U.S. Fire Administration
Working for a fire-safe America

Firefighter Fatalities in the United States in 2019

October 2020

FEMA

Firefighter Fatalities in the United States in 2019

Prepared by

U.S. Department of Homeland Security
Federal Emergency Management Agency
U.S. Fire Administration
National Fire Data Center
and
The National Fallen Firefighters Foundation
firehero.org

In memory of all firefighters
who answered their last call in 2019.

To their families and friends.

For their service and sacrifice.

Mission Statement

We support and strengthen fire and emergency medical services and stakeholders to prepare for, prevent, mitigate and respond to all hazards.

U.S. Fire Administration

Working for a fire-safe America

Table of Contents

Acknowledgments

This study of firefighter fatalities would not have been possible without the cooperation and assistance of many members of the fire service across the United States. Members of individual fire departments; chief fire officers; wildland fire service organizations, such as the U.S. Forest Service, the National Park Service, the Bureau of Land Management, the Bureau of Indian Affairs and the U.S. Fish and Wildlife Service; the U.S. Department of Justice; the National Fire Protection Association (NFPA); and many others contributed important information for this report.

The National Fallen Firefighters Foundation (NFFF) was responsible for compilation of a large portion of the information used in this report. Their cooperation and work toward reducing firefighter deaths is gratefully acknowledged.

The ultimate objective of this report's effort is to reduce the number of firefighter deaths through an increased awareness and understanding of their causes and how they can be prevented. Firefighting, rescue and other types of emergency operations are essential activities in an inherently dangerous profession, and unfortunate tragedies do occur. These are the risks that all firefighters accept every time they respond to an emergency incident. However, the risks can be greatly reduced through efforts to improve training, emergency scene operations, and firefighter health and safety.

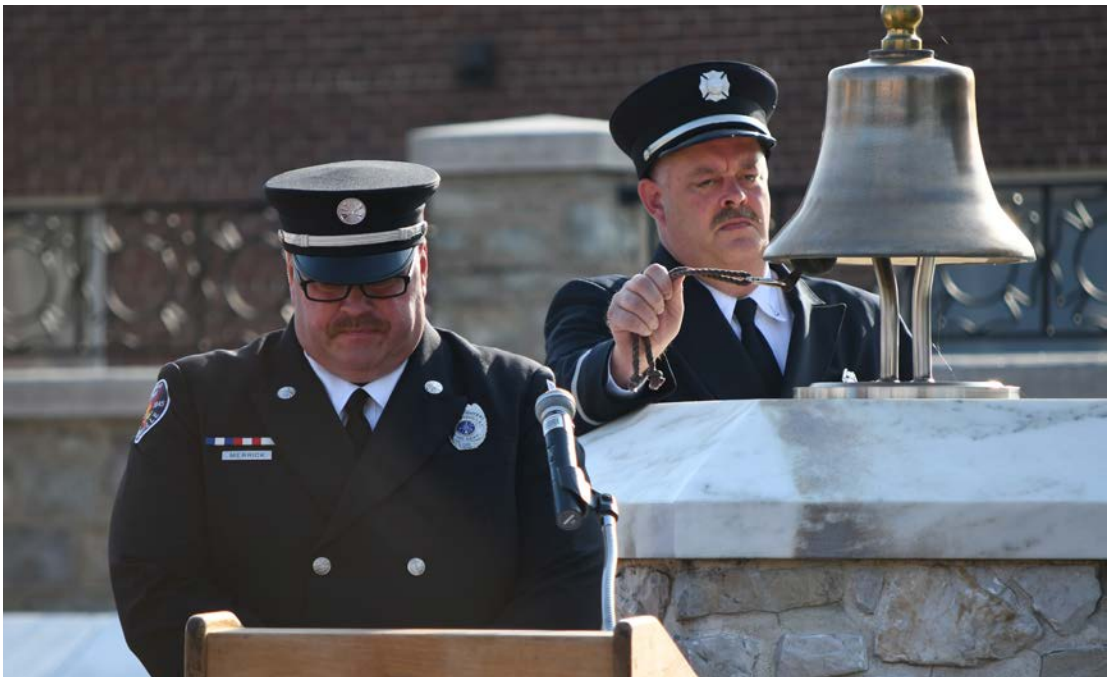
Background

Since 1976, the U.S. Fire Administration (USFA) has tracked the number of firefighter fatalities and conducted an annual analysis. Through the collection of information on the causes of firefighter deaths, the USFA can focus on specific problems and direct efforts toward finding solutions to reduce the number of firefighter fatalities in the future. This information is also used to measure the effectiveness of current programs directed toward firefighter health and safety. Several programs have been developed by the USFA in response to this annual report. For example, the USFA has sponsored significant work in the areas of general roadway and emergency vehicle operations safety, health and safety

of the female emergency responder, fire service risk management, fire station safety, and roadway incident safety. The data developed for this report are also widely used in other firefighter fatality prevention efforts.

In addition to performing this analysis, the USFA, working in partnership with the NFFF, develops a list of all on-duty firefighter fatalities and associated documentation each year. If certain criteria are met, the fallen firefighter's next of kin, as well as members of the individual's fire department, are invited to the annual National Fallen Firefighters Memorial Service. The service is held at the National Emergency Training Center (NETC) in Emmitsburg, Maryland, during National Fire Prevention Week in October of each year. The 39th Annual National Fallen Firefighters Memorial Weekend has been postponed due to the global pandemic. The NFFF broadcasted a National Tribute to remember these fallen heroes on Oct. 4, 2020, and their families were invited to attend a ceremony in 2021. Additional information can be found at https://www.firehero.org/2020/06/30/2020-memorial-weekend/ or by calling the NFFF at 301-447-1365.

Other resources and information regarding firefighter fatalities, including current fatality notices, the National Fallen Firefighters Memorial database and links to the Public Safety Officer Benefits (PSOB) program, can be found at https://apps.usfa.fema.gov/firefighter-fatalities/.



Introduction

This report continues a series of annual studies began in 1986 by the USFA of on-duty firefighter fatalities in the U.S.

The specific objective of this study is to identify all on-duty firefighter fatalities that occurred in the U.S. and its territories in 2019 and to analyze the circumstances surrounding each occurrence. The study is intended to help identify approaches that could reduce the number of firefighter deaths in future years.

Who is a firefighter?

For the purpose of this study, the term "firefighter" covers all members of organized fire departments with assigned fire suppression duties in all 50 states; the District of Columbia; and the territories of Puerto Rico, the Virgin Islands, American Samoa, the commonwealth of the Northern Mariana Islands, and Guam. It includes career and volunteer firefighters; full-time public safety officers acting as firefighters; fire police; state, Native American tribal authorities and federal government fire service personnel; and privately employed firefighters, including employees of contract fire departments and trained members of industrial fire brigades, whether full time or part time. It also includes contract personnel working as firefighters or assigned to work in direct support of fire service organizations (e.g., air tanker crews).

Under this definition, the study includes not only local and municipal firefighters, but also seasonal and full-time employees of the U.S. Forest Service, the National Park Service, the Bureau of Land Management, the Bureau of Indian Affairs, the U.S. Fish and Wildlife Service, and other federal agencies, as well as state wildland agencies. The definition also includes prison inmates serving on firefighting crews; firefighters employed by other governmental agencies, such as the U.S. Department of Energy; military personnel performing assigned fire suppression activities; and civilian firefighters working at military installations.

What constitutes an on-duty fatality?

An on-duty fatality includes any injury or illness that was sustained while on duty and proves fatal. The term "on duty" refers to being involved in operations at the scene of an emergency, whether it is a fire or nonfire incident; responding to or returning from an incident; performing other officially assigned duties, such as training, maintenance, public education, inspection, investigations, court testimony or fundraising; and being on call, under orders or on standby duty (except at the individual's home or place of business). An individual who experiences a heart attack or other fatal injury at home while they prepare to respond to an emergency is considered on duty when the response begins. A firefighter who becomes ill while performing fire department duties and suffers a heart attack shortly after arriving home (or at another location) may be considered on duty since the inception of the heart attack occurred while the firefighter was on duty.

On Dec. 15, 2003, the president of the United States signed the Hometown Heroes Survivors Benefit Act of 2003 into law. After being signed by the president, the act became Public Law 108-182. The law presumes that a heart attack or stroke is in the line of duty if the firefighter was engaged in nonroutine, stressful or strenuous physical activity while on duty, and the firefighter became ill within 24 hours after engaging in such activity. The full text of the law is available at https://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_cong_public_laws&docid=f:publ182.108.pdf.

The inclusion criteria for this study have been affected by this change in the law. Before Dec. 15, 2003, firefighters who became ill as the result of a heart attack or stroke after going off duty needed to register a complaint of not feeling well while still on duty in order to be included in this study. For firefighter fatalities after Dec. 15, 2003, firefighters will be included in this report if they became ill as the result of a heart attack or stroke within 24 hours of a training activity or emergency response. Firefighters who became ill after going off duty, where the activities while on duty were limited to tasks that did not involve physical or mental stress, will not be included.

A fatality may be caused directly by an accidental or intentional injury in either emergency or nonemergency circumstances, or it may be attributed to an occupationally related fatal illness. A common example of a fatal illness incurred on duty is a heart attack. Fatalities attributed to occupational illnesses also include a communicable disease contracted while on duty that proved fatal when the disease could be attributed to a documented occupational exposure.

Firefighter fatalities are included in this report even when death is considerably delayed after the original incident. When the incident and the death occur in different years, the analysis counts the fatality as having occurred in the year in which the incident took place.

There is no established mechanism for identifying fatalities that result from illnesses, such as cancer, that develop over long periods of time and may be related to occupational exposure to hazardous materials or toxic products of combustion. It has proved to be very difficult to provide a complete evaluation of an occupational illness as a causal factor in firefighter deaths due to the following limitations: the exposure of firefighters to toxic hazards is not sufficiently tracked; the often-delayed, long-term effects of such toxic hazard exposures; and the exposures firefighters may receive while off duty.

Sources of initial notification

As an integral part of its ongoing program to collect and analyze fire data, the USFA solicits information on firefighter fatalities directly from the fire service and from a wide range of other sources. These sources include the PSOB program administered by the U.S. Department of Justice, the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration, the U.S. Department of Defense, and the National Interagency Fire Center.

The USFA receives notification of some deaths directly from fire departments, as well as from such fire service organizations as the International Association of Fire Chiefs, the International Association of Fire Fighters, NFPA, the National Volunteer Fire Council, state fire marshals, state fire training organizations, other state and local organizations, fire service internet sites, news services, and fire service publications.

Procedure for including a fatality in the study

In most cases, after notification of a fatal incident, initial telephone contact is made with local authorities by the USFA to verify the incident, its location, the jurisdiction, and the fire department or agency involved. Further information about the deceased firefighter and the incident may be obtained from the chief of the fire department, designee over the phone or by other forms of data collection. After basic information is collected, a notice of the firefighter fatality is posted at the National Fallen Firefighters Memorial site in Emmitsburg, Maryland, and on the USFA website. A notice of the fatality is also transmitted by email to a large list of fire service organizations and fire service members.

Information that is routinely requested from fire departments that have experienced a fatality include National Fire Incident Reporting System (NFIRS)-1 (incident) and NFIRS-3 (fire service casualty) reports, the fire department's own incident and internal investigation reports, copies of death certificates and autopsy results, special investigative reports, law enforcement reports, photographs and diagrams, and newspaper or media accounts of the incident. Information on the incident may also be gathered from NFPA or NIOSH reports.

