DETERMINING THE RELATIVE IMPACT OF PSAs AND BROCHURES UPON GENERAL PUBLIC DRIVERS INTERFACING WITH EMERGENCY SERVICE VEHICLES

Completed on a grant to Cumberland Valley Volunteer Fireman's Association.

By VFIS Education, Training, and Consulting

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DETERMINING THE RELATIVE IMPACT OF PSAs AND BROCHURES UPON GENERAL PUBLIC DRIVERS INTERFACING WITH EMERGENCY SERVICE VEHICLES

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EXECUTIVE SUMMARY

Firefighters, law enforcement personnel, tow operators and emergency medical service personnel are at risk when working on highways to manage emergency incidents. Annually there are scores of responders injured or killed while helping others.

One effective tool in communicating accident prevention techniques is the use of public service announcements (PSA) to communicate a message of importance to individuals. Such a PSA was developed and released. This project was intended to determine the relative impact of PSAs and brochures upon general public drivers interfacing with emergency service vehicles.

As a result of this project, several key points can be stated:

- Lack of driver preparation and awareness of proper driving techniques in emergency incident zones contributed to near misses (close calls), injuries and fatalities of emergency responders.
- PSAs are only as good as their distribution network. The best PSA in the world is of little value if reviewed only by a small audience.
- The PSA should repeat a single theme; when you see emergency vehicles, slow down and more over (moving over may be to the left or right).
- "Slow Down and Move Over" laws and associated information decimation will reduce emergency responder tragedies while operating on highways.
- Public education initiatives, including the use of public service announcements and the full use of available technology in information dissertations, are integral elements of addressing the national public of emergency responder injuries and fatalities while performing their duties on emergency incident scenes.
- In order to have maximum impact, the PSA distribution must include organizations like AAA. (Don't just think of cable TV, high schools and driving classes).

The report had four conclusions:

1. "Slow Down and Move Over" is an effective and easy to remember safety phrase that should be included in all relevant PSAs.
2. Continue and expand the use of PSAs in communicating slow down and move over practices when encountering emergency responders and vehicles on the highway.
3. Monitor the results of accidents and PSA impacts to determine programmatic/message modifications in the future.
4. Conduct research into the impact of distractions on driving behaviors when interfacing with emergency responders and their vehicles.

The literature review and related field testing findings using driving simulation supported the hypothesis, thus suggesting continued and expanded use of literature and public service announcement visual messaging to protect emergency responders on the highway.

In summation:

The viewing or reading of information suggesting a driver move over and slow down when encountering emergency vehicle on the highway will result in more responsive actions by the vehicle operator.

BACKGROUND & PROBLEM STATEMENT

Emergency responder routinely witness the carnage caused by vehicle collisions on the highways.

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, will not become a victim themselves.

A seminal event focused attention on this issue. While directing traffic around an accident scene on an interstate highway in western Maryland in May 1998, fire police 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.[1]

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 polices officers, firefighters, and emergency medical services (EMS) personnel. Those at risk, and to whom this lifesaving effort is dedicated, include virtually the entire pool of emergency responders – all those called upon to respond to incidents that occur anywhere near vehicular traffic.[2]

The process used two problem statements as the foundation for the analysis and development of recommendations. The problem statements involved:

1. There is a 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; and
2. 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 operations.

Among the issues identified for action were:

- Training
- Operations
- Legislation, regulation, research, and standards,
- Human resources, and
- Public education[3]

[1] Ibid, page 3
[2] Ibid, page 3
[3] Cumberland Valley Volunteer Fireman's Association, "Protecting Emergency Responders on the Highways – 'The Secondary Incident Problem' – A White Paper", CVVFA, Octo ber 30-31, 1999, Emmitsburg, MD. 9 Pages.

With regard to public education, the following was defined.

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 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 any 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.[4]
- High school driver's education programs should have a driving near or around "not normal" traffic scenes. Not normal may be a crash or fire scene, an emergency vehicle pulled behind a vehicle at the side of a road, or a change in traffic patterns due to road construction.

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 leaders all have a responsibility to reduce the risk to those who are on the highways to help others from becoming victims themselves.[5]

During the period 2007-2009 there were fatalities involving law enforcement and fire service personnel resulting from being struck by a vehicle, as follows:

EMERGENCY RESPONDER FATALITIES STRUCK BY VEHICLES

Fallen Officers Struck by Vehicles 2007-2009			
2007	2008	2009	**TOTAL**
14	18	10	**42**

Source: National Law Enforcement Officers Memorial Fund
http://www.nleomf.org/facts/officer-fatalities-data/causes.html
http://www.usfa.fema.gov/fireservice/fatalities/statistics/index.shtm

[4] Cumberland Valley Volunteer Fireman's Association, "Protecting Emergency Responders on the Highways – 'The Secondary Incident Problem' – A White Paper", CVVFA, Octo ber 30-31, 1999, Emmitsburg, MD. Page 9.
[5] Ibid.

Fallen Fire Service Personnel Struck by Vehicles 2007 - 2009			
2007	2008	2009	**TOTAL**
1	7	4	**12**

Source: Responder Safety Institute
http://www.respondersafety.coml
http://www.usfa.fema.gov/fireservice/fatalities/statistics/index.shtm

These issues serve as the foundation for actions taken in this project.

