

The Past, Present, and Future of Responder Safety at Roadway Incidents

Report of Workshop Proceedings

Emergency Responder Safety Institute / Cumberland Valley
Volunteer Firemen's Association



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Acknowledgements

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CVVFA/ERSI also thanks the workshop participants for generously sharing their knowledge and their departments for supporting their participation.

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Executive Summary

This paper summarizes the proceedings of a workshop convened by the Emergency Responder Safety Institute during the 2018 National Traffic Incident Response Awareness Week to envision the future of roadway incident response safety and traffic incident management. Together, the group identified what has been successful, what still needs to be done, and what is required to achieve the vision of a future where all responders working on the roadway are properly protected while they do their jobs.

The workshop began with summaries of the interagency cooperation model Pennsylvania Traffic Incident Management Enhancement (PennTIME) and Pennsylvania Safety Transportation and Research Track (PennSTART) programs from Todd Leiss. Then, Steve Austin summarized the past work and achievements of the Emergency Responder Safety Institute and set the stage for the work still to be done in roadway incident response safety.

In breakout groups that reported to the full group, workshop participants answered the following questions.

- What has been successful and why?
 - growing an initial cadre of champions of roadway safety
 - collaboration, networking, and cooperation
 - willingness to share information, knowledge, and experience and to learn from others
 - recognition by existing institutions and large national organizations of the importance of traffic incident management (TIM) and responder safety training
 - recognition of roadway safety as important by federal agencies
 - progressive thinking
 - passage of legislative initiatives like Slow Down Move Over
 - integration of responder safety and traffic control principles into existing standards
 - the creation of *NFPA 1091: Standard for Traffic Incident Management Personnel Professional Qualifications* by the National Fire Protection Association
 - codification of blocking and safe positioning into SOPs
 - greatly increased awareness in the responder community about the risks and hazards of working in or near moving traffic and the role of TIM in mitigating those risks and hazards
 - identifying best practices
 - creating safety training, particularly online training
 - education on a safety focus in traffic environments
 - creating a core of information on ResponderSafety.com
 - increased use of high visibility apparel when at an incident scene
 - personal connections to struck-by incidents, line of duty deaths (LODDs), and near misses
 - use of social media to spread safety messages
- What has been less successful and why?

- data collection
- uniform reporting and “one-stop shopping” for reporting struck-by and near miss incidents across all agencies
- modifying human behavior
- driver education
- enforcement of existing laws like Slow Down Move Over
- What’s next to affect TIM?
 - need for better driver education and driver safety training
 - institutionalizing known best practices into training and professional development for all disciplines
 - enforcement of existing safety measures and legislation
 - connected vehicles
 - autonomous vehicles
 - traffic control in mass incidents
 - drones (unmanned aerial vehicles)
 - new technologies in advance warning
- What’s important to the roadway safety effort going forward?
 - data collection, research, analysis, sharing, and validation on responder fatalities, responder injuries, near misses, property damage, and civilian injuries and fatalities by a uniform means across all disciplines
 - leadership and culture changes, such as expanding buy-in, creating influencers, creating a sense of urgency, growing TIM Committees, emphasizing safety, greater participation from outside the East Coast, a seat at the table for responders on committees drafting and revising important national standards affecting roadway response, and recruiting a new generation to carry on and expand this work
 - integrating traffic control and responder safety principles into standards for disciplines other than the fire service and sourcing model SOPs and SOGs
 - making roadway incident response safety training a priority in every department and integrated into existing training systems, supported by instructor tools to teach it, incentives to prioritize it, and a national certification
 - improving and expanding public education on how to safely pass an emergency scene and how to avoid distracted driving
 - improving enforcement when motorists do not comply with existing laws
- What critical factors will make responder safety successful?
 1. Data collection, analysis, and distribution
 2. Training and education (for responders and for the public)
 3. Funding

The workshop wrapped up with Jack Sullivan, director of training for ERSI, bringing the group up to speed on the latest things he is seeing as one of the country’s foremost experts on roadway response safety, including expansion of legislation related to distracted driving and handheld devices, revision of key industry standards, and development of semi and fully autonomous vehicles.

All participants made a brief closing comment, with many expressing gratitude for the workshop and the free sharing of knowledge and opinions that renewed their energy and commitment to responder safety.

Workshop Description

The Emergency Responder Safety Institute (ERSI), a program of the Cumberland Valley Volunteer Firemen's Association (CVVFA), convened leaders in roadway incident response safety during the 2018 National Traffic Incident Response Awareness Week to envision the future of roadway incident response safety and traffic incident management. Together, the group identified what has been successful, what still needs to be done, and what is required to achieve the vision of a future where all responders working on the roadway are properly protected while they do their jobs.

