

VEHICLE ACCIDENTS: Deadly But Preventable

One sentence stands out in report after report from investigators at the National Institute for Occupational Safety and Health's (NIOSH) Fire Fighter Fatality Investigation and Prevention Program after an apparatus crash: "Occupants were not wearing their seatbelts at the time of the incident."

Another familiar sentence almost always comes next: "The autopsy report listed the victim's cause of death as blunt force trauma."

The message is clear: Fire fighters risk death if they aren't wearing a seatbelt when the apparatus they're in wrecks.

A line-of-duty death due to a vehicle crash — a fall from an apparatus or when a fire fighter is struck and killed by a vehicle while working at a roadway emergency — isn't the most common line-of-duty death.

Heart attacks kill fire fighters in the line of duty more often, but a line-of-duty death because of a vehicle crash is widely viewed as the most preventable type of fire fighter fatality.

"Everyone knows that, but too often we don't heed our own advice," says IAFF General President Harold Schaitberger. "It's a gamble that too many fire fighters take. But if you lose that gamble, you lose your life. Those stakes are too high."

The IAFF introduced its Emergency Vehicle Safety Initiative in 2004 in cooperation with the Department of Homeland Security and the U.S. Fire Administration to combat the high injury and death rates by educating members about the perils of unsafe driving and the wisdom of common-sense measures such as buckling up. Now known as the

Emergency Vehicle Safety Program, the course has been available online since 2006 at www.iaff.org/hs/EVSP/index.html. In addition, DVDs with all course materials are available from the IAFF Division of Occupational Safety, Health and Medicine.

By many measures, the vehicle safety program has been successful — many affiliates have embraced it and fire departments have developed policies on seatbelt use and driving procedures. Additionally, the IAFF has secured a \$100,000 grant to expand the Emergency Vehicle Safety Program. Law enforcement is using the program for officers in departments throughout the country as well.

"Imitation is the sincerest form of flattery," says Rich Duffy, assistant to the general president for the IAFF Division of Occupational Safety, Health and Medicine. "We already know this is an effective program, but when others want to copy it, it confirms

This story is the second in a "Working to Death" series of articles in the *International Fire Fighter* that examine the health risks fire fighters face. More importantly, the series looks at what can be done to prevent fire fighter deaths and illustrate how some are improving the health and safety of fire fighters.



Emergency vehicle crashes are the second-leading cause of on-duty fire fighter deaths.



for the rest of the world that there is a need for this information.”

Still, IAFF members continue to die because of vehicle accidents.

Vehicles are responsible for the deaths of 120 career fire fighters in the United States since 1977 — due to a crash, a fall from an apparatus or a car hitting a member at an emergency scene along a roadway — according to the National Fire Protection Association (NFPA). Similar statistics aren’t available to track fire fighter fatalities in Canada, but the IAFF continues to lobby for a national office for fire service statistics.

“In my opinion, each and every one of these deaths is preventable,” says U.S. Fire Administrator Gregory Cade. “I truly wish I could understand why [buckling up] is looked upon with disdain by fire fighters. I would like someone to explain to me why they feel putting their lives, their fellow fire fighters and family at risk is a part of their job. Instead, I continue to get line-of-duty death notifications where fire fighters have made the conscious decision to risk everything and not wear their seatbelt.”

Buckle Up

When the alarms sound, fire fighters are struck by a wave of adrenaline. As our members rush for their turnout gear and apparatus, buckling up isn’t always first

and foremost on their minds. They’re thinking about getting out of the station or what they’ll encounter at the fire scene.

“Failing to buckle up is a gamble our members shouldn’t take.”

—IAFF General President Schaitberger

Some clearly are guilty of nothing more than having a lot on their minds.

Others consciously shun seatbelts because they don’t think they’re in harm’s way — it’s a risk-taking mentality.

“Failing to buckle up is a gamble our members shouldn’t take,” says Schaitberger. “I know where they’re coming from — they think that the drive from the station to the fire scene is short. They think they have a good driver. They think it won’t happen to them. But there are too many factors — the weather, other drivers on the road, mechanical issues with the truck — to leave it to chance.”

Since 1977, 60 career fire fighters have died in vehicle crashes. Last year, six career fire fighters died in apparatus wrecks, according to NFPA statistics.

What baffles researchers and fire service

experts is why an off-duty fire fighter will buckle up when they get in the car with their kids, but neglect to wear a seatbelt on duty when they get in an apparatus.

“People shouldn’t feel invincible just because they’re in a big truck,” says Rita Fahy, manager of fire databases and systems at NFPA and author of the NFPA fire fighter fatality study.

