RESEARCH

Fires in Dormitory-Type Properties

Supporting Tables

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Fires in Dormitory-Type Properties: Supporting Tables

The tables in this document are a companion to the report of the same name. The table topics are listed below. The statistics in this analysis are national estimates of the fires reported to US municipal fire departments and so exclude fires reported only to federal or state agencies. The estimates are projections based on the detailed information collected in the US Fire Administration's National Fire Incident Reporting System (NFIRS 5.0) and the National Fire Protection Association's (NFPA) annual fire department experience survey. Except for property use and incident type, fires with unknown or unreported data were allocated proportionally in the calculations of national estimates. Rounding varies by detail in the tables.

NFIRS property use codes 460-469 were used to identify structure fires in dormitories, fraternity and sorority houses, monasteries, bunkhouses, barracks, and nurses' quarters or related properties reported.

Property damage was adjusted for inflation in Table 1 only. No inflation adjustments were made for the 2015–2019 annual averages shown in the remaining tables. Property loss projections can be heavily influenced by the inclusion or exclusion of one unusually serious fire.

Please refer to *How NFPA's National Estimates Are Calculated for Fires* for explanatory details about the methods used.

Table 1. Fires in Dormitory-Type Properties by Year, 2015–2019 Annual Averages

Year	Fires	Civilian Injuries	Direct Property Damage (in Millions)	
			As Reported	In 2019 Dollars
1980	3,200	122	$9	$28
1981	2,960	118	$13	$37
1982	2,420	103	$9	$24
1983	2,490	156	$24	$62
1984	2,510	50	$11	$27
1985	2,440	68	$8	$19
1986	2,350	55	$47	$110
1987	2,560	76	$11	$25
1988	2,430	91	$8	$17
1989	2,650	109	$17	$35
1990	2,330	80	$25	$49
1991	2,270	61	$37	$69
1992	2,470	147	$7	$13
1993	2,270	73	$9	$16
1994	2,320	75	$13	$22
1995	2,330	143	$20	$34
1996	2,050	78	$10	$16
1997	2,200	73	$12	$19
1998	1,810	143	$10	$16
1999	1,380	190	$5	$8
2000	1,780	168	$23	$34
2001	2,940	67	$104	$150
2002	3,110	19	$20	$28
2003	3,350	50	$23	$32
2004	3,380	48	$18	$24
2005	3,270	59	$37	$48
2006	4,220	58	$39	$49
2007	3,970	16	$9	$11
2008	4,010	35	$12	$14
2009	3,740	23	$7	$8
2010	3,530	29	$8	$9
2011	3,780	47	$11	$13

Table 1. Fires in Dormitory-Type Properties by Year, 2015–2019 Annual Averages

Year	Fires	Civilian Injuries	Direct Property Damage (in Millions)	
			As Reported	In 2019 Dollars
2012	4,160	25	$9	$10
2013	4,160	36	$33	$36
2014	4,230	39	$12	$13
2015	4,180	29	$7	$8
2016	3,920	35	$17	$18
2017	3,880	19	$7	$7
2018	3,740	34	$17	$17
2019	3,470	27	$6	$6

Source: NFIRS and NFPA's fire experience survey.

Table 2. Fires in Dormitory-Type Properties by Month, 2015–2019 Annual Averages

Month	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
January	350	(9%)	2	(8%)	$2	(21%)
February	390	(10%)	3	(12%)	$1	(5%)
March	350	(9%)	2	(6%)	$1	(8%)
April	350	(9%)	1	(5%)	$1	(6%)
May	280	(7%)	2	(7%)	$0	(4%)
June	190	(5%)	2	(8%)	$1	(9%)
July	190	(5%)	2	(6%)	$0	(3%)
August	210	(6%)	4	(13%)	$2	(14%)
September	440	(12%)	0	(1%)	$1	(7%)
October	430	(11%)	5	(17%)	$2	(14%)
November	370	(10%)	3	(10%)	$1	(6%)
December	270	(7%)	2	(6%)	$0	(3%)
Total	3,840	(100%)	29	(100%)	$11	(100%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 3. Fires in Dormitory-Type Properties by Day of the Week, 2015–2019 Annual Averages