The workshop began with a presentation by Todd Leiss of the Pennsylvania Turnpike Commission about PennTIME, the Turnpike's roadway response vehicles, and the new PennSTART training facility being built at State College. Bruce Trego, Acting Pennsylvania State Fire Commissioner, also made brief remarks to the group.

Then, on behalf of CVVFA, Bob Cumberland presented a resolution to Todd Leiss of the Pennsylvania Turnpike Commission in recognition of the Commission's support for hosting the workshop.

The working session opened with Steve Austin reviewing the history of CVVFA's work in roadway incident response safety, beginning with two tragic losses in 1998: Captain Joseph Kroboth, Jr. of the Volunteer Fire Company of Halfway (Maryland), who was struck and killed in 1998 while directing traffic at a motor vehicle incident, and the Pennsylvania Turnpike crash that took the life of Firefighter David J. Good and injured nine others from Lionville Fire Company and Uwchlan Ambulance. Captain Kroboth's son, Joe Kroboth III, was in attendance at the meeting and expressed his thanks to the group for the work of CVVFA and all who put responder safety first. Mr. Austin laid out the work CVVFA has done since then, the successes, and the challenges.

Then, the workshop attendees participated in a series of breakout groups that first looked back, reflecting on what has been successful and why and what hasn't worked and why. Then, the breakout groups tackled "what's next to affect TIM," followed by what's important to the roadway incident safety effort going forward. Finally, the full group identified its top three things needed to make responder safety successful in the future.

The workshop wrapped up with Jack Sullivan bringing the group up to speed on the latest things he is seeing and all group members providing a final summary statement.

Workshop Participants

The following persons attended the workshop.

Steve Austin
Cumberland Valley Volunteer Firemen's
Association

Marc Bashoor
Public Safety Director/Fire Chief, Highlands
Co FL, Executive Editor FireRescue1.com

Harry Carter
Editor, ResponderSafety.com

Victor Conley
Irving (TX) Fire Department

Bob Cumberland
Cumberland Valley Volunteer Firemen's
Association

Jerry Daniels
Cumberland Valley Volunteer Firemen's
Association

Bill Jenaway (Facilitator)
Volunteer Firemen's Insurance Services, Inc.

Karis Kline
NIOSH Fire Fighter Fatality Investigation and
Prevention Program

Joe Kroboth
Cumberland Valley Volunteer Firemen's
Association

Todd Leiss
Pennsylvania Turnpike Commission

Alvin Marquess
Maryland CHART Program (Ret.)

Tom Martin
Virginia State Police (Ret.)

Rich Marinucci
Fire Department Safety Officers Association

Angela Roper Barnett
Arizona Professional Towing & Recovery
Association

Ernie Rojahn
The Pennsylvania Fireman

Jerry Ozog
Volunteer Firemen's Insurance Services, Inc.

Bill Peterson
Cumberland Valley Volunteer Firemen's
Association

Jack Sullivan
Director of Training, Emergency Responder
Safety Institute

John Sullivan
Tennessee Department of Transportation

Ron Tennant
Grand Rapids (MI) Fire Department

John Tippet
National Fallen Firefighters Foundation

Bruce Trego
Acting Pennsylvania State Fire Commissioner

Bill Troup
U.S. Fire Administration

Jack Urling
Pennsylvania State Fire Police

Mike Wieder
Oklahoma State University

Greg Yost
Cumberland Valley Volunteer Firemen's
Association

Rod Ammon and Cathy Dipierro, both from Stonehouse Media, attended on behalf of ResponderSafety.com.

The following individuals were invited but unable to attend: Allen Baldwin (Cumberland Valley Volunteer Firemen's Association), Grady Carrick (Florida Highway Patrol, Ret.), Tony Mento (FHWA), Tim Merinar (NIOSH), Joey Sagal (Maryland State Highway Authority), and Dave Wolfe (Pennsylvania Turnpike Commission).

The Interagency Cooperation Model for Responder Safety and Traffic Incident Management: The Pennsylvania Case

The workshop opened with a close look at how the Commonwealth of Pennsylvania became a leader in the statewide implementation of traffic incident management as a tool to keep responder safe on the roadways. Pennsylvania has put into action the interagency and Traffic Incident Management Committee approach considered to be the gold standard. Learning more about their experience provides an instructive way to think about how far we have come in the last two decades in addressing responder safety and traffic incident management so we can think more expansively about where to go from here.

