Fire Department Organization

by John Best

This chapter provides required knowledge items for the following NFPA Standard 1001 Job Performance Requirements:

FFI 5.1.1

OBJECTIVES

Upon completion of this chapter, you should be able to do the following:

- Describe the organizational structures of small, medium, and large departments
- Identify the six types of fire department units, and the roles they play within the department
- Identify and describe the roles and responsibilities of the firefighter and fire officer positions
- Identify additional functions the fire department performs
- Identify fire department member assistance programs
- Identify the policies, procedures, regulations, and by-laws under which fire departments operate
- List and describe the roles of other agencies that impact the operation of the local fire department

INTRODUCTION

Over the last 400 years, the fire service has evolved to the point where the fire suppression function has become but one of many important missions of the fire department organization. The modern fire department responds to numerous all-hazard responsibilities including but not limited to fire suppression; **emergency medical services (EMS)**; specialty rescue operations; hazardous materials mitigation; life- and fire-safety education; the administration and enforcement of codes and standards; and emergency communications.

This evolution continues to enhance the fire service's relationship with a number of allied organizations representing the ever-increasing spectrum of responsibilities addressed by fire departments and other emergency organizations. The following organizations represent a sampling of the major organizations closely associated with the fire service:

- *National Fire Protection Association (NFPA)*, a nonprofit organization whose purpose is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes, standards, research, training, and education

- -*International Association of Fire Chiefs (IAFC)*, composed of members considered the leading experts in firefighting, emergency medical services, terrorism response, hazardous materials, natural disasters, search and rescue, and public safety legislation.
- -*International Association of Fire Fighters (IAFF)*, working to promote a safe and healthy work environment, reasonable working conditions, the research and treatment of burns and other related health problems common to career firefighters.
- -*National Volunteer Fire Council (NVFC)*, composed of state volunteer firefighter organizations involved in providing training programs, public education, conferences, and the compilation of pertinent statistics.

Additional allied organizations and more in-depth descriptions appear later in this chapter.

The fire service addresses operational all-hazard responsibilities through a basic fire company–firefighter organization overseen by a quasi-military leadership system. The companies are assigned to the number of stations needed to meet the community's response time or **standard of cover** requirements.

Companies are generally organized by function such as an engine, ladder truck, emergency medical, rescue, or specialty service. These companies and other fire department functions are supervised and staffed by the appropriate complement of officers and firefighters.

This chapter describes the firefighter as the basic staffing unit of the fire department and the many roles that firefighters have in the modern fire department organization.

FIRE DEPARTMENT ORGANIZATION

The fire department must organize in a manner to provide the oversight and resources required to exercise its authority to meet its responsibilities to the community.

Mission

FFI 5.1.1 **A** fire department should develop its mission statement commensurate with the expectations and requirements of the community it serves. Elements typically included in a fire department mission statement are summarized by the NFPA 1201, *Standard for Providing Emergency Services to the Public,* as follows:

- Save lives
- Prevent or mitigate fires, injuries, and emergencies
- Work through a system of emergency management
- Extinguish fires
- Minimize damage to property and the environment
- Protect critical infrastructure
- Perform emergency medical services
- Protect the community from hazardous situations
- Perform response to and mitigation of events of terrorism
- Perform rescue services
- Perform other community-related services

A fire department mission statement is usually part of a master plan that also includes the department's vision, values, goals, and objectives. This plan should clearly communicate these factors to the organization's members and customers.

Organizational structure

FFI 5.1.1 The organizational structure of a fire department is influenced by a multitude of factors. These factors include, but are not limited to, its mission, the communities it serves and their expectations, the size and workload of the organization, available funding, and the political landscape.

This organizational structure ranges from large and complex, as in a major municipality or county; to moderate, as in a medium-size borough or city; to small, as in a single-station, small-town, all-volunteer fire company.

Generally, fire departments are organized as full-time paid, part-time paid, volunteer, volunteer-paid-on-call, or a combination of the four. They may be operated by a federal entity, a municipal entity, a special taxing district, a not-for-profit corporation, or a for-profit corporation.

The various demands placed on the majority of fire departments have made fire-suppression activity one of the smallest percentages of their workload: less than 10% for most departments. For example, fire departments that provide EMS, including advanced life support,

patient transport, or both, find their EMS workload ranging from 60% to 75%.

Most fire departments deploy their resources to effectively address their community's **fire problem**. This involves organizing a cycle of resources, including the following:

- *Public education*, so that citizens are aware of hazards, how to prevent them, and what to do should the peril occur
- *Engineering and code enforcement*, so that fire and life safety is an inherent part of the community's infrastructure, and where there is a violation, compliance is achieved
- *Fire suppression*, needed when there is a failure in the education and engineering and code enforcement parts of the cycle, so that the emergency can be resolved
- *Fire investigation*, in which the incident is documented, the cause determined accidental or intentional, and steps are taken so it will not happen again

The results of fire investigation suggest new needs and goals for public education; code modifications and changes; fire department training, resources, and deployment; and identification of the community's fire problem.

According to the NFPA, there were 1,557,500 fires reported during 2007 involving $14.6 billion in property damage. Figure 3–1 provides an overview of these fire types:

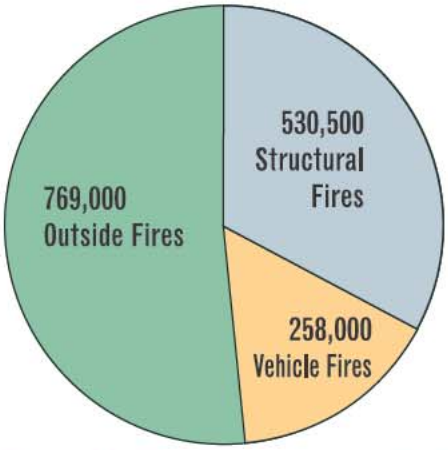

Fig. 3–1. Nearly 1.6 million fires were reported to the National Fire Protection Association in 2007. Fires are typically less then 10% of the workload for any fire department.

Whether the fire department is career or volunteer; a large, complex entity; or a small, municipal, single-station organization, the firefighter is the primary position and resource in the fulfillment of the associated missions (figs. 3–2, 3–3, 3–4).