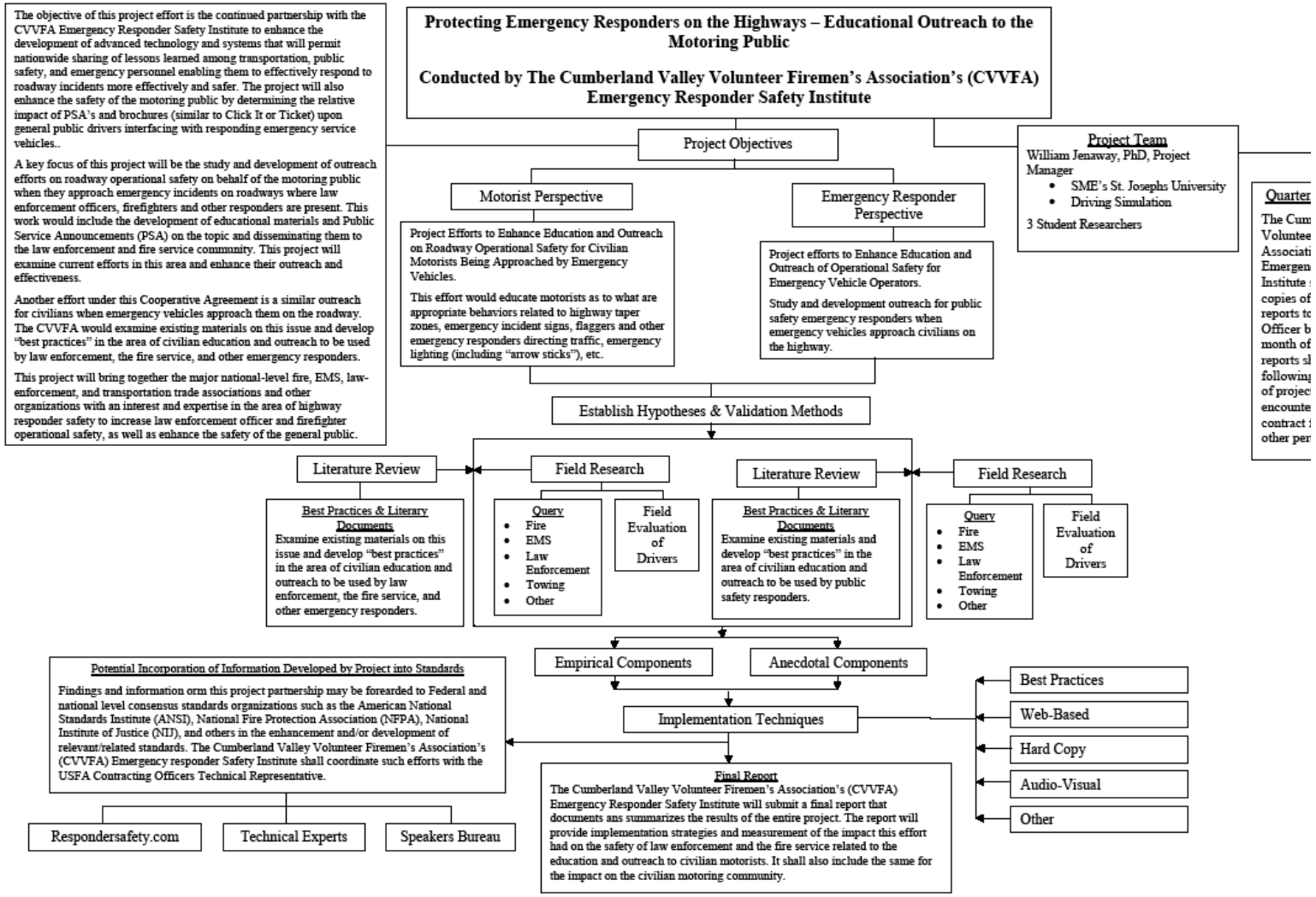
PURPOSE AND SCOPE OF THE STUDY

The objective of this project effort is a continued partnership between the USFA and CVVFA Emergency Responder Safety Institute to enhance the development of advanced technology and systems that will permit nationwide sharing of lessons learned among transportation, public safety, and emergency personnel enabling them to effectively respond to roadway incidents more effectively and safely. The project will also enhance the safety of the motoring public.

A key focus of this project was the study and development of outreach efforts on roadway operational safety on behalf of the motoring public when they approach emergency incidents on roadways where law enforcement officers, firefighters and other responders are present. This work would include the development of educational materials and Public Service Announcements (PSAs) on the topic and disseminating them to the law enforcement and fire/EMS service community. This project will examine current efforts in this area and enhance their outreach and effectiveness.

Another effort under this Cooperative Agreement is a similar outreach for civilians when emergency vehicles approach them or they approach an emergency scene on the roadway. The CVVFA examined existing materials on this issue and developed “best practices” in the area of civilian education and outreach to be used by law enforcement, the fire service, and other emergency responders.

This project will bring together the major national-level fire, EMS, law-enforcement, and transportation trade associations and other organizations with an interest and expertise in the area of highway responder safety to increase law enforcement officer and emergency responders operational safety as well as enhance the safety of the motoring public.


The objective of this project effort is the continued partnership with the CVVFA Emergency Responder Safety Institute to enhance the development of advanced technology and systems that will permit nationwide sharing of lessons learned among transportation, public safety, and emergency personnel enabling them to effectively respond to roadway incidents more effectively and safer. The project will also enhance the safety of the motoring public by determining the relative impact of PSA's and brochures (similar to Click It or Ticket) upon general public drivers interfacing with responding emergency service vehicles..
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This project will bring together the major national-level fire, EMS, law-enforcement, and transportation trade associations and other organizations with an interest and expertise in the area of highway responder safety to increase law enforcement officer and firefighter operational safety, as well as enhance the safety of the general public.
Protecting Emergency Responders on the Highways – Educational Outreach to the Motoring Public
Conducted by The Cumberland Valley Volunteer Firemen's Association's (CVVFA) Emergency Responder Safety Institute
Project Objectives
Project Team
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Driving Simulation
3 Student Researchers
Motorist Perspective
Emergency Responder Perspective
Project Efforts to Enhance Education and Outreach on Roadway Operational Safety for Civilian Motorists Being Approached by Emergency Vehicles.
This effort would educate motorists as to what are appropriate behaviors related to highway taper zones, emergency incident signs, flaggers and other emergency responders directing traffic, emergency lighting (including "arrow sticks"), etc.
Project efforts to Enhance Education and Outreach of Operational Safety for Emergency Vehicle Operators.
Study and development outreach for public safety emergency responders when emergency vehicles approach civilians on the highway.
Establish Hypotheses & Validation Methods
Literature Review
Field Research
Literature Review
Field Research
Best Practices & Literary Documents
Examine existing materials on this issue and develop "best practices" in the area of civilian education and outreach to be used by law enforcement, the fire service, and other emergency responders.
Query
Fire
EMS
Law Enforcement
Towing
Other
Field Evaluation of Drivers
Best Practices & Literary Documents
Examine existing materials and develop "best practices" in the area of civilian education and outreach to be used by public safety responders.
Query
Fire
EMS
Law Enforcement
Towing
Other
Field Evaluation of Drivers
Empirical Components
Anecdotal Components
Implementation Techniques
Best Practices
Web-Based
Hard Copy
Audio-Visual
Other
Potential Incorporation of Information Developed by Project into Standards
Findings and information orm this project partnership may be forearded to Federal and national level consensus standards organizations such as the American National Standards Institute (ANSI), National Fire Protection Association (NFPA), National Institute of Justice (NIJ), and others in the enhancement and/or development of relevant/related standards. The Cumberland Valley Volunteer Firemen's Association's (CVVFA) Emergency responder Safety Institute shall coordinate such efforts with the USFA Contracting Officers Technical Representative.
Respondersafety.com
Technical Experts
Speakers Bureau
Final Report
The Cumberland Valley Volunteer Firemen's Association's (CVVFA) Emergency Responder Safety Institute will submit a final report that documents ans summarizes the results of the entire project. The report will provide implementation strategies and measurement of the impact this effort had on the safety of law enforcement and the fire service related to the education and outreach to civilian motorists. It shall also include the same for the impact on the civilian motoring community.

It is also believed that the outcomes of a PSA as applied to the issue of "Slow-down, move over" (reducing vehicle speed and moving to the lane away from emergency vehicle(s) if permitted and as safely as possible) will:

- Assist in achieving the Traffic Incident Management goal of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible.
- Assist in achieving the National Unified Goal (NUG) for traffic incident management (TIM) of responder safety, involve recommended practices for responder safety, move over, slow down laws, driver training and awareness.[6]

This study utilizes a combination of the following in order to develop findings, research needs and conclusions and recommendations related to the protection of emergency responders on the highway:

- Prior findings of highway safety related research projects
- General literature review
- Public service announcements; and
- Driving simulators

[6] FHTA, Advanced Traffic Incident Management Workshop for Mid-Level Managers, Philadelphia, PA, November 2, 2011.

BRIEF OVERVIEW OF EMERGENCY RESPONDER HIGHWAY SAFETY ISSUES[7]

Emergency response personnel and their equipment, being struck on the roadway, continues to be a serious cause of on duty personnel injury and death as well as property damage. To reduce them, the United States Fire Administration (USFA) has developed the following programs and partnerships.

