

# PROTECTING EMERGENCY RESPONDERS ON THE HIGHWAYS



## A WHITE PAPER

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**EMMITSBURG MEETING**  
**October 30-31, 1999**  
**Attendance Roster**

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Austin	Stephen	President, Delaware Volunteer Firemen's Association, DE
Banks	Matthew	International Association of Fire Chiefs, VA
Bell	Dr. John	Somerset / Cambria County Fire Police, PA
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# **PROTECTING EMERGENCY RESPONDERS ON THE HIGHWAYS THE “SECONDARY INCIDENT” PROBLEM — A WHITE PAPER**

## **I. Introduction**

Emergency responders routinely witness the carnage caused by vehicle collisions on the highways. In an unfortunate trend, emergency responders themselves are increasingly falling victim to “secondary incidents,” or mishaps that occur as they attend to the original incident to which they were dispatched. Though secondary incidents can take any number of forms, they most often involve emergency responders being struck by vehicles. Common scenarios could include a police officer struck while assisting a stranded motorist, a firefighter hit by a motorist while advancing a hose line across a roadway towards a fire, or a paramedic attending to an accident victim grazed by a car maneuvering around the accident scene.

A seminal event recently focused attention on this issue. While directing traffic around an accident scene on an interstate highway in western Maryland in May 1998, fire police<sup>1</sup> Captain Joseph Kroboth Sr., an experienced senior officer and the father of Halfway Volunteer Fire Department’s fire chief, was struck and killed by an inattentive driver.

Ironic in its timing, this tragedy occurred shortly after a number of public safety leaders in the mid-Atlantic region began focusing on the growing number of secondary incidents involving emergency responders, and considering strategies to prevent future occurrences. Owing their fallen colleagues a duty to act, these public safety leaders vowed to work together proactively, to prevent future tragedies. This call to arms coalesced with a national summit in Halfway, Maryland in March 1999, and extends to the publication of this white paper.

Victims of secondary incidents come from the ranks of both career and volunteer services, and have included police officers and sheriff’s deputies, fire police and auxiliary police officers, firefighters, and emergency medical services (EMS) personnel. Those at risk, and to whom this lifesaving effort are dedicated, include virtually the entire pool of emergency responders -- all those called upon to respond to incidents that occur anywhere near vehicular traffic.

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<sup>1</sup> Though a term unfamiliar to many, fire police are common throughout the mid-Atlantic/northeast corridor, particularly in rural areas. Usually serving under both a police and fire chief, fire police officers are generally former volunteer firefighters who have transitioned to duties that consist primarily of directing vehicle and pedestrian traffic around emergency scenes, enabling other emergency responders to attend to the emergency incident. Fire police are thought to be formally organized in at least 10 states. This process actually began with a specific focus on fire police, but it quickly became obvious that the challenge extended to all emergency responders who attend to emergency incidents on the highways.

## **II. Process**

This effort took place under the sponsorship of the Cumberland Valley Volunteer Firemen's Association, a century-old organization dedicated to enhancing communication and continuing education among the fire service in the Mid-Atlantic States. In March 1999, more than 125 representatives from local, state, and national fire service, fire police, EMS, and law enforcement agencies and organizations convened in Halfway, Maryland to identify the scope of the secondary incident problem, explore the range of causes, and develop potential solutions.

The Summit yielded an independently published Report of Proceedings detailing the nature of the problem and containing a series of recommendations. Public comments were solicited regarding these recommendations. Several months later, a smaller expert panel convened at the National Emergency Training Center in Emmitsburg, Maryland, to review and evaluate the Summit recommendations and public comments, and distill them to a set of cogent points for widespread distribution.

Two Problem Statements served as the foundation for the development of the recommendations:

- There is lack of consistency, agreement, and understanding of the minimum competencies (knowledge, skills, and abilities) necessary for all emergency services personnel operating in or near moving traffic;
- The general public lacks understanding of the role of emergency service personnel engaged in traffic control. Even their own colleagues in the fire, EMS, law enforcement, and other emergency services sometimes fail to appreciate the serious hazards routinely faced by those engaged in traffic control duties.

