EXECUTIVE SUMMARY

as part of

The Fifth Needs Assessment of the US Fire Service

DECEMBER 2021
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Abstract

Fire service needs are extensive across the board, and in nearly every area of need, the smaller the community protected, the greater the need. While some needs have been met in the years between the previous survey and this survey, many have been constant or have increased. Today, many fire departments are unable to fully staff engines, fully train their members for structural and wildland firefighting, or provide all their firefighters with personal protective clothing and updated self-contained breathing apparatus (SCBA). Local resources are often not enough, and in a situation such as an unusually challenging wildland incident, fire departments frequently have to turn to outside resources.

The Federal Emergency Management Agency’s Assistance to Firefighters Grants (AFG) program and Staffing for Adequate Fire and Emergency Response (SAFER) funds are targeted toward areas of need. These grant programs must grow in order to address the considerable and multifaceted needs that continue to persist in the fire service.

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Executive Summary

Fire departments are essential parts of public safety, responding to an expanding list of hazards in our communities. Department members fight fires and engage in activities to prevent fires from occurring. Beyond these traditional roles, they work to mitigate other risks, from providing fall prevention education to addressing the opioid crisis. Firefighters provide emergency medical services, help people in a wide variety of dangerous situations, and mitigate incidents involving hazardous materials.

The Fifth Fire Service Needs Assessment Survey was conducted by NFPA in 2020–2021; four previous surveys were conducted in 2001, 2005, 2010, and 2015. The first two were conducted under grants from the US Fire Administration.

The goal of the fire service needs assessment survey is to identify the major needs of the US fire service by comparing what departments actually have with what existing consensus standards, government regulations, and other nationally recognized guidance documents state they need to have to be safe and effective. Because grant programs have targeted many of the identified needs, these surveys were designed to examine the reduction of the needs over time to measure the success of the grant programs.

Fire service needs are extensive across all population strata and department types. However, in nearly every area, the smaller the community protected, the more pronounced the needs.

While some needs have declined, others have persisted or even increased. Some areas have plateaued after initial improvements in earlier surveys, likely due to the Assistance to Firefighters Grants (AFG) program, Staffing for Adequate Fire and Emergency Response (SAFER) grants, and other grant programs launched in the wake of the September 11th terrorist attacks. Yet, gaps remain across all areas in the survey.

The expansion of fire department roles and responsibilities shows no sign of stopping despite the ongoing need to address the most basic of resources. Staffing levels across job roles and functions have remained flat and weekday staffing among volunteer fire departments remains a challenge.

Across every response type covered in the survey, from structural firefighting to active shooter situations, there are fire department personnel responsible for responding to incidents for which they have not been formally trained or certified.

This edition of the survey expanded its questions on health and safety programs. It found that there are unmet needs for departments of all sizes across the board, from health and fitness programs to exposure tracking to air quality monitoring. Behavioral health programs are also a critical area of unmet need.

The survey also uncovered maintenance needs for aging fire department infrastructure, such as facilities and apparatus. Positive trends in the availability and use of personal protective clothing and equipment have been tempered by ongoing challenges with older equipment, unmet needs, and maintenance challenges.

Community risk reduction also remains a challenge. The majority of departments perform many fire prevention activities, but there is unmet need across nearly every aspect of these programs. Assessing need through community risk assessments and by measuring impact remains critical.

Very small and very large departments are more likely to be responsible for providing services for wildland-urban interface (WUI) and wildland firefighting than midsize departments, a result not seen
elsewhere in the survey. Training, including specialized training for WUI operations and equipment, is necessary for departments of all sizes. A majority of departments must use formal and/or informal agreements to obtain assistance in these scenarios. This is a critical need, as most departments require some level of support for WUI/wildland fires that affect more than 2–5 structures and/or 10 acres.

**AFG/SAFER Comparisons**

These surveys have been linked from their inception to the DHS/FEMA grant programs, including the broad-spectrum grants set up under Public Law 108-767, Title XXXVI – Assistance to Firefighters and Staffing for Adequate Fire and Emergency Response (SAFER).

Between FY2015 and FY2019, AFG appropriations averaged $346 million per year, a reduction from the average between FY2005 and FY2009 ($572 million) and FY2010 to FY2014 ($359 million). There has been a steady decline in AFG funding\(^1\). Between FY2015 and FY2019, SAFER appropriations averaged $346 million per year, an increase from the average of SAFER’s initial period between FY2005 and FY2009 ($138 million) and a decrease from the period between FY2010 and FY2014 ($365 million)\(^2\).