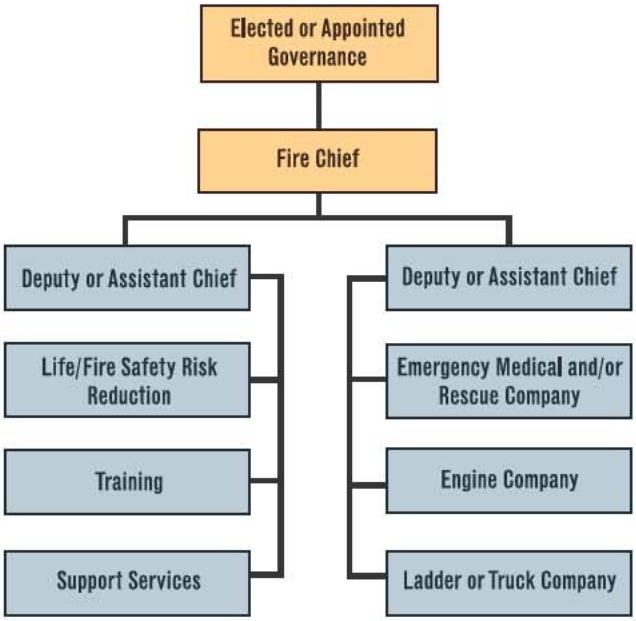

Fig. 3–2. Typical organizational structure of a small fire department

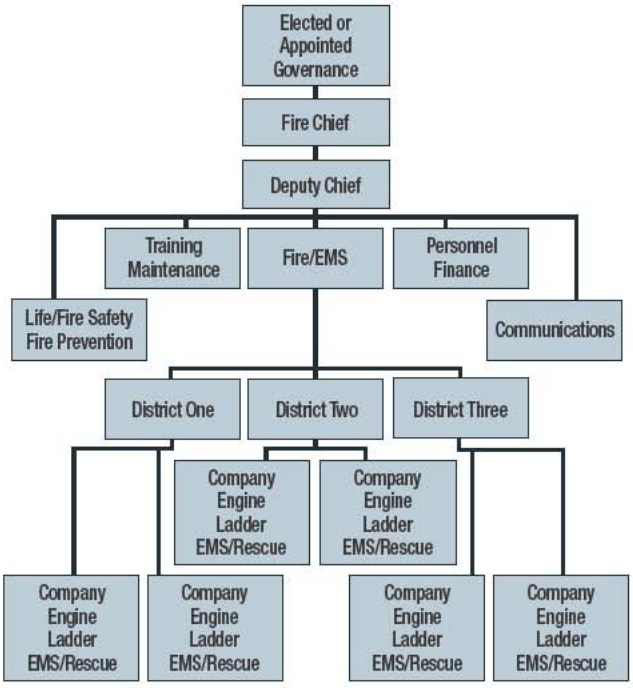

Fig. 3–3. Typical organizational structure of a medium-size fire department

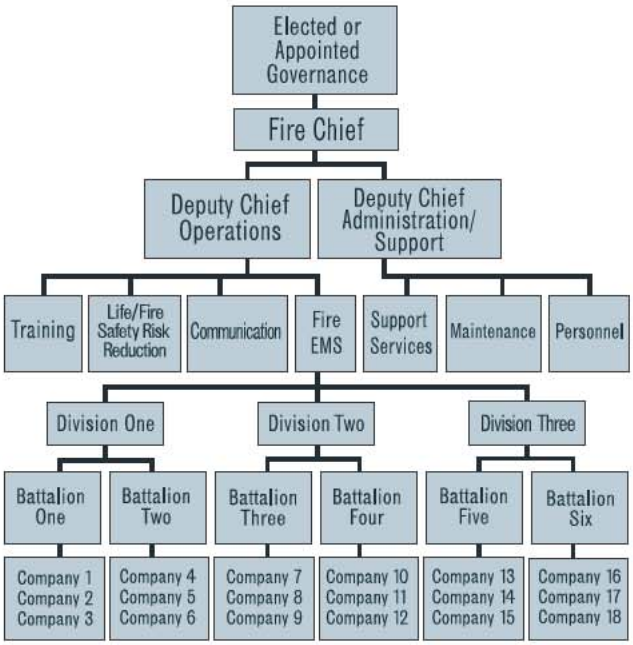

Fig. 3–4. Typical organizational structure of large fire department

THE COMPANY

As defined by NFPA 1201, *Standard for Providing Emergency Services to the Public*, the company is a group of members that is the following:

1. Under the direct supervision of an officer or leader
2. Trained and equipped to perform assigned tasks
3. Usually organized and identified as engine companies, ladder companies, rescue companies, or squad companies
4. Usually operates with one piece of fire apparatus (pumper, ladder truck, elevating platform, rescue, squad, or ambulance)
5. Arrives at the incident scene on fire apparatus or assembles at the scene prior to assignment

Engine company

An **engine company** is composed of an apparatus or vehicle, generally referred to as an engine or pumper, staffed by firefighters and a supervisor (officer) trained and assigned to deliver water, deploy hoselines, and execute other associated tactics to extinguish fires.

The engine company (pumper) vehicle, as seen in figure 3–5, is defined by NFPA 1901, *Standard for Automotive Fire Apparatus*, as fire apparatus with a permanently mounted pump of at least 750 gpm (2,839 L/min) capacity, a tank carrying at least 300 gal (1,136 L) of water, and a hose body, whose primary purpose is to combat structure and associated fires.

Fig. 3–5. The engine company is a common unit found at almost every fire station in the United States.

Many engine companies are assigned, equipped, and trained to perform rescue, extrication, and/or emergency medical services.

Ladder or truck company

A **ladder** or **truck company** is composed of an aerial apparatus or vehicle, staffed by firefighters and a supervisor (officer) trained and assigned to place ladders, accomplish search and rescue, perform ventilation and forcible-entry operations, secure utilities, and perform salvage or overhaul at fire and other emergency scenes.