Todd Leiss, Traffic Incident Management Coordinator for the Pennsylvania Turnpike Commission, began his remarks with the story of Pennsylvania State Police Sgt. Robert Bemis, who survived critical struck-by injuries sustained while assisting a motorist on I-81 to become an advocate for responder safety. This is not an isolated incident. Pennsylvania alone has lost hundreds of emergency personnel and transportation professionals to struck-bys. According to ResponderSafety.com, in 2017 and 2018, 20 members of the fire service were struck and killed while working on the roadway nationwide. A NIOSH study released in February 2019 of Census of Fatal Occupational Injuries (CFOI) data found that 191 towing and recovery professionals were killed from 2011–2016 (an average of nearly 43 deaths every year), the leading cause of these deaths was motor vehicle incidents, and many of these incidents were vehicle struck bys.¹ The National Law Enforcement Officers Memorial Fund reports that 24 law enforcement officers were struck by a vehicle and killed in 2017 and 2018.²

Mr. Leiss's presentation shared statistics, including:

- Traffic incidents are the leading killer of emergency responders
- 25% of all congestion in the United States is related to traffic incidents
- For each minute a travel lane is blocked, an estimated four minutes of delay occurs after the incident is cleared
- For each minute a roadway is blocked, the risk of a secondary crash increases by 2.8%

¹ Source: National Institute for Occupational Safety and Health. Retrieved April 2, 2019. (<https://www.cdc.gov/niosh/research-rounds/resroundsv4n8.html#a>)

² Source: National Law Enforcement Officers Memorial Fund. Retrieved April 2, 2019. (<https://nleomf.org/facts-figures/causes-of-law-enforcement-deaths>)

Mr. Leiss also noted the “D” Driver (drunk, drugged, drowsy, distracted) problem as a growing hazard to roadway responders.

Mr. Leiss detailed how Pennsylvania has implemented, and continues to work within, the recommended interagency approach to traffic incident management and responder safety, including local and regional TIM teams in the state, metropolitan planning organizations (MPOs), Regional TIM Steering Committees, and the PennTIME program. The TIM Teams/Task Forces/Committees meet regularly to do the following:

- identify and discuss problem areas and needs,
- collaborate in developing solutions and strategies,
- conduct and/or share outcomes from recent after-action reviews (AARs),
- promote awareness of ongoing TIM-related activities and initiatives,
- facilitate multidiscipline training opportunities, and
- establish, reinforce, and renew relationships.

Mr. Leiss then provided an overview of PennTIME, an interagency program to reduce highway incident clearance times and improve responder safety. PennTIME grew out of the 2016 Pennsylvania TIM Summit. That summit identified five priority action items:

1. Establish the PennTIME program
2. Establish an Executive Statewide Traffic Incident Management Panel
3. Establish a Joint Operational Policy
4. Enhance and coordinate joint training activities
5. Improve driver education and outreach

PennTIME participating organizations are PennDOT, the Pennsylvania Department of Health, Pennsylvania State Police, Pennsylvania Emergency Management Agency, and Pennsylvania Turnpike Commission. PennTIME is organized as follows:

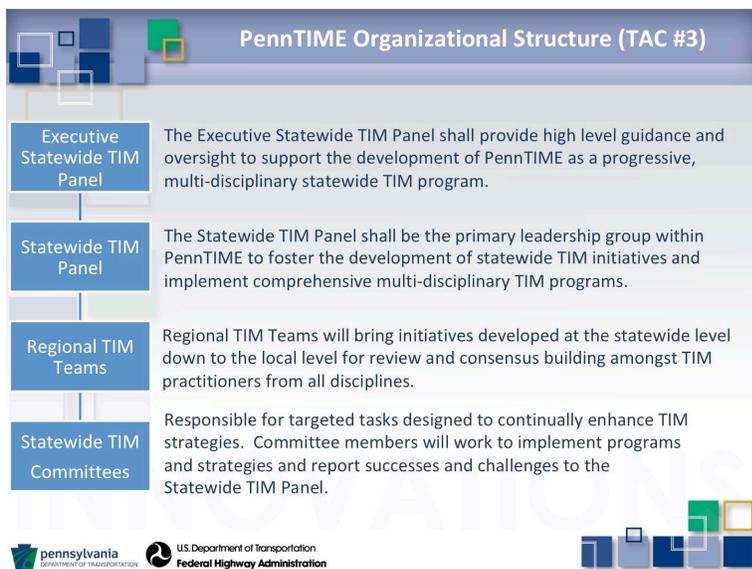


Figure 1: PennTIME Organizational Structure. (Courtesy of PennTIME.)