USFA is working with the Cumberland Valley Volunteer Fireman's Association (CVVFA) Emergency Responder Safety Institute to enhance the operational safety of emergency responders on the highways. This ongoing effort has resulted in the development of:

- Support for the Responder Safety.com responder roadway safety operations website.
- A national public service announcement (PSA) that urges motorists to "slow down and move over" for emergency responders operating on the highway.
- A White Paper titled "Protecting Emergency Responders on the Highway"
- A task analysis of those who control traffic at incident scenes, to aid in the development of performance standards for those conducting temporary traffic control operations.
- A guide detailing effective recruitment and retention methods and techniques for fire service traffic control personnel, referred to in some areas of the United States as "fire police".
- A study of civilian driver behavior at roadway operational incidents using simulators. (the topic of this project).

USFA has received support for this partnership initiative from the U.S. Department of Transportation (DOT), Federal Highway Administration (FHWA), and most recently from the U.S. Department of Justice's (DOJ) National Institute of Justice (NIJ). Having DOT, DOJ, and USFA work together toward enhancing roadway operations safety will benefit law enforcement, highway workers and the fire service community alike.

Supported by FHWA, USFA is working in partnership with the International Fire Service Training Association (IFSTA) to update the Traffic Incident Management System (TIMS) Guide, which provides technical guidance and training programs in traffic incident management for fire and emergency service providers. The new TIMS Guide will provide guidance for local level fire departments on compliance with the new FHWA Manual of Uniform Traffic Control Devices.

With the International Association of Fire Fighters (IAFF) supported by the US DOJ/NIJ, an innovative web-based program "Best Practices in Emergency Vehicle and Roadway Safety in the Emergency Services" was developed. This modified an existing Improving Apparatus Response and Roadway Operational Safety in the Career Fire Service Program, developed (and via a USFA/IAFF partnership) a comprehensive training program that includes roadway operations safety for all public safety responders, including law enforcement and DOT responders.

[7] USFA/FEMA, "Roadway Operations Safety", United States Fire Administration flyer, Emmitsburg, MD, 2010

USFA completed a study of emergency warning lighting along with the Society of Automotive Engineers (SAE), which researched how to mitigate the disorientation of motorists caused by emergency warning lights that could lead to responders and vehicles being stuck on the roadway. The findings of this study are detailed in the report "Effects of Warning Lamp Color and Intensity on Driver Vision".

A partnership with IFSTA and supported by the U.S. DOJ/NIJ, produced the Emergency Vehicle Visibility and Conspicuity Study to enhance roadway operations and emergency vehicle safety for firefighters, law enforcement officers, and other emergency responders.

Another initiative that provides an opportunity to enhance driving behaviors and highway safety is the "highway safety strategic plan" developed by each state. These strategic plans are intended to assist in the development and implementation of improved levels of safety to both those who work on highways and those who travel on highways. In many cases, there have been opportunities to implement PSAs and brochures into the operational practices for enhancing highway safety. In New Jersey, federal funding was used to develop and implement an outreach driver education program using mail stuffers and public access television. [8]

In addition, the Federal Highway Administration has validated that advance warning, the use of PSAs, electronic messages, and training by planners and responders will enhance highway safety.[9]

Related initiatives on Emergency Vehicle Safety for emergency responders can be found at

http://www.usfa.fema.gov/fireservice/research/safety/vehicle.shtm

http://www.nij.gov/topics/law-enforcement/officer-safety/roadside-safety/welcome.htm

http://www.usfa.fema.gov/fireservice/research/safety/roadway.shtm

http://www.respondersafety.com

[8] FHTA, Advanced Traffic Incident Management Workshop for Mid-Level Managers, Philadelphia, PA, November 2, 2011.
[9] FHTA, Advanced Traffic Incident Management Workshop for Mid-Level Managers, Philadelphia, PA, November 2, 2011.

PUBLIC SERVICE ANNOUNCEMENTS

There is a fundamental assumption that a visual impacting public service announcement will attract attention to an issue and ultimately change the behavior of drivers. That was the premise of the public service announcement, "Slow Down and Move Over", developed by the Responder Safety Institute.

A public service announcement (PSA) or public service ad is a type of advertisement featured on television, radio, print or other media. Whereas the objective of a standard advertisement is to market a product, a PSA is intended to change the public interest, by raising awareness of an issue, affecting public attitudes, and potentially stimulating action. The most common topics of PSAs are health and safety. A typical PSA is part of a public awareness campaign to inform or educate the public about an issue. The range of possible topics has expanded over time.[10]

Public service announcements have been deemed effective. After reviewing the outcomes of hundreds of mass media campaigns worldwide aimed at a multitude of health-risk behaviors, their simple answer – published in the medical journal Lancet in October 2010 was – yes, they do. But some fare better than others.[11]

Specific to this project, the outcome of effective PSAs

- **Assists in achieving the Traffic Incident Management goal of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as quickly and safely as possible; and**
- **Assists in achieving the National Unified Goal of Traffic Incident Management of Responder Safety involved recommended practices for responder safety, move over, slow down laws, driver training and awareness.[12]**

NEW Slow Down Move Over PSA

It's No Picnic Out Here

[10] http://en/wikipedia.org/wiki/Public_service_announcement
[11] http://www.upi.com/Top_News/Special/2010/11/02/Are-public -service-announcements -effective/UPI-48
[12] FHWA Advanced Traffic Incident Management Workshop for Mid-Level Managers, Philadelphia, PA 11/2/11.

ANALYSIS OF EDUCATIONAL OUTREACH ACTIVITIES

The field experiment included a systematic process of evaluating individuals using a control group and an experimental group. The control was provided:

- an introduction to the process;
- a video presentation of a public service announcement involving something other than the experiment topic;
- an acclimation to a driving simulator, which included actions pertaining to the video PSAs presented; and
- a driving simulation involving situations presented in the PSAs

The test group was provided a similar process with the exception of a point to do, where a "Slow Down Move Over" specific PSA was included.

The **Hawthorne effect** was also considered. It refers to a phenomenon which is thought to occur when people observed during a research study temporarily change their behavior or performance (this can also be referred to as demand characteristics). Others have broadened the definition to mean that people's behavior and performance change following any new or increased attention. The Hawthorne studies have had a dramatic effect on management in organizations and understanding the impact of different factors in the workplace. While potentially a consideration, it was not found valid in the observations of educational outreach activities.

Each participant was categorized according to gender and age (16-25, 26-40, 41-55, 56-70, and over 70). The following factors were also categorized/evaluated by the trained simulation instructors:

- Seat belt connection
- Adjustment of seat belt
- Adherence to speed limits
- Braking activities
- Use of turn indicator
- Coming to a complete stop at stop signs and red traffic signals
- Adhering to the rules of the road
- Effecting proper lane changes
- Maintaining proper closure rates on vehicles being approached
- "Sweeping" the intersection upon entry
- Looking left and right when necessary
- Making a proper turn
- Scanning the roadway
- Slowing when encountering an accident or emergency operations
- Evaluation of any related distractions (e.g. phone ringing, loud music)

The results demonstrated the following:

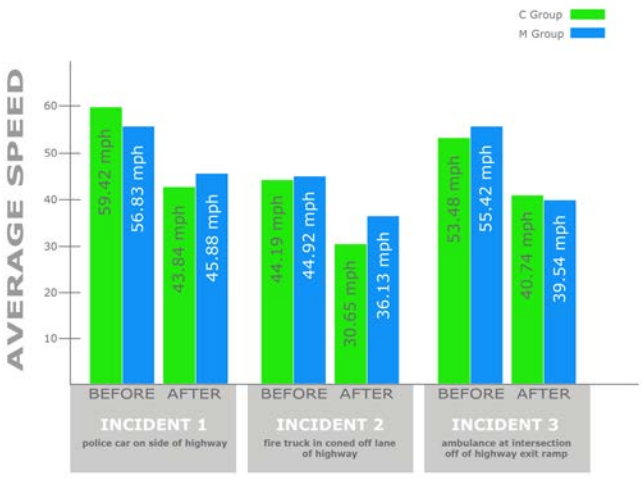
Assessment Issue	% of Control Group	% of Test Group
Failure to buckle seat belt	0%	0%
Failure to adjust seat belt	0%	6%
Failure to adhere to speed limit – speeding	24%	6%
Failure to brake as needed	0%	6%
Failure to use turn indicator	29%	13%
Failure to come to complete stop at stop sign or red light	7%	6%
Failure to adhere to rules of the road	7%	0%
Failure to effect proper lane change	7%	13%
Failure to maintain proper closure rates to vehicle being approached	7%	0%
Failure to "sweep" intersection with vision	7%	3%
Failure to look right and left when necessary	10%	3%
Failure to make a proper turn	6%	6%
Failure to scan the roadway	6%	6%
Failure to slow for accident or emergency situation	10%	6%
Distraction affected driving behavior	3%	3%

Drivers who experienced an accident during the driving simulation activity	41%	41%
Drivers who indicated a video PSA assisted in understanding and remembering a driving safety issue	52%	84%

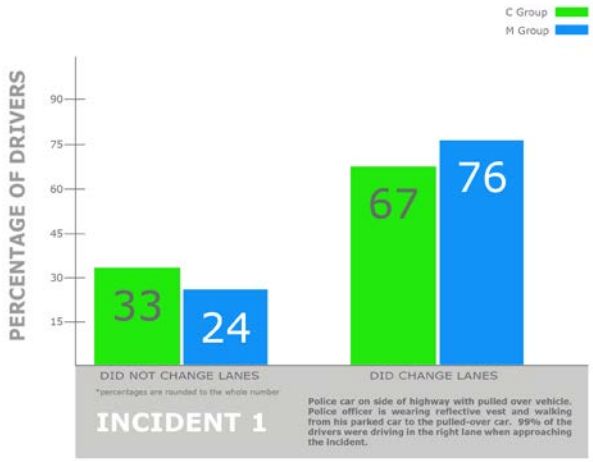
The results of this educational outreach were notable that in all but two assessment items achieved better performance by the group witnessing the "Slow-Down, Move Over" video. The two assessment issues performing least favorably, were failing to adjust a seat belt and failing to effect a proper lane change. Of more significant interest was the opinion rendered by those involved in the training, where 84%, (32% more) of the participants indicated that viewing the PSA assisted them in understanding and remembering a driver safety issue – in this case "Slow Down, And Move Over".

A concern did exist that short-term memory effects degrade the PSA that may lead to behavior change in the study. The acclimation process was intended to delay the immediacy of the receipt of the message. No longitudinal study was conducted, nor was there a belief it was needed if "Slow Down, Move Over" messages are frequently repeated in multiple messages.

Specifically related to the "slow-down" component of this project the following information further validates the project emphasis.



As it pertains to "moving over", the following was identified



IMPACT OF DISTRACTED DRIVING

One item of note was "distracted driving". While drivers were prevented from eating, listening to music, talking on a cell phone, and texting, distractions did occur from other people talking and from cell phones ringing. Distinct driving behavior changes resulted when these distractions occurred. Distractions are being linked more frequently as impact factors of accident causation and related accident severity. These distractions come not only from the items noted above, but from navigation devices, drinking, texting, and more. Despite the fact that these distractions create connectivity and productivity advantages, they also create safety challenges. In fact, the NHTSA report (NHTSA, 1997) on the subject provides data in police reported incidents suggesting 25 to 50% of traffic crashes suggest distraction as a factor.[13]

[13] Harvey, William J., Leach, Mary, Melton, David, "Distracted Driving", Professional Safety, January 2010, pages 34-39.

Drivers who are not fully aware of the impact of distractions on their driving will continue to engage in the distraction until either they are told to modify behavior, a near miss occurs, or an accident occurs. It has been determined that drivers do not equate their actual behavior to distraction impacts. In fact, studies conducted (routine driving not involving emergency vehicle interface) found the following results from distractions occurred in the vehicle:

- More erratic lane changes
- More errors in general driving
- Slower braking response time, and
- More errors stopping[14]

Prior studies, coupled with results from this initiative suggest a need for more research on the impact of distractions on driving, when civilian drivers interface with emergency vehicles.

Finally, it was noted that brochures and other written communication can play a significant role in the effective distribution and understanding of a message on this topic. A specific tool in use, distributed in Wisconsin, is provided in the Appendix and serves as an excellent sample. Opportunities also exist for placement of the message in maps and on variable message signs.

Maps, brochures, license renewal stuffers and digital signs are additional locations to spread the "Slow Down, Move Over" message.

[14] Harvey, William J., Leach, Mary, Melton, David, "Distracted Driving", Professional Safety, January 2010, pages 34-35..

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Based upon the research conducted and completed in this project, the following conclusions are drawn:

1. The results of this educational outreach were notable that all but two assessment items achieved better performance by the group witnessing the "Slow-down, move over" video. The two assessment issues performing less favorably, included failing to adjust a seat belt and failing to create a proper lane change; effecting a proper lane change being a most serious failing. Of more significant interest was the opinion rendered by those involved in the training, where 84%, (32% more), of the participants indicated that viewing the PSA assisted them in understanding and remembering a driver safety issue – in this case "slow down, and move over".
2. Public Service Announcements with a short, clear and repeated message in general, are effective in communicating messages that change behavior.
3. Public Service Announcements, developed by USFA/CCVFA, regarding roadway safety for emergency responders are effective.
4. Public Service Announcements are not being accessed or viewed on a regular basis by many drivers, thus roadway operations safety remains a critical risk factor for emergency responders.
5. States develop Highway Safety Strategic Plans. These plans should integrate a component to provide an educational tool (preferably a PSA and a handout item) that can be used throughout the state to promote the **"Slow Down – Move Over"** program.
6. Highway safety operations can be enhanced by expanded and extensive use of advanced warning.
7. Distractions to the driver play a major role in the ability to safely handle a vehicle and warrants expanded research and implementation of related safety efforts.
8. The only perceived limitation dealt with financial constraints restricting the ability to research more than one impact factor on "slowing down and moving over"

FUTURE RESEARCH

There are a number of related questions which can be asked, regarding the protection of emergency workers on the highway and relationship to drivers in the general public. These include (but are not limited to):

1. Training of these scenarios in driver education classes
2. Visual impact of reflective chevrons on emergency vehicles
3. Advance warning use of signs and cones
4. Use of amber lights (emergency lighting study)
5. Distracted driving
6. Driver fatigue

7. Driving under the influence

There is potential merit to each of these issues being studied further, however, for purposes of understanding the relationship of relative value of public service announcements on operator behavior, they were not included in this project.

It can be summarized that the problem statement has captured the two elements of this "perfect storm", often resulting in injuries and fatalities to first responders. The Public Safety Announcement for the general public will only fix part of the problem. Adopting and enforcing guidelines and regulation to reinforce proper behavior will also be needed.

CONCLUSIONS

These conclusions have resulted in the following recommendations:

1. "Slow Down and Move Over" is an effective and easy to remember safety phrase that should be included in all relevant PSAs.
2. Continue and expand the use of PSAs in communicating slow down and move over practices when encountering emergency responders and vehicles on the highway.
3. Monitor the results of accidents and PSA impacts to determine programmatic/message modifications in the future.
4. Conduct research into the impact of distractions on driving behaviors when interfacing with emergency responders and their vehicles.

