PROTECTING EMERGENCY RESPONDERS ON THE HIGHWAYS

A TEN YEAR REVIEW

NATIONAL ROADWAY INCIDENT SAFETY SUMMIT

June 23-24, 2009

Attendance Roster

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Protecting Emergency Responders On the Highway

A Ten-Year Review

Each year, hundreds of emergency responders die or suffer serious injuries in the line-of-duty on America's roadways. Too often, these fatalities and casualties are the results of 'secondary incidents,' or collisions that occur while the responder is attending to the original incident to which he or she was dispatched. Fire service personnel responding to a car fire, paramedics attending to accident victims, law enforcement officers assisting a stranded motorist, tow truck operators loading disabled vehicles, and other emergency responders have all been fatally struck by distracted, impaired, or speeding drivers.

In 1999, spurred to action by the loss of member who was struck and killed by an inattentive driver, the Cumberland Valley Volunteer Firemen's Association (CVVFA) organized a National Roadway Incident Safety Summit to address the issue. The CVVFA, a century-old organization dedicated to enhancing communication and continuing education among fire service entities in the Mid-Atlantic region, brought together a group of 125 representatives from local, state, and national fire service, fire police, EMS, and law enforcement agencies and organizations to analyze the multi-faceted issues and develop ways to address them.

The 1999 Roadway Safety Summit generated a Report of Proceedings detailing the nature of the situation and containing a series of recommended changes to equipment, policy, and procedures to mitigate the risk encountered by emergency response personnel on the highways. Public comments were solicited regarding these recommendations, and a smaller expert panel convened to review and evaluate all relevant input. The results of this process were published as a White Paper, *Protecting Emergency Responders on the Highway.*

The CVVFA embraced the issue of protecting emergency responders on roadways as its core educational and advocacy mission, and shortly after the 1999 summit established the Emergency Responder Safety Institute (ERSI) to lead this effort. Operating as an outreach arm of the CVVFA, the ERSI consists of an advisory panel of public safety leaders and industry experts committed to implementing the White Paper's recommendations.

As a result of the ERSI's efforts, many of the White Paper's recommendations have been realized, yielding policy changes and improvements in equipment, training, and legal protections for emergency responders at work on the highways. These include:

- First and foremost, vastly improved recognition of the gravity and magnitude of the problem by the emergency responder community;
- Enactment by nearly every State of "*Move Over/Slow Down*" laws, as well as broad adoption of *Quick Clearance laws;*
- Development of the ANSI 207-2006 standard -- now the national standard -- for high-visibility public safety vests for law enforcement, fire and EMS personnel, and others;
- Inclusion of highway safety skills in the NFPA 1001 Firefighter Professional Qualifications standard;
- Addition of vehicle chevron striping requirements to the NFPA 1901 Standard for Motorized Fire Apparatus; and
- Production of CDs, DVDs, and Public Service Announcements to educate both the public and emergency responders about the hazards of emergency roadway operations.

Ensuring that all emergency responders have access to appropriate training is an important facet of the Institute's mission. ERSI emphasizes the development of core competencies for all personnel that may be called upon to operate in or around moving traffic or to participate in traffic control and/or diversion. To provide responders with a basic set of skills to prepare them to safely perform these tasks, ERSI has partnered with public safety organizations to identify and compile state-of-the-art materials and best practices from the United States and abroad, and to distill them into ready-to-deliver training programs for public safety agencies.

With a strong presence at major industry trade shows and its **www.respondersafety.com** website offering an easily accessible medium for delivery of training materials, disseminating pertinent information, and providing news that highlights the issue, the CVVFA's ERSI has

emerged as the preeminent national voice advocating for emergency responder roadway safety. Most importantly, the CVVFA has opened a national dialogue discussing how best to protect those who so unselfishly protect us.