PennTIME has established an interagency agreement and a Joint Operational Policy. The group meets quarterly and includes representatives from all agencies involved in roadway response, including communications, emergency management, EMS, fire/rescue, law enforcement, towing and recovery, transportation/public works, and traffic engineering. PennTIME Committees address training, technology, public education and outreach, legislative affairs, TIM Task Force development, and towing and recovery. Each committee has specific goals and is working on different initiatives to reach those goals. At this time, each committee's major areas of focus are as follows:

- **Training:** SHRP2³ E-Learning / Improvements to fire service training / Improving AARs / Formalized Unified Command Training / Engaging elected officials and other high-ranking individuals
- **Technology:** Performance Measures / INRIX Dangerous Slowdowns / Genetec to stream cell phone video at scenes / Drones
- **Public Education:** Newsletter / Media buys / Sporting event sponsorships / Radio traffic report PSAs
- **Legislative Affairs:** Legislative issues / Hold Harmless / Automated Work Zone Speed Pilot Program (PTC & PennDOT)
- **TIM Task Force Development:** South Central PA TIM Team (HATS)
- **Towing & Recovery:** Review of PA Towing Act / Rotation List issues

PennTIME uses a Dynamic Operations Model:



Figure 2: PennTIME Dynamic Operations Model. (Courtesy of PennTIME.)

³ More information on the Second Strategic Highway Research Program (SHRP2) can be found here: <http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/Blank2.aspx>

PennTIME maintains a Facebook presence at www.facebook.com/groups/PennTIME/, LinkedIn at <https://www.linkedin.com/company/penntime/>, and Twitter at <https://twitter.com/penntime>.

Mr. Leiss then gave the group a look at the plans for a new PennSTART training facility being built in State College, PA. PennSTART is a high-speed test track and transportation facility for research, testing, and training that is designed to accelerate innovation in 1) safety testing and training for TIM, work zones, railways, and aircraft; 2) connected and autonomous vehicle testing; and 3) tolling and intelligent transportation systems (ITS) technology testing. The design includes as many different roadway types, topographies, surfaces, and configurations as possible. The facility is scheduled to open in 2022.

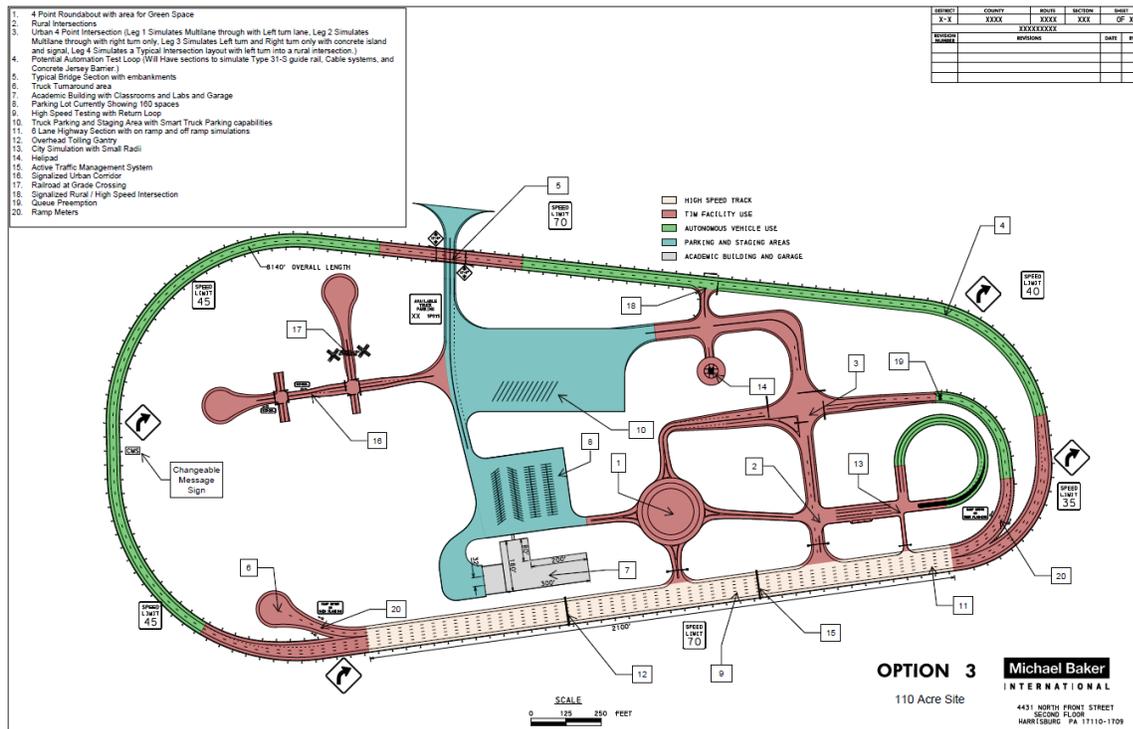


Figure 3: Site Plan for PennSTART training facility at State College, PA. (Courtesy of the Pennsylvania Turnpike Commission.)



