



BACK STEP TALKS

SERIES IV ISSUE 1 JANUARY 2025

Firefighter Life Safety Initiatives # 14, #15, and #16

FF Life Safety Initiative #14:

Public Education

Fire and life safety education is a proven way to establish fire safety behavior among our citizens and Department members. Statistics have shown that educating the public on ways to prevent fires has an impact on the reduction of civilian and firefighter deaths.

Life Safety Initiative #14 asks that our departments rethink its priorities to recognize the value of public education, and to raise fire and life safety efforts to the same level as other department operations. Preventing fires is also cool.

Firefighter Life Safety Initiative #15:

Code Enforcement and Sprinklers

FLSI#14 is all about prevention; preventing fires from starting, preventing fire growth if a fire does start, and extinguishing the fire without human intervention.



Firefighter Life Safety Initiative #16:

Apparatus Design and Safety

FLSI #15 asks our departments to be advocates for stronger codes and laws that will decrease the number and severity of structural fires. By doing this the risk of firefighter deaths and injuries will be reduced.

FLSI#16 - Almost everyone involved in the fire service has a vested interest/legal responsibility to provide for the safety of our firefighters. Yet preventable injuries and deaths continue to occur. Firefighter safety needs to become a primary consideration in the design of apparatus and equipment.

New technology is introduced almost daily that significantly reduces injury and death. Departments must explore these technologies as they develop specifications for new apparatus and equipment.

Dave Reid



NFPA

13D

Standard for the
Installation of Sprinkler Systems in
One- and Two-Family Dwellings and
Manufactured Homes

2025



LSI 14-16 address the safety of citizens while reducing 1st responder injuries and deaths.

[Firefighter Life
Safety Initiatives.](#)



Firefighters and EMTs Make the Worst Patients

In past articles, I have written about topics related to health and safety, and often referred to the experiences of others about the topic. This time, my article is a little different because it is personal.

On October 14, 2024, I was attending a training class about a half-hour from home when I began to feel ill. I knew that I needed medical attention but did not want to alert the instructor or the other class attendees of my problem. I knew if I had, they would step into action and have me transported to a local hospital. I politely advised the instructor that I was not feeling well and wanted to leave and return home. I drove myself home and immediately advised my wife to drive me to the hospital.

On arrival at the hospital, I was already feeling dizzy from my illness and the triage nurse checked my blood pressure, advising me that it was really low, and I would be immediately taken to the Emergency Room. I was happy about that as the waiting room was packed that day. The nurse in the ER immediately began checking my vitals and asking questions. Things then began to get blurry and the next thing I remember is looking up and there were about 10 people around my bed. I was

greeted with a "Welcome Back". I asked, "Where did I go?". They responded that I had a brief arrest and that they brought me back.

Why do I share all this personal information? The message is clear: many times, as firefighters and EMT's, we are the worst patients. We advise the public that if you are not feeling well, get medical attention, either at an urgent care center or the hospital. If the illness is urgent, call 911 and we will transport you to the closest hospital.

But what did I do? I got in my car despite feeling dizzy and drove home so that I could be seen at a medical facility closer to home. And instead of calling my own department via 911 to take me there, I insisted that my wife drive me to the hospital. I self-diagnosed my illness, believing that it was not severe, yet the outcome could have been a lot more severe. Luckily, I was in the ER when my arrest happened and was immediately taken care of.

The good news is that my illness was not as severe as it may seem. I'm well on the mend now, but this was a wake-up call for me and I wanted to share it with you. Too often, as firefighters and EMT's, we have just enough medical knowledge to be dangerous. We self-



diagnose, self-treat, and ignore the advice that we give others about receiving medical attention.

My incident reminded me that I need to take better care of myself, be aware of any medical condition that needs to be addressed and listen to what my body is telling me. I ask each of you to do the same. After all, we are in the business of being a firefighter or EMT to help protect and save others. We can't fulfill that mission if we don't take care of ourselves first. Stay healthy and be safe.