A Look toward the Future

In June of 2009, on the tenth anniversary of the 1999 Summit, 60 leaders from the emergency response and transportation professions met again in Halfway, Maryland to reassess the issue of responder safety. Evidencing the marked increase in recognition of the issue, a number of leaders from government transportation agencies and private transportation coalitions participated in this meeting. The meeting provided an opportunity to evaluate and document the successes resulting from recommendations put forth at the 1999 Summit, to determine where efforts had been less successful, and to assess new challenges. Looking ahead, it is clear that technological advances, a different political climate, cultural shifts, and the broader recognition of the problem have coalesced to broaden the focus and context of the issue.

The 2009 National Roadway Safety Summit served as an opportunity for emergency response and transportation leaders to reassess the status of responder safety on the nation's roadways, and to set the direction for the future. It was agreed that the two "problem statements" that served as the foundation for the 1999 Summit's recommendations remain relevant. However, the consensus was that the definition of "emergency responder" needed to be clarified and expanded, and that ongoing communications problems among the various emergency response professions should be articulated and addressed. Thus, three problem statements serve as the foundation for the recommendations included in this document:

1. There remains a lack of consistency, agreement, and understanding of the minimum competencies (knowledge, skill, and abilities) necessary for all highway emergency services responders (including but not limited to fire service, law enforcement, EMS, DOT, HAZMAT, EPA, media, and/or towing and recovery personnel) operating in or near moving traffic;

2. Emergency services personnel sometimes fail to appreciate the serious hazards routinely faced by those engaged in traffic control. This issue is often exacerbated by ineffective communication between responding organizations and lack of standardization of language and equipment between agencies;

3. The general public lacks an understanding of the role of emergency service personnel engaged in traffic control, and is often unaware of laws regulating driving behavior at the site of a roadway incident.

In the ten years that have elapsed since the initial Summit, emergency responder safety has become a prominent national issue and an integral part of overall strategies to improve the way that traffic incidents are managed on roadways in the United States. In 2007, a consortium of state and local transportation and public safety agencies -- the National Traffic Incident Management Coalition (NTIMC) -- set forth the *National Unified Goal for Traffic Incident Management* (NUG), establishing three primary objectives to achieve the goal of multidisciplinary, multi-jurisdiction traffic incident management: responder safety; safe, quick clearance; and prompt, reliable, interoperable communications.

Incorporating responder safety into the NUG highlights the importance of the issue, and places the objective within the framework of achieving the broader national goal. Most importantly, it clearly illustrates that all three objectives must be pursued concurrently, and that the cooperative efforts of all stakeholders are necessary to attain this goal. By linking the public safety and transportation communities and working to define, standardize, and advance the state of traffic incident management practice in the U.S., the NTIMC provides a strategic framework to achieve the ideal: a future where traffic backups from crashes are cleared quickly and efficiently; workers who respond to traffic crashes are never injured or killed at the scene; and traffic incident communications are prompt, reliable, and coordinated.

By encouraging adoption of a national, unified standard, the NTIMC has set a course for the future, and established responder safety as a national priority. At the National Roadway Safety Summit in 2009, best practices methodologies and lessons learned were presented by representatives of national, regional, and local transportation agencies and emergency response organizations. The following is a summary of the status of responder safety initiatives -- successes, weaknesses, and direction for the future -- currently being pursued within each of the three NUG objectives.

Responder Safety—National Unified Goal Objective 1

Despite many advances in responder safety during the last decade, dozens of emergency response personnel continue to die each year on our highways. Emergency responder pedestrian deaths account for a large number of these incidents; if drivers can't see the responder in time, they can't stop. The federally mandated ANSI 207 retro-reflective personal safety vest, which must be worn when working within the right-of-way on all Federal-aid highways, provides day and night-time conspicuity to the wearer. However, despite the obvious safety benefits of high-visibility garments, compliance remains problematic. This is thought to be in large part a cultural issue, while failure of leadership to support the mandate and individual lack of situational awareness are contributory factors. To increase compliance, particularly from within the volunteer ranks, all leaders within the emergency response disciplines must present a unified front; personal safety equipment is not optional—without the vest, responders will not permitted to perform their duties. Other strategies that were suggested to enforce the mandates include:

- Tie compliance into AFG (Assistance to Firefighters Grants) grant requirements: rewrite eligibility requirements for federal grant funding to state that departments will be ineligible if all personnel do not adhere to personal safety equipment standards, including those pertaining to high-visibility vests and helmets those directing traffic.

