

U.S. FIRE DEPARTMENT PROFILE THROUGH 2010

Michael J. Karter, Jr.

Gary P. Stein

October 2011



**National Fire Protection Association
Fire Analysis and Research Division**

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Abstract

NFPA estimates that there were approximately 1,103,300 firefighters in the U.S. in 2010. Of the total number of firefighters 335,150 or 30% were career firefighters and 768,150 (70%) were volunteer firefighters. Most of the career firefighters are in communities that protect 25,000 or more people. Most of the volunteer firefighters (95%) are in departments that protect fewer than 25,000 people. There are an estimated 30,125 fire departments in the U.S. Of these, 2,495 departments are all career, 1,860 mostly career, 5,290 are mostly volunteer and 20,480 are all volunteer. In the U.S., 13,440 or 45% of departments provide EMS service, 4,515 departments or 15% provide EMS service and advance life support, while 12,170 departments or 40% provide no EMS support.

Keywords: fire departments, firefighters, career, volunteer, EMS, statistics.

Acknowledgements

The authors would like to thank all the fire departments who participated in this year's annual NFPA fire experience survey, and/or to the NFPA Fire Service Survey.

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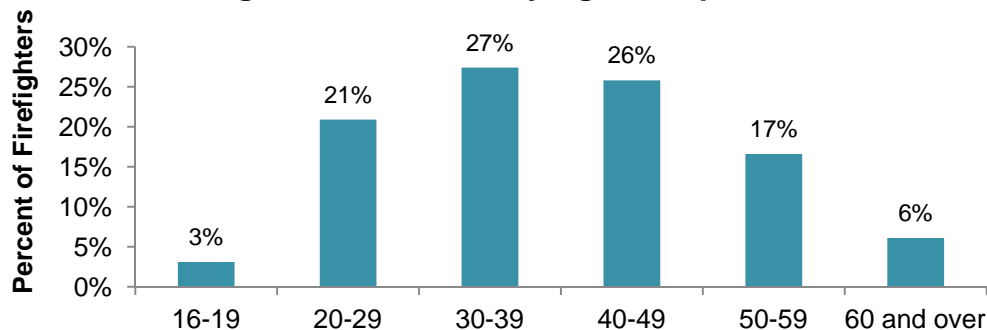


The U.S. Fire Department Profile Through 2010

There are **1,103,300** firefighters in the United States

- **30%** (335,150) are career firefighters.
- **70%** (768,150) are volunteer firefighters.
- Firefighters in smaller communities are more likely to be volunteers.
- Departments protecting larger communities tend to have a higher proportion of firefighters in the age groups 30-39 and 40-49 than smaller communities.

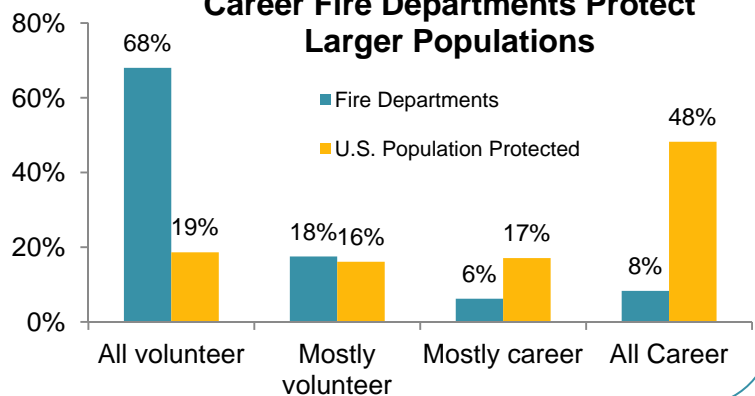
Firefighters in the U.S. by Age Group, 2010



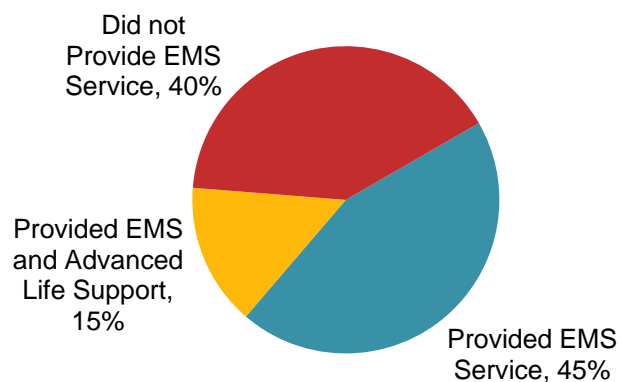
30,125 fire departments protected the United States in 2010

- All career 2,495
- Mostly career 1,860
- Mostly volunteer 5,290
- All volunteer 20,480

Career Fire Departments Protect Larger Populations



Fire Department Provision of Emergency Medical Service 2008-2010 Annual Averages



Firefighters

There were approximately 1,103,300 firefighters in the U.S. in 2010, according to estimates based on NFPA's 2010 National Fire Experience Survey (see Table 1). This is a decrease of 3.9% from a year ago.

Career firefighters include full-time (career) uniformed firefighters regardless of assignments, e.g., suppression, prevention/inspection, administrative. Career firefighters included here work for a public fire department that protects people in the community in their residences and in public buildings; they do not include career firefighters who work in private fire brigades.

Volunteer firefighters include any active part-time (call or volunteer) firefighters. Active volunteers are defined as being involved in fire fighting. Of the total number of firefighters, 335,150 or 30% were career firefighters, while 768,150 or 70% were volunteers.¹

Most of the career firefighters (73%) are in communities that protect 25,000 or more people. Most of the volunteers (95%) are in departments that protect fewer than 25,000 people and more than half are located in the small, rural departments that protect fewer than 2,500 people (see Table 1).