Efforts by the Federal government to address COVID-19 related needs impacted FY2020 funding for AFG and SAFER due to increases in available funding and the issuance of certain programmatic waivers by FEMA. The FY2020 appropriations for AFG and SAFER were $455 million and $355 million, respectively. The FY2021 appropriations for both AFG and SAFER have risen to $460 million and $560 million, respectively.

More information about these grant programs, including their application requirements, is available from FEMA’s Assistance to Firefighters Grants Program website.

**Survey Structure and Analysis**

The survey used in the first four studies was developed by NFPA in collaboration with an ad hoc technical advisory group consisting of representatives from national organizations associated with the management of fire and related hazards and risks in the US. For the 2020 cycle, parts of the survey were redesigned to better reflect the current roles and responsibilities of the fire service. The content was also revised based on input from representatives from the following organizations:

- Center for Public Safety Excellence
- Fire Department Safety Officers Association
- International Association of Black Professional Firefighters
- International Association of Fire Chiefs
- International Association of Fire Fighters
- International Fire Marshals Association
- International Association of Wildland Fire
- Metropolitan Fire Chiefs Association
- National Association of State Fire Marshals
- National Association of State Foresters

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While new questions were added, many of the original survey questions did not change, enabling responses to be compared across the years. Any comparison where the question was changed is noted in the text. A copy of the survey is included in Appendix A.

The survey was sent out as a census, meaning that it was sent to all the US fire departments with administrative and fire response responsibilities who were listed in the NFPA fire service inventory. In 2020, 26,258 fire departments were sent the survey. In addition to mailing out a paper version of the questionnaire, the survey was offered online for the first time.

A total of 2,969 fire departments responded to the survey, with approximately 75 percent responding online and 25 percent filling out the paper version. Overall, the response rate was 11 percent, ranging from a 7 percent response from fire departments protecting populations of less than 2,500 to a 39 percent response from fire departments protecting populations of 500,000 or more. Some fire departments that responded in 2020 had not responded in previous years, while some that did respond in past years did not. Consequently, this report estimates overall fire department needs, but not the needs of an identical group over time, as the survey responses did not come from exactly the same fire departments for each of the four surveys.

**Measuring Need**

Two measures were defined to quantify needs, as described below and as depicted in Figure ES-1.

The first measure, *need for departments providing a service*, is based on fire departments that reported having to provide a specific service. Unmet need is calculated as the proportion of fire departments that did not have the resources (i.e., personnel, staffing, equipment apparatus) to provide a service out of all the departments *that are responsible for providing the service*. In Figure ES-1, this is shown as the orange area (middle circle minus the smallest circle), as a fraction of the entire middle circle.
The second measure, *size of need among all departments*, is calculated as the proportion of unmet need in all the fire departments. The unmet need is the number of fire departments that do not have the resources to provide a service that they are responsible for providing. In Figure ES-1, this is represented by the orange area. This measure is useful for comparing needs across different services since the denominator of all the departments remains constant. This is also a conservative estimate because it does not count departments that might want to provide a service but cannot due to a lack of resources.

We try to make it clear which metric is being used throughout the report. In most cases, all the survey respondents, whether or not they provide a service, are noted in the tables and figures. However, there are a few instances, most notably in the Wildland/WUI module where we focus solely on the departments that provide a certain service, as noted in the text.
Section 1. Staffing and Operations

Staffing remains a constant need for all fire departments, regardless of their career, combination, or volunteer status.

SAFEER Funding: Between FY2015 and FY2019, SAFER appropriations averaged $346 million per year, an increase from the average of SAFER’s initial period between FY2005 and FY2009 ($137.8 million) and a decrease from the period between FY2010 to FY2014 ($364.7 million). SAFER has two program activities: Hiring of Firefighters and Recruitment and Retention. Between FY2015 and FY2020, the Hiring of Firefighters activity funded an average of 213.5 awards per year, while Recruitment and Retention funded an average of 116 awards per year.

Community Information

The survey also looked at communities by population size, as fire departments have different needs and funding sources based on the needs and resources of their communities.