After obtaining this information, a determination is made as to whether the death qualifies as an on-duty firefighter fatality according to the previously described criteria. With the exception of firefighter deaths after Dec. 15, 2003, the same criteria were used for this study as in previous annual studies. Additional information may be requested by the USFA, either through follow-up with the fire department directly, from state vital records offices or other agencies. The final determination as to whether a fatality qualifies as an on-duty death for inclusion in this statistical analysis is made by the USFA. The criteria as a line-of-duty death (LODD) for inclusion in the annual National Fallen Firefighters Memorial Service is made by the NFFF.

2019 Findings

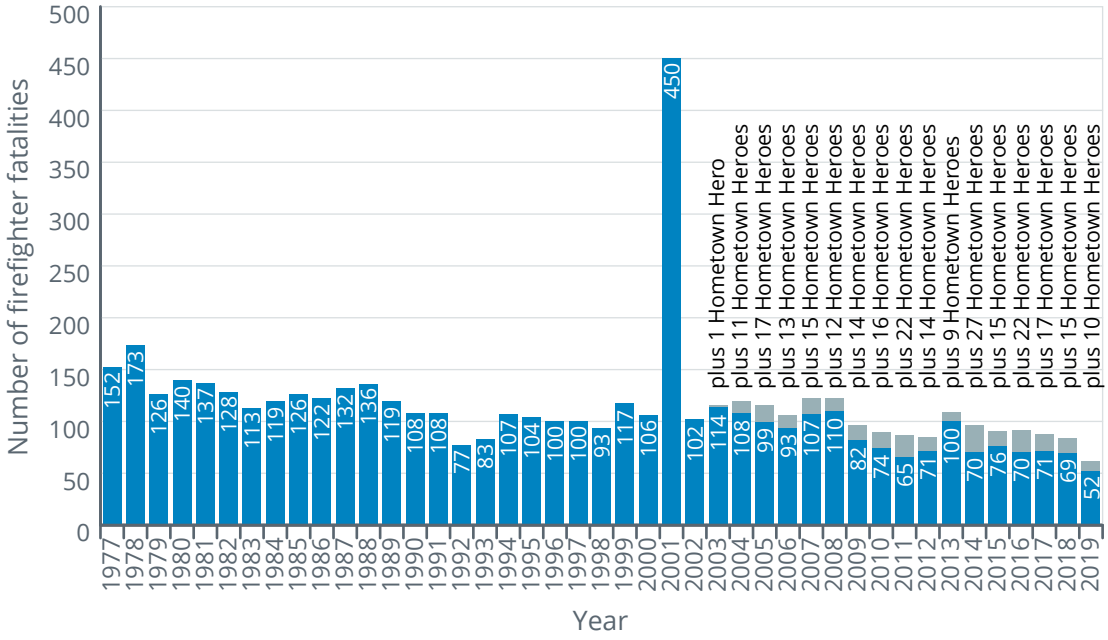
Sixty-two firefighters died in 2019 from injuries sustained while on duty, 22 less than the 2018 total of 84 firefighters. The 2019 total includes 10 firefighters who died under circumstances that were part of inclusion criteria changes resulting from the Hometown Heroes Survivors Benefit Act. When not including these fatalities for the purposes of a trend analysis, there were 52 non-Hometown Hero firefighter fatalities in 2019, for the lowest annual total since the USFA began this study (Figure 1).

An analysis of multiyear firefighter fatality trends needs to acknowledge the changes from the December 2003 Hometown Heroes Survivors Benefit Act. Some graphs and charts in this report may not indicate the Hometown Heroes portion of the total. However, this does not diminish the sacrifices made by any firefighter who dies while on duty, or the sacrifices made by their family and peers.

In the same light, when conducting multiyear comparisons of firefighter fatalities in this report, the losses resulting from the attacks on the World Trade Center in New York City on Sept. 11, 2001, are sometimes set apart for illustrative purposes. This action is by no means a minimization of the supreme sacrifice made by these firefighters.

Figure 1 below shows the number of on-duty firefighter fatalities from 1977 through 2019.

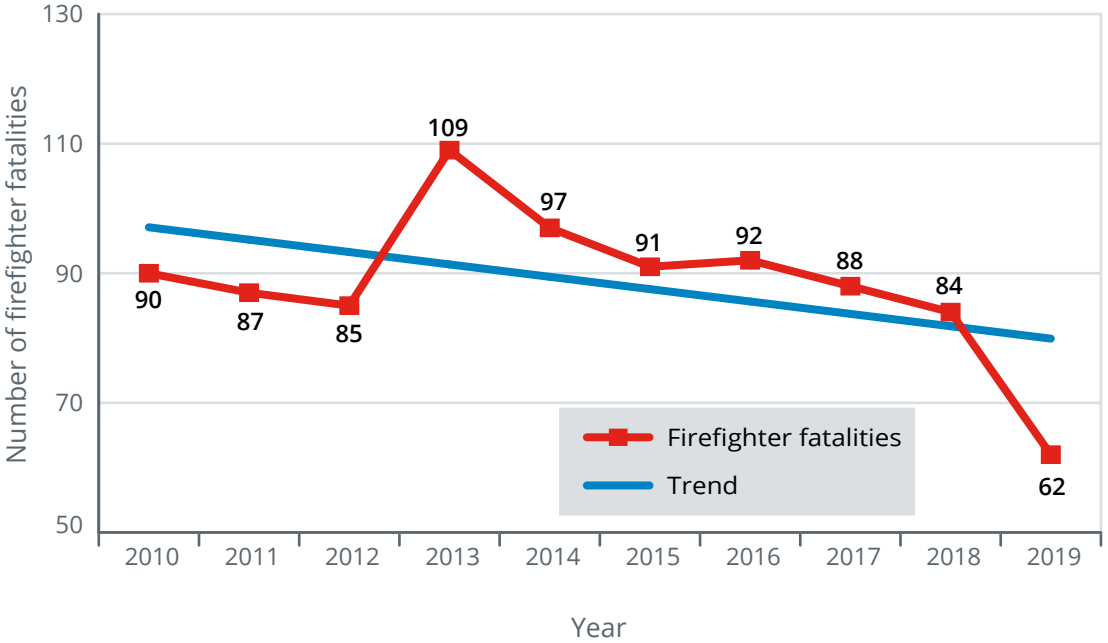
Figure 1. On-duty firefighter fatalities (1977-2019)



Note: For the year 2001, the increased number of firefighter fatalities include firefighters who were killed at the World Trade Center on Sept. 11, 2001.

From 2010 to 2019, there was an 18% decrease in on-duty firefighter fatalities (Figure 2).

Figure 2. On-duty firefighter fatalities (2010-2019)

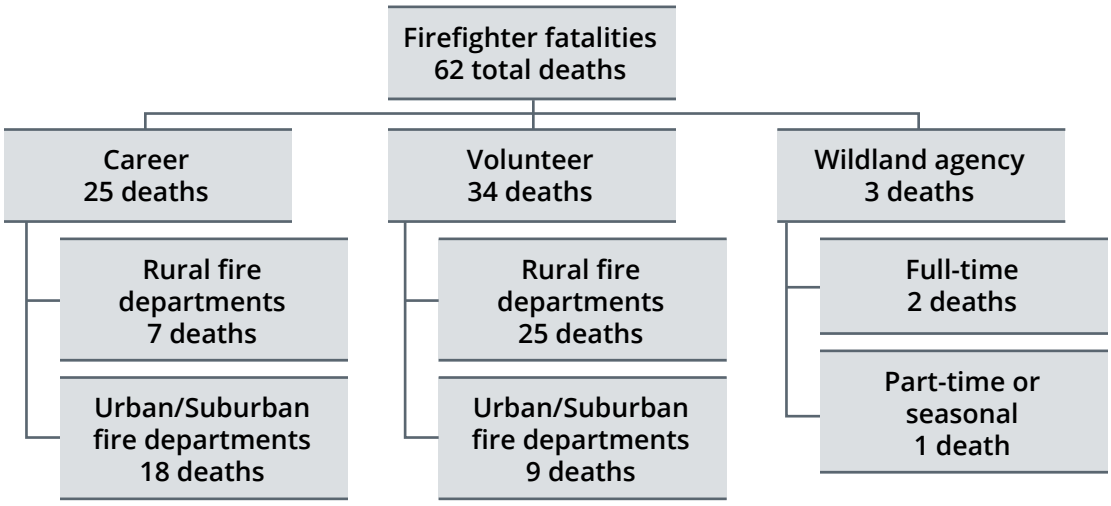


Note: Firefighter fatality counts include firefighters who died under circumstances who were part of inclusion criteria changes resulting from the Hometown Heroes Survivors Benefit Act.

Career, volunteer and wildland agency fatalities

In 2019, firefighter fatalities included 25 career firefighters, 34 volunteer firefighters, and three part-time or full-time members of wildland or wildland contract fire agencies (Figure 3).

Figure 3. Career, volunteer and wildland agency firefighter fatalities (2019)



Gender

The gender of the firefighters who died while on duty in 2019 consisted of one female and 61 males.

Multiple firefighter fatality incidents

There were no multiple firefighter fatality incidents in 2019 (Table 1); therefore, the 62 deaths in 2019 resulted from a total of 62 fatal incidents.

Table 1. Multiple firefighter fatality incidents (2010-2019)

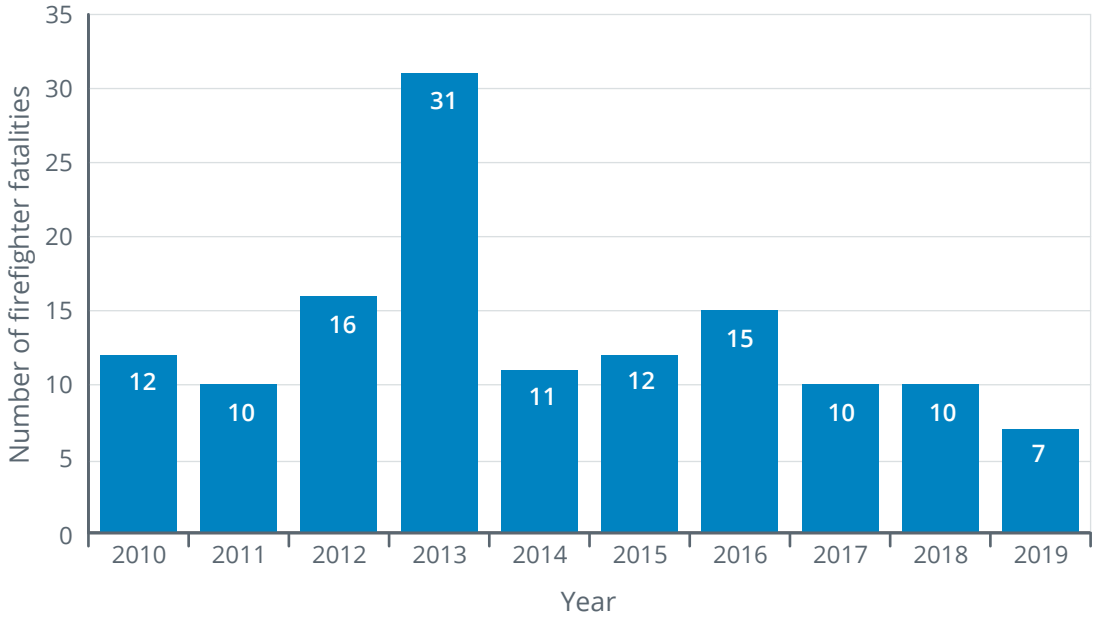
Year	Number of multiple firefighter fatality incidents	Total number of firefighter fatalities in multiple firefighter fatality incidents
2019	0	0
2018	2	4
2017	1	2
2016	3	7
2015	3	7
2014	2	4
2013	4	35
2012	4	10
2011	3	6
2010	4	8
10-year average	3	8

From 1990 to 2019, there have been 502 firefighters killed during activities involving brush, grass or wildland firefighting — an average of 17 deaths per year. There were an average of 13 such deaths per year over the past decade.

