



**RESEARCH**

# **U.S. FIRE DEPARTMENT PROFILE 2017**

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## Abstract

NFPA estimates there were approximately 1,056,200 firefighters in the US in 2017. An estimated 373,600 (35%) of these were career firefighters and 682,600 (65%) were volunteer firefighters. Most of the career firefighters (72%) worked in communities that protected 25,000 or more people. Most of the volunteer firefighters (95%) were in departments that protected fewer than 25,000 people. There are an estimated 29,819 fire departments in the US. Of these, 2,785 departments were staffed by all career firefighters, 2,316 were mostly career, 5,405 were mostly volunteer and 19,313 were all volunteer. In the US, 13,631 (46%) of departments provided EMS service, 4,629 departments (16%) provided EMS service and advanced life support, and 11,559 (39%) of departments provided no EMS support.

## Acknowledgements

The authors would like to thank the fire departments who participated in this annual NFPA Fire Experience Survey, and/or the NFPA Fire Service Survey.

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# Key Findings

- There were an estimated 1,056,200 career and volunteer firefighters in the United States in 2017.
- The 373,600 career firefighters in 2017 represented an increase of 3% from the previous year.
- 682,600 volunteer firefighters in 2017, a decrease of 6% from the previous year.
- Since 1986, there has been a fairly steady increase in the number of career firefighters, however the number of career firefighters per 1,000 population is consistent during this period. In the case of volunteer firefighters the trend is less apparent, with this year's estimate being the lowest ever reported, and the number of volunteer firefighters per 1,000 population is decreasing.
- In 2017, 77,900, or 7%, of the firefighters were female. Of the career firefighters 13,400 (4%) were female firefighters. There were 64,500 volunteer firefighters who were female, 9% of the total number of volunteer firefighters.
- 51% of firefighters are between 30 and 49 years old.
- 42% of volunteer firefighters have 10 or more years of active service (tenure period).
- There were 29,819 fire departments in the United States in 2017. Of these, 17% were all or mostly career departments and protected 69% of the US population.
- Nationwide 39% of fire departments provided no emergency medical services, 46% provided basic life support (BLS) and 16% provided advanced life support (ALS).
- From 1980 to 2015, local fire protection service expenditures (adjusted for inflation in 2015 dollars) increased 179%.

## Background and Objectives and Methods

### Background and Objectives

This report provides an overview of local and municipal fire departments in the United States. The analysis includes firefighters, fire departments, apparatus and stations. The results are based on data collected during the NFPA Survey of Fire Departments for US Fire Experience (2017) and the NFPA Fire Service Survey where the data was collected over the period 2015-2017. An earlier report, [Fire Loss in the United States during 2017](#), measured the national fire experience in terms of the number of fires that fire departments responded to and the resulting civilian deaths, civilian injuries, and property losses that occurred.

This year's report includes among its results:

- An estimate of the total number of firefighters (including career, volunteer, gender).
- Trends in the number of career and volunteer firefighters and rates.
- An estimate of the number of fire departments.
- Median rates of firefighters per 1,000 population by US region.
- Number of firefighters by age group and community size.
- Number of volunteer firefighters by tenure period and community size.
- Number of fire departments (including career and volunteer).
- Departments providing emergency medical services by community size.
- Direct expenditures on local fire protection

### Methods

The report is based on two data sources: the annual NFPA Survey for US Fire Experience, 2017, and the NFPA Fire Service Survey, 2015-2017.

The US Fire Experience Survey utilizes a sample of fire departments in the United States to make national projections of the fire problem. The sample is stratified by the size of the community protected by the fire department. All US fire departments that protect communities with a population of more than 5,000 are included in the sample. The 8,646 departments in the eight highest strata protect a population of 283 million or 87% of the US population as of July, 2017.

The remainder of the sample included 12,642 randomly selected departments from strata 9 and 10 (less than 5,000 population protected), for a total sample size of 21,488 (72%) of all known fire departments to the NFPA in the United States.

A total of 2,592 departments responded to the 2017 fire experience survey. The national projections are made by weighting sample results according to the proportion of total US population accounted for by communities of each size. Around any estimate based on a sample survey, there is a confidence interval that measures the statistical certainty (or uncertainty) of the estimate. We are confident the actual number of total firefighters falls within five percent of the estimate.

The NFPA Fire Service Survey is a three-year cycle survey which attempts to survey about one-third of the states in the country each year. The survey includes questions on the number of career firefighters, the number of volunteer firefighters, length of work week, number of apparatus and stations, etc. In recent years, the survey has had a response rate of between 13-16% from departments.

The results in this report are based on local and municipal fire departments. State and federal firefighting entities were not included in this sample. No adjustments were made for private fire brigades, such as industrial or military installations.

# Results

## Firefighters

There were approximately 1,056,200 firefighters in the US in 2017, according to estimates based on NFPA's 2016 National Fire Experience Survey ([Table 1](#)). This is a 2% decrease from 2016 ([Table 2](#)).

Career firefighters include full-time uniformed firefighters regardless of assignments, e.g., suppression, prevention/inspection, administrative. For the purpose of this survey, career firefighters include only firefighters in public fire departments that protect people, their residences, and public buildings; they do not include firefighters working in private fire brigades, or for state and federal agencies.

Volunteer firefighters include any active part-time (call or volunteer) firefighters. Active volunteers are defined as being involved in firefighting. Of the total number of firefighters, 373,600 (35%) were career firefighters, while 682,600 (65%) were volunteers.<sup>1</sup> This is the lowest estimate of the number of volunteer firefighters since 1986 when NFPA began reporting this statistic.

Most career firefighters (72%) are in communities that protect 25,000 or more people. Most volunteer firefighters (95%) are in departments that protect fewer than 25,000 people. Approximately half (47%) of the volunteer firefighters are with small, rural departments that protect fewer than 2,500 people ([Table 1](#)).

Since 1986, the number of career firefighters in the US has increased steadily from 237,750 in 1986 to 373,600 in 2017 an increase of 57% ([Table 2](#), [Figure 1](#)). The rates of career firefighters per 1,000 people protected for mostly or all career departments have remained in a range of 1.54 to 1.78 career firefighters per 1,000 people protected ([Table 2](#), [Figure 1](#)) during this

period. Even though the number of career firefighters has increased overtime, the number of people protected by career firefighters has remained relatively level as the population in the US has increased

## Numbers and Rates of Firefighters

The number of volunteer firefighters declined in the late 1980s and late 1990's, each time returning to the same level soon after. From 2005-2009, the number of volunteer firefighters was stable at a level slightly higher than any previously recorded other than in 1995. ([Table 2](#), [Figure 2](#)). After a dip in 2010-2011, in 2012-2015, the number of volunteers appeared to increase and was in the range of 783,300 to 814,850, an increase of 4.0% over this period. This past year the number of volunteer firefighters decreased to the lowest estimate since NFPA began reporting this statistic in 1986 - 682,600 volunteer firefighters. When the rates of volunteer firefighters per 1,000 people protected for mostly or all volunteer departments are examined, the rates show a downward trend and range from a high of 8.05 in 1987 to a low of 5.8 in 2017 per 1,000 population protected.