Tall Buildings (three or more stories): All the responding departments that protect 500,000 or more people indicated having 50 or more tall buildings in their jurisdiction. Across all strata, 26 percent of the departments reported having no tall buildings, while 6 percent of the departments reported having 50 or more tall buildings. The vast majority of the departments protect communities with less than 24 tall buildings.

Funding Sources: Most funding for fire departments, regardless of size, comes from tax revenues, but some departments also draw significant funding from other sources.

Emergency Response Responsibilities

Fire departments respond to a wide variety of incidents, from fires to medical calls, hazardous materials incidents, and active shooters. The types of responses for which a fire department is responsible vary by the size of the department, and not every department responds to every type of call.

Structural Firefighting: The vast majority of departments perform this role, regardless of the size of the community protected.

Emergency Medical Service: Overall, 63 percent of all fire departments provide EMS. Even though most departments provide EMS, only a quarter of the departments provide ambulance services. In one-third of respondent communities, there was no ambulance service of any kind.

Tactical EMS for Law Enforcement: While most departments do not provide tactical EMS for law enforcement, it is more common for larger departments (those protecting more than 100,000 people) to provide this service.

Hazardous Materials Response: Seven out of ten fire departments (70 percent) provide hazardous materials response. It is more common for fire departments to provide this service than EMS, even among smaller departments.

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Wildland-Urban Interface (WUI) or Wildland Firefighting: Wildland-urban interface (WUI) or wildland firefighting is performed by 87 percent of fire departments. Very small departments are more likely to provide this service than larger departments. Of the departments protecting populations of fewer than 2,500 people, 94 percent provide WUI/wildland response. Midsize departments are less likely to provide this service, with only 57 percent of the departments protecting populations of 25,000 to 49,999 people doing so.

Prevention Activities: Most of the departments surveyed (77 percent) reported performing fire prevention services (preparedness and mitigation). Nearly all of the departments surveyed that protect at least 25,000 people engage in this duty.

Code Enforcement: Per the survey, 37 percent of the departments engage in code enforcement. This activity is less common among departments protecting fewer than 2,500 people (19 percent).

Active Shooter Response: Half of the fire departments reported having a response role in the event of an active shooter incident. This responsibility is much more common among departments protecting more than 100,000 people.

Traffic Control: Eighty-three percent of the departments reported performing this activity. It is far more common among departments protecting fewer than 5,000 people (90–91 percent) than departments protecting more than 250,000 people (28–33 percent).

Staffing

Many fire departments have undergone staffing changes in the last five years, but change has not been uniform across department size and job function. Larger departments were more likely to report an increase in staffing levels across each of the functional areas listed below:

Firefighters: Since 2015, most fire departments have seen flat firefighter staffing levels.

Administration: Eighty-six percent of departments saw no change in administrative staff.

Education, Enforcement, and Risk Reduction: The vast majority of departments had no loss or gain of positions in these areas.

Support or Auxiliary Roles: Overall, 53 percent of departments have personnel that fill these roles. Traffic control is a much more common role among smaller departments, while logistics is more common in larger departments. The most common “other” response was administrative staff.

Diversity and Inclusion: Slightly more than half of all fire departments have a program to ensure diversity and inclusion in their hiring or volunteer recruitment and retention practices. These programs are much more common among larger departments: 96 percent of departments protecting communities of 500,000 or more have this type of program, while 47 percent of departments protecting 2,500 people or less have them.

On Duty Responders and Assignments

Career firefighters

Engine/Pumper Staffing: Among departments protecting less than 500,000 people, most communities do not assign or typically staff at least four career firefighters to an engine or pumper and so are probably not in compliance with NFPA 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire...
Departments, which requires a minimum of four on-duty firefighters on an engine or pumper. Among large departments (those protecting 500,000 or more), 66 percent of departments typically assign four or more firefighters to an engine or pumper and 79 percent staff four firefighters for this unit type.

Ladder Truck/Aerial Staffing: Among departments protecting less than 250,000 people, most communities do not assign or typically staff at least four career firefighters to a ladder truck or aerial. Among large departments (those protecting 500,000 or more), 67 percent of departments typically assign four or more firefighters to a ladder or aerial and 71 percent staff four or more firefighters to this unit type.

Volunteer firefighters

Availability: In general, fewer call/volunteer personnel are available during the day on weekdays than on nights and weekends.

