

International Public Safety Association

ABSTRACT

Gunshot wounds, building collapses, vehicular accidents, assaults and other causal factors contribute to untimely deaths in our emergency response community.

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Executive Summary

First responders experience extreme physical demands, often in hazardous environments. Many tragedies occur suddenly and without warning. Gunshot wounds, building collapses, vehicular accidents, assaults and other causal factors contribute to untimely deaths in our emergency response community. Further, first responders face several threats to occupational related diseases such as cancer and cardiorespiratory related maladies. Law enforcement, firefighting and rescue activities are inherently dangerous occupations. Since the year 2000, the data reviewed accounts for the loss of 2,841 law enforcement officers, 1,937 fire and EMS personnel and 233 K9s.

The International Public Safety Association Memorial Committee was established to monitor line of duty deaths to honor the supreme sacrifice of our brave and heroic first responders and to review LODD data for trends, patterns and anomalies so the IPSA can develop recommended policies and changes that improve safety.

The data presented in this report includes United States and Canada LODDs and covers the period between January 1, 2017, and December 31, 2017¹. During this period, a total of 262 law enforcement officers, firefighters, EMS and K9 officers died because of events occurring on-scene or from complications hours, days or years thereafter. IPSA LODD database includes a separate category for private EMS, and it is included in the numbers for 2017. The 2017 data reveals that LODDs occurred:

During a response to emergency incident. Responding vehicle accident; Stuck by a vehicle; Vehicle accident returning from an incident

During an encounter with a suspect or patient. Fight; Stabbing; Gunfire; Killed by a vehicle; Ambush; Prison/jail riot

While working an incident. Fall; Structural collapse; Burn; Smoke inhalation; Assault; Heat related death

Following an incident. Cardiorespiratory (overexertion); Cancer; Toxic exposure; Communicable disease

This report is dedicated to the fallen. It is dedicated to their families and loved ones who have suffered such terrible losses. It is dedicated to their agencies who lost colleagues, friends and confidants. Finally, this report is dedicated to the public safety community, who with the loss of every member: experience, expertise, contribution and camaraderie are also lost. If you are interested in getting involved with the IPSA's Memorial Committee, then apply to serve today.

¹ The IPSA reviewed data from third-party authoritative sources. If there are any data quality errors in this report, we urge you contact us, so we can make review the discovery and make any necessary corrections.



Data limitations and review processes

It is important to note the limitations of the LODD data reviewed. The IPSA discovered that each public safety discipline tracks its own LODD on its own systems. Data was reviewed from the ODMP website, the USFA, EMS1 and the Canadian Fallen Firefighters Foundation. A centralized source for Canadian law enforcement LODDs was not discovered.

Reviewing first responder LODD data from multiple sources is challenging and presented several limitations. Each source captured and presented different data. Some sources included a narrative of the circumstances with each listing while others did not. Some sources provided agency contact information and others did not.

For U.S. LODD data, the IPSA reviewed information from FEMA, through the U.S. Fire Administration. The USFA provides name, department, city/state, and date of death data for fire and EMS fatalities.² In cases where the fatality was an EMS responder not associated with a fire department, the IPSA consulted EMS1.com.³ This site provides a link to the obituary. For law enforcement LODDs, the IPSA reviewed data on the ODMP website, which provides a list of fallen officers by name, department, date and cause.⁴

For Canadian LODDs, this report cited data from the Canadian Fallen Firefighters Foundation. The foundation keeps a database of fallen Canadian firefighters and provides a link to their obituary. The IPSA was not, however, successful in identifying a source for fallen Canadian law enforcement. There was a hyperlink from the ODMP to a Canadian ODMP page; however, the link was broken. The Royal Canadian Mounted Police track LODDs by province, but it did not capture local law enforcement agency deaths. Therefore, the IPSA was unable to obtain an accurate accounting of Canadian law enforcement deaths.

The IPSA recommends the development of an international LODD national repository. Data will be more consistent, more easily retrieved, analyzed and will contribute to valuable policy and safety guidelines.

² US Fire Administration - https://apps.usfa.fema.gov/firefighter-fatalities/

³ EMS1.com – https://www.ems1.com

⁴ Officer Down Memorial Page (ODMP) – <u>https://www.odmp.org</u>



Examining LODDs since 2000

The below table breaks out LODDs by discipline. Presumably, private based EMS is included in the Fire/EMS category. The IPSA LODD database includes a separate category for private EMS, and it is included in the data review for 2017.

When examining 17 years of data, LODDs in law enforcement continues to vary each year. The highest year of law enforcement LODDs was 2001 in which 242 officers died, including those who perished on 9/11. The number of LODDs among fire/EMS was also at its peak in 2001 because of the 9/11 attack and another spike in 2017. The 2017 spike in fire/EMS LODDs may be due to cancer and cardiorespiratory presumption legislation and the increasing number of cancer and cardiorespiratory deaths among firefighters that are being classified as LODDs. Years of toxic exposure and lower quality protective gear, combined with historically non-aggressive health surveillance programs are beginning to take its toll on older firefighters.

There has been a dramatic escalation in K9 LODDs. With a low of two LODDs in 2006 to a high of 35 in 2016. This increase is likely due to a dramatic increase in K9 deployment for explosive and drug detection, and search and rescue.

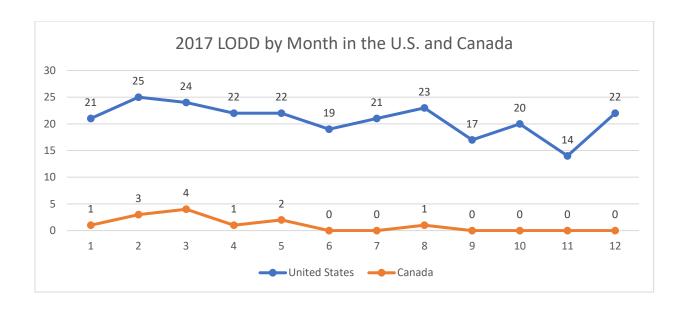
Year	Law Enforcement	Fire/EMS	К9
2000	162	104	7
2001	242*	446*	5*
2002	159	98	6
2003	150	106	6
2004	166	104	6
2005	166	87	8
2006	160	90	2
2007	202	106	9
2008	159	105	10
2009	135	82	12
2010	169	73	6
2011	178	61	14
2012	137	64	18
2013	116	97	18
2014	136	64	20
2015	137	68	27
2016	142	69	35
2017	125	113	24
Totals	2841	1937	233

^{*}Includes 9/11/2001



Examining 2017 LODD data

According to the 2016 Census, the U.S. population was just over 324 million, whereas the population in Canada was about 35 million. When factoring in population, we discovered that the U.S. LODD rate is 2.4 times greater that of Canada. According to the data reviewed, there were a total of 262 LODDs in 2017: 250 in the U.S. and 12 in Canada (125 law enforcement officers, 106 fire/EMS and seven EMS and 24 K9 LODDs).



Of the 262 LODDs, some agencies suffered multiple casualties.

- Two LODDs
 - American Medical Response
 - California Highway Patrol
 - Georgia Department of Corrections
 - Kissimmee Police Department
 - New York State Police
 - San Antonio Fire Department
- Three LODDs
 - o Toronto Fire Department
 - Virginia State Police
- Four LODDs
 - CAL Fire (California Department of Forestry and Fire Protection)
 - North Carolina Department of Public Safety
 - New York City Police Department
 - Puerto Rico Police Department



Cause of LODDs

An analysis of the cause of death was made for the following causal types: assault, vehicle accident, illness, gunfire and other.