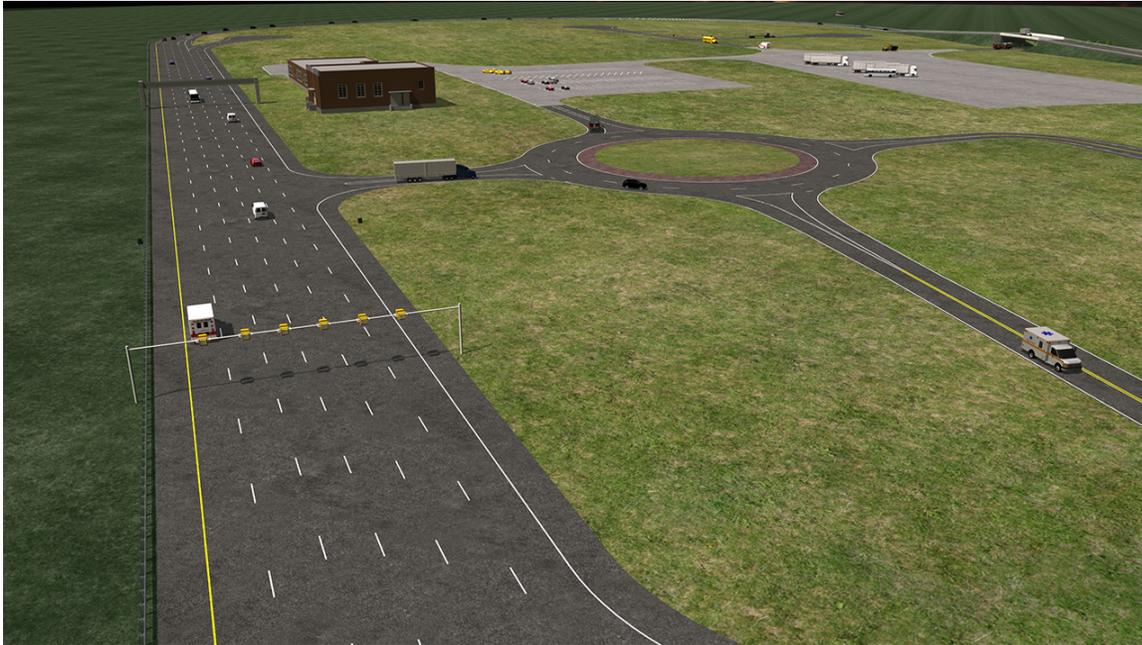


Figure 4: Three artist 3D renderings of the PennSTART training facility in State College, PA. (Courtesy of the Pennsylvania Turnpike Commission.)

During this portion of the workshop, Bruce Trego, acting Pennsylvania State Fire Commissioner, made brief remarks to the group.

The History of Roadway Response Safety

Noting that the fire service has a history of good things coming out of terrible losses such as the struck-by deaths of Dave Good and Joe Kroboth, Steve Austin laid out the highlights of how CVVFA has lifted roadway response safety to the forefront and into the national conversation. In the two decades since the losses of Firefighter Good and Captain Kroboth, CVVFA has done the following:

- launched ResponderSafety.com and the Responder Safety Learning Network;
- built relationships with key leaders in the fire service and other response agencies;
- advocated for the National Unified Goal that made responder safety a priority;
- supported the SHRP2 national TIM training program development and deployment;
- pushed for a national struck-by and near miss reporting system;
- successfully petitioned NFPA to create a professional qualifications standard for traffic incident management professionals (*NFPA 1091*);
- secured permission to offer a National TIM Training Certificate equivalent to the SHRP2 training;
- took up the mantle of educating the public on safe driving practices at emergency incidents and discouraging distracted driving;

- sat at many tables discussing traffic incident management where the voice of responders was not previously represented and heard

The process for achieving these milestones began in 1999 with the first Fire Police Summit. A wealth of information was collected at that summit, which became the basis for coining the term “responder safety” and defining what that meant. A follow-up survey solicited input from 125 emergency response professionals, which was taken to a 1999 meeting at the National Fire Academy to write “Protecting Emergency Responders on the Roadway,” the seminal white paper from CVVFA that would launch the movement. Much progress has been made on the issues laid out in that white paper, but many points are still works in progress.

In 2000, CVVFA launched Respondersafety.com and adopted a “big tent” approach, incorporating the needs and voices of all responders working on the roadway, regardless of their agency. From the beginning, CVVFA knew responder safety had to be for all agencies and provide the forum to get together, listen, and learn from each other. Early on and continually throughout its work, CVVFA secured the support of key industry groups, including the International Association of Fire Fighters (IAFF), International Association of Fire Chiefs (IAFC), Federal Highway Administration (FHWA), National Volunteer Fire Council (NVFC), International Association of Chiefs of Police (IACP), National Law Enforcement Officers Memorial Fund (NLEOMF), Fire Department Safety Officers Association (FDSOA), and the National Fallen Firefighters Foundation (NFFF). CVVFA and ResponderSafety.com began advocating and teaching responder safety based on best practices. As the idea of responder safety gained traction, CVVFA approached the Federal Highway Administration to work with them on initiatives like SHRP2 (Second Strategic Highway Research Program) and the National Unified Goal. CVVFA cast the deciding ballot to authorize establishing the SHRP2 TIM Training. The National Unified Goal changed the conversation by codifying responder safety as an equal priority with incident clearance.

