U.S. Fire Administration

Firefighter Fatalities in the United States in 2013

November 2014

FEMA

U.S. Fire Administration

Mission Statement

We provide National leadership to foster a solid foundation for our fire and emergency services stakeholders in prevention, preparedness, and response.

FEMA

Firefighter Fatalities in the United States in 2013

Prepared by

U.S. Fire Administration (USFA)
National Fire Programs (NFP)
and
National Fallen Firefighters Foundation (NFFF)

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Acknowledgments

The objective of this "Firefighter Fatalities Report for 2013" is to reduce the number of firefighter deaths through an increased awareness and understanding of their causes and how they can be prevented. 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, the U.S. Fish and Wildlife Service, as well as the U.S. Department of Justice, the National Fire Protection Association, and many others contributed information to this report. The objective of this effort is to reduce the number of firefighter deaths through an increased awareness and understanding of their causes and how they can be prevented.

Background

For 37 years, 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, USFA is able to focus on specific problems and contribute to efforts aimed at 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 funded by USFA in response to this annual report. For example, USFA has sponsored significant work in the areas of general emergency vehicle operations safety, fire department tanker/tender operations safety, firefighter incident scene rehabilitation, and roadside incident safety. The data developed for this report are also widely used in other firefighter fatality prevention efforts.

In addition to the analysis, USFA, working in partnership with the National Fallen Firefighters Foundation (NFFF), develops a list of all on-duty firefighter fatalities and associated documentation each year.

Other resources and information regarding firefighter fatalities, including current fatality notices, the National Fallen Firefighters Memorial database, and links to the Public Safety Officers' Benefit (PSOB) Program, can be found at http://www.usfa.fema.gov/fireservice/fatalities/.

Introduction

This report continues a series of annual studies by USFA of on-duty firefighter fatalities in the United States.

The specific objective of this study is to identify all on-duty firefighter fatalities that occurred in the U.S. and its protectorates in 2013 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, territory and federal government fire service personnel, including wildland firefighters; and privately employed firefighters, including employees of contract fire departments and trained members of industrial fire brigades, whether full or part time. It also includes contract personnel working as firefighters or assigned to work in direct support of fire service organizations (i.e., 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 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 sustained while on-duty that 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 he or she prepares 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 U.S. signed into law the Hometown Heroes Survivors Benefit Act of 2003. 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 becomes ill while on-duty or within 24 hours after engaging in such activity. The full text of the law is available at http://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. Previous to 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 which 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, 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, the National Interagency Fire Center, and other federal agencies.

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, National Fire Protection Association (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 USFA to verify the incident, its location, 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 the USFA website, and a notice of the fatality is 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 includes 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 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 USFA. The NFFF criteria as a line-of-duty death for inclusion in the annual National Fallen Firefighters Memorial Service is made by the NFFF.

Firefighter Fatality Inclusion Criteria — National Fire Service Organizations

The NFFF (http://www.firehero.org/fallen-firefighters/memorial/), the NFPA (http://www.nfpa.org/research/reports-and-statistics/the-fire-service/fatalities-and-injuries/firefighter-fatalities-in-the-united-states), and other organizations individually collect information on firefighter fatalities in the U.S. Each organization uses a slightly different set of inclusion criteria that are based at least in part on the purposes of the information collection for each organization and data consistency.

2013 Findings

While on-duty in 2013, 106 firefighters died, an increase of 24 firefighters over the previous year's total. The 2013 total includes seven 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 99 firefighter fatalities in 2013.

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, however, may not indicate the Hometown Heroes portion of the total.

When conducting multiyear comparisons of firefighter fatalities in this report, the losses that were the result of the attacks on the World Trade Center in New York City on Sept. 11, 2001, are sometimes also set apart for illustrative purposes.

Figure 1. On-Duty Firefighter Fatalities (1977-2013)

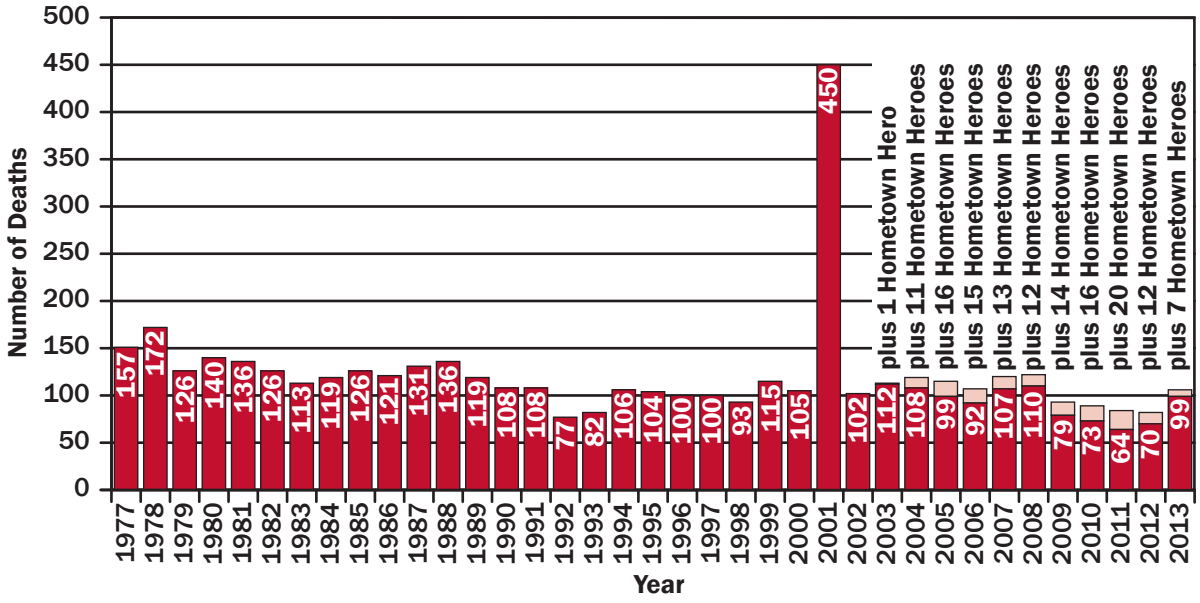
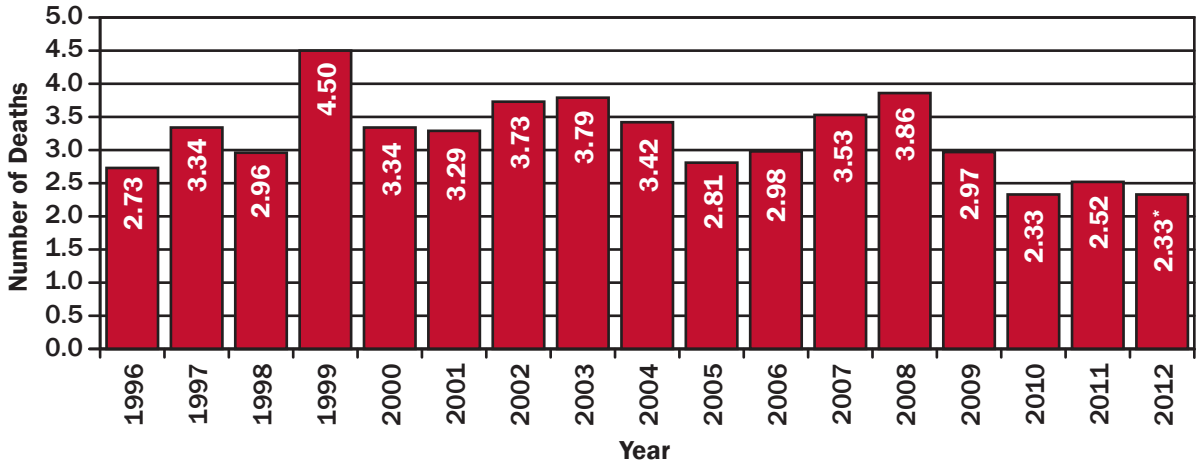


Figure 2. Firefighter Fatalities per 100,000 Fires

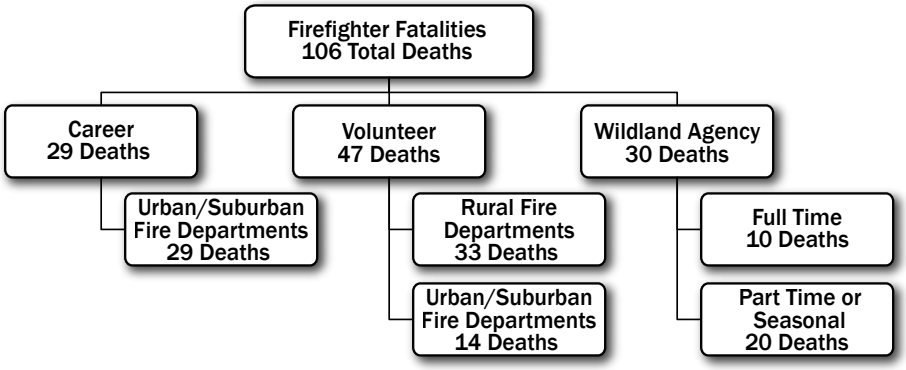


*2013 ratio will be included in the 2014 report.

Career, Volunteer and Wildland Agency Deaths

In 2013, firefighter fatalities included 29 career firefighters, 47 volunteer firefighters, and 30 part-time or full-time members of wildland or wildland contract fire agencies (Figure 3).

Figure 3. Career, Volunteer and Wildland Agency Deaths (2013)



Gender

Of the 106 firefighters who died while on-duty in 2013, 103 were male and three were female.

Multiple Firefighter Fatality Incidents

The 106 deaths in 2013 resulted from a total of 76 fatal incidents including four multiple firefighter fatality incidents killing 34 firefighters. Three of the four multiple fatality incidents were in the state of Texas (Bryan — 2; West — 9; Houston — 4), and one, taking 19 wildland firefighters' lives, was in the state of Arizona.

Table 1. Multiple Firefighter Fatality Incidents

Year	Number of Incidents	Total Number of Deaths
2013	4	34
2012	4	10
2011	3	6
2010	4	8
2009	6	13
2008	5	18
2007	7	21
2006	6	17
2005	4	10
2004	3	6

Wildland Firefighting Deaths

In 2013, 31 firefighters were killed during activities involving brush, grass or wildland firefighting, including 19 lost in one multiple fatality incident in Arizona (Yarnell Hill fire). Another five firefighters died from heart attacks or strokes, two were killed in motor vehicle accidents, four were struck by objects (including falling trees), and one died from injuries sustained in a fall. This total includes part-time and seasonal wildland firefighters, full-time wildland firefighters, and municipal or volunteer firefighters whose deaths are related to a wildland fire (Figure 4).

While there were many factors related to the very high number of wildland firefighter deaths in 2013 — the second highest annual total in 25 years (36 firefighter deaths related to wildland firefighting in 1994) — improvements to accountability and emergency communications were among recommendations from wildland fire experts in after action reports and articles.

As relevant safety and operational enhancements to future operations are being considered by the wildland community as a whole, those same emergency communications protocols and adequate personnel recovery system considerations have broad applicability to all-hazards response planning and operations.

Figure 4. Firefighter Fatalities Related to Wildland Firefighting (2004-2013)

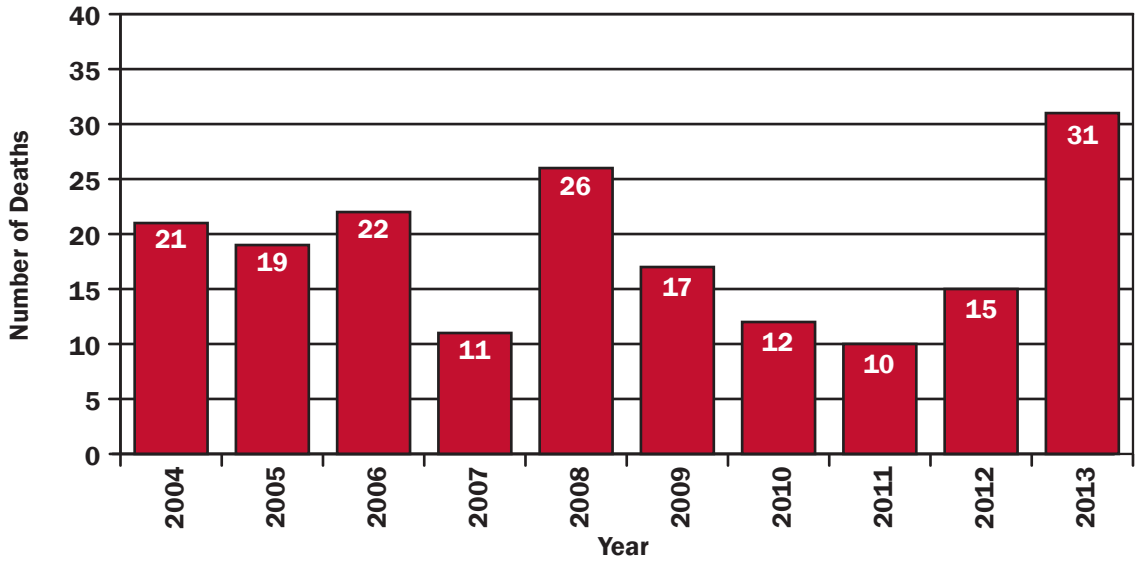


Table 2. Firefighter Deaths Associated With Wildland Firefighting

Year	Total Number of Deaths	Number of Fatal Incidents	Number of Firefighters Killed in Multiple-Death Incidents
2013	31	13	19
2012	15	11	6
2011	10	9	2
2010	11	11	0
2009	16	13	5
2008	26	15	14
2007	11	11	0
2006	22	13	13
2005	19	15	6
2004	21	21	0

Table 3. Wildland Firefighting Aircraft Deaths

Year	Total Number of Deaths	Number of Fatal Incidents
2013	0	0
2012	6	2
2011	0	0
2010	0	0
2009	5	3
2008	16	4
2007	1	1
2006	8	3
2005	6	2
2004	3	3

In 2013, there were no firefighter fatality incidents from aircraft crashes related to wildland firefighting.

Type of Duty

Activities related to emergency incidents resulted in the deaths of 77 firefighters in 2013 (Figure 5). This includes 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 29 fatalities. Nonemergency duties include training, administrative activities, performing other functions that are not related to an emergency incident, and post-incident fatalities where the firefighter does not experience the illness or injury during 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 Deaths by Type of Duty (2013)

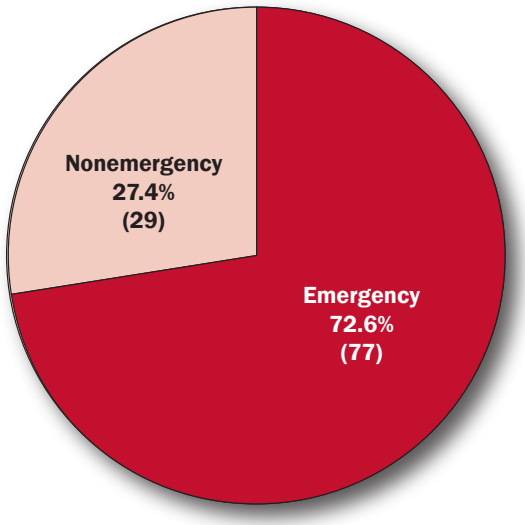


Table 4. Emergency Duty Firefighter Deaths

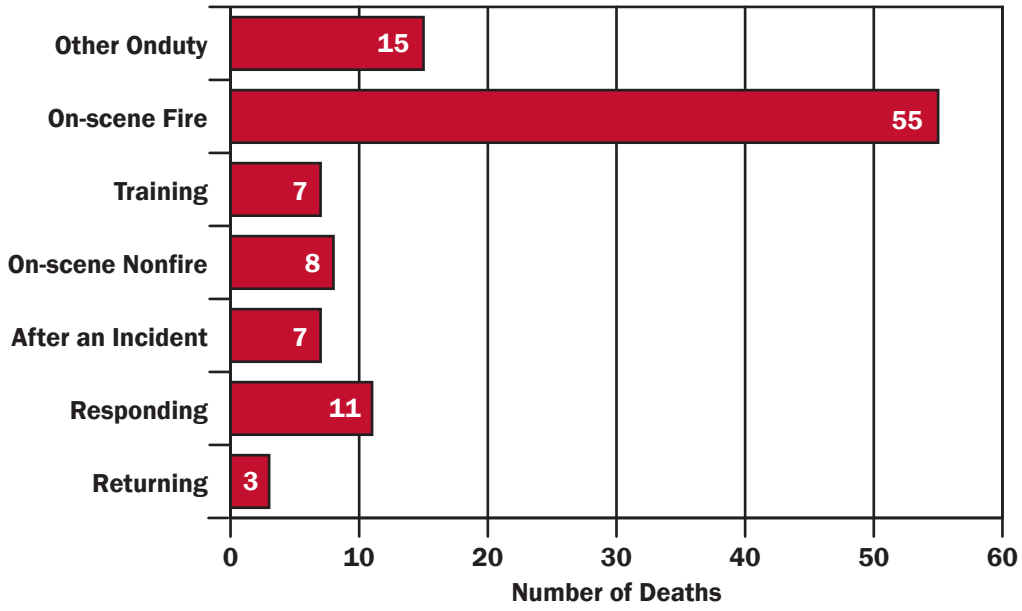
Year	Percentage of All Deaths	Percentage of All Deaths Excluding Hometown Heroes
2013	72.6	77.0
2012	55.6	65.2
2011	54.2	70.3
2010	55.2	66.7
2009	63.3	82.2
2008	63.5	70.0
2007	64.4	72.4
2006	57.5	66.3
2005	52.1	60.6
2004	68.9	75.9

The number of deaths by type of duty being performed in 2013 is shown in Table 5 and presented graphically in Figure 6. As has been the case for most years, fireground duties are the most common type of duty for firefighters killed while on-duty.

Table 5. Firefighter Deaths by Type of Duty (2013)

Type of Duty	Number of Deaths
Other on-duty	15
On-scene fire	55
Training	7
On-scene nonfire	8
After	7
Responding	11
Returning	3
Total	106

Figure 6. Firefighter Deaths by Type of Duty (2013)



Fireground Operations

Fifty-five firefighters were killed during fireground operations in 2013, the fourth highest fireground loss of the past 25 years (1994 and 1999 — 56; 2001 — 383). When not including the attacks on Sept. 11, 2001, the average fireground loss over the past 25 years was 36 firefighters killed. Of the 55 firefighters killed during fireground operations in 2013, 27 were at the scene of a structure fire, one at the scene of a vehicle fire, one while working a weather or natural disaster related incident, and 26 others at the scene of a wildland or outside fire. The average age of the firefighters killed during fireground operations was 37 years old. Eighteen of the deaths were from volunteer fire departments, 12 were career, and 25 were wildland (or wildland-related).

Type of Fireground Activity

Table 6 shows the types of fireground activities in which firefighters were engaged at the time that they sustained their fatal injuries or illnesses. This total includes all firefighting duties, such as wildland firefighting and structural firefighting.

Table 6. Type of Activity (2013)

Advance Hoselines	27
S&R	4
IC	1
Ventilation	1
Unknown	10
Pump Ops	1
Other	5
Support	4
Responding	1
Water Supply	1

Fixed Property Use for Structural Firefighting Deaths

There were 27 fatalities in 2013 where firefighters became ill or injured while on the scene of a structure fire. Table 7 shows the distribution of these deaths by fixed property use.

Table 7. Structural Firefighting Deaths by Fixed Property Use (2013)

Residential	10
Commercial	17

Responding/Returning

In 2013, 14 firefighters died while responding to or returning from 14 emergency incidents. Eleven of the firefighters died while responding to incidents, and three died while returning from an incident.