- Hold all levels of leadership accountable, including career and volunteer fire departments. This should also pertain to private companies, such towers and could be enforced through revocation of memoranda of understanding for noncompliance.

- Research the possibility of tying allocation of federal highway monies to compliance. Some highway funding is allocated for highway law enforcement; compliance with personal safety equipment standards could be written into eligibility requirements.

- Continue to address the issue through responder education.

While outside the CVVFA's mission, motor vehicle accidents, either in a response vehicle or a personal vehicle, are another leading cause of responder fatalities. Driver education, training, and retraining are critical. Several NTIMC member organizations are currently conducting research to improve the safety of emergency vehicles. USFA is partnering with the National Institute of Occupational Safety and Health (NIOSH) to support their Evaluation of Emergency Services Vehicle Occupant Safety Project, which addresses ambulance and EMS vehicle safety. The NIOSH project involves

- the continued analysis of crash data of ambulance and EMS vehicles utilized by firefighters and emergency responders;
- the review of data on ambulance crash statistics;
- hazard identification and task analysis;
- determination of appropriate crash testing methodologies;
- development of occupant restraint systems;
- And modeling of ambulance crash scenarios.

Additionally, NIOSH has concluded a 3-year study of the affects of human factors for EMS workers in ambulance patients. Data analysis of the NIOSH sled and crash tests of occupant restraints and published results are being reviewed for use in developing recommendations to be issued to the industry and public agencies for ambulance design and restraint system changes.

The United States Fire Administration (USFA) is partnering in conjunction with the International Fire Service Training Association (IFSTA) to study emergency vehicle visibility and conspicuity. Retroreflective striping and chevrons, high-visibility paint, built-in passive light, and other reflectors are being examined as part of this study. Research over the last decade into accident/incident scene lighting, as well as new lighting technology, continues to improve conspicuity of emergency providers on the highway. The USFA is working with the Society of Automotive Engineers (SAE) to to study the day and nighttime disorientation of motorists caused by emergency warning lights, including the effects on normal, impaired, and drowsy drivers. The initial study, results of which were published as *Inferences about Emergency Vehicle Warning Lighting Systems from Crash Data* (July 2005) included three strategic recommendations: use different intensity levels for day and night; make more use of blue lighting overall for increased conspicuity at all times of day; and use color coding to indicate whether or not vehicles are blocking the path of traffic. Continuation of this study and additional research into emergency scene lighting and new lighting technologies (including LED lights) is needed to determine effective intensities and coverage, especially of flashing lights; and to establish the most effective balance of subjective conspicuity and objective search performance.

Since 1999, 43 states have adopted 'Move Over/Slow Down' laws requiring motorists to move over or slow down when approaching emergency vehicles that are stopped and/or displaying flashing lights. The ERSI has supported efforts to enact 'Move Over' legislation by developing model laws, advocating adoption at the state level, and developing Public Safety Announcements and informational materials to educate drivers. However, compliance with and enforcement of these laws remains uneven. In June of 2009, 71% of Americans had not heard of 'Move Over' laws according to a national poll by Mason Dixon Polling & Research, sponsored by the National Safety Commission. This can be partially explained by confusion over nomenclature; they are referred to as both 'Move Over' and 'Slow Down' laws, and by a lack of clarity of the requirements of the laws.

