

A photograph of firefighters in full protective gear, including helmets and oxygen tanks, working at night. One firefighter in the center is holding a hose that is spraying water. The scene is illuminated by the orange glow of fire and emergency lights. A large, semi-transparent circular seal with the words "TENNESSEE STATE FIRE MARSHAL" is overlaid on the image.

**TENNESSEE STATE FIRE MARSHAL
ANNUAL FIRE PREVENTION REPORT FOR 2018**

Submitted in accordance with T.C.A. § 68-102-133

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The commissioner shall, annually, on or before February 15, transmit to the governor a full report of the commissioner's proceedings under this chapter, and such statistics as the commissioner may wish to include in the report, for the year previous. The commissioner shall also recommend any amendments to the law that, in the commissioner's judgment, are deemed advisable. The report of the commissioner shall include a full and complete report of all collections made and all expenditures and for what purposes they were made and to whom paid.

Overview of State Fire Marshal's Office Operations

The mission of the Division of Fire Prevention, also known as the Tennessee State Fire Marshal's Office (SFMO), is to reduce the loss of life and property from fire and explosions. The SFMO and its eight sections are committed to protecting the safety of Tennesseans and their property through: fire prevention, education, codes enforcement, inspection, regulation and investigation. Each section of the SFMO incorporates one or more of these core functions which aligns our focus and provides vision for the future.

The Education & Outreach Section assists the fire service, elected officials and the communities they serve to realize the potential economic incentives of prevention by measuring trends, setting benchmarks, analyzing data and compiling comprehensive loss reports. The Section serves as a resource for fire prevention efforts and also oversees the registration and fire loss data reporting for fire departments across the state. The Fire Investigations Section provides expert assistance to communities, primarily in rural areas, by investigating losses of property and life from fire by determining the cause and origin of fires. This Section assists other agencies, including local fire service and law enforcement, with specialized resources and training and works in conjunction with the Tennessee Bureau of Investigation (TBI) through a Memorandum of Understanding for suspected criminal cases. The sections of Codes Enforcement, Electrical, Residential and Marina Inspections, and Manufactured Housing & Modular Building work to ensure engineered environments are designed and constructed to applicable standards and codes which reduces the susceptibility of buildings to fire and lowers the likelihood of a related fatality. The Tennessee Fire Service and Codes Enforcement Academy (TFACA) and the Commission on Firefighting Personnel Standards and Education are tasked with the training and certification of firefighters in Tennessee. Both TFACA and the Commission serve to promote professionalism and competency throughout the fire service. Lastly, the Administrative Services Section provides support for the SFMO overseeing the processing of over 20 types of permits, licenses and certificates.

In working towards our mission, the SFMO interacts with the general public, state and local elected officials, the fire service, and many regulated industries on a daily basis. The SFMO also collaborates with the Tennessee Mutual Aid System and the Tennessee Emergency Management Agency (TEMA) to ensure resources are coordinated for fire service operations during widespread disasters.