Wildland firefighting fatalities

In 2019, seven firefighters were killed during activities involving brush, grass or wildland firefighting. This total includes part-time and seasonal wildland firefighters, full-time wildland firefighters, and municipal or volunteer firefighters (Figure 4).

Figure 4. Firefighter fatalities related to wildland firefighting (2010-2019)



In 2019, there were no incidents related to wildland firefighting that resulted in multiple firefighter fatalities. There was one incident that involved an aircraft (helicopter) crash (Tables 2 and 3).

Table 2. Firefighter fatalities associated with wildland firefighting (2010-2019)

Year	Total number of firefighter fatalities related to wildland firefighting	Number of fatal incidents related to wildland firefighting	Number of firefighters killed in multiple-fatality incidents related to wildland firefighting
2019	7	7	0
2018	10	10	0
2017	10	10	0
2016	15	13	4
2015	12	9	5
2014	11	11	0
2013	31	13	19
2012	16	12	6
2011	10	9	2
2010	12	12	0
10-year average	13	11	4

Table 3. Aircraft firefighter fatalities associated with wildland firefighting (2010-2019)

Year	Total number of aircraft firefighter fatalities related to wildland firefighting	Number of aircraft fatal incidents related to wildland firefighting
2019	1	1
2018	0	0
2017	0	0
2016	0	0
2015	2	1
2014	2	2
2013	0	0
2012	2	1
2011	0	0
2010	0	0
10-year average	1	1

Type of Duty

Activities related to emergency incidents resulted in the deaths of 37 firefighters in 2019 (Figure 5). These activities include all firefighters who died responding to an emergency or at an emergency scene, returning from an emergency incident, and during other emergency-related activities. Nonemergency activities accounted for 25 fatalities. Nonemergency duties include training, administrative activities, performing other functions that are not related to an emergency incident, and post-incident fatalities where the illness or injury does not become evident until after the emergency.

A multiyear historical perspective relating to the percentage of firefighter deaths that occurred during emergency duty is presented in Table 4.

Figure 5. Firefighter fatalities by type of duty (2019)

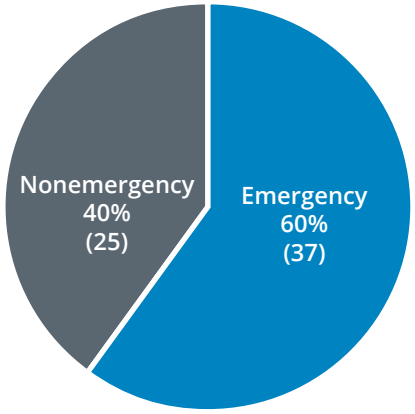
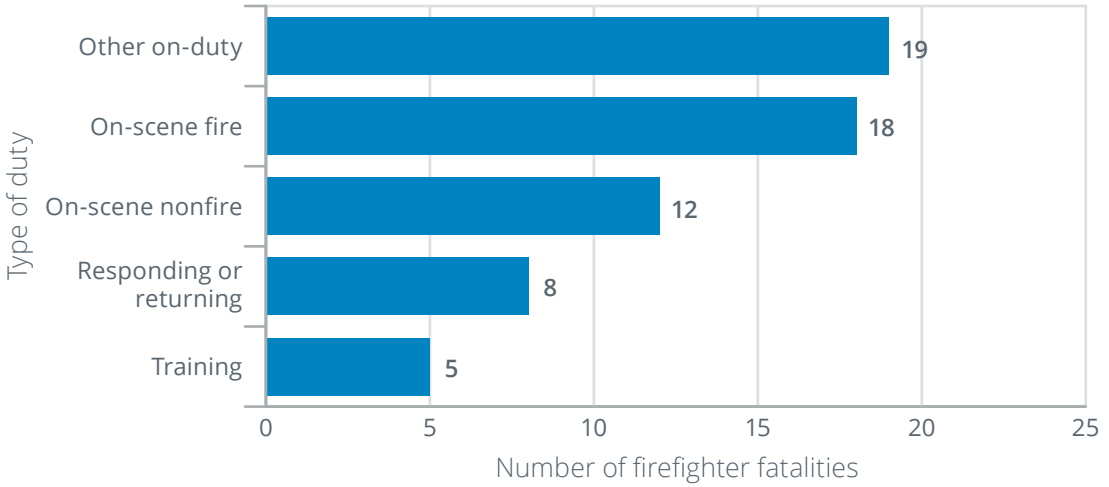


Table 4. Emergency duty firefighter fatalities (2010-2019)

Year	Percentage of total firefighter fatalities	Percentage of total firefighter fatalities excluding Hometown Heroes
2019	60.0	63.5
2018	52.4	59.4
2017	45.5	56.3
2016	41.3	54.3
2015	49.5	59.2
2014	45.4	61.4
2013	70.6	77.0
2012	52.9	63.4
2011	51.7	69.2
2010	55.6	67.6
10-year average	52.5	63.1

The number of deaths by type of duty performed for 2019 is shown in Figure 6.

Figure 6. Firefighter fatalities by type of duty (2019)



Fireground operations

Eighteen firefighters experienced fatal injuries during fireground operations in 2019. Of these fatalities, 17 were at the scene of a structure fire, and one was at the scene of a wildland or outside fire. The average age of the firefighters killed during fireground operations was 49 years old, with the youngest being 24 years old and the oldest being 72 years old. Ten of those killed were volunteer, and eight were career firefighters. The nature of fatal injury while engaged in fireground operations for 10 of the firefighter deaths was heart attack (56%). The nature of fatal injury for the other eight deaths include: trauma (three), burns (two), crushed (one), other (one) and asphyxiation (one).

Type of fireground activity

Table 5 shows the types of fireground activities in which firefighters were engaged when they sustained their fatal injuries or illnesses. This total includes all firefighting duties on the fireground, such as wildland firefighting and structural firefighting. In 2019, the most common type of on-scene fire activity was advancing hoselines.

Table 5. Type of fireground activity (2019)

Type of fireground activity	Number of firefighter fatalities
Advance hoselines	5
Incident command	3
Search and rescue	3
Unknown	2
Support	2
Standby	2
Setup	1

Fixed property use for structural firefighting fatalities

There were 17 fatalities in 2019 where firefighters became ill or injured while on the scene of a structure fire. Of these fatalities, most occurred while on the scene of a residential structure fire. Table 6 shows the distribution of these deaths by fixed property use.

Table 6. Structural firefighting fatalities by fixed property use (2019)

Type of structure	Number of firefighter fatalities
Residential	13
Commercial	4

Responding/returning

In 2019, as shown in Table 7, eight firefighters died or experienced an onset of symptoms while responding to or returning from eight emergency incidents: six while responding to, and two while returning from, an incident.

Table 7. Firefighter fatalities while responding to or returning from an incident (2010-2019)

Year	Number of firefighter fatalities that occurred while responding to or returning from an incident
2019	8
2018	10
2017	11
2016	13
2015	8
2014	13
2013	14
2012	17
2011	11
2010	17
10-year average	12

Training

In 2019, five firefighters died while engaged in training activities (Table 8). Three firefighters died from heart attacks and two died from heat exhaustion.

Of the five firefighters who died while engaged in training activities, one firefighter died while performing fire department-mandated physical fitness training, one died while involved in an equipment drill, one died during a rapid intervention team (RIT) drill, one died at a vehicle extrication drill, and one died during outdoor search and rescue training.

The average age of the five firefighters was 51 years old. The youngest was 28 years old, and the oldest was 78 years old.

Table 8. Firefighter fatalities while engaged in training (2010-2019)

Year	Number of firefighter fatalities that occurred during training
2019	5
2018	9
2017	12
2016	9
2015	7
2014	10
2013	7
2012	8
2011	8
2010	12
10-year average	9

Nonfire emergencies

In 2019, 12 firefighters were killed during emergency duties not related to fire. These response calls included nine motor vehicle accidents, one emergency medical services (EMS) call, one hazmat incident, and one incident where a firefighter and his department responded to a report of wires down.

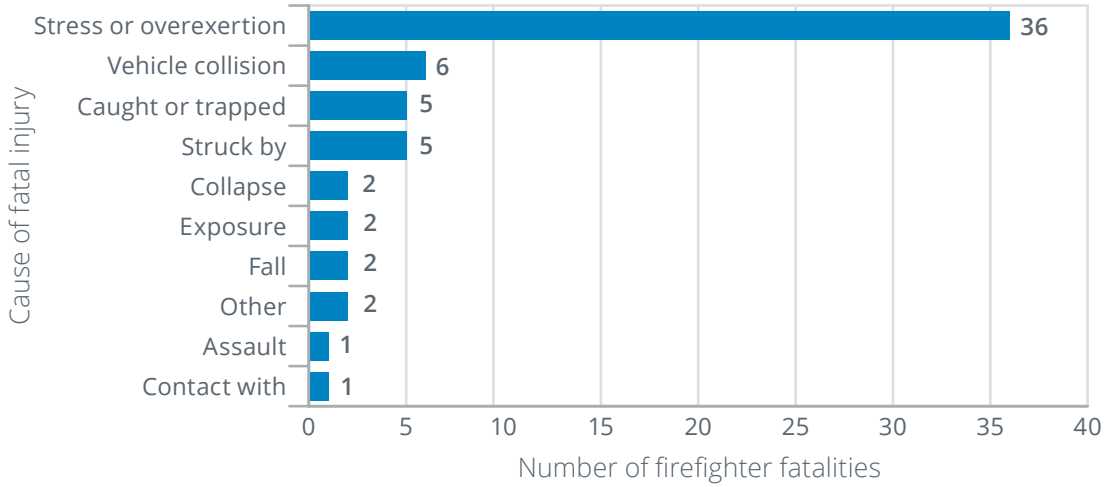
Five of the 12 firefighters died from heart attacks, four from traumatic injuries, one from a cerebrovascular accident (CVA), one from electrocution, and one from violence (shooting). Two of the traumatic injury deaths were from being struck by a vehicle. The average age was 50 years old. The youngest was 23 years old, and the oldest was 81 years old.

Cause of Fatal Injury

The term "cause of fatal injury" refers to the action, lack of action or circumstances that directly resulted in the fatal injury. The term "nature of fatal injury" refers to the medical cause of the fatal injury or illness, which is often referred to as the physiological cause of death. A fatal injury is usually the result of a chain of events, the first of which is recorded as the cause.

Figure 7 shows the distribution of deaths by cause of fatal injury or illness in 2019. In 2019, the leading cause of fatal injury was stress or overexertion.

Figure 7. Firefighter fatalities by cause of fatal injury (2019)



Stress or overexertion

Firefighting is extremely strenuous work, and it can be one of the more physically demanding of human activities.

Stress or overexertion is a general category that includes all firefighter deaths that are cardiac or cerebrovascular in nature, such as heart attacks and strokes, as well as other events, such as extreme climatic thermal exposure. Classification of a firefighter fatality in this "cause of fatal injury" category does not necessarily indicate that a firefighter was in poor physical condition.