These laws can effectively reduce emergency responder fatalities and casualties, but for this to happen the public must abide by them – the best way to ensure that occurs is to continually educate and remind the public about what these laws require. Moreover, although frequently difficult to accomplish, there should be some measure of enforcement. Media stories about enforcement efforts including 'Move Over' stings are seen as among the most powerful educational tools. Moreover, 'Move Over' law requirements vary widely from state to state, which naturally can engender confusion; more uniform 'Move Over' law requirements, potentially even mandated at the national level for uniformity, would reduce motorist confusion.

Adequate and appropriate training is the most effective way to improve responder safety on the highway. Work continues to define core competencies for all response personnel, and to set national standards for certification to establish a minimum level of skill and training for all individuals involved in traffic control.

ERSI continues to support efforts to develop and promote new delivery mechanisms to make adequate training accessible to all responders and disseminate best incident management practices. The University of Maryland Center for Applied Transportation Technologies Laboratory (CATT Lab) is designing a 3-dimensional, multi-player computer-simulated traffic incident management 'game' dubbed *Transportation Incident Management Training Program using Virtual Worlds* to reinforce and certify emergency responders in the core

competencies. In the game, based upon a similar platform used in the Netherlands, players appear as avatars, adopting roles that may or may not be analogous with their actual vocation, and participate in a traffic incident simulation that has been pre-established by a trainer. As the scenario unfolds, realistic consequences ensue and information such as lane closures, queue buildup, responder arrivals and departures, and sign set-up are all recorded for after-action review.

The CATT Lab staff is now developing implementation capabilities for this program to enable it to be accessible to all sizes of emergency response organizations as well as public transportation agencies. The program is designed to educate and validate quick clearance practices and related incident management techniques, but it is also designed to promote communication, coordination and cooperation among organizations involved in incident management. By involving responders from many different agencies, exposing them to best practices, establishing expectations that they will meet or exceed standards for good practice, and allowing them to discuss methods and issues with their peers, this training program will encourage responders to achieve more consistent performance, more innovation, and better and safer delivery of incident management services.

Safe, Quick Clearance—National Unified Goal Objective 2

Responder safety and efficiency of traffic incident clearance must be pursued jointly. When emergency personnel are at work in traffic, they are vulnerable; improving response and remediation times will effectively reduce exposure time, and risk, for responders.

Safe, quick clearance of vehicular incidents is intrinsic to effective traffic management planning and benefits all stakeholders in the transportation system. In 2008, more than 40,000 fatal accidents occurred in the United States, accounting for 25% of all traffic congestion. One minute of interstate lane blockage directly translates into four minutes of congestion. The old adage ‘time is money,’ is appropriate here; accident-related delays are costly, and have a serious economic impact. With the increasing use of Just-in-Time delivery strategies to minimize inventory costs, eighteen-wheelers are now rolling warehouses, and the expense of shutting down production and reducing output in the nation’s factories puts a

direct dollar value on the need to provide consistent and effective traffic incident management.

The private sector -- manufacturers, freight haulers, and the driving public -- is beginning to join with Federal and state departments of transportation and emergency response organizations to support a large-scale, uniform approach to traffic incident management. Visionary, strategic long-range planning is critical for managing current traffic levels, and preparing for the future in which traffic incident management will be coordinated over ever-increasing geographic areas. Because of the large number of federal, state, and local agencies involved, regional partnerships and coalitions have been effective in planning for, and supporting the development of infrastructure and technology necessary to execute coordinated traffic incident operations over a large geographic area.

One such regional organization, the I-95 Corridor Coalition, is a partnership of state Departments of Transportation and related authorities and organizations from Maine to Florida, working together to accelerate improvements in long distance freight movement and passenger travel. The I-95 Corridor Coalition has been instrumental in assisting public agencies in the development of transportation programs through forecast of demand, implementation studies, cost/benefit analysis of management policy and operational improvements, and in developing the tools to train all levels of emergency personnel in interdisciplinary response skills. For more information about the I-95 Corridor Coalition, visit **www.i95coalition.org**.

