



RESEARCH



US Fire Department Profile 2020

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September 2022

Key Findings

There were an estimated 1,041,200 career and volunteer firefighters in the United States in 2020. There were 364,300 career firefighters in 2020, representing an increase of 2 percent from the previous year. In addition, there were 676,900 volunteer firefighters, representing a 6 percent decrease from the previous year, and the lowest number of volunteer firefighters reported over the years.

In 2020, 89,600 firefighters were female (9 percent of all firefighters). Of the career firefighters, 17,200 (5 percent) were female. Of the volunteer firefighters, 72,400 (11 percent) were female.

Fifty percent of the firefighters were between 30 and 49 years old.

Forty-three percent of the volunteer firefighters had more than 10 years of active service (tenure period).

There were 29,452 fire departments in the United States in 2020. Of these, 18 percent were all-career or mostly-career fire departments; they protected 70 percent of the US population.

Nationwide, 37 percent of fire departments provided no emergency medical services, 46 percent provided basic life support (BLS), and 17 percent provided advanced life support (ALS).

From 1980 to 2019, local fire protection service expenditures (adjusted for the dollar value in 2019) tripled.

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 fire stations. The results are based

on data collected by NFPA's *Survey of Fire Departments for US Fire Experience During 2020* and the NFPA fire service survey from 2018–2020. An earlier report, *Fire Loss in the United States During 2020*, 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. Estimates of non-fire incidents were also included.

Firefighters

There were approximately 1,041,200 career and volunteer firefighters in the US in 2020, according to estimates based on NFPA's *Survey of Fire Departments for US Fire Experience During 2020*. This is a 4 percent decrease from 2019, and the lowest total reported since 1991. This decrease was mainly due to the sharp drop in the estimated number of volunteer firefighters.

Career firefighters include full-time uniformed firefighters regardless of assignments (e.g., suppression, prevention/inspection, administrative, etc.). For the purpose of this survey, the term *career firefighter* includes only firefighters in municipal fire departments that protect people, residences, and public buildings; it does 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 in 2020, 364,300 (35 percent) were career, while 676,900 (65 percent) were volunteers.¹ Most of the drop in the number of volunteer firefighters occurred in the smallest communities (population below 25,000) and may be a one-year anomaly rather than the beginning of a trend.

¹Note that these results are based on a sample survey; as a result, there is a 95 percent confidence interval associated with each estimate. Based on the data reported by the fire departments that responded to the 2020 national fire experience survey, NFPA is confident that the actual number of career firefighters falls between 353,000 and 375,600 and the actual number of volunteer firefighters falls between 655,800 and 698,000.

Most career firefighters (71 percent) work in communities that protect 25,000 or more people. Most volunteer firefighters (95 percent) serve in departments that protect fewer than 25,000 people. Approximately half (48 percent) of the volunteer firefighters are with small, rural departments that protect fewer than 2,500 people.

Number and Rates of Firefighters

Since 1986, the number of career firefighters in the US has increased fairly steadily from 237,750 in 1986 to 373,600 in 2017, an increase of 57 percent (see Figure 1), before declining slightly over the next three years.

A good way to develop a sense of a fire department's size relative to the population they protect is to examine the rates of firefighters per 1,000 people protected as shown in Table 3 and Table 4 in the [supporting tables document](#).

For mostly-career or all-career fire departments, the rates of career firefighters per 1,000 people protected have remained in the range of 1.54 to 1.81 (see Figure 1). Even though the number of career firefighters has increased over time, the number of people protected by career firefighters has remained relatively consistent as the population in the US has increased.

