October 2011

Third Needs Assessment of the U.S. Fire Service
VIRGINIA

Conducted in 2010 and Including Comparisons to the 2001 and 2005 Needs Assessment Surveys

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EXECUTIVE SUMMARY

This third Fire Service Needs Assessment Survey was conducted by NFPA in 2010 and follows two earlier surveys in 2001 and 2005, the latter two conducted under grants from the U.S. Fire Administration. These surveys have been linked from their inception to the USFA grant programs, including the broad spectrum grants set up under Public Law 108-767, Title XXXVI – Assistance to Firefighters, and the staffing-focused program called SAFER.

The goal has been to identify major gaps in the needs of the U.S. fire service, where needs are identified by comparing what departments have with what existing consensus standards, government regulations, and other nationally recognized guidance documents say they need to have in order to be safe and effective in conducting their many responsibilities. Once the grant programs began, targeted on many of these identified needs, a second major goal became to measure the success of the grant program in reducing these needs.

This executive summary therefore includes not only a summary of the findings of the three needs assessment surveys but also a summary of the implications of those findings for the grant programs.

Structure of the Survey and This Report

The Second and Third Fire Service Needs Assessment Survey were conducted as stratified random-sample surveys, while the First Needs Assessment Survey had been conducted as a census with partial participation. (See Appendix 1.) The NFPA used its own list of local fire departments as the mailing list and sampling frame of all fire departments in the US that report on fire incidents attended.

In all, 68 of the 503 fire departments in Virginia responded.

The content of the survey was developed by NFPA in the first survey, in collaboration with an ad hoc technical advisory group consisting of representatives of the full spectrum of national organizations and related disciplines associated with the management of fire and related hazards and risks in the U.S. The survey form was used with only a couple additions and deletions in order to maximize comparability of results and development of valid timelines.

This report is organized around four of the six groups of needs covered in the national report:

- Personnel and their capabilities, including staffing, training, certification, and wellness/fitness
- Facilities and apparatus

- Personal protective equipment, including some of what may have been categorized as firefighting equipment in the USFA grants program
- Ability to handle unusually challenging incidents, including personnel, equipment, and plans or agreements to facilitate working with others

Personnel and Their Capabilities

Here are results on the current need and the trend in need:

- 59% of all fire departments that are responsible for structural firefighting have not formally trained all their personnel involved in structural firefighting, compared to 75% in 2001 and 71% in 2005.

- 44% of all fire departments that are responsible for emergency medical service (EMS) have not formally trained all their personnel involved in EMS, compared to 55% in 2001 and 42% in 2005.

- 80% of all fire departments have no program to maintain basic firefighter fitness and health, compared to 90% in 2001 and 90% in 2005.

Personal Protective (and Possibly Firefighting) Equipment

- 62% of all fire departments do not have enough portable radios to equip all emergency responders on a shift, compared to 79% in 2001 and 64% in 2005.

- 53% of all fire departments cannot equip all firefighters on a shift with self-contained breathing apparatus (SCBA), compared to 63% in 2001 and 44% in 2005.

- 39% of all fire departments do not have enough personal alert safety system devices (PASS) to equip all emergency responders on a shift, compared to 49% in 2001 and 41% in 2005.

- 22% of all fire departments cannot provide all emergency responders with their own personal protective clothing, compared to 13% in 2001 and 15% in 2005.

Ability to Handle Unusually Challenging Incidents

The survey identified four unusually challenging incidents and asked each department

- whether they were responsible for such incidents, and if they were responsible,
- whether they could handle such incidents with local trained personnel and local specialized equipment or not; and
- whether they had written agreements or other plans in place for working with others if that was necessary.

In every survey, the percentages of departments with responsibility for such incidents and sufficient local resources to handle them have been very low. This places much more importance on the existence of plans, and specifically of written agreements, for multiple departments and other entities to work together, because it is clear that that is the kind of response that will be needed in nearly all communities.

For the largest communities, it might be reasonable to work toward local preparedness, particularly for challenging incidents with the level of severity specified in the survey – a level of severity that is well below the level of severity we have seen in some real incidents.

With those exceptions, however, the emphasis here is on the need for written agreements, which is also the one area where there has been clear progress from first to third survey.

Technical Rescue and EMS at a Structural Collapse with 50 Occupants

- In 2010, 38% of departments said they were *not* responsible for such incidents, compared to 35% in 2001 and 27% in 2005.

- 58% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 80% in 2001 and 66% in 2005.

Hazmat and EMS at an Incident Involving Chemical/Biological Agents and 10 Injuries

- In 2010, 33% of departments said they were *not* responsible for such incidents, compared to 32% in 2001 and 15% in 2005.

- 60% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 72% in 2001 and 64% in 2005.

Wildland/Urban Interface (WUI) Fire Affecting 500 Acres

- In 2010, 39% of departments said they were *not* responsible for such incidents, compared to 25% in 2001 and 26% in 2005. Note that departments were not screened for whether they had sufficient wildlands to support such a fire.

- 69% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 71% in 2001 and 62% in 2005.

Mitigation of a Major Developing Flood

- In 2010, 60% of departments said they were *not* responsible for such incidents, compared to 48% in 2001 and 38% in 2005. Note that departments were not screened for whether they had nearby bodies of water to support such a flood.

- 40% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 85% in 2001 and 64% in 2005.

Summary and Conclusions

Fire service needs are extensive across the board, and in nearly every area of need, the smaller the community protected, the greater the need.

Needs have declined to a considerable degree in a number of areas, particularly personal protective and firefighting equipment. Declines in needs have been more modest in some other important areas, such as training.

Still other areas of need, such as apparatus, have seen either limited reductions in need or no reductions at all (e.g., percent of apparatus that are old enough to presumably need replacement).

There has been little change in the ability of departments, using only local resources, to handle certain types of unusually challenging incidents, including two types of homeland security scenarios (structural collapse and chem/bio agent attack) and two types of large-scale emergency responses (a wildland/urban interface fire and a developing major flood).

However, the surveys have indicated improvement in the development of written agreements to help in the use of outside resources. This may provide the strongest base on which to build, namely, the creation of regional and national agreements to allow costs of shared resources to be shared across a much wider area while also providing a protocol for any community to respond to an unusually challenging incident that is very unlikely within the community but not so unlikely within the entire region.

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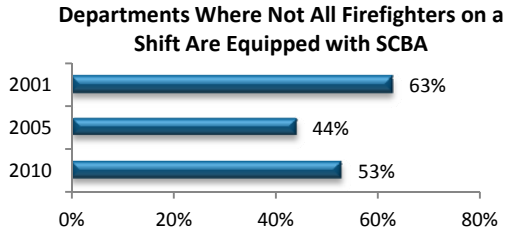
Fact Sheet
Virginia Fire Service Needs Assessment

There has been substantial progress in reducing many fire department needs, although more remains to be done.

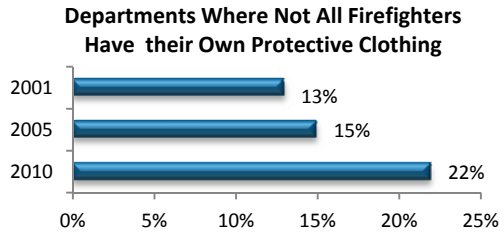
Protective Equipment and Clothing

The 2010 percentage of Virginia departments **without enough equipment to equip all personnel** (or all personnel on a shift, as appropriate) was:

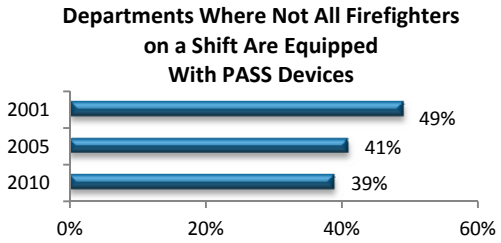
- 53% for **self-contained breathing apparatus** (SCBA), compared to 63% in 2001 and 44% in 2005;



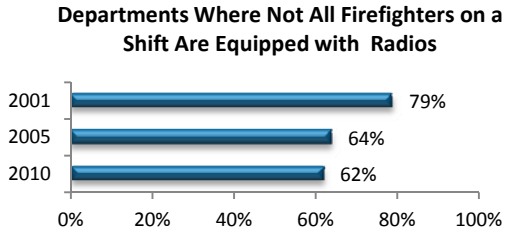
- 22% for **personal protective clothing**, compared to 13% in 2001 and 15% in 2005; and



- 39% for **personal alert safety system devices** (PASS), compared to 49% in 2001 and 41% in 2005;



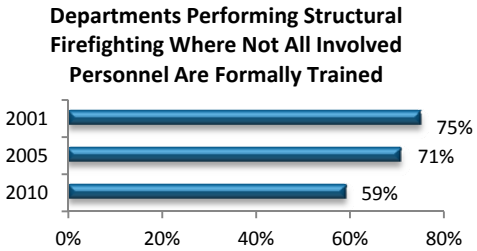
- 62% for **portable radios**, compared to 79% in 2001 and 64% in 2005.



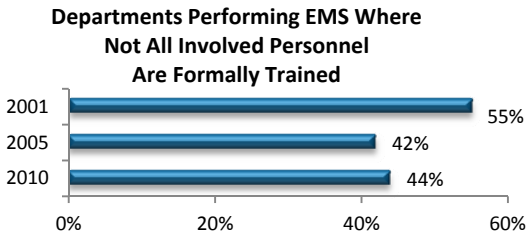
Training

In many fire departments**, not all involved personnel have been formally trained** in their emergency response duties. The 2010 percentage of Virginia departments in which not all involved personnel have been formally trained was:

- 59% for **structural firefighting**, compared to 75% in 2001 and 71% in 2005; and



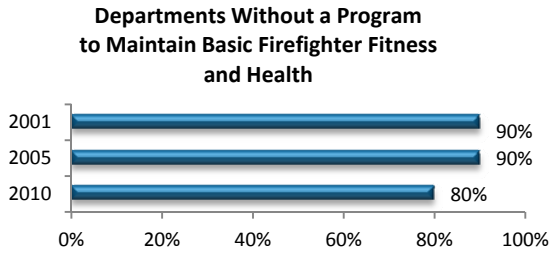
- 44% for **emergency medical service** (EMS), compared to 55% in 2001 and 42% in 2005.