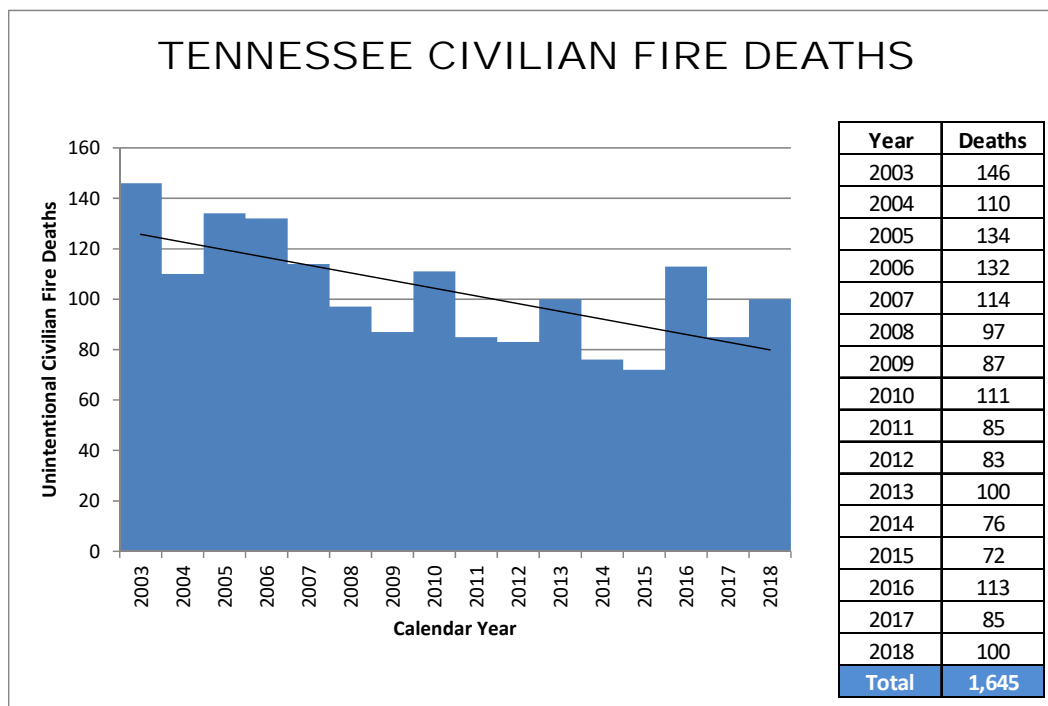
Fire Prevention Division Sections

- Education & Outreach
- Fire Investigations
- Codes Enforcement
- Electrical, Residential and Marina Inspections
- Manufactured Housing & Modular Building
- TFACA
- Firefighting Commission
- Administrative Services

State of the State

Tennessee has historically ranked among the states with the highest rate of unintentional civilian fire deaths. Like most of the United States, Tennessee has experienced a reduction in fire deaths over the past several decades due, in part, to the commitment to prevention methods such as more stringent code standards and educational messaging. In 2017, the National Fire Protection Association (NFPA) released its report 'U.S. Fire Death Rates by State' which showed that Tennessee had dropped from the 8th highest rate of fire deaths to the 11th highest rate¹.

The preliminary 2018 fire data shows an 18% increase in unintentional civilian fire deaths from last year. According to SFMO records, there were 100 such fire deaths in Tennessee during 2018, which is up from the 85 fire deaths the previous year. Despite the increase in unintentional civilian fire deaths for 2018, the overall trend remains in a downward trend. The rate of unintentional civilian fire deaths in 2018 was 14.8 deaths per million.



The majority of unintentional civilian fire deaths occur in residential structures. In 2018 (last year), 86 of the 100 (86%) deaths were from household fires. More than 4 out of 5 fire deaths were in single-family homes. From 2014-2018, 81.1% of fire deaths occurred in single-family homes which is consistent with previous years.

Structure Type	Deaths	%
Single Family	86	86.0%
Apartment/Condominium	6	6.0%
Duplex	1	1.0%
Hotel/Motel	1	1.0%
All Other	6	6.0%
Total	100	100.0%

¹ Tennessee's 2011-2015 rank, National Fire Protection Association's 2017 Report 'U.S. Fire Death Rates by State, 7/17

In 2018, there was a slight reduction in the total number of reported fires and structure fires. Fire Departments reported 8,029 structure fires to the SFMO in 2018. This is 349 fewer structure fires than the 8,378 structure fires reported in 2017. The 2018 numbers are expected to go up marginally as fire departments continue to submit reports from 2018 incidents during the first part of 2019.

The adjacent table represents all incidents and dollar loss, as reported to the Tennessee Fire Incident Reporting System (TFIRS), for the 2018 calendar year, but is considered preliminary until April 2019 to ensure that all fires reported are complete and accurate. TFIRS also requires reporting fire departments to identify the cause of the fire from 16 standard cause categories according to the reported heat source, equipment involved in ignition and factors contributing to ignition. One category is “unknown” which reports the cause as undetermined.