The number of volunteer firefighters declined in the late 1980s and 1990s, each time returning to the same level soon after. From 2005 through 2009, the number of volunteer firefighters was stable at a level slightly higher than any previously recorded other than in 1995 (see Figure 2). After a dip in 2010 through 2011, the number of volunteers appeared to increase and was in the range of 783,300 to 814,850, an increase of 4 percent. In 2018, the number of volunteer firefighters increased to 745,000 but then dropped in 2019 to 722,800 and in 2020 to 676,900. When the rates of volunteer firefighters per 1,000 people protected for mostly-volunteer or

all-volunteer fire departments are examined, the rates show a downward trend and range from a high of 8.05 in 1987 to a low of 5.66 in 2020 per 1,000 population protected.

According to the Bureau of Labor Statistics in the US Department of Labor, in 2020:

- 13.1 percent of career firefighters were Hispanic or Latino
- 8.4 percent of career firefighters were African-American
- 1.2 percent of career firefighters were Asian
- 4.4 percent of career firefighters were female²

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

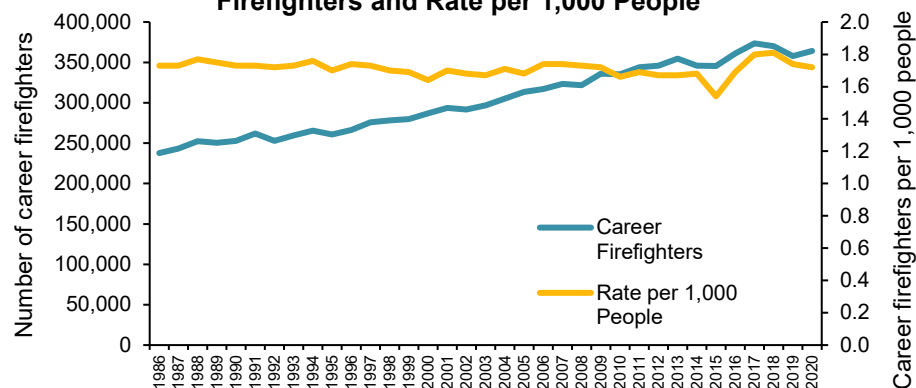
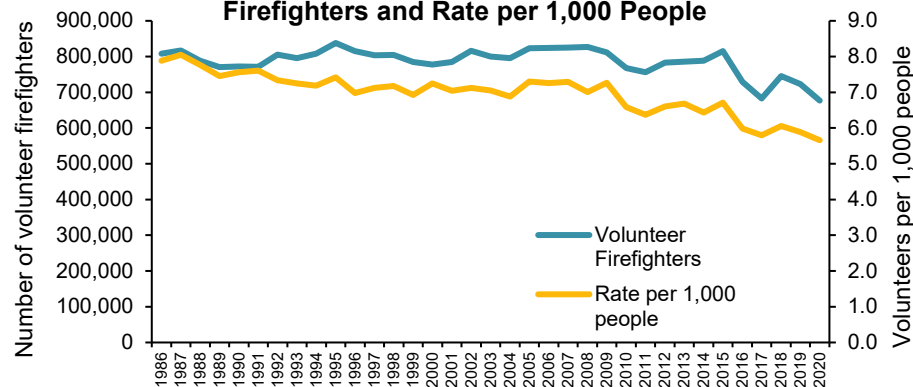


Figure 2. Number of Volunteer Firefighters and Rate per 1,000 People



²Figures are from the Labor Force Statistics from the *Current Population Survey*, Bureau of Labor Statistics, Washington DC. These numbers can change considerably from year to year because of their small size and sample variability.

NFPA estimates that in 2020, there were 17,200 female career firefighters and 72,400 female volunteer firefighters were employed by local fire departments.³

It is important to note that the rates of firefighters per 1,000 population are based on data reported to NFPA and do not reflect recommended rates or some defined fire protection standard.