Dave Lewis

[NVHC Heart-healthy
Firefighter](#)



Advanced Lithium-Ion Battery Safety Commission

Following several recent fires, Maryland has taken the lead in assessing the hazards associated with using lithium-ion batteries. With the passage of House Bill 460/Ch. 950) Governor Wes Moore created the Commission to Advance Lithium-Ion Battery Safety in Maryland. This article is written to provide a snapshot of the interim report to help our service understand what Maryland is doing to address the issue of Lithium-Ion Batteries. Below is a summary of the report.

Under the authorizing legislation (House Bill 460/Ch. 950), The Commission to Advance Lithium-Ion Battery Safety in Maryland (the Commission) was established, to make legislative, regulatory, programmatic, and other recommendations regarding:

- best practices, standards, and guidelines (1) to prevent, detect, and suppress lithium-ion battery fires in consumer, transportation applications, and utility applications, with review and consideration of the National Fire Prevention 855 Standards for Grid-Scale Storage and Safety; (2) to prevent, detect, and suppress lithium-ion fires at recycling facilities; (3) for reusing, recycling, and decommissioning lithium-ion batteries;
- the viability of extended producer responsibility for lithium-ion batteries

- training, education, and other information to better inform the public and first responders regarding lithium-ion battery safety; and
- any other global issues the Commission may consider useful for enhancing the safety and reuse of batteries in the State

The interim report was submitted on December 1, 2024, and the final report of the Commission is to be submitted, on or before 1 December 2025.

The Commission is broken down into four sub-committees that meet regularly.

1. The Consumer and Transportation Applications Subcommittee is currently researching best practices and policies related to battery-powered micromobility devices and vehicles powered by vehicle traction batteries. The Subcommittee is planning to receive a briefing from subject matter experts at Tesla on vehicle battery safety and first responder information.
2. The Utility Applications, with review and consideration of NFPA 855 Standards for Grid-Scale Storage and Safety Subcommittee is reviewing an investigation published by Underwriters Laboratory's Fire Safety Research Institute on a battery energy storage

system explosion that took place in 2019.

3. The Prevent, Detect, and Suppress Lithium-ion Fires at Recycling Facilities Subcommittee is working on collecting information on public awareness campaigns associated with promoting the responsible and safe disposal of lithium-ion batteries. The Subcommittee intends to visit one of WM's facilities to build a stronger understanding of the risks of improperly disposed of batteries. The facility tour will also help Commission members understand the technology currently in use to prevent facility fires.
4. The Reusing, recycling and decommissioning lithium-ion batteries Subcommittee is working to obtain expert speakers on battery second life and recycling to present to the Subcommittee.

I look forward to the continued work and research this Commission is doing to protect the citizens of Maryland. As additional information becomes available, it will be communicated through MSFA and MFCA channels so that all are aware of the recommended actions established by the Commission.

Jon David Black

Driving Safely and Efficiently: How Technology is Shaping the Future

As the fire service progresses into the 21st century, leaders are constantly looking for ways to meet the increasing service demands of their communities while balancing the health and safety of their organization's members. Advances in apparatus design and technology allow leaders to address both sides of the equation. The National Fire Protection Association (NFPA) outlines best practices for apparatus design in NFPA 1901 *Standard for Automotive Fire Apparatus*. The National Fallen Firefighters Foundation (NFFF) also provides guidance via the *16 Firefighter Life Safety Initiatives*, particularly Initiatives #8 and 16 – Technology and Apparatus Design & Safety.

Many of the automotive innovations from the commercial vehicle industry are finding their way into fire apparatus design and production. Several years ago, backup cameras became relatively common in passenger vehicles and the major fire apparatus manufacturers have since implemented them into their offerings. Several manufacturers, such as Safe Fleet, have gone a step further by offering a camera system that allows a 360-degree view of the vehicle in real-time during backing maneuvers or even while deploying outriggers on

aerial devices (Petrillo, 2022). Collision avoidance and driver assistance software programs, such as collision prevention automatic braking, lane centering assistance, and adaptive cruise control, are also finding a hold in the fire apparatus market. All-wheel drive, electronic stability control, vehicle telemetry recorders, rollover indicators, and rollover prevention systems are also being found in modern-day fire apparatus design and construction (Avsec, 2020).