In 2019, 36 firefighters died as a result of stress or overexertion:

- Thirty-two firefighters died due to heart attacks.
- Three firefighters died due to CVAs.
- One firefighter died from an aortic aneurysm and is listed as "Other."
- Ten were Hometown Heroes.

Table 9. Firefighter fatalities caused by stress or overexertion (2010-2019)

Year	Number of firefighter fatalities caused by stress or overexertion	Percent of firefighter fatalities caused by stress or overexertion	Number of Hometown Hero fatalities caused by stress or overexertion
2019	36	58.1	10
2018	38	45.2	13
2017	53	60.2	16
2016	44	47.8	22
2015	60	65.9	15
2014	65	67.0	26
2013	39	35.8	9
2012	49	57.6	14
2011	54	62.1	21
2010	56	62.2	16
10-year average	49	56.2	16

Vehicle crashes

In 2019, a total of six firefighters (three volunteer, two career and one wildland) lost their lives due to vehicle crashes. Vehicle crashes were the second leading cause of fatal firefighter injuries for the year. Two deaths involved privately owned vehicles, one death involved a helicopter, one death involved a fire department engine, one death involved a water tender, and one death involved an EMS vehicle.

- A captain completed a shift at the fire department and departed to an overtime assignment at another fire station. He was commuting between assignments in his personal vehicle, a 1997 Ford Ranger. As he drove, he encountered a 2014 Dodge Ram pickup truck that had crossed the center line to pass another vehicle on the two-lane road. A collision occurred. The captain was ejected from his vehicle and sustained fatal injuries. His vehicle caught fire after it came to rest. The driver of the Dodge Ram was also killed in the crash. The crash occurred at sunrise.

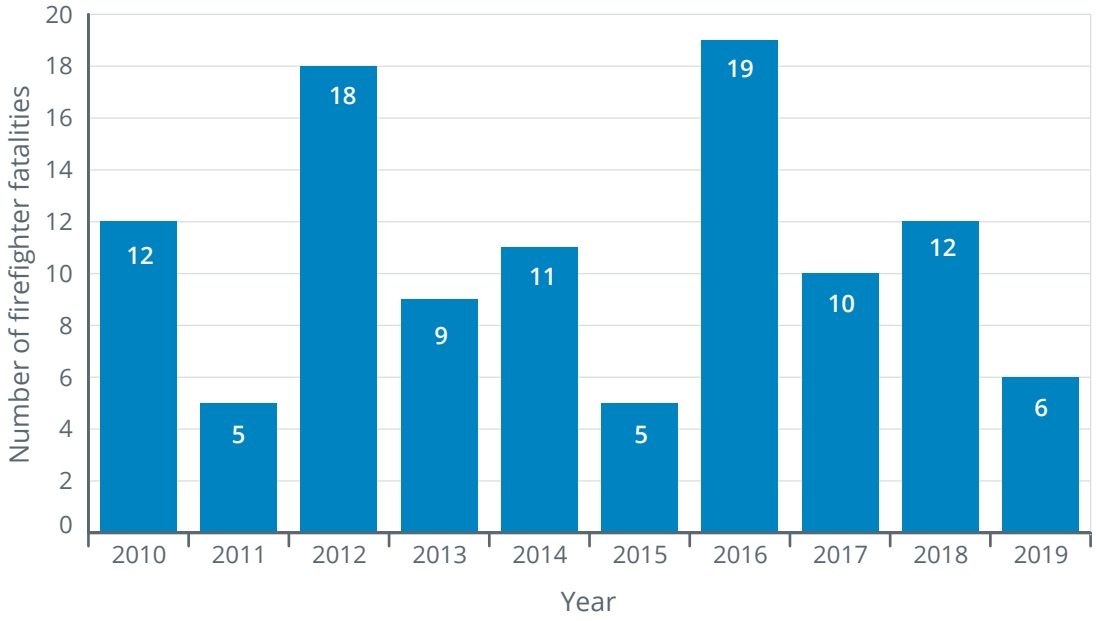
- A chief was returning from a county commission meeting. He was driving his personal vehicle, a motorcycle. As the chief drove, a vehicle turned left in front of him. The chief's motorcycle struck the right side of the other vehicle, and he was thrown from his motorcycle. He was transported to the hospital but did not survive. His death was caused by traumatic head injuries. The driver of the vehicle that turned in front of the chief was found to have THC present in his blood at the time of the crash that could impair judgment. The driver was cited for driving under the influence and for failure to yield for oncoming traffic. The chief was not wearing a helmet at the time of the crash.

- A captain was a passenger in an Airbus AS350B3 helicopter that was engaged in plastic sphere dispenser application in support of controlled fire operations. The helicopter was owned by Mountain Air Helicopters Inc. and operated by the U.S. Forest Service as a public-use helicopter. Initial information provided to the National Transportation Safety Board by the pilot and surviving crew member report that after completing the

application, the helicopter began flying back to the helicopter's staging area when the engine lost complete power. The helicopter descended into trees and subsequently impacted terrain, coming to rest on its right side. One crew member and the pilot were able to exit the helicopter; however, the captain was partially ejected from the helicopter and sustained fatal injuries.

- An assistant fire chief was the right-front seat passenger in a rescue engine responding to a motor vehicle crash. The apparatus made a left-hand turn during the response. During the turn, the assistant chief was ejected from the apparatus. He sustained severe head injuries in the fall. Firefighters stopped their response and requested medical assistance to the scene. The assistant fire chief was airlifted to a regional hospital where he died as a result of his injuries on Aug. 14, 2019. The law enforcement report on the incident stated that he had not been utilizing a seat belt. Information from the fire department indicated that the door latching system was inspected by the apparatus manufacturer after the crash and that no defects were found.
- A firefighter was the driver and sole occupant of a 2004 GMC fire tanker (tender) responding to a wildland incident. As the tanker responded, the right wheels left the roadway, and when he overcorrected to the left, the vehicle crossed the roadway and struck an embankment off of the left side of the road. The tanker then overturned, ejecting and fatally injuring the firefighter. He was not wearing a seat belt at the time of the crash, and excessive speed was cited as a factor in the crash in the law enforcement report. The wildland fire turned out to be a controlled burn.
- A captain was responding in a Ford F350 non-transport EMS vehicle to the report of a car in a waterway with people trapped inside. As he responded, the captain's vehicle struck the rear of a tractor-trailer that was making a left-hand turn. Visibility was limited due to fog and light conditions. The captain was not wearing his seat belt at the time of the crash. Both front and side airbags were activated. He passed away as the result of blunt force chest trauma injuries.

Figure 8. Firefighter fatalities in vehicle collisions (including aircraft) (2010-2019)



Struck by object

Being struck by an object was the third leading cause of fatal injuries, equal in severity with the category "Caught or Trapped"— both resulting in five firefighter fatalities in 2019.

- A firefighter and the members of his aerial platform company were dispatched with other fire department units to a report of smoke in a downtown hotel. The first-due engine company requested a fan from the aerial platform truck to clear smoke in the building. The firefighter returned to the apparatus to retrieve a thermal-imaging camera (TIC). He apparently stumbled in front of the apparatus and fell flat on his back into oncoming traffic right as a vehicle passed by. The vehicle went over the top of the firefighter, crushing him with the tires and also catching his clothing and dragging him a short distance. Firefighters began treatment immediately on scene, and he was transported by fire department ambulance to a hospital. Approximately 45 minutes after his arrival at the hospital, the firefighter was pronounced deceased. His death was caused by traumatic injuries. Factors contributing to the incident were darkness, early morning rush hour, and the driver of the vehicle being blinded by the emergency lights of the apparatus.

- A captain and the members of his fire department were dispatched to a local office building on the report of a gas leak. Firefighters arrived at the scene at 0813 hours and a major explosion occurred at 0828 hours. The captain was killed in the explosion, and six firefighters and a maintenance worker were injured. The cause of the leak was found to be the installation of bollards to protect an air conditioning unit from being struck by vehicles. As a bollard was drilled into the ground, it severed a propane line leading from a 500-gallon tank to the structure.

- A fire engineer and his partner were dispatched to a service call. As they headed to the scene, they came upon a vehicle crash. While providing treatment for the injured, the fire engineer was struck by a tractor-trailer and received fatal traumatic injuries.

- An assistant district chief and other members of his fire department responded to a vehicle crash. Fire apparatus and responding personal vehicles, with emergency lights in operation, had been placed to protect and block the scene of the crash. A tractor-trailer carrying logs failed to stop as the vehicle approached the incident scene. The tractor-trailer struck several vehicles, left the roadway, and struck the assistant district chief. He was transported to the hospital but passed away as the result of his injuries.

- A firefighter and the members of his fire department responded to an emergency incident. The firefighter and another firefighter responded to the incident in a tanker (tender) apparatus. The incident was concluded, and he and another firefighter left the scene to return to the fire station. They stopped the apparatus at the side of a narrow two-lane road to inspect the front tires of the apparatus. Another firefighter departing the scene in his personal dual-rear-wheeled pickup truck struck the firefighters as they stood near the apparatus. Both firefighters were injured. The firefighter passed away as the result of his injuries. Press reports indicated that the tanker's headlights were on at the time of the incident but that the apparatus emergency lights were not in operation.

Caught or trapped

The classification of caught or trapped covers firefighters in wildland and structural fires who were unable to escape due to rapid fire progression and the byproducts of smoke, heat, toxic gas and flames. This classification may also include firefighters who drowned and those who were trapped and/or crushed.

In 2019, five firefighters died from being caught or trapped.

- A driver/operator and other firefighters were on duty and engaged in preparations for the upcoming Independence Day fireworks display. The fire department had been tasked with the fireworks show in their town for several years. While firefighters were working in a concrete and metal storage building, a fireworks ignition occurred, setting off a chain reaction, igniting a number of other devices. At the time of the ignition, all 12 firefighters who were working received various injuries of which two, including the driver/operator, sustained serious injuries. The driver/operator was transported to a regional burn center where he passed away as a result of his injuries.

- Fire department units were dispatched to a report of a fire in an agricultural silo. When units arrived on scene, plant staff told them that a fire had been discovered in a pellet silo that had recently been cleaned. Initially, firefighters applied water through an opening at the base of the silo but did not seem to be making much progress on the fire. The decision was made by incident command to apply water onto the fire from above. A supply line was laid to a ladder truck positioned near the silo and a handline was extended from the tip of the ladder over a catwalk to a 4-foot by 4-foot hatch at the top of the silo. As firefighters flowed water from the handline into the upper hatch, an explosion occurred. A lieutenant who had been working at the top of the silo was thrown from the silo in the explosion. His fall was witnessed by other firefighters who came to his aid immediately. The lieutenant was transported by fire department ambulance to a local hospital where he was pronounced deceased. The cause of death was listed as blunt force chest and abdominal injuries.

- A lieutenant and the members of his ladder company were dispatched along with other firefighters to the report of a fire in a multistory residence with people trapped and the report of a missing child on the third floor. The first engine arriving on the scene found heavy fire on the second floor. The lieutenant and another firefighter were trapped on the third floor of the building by fire progression. A mayday was called and the on-scene RIT was deployed. The lieutenant ordered his firefighter out the window, but he was unable to follow for an unknown reason. Once the fire was knocked down, the lieutenant was located and removed from the building. He was transported to the hospital but did not survive. His death was caused by burns and internal trauma. The fire building was a balloon frame structure with wooden rear porches. High winds were a factor in this incident.