Building on this success, CVVFA consciously pursued key leaders in other agencies beyond the fire service who were enthusiastic about the idea of traffic control as a key to responder safety. CVVFA brought these leaders into the effort, building a network of professionals in law enforcement, towing and recovery, safety service patrols, and transportation. CVVFA also built a bridge to the NIOSH Fire Fighter Fatality Program to review their fatality reports for lessons learned in traffic control that impacted the best practices taught in responder safety.

After almost a decade of this work, the emergency response community recognized CVVFA’s leadership in responder safety. In 2007, the Congressional Fire Services Institute and the National Fallen Firefighters Foundation named CVVFA the recipient of the prestigious Senator Paul S. Sarbanes Fire Safety Leadership Award. The Sarbanes Award recognized CVVFA’s work to establish the Emergency Responder Safety Institute to educate first responders about the hazards of roadway operations and promote best practices, policies, procedures, and national standards to minimize first responder deaths and injuries on the roadway. CVVFA also earned the NFFF Seal of Excellence under the Everyone Goes Home program and the 2008 Chief Billy Goldfeder Organization Safety

Award. In addition, much of the best practices and recommendations that CVVFA/ERSI had developed were reflected in the SHRP2 training.

Many times, CVVFA was first to embrace the potential of a new idea to further the goals of responder safety. This included developing Watch Out Behind You (which was the first roadway safety program to be distributed online), building a struck-by incident database, advocating for near miss reporting by proposing a national database to be administered by IAFC, and collecting data with which to make policy decisions. CVVFA was also first to provide online training in responder safety and traffic incident management, by debuting the Responder Safety Learning Network (RSLN) in 2012. RSLN has since grown to over 45,000 registered users and more than 30 modules on all aspects of responder safety and covering all disciplines.

In 2010, CVVFA was the first organization to press the National Fire Protection Association to create a national professional qualifications standard for traffic control. This intense effort culminated with the release of the first edition of *NFPA 1091: Standard for Traffic Incident Management Personnel Professional Qualifications* in 2015. A second edition was released in February 2019. This was a watershed moment because it defined professional qualifications that can be used for training, hiring, promotion, and certification. Furthermore, in 2016, the Federal Highway Administration granted CVVFA permission to issue a National TIM Certificate on the Responder Safety Learning Network. Earning this certificate online is equivalent to attending the National TIM Training from FHWA. To date, over 9,000 responders have earned the National TIM Certificate from the Responder Safety Learning Network. States, most recently Texas, and municipalities are requiring TIM training and authorizing ResponderSafety.com as a provider, some even participating in a secondary reporting program that allows training results from RSLN users to be reported directly to the department.

CVVFA continues to push the responder safety agenda forward at the national level and within existing, established structures. In 2019, CVVFA and the Fire Department Safety Officers Association will jointly debut the first Pro Board–accredited training program culminating in a certification to the *NFPA 1091* standard. CVVFA also secured representation on the technical committee tasked with revising the Manual on Uniform Traffic Control Devices (MUTCD), which has not had a new edition since 2009. CVVFA is the only representative from the emergency services on this committee and has tirelessly advocated for the needs of responders when determining the requirements for traffic control as set in the MUTCD. Starting in 2017, CVVFA began investigating connected and autonomous vehicle technology and has been on a ride-along with Waymo, a leading autonomous vehicle developer, to provide the perspective and input of first responders.

CVVFA's newest initiatives focus on public education about the dangers to first responders of distracted and impaired driving. This effort empowers public information officers (PIOs) and public educators with materials such as videos, push cards, statistics, and media outreach templates to push public safety messages like Slow Down Move Over, Move It (Fender Bender, Steer It Clear It, Put Your Phone Down!), and avoiding distracted driving. Public education materials produced in cooperation with the National Law Enforcement

Officers Memorial Fund (NLEOMF) and the National Safety Council (NSC) are now available at highway rest stops and other travel locations throughout the northeast United States, Texas, Nevada, and Florida. CVVFA's longtime print partner, *The Pennsylvania Fireman*, consistently supports both CVVFA's responder safety and public education objectives with publicity and articles.

Today, CVVFA continues its commitment to advancing responder safety and traffic incident management with this paper, summarizing how leading professionals in responder safety took stock of where we have been, where we are now, and where we need to go.