Fitness and Health

In many fire departments**, there is no program to maintain basic firefighter fitness and health.** The 2010 percentage of Virginia departments with no such program was:

- 80%, compared to 90% in 2001 and 90% in 2005.



Stations and Apparatus

Some stations lack specific features, which are required by current standards but were not required when stations were constructed. Some stations are old enough that a variety of persistent or recurring problems are to be expected and replacement might be better and even cheaper. Some departments are using old fire apparatus.

- 88.2% of Virginia fire departments do not have backup power for their fire stations.
- 79.3% of Virginia fire departments do not have exhaust emission control for their fire stations.
- 33.5% of the fire stations in Virginia are over 40 years old.
- 2% of Virginia fire department engines and pumpers are at least 30 years old.

Unusually Challenging Incidents

There has been little or no progress in increasing the ability of fire departments to handle **various unusually challenging incidents** with local trained personnel and specialized equipment alone:

- Provide technical rescue and EMS at a **structural collapse** involving 50 occupants; and
- Provide hazardous material response and EMS at an incident involving **chemical or biological agents** and with 10 injuries.
- **Wildland/urban interface (WUI) fire** affecting 500 acres; and
- Mitigation of a **major developing flood**.

However, there has been progress in the percentage of departments having written agreements for working with others. The 2010 percentage of Virginia departments with ***no*** such written agreement was:

- 58% for structural collapse, compared to 80% in 2001 and 66% in 2005;
- 60% for chemical or biological incidents, compared to 72% in 2001 and 64% in 2005;
- 69% for wildland/urban interface fires, compared to 71% in 2001 and 62% in 2005; and
- 40% for developing major flood, compared to 85% in 2001 and 64% in 2005.

Success requires more written agreements, with each participating department knowing its role, providing resources needed to play its role, and helping test the plan in simulations and rehearsals.

Cautions on interpretation

Trends. For some states and most needs assessment survey questions, even large changes from one survey to another will not be statistically significant. Be cautious in interpreting results as trends.

State-to-state comparisons. States where a large share of departments serve small communities will tend to have greater needs according to the measures used here than states where a small share of departments serve small communities. State-to-state comparisons must be viewed with caution, particularly if the states have very different mixes of urban and rural communities.

How rural is Virginia? The survey for Virginia was based on the following responses:

- 2 of the 41 departments protecting populations of 25,000 or more;
- 13 of the 57 departments protecting populations of 10,000 to 24,999; and
- 13 of the 292 departments protecting populations of less than 10,000.

Access the full state report, other state reports and the national reports at http://www.nfpa.org/needsassessment.

INTRODUCTION

The report that follows presents results based on data from US local fire departments participating in a needs assessment survey. See Appendix 1 for a more detailed discussion of the statistical methodology used.

The questionnaire principally involved multiple approaches to answering the question "what does a fire department need?". Most of the questions were intended to determine what fire departments have, in a form that could be compared to existing standards or formulas that set out what fire departments should have. Some of the questions asked what fire departments have with respect to certain cutting-edge technologies for which no standards yet exist and no determinations of need have yet been proposed.

The questionnaire also sought to define the emergency-response tasks that fire departments considered to be within their scope. For such tasks the survey asked how far departments would have to go to obtain the resources necessary to address those tasks or an illustrative incident of that type. Clearly, if departments believe the resources they would need are only available from sources separated from them by great distance – and the associated likelihood of significant delay in attaining those resources, then there may be a need for planning, training, or arrangements for equipment that can be more quickly accessed and deployed, to assure timely and effective response.

Glossary

Here are standard definitions for some of the specialized terms used in this report:

Advanced Life Support (ALS). Functional provision of advanced airway management, including intubation, advanced cardiac monitoring, manual defibrillation, establishment and maintenance of intravenous access, and drug therapy. [from 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*, 2001 edition.]

Basic Life Support (BLS). Functional provision of patient assessment, including basic airway management; oxygen therapy; stabilization of spinal, musculo-skeletal, soft tissue, and shock injuries; stabilization of bleeding; and stabilization and intervention for sudden illness, poisoning and heat/cold injuries, childbirth, CPR, and automatic external defibrillator (AED) capability. [from 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*, 2001 edition.]

Emergency Medical Care. The provision of treatment to patients, including first aid, cardiopulmonary resuscitation (CPR), basic life support (EMT level), advanced life support (where there may or may not be a distinction made regarding ALS care that is or is not at the Paramedic level), and other medical procedures that occur prior to arrival at a

hospital or other health care facility. [from NFPA 1581, *Standard on Fire Department Infection Control Program*, 2000 edition] In this report, reference is made to "EMS" or "emergency medical service," which is the service of providing emergency medical care.

First Responder (EMS). Functional provision of initial assessment (i.e., airway, breathing, and circulatory systems) and basic first-aid intervention, including CPR and automatic external defibrillator (AED) capability. [from 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*, 2001 edition.]

Hazardous Material. A substance that presents an unusual danger to persons due to properties of toxicity, chemical reactivity, or decomposition, corrosivity, explosion or detonation, etiological hazards, or similar properties. [from NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 1997 edition.]

Structural Fire Fighting. The activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, aircraft interiors, vehicles, vessels, aircraft, or like properties that are involved in a fire or emergency situation. [from NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 1997 edition.]

Technical Rescue. The application of special knowledge, skills, and equipment to safely resolve unique and/or complex rescue situations. [from NFPA 1670, *Standard on Operations and Training for Technical Rescue Incidents*, 1999 edition.]

Wildland/Urban Interface (WUI). The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. [from NFPA 295, *Standard for Wildfire Control*, 1998 edition]

SECTION 1. PERSONNEL AND THEIR CAPABILITIES

Most US fire departments are volunteer fire departments, but most of the US is protected by career firefighters. Table 1-1 provides a summary overview of fire departments in Utah.

Adequacy of Number of Firefighters Responding

Tables 1-2 to 1-3 provide statistics on numbers of firefighters responding to fight fires under certain circumstances (e.g., as volunteer or career firefighters, to a certain type of fire or with a certain type of apparatus).

These indicators of response profiles can be compared to NFPA standards regarding the minimum complement of firefighters to permit an interior attack on a structural fire with adequate safeguards for firefighter safety. The comparisons are complicated, however, because many fire departments have both career and volunteer firefighters, while Questions 2-1 to 2-3 asked only about responses by career firefighters alone or volunteer firefighters alone.

Also, in considering the results below, keep in mind that "adequacy" is being assessed here relative to only one of the several objectives of a fire department confronted with a serious fire – the protection of the firefighters themselves from unreasonable risk of injury or death. Relative success in meeting this objective will not necessarily imply anything about the department's ability to reliably achieve the other departmental suppression objectives, whether those are preventing conflagrations, preventing fire from involving an entire large structure, or intervening decisively before the onset of flashover in the room of fire origin.

In addition, success in meeting any of these objectives involves more than a sufficiency of personnel. Equipment of many types is also needed, as are skills and knowledge, as achieved through training and certification. Each of these areas of need is addressed in different parts of the survey.

Volunteer Firefighters

Table 1-2 provides statistics on the average number of volunteer firefighters who respond to a mid-day house fire, for only the all- or mostly-volunteer fire departments in communities under 50,000 population. Note that a "mostly-volunteer" department might respond with some career firefighters as well, and those numbers are not included in Table 1-2.

NFPA 1720, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments*, calls for a minimum of 4 firefighters on-site before an interior attack on a structure fire is begun. There are difficulties in applying these

standards to Table 1-2. As noted, responding career firefighters from mostly-volunteer departments are not shown, the statistics shown are average numbers responding rather than minimum numbers responding, and the threshold number of 4 is combined with averages from 3 to 4 in the questionnaire.

Career Firefighters

Table 1-3 provides statistics for only the all- or mostly-career fire departments in communities with 10,000 or more population, on the number of career firefighters assigned to an engine or pumper. Note that a "mostly career" department might also respond with some volunteers, and those numbers are not reflected in Table 1-4. 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*, requires a minimum of 4 firefighters on an engine or pumper.

In 2010, the percentage of departments with fewer than 4 career firefighters assigned to an engine or pumper is 65% for departments protecting at least 25,000 population.

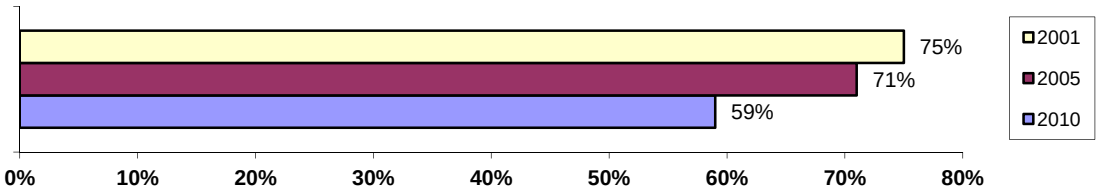
Extent of Training and Certification, by Type of Duty

Structural Firefighting

100% of departments say that structural firefighting is a role the department performs (see Table 1-4).
Table 1-5 asks how many of the personnel responsible for structural firefighting have received formal training. Answers were solicited in the form of: All, Most, Some, and None.