- A captain and the members of his fire department were dispatched to a report of a fire in a three-story apartment building. The dispatch also included a report of someone trapped in the building. The captain, whose engine was the first on scene, reported a working fire and requested a second alarm. He ordered one firefighter to raise a ground ladder to the third floor of the structure to rescue a trapped resident. The captain and another firefighter advanced a 1 3/4-inch handline up the stairs to the second-floor landing. The captain and the other firefighter left the nozzle on

the landing and proceeded to the third floor to conduct a search. As they searched, conditions in the third-floor apartment deteriorated, and they made the decision to retreat to the second floor. Egress from the apartment, however, was blocked by fire conditions in the stairway. The captain initiated a mayday, and the team looked for a place of refuge in the apartment while they awaited rescue. The captain used his body to shield the other firefighter from fire conditions. As the fire was knocked down by other firefighters, the firefighter with the captain was able to make it to a balcony and signal other firefighters for assistance. The captain was removed from the building over ground ladder, and he was transported to the hospital. Despite efforts to revive him, he was pronounced deceased. The cause of death was listed as hyperthermia and/or hypoxia.

- An assistant chief and the members of his fire department were dispatched to a wildland fire that was threatening structures. The assistant chief arrived at the fire scene driving a Type 6 brush truck. He and the firefighter with him were assigned to structure protection and began to control and extinguish the fire. A sudden wind shift and acceleration pushed the fire toward the position held by them. The fire progressed toward their position at a speed estimated at 150 feet per minute. The assistant chief attempted to drive away as the fire arrived at their position, but the vehicle became immobile. They abandoned the apparatus and began to run. The assistant chief was overrun by the fire and suffered severe burns. He was transported to a regional burn care facility for treatment but passed away as the result of his injuries.

Collapse

Two firefighters were killed in 2019 during structure collapses, equal in severity with the categories “Fall,” “Exposure” and “Other.”

- Firefighters were dispatched to a report of a residential fire. Firefighters arriving on the scene found a working fire in a single-story brick and wood frame building. Mutual aid was requested, and a captain and other firefighters arrived on the scene. Upon their arrival, the captain and other firefighters were using a TIC to locate hot spots and apply water on the fire in the home’s walkout basement through a standard door and a garage door. A structural collapse occurred, and the captain was struck by debris. He was removed from the debris and treated by firefighters and EMS responders on the scene. He was transported to the hospital but did not recover. His death was caused by head and neck trauma. The home and its contents met the state’s definition of a hoarder home.

- A firefighter and the members of his fire department were dispatched to a working fire in a two-story commercial structure. Upon arrival on the scene, firefighters worked to search the building to make sure that there were no occupants. The firefighter was working with his father, a lieutenant. They held clear the first floor of the building but could not ascend the stairs to the second story due to the instability of the stairs. Other firefighters accessed the second story over ground ladder on the exterior, and the firefighter and lieutenant used a ground ladder inside of the building to bridge over the stairs and access the second story. Fire conditions began to worsen, and firefighters were ordered to leave the second story. The lieutenant was located at the base of the interior stairs and removed from the building, but the firefighter could not be located. Fire conditions continued to worsen and the search for the firefighter was suspended. The firefighter was located and removed from the structure. His remains were transported to the coroner’s office. His death was caused by smoke inhalation/asphyxiation.

Fall

Two firefighters were killed in 2019 from injuries sustained in a fall.

- A firefighter and other firefighters were dispatched to a report of a fire at the top of a condominium complex. The firefighter and another firefighter were assigned to find out if the fire could be accessed from the roof. The firefighter radioed the incident commander that he had found access to the roof through an access hatch. He went onto the roof area to access the fire as a hoseline was stretched to the roof area. The roof was covered with snow and ice. The firefighter lost traction and slid from the roof. He sustained fatal traumatic injuries in the fall.

- A firefighter and his ladder company were dispatched to the scene of a motor vehicle crash on a parkway. As he was assisting at the scene, the firefighter fell through a gap dividing the eastbound and westbound lanes of an overpass bridge and plummeted 52 feet to the ground. He was transported to a local hospital where he was pronounced deceased a short time later from the traumatic injuries he sustained in the fall.

Exposure

Two firefighters were killed in 2019 when they came into contact with or were exposed to harm.

- A firefighter was participating in outdoor search and rescue training at a regional training center. After 15 to 20 minutes of the exercise, he collapsed. He was treated immediately by other firefighters and transported to the hospital, but he did not survive. According to the coroner, his death was caused by heat stroke.

- A firefighter came on duty in a rugged area of San Diego County. The on-duty company officer planned physical fitness activity for the morning that consisted of a hike over an established 1.45-mile loop trail near the fire station. The crew donned their wildland personal protective equipment and a hand tool. The temperature at the time of departure was approximately 78 degrees Fahrenheit with a relative humidity of 63% and light winds. The first hike was completed in 40 minutes and 40 seconds, which was higher than the 30-minute fire station standard. After a 20-minute break, the hike was started again at approximately 0940 hours. During the second hike, the firefighter complained of being exhausted. The company officer carried the hand tools of both firefighters with him as well as his own and directed his second firefighter to assist the firefighter who was having problems with exhaustion. The firefighter who was not feeling well became overheated and exhibited symptoms of a mental status decline. An emergency medical response was initiated, and he was eventually removed by helicopter at 1204 hours. Despite treatment in the hospital, the firefighter passed away as a result of heat-related injuries.

Other

Two firefighters died in 2019 from causes of fatal injuries not previously categorized.

- A senior firefighter/driver engineer took his own life while on duty.

- Environmental Division personnel initiated a 424-acre prescribed fire operation for wildlife habitat improvements and fuel management. During the prescribed burn, a wildlife biologist/certified wildland firefighter was assigned a ground ignition operation,

utilizing an all-terrain vehicle (ATV) to conduct the task. At some point while conducting the assigned duties, personnel lost radio contact with the wildlife biologist/certified wildland firefighter. A search of the wildlife biologist/certified wildland firefighter's last known location was conducted during which the wildlife biologist/certified wildland firefighter's body was found. Fire department units were dispatched along with Army EMS and Military Police. Upon arrival, emergency personnel determined that the wildlife biologist/certified wildland firefighter sustained fatal injuries and was declared deceased by medical personnel. Additional details are pending the completion of investigative processes by the Army Criminal Investigation Division with support and assistance from the Bureau of Alcohol, Tobacco, Firearms, and Explosives as well as the U.S. Army Combat Readiness/Safety Center Accident Investigation Team. A press report published in June of 2020 indicated that the final Army report on the incident found that the torch device attached to the ATV being driven by the wildlife biologist/certified wildland firefighter was over pressurized and exploded. The news report said that she sustained fatal thermal injuries.

Assault

One firefighter died in 2019 from traumatic injuries sustained from being assaulted:

- A firefighter and the members of his engine company were dispatched to a local transit center for the report of a bus passenger experiencing seizures. Firefighters found an unconscious passenger near the rear of the bus experiencing a medical emergency. Treatment began, and Narcan was administered twice. The passenger regained consciousness and began to exit the bus. Firefighters met the passenger when he got off of the bus and asked him to sit on the ambulance gurney for transport. The passenger refused, and the situation escalated. The passenger produced a handgun and fired several shots. The firefighter was struck in the chest. With shots still being fired, firefighters came to the aid of the injured firefighter, loaded him into an ambulance, and transported him to a nearby hospital. Despite aggressive treatment in the hospital, he was pronounced deceased.

Contact with

One firefighter was killed when he came in contact with electrical lines.

- A firefighter/paramedic and the members of his fire department were dispatched to the report of a vehicle crash. The firefighter/paramedic lived across the street from the crash scene and ran to the scene to render aid. As he approached the scene, the top of a damaged utility pole broke off and fell to the roadway. He contacted live electrical lines with his abdomen and was fatally electrocuted. Rain, darkness and an absence of street lighting in the area were cited as factors in the incident.

Nature of Fatal Injury

Figure 9 shows the distribution of the 62 firefighter deaths that occurred in 2019 by the medical nature of the fatal injury or illness. In 2019, heart attack was the most common type of fatal injury. Figure 10 shows the percentage distribution of nature of fatal injury.

Figure 9. Firefighter fatalities by nature of fatal injury (2019)

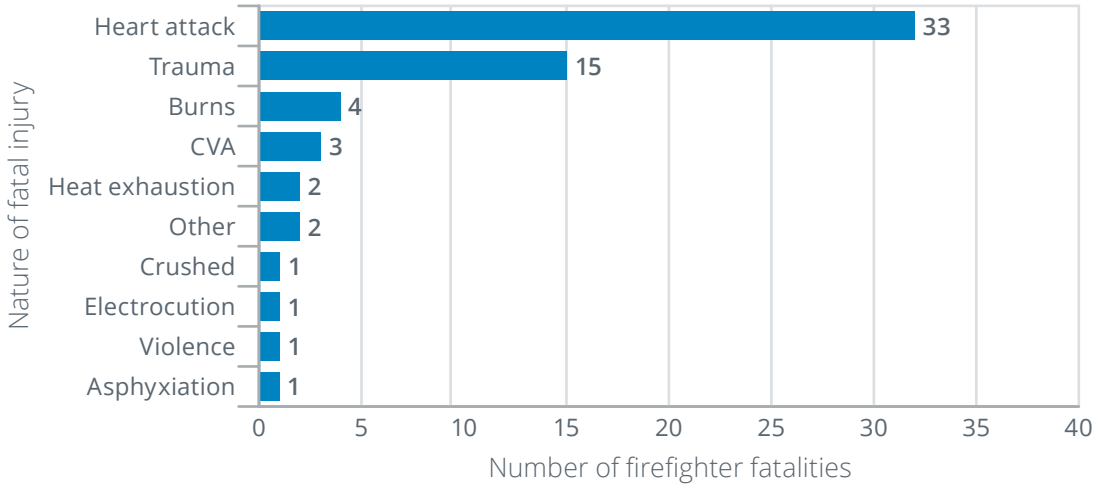


Figure 10. Percentage distribution of firefighter fatalities by nature of fatal injury (2019)