The 21,146 total reported fires caused an estimated \$278,984,042 in property loss for Tennesseans, which is up about 6% from the \$263 million in property loss reported in 2017. These loss estimates are from incident reports submitted by fire departments. As with the structure fires, the SFMO expects this number to increase slightly as fire departments are still submitting and updating incident reports from 2018.

Reported Incident Type	Reported Incidents	% of Total
Fire: Structure	8,029	1.51%
Fire: Vehicle	4,452	0.83%
Fire: Other	8,665	1.63%
Fire Subtotal	21,146	3.97%
Explosions	979	0.18%
Rescue: Medical Treatment	333,329	62.51%
Rescue: Others	3,530	0.66%
Explosions and Rescue Subtotal	337,838	63.36%
False Call: Malicious	1,700	0.32%
False Call: Other	54,102	10.15%
False Call Subtotal	55,802	10.47%
Hazardous Condition	14,475	2.71%
Service Calls	36,394	6.83%
Good Intent Calls	65,495	12.28%
Severe Weather or Natural Disaster	653	0.12%
Special Incident	1,401	0.26%
Other Incident Subtotal	118,418	22.21%
2018 Total Reported Calls	533,204	100%
Total Structure Fire Dollar Loss	\$239,585,666	
Total Fire Dollar Loss	\$278,984,042	

Education & Outreach Section

The Education & Outreach Section provides fire safety educational materials and resources to the citizens and fire departments of Tennessee. The Section’s programs include fire incident reporting, fire data analysis, fire department recognition, public education, community risk reduction and the “Get Alarmed Tennessee!” program that provides free smoke alarms for Tennessee homes. The Education & Outreach Section works with its partners at both the national and local levels to share the latest information in fire prevention. By using strategies developed to address specific risks identified through data analysis, the Section seeks to reduce fire loss in Tennessee through direct communication with the public and by empowering fire departments to educate the communities they protect.



Since “Get Alarmed Tennessee!” started in 2012, at least 259 residents have been alerted to fires in their homes and escaped without serious injury thanks to smoke alarms installed through the program. The program also distributes SafeAwake smoke alarms which vibrate the bed and make a louder audible alarm for those deaf and hard of hearing when smoke is detected. In 2018, the SFMO was awarded \$333,334 in funding from the Federal Emergency Management Agency’s Fire Prevention and Safety grants to continue the program.

Get Alarmed Tennessee in 2018

- 21,356 smoke alarms installed
- 47 SafeAwake smoke alarms installed
- 6,689 households received in-home fire safety education and free smoke alarms
- 22 door-to-door smoke alarm installation canvasses
- At least 53 residents escaped home fires due to these smoke alarms



In 2018, the SFMO delivered custom community risk assessments to 54 fire departments as part of its statewide community risk reduction plan. The community risk assessments for fire departments that included the most common causes of fires in their communities along with maps showing areas with a high risk for residential structure fire. Providing risk assessments allows fire departments to focus on prevention and mitigation strategies to help their communities. So far, 15 fire departments have submitted community risk reduction plans to the SFMO based on these risk assessments.

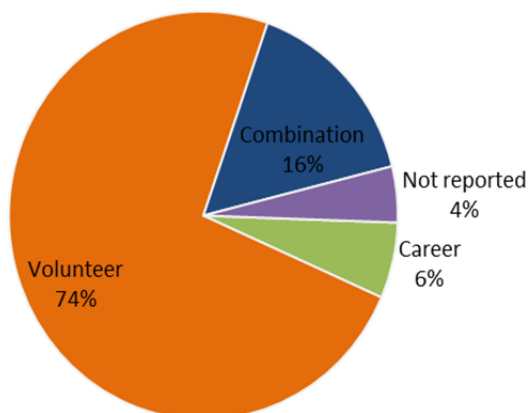
Fire Department and Firefighter Statistics

The SFMO recognizes 698 fire departments. Of these, 686 fire departments protect public property, whereas 12 solely protect private property (such as an industrial or a commercial facility), military facilities or airports. Detailed staffing information has been reported by 667 of the 698 fire departments.

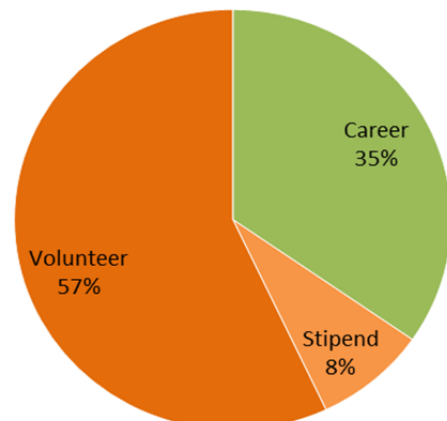
From the 667 fire departments that provided staffing information, only 42 (6.3%) are career fire departments where all firefighters receive financial compensation for their services. In Tennessee, 515 (77.2%) of the fire departments are staffed entirely by volunteers. The remaining 110 (16.5%) fire departments are staffed by a combination of volunteer and career firefighters.

The majority of the firefighters in Tennessee are volunteers who receive either no compensation or a nominal fee for their services. The 22,199 active firefighters that have been reported to the SFMO consist of 14,504 (65.3%) volunteers and 7,695 (34.7%) career firefighters. Of the more than 14,504 volunteer firefighters, 1,848 receive a small payment or stipend for responding to calls.

Fire Department Staffing Types



Firefighter Compensation



Fire Investigations Section

The tasks carried out on a daily basis by the Fire Investigations Section reflect the focus on the SFMO's responsibility to determine the cause, origin and circumstance of all fires across the state of Tennessee. The ability to develop lessons learned is absolutely critical when looking at preventative means to reduce the loss of life and property from fire. In 2016, a statutory change provides for concurrent jurisdiction with the Tennessee Bureau of Investigation (TBI) for incendiary fires. The SFMO and the TBI have signed a Memorandum of Understanding (MOU) to detail the new working partnership. The objective is to maintain a high level of collaboration between agencies allowing the most effective utilization of specialized resources to best protect the public.

The Fire Investigations Section continues to assist local fire service, law enforcement agencies, the TBI and the U.S. Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) with specialized investigatory resources to determine the cause and origin of all fires in Tennessee while assisting other agencies with investigating arson and related offenses as described in Tenn. Code Ann. § 39-14-301. The Section is available to send special resources, such as ATF trained accelerant detection K-9s, to assist local jurisdictions in their investigations. Specialized equipment, ranging from a mini excavator to portable sifting screens, are also available to aid local jurisdictions. The Fire Investigations Section is working to expand training and education opportunities for local fire departments as well.



In order to carry out the statutory responsibilities of the Commissioner, Tenn. Code Ann. §§ 68-102-101 - 68-102-111 outline the duties of the Deputies and Assistants to the Commissioner. Deputies to the Commissioner are the Fire Investigators of the Fire Investigations Section and they are tasked with assisting in the investigation process. The role of Assistant to the Commissioner is a delegated responsibility of authority to a local designee such as a fire chief or local fire marshal. The local designee has an obligation to investigate the cause, origin and circumstance of every fire occurring in any city or place in this state where property has been destroyed or damaged, and to notify the Commissioner immediately if a fire is of suspicious origin. The requirements also outline that a detailed written report of every fire must be submitted to the Commissioner within ten days of the occurrence of the fire. Most fire losses, property or life, are determined to be accidental. Nonetheless, each occurrence of fire is still required to be investigated with the goal of reducing these occurrences of loss. Without continued assistance from the Fire Investigations Section, local fire chiefs and officials would not have the resources to meet the requirements of this statute.

Case Statistics for 2018

- Cases Opened: 415 (218 Undetermined Fires, 116 Arsons, 68 Accidental Fires, 2 Explosives Recoveries, 4 Explosions, 1 Bomb Threats, 1 Natural Fire, 1 Suspicious Package, 1 Arson Threat, 2 Hoax IED, 1 Loss of Explosives)
- Cases Closed: 434
- A total of 37 arrests were made in cases the Fire Investigations Section worked/investigated; which included 36 adults and 1 juvenile.

Codes Enforcement Section

The Codes Enforcement Section enforces statewide adopted fire and building construction safety codes and standards to afford a reasonable degree of safety to life and property from fire and hazardous incidents. This Section oversees the design, construction, alteration and repair of buildings or structures across the state including state buildings, commercial residential structures, high hazard occupancies, jails and prisons, covered malls, assembly spaces with 300 or greater occupants, schools and daycares. The Section also conducts annual inspections for schools, daycares and other buildings requiring an inspection from the SFMO to receive an initial license from the Administrative Services Section and other state agencies.

Additionally, the Codes Enforcement Section also investigates complaints relating to buildings under its jurisdiction or complaints regarding a person or entity licensed by the Administrative Services Section.

Plans Review and Inspections in 2018

- Plan Submittals Received: 1,045
- Inspections Performed: 14,757
- Blasting Inspections Performed: 538
- Blasting Complaints Received: 400

Electrical, Residential and Marina Inspections Section

The Electrical, Residential and Marina Inspections Section is responsible for critical safety inspections in Tennessee. This Section issues permits and performs inspections to enforce the provisions of Tennessee's adopted electrical code, residential building code and energy conservation code. In 2017, all permits and inspection numbers increased compared to the previous year which reflects the growth in construction statewide.

Permits and Inspections in 2018

- Total Residential Building Permits Issued: 942
- Total Residential Building Inspections Performed: 2,873
- Total Electrical Permits Issued: 135,011
- Total Electrical Inspections Performed: 211,131
- Total Marinas Inspected: 11



Following the passage of the Noah Dean and Nate Act, Tenn. Code Ann. § 68-102-601 *et seq.*, this Section added marina safety inspections to its operations. The law requires each public marina to be inspected once every five years. Since its implementation in 2015, a safety inspection has been performed at 204 public marinas in which numerous safety violations have been found. One such inspection included the discovery of a 480 volt electrical service which was energizing water at the marina. Other found safety violations include: energized electrical cords in water, no installed main disconnects at which power can be disconnected in the event of a situation, energized junction boxes in water, electrical wiring under docks not properly installed, no Ground Fault Indicators installed on some marinas and faulty electrical wiring in which the neutrals and grounds were not separated on subpanels installed on a marina. These violations, if not detected, could have caused serious injuries, even death, to people entering the water in the vicinity of these hazards.

Manufactured Housing & Modular Building Section

The Manufactured Housing & Modular Building Section administers portions of the Uniform Standards Code for Manufactured Homes Act related to U.S. Department of Housing and Urban Development (HUD) Labeled Manufactured Homes and the Tennessee Manufactured Home Installation Act. This Section acts as HUD's State Administrative Agent (SAA) and exclusive In Plant Inspection Agency (IPIA) to administer certain aspects of the National Manufactured Housing Construction and Safety Standards Act of 1974.

This Section is responsible for inspection of the installation of new and used manufactured homes. The Section is required to ensure that at least five percent (5%) of the manufactured homes installed in the state are inspected each year and in 2018, the Section performed 1,888 inspections of new and used manufactured homes which total approximately fifty percent (50%) of the new and used manufactured homes installed in Tennessee.

Inspections and Activities in 2018

- Floors Inspected: 33,310
- HUD Labels Sold: 20,960
- Retail Lot Inspections: 28

Tennessee Fire Service and Codes Enforcement Academy

The Tennessee Fire Service and Codes Enforcement Academy (TFACA) plans, develops, and facilitates education and training programs to promote the professionalism and competency of fire service and codes enforcement personnel through a standardized statewide program. These programs enhance the individual and collective ability of those in the fire service to protect the life and property of Tennesseans. TFACA's focus on both fire service and codes enforcement establishes it as regional center for the training, testing, and certification of codes enforcement officials, firefighters and other homeland security first responders.

Training and Activities in 2018

- Total Students Enrolled: 14,484
- Total Classes Conducted: 1,063

In October 2018, TFACA celebrated the ceremonial groundbreaking of its \$5.7 million conference center. When complete, the 19,000 square foot conference center will provide additional meeting space to hold large classes, specialty classes in incident management, conferences and graduations. Additionally, in 2018 several improvement upgrades were completed to enhance the campus learning environment. All of the lights campus-wide were replaced by LED lights to improve lighting and make the campus more energy and cost efficient. WIFI was added to the dorms, dining hall, classroom building, and training center to ensure the students have the tools needed to further their studies. The Fire Program implemented four computer based pump simulators to support the Driver Operator Program.



Commission on Firefighting Personnel Standards and Education

The Commission on Firefighting Personnel Standards and Education is responsible for the certification of volunteer and paid firefighters in the State of Tennessee. The certification program is designed to be an incentive to firefighters to develop their skills and further their training and education. The Commission also manages and administers the daily operations for the In-Service Training and Educational Incentive Pay Program.

Testing and Activities in 2018

- Total Exams Administered: 8,454
 - Written Exams Administered: 5,480
 - Practical Exams Administered: 2,974
- Total Number of Test Events: 509
 - Written Exam Events: 355
 - Practical Exam Events: 154
- Reciprocity Granted: 737
- Fire Departments Audited: 18
- Fire Departments Participating in In-Service Training and Educational Incentive Pay Program: 105
- Fire Service Professionals Receiving Educational Incentive Pay: 6,394 (\$600 per qualified firefighter; totaling \$3,836,400.00)



Administrative Services Section

The Administrative Services Section provides administrative support for the SFMO in the areas of budgeting, purchasing and personnel management. The Section ensures that qualified applications are properly processed under the State's laws and regulations for various professions and annually issues over 4,000 professional permits, licenses and certificates of registration.

The Permits and Licenses unit specifically process regulatory permits, licenses and certificates of registration for the certified inspector program, explosives, fireworks, fire extinguisher, fire sprinkler and liquefied petroleum (LP) gas industries. Additionally, the unit processes complaints for related licenses and refers violations to its Legal Division for potential disciplinary action.

Permits, Licenses, and Certification Programs in 2018

Portable and Fixed Fire Extinguisher Systems

Firms	140
Branches	11
Specialists	454
Technicians	46

Liquefied Petroleum (LP) Gas

Dealers	548
Managers	21
Responsible Managing Employee	33

Fireworks

Annual Retailers	77
Seasonal Retailers	615
Operators	88
Exhibitors	22
Display Permits Issued	424

Fire Protection Sprinkler Systems

Contractors	194
Responsible Managing Employee	244

Certified Inspectors (Fire, Building, Mechanical and Plumbing Inspectors)

Inspectors	415
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Explosives

Firm	48
Handlers	602
Blasters	143
Limited Blasters	5

Fire Safe Cigarettes

Manufacturers	23
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SFMO/Division of Fire Prevention Operating Cost**Entire Division of Fire Prevention
FY 2018**

	Budget	Actual
Expenditures	\$23,995,000	\$22,395,747.62
Revenues	\$23,995,000	\$28,702,466.13

Revenues collected include funding from the Fire Insurance Premium Tax, pursuant to Tenn. Code Ann. § 68-102-142, penalties, fees for services, or forfeitures collected under Tenn. Code Ann. §§ 68-102-101 through 68-102-143, 68-102-147, or 68-102-148. Expenditures associated with the Fire Premium Tax are included in Tenn. Code Ann. §§ 56-4-208, 56-4-205(c), 56-22-114, 68-102-142 and 68-102-203.

Recommended Amendments

There are no recommended amendments or suggested statutory changes as current law provides the SFMO/the Division of Fire Prevention the authority to carry out its mission of saving lives, reducing property loss and preventing injuries.





Thank You!

The Tennessee State Fire Marshal's Office sincerely expresses its support for the men and women currently serving in the Tennessee fire service. We remain dedicated to protecting the safety of Tennesseans and their property.



Department of
**Commerce &
Insurance**

State Fire
Marshal's Office

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