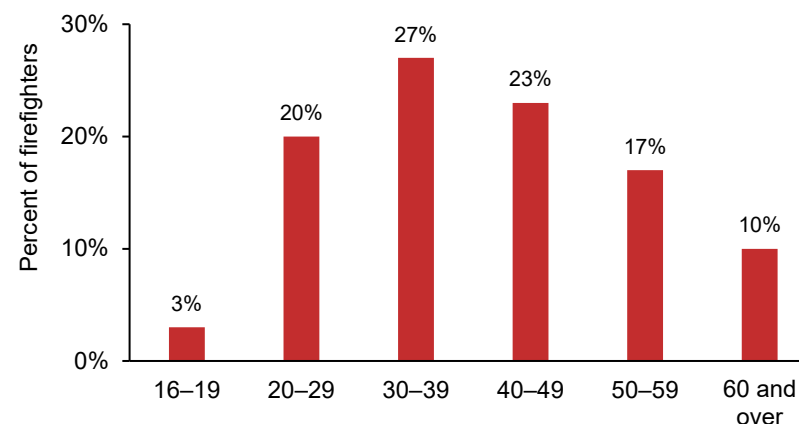
Fire departments protecting communities of 25,000 people or more had median rates of 0.84 to 1.30 career firefighters per 1,000 people. Departments experience great variation in their specific circumstances and policies, including the length of the workweek, unusual hazards, geographical dispersion of the community, and scope of services provided (e.g., whether the department handles emergency medical calls, etc.).

Fire departments protecting fewer than 25,000 people had median rates of 0.80 to 19.24 volunteer firefighters per 1,000 people. This wide range in median rates for smaller communities reflects the minimum number of firefighters needed to staff a department regardless of the 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 the population protected decreases.

The length of the workweek and its effect on the rate of career firefighters per 1,000 population by size of the community is provided in Table 5 in the [supporting tables document](#). Generally, longer workweeks correlate with fewer career firefighters per 1,000 population protected. Tables 6 and 7 in the supporting tables document provide median rates for career and volunteer firefighters by region and size of the community.

Of the 1,041,200 firefighters, the age group accounting for the largest share of firefighters was the 30 to 39 years old group (27 percent of all firefighters). See Figure 3.

Figure 3. Number of Firefighters in the US by Age Group: 2020



Age group patterns did vary somewhat by the size of the population protected. Departments that protected fewer than 25,000 people and were comprised mostly of volunteers tended to have higher proportions of firefighters in the under-30 age group. Departments that protected 25,000 people or more were comprised mostly of career firefighters and had higher proportions of firefighters in the 30 to 39 and 40 to 49 age groups. Departments protecting fewer than 2,500 people had the highest percentage of firefighters aged 50 and older (34 percent).

When age group patterns by year are examined between 1998 to 2020, there were slight changes over time (see Figure 4). The 30 to 39 and 40 to 49 age groups showed decreases (15 percent and 14 percent,

³Note that these results are based on a sample survey; as a result, there is a 95 percent confidence interval associated with each estimate. Based on the data reported by the fire departments that responded to the 2020 national fire experience survey, NFPA is confident that the actual number of female career firefighters falls between 15,900 and 18,500 and the actual number of female volunteer firefighters falls between 68,200 and 76,600.

respectively), while the 50 to 59 age group showed a large increase (49 percent). The 60 and over age group more than doubled.

Volunteer firefighter tenure periods show that more than two of every five (43 percent) volunteers have more than 10 years of active service. Almost two-thirds (64 percent) of volunteer firefighters have more than five years of active service.

Fire Departments

There are an estimated 29,452 fire departments⁴ in the United States. Of these, 2,785 (9 percent) are comprised solely of career firefighters⁵ and 18,873 (64 percent) are comprised of all-volunteer firefighters. An estimated 2,459 of the departments (8 percent) are mostly-career, while 5,335 (18 percent) are mostly-volunteer firefighters.

Fire departments categorized as all-career or mostly-career represent one-sixth (18 percent) of all the fire departments in the US and protect more than two-thirds (70 percent) of the US population. Departments categorized as mostly-volunteer or all-volunteer represent five-sixths (82 percent) of all the fire departments in the US and protect almost one-third (30 percent) of the US population.