Responding

Five of the 11 firefighters killed while responding to an incident died from heart attacks:

- One firefighter died while operating his privately owned vehicle (POV), causing it to leave the roadway and strike a tree. The firefighter was wearing a seatbelt.
- One firefighter died while clearing snow from his POV as he prepared to respond to the station for a call.
- One 22-year-old firefighter had a heart attack while a passenger in a vehicle and transporting bottled water to responders at the scene of a structure fire.
- Two firefighters died at their respective stations; one was in the driver's seat of a rescue truck about to depart for a motor vehicle accident call and another was found unconscious in the station after a response alarm sounded for an Emergency Medical Services (EMS) call.

Six firefighters died from traumatic injuries received while responding to an incident, five in vehicle crashes, and one struck by a vehicle at the side of a roadway. One of the five vehicle crashes involved a fire department vehicle. The operator was wearing his seatbelt. POVs operated by firefighters responding to incidents killed four firefighters. **None were wearing seatbelts.** Two of the four were fully ejected from their vehicles in separate incidents; one of them was intoxicated at the time of the crash with a blood alcohol level at autopsy of 0.192, the only firefighter fatality in 2013 where either drugs or alcohol contributed to the death.

- One firefighter and his engine company were initially dispatched to an EMS call. They were canceled as they arrived on-scene and dispatched to a rollover vehicle crash on a nearby interstate highway. As the engine stopped along an on-ramp to the interstate allowing firefighters to put on protective gear, the firefighter was at the open, left-rear door of the apparatus and was struck by a passing pickup truck that had drifted to the side of the roadway.
- One firefighter died while responding to a structure fire when the fire department command vehicle he was driving left the roadway and struck a tree. Severe weather was occurring in the area at the time of the response, including limited visibility and heavy rain. The law enforcement report on the incident cited speed too fast for conditions as a contributing factor to the crash. The firefighter was wearing seat restraints.
- One firefighter was killed while responding to a report of a fire out of control at a local camping area when he lost control of his vehicle, travelled over 100 feet in a ditch, steered back onto the roadway, and then re-entered the ditch and traveled 49 feet along a dirt berm. At this point, the vehicle rolled four times, and the firefighter was ejected through the windshield.
- One firefighter was responding to a report of a vehicle crash in his personal vehicle, a 2001 Chevrolet pickup truck, when a deputy sheriff, driving his vehicle in the same direction as the firefighter, was also responding to the incident. As the deputy and the firefighter both made a left-hand turn toward the incident scene in the same intersection, the vehicles collided. The firefighter's vehicle entered a ditch, struck a driveway embankment, and rolled. The firefighter was ejected from his vehicle and ended up trapped underneath when the vehicle caught fire. The law enforcement report on the crash cited failure to yield the right of way and improper passing/overtaking on the part of the firefighter as factors in the crash.
- One firefighter was responding to the fire station in his personal vehicle for a motor vehicle crash. A driving rain was falling, and the roadway was wet. The firefighter lost control of his vehicle and slid sideways down the roadway striking an oncoming minivan. The firefighter was pronounced dead at the scene from multiple blunt force injuries. Excessive speed for conditions was cited as a factor in the law enforcement report on the crash. The firefighter was not wearing a seatbelt at the time of the crash.

- One firefighter was responding in his personal vehicle to a motor vehicle crash. Rain was falling, and the roadway was wet. As he drove through a curve in the road, the vehicle crossed the centerline. The firefighter overcorrected and went off the right side of the roadway where his vehicle struck a concrete structure and rolled. Excessive speed was cited as a factor in the crash in the law enforcement report as well as speed above the posted limit. The firefighter was not wearing a seatbelt at the time of the crash.

Returning

- One of the three firefighters who died while returning from an incident suffered a heart attack while controlling traffic to allow for apparatus to be backed into the station.
- One firefighter who died while returning from an incident slipped and fell from the running board of an engine and struck his head on the floor of the fire station while assisting other firefighters as they placed fire apparatus back into service after a structure fire.
- The third firefighter killed while returning from an incident was operating a tanker on a wildland fire. Early in the morning, after the firefighter had completed his nighttime fireline work assignments and was released to travel back to the Incident Command Post (ICP), the firefighter lost control of a loaded tanker as it came down a steep mountain road and died upon impact when the vehicle crashed. An investigation into the incident found that the tanker was fully loaded and that the weight of the loaded vehicle exceeded the vehicle's certification by 5,000 pounds. The 1966 vehicle chassis was only equipped with rear brakes, and it was the firefighter's first assignment as a tanker driver, having received the driver's license endorsement for this type of vehicle a few weeks before the fatal incident. Although it does not appear as if it was a factor in his death, the 19-year-old firefighter was not wearing a seatbelt at the time of the crash.

Table 8. Firefighter Deaths While Responding to or Returning From an Incident

Year	Number of Firefighter Deaths
2013	14
2012	17
2011	11
2010	16
2009	15
2008	24
2007	26
2006	15
2005	22
2004	23
2003	36

Training

In 2013, seven firefighters died while engaged in training activities. Three of the deaths were due to heart attacks and one from a pulmonary embolism. One 20-year-old firefighter cadet suddenly collapsed and died while in a cool down period after participating in a training exercise that included simulated firefighting tasks. The cause of death was not released. Two firefighters died from traumatic injuries sustained during training: one smokejumper while participating in a series of parachute jumps to gather data for specialized safety equipment was unable to deploy a parachute in a timely manner and was killed on impact, and one firefighter died while returning to his community from department-mandated training at a regional fire training center when the personally owned motorcycle he was operating collided with a minivan.

Table 9. Firefighter Fatalities While Engaged in Training

Year	Number of Firefighter Deaths
2013	7
2012	8
2011	8
2010	12
2009	10
2008	12
2007	11
2006	9
2005	14
2004	13
2003	12

Nonfire Emergencies

In 2013, 16 firefighters were killed where the type of emergency duty was not related to a fire. The response calls included 12 motor vehicle accidents, two EMS calls, one false alarm, and one incident call about an explosion where the firefighter died from an apparent heart attack while searching a wooded area.

Eight of the 16 firefighters died from heart attacks, five while on-scene and three while responding. Eight firefighters died from traumatic injuries: three struck by vehicles at the incident scene, one while responding to an incident and stopping at the side of a roadway, and four killed in a motor vehicle accident while responding in a POV.

After the Incident

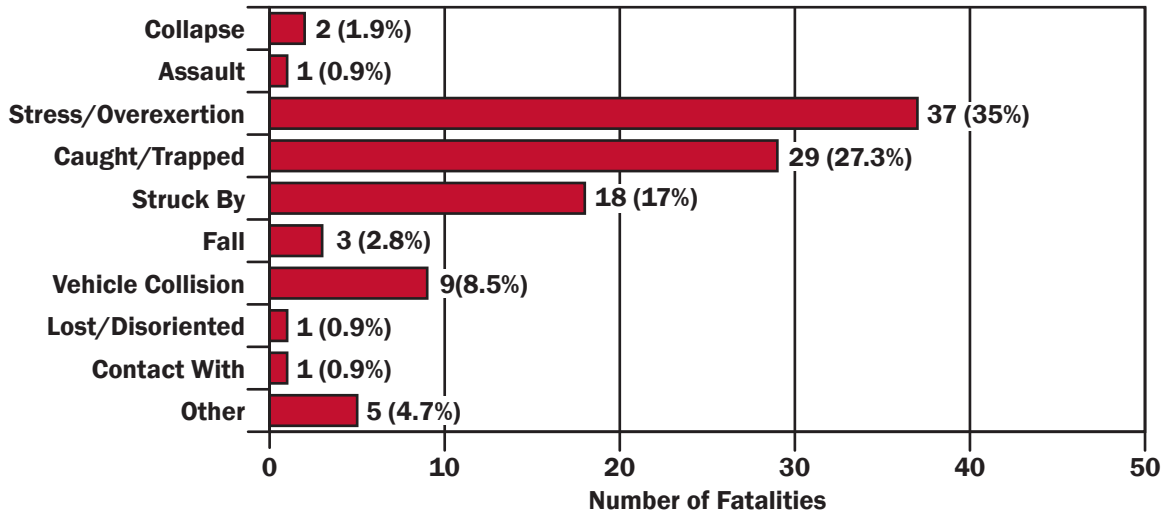
In 2013, seven firefighters died after the conclusion of their on-duty activities. Six of the deaths were due to heart attacks and in one case the nature of fatal injury was cerebrovascular accident (CVA). All seven fatalities were classified as Hometown Heroes where no symptom or complaint of illness became evident or was reported during duty.

Cause of Fatal Injury

The term "cause of injury" refers to the action, lack of action, or circumstances that directly resulted in the fatal injury. The term "nature of 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 2013.

Figure 7. Fatalities by Cause of Fatal Injury (2013)



Stress or Overexertion

Stress or overexertion is a general category that includes all firefighter deaths that are cardiac or cerebrovascular in nature such as heart attacks, strokes and 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 2013, 37 firefighters died as a result of stress or overexertion:

- Thirty-six firefighters died due to heart attacks.
- One firefighter died due to a CVA.

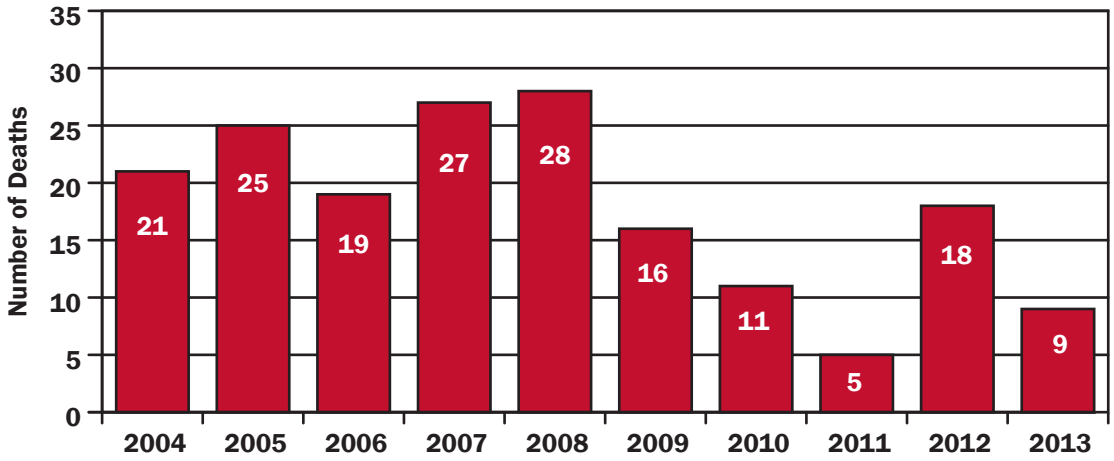
Table 10. Deaths Caused by Stress or Overexertion

Year	Number	Percent of Fatalities	Hometown Heroes
2013	37	34.9	7
2012	45	55.5	13
2011	50	60.2	20
2010	55	63.2	16
2009	50	54.9	14
2008	54	45.0	12
2007	55	51.4	13
2006	55	53.9	15
2005	62	53.9	16
2004	66	55.5	11

Vehicle Collisions

In 2013, nine firefighters died as the result of nine vehicle crashes. None of the vehicle crashes in 2013 involved aircraft. Five of the crashes involved POVs, four while responding to an incident and one while returning on his motorcycle from fire department-mandated training. Four of the crashes involved fire department vehicles, two tankers (tenders), one command vehicle, and one all-terrain vehicle in a national forest while a firefighter was searching for a source of smoke.

Figure 8. Firefighter Fatalities in Vehicle Collisions (Including Aircraft)



Seven of nine vehicles involved in fatal vehicle collisions in 2013 were equipped with seatbelts. Only one of the seven vehicle operators was wearing them. Two of the drivers were fully ejected upon impact.

Lost or Disoriented

One firefighter died in 2013 by becoming lost or disoriented inside a burning structure. The firefighter and the members of his fire department responded to a report of smoke coming from the roof of a strip mall that contained a pool hall and a restaurant. The firefighter was assigned to enter the structure with a company officer and another firefighter. The firefighters and two others had difficulty finding the seat of the fire, and interior conditions worsened. The crew, in verbal communication, decided to exit the structure when the firefighter became separated from the other members of his crew as they exited. The Incident Commander (IC) noted that the firefighter did not exit the structure with his crew. When contact was made with the firefighter, he reported that he was fighting the fire with another different crew but a short while later called by radio to say that he was out of air. This transmission was not heard by anyone on the scene or in the dispatch center. When his absence was noted, a crew was sent into the structure to locate the firefighter. Conditions did not allow a full search, and firefighters did not report hearing a Personal Alert Safety System (PASS) device alarm or low air alarm while searching. All firefighters were withdrawn from the building. Part of the structure was removed to allow a safe search of the building once the fire was controlled. The firefighter was then discovered under debris and was found with his helmet, hood and facepiece off but nearby. At autopsy, the level of carboxyhemoglobin in his blood was 35 percent. The cause of death was listed as thermal injuries and smoke and soot inhalation.

Caught or Trapped

Twenty-nine firefighters were killed in seven separate incidents in 2013, three incidents with multiple firefighter fatalities, when they became caught or trapped. This classification covers firefighters trapped in wildland and structural fires who were unable to escape due to rapid fire progression and the byproducts of smoke, heat, toxic gas and flame. This classification may also include firefighters who drowned and those who were trapped and crushed. This is the highest single-year loss for this cause of fatal injury since 1994 when the U.S. lost 32 firefighters; 2012 was the lowest loss year of record with one firefighter killed after being caught or trapped in a fire.

- Firefighters responded to the report of a structure fire at a Knights of Columbus. During interior operations, one firefighter became separated from his crew and radioed for help. Three other firefighters, who were assigned to the Rapid Intervention Team (RIT), attempted the rescue of the trapped firefighter. The fire progressed to flashover conditions enveloping the firefighters and causing fatal injuries to two firefighters, and near fatal injuries to two others.

- Firefighters responded to a report of a residential structure fire with residents trapped and upon arrival at the scene reported smoke showing. The first two firefighters on-scene donned their personal protective equipment (PPE), conducted a reconnaissance of the building, reported someone trapped on the second floor to other firefighters, entered the structure ahead of an engine crew that was advancing a handline, and began a search of the second floor. Firefighters encountered heavy smoke conditions inside and, within minutes, heard a PASS device sounding. A mayday was declared. One of the first two firefighters in the structure was found in a bedroom unconscious. Firefighters removed him to the exterior and found that he was not breathing. The firefighter was transported to the hospital by ambulance but died as a result of his injuries eight days later with the cause of death listed as smoke inhalation and thermal injuries with complications. One civilian was also killed in the fire.

- Firefighters were dispatched to a report of a fire alarm in a condominium complex at 0251 hours. One firefighter and his ladder crew were dispatched to the scene as a part of the fourth alarm at 0405 hours. The firefighter's truck company was assigned to evacuate an adjacent building in the complex and then received orders to conduct a primary search of the ground floor of the fire building. Shortly after beginning the primary search, a portion of the structure collapsed. The collapse trapped the firefighter, and he radioed for assistance. He was recovered from the rubble following an hours-long process to locate and remove him. The firefighter was reported to have died of mechanical compression of the chest causing asphyxia.

- Fire department units were dispatched to a report of a fire in a motel. Firefighters on the first engine to arrive at the scene found a working fire, with heavy smoke showing, and advanced a 2 1/2-inch handline into the structure. Firefighters opened the ceiling as they advanced and found fire in the space above. Firefighters were ordered to withdraw from the structure while a water supply was secured. Once a water supply was established, firefighters again advanced into the structure. As firefighters advanced, a structural collapse occurred trapping a number of firefighters. Four firefighters were killed as a result of the collapse and over a dozen were injured. Autopsy examinations revealed the four firefighters died from thermal injuries, smoke inhalation and compressional asphyxia.

- Nineteen firefighters, members of a Hotshot Crew, died when they were caught and trapped by a fast moving wildfire that had changed direction and started pushing aggressively toward a small town. Fire resources shifted to resident evacuation and structure protection in the town while the Hotshot Crew remained out on a ridge on the southwest perimeter of the fire. Personnel who communicated with the team knew the crew was in the black at that time and assumed that they would stay there. No one realized that the crew left the black and headed southeast. As thunderstorm outflows reached the southern perimeter of the fire, winds increased substantially. As a result, the fire turned south and overran the Hotshot Crew.

- Firefighters were working at the scene of a residential structure fire. Two of the firefighters were in the basement of the structure attempting to locate the fire. No fire was located in the basement, so firefighters were ordered by the IC to back out of the structure. Moments later, the firefighters radioed that they had located the fire in the basement and were making an attack on the fire. Within minutes, fire conditions in the structure changed rapidly, and an evacuation of the building was ordered. One of the firefighters was helped from the building, but the second was not accounted for. Firefighters knocked down the fire from the exterior when the trapped firefighter could be heard and was seen crawling toward the exit. Firefighters pulled him from the building and began medical

treatment. The firefighter received severe burns while inside the structure. He was transported to a regional burn facility where he died as a result of his injuries almost a week later.

- Two firefighters saw a fire in a residence near their homes and within their fire district. The firefighters reported the incident and responded to the scene. The firefighters believed the residence was occupied, so they initiated a search of the home without protective clothing. The fire progressed rapidly, and one firefighter received significant burns. He was transported to the hospital but died as a result of his injuries almost two months later.

Collapse

Two firefighters died in 2013 as a result of structural collapses in two separate incidents.

- Firefighters responded to a mutual-aid structure that involved a two-story residence. Upon arrival on-scene, two firefighters were ordered to enter the structure to assist with firefighting operations. A **mayday** was transmitted a short time later when the two firefighters fell through the floor of the structure. One firefighter fell from the first floor into the basement; his partner fell partially through the floor but was able to pull himself out of the hole. Firefighters were able to place their hands on the firefighter in the basement from above but could not bring him back up through the hole due to fire and smoke conditions. Firefighters entered the basement, located the injured firefighter, brought him to the exterior, and then transported him by ambulance to a local hospital. The time from the floor failure to the firefighter's removal from the basement was approximately 20 minutes. The firefighter was pronounced dead when he arrived at the hospital. The cause of death was listed as acute ventricular arrhythmia due to acute thermal inhalation injury.

- Firefighters responded to a structure fire in a residence. One firefighting crew was assigned to search the structure due to a bystander's report of someone in the house. The search was negative, and other crews completed extinguishment of the fire. As another crew overhauled the interior of the structure, one firefighter took a new firefighter assigned to his crew back inside of the building to provide some educational pointers about the fire and the structure. A ceiling collapse occurred. The new firefighter was able to escape, but the other firefighter was trapped and killed as a result of being crushed by the debris. After the fire, it was learned that the house was vacant and had been condemned. Two individuals were charged with arson and murder in association with this incident.

Struck by Object

In 10 incidents — including one taking nine firefighters' lives — being struck by an object was the cause of 18 fatal firefighter injuries in 2013.

- Firefighters were working on the scene of a tractor-trailer crash on a local divided interstate highway. The patient from the original crash had been transported, and firefighters remained on the scene. Fire department vehicles were blocking the scene, but the right lane of traffic was open. A tractor-trailer truck approaching the scene attempted to brake and began to slide. Several of the firefighters saw the approaching truck and knew that it was not going to be able to stop. One firefighter attempted to run into the median of the highway to escape but was struck by the sliding truck as it plowed into the original crash scene. Five other firefighters were injured as a result of the crash. The driver of the tractor-trailer that struck the firefighters was charged with reckless homicide for driving too fast for conditions and failure to obey the state's Move Over Law. In May of 2014, the driver was sentenced to four years in prison.

- One firefighter was assisting with a prescribed burn near a local highway. He was standing in the roadway when he was struck and killed by a passing vehicle. Smoke from the burn obscured visibility on the roadway.