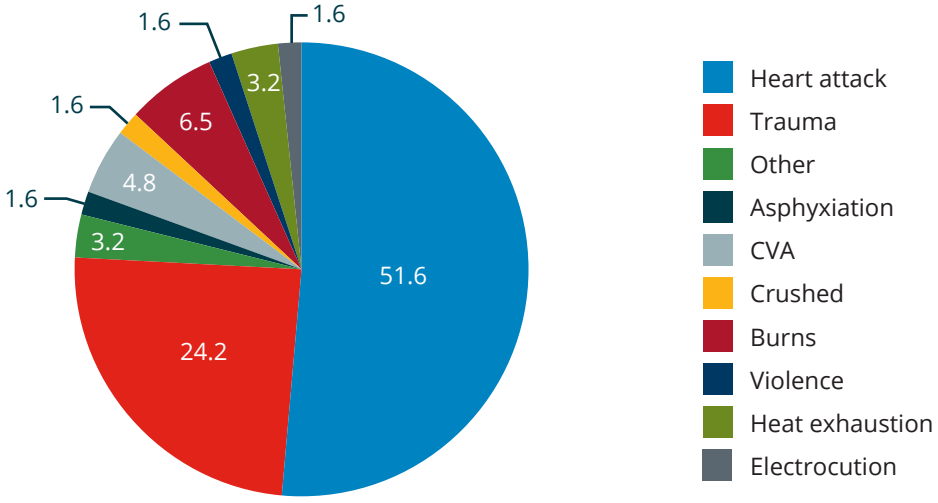
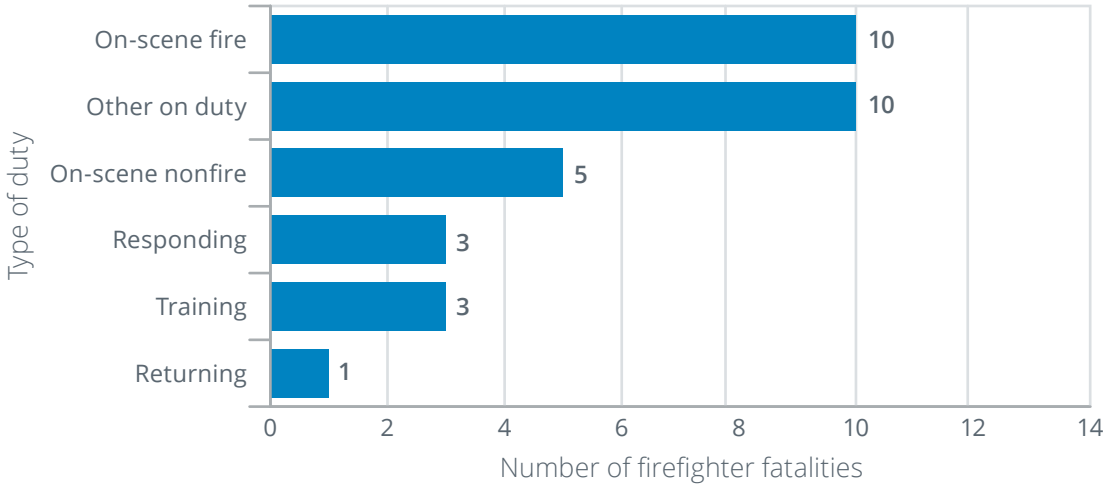


Figure 11 shows the type of duty involved for the 32 firefighters who died because of a heart attack.

Figure 11. Heart attacks by type of duty (2019)



Firefighter Ages

Figure 12 shows the distribution of firefighter deaths by age (at the time of injury). Table 10 provides a count of firefighter fatalities by age and the nature of the fatal injury.

Figure 12. Firefighter fatalities by age (2019)

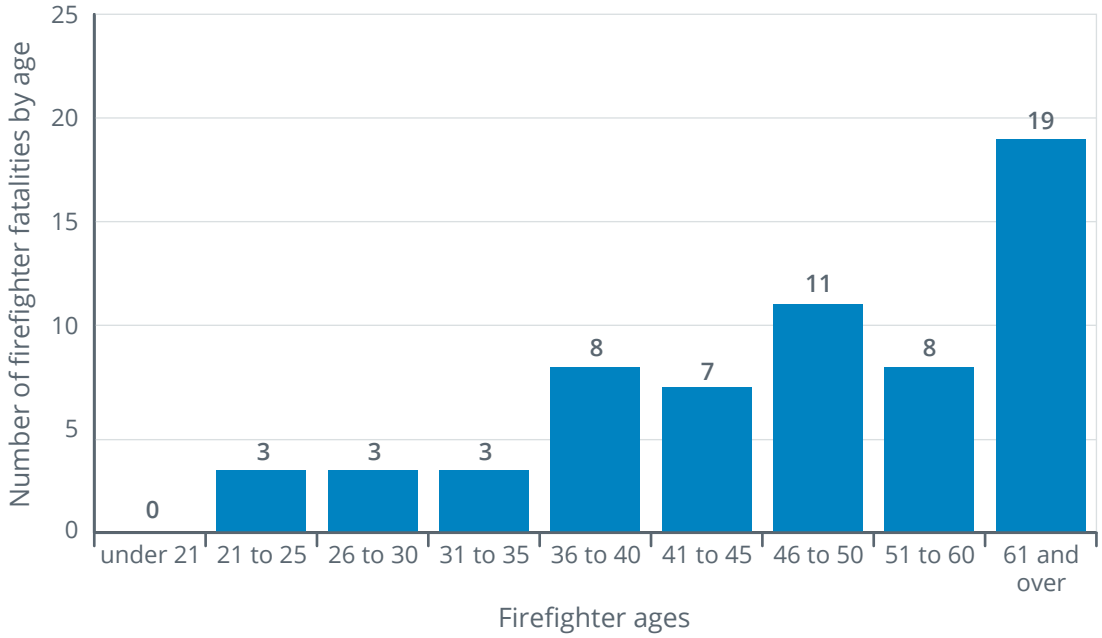


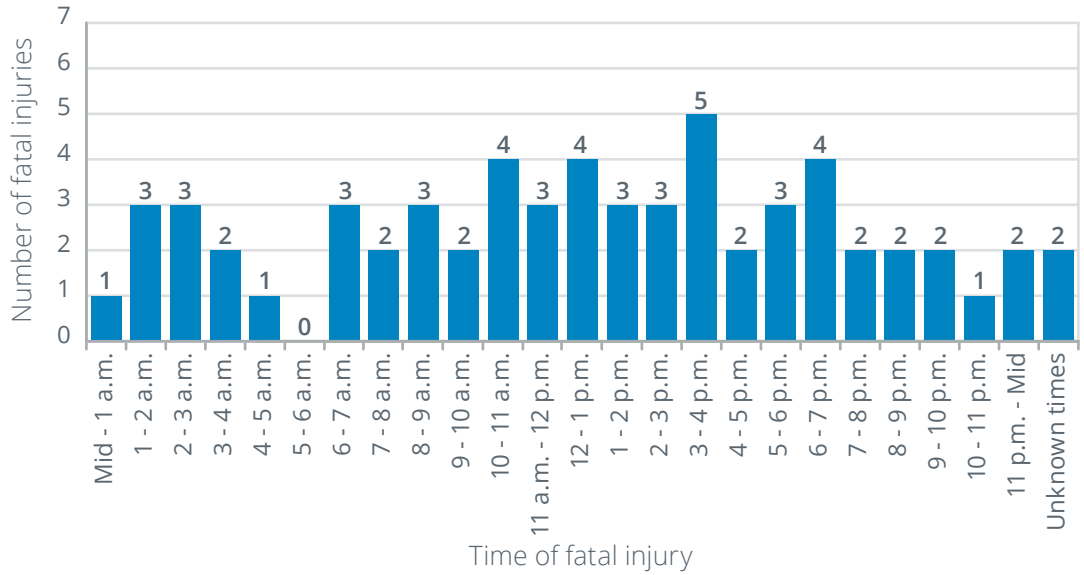
Table 10. Firefighter fatalities by age and nature of fatal injury (2019)

Age	Number of firefighter fatalities who died of trauma/asphyxiation/ other	Number of firefighter fatalities who died of heart attack/CVA
Under 21	0	0
21 to 25	2	1
26 to 30	2	1
31 to 35	3	0
36 to 40	5	3
41 to 45	3	4
46 to 50	7	4
51 to 60	3	5
61 and over	2	17

Deaths by Time of Injury

For 2019, the distribution of firefighter deaths, according to the time of day when the fatal injury occurred, is illustrated in Figure 13. The time of fatal injury for two firefighters was either unknown or not reported.

Figure 13. Firefighter fatalities by time of fatal injury (2019)

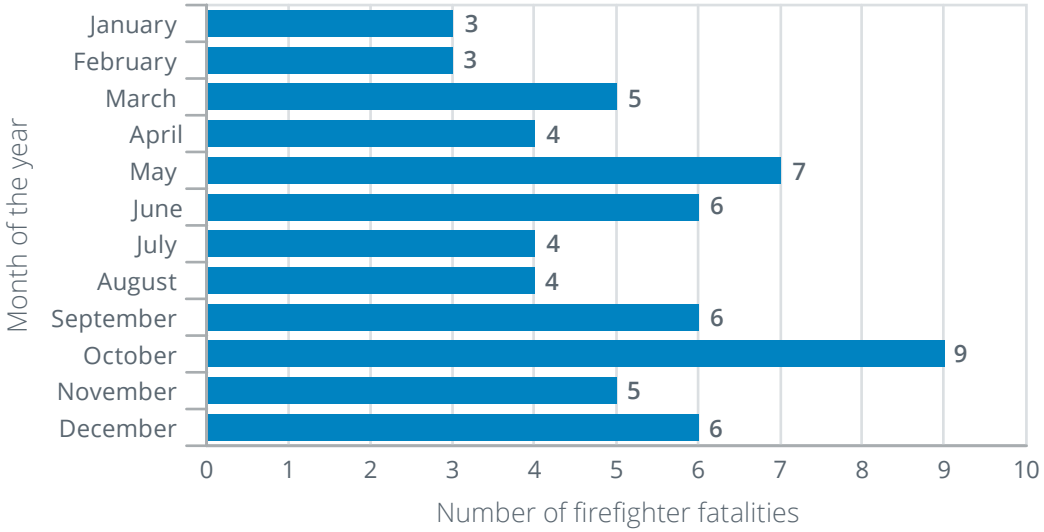


Note: The time of fatal injury for two firefighters was either unknown or not reported.

Firefighter Fatality Incidents by Month of the Year

Figure 14 illustrates the 2019 firefighter fatalities by month of the year. Most fatalities occurred in the month of October, followed by the month of May.

Figure 14. Firefighter fatalities by month of the year (2019)



State and Region

The distribution of firefighter deaths in 2019 by state is shown in Table 11. Firefighters based in 31 states died in 2019.

The highest number of firefighter deaths in 2019 (based on the location of the fire service organization) occurred in New York, with seven losses. Florida and Pennsylvania had five deaths each. There were no other states with five or more firefighter fatalities for the year.

Table 11. Firefighter fatalities by state based on location of fire service (2019)*

State	Number of firefighter fatalities	Percentage of firefighter fatalities
NY	7	11.3
FL	5	8.1
PA	5	8.1
AL	3	4.8
CA	3	4.8
ME	3	4.8
SC	3	4.8
TX	3	4.8
GA	2	3.2
IL	2	3.2
MA	2	3.2
MD	2	3.2
MO	2	3.2
NM	2	3.2
WI	2	3.2
AR	1	1.6
CO	1	1.6
DC	1	1.6
IA	1	1.6
ID	1	1.6

*This list attributes the deaths according to the state in which the fire department or unit is based, as opposed to the state in which the death occurred. They are listed by those states for statistical purposes and for the National Fallen Firefighters Memorial at the NETC.

Table 11. Firefighter fatalities by state based on location of fire service (2019) — continued

State	Number of firefighter fatalities	Percentage of firefighter fatalities
MI	1	1.6
MS	1	1.6
NC	1	1.6
NE	1	1.6
NH	1	1.6
NJ	1	1.6
OH	1	1.6
SD	1	1.6
TN	1	1.6
WA	1	1.6
WV	1	1.6
Total	62	100

On-Duty Firefighter Fatalities Where Incidents Occurred in Previous Years

There were two firefighters who died in 2019 but whose fatal injury occurred while on duty in previous years.