Multi-state, regional collaborations largely center on coordination of interstate accident response. They, as well as smaller state and local traffic incident cooperatives, incorporate five common elements, as determined by the Federal Highway Administration:

1. Strategic Program Plans that encompass broad strategies for dealing with existing situations, and consideration for future conditions.

2. Traffic Incident Management (TIM) Operations and Response Plans, which contain detailed interdisciplinary coordination of manpower and resources to remediate minor, intermediate, and major roadway incidents.

3. Partnership Agreements between all transportation agencies and emergency response organizations within the jurisdictions.

4. Scene Management Guidelines covering all stages of roadway emergency response and remediation, as well as existing laws pertaining to the accident scene.

5. Services, tools, and systems that are integral to traffic incident management within the geographical boundaries of the TIM system.

For example, the use of safety patrols, such as Georgia DOT's Highway Emergency Response Operator (HERO) program, has proved to be been an effective tool in minimizing the impact of traffic incidents on major highways and in urban areas. HEROs are well-trained technicians whose primary responsibility is to expedite the clean up and removal of any congestion-causing incident that occurs on the interstate system. The position requires 324 hours of classroom and practical instruction, and 5 weeks of on-the-job training in traffic control and incident management, emergency vehicle operations, HAZMAT, interagency coordination, crash victim extrication, radio/telephone protocol, legal liability issues, basic responder first aid, and basic auto mechanics. Currently, the Georgia DOT has thirty HERO trucks on the road at all times, patrolling a geographic range of 286 linear miles. More information about the HERO program can be found by visiting their website: **www.dot.ga.gov/travelingingeorgia/Pages/hero.aspx**.

The HERO program has effectively reduced average clearance time by almost one-third, from 160 minutes to 109 minutes by providing quick remediation of minor traffic incidents and traffic control during major incidents, as well as other services as needed. Safety patrols also serve to increase public awareness of the importance of incident management, and to coordinate response between different agencies in the region.

Prompt, Reliable Communications National Unified Goal Objective 3

Timely, reliable, and interoperable communications policies and procedures are integral to the safe execution of a coordinated traffic incident management plan. In the past, achieving this goal has been challenging, in large part because of cultural differences between emergency response organizations and transportation agencies; the former places value on quick decision-making skills and immediate action, whereas the latter professions foster strong engineering and analytical skills. However, in the last 3-5 years, pressure from elected officials and the economic development community has caused these groups to begin

to develop partnerships to address the issue. All stakeholders—emergency response organizations, dispatch personnel, state, local, and regional transportation agencies, freight haulers, delivery companies, commuters, and others—must prioritize the development of a uniform, effective, and interoperable communications infrastructure.

Rapid assessment of an emergency situation, appropriate allocation of manpower and resources, and safe, rapid remediation of the incident depend upon prompt, reliable inter-agency transmission and receipt of all pertinent information. The World Trade Center response on September 11, 2001 effectively highlighted the problem of different organizations developing independent, non-compatible communications infrastructures. To prevent a similar occurrence, local, state, and regional Traffic Incident Management partners should explore ways to link existing information and communications systems among appropriate jurisdictions and agencies. When an emergency response organization or transportation agency invests in new equipment, vendors should be required to provide open architecture capabilities that permit both present and future interagency linkage of systems.

Even when compatible equipment is in service, communications breakdowns will occur if different responding agencies cannot speak a common language. Currently, fire, police, DOT, and other organizations within the same jurisdiction may or may not use utilize the same terminology in referring to lanes on a highway, exit ramp, or bridge. Lack of clarity and specificity in determining the site of an accident prior to the response and during any ensuing traffic advisories often results in great confusion among emergency personnel and the public, causes unnecessary additional congestion and delays for motorists, and places responders in needlessly dangerous situations.