Day of the Week	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Sunday	630	(16%)	4	(14%)	$1	(15%)
Monday	560	(14%)	5	(18%)	$2	(17%)
Tuesday	540	(14%)	6	(23%)	$1	(22%)
Wednesday	500	(13%)	2	(6%)	$2	(7%)
Thursday	520	(14%)	6	(19%)	$3	(19%)
Friday	510	(13%)	3	(11%)	$1	(9%)
Saturday	590	(15%)	2	(9%)	$1	(12%)
Total	3,840	(100%)	29	(100%)	$11	(100%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 4. Fires in Dormitory-Type Properties by Time of Day, 2015–2019 Annual Averages

Time of Day	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Midnight–12:59 a.m.	140	(4%)	1	(3%)	$1	(10%)
1:00–1:59 a.m.	100	(3%)	1	(2%)	$0	(1%)
2:00–2:59 a.m.	80	(2%)	3	(12%)	$0	(4%)
3:00–3:59 a.m.	60	(2%)	0	(0%)	$0	(3%)
4:00–4:59 a.m.	50	(1%)	1	(5%)	$2	(19%)
5:00–5:59 a.m.	40	(1%)	2	(6%)	$0	(5%)
6:00–6:59 a.m.	40	(1%)	0	(1%)	$0	(2%)
7:00–7:59 a.m.	60	(2%)	2	(6%)	$0	(2%)
8:00–8:59 a.m.	80	(2%)	0	(1%)	$0	(1%)
9:00–9:59 a.m.	110	(3%)	0	(0%)	$0	(2%)
10:00–10:59 a.m.	130	(3%)	0	(1%)	$0	(4%)
11:00–11:59 a.m.	170	(4%)	1	(2%)	$0	(2%)
12:00–12:59 p.m.	190	(5%)	2	(6%)	$0	(1%)
1:00–1:59 p.m.	170	(4%)	0	(1%)	$0	(1%)
2:00–2:59 p.m.	170	(4%)	1	(5%)	$0	(3%)
3:00–3:59 p.m.	190	(5%)	1	(4%)	$0	(4%)
4:00–4:59 p.m.	200	(5%)	1	(5%)	$0	(2%)
5:00–5:59 p.m.	280	(7%)	1	(4%)	$1	(13%)
6:00–6:59 p.m.	310	(8%)	2	(9%)	$0	(4%)
7:00–7:59 p.m.	330	(9%)	1	(4%)	$0	(3%)
8:00–8:59 p.m.	280	(7%)	3	(10%)	$0	(4%)
9:00–9:59 p.m.	270	(7%)	2	(7%)	$0	(4%)
10:00–10:59 p.m.	200	(5%)	2	(6%)	$0	(2%)
11:00–11:59 p.m.	170	(4%)	0	(1%)	$1	(5%)
Total	3,840	(100%)	1	(100%)	$0	(100%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 5. Fires in Dormitory-Type Properties by Leading Cause, 2015–2019 Annual Averages

Cause	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Cooking equipment	3,340	(87%)	15	(51%)	$4	(36%)
Intentional	150	(4%)	0	(2%)	$3	(27%)
Smoking materials	120	(3%)	1	(4%)	$0	(1%)
Heating equipment	80	(2%)	2	(7%)	$1	(7%)
Electrical distribution and lighting equipment	60	(2%)	1	(5%)	$1	(11%)

Note: This table summarizes findings from multiple fields, so the same fire may be listed under multiple causes. The methodology used is described in *NFPA's Methodology and Definitions Used in "Leading Cause of Structure Fires" Tables*.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 6. Fires in Dormitory-Type Properties by Equipment Involved in Ignition, 2015–2019 Annual Averages

Equipment Involved in Ignition	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Cooking equipment	**3,340**	**(87%)**	**15**	**(51%)**	**$4**	**(36%)**
Confined cooking fire	3,230	(84%)	8	(27%)	$0	(2%)
Range with or without oven, cooking surface	80	(2%)	6	(21%)	$1	(13%)
Other known cooking equipment	30	(1%)	1	(3%)	$2	(21%)
Contained trash or rubbish fire	**150**	**(4%)**	**1**	**(4%)**	**$0**	**(0%)**
Heating equipment	**80**	**(2%)**	**2**	**(7%)**	**$1**	**(7%)**
Fixed or portable space heater	40	(1%)	2	(7%)	$0	(4%)
Confined fuel burner or boiler fire	30	(1%)	0	(0%)	$0	(0%)
Other known heating equipment	20	(0%)	0	(0%)	$0	(2%)
No equipment involved in ignition	**70**	**(2%)**	**8**	**(29%)**	**$3**	**(24%)**
Electrical distribution and lighting equipment	**60**	**(2%)**	**1**	**(5%)**	**$1**	**(11%)**
Wiring and related equipment	20	(1%)	0	(0%)	$1	(7%)
Other known electrical distribution or lighting equipment	40	(1%)	1	(5%)	$0	(4%)
Clothes dryer	**50**	**(1%)**	**0**	**(0%)**	**$0**	**(2%)**
Fan	**30**	**(1%)**	**1**	**(2%)**	**$1**	**(12%)**
Other known equipment involved in ignition	**70**	**(2%)**	**1**	**(2%)**	**$1**	**(8%)**
Total	**3,840**	**(100%)**	**29**	**(100%)**	**$11**	**(100%)**