Departments that perform structural firefighting but have not formally trained all their involved personnel constituted 59% of departments that provide structural firefighting, compared to 75% in 2001 and 71% in 2005.
Figure 1-1 indicates what percentage of all departments perform structural firefighting and do not have all firefighters involved in structural firefighting formally trained, for each of the three Needs Assessment Studies.

Figure 1-1. Percent of All Departments Where Not All Firefighters Involved in Structural Firefighting Are Formally Trained for Three Studies

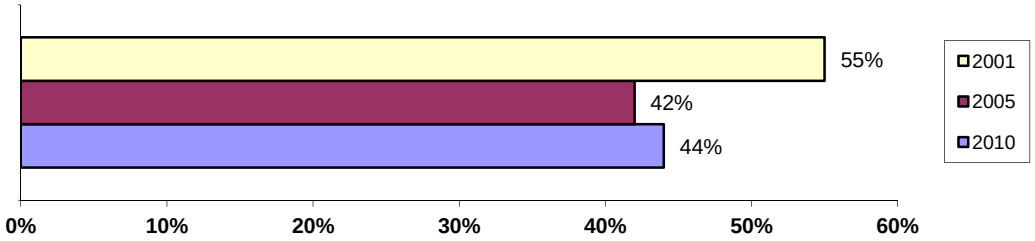


Emergency Medical Service

54% of departments say that emergency medical service (EMS) is a role the department performs (see Table 1-6).
Table 1-7 shows how many of the assigned personnel in departments responsible for EMS have received formal training.

Departments that perform EMS but have not formally trained all their involved personnel constituted 44% of departments that provide EMS, compared to 55% in 2001 and 42% in 2005. (See Figure 1-2.)

Figure 1-2. Percent of Departments Performing EMS for Which Not All Involved Personnel Are Formally Trained for Three Studies



Other Types of Emergency Response

92% of departments say that hazardous material response (Hazmat) is a role the department performs (see Table 1-8).

55% of departments say that technical rescue is a role the department performs (see Table 1-9).

Programs to Maintain and Protect Firefighter Health

Table 1-10 indicates whether departments have a program to maintain basic firefighter fitness and health, such as is required in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

80% of departments have *no* program to maintain basic firefighter fitness and health, compared to 90% in 2001 and 90% in 2005.
Figure 1-3 shows what percentage of departments have such programs, for each of the three Needs Assessment Studies.

Figure 1-3. Percent of Departments Without a Program to Maintain Basic Firefighter Fitness and Health for Three Studies

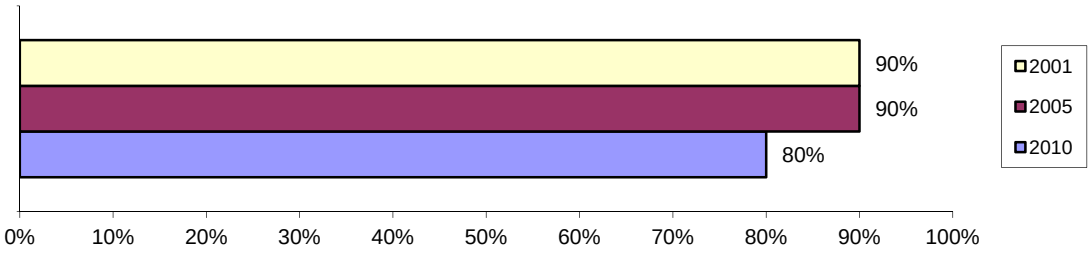


Table 1-1
Department Type, by Community Size
(Q. 1,7, 8)

Population of Community	All Career		Mostly Career		Mostly Volunteer		All Volunteer		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	15	35.0%	22	50.0%	4	10.0%	2	5.0%	43	100.0%
10,000-24,999	11	16.7%	16	25.0%	27	41.7%	11	16.7%	64	100.0%
Under 10,000	0	0.0%	0	0.0%	22	5.6%	374	94.4%	396	100.0%
Total	26	5.1%	38	7.5%	53	10.5%	387	76.9%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

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

The above projections are based on 68 departments reporting on Questions 1, 7 and 8. Numbers may not add to totals due to rounding.

Q. 1: Population (number of permanent residents) your department has primary responsibility to protect (excluding mutual aid areas)
Q. 7: Total number of full-time (career) uniformed firefighters
Q. 8: Total number of active part-time (call or volunteer) firefighters

Table 1-2
For All- or Mostly-Volunteer Departments
Average Number of Volunteer Firefighters Who Respond to a Mid-Day House Fire
Percent of Departments by Community Size
(Q. 10)

Average Number of Volunteer Firefighters Responding

Population of Community	1-2	3-4	5-9	10-14	15-19	20 or More	Total
10,000 to 24,999	0.0%	16.7%	33.3%	33.3%	16.7%	0.0%	100.0%
Under 10,000	0.0%	6.3%	37.5%	37.5%	12.5%	6.3%	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

A mostly-volunteer department might respond with some career firefighters as well, but this question asked only about volunteers responding.

The above projections are based on 38 departments reporting on Question 10 and comprised of all- or mostly volunteer firefighters. Numbers may not add to totals due to rounding.

Q. 10: Average number of call/volunteer personnel who respond to a mid-day house fire (blank for actual number).

Table 1-3
For All- or Mostly-Career Departments
Number of Career Firefighters Assigned to an Engine/Pumper Apparatus
Percent of Departments by Community Size
(Q. 11)

Number of Career Firefighters Assigned to Engine/Pumper

Population of Community	1	2	3	4	5 or more	Total
25,000 or more	5.9%	5.9%	52.9%	35.3%	0.0%	100.0%
10,000 to 24,999	0.0%	40.0%	60.0%	0.0%	0.0%	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 22 departments reporting on Question 11 and comprised of all- or mostly-career firefighters. Numbers may not add to totals due to rounding.

Q. 11: Number of on-duty career/paid personnel assigned to an engine/pumper (answers given as ranges shown).

Table 1-4
Does Department Provide Structural Firefighting?
by Community Size
(Q. 13a)

	Yes		No		Total	
Population of Community	**Number Depts**	**Percent**	**Number Depts**	**Percent**	**Number Depts**	**Percent**
25,000 or more	43	100.0%	0	0.0%	43	100.0%
10,000-24,999	64	100.0%	0	0.0%	64	100.0%
Under 10,000	396	100.0%	0	0.0%	396	100.0%
Total	503	100.0%	0	0.0%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 70 departments reporting on Question 13a. Numbers may not add to totals due to rounding.

Q. 13a: Is [structural firefighting] a role your department performs?

Table 1-5
For Departments That Provide Structural Firefighting
How Many Personnel Who Perform This Duty Have Received Formal Training?
by Community Size
(Q. 13b)

Population of Community	All		Most		Some		None		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	39	90.0%	2	5.0%	0	0.0%	2	5.0%	43	100.0%
10,000-24,999	44	69.2%	20	30.8%	0	0.0%	0	0.0%	64	100.0%
Under 10,000	121	30.6%	198	50.0%	77	19.4%	0	0.0%	396	100.0%
Total	204	40.6%	220	43.7%	77	15.3%	2	0.4%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 69 departments reporting yes to Question 13a and also reporting on this question. Numbers may not add to totals due to rounding.

Q. 13b: If [structural firefighting is a role your department performs; yes on Q. 13a], how many of your personnel who perform this duty have received formal training (not just on-the-job)?

Table 1-6
Does Department Provide Emergency Medical Service (EMS)?
by Community Size
(Q. 14a)

	Yes		No		Total	
Population of Community	**Number Depts**	**Percent**	**Number Depts**	**Percent**	**Number Depts**	**Percent**
25,000 or more	43	100.0%	0	0.0%	43	100.0%
10,000-24,999	39	61.5%	25	38.5%	64	100.0%
Under 10,000	187	47.2%	209	52.8%	396	100.0%
Total	269	53.6%	234	46.4%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 69 departments reporting on Question 14a. Numbers may not add to totals due to rounding.

Q. 14a: Is [emergency medical service] a role your department performs?

Table 1-7
For Departments That Provide Emergency Medical Service
How Many Personnel Who Perform This Duty Have Received Formal Training?
by Community Size
(Q. 14b)

Population of Community	All		Most		Some		None		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	39	90.0%	2	5.0%	2	5.0%	0	0.0%	43	100.0%
10,000-24,999	34	87.5%	5	12.5%	0	0.0%	0	0.0%	39	100.0%
Under 10,000	77	41.2%	11	5.9%	99	52.9%	0	0.0%	187	100.0%
Total	150	55.7%	18	6.7%	101	37.5%	0	0.0%	269	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 45 departments reporting yes to Question 14a and also reporting on this question. Numbers may not add to totals due to rounding.

Q. 14b: If [emergency medical service is a role your department performs; yes on Q. 14a], how many of your personnel who perform this duty have received formal training (not just on-the-job)?

Table 1-8
Does Department Provide Hazardous Material Response?
by Community Size
(Q. 15a)

	Yes		No		Total	
Population of Community	**Number Depts**	**Percent**	**Number Depts**	**Percent**	**Number Depts**	**Percent**
25,000 or more	43	100.0%	0	0.0%	43	100.0%
10,000-24,999	59	92.3%	5	7.7%	64	100.0%
Under 10,000	363	91.7%	33	8.3%	396	100.0%
Total	465	92.5%	38	7.5%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above table projections are based on 69 departments reporting on Question 15a. Numbers may not add to totals due to rounding.