The ladder or truck company aerial fire apparatus, as seen in figure 3–6, is defined by NFPA 1901, *Standard for Automotive Fire Apparatus*, as a vehicle equipped with an **aerial ladder**, **elevating platform**, **aerial ladder platform**, or **water tower** that is designed and equipped to support firefighting and rescue operations by positioning personnel, handling materials, providing continuous egress, or discharging water at positions elevated from the ground. This vehicle, as defined, must have an extensive complement of hand and power tools and should have a minimum of 115 ft (35 m) of ground ladders, including two extension ladders, two straight ladders with folding roof hooks, and an attic ladder.

Fig. 3–6. A ladder or truck company. These units can come with a wide variety of fixed aerial devices.

As with the engine company, ladder or truck companies may be assigned, equipped, and trained to perform rescue, extrication, and/or EMS.

Rescue or squad company

A **rescue** or **squad company** is composed of a vehicle carrying specialized equipment, as seen in figure 3–7, staffed by firefighters and a supervisor (officer) trained and assigned to perform forcible entry, search and rescue, and other specialized **tasks** at fire scenes. Most communities hold their rescue or squad companies responsible for confined space and **rope rescues**, vehicle accident extrications, and other technical rescue evolutions, although these tasks may be assigned to ladder companies.

Rescue or squad companies may also provide emergency medical services.

Fig. 3–7. Rescue companies can come in many shapes and sizes; however, large rescue units like this are regularly found in urban environments.

Ambulance or emergency medical services company

Many fire-service-based ambulance or EMS companies are composed of a transport vehicle, as seen in figure 3–8, carrying specialized medical equipment, and staffed by firefighters trained and assigned to provide treatment to patients, including first aid, cardiopulmonary resuscitation, basic life support (BLS) or advanced life support (ALS), and other medical procedures prior to arrival at a health care facility.

Fig. 3–8. Ambulances, or EMS units, may be staffed by firefighters or paramedics from private businesses.

Although there are numerous emergency medical staffing and response models depending on the community served, many fire departments utilize EMS-trained firefighters to staff their ambulance or EMS companies. These firefighters may be assigned to medical or firefighting duties.

Combination or specialty companies

The fire department is responsible for providing a wide spectrum of services to their respective communities. This diversity of services can mandate a variety of unique approaches, including the use of quints, **mobile water supply apparatus (water tenders)**, wildland firefighting apparatus, hazardous materials units, light and breathing air vehicles, aircraft rescue and firefighting companies, and other resources tailored to a specific community's needs.

The quint. The **quint** is defined by the NFPA 1901, *Standard for Automotive Fire Apparatus*, as fire apparatus with a permanently mounted fire pump, a water tank, a hose storage area, an aerial ladder or elevating platform with a permanently mounted waterway, and a complement of ground ladders (fig. 3–9). Basically, it combines a pumper and a ladder truck. This vehicle is staffed with firefighters and an officer trained and assigned to perform engine company and truck company evolutions.

Fig. 3–9. Quints are combination units that can do the work of both engine and ladder companies since they have a fire pump, a water tank, hose storage area, aerial ladder, and ground ladders.

Mobile water supply apparatus. NFPA 1901, *Standard for Automotive Fire Apparatus*, defines a mobile water supply apparatus (**water tender**) as a vehicle designed primarily for transporting (pickup, transporting, and delivering) water to fire emergency scenes to be applied by other vehicles or pumping equipment (fig. 3–10). This company is staffed and operated by firefighters.

Fig. 3–10. Mobile water supply apparatus, commonly referred to as tenders, help fire departments fight fires in areas without fire hydrants.

THE FIREFIGHTER

FFI 5.1.1 A firefighter, as defined by NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, is an individual possessing the knowledge and skills to function as an integral member of a firefighting team, under supervision, in hazardous conditions.

In addition, firefighters should be knowledgeable of their fire department organization, its mission, standard operating procedures, and rules and regulations. They should understand the importance of physical fitness and a healthy lifestyle as it relates to the performance of their duties.

As the mission of a fire department evolves in its community, firefighter roles may be expanded upon. These roles may include but are not limited to emergency medical first responder, paramedic, rescue specialist, driver/operator, fire investigation or prevention officer, and fire rescue communicator/dispatcher.

Many state, county, and local entities have established minimum qualifications for firefighters within their jurisdictions. The NFPA, through its various technical committees and associated consensus processes, has established numerous training and qualification standards addressing firefighter duties and responsibilities. These standards are widely accepted by fire department and emergency services organizations worldwide and are adopted as the basis for the firefighter minimum qualifications.

NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, addresses firefighter minimum knowledge, skills, and abilities. These minimum qualifications are divided into **Firefighter I** and **Firefighter II** designations, generally based on the level of supervision required and the ability to operate independently.

The following list identifies examples of typical minimum skills and abilities required of a Firefighter I (fig. 3–11):

The Firefighter I has the ability to do the following:

- Don and use personal protective clothing
- Hoist tools and equipment using ropes
- Locate information in department documents, standards, and codes
- Operate fire department communications, telephone, and intercom equipment
- Control breathing, use self-contained breathing apparatus, and replace air cylinders
- Use provided safety equipment
- Transport and operate hand and power tools to force entry and ventilate
- Operate as a team member in vision-obscured conditions
- Carry, raise, and extend ladders

- Identify automobile fuel types; assess and control fuel leaks
- Operate fire attack hoses; open, close, and adjust the flow and pattern on nozzles
- Apply water for maximum effectiveness
- Hand lay and connect water supply hose and appliances
- Recognize inherent hazards related to a material's configuration
- Search for and expose hidden fires; assess patterns for origin determination
- Evaluate for complete fire extinguishment
- Conduct property conservation, protection, and salvage evolutions
- Recognize obvious signs of arson and area of fire origin
- Stop fire sprinkler system water flow and operate main control valves
- Select and operate correct portable fire extinguishers based on fire classification
- Operate fire department power supply and lighting equipment
- Identify and operate building utility-control devices
- Suppress ground cover fires; determine exposure threat based on fire spread potential
- Clean, inspect, and maintain fire department tools and equipment

Fig. 3–11. A firefighter must be able to perform a wide variety of skills in order to be successful. The skills that a firefighter may be called to do can be found in NFPA 1001.

Firefighter I may be required to drive and operate fire department vehicles and apparatus. This may include fire department vehicles equipped with a fire pump, an aerial device, a **tiller**, and a mobile water supply, including wildland fire apparatus and aircraft firefighting and rescue apparatus.