Since 1986, the number of career firefighters in the U.S. has gone up quite steadily from 237,500 in 1986 to 335,150 in 2010 for an overall increase of 41% (Table 2, Figure 1). However when the rates of career firefighters per 1,000 people protected for mostly or all career departments are examined, the rates do not increase but stay in a range of 1.53 to 1.77 career firefighters per 1,000 people protected (Table 2, Figure 1). Essentially what this means is that even though the number of career firefighters has gone up, the number of people protected by career firefighters has also gone up as the population in the U.S. has increased.

¹ 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 data reported by fire departments responding to the 2010 National Fire Experience Survey, the NFPA is confident that the actual number of career firefighters falls within the range of 325,150 to 345,150, and the actual number of volunteer firefighters falls within the range of 752,150 to 784,150.

Table 1
Career and Volunteer Firefighters
in the U.S., by Population Protected, 2010

Population Protected	Career	Volunteer	Total
1,000,000 or more	38,200	500	38,700
500,000 to 999,999	34,850	6,500	41,350
250,000 to 499,999	26,150	2,450	28,600
100,000 to 249,999	51,550	2,200	53,750
50,000 to 99,999	42,950	6,350	49,300
25,000 to 49,999	52,350	23,550	75,900
10,000 to 24,999	52,250	75,050	127,300
5,000 to 9,999	19,700	109,550	129,250
2,500 to 4,999	6,600	175,000	181,600
Under 2,500	10,050	367,000	377,550
Total	335,150	768,150	1,103,300

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010

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.

Table 2
Number of Firefighters in the U.S., 1986-2010

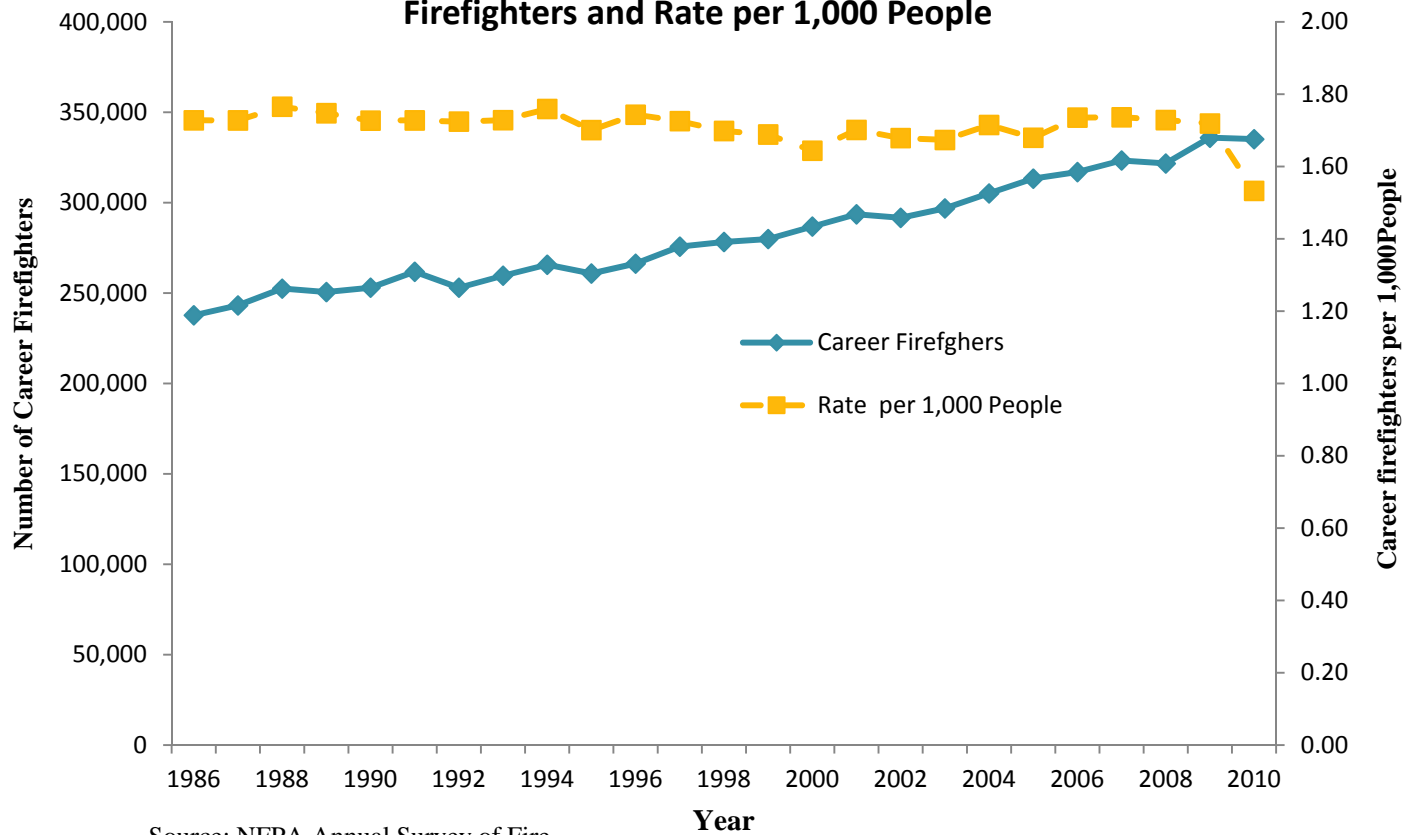
Year	Total		Career		Volunteer	
	Number	Rate per 1,000 People	Number	Rate per 1,000 People	Number	Rate per 1,000 People
1986	1,045,950	4.35	237,750	1.73	808,200	7.88
1987	1,060,000	4.36	243,200	1.73	816,800	8.05
1988	1,040,750	4.25	252,500	1.77	788,250	7.77
1989	1,020,700	4.12	250,600	1.75	770,100	7.45
1990	1,025,650	4.11	253,000	1.73	772,650	7.56
1991	1,033,600	4.09	261,800	1.73	771,800	7.61
1992	1,058,300	4.14	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	823,350	7.30
2006	1,140,900	3.81	316,950	1.74	823,950	7.26
2007	1,148,800	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	335,900	1.72	812,150	7.27
2010	1,103,300	3.57	335,150	1.53	768,150	6.59

Source: NFPA Survey of Fire Departments for U.S. Fire Experience (1986-2010).