In communities of 10,000 to 24,999, 6.7 call/volunteer personnel are available on weekdays (days) compared to 10.3 on weekends (days); 11.6 are available on weekdays (nights) compared to 12.0 on weekends (nights).

In communities of 5,000 to 9,999, 6.9 call/volunteer personnel are available on weekdays (days) compared to 11.5 on weekends (days); 12.6 are available on weekdays (nights) compared to 14.1 on weekends (nights).

In communities of 2,500 to 4,999, 6.8 call/volunteer personnel are available on weekdays (days) compared to 11.4 on weekends (days); 13.0 are available on weekdays (nights) compared to 13.6 on weekends (nights).

In communities of under 2,500, 6.2 call/volunteer personnel are available on weekdays (days) compared to 10.0 on weekends (days); 11.0 are available on weekdays (nights) compared to 11.8 on weekends (nights).

Communications, Dispatch, and Portable Radios

An emergency response requires swift, accurate notification and communication between firefighters and other responders, including law enforcement, and EMS. The survey looked at aspects of these needs—including communication on scene between partners, dispatch resources, and the ability to provide a portable radio to every on-duty first responder.

Communications: Most fire departments are able to communicate by radio with response partners at an incident scene, but only 51 percent of departments can communicate with all of their partner agencies at an incident scene.

Dispatch: The majority of departments have a public safety answering point (PSAP) that answers fire, EMS, and police calls. Overall, 62 percent of fire departments have a backup dispatch facility, but this is less common among smaller departments.

Portable Radios: Only half of all fire departments can equip all on-duty first responders with portable radios, a finding that is relatively consistent since 2010. From 2001 to 2010 there was a decline in departments reporting need in this area, but since then the unmet need has held steady across multiple surveys.
Section 2: Training

Across every response type in the survey, from structural firefighting to active shooter responses, there was fire department personnel reported as being responsible for responding to incidents for which they have not been formally trained or certified.

Note: The Fifth Fire Service Needs Assessment Survey included changes to several questions related to training and certification. The questions were revised to specify that the term training meant formal training, such as programs that result in a certification, are based on a standard, or are developed based on a formalized review or consensus process. Because of the changes to the question structure, comparisons with past surveys over time were limited.

Structural Firefighting: Despite the vast majority of fire departments (98 percent) performing structural firefighting, many firefighters, especially in those departments protecting smaller communities, have not received formal training. Only 30 percent of departments have certified all their firefighters to Firefighter Level I.

Emergency Medical Service: Of department personnel who perform EMS, 21 percent have no certifications. Unmet need is greatest among departments protecting less than 2,500 people, with 33 percent of personnel having no certification.

Hazardous Materials Response: Among departments that respond to hazardous materials calls, 14 percent of the personnel who perform this duty have no certification, while an estimated 9 percent of personnel have been certified to the highest level (Technician). Unmet need is highest among departments protecting fewer than 2,500 people, where 23 percent of personnel have no certification.

Wildland-Urban Interface (WUI) or Wildland Firefighting: Many departments that are responsible for Wildland/WUI operations have personnel who are not formally trained (68 percent). Access to specialized training for wildland-urban interface firefighting operations also remains a challenge, as 41 percent of the responding departments indicated that their training does not include this specialization. This need is most pronounced among departments protecting less than 2,500 people, despite the higher likelihood that they’ll have to provide this type of service in their communities.

Prevention Activities — Preparedness and Mitigation: More than three-quarters of the departments that responded engaged in these activities, but there is an unmet need for trained personnel in this role across departments of all sizes. There is some level of unmet need in this area in at least 67 percent of departments. Even in communities of 500,000 or more, 29 percent of departments report that not everyone is trained.

Code Enforcement: Sixty-three percent of departments do not engage in code enforcement activities. Among the 37 percent of departments that do engage in code enforcement activities, 78 percent have unmet training needs.

Active Shooter Response: Sixteen percent of all fire departments in the study (31 percent of those who indicated they respond to active shooter incidents) have not received multiagency training with law enforcement, EMS, sheriffs, and others or been tested on the training and equipment required for this type of response. Most departments that respond to active shooter incidents have standard operating procedures and/or standard operating guidelines (SOGs) in place. A lack of these organizational policies
is consistent across small- and medium-sized departments (from those protecting fewer than 2,500 people up to those protecting 50,000 to 99,999 people).