Driving and operating fire department vehicles, whether on a nonemergency basis or in response to an emergency, requires significant knowledge, skill, and ability, including the following:

- Perform and document routine tests, inspections, and servicing function
- Drive, operate, and position fire apparatus in adverse conditions
- Deploy, energize, and monitor all systems associated with the vehicle
- Position a pumper to do the following: operate at a fire hydrant and at a static water source; power transfer from vehicle engine to pump, draft, operate pumper pressure-control systems; operate auxiliary cooling systems; make the transition between internal and external water sources; and assemble hoseline, nozzles, valves, and appliances
- Maneuver and position an aerial apparatus so that the apparatus is positioned for correct aerial device deployment
- Connect a water supply to a master stream device and control an elevated nozzle manually or remotely
- Apply the principles of tiller operation; methods of communication with the driver; and effects of general steering reactions, night driving, negotiating intersections, and manufacturer operation limitations
- Apply procedures for establishing a water shuttle dump site and principles of water transfer between multiple portable water tanks

NFPA 1002, *Standard on Fire Apparatus Driver/Operator Professional Qualifications*, provides the minimum requirements for the Firefighter I assigned to drive and operate fire department vehicles.

In addition to the typical minimum skills and abilities required of a Firefighter I, a Firefighter II must have the ability to do the following (fig. 3–12):

- Determine the need for command, and organize and coordinate incident management
- Complete basic incident reports including the operation of fire department computers
- Determine necessary applicable codes and standards
- Operate fire department communications equipment
- Extinguish an ignitable liquid fire, including through the application of firefighting foam
- Assemble a team and choose an effective fire attack technique
- Coordinate a structural interior attack hoseline as part of a team
- Execute effective fire attack advances and retreats based on condition changes
- Locate a fire's area of origin, recognize possible causes, and protect evidence
- Extricate a victim entrapped in a motor vehicle accident
- Operate hand and power tools for forcible entry and rescue
- Perform fire-safety surveys including completion of appropriate forms and reports
- Conduct life and fire-safety presentations and tours
- Identify the components of fire suppression and detection systems
- Safely conduct hose service testing
- Support technical rescue teams

Fig. 3–12. To meet the requirements of NFPA 1001 for Firefighter II, a firefighter must be willing and able to take on additional challenges and roles. Here two firefighters perform vehicle extrication.

FIRE DEPARTMENT OFFICERS

Fire departments are comprised of multiple levels of supervision depending on the size, authority, and responsibility of the organization. Although there are many variations, these supervisor levels range from company officer to chief officer.

Company officer

The **company officer** is responsible for the supervision of the personnel and resources assigned to a single or multiunit engine, ladder, or squad company. The quasi-military ranks of sergeant, lieutenant, and captain are typically associated with the company officer or the **NFPA Fire Officer I** designation.

The company officer must have an understanding of the organizational structure of the fire department, including its geographical characteristics and response districts. This station-level supervisor must be familiar with departmental operations, as well as safety and administrative procedures.

The company officer must be able do the following:

- Effectively communicate in writing, operate in an information management system, and effectively operate at all levels in the applicable incident-management system
- Assign tasks or responsibilities to unit members so that the instructions are complete, clear, and concise, with safety considerations addressed and the desired outcomes communicated
- Address community inquiries, project the role of the department, and deliver "all- hazards" education programs
- Recommend changes to existing departmental policies and/or implement new departmental policies at the unit level
- Perform a fire investigation to determine preliminary causes, secure incident scenes, and preserve evidence, as well as provide pertinent information to a fire investigator
- Supervise emergency operations, conduct pre-incident planning, and deploy assigned resources as required
- Integrate safety plans, policies, and procedures into daily and emergency activities. Don appropriate

levels of personal protective equipment to ensure a safe work environment for all assigned members

Battalion or district chief

The **battalion** or **district chief** (typically **NFPA Fire Officer II**) is responsible for the supervision of the personnel and resources associated with multiple units/stations or organizational disciplines within the fire department. This supervisor must be familiar with the organization of all applicable levels of government; their enabling and regulatory legislation; and the functions of other bureaus, divisions, agencies, organizations, and entities as they relate to the fire department.

The battalion or district chief must do the following:

- Initiate actions to enhance or correct member performance within department policies and procedures
- Develop policies and procedures identifying challenges and providing solutions
- Prepare organizational unit budgets and news releases
- Conduct inspections to identify hazards and address code violations
- Conduct fire investigations to determine origin and preliminary cause
- Supervise multiunit emergency operations, conduct pre-incident planning, and deploy assigned resources
- Produce operational plans so that required resources and their assignments are obtained and plans are carried out in compliance with approved safety procedures, resulting in the mitigation of an incident
- Review injury, accident, and health exposure reports to identify unsafe work conditions to prevent reoccurrence

Deputy or assistant chief

The **deputy** or **assistant fire chief** (typically **NFPA Fire Officer III**) is responsible for the supervision of the personnel and resources associated with a major functional discipline (training, emergency medical services, community risk reduction, etc.) within the fire department. This supervisor must keep current with national and international trends and developments related to the fire service and be familiar with public and private organizations that interact with the fire and emergency services.

The deputy or assistant fire chief must do the following:

- Have the ability to research, use evaluative methods, analyze data, communicate orally and in writing, and motivate members
- Establish procedures for hiring, assigning, promoting, and encouraging development of members
- Establish member assignments to maximize efficiency in accordance with policies and procedures
- Prepare community awareness programs
- Prepare divisional or departmental budgets, solicit bids, plan for resource allocation, and work with information management systems
- Evaluate inspection programs to determine effectiveness and develop public safety plans
- Evaluate and identify construction, alarm, detection, and suppression features that contribute to or prevent the spread of fire, heat, and smoke
- Develop pre-incident plans
- Manage multiagency planning, deployment, and operations so that the required resources are determined and the resources are assigned to mitigate an incident
- Develop, manage, and evaluate a departmental safety program
- Develop a measurable accident and injury prevention program

Fire chief (chief engineer, fire commissioner)

The **fire chief** (also known as **chief engineer** or **commissioner** in some jurisdictions) (**NFPA Fire Officer IV**) must serve as a department head and must possess advanced administrative, financial, communications, political, legal, managerial, analytical, and information management skills and abilities.