The recommendations in this document fall under five major subject headings -- training, operations, human resources, public education, and legislation/regulation/research/standards. This document cannot solve all of the problems, nor will every recommendation be applicable to all communities, but we hope to spark a dialogue in an effort to end the carnage that the emergency response community experiences too frequently in fulfilling its mission to protect and serve the public.

Another problem became evident during the course of the Summit and the subsequent expert meeting. A review of morbidity and mortality statistics, and scores of anecdotal reports, indicate that many emergency responders fall victim to their own medical emergencies, particularly cardiovascular problems, while at the scene of emergency incidents. The apparent magnitude of this problem suggests that it warrants an in-depth exploration of causes and possible solutions of its own.

In lieu of such a study, however, the recommendations in the human resources section of this document are consistent with addressing not just the secondary incident problem, but also this broader health and safety issue.

### **III. Recommendations**

#### **Training**

Emergency responders are frequently called on to operate near moving traffic, performing functions ranging from traffic diversion around collision or accident scenes, to aiding stranded motorists, to attending to victims in vehicles directly adjacent to moving traffic. Responders must be familiar with how to safely conduct all these functions because of the constant uncertainty of the situations they may face — for example, a police officer arriving at an accident scene may be required to attend to victims, or a firefighter may be called upon to control traffic to enable other rescuers to reach a scene. Because of the multitude of factors to be considered, emergency responders must have appropriate training.

- Objectives for training curricula should be defined by a job task analysis that identifies each element necessary to the roles of traffic direction and diversion.
- Many resources are already in place, so there is no need to reinvent the wheel. The U.S. Department of Transportation (DOT) manual and many state DOT manuals speak to safe and effective roadway closure and detour methods. Many states also have well-developed programs in place to facilitate traffic flow and address emergency incidents. For example, Maryland has both the CHART (Chesapeake Highways Advisory Routing Traffic) and FITM (Freeway Incident Traffic Management) programs. Both Pennsylvania and Delaware have well-developed fire police training programs and support resources. Develop new resources only as needed.
- Take advantage of technology and computer based training, which can be used anywhere and anytime, and is therefore particularly adaptive to the busy schedules of volunteers and the shift schedules of career personnel. Be sensitive, however, to the realities of technology diffusion -- computer technology availability, accessibility, and acceptability varies with such factors as age, education, socioeconomic status, community access to Internet services, and many other variables.
- Training modules should be outcome based and focus on imparting specific objectives; outcomes, not training hours, are the objective. Basic or introductory courses should include a classroom component as well as practical training involving simulated scenes. Successful course completion should be recognized by course certificate, awarding continuing education hours or credits.
- Use a best practices approach. Consider an application of the familiar hazardous materials operations model, where the emergency scene is divided into cold, warm, and hot zones. In a similar application of this sector model, the hot zone could be that area nearest to moving traffic, where traffic hazards would pose the greatest threat, while the cold zone could be the site of the emergency operation, which ideally should be buffered from traffic hazards. In another lesson adopted from hazardous materials education, at a minimum all emergency responders should receive basic awareness training in traffic safety and direction. Responders such as law enforcement officers and fire police who are more likely to routinely perform traffic direction should receive focused training.

- Incident commanders, whether police or fire officers, should be better trained to appreciate the task of, hazards implicit in, and training needed to safely perform, traffic direction and control. Better integrating traffic direction and control functions into the incident command system would go a long way towards increasing the visibility and recognition of this role in contributing to effective emergency scene management. Moreover, all emergency responders should be cognizant of the factors an incident commander must consider when determining whether to completely blockade and/or detour traffic or to permit a limited traffic flow.
- Preplanning is fundamental to effective traffic control and management. Preplans should: (1) account for possible use of detours; (2) anticipate the likelihood of vehicles transporting hazardous materials or of extraordinary weight or size; (3) accommodate the need to keep commerce flowing; (4) minimize possibility of secondary incidents; and (5) account possible impact on neighboring jurisdictions.
- Communication and cooperation is essential, and not just during an incident but also beforehand. Multi-agency and multi-jurisdiction training exercises permit responders to familiarize themselves with their roles in advance of emergency incidents, evaluate the effectiveness of planning, and make needed modifications. Effective models are found in both Maryland and Delaware, where the state police have designated liaisons to fire agencies to promote communication.

### **Operations**

Operations represent the full scope of activities that take place at the emergency scene, from arrival and size-up to rack-up and departure. Successful operations are skillfully orchestrated efforts. Appropriate positioning of apparatus helps protect responders. Unified incident command helps restore order to chaotic situations. Ideally, a combination of appropriate training, able human resources, effective laws and regulations, and an educated public enable the responder to quickly and expertly address the emergency situation and safely return home themselves.

- Standard operating procedures (SOPs) should guide vehicle positioning upon arrival as an integral part of traffic control. Procedures should be scalable to incidents of varying size, magnitude, and location so as to be easily adapted to any sort of incident. Continued research and development should help advise how to use some of the most readily available resources — large emergency apparatus — to best advantage to shield responders from moving traffic.
- The use of adjunct warning lights or audible devices on private vehicles while responding to, or operating at, emergency scenes are common practice in many jurisdictions, particularly those with volunteer firefighters or fire police. Several issues with respect to the safe use of these devices warrant attention including how to ensure: (1) operator competency, including familiarity with the scope of legal authority to use such devices; (2) adequate vehicle visibility when such devices are deployed, and; (3) proper vehicle positioning when responding to, or operating, at emergency scenes. Individuals who use warning devices on their private vehicles, and the fire, police, or other department with which the individual is affiliated, should be aware of any implications these devices may have on their insurance coverage.

- High visibility reflective apparel should be standard safety equipment for all responders operating in or near moving traffic. The U.S. can look to the experience of a number of European countries where more visible fabrics have been employed for some time.
- Traffic control personnel including law enforcement and fire police officers should be the eyes and ears for other responders, enabling them to reach the scene safely and quickly, alerting them to external hazards, and helping prevent secondary incidents. Consistent with principles of unified incident command, a safety officer should be considered at major incidents.
- Understanding when to decommit of personnel and apparatus and how to expeditiously reopen roadways, are vital parts of traffic management. All emergency responders must be aware of the dangers present in reopening roadways, however, such as frustrated drivers racing off at high rates of speed once the roadway clears, and other drivers craning their necks to view the emergency scene but failing to pay attention to their own driving.
- Incident Command System (ICS) Operations on emergency scenes. Currently, most fire department organizations operate under some type of ICS. The inclusion of fire police agencies in this structure will ensure a better utilization of resources and a clear outline of command structure for all responders operating on an emergency incident. Training for this system should be included with the minimum training standards set by OSHA for fire response personnel. Emergency responders performing traffic control duties must understand their scope of authority in relation to other responders (i.e., police vs. fire) and other agencies (i.e., departments of transportation).
- Where feasible, adopt “intelligent transportation solutions.” Technologies such as automated signal changers, remote cameras, highway advisory message boards, and radio advisory warnings and messages should be implemented and used to maximum advantage.

### **Legislation, Regulation, Research and Standards**

Laws, regulations, and standards help form the basic infrastructure by which safeguards are established in society. Knowing there are penalties attached to violations, the public is encouraged to abide by laws and regulations, as manufacturers are likewise encouraged to abide by standards. Under girding laws, regulations, or standards should be researched to validate that their imposition is a reasonable, rational way to achieve the desired social good.

- Legislative efforts should help bolster compliance through proposals such as enhanced penalties for speeding violations or reckless driving at emergency scenes
- Model legislation should be developed for establishing fire police or auxiliary police units where existing legislation does not now exist. Fire police and auxiliary police are a proven effective resource for management of traffic at emergency scenes.
- Existing DOT and ANSI standards should be utilized and updated to reflect current state of the art.

Emergency responders need to be more participatory when standards are reviewed and updated.

- Responders controlling traffic at emergency scenes should adhere to at least some minimum uniform and appearance standard to enable the driving public to readily identify the individual as an emergency responder. Standards should be flexible to accommodate varying weather conditions. Uniforms may include distinctive elements such as a badge, reflective vest, hat, patch or armband, and baton.
- Continued research and development is needed to assess the performance and physiological effects on humans of the color and intensity of warning lighting on emergency vehicles while operating at emergency response scenes, particularly for night-time incidents. Until recently the “more lights are better” approach, often incorporating variously colored strobes, rotating beacons, and pulses of light, has been in vogue. This is being rethought in the wake of research and statistics indicating that the multitude of brilliant flashing lights may: (1) effectively blind motorists; (2) attract impaired (drunk, drugged, or dozing) motorists, and (3) emphasize apparatus but obscure response personnel. These same factors also likely apply during the response phase, but it is recognized that regulation surrounding the use of emergency beacons during response is a sensitive state issue, generally governed by each state’s department of motor vehicles.
- State of the art research suggests that lime green reflective materials are best, but continued research and development in this field is required. Standards for emergency services reflective apparel, such as recommended colors, useful product lifespan, and the number of square inches of reflective material that should be visible on a garment, should be developed and maintained by a standards-making body such as American National Standards Institute (ANSI) or the National Fire Protection Association (NFPA). Likewise, continued research and development should examine how best to utilize reflective materials on apparatus to enhance their visibility both while en-route to, and while stationed at, emergency scenes.

### **Human Resources**

Enormous physical and mental demands are placed on emergency responders. They face constant uncertainty, and know that their next call may be their last. In the line of duty, they face hazardous, ever changing conditions, and frequently life threatening environments. Yet the public and their colleagues rely on both their ability and their durability. Responders must be physically and mentally fit, as demonstrated by satisfying certain minimum criteria, to ensure their ability to safely carry out their duties and to perform at peak levels until the task is complete.

- All emergency responders should have baseline physicals and periodic reevaluations by medical practitioners. Performance standards should reflect both physical and mental health and fitness considerations. These standards should ensure, at a minimum, that responders could adequately see and hear, and have the physical stamina and mental acumen to respond to stressful and rapidly changing environments. Age should not be a limiting factor so long as the responder satisfies applicable health and fitness standards.

- Wellness programs should be available to all emergency response personnel, including those assigned primarily to traffic control responsibilities (e.g., fire police, auxiliary police).
- Incident commanders should be cognizant that responders detailed to traffic control duties must be monitored and included in personnel rehabilitation in the same fashion as all other responders.

### **Public Education**

A major factor in the “secondary incident” problem is that the public is unaware of particular hazards surrounding emergency scenes on the highways. Firefighters and police actively promote public fire safety education and crime prevention strategies to help ensure that the public remains safe. Emergency responders must similarly educate the public to help mitigate the hazards that the motoring public itself poses to emergency responders in the performance of their duties.

- Aggressive public education campaigns should educate motorists about the hazards when driving in proximity to emergency scenes.
- Driver’s education programs and driving manuals need to include specific information about driver’s duties and responsibilities when coming upon an emergency scene on the highways.
- Remedial driver education programs should be developed for those committing traffic violations in proximity to emergency scenes.
- Defensive driver programs should include material about safe driving in proximity to emergency scenes.

### **IV. Conclusion**

Reducing deaths and injuries to emergency responders is essential to improving safety on America’s roads. Emergency responders, the motoring public, public safety officials, and political leadership all have a responsibility to reduce the risk so those who are on the highways to help others won’t become a victim themselves.

The Cumberland Valley Volunteer Firemen’s Association and the experts who assembled to write this white paper urge the adoption of the recommendations herein.

Together we can protect those who so unselfishly protect us.