What Has Been Successful and Why?

With the groundwork laid, the work of the meeting participants began. First, the workshop participants looked back, reflecting on what has been successful and why, as well as what hasn't worked and why. Small breakout groups met and then reported their discussions back to the full group. Successful factors identified by groups included the following:

- growing an initial cadre of champions of roadway safety who have served as visionaries, catalysts, and change agents;
- collaboration, networking at the national level, and interagency cooperation;
- willingness to share information, knowledge, and experience and learn from others;
- recognition by existing institutions and large national organizations (FHWA, IACP, IAFC, IAFF, United States Fire Administration [USFA], FDSOA, NSC, NLEOMF, NVFC, FDSOA, NFPA) of the importance of traffic incident management and responder safety training for all personnel;
- recognition of roadway safety as important by USFA, FHWA, and other federal agencies;
- progressive thinking;
- passage of legislative initiatives such as Slow Down Move Over;
- integration of responder safety and traffic control principles into existing standards, including NFPA 1500 and the federal MUTCD;
- the creation of NFPA 1091 as the professional qualifications standard for traffic control;
- codification of blocking and safe positioning into SOPs;
- greatly increased awareness in the responder community about the risks and hazards of working in or near moving traffic and the role of TIM in mitigating those risks and hazards;
- identifying best practices;
- creating safety training, particularly online training;
- education on a safety focus in traffic environments;
- creating a core of information on ResponderSafety.com;
- increased use of high visibility apparel when at an incident scene;
- personal connections to struck-by incidents, LODDs, and near misses;
- use of social media to spread safety messages.

The things that have been less successful were identified to be:

- data collection,
- uniform reporting and “one-stop shopping” for reporting struck by and near miss incidents across all agencies,
- modifying human behavior,
- driver education, and
- enforcement of existing laws like Slow Down Move Over.

What’s Next to Affect TIM?

The breakout groups also tackled the question, “What’s next to affect TIM?” Their brainstorming highlighted many factors that are either on the horizon or already here that are going to affect roadway safety and traffic incident management:

- need for better driver education and driver safety training, particularly for new drivers;
- institutionalizing known best practices into training and professional development for all disciplines;
- stronger enforcement of existing safety measures and legislation (such as Slow Down Move Over);
- connected vehicles;
- autonomous vehicles;
- traffic control in mass incidents;
- drones (unmanned aerial vehicles);
- new technologies in advance warning.

This provides a map for starting to think and act proactively on these emerging issues by considering how they will affect emergency personnel and how to respond to that.

What’s Important to the Roadway Safety Effort Going Forward?

Next, the breakout groups considered what’s important to the roadway safety effort going forward, what’s needed to move to the next level, and why. The groups identified the following items:

- Data
 - data collection, research, analysis, and sharing on responder fatalities, responder injuries, near misses, property damage, and civilian injuries and fatalities by a uniform means across all disciplines
 - validation of the effectiveness of best practices
 - research into effective messaging, particularly for public education
- Leadership and Culture

- expand buy-in by influential organizations and leaders; exploiting those relationships to continue awareness and implementation
- engage thought leaders to become influencers (not just supportive, but actively influencing and requiring)
- create a sense of urgency, specifically through personalization of the message and the mission
- grow TIM Committees and TIM Task Forces as a model for interagency cooperation and joint planning
- continued culture change, for both responders and civilians, to emphasize safety first
- encourage greater participation from outside the East Coast, including the South and West, rural, and volunteer departments
- obtain a seat at the table for responders on committees drafting and revising important national standards affecting roadway response, including the MUTCD and *NFPA 502: Standard for Road Tunnels, Bridges, and Other Limited Access Highways*
- recruit a new generation to carry on and expand this work
- Standards and Procedures
 - integrate traffic control and responder safety principles into standards for disciplines other than the fire service, such as the National EMS Scope of Practice
 - source model SOPs and standardized guidelines to provide to departments to customize for their jurisdiction
- Training
 - make roadway incident response safety training as a priority in every department
 - integrate safety training into existing training systems in each discipline
 - define TIM and responder safety refresher training requirements for first responders
 - create tools for instructors to teach roadway response safety to get training to even more responders, possibly a next-generation standardized curriculum with a multidisciplinary perspective
 - offer incentives to prioritize roadway response safety training, such as reducing insurance premiums, improving ISO ratings, adding requirements for such training to apply for an Assistance to Firefighters Grant and/or to fulfill state requirements (similar to what the Texas Commission on Fire Protection has already done), and creating a patch or decal for responders who complete training
 - break down tribalism with regard to state training systems and make these systems more reciprocal and open to each other
 - offer a national certification in TIM and responder safety
- Public Education
 - improve and expand public education on how to safely pass an emergency scene and how to avoid distracted driving
 - undertake a sustained marketing effort to keep the topic of responder safety in front of the public

- Enforcement
 - Improve enforcement when motorists do not comply with existing laws
 - Consider use of technologies like cameras to improve enforcement
 - Improve cooperation with the judiciary to hold motorists accountable for failure to comply with existing laws

What Critical Factors Will Make Responder Safety Successful?