According to the US Department of Labor, Bureau of Labor Statistics for the 2013-2017 periods ([Appendix 3](#)), there were on average 23,750 (8.3%) Hispanic or Latino career firefighters; 25,700 (9.0%) African-American career firefighters; 2,750 (1.0%) Asian career firefighters and 12,750 (4.5%) female career firefighters.<sup>2</sup> NFPA estimates that in 2017, there were 13,400 female career firefighters and 64,500 female volunteer firefighters employed by local fire departments.<sup>3</sup>

<sup>1</sup> Note that these results are based on a sample survey, and as a result there is a 95% confidence interval associated with each estimate. Based on the data reported by the fire departments responding to the 2017 National Fire Experience Survey, the NFPA is confident that the actual number of career firefighters falls between 367,300 and 379,900; and the actual number of volunteer firefighters falls between 670,900 and 694,300.

<sup>2</sup> Figures are from the *Annual Averages Tables Employment and Earnings* (2013-2017) Bureau of Labor Statistics, Washington D.C. These numbers can change considerably from year to year because of their small size and sample variability.

<sup>3</sup> Note that these results are based on a sample survey, and as a result there is a 95% confidence interval associated with each estimate. Based on the data reported by the fire departments responding to the 2016 National Fire Experience Survey, the NFPA is confident that the actual number of female career firefighters falls between 12,800 and 14,000; and the actual number of female volunteer firefighters falls between 62,350 and 66,650.

A good way to develop a sense of the size of departments relative to the population they protect is to examine the rate of firefighters per 1,000 population. [Table 3](#) and [Table 4](#) provide the range of rates for career firefighters in departments protecting at least 25,000 people and for volunteer firefighters in departments protecting a population less than 25,000 people. **It is important to note that the rates are based on data reported to the NFPA and do not reflect recommended rates or some defined fire protection standard.**

Fire departments protecting communities of 10,000 people or more had median rates of 1.1 to 1.41 career firefighters per 1,000 people ([Table 3](#)). However, ranges for departments varied considerably with community size and particularly for communities protecting fewer than 10,000 people. Note that the rates for a particular size of community varied considerably. Departments face great variation in their specific circumstances and policies, including length of work week, unusual hazards, geographical dispersion of the community, and scope of services provided (e.g., whether the department handles emergency medical calls).

Fire departments protecting less than 25,000 people had median rates of volunteer firefighters per 1,000 persons in the range of 1.00 to 17.50 ([Table 4](#)). This wide range in median rates for smaller communities reflects the minimum number of firefighters needed to staff a department regardless of community size. Volunteer firefighters are often available on a part-time basis only; it may take more volunteers to ensure an adequate response to each alarm. The median rate for volunteer firefighters increases as population protected decreases.

Length of work week and its effect on rate of career firefighters per 1,000 population by size of community is provided in [Table 5](#). [Table 6](#) and [Table 7](#) provide median rates for career and volunteer firefighters by region and size of community.

Of the 1,056,200 firefighters, the age group accounting for the largest share of firefighters was the 30-39 group, 27% of all firefighters ([Table 8](#) and [Figure 3](#)). Many firefighters fell in the 40-49 age group (24%) and the next largest was the 20-29 age group (21%). Firefighters, age 50-59 accounted for a smaller share (17%), but still more than one-sixth of all firefighters. Few firefighters fell outside this combined range of 20 to 59 years old. Only 3% of firefighters were age 16 to 19, and another 8% were age 60 and over.

Age group patterns did vary somewhat by population of community protected ([Table 9](#)). Departments that protect less than 25,000 people and comprised mostly of volunteers tended to have higher proportions of firefighters in the under 30 age group, while departments that protect 25,000 people or more and are comprised mostly of career firefighters had higher proportions of firefighters in the 30-39 and 40-49 age groups. Departments protecting less than 2,500 people had the highest percentage of firefighters age 50 and older (32%).

When age group patterns by year are examined for the 1998-2016 period, there were slight changes over time ([Figure 4](#)). The 30-39 and the 40-49 age groups showed slight decreases over the period, while the 50-59 and 60 and over groups showed moderate increases over the period. Volunteer firefighter tenure periods show that more than two of every five (42%) volunteers have more than 10 years of active service. Almost two-thirds (64%) of volunteer firefighters have more than 5 years of active service ([Table 10](#)).

Figure 1. Number of Career Firefighters and Rate per 1,000 People

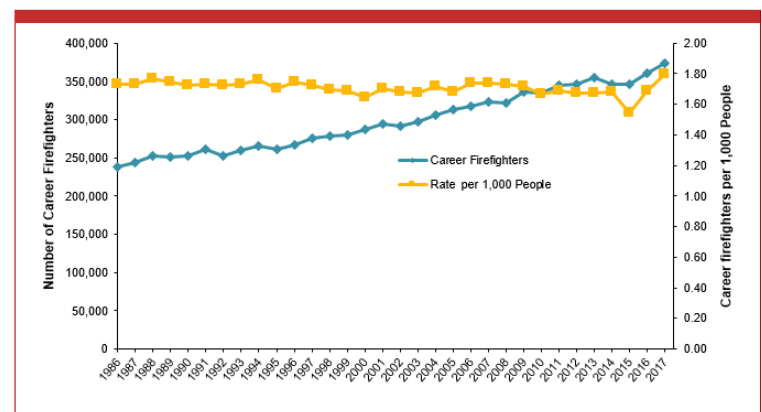


Figure 2. Number of Volunteer Firefighters and Rate per 1,000 People

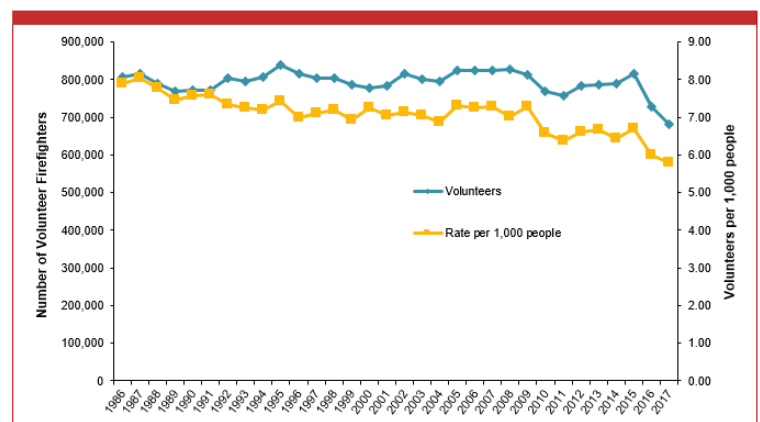




Table 1. Career and Volunteer Firefighters by Gender in the US by Population Protected, 2017

Population Protected	Career			Volunteer			Total
	Male	Female	Sub-Total	Male	Female	Sub-Total	
1,000,000 or more	40,600	2,500	43,100	1,600	200	1,800	44,900
500,000 to 999,999	38,200	1,400	39,600	4,800	0	4,800	44,400
250,000 to 499,999	26,500	1,200	27,700	1,700	0	1,700	29,400
100,000 to 249,999	57,000	2,000	59,000	800	100	900	59,900
50,000 to 99,999	46,900	1,200	48,100	6,200	600	6,800	54,900
25,000 to 49,999	49,200	1,400	50,600	18,000	1,100	19,100	69,700
10,000 to 24,999	55,300	1,500	56,800	60,600	4,800	65,400	122,200
5,000 to 9,999	21,400	800	22,200	84,400	7,300	91,700	113,900
2,500 to 4,999	14,600	800	15,400	153,000	16,400	169,400	184,800
Under 2,500	10,500	600	11,100	287,000	34,000	321,000	332,100
	360,200	13,400	373,600	618,100	64,500	682,600	1,056,200

Note the number of volunteer firefighters for communities of 25,000 or more and the number of career firefighters for communities of less than 10,000 may change considerably from year to year because of their small size and sample variability.