SUMMARY

The assumption for this project was:

> ***The viewing or reading of information suggesting a driver move over and slow down when encountering an emergency vehicle on the highway will result in more responsive actions by the vehicle operator.***

The literature review and related field testing findings using driving simulation supported the hypothesis, thus suggesting continued and expanded use of literature and public service announcement visual messaging to protect emergency responders on the highway.

ACKNOWLEDGEMENTS

The following technical and academic reviewers are acknowledged for their contribution to this project:

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Katherine Jenaway, Hofstra University, English major

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Initiative on Emergency Vehicle Safety for emergency responders can be found at: http://www.usfa.fema.gov/fireservice/research/safety/roadway.shtm

Also the DOJ/NIJ on Police Roadway Safety can be found at: http://www.nij.gov/topics/law-enforcement/officer-safety/roadside-safety/welcome.htm

LITERATURE REVIEW

A literature review was conducted of related general documents and technical documents.

GLOSSARY

Emergency Incident – A situation that requires a response of emergency assets involving a situation that poses an immediate risk to health, life, property or environment.

Emergency Responder – A trained or certified individual, who, upon arriving at an incident or emergency assumes immediate responsibility for the protection and preservation of life, property, evidence and environment.

Fire Police – 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 or current volunteer fire fighters who have transitioned or joined to perform 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.[15]

Emergency Responder Safety Institute – Created as a Committee of the Cumberland Valley Volunteer Firemen's Association, the Emergency Responder Safety Institute (ERSI) serves as an advisory group of public safety leaders and transportation experts committed to reducing deaths and injuries to America's emergency responders

Incident Safety – Actions taken to reduce the potential for an accident, injury or fatality during an emergency incident.

Public Service Announcement – Defined by the Federal Communications Commission as any announcement (including network) for which no charge is made and which promotes programs, activities, or services of federal, state or local government.

Secondary Incident – More serious than the original incident, secondary incidents result from vehicles at highway speed or near highway speed, striking stopped vehicles or persons. It is assumed that the risk of such an incident is minimized once an emergency responder has arrived with emergency lighting and other traffic control measures.

Simulator – Is a device that simulates something: a device, instrument, or piece of equipment designed to reproduce the essential features of something, e.g. as an aid to study or training.

Traffic Control – Involves directing vehicular and pedestrian traffic around a construction zone, accident or other road disruption, thus ensuring the safety of emergency response teams, construction workers and the general public.

Traffic control devices – Various equipment that is used to divert motorists on a detour, including traffic barrels and barricades in white, orange, and reflective colors

[15] Cumberland Valley Volunteer Fireman's Association, "Protecting Emergency Responders on the Highways – 'The Secondary Incident Problem' – A White Paper", CVVFA, Octo ber 30-31, 1999, Emmitsburg, MD. Page 3.

ACRONYMS

CVVFA – Cumberland Valley Volunteer Fireman's Association

DOJ – Department of Justice

DOT – Department of Transportation

EMS – Emergency Medical Services

ERSI – Emergency Responder Safety Institute

FDSOA – Fire Department Safety Officer Association

FEMA – Federal Emergency Management Agency

FHWA – Federal Highway Administration

ISFSI – International Society of Fire Service Instructors

IVIS – In-Vehicle Information System

NIJ – National Institute of Justice

NHTSA – National Highway Transportation Safety Administration

NUG – National Unified Goal

SAS – Simulator Adaptation Syndrome

USFA – United States Fire Administration

APPENDIX 1

DRIVING SIMULATORS[16]

Driving simulators are used for entertainment as well as in the training of driver education courses taught in educational institutions and private business. They are also used for research purposes in the area of human factors and medical research, to monitor driver behavior, performance, and attention and in the car industry to design and evaluate new vehicles or new advanced driver assistance systems (ADAS).

TRAINING

Driving simulators are being increasingly used to train drivers all over the world. Research has shown that driving simulators are proven to be excellent practical and effective educational tools to impart safe driving training techniques for all drivers. There are various types of driving simulators that are being used like train simulators, bus simulators, car simulators, truck simulators, etc.

Simulators are used in training in the following situations:

- Decision making
- Vehicle handling/skills training
- User training
- Training in critical driving conditions
- Training for impaired users
- Analysis of driver behaviors
- Analysis of driver responses
- Analysis of driver performance

TYPES OF SIMULATORS

There are two types of simulators typically used today. These are:

- Modular design simulator - with interchangeable cabs, that can be reconfigured for use as tractor/trailer trucks, dump trucks, and other construction vehicles, airport-operated vehicles, emergency response and police pursuit vehicles, buses, subway trains, passenger vehicles, and heavy equipment, such as cranes.
- Multi-station driving simulator – this type of simulator enables one instructor to train more drivers in less time. These systems are equipped with instruction stations that enable centralized control of all driving stations. Advantages of these types of systems are training large number of drivers at the same time thus saving time and reducing costs.

[16] http://en.wikipedia.org/wiki/Driving_Simulator

MOTION SIMULATION

In theory, the concept of motion simulators seems self explanatory: if the perception of events can be mimicked exactly, they will provide the user an identical experience. However, this ideal performance is next to impossible to achieve. Although the motion of vehicles can be simulated in 6 degrees of freedom (all that should be required to mimic motion), the impacts of simulated motion on pilots, and operators in many other fields, often leave trainees with a multitude of adverse side effects not seen in un-simulated motion. Further, there are many scenarios which may be difficult to simulate in training simulators exposing a concern that replacing real world exposure with motion simulations may be inadequate.

Due to the exorbitant cost of adding motion to simulators, military programs have established research units to investigate the impact of "skill acquisition" with the use of motion simulators. These units have provided results as recent as 2006 despite the use of motion simulators over the last century. From an Army study, it was determined that motion-based simulators are recommended for training when individuals must continue to perform skill–based tasks, while the ground vehicle negotiates rough terrain. However, if individuals are not required to negotiate rough terrain, or motion sickness does not detract from performance in the field, then "motion is not recommended". The existence of adverse side effects of virtual environments has spawned a plethora of studies from predicting and measuring the impact of side effects to identifying their specific causes. [17]

> **Based upon the US Army research and training approach, it was determined by the project team that military "rough terrain" would equate to a driving behavior/pattern change. A situation requiring a civilian driver to "slow-down and move over" is a driving behavior/pattern change, requiring training which can be replicated in a motion simulation device, motion sickness does not detract from performance in the field.**

The simulator used in this study is a Modular Design Simulator.
Photo courtesy of Simulation Technologies

[17] http://en.wilipedia.org/wiki/Motion_Simulator

ENTERTAINMENT

Advances in processing power have led to more realistic simulators in recent years, beginning with Papyrus Design Group's groundbreaking *Grand Prix Legends* for the PC, released in 1998. Occasionally, a racing game or driving simulator will also include an attachable steering wheel that can be used to play the game in place of a controller. The wheel, which is usually plastic, may also include pedals to add to the games reality. These wheels are usually used only for computer games. In addition to the myriad of commercial releases there is a bustling community of amateur coders working on closed and open source free simulators. Some of the major features popular with fans of the genre are online racing, realism and diversity of cars and tracks.

RESEARCH

Driving Simulators are used at research facilities for many purposes. Some vehicle manufacturers as well as many universities also operate simulators for research. In addition to studying driver training issues, driving simulators allow researchers to study driver behavior under conditions in which it would be illegal and/or unethical to place drivers. For instance, studies of driver distraction would be dangerous and unethical (because of the inability to obtain informed consent from other drivers) to do on the road.

With the increasing use of various in-vehicle information system (IVIS) such as satellite navigation systems, cell phones, DVD players, and email systems, simulators are playing an important role in assessing the safety and utility of such devices.

FIDELITY

There are two aspects to be considered when assessing the fidelity of a system. The first is the accuracy of the system's physical representations. This can include:

- The actual vehicle cockpit
- The faithfulness of vehicle dynamics/handling
- The spatial geometries of the vehicle and the geo-world
- And the realism of the geo-world itself

The second aspect to fidelity is the cumulative effect of the points listed above, resulting in immersive, physiological engagement of the subject and corresponding long term memory affects. Only through the use of high fidelity systems can deep physiological immersion occur with attendant long term amygdale/epinephrine driven memories. Achieving physiological immersion with accurate decision making and skill development is the final measure of system fidelity. There are a number of types of research and training driver simulators, with a wide range of capabilities. The most complex, like the National Advance Driving Simulator, have a full-sized vehicle body, with six axis long range movement, (approximately 100 ft.) and 360 degree visual displays. On the other end of the range, are simple desktop simulators that are merely a computer monitor with a video game-type steering wheel.

The issue is complicated by political and economic factors, as facilities with low infidelity simulators claim their systems are "good enough" for the job, while the high fidelity simulator groups insist that their (considerable more expensive) systems are necessary. Research into motion fidelity indicates that, while some motion is necessary in a research driving simulator, it does not need to have enough range to match real-world forces.

VALIDITY

There is a question of validity – whether results obtained in the simulator are applicable to real world driving. Given the inability to replicate some simulator studies on the sidewalk this is likely to remain an issue for some time. Some research teams are using automated vehicles to recreate simulator studies on an attest track, enabling a more direct comparison between the simulator study and the real world. As computers have grown faster and simulation is more widespread in the automotive industry, commercial vehicle math models that have been validated by manufacturers are seeing use in simulators.

SIMULATOR ADAPTATION SYNDROME ("SAS")

Simulator Adaptation Syndrome ("SAS") is an issue with all simulators, not just driving simulators. The main causes of Simulator Adaptation Syndrome are:

1. The systems delays between the driver's command and the response of the simulator. In effect the brain, referencing driving a real vehicle, expects the simulator's response to be the same as a car, the greater the deviation the greater the "adaption burden" on the brain.
2. The absence or inaccuracy of G-Forces that should be transferred into the student driver's body when the brakes and accelerator are applied and when a vehicle is making a turn.

DEVELOPMENT

Nowadays, driving simulators are not only used for research purposes but are also used in the development process of a vehicle by either the car manufacturers or their suppliers. This is for example the case with the car projectors development to reduce costs and delays, car projectors are tested with virtual prototypes before any physical prototype is built.[18]

ACCLIMATION

To assure an individual will perform optimally in the educational outreach segment of this project, an acclimation process for those using a driving simulator was implemented. The acclimation process involved the following areas of operation, allowing the operator an ability to better operate the device:

- Acquaintance with the driving compartment, operational components, and safety features (e.g. seat, dashboard, controls, seat belt)

[18] http://en.wilipedia.org/wiki/Motion_Simulator

- Acquaintance with engine start, vehicle controls, accelerator, brake, etc.
- Spatial geometry awareness (e.g. initial vehicle movement, visual sweeping, various views available on screen)
- Vehicle dynamics (e.g. visual weep, establishing roadway points for turning/stopping/closure, establishing horizon view, steering, speed management, lane position, stopping, use of auxiliary devices such as lights/mirrors.)[19]

This acclimation manages immediate sensitivity and reaction to simulation, thus making the experience more realistic.

SIMULATION TECHNOLOGIES, LLC.

Simulation Technologies LLC. (Sim-Tech) was approached by the leadership of CVVFA to participate in the project. Simulation Technologies driving simulation systems are systems designed and built by vehicle driving trainers. The system typically involves

- A true 230+ degree field of view created using a 5-screen array of 46" ultra-thin bezel CD monitors
- Real vehicle and apparatus cab/cockpits
- Full interior vehicle cab renderings, including mirrors A and B pillars and sight lines throughout the geo world which are geometrically correct from the driver's eye point. This is crucial for positive training of clearing intersections and defining accurate spatial relationships, between the interior to the exterior of the cab, so the students can acclimate and train effectively.
- The most accurate vehicle dynamics in the industry…assuring the highest level of operator training possible in a driving simulator system. Working directly with the apparatus and vehicle manufacturing engineering groups and incorporating the actual CAN-Bus technology to drive the sim's component systems and sensors as an alternative to conventional multi-wire looms. Sim Tech'sdr9ver training simulators are operated just like the real vehicle and apparatus you drive on the road every day.
- advanced technology and driver sim configuration of running simulators on one computer.
- Commitment to ongoing curricula, scenario and model development, and driving sim configurations through team work and user friendly tools

To understand the different vehicle dynamics in vehicles, training to standard driving, pursuit driving, and specialized driving curriculum and scenarios specific to each department, municipality, and state certifications and credentials can be developed, including

- Fully adjustable electric seat and pedal assembly
- Full training track with driving course, wet and dry skid pads, competency course and reaction and braking courses.

[19] Simulations Technologies, "Acclimation steps for first time students/refreshers", Simulation Technologies, Elburn, IL 2011.

- Ultra thin bezels provide minimum interruption between visual scenes
- Actual gauge cluster and driving components from real vehicles
- Realistic shaped and located mirrors.

In addition to traditional personal vehicles, equipment is also characteristic of law enforcement vehicles, fire department vehicles, and emergency medical service vehicles.

The mobile classrooms are considered very accessible and mobile.

APPENDIX 2 -

PROPOSED

National Unified Goal
for Traffic Incident Management

Working Together for Improved Safety, Clearance and Communications

ntimc
National Traffic Incident Management Coalition

WHAT IS THE NATIONAL UNIFIED GOAL?

The Traffic Incident Management National Unified Goal is:

- Responder safety;
- Safe, quick clearance; and
- Prompt, reliable, interoperable communications.

COMMITMENT STATEMENT

The NTIMC is committed to working together to promote, develop, and sustain multidisciplinary, multijurisdictional Traffic Incident Management (TIM) programs to achieve enhanced responder safety; safe, quick traffic incident clearance; and more prompt, reliable, interoperable communications.

HOW WILL THE GOAL BE ACHIEVED?

NTIMC will achieve the three major objectives of the National Unified Goal through 18 strategies. Key strategies include recommended practices for multidisciplinary TIM operations and communications; multidisciplinary TIM training; goals for performance and progress; promotion of beneficial technologies; and partnerships to promote driver awareness.

CROSS-CUTTING STRATEGIES

- **Strategy 1. TIM Partnerships and Programs.** Traffic Incident Management partners at the national, state, regional and local levels should work together to promote, develop and sustain effective Traffic Incident Management Programs.
- **Strategy 2. Multidisciplinary NIMS and TIM Training.** Traffic Incident Management responders should receive multidisciplinary National Incident Management System (NIMS) and Traffic Incident Management (TIM) training.
- **Strategy 3. Goals for Performance and Progress.** Traffic Incident Management partners should work together to establish and implement performance goals at the state, regional and local levels for increasing the effectiveness of Traffic Incident Management, including methods for measuring and monitoring progress.
- **Strategy 4. TIM Technology.** Traffic Incident Management partners at the national, state, regional and local levels should work together for rapid and coordinated implementation of beneficial new technologies for Traffic Incident Management.
- **Strategy 5. Effective TIM Policies.** Traffic Incident Management partners at the national, state, regional and local levels should join together to raise awareness regarding proposed policies and legislation that affect achievement of the National Unified Goal objectives of Responder Safety; Safe, Quick Clearance; and Prompt, Reliable Traffic Incident Communications.
- **Strategy 6. Awareness and Education Partnerships.** Broad partnerships should be

developed to promote public awareness and education regarding the public's role in safe, efficient resolution of incidents on the roadways.

OBJECTIVE 1: RESPONDER SAFETY

- **Strategy 7. Recommended Practices for Responder Safety.** Recommended practices for responder safety and for traffic control at incident scenes should be developed, and widely published, distributed and adopted.
- **Strategy 8. Move Over/Slow Down Laws.** Drivers should be required to Move Over/Slow Down when approaching traffic incident response vehicles and traffic incident responders on the roadway.
- **Strategy 9. Driver Training and Awareness.** Driver training and awareness programs should teach drivers how to react to emergencies on the roadway in order to prevent secondary incidents, including traffic incident responder injuries and deaths.

OBJECTIVE 2: SAFE, QUICK CLEARANCE

- **Strategy 10. Multidisciplinary TIM Procedures.** Traffic Incident Management partners at the state, regional and local levels should develop and adopt multidisciplinary procedures for coordination of Traffic Incident Management operations, based on national recommended practices and procedures.
- **Strategy 11. Response and Clearance Time Goals.** Traffic Incident Management partners at the state, regional and local levels should commit to achievement of goals for traffic incident response and clearance times (as a component of broader goals for more effective Traffic Incident Management--see Strategy 3).
- **Strategy 12. 24/7 Availability.** Traffic Incident Management responders and resources should be available 24/7.

OBJECTIVE 3: PROMPT, RELIABLE INCIDENT COMMUNICATIONS

- **Strategy 13. Multidisciplinary Communications Practices and Procedures.** Traffic incident responders should develop and implement standardized multidisciplinary traffic incident communications practices and procedures.
- **Strategy 14. Prompt, Reliable Responder Notification.** All traffic incident responders should receive prompt, reliable notification of incidents to which they are expected to respond.
- **Strategy 15. Interoperable Voice and Data Networks.** State, regional and local Traffic Incident Management stakeholders should work together to develop interoperable voice and data networks.
- **Strategy 16. Broadband Emergency Communications Systems.** National Traffic Incident Management stakeholders (working through the National Traffic Incident Management Coalition) should work together to reduce the barriers to integrated broadband emergency communications systems development and integration (both wired and wireless).
- **Strategy 17. Prompt, Reliable Traveler Information Systems.** Traffic Incident Management partners should encourage development of more prompt and reliable traveler information systems that will enable drivers to make travel decisions to reduce the impacts of emergency incidents on traffic flow.
- **Strategy 18. Partnerships with News Media and Information Providers.** Traffic Incident Management partners should actively partner with news media and information service providers to provide prompt, reliable incident information to the public.

APPENDIX 3 -

Simulation Scenario

The simulation will illustrate 4 interfaces of a civilian driver with an emergency vehicle. The simulation scenario starts at a 4-way stop, after which a limited access highway is entered.

Just beyond the first curve, there is a police car with a stopped vehicle.

Just into the second curve, a fire engine and ambulance (in a coned off area) are located at the scene of an accident where a minivan has struck a guard rail. A truck in front of the simulation vehicle provides visual and operational obstruction which must be dealt with.

Shortly thereafter, the driver is directed to an exit ramp. Upon arrival at the stop light, at the base of the exit ramp, an ambulance siren is heard. A go-/no-go decision must be made by the driver (slow down? move over?). Once the ambulance clears the intersection/moves past, reentering the highway must be negotiated.

The simulation essentially evaluates driver recognition/situational awareness, speed management, slowing down, moving over, and passing techniques.

APPENDIX 4 -

HIGHWAY SAFETY

SIMULATION

PROJECT

C-

Gender ____ Male ____ Female

Age ___16-25 ___26-40 ___41-55 ___56-70 ___over 70

Issue	Variance To Normal/Expected Behavior
Seat Belt	
Adjust Seat	
Speed	
Braking	
Turn Indicator	
Stop at Stop Sign / Red Light	
Rules of Road	
Lane Change	
Closure Rate	
Sweep Intersection	
Look Left / Right	
Right Turn	
Scanning Roadway	
Slow @ Incident	
Distraction Impact	

COMMENT

HIGHWAY SAFETY

SIMULATION

PROJECT

M-

Gender ____ Male ____ Female

Age ___16-25 ___26-40 ___41-55 ___56-70 ___over 70

Issue	Comment
Seat Belt	
Adjust Seat	
Speed	
Braking	
Turn Indicator	
Stop at Stop Sign / Red Light	
Rules of Road	
Lane Change	
Closure Rate	
Sweep Intersection	
Look Left / Right	
Right Turn	
Scanning Roadway	
Slow @ Incident	
Distraction Impact	
COMMENT	

APPENDIX 5 -

SCRIPT VIEWED PRIOR TO SEEING PUBLIC SAFETY ANNOUNCEMENT

Thank you for participating in our project regarding driving safety. You are about to view a short video after which you will engage in a driving simulation activity lasting approximately two minutes. The simulation will be no different than driving your vehicle for two minutes.

Driving a vehicle is a routine activity. It is a privilege, not a right and with it comes personal responsibility to drive safely and defensively. This project will help develop programs to enhance driving safety.

Before moving to the simulation phase we ask you to view the following video. By moving to the simulator and participating in the activity you are providing your verbal/oral acceptance of the conditions noted above.

This educational outreach is supported by the United States Fire Administration and the United States Department of Justice.

PRESS RELEASE

It will be time to test your driving skills at the Plaza at King of Prussia on July 16 and 17. A United States Fire Administration research study, supported by the United States Department of Justice National Institute of Justice, is being conducted to evaluate various driving habits using simulation technology to evaluate the behaviors of drivers.

The study funded by an award to the Cumberland Valley Volunteer Firemen's Association, Emergency Responder Safety Institute (ERSI), will be conducted at various locations, but only at the Plaza at King of Prussia in southeastern Pennsylvania. "This project will not only help in understanding how education and training lessen distracted driving situations, but how to keep emergency responders on the highway safe" noted Steve Austin ERSI Project Manager.

After a brief introduction, licensed drivers will have the opportunity to use the simulator, provided by Simulation Technology, upon which the research will be tabulated, anonymously.

"Our goal is to learn more about how we as individual drivers can positively change driving behaviors to make the public and emergency responders on the highway safer" commented William Jenaway, Ph.D., the project's principal investigator.

The Plaza at King of Prussia will host the simulator at the Citizen Bank entrance to the complex on Saturday and Sunday, July 16 and 17, from 10 AM to 9 PM.

APPENDIX 6 -

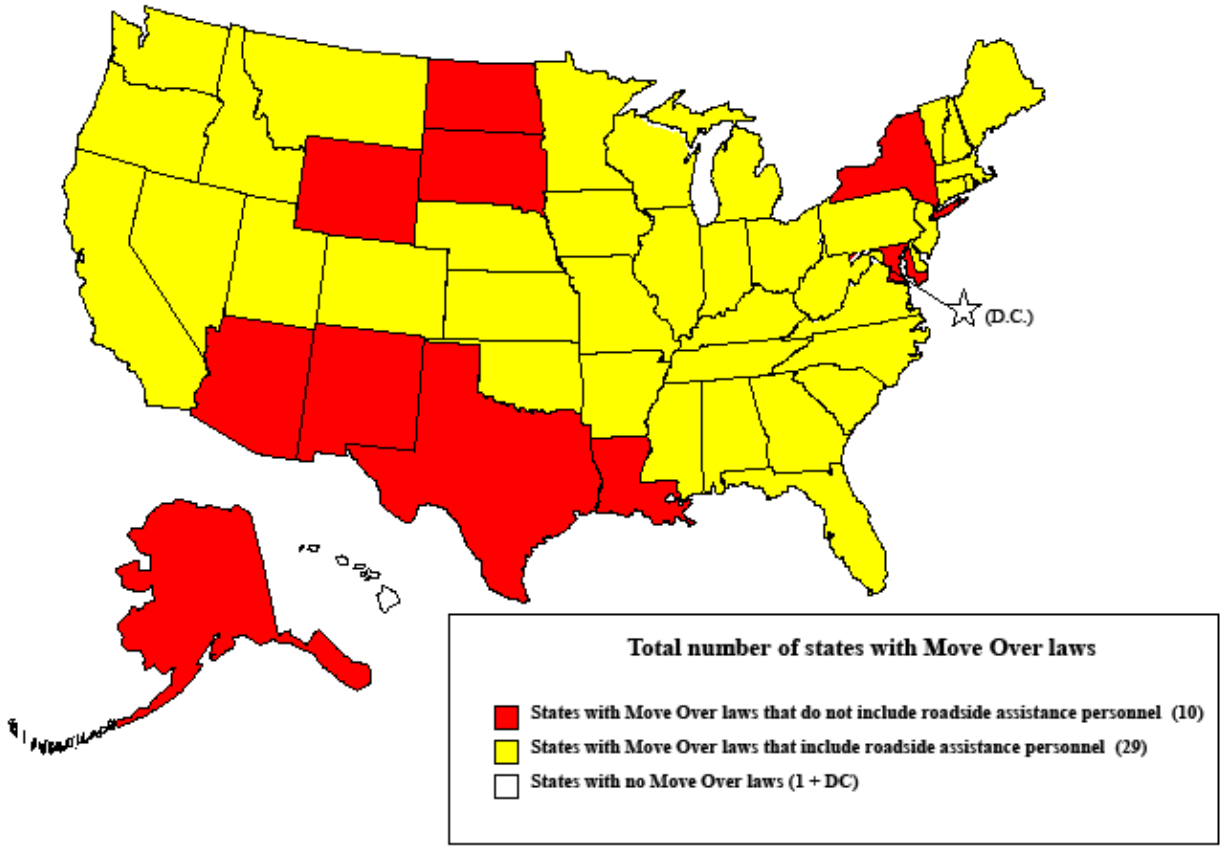
PUBLIC SAFETY ANNOUNCEMENTS AVAILABLE AND TESTED AS PART OF THIS PROJECT AVAILABLE FOR DOWNLOAD ON LINE AT www.respondersafety.com

NEW Slow Down Move Over PSA

It's No Picnic Out Here

APPENDIX 7 -

U.S. MOVE OVER MAP
Map reflects states with “move-over” laws



APPENDIX 8 -

WISCONSIN "SLOW DOWN MOVE OVER" BROCHURE

http://www.dot.wisconsin.gov/travel/stoc/docs/move-over-brochure.pdf

Move Over or Slow Down for Emergency Flashing Lights

One of the most dangerous places for emergency responders and maintenance personnel is along the side of the road. Each year hundreds of these hard working men and women are injured or killed by passing motorists while working along the nation's highways. In 2001, Wisconsin passed a law designed to protect law enforcement officers, emergency responders, tow operators and highway maintenance personnel who are conducting business on Wisconsin's roadways.

It is called the Move Over Law, and the concept is simple. If you see a vehicle on the side of the road with its emergency lights flashing, you are required to move out of the lane closest to the vehicle if possible. If a safe lane change is not possible, or you are traveling on a two lane roadway, you are required to slow your vehicle, maintaining a safe speed for traffic conditions, and drive at a reduced speed until completely past the vehicle.

"Our troopers, maintenance workers and others who work on busy highways take every possible precaution to avoid getting hit by vehicles," says Wisconsin Department of Transportation Secretary Frank J. Busalacchi. "But we need help from every driver on the highway. When motorists obey the Move Over Law and create a safety zone, they reduce the dangers to themselves and those who work along our highways."

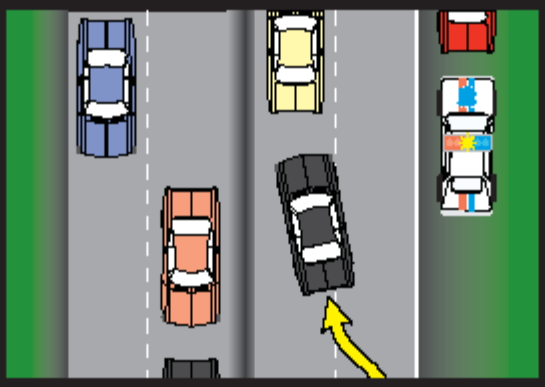
Not moving over can be painful. If you get a ticket, you will be assessed three demerit points on your license and a $249 fine. In addition, your driver's license will be suspended if you are involved in a crash, and you may serve up to seven years in prison if you hurt or kill someone.

For more information, contact your local law enforcement agency or the Wisconsin State Patrol.

When drivers pass stopped emergency/maintenance vehicles, everyone's safety is at risk

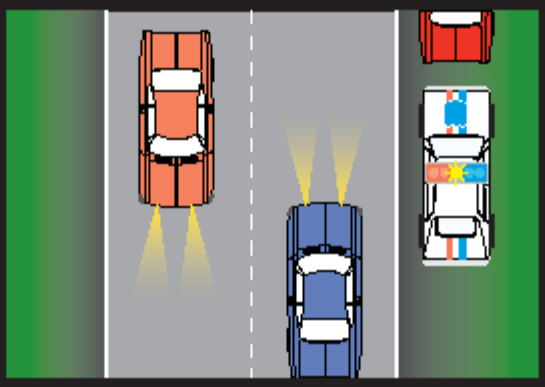
MOVE OVER OR SLOW DOWN

On a 4-lane roadway ...



1. **Move over** a lane from the stopped vehicle(s) until you're safely past.
2. If you can't change lanes, **slow down** and maintain a **safe speed** for traffic conditions.

On a 2-lane roadway ...

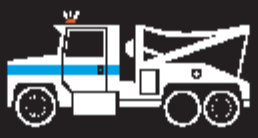


1. **Slow down** and maintain a **safe speed** for traffic conditions until you're completely past the stopped vehicle(s).

Move Over or Slow Down

For Stopped Emergency / Maintenance Vehicles

Remember, the law applies to any emergency response or maintenance vehicle with its emergency lights flashing.



If you would like to obtain additional copies of this brochure please contact the Wisconsin Department of Transportation's Statewide Traffic Operations Center at: (414) 227-2166

03.07

APPENDIX 9 -

SLOW DOWN MOVE OVER LAW, EXTRACTED ARTICLES

ENTIRE SUMMARY IS AVAILABLE AT:

http://www.respondersafety.com/Archive.aspx?ArticleType=MOVEOVER&hideCategories=true

There are over 250 articles available.