Finally, the group brainstormed the critical success factors for responder safety going forward. Seventeen factors were proposed by the groups (see Appendix A). All group members voted for their top-three critical factors needed to make responder safety successful in the future. The top three factors were as follows:

1. Data collection, analysis, and distribution
2. Training and education (for responders and for the public)
3. Funding

The group felt that data collection was critical to understanding the full scope of the struck-by, near miss, LODDs, injury, and property damage problems that plague roadway incident response. Data collection also is important for prioritizing responder safety and successfully securing funding. Lack of funding at all levels was identified as a major barrier to access for those departments who have the will to implement traffic incident management and roadway response safety but not the resources, especially smaller and volunteer departments. Finally, the group praised current training and education efforts as bringing us a long way toward implementing safety at every incident scene and felt that continuing to expand access to the training from established entities, such as the Responder Safety Learning Network, is necessary to get best practices into the hands of all first responders.

Looking Forward

The workshop wrapped up with Jack Sullivan, director of training for ERSI, bringing the group up to speed on the latest things he is seeing as one of the country's foremost experts on roadway response safety:

- The expansion of legislation related to distracted driving and handheld devices, specifically "hands free" legislation which has passed or is under consideration in several U.S. states and all of Canada. Mr. Sullivan advised all participants to stay up to date with their state's statutes and support legislation as appropriate.
- The need for more extensive data collection. Mr. Sullivan asked all participants to report incidents to ResponderSafety.com and make use of the National Near Miss database (nationalnearmiss.org).
- *NFPA 1901* is in revision and the Technical Committee has been receptive to input with regard to traffic control markings and devices, including changes to the

emergency lighting requirements to allow for reduction of lighting intensity and flash rates at night. Responders are encouraged to participate in the public comment portion of NFPA standards related to traffic control and roadways.

- A new Manual on Uniform Traffic Control Devices will be announced in 2019. Mr. Sullivan has provided input to the committee on behalf of responders.
- Mr. Sullivan was able to visit Waymo in Arizona to get a firsthand look at their autonomous vehicle technology. He reported being impressed with how the Level 4 vehicle reacts to various roadway conditions and hazards and left feeling more positive about the impact of fully autonomous vehicles on roadway response safety, although Level 2 and 3 semi-autonomous vehicles do present more scene safety challenges. Mr. Sullivan encouraged all workshop participants to stay current with this technology.
- Mr. Sullivan encouraged the group to get out there and train other responders, conduct training classes, write articles, post on social media about safety issues, and speak to the general public about the dangers distracted driving poses to responders working on the roadway.
- John Tippett commented that NFFF Advocates are soliciting ideas on LODDs and injury prevention strategies in the field and that roadway response safety practices fit well into this activity.

All participants made brief closing comments, with many expressing gratitude for the workshop and the free sharing of knowledge and opinions. Perhaps Victor Conley summed it up best when he used the term “servant heart” to describe this work. The feeling was one of renewed energy and commitment to responder safety and to traffic incident management as a critical tool for keeping responders safe on the roadways.

Appendix A: Proposed Critical Success Factors

In no particular order, these are the critical success factors identified by the breakout groups followed by the number of votes each received from the top-three voting process. The top three, as voted on by the full group, are highlighted in yellow.

- Educate general public (6)
- Educate emergency responders (6)
- Partnership exploitation
- Next generation champion (4)
- Data collection, analysis, quantification, and metric establishment (15)
- One-stop-shop database of incidents (1)
- Enforcement (1)
- Driver education and safety training
- Change/modify human behavior (4)
- Develop and release training and best practices (5)
- Legislative code/standard efforts (1)
- Technology enhancements (3)
- Research and development with universities and others
- Expand beyond East Coast focus
- Succession planning (2.5)
- Funding (10.5)
- Institutionalization of TIM (4)

Appendix B: Suggested Reading

Workshop participants were supplied with the following documents as suggested reading prior to the meeting and as handouts at the meeting.

Report of the National Fire Police Summit. Cumberland Valley Volunteer Firemen's Association. 1999.

Protecting Emergency Responders on the Roadways: A Ten Year Review. Emergency Responder Safety Institute. National Roadway Incident Safety Summit. June 23–24, 2009.

Protecting Emergency Responders on the Highways: A White Paper. Cumberland Valley Volunteer Firemen's Association. October 30-31, 1999.