Population protected is based on resident population and not the daytime and seasonal.

See [Appendix C](#) for Bureau of Labor Statistics on career firefighters (2013-2017).

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

Table 2. Number of Firefighters in the US, 1986-2017

Year	Total		Career		Volunteer	
	Number	Rate per 1,000 Population	Number	Rate per 1,000 Population	Number	Rate per 1,000 Population
1986	1,045,950	1.48	237,750	1.73	808,200	7.88
1987	1,060,000	2.57	243,200	1.73	816,800	8.05
1988	1,040,750	2.22	252,500	1.77	788,250	7.77
1989	1,020,700	3.05	250,600	1.75	770,100	7.45
1990	1,025,650	3.19	253,000	1.73	772,650	7.56
1991	1,033,600	6.22	261,800	1.73	771,800	7.61
1992	1,058,300	3.94	253,000	1.72	805,300	7.34
1993	1,055,050	4.09	259,650	1.73	795,400	7.25
1994	1,073,600	4.12	265,700	1.76	807,900	7.19
1995	1,098,850	4.18	260,850	1.70	838,000	7.42
1996	1,081,800	4.07	266,300	1.74	815,500	6.98
1997	1,079,050	4.03	275,700	1.73	803,350	7.12
1998	1,082,500	4.00	278,300	1.70	804,200	7.18
1999	1,065,150	3.90	279,900	1.69	785,250	6.93
2000	1,064,150	3.86	286,800	1.64	777,350	7.25
2001	1,078,300	3.85	293,600	1.70	784,700	7.04
2002	1,108,250	3.89	291,650	1.68	816,600	7.12
2003	1,096,900	3.77	296,850	1.67	800,050	7.05
2004	1,100,750	3.76	305,150	1.71	795,600	6.88
2005	1,136,650	3.82	313,300	1.68	823,650	7.30
2006	1,140,900	3.81	316,950	1.74	823,950	7.26
2007	1,148,000	3.81	323,350	1.74	825,450	7.29
2008	1,148,850	3.81	321,700	1.73	827,150	7.01
2009	1,148,100	3.81	335,950	1.72	812,150	7.27
2010	1,103,300	3.57	335,150	1.66	768,150	6.59
2011	1,100,450	3.54	344,050	1.69	756,400	6.37
2012	1,129,250	3.60	345,950	1.67	783,300	6.60
2013	1,140,750	3.60	354,600	1.67	786,150	6.68
2014	1,134,400	3.56	346,150	1.68	788,250	6.43
2015	1,160,450	3.36	345,600	1.54	814,850	6.71
2016	1,090,100	3.37	361,100	1.69	729,000	5.99
2017	1,056,200	3.24	373,600	1.80	682,600	5.80

Source: NFPA Survey of Fire Departments for US Fire Experience (1986-2017).

**Table 3. Career Firefighter Rates by Population Protected, 2017**

Population Protected	Career Firefighters Per 1,000 Population		
	Low	Median	High
1,000,000 or more	0.63	1.13	1.73
500,000 to 999,999	0.55	1.21	2.57
250,000 to 499,999	0	1.14	2.35
100,000 to 249,999	0.06	1.41	3.11
50,000 to 99,999	0	1.33	3.32
25,000 to 49,999	0	1.16	3.79

The rates listed above are based on data reported to the NFPA, and do not reflect recommended rates or some defined fire protection standard.

The rates of a particular size of community may vary widely because departments face great variation in their specific circumstances and policies including length of work week, unusual structural conditions, types of service provided to the community, geographical dispersion of the community, and other factors. Career rates are shown only for communities with populations of 25,000 or more, where departments are comprised of all career or mostly career firefighters. Also some of these departments have some volunteers, who are not reflected in these figures. The low and high values are the lowest and highest values by size of community. The median value is chosen so that half the departments had higher values, and half had lower.

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

**Table 4. Volunteer Firefighter Rates by Population Protected, 2017**

Population Protected	Volunteer Firefighters Per 1,000 Population		
	Low	Median	High
10,000 to 24,999	0	1.00	15.42
5,000 to 9,999	0	3.33	13.6
2,500 to 4,999	0	6.52	38.5
Under 2,500	0	17.5	*

\*Because there are a minimum number of firefighters to form even a single company, smaller communities of under 100 people can have very high rates.

The rates listed above are based on data reported to the NFPA, and do not reflect recommended rates or some defined fire protection standard.

The rates of a particular size of community may vary widely because departments face great variation in their specific circumstances and policies including structural conditions, types of service provided to the community, geographic dispersion of the community, and other factors. Volunteer rates are shown only for communities under 25,000, where departments are comprised of all volunteer or mostly volunteers. Also, some of these departments, particularly those with population protected of 5,000 or more, have some career firefighters, who are not reflected in these figures. The low and high values are the lowest and the highest values by size of community. The median value is chosen so that half of the departments had higher values, and half had lower.

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

**Table 5. Career Firefighters per 1,000 People for All Career Department by Work Week and Population Protected, 2015-2017**

Population Protected	40-45 Hour	46-51 Hour	52-60 Hour
1,000,000 or more	*	1.40	0.97
500,000 to 999,999	2.40	1.95	1.26
250,000 to 499,999	2.07	1.89	1.18
100,000 to 249,999	1.94	1.53	1.33
50,000 to 99,999	2.05	1.55	1.40
25,000 to 49,999	2.02	1.58	1.60

\*Insufficient data.

**The rates listed above are based on data reported to the NFPA, and do not reflect recommended rates or some defined fire protection standard.**

The rates of a particular size of community may vary widely because departments face great variation in their specific circumstances and policies including structural conditions, type of service provided to the community, geographic dispersion of the community and other factors. Career rates are shown only for communities over 25,000, where departments are comprised mostly of career firefighters.