It is still imperative, even with interoperable equipment and a common lexicon, that personnel from different agencies receive adequate training to develop the core communications competencies to deal with emergency situations, and to establish a unified command as rapidly as possible. A variety of effective training models and delivery mechanisms are becoming available to develop responders' communication skills, but they are of only limited effectiveness when performed in isolation. Interdisciplinary training, whether conducted in workshops, utilizing tabletop models, or using an online virtual reality

platform, teaches basic inter-agency communications skills and engenders a better understanding of the roles and responsibilities of other stakeholders. Cooperative training exercises reap additional benefit when individuals adopt one another's roles, breaking down the psychological barriers between representatives of different organizations and fostering inter-agency cooperation.

Recommendations

A review of responder safety advances and progress achieved in the last decade, and identification of continuing and new challenges for the future served as discussion points at the 2009 National Roadway Incident Safety Summit. Best practices, constructive ideas, and acknowledged weaknesses shared by participants served as the basis for the following recommendations, which fall under five major subject headings -- training, operations, public education, and legislation/regulation/standards, and future direction for the Emergency Responder Safety Institute.

Training

Training effectively mitigates risk. Providing adequate and accessible training for all emergency response personnel operating in or around moving traffic is the frontline of defense for emergency responders. All personnel should work under the premise of *"if it's moving, and you're not driving it, it is out to kill you."*

- Include Traffic Incident Management education in the training curriculum for all emergency responders. Emphasis must be on developing clearly defined core competencies for all traffic control personnel at every stage of the traffic incident, and should cover scene arrival, vehicle positioning, ongoing scene management, communications and wrap-up, and departure. SOPs detailed in training materials should provide responders with clearly defined procedural mandates for dealing for minor, intermediate, and major traffic incidents; rural, urban and suburban accident sites in a variety of weather conditions; and provide personnel models for professional, volunteer, and mixed departments. Louisiana has codified traffic management training for all response personnel.

- Establish a national, mandatory certification process for emergency responders positioned as traffic control personnel. The Manual on Uniform Traffic Devices (MUTCD) requires similar certification to work on construction sites in some states; this could be used as a template for emergency responder certification. Training

materials currently available or under development, including the *Transportation Incident Management Training Program using Virtual Worlds* from the University of Maryland Center for Advanced Transportation Technology (CATT) laboratory, can be used to support the certification process.

- New technologies should be utilized to improve accessibility to all levels of traffic incident management training for emergency response personnel. Proven methodologies incorporating every stage of roadway incident response can be delivered via webinars, on-line classes, and computer game-based virtual reality simulation courses. These tools have the added benefit of nearly round-the-clock accessibility and no associated training or travel costs. This is of particular benefit to volunteer departments, where turnover and low training budgets are persistent issues, and to the volunteers themselves who often have other personal and professional time constraints. Computer and web-based training is also particularly attractive to younger recruits and volunteers.

- Encourage safety training and certification of all towing personnel. The Towing and Recovery Association of America (TRAA) has developed a National Driver Certification Program. This or a similar certification should be required, and included in the memorandum of understanding between traffic incident management agencies and contracted towing companies. National acceptance of this or similar certification as the standard would both serve as a baseline competency level for the industry, and help to standardize safety and operational policies and procedures.

- Emphasize interdisciplinary and inter-agency training whenever possible. Cooperative exercises serve to hone communications skills between members of different organizations, and foster a better understanding of each other's roles and responsibilities. Collaboration in role-playing workshops, tabletop exercises, and virtual reality simulation games develops the professional and interpersonal skills necessary to ally during an actual traffic emergency.

- Utilize after-action review and analysis as critical parts of the training process. Tools such as **www.firefighternearmiss.com** are available to help prevent future injuries and save lives by collecting, sharing, and analyzing near-miss experiences, and can be utilized by departments, training academies, and equipment manufacturers. Based upon a system that has been used by airlines since 1976, voluntary reporting of such an incident on this website is confidential, non-punitive. By utilizing this and similar resources to assess real life experiences and lessons learned, responders are able to learn from other's errors, and to formulate strategies to reduce future emergency responder injuries and fatalities.