Traffic Control: Two-thirds (66 percent) of departments have an unmet need for training in this area. This is particularly pronounced in smaller communities, in which personnel are also more likely to have traffic control responsibilities.

Driver Training: Nine out of ten (91 percent) departments require hands-on training using a vehicle and 58 percent require certification or specific training. Just under half (49 percent) require demonstration of competency at least once a year. Certification is more common in large departments, while demonstration of competency and formal driver training are generally more common in smaller departments.

Section 3: Health/Safety

Protecting the health and safety of firefighters remains a pressing challenge, with unmet needs across departments of all sizes for most programs.

Fitness and Health Programs: The majority of fire departments (72 percent) do not have programs to maintain basic firefighter fitness and health. Larger departments are more likely to have these programs than smaller departments and their programs are more likely to be associated with the IAFC/IAFF Wellness-Fitness Initiative.

Medical/Physical Exams: Most departments (61 percent) do not provide physical and medical evaluations for all firefighters that are compliant with NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments. Larger departments are more likely to provide these evaluations, but unmet need remains across departments of all sizes. Most departments that provide physical and medical evaluations for firefighters do so every six months or every year. Twenty-two percent of departments only provide evaluations for new firefighters.

Fitness Assessments: Among departments that provide medical and physical evaluations, 43 percent do not include a fitness assessment for all firefighters. Departments protecting larger communities tend to conduct these assessments more frequently.

Behavioral Health: Nearly three-quarters (73 percent) of all fire departments do not have behavioral health programs. Larger departments are much more likely to have these programs than smaller ones, with only 14 percent of the smallest departments (those protecting less than 2,500 people) having such programs.

Of the departments with behavioral health programs, 90 percent offer post-traumatic stress support. There is a significant drop-off for other behavioral health services, with the next most common feature (cancer prevention education) offered by 51 percent of departments with behavioral health programs. Only 34 percent of the departments with existing programs have relationships with behavioral specialists.

Exposure Tracking, Decontamination, and Air Quality: Slightly more than half (52 percent) of all departments do not provide for individual exposure tracking, whether it is department-based or a mechanism for individuals. Exposure tracking at the department level is much more common among large departments than smaller ones.
**Infection Control/PPE Decontamination Programs:** Two-thirds of departments (67 percent) have an infection control/PPE decontamination program for infectious diseases; 63 percent have an exposure control/PPE decontamination program for carcinogens and other toxic hazards.

**Air Quality Monitoring:** While most fire departments monitor carbon monoxide (66 percent) and oxygen levels (59 percent) on the fireground, nearly one-third (31 percent) do not do any air quality monitoring. Fewer departments monitor cyanide (33 percent) and volatile organic compounds (17 percent). Smaller departments are less likely to monitor air quality.

**Section 4: Fire Department Infrastructure: Facilities and Apparatus**

Maintaining fire department infrastructure can be a daunting task. This is further compounded by the need for modern facilities that meet today’s fire service missions.

Examples of infrastructure challenges include design considerations that minimize exposures for firefighters, private or separate facilities for men and women, and space to accommodate the equipment needs of growing response missions. Fifty-two percent of departments have policies that prohibit structural firefighting gear in living quarters of fire stations, but fire stations were not necessarily designed with these considerations in mind. Aging facilities are often not easy to retrofit, and many communities struggle to balance the needs of their schools, roads, public safety and other community needs.

**Facilities**

Replacing or renovating existing fire stations or building new fire stations are among the most expensive projects a community can undertake. In 2019, NFPA took a deeper look into data from the 2015 survey in the report *Renovation Needs of the US Fire Service.* The report identified funding needs of $70 to $100 billion for fire station renovation and/or replacement5.

In 2009, FEMA awarded Assistance to Firefighters Fire Station Construction Grants to 120 fire departments to build new fire stations or modify existing stations, but these grants have not been awarded in recent years. The regular Assistance to Firefighters Grants program includes awards for modifying facilities but not for new construction. These modification funds are not substantial in comparison to the amount of total funding awarded; thus, any facility improvements reflected in this report were likely funded by other sources.

**Age:** An estimated 44 percent of fire stations are over 40 years old, a number that has increased slightly since 2015. Smaller departments are somewhat more likely to have older stations, but many large departments have older stations as well.