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

**Table 6. Median Rates of Career Firefighters per 1,000 People by Region and Population Protected, 2017**

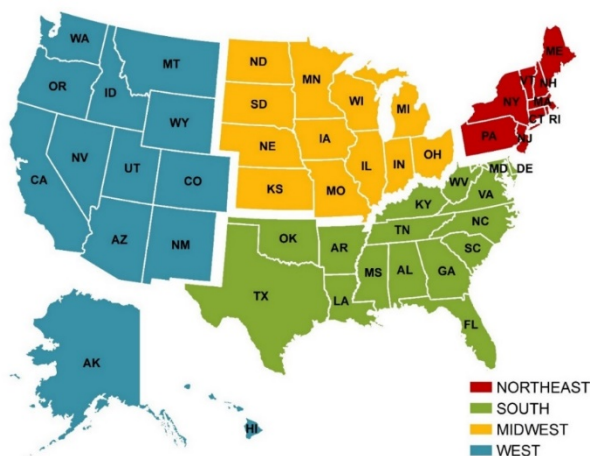
Population Protected	Northeast	Midwest	South	West
250,000 or more	1.18	1.38	1.23	0.92
100,000 to 249,000	2.09	1.42	1.59	0.98
50,000 to 99,999	1.71	1.23	1.59	1.09
25,000 to 49,999	1.72	0.91	1.73	1.07

**The rates listed above are based on data reported to the NFPA, and do not reflect recommended rates or some defined fire protection standard.**

The rates of a particular size of community may vary widely because departments face great variation in their specific circumstances and policies including structures conditions, types of service provided to the community, geographic dispersion of the community, and other factors. Career rates are shown only for communities over 25,000, where departments are comprised mostly of career firefighters. As defined by the US Bureau of the Census, the four regions are:

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

As defined by the US Bureau of Census, the four regions are:





**Table 7. Median Rates of Volunteer Firefighters per 1,000 People by Region and Population Protected, 2017**

Population Protected	Northeast	Midwest	South	West
10,000 to 24,999	1.38	1.23	0.61	1.19
5,000 to 9,999	4.47	3.25	2.50	3.11
2,500 to 4,999	7.78	6.29	5.67	6.67
Under 2,500	17.55	17.5	16.00	20.00

The rates listed above are based on data reported to the NFPA, and do not reflect recommended rates or some defined fire protection standard.

The rates of a particular size of community department may vary widely because departments face great variation in their specific circumstances and policies including structural conditions, types of service provided to the community, geographic dispersion of the community, and other factors. Volunteer rates are shown only for communities under 25,000, where departments are comprised of mostly volunteer.

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

As defined by the US Bureau of the Census, the four regions are:

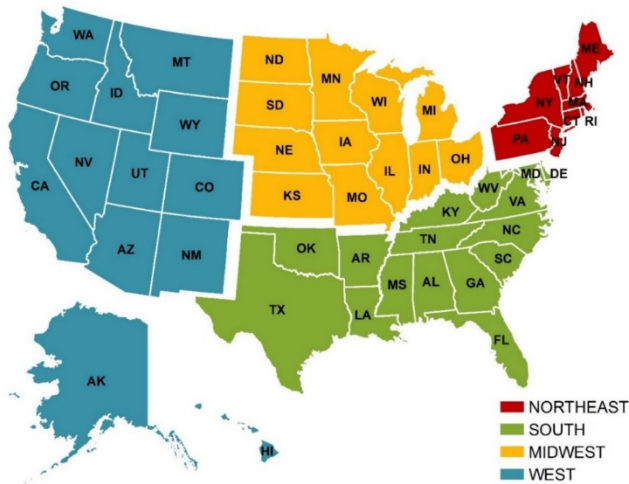


Table 8. Number of Firefighters in the US by Age Group, 2017

Age	Number	Percent
16-19	34,100	3.2%
20-29	223,100	21.1%
30-39	285,900	27.1%
40-49	249,800	23.7%
50-59	175,200	16.6%
60 and over	88,100	8.3%
Total	1,056,200	100%

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

Figure 3. Number of Firefighters in the US by Age Group, 2017

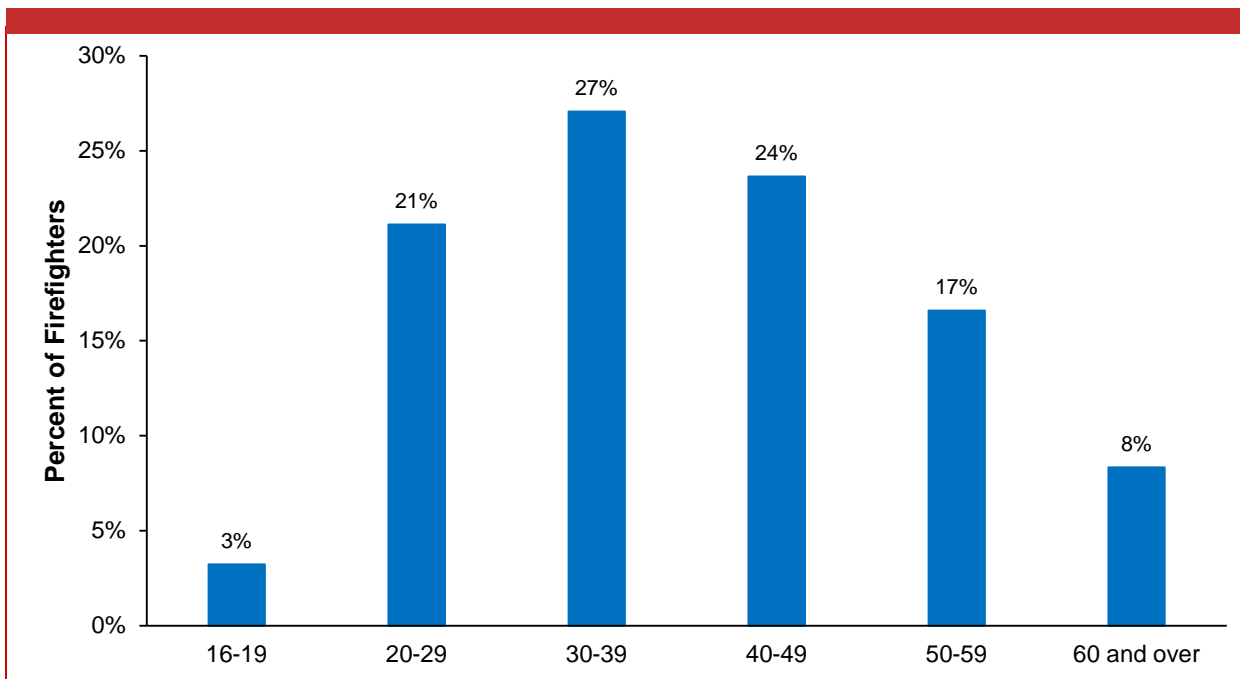


Table 9. Age Profile of Firefighters by Size of Community, 2017

Size of Community	Percent of Firefighters under Age 30	Percent of Firefighters Age 30-39	Percent of Firefighters Age 40-49	Percent of Firefighters Age 50 and up	Total
<b>Mostly Career Firefighters</b>					
1,000,000 or more	12%	32%	32%	24%	100.0%
500,000 to 999,999	15%	30%	32%	23%	100.0%
250,000 to 499,999	16%	32%	31%	21%	100.0%
100,000 to 249,000	19%	31%	30%	20%	100.0%
50,000 to 99,999	19%	33%	30%	19%	100.0%
25,000 to 49,999	22%	31%	29%	18%	100.0%
<b>Mostly Volunteer Firefighters</b>					
10,000 to 24,999	28%	30%	24%	19%	100.0%
5,000 to 9,999	30%	27%	20%	23%	100.0%
2,500 to 4,999	30%	25%	19%	25%	100.0%
Under 2,500	24%	23%	21%	32%	100.0%