Outside of driver-assistive technologies, there is an advancing field of improving communication between firefighters on scene and even communication between responding fire apparatus and the public. In 2020, Pierce Manufacturing, Inc. announced a collaboration with HAAS, Inc. to offer the HAAS Alert Safety Cloud collision avoidance module as a standard technology on custom orders. “[The] HAAS Alert Safety Cloud works by sending real-time digital alerts from a hardware device mounted within the cab of a fire truck to nearby motorists via mobile navigation apps (e.g., Waze) and vehicle infotainment screens” (McLoone, 2020). This additional warning signal to motorists can increase their

situational awareness of the presence of responding fire apparatus. The usefulness of such an alerting method cannot be overstated, given the improvements in passenger vehicle cabin construction to reduce exterior noise heard inside the vehicle. The widespread use of LED lighting packages on fire apparatus is another example of improving the presence of fire apparatus on the roads. These packages can be programmed to specify brightness, strobe patterns in different operational modes (parked vs. responding),

Fire apparatus chassis, motors, drivetrains, and even fuels are changing, too. Several manufacturers have produced either fully electronic or hybrid fire apparatus vehicles. Electric fire department pumpers, airport crash/rescue vehicles, ambulances, and command/support vehicles are finding their way into fleets across the country. They offer an alternative fuel source through totally electric engines or a way to potentially decrease fuel costs via hybrid engine platforms. The decreased engine noise and vibrations from these platforms also offer a way to mitigate firefighter health issues related to hearing loss and ergonomics.

Driving Safely and Efficiently: How Technology is Shaping the Future, cont...

Many of the technological advances in fire service apparatus provide methods for personnel to deliver emergent and non-emergent services to their communities safer and more efficiently. As with any new technology, time and widespread adoption will drive down costs. Adopting some of the innovations out there may be expensive in current fiscal cycles, but it is not unreasonable to assume that most of them will find their way

into budgets in the not-too-distant future. Fire service leaders have more options than ever before to help them balance the equation of fast, efficient delivery of services to their communities and ensure the health and safety of their personnel. These options also create the need for leaders to do their due diligence to make sure that the innovations they are seeking will be appropriate for their communities and their departments.

[7 Apparatus Safety Inventions](#)



[Digital Collision Avoidance](#)



[Built In Apparatus Technologies](#)



Jon T. Johnson, BS, NRP,
MICRB-II

Healthy Nutrition Habits for the Families of First Responders

First Responders are encouraged to practice good dietary habits to optimize performance. It is equally important that the families of first responders practice healthy nutrition habits to promote overall family health and well-being.

While challenges may arise while single parenting when your spouse/partner is on shift, here are some tips to promote healthy family nutrition:

1. **Maintain a routine.** It is important to remain consistent with mealtimes. Consistency encourages intake of nutritious foods, reduces the risk of developing poor eating habits, and keeps the family connected.

2. **Plan healthy meals.** Include the entire family in meal planning to ensure that everyone has equal input into what is being prepared, increasing the likelihood of developing healthy habits, and trying new foods.

3. **Meal Prep.** Let's face it, time constraints can lead to poor dietary habits such as choosing convenient fast foods or processed snacks. By prepping meals in advance, it is easy to quickly assemble a healthy meal, or pop an already prepared nutritious meal into the oven. Try using a slow cooker. Simply put your healthy ingredients in the slow cooker in the morning and return home to a delicious and nutritious ready-to-eat meal.

4. **Focus on variety.** Eat foods from each food group (fruits, vegetables, whole grains, protein, and dairy). This will help provide a balanced diet.

5. **Keep healthy snacks available.** Have whole fruits and cut up veggies in an easy to reach spot. You will most likely snack on something readily available. Other good snack options are unsalted or lightly salted nuts, popcorn, Greek yogurt, low fat cheese, apple sauce, a hard-boiled egg, turkey and cheese roll-ups, whole

wheat crackers and salsa, cottage cheese, apple slices with peanut butter, veggies and hummus.