**Backup Power:** Stations without backup power are much more common among smaller departments. Half of the stations for departments protecting a community of 2,500 or fewer lack backup power, while this number is under 25 percent in all population strata greater than 5,000 people.

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NFPA Research, Quincy, MA
Exhaust Emission Control: Most fire stations (56 percent) are not equipped for exhaust emission control. This problem is especially acute in very small departments (those protecting 2,500 people or fewer), where 82 percent of stations are not equipped for exhaust emission control.

Facilities: Slightly more than half (52 percent) of fire stations do not have private or separate facilities for men and women. In general, these facilities are more likely to be available in departments protecting a larger population than in smaller departments.

Apparatus

Fire departments respond to a wide variety of incidents and often need different apparatus to effectively face the challenges presented by these incidents. The number and type often vary by community size and need.

Apparatus In-Service: The average number of apparatus in-service varies greatly by the population protected.

- Engines/pumpers: average of 44 in-service for departments protecting 500,000 or more to 2.1 in-service for those departments protecting less than 2,500.
- Ladders/aerials: average of 13 in-service for departments protecting 500,000 or more to 0.1 in-service for those departments protecting less than 2,500.
- Tankers/tenders: average of 4.2 in-service for the departments protecting 500,000 or more to 1.2 in-service for those departments protecting less than 2,500.
- Ambulances or other transport vehicles: average of 28.2 in-service for departments protecting 500,000 or more to 0.7 in-service for those departments protecting less than 2,500.

Age: Vehicle age remains a challenge for fire departments.

- Engines/pumpers: About half (49 percent) of the reported engines/pumpers are 15 or more years old. Nearly two-thirds (64 percent) of the engines/pumpers in the smallest communities are at least 15 years old, while among departments that protect at least 50,000 people, 13 to 14 percent of the engines/pumpers are 15 years old or older.
- Ladders/aerials: 41 percent of the ladders/aerials in service are more than 15 years old, with 25 percent being over 20 years old. Older ladder trucks are particularly prevalent in smaller communities.
- Tankers/tenders: Over half (58 percent) of the tankers/tenders in service are at least 15 years old, including two-thirds (65 percent) of those in departments protecting fewer than 2,500 people.
- Ambulances: 26 percent of the ambulances in service are over 15 years old. Newer ambulances are more common in larger departments.

Replacement Planning and Budgeting: Only 38 percent of all fire departments plan and budget for apparatus replacement on a regular schedule, while 31 percent have a plan but no budget. While larger departments are more likely to have a plan and budget, 45 percent of the smallest departments have no plan or budget.
Section 5: Personal Protective Equipment (PPE)

Since the first Needs Assessment survey in 2001, NFPA has tracked fire departments’ ability to provide their personnel with the equipment required to effectively and safely respond to emergencies. Note: The metric of 10 years of age or older is based on retirement schedules described in NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting.

Beyond personal protective clothing for structural firefighting, fire departments must often outfit their first responders with other types of personal protective clothing (PPC) and equipment (PPE) to protect against the risks and vulnerabilities they face when working in dangerous environments.

The COVID-19 pandemic made PPE a part of the global lexicon; it was no longer a technical term used by first responders and others who understood the need for occupational protection. But the spotlight has brought challenges: lack of availability, price scalping, and counterfeit PPE have put the health of firefighters at risk as communities struggle through a supply chain under immense pressure.

Providing PPC: Most fire departments are able to equip all their emergency responders with PPC, but among smaller departments, there is still some need.

The percentage of departments that did not provide all their emergency responders with their own PPC held steady at 13 percent between the 2015 and 2020 surveys. There was no consistent pattern across departments of various sizes, but the need overall tends to be greater in departments protecting smaller communities.

Reserve PPC: Half of the smallest departments do not have enough PPC in reserve and there is some unmet need among departments of all sizes.

Replacing Personal Protective Equipment: Overall, nearly two-thirds (64 percent) of departments have firefighters wearing PPC that is 10 years old or older. Unmet need for PPE can be found in departments serving communities of all sizes, including one-third of the large departments (protecting a population of half a million or more). Among the smallest departments, 75 percent have at least some PPC that is 10 years of age or older.