- Firefighters responded to a report of a structure fire in a fertilizer and seed occupancy. Firefighters arriving on-scene found a well-developed fire in the structure. An EMS and mutual-aid response was requested, and other emergency personnel responded to the scene for firefighting operations and evacuation. A massive explosion occurred. The explosion killed nine firefighters and an EMS responder, as well as five civilians. The blast destroyed most of the fire occupancy and damaged or destroyed 500 structures.

- One firefighter and the members of his fire department were dispatched to close down a local interstate highway to allow the establishment of a landing zone for a medical helicopter. The helicopter was landing to evacuate the victim of an earlier vehicle crash on the same interstate. The firefighter arrived on the scene first in his personal vehicle and began to shut down the interstate. He parked his pickup truck across the lanes of the highway with the red lights mounted to his vehicle in operation. As the firefighter crossed the road, he was struck by a vehicle, sustaining fatal injuries. The driver of the vehicle that struck the firefighter was charged with homicide by vehicle while driving under the influence and other charges.

- A firefighter staffing an ambulance was dispatched along with other fire department units to a report of a structure fire. When firefighters arrived on-scene, they discovered a fire in a large mulch pile. The fire presented difficulties with access and water supply. An engine from the same station as the firefighter was assigned to lay a supply line from a distant fire hydrant, and a second engine was assigned to extend that supply line once the supply of hose on the initial engine had been depleted. The firefighter parked his ambulance along the side of the road near where the first engine was likely to run out of hose in preparation to assist the hose-laying process. The second engine assigned to extend the supply line was backing into position to meet the first engine. A backer was not used. As the firefighter donned his protective clothing from a compartment on the driver's side of the ambulance, he was struck and trapped between his ambulance and the second engine assigned to extend the supply line. The firefighter was extricated from his position between the two vehicles by other firefighters using hydraulic extrication tools and airbags. He was transported to the hospital but did not recover from his injuries.

- Three firefighter-smokejumpers were dropped into the South Warner Wilderness of the Modoc National Forest to work a wildland fire incident. While they worked to cut a fireline around a tree that had been hit by lightning, a limb fell from the tree and struck one of the firefighters. Other firefighters started CPR and called for a helicopter. Other smokejumpers and medical equipment were dropped at the site to assist. The helicopter arrived and transported the firefighter to a hospital. Despite all efforts to revive him, he did not survive. His death was caused by traumatic injuries.

- One firefighter and his engine company were initially dispatched to an EMS call. They were canceled as they arrived on-scene and dispatched to a separate rollover vehicle crash on a nearby interstate highway. As the engine stopped along an on-ramp to the interstate allowing firefighters to put on protective gear, a firefighter at the open, left-rear door of the apparatus was struck by a passing pickup truck that had drifted to the side of the roadway.

- While a crew was felling a Douglas fir tree, one firefighter was killed when a large burning portion of the treetop fell and fatally crushed him and seriously injured another. Other firefighters on the scene immediately began to search for the firefighter but could not gain access to him due to fire conditions and the amount of material that had fallen. The firefighter died immediately as a result of the crushing injuries.

- One inmate firefighter was struck and killed by a falling tree while working as a member of a Washington Department of Natural Resources firefighting crew.

- One fire police captain was struck by a vehicle as he directed traffic around the scene of a crash on a local highway. He received severe head injuries and was transported to the hospital. The fire police captain was transferred to a long-term care facility where he died as a result of his injuries two weeks later.

Fall

Three firefighters died in 2013 as the result of a fall.

- One firefighter and members of his ladder truck were dispatched as the RIT company to a structure fire. Upon their arrival on the scene, the firefighter and his crew staged their equipment near the command post. The IC placed a truck in service and ordered the team to the roof of an adjacent structure to perform ventilation functions. The firefighter reported heavy smoke conditions in the exposure. He was wearing his self-contained breathing apparatus (SCBA) with his facepiece in place. As he

approached the adjacent roof, the firefighter fell approximately 20 feet onto the roof of the fire building and then later fell through the roof into the fire building. Other firefighters reported his fall. A rescue operation was begun immediately, but access to the firefighter was made difficult by limited access to the roof area and fire conditions. Firefighters breached a brick wall to gain access to the location of the firefighter. He was removed from the structure and transported to the hospital. The cause of death was listed as multiple blunt force injuries.

- One firefighter-smokejumper was participating in a series of parachute jumps to gather data for specialized safety equipment. On the second mission of the day, the firefighter jumped from an aircraft at 6,000 feet. He was unable to deploy a parachute in a timely manner and was killed on impact.

- One firefighter was assisting others as they placed fire apparatus back in service after a structure fire incident. The firefighter slipped and fell from the running board of an engine and struck his head on the floor of the fire station. He was transported to the hospital and was alert and in little pain. Testing at the hospital revealed a cerebral bleed. The firefighter underwent surgery for his injury but died as a result of his fall three days after it occurred.

Other

Five firefighters died in 2013 of a cause that is not categorized above.

- One firefighter was performing a safety check of a runway at a regional airport. During the check, the firefighter noticed a deer near the runway. He exited his vehicle and prepared to shoot the animal with a rifle. As he aimed, he suddenly collapsed. According to the NIOSH investigation, the cause of death reported at autopsy was "cardiac dysrhythmia due to systemic sarcoidosis with cardiac involvement."

- One firefighter cadet was participating in a training exercise that included simulated firefighting tasks. After approximately 30 minutes of work, the firefighter cadet was in a cool down period when he suddenly collapsed. Other firefighters provided medical treatment including CPR and the application of an automated external defibrillator (AED). The firefighter cadet, a retired teacher who had been medically cleared to participate in firefighter activities, was transported to the hospital but did not survive. The cause of death was not released.

- One firefighter and the members of his fire department responded to a residential structure fire. The residence was fully involved upon the arrival of firefighters on-scene. The firefighter was operating the pump on the department's tanker (tender). After nearly an hour and a half working on the scene, the firefighter told other firefighters that he felt like he was having a heart attack. While assistance was being rendered by other firefighters, he went into cardiac arrest. The firefighter was transported by ambulance to a medical care facility but did not survive. His death was caused by a pulmonary embolism.

- One firefighter was found dead in a major airport's fire station as a result of suicide.

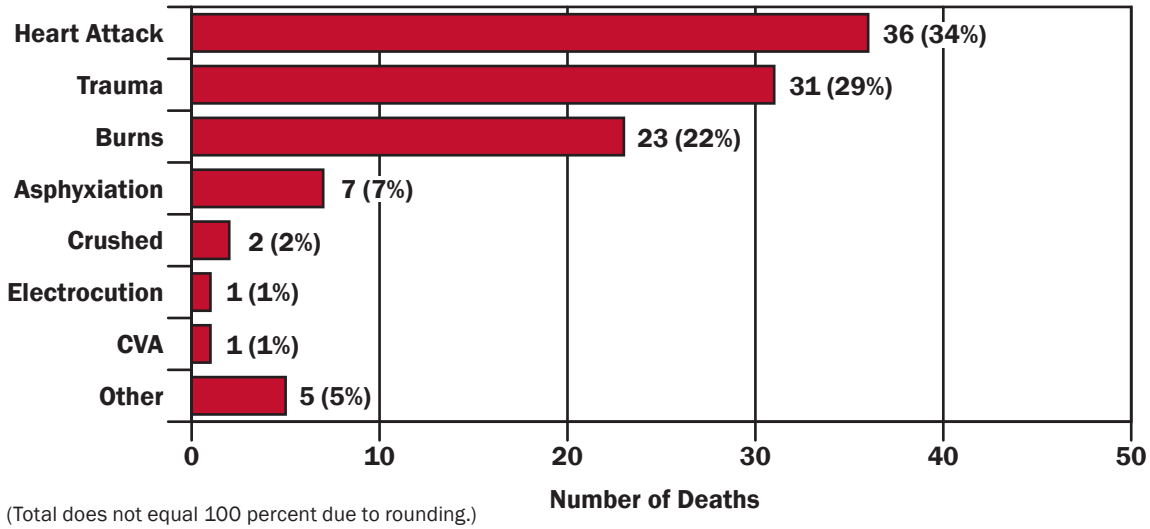
- One firefighter and the members of his fire department responded to a fire in a combine. The firefighter responded in his personal vehicle and assisted with hoseline deployment and overhaul on the scene. The next morning, the firefighter was assisting as an instructor for a firefighter training program for a local community college. As he assisted with the class, he became ill and was transported to the hospital, but he died. His death was caused by a pulmonary embolism.

Nature of Fatal Injury

Figure 9 shows the distribution of the 106 firefighter deaths that occurred in 2013 by the medical nature of the fatal injury or illness. For heart attacks, Figure 10 shows the type of duty involved.

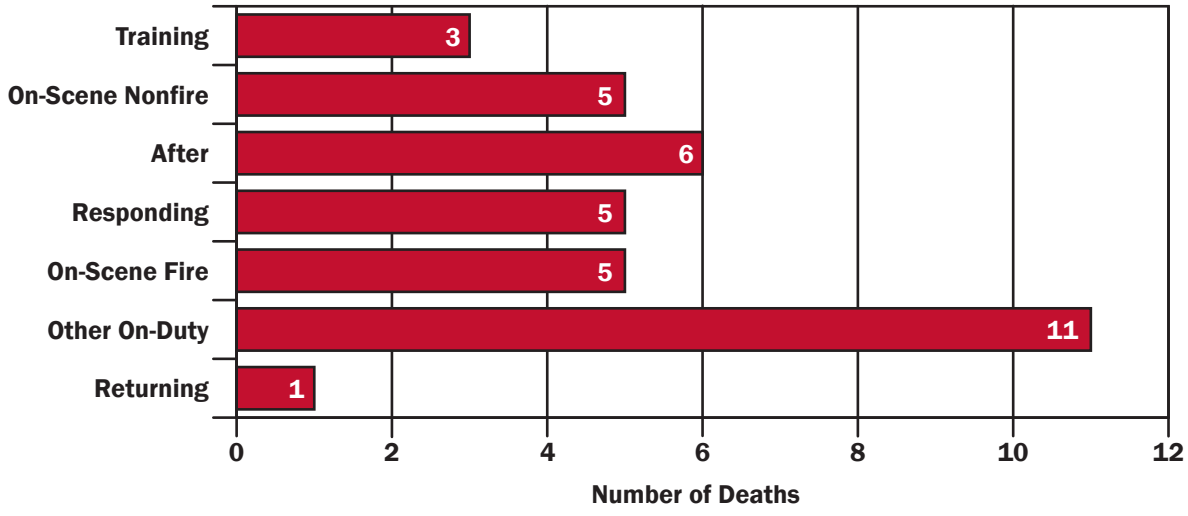
Burns: With 23 deaths, 2013 had the highest number of firefighters killed in a single year as the result of burn injuries since 1990, attributed mostly to the 19 wildland firefighters killed while working the Yarnell fire incident in Arizona. Over the past 22 years, only four had more than 10 firefighters killed from burn injuries (1990 — 13; 1991 — 11; 1994 — 22) with an average annual loss of seven firefighters. The 22 firefighters lost to burn injuries in 1994 included 14 wildland firefighters killed on Storm King Mountain near Glenwood Springs, Colorado.

Figure 9. Fatalities by Nature of Fatal Injury (2013)



(Total does not equal 100 percent due to rounding.)

Figure 10. Heart Attacks by Type of Duty (2013)



Heart attacks after an incident: With a total of six, 2013 was the lowest total in the 10 years since the December 2003 passage of the Hometown Heroes Survivors Benefit Act. The average has been 14 per year over the past decade.

Firefighter Ages

Figure 11 shows the percentage distribution of firefighter deaths by age (at the time of injury) and nature of the fatal injury. Table 11 provides a count of firefighter fatalities by age and the nature of the fatal injury.

Younger firefighters were more likely to have died as a result of traumatic injuries, such as injuries from an apparatus accident or becoming caught or trapped during firefighting operations. Stress-related deaths are rare below the 31 to 35 years-of-age category and, when they occur, often include underlying medical conditions.

Figure 11. Fatalities by Age and Nature (2013)

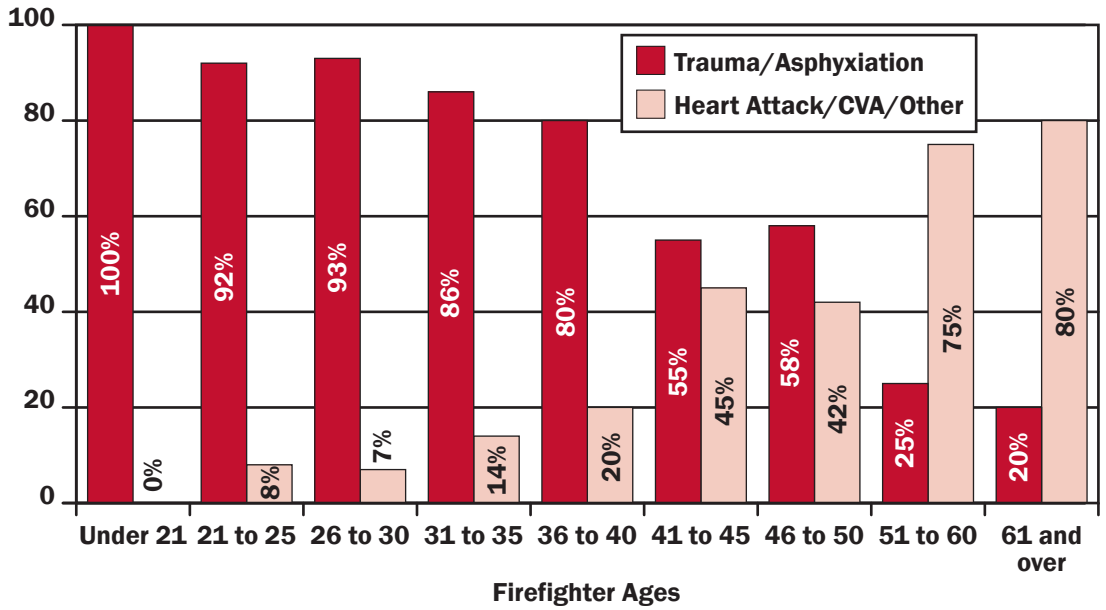


Table 11. Firefighter Ages and Nature of Fatal Injury (2013)

Age Range	Heart Attack/CVA/Other	Trauma/Asphyxiation Total
under 21	0	3
21 to 25*	1	12
26 to 30	1	14
31 to 35	1	6
36 to 40	2	8
41 to 45	5	6
46 to 50	5	7
51 to 60	18	6
61 and over	8	2

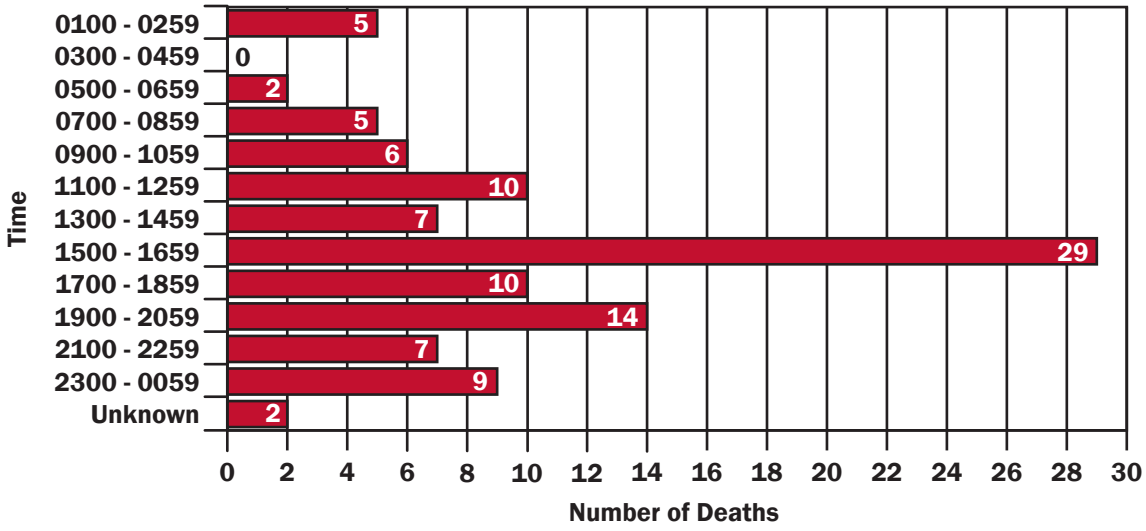
*One death by self-inflicted injury not included.

The youngest firefighter killed in 2013 was 19 years old and died on a wildland fire when the water tender (tanker) he was driving hit an embankment and rolled. The oldest firefighter was 76 years old and died from a heart attack after responding to the fire station for the report of a motor vehicle accident and then collapsed while boarding the first-due apparatus.

Deaths by Time of Injury

For 2013, the distribution of firefighter deaths according to the time of day when the fatal injury occurred is illustrated in Figure 12. The time of fatal injury for two firefighters was either unknown or not reported.

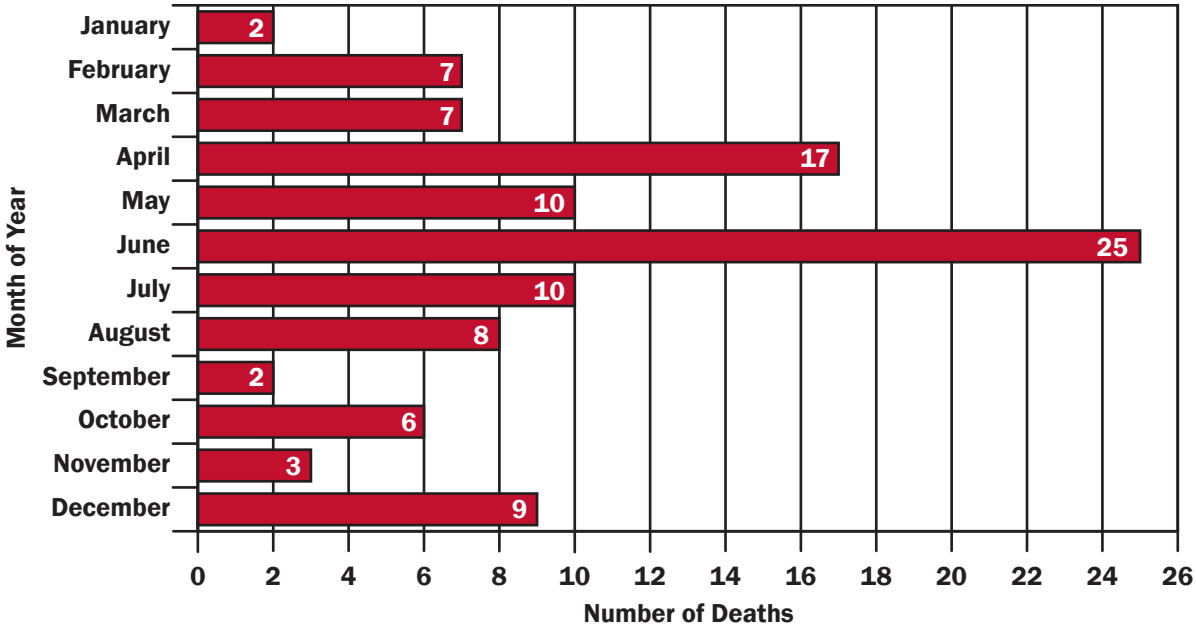
Figure 12. Fatalities by Time of Fatal Injury (2013)



Firefighter Fatality Incidents by Month of Year

Figure 13 illustrates the 2013 firefighter fatalities by month of the year.

Figure 13. Deaths by Month of Year (2013)



State and Region

The distribution of firefighter deaths in 2013 by state is shown in Table 12. Firefighters based in 30 states died in 2013.

The highest number of firefighter deaths, based on the location of the fire service organization in 2013, occurred in Arizona followed closely by Texas with respectively 20 and 19 firefighter fatalities. Pennsylvania, with six deaths, plus North Carolina and New York, with five firefighter fatalities each, were among the five states with the most firefighter deaths in 2013.

Table 12. Firefighter Fatalities by State by Location of Fire Service* (2013)

State	Fatalities	Percentage
AL	4	3.8
AZ	20	18.9
CA	3	2.8
FL	1	0.9
GA	3	2.8
ID	2	1.9
IL	2	1.9
KY	1	0.9
MA	2	1.9
MD	2	1.9
MI	3	2.8
MN	1	0.9
MO	3	2.8
MS	1	0.9
NC	5	4.7
NH	1	0.9
NJ	2	1.9
NM	3	2.8
NY	5	4.7
OH	3	2.8
OK	1	0.9
OR	3	2.8
PA	6	5.7
RI	1	0.9
SC	2	1.9
TN	2	1.9
TX	19	17.9
VA	1	0.9
WA	2	1.9
WV	2	1.9

*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 National Emergency Training Center.

Figure 14. Firefighter Fatalities by Region (2013)

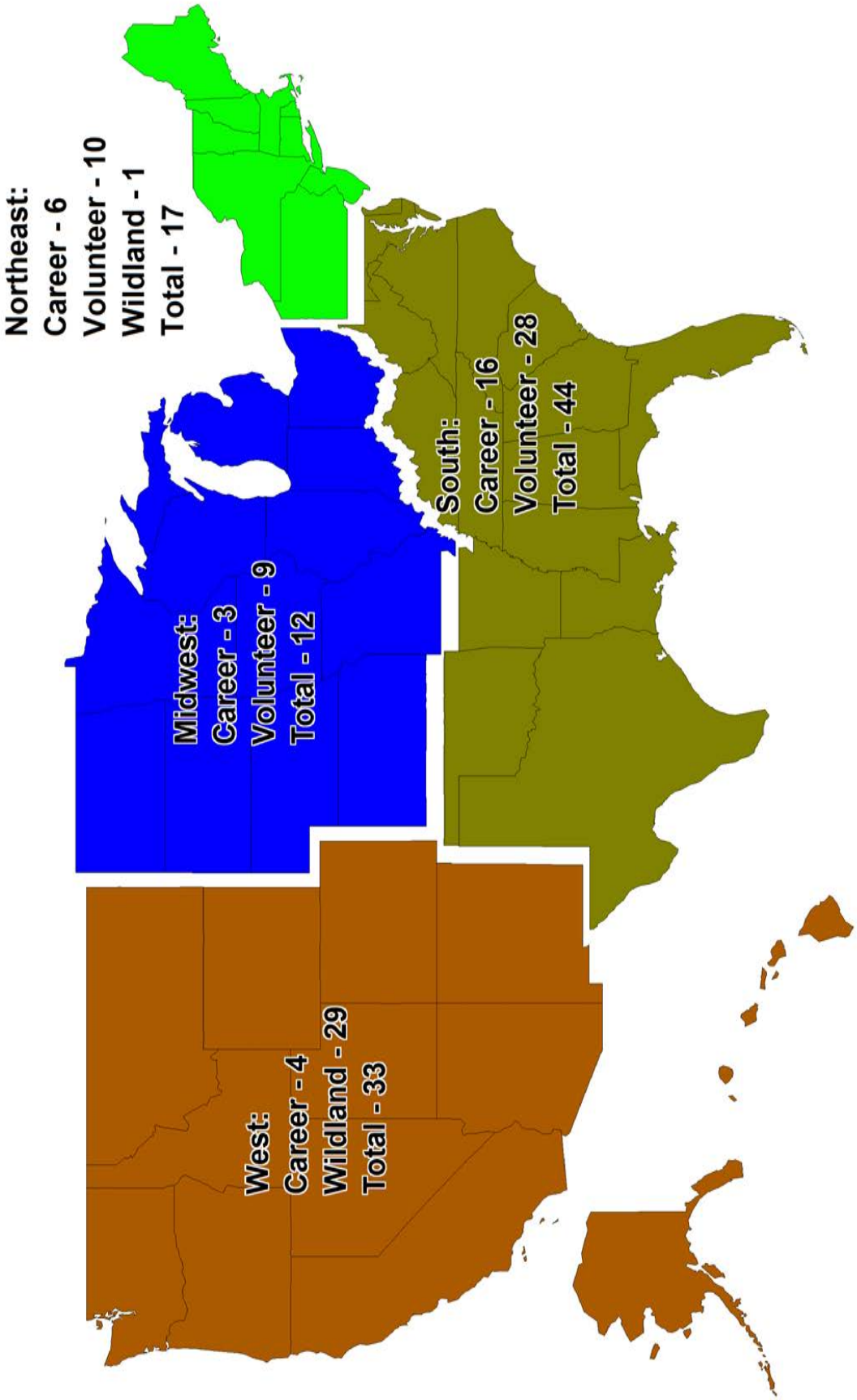


Figure 15. On-Duty Firefighter Fatalities by Fire Department Location (2013)

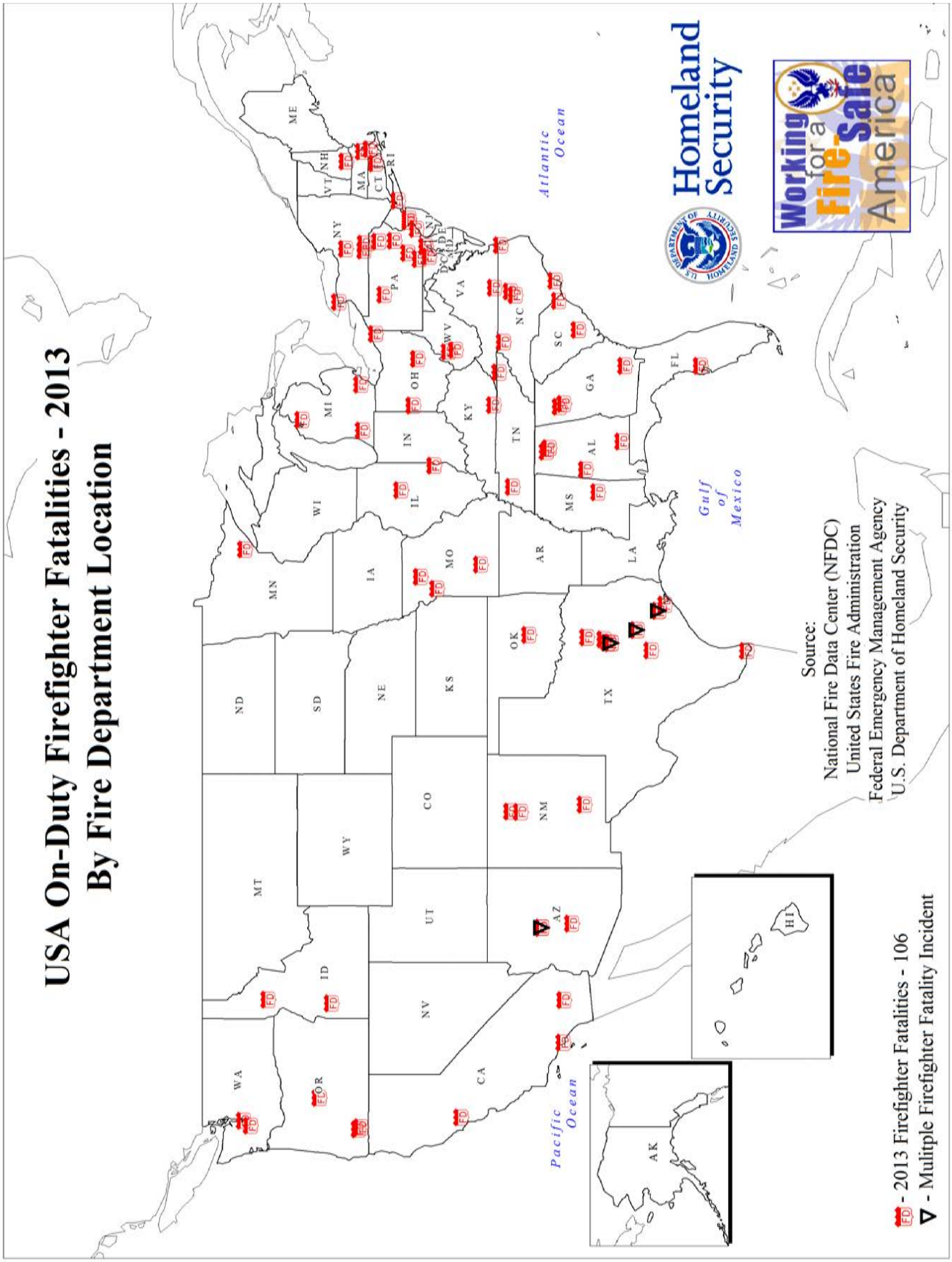
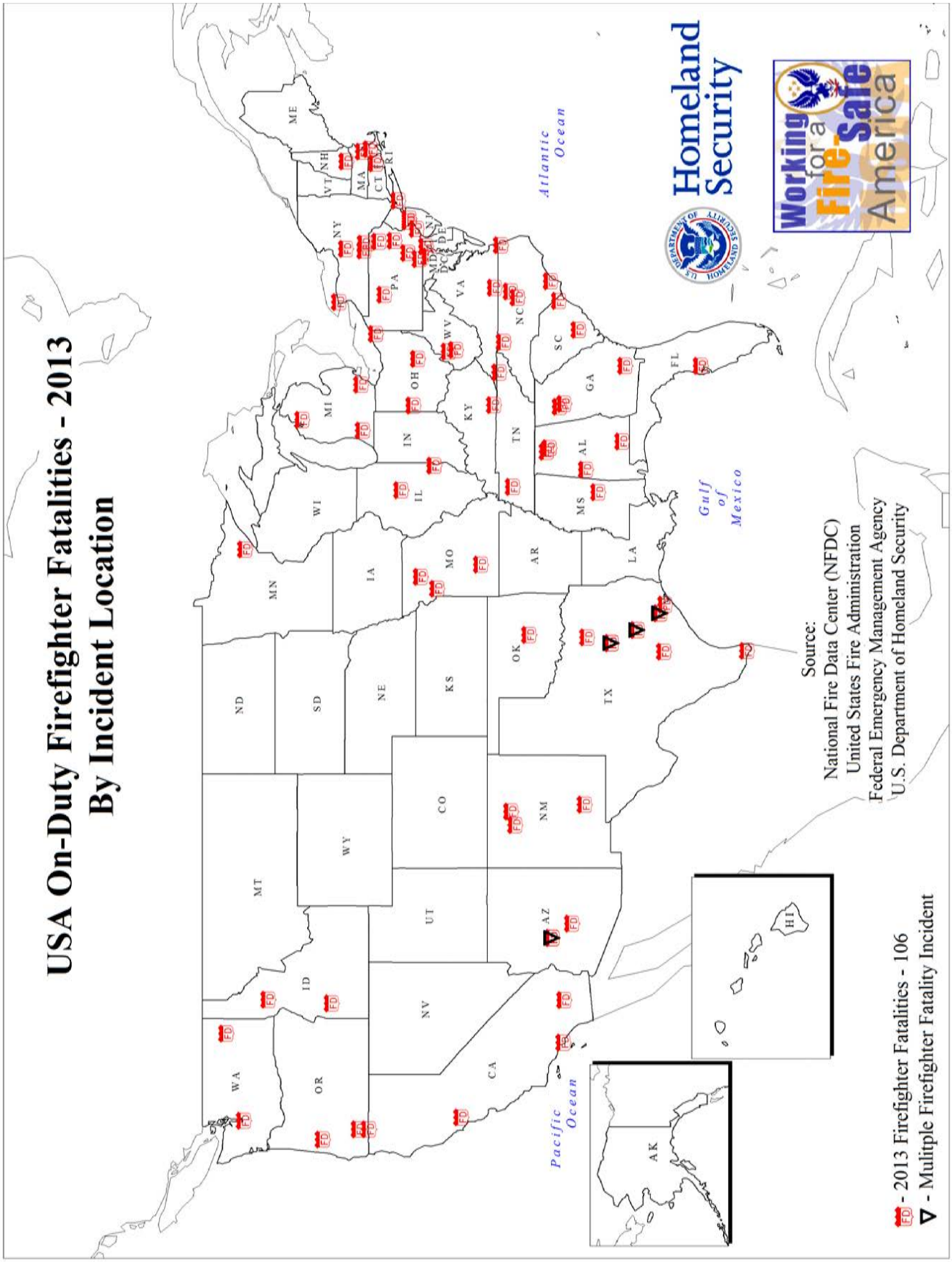


Figure 16. On-Duty Firefighter Fatalities by Incident Location (2013)



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 2013 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 13. Firefighter Deaths by Coverage Area Type (2013)

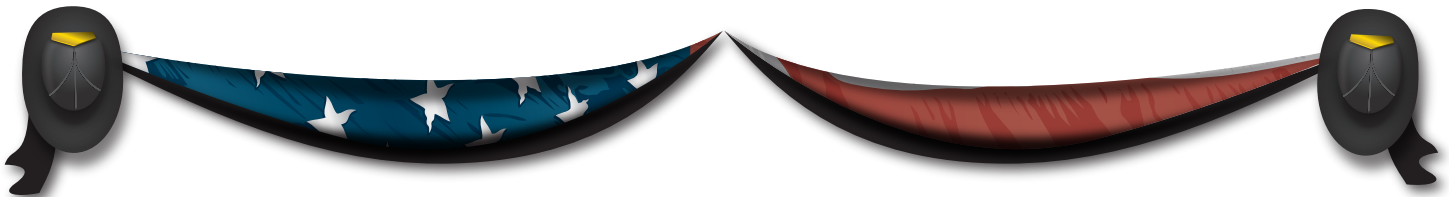
Urban/Suburban	Rural	Total
62	44	106

In memory of all firefighters

who answered their last call in 2013

To their families and friends

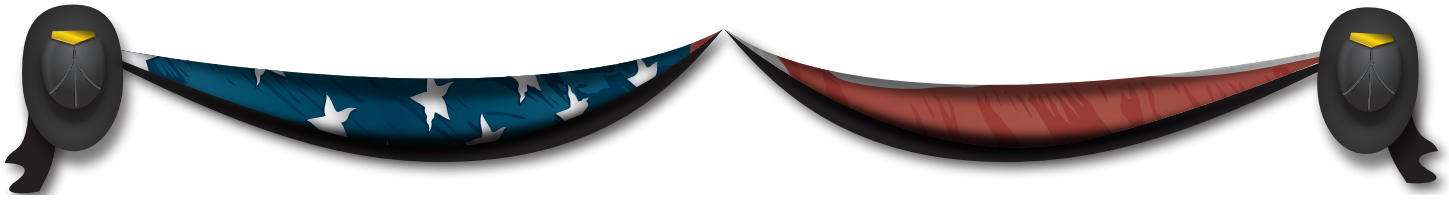
To their service and sacrifice



Two firefighters were performing a safety check of a runway at a regional airport. During the check, one firefighter noticed a deer near the runway. He exited the vehicle and prepared to shoot the animal with a rifle. As he aimed, he suddenly collapsed.

The other firefighter in the vehicle requested the response of EMS and began CPR. An ambulance arrived on the scene at 1747 hours. It departed for the hospital at 1800 hours, and arrived at the hospital at 1811 hours.

In addition to CPR provided by his partner, the injured firefighter received advanced life support (ALS) care from ambulance personnel. The firefighter did not respond to treatment in the hospital emergency room and was pronounced dead at 1820 hours.



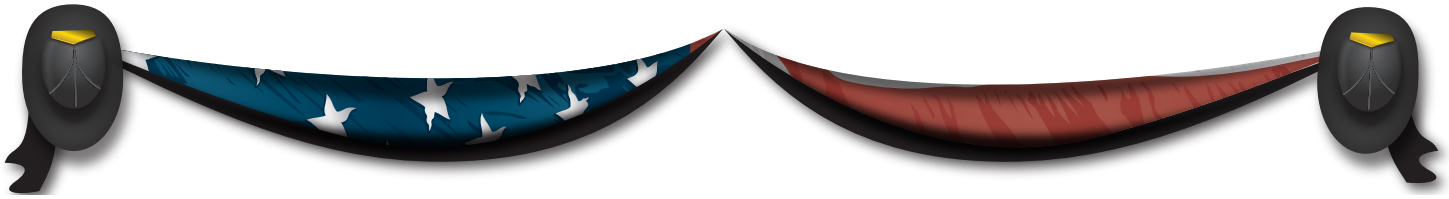
One firefighter responded to a mutual-aid structure fire that involved a two-story residence.

Upon his arrival on-scene, the firefighter was ordered along with a second firefighter to enter the structure to assist with firefighting operations. A **mayday** was transmitted at approximately 2329 hours for two firefighters who had fallen through the floor into the basement. The first firefighter fell from the first floor into the basement; the second firefighter fell partially through the floor but was able to pull himself out of the hole.

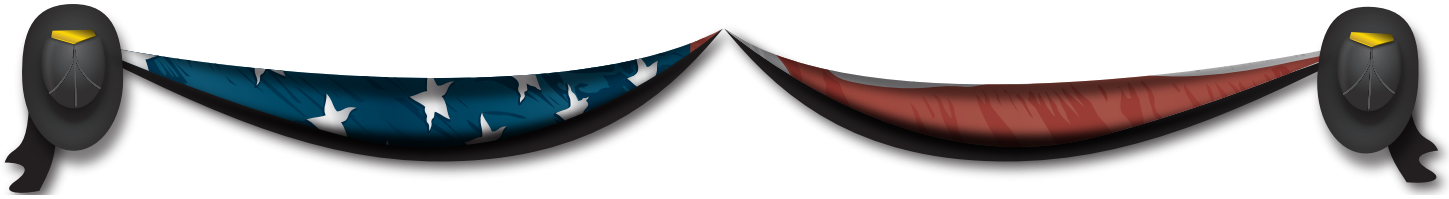
Firefighters were able to place their hands on the firefighter who remained in the basement from above but could not bring him back up through the hole due to fire and smoke conditions. As a result, firefighters entered the basement, located the trapped firefighter, and brought him to the exterior. The time from the floor failure to the firefighter's removal from the basement was approximately 20 minutes.

Once the firefighter was removed from the building, he was transported by ambulance to a local hospital where he was pronounced dead.

The cause of death was listed as acute ventricular arrhythmia due to acute thermal inhalation injury. The firefighter received second- and third-degree burns over approximately 75 percent of his body. At autopsy, the carboxyhemoglobin level in the firefighter's blood was 14 percent.



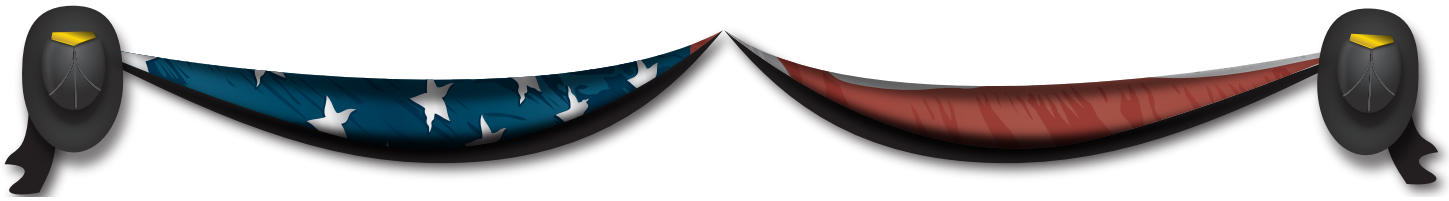
After returning from a response, two firefighters were involved in an altercation in the fire station related to the position of an apparatus in the fire station. The first firefighter repeatedly punched the second firefighter in the face causing him to fall onto the floor where he sustained a serious head injury. The injured firefighter was transported to a local hospital by ambulance and then to a regional care facility by helicopter where he was pronounced dead. The other firefighter involved in the incident was charged with manslaughter and was found not guilty by a jury in January 2014.



Several firefighters were driving back from a week-long fire department training conference in a fire department command vehicle. The firefighter operating the vehicle pulled it to the side of the road and told the other firefighters that he was ill and needed to be brought to a hospital. The firefighter was moved to the back seat of the vehicle, and his condition worsened as he was driven to the hospital. He exhibited signs of a cardiac emergency.

The 911 system was activated, and an EMS unit met the command vehicle on the highway where the injured firefighter was transferred into the care of the EMS crew. At the hospital, the injured firefighter was conscious and talking with other firefighters. Later that evening, he was moved to a regional hospital.

The firefighter did not recover from his heart attack and died.



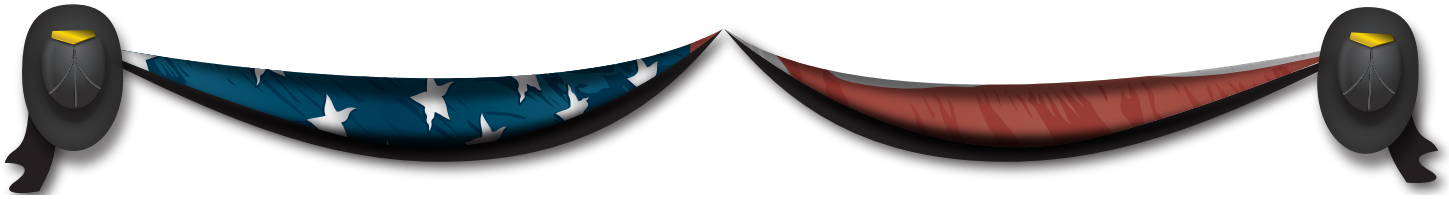
At approximately 2320 hours, a passerby reported a structure fire in a Knights of Columbus Hall. The hall was not occupied at the time of the fire discovery.

Firefighters responded and initiated interior firefighting operations. One firefighter and his crew were the first to arrive on the scene and entered the structure for search and rescue. During interior operations, the firefighter became separated from his crew and radioed for help.

Several firefighters who were assigned to the RIT attempted the rescue of the trapped firefighter. The fire progressed to flashover conditions and enveloped the firefighters, causing fatal injuries to the trapped firefighter and one of the firefighters assigned to the RIT. In addition, near fatal injuries were caused to two additional firefighters working in the structure.

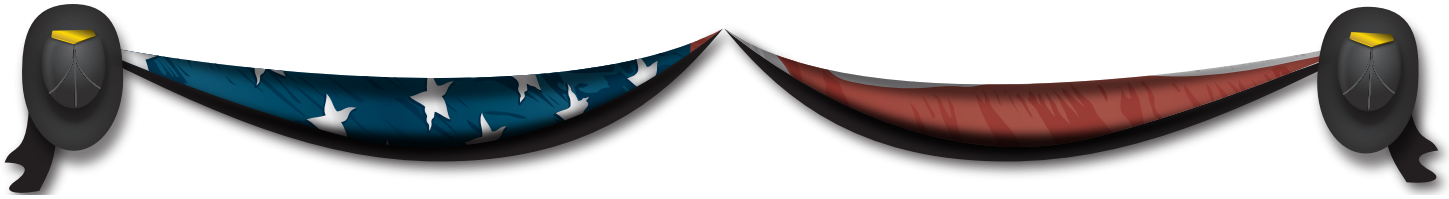
Autopsy examinations conducted at separate facilities revealed that the trapped firefighter died from conflagration injuries and the second firefighter died from thermal injuries and smoke inhalation.

One of the fatally injured firefighters was posthumously given the Ray Downey Courage and Valor Award at the Fire Department Instructors Conference in 2014.

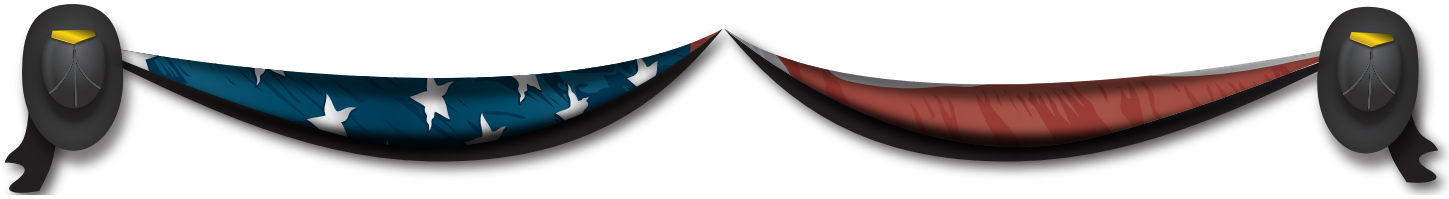


A fire police officer responded to the scene of a motor vehicle crash in her personal vehicle. Upon arrival at the scene, the fire police officer suddenly collapsed while donning her reflective vest. She was transported by ambulance to a local hospital and then transferred by helicopter to a regional hospital.

The fire police officer did not recover from her illness and died the next day. The cause of death was listed as a heart attack.



Firefighters responded to a wildland fire at approximately 1702 hours. An additional firefighter responded to the fire station and stood by in case additional resources were needed at the scene or in case of another emergency incident. The firefighter who remained at the fire station then responded to assist at the scene of a separate structure fire at approximately 2100 hours. After returning from the structure fire, the firefighter remained at the fire station until approximately 0030 hours, when he left to go home. At approximately 0700 hours, the firefighter's spouse called 911 to request medical assistance for her husband. He was transported to the hospital but later died. His death was caused by a heart attack.



A firefighter and the members of his fire department responded to a structure fire. The firefighter, who was a passenger in a vehicle bringing bottled water to firefighters on the scene of the incident, became unconscious.

Another firefighter driving the vehicle requested assistance and provided CPR to the injured firefighter who was then transported to the hospital but did not recover. His death was cardiac-related.

A firefighter was the IC for a wildland fire in his community. He began to feel ill and drove himself to an ambulance that was standing by on the scene. Ambulance personnel initiated care and began to transport the firefighter to the hospital. While in the ambulance, the firefighter's condition worsened, and he went into cardiac and respiratory arrest.

The firefighter was treated in the emergency room but did not recover. He was pronounced dead at approximately 1730 hours. His death was caused by a heart attack.

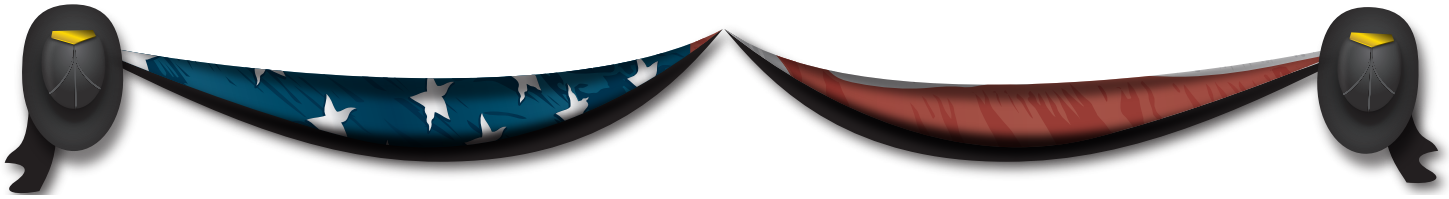
A firefighter was working at the scene of a tractor-trailer crash on a local divided interstate highway. An injured patient from the accident had been transported, and firefighters remained on the scene.

Fire department vehicles were blocking the scene, but the right lane of traffic was open. A tractor-trailer truck approaching the scene attempted to brake and began to slide. The subject firefighter and other firefighters saw the approaching truck and knew that it was not going to be able to stop. The firefighter attempted to run into the median of the highway to escape but was unsuccessful and was struck by the sliding truck as it plowed into the original crash scene.

Five other firefighters were injured as a result of the crash. The driver of the tractor-trailer that struck the firefighters was charged with reckless homicide for driving too fast for conditions and failure to obey the state's Move Over Law. In May 2014, the driver was sentenced to four years in prison.

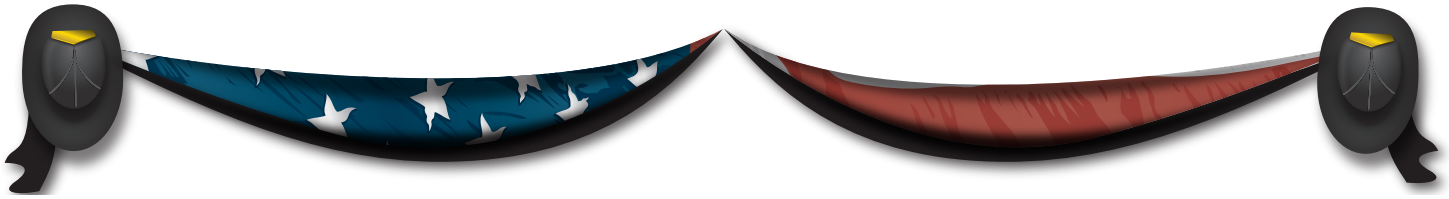
A firefighter cadet was participating in a training exercise that included simulated firefighting tasks. After approximately 30 minutes of work, while the cadet was in a cool down period, he suddenly collapsed. Other firefighters provided medical treatment including CPR and the application of an AED. The firefighter cadet was transported to the hospital but did not survive. The cause of death was not released.

According to press reports, the firefighter cadet was a retired teacher and had been medically cleared to participate in firefighter activities.



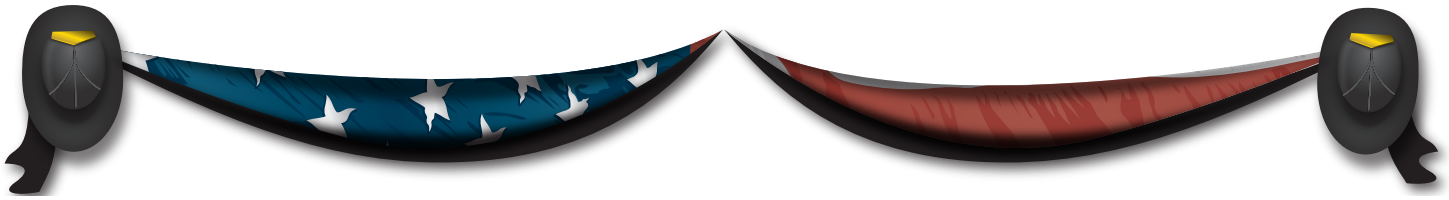
A firefighter was on-duty in his assigned fire station. He had just completed a workout and was cooling down for about 20 minutes when his engine company was dispatched to respond to a motor vehicle crash with injuries. The firefighter drove the apparatus to the scene of the crash.

As the firefighter and other additional firefighters prepared to load one of the injured onto an ambulance gurney, the firefighter suddenly collapsed. He was found to be pulseless and not breathing. The other firefighters and other emergency responders provided ALS treatment immediately. The firefighter was transported to the hospital but was pronounced dead at 1753 hours. The cause of death was listed as atherosclerotic cardiovascular disease.

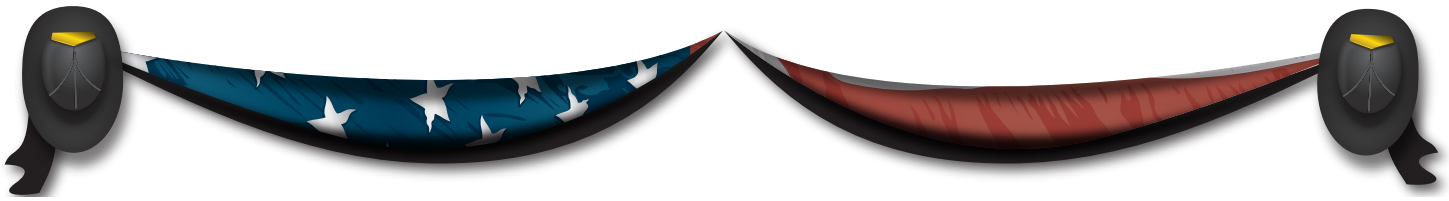


At 1050 hours, a firefighter and the members of his fire department were dispatched to a motor vehicle crash on a local expressway. The area had received snow in the early morning hours.

The firefighter was removing snow from the top of his car to prepare for response to the fire station when he suffered a heart attack and collasped. Because his car was located at the rear of his property, his collapse was not witnessed. The firefighter was not discovered until hours later and was obviously deceased when found. He was pronounced dead at 1539 hours. His death was caused by a heart attack.



A firefighter was responding in his personal vehicle to a report of a wildland fire. The firefighter suffered a heart attack and lost control of his vehicle. The vehicle left the roadway and struck a tree. Other firefighters responded and found that the subject firefighter was deceased. The firefighter was reported to be wearing his seatbelt at the time of the crash.



A firefighter was assisting with a prescribed burn near a local highway. He was standing in the roadway when he was struck and killed by a passing vehicle. Smoke from the burn obscured visibility on the roadway.

A firefighter and the members of his quint company responded to a report of an automatic fire alarm at approximately 0023 hours. While on the scene, firefighters walked the multiple-stories building to investigate the alarm. The firefighter was not feeling well and went to bed upon return to quarters.

At approximately 0730 hours, firefighters found the subject firefighter dead in his bunk room. His death was apparently caused by a heart attack.

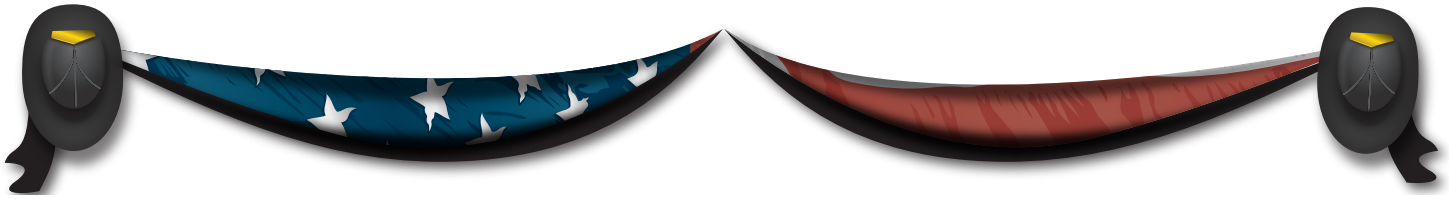
A firefighter and the members of his ladder company were dispatched as the RIT to a structure fire. Upon arrival on the scene, the firefighter and his crew staged their equipment near the command post. The IC placed the ladder company in service and ordered the team to the roof of an adjacent structure to perform ventilation functions. The subject firefighter reported heavy smoke conditions in the exposure. He was wearing his SCBA with his facepiece in place.

As he approached the adjacent roof, the firefighter fell approximately 20 feet onto the roof of the fire building and then later fell through the roof into the fire building. Other firefighters reported his fall. A rescue operation was begun immediately, but access to the injured firefighter was made difficult by limited access to the roof area and fire conditions. Firefighters breached a brick wall to gain access to the injured firefighter's location. He was removed from the structure and transported to the hospital, where he was pronounced dead.

The cause of death for the firefighter was listed as multiple blunt force injuries. The firefighter was posthumously promoted to Battalion Chief.

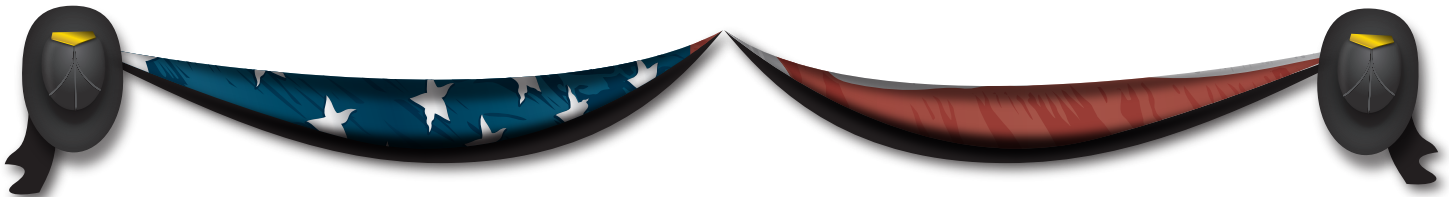
One firefighter was responding to a structure fire in a fire department command vehicle, a 2008 Ford Expedition. Severe weather was occurring in the area at the time of his response, including limited visibility and heavy rain.

As he responded, the firefighter lost control of the vehicle, causing it to leave the roadway and strike a tree. The firefighter was wearing his seatbelt, and the airbags deployed in the crash. The law enforcement report on the incident cited speed too fast for conditions as a contributing factor to the crash.



One firefighter worked a 24-hour shift ending at 0700 hours. During the shift, units responded to 11 incidents. After he went off-duty, the firefighter canceled an appointment and also canceled his attendance at a practice for a local track team, saying that he was not feeling well.

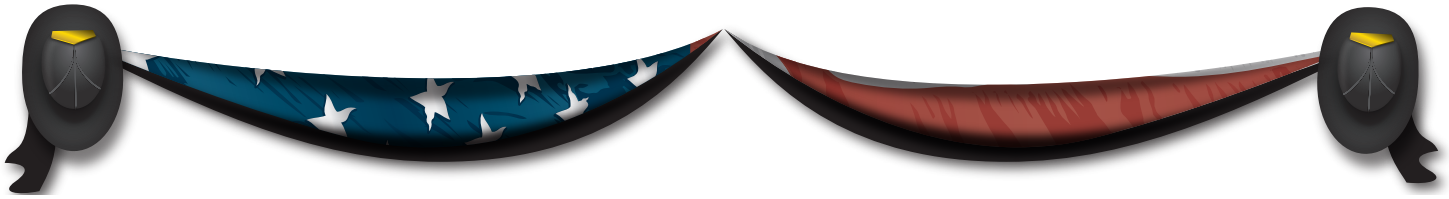
Sometime that day, the firefighter suffered a heart attack and died in his home. He was found deceased by a family member at approximately 1920 hours.



A firefighter was responding to a report of a fire out of control at a local camping area. He was responding in his personal vehicle, a 2005 Ford F150 pickup truck.

The firefighter lost control of his vehicle, travelled over 100 feet in a ditch, steered back onto the roadway, and then re-entered the ditch traveling 49 feet along a dirt berm. At this point, the vehicle rolled four times, and the firefighter was ejected through the windshield.

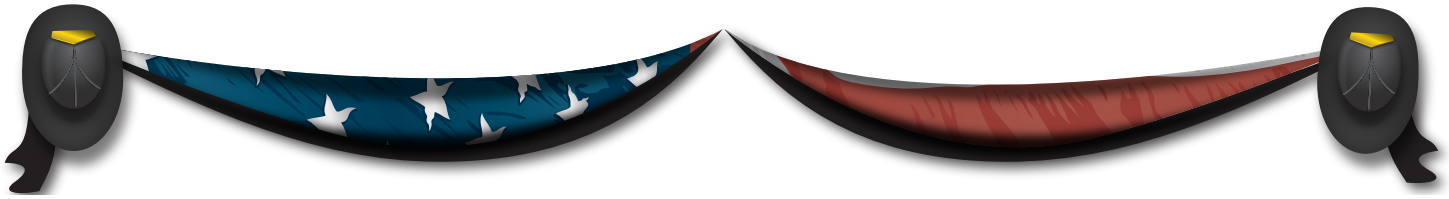
The firefighter was intoxicated at the time of the crash. His blood alcohol level at autopsy was .192.



At 1932 hours, firefighters responded to a report of a structure fire in a fertilizer and seed occupancy.

Firefighters arriving on-scene found a well-developed fire in the structure. An EMS and mutual-aid response was requested, and other emergency personnel responded to the scene for firefighting operations and evacuation.

A massive explosion occurred at 1950 hours. The explosion killed nine firefighters and an EMS responder, as well as five civilians. The blast destroyed most of the fire occupancy and damaged or destroyed 500 structures.

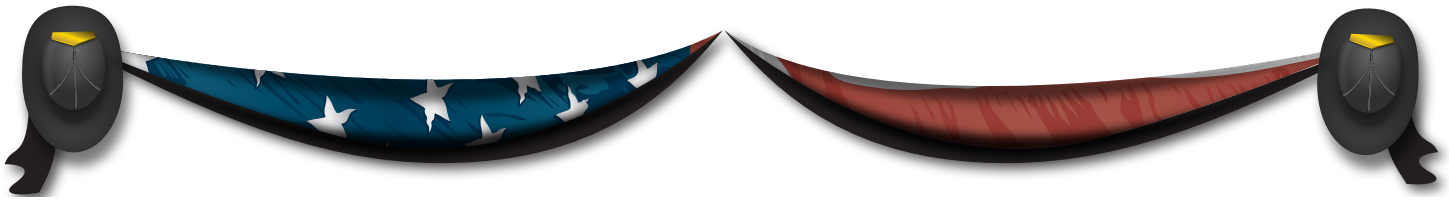


A firefighter along with a second firefighter responded in a special unit to a report of a residential structure fire with residents trapped; theirs was the first fire department unit to arrive on-scene and reported smoke showing.

The two firefighters donned their PPE, conducted a reconnaissance of the building, reported someone trapped on the second floor to other firefighters, entered the structure ahead of an engine crew that was advancing a hand-line, and began a search of the second floor. Additional firefighters encountered heavy smoke conditions inside and, within minutes, heard a PASS device sounding.

A **mayday** was declared. The firefighter in distress was found in a bedroom unconscious. The other firefighters removed him to the exterior and found that he was not breathing. The firefighter was transported to the hospital by ambulance but died as a result of his injuries.

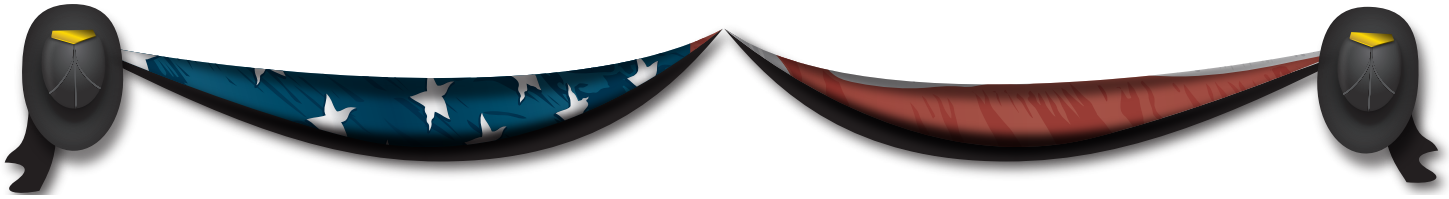
The cause of death for the firefighter was listed as smoke inhalation and thermal injuries with complications. One civilian was also killed in the fire.



A firefighter and the members of his fire department were dispatched to close down a local interstate highway to allow the establishment of a landing zone for a medical helicopter. The helicopter was landing to evacuate the victim of an earlier vehicle crash on the same interstate.

After being the first to arrive at the scene in his personal vehicle, the firefighter began to shut down the interstate. He parked his pickup truck across the lanes of the highway with the red lights mounted to his vehicle in operation. As the firefighter crossed the road, he was struck by a vehicle and sustained fatal injuries. The cause of death was listed as multiple blunt force trauma.

The driver of the vehicle that struck the firefighter was charged with homicide by vehicle while driving under the influence and other charges.



A firefighter and the members of his fire department were dispatched to assist the county sheriff's department regarding a call about an explosion.

The firefighter became ill while searching a wooded area. He was removed from the wooded area to a vehicle staging area where his condition continued to worsen. He was transported to his fire station where he was met by an ambulance, as his condition continued to worsen further. The firefighter was transported to the hospital by ambulance but did not recover.

A firefighter and his crew were on-duty and patrolling their assigned area on foot patrol to look out for camp fires. About two hours into the hike and while ascending a hill, the firefighter said that he felt dizzy and suddenly collapsed. Other firefighters came to his aid and provided CPR.

A medical helicopter arrived about 30 minutes after the collapse, and the injured firefighter received ALS-level care until he was pronounced dead by medical control. His death was caused by a heart attack.

A firefighter and members of his fire department responded to a residential structure fire. The residence was fully involved upon the arrival of firefighters on-scene. The subject firefighter was operating the pump on the department's tanker (tender). After nearly an hour and a half working on the scene, the firefighter told other firefighters that he felt like he was having a heart attack.

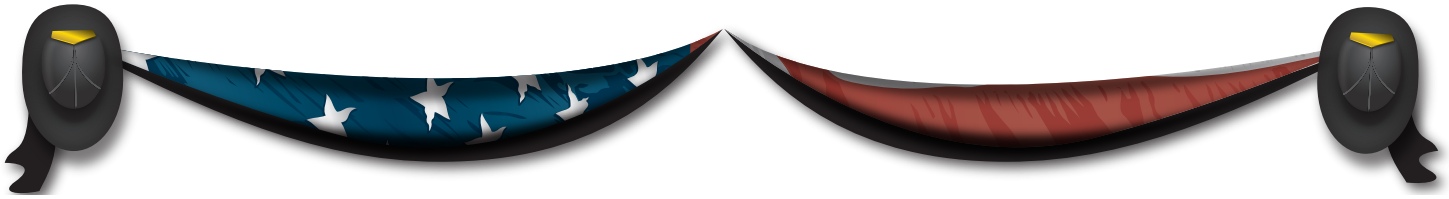
While assistance was being rendered by other firefighters, the injured firefighter went into cardiac arrest. He was transported by ambulance to a medical care facility but did not survive. The firefighter's death was caused by a pulmonary embolism.

A firefighter and members of his fire department responded to a report of smoke coming from the roof of a strip mall that contained a pool hall and a restaurant. The firefighter responded on an ambulance and was assigned to enter the structure with other firefighters.

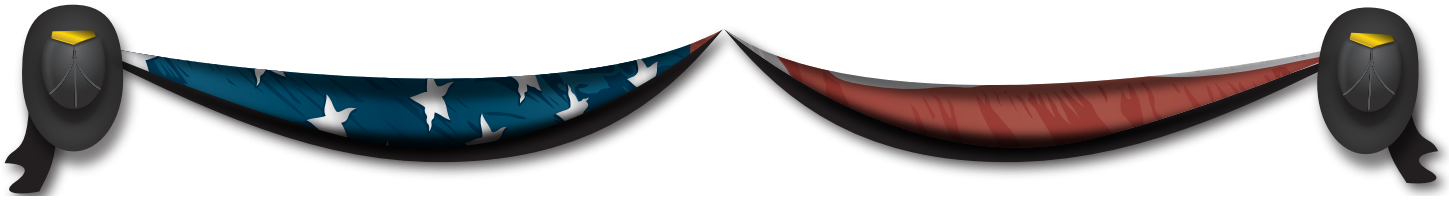
Firefighters had difficulty finding the seat of the fire, and interior conditions worsened. The crew, in verbal communication, decided to exit the structure. The subject firefighter became separated from the other members of his crew as they exited. The IC noted that the firefighter did not exit the structure with his crew and made contact with him by radio. The firefighter reported that he was fighting the fire with another crew.

At 0846 hours, the firefighter called by radio to say that he was out of air. This transmission was not heard by anyone on the scene or in the dispatch center. When his absence was noted, a crew was sent into the structure to locate the firefighter. Conditions did not allow a full search, however, and firefighters did not report hearing a PASS device alarm or low air alarm while searching.

All firefighters were withdrawn from the building. Part of the structure was removed to allow a safe search of the building once the fire was controlled. The missing firefighter was discovered under debris at approximately 1200 hours. He was found with his helmet, hood and facepiece off but nearby. At autopsy, the level of carboxyhemoglobin in his blood was 35 percent. The cause of death was listed as thermal injuries and smoke and soot inhalation.



A firefighter became ill while performing CPR on the scene of a medical emergency. Other firefighters treated the injured firefighter, and he was transported to the hospital. His death was caused by an apparent heart attack.

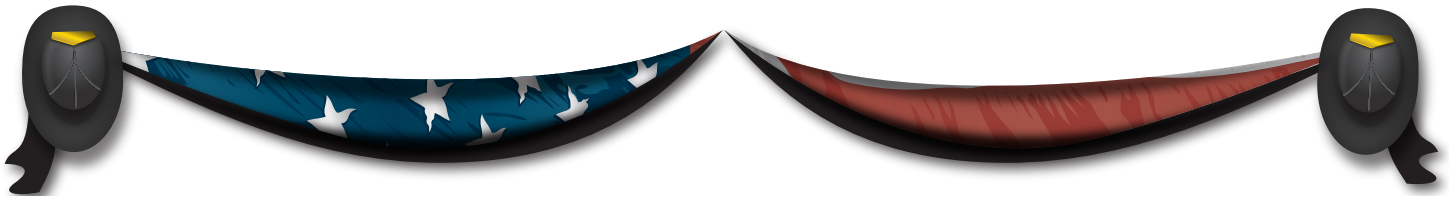


A firefighter's ambulance was dispatched along with other fire department units to a report of a structure fire. When firefighters arrived on-scene, they discovered a fire in a large mulch pile. The fire presented difficulties with access and water supply.

An engine from the same station as the subject firefighter was assigned to lay a supply line from a distant fire hydrant, and a second engine was assigned to extend that supply line once the supply of hose on the initial engine had been depleted. In preparation to assist the hose-laying process, the firefighter parked his ambulance along the side of the road near where the first engine was likely to run out of hose.

The engine assigned to extend the supply line was backing into position to meet the first engine. A backer was not used. As the subject firefighter donned his protective clothing from a compartment on the driver's side of the ambulance, he was struck and trapped between his ambulance and the engine assigned to extend the supply line.

The injured firefighter was extricated from his position between the two vehicles by other firefighters using hydraulic extrication tools and airbags. He was transported to the hospital but did not recover from his injuries.



Firefighters were dispatched to a report of a fire alarm in a condominium complex at 0251 hours. One firefighter and his ladder crew were dispatched to the scene as a part of the fourth alarm at 0405 hours.

The firefighter's truck company was assigned to evacuate an adjacent building in the complex and then received orders to conduct a primary search of the ground floor of the fire building. Shortly after beginning the primary search, a portion of the structure collapsed.

The collapse trapped the subject firefighter, and he radioed that he was trapped. He was recovered from the rubble following an hourslong process to locate and remove him.

The firefighter died of mechanical compression of the chest causing asphyxia.

Fire department units were dispatched to a report of a fire in a motel. Firefighters on the first engine to arrive at the scene found a working fire with heavy smoke showing and advanced a 2 1/2-inch handline into the structure. Firefighters opened the ceiling as they advanced and found fire in the space above. Firefighters were ordered to withdraw from the structure while a water supply was secured.

Once a water supply was established, firefighters advanced into the structure. Firefighters from the second engine to arrive on-scene backed up the firefighters from the first engine. As these firefighters advanced, a structural collapse occurred and trapped a number of firefighters. Four firefighters, two from the first engine and two from the second engine, were killed as a result of the collapse. Over a dozen additional firefighters were injured, including one firefighter who received severe injuries.

Autopsy examinations revealed the firefighters died from thermal injuries, smoke inhalation and compressional asphyxia.

Three smokejumpers were dropped into the South Warner Wilderness of the Modoc National Forest. Firefighters were assigned to cut a fireline around a tree that had been hit by lightning. While they were working, a limb fell from the tree and struck one of the firefighters.

Firefighters started CPR on the injured firefighter and called for a helicopter. Other smokejumpers and medical equipment were dropped at the site to assist. The helicopter arrived and transported the injured firefighter to a hospital. Despite all efforts to revive him, he did not survive. His death was caused by traumatic injuries.

A firefighter and members of his fire department were dispatched to a car fire. The fire started when wind blew down an electrical service line. A small metal storage building was also involved. As the firefighter investigated the scene, he was electrocuted.

Other firefighters on the scene provided treatment to the injured firefighter. He was transported by ambulance to the hospital but did not survive.

A firefighter was found unconscious in his office by other firefighters. He was treated and transported to a hospital but did not recover. His death was caused by a heart attack.

A firefighter was found dead in her fire station as a result of suicide.

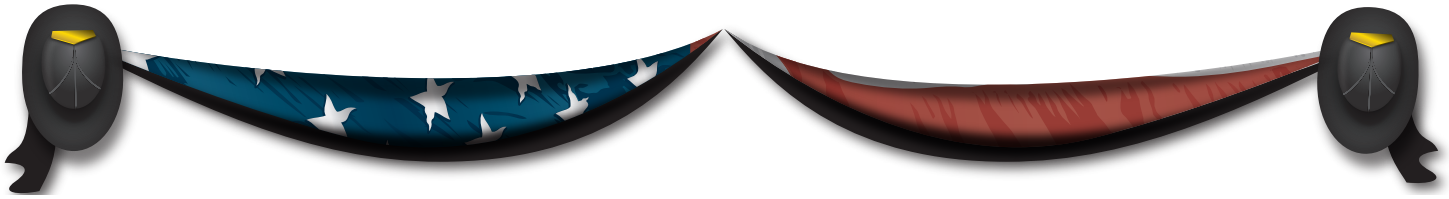
A firefighter was returning to his community after completing department-mandated training at a regional fire training center. The firefighter was operating his personal vehicle, a motorcycle, and shortly after leaving the training facility, he collided with a minivan. The firefighter was treated at the scene and transported to the hospital but did not survive his injuries.

The law enforcement report on the incident indicated that the firefighter was wearing his helmet at the time of the crash and that an unsafe lane change by the firefighter was a contributing factor to the crash.

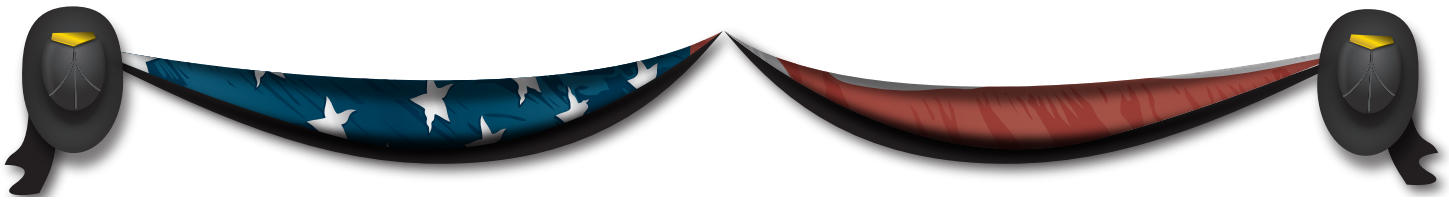
A firefighter and members of his fire department responded to a mutual-aid structure fire. The fire involved a manufactured home, and due to the amount of fire involvement, exterior operations were conducted. The temperature at the time of the fire was in the upper 80s, and humidity was high.

The firefighter assisted with the movement of heavy debris on the scene. As he worked, the firefighter told another firefighter that he felt faint. The ill firefighter was helped away from the fire, some of his personal protective clothing was removed, and water was poured on him in an attempt to cool him. When his condition did not improve, medical responders on the scene were summoned. Moments later, the firefighter became unconscious.

The injured firefighter was treated at the scene and transported by ambulance to a local medical center. Unfortunately, these efforts were not successful, and the firefighter was pronounced dead. His death was caused by a heart attack.



Nineteen firefighters, members of a Hotshot Crew, died when they were caught and trapped by a fast moving wildfire that had changed direction and started pushing aggressively toward a small town. Fire resources shifted to resident evacuation and structure protection in the town while the Hotshot Crew remained out on a ridge on the southwest perimeter of the fire. Personnel who communicated with the team knew the crew was in the black at that time and assumed that they would stay there. No one realized that the crew left the black and headed southeast. As thunderstorm outflows reached the southern perimeter of the fire, winds increased substantially. As a result, the fire turned south and overran the Hotshot Crew.

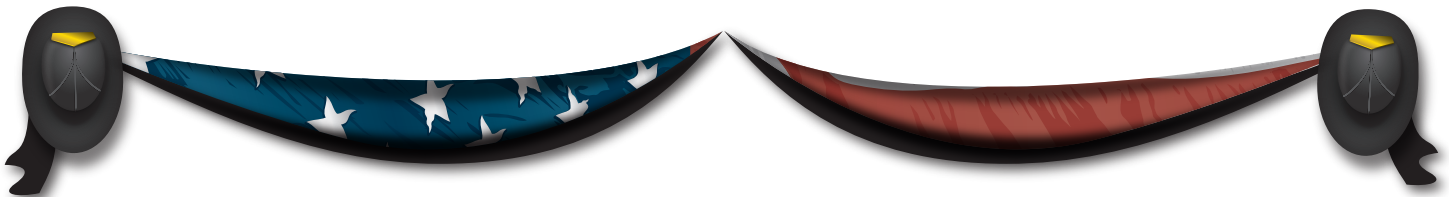


A firefighter and his engine company were dispatched to an EMS incident at a local store. As they arrived on-scene, they were canceled by a medic unit that had arrived before them. As the engine exited the store's parking lot, the unit was dispatched to a rollover vehicle crash on a nearby interstate highway.

Because firefighters were not wearing their personal protective clothing, the subject firefighter stopped the engine on the right side of the interstate on-ramp. While the subject firefighter was dressing by the left rear door of the engine, he was struck by a passing Ford F150 pickup truck.

Firefighters provided immediate medical assistance to the injured firefighter, and he was transported by ambulance to a local hospital. The firefighter died as the result of blunt force injuries.

The driver of the pickup truck that allowed his vehicle to drift to the right side of the on-ramp and strike the firefighter was cited by law enforcement.



A firefighter and members of his fire department were responding to a report of a vehicle crash. The firefighter responded in his personal vehicle, a 2001 Chevrolet pickup truck.

A deputy sheriff, driving his vehicle in the same direction as the firefighter, was also responding to the incident. As the deputy sheriff made a left-hand turn toward the incident scene, the subject firefighter also turned left and entered the intersection at the same time. The two vehicles collided, and the firefighter's vehicle entered a ditch, struck a driveway embankment, and rolled. The firefighter was ejected from his vehicle and ended up trapped under his vehicle. The firefighter's vehicle then caught fire.

The fire was controlled, and the injured firefighter was extricated. The firefighter was not wearing a seatbelt at the time of the crash, and his death was caused by traumatic injuries. The law enforcement report on the crash cited failure to yield the right of way and improper passing/overtaking on the part of the firefighter as factors in the crash.

A firefighter and members of his fire department responded to a report of a brush (wildland) fire at 2224 hours. The incident was found to be a good-intent call, and all fire department units were released. At the fire station after the incident was concluded, the firefighter told other firefighters that he was suffering from a headache and returned home.

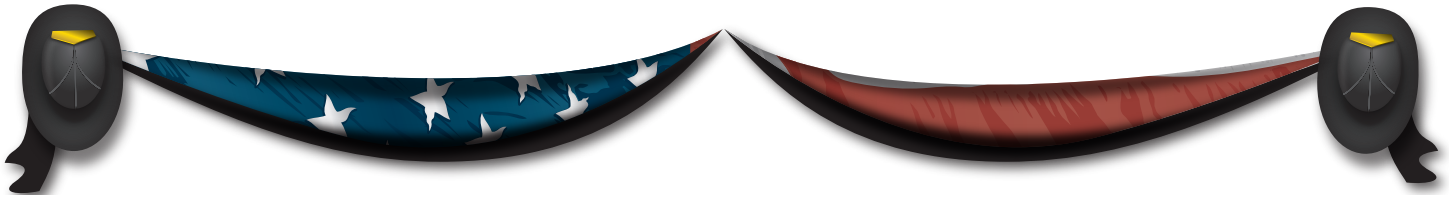
The following morning at 0635 hours, the fire department was dispatched to a medical emergency incident, but the subject firefighter did not respond. At approximately 0700 hours, the firefighter's wife noticed that he was ill and called for assistance. The firefighter was transported to the hospital and treated for a CVA (stroke) but did not survive his injury.

A firefighter's engine company was dispatched to an EMS incident. As other firefighters mounted the apparatus, the firefighter failed to appear. The other firefighters searched the fire station and found the subject firefighter unconscious in a bathroom adjacent to the station watch desk.

Firefighters provided medical assistance, and the injured firefighter was transported to the hospital by ambulance where he died as the result of a cardiac event.

One heavy equipment operator became ill while operating a dozer and putting in a fireline during suppression operations on a lightning-sparked wildland fire. The dozer boss performed CPR on the injured equipment operator before Life Flight and EMS arrived on-scene. The heavy equipment operator was pronounced dead on-scene as a result of a heart attack.

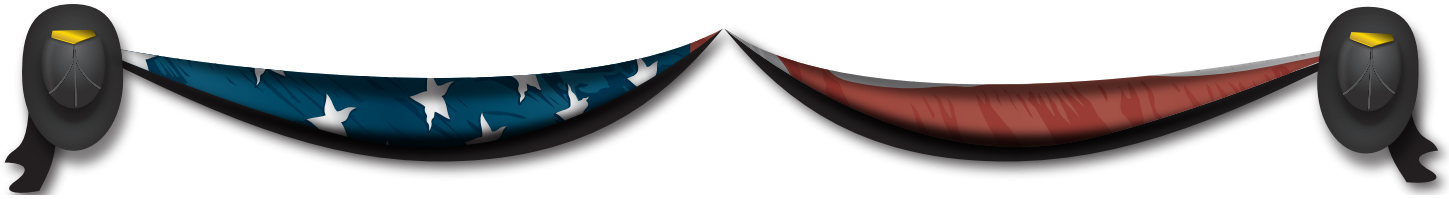
A firefighter was on-duty and responded to five emergency incidents including a fire alarm and EMS incidents. At approximately 0200 hours, he told his shift commander that he was not feeling well and was assigned dispatch duties. At 0703 hours, the firefighter responded to a medical emergency. The firefighter went off-duty at 0800 hours. Following his shift, he went home and suffered a heart attack a short time later. He was transported to the hospital and died as a result of the heart attack.



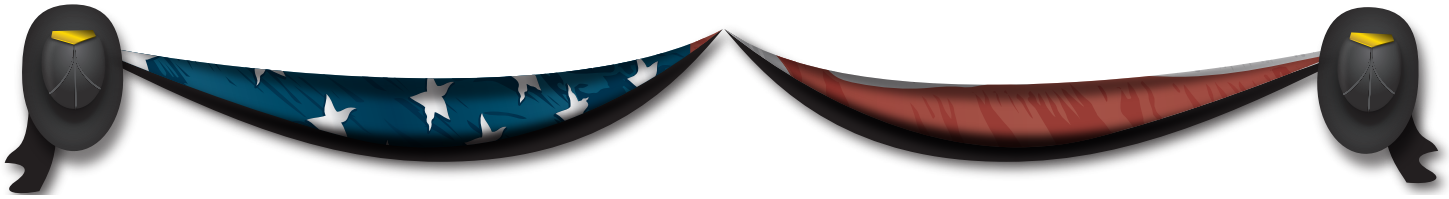
Firefighters were working on the scene of a residential structure fire. Two of the firefighters were in the basement of the structure attempting to locate the fire.

Because no fire was located in the basement, the IC ordered the two firefighters to back out of the structure. Moments later, the firefighters radioed that they had located the fire in the basement and were making an attack on the fire. Within minutes, fire conditions in the structure changed rapidly, and an evacuation of the building was ordered.

One of the firefighters in the basement was helped from the building, but the second was not accounted for. Firefighters knocked down the fire from the exterior, and the missing firefighter was heard and was seen crawling toward the exit. Firefighters pulled him from the building and began medical treatment. The firefighter received severe burns while inside the structure. He was transported to a regional burn facility where he died as a result of his injuries.

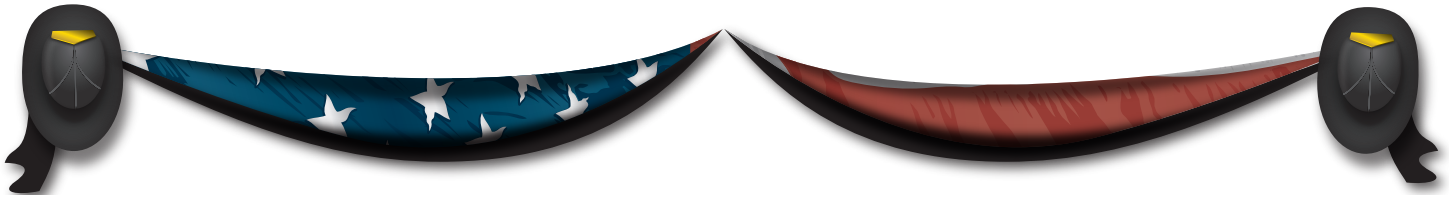


A firefighter suffered a heart attack while on-duty. He was transported to the hospital but did not recover. The firefighter died as a result of his initial and subsequent heart attacks suffered while in the hospital.



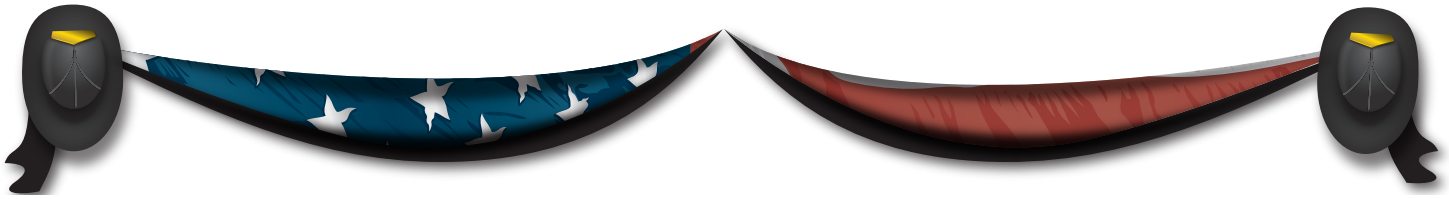
A firefighter was responding to the fire station in his personal vehicle for a motor vehicle crash. A driving rain was falling, and the roadway was wet. The firefighter lost control of his vehicle, sliding sideways down the roadway and striking an oncoming minivan.

The firefighter was pronounced dead at the scene. Excessive speed for conditions was cited as a factor in the law enforcement report on the crash. The firefighter was not wearing a seatbelt at the time of the crash. His death was caused by multiple blunt force injuries.



A firefighter was participating in a Work Capacity Test (WCT) as part of an annual recertification for wildland firefighting. The arduous WCT requires a firefighter to hike 3 miles while carrying a 45-pound load within 45 minutes. The firefighter was approximately 39 minutes into the test and approximately 400 yards from completion when he collapsed without warning.

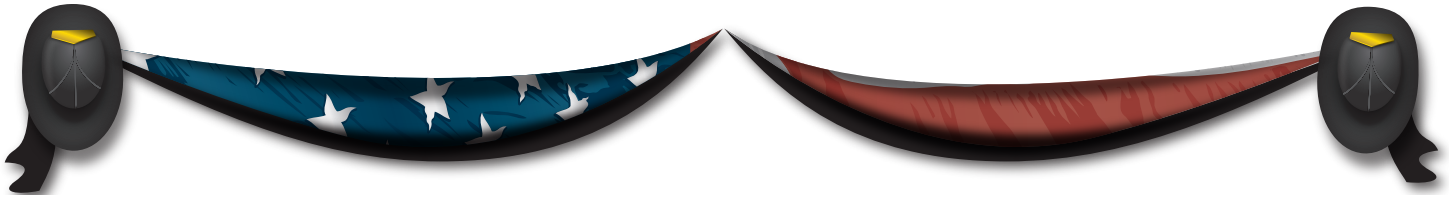
EMS personnel standing by on the scene initiated CPR immediately, and the injured firefighter was transported to a local hospital. The firefighter did not recover and died as a result of a heart attack.



During a storm, a large Douglas fir tree was struck by lightning in a national forest wilderness area. The top of the tree was ignited, and falling embers started a small ground fire. Firefighters arrived on the scene and extinguished the ground fire, but they did not have the tools or expertise necessary to cut the tree down and fully extinguish the fire.

A tree falling crew was called to the scene and assigned the task of falling the tree. As the tree fallers made preparations, a large burning portion of the treetop fell and fatally crushed a firefighter who was part of the tree falling crew and seriously injured his partner.

Other firefighters on the scene immediately began to search for the fatally injured firefighter but could not gain access to him due to fire conditions and the amount of material that had fallen. The firefighter was killed immediately as a result of crushing injuries.

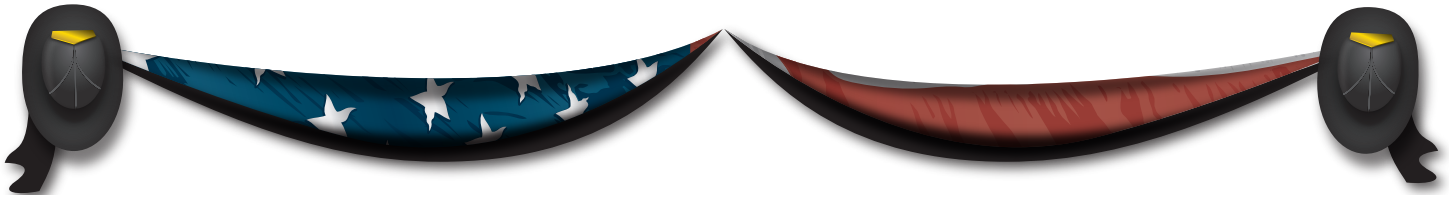


A firefighter was operating a tanker (tender) as part of a firefighting effort on a complex of fires in a Western state. This was the firefighter's first assignment as a tanker driver, and he had received the driver's license endorsement for this type of vehicle a few weeks before the fatal incident.

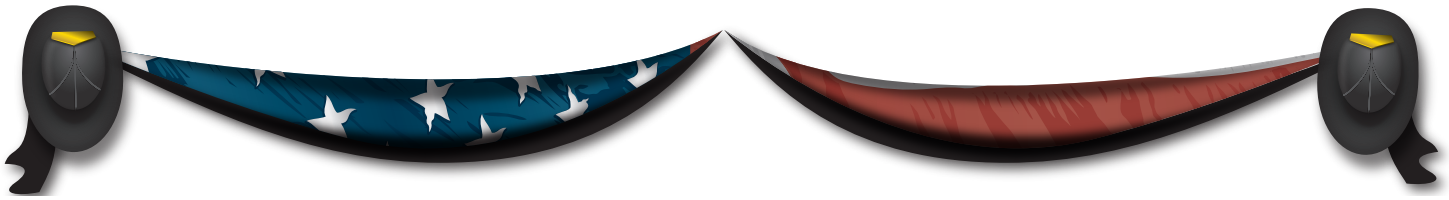
Night operational period resources, including the firefighter and his tanker, had completed their fireline work assignments and were released to travel back to the ICP at approximately 0700 hours.

The route from the fireline to the highway was a narrow, winding, paved mountain road with a steep downhill grade for approximately 3 miles. Toward the bottom of the downgrade, the tanker driven by the firefighter impacted a cut bank next to the road and rolled onto its top. An ALS ambulance with a paramedic on board was called and reached the scene within seven minutes. The paramedic on-scene pronounced the injured firefighter deceased.

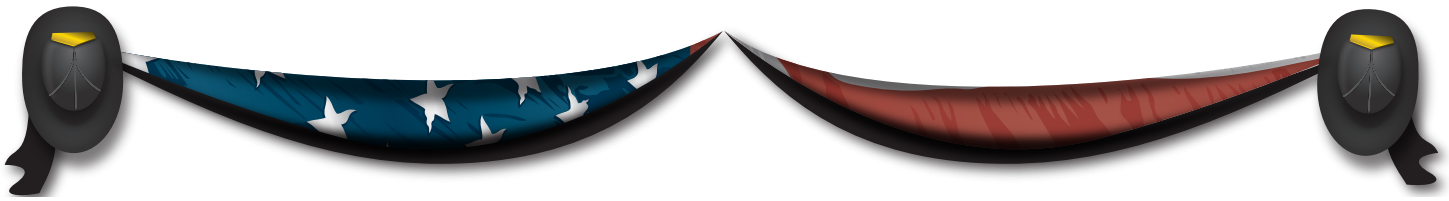
An investigation into the incident found that the tanker was fully loaded and that the weight of the vehicle exceeded the vehicle's certification by 5,000 pounds. The 1966 vehicle chassis was only equipped with rear brakes. Although it does not appear as if it was a factor in his death, the firefighter was not wearing a seatbelt at the time of the crash.



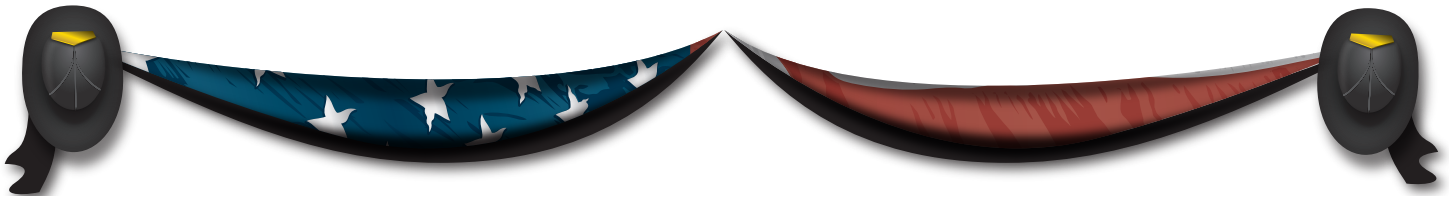
A firefighter was assigned to a communications center and was on-duty. He was discovered unresponsive by communications center staff just 12 minutes after last being seen. Other firefighters and staff assigned to the communications center performed CPR and provided ALS care. The firefighter was then transported to the hospital but did not survive.



While working his shift and performing duties at the firehouse, a firefighter was found unresponsive. The firefighter was transported to a local hospital and was subsequently transported by air ambulance to a regional hospital. Although he was later released by the hospital, the firefighter was again found unresponsive while on medical leave. He was again transported to a hospital where he passed away the same day from a cardiac-related illness.



A firefighter responded to a medical emergency call and then attended a training activity at his fire station. The training activity ended at 2230 hours. Other firefighters and EMS responders were dispatched to the firefighter's home at 2052 hours the following day, as he was suffering a heart attack. He was transported to the hospital but was pronounced dead at 2149 hours.



A firefighter was assigned to a fire in a Western state. He and his crew were doing rehab on a 3-acre wildland fire. While on a lunch break, the firefighter became ill. Other firefighters provided CPR but were unable to revive the injured firefighter. His death was caused by a heart attack.

Firefighters were searching on all-terrain vehicles (ATVs) for the source of smoke in a national forest. The subject firefighter's last radio transmission was made at 1344 hours. The source of the smoke was spotted by one of the other firefighters shortly after that transmission. When the other firefighters arrived at the fire scene and were not joined by the subject firefighter, the others began to search for him. Despite significant search efforts, the missing firefighter was not found for a number of days.

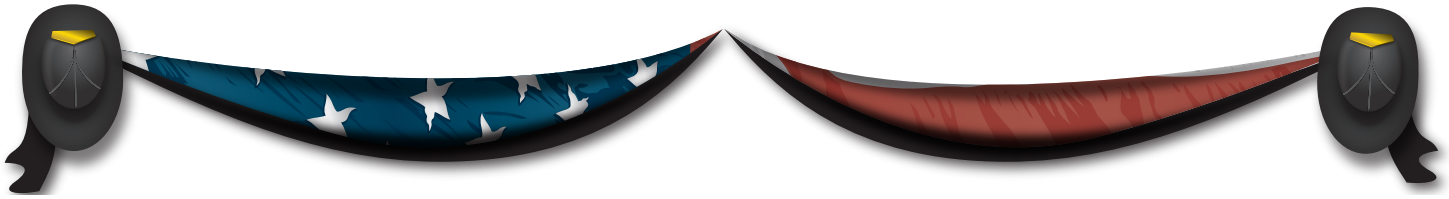
A report on the incident concluded, based on the physical evidence, that the firefighter was either thrown from or jumped from his ATV as he negotiated a slight rise. The ATV rolled onto him, resulting in fatal injuries.

Two firefighters saw a fire in a residence near their homes and within their fire district. The firefighters reported the incident and responded to the scene. Because the firefighters believed the residence was occupied, they initiated a search of the home without protective clothing.

The fire progressed rapidly, and one of the firefighters received significant burns. He was transported to the hospital but died as a result of his injuries.

A firefighter was on-duty and assigned as the Acting Driver Engineer of his ladder company. During the shift, the firefighter and his crew trained on rope rescue and responded to two EMS incidents. The last incident concluded at 0326 hours. The next morning, other firefighters noticed that the subject firefighter had not emerged from the bunkroom. The firefighter was found deceased in his bunk due to a heart attack.

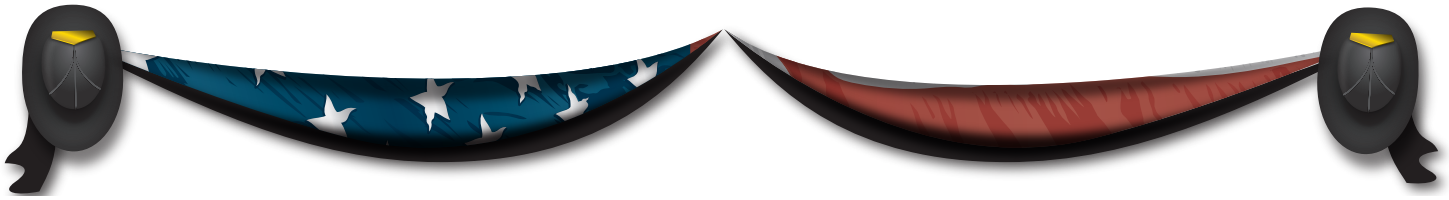
A firefighter-smokejumper was participating in a series of parachute jumps to gather data for specialized safety equipment. On the second mission of the day, the firefighter jumped from an aircraft at 6,000 feet. He was unable to deploy a parachute in a timely manner and was killed on impact.



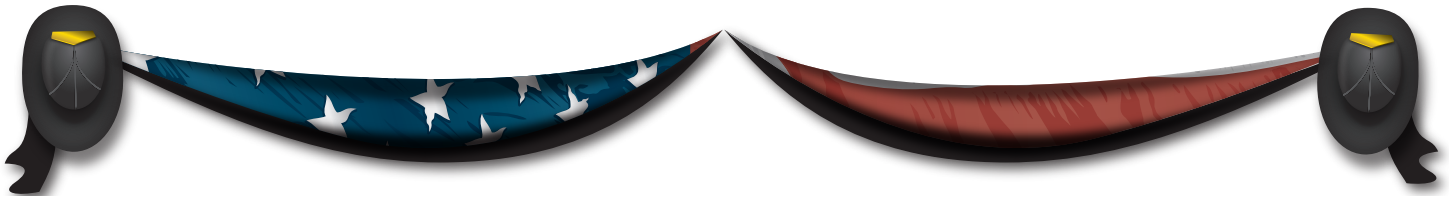
A firefighter was on-duty and in command of other firefighters on his shift. During the shift, the firefighters responded to the report of a fire alarm in a local hospital. Later in the evening, firefighters went to the bunkroom to sleep. The subject firefighter was last seen operating a computer in the station.

At approximately 0100 hours, firefighters were awakened by someone banging on the back door of the fire station. The subject firefighter had called his wife to say that he was ill, and she came to the fire station to care for him. Firefighters found the injured firefighter in the fire station hallway, unresponsive.

Firefighters and EMS responders provided care, and the firefighter was transported to the hospital. He was pronounced dead at the hospital due to a heart attack.

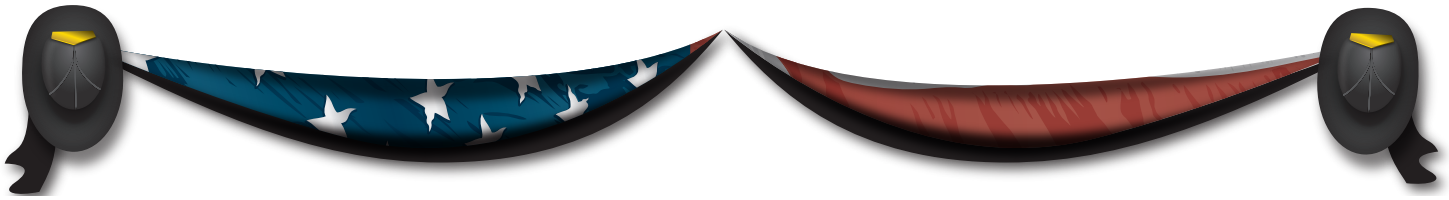


A firefighter was engaged in a fire department training exercise at a local community college. During the exercise, the firefighter collapsed and died due to a heart attack.



Firefighters were cutting a fireline to contain a wildland fire. As the firefighters worked, a section of the tree collapsed and struck one of the firefighters.

Other firefighters began CPR and requested medical assistance. The other firefighters performed CPR for over an hour until the injured firefighter was pronounced dead by arriving EMS responders.



A firefighter saw that the house next to his was on fire. He reported the fire to dispatch on his portable radio, gathered his protective clothing, and went to the scene. The firefighter, along with others, assisted with firefighting operations on the scene. The firefighter then left the scene to retrieve a 2,500 tanker (tender).

As he drove to the scene, the apparatus left the roadway and rolled over. The firefighter was killed in the crash. According to press reports, the firefighter was not wearing a seatbelt at the time of the crash.

A firefighter and members of his fire department responded to a fire in a combine at approximately 1949 hours. The firefighter responded in his personal vehicle and assisted with hoseline deployment and overhaul on the scene. The incident was concluded at approximately 2200 hours.

The next morning, the firefighter was assisting as an instructor for a firefighter training program for a local community college. As he assisted with the class, the firefighter became ill. He was transported to the hospital but died despite significant efforts by firefighters, EMS personnel, and hospital staff. His death was caused by a pulmonary embolism.

A fire police officer was struck by a vehicle as he directed traffic around the scene of a crash on a local highway. He received severe head injuries and was transported to the hospital. The fire police officer was then transferred to a long-term care facility and died as a result of his injuries.

A firefighter became ill while assisting with the loading of a patient into an ambulance at the scene of a motor vehicle crash. The cause of death was a heart attack.

A firefighter was working out on the treadmill in the fitness center of his fire station when he suddenly collapsed. He was transported to the hospital but died as the result of a heart attack. The firefighter had responded to two EMS incidents in the 24 hours prior to his illness.

A firefighter was operating the pump at a structure fire when he collapsed due to a heart attack. He was treated by firefighters and EMS responders and transported to the hospital where he was pronounced dead a short time later.

A firefighter and members of his fire department were dispatched to a rollover vehicle crash in their community. The firefighter responded to the fire station and was at the wheel of a rescue vehicle when he suffered a heart attack. He was treated and transported to a local hospital but did not survive.

At approximately 0033 hours, a firefighter responded to a mutual-aid request for a chimney fire. While responding in his personal vehicle, the IC canceled the response of the firefighter and other members of the fire department. The firefighter returned home after consulting with firefighters by phone about the need for his presence at the fire station.

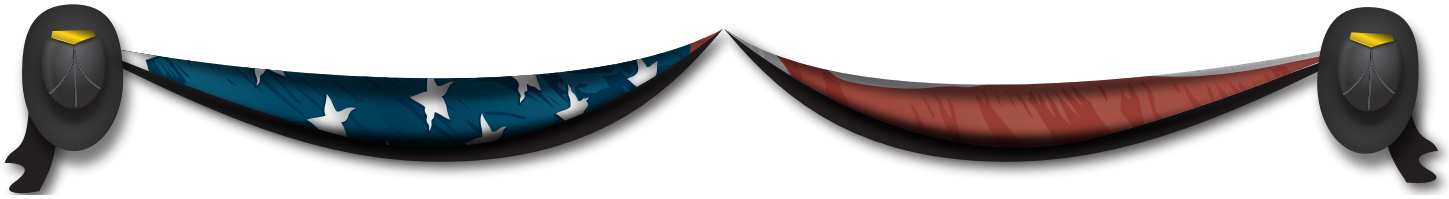
The firefighter arose for work in the morning and told his wife that he was going to skip his morning workout because he was tired from getting up through the night for the fire call. The firefighter then reported to work as a delivery driver for a parcel service company. At approximately 1743 hours, he collapsed during a delivery stop.

EMS responders transported the firefighter to the hospital, but he died as the result of a heart attack.

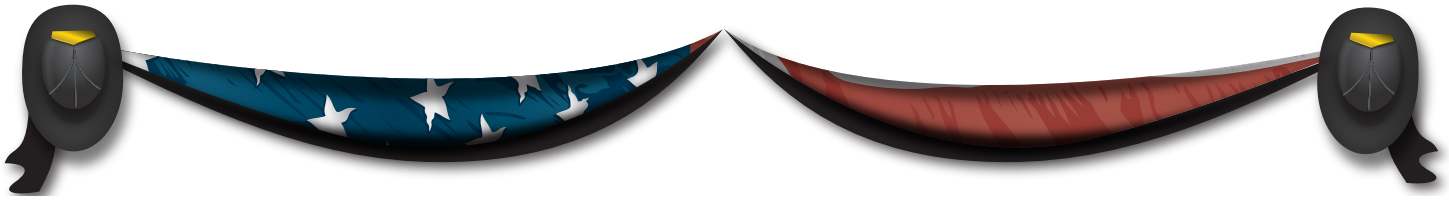
A firefighter suffered a heart attack within 24 hours of a response to a motor vehicle crash. He was admitted to the hospital and underwent bypass surgery. He was released from the hospital to his home and suffered a subsequent fatal heart attack less than two days later.

A firefighter was assisting other firefighters as they placed fire apparatus back in service after a structure fire incident. The firefighter slipped and fell from the running board of an engine and struck his head on the floor of the fire station.

He was transported to the hospital and was alert and in little pain. Testing at the hospital revealed a cerebral bleed. The firefighter underwent surgery for his injury but died as a result of his fall.

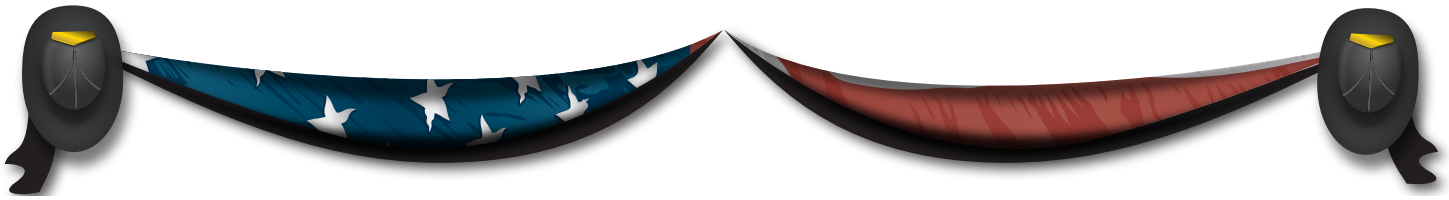


A firefighter and members of his fire department responded to a truck/train crash. Within 24 hours of that response, the firefighter suffered a fatal heart attack.



A firefighter was responding is his personal vehicle to a motor vehicle crash. Rain was falling, and the roadway was wet. As he drove through a curve in the road, the firefighter crossed the centerline, overcorrected and went off the right side of the roadway. His vehicle struck a concrete structure and rolled.

The injured firefighter was extricated from the vehicle by other firefighters and transported to a local hospital where he was pronounced dead due to his injuries. Excessive speed was cited as a factor in the crash in the law enforcement report as well as speed above the posted limit. The firefighter was not wearing a seatbelt at the time of the crash.

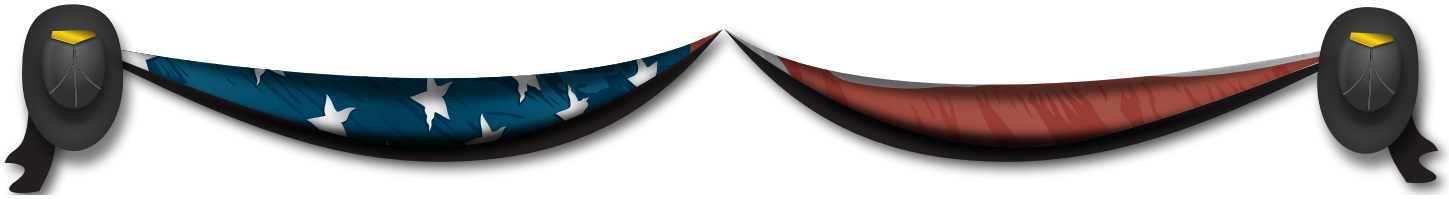


A firefighter and members of his fire department responded to a structure fire in a residence. The firefighter and his crew were assigned to search the structure due to a bystander's report of someone in the house. The search was negative, and other crews completed extinguishment of the fire.

As another crew overhauled the interior of the structure, the firefighter took a new firefighter assigned to his crew back inside of the building to provide some educational pointers about the fire and the structure. A ceiling collapse subsequently occurred. The new firefighter was able to escape, but the subject firefighter was trapped in the debris.

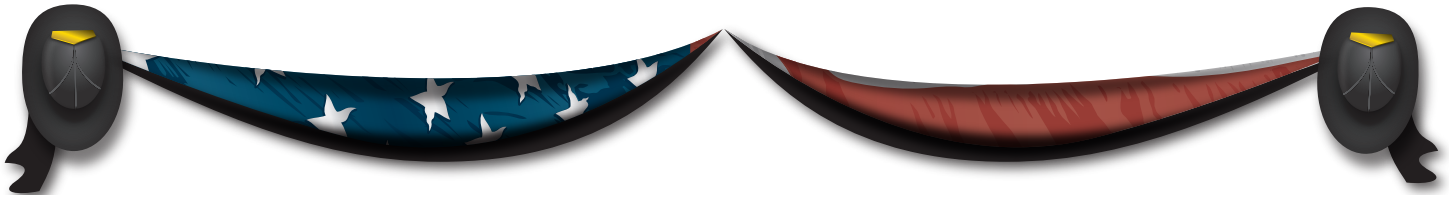
Firefighters were able to free the injured firefighter, and he was transported to the hospital. He was pronounced dead due to crushing injuries.

After the fire, it was learned that the house was vacant and had been condemned. Two individuals were charged with arson and murder in association with this incident.



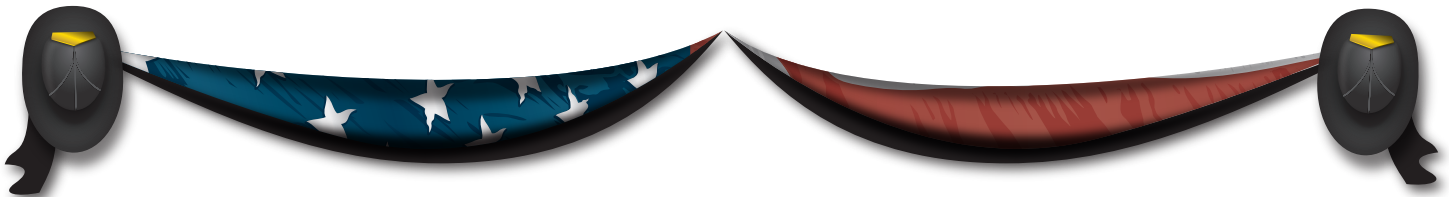
A firefighter had completed a shift with one fire department and began a shift with a second fire department. He told fellow firefighters that he did not feel well and went home to get some medication.

When he did not return to the fire station in a timely manner, firefighters called his cellphone, and another firefighter was sent to his residence to check on his welfare. The subject firefighter spoke to other firefighters on the telephone and said that he was not feeling well and needed assistance. When the others arrived at the firefighter's residence, he was found unconscious. The firefighter was transported to the hospital but later died as a result of a heart attack.



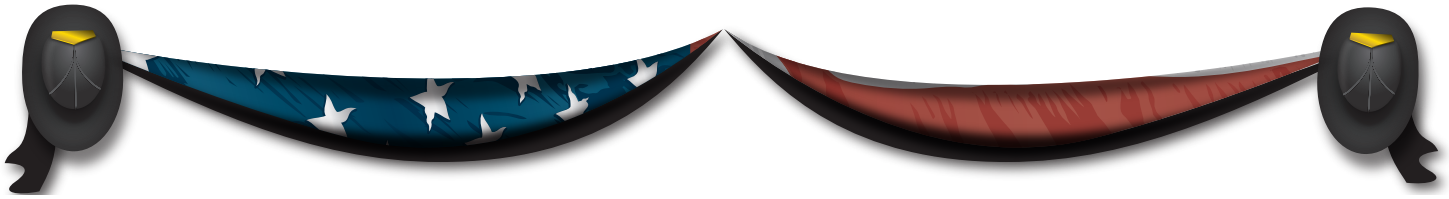
A fire police officer and members of his fire department were returning to quarters after responding to two residential structure fires. The fire police officer was controlling traffic as apparatus backed into quarters when he collapsed and died as the result of a cardiac event.

Firefighter Fatalities From Previous Years

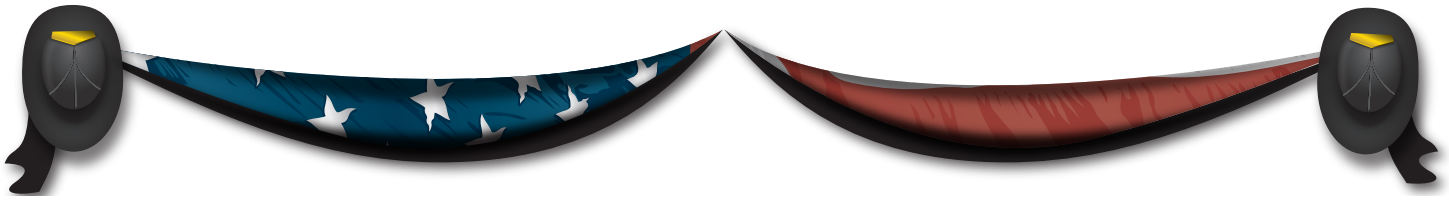


A firefighter was dispatched to a fire in a landfill or dump site. When firefighters arrived, they found a fire that involved timber, wood, plastic, wires, mattresses, carpet and other assorted trash. Firefighters worked on-scene for approximately five hours. During the course of firefighting operations, the subject firefighter was exposed to smoke and products of combustion.

This exposure resulted in documented respiratory injuries to the firefighter that eventually caused his death in June 2001.



A firefighter was performing a floor-by-floor search at a residential children's home after responding to a reported structure fire in March 1999. As the search was completed, the firefighter told a member of his crew that he was not feeling well. He was experiencing chest pain and other symptoms. He was transported to the hospital where he was diagnosed with a heart injury and placed on leave. He did not return to work prior to suffering a fatal heart attack in August 1999.



In March 2002, a firefighter and members of his fire department responded to an EMS incident involving a suicidal person. The patient was transported to a medical facility. The firefighter returned to the fire station but complained of not feeling well.

Later in the day, the firefighter was taken to the hospital by his spouse. As he walked into the facility, he collapsed due to a heart attack. He was treated but was not revived.

A firefighter and members of his fire department were dispatched on a mutual-aid call to assist a neighboring community assess damage after a tornado. The firefighter and another member of his department searched a darkened area. While conducting the area assessment, the firefighter slipped or fell to the ground. His speech was slurred, but he denied any injury.

The firefighter went home after the conclusion of the incident. The next morning, he did not feel well enough to go to work. Eventually, his wife took him to a local hospital where he was diagnosed as suffering from a stroke (CVA). The firefighter was treated but died in January 2008.

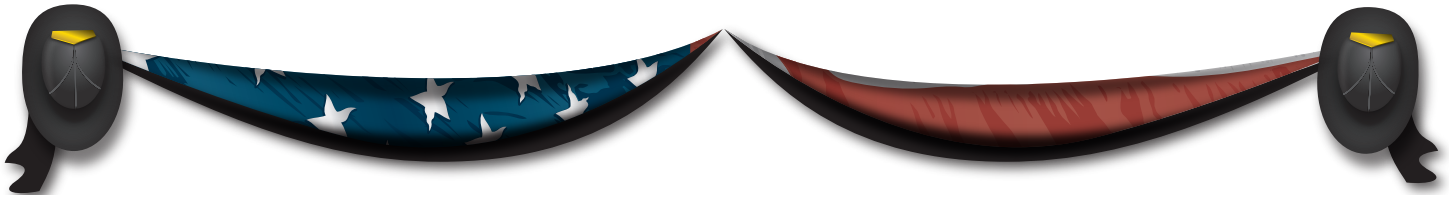
A firefighter responded to his fire station for a structure fire response in August 2009. The firefighter did not respond to the scene on the department's engine apparatus before the incident was concluded at approximately 1620 hours.

The next morning at approximately 0925 hours, the firefighter told his wife that he did not feel well. He became unresponsive, and CPR was initiated. An ambulance was called, and the firefighter was transported to the hospital. He was pronounced dead at the hospital due to a heart attack.

A firefighter and his crew responded to four emergency incidents during a 24-hour shift. The firefighter went off-duty at 0630 hours on a day in early August 2010. He then went fishing with friends and suffered a heart attack at approximately 1210 hours. CPR was initiated, and the firefighter was transported to the hospital, but he could not be revived.

A firefighter responded to a wildland fire at approximately 1700 hours on a day in December 2011. The incident was concluded at 0815 hours. The firefighter also responded to an EMS incident for a shooting that concluded at 0024 hours on the following day. At 0100 hours, EMS responders were called to the firefighter's home where he was suffering a heart attack.

The injured firefighter was transported to the hospital but did not survive.



A firefighter was assigned to range support at a military post. Part of his duties were to control fires started by the use of live munitions on the range.

The firefighter responded to control a wildland fire in an area of the range. After approximately 50 minutes of work, the firefighter collapsed. CPR was initiated and the firefighter was transported by pickup truck to a medical helicopter landing zone.

The injured firefighter was transported to a local hospital but could not be revived. His death was caused by a heart attack.

ACRONYMS

AED	automated external defibrillator
ALS	advanced life support
ATV	all-terrain vehicle
CPR	cardiopulmonary resuscitation
CVA	cerebrovascular accident
EMS	Emergency Medical Services
IC	Incident Commander
ICP	Incident Command Post
NFFF	National Fallen Firefighters Foundation
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
PASS	Personal Alert Safety System
POV	privately owned vehicle
PPE	personal protective equipment
PSOB	Public Safety Officers' Benefit
RIT	Rapid Intervention Team
SCBA	self-contained breathing apparatus
USFA	U.S. Fire Administration
WCT	Work Capacity Test