Q. 15a: Is [hazardous materials response] a role your department performs?

Table 1-9
Does Department Provide Technical Rescue Service?
by Community Size
(Q. 17a)

	Yes		No		Total	
Population of Community	**Number Depts**	**Percent**	**Number Depts**	**Percent**	**Number Depts**	**Percent**
25,000 or more	41	95.0%	2	5.0%	43	100.0%
10,000-24,999	59	92.3%	5	7.7%	64	100.0%
Under 10,000	176	44.4%	220	55.6%	396	100.0%
Total	276	54.9%	227	45.1%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 69 departments reporting on Question 17a. Numbers may not add to totals due to rounding.

Q. 17a: Is [technical rescue] a role your department performs?

Table 1-10
Does Department Have a Program to Maintain Basic Firefighter Fitness and Health? by Community Size (Q. 18)

	Yes		No		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	34	80.0%	9	20.0%	43	100.0%
10,000-24,999	20	30.8%	44	69.2%	64	100.0%
Under 10,000	45	11.4%	351	88.6%	396	100.0%
Total	99	19.8%	404	80.2%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 68 departments reporting on Question 18. Numbers may not add to totals due to rounding.

Q. 18: Does your department have a program to maintain basic firefighter fitness and health (e.g., as required in NFPA 1500)?

SECTION 2. FACILITIES AND APPARATUS

Characteristics of Fire Stations Indicating Need

Table 2-1 describes the average number of fire stations per department by size of community. Note that a community may have two or more fire stations, and each fire station may have two or more firefighting companies, each attached to a particular apparatus, such as an engine/pumper.

Table 2-1 also describes the fraction of stations with characteristics that indicate potential needs, specifically age of station over 40 years, or a lack of need, such as the presence of backup power, or exhaust emission control equipment.

Apparatus

Table 2-2 characterizes the size of the engine/pumper fleet inventory, overall and by age of vehicle.

Table 2-1
Number of Fire Stations and Selected Characteristics by Community Size (Q. 23)

Population of Community	Average Number of Stations	Percent Stations Over 40 Years Old	Percent Stations Having Backup Power	Percent Stations Equipped for Exhaust Control
25,000 or more	13.0	30.5%	94.2%	88.0%
10,000-24,999	1.5	56.6%	93.8%	69.0%
Under 10,000	1.0	46.6%	33.0%	9.7%
Total	5.1	33.5%	88.2%	79.3%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 60 departments answering all four parts of Question 23. Numbers may not add to totals due to rounding.

Q. 23: Number of fire stations, number over 40 years old, number having backup power, number equipped for exhaust emission control (e.g., diesel exhaust extraction).

Table 2-2
Average Number of Engines/Pumpers in Service and Age of Engine/Pumper Apparatus by Community Size (Q. 24)

Population of Community	Average Number of Engines	Engines 0-14 Years Old	Engines 15-19 Years Old	Engines 20-29 Years Old	Engines 30 or More Years Old
25,000 or more	17.53	14.79	2.16	0.58	0.00
10,000-24,999	3.42	2.30	0.51	0.43	0.17
Under 10,000	2.67	1.32	0.55	0.60	0.20
Total	7.01	5.33	1.00	0.55	0.13

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above table breakdown is based on 67 departments answering all parts of Question 24. Numbers may not add to totals due to rounding.

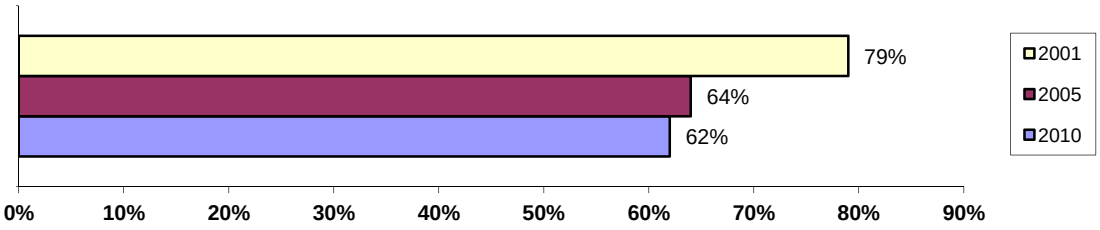
Q. 24: Number of engines/pumpers in service, number 0-14 years old, number 15-19 years old, number 20-29 years old, number 30 or more years old, number unknown age.

SECTION 3. PERSONAL PROTECTIVE EQUIPMENT

Portable Radios

62% of all fire departments do not have enough portable radios to equip all emergency responders on a shift. (See Table 3-1.)
Figure 3-1 shows the shift across the years in percentage of departments where not all emergency responders on a shift have radios.

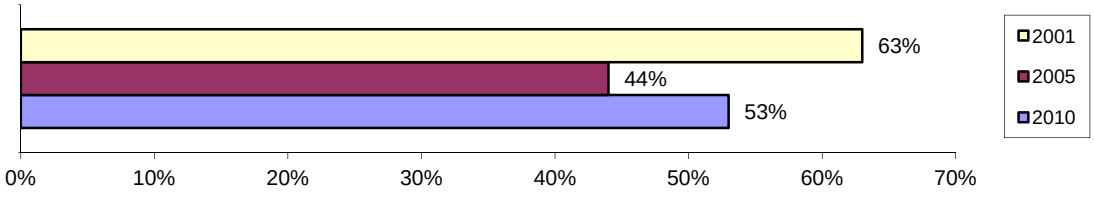
Figure 3-1. Percent of Departments Where Not All Emergency Responders on a Shift Have Portable Radios for Three Studies



Self-Contained Breathing Apparatus (SCBA)

53% of departments cannot equip all firefighters on a shift with their own self-contained breathing apparatus (SCBA). (See Table 3-2.)
Figure 3-2 shows how the percentage of departments where not all firefighters on a shift are equipped with SCBA have changed over the years.

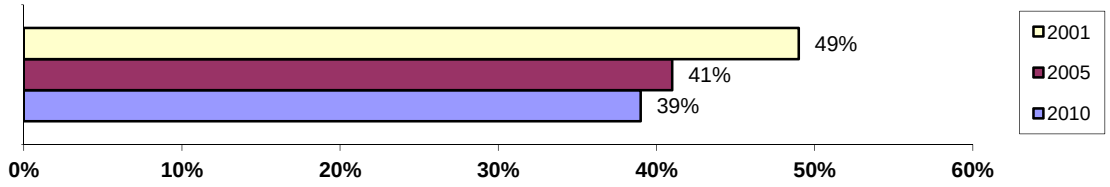
Figure 3-2. Percent of Departments Where Not All Firefighters on a Shift Are Equipped With SCBA for Three Studies



Personal Alert Safety System (PASS) Devices

39% of departments cannot equip all emergency responders on a shift with their own personal alert safety system devices (PASS). (See Table 3-3.)
Figure 3-3 shows how the percentage of departments where not all emergency responders on a shift are equipped with PASS devices have changed over the years.

Figure 3-3. Percent of Departments Where Not All Emergency Responders on a Shift Are Equipped With PASS Devices for Three Studies



Personal Protective Clothing

22% of departments cannot provide all emergency responders with their own personal protective clothing. (See Table 3-4.)
Figure 3-4 shows how the percentage of departments where not all emergency responders have their own personal protective clothing have changed over the years.

Figure 3-4. Percent of Departments Where Not All Emergency Responders Have Their Own Personal Protective Clothing for Three Studies

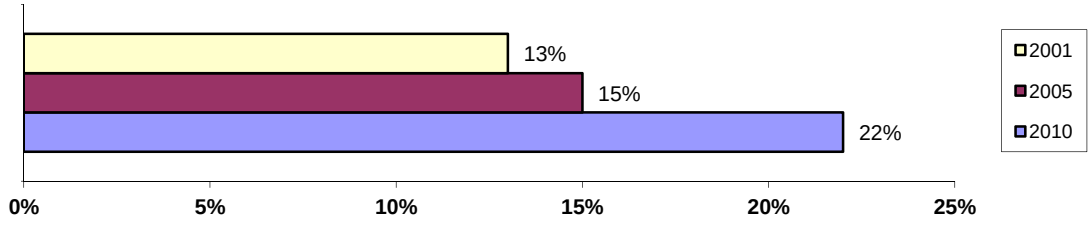


Table 3-1
How Many of Department's Emergency Responders on a Single Shift Are Equipped With Portable Radios? by Community Size (Q. 27a)

Population of Community	All		Most		Some		None		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	34	80.0%	9	20.0%	0	0.0%	0	0.0%	43	100.0%
10,000-24,999	49	76.9%	15	23.1%	0	0.0%	0	0.0%	64	100.0%
Under 10,000	110	27.8%	110	27.8%	165	41.7%	11	2.8%	396	100.0%
Total	194	38.5%	133	26.5%	165	32.8%	11	2.2%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 69 departments reporting on Question 27a. Numbers may not add to totals due to rounding.

Q. 27a How many of your emergency responders on-duty on a single shift can be equipped with portable radios?

Table 3-2
How Many Emergency Responders on a Single Shift Are Equipped With Self-Contained Breathing Apparatus (SCBA)? by Community Size (Q. 28a)

Population of Community	All		Most		Some		None		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	43	100.0%	0	0.0%	0	0.0%	0	0.0%	43	100.0%
10,000-24,999	54	84.6%	10	15.4%	0	0.0%	0	0.0%	64	100.0%
Under 10,000	139	35.1%	139	35.1%	118	29.7%	0	0.0%	396	100.0%
Total	236	47.0%	149	29.6%	118	23.4%	0	0.0%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 70 departments reporting on Question 28a. Numbers may not add to totals due to rounding.

Q. 28a: How many emergency responders on-duty on a single shift can be equipped with self-contained breathing apparatus (SCBA)?