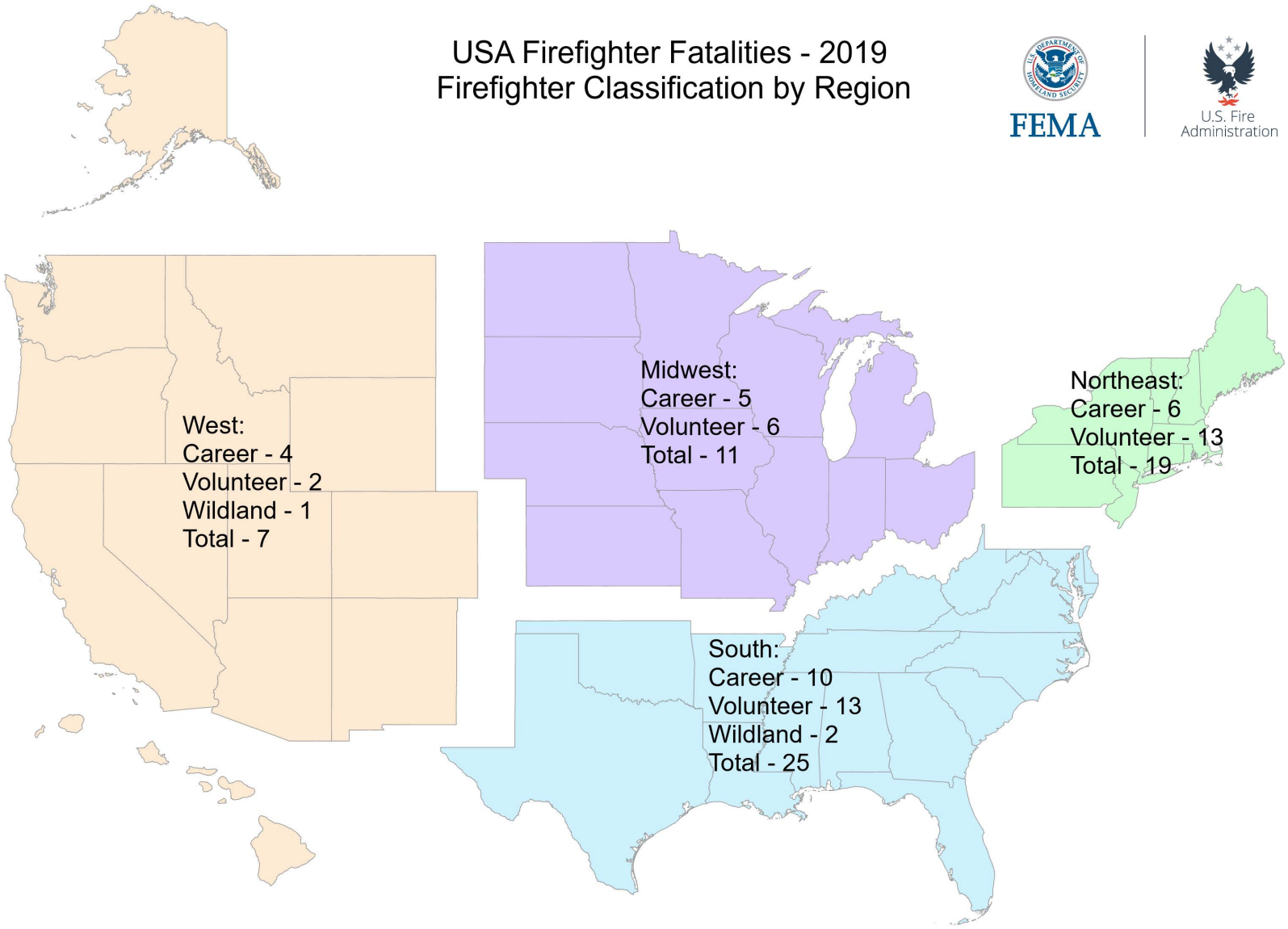
- In 1999, a firefighter/paramedic was a passenger in the back of an ambulance transporting a patient to the hospital. He had graduated from a state fire academy a few days prior. A school bus struck the ambulance as it proceeded through an intersection. The firefighter/paramedic received grave injuries in the crash. He remained in a vegetative state until his death in 2019.
- In 2018, a firefighter was directing traffic at the scene of a vehicle crash when he was struck by a dump truck. He suffered critical injuries, including a traumatic brain injury, from which he was unable to recover. He passed away as a result of his injuries in 2019.

On-Duty Firefighter Fatalities Where Incidents and Deaths Occurred in Previous Years

USFA was informed in 2019 of three additional firefighters whose death and on-duty fatal injury both occurred in previous years.

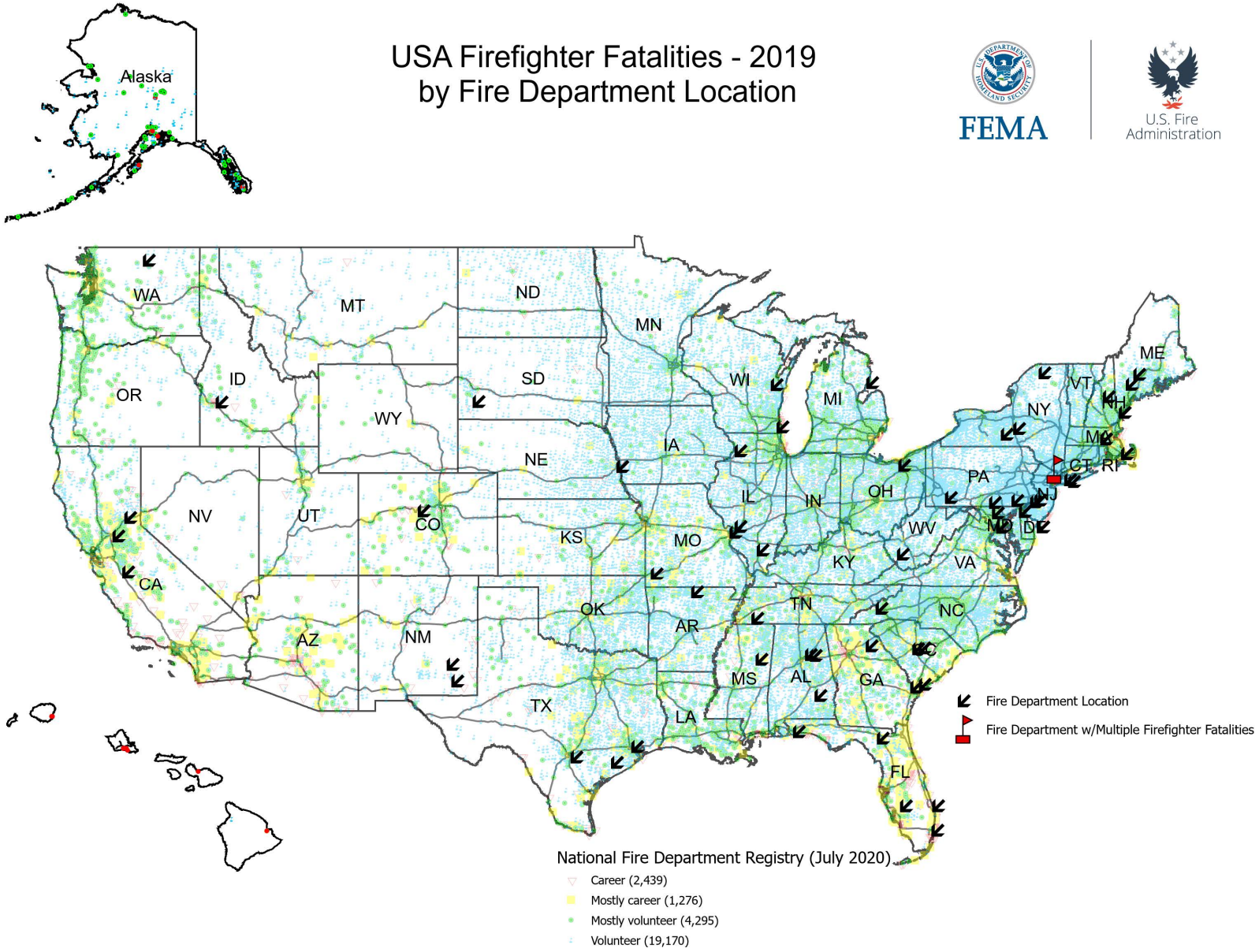
- In 1981, a firefighter sustained inhalational injuries while responding to a fire in a storage room containing cleaning chemicals and plastic parts. Approximately 27 firefighters required hospitalization due to injuries from this fire scene, including this firefighter. In 1987, he was granted a Performance of Duty Disability Retirement by the state due to these injuries. He continued to receive treatment for the injuries received on this date for decades, including a lung transplant which was authorized in 2003. He passed away in 2011, as a result of complications from inhalation injuries.
- In 2015, a chief was injured while advancing a hoseline during a defensive attack on a structure fire. His injury required multiple surgeries to address. He underwent his last surgery in 2018. Shortly after this surgery, he was found deceased in his hospital bed.
- In 2018, a firefighter and the members of his fire department responded to an automatic fire alarm in a building. The alarm was unnecessary, and the incident was completed. The firefighter suffered a fatal heart attack shortly after arriving home.

Figure 15.



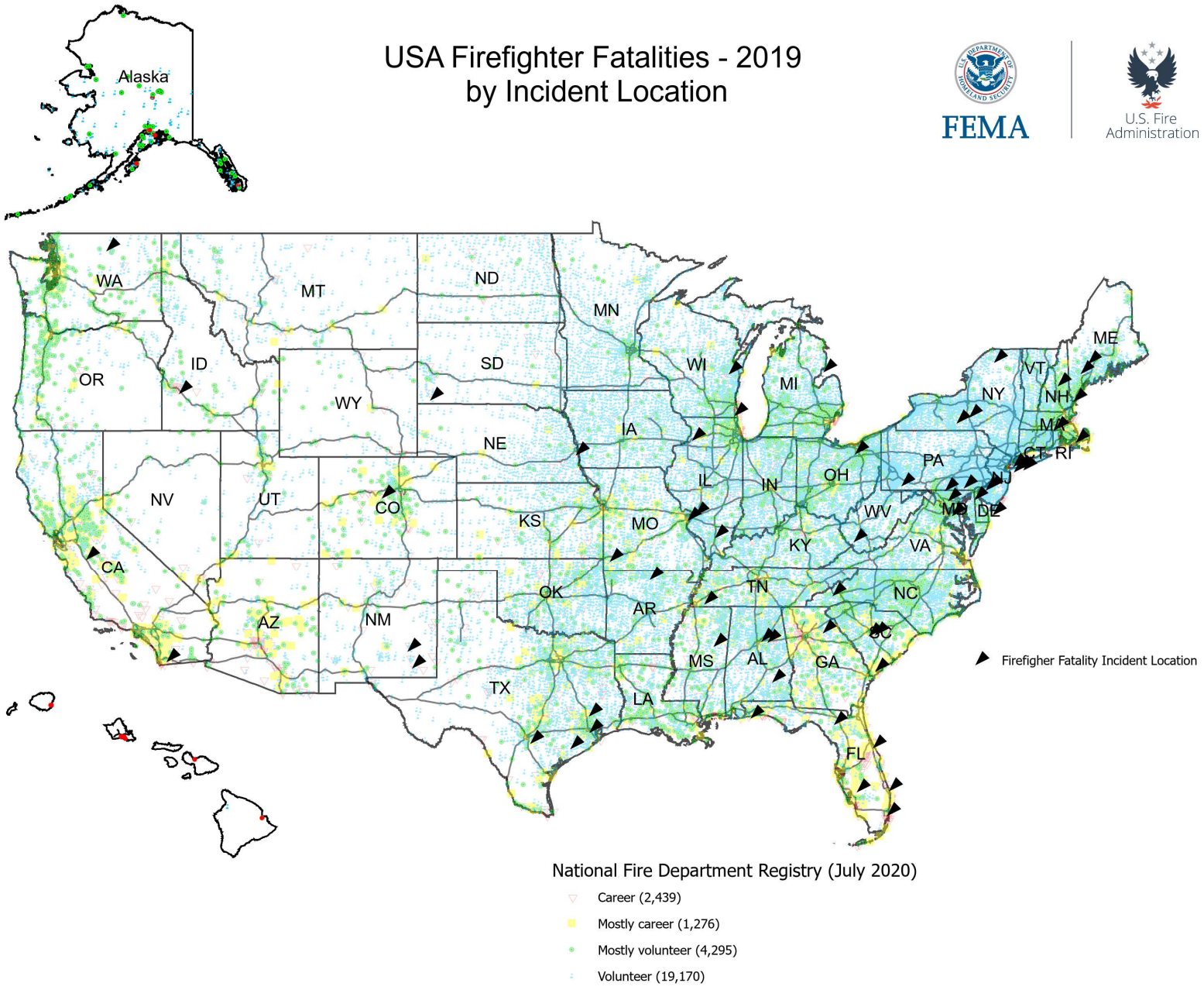
Source: USFA - National Fire Data Center, NFFF.