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

Figure 4. Percent of Firefighters in the US by Age Group, by Year

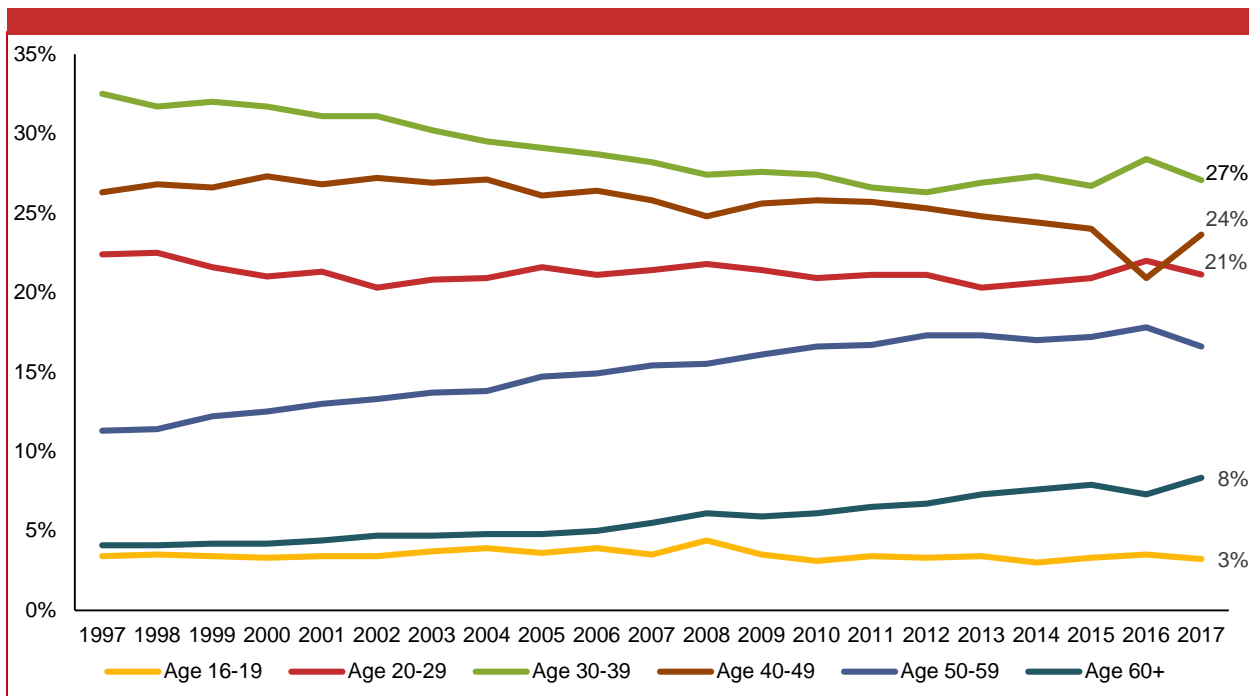
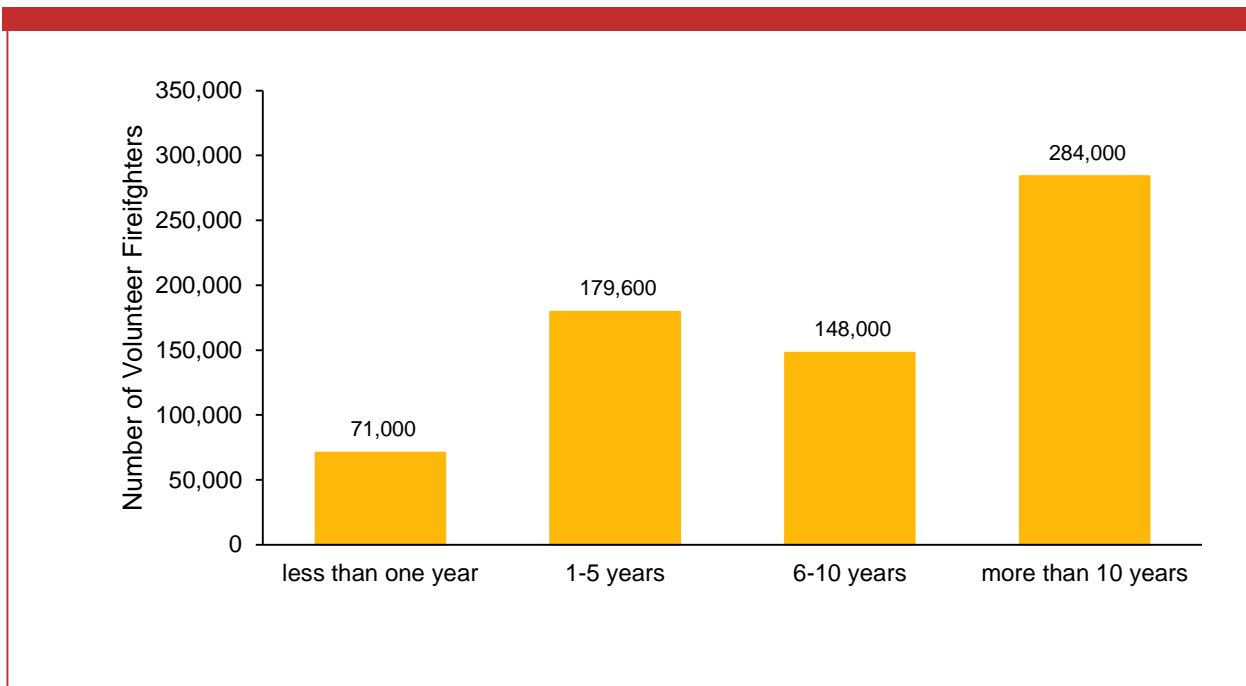


Table 10. Volunteer Firefighter Tenure Period by Number and Percentage, 2017

Tenure Active	Number	Percentage
Less than one year	71,000	10%
1-5 years	179,600	26%
6-10 years	148,000	22%
More than 10 years	284,000	42%
Total	682,600	100%

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

Figure 5. Number of Volunteer Firefighters by Tenure Period, 2017





**Table 11. Tenure Profile of Volunteer Firefighters by Size of Community, 2017**

Size of Community	Percent of Firefighters Less than 1 Year	Percent of Firefighters 1-5 Years	Percent of Firefighters 6-10 years	Percent of Firefighters More than 10 Years	Total
1,000,000 or more	*	*	*	*	*
500,000 to 999,999	58%	35%	0%	7%	100%
250,000 to 499,999	19%	42%	12%	27%	100%
100,000 to 249,000	10%	38%	21%	31%	100%
50,000 to 99,999	18%	31%	20%	31%	100%
25,000 to 49,999	15%	31%	19%	35%	100%
10,000 to 24,999	12%	30%	22%	35%	100%
5,000 to 9,999	11%	28%	22%	39%	100%
2,500 to 4,999	10%	27%	21%	42%	100%
Under 2,500	9%	24%	22%	45%	100%
Total	11%	28%	22%	39%	100%

\* Denotes insufficient data

Source: NFPA Survey of Fire Departments for US Fire Experience, 2017.