The fire commissioner or fire chief must do the following:

- Administer and evaluate job performance requirements

- Appraise the fire department's human resource demographics
- Organize and implement recruitment, selection, and placement processes consistent with law and current best practices
- Project a positive image of the fire department to the community
- Attend, participate in, and assume a leadership role in community events to enhance the image of the fire department
- Accomplish long-range planning and fiscal projections
- Develop a comprehensive disaster plan that integrates other agencies' resources to effectively mitigate the impact on a community
- Maintain, develop, and provide leadership for a risk-management program to reduce department injuries and property damage
- Interface with other department heads, a city manager (in some jurisdictions), and elected officials

ADDITIONAL FIRE DEPARTMENT FUNCTIONS

As discussed under fire department organizational structure above, modern fire and emergency service organizations provide numerous functions and services in addition to their typical fire suppression responsibilities. These "additional" functions, depending on jurisdictional needs, may include EMS, community risk reduction (fire-prevention and life-safety education, code enforcement, fire investigation), training, fleet and equipment maintenance, special operations, and administrative or logistical support (fig. 3–13).

Fig. 3–13. For the average firefighter, over 50% of responses will be to emergency medical incidents. Firefighters must realize that they have responsibilities to both fire suppression and emergency medicine.

Emergency medical services

Many fire departments provide EMS to their community. This evolution to a fire-department-based EMS generally depends on the department having the required infrastructure to provide this service, an existing central dispatch resource, strategically placed stations, a centralized training resource, and a 24-hour career and/or volunteer staff.

Most fire-department-based EMS systems are staffed with firefighters with specialized EMS training, skills, knowledge, and certification, depending on community and jurisdiction needs and provider-level requirements. These provider levels are typically categorized as follows:

- **Emergency medical responder** (formerly first responder)—Provision of first aid and cardiopulmonary resuscitation (CPR)
- **Emergency medical technician** (formerly EMT Basic, EMT-B)—Considered to be the minimum level of certification required to function on an ambulance. For fire-department-based EMS systems, EMT certification is typically required during Fire Fighter I and II training.
- **Advanced medical technician** (AMT, formerly EMT-Intermediate/85, EMT-I/85)—This

provider level serves to bridge the practical skills and capabilities of EMTs and paramedics. AMTs are frequently found where the paramedic provider level is not provided.

- **Paramedic** (formerly EMT-Intermediate/99, EMT-I/99, EMT paramedic)—The care and skill capability of this certification level provides for the administration of various medications and invasive EMS procedures under medical direction.

These personnel operate under the auspices of a medical director within state and/or jurisdictional performance protocols. The emergency medical responder, EMT and AMT provider levels are usually components of a basic life support (BLS) system. The paramedic provider level is part of an advanced life support (ALS) system.

Other major considerations for communities and jurisdictions receiving fire department-based EMS is whether the patient transport function should be handled by the fire department or another service or contractor, and whether the fire department should provide BLS or ALS services. Although there are numerous variations of fire department EMS delivery systems, the major options are responding with the appropriate level of service:

- BLS staff and resources to stabilize the patient and transport to a medical facility as required
- ALS staff and resources to stabilize the patient and transport to a medical facility as required
- BLS or ALS staff and resources to stabilize the patient, and another agency transporting the patient to a medical facility. The fire department response in this variation may be accomplished by the closest company staffed with the appropriately certified personnel including an engine company, a ladder company, a squad company, or a vehicle specially designed for this purpose.

NFPA 450, *Guide for Emergency Medical Services and Systems*, provides an excellent reference for community or jurisdictional EMS programs.

Community risk reduction

The transition of fire department responsibilities to an all-hazard approach necessitates the need for progressive fire service organizations to reassign their life- and fire-safety efforts from the traditional fire-prevention program to **community risk reduction**. This reassignment more accurately addresses the contemporary educational, regulatory, and enforcement requirements of a modern fire department involved in such activities as life- and fire-safety education, hazardous materials, EMS, technical rescue, homeland security, code application and enforcement, fire investigation, and **special operations**.

Firefighters may be assigned significant roles in a fire department's community risk-reduction program commensurate with their training, experience, and certification (fig. 3–14). The following standards identify the minimum knowledge, skills, and abilities required of firefighters assigned to community risk-reduction responsibilities:

NFPA 1031, *Standard for Professional Qualifications for Fire Inspector and Plan Examiner*

NFPA 1033, *Standard for Professional Qualifications for Fire Investigator*

NFPA 1035, *Standard for Professional Qualifications for Public Fire and Life Safety Educator*

Fig. 3–14. Although many fire departments have dedicated community risk reduction personnel, it is the responsibility of each firefighter to preach fire prevention and risk reduction.

Special operations

Fire departments organize specialized operational response units to address unique challenges within their respective communities or jurisdictions (fig. 3–15). These specialized units may include hazardous materials mitigation, swift water rescue, ice rescue, confined space, technical rescue, rapid intervention teams, and explosives disposal. Firefighters assigned to these units must have specialized knowledge, skills, and abilities.

Fig. 3–15. Firefighters are responsible for a wide variety of skills involving technical rescue and hazardous materials. Here firefighters operate a boat to perform a water rescue.

Training

FFI 5.1.1 A fire department, regardless of size and mission, provides a training resource in its organizational structure. This resource ranges from an individual in a small single-station department or volunteer organization to a complete organizational division headed by a chief officer in a large metropolitan fire department.

The responsibility is the same, however: administering and documenting all training activities. The department's training officer frequently serves as the organization's safety officer. This assists the department in complying with applicable state or federal Occupational Safety and Health Administration (OSHA) requirements and addresses NFPA 1500, *Fire Department Occupational Safety and Health Program*.

The fire department training function administers and documents the training and continuing education programs for all members of the organization including recruits, probationary firefighters, company officers, and chief officers (see fig. 3–16). Ongoing training for updating firefighter skills and providing specialized training such as fire investigation, specialized rescue techniques, and code enforcement are all part of a fire academy's training responsibilities.

Fig. 3–16. In order to keep skills and knowledge accurate and up to date, firefighters must receive continuing education and training on all the different types of responses they may be responsible for. Here a firefighter trains on a circular saw under the supervision of a senior firefighter.