Self-Contained Breathing Apparatus: More than half (53 percent) of all fire departments cannot equip everyone with SCBA. Departments protecting under 9,999 people have the highest rates of unmet need for SCBA equipment. In addition to lacking SCBA, much of the SCBA in use is 10 years of age or older. More than half of the departments use at least some SCBA equipment that is 10 years of age or older.

The proportion of fire departments where at least some SCBA equipment is 10 years of age or older decreased from the 2015 survey across departments of every size and seems to have reversed the increase that occurred between the 2010 and 2015 surveys.

Personal Alert Safety System (PASS) Device: Overall, 26 percent of departments say they cannot equip all their emergency responders on duty with their own PASS devices. The need is particularly pronounced among smaller departments. This need may be reflective of having older SCBA, as newer units feature an integrated PASS device.

Wildland: More than half (57 percent) of all fire departments cannot equip all their responders with wildland fire PPC. This unmet need can be found consistently across departments of all sizes.
**Medical PPE:** The COVID-19 pandemic brought the need for medical PPE into sharp focus. The survey asked departments about their ability to provide medical PPE to responders, both at the beginning of the pandemic and at the time the survey was taken. The survey did not contain an exhaustive list of examples or definitions of what exactly constitutes medical PPE because there is such a wide variety. As survey responses were submitted between September 2020 and February 2021, they generally came in six months to one year after the beginning of the pandemic in the United States. While there was some improvement between early 2020 and the time when the survey went out, nearly half (47 percent) of all departments still had unmet needs for medical PPE at the time they completed the survey.

**Maintaining Personal Protective Equipment**

The survey looked at several areas of concern in maintaining PPE: inspection and testing, laundering, infection control programs, and cancer prevention best practices. The survey results show that many departments do not have the resources required to properly maintain PPE.

**Inspection and Testing:** One-fifth (21 percent) of all the departments neither test nor inspect their personal protective ensembles each year and only 13 percent both inspect and test ensembles.

**Laundering:** Most departments have in-house laundering capabilities for PPC, but some (particularly smaller departments) do not. Eighty percent of departments of all sizes have their own facilities, use an outside service, or use both. However, among the smallest departments, one-third (34 percent) do not have access to internal or external PPC laundering facilities or services.

**Infection Control Programs:** One-third of departments do not have infection control/PPE decontamination programs for infectious and communicable disease, a reduction in need from 39 percent of departments that did not have any such programs in 2015. Thirty-seven percent do not have an exposure control/PPE decontamination program for carcinogens and other toxic hazards. This is also an improvement from 2015, when 44 percent of departments did not have such a program. The proportion of departments without such programs is greater in smaller communities.

**Cancer Prevention Best Practices:** PPE cleaning, decontamination, and storage are also a part of cancer prevention best practices for firefighters; however, many departments do not currently have the resources to engage in these practices. Smaller departments, in particular, have needs in this area, but the ability to provide a second set of gear remains a challenge for all departments to varying degrees.

**Section 6: Community Risk Reduction**

**Prevention**

**Fire Prevention:** More than three-quarters (77 percent) of the fire departments in the United States engage in fire prevention (preparedness and mitigation) activities. Nearly all departments protecting 25,000 or more people conduct these activities, as do about two-thirds (65 percent) of the smallest departments.

Despite fire prevention being a common responsibility of fire departments, 67 percent have not formally trained all of their responsible personnel. Even in the largest departments (protecting 500,000 or more people), nearly three in ten (29 percent) have not trained everyone.

**Engineering Programs:** About 56 percent of all departments have a pre-incident planning program, the most common program mentioned in the survey. One-third (33 percent) of departments engage in construction plans review.
**Hazard Mitigation Planning Risk Assessment Programs:** One-third of all departments have a hazard mitigation planning risk assessment program that includes natural disasters, while fewer departments have plans for transportation and industrial/chemical disasters.

In general, there was a positive trend across hazard mitigation planning, active system testing, permit approval, and construction plans review from the 2015 survey to the 2020 survey.

**Code Enforcement**

Per the survey, 37 percent of the departments perform code enforcement activities. These activities are much more common among larger departments.

**Fire Code Inspections:** Overall, a state department/fire prevention bureau is most commonly responsible for inspections (24 percent). In larger departments, full-time fire department inspectors are much more common. Smaller departments are much less likely to be responsible for conducting inspections.