- 96 LODDS from Illnesses
- 81 LODDS from vehicle accidents
- 52 LODDs from gunfire
- 25 LODD from other causes
- 8 LODDS from assaults

Illnesses: 96 LODDs

Illness includes a myriad of disease modalities, from cardiac arrest to occupational cancers. The largest number of LODD were attributed to occupational related illnesses in 2017 (n=96), most of which were from cardiac arrest or cancer.

Physical fitness, wellness programs. The duties of a first responder demand a high level of physical fitness. Unfortunately, obesity is plaguing first responders in the U.S. A previous FBI study estimated that more than 80 percent of U.S. cops are obese. Further, the CDC previously reported that more than 70 percent of U.S. firefighters suffer from obesity. Obesity creates a tremendous amount of risk from a health and safety perspective.

Many departments are implementing fitness and wellness programs to improve the collective fitness level of their organizations. Investments have been made in awareness programs, fitness equipment, medical surveillance initiatives and healthy diet counselling. Many departments are creating internal or shared medical resources to provide education, policy, literature and other means of changing the culture to adopt fitness principles, and many have dedicated exercise equipment or gyms, and those who don't seek support from commercial health clubs and gyms who gladly offer their resources as community support.

Wellness programs. Beyond an annual physical, agencies have developed policies that require wellness exams based upon certain circumstances as officer involved shootings, major fire or rescue emergencies and mass casualty events. This medical surveillance program is mandatory, conducted by the department safety officer or other dedicated medical resources, and the first responder may not return to duty until the examination or observation is complete. Included in these programs is healthy diet education, teaching the firehouse cooks how to prepare healthy meals, how to teach patrol officers to avoid fast food, and how to teach EMS personnel foods to avoid. It is a combination of these initiatives that will or have, over time, created a healthier workforce.

Scene safety. First responders need to enhance situational awareness on the incident scene to monitor personnel working an emergency incident looking for signs of contaminate exposure, overexertion, cardiac arrhythmias and lowered oxyhemoglobin saturation. In a state-of-the-art setting, this could include remote monitoring of responder vital signs, combined with operational policies that requirement pulling the responder off-line for untoward signs or symptoms, and having that person fully evaluated by medical personnel.



Personal Protective Equipment. Significant improvements have been made to PPE. According to OSHA, Personal Protective Equipment is defined as: "Personal protective equipment, commonly referred to as 'PPE', is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. Personal protective equipment may include items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, or coveralls, vests and full body suits."⁵

Today, body armor is lighter and more resilient to penetration. Stops higher caliber bullets. Firefighter gear is becoming more impervious to containments, covers every facet of the wearer and has better thermal insulation. Self-Contained Breathing Apparatus (SCBA) are lighter and provides a higher capacity of air supply and equipped with pressure monitors and warning devices. But protection does not come without cost. Body armor can be somewhat restrictive, inhibiting an officer's freedom of movement. Depending on how much PPE a first responder is wearing, it can even lead to over-exertion because of the excess weight of the equipment.

Cancer. Cancer and other job-related illness are taking an increasing toll on first responders. Within the last few years, active duty personnel and retirees are succumbing to cancer and other diseases of toxic exposure at an alarmingly high rate. Studies have shown that particulate matter in the suit and stain on firefighter gear is transmitted like an infectious microbe where ever post incident PPE is transported: in the vehicle/apparatus, in the station, in personal vehicles and in the residences of responders. The worrisome part of the latter is that the families of responders are potentially exposed to toxic and hazardous substances.

There are no current plans at the federal level to count first responder fatal illnesses that are addressed by presumptive legislation to be added posthumously as a LODD. Several states cover cancer, heart disease and other maladies as work related illnesses and cover treatment. There is, however, no national effort to classify these as LODDs relative to the Federal Death Benefit.

All fires are hazardous materials incidents. It is important to note that this is a concern not just for the fire services, but all first responders. Law enforcement officer often arrive first on scene of a fire situation and attempts rescue — exposing themselves to the same hazards without the benefit of PPE. EMS personnel who treat and transport burn and smoke inhalation victims can be contaminated with combustion byproducts.

Suicide. Suicide is a particularly tragic occurrence. It is well documented that many first responders experience Post Traumatic Stress following an event or after a series of events. There have been cases in which a court has ruled that a first responder suicide can be considered a LODD and subject to appropriate compensation; however, this is not common practice. Since first responder suicides are not included in the data from the LODD reporting organizations the IPSA reviewed, this report does not go into further detail.

⁵OSHA - https://www.osha.gov/SLTC/personalprotectiveequipment/



Vehicle accidents: 81 LODDs

The second leading cause of LODDs is vehicle accidents. A first responder is of no use to their community if they fail to arrive on scene. Vehicle accidents include crash of single vehicles, multiple vehicles, struck by vehicle, during routine driving or response/pursuit.

In 2017, there were 81 LODDs either as a driver or passenger of an emergency vehicle or working an emergency scene on a roadway. This data did not include volunteer firefighters that drive their own vehicles to emergency scenes. The 2017 data shows that in several vehicle crashes, the driver and/or occupant was ejected from the vehicle. Being ejected from a vehicle typically occurs when the occupant is not wearing a seatbelt, or the crash was so violent that forces overcame the restraint and airbag systems.

Vehicle accidents may also be caused by distracted driving. Seeing as far down the roadway as possible is essential for emergency vehicle operators. Many states have enacted distracted driver legislation. Ever since the advent of mobile data, single occupancy emergency vehicles equipped with MDTs and MDCs have taken the drivers' eyes off the road. Many departments have implemented a pull off the road and stop policy to communicate via mobile data.

Gunfire: 52 LODDs

Gunfire was the third leading cause of LODDs in 2017. There were 52 gunfire LODDs: 49 law enforcement officers and seven K9s. The continuous loss of law enforcement officers by gunfire is unacceptable.

Some of the incidents were in an exchange with suspects and others were ambushed while in their vehicles or on patrol. First responder gunfire victims who were wearing body armor were struck in an unprotected or uncovered area. The following chart provides a breakdown of law enforcement officer LODD by gunfire since the year 2010; not including K9s or officers who were killed by other methods such as stabbing or striking with an object.

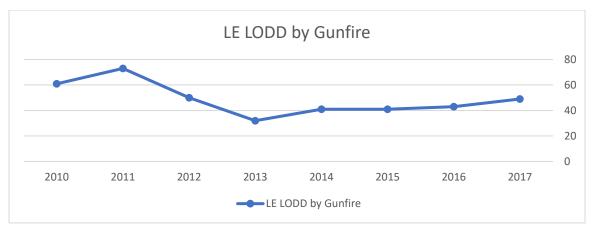


Figure 6: LODD by Gunfire



Other: 25 LODDs

These deaths did not fit into the other causal categories. Other LODDs includes drowning, occupational related injury not related to fire or weapons and unknown causes (n=25).

Assaults: 8 LODDs

Assaults include injuries sustained in a correctional facility, during the apprehension of a suspect, when investigating a crime scene, by an EMS patient or bystander in spontaneous and unanticipated attacks on first responders. There were eight documented LODD assaults in 2017.

K9s: 24 LODDs

The use of service animals in public safety is growing. And it's not just in law enforcement. Explosive and contraband detection, vapor wake, search and rescue and therapy dogs are employed by all first responder disciplines.

The causes of the 24 K9s LODDs in 2017, were from gunfire or stabbing, heat exhaustion, cardiac arrest, killed in a vehicle accident or other causes. Several of the heat exhaustion cases were due to the K9 officer being left in the patrol vehicle, either intentionally with the air conditioning failing, or were unintentionally left in the vehicle by mistake.

Focused efforts are needed in the care, protection and transportation of service animals. The investment an agency makes in training service dogs and their handlers is significant. A K9 LODD results in substantial financial loss to a department as well as substantial emotional harm to its handler.



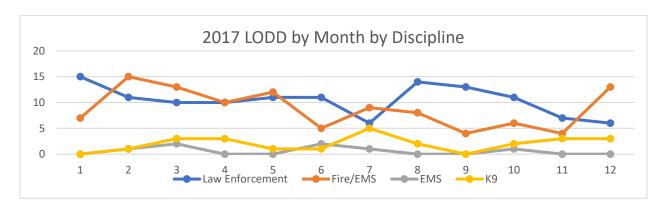
Data trends by month

The following table illustrates first responder LODDs by month in 2017. Note that LODDs vary by month.

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	2017 Totals	Average per Month	%
Total LODDs	22	28	28	23	24	19	21	24	17	20	14	22	262	21.8	100.0
By Country															
United States	21	25	24	22	22	19	21	23	17	20	14	22	250	20.8	95.4
Canada	1	3	4	1	2	0	0	1	0	0	0	0	12	1.0	4.6
Chksum													ChkSum	21.8	100.0
By Discipline															
Law Enforcement	15	11	10	10	11	11	6	14	13	11	7	6	125	10.4	47.7
Fire/EMS	7	15	13	10	12	5	9	8	4	6	4	13	106	8.8	40.5
EMS	0	1	2	0	0	2	1	0	0	1	0	0	7	0.6	2.7
К9	0	1	3	3	1	1	5	2	0	2	3	3	24	2.0	9.1
Chksum	22	28	28	23	24	19	21	24	17	20	14	22	262	21.8	100.0
											(hkSum	262		
By Cause															
Assault	0	1	0	1	1	0	0	1	0	4	0	0	8	0.7	3.1
Vehicle Accident	8	10	8	7	6	9	4	8	6	4	6	5	81	6.8	30.9
Illness	9	14	12	9	5	4	9	8	4	6	3	13	96	8.0	36.6
Gunfire	5	1	7	5	6	4	5	4	4	5	3	3	52	4.3	19.9
Other	0	2	1	1	6	2	3	3	3	1	2	1	25	2.1	9.5
Chksum	22	28	28	23	24	19	21	24	17	20	14	22	262	21.8	100.0
											(ChkSum	262		

Data trends by discipline

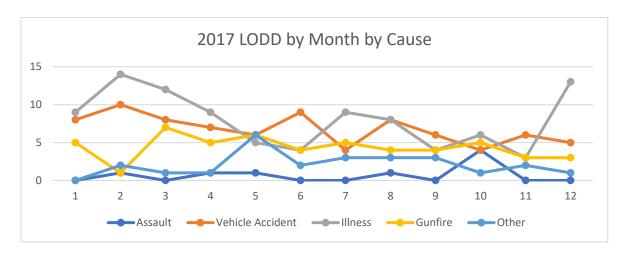
The below chart depicts LODDs by discipline.





Data trends by cause of death

- 96 LODDS from Illnesses
- 81 LODDS from vehicle accidents
- 52 LODDs from gunfire
- 25 LODD from other causes
- 8 LODDS from assaults



The 2017 data shows that being a first responder continues to have a high inherent risk of death. First responder LODDs occur during an incident (fire, rescue, response, pursuit, apprehension, training and many other situations), and they also occur after an incident or after a series of incidents.



Recommendations

The below recommendations are aimed to promote discussion and inform policy-making decisions. The IPSA's goal is to reduce line of duty deaths in all first responder disciplines.

Recommendations to reduce illness-related LODDs

- Expand first responder performance evaluations to include specific measures addressing
 fitness for duty include obesity, mental wellness. Individuals and agencies should consider
 developing and implementing performance evaluation programs that include an obesity
 measure and overall fitness for duty. An annual psychological assessment should be included in
 annual physical exams and wellness monitoring, as well as formal debriefings following
 particularly difficult or traumatic incidents.
- 2. Continue to improve wellness programs. Many states have enacted presumptive legislation that considers cancer and cardio-respiratory diseases to be occupational related to firefighting and, therefore, provides coverage for diagnosis and treatment. A great outcome of this presumptive policy is that covered persons are required to sign a pledge that they will not use tobacco products. These laws should be updated to reflect vaping as there is a strong suspicion that chemicals in vape water, especially chemical flavorings, can damage respiratory tissues.
- 3. Increase research and development into Internet of Things. Imagine a computerized application that displays windows for each responder monitoring and reporting on biological and environmental sensors. These sensors that would aid in the detection of CBRNE substances, provide for monitoring of responder vital signs, and provide the ability to track personnel location and movement while working in an IDLH environment.
- 4. **Implement practices to reduce contamination**. All agencies should assess their risks based upon their unique response profile and adopt policies that reduce the risk of contamination. This would include the adoption of operational practices such as mandatory post-fire decontamination, cleansing of PPE, carrying contaminated PPE in sealed bags and assessing personnel for exposure.
- 5. **Improve situational awareness.** The key is situational awareness and the responder wearing the proper protective gear for the environment where he or she is responding. Situational awareness is enhanced when 9-1-1 dispatchers inquire about the circumstances and environment and report their findings to responding units.
- 6. **Protect against skin and respiratory exposure**. The human body is an amazing collection of orifices: eyes, ears, nose and mouth. Even the skin contains pours, which can be entryways to the human core. Extreme care must be taken when encountering or entering an IDLH or otherwise contaminated environment. Agencies and first responders must review their infection control and exposure policies against industry best practices and continually update them as research continues. As policies are updated, the agency must make sure personnel are trained on those updates and that operational practices are adjusted accordingly.



- 7. Implement practices for PPE cleaning/disinfecting. The NFPA has established Standard 1851: Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting. Agencies must review their care and maintenance of PPE gear against this standard and make necessary adjustments. Agencies must issue their personnel with sealed gear bags to transport PPE to and from station houses. Agencies must also assure that they have ample replacement or substitute gear to cover for the PPE taken out of service for cleaning. Further, law enforcement and EMS must establish and/or review their policies when a member has encountered a hazardous or infections environment.
- 8. **Enhance chemical/bio detection**. Fire departments with HAZMAT teams already have an array of sophisticated sensing equipment. However, with the arrival of the IoT, the ability to sense and capture data about the operational environments is a valuable tool in force protection. Miniaturized, light-weight, and low-power sensors either established or deployed by first responders can monitor an area reacting to and sending notification to a receiving device based upon its intended sense state, presumably to the Incident Safety Officer or the Incident Commander. These devices are purpose built, designed to be highly economical and readily available. In some cases, these devices are single-use and disposable.
- 9. **Review occupational disease presumption laws**. In states with occupational disease presumption laws, it is difficult to substantiate that a sickness is a direct result of firefighting. The Pacific Northwest has adopted the Personnel Injury-Illness Exposure Reporting System (PIIERS),⁷ originally developed by the Washing State Council of Firefighters. The reporting system is currently used in Washington, Idaho, Montana and Alaska. Other states should identify how to create a similar exposure and injury system.
- 10. To create an international repository that captures first responder suicide data. While there are organizations and resources investigating and researching first responder suicides, each appear to be doing it independently from other like organizations. This makes identifying accurate data across all first responder disciplines difficult and what data is obtained is inconsistent. The IPSA recommends the development of standard research and reporting structure so that data may be obtained and used to develop mitigation measures.

Recommendations to reduce vehicle accident-related LODDs

- 1. **Always wear a seatbelt.** Empirical research shows that wearing a seatbelt will save lives. First responders need to buckle up, despite any temporary discomfort duty gear may impose.
- 2. Improve the Emergency Vehicle Operator Course. The EVOC is presented at law enforcement, fire and EMS academies across the U.S. It is not clear what commercial ambulance companies provide for their drivers, although EVOC training is available to them. The recommendation is to examine EVOC training courses for its relevance to today's environment. Volunteers responding in personal vehicles should practice the same driving skills as though they were operating an emergency vehicle.

⁶ NFPA - http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1851

⁷ PIIERS - <u>https://vimeo.com/171625235</u>



- 3. **Enhance use of GPS and other technologies.** Many CAD systems are integrated with GIS mapping that display locations of incidents, locations of traffic and other hazards and locations of responders. Maps should be integrated with driving direction applications that recommend not only best route, but also routes free of congestion and other traffic hazards. The GIS should also track the location of responding units and produce a warning when two responders travel near one another or produce a warning when two are nearing the same intersection. This should be not only cross disciplinary, but cross jurisdictional when multiple departments are responding. Auto manufacturers have created Automated Crash Avoidance Systems. NHTSA is aggressively researching collision avoidance technology and has established the Advanced Crash Avoidance Technologies Program⁸ to reduce the frequency and severity of vehicle crashes.
- 4. **Consider the use of Remote Vehicle Monitoring.** RVM is not new. The transportation industry uses it to monitor commercial, semi-truck drivers. Vehicles are remotely monitored for speed, cargo load, signs of driver fatigue and other mechanical, performance or profile characteristics. This can be applied to emergency vehicles. Speed monitoring would be conducted based upon policies driven by response profile:
 - Is this a vehicle pursuit?
 - Is the law enforcement officer responding to an active threat event?
 - Is the patient in cardiac arrest?
 - Is this a structure fire with persons trapped?
 - Is this a routine alarm, bank alarm or minor injury call?
- 5. Review vehicle design. Contemporary vehicle designs have a keen focus on safety. For emergency vehicles, however, this industry often stuffs the interior with communications and other gear that can defeat built in safety measures. Radios, mobile data computers, warning device controls, weapons, firefighting tools and other items occupy the interior spaces often creating its own set of hazards.
- 6. **Improve incident scene safety.** Below is a list of items that all agencies can adopt to improve scene safety.
 - Staging an emergency vehicle with warning devices activated up road from the accident scene to give approaching drivers ample warning. Similar tactics may be achieved in communities that have sponsored transportation assistance units.
 - On limited access, divided highways with unprotected medians, stage a unit with warning devices activated up road on the opposite side from the accident scene to provide approaching drivers ample warning.
 - Position emergency vehicles behind the accident scene, angled toward the roadway to provide a protective shield.
 - Deploy adequate flares and warning devices directing traffic around and away from the accident site.
 - Require all emergency personnel on scene to wear reflective vests and essential PPE.

⁸ Crash Avoidance Technologies - file:///C:/Users/jdund/Downloads/Carter%202009%20SAE.pdf



Recommendations to reduce gunfire-related LODDs

- 1. Enhance body armor by decreasing its weight and increasing flexibility, provide for more coverage, and enhance it ballistics, shielding capabilities. Body armor should protect vital areas against any form of penetration, whether a projectile from a firearm or a penetrating object intended to stab the officer. A proposed revision of NIJ Standard 0101.06, Ballistic Resistance of Body Armor is open for comment through May 23, 2018.
- 2. Consider body armor for other first responders. With increasing frequency, first responders are being assaulted and targeted. The number of non-law enforcement responders who are stabbed or shot at is increasing.
- 3. Consider protecting emergency vehicles with bullet proof glass, increased armor plating, motion detection and gunshot detection. These technologies are available today and agencies should explore enhanced protection for emergency vehicles. This recommendation of additional armor is based on the data that suggests officers were intentionally targeted and ambushed while in their patrol cars.
- 4. **Ride in pairs.** If the resources are available, first responders especially patrol officers should ride in pairs.
- 5. **Increase firearms training.** Law enforcement officers are required to undergo a certain number of hours of firearms training. Unfortunately, the time allotted for training is generally very limited and does not correlate to the volume of gun violence in the U.S. Departments need to review their training hours and add training hours to keep their officers safe.
- 6. **Carry patrol rifles.** Agencies need to review their current policies and review recent research to see if they should equip their officers with patrol rifles.
- 7. **Review after-action reports.** Request after-action reports from other agencies and consider applying those lessons learned in your department.

Recommendations to reduce K9-related LODDs

- 1. **Recommendation is to equip all K9s with body armor.** The K9 body armor must protect its vital core while not restricting movement or speed. Further, K9 body armor must sufficiently breathe so as not to elevate the animal's body temperature to extremes.
- 2. **Recommendation is to use a vehicle monitoring system for K9 units**. In 2017, nearly two-thirds of the K9 LODDs were from heat exhaustion, including K9s stuck inside a vehicle. A temperature sensor would identify a rapid rate of rise to untenable levels and self-start the vehicle and activate its ventilation system. This could also notify the K9 officer that his animal is in distress.
- 3. **Recommendation to improve K9 safety in vehicle transport.** Three K9s died because of vehicle accidents. One was in a vehicle when it collided with another, and two were struck by vehicles in a roadway. The U.S. DOT or another entity that is responsible for passenger safety, must develop solutions to reduce the K9 mortality rate during transport.



Honoring the fallen

In honor of the memory of our fallen colleagues, we have chosen four stories, one from each discipline, to lend an additional perspective to the data presented in this report. Of the numbers provided in this report, they all have names associated with them; however, it is important to affix humanity to those numbers and honor their sacrifice.

Police Officer Charleston V. Hartfield: During the mass shooting at the Route 91 Harvest Festival in Las Vegas, Officer Hartfield was attempting to rescue citizens who were under fire. He had been attending the concert with his wife, when the gunman opened fire from the 32nd floor of the Mandalay Bay Hotel and Casino. While assisting victims, Hartfield was fatally wounded. A veteran of the Army, Hartfield served 11 years with the Las Vegas Metropolitan Police Department. He leaves behind a wife and two children.

Fire Chief Clayton Cassidy – Cache Creek Volunteer Fire Department: Chief Clayton Cassidy was Chief of the Cache Creek VFD from 1992 to 2002, where he oversaw a crew of 25 volunteers. In 2016, he was reelected as Chief of the Department and continued to serve his beloved community. In May of 2017, Cache Creek, British Columbia, experienced severe flooding. Cassidy, as per his personality and sense of duty, was assessing the flood waters when the bridge he was standing on collapsed, throwing him into the raging waters. Reportedly, over 1,000 people searched for him. On May 27, his body was found a short distance away. He was 59.

EMT Yadira Arroyo – FDNY EMS: Ms. Arroyo was a mother of five children. She was also a 14-year veteran of the FDNY as an EMT. Working at night in the Bronx section of New York City, she and her partner were initiating a response. Witness reported seeing a man riding on the back step of the ambulance as the ambulance was headed to a call. The crew stopped and departed the ambulance to confront the rider. The deranged man noticed that the cabs doors were open and entered the vehicle and began to back up striking Arroyo and dragging her under the wheels. The man then shifted the vehicle forward dragging Arroyo approximately 15 feet. Arroyo was transported to Jacobi Medical Center where she succumbed to her injuries. Her partner received only minor injuries in the scuffle. She was assigned to Station 26 in Morrisania, Bronx. Arroyo is the eighth member of NYC EMS to die in the line of duty.

K9 Cain: K9 Cain was a member of the Crossville Police Department in Tennessee. On August 2, 2017, K9 Cain's handler was in pursuit of a stolen tractor trailer. Following a pursuit by multiple units from multiple agencies, K9 Cain was released when the perpetrator left the vehicle and ran off into the woods. K9 Cain returned to the officer's patrol car suffering from multiple stab wounds. He was rushed to the University of Tennessee Veterinary Medical Center where he succumbed to his wounds. K9 Cain was a two-year old Belgian Malinois

2017 LODDs

	LODD						
Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
1	2-Jan	Marion Rural Fire District (SC)	US	Fire/EMS	Amy	Dimmery	Vehicle Accident
2	4-Jan	Speedwell Engine and Hose Co. (PA)	US	Fire/EMS	Donald	Brenner, Jr	Illness
3	7-Jan	Oklahoma Dept. of Corrections (OK)	US	LE	Stephen	Jenkins	Illness
4	7-Jan	North Las Vegas Police (NV)	US	LE	Chad	Parque	Vehicle Accident
5	9-Jan	Orlando PD (FL)	US	LE	Debra	Clayton	Gunfire
6	9-Jan	Orange Co Sheriff (FL)	US	LE	Norman	Lewis	Vehicle Accident
7	10-Jan	NYPD (NY)	US	LE	Steven	McDonald	Gunfire
8	10-Jan	Kalama PD (WA)	US	LE	Randy	Gibson	Illness
9	10-Jan	Eldorado VFD (WI)	US	Fire/EMS	Rodney	Menne	Illness
10	13-Jan	Mount Olive Vol. Fire Dept. (AL)	US	Fire/EMS	Tracy	Sanders	Vehicle Accident
11	17-Jan	Lea County Sheriff (NM)	US	LE	Steven	Ackerman	Vehicle Accident
12	17-Jan	Little Elm PD (TX)	US	LE	Jerry	Walker	Gunfire
13	18-Jan	Rolette County Sheriff (ND)	US	LE	Colt	Allery	Gunfire
14	18-Jan	Tracy FD (CA)	US	Fire/EMS	Daniel	Havicus	Illness
15	19-Jan	Bloomingdale PD (IL)	US	LE	Raymond	Murrell	Vehicle Accident
16	20-Jan	Westwego PD (LA)	US	LE	Michael	Louviere	Gunfire
17	20-Jan	Redwood City PD (CA)	US	LE	Gerardo	Silva	Illness
18	22-Jan	Niagara Falls FD (ON)	CA	Fire/EMS	David	Weaver	Illness
19	23-Jan	Jericho FD (NY)	US	Fire/EMS	Richard	Kaplan	Illness
20	24-Jan	Cleveland PD (OH)	US	LE	David	Fahey	Vehicle Accident
21	24-Jan	Sac and Fox Nation PD (OR)	US	LE	Nathan	Graves	Vehicle Accident
22	30-Jan	NYPD (NY)	US	LE	James	Molloy	Illness
23	2-Feb	Metro Nashville (TN)	US	LE	Eric	Mumaw	Other
24	2-Feb	Delaware Dept. of Corrections (DE)	US	LE	Steven	Floyd	Assault
25	4-Feb	Waldo FD (WI)	US	Fire/EMS	Ryan	Moyer	Vehicle Accident
26	5-Feb	Richmond County PD (GA)	US	LE	Greg	Meagher	Other
27	5-Feb	Los Angeles City FD (CA)	US	Fire/EMS	David	Moorman	Illness



	LODD		1 Fill law				
Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
28	6-Feb	Syracuse FD (NY)	US	Fire/EMS	Ethan	Cunningham	Illness
29	8-Feb	Homer Fire Protection Dist (IL)	US	Fire/EMS	John	Cummins	Vehicle Accident
30	8-Feb	Forest Lake PD (MN)	US	К9	К9	Ranger	Illness
31	11-Feb	Des Moines FD (IA)	US	Fire/EMS	Douglas	McCauley	Illness
32	14-Feb	Bassfield VFD (MS)	US	Fire/EMS	Bill	Matthews	Illness
33	15-Feb	US Dept. of Transportation (DC)	US	LE	David	Hoefler	Illness
34	16-Feb	Greybull VFD (WY)	US	Fire/EMS	Paul	Murdoch	Illness
35	16-Feb	Goldsboro PD (NC)	US	LE	Jay	Memmelaar	Illness
36	17-Feb	US DOJ (DC)	US	LE	Rickey	O'Donald	Illness
37	18-Feb	Phoenix FD (AZ)	US	Fire/EMS	Crystal	Rezzonico	Vehicle Accident
38	20-Feb	Whittier PD (CA)	US	LE	Keith	Boyer	Gunfire
39	21-Feb	Chickasaw County - MedStat (MS)	US	EMS	Michael	Collums	Vehicle Accident
40	22-Feb	Leach VFD (OK)	US	Fire/EMS	Mike	Russell	Vehicle Accident
41	22-Feb	CHP (CA)	US	LE	Lucas	Chellew	Vehicle Accident
42	23-Feb	Caraquet (NB)	CA	Fire/EMS	Fernand	Theriault	Illness
43	23-Feb	Alameda County SO (CA)	US	LE	Michael	Foley	Vehicle Accident
44	24-Feb	West Burlington FD (IA)	US	Fire/EMS	James	Franciskovich	Vehicle Accident
45	25-Feb	Toronto FD (ON)	CA	Fire/EMS	Stephen	Forsey	Illness
46	25-Feb	Lowndes County SO (GA)	US	LE	Michael	Butler	Vehicle Accident
47	25-Feb	Milford FD (MI)	US	Fire/EMS	Ronald	Savage	Illness
48	25-Feb	Spring Valley FD (WI)	US	Fire/EMS	Terrance	Shafer	Illness
49	28-Feb	Oshawa (ON)	CA	Fire/EMS	James	Stewart	Illness
50	28-Feb	Greene County SO (NY)	US	LE	Kevin	Haverly	Vehicle Accident
51	2-Mar	Coweta County Fire (GA)	US	Fire/EMS	Michael	Norton	Illness
52	3-Mar	Toronto FD (ON)	CA	Fire/EMS	James	Bolton	Illness
53	4-Mar	Owen Sound FD (ON)	CA	Fire/EMS	Barry	Morton	Illness
54	5-Mar	RCMP (CA)	CA	LE	Richer	Dubuc	Vehicle Accident
55	7-Mar	Houston FD (TX)	US	Fire/EMS	William	Dowling	Other
56	7-Mar	Toronto FD (ON)	CA	Fire/EMS	Thomas	Ford	Illness
57	7-Mar	Lebanon First Aid & Safety Patrol (PA)	US	EMS	Gregory	Wentzel	Illness



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Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
58	9-Mar	Carroll County Sheriff (VA)	US	LE	Curtis	Bartlett	Vehicle Accident
59	11-Mar	Harrisburg Bureau of Fire (PA)	US	Fire/EMS	Dennis	DeVoe	Vehicle Accident
60	12-Mar	Navajo Div of PS (NM)	US	LE	Houston	Largo	Gunfire
61	12-Mar	NYPD (NY)	US	LE	Michael	Hance	Illness
62	13-Mar	New York SP (NY)	US	LE	Brian	Falb	Illness
63	15-Mar	Sumrall VFD (MS)	US	Fire/EMS	Clinton	Beasley	Vehicle Accident
64	15-Mar	Sumrall VFD (MS)	US	Fire/EMS	Loretta	Skyes	Vehicle Accident
65	16-Mar	FDNY (NY)	US	EMS	Yadira	Arroyo	Vehicle Accident
66	17-Mar	Ames FD (IA)	US	Fire/EMS	Steven	Buser	Illness
67	17-Mar	Watertown FD (MA)	US	Fire/EMS	Joseph	Tosano	Illness
68	18-Mar	East Baton Rouge SO (LA)	US	LE	Shawn	Anderson	Gunfire
69	18-Mar	Wichita PD (KS)	US	К9	К9	Rooster	Gunfire
70	22-Mar	Everest MPD (WI)	US	LE	Jason	Weiland	Gunfire
71	22-Mar	Crowley PD (LA)	US	К9	К9	Roscoe	Gunfire
72	23-Mar	Demopolis FD (AL)	US	Fire/EMS	Christopher	Foster	Illness
73	26-Mar	Alaska State PD (AK)	US	К9	К9	Rico	Gunfire
74	26-Mar	Omaha Nation LE (TR)	US	LE	Curtis	Blackbird	Vehicle Accident
75	27-Mar	North Central EMS (OH)	US	Fire/EMS	Ralph	Eaton	Illness
76	27-Mar	Tecumseh PD (OK)	US	LE	Justin	Terney	Gunfire
77	29-Mar	Louisville MPD (KY)	US	LE	Nicholas	Rodman	Vehicle Accident
78	30-Mar	Chicopee FD (MA)	US	Fire/EMS	Anthony	Spano	Illness
79	1-Apr	Keystone Hook & Ladder Co 1 (PA)	US	Fire/EMS	James	Yiengst	Illness
80	3-Apr	Harris County Constable (TX)	US	LE	Clinton	Greenwood	Gunfire
81	7-Apr	Barry County Sheriff's Office (MO)	US	LE	Carl	Cosper	Vehicle Accident
82	7-Apr	Montgomery Co. FD (MD)	US	Fire/EMS	Charles	Gentilcore	Illness
83	10-Apr	Lowndes County SO (AL)	US	LE	Levi	Pettway	Vehicle Accident
84	11-Apr	Wisconsin State Patrol (WI)	US	LE	Anthony	Borostowski	Vehicle Accident
85	13-Apr	Spartansburg PD (SC)	US	LE	Jason	Harris	Vehicle Accident
86	14-Apr	City of Wyoming FD (OH)	US	Fire/EMS	James	Benken	Illness
87	17-Apr	York FD (ON)	CA	Fire/EMS	John	Beattie	Illness



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Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
88	17-Apr	Central Alexander FD (NC)	US	Fire/EMS	Michael	Pennell	Illness
89	18-Apr	Logan County SO (OK)	US	LE	David	Wade	Gunfire
						De los Santos-	
90	19-Apr	Puerto Rico PD (PR)	US	LE	Benjamin	Barbosa	Gunfire
91	20-Apr	Jasper County SO (SC)	US	К9	К9	Doki	Illness
92	20-Apr	FDNY (NY)	US	Fire/EMS	William	Tolley	Other
93	25-Apr	Houston Co SO (GA)	US	К9	К9	Kyro	Gunfire
94	26-Apr	North Carolina DPS (NC)	US	LE	Megan	Callahan	Assault
95	26-Apr	Delaware State Police (DE)	US	LE	Stephen	Ballard	Gunfire
96	28-Apr	Los Angeles FD (CA)	US	Fire/EMS	Jerome	Boyd	Illness
97	28-Apr	Gibbsboro Fire Co. No. 1 (NJ)	US	Fire/EMS	William	Gerace	Illness
98	28-Apr	Austinburg VFD (OH)	US	Fire/EMS	David	Lemponen	Vehicle Accident
99	28-Apr	Sebastian PD (FL)	US	К9	К9	Diesel	Illness
100	30-Apr	Cove Creek Pearson FD (AK)	US	Fire/EMS	Doug	Deckard	Vehicle Accident
101	30-Apr	Ouachita Parish SO (LA)	US	LE	Justin	Beard	Vehicle Accident
102	1-May	Pottawattamie County Sheriff (IA)	US	LE	Mark	Burbridge	Gunfire
103	5-May	Cache Creek VFD (BC)	CA	Fire/EMS	Clayton	Cassidy	Other
104	6-May	Maury County Sheriff (TN)	US	LE	Jimmy	Tennyson	Vehicle Accident
105	6-May	Montgomery Co. Fire/EMS (KY)	US	Fire/EMS	James	Wells	Illness
106	10-May	Norton Shores PD (MI)	US	LE	Jonathan	Ginka	Vehicle Accident
107	10-May	Florida Dept. of Corrections (FL)	US	К9	К9	Freckles	Illness
108	11-May	Yell County SD (AR)	US	LE	Kevin	Mainhart	Gunfire
109	11-May	Kirkersville PD (OH)	US	LE	Steven	DiSario	Gunfire
110	12-May	Victoria FD (BC)	CA	Fire/EMS	Doug	Angrove	Illness
111	13-May	Stanislaus Co. SO (CA)	US	LE	Jason	Garner	Vehicle Accident
112	16-May	Broadwater Co. SO (MT)	US	LE	Mason	Moore	Gunfire
113	18-May	San Antonio FD (TX)	US	Fire/EMS	Scott	Deem	Other
114	18-May	Whitfield County FD (GA)	US	Fire/EMS	John	Chester	Illness
115	18-May	San Antonio FD (TX)	US	Fire/EMS	Scott	Deem	Other
116	18-May	Reedy Creek Emerg Svces (FL)	US	Fire/EMS	James	Dorminy	Other