The number of all-career or mostly-career fire departments increased from 3,043 in 1986 to 5,244 in 2020, an increase of 72 percent, while the number of all-volunteer or mostly-volunteer departments decreased from 26,797 in 1986 to 24,208 in 2020, a decrease of 10 percent. See Appendix A in the [supporting tables document](#).

The number of fire departments by community size is provided in Table 13 in the [supporting tables document](#). The department types varied considerably based on the population protected. For communities of 25,000 or more people, the percentage of departments

classified as all-career or mostly-career ranged from 78 percent to 100 percent. For communities with fewer than 25,000 people, the percentage of departments classified as all-volunteer or mostly volunteer ranged from 47 percent to 98 percent.

Figure 4. Percent of Firefighters in the US by Age Group: 1998–2020

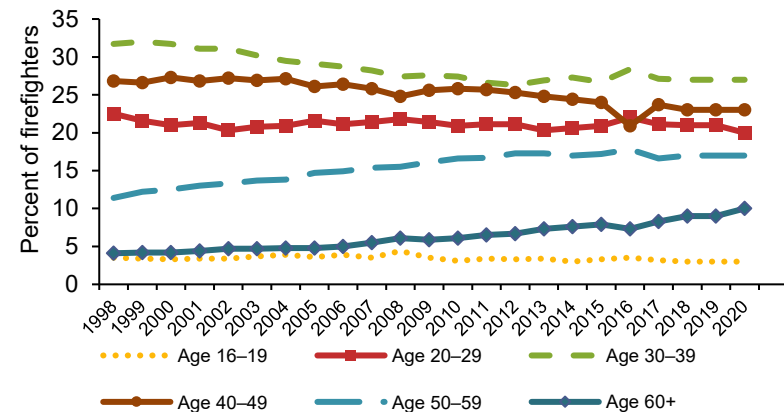
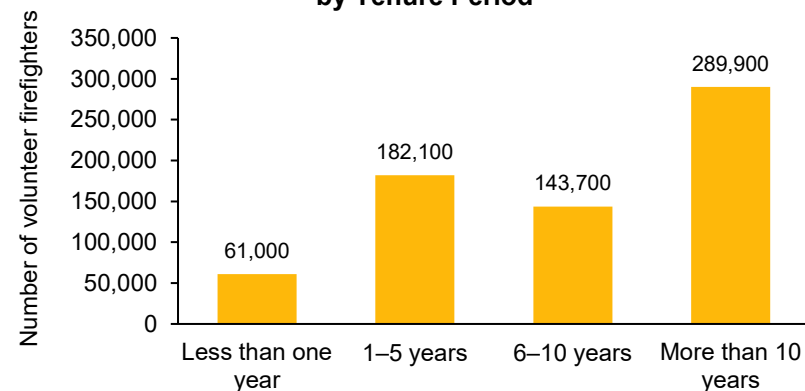


Figure 5. Number of Volunteer Firefighters by Tenure Period



⁴A 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.

⁵The department type is broken into four categories. All-career departments are comprised of 100 percent career firefighters. Mostly-career fire departments are comprised of 51 to 99 percent career firefighters, while mostly-volunteer fire departments are comprised of 1 to 50 percent career firefighters. All-volunteer departments are comprised of 100 percent volunteer firefighters.

Fire Department Apparatus and Stations

Estimates of the number of apparatus and fire stations in the United States during 2018 to 2020 indicate that there were 68,800 pumpers; 7,400 aerial apparatuses; 76,300 other suppression vehicles (e.g., pumpers less than 1,000 gpm, brush vehicles, tankers); 48,800 other vehicles (e.g., rescue, lighting, and ambulance vehicles); and 54,600 stations. A breakdown of the average apparatus and station rates by community size and trend data can be found in Table 15 and Appendix B in the [supporting tables document](#).⁶

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

The apparatus and station rates are higher for departments protecting smaller communities (under 2,500) because it takes a minimum number of apparatus and stations to operate a fire department regardless of the number of people protected. For example, for a department protecting 1,000 people, you would expect, according to Table 15, an average of 1.13 pumpers, 1.81 other suppression vehicles, 0.04 aerial apparatus, and 0.99 stations. The 0.99 stations per 1,000 people is the highest rate shown in Table 15, but for this community size, it is equivalent to roughly one station per department. In other words, for every 100 departments protecting 1,000 people, you would expect approximately 113 pumpers, 181 other suppression vehicles, 4 aerial apparatus, and 99 stations.

The prevalence of pumpers, other suppression vehicles, aerial apparatus, and stations by community size is covered in Tables 16 to 19 in the [supporting tables document](#).

Fire Department Calls

During 2020, US fire departments responded to a total of 36,416,000 calls, more than three times the 10,819,000 responses in 1980. See Table 20 in the [supporting tables document](#) for more information on these responses. While the estimated number of fires has been cut almost in half, there were nearly five times as many medical aid or rescue responses in 2020 as in 1980. There were five times as many mutual aid responses. False alarms tripled over the same period. Two-thirds of the fire department responses in 2020 were medical aid or rescue calls, while fewer than 4 percent were actual fires.

Emergency Medical Services

The level of emergency medical service (EMS) provided by fire departments by community size during 2018 to 2020 is provided in Table 21 in the [supporting tables document](#).

The larger the community, the more likely EMS service was provided. Nationwide, 46 percent of departments provided EMS with basic life support, 17 percent of departments provided EMS with advanced life support, and 37 percent of departments did not provide EMS.

US Expenditures on Local Fire Protection

Table 22 in the supporting tables document breaks down the expenditures for local fire protection with and without adjustment for inflation. Note that these expenditures, when adjusted for inflation, have tripled from 1980 to 2019. Other municipal service costs like police protection have risen in a similar manner. (Data for 2020 has not been published as of this report.)

Fire protection costs have risen 140 percent since 1986, while the number of career firefighters has increased 51 percent. (See Table 2 in the [supporting tables document](#)). Because chiefs of fire departments serving larger communities continue to report problems with shrinking budgets or 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 a shorter workweek⁷ for some departments, which results in a need to increase staffing and apparatus or pay firefighters at overtime rates; increased EMS responsibilities that require increased staffing and, in some communities, a more frequent replacement of apparatus; and the rising costs of retirement and health benefits.

Methods

This report is primarily based on two data sources: NFPA's annual *Survey of Fire Departments for US Fire Experience* and the NFPA fire service survey.

The *Survey of Fire Departments for US Fire Experience* utilizes a sample of fire departments in the United States to make national projections about 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 8,745 departments in the eight highest strata protect a population of 287 million, or 87 percent of the US population as of July 2020.

The remainder of the sample included 16,430 randomly selected departments in the smallest communities (less than 5,000 population protected), for a total sample size of 25,175 departments, or 85 percent of all the fire departments known to NFPA in the United States.

A total of 2,204 departments responded to the *Survey of Fire Departments for US Fire Experience During 2020*. National projections are made by weighting sample results according to the proportion of the total US population accounted for by communities of each size. There is a confidence interval that measures the statistical certainty (or uncertainty) of the estimate around any estimate based on a sample survey. We are confident that the actual number of total firefighters falls within 5 percent of the estimate.

The NFPA fire service survey is a three-year cycle survey that reaches 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, the length of the workweek, the number of apparatus and stations, etc. In recent years, the survey has had a response rate of between 13 percent to 16 percent 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. In addition, no adjustments were made for private fire brigades, such as industrial or military installations.

Acknowledgements

The authors would like to thank the fire departments who participated in NFPA's annual *Survey of Fire Departments for US Fire Experience* and/or the NFPA fire service survey.

The authors would also like to thank the members of the NFPA staff who worked on the 2020 US fire experience survey, Frank Deely, Steve Belski, and Jay Petrillo, for editing the survey form and making follow-up calls to fire departments.

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NFPA No. USS07