The percentage of fire departments that perform code inspections has increased since the 2015 survey. In addition, the percentage of departments where a separate inspection department, building department, in-service firefighter, or full-time fire department inspector performs inspections all increased. This trend remained the same in very small departments (those protecting 2,500 people or fewer), though the overall proportion of departments in which no one conducts fire code inspections is higher in small communities than in other departments overall.

**Fire Investigations**

Responsibility for determining if a fire was deliberately set varies from community to community. For example, 68 percent of the departments indicated that a regional or state fire task force investigator makes the determination. Meanwhile, 38 percent of the departments indicated that a fire department investigator determines if a fire was deliberately set. This role is more common among larger departments.

**Public Education**

*Activities:* Fire Prevention Week activities are the most common public education activities overall, with nearly two-thirds (65 percent) of departments indicating that they utilize them. Fourteen percent of departments have no educational programming.

The survey found little change between 2015 and 2020 in the percentage of fire departments with older adult fire safety programs, wildfire safety programs, school fire safety programs, and youth firesetter programs.

*Assessing Need and Measuring Impact:* Less than one-quarter (24 percent) of the departments have public education programs based on a community risk assessment. Only 15 percent of departments indicated that their public education programs ensure diversity and inclusion, and only 13 percent collect data on the number of people reached.
Section 7: Wildland-Urban Interface (WUI) and Wildland Firefighting

The 2020 survey asked questions regarding the ability of departments to handle wildland-urban interface (WUI) and wildland (brush, grass, and forest) fires. The following summary focuses on the subset of departments responsible for providing WUI and wildland firefighting operations.

Responsibility: Overall, 87 percent of fire departments perform WUI/wildland firefighting. This duty is more common among very large and very small departments. Those departments protecting between 25,000 and 49,000 people are least likely to be responsible for WUI/wildland firefighting.

Three-quarters (75 percent) of departments are specifically responsible for protecting structures in the WUI. Small departments and large departments are most likely to have this responsibility.

WUI/Wildland Firefighting Training: Overall, 78 percent of departments who perform WUI/wildland firefighting operations have some need for training, and the need is more pronounced in smaller departments.

Access to Specialized WUI Firefighting Training: Nearly half (47 percent) of departments that perform WUI/wildland firefighting operations indicated that their training does not include specialized WUI firefighting operations training.

Equipment: Two-thirds of departments who are responsible for WUI/wildland firefighting have unmet needs for wildland personal protective clothing for their firefighters. There is need even among the largest departments (those protecting a population of 500,000 people or more), with 35 percent being unable to equip all of their responsible personnel. Table A-2 in the Appendix has a more detailed breakdown of the survey responses.

Ability to Handle Challenging WUI/Wildland Incidents

Protecting 5 Structures or Fewer: Most departments (58 percent) could handle a wildfire incident involving 2–5 structures on their own and 95 percent would only need to go to the regional level to get the resources they need.

Protecting 6 to 20 Structures: Most departments would need to go to at least the regional level to handle a wildfire incident involving 6–20 structures and nearly one-third (30 percent) would need to go to the state level, as regional help would not be enough.

Protecting More Than 20 Structures: Nine out of ten (90 percent) fire departments would have to go to at least the state level to obtain the resources necessary to deal with a wildfire incident affecting more than 20 structures.

Acres: Nearly two-thirds (64 percent) of fire departments responsible for protecting structures in the WUI can handle a wildland fire of up to 10 acres on their own.

Obtaining Assistance: Most departments (63 percent) have a written agreement for obtaining assistance during a wildfire and 29 percent have an informal agreement.
Conclusion

Since 2001, the goal of the Needs Assessment survey has been to identify the major needs of the US fire service by comparing what departments actually have with what existing consensus standards, government regulations, and other nationally recognized guidance documents state they need to have in order to be safe and effective. The 2020 survey found that fire service needs continue to be extensive across the board, consistent with findings from surveys conducted in previous years.

The expansion in fire department roles and responsibilities has shown no signs of stopping, even as we continue to see departments of all sizes and types struggle to address existing resource needs. The COVID-19 pandemic threw many of these resource needs into sharp focus, but these challenges will not end when the pandemic does. There are new, emerging, and growing challenges that the fire service will likely continue to face. In understanding its unmet needs, the fire service can better articulate to decision-makers what resources are most critical to meeting these challenges.