6. **Limit added sugars.** We have a funny saying in my house, "If it tastes good, spit it out". Foods containing added sugars are generally higher in calories and have little to no beneficial nutrients. If you have a sweet tooth, limit sweet treats to 2-3 times a week. Portion control is important. Check nutrition fact labels to determine serving size and servings per container.

7. **A family that cooks together, stays together.** Include the entire family in meal-time activities. Rotate tasks that are safe for each age group (setting and clearing the table, washing produce, stirring/mixing/chopping ingredients, filling water glasses, serving, etc.).

Rhonda Cohen MFF, EMT, MS,
RDN, LDN, CSN

Smoke Alarms and Residential Sprinklers in Maryland

Maryland has long been a leader in fire safety, evolving its regulations to address emerging risks and advancements in fire prevention technology. The state's smoke alarm and residential sprinkler requirements are prime measures that significantly improve safety and minimize fire-related fatalities. This article examines the evolution and current requirements for these life-saving systems in Maryland.

Evolution of Smoke Alarm Requirements

The importance of smoke alarms in residential fire safety has been well-established since the 1970s when the National Fire Protection Association (NFPA) began recommending smoke detectors for homes. Local jurisdictions adopted building codes requiring smoke alarms in key areas like bedrooms and hallways. Maryland made a significant leap forward with the passage of the **Maryland Smoke Alarm Law** in 1999, which mandated that smoke alarms be installed on every level of residential buildings, including inside sleeping areas. This law also required that smoke alarms be hardwired into the home's electrical system, ensuring they stayed powered even during a power outage.

In 2013, the state strengthened these regulations by requiring smoke alarms to be powered by sealed 10-year batteries. This move addressed concerns about battery replacement, ensuring that smoke alarms remained operational over long periods without regular maintenance. The law also called for photoelectric smoke alarms, which are more effective at detecting smoldering fires than traditional ionization models.

Current Smoke Alarm Requirements in Maryland

As of 2024, Maryland's smoke alarm regulations require all residential buildings—single-family homes, apartments, or multifamily units—to have smoke alarms installed on every level, including the basement. The requirements include:

- Smoke alarms must be placed inside each sleeping area and outside sleeping areas in hallways or adjacent spaces.
- Alarms must be hardwired or powered by sealed 10-year batteries to ensure reliability.
- Photoelectric smoke alarms are mandatory for better detection of smoldering fires.

- Homeowners should test alarms monthly and maintain them per the manufacturer's guidelines.

Evolution of Residential Sprinkler Requirements

Residential sprinklers have become another key tool in reducing fire-related deaths. The idea of sprinklers in homes gained momentum in the 1990s after studies showed they could significantly reduce fatalities and property damage. In Maryland, the push for mandatory residential sprinklers was fueled by tragic fires that claimed multiple lives in single-family homes.

In 2010, Maryland became one of the first states to require residential sprinkler systems in all newly constructed homes. The 2010 Maryland Building Code mandated that all new single-family homes, townhouses, and duplexes be equipped with automatic fire sprinkler systems. This bold move positioned Maryland as a national leader in residential fire safety.

Current Residential Sprinkler Requirements in Maryland

As of 2024, Maryland's sprinkler requirements include:

Smoke Alarms and Residential Sprinklers in Maryland cont.

- Newly constructed single-family homes, townhouses, and duplexes must have residential sprinkler systems.
- Sprinklers must be installed in all living areas, including bedrooms, hallways, and rooms.
- The sprinkler systems must comply with the NFPA 13D standard, which specifies the design

and installation of residential fire sprinkler systems.

While sprinklers are not yet required in existing homes, adopting this requirement in new construction has effectively prevented fire-related injuries and property loss.

Impact and Conclusion

Maryland's evolution of smoke alarms and residential sprinkler regulations highlights its commitment to public safety. The

state has significantly reduced fire fatalities and injuries by implementing advanced fire detection and sprinkler systems. Maryland's forward-thinking policies make it a national model for fire safety, continuing to lead in protecting its citizens.