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 7. Fire in Dormitory-Type Properties by Cause of Ignition, 2015–2019 Annual Averages

Cause of Ignition	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Unintentional	3,480	(91%)	26	(92%)	$5	(46%)
Non-confined	290	(8%)	19	(66%)	$5	(45%)
Confined	3,190	(83%)	7	(26%)	$0	(2%)
Failure of equipment or heat source	190	(5%)	2	(6%)	$2	(16%)
Non-confined	80	(2%)	0	(2%)	$2	(16%)
Confined	110	(3%)	1	(5%)	$0	(0%)
Intentional	150	(4%)	0	(2%)	$3	(27%)
Non-confined	40	(1%)	0	(2%)	$3	(27%)
Confined	100	(3%)	0	(0%)	$0	(0%)
Total	3,840	(100%)	29	(100%)	$11	(100%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 8. Fire in Dormitory-Type Properties by Factors Contributing to Ignition, 2015–2019 Annual Averages

Factors Contributing to Ignition	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Equipment unattended	1,050	(27%)	3	(10%)	$2	(16%)
Non-confined	40	(1%)	2	(7%)	$2	(15%)
Confined	1,010	(26%)	1	(4%)	$0	(0%)
Unclassified misuse of material or product	620	(16%)	6	(20%)	$1	(6%)
Non-confined	50	(1%)	2	(9%)	$1	(5%)
Confined	570	(15%)	3	(11%)	$0	(0%)
Abandoned or discarded material or product	540	(14%)	1	(5%)	$1	(9%)
Non-confined	40	(1%)	1	(5%)	$1	(9%)
Confined	500	(13%)	0	(0%)	$0	(0%)
Unclassified operational deficiency	290	(8%)	0	(0%)	$0	(0%)
Non-confined	10	(0%)	0	(0%)	$0	(0%)
Confined	290	(8%)	0	(0%)	$0	(0%)
Heat source too close to combustibles	280	(7%)	9	(30%)	$1	(8%)
Non-confined	80	(2%)	9	(30%)	$1	(8%)
Confined	200	(5%)	0	(0%)	$0	(0%)
Equipment not being operated properly	180	(5%)	0	(0%)	$0	(1%)
Non-confined	10	(0%)	0	(0%)	$0	(1%)
Confined	170	(4%)	0	(0%)	$0	(0%)
Unclassified factor contributed to ignition	160	(4%)	4	(13%)	$0	(3%)
Non-confined	30	(1%)	0	(2%)	$0	(2%)
Confined	140	(4%)	3	(12%)	$0	(1%)
Mechanical failure or malfunction	150	(4%)	0	(0%)	$0	(4%)
Non-confined	40	(1%)	0	(0%)	$0	(4%)
Confined	100	(3%)	0	(0%)	$0	(0%)
Accidentally turned on, not turned off	140	(4%)	1	(3%)	$0	(1%)
Non-confined	10	(0%)	1	(3%)	$0	(1%)
Confined	130	(3%)	0	(0%)	$0	(0%)
Failure to clean	120	(3%)	1	(4%)	$0	(2%)
Non-confined	10	(0%)	0	(0%)	$0	(2%)
Confined	100	(3%)	1	(4%)	$0	(0%)
Electrical failure or malfunction	90	(2%)	2	(5%)	$2	(22%)
Non-confined	70	(2%)	2	(5%)	$2	(22%)
Confined	20	(0%)	0	(0%)	$0	(0%)

Table 8. Fire in Dormitory-Type Properties by Factors Contributing to Ignition, 2015–2019 Annual Averages (Continued)