Communication/dispatch

A number of fire departments provide a 9-1-1 communications/dispatch resource for their community or jurisdiction (fig. 3–17). Most **public safety answering points (PSAP)** are facilitated by local law enforcement where calls for assistance are initially received and then transferred to the fire department for dispatch. There are variations to this process that include the fire department providing the initial answering point.

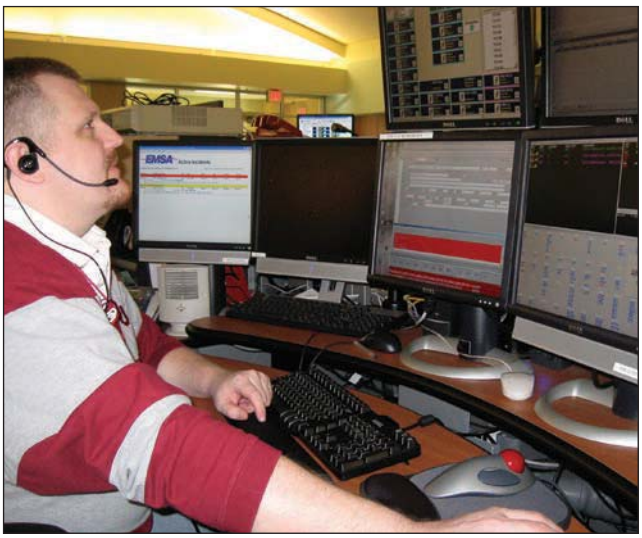

Fig. 3–17. 9-1-1 Centers are responsible for receiving emergency calls and dispatching the appropriate agencies and units to the emergencies.

A PSAP may be staffed with civilian personnel, law enforcement personnel, uniformed firefighters, or an appropriate combination as determined by the local community or jurisdiction. NFPA 1061, *Standard for*

Professional Qualifications for Public Safety Telecommunicator, provides the minimum qualifications required of individuals assigned to a 9-1-1 communications/dispatch center.

Apparatus and equipment acquisition and maintenance

Ensuring that apparatus and equipment are in good working order for emergency response and use is an obvious priority for a fire department. The resource and organization provided by a fire department for this program depends on the size and service demands of the community or jurisdiction and local policy.

Operational fire department personnel work closely with qualified fire apparatus- and equipment-maintenance personnel to formulate specifications for acquisition of new vehicles, tools, and appliances.

Maintenance facilities and personnel for fire department apparatus and equipment may be shared with other municipal organizations in larger communities or outsourced by smaller organizations. NFPA 1071, *Standard for Emergency Vehicle Technician Professional Qualifications*, is the generally accepted standard for the minimum qualifications for fire apparatus-maintenance personnel.

WELLNESS, RISK-MANAGEMENT, AND RECRUITMENT PROGRAMS

FFI 5.1.1 The most valuable resource of a fire department is its staff. Commensurate with local, state, and federal requirements, fire departments or their human resources offices typically provide programs for health and wellness, risk management, employee assistance and recruitment/retention, as well as other ongoing member support efforts.

Physical fitness and a healthy lifestyle

Firefighters must recognize the importance of physical fitness and a healthy lifestyle as it relates to their duties and responsibilities. Routine participation in a prescribed physical fitness program coupled with a healthy lifestyle can enhance firefighters' ability to perform required tasks and activities safely and reduce their risk of injury and premature death.

Progressive fire departments require an exercise program that includes an annual fitness assessment. The focus of this assessment is typically aerobic capacity, body composition, strength, endurance, and flexibility (fig. 3–18).

Fig. 3–18. Regular exercise, proper diet, and medical checkups are essential to all firefighters. Firefighters must have the discipline to follow a healthy lifestyle that provides for a long career and healthy retirement. (Courtesy of Frank Ricci)

Maintaining a healthy lifestyle and level of fitness is not only a benefit to firefighters but also encourages the confidence of fire department team members and the individuals the firefighters are called on to serve.

The National Fire Protection Association, through its NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*, and 1583, *Standard on Health-Related Fitness Programs for Fire Department Members*, provides excellent job-related, references for firefighters. Additionally, the Joint Labor Management Wellness-Fitness Initiative, developed by the IAFF and the IAFC, provides a tool to be used in conjunction with NFPA 1583.

Risk management

Whether a fire department is an independent corporation, a municipal body, or a federal entity, risk management for members and employees is a high priority. Risk-management programs, for example, may encompass defining an emergency incident safety culture, establishing a departmental safety committee and safety officer, medical and workers' compensation insurance, substance abuse programs, and an **employee assistance program (EAP)**. Many of these programs are addressed in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

Recruitment and retention

Fire department entities are finding it more and more difficult to attract and retain volunteer members. This phenomenon is the result of a number of factors, including increased time and training requirements, increased incident call volume, and aging communities, to name a few. The U.S. Fire Administration (USFA), the Department of Homeland Security (DHS), and the National Volunteer Fire Council (NVFC) recently published a comprehensive study addressing the decline in volunteer participation in the fire service (*Retention and Recruitment for the Volunteer Emergency Services: Challenges and Solutions*. U.S. Fire Administration, #FA-310, May 2007).

This study outlines a number of incentives designed to attract and retain volunteer firefighter candidates, many of which could be applied to career candidates. These incentives, depending on the jurisdiction, might include a **length of service award program (LOSAP)**, pay per call or per hour, tax exemptions or deductions, health insurance, tuition assistance, and low-interest housing loans.

POLICIES, PROCEDURES, REGULATIONS, AND BYLAWS

As with any organization or business, the fire department must operate within applicable policies, procedures, regulations, or bylaws. These documents may be promulgated from within the fire department or adopted by an outside entity with application to the fire department. They may be operational or administrative in nature.

Policies and procedures

FFI 5.1.1 Policies and procedures are typically used by the fire department to document the "how-to" in a consistent manner so that all involved understand what is expected of them and their coworkers and how to accomplish it. These documents may be used to communicate administrative or operational matters, are usually codified for easy filing, retrieval and access, and provide for easy updating.