Some fire fighters complain that it’s difficult to buckle up when they have on turnout gear or that seatbelts are too short. A crash can happen anytime, and wearing a seatbelt is by far a fire fighter’s best defense, according to Virginia Lutz, occupational safety researcher with NIOSH’s Fire Fighter Fatality Investigation and Prevention Program.

Most on-duty fire fighters who died in a vehicle crash or a fall from an apparatus from 1977 to 2007 were known not to be wearing seatbelts or any other restraints, according to the NFPA.

“It’s better to wear a seatbelt and be a little uncomfortable than to be thrown from an apparatus or go through a windshield,” Lutz says.

A Positive Trend

Failing to wear a seatbelt poses other risks, as well. Turns and bumps at high speed have thrown members from apparatus.

Since 1977, 35 career fire fighters have died because they fell from an apparatus

while they were responding to an alarm or returning from an incident, according to NFPA statistics.

There is some good news — no career fire fighters have died since 2006 from falling out of a vehicle, according to the NFPA.

Deaths due to falls from apparatus virtually disappeared in the 1990s. That roughly coincides with NFPA 1500, a standard that took effect in 1987 and required all fire fighters riding on apparatus to be seated and belted when the apparatus is moving.

That same year, an amendment to NFPA 1901, Standard for Automotive Fire Apparatus, required the provision of seats and seatbelts for the maximum number of persons who ride on the apparatus. NFPA 1901 was revised in 1991 and included a new requirement for total enclosure of driver and crew areas on apparatus, according to a June 2007 NFPA report on fire fighter fatalities.

To guard against fatalities due to falls from an apparatus, the NFPA advises fire departments to:

- ensure that fire fighters are seated in a fully enclosed area;
- inspect all apparatus to ensure that seatbelts and doors function properly;
- inspect doors to ensure they don't open inadvertently;

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—National Institute for Occupational Safety
and Health's (NIOSH) Fire
Fighter Fatality Investigation and
Prevention Program Report

- enforce and repeatedly train members on standard operating procedures and guidelines that require all persons responding in emergency vehicles to be secured by seatbelts or safety restraints at all times the vehicle is in motion; and
- ensure fire fighters don't dress or remove turnout gear while the apparatus is moving.

Rules and standard operating procedures aren't always enough to overcome the risk-taking mentality.

"My concern is the culture and discipline issue," says Carl Peterson, assistant director of the public fire protection division of the NFPA. "We've got rules in place, yet it comes down to the officer on the rig or the driver on the rig saying they're not going to move until everyone is seated and belted."

Balancing Speed and Risk

Everyone knows that a faster response time gives fire fighters a better chance of containing a fire and saving the lives of those at risk.

But excessive speed for road conditions is frequently cited as the cause of fatal crashes, according to the NFPA report on fire fighter fatalities.

Fire apparatus drivers often mistakenly assume that others on the road can hear their sirens, Lutz says, but other drivers don't always hear apparatus coming. That can mean they fail to yield and increase the chance of a crash.

Obedying traffic laws, using seatbelts and controlling driving speeds would prevent most of the fire fighter fatalities in road crashes each year, according to the NFPA.

Poor maintenance of apparatus also is a common factor in wrecks.

Struck-Bys

Like falls from apparatus, the number of fire fighters who are struck and killed by vehicles has dropped sharply from a spate of deaths in the 1980s.

"But they're still happening and any death is unacceptable," says Lutz. "We need to protect fire fighters and first responders who work roadway incidents and we should consider applying the same measures used for protecting roadway workers, such as doubling fines for drivers who speed through a roadway emergency scene."

Most importantly, first responders need to position vehicles at a 45-degree angle to the roadway to provide themselves with an adequate barrier from traffic.

A new law will take effect in November 2008 that is intended to improve the safety of first responders. This law will require first responders — and all other workers — to wear reflective vests while working near traffic on federally funded roadways.

"Working in the fire service is dangerous enough already," Schaitberger says. "We don't need to make it more dangerous by driving unsafely or failing to buckle up. We need to do everything we can to make sure all of our members get home at the end of their shift." ■

Working to Death By the Numbers

Vehicle crashes consistently account for the second-largest share of on-duty fire fighter deaths, overall. These crashes occur during all types of on-duty assignments, not just while responding to or returning from alarms.

120

The number of career fire fighters who died in vehicle crashes from 1977 to 2007

60

The number of career fire fighters who died from 1977 to 2007 in vehicle wrecks

35

The number of career fire fighters who died from 1977 to 2007 due to falls from apparatus

25

The number of career fire fighters who died from 1977 to 2007 after being struck by a car

Source: National Fire Protection Association