Operations

Effective traffic incident management programs are integral to advancing the goal of responder safety in the U.S. Over the last ten years, the Emergency Responder Safety Institute and partnering organizations have worked to identify best practices within existing programs in the U.S. and abroad, and to disseminate information to develop and support new

and existing programs. Recommendations made to improve operational procedures are based upon proven successful European and American traffic incident models.

- Support efforts of national, regional, and state traffic incident management groups to define and adopt common Standard Operating Procedures (SOPs). SOPs should address all types of roads and weather conditions, including rural, urban and suburban accident sites, and provide flexible personnel models to accommodate professional, volunteer, and mixed departments and agencies.

- Support the research and development of new SOPs for securing and defining the accident site. There is a clear need to develop better and more consistent upstream warning techniques, and ways to mark the procedural route for oncoming motorists. Using a fire apparatus both to secure the site and to identify the traffic path is probably not the best answer; however, in many locales and departments, transportation of traffic control equipment to the site continues to be a logistical problem. SOPs should serve to disseminate best practices for identifying traffic patterns and marking flow, and for transporting necessary marking and identification equipment to the accident site.

- Develop SOPs to expedite helicopter landings without sacrificing safety.

- Ensure proper vehicle identification by responders to utilize towing resources more effectively. Too often, towing company personnel respond to a crash site, only to find that the vehicle that was dispatched is inadequate for the incident. To prevent costly delays and increased traffic congestion, responders should use the 2008 TRAA Vehicle Identification card to identify the vehicle. When this card is not available, make, model, weight (when possible), number of tires, and whether or not the vehicle is upright must be relayed to the towing company. The tower, not dispatch personnel, is to determine the towing equipment necessary to remove the damaged vehicle(s).

- When feasible, develop and utilize a bonus system for towing companies or otherwise develop systems incentivizing safe and quick clearance. For example, financial incentives can be scaled in proportion to the type of accident, vehicle involved, difficulty of removal, or potential affect on traffic patterns, and are effective in promoting safe, quick clearance.

- Utilize safety patrols in urban and heavily trafficked highway areas, to remediate minor traffic incidents and to provide traffic control and other support to emergency responders during major incidents. By providing round-the-clock motorist aid and support, safety patrols effectively reduce traffic incident duration, congestion, and potentially save lives.

- Utilize existing and future technology to support traffic incident management and emergency response. The prototype Regional Integrated Transportation Information System (RITIS) being developed by the University of Maryland CATT Lab is a regional model for multi-agency data collection and dissemination to provide a comprehensive picture of the entire transportation network of a region. Ultimately this program, and others like it, will provide real time information to responders, including

number of vehicles involved, emergency personnel at the scene, status of traffic signals, and length of queue that will expedite assessment of the situation, and permit more efficient allocation of manpower and resources.

- Advocate for the increased use of onboard cameras on emergency vehicles including fire apparatus, integrating the information obtained from such cameras into intelligence gathering systems to better coordinate incident response and remediation. Truck-mounted video cameras are widely used in Europe, and can be used to monitor upstream traffic conditions and to collaborate with other agencies (both present at the site and not).

Public Education

Past efforts to educate the public about responder safety have not resulted in a dramatic improvement in driver behavior in and around traffic incidents. Outreach efforts have often been overwhelmed by factors such as increasing numbers of vehicles on the roads, uneven enforcement of 'Move Over/Slow Down' laws, and new technologies that are proving to additional distractions to drivers. New and existing public education campaigns should be reassessed, with particular focus on increasing compliance with existing laws; support of drivers' education, particularly regarding distractions and impaired driving; and promoting public awareness of the importance of traffic incident management.

- Public information campaigns currently address the purpose and intent of 'Move Over/Slow Down' laws, and all associated fines and penalties through Public Service Announcements and inclusion in drivers' education materials. These can be augmented with inclusion of reminders before or after 511 traffic advisory announcements for motorists, and additional signage at the site of roadway incidents.