Figure 16.



Source: USFA - National Fire Data Center, NFFF.

Figure 17.



Source: USFA - National Fire Data Center, NFFF.

Analysis of Urban/Suburban/Rural Patterns in Firefighter Fatalities

The U.S. Census Bureau defines "urban" as a place having a population of at least 2,500 or lying within a designated urban area. "Rural" is defined as any community that is not urban. "Suburban" is not a census term, but may be taken to refer to any place, urban or rural, that lies within a metropolitan area defined by the Census Bureau, but not within one of the central cities of that metropolitan area.

Fire department areas of responsibility do not always conform to the boundaries used by the Census Bureau. For example, fire departments organized by counties or special fire protection districts may have both urban and rural coverage areas. In such cases, where it may not be possible to characterize the entire coverage area of the fire department as rural or urban, firefighter deaths were listed as urban or rural based on the particular community or location in which the fatality occurred.

The following patterns were found for 2019 firefighter fatalities. These statistics are based on answers from the fire departments, and when no data from the departments were available, the data were based upon population and area served, as reported by the fire departments.

Table 12. Firefighter fatalities by coverage area type (2019)

Urban/suburban	Rural	Total
27	35	62

Appendix

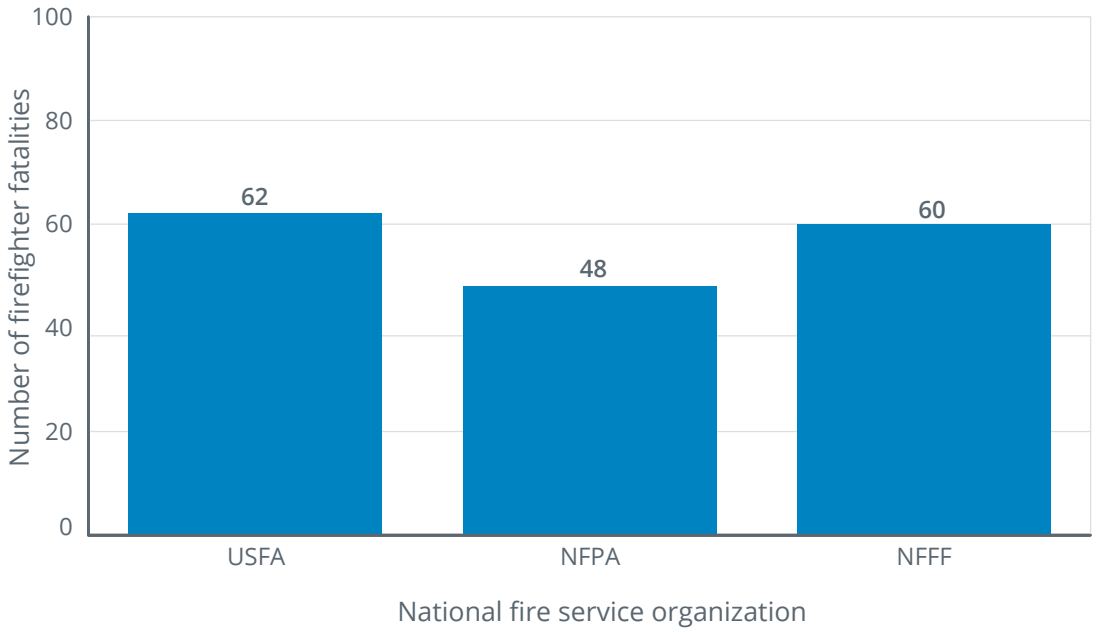
Firefighter Fatality Inclusion Criteria — National Fire Service Organizations

NFPA, NFFF, USFA and other organizations individually collect information on firefighter fatalities in the United States. Each organization uses a slightly different set of inclusion criteria that are based in part on the purposes of the information collection for each organization and data consistency. As a result of these differing inclusion criteria, statistics about firefighter fatalities are provided by each organization. This section will explain the inclusion criteria for each organization and provide information about these differences.

USFA includes firefighters in this report who died while on duty, became ill while on duty and later died, and firefighters who died within 24 hours of an emergency response or training regardless of whether the firefighter complained of illness while on duty. USFA counts firefighter deaths that occur in the 50 states, the District of Columbia, and United States protectorates such as Puerto Rico and Guam. Detailed inclusion criteria appear starting on page 6 of this report.

For 2019, USFA reported 62 on-duty firefighter fatalities.

Firefighter fatalities in 2019 for incidents occurring in 2019



Inclusion criteria for the National Fire Protection Association's annual firefighter fatality study

Introduction

Each year, NFPA collects data on all firefighter fatalities in the United States that resulted from injuries or illnesses that occurred while the victims were on duty. The purpose of the study is to analyze trends in the types of illnesses and injuries resulting in deaths that occur while firefighters are on the job. This annual census of firefighter fatalities in its current format dates back to 1977. (Between 1974 and 1976, NFPA published a study of on-duty firefighter fatalities that was not as comprehensive.)

What is a firefighter?

For the purpose of the NFPA study, the term "firefighter" covers all uniformed members of organized fire departments, whether career, volunteer or combination, or contract; full-time public service officers acting as firefighters; state and federal government fire service personnel; temporary fire suppression personnel operating under official auspices of one of the above; and privately employed firefighters including trained members of industrial or institutional fire brigades, whether full or part time.

Under this definition, the study includes, besides uniformed members of local career and volunteer fire departments, those seasonal and full-time employees of state and federal agencies who have fire suppression responsibilities as part of their job description, prison inmates serving on firefighting crews, military personnel performing assigned fire suppression activities, civilian firefighters working at military installations, and members of industrial fire brigades. Impressed civilians would also be included if called on by the officer in charge of the incident to carry out specific duties. The NFPA study includes fatalities that occur in the 50 states and the District of Columbia.

What does "on duty" mean?

The term "on duty" refers to being at the scene of an alarm, whether a fire or nonfire incident; being en route while responding to or returning from an alarm; performing other assigned duties such as training, maintenance, public education, inspection, investigations, court testimony and fundraising; and being on call, under orders or on standby duty other than at home or at the individual's place of business. Fatalities that occur at a firefighter's home may be counted if the actions of the firefighter at the time of injury involved firefighting or rescue.

On-duty fatalities include any injury sustained in the line of duty that proves fatal, any illness that was incurred as a result of actions while on duty that proves fatal, and fatal mishaps involving nonemergency occupational hazards that occur while on duty. Types of injuries sustained in the line of duty are mainly those that occur at an incident scene, in training, or in accidents while responding to or returning from alarms. Illnesses (including heart attacks) are included when the exposure or onset of symptoms are tied to a specific incident of on-duty activity. Those symptoms must have been in evidence while the victim was on duty for the fatality to be included in the study.

Fatal injuries and illnesses are included even in cases where death is considerably delayed. When the onset of the condition and the death occur in different years, the incident is counted in the year of the condition's onset. Medical documentation specifically tying the death to the specific injury is required for inclusion of these cases in the study.

Categories not included in the study

The NFPA study does not include members of fire department auxiliaries, nonuniformed employees of fire departments, emergency medical technicians who are not also firefighters, chaplains or civilian dispatchers. The study also does not include suicides as on-duty fatalities even when the suicide occurs on fire department property.

The NFPA recognizes that a comprehensive study of firefighter on-duty fatalities would include chronic illnesses (such as cardiovascular disease and certain cancers) that prove fatal and that arose from occupational factors. In practice, there is as yet no mechanism for identifying on-duty fatalities that are due to illnesses that develop over long periods of time. This creates an incomplete picture when comparing occupational illnesses to other factors as causes of firefighter deaths. This is recognized as a gap the size of which cannot be identified at this time because of the limitations in tracking the exposure of firefighters to toxic environments and substances and the potential long-term effects of such exposures.

2019 experience

In 2019, a total of 48 on-duty firefighter deaths occurred in the United States, according to the NFPA inclusion criteria.

National Fallen Firefighters Foundation

In 1997, fire service leaders formulated new criteria to determine eligibility for inclusion on the National Fallen Firefighter Memorial. LODDs shall be determined by the following standards:

1. Deaths meeting the Department of Justice's PSOB program guidelines for a favorable determination.
2. Deaths directly resulting from traumatic injuries sustained during response to, at the scene of or during return from an emergency incident, including, but not limited to, fires, emergency medical calls, hazardous materials incidents, natural disasters, technical rescue incidents, and search and rescue missions.
3. Deaths directly resulting from traumatic injuries sustained while engaged in department-authorized training drill or activity that requires participants to be engaged in physical activity.
4. Deaths directly resulting from traumatic injuries sustained while engaged in a department-mandated physical exercise program administered by the agency, including, but not limited to, running or other types of physical exercise and annual recertification fitness or agility tests.
5. Deaths directly resulting from a cardiovascular event that occurs immediately after, or within 24 hours of, returning from an emergency response or being engaged in a department-mandated physical exercise or training activity as defined above.
6. Deaths directly resulting from cancer, disease or infection that are defined as meeting the criteria of the decedent's home state occupational exposure presumption laws. (Note: Applies only to such deaths occurring on or after Jan. 1, 2018.)

The National Fallen Firefighters Memorial was built in 1981 in Emmitsburg, Maryland. The names listed there begin with those firefighters who died in the line of duty that year. The United States Congress created the NFFF to lead a nationwide effort to remember America's fallen firefighters. Since 1992, the tax-exempt, nonprofit foundation has developed and expanded programs to honor our fallen fire heroes and assist their families and coworkers by providing them with resources to rebuild their lives. Since 1997, the foundation has managed the National Memorial Service held each October to honor the firefighters who died in the line of duty the previous year.

As of this writing, the foundation recognized 103 fallen firefighters during the October 2020 National Tribute. Eighty-two firefighters recognized were associated with deaths that occurred in 2019. Of those 82, 22 of the deaths were as a result of incidents that occurred prior to 2019. The remaining 21 deaths were from incidents and deaths that occurred in previous years.

Acronyms

ATV	all-terrain vehicle
CVA	cerebrovascular accident
EMS	emergency medical services
LODD	line-of-duty death
NETC	National Emergency Training Center
NFFF	National Fallen Firefighters Foundation
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
PSOB	Public Safety Officer Benefits
RIT	rapid intervention team
TIC	thermal-imaging camera
USFA	U.S. Fire Administration

U.S. Fire Administration

Working for a fire-safe America

16825 South Seton Ave.
Emmitsburg, MD 21727
usfa.fema.gov

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