fire deaths resulting from fires that were too small to activate the smoke alarms are not included in these tables. Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may have rounded to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 19. Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Death by Victim's Age: 2018–2022 Annual Averages

Age Group	Present and Operated		None or Not Working	
Under 5	39	(4%)	74	(5%)
5–9	28	(3%)	70	(5%)
10–14	14	(1%)	29	(2%)
15–24	38	(4%)	55	(4%)
25–34	73	(7%)	114	(8%)
35–44	87	(8%)	141	(9%)
45–54	116	(11%)	170	(11%)
55–64	201	(19%)	309	(20%)
65–74	237	(22%)	308	(20%)
75–84	147	(14%)	184	(12%)
85 and over	73	(7%)	71	(5%)
Total	1,054	(100%)	1,525	(100%)
Under 15	81	(8%)	173	(11%)
15–24	38	(4%)	55	(4%)
25–44	161	(15%)	255	(17%)
45–64	317	(30%)	479	(31%)
65 and over	457	(43%)	563	(37%)
75 and over	220	(21%)	255	(17%)

Note: Fire deaths resulting from fires that were too small to activate the smoke alarms are not included in these tables. Sums may not equal totals due to rounding errors. Entries of zero may actually be zero or may have rounded to zero.

Source: NFIRS and NFPA's fire experience survey.

Table 20. Smoke Alarm Presence and Operation in Home Structure Fires Resulting in Non-Fatal Injury by Victim's Activity at Time of Injury: 2018–2022 Annual Averages

Activity	Present and Operated		None or Not Working	
Fire control	2,141	(36%)	1,196	(27%)
Escaping	1,651	(28%)	1,420	(32%)
Sleeping	550	(9%)	587	(13%)
Rescue attempt	429	(7%)	339	(8%)
Returning to vicinity of fire before control	414	(7%)	325	(7%)
Other activity	350	(6%)	290	(6%)
Unable to act	205	(3%)	158	(4%)
Irrational act	189	(3%)	163	(4%)
Returning to vicinity of fire after control	33	(1%)	7	(0%)
Total	5,962	(100%)	4,486	(100%)

Note: Fire deaths or injuries resulting from fires that were too small to activate the smoke alarms are not included in these tables. Sums may not equal totals due to rounding errors.

Source: NFIRS and NFPA's fire experience survey.

Acknowledgments

The National Fire Protection Association thanks all the fire departments and state fire authorities who participate in the National Fire Incident Reporting System (NFIRS) and the annual NFPA fire experience survey. These firefighters are the original sources of the detailed data that makes this analysis possible. Their contributions allow us to estimate the size of the fire problem.

We are also grateful to the US Fire Administration for its work in developing, coordinating, and maintaining NFIRS.

To learn more about research at NFPA visit nfpa.org/research.
Email: research@nfpa.org.

NFPA No. USS04ST