Standard operating procedures (SOPs) or **standard operating guidelines (SOGs)** typically address operational matters such as hose loads, water supply, high-rise operations, and safety requirements. Policies are more often associated with administrative matters such as time and attendance and personnel matters, and are generally promulgated from management or senior staff.

Regulations

Regulations are legal requirements and generally have enforcement or compliance requirements. OSHA and the Department of Labor (DOL), for example, use regulations to communicate their legal requirements.

INCIDENT COMMAND SYSTEM

For most functions performed by the fire service, the typical organizational model does fine. Recent events have caused the fire service to adopt organizational systems that conform to many federal and state regulations when responding to emergency incidents. The **incident command system (ICS)** is an organizational system that provides command and control at these emergency incidents and meets the requirements of government regulations.

The ICS has been used in various styles by the fire service since the early 1970s. The latest method allows the fire service to operate at any type of incident, natural or man-made, and coordinate operations with many other organizations not directly connected to the fire service. ICS provides for improved communications, management of resources, effective span of control, unity of command, effective division of labor, and a coordinated action plan. How ICS works with structural firefighting and hazardous materials incidents will be covered in later chapters and a more detailed explanation of ICS will be covered in Firefighter II.

A discussion of ICS typically covers command staff, general staff, functional areas, and facilities.

The command staff consists of the incident commander, safety officer, information officer, and liaison officer.

- The **incident commander** is the individual responsible for the management of all incident operations at the incident site.
- The **safety officer** is a member of the command staff responsible for monitoring and assessing safety hazards or unsafe situations and for developing measures for ensuring personnel safety.
- The **information officer** is a member of the command staff responsible for interfacing with

the public and media or with other agencies that require information directly from the incident.

- The **liaison officer** is a member of the command staff responsible for coordinating with representatives from cooperating and assisting agencies.

The general staff is a group of incident management personnel reporting to the incident commander. The **general staff** consists of the operations section, planning section, logistics section, and finance/administration section.

- The **operations section** is responsible for all tactical operations at the incident. Includes branches, divisions and/or groups, task forces, strike teams, single resources, and staging areas (fig. 3–19).
- The **planning section** is responsible for the collection, evaluation, and dissemination of tactical information related to the incident, and for the preparation and documentation of incident action plans. This section also maintains information on the current and forecasted situation as well as the status of resources assigned to the incident. This includes the situation, resource, documentation, and demobilization units, as well as technical specialists.
- The **logistics section** is responsible for providing facilities, services, and materials for the incident.
- The **finance/administration section** chief is responsible for all incident costs and financial considerations. This includes the time unit, procurement unit, compensation/claims unit, and cost unit.

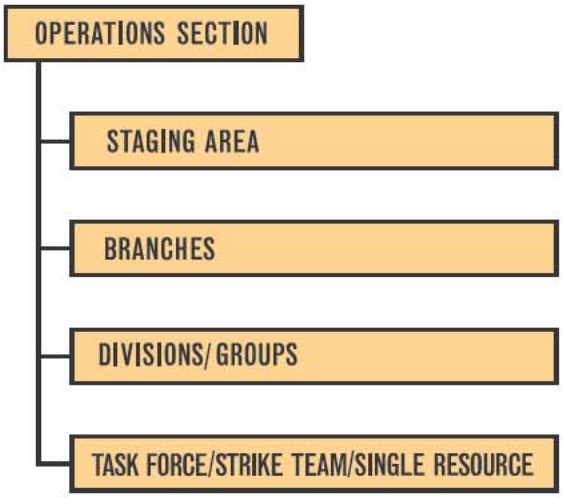

Fig. 3–19. Operations section positions

Common incident facilities include the following:

- The **incident command post** (ICP) is the location where the primary command functions are executed. The ICP may be located within the incident base or other incident facilities.
- The **staging area** is a location set up at an incident where resources can be placed while awaiting a tactical assignment. Staging areas are managed by the operations section.
- **Base** is the location where primary logistics functions for an incident are coordinated and administered. There is only one base per incident.
- **Camp** is a geographical site within the general incident area but separate from the incident base. It is equipped and staffed to provide sleeping, food, water, and sanitary services to incident personnel.

ALLIED ORGANIZATIONS AND THE FIREFIGHTER

FFI 5.1.1 The firefighter's duties and responsibilities interface with and are influenced by a number of external agencies and organizations. These entities range from neighboring fire departments to international regulatory organizations.

Mutual aid plans and automatic aid agreements

Because no single fire department can be expected to possess the resources required to resolve every possible emergency that may occur in their jurisdiction, or because the resources of a neighboring fire department may be geographically closer to an emergency, a fire department may enter into **automatic aid** or **mutual aid** agreements with neighboring organizations.

Mutual aid agreements between fire departments involve reciprocal assistance under a prearranged plan. As an example, when a target hazard or specialized hazard exists in one fire department's responsible jurisdiction that potentially exceeds that fire department's resources, a reciprocal agreement is prearranged, and the neighboring fire department responds for assistance. This type of agreement is also used in the event the closest fire department to a particular incident is committed to another response.

Automatic aid is a plan developed by two or more fire departments for the immediate, joint response to incidents. Automatic aid plans are typically developed when resources required for an initial response or fire attack are not available from the responsible or closest fire department, or neighboring fire departments are geographically closer than the responsible fire department.

These aid plans and agreements delineate requirements and expectations of each of the participating organizations, ranging from indemnity, training levels, and the number of personnel that will respond, to incident command responsibilities. Compensation arrangements are typically addressed when there is a disparity in the frequency and resources routinely responding from one fire department to another.

National Fire Protection Association (NFPA)

The NFPA was established in 1896 as a nonprofit organization to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes, standards, research, training, and education. The NFPA currently has more than 81,000 members, representing more than 80 national trade and professional organizations. The NFPA's 300 codes and standards influence every building, process, service, design, and installation in the United States and many other countries.