Table 3-3
What Fraction of Emergency Responders on a Single Shift Are Equipped With Personal Alert Safety System (PASS) Devices? by Community Size (Q. 29)

Population of Community	All		Most		Some		None		Total	
	Number of Depts	Percent	Number of Depts	Percent	Number of Depts	Percent	Number of Depts	Percent	Number of Depts	Percent
25,000 or more	43	100.0%	0	0.0%	0	0.0%	0	0.0%	43	100.0%
10,000-24,999	49	76.9%	10	15.4%	0	0.0%	5	7.7%	64	100.0%
Under 10,000	214	54.1%	96	24.3%	86	21.6%	0	0.0%	396	100.0%
Total	306	60.9%	106	21.1%	86	17.0%	5	1.0%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 70 departments reporting on Question 29. Numbers may not add to totals due to rounding.

Q. 29: How many of your emergency responders on-duty on a single shift are equipped with Personal Alert Safety System (PASS) devices?

Table 3-4
What Fraction of Emergency Responders Are Equipped With Personal Protective Clothing? by Community Size (Q. 30a)

Population of Community	All		Most		Some		None		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	43	100.0%	0	0.0%	0	0.0%	0	0.0%	43	100.0%
10,000-24,999	59	92.3%	5	7.7%	0	0.0%	0	0.0%	64	100.0%
Under 10,000	289	73.0%	96	24.3%	11	2.7%	0	0.0%	396	100.0%
Total	391	77.7%	101	20.1%	11	2.1%	0	0.0%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 70 departments reporting on Question 30a. Numbers may not add to totals due to rounding.

Q. 30a: How many of your emergency responders are equipped with personal protective clothing?

SECTION 4. ABILITY TO HANDLE UNUSUALLY CHALLENGING INCIDENTS

Questions 36-39 were designed to check the capabilities of fire departments, in communities of various sizes, to handle unusually severe and challenging incidents, whether fire departments could handle such incidents with local personnel and equipment and whether a written agreement or other plan existed for working with others to address such incidents.

Technical Rescue and EMS at Structural Collapse With 50 Occupants

38% of all departments are *not* responsible for technical rescue with EMS at a structural collapse of a building with 50 occupants, compared to 35% in 2001 and 27% in 2005.[1] (See Table 4-1.)

Tables 4-2 to 4-4 address, for the departments that consider such an incident part of their responsibility, how far they have to go for people and equipment and whether they have a written agreement or other plan to work with others on such an incident, respectively. By combining Table 4-1 with Tables 4-2 to 4-4, one can obtain combined statistics showing what percentage of departments do not have responsibility for incidents and, for departments that do have responsibility, what percentage of total departments have sufficient local resources or not, and what percentage have a written agreement for working with others or something less.

- 96% of departments responsible for this type of incident cannot handle it with local trained people alone, compared to 84% in 2001 and 87% in 2005;

- 98% of departments responsible for this type of incident cannot handle it with local specialized equipment alone, compared to 88% in 2001 and 86% in 2005; and

- **58% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 80% in 2001 and 66% in 2005.**

[1] Technical rescue is the application of special knowledge, skills, and equipment to safely resolve unique and/or complex rescue situations.

Hazmat and EMS for Incident Involving Chemical/Biological Agents and 10 Injuries

33% of departments said they are *not* responsible for hazmat response and EMS at an incident involving chemical/ biological agents and 10 injuries, compared to 32% in 2001 and 15% in 2005. (See Table 4-5.) Note that casualty counts of 100 to 1,000 are not unusual in the kind of chemical/ biological agent weapons of mass destruction considered for planning purposes.

Tables 4-6 to 4-8 address, for the departments that consider such an incident part of their responsibility, how far they have to go for people and equipment and whether they have a written agreement or other plan to work with others on such an incident, respectively. By combining Table 4-5 with Tables 4-6 to 4-8, one can obtain combined statistics showing what percentage of departments do not have responsibility for incidents and, for departments that do have responsibility, what percentage of total departments have sufficient local resources or not, and what percentage have a written agreement for working with others or something less.

- 88% of departments responsible for this type of incident cannot handle it with local trained people alone, compared to 79% in 2001 and 87% in 2005;

- 90% of departments responsible for this type of incident cannot handle it with local specialized equipment alone, compared to 82% in 2001 and 90% in 2005; and

- **60% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 72% in 2001 and 64% in 2005.**

Wildland/Urban Interface Fire Affecting 500 Acres

39% of departments said they are *not* responsible for wildland/ urban interface (WUI) fires affecting 500 acres, compared to 25% in 2001 and 26% in 2005. (See Table 4-9.) (It is not possible to determine which departments declaring such incidents outside their responsibility have no nearby wildland/urban interface areas and so have no potential for a fire of this type and size.)

Tables 4-10 to 4-12 address, for the departments that consider such an incident part of their responsibility, how far they have to go for people and equipment and whether they have a written agreement or other plan to work with others on such an incident, respectively. By combining Table 4-9 with Tables 4-10 to 4-12, one can obtain combined statistics showing what percentage of departments do not have responsibility for incidents and, for departments that do have responsibility, what percentage of total departments have sufficient local resources or not, and what percentage have a written agreement for working with others or something less.

- 84% of departments responsible for this type of incident cannot handle it with local trained people alone, compared to 82% in 2001 and 72% in 2005;

- 81% of departments responsible for this type of incident cannot handle it with local specialized equipment alone, compared to 84% in 2001 and 76% in 2005; and

- **69% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 71% in 2001 and 62% in 2005.**

Mitigation of a Developing Major Flood

60% of departments said they are *not* responsible for mitigation of developing major floods, compared to 48% in 2001 and 38% in 2005. (See Table 4-13.) It is not possible to determine from available data which departments among those declaring such incidents outside their responsibility have no nearby river, ocean shoreline, or other nearby body of water that could cause a major flood. It also is not possible to determine which departments do not have responsibility because some other local agency does, reflecting the fact that a flood is not a fire or other type of hazard requiring rapid emergency response from a fire department.

Tables 4-14 to 4-16 address, for the departments that consider such an incident part of their responsibility, how far they have to go for people and equipment and whether they have a written agreement or other plan to work with others on such an incident, respectively. By combining Table 4-13 with Tables 4-14 to 4-16, one can obtain combined statistics showing what percentage of departments do not have responsibility for incidents and, for departments that do have responsibility, what percentage of total departments have sufficient local resources or not, and what percentage have a written agreement for working with others or something less.

- 58% of departments responsible for this type of incident cannot handle it with local trained people alone, compared to 74% in 2001 and 68% in 2005;

- 68% of departments responsible for this type of incident cannot handle it with local specialized equipment alone, compared to 77% in 2001 and 78% in 2005; and

- **40% of departments responsible for this type of incident do not have written agreements to help work with others, compared to 85% in 2001 and 64% in 2005.**

Table 4-1
Is Technical Rescue and EMS for a Building With 50 Occupants After Structural Collapse Within the Responsibility of Department? by Community Size (Q. 36a)

	Yes		No		Total	
Population of Community	**Number Depts**	**Percent**	**Number Depts**	**Percent**	**Number Depts**	**Percent**
25,000 or more	43	100.0%	0	0.0%	43	100.0%
10,000-24,999	49	76.9%	15	23.1%	64	100.0%
Under 10,000	143	36.1%	253	63.9%	396	100.0%
Total	235	62.3%	268	37.7%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 69 departments reporting on Question 36a. Numbers may not add to totals due to rounding.

Q. 36a: Is [technical rescue and EMS for a building with 50 occupants after structural collapse] within your department's responsibility?

Table 4-2
For Departments Where Technical Rescue and EMS For a Building With 50 Occupants After Structural Collapse Is Within Their Responsibility, How Far Do They Have to Go to Obtain Sufficient People With Specialized Training to Handle Such an Incident? by Community Size (Q. 36b)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	9	20.0%	28	65.0%	6	15.0%	0	0.0%	43	100.0%
10,000-24,999	0	0.0%	30	60.0%	20	40.0%	0	0.0%	49	100.0%
Under 10,000	0	0.0%	99	69.2%	44	30.8%	0	0.0%	143	100.0%
Total	9	3.7%	156	66.5%	70	29.8%	0	0.0%	235	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 43 departments reporting yes to Question 36a and also reporting on Question 36b. Numbers may not add to totals due to rounding.

Q. 36b: If [technical rescue and EMS for a building with 50 occupants after structural collapse is within your department's responsibility], how far would you have to go to obtain enough people with specialized training for this incident?

Table 4-3
For Departments Where Technical Rescue and EMS For a Building With 50 Occupants After Structural Collapse Is Within Their Responsibility, How Far Do They Have to Go to Obtain Sufficient Specialized Equipment to Handle Such an Incident? by Community Size
(Q. 36c)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	4	10.0%	34	80.0%	4	10.0%	0	0.0%	43	100.0%
10,000-24,999	0	0.0%	30	60.0%	20	40.0%	0	0.0%	49	100.0%
Under 10,000	0	0.0%	88	61.5%	55	38.5%	0	0.0%	143	100.0%
Total	4	1.8%	152	64.6%	79	33.6%	0	0.0%	235	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 43 departments reporting yes to Question 36a and also reporting on Question 36c. Numbers may not add to totals due to rounding.

Q. 36c: If [technical rescue and EMS for a building with 50 occupants after structural collapse is within your department's responsibility], how far would you have to go to obtain enough specialized equipment to handle this incident?

Table 4-4
For Departments Where Technical Rescue and EMS for a Building With 50 Occupants After Structural Collapse Is Within Their Responsibility, Do They Have a Plan for Obtaining Assistance From Others? by Community Size (Q. 36d)

	Yes-Written Agreement		Yes-Informal		Yes-Other		No		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	34	78.9%	9	21.1%	0	0.0%	0	0.0%	43	100.0%
10,000-24,999	30	60.0%	15	30.0%	0	0.0%	5	10.0%	49	100.0%
Under 10,000	36	25.0%	95	66.7%	12	8.3%	0	0.0%	143	100.0%
Total	99	42.2%	119	50.7%	12	5.1%	5	2.1%	235	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 41 departments reporting yes to Question 36a and also reporting on Question 36d. Numbers may not add to totals due to rounding.

Q. 36d: [If such incidents are within department responsibility] do you have a plan for obtaining assistance from others on [technical rescue and EMS for a building with 50 occupants after structural collapse]?

Table 4-5
Is a Hazmat and EMS Incident Involving Chemical/Biological Agents and 10 Injuries Within the Responsibility of Department? by Community Size (Q. 37a)

	Yes		No		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	43	100.0%	0	0.0%	43	100.0%
10,000-24,999	54	84.6%	10	15.4%	64	100.0%
Under 10,000	165	41.7%	231	58.3%	396	100.0%
Total	262	66.7%	241	33.3%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 69 departments reporting on Question 37a. Numbers may not add to totals due to rounding.

Q. 37a: Is [hazmat and EMS for an incident involving chemical/biological agents and 10 injuries] within your department's responsibility?

Table 4-6
For Departments Where a Hazmat and EMS Incident Involving Chemical/Biological Agents and 10 Injuries Is Within Their Responsibility How Far Do They Have to Go to Obtain Sufficient People With Specialized Training to Handle Such an Incident? by Community Size (Q. 37b)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	15	35.0%	26	60.0%	2	5.0%	0	0.0%	43	100.0%
10,000-24,999	5	9.1%	34	63.6%	15	27.3%	0	0.0%	54	100.0%
Under 10,000	11	6.7%	88	53.3%	66	40.0%	0	0.0%	165	100.0%
Total	31	11.8%	148	56.6%	83	31.6%	0	0.0%	262	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 46 departments reporting yes to Question 37a and also reporting on Question 37b. Numbers may not add to totals due to rounding.

Q. 37b: If [hazmat and EMS for an incident involving chemical/biological agents and 10 injuries is within your department's responsibility], how far would you have to go to obtain enough people with specialized training for this incident?

Table 4-7
For Departments Where a Hazmat and EMS Incident Involving Chemical/Biological Agents and 10 Injuries Is Within Their Responsibility How Far Do They Have to Go to Obtain Sufficient Specialized Equipment to Handle Such An Incident? by Community Size (Q. 37c)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	11	25.0%	26	60.0%	6	15.0%	0	0.0%	43	100.0%
10,000-24,999	5	9.1%	34	63.6%	15	27.3%	0	0.0%	54	100.0%
Under 10,000	11	6.7%	88	53.3%	66	40.0%	0	0.0%	165	100.0%
Total	27	10.2%	148	56.6%	87	33.3%	0	0.0%	262	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 46 departments reporting yes to Question 37a and also reporting on Question 37c. Numbers may not add to totals due to rounding.

Q. 37c: If [hazmat and EMS for an incident involving chemical/biological agents and 10 injuries is within your department's responsibility], how far would you have to go to obtain enough specialized equipment to handle this incident?

Table 4-8
For Departments Where a Hazmat and EMS Incident Involving Chemical/Biological Agents and 10 Injuries Is Within Their Responsibility Do They Have a Plan for Obtaining Assistance From Others? by Community Size (Q. 37d)

	Yes - Written Agreement		Yes - Informal		Yes - Other		No		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	37	85.0%	6	15.0%	0	0.0%	0	0.0%	43	100.0%
10,000-24,999	34	63.6%	15	27.3%	0	0.0%	5	9.1%	54	100.0%
Under 10,000	33	20.0%	121	73.3%	0	0.0%	11	6.7%	165	100.0%
Total	104	39.7%	142	54.3%	0	0.0%	16	6.1%	262	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 46 departments reporting yes to Question 37a and also reporting on Question 37d. Numbers may not add to totals due to rounding.

Q. 37d: [If such incidents are within department responsibility] do you have a plan for obtaining assistance from others on [hazmat and EMS for an incident involving chemical/biological agents and 10 injuries]?

Table 4-9
Is a Wildland/Urban Interface Fire Affecting 500 Acres Within the Responsibility of Department? by Community Size (Q. 38a)

	Yes		No		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	17	40.0%	26	60.0%	43	100.0%
10,000-24,999	34	53.8%	30	46.2%	64	100.0%
Under 10,000	297	75.0%	99	25.0%	396	100.0%
Total	349	60.9%	154	39.1%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 69 departments reporting on Question 38a.
Numbers may not add to totals due to rounding.

Q. 38a: Is [a wildland/urban interface fire affecting 500 acres] within your department's responsibility?

Table 4-10
For Departments Where a Wildland/Urban Interface Fire Affecting 500 Acres Is Within Their Responsibility How Far Do They Have to Go to Obtain Sufficient People With Specialized Training to Handle Such an Incident? by Community Size (Q. 38b)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	2	12.5%	9	50.0%	6	37.5%	0	0.0%	17	100.0%
10,000-24,999	0	0.0%	10	28.6%	25	71.4%	0	0.0%	34	100.0%
Under 10,000	55	18.5%	88	29.6%	143	48.1%	11	3.7%	297	100.0%
Total	57	16.4%	106	30.5%	174	49.9%	11	3.2%	349	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 42 departments reporting yes to Question 38a and also reporting on Question 38b. Numbers may not add to totals due to rounding.

Q. 38b: If [wildland/urban interface fire affecting 500 acres is within your department's responsibility], how far would you have to go to obtain enough people with specialized training for this incident?

Table 4-11
For Departments Where a Wildland/Urban Interface Fire Affecting 500 Acres Is Within Their Responsibility How Far Do They Have to Go to Obtain Sufficient Specialized Equipment to Handle Such An Incident? by Community Size (Q. 38c)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	0	0.0%	4	25.0%	13	75.0%	0	0.0%	17	100.0%
10,000-24,999	0	0.0%	15	42.9%	20	57.1%	0	0.0%	34	100.0%
Under 10,000	66	22.2%	66	22.2%	154	51.9%	11	3.7%	297	100.0%
Total	66	18.9%	85	24.4%	187	53.5%	11	3.2%	349	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 42 departments reporting yes to Question 38a and also reporting on Question 38c. Numbers may not add to totals due to rounding.

Q. 38c: If [wildland/urban interface fire affecting 500 acres is within your department's responsibility], how far would you have to go to obtain enough specialized equipment to handle this incident?

Table 4-12
For Departments Where a Wildland/Urban Interface Fire Affecting 500 Acres Is Within Their Responsibility Do They Have a Plan for Obtaining Assistance From Others? by Community Size (Q. 38d)

Population of Community	Yes - Written Agreement		Yes - Informal		Yes - Other		No		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	17	100.0%	0	0.0%	0	0.0%	0	0.0%	17	100.0%
10,000-24,999	25	71.4%	10	28.6%	0	0.0%	0	0.0%	34	100.0%
Under 10,000	66	22.2%	198	66.7%	22	7.4%	11	3.7%	297	100.0%
Total	108	30.9%	208	59.6%	22	6.3%	11	3.2%	349	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 42 departments reporting yes to Question 38a and also reporting on Question 38d. Numbers may not add to totals due to rounding.

Q. 38d: [If such incidents are within department responsibility] do you have a plan for obtaining assistance from others on [wildland/urban interface fire affecting 500 acres]?

Table 4-13
Is Mitigation of a Developing Major Flood Within the Responsibility of Department? by Community Size (Q. 39a)

	Yes		No		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	27	63.2%	16	36.8%	43	100.0%
10,000-24,999	34	53.8%	30	46.2%	64	100.0%
Under 10,000	88	22.2%	308	77.8%	396	100.0%
Total	150	39.7%	353	60.3%	503	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 68 departments reporting yes on Question 39a. Numbers may not add to totals due to rounding.

Q. 39a: Is [mitigation (confining, slowing, etc.) of a developing major flood] within your department's responsibility?

Table 4-14
For Departments Where Mitigation of a Major Flood Is Within Their Responsibility How Far Do They Have to Go to Obtain Sufficient People With Specialized Training to Handle Such an Incident? by Community Size (Q. 39b)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	5	16.7%	9	33.3%	14	50.0%	0	0.0%	27	100.0%
10,000-24,999	15	42.9%	5	14.3%	15	42.9%	0	0.0%	34	100.0%
Under 10,000	44	50.0%	22	25.0%	22	25.0%	0	0.0%	88	100.0%
Total	63	42.3%	36	24.0%	50	33.7%	0	0.0%	150	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 27 departments reporting yes to Question 39a and also reporting on Question 39b. Numbers may not add to totals due to rounding.

Q. 39b: If [mitigation (confining, slowing, etc.) of a developing major flood is within your department's responsibility], how far would you have to go to obtain enough people with specialized training for this incident?

Table 4-15
For Departments Where Mitigation of a Major Flood Is Within Their Responsibility How Far Do They Have to Go to Obtain Sufficient Specialized Equipment to Handle Such An Incident? by Community Size (Q. 39c)

	Local		Regional		State		National		Total	
Population of Community	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	5	16.7%	9	33.3%	14	50.0%	0	0.0%	27	100.0%
10,000-24,999	10	28.6%	10	28.6%	15	42.9%	0	0.0%	34	100.0%
Under 10,000	33	37.5%	33	37.5%	11	12.5%	11	12.5%	88	100.0%
Total	47	31.7%	52	34.7%	39	26.3%	11	7.4%	150	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 27 departments reporting yes to Question 39a and also reporting on Question 39c. Numbers may not add to totals due to rounding.

Q. 39c: If [mitigation (confining, slowing, etc.) of a developing major flood is within your department's responsibility], how far would you have to go to obtain enough specialized equipment to handle this incident?

Table 4-16
For Departments Where Mitigation of a Major Flood Is Within Their Responsibility Do They Have a Plan for Obtaining Assistance From Others? by Community Size (Q. 39d)

Population of Community	Yes - Written Agreement		Yes - Informal		Yes - Other		No		Total	
	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent	Number Depts	Percent
25,000 or more	20	75.0%	5	16.7%	2	8.3%	0	0.0%	27	100.0%
10,000-24,999	15	42.9%	20	57.1%	0	0.0%	0	0.0%	34	100.0%
Under 10,000	55	62.5%	22	25.0%	0	0.0%	11	12.5%	88	100.0%
Total	90	60.2%	46	30.9%	2	1.5%	11	7.4%	150	100.0%

Source: NFPA 2010 Survey of the Needs of the US Fire Service

The above projections are based on 27 departments reporting yes to Question 39a and also reporting on Question 39d. Numbers may not add to totals due to rounding.

Q. 39d: [If such incidents are within department responsibility] do you have a plan for obtaining assistance from others on [mitigation (confining, slowing, etc.) of a developing major flood]?

APPENDIX 1.

Survey Methodology

The 2010 Fire Service Needs Assessment survey was conducted as a stratified random sample by size of community. A stratified sample was selected with all larger departments (protecting over 50,000 population) included, and a random sample of departments protecting smaller communities was also selected. It was estimated that a response of approximately 4,800 fire departments would be sufficient to make reliable national estimates and state estimates as long as it included a good response from larger departments.

The NFPA used its own list of local fire departments as the sampling frame of all fire departments in the U.S. In all, 26,430 fire departments were listed on the NFPA FSI*. The following table includes sample size and number of fire departments responding by community size.

In all, 4,660 fire departments, or 23% responded to the 2010 Fire Service Needs Assessment Survey. Response rates varied considerably by size of community protected, with larger communities responding at a rate of 58% to 61%, medium sized communities at a rate of 36% to 48%, and smaller communities (less than 10,000) responding at a rate of 15% to 23%. Low response rates for smaller departments (comprised mostly of volunteers) occur for a number of reasons, including lack of personnel to complete surveys.

The overall total response of 4,660 fire departments was sufficient for reliable results at the national and state levels, overall and by community size. Total national results and state results were made by summing up the weighted estimates for each stratum, and the stratification methodology adjusted for response rates by community size.

The results for Virginia presented in this report are based on 70 fire departments that responded, or 18% of the 390 departments in Virginia that were sent forms as part of the 2010 Fire Needs Assessment Survey. The number of fire departments selected and responding as well as response rates by community size can be seen in Table A-1.

Total state results in the survey report were made by summing up the weighted estimates for each stratum, and the stratification methodology adjusted for response rates by community size.

Most of the results in this report are for a percent (e.g., percent of fire departments that provide EMS services). The results in this report are based on standard statistical methodology for a stratified random sample, and it was assumed that P equals 50%.** In general for Virginia, the standard error will not exceed +/-5% for overall state results. (It will be smaller for percents close to 0 or 100%). Results for individual community size strata have larger standard errors and can be seen when there was sufficient data to calculate them in the last column in Table A-1. The standard error accounts for sampling variability but not for other issues, e.g., bias due to non-response or other non-sampling errors, e.g., incomplete reporting.

* The NFPA Fire Service Inventory (FSI) file is a listing of all known fire departments in the U.S. The file is continuously maintained by a three year cycle survey which surveys one third of the country each year. The survey is also updated by review of fire marshal listings by state, other NFPA mailings, and other data sources.
** William G. Cochran, Sampling Techniques, John Wiley & Sons, New York, NY, 1977.

Table A-1.—For Virginia
Number of Fire Departments Selected and Responding by Community Size

Population Of Community	Number of Fire Departments in Sample	Number of Fire Departments Responding	Response Rate (%)	Standard Error (+/-%)
25,000 or more	41	20	49	8
10,000 to 24,999	57	13	23	12
under 10,000	292	13	15	8
Total	390	18	23	5

The NFPA Fire Service Inventory (FSI) file is a listing of all known fire departments in the U.S. The file is continuously maintained by a three year cycle survey which surveys one third of the country each year. The survey is also updated by review of fire marshal listings by state, other NFPA mailings, and other data sources.

Most of the results in this report are for a percent (e.g., percent of fire departments that provide EMS services). The results in this report are based on standard statistical methodology for a stratified random sample, and it was assumed that P equals 50%. * In general for Virginia, the standard error will not exceed +/-5% for overall state results. (It will be smaller for percents close to 0 or 100%). Results for individual community size strata have larger standard errors and can be seen in the last column above. The standard error accounts for sampling variability but not for other issues, e.g., bias due to non-response or other non-sampling errors.

*William G. Cochran, Sampling Techniques, John Wiley & Sons, New York, NY, 1977.

NS- Standard errors are not provided when the number of fire departments responding is less than 5.

APPENDIX 2: SURVEY FORM

The next four pages contain the Needs Assessment Survey form.

It was printed on legal size paper (8-1/2” x 14”) but has been shrunk to fit letter size paper here.

NATIONAL FIRE PROTECTION ASSOCIATION
THIRD SURVEY OF THE NEEDS OF THE U.S. FIRE SERVICE

PART I. IDENTIFYING INFORMATION

Name of person completing form: _____ Date: _____

Title of person completing form: _____

Non-emergency phone number: (_____) _____ Fax: (_____) _____

E-mail address: _____

Please use enclosed postpaid envelope and return completed survey form to:

Fire Analysis and Research Division
1 Batterymarch Park
Quincy, MA 02169-7471 USA
Fax: (617) 984-7478

You can fax us the form at 617-984-7478, but please reduce it first to 8½" × 11". If you would like to fill it out electronically go to ***http://www.nfpa.org/assets/files/FNSurvey2010.html*** or please email us at ***fnsurvey@nfpa.org*** stating that you would like this option.

PART II. BASIC INFORMATION

1. **Population** (Number of permanent residents) your department has primary responsibility to protect (exclude mutual aid areas): _____
2. **Area** (in square miles) your department has primary responsibility to protect (exclude mutual aid areas): _____

PART III. BUDGET INFORMATION

3. **Do you have a plan for apparatus replacement on a regular schedule?** ☐ Yes ☐ No

(Questions 4 and 5 are for all or mostly volunteer or call departments ONLY. Indicate % for each, so percents sum to 100 for each question):

4. **What share (%) of your budgeted revenue is from:**

_____ Fire district or other taxes _____ Payments per call _____ Other local payments _____ State government

_____ Fund raising (e.g., donations, raffles, suppers, events) _____ Other *(specify):* _____

5. **What share (%) of your apparatus was:**

_____ Purchased new _____ Donated new _____ Purchased used _____ Donated used

_____ Converted vehicles not designed as FD apparatus _____ Other *(specify):* _____

6. **Was there a change in total funded positions since 2006 in your department for all firefighters regardless of assignment?** ☐ Yes ☐ No

If yes, how many positions were: Gained _____ Lost _____

PART IV. PERSONNEL AND THEIR CAPABILITIES

7. **Total number of full-time (career) uniformed fire fighters:** _____
8. **Total number of active part-time (call or volunteer) fire fighters:** _____
9. **Average number of career/paid firefighters on duty available to respond to emergencies** (total number for department): _____
10. **Average number of call/volunteer personnel who respond to emergencies:** _____
11. **Number of on-duty career/paid personnel assigned to an engine/pumper**

(Check one) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+ ☐ Not applicable

12. **Number of on-duty career/paid personnel assigned to a ladder/aerial**

(Check one) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+ ☐ Not applicable

PART IV. PERSONNEL AND THEIR CAPABILITIES *(continued)*

13. Structural firefighting.

a. Is this a role your department performs? *(Check one)* ☐ Yes ☐ No

b. If yes, how many of your personnel who perform this duty have received formal training (not just on-the-job)? *(Check one)* ☐ All ☐ Most ☐ Some ☐ None

c. Have any of your personnel been certified to any of the following levels? *(Check all that apply)* ☐ A. Firefighter Level I ☐ B. Firefighter Level II

14. Emergency medical service (EMS).

a. Is this a role your department performs? *(Check one)* ☐ Yes ☐ No

b. If yes, how many of your personnel who perform this duty have received formal training (not just on-the-job)? *(Check one)* ☐ All ☐ Most ☐ Some ☐ None

c. If yes to a, have any of your personnel been certified to any of the following levels? *(Check all that apply)* ☐ A. First responder ☐ B. Basic Life Support (BLS)/EMTIntermediate (EMTI) ☐ C. Advanced Life Support (ALS)/EMTIntermediate (EMTI) D. ALS/Paramedic

15. Hazardous materials response (Hazmat).

a. Is this a role your department performs? *(Check one)* ☐ Yes ☐ No

b. If yes, how many of your personnel who perform this duty have received formal training (not just on-the-job)? *(Check one)* ☐ All ☐ Most ☐ Some ☐ None

c. If yes to a, have any of your personnel been certified to any of the following levels? *(Check all that apply)* ☐ A. Awareness ☐ B. Operational ☐ C. Technician