	LODD						
Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
117	19-May	Eagle Rock VFD (VA)	US	Fire/EMS	Roger	Johns	Vehicle Accident
118	20-May	Kern County FD (CA)	US	Fire/EMS	Brian	Massey	Illness
119	23-May	Macon County FD (GA)	US	Fire/EMS	Darrell	Plank	Other
120	24-May	CAL FIRE (CA)	US	Fire/EMS	Matthew	Beck	Other
121	24-May	US DHS CBP (DC)	US	LE	Isaac	Morales	Assault
122	27-May	Lincoln County SO (MS)	US	LE	William	Durr	Gunfire
123	27-May	Virginia SP (VA)	US	LE	Michael	Walter	Gunfire
124	29-May	City of Memphis VFD (MO)	US	Fire/EMS	Jesse	Ketchum	Vehicle Accident
125	30-May	Bluefield PD (WV)	US	LE	Aaron	Crook	Vehicle Accident
126	1-Jun	American Medical Response (FL)	US	EMS	Lahiri	Garcia	Vehicle Accident
127	1-Jun	American Medical Response (FL)	US	EMS	Paul	Besaw	Vehicle Accident
128	1-Jun	Anderson Co. Sheriff's Office (SC)	US	LE	Devin	Hodges	Vehicle Accident
129	1-Jun	Lake Station VFD (IN)	US	Fire/EMS	David	Jatczsk	Illness
130	5-Jun	LAFD (CA)	US	Fire/EMS	Kelly	Wong	Other
131	6-Jun	Florida Dept. of Agriculture (FL)	US	LE	Joshua	Montaad	Vehicle Accident
132	6-Jun	Fryeburg PD (ME)	US	LE	Nathan	Desjardins	Vehicle Accident
133	9-Jun	Texas Dept. of Criminal Justice (TX)	US	LE	Shana	Tedder	Illness
134	12-Jun	Newport PD (AR)	US	LE	Patrick	Weatherford	Gunfire
135	13-Jun	Georgia Dept. of Corrections (GA)	US	LE	Christopher	Monica	Gunfire
136	13-Jun	Georgia Dept. of Corrections (GA)	US	LE	Curtis	Billue	Gunfire
137	14-Jun	Comstock Twnshp Dept. of F/R (MI)	US	Fire/EMS	Edward	Switalski	Vehicle Accident
138	14-Jun	Cook County Dept. of LE (IL)	US	К9	К9	Drago	Other
139	17-Jun	Florida Highway Patrol (FL)	US	LE	William	Bishop	Vehicle Accident
140	17-Jun	Escambia County DOC (FL)	US	LE	Joel	Heddy	Illness
141	19-Jun	Mayview FPD (MO)	US	Fire/EMS	Jeffery	Sanders	Vehicle Accident
142	22-Jun	Nara Vista FD (NM)	US	Fire/EMS	John	Cammack	Other
143	28-Jun	Illinois State Police (IL)	US	LE	Ryan	Albin	Vehicle Accident
144	30-Jun	San Antonio PD (TX)	US	LE	Miguel	Moreno	Gunfire
145	4-Jul	Northville PD (NY)	US	LE	Robert	Johnson	Vehicle Accident



	LODD		ONEN ASSOCI				
Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
146	2-Jul	Lauderdale County Sheriff (MS)	US	К9	К9	Aron	Illness
147	3-Jul	Cache County Sheriff (UT)	US	К9	К9	Endy	Illness
148	5-Jul	NYPD (NY)	US	LE	Miosotis	Familia	Gunfire
149	6-Jul	DeKalb County Sheriff (IN)	US	К9	К9	Mojo	Illness
150	6-Jul	Greater Salt Lake Unified PD (UT)	US	К9	К9	Dingo	Gunfire
151	6-Jul	Washington Parish Fire Dist. #2 (LA)	US	Fire/EMS	Ronda	Varnado	Vehicle Accident
152	8-Jul	Six Rivers Nat. Forest (CA)	US	Fire/EMS	William	Jaros	Illness
153	9-Jul	NYSP (NY)	US	LE	Joel	Davis	Gunfire
154	9-Jul	Cumberland County EMS (NC)	US	EMS	Frank	Echevarria	Illness
155	11-Jul	CAL FIRE (CA)	US	Fire/EMS	Frank	Anaya	Other
156	12-Jul	Yancey Co. Sheriff (NC)	US	К9	К9	Chris	Gunfire
157	12-Jul	St. Louis FD (MO)	US	Fire/EMS	John	Kemper	Other
158	14-Jul	Pennsylvania State Police (PA)	US	LE	Michael	Stewart	Vehicle Accident
159	14-Jul	Lynden FD (WA)	US	Fire/EMS	Robert	Spinner	Illness
160	18-Jul	Adrian Charter TS FD (MI)	US	Fire/EMS	Allen	Howard	Illness
161	19-Jul	Grayback Forestry (OR)	US	Fire/EMS	Trenton	Johnson	Other
162	24-Jul	Oklahoma Highway Patrol (OK)	US	LE	Heath	Meyer	Vehicle Accident
163	27-Jul	Southport PD (IN)	US	LE	Aaron	Allan	Gunfire
164	29-Jul	Detroit FD (MI)	US	Fire/EMS	Kevin	Ramsey	Illness
165	30-Jul	Perth Amboy FD (NJ)	US	Fire/EMS	Richard	Leonard	Illness
166	2-Aug	Crossville PD (TN)	US	К9	К9	Cain	Assault
167	2-Aug	U.S. Forest Service (MT)	US	Fire/EMS	Brent	Witham	Other
168	2-Aug	Silsbee VFD (TX)	US	Fire/EMS	Jay	Hinkie	Vehicle Accident
169	5-Aug	Yoakum County SO (TX)	US	LE	Jason	Fann	Vehicle Accident
170	6-Aug	Clinton PD (MO)	US	LE	Gary	Michael	Gunfire
171	6-Aug	Abilene PD (TX)	US	LE	Elsie	Ybarra	Vehicle Accident
172	10-Aug	Swift Current FD (SK)	CA	Fire/EMS	Wyatt	Duncan	Illness
173	8-Aug	West Texas A&M PD (TX)	US	LE	Monty	Platt	Other
174	12-Aug	Virginia SP (VA)	US	LE	Henry	Cullen	Vehicle Accident
175	12-Aug	Virginia SP (VA)	US	LE	Berke	Bates	Vehicle Accident



	LODD		411 /20				
Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
176	13-Aug	West Blockton FD (AL)	US	Fire/EMS	Dale	Hardemon	Illness
177	13-Aug	Quitman County SO (MS)	US	LE	James	Clark	Vehicle Accident
						Torres-	
178	17-Aug	Puerto Rico Dept. of Corrections (PR)	US	LE	David	Chaparro	Illness
179	15-Aug	Southaven PD (MS)	US	К9	К9	Gunner	Illness
180	18-Aug	Kissimmee PD (FL)	US	LE	Matthew	Baxter	Gunfire
181	19-Aug	Kissimmee PD (FL)	US	LE	Richard	Howard	Gunfire
182	19-Aug	Black Eagle VFD (MT)	US	Fire/EMS	Tom	Martin	Illness
183	22-Aug	Lake County SO (CA)	US	LE	Robert	Rumfelt	Illness
184	24-Aug	Campbellsburg FD (KY)	US	Fire/EMS	Thomas	McBride	Illness
185	24-Aug	Drew County SO (AR)	US	LE	Timothy	Braden	Vehicle Accident
186	26-Aug	Kingston Rural VFD (AK)	US	Fire/EMS	Randy	Treat	Illness
187	27-Aug	Houston PD (TX)	US	LE	Steve	Perez	Other
188	30-Aug	Sacramento Co. SD (CA)	US	LE	Robert	French	Gunfire
189	31-Aug	Los Padres National Forest (CA)	US	Fire/EMS	Gary	Helming	Vehicle Accident
190	1-Sep	Dover PD (DE)	US	LE	Thoman	Hannon	Illness
191	5-Sep	Chicago PD (IL)	US	LE	Bernie	Domagala	Gunfire
192	7-Sep	Terran County Constable (TX)	US	LE	Mark	Diebold	Illness
193	8-Sep	Wayzata PF (MN)	US	LE	William	Mathews	Vehicle Accident
194	10-Sep	Florida Dept. of Corrections (FL)	US	LE	Joseph	Ossman	Vehicle Accident
195	10-Sep	Hardee County SO (FL)	US	LE	Julie	Bridges	Vehicle Accident
196	10-Sep	San Francisco FD (CA)	US	Fire/EMS	Terry	Smerdel	Illness
						Medina-	
197	11-Sep	Puerto Rico PD (PR)	US	LE	Roberto	Mariana	Gunfire
198	14-Sep	Philadelphia FD (PA)	US	Fire/EMS	Kenneth	Green, Sr.	Other
199	17-Sep	Metropolitan Transit Authority PD (TX)	US	LE	Elias	Martinez	Vehicle Accident
200	20-Sep	Michigan State PD (MI)	US	LE	Timothy	O'Neal	Vehicle Accident
						Lorenzo-	
201	21-Sep	Puerto Rico PD (PR)	US	LE	Angel	Gonzalez	Other
202	21-Sep	Puerto Rico PD (PR)	US	LE	Hector	Matias-Torrees	Other