NFPA standards that have an influence on the firefighter, depending on their duties and responsibilities, include, but are not limited to, the following:

- NFPA 1001, *Standard for Fire Fighter Professional Qualifications*
- NFPA 1002, *Standard on Fire Apparatus Driver/Operator Professional Qualifications* -
- NFPA 1003, *Standard for Airport Fire Fighter Professional Qualifications* -
- NFPA 1005, *Standard for Professional Qualifications for Marine Fire Fighting for Land-Based Fire Fighters* -
- NFPA 1006, *Standard for Rescue Technician Professional Qualifications* -
- NFPA 1031, *Standard for Professional Qualifications for Fire Inspector and Plan Examiner*
- NFPA 1033, *Standard for Professional Qualifications for Fire Investigator* -
- NFPA 1035, *Standard for Professional Qualifications for Public Fire and Life Safety Educator*
- NFPA 1051, *Standard for Wildland Fire Fighter Professional Qualifications* -
- NFPA 1061, *Standard for Professional Qualifications for Public Safety Telecommunicator*
- NFPA 1081, *Standard for Industrial Fire Brigade Member Professional Qualifications* -
- NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program* -
- NFPA 1581, *Standard on Fire Department Infection Control Program*
- NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*
- NFPA 1583, *Standard on Health-Related Fitness Programs for Fire Department Members* -

International Association of Fire Chiefs (IAFC)

The IAFC was established in 1873 to represent the leadership of more than 1.2 million firefighters. Members of the IAFC are considered the leading experts in firefighting, EMS, terrorism response, hazardous materials, natural disasters, search and rescue, and public safety legislation.

Some of the IAFC programs having direct interface with firefighters include the following:

- National Fire Fighter Near-Miss Reporting System
- Vehicle Safety
- Wellness Fitness
- Hazardous Materials

International Association of Fire Fighters (IAFF)

The IAFF was officially established in 1918 and is a labor union representing more than 287,000 career firefighters and emergency medical personnel. With its headquarters in Washington, DC, the IAFF works to promote a safe and healthy work environment, reasonable working conditions, the research and treatment of burns and other related health problems common to firefighters, and the establishment of schools for imparting knowledge of modern and improved methods of firefighting and prevention.

National Volunteer Fire Council (NVFC)

The NVFC pursues the interests of volunteer firefighters and volunteer fire departments. It is an organization comprising state firefighter organizations involved in providing training programs, public education, conferences, and the compilation of pertinent statistics. The NVFC represents its members' interests to the U.S. Congress and federal agencies.

Department of Homeland Security (DHS)

DHS was established after the September 11, 2001, terrorist attack, when duplications and gaps were exploited in federal, state, and local government resources. DHS integrates these resources to protect the American homeland, including the Federal Emergency Management Agency (FEMA), the USFA, and the National Fire Academy. The primary benefit to firefighters and fire departments is grant funding, incident preplanning and coordination, equipment, and training.

Occupational Safety and Health Administration (OSHA)

OSHA, part of the U.S. Department of Labor, was established to ensure safe working conditions. Many states have established a local OSHA entity to enforce the federal regulations. Whether enforced at the state or federal level, OSHA workplace requirements apply to volunteer and career fire departments.

National Institute for Occupational Safety and Health (NIOSH)

NIOSH supports the OSHA through research and educational training. The Institute recommends occupational safety and health standards and undertakes investigations of firefighter and other occupational incidents when requested.

Insurance Services Office (ISO)

ISO is a nonprofit voluntary association of insurers that gathers data for the purpose of setting fire insurance rates. Using its *Grading Schedule for Municipal Fire Protection*, ISO provides an analysis of public fire services and their ability to defend the community against a major fire. The analysis includes a review of the fire department, available water supply, the fire service communication system, and the fire-safety control capabilities.

STATISTICAL OVERVIEW

The NFPA reported that there were 30,185 fire departments in 2007. These departments were staffed as follows:

All career	2,263
Mostly career	1,765
Mostly volunteer	4,989
All volunteer	21,168

Tables 3–1, 3–2, and 3–3 provide a 5-year presentation of pertinent fire department and firefighter data, including the number of career and volunteer firefighters, the number of fire departments, the number of fire and nonfire incidents firefighters responded to, firefighter injuries, and firefighter deaths. Career firefighters include full-time, uniformed firefighters regardless of assignment, but do not include state, federal, or private firebrigade personnel. Volunteer firefighters include active part-time and paid on-call.

Table. 3–1. Firefighter and fire department statistics

Year	Career firefighters	Volunteer firefighters	Total firefighters	Number of fire departments
2003	296,850	800,050	1,096,900	30,542
2004	305,150	795,600	1,100,750	30,400
2005	313,300	823,650	1,136,950	30,300
2006	316,950	823,950	1,140,900	30,635
2007	323,350	825,450	1,148,800	30,185

Source: NFPA

Table. 3–2. Incidents and firefighter injuries

Year	Fire incidents	Fire incident injuries	Nonfire incidents	Nonfire incident injuries
2003	1,584,500	38,045	20,821,500	14,550
2004	1,550,500	36,880	21,066,000	13,150
2005	1,602,000	41,950	21,649,500	12,250
2006	1,642,500	44,210	22,827,500	13,090
2007	1,557,500	38,340	23,777,000	15,435

Source: NFPA

Table. 3–3. Career and volunteer firefighter fatalities

Year	Total	Career firefighters	Volunteer firefighters	Nonmunicipal
2003	106	26	58	22
2004	105	29	65	11
2005	87	25	54	8
2006	89	23	46	20
2007	103	42	53	8

Source: NFPA

Most career firefighters (74%) protect communities of 25,000 or more people, while 95% of volunteer firefighters protect communities with fewer than 25,000 people. More than half of volunteer firefighters are located in rural fire departments protecting fewer than 2,500 people.

The number of fire and nonfire incidents continues to increase annually, as does the number of injuries.

QUESTIONS

1. Discuss the differences between policies and procedures, operating guidelines, and regulations.
2. What are the differences between mutual aid agreements and automatic aid agreements? In what instances would one or both be used?
3. Explain the different levels of officers and their responsibilities (for example, fire chief, deputy chief, battalion chief, company officer).
4. A _____ is a type of apparatus with a permanently mounted fire pump, a water tank, a hose storage area, an aerial ladder or elevating platform with a permanently mounted waterway, and a complement of ground ladders.
5. Hazardous materials, swift water rescue, confined space, and rope rescue are all examples of _____ operations.
6. Name the different EMS certification levels and what general level of care each can provide.
7. The most valuable resource a fire department has is its _____.
8. What levels of firefighting certifications exist, and what skills are taught to each level?