Oliver Alkire,

IAAI-CFI, APIO

Master Deputy
State Fire Marshal



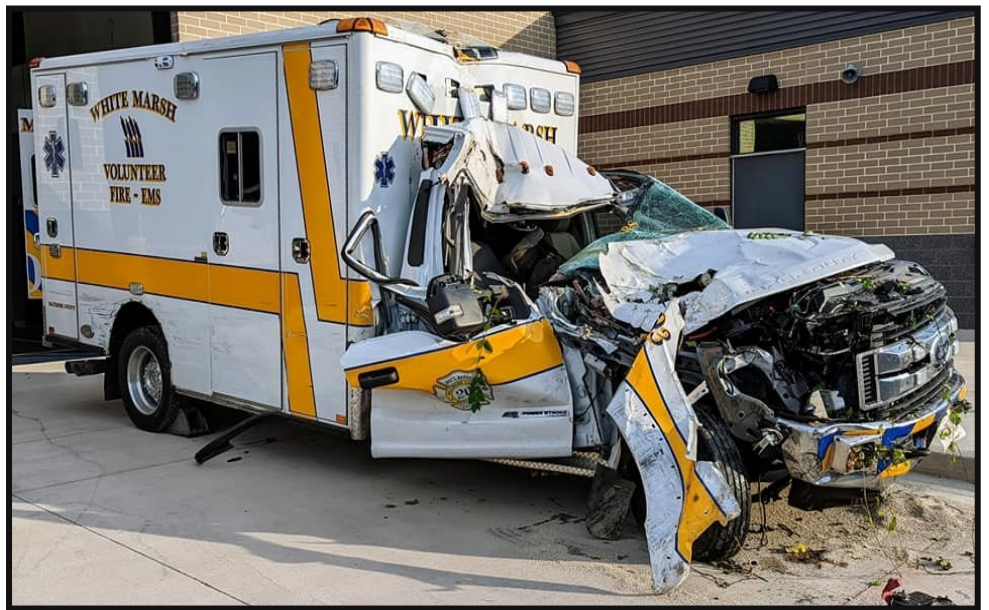
FIRE SPRINKLERS SAVE FIREFIGHTERS' LIVES TOO

Safety Standards for Ambulances

Since Back Step Talks started, the authors have focused more on fire-based information; however, the reality is that the mission for many departments has transitioned to more EMS response and less fire response. This article emphasizes the need to address Ambulance Safety Standards and Practices. According to the National Highway Traffic Safety Administration (NHTSA) study conducted between 1992 and 2011 there were an average of 4500 traffic incidents EACH YEAR involving ambulances. Of these, 65% involved property damage only while 34% resulted in one or more injuries.

In 2023, NHTSA published another report looking at data from 2012 to 2018. The results show that:

1. From 2012 to 2018, there were 173 fatal crashes involving ambulances, 40.2% of those who died were ambulance occupants, 52.3% were passengers in other vehicles and the remaining were non-occupants such as pedestrians or cyclists.
2. 45.7% of the fatal crashes occurred during emergency response and 28% occurred with lights and sirens active.



3. NHTSA conducts Special Crash Investigations (SCI) on incidents that result in significant injury or fatality to occupants inside the ambulance. Almost all (92.6%) of the 27 Special Crash Investigation (SCI) crashes reviewed involved ambulance operator/driver error.

4. Lack of proper restraint use in the cabin by both clinicians and patients was also cited in the 27 SCI reports: Only 8.8% of clinicians were properly restrained. While 95.7% of patients were restrained in some manner, only 17.4% of the patients were properly restrained using both lateral belts and shoulder harnesses.

The research conducted by NHTSA suggests 4 priority areas to improve ground ambulance safety:

1. Strengthen organizational safety policies.
2. Reduce operator error through training.
3. Create a culture of safety.
4. Adopt new vehicle safety designs or technologies.

Each of these areas includes specific recommended countermeasures, additional guidance and resources for implementation.

Dave Black

[NHTSA Report](#)



Fire Prevention—What Does It Mean To You?

In 1871, as the story goes; Mrs. O'Leary's cow, who initiated the Great Chicago Fire on October 9, 1871, was blamed for the fire that identified the growing risk of fire across the United States. The Great Fire called out the need to engage with the public and establish programs that are now carried out throughout each year since, emphasizing the need to stop and/or prevent fires, before they start. In 1911, the Fire Marshals Association of North America set October 9 as "Fire Prevention Day". As events grew, the national presence of Fire Prevention became more established, whereas these annual events were noted to have formally begun in 1922.