- 'Slow Down/Move Over' law information is included in some drivers' education curricula; support the mandatory inclusion of pertinent information in all states, as well as in Defensive Driver programs.

- Partner with organizations such as the American Automobile Association and American Association of Retired Persons to reach additional constituencies with information about the importance of responder safety and traffic incident management.

- Promote and disseminate driver distraction information.

Legislation, Regulation, and Standards

- Broaden coverage of *Move Over/Slow Down* laws to include all emergency response personnel, including but not limited to: fire, law enforcement, EMS, DOT, EPA, HAZMAT, and towing company personnel, and possibly members of the media. Emergency responder safety can no longer be considered exclusively the province of law enforcement, fire, and EMS organizations.

- The definition of 'emergency responder' must be broadened to include members of all professions and government agencies that are potentially present at the site of a traffic incident. Sixty towing company employees die on the highways each year; they, as well as DOT, HAZMAT, and EPA employees, members of the media, and others should be accorded the same legal and liability protections as all other emergency response professionals.

- Encourage organizations such as the National Governor's Association and National Conference of State Legislatures to promote uniformity among Move Over/Slow Down laws through draft model legislation. Consider model for national *Move Over* law.

- Endorse enhanced temporary work zone (accident zone) laws and penalties to achieve parity in fines between construction zones and emergency zones.

- Continue to advocate for driver distraction laws, particularly those regulating use of technologies such cell phones, text messaging, and GPS systems.

- Advocate for a mandated national standardization of response terminology and roadway (lane, exit, and bridge) numbering to be utilized by all emergency response disciplines and transportation agencies. Any effective changes to existing designation models must be National Incident Management System (NIMS) compliant. Creating a national standard will, when applicable, assist states to address deficiencies outlined in their Office of Emergency Communications Statewide Communications Interoperability Plans (SCIPs).

Future Direction for the Emergency Responder Safety Institute

The CVVFA and its ERSI have provided direction and support for efforts to keep America's responders safer on the highways, and have helped to establish responder safety as a national priority. The efforts of these dedicated citizens are to be recognized and applauded; their contributions cannot be underestimated. However, these organizations cannot continue to fulfill their mission without additional help and funding.

To keep this vital organization active through its second century, it is suggested that the CVVFA reassess its strategic plan, to determine a course for the future. As responder safety efforts continues to nationalize and grow, is the next logical step to spin the ERSI off as a separate entity? Or should future endeavors be specifically targeted towards ERSI becoming a clearinghouse for best practices, analyzing and making industry-wide recommendations based upon the research work of other organizations?

No matter what direction the CVVFA takes in the future, it must continue to attract talented and experienced professionals to the organization and to develop new revenue streams with which to fund ongoing efforts. Possible strategies to accomplish these two goals include:

- Develop financial and strategic partnerships with the public and private sector who are stakeholders in highway safety.
- Research potential federal funding to continue and grow ERSI as a national organization.
- Change the tax identification classification of the CVVFA to a 501(c) 3 designation to better enable the organization to seek private grant funding.
- Create a succession plan to provide leadership for CVVFA and ERSI into the next decade and beyond.
- Develop business and marketing plans to define the mission of both organizations going forward and to attract an increasingly diverse group of talented younger professional to continue this important mission.

Conclusion

In the ten years since the 1999 Roadway Safety Summit, there has been a sea change surrounding the issue of responder safety. As one of the key objectives of the National Unified Goal for Traffic Incident Management, reducing deaths and injuries to emergency responders is now viewed as essential to improving safety on the nation's roads. All stakeholders in America's transportation system have a responsibility to reduce the risk to those who so unselfishly protect the public.

The members of the CVVFA and its ERSI, and all those who have donated their time and expertise to the cause of protecting emergency response personnel on the highways, urge the adoption of the recommendations included herein.