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

Note that the rates per 1,000 people protected for career firefighters are based on population protected for departments that are comprised of all or mostly career firefighters, while the rates per 1,000 people protected for volunteer firefighters are based on population protected for departments that are comprised of all or mostly volunteer firefighters.

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



Source: NFPA Annual Survey of Fire Departments for U.S. Fire Experience (1986-2010)

Since 1986, the number of volunteer firefighters declined in the late 1980s and in early 2000s, each time returning to the same level soon after. In 2006-2008, the number of volunteer firefighters has been stable at a level slightly higher than any previously recorded. (Table 2, Figure 2). However in 2008-2010, there were decreases and in particular a significant decrease of 5.5% in the number of volunteers in 2010 which was primarily due to a decrease in volunteers for communities under 2,500 population. 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 fall within the range of 6.88 to 8.05 per 1,000 people protected.

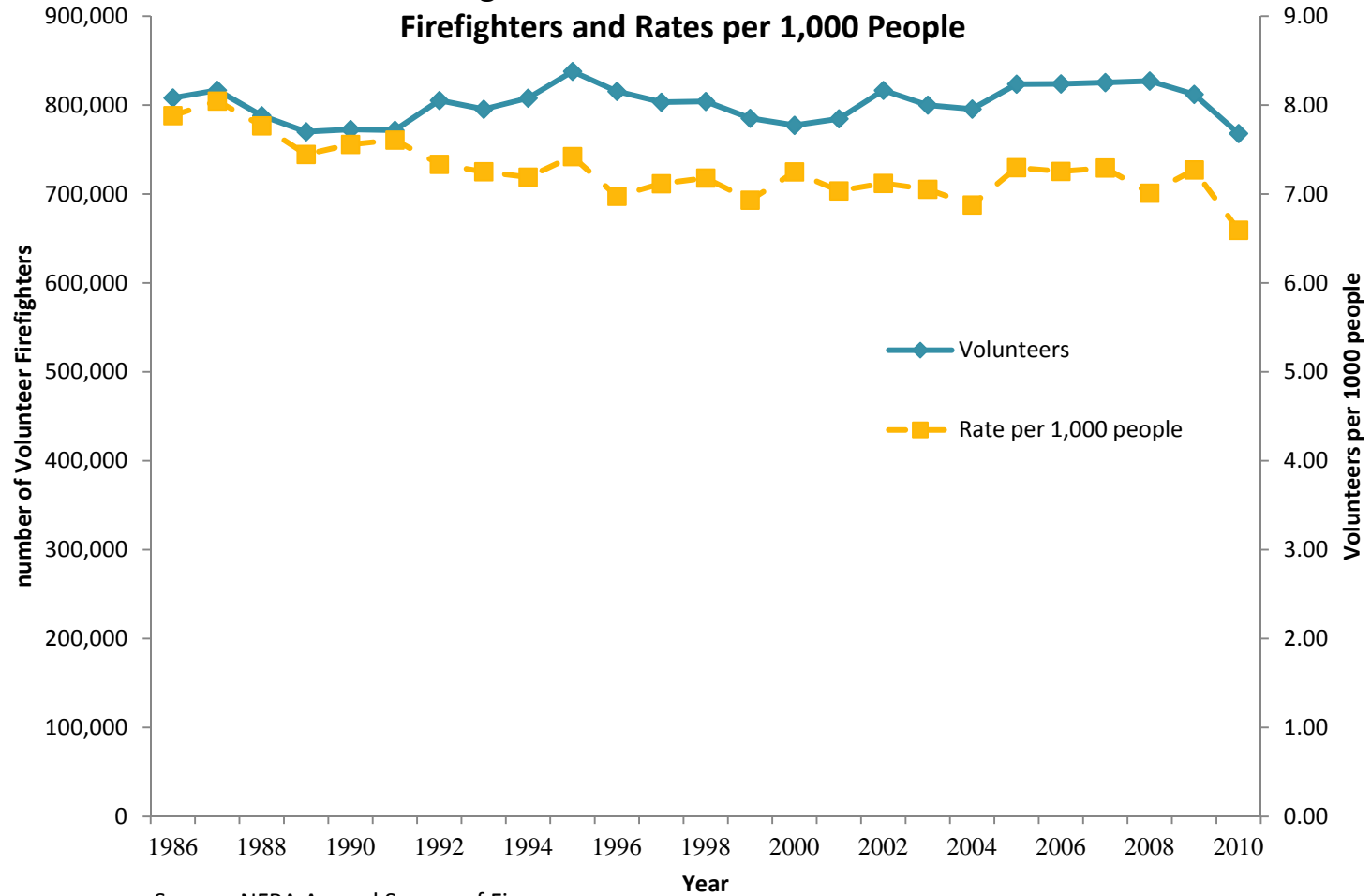
According to the U.S. Department of Labor, Bureau of Labor Statistics for the 2006-2010 periods, there were on average 24,000 African-American career firefighters or 8% of the total and 11,800 female career firefighters, or 4% of the total.²

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 people. Tables 3 and 4 provide the range of rates for career firefighters in departments protecting at least 25,000 people and for volunteer firefighters in departments protecting fewer 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 career firefighters per 1,000 people of 1.00 to 1.33 (Table 3). However, ranges for departments by community size varied considerably within stratum and particularly for communities of 100,000 to 249,999, 50,000 to 99,999, and 25,000 to 49,999. Note that the rates for a particular

² Figures are from the *Annual Averages Tables Employment and Earnings*, Bureau of Labor Statistics, Washington, D.C. These numbers can change considerably from year to year because of their small size and sample variability.

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



Source: NFPA Annual Survey of Fire Departments for U.S. Fire Experience (1986-2010)

**Table 3
Career Firefighter Rates
By Population Protected, 2010**

Population Protected	Career Firefighters Per 1,000 People		
	Low	Median	High
1,000,000 or more	0.61	1.22	1.83
500,000 to 999,999	0.42	1.20	2.56
250,000 to 499,999	0.42	1.17	2.30
100,000 to 249,999	0.50	1.33	3.23
50,000 to 99,999	0.00	1.29	3.36
25,000 to 49,999	0.00	1.25	5.03
10,000 to 24,999	0.00	1.00	4.03

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010.

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.

size of community varied considerably, because 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 1.40 to 20.00 (Table 4). This wide range in median rates for smaller communities reflects the fact that it takes a minimum number of firefighters to staff a department regardless of community size. Also volunteer firefighters are usually available on a part-time basis only, so it takes more of them to ensure an adequate response to each alarm.

Length of work week and its effect on rate of career firefighters per 1,000 population by size of community can be seen in Table 5. Tables 6 and 7 provide median rates for career and volunteer firefighters by region and size of community.

Of the 1,103,300 firefighters, the age group accounting for the largest share of firefighters was the 30-39 group, which accounted for 302,250 or 27.4% of all firefighters (Table 8 and Figure 3). Many firefighters fell in the 40-49 age group (25.8%) and the 20-29 age group (20.9%). Firefighters age 50-59 accounted for a smaller share (16.6%), but still more than one-sixth of all firefighters. Few firefighters fell outside this combined range of 20 to 59 years old. Only 3.1% of firefighters were age 16 to 19, and another 6.1% were age 60 and over.

Age group patterns did vary somewhat by population of community protected (Table 9, Figure 3). Departments that protect less than 25,000 people, and are 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.

When age group patterns by year are examined for the 1998-2010 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.

**Table 4
Volunteer Firefighter Rates
By Population Protected, 2010**

Population Protected	Volunteer Firefighters Per 1,000 People		
	Low	Median	High
10,000 to 24,999	0.00	1.40	11.18
5,000 to 9,999	0.00	3.98	18.71
2,500 to 4,999	0.80	7.50	23.07
Under 2,500	4.17	20.00	*

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010.

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 unusual 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.

*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.

Table 5
Career Firefighters per 1,000 People For All Career Departments
By Work Week and Population Protected, 2008-2010

Population Protected	Career Firefighters Per 1,000 People		
	40-45 hour	46-51 hour	52-60 hour
1,000,000 or more	*	1.48	1.00
500,000 to 999,999	2.41	1.56	1.23
250,000 to 499,999	2.03	1.81	1.25
100,000 to 249,999	2.06	1.51	1.35
50,000 to 99,999	2.11	1.56	1.40
25,000 to 49,999	2.09	1.70	1.64

Source: NFPA Fire Service Survey, 2008-2010.

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 unusual 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.

*Insufficient data.

Table 6
Median Rates of Career Firefighters per 1,000 People
By Region and Population Protected, 2010

Population Protected	Northeast	Midwest	South	West
250,000 or more	1.64	1.44	1.31	0.80
100,000 to 249,999	2.02	1.30	1.51	0.94
50,000 to 99,999	2.00	1.25	1.52	0.96
25,000 to 49,999	1.59	1.08	1.64	0.97

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010.

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 unusual structural 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 U.S. Bureau of the Census, the four regions are:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

Table 7
Median Rates of Volunteer Firefighters per 1,000 People
By Region and Population Protected, 2010

Population Protected	Northeast	Midwest	South	West
10,000 to 24,999	1.82	1.58	0.67	1.68
5,000 to 9,999	4.47	3.82	3.89	4.03
2,500 to 4,999	8.13	7.77	6.50	6.67
under 2,500	18.81	20.00	15.00	23.88

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010.

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 unusual 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 volunteers.

As defined by the U.S. Bureau of the Census, the four regions are:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

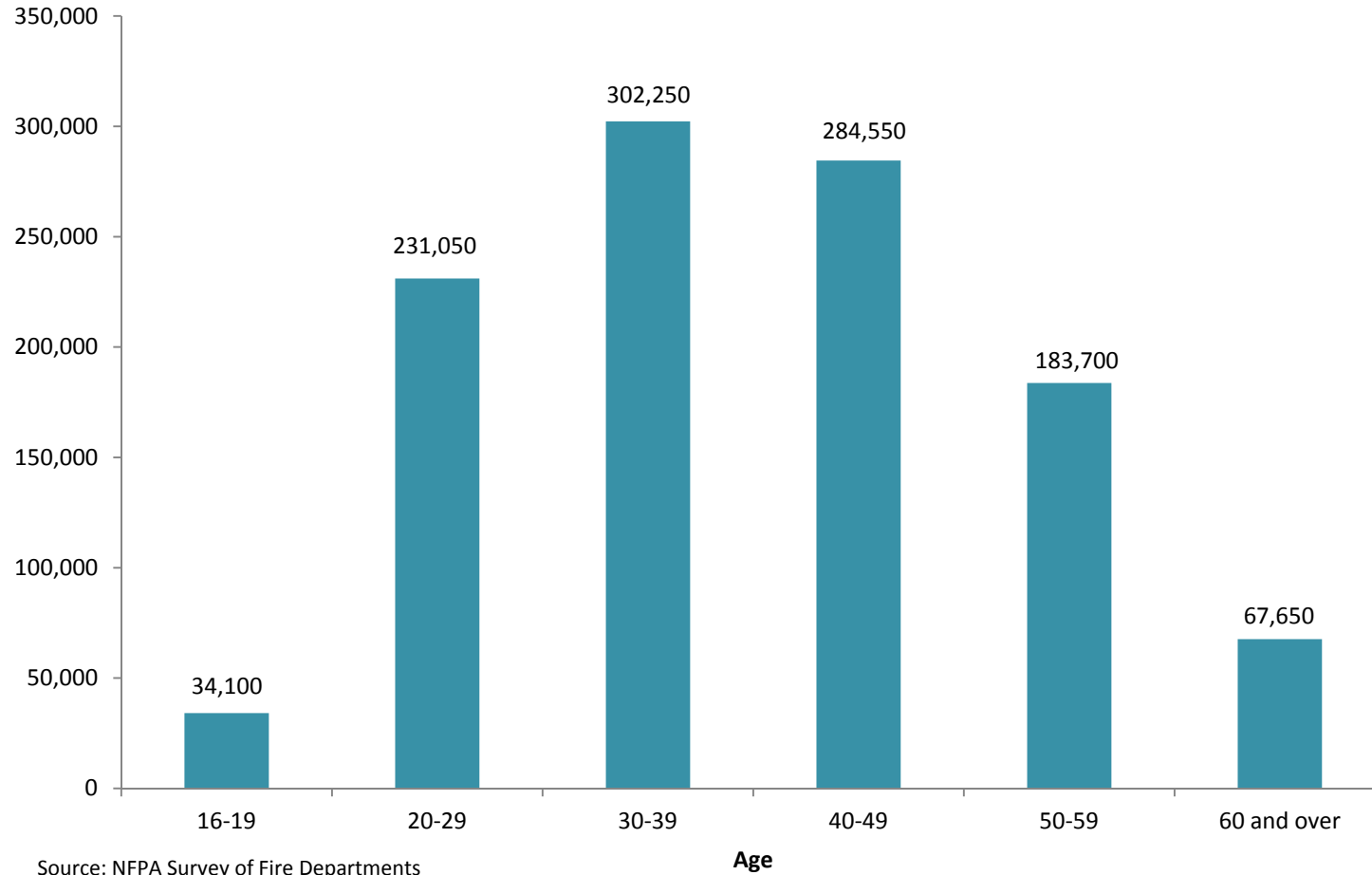
West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

Table 8
Number of Firefighters in the U.S., by Age Group, 2010

Firefighters		
Age	Number	Percent
16-19	34,100	3.1
20-29	231,050	20.9
30-39	302,250	27.4
40-49	284,550	25.8
50-59	183,700	16.6
60 and over	67,650	6.1
Total	1,103,300	100.0

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010.

Figure 3.
Number of Firefighters in the U.S.
By Age Group, 2010



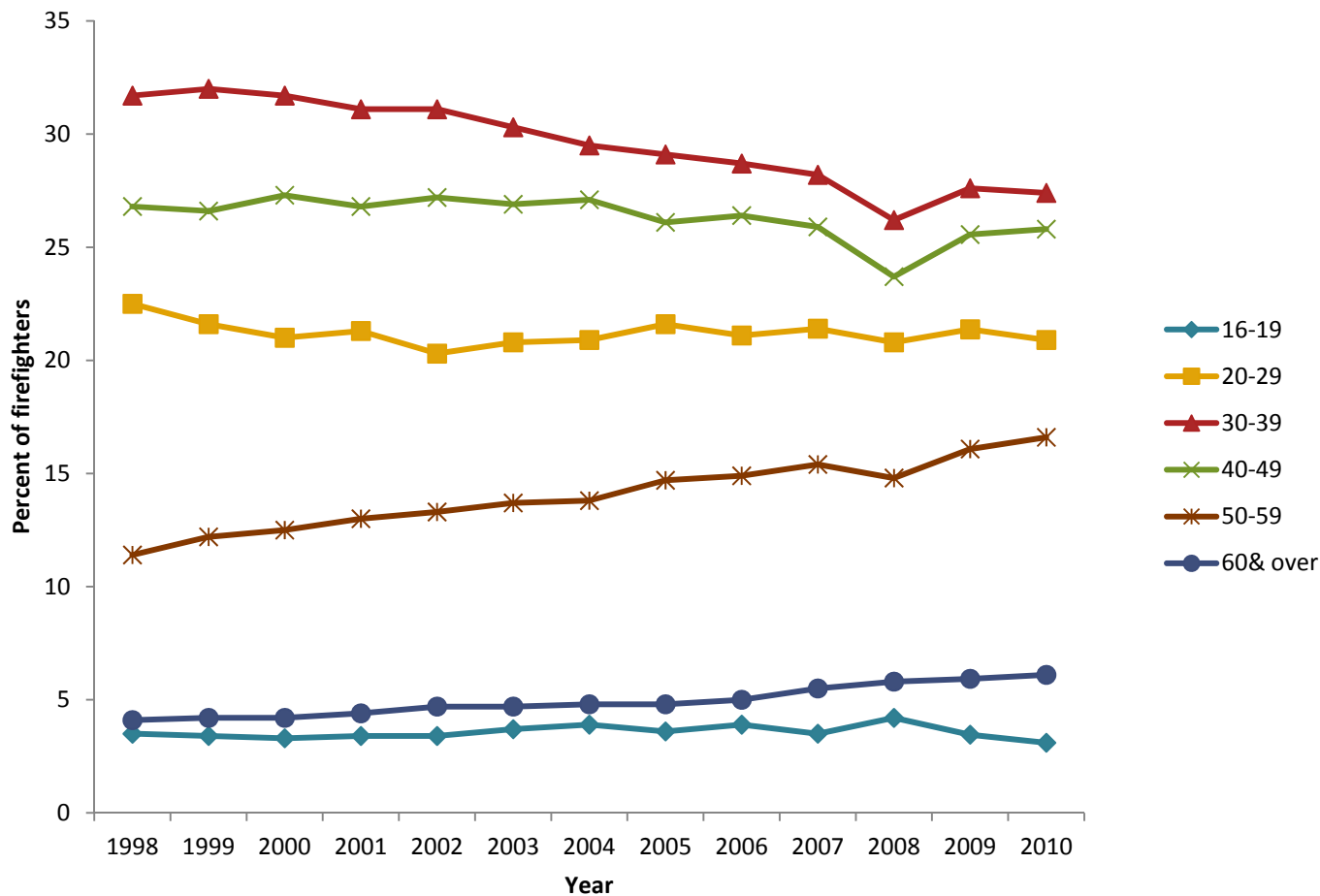
Source: NFPA Survey of Fire Departments
for U.S. Fire Experience, 2010

Table 9
Age Profile of Firefighters
By Size of Community, 2010

Size of Community	Percent Firefighters under Age 30	Percent Firefighters Age 30-39	Percent Firefighters Age 40-49	Percent Firefighters Age 50 and up	Total
Mostly Career Firefighters					
1,000,000 or more	11.3%	36.6%	32.2%	19.9%	100.0%
500,000 to 999,999	13.7	27.8	37.7	20.7	100.0
250,000 to 499,999	14.5	31.6	34.5	19.4	100.0
100,000 to 249,999	14.7	32.7	34.2	18.4	100.0
50,000 to 99,999	17.3	32.0	32.1	18.5	100.0
25,000 to 49,999	22.7	31.1	29.6	16.6	100.0
Mostly Volunteer Firefighters					
10,000 to 24,999	27.4%	28.9%	25.0%	18.7%	100.0%
5,000 to 9,999	31.5	25.7	22.7	20.2	100.0
2,500 to 4,999	29.0	26.5	22.9	21.6	100.0
Under 2,500	23.7	24.5	23.1	28.7	100.0

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010.

Figure 4. Percent of Firefighters in the U.S. by Age Group by Year



Source: NFPA Annual Survey of Fire Departments for U.S. Fire Experience (1986-2010)

Fire Departments

There are an estimated 30,125 fire departments³ in the United States. Of these, 2,495 departments or 8.3% are all career⁴; that is, they are comprised solely of career firefighters. An estimated 1,860 departments (6.2%) are mostly career, while 5,290 (17.5%) are mostly volunteer. An estimated 20,480 departments (68.0%) are all volunteer (Table 10).

Another way to put this is that 15% of all departments are all career or mostly career but protect 65% of the U.S. population, while 85% of the departments are mostly volunteer or all volunteer and protect 35% of the population (Table 10).

The number of fire departments by size of community is displayed in Table 11. 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 73 to 100%, while for community sizes less than 25,000, the percentage of departments classified as all volunteer or mostly volunteer ranged from 55 to 99% (Table 12).

³ 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.

⁴ 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 mostly volunteer is comprised of 1 to 50% career firefighters. All volunteer departments are comprised 100% of volunteer firefighters.

Table 10
Number of Departments and Percent of U.S. Population Protected
By Type of Department, 2010

Type of Department	Number	Percent	Percent of U.S. Population Protected
All Career	2,495	8.3%	48.2%
Mostly Career	1,860	6.2%	17.1%
Mostly Volunteer	5,290	17.5%	16.1%
All Volunteer	20,480	68.0%	18.6%
Total	30,125	100.0%	100.0%

Source: NFPA Fire Service Inventory, and 2010 NFPA Survey of Fire Departments.

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

Table 11
Number of Fire Departments in the U.S.,
By Population Protected, 2010

Population Protected	Number of Fire Departments
1,000,000 or more	15
500,000 to 999,999	40
250,000 to 499,999	61
100,000 to 249,999	259
50,000 to 99,999	512
25,000 to 49,999	1,315
10,000 to 24,999	3,562
5,000 to 9,999	4,385
2,500 to 4,999	5,758
under 2,500	14,218
 Total	 30,125

Source: NFPA Fire Service Inventory

Table 12
Department Type by Population Protected, 2010

Population Protected	Type of Department (Percent)				Total
	All Career	Mostly Career	Mostly Volunteer	All Volunteer	
1,000,000 or more	75.0%	25.0%	0.0%	0.0%	100.0%
500,000 to 999,999	70.0	23.3	6.7	0.0	100.0
250,000 to 499,999	77.1	17.1	5.7	0.0	100.0
100,000 to 249,999	86.5	10.8	2.7	0.0	100.0
50,000 to 99,999	71.0	20.0	7.5	1.5	100.0
25,000 to 49,999	49.0	23.7	22.0	5.3	100.0
10,000 to 24,999	21.8	23.7	38.7	15.8	100.0
5,000 to 9,999	4.7	7.5	39.7	48.0	100.0
2,500 to 4,999	0.6	1.8	20.1	77.5	100.0
Under 2,500	1.1	0.8	4.7	93.4	100.0
All Departments	8.3	6.2	17.5	68.0	100.0

Source: NFPA Survey of Fire Departments for U.S. Fire Experience, 2010.

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

Fire Department Apparatus and Stations

Estimates of the number of apparatus and stations in the United States for the 2008-2010 period indicate that there were 66,800 pumpers, 6,800 aerial apparatus, 72,800 other suppression vehicles (which includes pumpers less than 1,000 gpm, hose usage, brush vehicles, tanker, etc.) and 51,300 stations. Table 13 provides a breakdown of the average apparatus and station rates by community size.

It is worth emphasizing what the rates in Table 13 really mean. The numbers reflect averages of apparatus 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 25,000). 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 13 on the average 1.167 pumpers, 1.844 other suppression vehicles, .033 aerial apparatus, and .946 stations. The .946 stations per 1,000 people is the highest rate shown in Table 13, but for this community size it is equivalent to one station per department. Another way to put this is that for every 100 departments reporting 1,000 people, you would expect approximately 116 pumpers, 184 other suppression vehicles, 3 aerial apparatus, and 95 stations. For communities of 25,000 to 999,999, the rates tend to be quite similar: .055-.110 pumpers per 1,000 people; and .021-.066 other suppression vehicles; .014-.022 aerial apparatus per 1,000 people, and .054-.096 stations per 1,000 people.

Tables 14, 15, 16, and 17 display the frequency of occurrence of the number of pumpers, other suppression vehicles, aerial apparatus, and stations by size of community.

Table 13
Average Apparatus and Station Rates per 1,000 People
By Community Size, 2008-2010

Population Protected	Pumpers per 1,000 People	Other¹ Vehicles per 1,000 People	Aerial Apparatus per 1,000 People	Stations per 1,000 People
1,000,000 or more	.029	.012	.011	.036
500,000 to 999,999	.055	.021	.015	.054
250,000 to 499,999	.059	.026	.014	.058
100,000 to 249,999	.069	.031	.014	.070
50,000 to 99,999	.082	.039	.015	.081
25,000 to 49,999	.110	.066	.022	.096
10,000 to 24,999	.184	.136	.033	.127
5,000 to 9,999	.321	.293	.036	.198
2,500 to 4,999	.540	.630	.027	.345
Under 2,500	1.167	1.844	.033	.946
National Average	.216	.236	.022	.166

Source: NFPA Fire Service Survey, 2008-2010.

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.

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

Table 14
Pumpers (750 gpm or greater) by Community Size, 2008-2010

Population Protected	Percentage of U.S. Fire Departments With					Total
	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%	0.0%	14.3%	85.7%	100.0%
500,000 to 999,999	0.0	0.0	5.3	63.2	31.6	100.0%
250,000 to 499,999	1.6	3.2	41.9	48.4	4.8	100.0%
100,000 to 249,999	16.5	39.7	37.1	5.9	0.8	100.0%

Population Protected	Percentage of U.S. Fire Departments With					Total
	No Pumpers	1 Pumper	2 Pumpers	3-4 Pumpers	5 or More Pumpers	
50,000 to 99,999	0.9%	2.0%	6.3%	33.0%	57.9%	100.0%
25,000 to 49,999	1.1	4.0	20.6	48.5	25.9	100.0%
10,000 to 24,999	0.9	8.1	32.3	49.0	9.7	100.0%
5,000 to 9,999	1.5	14.1	43.9	37.0	3.5	100.0%
2,500 to 4,999	2.7	23.2	49.3	23.8	1.0	100.0%
Under 2,500	11.8	42.9	38.3	24.1	5.8	100.0%

Source: 2008-2010 NFPA Fire Service Survey

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.

Table 15
Other Suppression Vehicles by Community Size, 2008-2010

Percentage of U.S. Fire Departments With Other Suppression Vehicles

	1-3	4-5	6-9	10-19	20- 29	30 or More	Total
Population Protected							
1,000,000 or more	20.0%	0.0%	0.0%	20.0%	20.0%	40.0%	100.0%
500,000 to 999,999	20.0	11.4	8.6	28.6	20.0	11.4	100.0%
250,000 to 499,999	25.9	14.8	20.4	25.9	7.4	5.6	100.0%

Percentage of U.S. Fire Departments With Other Suppression Vehicles

	None	1	2	3-4	5 or More	Total
Population Protected						
100,000 to 249,999	20.9%	17.2%	11.7%	18.8%	31.4%	100.0%
50,000 to 999,999	32.8	17.9	14.8	17.7	16.8	100.0%
25,000 to 49,999	31.2	21.9	16.8	16.3	13.8	100.0%
10,000 to 24,999	25.0	23.1	19.5	21.0	11.3	100.0%
5,000 to 9,999	17.5	23.0	24.9	25.5	9.2	100.0%
2,500 to 4,999	11.9	20.8	28.5	29.4	9.5	100.0%
Under 2,500	10.7	23.5	29.2	28.7	7.9	100.0%

Source: 2008-2010 NFPA Fire Service Survey

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

**Table 16
Aerial Apparatus by Community Size, 2008-2010**

Population Protected	Percentage of U.S. 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	0.0%	13.4%	6.7%	26.7%	53.3%	100.0%
500,000 to 999,999	7.7	15.4	28.2	41.0	7.7	100.0%
250,000 to 499,999	11.1	54.0	23.8	11.1	0.0	100.0%

Population Protected	Percentage of U.S. 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	19.6%	23.3%	25.8%	20.8%	10.4%	100.0%
50,000 to 99,999	31.0	39.7	22.3	6.8	0.2	100.0%
25,000 to 49,999	36.2	50.6	11.9	1.2	0.1	100.0%
10,000 to 24,999	49.9	46.5	3.4	0.1	0.0	100.0%
5,000 to 9,999	73.8	25.3	0.8	0.1	0.0	100.0%
2,500 to 4,999	90.2	9.4	0.4	0.0	0.0	100.0%
Under 2,500	96.4	3.3	0.2	0.0	0.0	100.0%

Source: 2008-2010 NFPA Fire Service Survey.

Table 17
Fire Stations by Community Size, 2008-2010

Percentage of U.S. Fire Departments With

Population Protected	1-5 Stations	6-9 Stations	10-19 Stations	20-29 Stations	30 or More Stations	Total
1,000,000 or more	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
500,000 to 999,999	0.0	0.0	5.1	15.4	79.5	100.0%
250,000 to 499,999	1.6	0.0	49.2	39.7	9.5	100.0%
100,000 to 249,999	10.8	42.1	40.8	4.2	2.1	100.0%

Percentage of U.S. Fire Departments With

Population Protected	No Stations	1 Station	2 Stations	3 Stations	4 or More Stations	Total
50,000 to 99,999	0.0	0.9	4.1	14.4	80.6	100.0%
25,000 to 49,999	0.0	13.7	23.2	27.6	35.5	100.0%
10,000 to 24,999	0.0	45.7	30.8	13.0	10.5	100.0%
5,000 to 9,999	0.1	69.6	20.0	6.7	3.7	100.0%
2,500 to 4,999	0.1	78.7	15.7	3.7	1.7	100.0%
Under 2,500	0.5	86.7	10.5	1.5	0.8	100.0%

Source: 2008-2010 NFPA Fire Service Survey

Emergency Medical Services

The level of emergency medical service (EMS) provided by fire departments by size of community for the 2008-2010 period can be seen in Table 18. The larger the community, the more likely EMS service was provided. Overall for the country, 13,440 or 44.6% of departments provided EMS service, 4,515 departments or 15.0% provided EMS service and advanced life support, while 12,170 departments or 40.4% provided no EMS service.

U.S. Expenditures on Local Fire Protection

Table 19 shows expenditures on local fire protection by governments, with and without adjustment for inflation. Note that these expenditures adjusted for inflation, have risen 166% from 1980 to 2008. Other municipal service costs like police protection have risen in a similar manner.

Fire protection costs rose 111% from 1986 to 2008 after adjusting for inflation, while the number of career firefighters was increasing 41%. 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 week⁵ for some departments, which results in a need to increase staffing and apparatus or to pay firefighters at overtime rates; (2) increased EMS responsibilities requiring increased staffing and, in some communities, a more frequent replacement of apparatus; and (3) costs of retirement and health benefits continuing to rise as they do for the general population.

⁵ This is the result at least to some extent of the Fair Labor Standards Act being applied to municipal fire departments.

Table 18
Departments Providing Emergency Medical Service
By Community Size (Percent), 2008-2010

Population Protected	No EMS	EMS	EMS and ALS	Total
1,000,000 or more	0%	0%	100%	100%
500,000 to 999,999	0	28	72	100%
250,000 to 499,999	0	32	68	100%
100,000 to 249,999	4	36	60	100%
50,000 to 99,999	9	37	54	100%
25,000 to 49,999	18	37	45	100%
10,000 to 24,999	28	41	31	100%
5,000 to 9,999	40	42	18	100%
2,500 to 4,999	43	46	12	100%
under 2,500	47	47	6	100%
Nationwide	40	45	15	100%

Source: NFPA Fire Service Survey, 2008-2010

ALS refers to fire departments providing advanced life support.

Table 19
Direct Expenditures on Local Fire Protection

Year	Expenditures (in Billions)	Expenditures (in Billions) Adjusted for Inflation*
1980	\$5.7	\$5.7
1981	\$6.3	\$5.7
1982	\$7.0	\$6.0
1983	\$7.6	\$6.3
1984	\$8.2	\$6.5
1985	\$8.5	\$6.5
1986	\$9.6	\$7.2
1987	\$10.5	\$7.9
1988	\$11.8	\$8.2
1989	\$11.9	\$7.9
1990	\$13.2	\$8.3
1991	\$13.8	\$8.3
1992	\$14.4	\$8.5
1993	\$15.4	\$9.0
1994	\$16.1	\$9.0
1995	\$17.0	\$9.2
1996	\$17.7	\$9.3
1997	\$19.4	\$10.0
1998	\$20.3	\$10.3
1999	\$21.3	\$10.5
2000	\$23.1	\$11.1
2001	\$25.0	\$11.6
2002	\$26.0	\$11.9
2003	\$27.9	\$12.5
2004	\$28.4	\$12.4
2005	\$30.7	\$13.0
2006	\$34.2	\$14.0
2007	\$36.8	\$14.6
2008	\$39.7	\$15.2

Source: U.S. Bureau of the Census, *Governments Division*

*Adjustments were made to 1980 dollars using the Consumer Price Index.

Data Sources

The report is based on two data sources: the annual NFPA Survey for U.S. Fire Experience, 2010, and the NFPA Fire Service Survey, 2008-2010.

The annual fire experience survey is a sample survey of fire departments in the United States, which serves as the basis for making national estimates of the fire problem. The sample is stratified by the size of the community protected by the fire department. All U.S. fire departments that protect communities of 50,000 or more are included in the sample, because they constitute a small number of departments with a large share of the total population protected. For departments that protect less than 50,000 population, a sample was selected stratified by size of community protected. Survey returns in recent years have ranged from 2,500 to 3,500 departments annually. The survey also includes questions on the number of career and volunteer firefighters. The national projections are made by weighing sample results according to the proportion of total U.S. population accounted for by communities of each size.

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 about 19% from departments.