**Table 12. Number of Departments and Percent of US Population Protected by Type of Department, 2017**

Type of Department	Number	Percent	Percent of U.S. Population Protected
All Career	2,785	9%	52%
Mostly Career	2,316	8%	17%
Mostly Volunteer	5,405	18%	15%
All Volunteer	19,313	65%	16%
Total	29,819	100%	100%

Department type is broken into four categories. All career departments are comprised 100% of career firefighters. Mostly career is comprised of 51 to 99% career firefighters, while volunteer is comprised of 1 to 50% career firefighters. All volunteer departments are comprised 100% of volunteer firefighters.

Source: NFPA Fire Service Survey 2015-2017, and NFPA Survey of Fire Departments for U.S. Fire Experience, 2017.

Table 13. Number of Fire Departments in the US by Population Protected, 2017

Population Protected	Number of Fire Departments	Percentage
1,000,000 or more	16	<1%
500,000 to 999,999	43	<1%
250,000 to 499,999	64	<1%
100,000 - 249,999	275	01%
50,000 to 99,999	542	2%
25,000 to 49,999	1305	4%
10,000 to 24,999	3513	12%
5,000 to 9,999	4306	14%
2,500 to 4,999	5382	18%
Under 2,500	14373	48%
Total	29,819	100%

Source: NFPA Fire Service Survey, 2015-2017.

Table 14. Department Type by Population Protected, 2017

Population Protected	All Career	Mostly Career	Mostly Volunteer	All Volunteer	Total
1,000,000 or more	67%	33%	0%	0%	100%
500,000 to 999,999	81%	14%	5%	0%	100%
250,000 to 499,999	73%	23%	0%	3%	100%
100,000 - 249,999	92%	7%	1%	0%	100%
50,000 to 99,999	74%	18%	8%	1%	100%
25,000 to 49,999	51%	24%	21%	4%	100%
10,000 to 24,999	22%	30%	33%	15%	100%
5,000 to 9,999	9%	10%	40%	41%	100%
2,500 to 4,999	2%	4%	23%	72%	100%
Under 2,500	1%	1%	7%	91%	100%
All Departments	9%	8%	18%	65%	100%

Department type is broken into four categories. All career departments are comprised 100% of career firefighters. Mostly career is comprised of 51 to 99% career firefighters, while volunteer is comprised of 1 to 50% career firefighters. All volunteer departments are comprised 100% of volunteer firefighters.

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2017.

## Fire Departments

There are an estimated 29,819 fire departments<sup>4</sup> in the United States (Table 12). Of these, 2,785 (9%) of departments are comprised solely of career firefighters<sup>5</sup> and 19,313 (65%) of departments are comprised of all volunteer firefighters. An estimated 2,316 (8%) are mostly career, while 5,405 (18%) are mostly volunteer firefighters (Table 12).

Fire departments categorized as all career or mostly career represent one-sixth (17%) of all departments and protect more than two-thirds (69%) of the US population, while departments categorized as mostly volunteer or all volunteer represent five-sixths (83%) of all departments and protect one-third (31%) of the US population (Table 12).

The number of career or mostly career departments increased from 3,043 in 1986 to 5,101 in 2017, an increase of 68%, while the number of volunteer or mostly volunteer departments decreased from 26,797 in 1986 to 24,718 in 2017, a decrease of 8% . (see Appendix A)

The number of fire departments by size of community is provided in Table 13. Department type did vary considerably by population protected. For community sizes 25,000 and above, the percentage of departments classified as all career or mostly career ranged from 75% to 100%, while for community sizes less than 25,000, the percentage of departments classified as all volunteer or mostly volunteer ranged from 48% to 98% (Table 14).

## Fire Department Apparatus and Stations

Estimates of the number of apparatus and stations in the United States for the 2015-2017 period indicate that there were 66,400 pumpers, 7,200 aerial apparatuses, 71,900 other suppression vehicles (which includes pumpers less than 1,000 gpm, brush vehicles, tanker, etc.), 47,100 other vehicles (which includes rescue, lighting and ambulance vehicles) and 51,000 stations.

Table 15 provides a breakdown of the average apparatus and station rates by community size.<sup>6</sup>

**It is worth emphasizing what the indicated rates in Table 15 really mean. The numbers reflect apparatus averages and station rates per 1,000 people by population protected reported to the NFPA. They do *not* represent recommended rates or some defined fire protection standard.**

The rates are higher for departments protecting smaller communities (under 2,500). This is because it takes a minimum number of apparatus and stations to operate a fire department regardless of the number of people protected. For instance, for a department protecting 1,000 people, you would expect according to Table 15 an average of 1.12 pumpers, 1.77 other suppression vehicles, 0.03 aerial apparatus, and 0.89 stations. The 0.89 stations per 1,000 people is the highest rate shown in Table 15, but for this community size it is equivalent to one station per department. Another way to put this is that for every 100 departments protecting 1,000 people, you would expect approximately 112 pumpers, 177 other suppression vehicles, 3 aerial apparatus, and 89 stations. For communities of 25,000 to 999,999, the rates tend to be quite similar: 0.05 - 0.06 pumpers per 1,000 people; and 0.02 - 0.03 other suppression vehicles; 0.01 aerial apparatus per 1,000 people, and 0.05 - 0.06 stations per 1,000 people.

Table 16, Table 17, Table 18, and Table 19 display the prevalence of pumpers, other suppression vehicles, aerial apparatus, and stations by size of community.

<sup>4</sup> A fire department is a public organization that provides fire prevention, fire suppression and associated emergency and non-emergency services to a jurisdiction such as a county, municipality, or organized fire district.

<sup>5</sup> Department type is broken into four categories. All career departments are comprised 100% of career firefighters. Mostly career is comprised of 51 to 99% career firefighters, while volunteer is comprised of 1 to 50% career firefighters. All volunteer departments are comprised 100% of volunteer firefighters.

<sup>6</sup> Note that these results are based on a sample survey, and as a result there is a confidence interval associated with each estimate. Based on the data reported by fire departments responding to the NFPA Fire Service Survey (2014 -2016), the NFPA is 95% confident that the actual number of pumpers falls between 66,300 and 66,600; aerial apparatus between 7,300 and 7,400; other suppression vehicles between 71,500 and 72,200; other vehicles between 46,900 and 47,300; and stations between 50,900 and 51,100.