Factors Contributing to Ignition	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Improper container or storage	80	(2%)	2	(8%)	$0	(2%)
Non-confined	10	(0%)	2	(8%)	$0	(2%)
Confined	70	(2%)	0	(0%)	$0	(0%)
Other known factor contributing to ignition	210	(5%)	0	(7%)	$3	(30%)
Non-confined	60	(1%)	0	(7%)	$3	(29%)
Confined	150	(4%)	0	(0%)	$0	(0%)
Total fires	3,840	(100%)	29	(100%)	$11	(100%)
Non-confined	420	(11%)	20	(70%)	$11	(98%)
Confined	3,410	(89%)	9	(30%)	$0	(2%)
Total factors	3,900	(102%)	31	(107%)	$11	(104%)
Non-confined	450	(12%)	22	(76%)	$11	(102%)
Confined	3,450	(90%)	9	(30%)	$0	(2%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 9. Fire in Dormitory-Type Properties by Heat Source, 2015–2019 Annual Averages

Heat Source	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Radiated or conducted heat from operating equipment	1,390	(36%)	7	(23%)	$1	(9%)
Non-confined	80	(2%)	5	(18%)	$1	(8%)
Confined	1,310	(34%)	1	(5%)	$0	(0%)
Unclassified heat from powered equipment	1,060	(28%)	7	(24%)	$1	(10%)
Non-confined	90	(2%)	5	(17%)	$1	(9%)
Confined	970	(25%)	2	(6%)	$0	(0%)
Unclassified heat source	430	(11%)	2	(6%)	$0	(2%)
Non-confined	20	(1%)	0	(1%)	$0	(2%)
Confined	410	(11%)	1	(4%)	$0	(0%)
Unclassified hot or smoldering object	220	(6%)	2	(6%)	$2	(21%)
Non-confined	30	(1%)	0	(1%)	$2	(21%)
Confined	190	(5%)	1	(4%)	$0	(0%)
Heat from direct flame or convection currents	150	(4%)	1	(3%)	$0	(2%)
Non-confined	10	(0%)	1	(3%)	$0	(1%)
Confined	140	(4%)	0	(0%)	$0	(0%)
Smoking materials	120	(3%)	1	(4%)	$0	(1%)
Non-confined	20	(1%)	1	(4%)	$0	(1%)
Confined	90	(2%)	0	(0%)	$0	(0%)
Spark, ember, or flame from operating equipment	110	(3%)	1	(2%)	$0	(1%)
Non-confined	10	(0%)	0	(0%)	$0	(1%)
Confined	90	(2%)	1	(2%)	$0	(0%)
Arcing	70	(2%)	1	(5%)	$1	(12%)
Non-confined	50	(1%)	1	(3%)	$1	(12%)
Confined	20	(0%)	1	(2%)	$0	(0%)
Lighter	70	(2%)	1	(4%)	$0	(0%)
Non-confined	20	(0%)	1	(4%)	$0	(0%)
Confined	50	(1%)	0	(0%)	$0	(0%)
Hot ember or ash	60	(2%)	0	(0%)	$0	(4%)
Non-confined	10	(0%)	0	(0%)	$0	(4%)
Confined	50	(1%)	0	(0%)	$0	(0%)
Other known heat source	180	(5%)	7	(23%)	$4	(38%)
Non-confined	70	(2%)	5	(17%)	$4	(38%)
Confined	110	(3%)	2	(6%)	$0	(1%)

Table 9. Fire in Dormitory-Type Properties by Heat Source, 2015–2019 Annual Averages (Continued)

Heat Source	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Total	3,840	(100%)	29	(100%)	$11	(100%)
Non-confined	420	(11%)	20	(70%)	$11	(98%)
Confined	3,410	(89%)	9	(30%)	$0	(2%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 10. Fires in Dormitory-Type Properties by Area of Origin, 2015–2019 Annual Averages