16. Wildland firefighting.

a. Is this a role your department performs? *(Check one)* ☐ Yes ☐ No

b. If yes, how many of your personnel who perform this duty have received formal training (not just on-the-job)? *(Check one)* ☐ All ☐ Most ☐ Some ☐ None

17. Technical rescue.

a. Is this a role your department performs? *(Check one)* ☐ Yes ☐ No

b. If yes, how many of your personnel who perform this duty have received formal training (not just on-the-job)? *(Check one)* ☐ All ☐ Most ☐ Some ☐ None

18. Basic firefighter fitness and health.

Does your department have a program to maintain basic firefighter fitness and health (e.g., as required in NFPA 1500)? *(Check one)* ☐ Yes ☐ No

19. Infectious disease control.

Does your department have a program for infectious disease control? *(Check one)* ☐ Yes ☐ No

PART V. FIRE PREVENTION AND CODE ENFORCEMENT

20. Which of the following programs or activities does your department conduct? *(Check all that apply)*

☐ A. Plans review
☐ B. Permit approval
☐ C. Routine testing of active systems (e.g., fire sprinkler, detection/alarm, smoke control)
☐ D. Free distribution of home smoke alarms
☐ E. Juvenile firesetter program
☐ F. School fire safety education program based on a national model curriculum
☐ G. Other prevention program *(specify)* _____

21. Who conducts fire code inspections in your community? *(Check all that apply)*

☐ A. Full-time fire department inspectors
☐ B. In-service firefighters
☐ C. Building department
☐ D. Separate inspection bureau
☐ E. Other *(specify)* _____
☐ F. No one

22. Who determines that a fire was deliberately set? *(Check all that apply)*

☐ A. Fire department arson investigator
☐ B. Regional arson task force investigator
☐ C. State arson investigator
☐ D. Incident commander or other first-in fire officer
☐ E. Police department
☐ F. Contract investigator
☐ G. Insurance investigator
☐ H. Other *(specify)* _____

PART VI. FACILITIES, APPARATUS, AND EQUIPMENT

23. Number of fire stations: _____

Number over 40 years old: _____ Number having backup power: _____

Number equipped for exhaust emission control (e.g., diesel exhaust extraction): _____

24. Number of engines/pumpers in service: (Numbers by age should sum to total.)

Total: _____ 0–14 years old: _____ 15–19 years old: _____

20–29 years old: _____ 30 or more years old: _____ Unknown age: _____

25. Number of ladders/aerials in service: _____

Number of buildings in community that are 4 or more stories in height:
(Check one) ☐ None ☐ 1–5 ☐ 6–10 ☐ 11 or more

26. Number of ambulances or other patient transport vehicles: _____

27. Portable radios.

a. How many of your emergency responders on-duty on a single shift can be equipped with portable radios?
(Check one) ☐ All ☐ Most ☐ Some ☐ None

b. How many of your portable radios are water-resistant?
(Check one) ☐ All ☐ Most ☐ Some ☐ None ☐ Don't know

c. How many of your portable radios are intrinsically safe in an explosive atmosphere?
(Check one) ☐ All ☐ Most ☐ Some ☐ None ☐ Don't know

d. Do you have reserve portable radios equal to or greater than 10% of your in-service radios?
(Check one) ☐ Yes ☐ No ☐ Don't know

28. Self-contained breathing apparatus (SCBA).

a. How many emergency responders on-duty on a single shift can be equipped with SCBA?
(Check one) ☐ All ☐ Most ☐ Some ☐ None

b. How many of your SCBA are 10 years old or older?
(Check one) ☐ All ☐ Most ☐ Some ☐ None ☐ Don't know

29. Personal alert safety system (PASS) devices.

How many of your emergency responders on-duty on a single shift are equipped with PASS devices?
(Check one) ☐ All ☐ Most ☐ Some ☐ None

30. Personal protective clothing.

a. How many of your emergency responders are equipped with personal protective clothing?
(Check one) ☐ All ☐ Most ☐ Some ☐ None

b. How much of your personal protective clothing is at least 10 years old?
(Check one) ☐ All ☐ Most ☐ Some ☐ None ☐ Don't know

c. Do you have reserve personal protective clothing sufficient to equip 10% of your emergency responders?
(Check one) ☐ Yes ☐ No ☐ Don't know

PART VII. COMMUNICATIONS AND COMMUNICATIONS EQUIPMENT

31. Multi-agency communication.

a. Can you communicate by radio on an incident scene with your federal, state, and local emergency response partners (includes frequency compatibility)? *(Check one)* ☐ Yes ☐ No ☐ Don't know

b. If yes, how many of your partners can you communicate with at an incident scene?
(Check one) ☐ All ☐ Most ☐ Some

32. Map coordinate system.

a. Do you have a map coordinate system you would use to help direct your emergency response partners to specific locations? *(Check one)* ☐ Yes ☐ No ☐ Don't know

b. If yes, what system do you use? *(Check one)* ☐ Local system—Map Grid/Street Address/Box Alarm Number
☐ Based on longitude/latitude ☐ Based on Military Grid Reference System (MGRS) or US National Grid (USNG)
☐ State Plane Coordinate System ☐ Other *(specify)* _____

33. Telephone communication.

Do you have 911 or similar system? *(Check one)* ☐ Yes, 911 basic ☐ Yes, 911 enhanced
☐ Yes, other 3-digit system *(specify)* _____ ☐ No

34. Dispatch.

a. Who has primary responsibility for dispatch operations? *(Check one)* ☐ Fire department ☐ Police department
☐ Private company ☐ Combined public safety agency ☐ Other *(specify)* _____

b. Do you also have a backup dispatch facility? *(Check one)* ☐ Yes ☐ No

35. Internet access.

a. Does your department have Internet access? *(Check one)* ☐ Yes ☐ No

b. If yes, describe the access you have. *(Check one)* ☐ All personnel have individual access
☐ One access point per station, multiple stations ☐ One access point at the only station
☐ Access at headquarters, but there are multiple stations ☐ Other *(specify)* _____

PART VIII. ABILITY TO HANDLE UNUSUALLY CHALLENGING INCIDENTS

Each question is based on an example incident. We want to know whether you have enough local resources to handle such an incident, and if not, how far you would have to go to obtain sufficient resources. Both the type and the size of the incident are specified to give you something specific to react to and a challenge that will often need more than local resources.

36. Technical rescue and EMS for a building with 50 occupants after structural collapse.

a. Is this type of incident within your department's responsibility? *(Check one)* ☐ Yes ☐ No *(If no, go to Question 37)*

b. If yes, how far would you have to go to obtain enough people with specialized training for this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

c. If yes, how far would you have to go to obtain enough specialized equipment to handle this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

d. If yes, do you have a plan for obtaining assistance from others on this type of incident? *(Check one)* ☐ Yes, written agreement ☐ Yes, informal ☐ Yes, other *(specify)* _____ ☐ No

37. Hazmat and EMS for an incident involving chemical/biological agents and 10 injuries.

a. Is this type of incident within your department's responsibility? *(Check one)* ☐ Yes ☐ No *(If no, go to Question 38)*

b. If yes, how far would you have to go to obtain enough people with specialized training for this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

c. If yes, how far would you have to go to obtain enough specialized equipment to handle this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

d. If yes, do you have a plan for obtaining assistance from others on this type of incident? *(Check one)* ☐ Yes, written agreement ☐ Yes, informal ☐ Yes, other *(specify)* _____ ☐ No

38. Wildland/urban interface fire affecting 500 acres.

a. Is your department likely to experience a wildland/urban interface fire affecting 500 acres? *(Check one)* ☐ Yes ☐ No *(if no, go to question 39)*

b. If yes, how far would you have to go to obtain enough people with specialized training for this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

c. If yes, how far would you have to go to obtain enough specialized equipment to handle this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

d. If yes, do you have a plan for obtaining assistance from others on this type of incident? *(Check one)* ☐ Yes, written agreement ☐ Yes, informal ☐ Yes, other *(specify)* _____ ☐ No

39. Mitigation (confining, slowing, etc.) of a developing major flood.

a. Does your department regularly prepare for a major flood in your jurisdiction that would result in extensive damage or require extensive evacuation of people? *(Check one)* ☐ Yes ☐ No *(if no, go to question 40)*

b. If yes, how far would you have to go to obtain enough people with specialized training for this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

c. If yes, how far would you have to go to obtain enough specialized equipment to handle this incident? *(Check one)* ☐ Local would be enough ☐ Regional ☐ State ☐ National

d. If yes, do you have a plan for obtaining assistance from others on this type of incident? *(Check one)* ☐ Yes, written agreement ☐ Yes, informal ☐ Yes, other *(specify)* _____ ☐ No

PART IX. NEW AND EMERGING TECHNOLOGY

40. Chemical, Biological, Radiological, Nuclear (CBRN) Respirators.

How many NIOSH-certified CBRN respirators (air purifying respirator or self contained breathing apparatus/SCBA) are available for use by fire fighters in your fire department? _____ *(If none, enter a "0")*

41. Thermal imaging cameras. Do you have any now or plan to acquire any?

(Check one) ☐ Now own ☐ Plan to have in 1 year ☐ Plan to have in 5 years ☐ No plan to acquire

42. Advanced personnel location equipment. Do you have any now or plan to acquire any?

(Check one) ☐ Now own ☐ Plan to have in 1 year ☐ Plan to have in 5 years ☐ No plan to acquire

43. Equipment to collect chem/bio samples for analysis elsewhere. Do you have any now or plan to acquire any?

(Check one) ☐ Now own ☐ Plan to have in 1 year ☐ Plan to have in 5 years ☐ No plan to acquire

PART X. YOUR TOP 3 NEEDS IN YOUR WORDS.

44. _____

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45. _____

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46. _____

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