**Table 15. Average Apparatus and Station Rates per 1,000 Population by Community Size, 2015-2017**

Population Protected	Pumpers per 1,000 Population	Other Suppression Vehicles Per 1,000 Population	Aerial Apparatus per 1,000 Population	Stations per 1,000 Population
1,000,000 or more	0.03	0.01	0.01	0.03
500,000 to 999,999	0.05	0.02	0.01	0.05
250,000 to 499,999	0.06	0.03	0.01	0.06
100,000 - 249,999	0.07	0.03	0.01	0.07
50,000 to 99,999	0.08	0.04	0.02	0.08
25,000 to 49,999	0.11	0.07	0.02	0.09
10,000 to 24,999	0.18	0.14	0.03	0.13
5,000 to 9,999	0.31	0.29	0.04	0.19
2,500 to 4,999	0.52	0.61	0.03	0.34
Under 2,500	1.12	1.77	0.03	0.89
National Average	0.2	0.21	0.02	0.15

**These results reflect average apparatus and station rates per 1,000 people by population protected reported to the NFPA. They do not reflect recommended rates or some defined fire protection standard.**

Other suppression vehicles include apparatus with pumps less than 1,000 gpm, hose wagons, brush fire vehicles, tankers, etc.

Source: NFPA Fire Service Survey, 2015-2017.



Table 16. Pumpers (1,000 gpm or greater) by Community Size, 2015-2017

Population Protected	Percentage of US Fire Departments With						Total
	No Pumpers	1-5 Pumpers	6-9 Pumpers	10-19 Pumpers	20-39 Pumpers	40 or More Pumpers	
1,000,000 or more	0%	0%	0%	0%	25%	75%	100%
500,000 to 999,999	2%	0%	0%	5%	62%	31%	100%
250,000 to 499,999	0%	0%	3%	51%	43%	3%	100%
100,000 - 249,999	1%	14%	42%	36%	7%	0%	100%

Population Protected	Percentage of US Fire Departments With					Total
	No Pumpers	1 Pumper	2 Pumpers	3-4 Pumpers	5 or More Pumpers	
50,000 to 99,999	1%	8%	33%	56%	1%	100%
25,000 to 49,999	5%	22%	46%	25%	1%	100%
10,000 to 24,999	9%	33%	47%	10%	1%	100%
5,000 to 9,999	15%	45%	36%	4%	1%	100%
2,500 to 4,999	23%	50%	23%	1%	2%	100%
Under 2,500	41%	39%	8%	0%	11%	100%

Note that pumpers reported above had a capability of 1,000 gpm or greater. Note that many departments reported other fire suppression vehicles including apparatus with pumps less than 1,000 gpm, hose wagons, brush fire vehicles, tankers, etc.

Source: NFPA Fire Service Survey, 2015-2017.

Table 17. Other Suppression Vehicles by Community Size, 2015-2017

Percentage of US Fire Departments With Other Suppression Vehicles								
Population Protected	0	1-3	4-5	6-9	10-19	20-29	30 or More	Total
1,000,000 or more	0%	19%	0%	0%	25%	19%	38%	100%
500,000 to 999,999	5%	17%	12%	19%	21%	14%	12%	100%
250,000 to 499,999	13%	16%	16%	26%	16%	5%	7%	100%
100,000 - 249,999	21%	39%	13%	14%	8%	2%	3%	100%

Percentage of US Fire Departments With Other Suppression Vehicles						
Population Protected	None	1	2	3-4	5 or More	Total
50,000 to 99,999	31%	18%	15%	18%	17%	100%
25,000 to 49,999	29%	22%	19%	17%	14%	100%
10,000 to 24,999	24%	23%	20%	21%	12%	100%
5,000 to 9,999	17%	23%	25%	26%	10%	100%
2,500 to 4,999	12%	21%	27%	30%	10%	100%
Under 2,500	10%	23%	28%	29%	9%	100%

Other suppression vehicles include apparatus with pumps less than 1,000 gpm, hose wagons, brush fire vehicles, tankers, etc

Source: NFPA Fire Service Survey, 2015-2017.

Table 18. Aerial Apparatus by Community Size, 2015-2017

Population Protected	Percentage of US Fire Departments With					Total
	No Aerial Apparatus	1-5 Aerial Apparatus	6-9 Aerial Apparatus	10-19 Aerial Apparatus	20 or More Aerial Apparatus	
1,000,000 or more	0%	13%	0%	31%	56%	100%
500,000 to 999,999	5%	21%	29%	36%	10%	100%
250,000 to 499,999	5%	61%	25%	10%	0%	100%

Population Protected	Percentage of US Fire Departments With					Total
	No Aerial Apparatus	1 Aerial Apparatus	2 Aerial Apparatus	3-4 Aerial Apparatus	5 or More Aerial Apparatus	
100,000 to 249,999	18%	26%	26%	19%	10%	100%
50,000 to 99,999	29%	40%	23%	8%	0%	100%
25,000 to 49,999	36%	51%	13%	0%	0%	100%
10,000 to 24,999	49%	47%	4%	0%	0%	100%
5,000 to 9,999	73%	26%	1%	0%	0%	100%
2,500 to 4,999	89%	11%	0%	0%	0%	100%
Under 2,500	96%	4%	0%	0%	0%	100%

Source: NFPA Fire Service Survey, 2015-2017.

Table 19. Fire Stations by Community Size, 2015-2017

Population Protected	Percentage of US Fire Departments With					Total
	1-5 Stations	6-9 Stations	10-19 Stations	20-29 Stations	30 or More Stations	
1,000,000 or more	0%	0%	0%	6%	94%	100%
500,000 to 999,999	0%	0%	5%	19%	76%	100%
250,000 to 499,999	0%	2%	44%	44%	10%	100%
100,000 - 249,999	9%	44%	41%	4%	2%	100%

Population Protected	Percentage of US Fire Departments With					Total
	No Stations	1 Station	2 Stations	3 Stations	4 or More Stations	
50,000 to 99,999	0%	2%	3%	15%	80%	100%
25,000 to 49,999	0%	12%	24%	28%	35%	100%
10,000 to 24,999	0%	45%	30%	14%	11%	100%
5,000 to 9,999	0%	68%	21%	6%	4%	100%
2,500 to 4,999	0%	77%	17%	4%	2%	100%
Under 2,500	0%	86%	11%	2%	1%	100%

Source: NFPA Fire Service Survey, 2015-2017.

### Emergency Medical Services

The level of emergency medical service (EMS) provided by fire departments by size of community protected for the 2015-2017 period is provided in Table 20. The larger the community, the more likely EMS service was provided. Nationwide, 13,631 (46%) departments provided EMS with basic life support, 4,629 (16%) departments provided EMS with advanced life support, and 11,559 (39%) departments did not provide EMS.

### US Expenditures on Local Fire Protection

Table 21 provides expenditures on local fire protection by governments, with and without adjustment for inflation. Note that these expenditures adjusted for inflation, have risen 178% from 1980 to 2015. Other municipal service costs like police protection have risen in a similar manner.

Fire protection costs rose 119% from 1986 to 2015 after adjusting for inflation, while the number of career firefighters increased 45% (Table 2). Since chiefs of fire departments serving larger communities report problems with shrinking budgets or with level budgets combined with increasing responsibilities, this clear pattern of increasing fire department resources nationwide is difficult to interpret. Some of the factors possibly contributing to this increase in costs are (1) shrinkage of the work week<sup>7</sup> for some departments, which results in a need to increase staffing and apparatus or to pay firefighters at overtime rates; (2) increased EMS responsibilities that require increased staffing and, in some communities, a more frequent replacement of apparatus; and (3) rising costs of retirement and health benefits.