Area of Origin	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Kitchen or cooking area	2,840	(74%)	17	(60%)	$2	(14%)
Non-confined	100	(3%)	9	(32%)	$1	(13%)
Confined	2,740	(71%)	8	(28%)	$0	(2%)
Bedroom	220	(6%)	6	(22%)	$1	(13%)
Non-confined	90	(2%)	6	(20%)	$1	(13%)
Confined	130	(3%)	1	(2%)	$0	(0%)
Lavatory, bathroom, locker room, or check room	80	(2%)	1	(4%)	$0	(2%)
Non-confined	40	(1%)	1	(4%)	$0	(2%)
Confined	50	(1%)	0	(0%)	$0	(0%)
Common room, living room, family room, lounge, or den	80	(2%)	2	(8%)	$0	(2%)
Non-confined	20	(0%)	2	(8%)	$0	(2%)
Confined	60	(2%)	0	(0%)	$0	(0%)
Laundry room or area	70	(2%)	0	(0%)	$0	(2%)
Non-confined	40	(1%)	0	(0%)	$0	(2%)
Confined	30	(1%)	0	(0%)	$0	(0%)
Trash or rubbish chute, area, or container	70	(2%)	0	(0%)	$0	(0%)
Non-confined	0	(0%)	0	(0%)	$0	(0%)
Confined	70	(2%)	0	(0%)	$0	(0%)
Unclassified area of origin	60	(2%)	0	(0%)	$2	(16%)
Non-confined	10	(0%)	0	(0%)	$2	(16%)
Confined	50	(1%)	0	(0%)	$0	(0%)
Confined chimney or flue fire	10	(0%)	0	(0%)	$0	(0%)
Other known area of origin	420	(11%)	2	(7%)	$6	(51%)
Non-confined	140	(4%)	2	(7%)	$5	(51%)
Confined	280	(7%)	0	(0%)	$0	(0%)
Total	3,840	(100%)	29	(100%)	$11	(100%)
Non-confined	420	(11%)	20	(70%)	$11	(98%)
Confined	3,410	(89%)	9	(30%)	$0	(2%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 11. Fires in Dormitory-Type Properties by Item First Ignited, 2015–2019 Annual Averages

Item First Ignited	Fires		Civilian Injuries		Direct Property Damage (in Millions)	
Cooking materials, including food	2,530	(66%)	9	(32%)	$1	(8%)
Non-confined	60	(1%)	5	(17%)	$1	(7%)
Confined	2,470	(64%)	4	(15%)	$0	(1%)
Rubbish, trash, or waste	190	(5%)	0	(0%)	$0	(1%)
Non-confined	20	(0%)	0	(0%)	$0	(1%)
Confined	180	(5%)	0	(0%)	$0	(0%)
Household utensils	140	(4%)	1	(2%)	$0	(1%)
Non-confined	10	(0%)	0	(0%)	$0	(1%)
Confined	140	(4%)	1	(2%)	$0	(0%)
Unclassified item first ignited	120	(3%)	1	(4%)	$0	(1%)
Non-confined	30	(1%)	1	(4%)	$0	(1%)
Confined	100	(3%)	0	(0%)	$0	(0%)
Appliance housing or casing	90	(2%)	3	(11%)	$0	(1%)
Non-confined	20	(1%)	1	(3%)	$0	(1%)
Confined	70	(2%)	2	(7%)	$0	(0%)
Flammable or combustible liquids or gases, piping or filter	80	(2%)	4	(14%)	$0	(2%)
Non-confined	10	(0%)	3	(11%)	$0	(2%)
Confined	60	(2%)	1	(2%)	$0	(0%)
Electrical wire or cable insulation	70	(2%)	2	(6%)	$1	(6%)
Non-confined	50	(1%)	1	(3%)	$1	(6%)
Confined	30	(1%)	1	(3%)	$0	(0%)
Magazine, newspaper, or writing paper	60	(2%)	0	(0%)	$0	(2%)
Non-confined	10	(0%)	0	(0%)	$0	(2%)
Confined	50	(1%)	0	(0%)	$0	(0%)
Other known item first ignited	550	(14%)	9	(31%)	$8	(78%)
Non-confined	230	(6%)	9	(31%)	$8	(77%)
Confined	320	(8%)	0	(0%)	$0	(1%)
Total	3,840	(100%)	29	(100%)	$11	(100%)
Non-confined	420	(11%)	20	(70%)	$11	(98%)
Confined	3,410	(89%)	9	(30%)	$0	(2%)

Note: Sums may not equal totals due to rounding.
Source: NFIRS 5.0 and NFPA's fire experience survey.

Table 12. Structure Fires in Dormitory-Type Properties by Property Use, 2015–2019 Annual Averages

Property Use	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Unclassified dormitory-type residence	3,150	(82%)	2	(100%)	24	(83%)	$6	(59%)
Barracks or dormitory	500	(13%)	0	(0%)	4	(15%)	$4	(34%)
Sorority or fraternity house	180	(5%)	0	(0%)	1	(2%)	$1	(7%)
Total	3,840	(100%)	2	(100%)	29	(100%)	$11	(100%)

Note: Sums may not equal totals due to rounding.

Source: NFIRS 5.0 and NFPA's fire experience survey.

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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.

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