	LODD		411 /20				
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203	23-Sep	Mosinee FD (WI)	US	Fire/EMS	Matthew	Deicher	Vehicle Accident
204	25-Sep	Freen Township PD (OH)	US	К9	К9	Dino	Illness
205	27-Sep	Fort Wayne FD (IN)	US	Fire/EMS	Eric	Balliet	Illness
206	29-Sep	Polk County PD (GA)	US	LE	Kristen	Hearne	Gunfire
207	1-Oct	Lafayette PD (LA)	US	LE	Michael	Middlebrook	Gunfire
208	1-Oct	Las Vegas PD (NV)	US	LE	Charleston	Hartfield	Gunfire
209	8-Oct	Triple Community FD (NC)	US	Fire/EMS	Jason	Hensley	Vehicle Accident
210	9-Oct	Texas Tech Univ PD (TX)	US	LE	Floyd	East, Jr.	Gunfire
211	12-Oct	Christiana Care Health DPS (DE)	US	LE	Michael	Robinson	Illness
212	12-Oct	North Carolina DPS (NC)	US	LE	Veronica	Darden	Assault
213	12-Oct	North Carolina DPS (NC)	US	LE	Justin	Smith	Assault
214	13-Oct	New Orleans PD (LA)	US	LE	Marcus	McNeil	Gunfire
215	13-Oct	Buffalo PD (NY)	US	LE	Craig	Lehner	Other
216	14-Oct	Presho VFD (SD)	US	Fire/EMS	Donald	Manger	Illness
		Southeast Harden Ambulance District					
217	14-Oct	(OH)	US	EMS	Krista	McDonald	Vehicle Accident
218	16-Oct	Hernando County FD (FL)	US	Fire/EMS	Steven	Terry	Illness
219	16-Oct	CAL FIRE (CA)	US	Fire/EMS	Garrett	Paiz	Vehicle Accident
220	17-Oct	Loch Sheldrake FD (NY)	US	Fire/EMS	Ronald	Hinkle	Illness
221	23-Oct	Stanhope Hose Co. 1 (NJ)	US	Fire/EMS	Edward	Frenenski	Illness
222	21-Oct	Girard PD (OH)	US	LE	Justin	Leo	Gunfire
223	24-Oct	South Carolina Hwy Patrol (SC)	US	LE	Daniel	Rebman	Vehicle Accident
224	30-Oct	North Carolina DPS (NC)	US	LE	Wendy	Shannon	Assault
225	23-Oct	New York SP (NY)	US	К9	К9	Will	Gunfire
226	31-Oct	Sunnyvale DPS (CA)	US	К9	К9	Jax	Assault
227	2-Nov	Richmond County Sheriff (GA)	US	LE	James	Wallace	Illness
228	4-Nov	Texas Dept. of Public Safety (TX)	US	LE	Thomas	Nipper	Vehicle Accident
229	4-Nov	Brasher - Winthrop VFD (NY)	US	Fire/EMS	David	Carr	Other
230	5-Nov	Rockford PD (IL)	US	LE	Jamie	Cox	Vehicle Accident



	LODD						
Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
231	7-Nov	Normandy PD (MO)	US	К9	К9	Argo	Other
232	10-Nov	Montgomery VFD (IN)	US	Fire/EMS	Kendall	Murphy	Vehicle Accident
233	10-Nov	Antrim County SO (MI)	US	К9	К9	Ori	Vehicle Accident
234	11-Nov	Greenfield Fire Territory (IN)	US	Fire/EMS	Scott	Compton	Illness
235	16-Nov	Baltimore City (MD)	US	LE	Sean	Suiter	Gunfire
236	17-Nov	New Kensington PD (PA)	US	LE	Brian	Shaw	Gunfire
237	19-Nov	Customs and Border Protection (US)	US	LE	Rogelio	Martinez	Vehicle Accident
238	23-Nov	Oakland County Sheriff (MI)	US	LE	Eric	Overall	Vehicle Accident
239	23-Nov	Texas Dept. of Public Safety (TX)	US	LE	Damon	Allen	Gunfire
240	28-Nov	East Herkimer FD (NY)	US	Fire/EMS	Robert	Fitch	Illness
241	3-Dec	Bell County Sheriff (KY)	US	К9	К9	Kane	Vehicle Accident
242	4-Dec	San Marcos PD (TX)	US	LE	Kenneth	Copeland	Gunfire
243	4-Dec	Hillsboro PD (OR)	US	К9	К9	Billy	Vehicle Accident
244	5-Dec	Montgomery FD (MA)	US	Fire/EMS	Stephen	Frye	Illness
245	7-Dec	Detroit PD (MI)	US	LE	Donald	Kimbrough	Gunfire
246	7-Dec	Bowie Rural VFD (TX)	US	Fire/EMS	Charles	Patterson	Illness
247	8-Dec	Maryland State Fire Marshall (MD)	US	Fire/EMS	Sander	Cohen	Vehicle Accident
248	8-Dec	Johnston PD (SC)	US	LE	James	Chapman	Vehicle Accident
249	12-Dec	El Mirage PD (AZ)	US	LE	Paul	Lazinsky	Illness
250	13-Dec	Brazoria FD (TX)	US	Fire/EMS	Dene	Barber	Illness
251	14-Dec	CAL Fire (CA)	US	Fire/EMS	Cory	Iverson	Other
252	15-Dec	Tallahassee FD (FL)	US	Fire/EMS	Jeffrey	Atkinson	Illness
253	18-Dec	Nyack FD - Fire Patrol (NY)	US	Fire/EMS	David	Jahnes	Illness
254	19-Dec	Mayer FD (MN)	US	Fire/EMS	Jeffrey	Vollmer	Illness
255	20-Dec	Hamilton Township VFD (IN)	US	Fire/EMS	Jeffrey	Blackmer	Illness
256	21-Dec	Haddon Fire Company (NJ)	US	Fire/EMS	Craig	Maull	Illness
257	23-Dec	Brockton PD (MA)	US	К9	К9	Koda	Illness
258	23-Dec	New Milford FD (NJ)	US	Fire/EMS	Frank	Matagrano	Illness
259	24-Dec	CHP (CA)	US	LE	Andrew	Camilleri	Vehicle Accident
260	26-Dec	Kansas City FD (KS)	US	Fire/EMS	Jason	Garrett	Illness



	LODD						
Count	Date	Organization	Country	Discipline	First Name	Last Name	Cause of Death
261	26-Dec	Oklahoma City FD (OK)	US	Fire/EMS	Jeffrey	White	Illness
262	31-Dec	Douglas County SO (CO)	US	LE	Zackari	Parrish	Gunfire