**Table 20. Departments Providing Emergency Medical Service by Community Size (Percent), 2015-2017**

Population Protected	No EMS	BLS	ALS	Total
1,000,000 or more	0%	0%	100%	100%
500,000 to 999,999	0%	29%	71%	100%
250,000 to 499,999	2%	25%	73%	100%
100,000 - 249,999	4%	34%	62%	100%
50,000 to 99,999	6%	38%	56%	100%
25,000 to 49,999	16%	37%	47%	100%
10,000 to 24,999	27%	42%	32%	100%
5,000 to 9,999	38%	43%	19%	100%
2,500 to 4,999	41%	47%	12%	100%
Under 2,500	45%	49%	6%	100%
Nationwide	39%	46%	16%	100%

BLS refers to fire departments providing basic life support and ALS refers to fire departments providing advanced life support.

Source: NFPA Fire Service Survey, 2015-2017.

<sup>7</sup> This is the result at least to some extent of the Fair Labor Standards Act being applied to municipal fire departments.

Table 21. Direct Expenditures on Local Fire Protection

Year	Expenditures (in Billions)	Expenditures (in Billions) Adjusted for Inflation*	US Resident Population (in Thousands)
1980	\$5.7	\$16.4	227,225
1981	\$6.3	\$16.5	229,466
1982	\$7.0	\$17.2	231,664
1983	\$7.6	\$18.1	233,792
1984	\$8.2	\$18.7	235,825
1985	\$8.5	\$18.8	237,924
1986	\$9.6	\$20.8	240,133
1987	\$10.5	\$21.9	242,289
1988	\$11.8	\$23.7	244,499
1989	\$11.9	\$22.8	246,819
1990	\$13.2	\$24.0	249,464
1991	\$13.8	\$24.1	252,153
1992	\$14.4	\$24.4	255,030
1993	\$15.4	\$25.3	257,783
1994	\$16.1	\$25.8	260,327
1995	\$17.0	\$26.5	262,803
1996	\$17.7	\$26.8	265,229
1997	\$19.4	\$28.7	267,784
1998	\$20.3	\$29.6	270,248
1999	\$21.3	\$30.3	272,691
2000	\$23.1	\$31.8	282,172
2001	\$25.0	\$33.5	285,082
2002	\$26.0	\$34.3	287,804
2003	\$28.4	\$36.6	290,326
2004	\$30.7	\$38.6	293,046
2005	\$34.2	\$41.6	295,753
2006	\$34.2	\$40.3	298,593
2007	\$36.8	\$42.1	301,580
2008	\$39.7	\$43.8	304,375
2009	\$40.3	\$44.6	307,007
2010	\$42.6	\$46.4	309,326
2011	\$42.3	\$44.6	311,583
2012	\$42.5	\$43.5	313,874
2013	\$43.4	\$44.2	316,129
2014	\$44.1	\$44.2	318,857
2015	\$45.8	\$45.8	321,419

\*Adjustments were made to 2015 dollars using the Consumer Price Index.

Source: US Bureau of the Census, *Economy-wide Statistics Division*.



## Appendix A. Number of US Fire Departments

Year	Total	All Career	Mostly Career	Mostly Volunteer	All Volunteer
1986	29,840	1,999	1,044	3,640	23,157
1987	29,741	1,683	1,335	3,635	23,088
1988	30,245	1,729	1,405	3,908	23,203
1989	30,315	1,799	1,303	3,878	23,335
1990	30,391	1,949	1,338	4,000	23,104
1991	30,587	2,017	1,257	4,162	23,151
1992	30,562	1,843	1,217	4,377	23,125
1993	30,528	1,646	1,342	4,378	23,162
1994	30,495	1,778	1,448	4,400	22,869
1995	31,197	1,831	1,660	4,581	23,125
1996	31,503	1,872	1,380	4,863	23,388
1997	30,665	1,979	1,490	4,808	22,388
1998	31,114	2,028	1,602	4,848	22,636
1999	30,436	1,752	1,639	4,651	22,394
2000	30,339	2,178	1,667	4,523	21,971
2001	30,020	1,928	1,539	4,671	21,882
2002	30,310	2,044	1,480	4,886	21,900
2003	30,542	2,018	1,582	5,271	21,671
2004	30,400	1,917	1,242	4,084	23,157
2005	30,300	2,087	1,766	4,902	21,575
2006	30,635	2,321	1,731	5,134	21,449
2007	30,185	2,263	1,765	4,989	21,168
2008	30,170	2,315	1,790	4,830	21,235
2009	30,165	2,457	1,752	5,099	20,857
2010	30,125	2,495	1,860	5,290	20,480
2011	30,145	2,550	1,865	5,530	20,200
2012	30,100	2,610	1,995	5,445	20,050
2013	30,052	2,477	1,971	5,797	19,807
2014	29,980	2,440	2,045	5,580	19,915
2015	29,727	2,651	1,893	5,421	19,762
2016	29,710	2,775	2,048	5,451	19,436
2017	29,819	2,785	2,316	5,405	19,313

A fire department is a public or private organization that provides fire prevention, fire suppression and associated emergency and non-emergency services to a jurisdiction such as a county, municipality, or organized fire district.

Source: NFPA Fire Service Inventory and NFPA Survey of Fire Departments for US Fire Experience, 1986-2017.

### Appendix B. Number of Fire Stations, Pumpers, Other Suppression Vehicles and Aerial Apparatus

Year	US Fire Stations	Pumpers >1,000 gpm	Other Suppression Vehicles*	Aerial Apparatus
1995-1997	48,850	68,300	---	6,450
1996-1998	51,000	69,150	---	6,450
1997-1999	52,100	69,000	---	6,300
1998-2000	49,200	68,200	---	6,400
1999-2001	51,500	68,000	---	6,500
2000-2002	50,900	67,950	---	6,300
2001-2003	51,650	68,950	---	6,500
2002-2004	51,450	67,800	---	6,500
2003-2005	52,950	68,950	---	6,600
2004-2006	53,200	69,300	---	6,700
2005-2007	51,900	68,050	74,350	6,750
2006-2008	52,400	68,200	75,300	6,725
2007-2009	52,050	68,400	74,250	6,750
2008-2010	51,300	66,800	72,800	6,800
2009-2011	55,400	67,000	73,800	6,900
2010-2012	51,650	66,900	74,000	6,900
2011-2013	51,150	69,150	76,300	7,000
2012-2014	58,150	70,550	81,000	7,200
2013-2015	58,750	71,800	79,050	7,300
2015-2017	51,000	66,400	71,900	7,200

\* Other suppression vehicles include apparatus with pumps less than 1,000 gpm, hose wagons, brush fire vehicles, tankers, etc.  
Source: NFPA Fire Service Survey, 2015-2017 and NFPA Survey of Fire Departments for the US Fire Experience, 2017.

### Appendix C. Average Percentage of Career Firefighters by Gender, Race, and Hispanic or Latino Ethnicity, 2013-2017