Then in 1925, President Calvin Coolidge signed a proclamation pronouncing the week containing October 9, as a full week of national observance for Fire Prevention:

I am informed that during 1924 fires caused the loss of approximately 15,000 lives, and of property exceeding \$548,000,000 in value.

It is highly desirable that every effort be made to reform the conditions which have made possible so vast a destruction of the national wealth. To this end, for a long time past it has been customary to set aside a week in each year, during which the need of fire prevention may be

emphasized. It is important that this practice be continued.

Therefore, I, Calvin Coolidge, President of the United States, recommend that the week beginning Sunday, October 4th, be observed as National Fire Prevention Week. To state and municipal officials, civic organizations, school authorities and all citizens and organized bodies, I appeal for the fullest cooperation in improving conditions. There is need for earnest study of the principles of fire protection, as a practical measure of national economy.

Done in the city of Washington on this 11th day of September.

Below is a suggested outline of events that can be built upon and tailored to suit your first due service area:

Come Join The ... Volunteer Fire Department and Rescue Squad ... see Live Demonstrations and

Displays ... Fire Prevention literature will be on hand ... Stop-Drop-Roll ... CPR/AED ... Tee-Shirts and Refreshments will be for sale, with all proceeds going to the Department:

- Opening Ceremonies
- "What Fills a Firefighter's Boots?" Demonstration
- Fire Department Operations Demonstration
- "When the Ambulance Comes" Demonstration
- Live Fire Extinguishing Demonstration
- Auto Accident Extrication Demonstration
- Residential Sprinkler Demonstration
- Fire Extinguisher Demonstration
- Other Static Demonstrations

Pete Mellits



Save the Dates

Fire Department Safety Officers Association (FDSOA) Conference: St. Pete, FL, January 13-16, 2025

Anne Arundel Fire Summit: January 18, 2025 Chesapeake Performing Arts Center, Brooklyn, MD

Mark G. Falkenhan Leadership Seminar, Carroll County Public Safety Training Center, Westminster, MD, January 18, 2025.

MFCA General Membership Meeting: West Friendship Volunteer Fire Department, January 25, 2025 @ 10 AM Lunch Provided

Congressional Fire Services Institute (CFSI) 35th Annual Fire and Emergency Services Symposium and Dinner: February 12-13, 2025 Marriott Marquis, Washington DC

Maryland Weekend at the National Fire Academy: February 22-23, 2025

John Hoglund Officers Seminar: March 8-9, 2025

First Responders Conference: March 24-25, 2025 Ocean City, MD

Fire Department Instructors Conference (FDIC): April 8-12, 2025 Indianapolis, IN

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[Firefighter Close Calls](#)



[Maryland State Firefighters Association](#)



[First Responder Center for Excellence](#)



[National Volunteer Fire Council](#)



112

The number of 1st responder suicides through December 31, 2024.

[Firefighter Behavioral Health Alliance](#)

61

The number of fallen firefighters through December 31, 2024.

[US Fire Administration](#)



[Back Step Talks Back Issues](#)



Help

when you need it most

NVFC First Responder Helpline

The **NVFC First Responder Helpline**, offered through Provident, provides assistance to National Volunteer Fire Council (NVFC) members and their household family for a variety of behavioral health issues and work-life stresses.

Call the Helpline for 24/7 access to confidential counseling, resources, and referrals for issues including:

- Stress management
- Depression
- Family conflict
- Anxiety
- Relationships
- Financial or legal concerns
- Substance misuse
- Grief or loss
- Problem gambling
- Child or elder care

To access the helpline, **NVFC members** can go to the [NVFC web site](#) and login to the NVFC portal. Go to the membership benefits page to find the number.

If you are not an NVFC member, join for just \$21 at www.nvfc.org/join to access the First Responder Helpline and all membership benefits.

Learn More

The NVFC First Responder Helpline is brought to you by:



