

EMS Under Fire: Developing an Active Shooter Incident Response Plan

For

The Manchester Fire - Rescue - EMS Department

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

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### **Abstract**

The world was reminded of the harsh realities of Active Shooter Incidents on December 14, 2012 when a 20-year-old male fatally shot twenty-six children and six staff members at Sandy Hook Elementary School in Newtown, CT. The increasing frequency of these incidents has led public safety agencies to consider how to respond to these horrific events. The problem is that the Manchester Fire - Rescue - EMS Department (Connecticut) does not have a Standard Operating Practice for response to Active Shooter Incidents. The purpose of this applied research project is to develop a Standard Operating Practice for a safe and effective response by the Manchester Fire - Rescue - EMS Department (MFRE) to Active Shooter Incidents (ASI). The action research method is utilized to examine the present knowledge base on Active Shooter Incident response and develop a plan that integrates the strengths and specific characteristics of the public safety agencies in Manchester. Five research questions were identified: 1) what department policies must be developed or modified to support this type of incident response; 2) what are the most appropriate practices for MFRE response to Active Shooter Incidents; 3) what are the best practices for integrating multiple agency operations at an Active Shooter Incident; 4) what specialized equipment is required for responses to Active Shooter Incidents; and, 5) what specialized training is required for MFRE personnel? Analytical reviews were conducted of the available research on ASIs and the policies and incident response models of fire, law enforcement and emergency medical services organizations at national, state and regional levels. A draft Standard Operating Practice for MFRE response to Active Shooter Incidents was synthesized. A collaborative team from local agencies developed the integrated response plan presented as Appendix A. Recommendations include the establishment of pre-incident relationships and the routine utilization of Unified Command.

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- Rescue - EMS Department

A typical summer day in Manchester, CT was shattered on August 3, 2010 when a disgruntled employee shot and killed eight fellow workers at a large beverage distribution center. Based on established policy at the time, Manchester Fire - Rescue - EMS (MFRE) established a mass casualty operation outside in a safe environment and waited for law enforcement officers to secure the building and bring the injured out where they could be treated. Since that August morning in Manchester, similar Active Shooter Incidents have occurred with alarming frequency around the world. The harsh realities of Active Shooter Incidents returned to Connecticut on December 14, 2012 when a 20-year-old male fatally shot twenty-six children and six staff members at Sandy Hook Elementary School in Newtown, CT. Active Shooter Incidents have clearly reached epidemic proportions. The increasing frequency and severity of these incidents has led many Fire and EMS responders to identify safe and effective strategies in responding to these horrific events. The problem that this research project attempts to address is that the Manchester Fire - Rescue - EMS Department does not have a Standard Operating Practice for response to Active Shooter Incidents.

The purpose of this applied research project is to develop a Standard Operating Practice for a safe and effective response by the Manchester Fire - Rescue - EMS Department to Active Shooter Incidents. The action research method is utilized to examine the present knowledge base on Active Shooter Incident response and develop a plan that integrates the strengths and specific characteristics of the public safety agencies in Manchester. Five research questions are identified: 1) what MFRE department policies must be developed or modified to support this type of incident response; 2) what are the most appropriate practices for MFRE response to

Active Shooter Incidents; 3) what are the best practices for integrating multiple agency operations at an Active Shooter Incident; 4) what specialized equipment is required for responses to Active Shooter Incidents; and, 5) what specialized training is required for MFRE personnel?

### **Background and Significance**

The Town of Manchester is an independent subdivision of the State of Connecticut. A nine-member Board of Directors, elected biennially, directs the municipality. The Board promulgates policies for the administration of the town. A General Manager is appointed by the Board to handle the executive officer role. An elected, nine-member Board of Education appoints a Superintendent of Schools who administers the town's education system. Manchester is located in Central Connecticut east of Hartford, the state capital. The Town encompasses 27.2 square miles and has a present population of approximately 57,000 people (<http://quickfacts.census.gov/qfd/states/09/0944690.html>). There are several major industries present in town including healthcare, aerospace, insurance and retail. Manchester Fire - Rescue - EMS (MFRE) provides fire suppression, rescue and paramedic-level emergency medical services with a budget of approximately \$14 million. There are 82 uniformed personnel working under a collective bargaining agreement with Local 1579 of the International Association of Fire Fighters. There are two non- bargaining unit administrative chiefs and three civilian administrative personnel. The Fire Chief also serves as the Emergency Management Director. The Fire Department has a total of seven apparatus. Five are front-line companies, one ladder truck and four engines or pumpers. The reserve apparatus consists of an engine and an aerial. Firefighters and Fire Officers are career personnel working a rotating schedule of two 10-hour days, two 14-hour nights and four days off.

The Manchester Police Department is a nationally-accredited law enforcement agency. The Department is comprised of three divisions. The Field Services Division includes 130 uniformed patrol and traffic officers. The Support Services Division includes Child Investigations, the Domestic Violence Outreach Team, the Eastern Central Connecticut Narcotics Task Force, and the Records Management Section. The Staff Services Division is comprised of Communications, Training, Accreditation, and Budget Management. The Department is the 911 Public Safety Answering Point for all police, fire and EMS calls for service.

The Department of Homeland Security defines an Active Shooter as “an individual actively engaged in killing or attempting to kill people in a confined and populated area” (<http://www.dhs.gov/active-shooter-preparedness>). The typical shooter is interested in killing as many people as possible in a brief period of time. Therefore, they look for target-rich environments with a captive audience (Blair, Martindale, & Nichols, 2014). Most educational, industrial, retail, business, institutional and public assembly buildings in every community in the United States meet these criteria. An exhaustive research project conducted by the Counterterrorism Bureau of The New York City Police Department assembled a compendium of 324 Active Shooter Incidents that occurred worldwide between 1966 and 2012. These tragic events resulted in 1,004 deaths and more than 3,100 life-threatening injuries (Counterterrorism Bureau, New York City Police Department, 2012).

Active Shooter Incidents (ASI) are clearly a worldwide problem (Smith MD, Iselin, & McKay, 2009). It might be tempting as a suburban municipal fire department in Connecticut to view these incidents as rare and distant events that don't require immediate attention. The harsh reality of Active Shooter Incidents arrived in Manchester on August 3, 2010. An employee was

brought in to meet with the management and local union officials of a large beer distributor. He was confronted with a surveillance video of him stealing company product on several occasions. He left the meeting and immediately began a preplanned shooting spree, killing eight coworkers and eventually himself ("9 Dead in Manchester," 2010). A little more than two years later and only sixty miles away, a gunman entered Sandy Hook Elementary School in Newtown, CT and murdered twenty children and six adults (Vogel, 2012).

Manchester Fire - Rescue - EMS, like other departments in the fire service, must recognize the frequency and severity of Active Shooter Incidents and the real potential for responding to such an event (Blair, Martindale, & Nichols, 2014). The traditional mode of fire and EMS response to violent incidents has been to stage in a safe zone and wait for law enforcement to secure the scene (Lightfoot, 2013). The time needed to secure the scene at Active Shooter Incidents is often measured in hours. The remaining time the injured have before expiring is almost always measured in minutes. The traditional fire and EMS response to these incidents allows for the very real possibility that the injured are actively dying while fire and EMS responders are staged in a cold zone. Clearly this approach does not achieve the shared goal of all emergency service providers, which is to save lives.

This action research project will attempt to address the present deficiencies in Active Shooter Incident response and develop an effective and coordinated response with the Manchester Police Department that achieves rapid patient care while maintaining a safe environment for responders to the fullest extent possible. Development of this Standard Operating Practice has direct linkage to achieving three of the goals of The United States Fire Administration's Strategic Plan: Goal 1 - reduce risk at the local level through prevention and mitigation; Goal 2 - improve local planning and preparedness; and Goal 3 - improve the fire and



emergency services' capability for response to and recovery from all hazards (<http://www.usfa.fema.gov/about/strategic/>). Similarly, this project correlates to the enabling objectives of Unit 2: Assessing Community Risk of the Executive Analysis of Community Risk Reduction course curriculum (National Fire Academy, 2013). An Active Shooter Incident is a low-frequency, high-risk event that has been identified as a high risk to life and property in Manchester. Comprehensive assessment of the hazards posed by an Active Shooter Incident and development of an effective mitigation plan will lead to reduced community risk.

## **Literature Review**

### **Policy**

The predominant policy in the fire service for incidents involving violence has been to respond and stage in a standby mode until law enforcement agents have declared the scene safe for fire and EMS providers to enter (Atwater, 2012). The traditional roles and responsibilities of firefighters and police officers are firmly entrenched. Assisting citizens threatened by a gun is police work. Police officers have the knowledge, skills, tools and specialized protective equipment to deal with an armed person. Assisting citizens threatened by fire or medical emergencies is the work of firefighters. Firefighters and EMS providers have the knowledge, skills, tools and specialized protective equipment to deal with those situations. Although combined roles have been investigated in some communities, it is rare to see crossing between the traditional blue and red lines (Atwater, 2013). National Fire Protection Association (NFPA) Standard 1500 is identified as the Standard on Fire Department Occupational Safety and Health Program. Although NFPA standards are designed by consensus and have no regulatory authority, they are the generally accepted policies for the fire service. The 2007 edition of NFPA 1500 contained language in Section 8.10.1 that states, "Fire department members shall not

become involved in any activities at the scene of domestic disturbance, civil unrest, or similar situations where there is ongoing violence, without the confirmed presence of law enforcement personnel who have deemed the scene secure” (National Fire Protection Association [NFPA], 2013, p.23). Incidentally, the same language remains in the 2013 edition of NFPA 1500.

The Columbine High School (Littleton, CO) shooting incident in 1999 was the pivotal learning experience for law enforcement in modifying their response policies to Active Shooter Incidents (United States Fire Administration [USFA], 1999). The fire service missed the opportunity to learn from this event. Many different law enforcement agencies responded to the initial call for help from the Jefferson County Sheriff’s Office including their regional SWAT assets (*Jefferson County Sheriff’s Office*, 2001). The initial law enforcement officers engaged the assailants briefly but returned to the standard policy at the time, which was to establish a perimeter and wait for SWAT to arrive. Littleton Fire Department (LFD) responded and attempted to provide medical care to the injured that had self-evacuated from the school. Once those first few students were helped, LFD returned to their standard policy which was to stage and wait for law enforcement to secure the building (R. Rahne, Battalion Chief, personal communication, October, 2010). Unfortunately, an additional ten people were killed while the responders waited outside for forty-five minutes until SWAT arrived and entered the building. Law enforcement agencies recognized the failure of the standby mode and since then have developed new strategies to rapidly engage and stop the shooter (Lightfoot, 2013). Most recently, law enforcement agencies have determined that even waiting for the assembly of a four-officer entry team is too long a delay and are moving towards a policy of immediate engagement even if it is only one officer (Sanow, 2013).

The United States Fire Administration (USFA) produced an after action report of the Columbine incident which contained several recommended changes to response policies for the fire service (United States Fire Administration [USFA], 1999). The failure of the standby policy was illustrated in the example of one shooting victim whose identity, injuries and location were well known to responders and yet he did not receive medical care until four hours into the incident. The USFA suggested that firefighters could be outfitted with protective armor and be escorted by law enforcement officers into hostile, interior operations to provide rapid medical interventions (USFA, 1999).

The initial reactions to these 1999 USFA recommendations and the obvious failures of the traditional standby policy resulted in several fire departments examining the effectiveness of placing SWAT-trained paramedics into the stack with law enforcement entry teams (Roberts, 2010). This approach proved effective to a limited degree for the large metro and county departments that could support the cost and logistical obstacles encountered with the high demand on firefighters for ongoing training and practice with the SWAT organizations (Smith MD et al., 2009). Another deficiency of this model is related to the timeline of Active Shooter Incidents. Examination of over a decade's worth of active shooter incident data reveals that the majority of the killing is over within 5 to 6 minutes from when the shooter begins the shooting spree (Counterterrorism Bureau, New York City Police Department, 2012). Tactically-trained paramedics respond as members of the SWAT teams and arrive an average of 50 minutes into the incident (Sanow, 2013). These assets are simply not on scene quickly enough to meet the requirements for immediate engagement of the active shooter and rapid access to provide life-saving medical interventions to the wounded.

Arlington County, Va. conducted a large, live exercise simulating an Active Shooter Incident in 2009 incorporating members of the Arlington County Police Department and the Arlington County Fire Department (Smith MD, Iselin, & McKay, 2009). While law enforcement strategies seemed effective, the standby policy for the fire department EMS resources was an obvious failure. Members of the Arlington County Fire Department were staged in a cold zone for more than one hour before law enforcement agents deemed the building safe for EMS providers to enter (Iselin & Smith, 2009). During the after action reviews, Arlington County public safety officials acknowledged that the injured parties in their exercise had been denied timely medical intervention and many of them would have died despite the fact that emergency responders had been on scene for an hour. It was obvious that Arlington County, and the rest of the fire service, needed to develop a new EMS response to Active Shooter Incidents (Smith MD et al., 2009).

Arlington County went on to develop the Rescue Task Force (RTF) concept which integrates fire department paramedics and law enforcement officers into an entry team that enters a warm zone and applies immediate medical care tactics modeled after the techniques proven effective by the military in combat injuries (*Arlington County Fire Department*, 2013). The RTF model gets medical resources to the injured while law enforcement agents continue to mitigate the active shooter threat. This policy takes advantage of the rapid response of local fire, EMS and police resources and immediately deploys those resources to stop the shooter from causing further injury and almost simultaneously providing medical care to those already injured (Allen & Gurske, 2013). The RTF model is quickly gaining support as the best policy for fire and EMS response to Active Shooter Incidents (Smith Jr. & Delaney, 2013). The International Association of Fire Fighters website posts a position statement on Active Shooter Incidents. They

recommend that standard operating procedures for an active shooter should “use the Rescue Task Force (RTF) concept for on scene response” (“IAFF Position Statement,” 2014, p.2). The International Association of Fire Chiefs has endorsed the RTF concept as well (International Association of Fire Chiefs [IAFC], 2014).

The Urban Fire Forum (UFF) was held by NFPA in Quincy, MA on September 12-14, 2013. This was a gathering of fire chiefs who are responsible for protecting some of the largest cities in the world. A UFF Position Statement on Active Shooter and Mass Casualty Terrorist Events released on September 16, 2013 declared their support for the deployment of Rescue Task Force (RTF) teams at Active Shooter Incidents (National Fire Protection Association [NFPA], 2013). The United States Fire Administration recommends that “considerations, planning and interagency training should occur around the concept of properly trained, armored medical personnel who are escorted into areas of mitigated risk, which are clear but not secure areas, to execute triage, medical stabilization at the point of wounding, and provide for evacuation or sheltering-in-place. Some jurisdictions accomplish this through the deployment of Rescue Task Forces ” (U.S. Fire Administration [USFA], 2013, p. 9). The evolution of policy regarding fire and EMS response to Active Shooter Incidents has focused the fire service on the RTF concept (“Firescope,” 2013). The development of an active shooter incident response plan by Manchester Fire - Rescue - EMS should consider the application of RTF policy in Manchester.

### **Best Practices for Response**

The Joint Committee to Create a National Policy to Enhance Survivability from Mass Casualty Shooting Events was created by Dr. Lenworth Jacobs, a trauma surgeon at Hartford (CT) Hospital. Dr. Jacobs performed life-saving surgery on one of the shooting victims from the

Active Shooter Incident that occurred in Manchester in 2010. Leaders of select public safety organizations including law enforcement, fire, prehospital care, trauma care and the military worked collectively to produce a document named the Hartford Consensus (Joint Committee to Create a National Policy to Enhance Survivability from Mass Casualty Shooting Events, 2013). The group created the acronym THREAT to describe the priorities of Active Shooter Incident response. THREAT stands for threat suppression, hemorrhage control, rapid extrication to safety, assessment by medical providers and transport to definitive care. Threat suppression is clearly the law enforcement task in which fire and EMS resources have no involvement. The remaining tasks rely on a coordinated operation involving police, fire and EMS providers.

The establishment of threat zones is necessary to identify what resources and operational limitations exist in each geographical area (NFPA, 2013). The Hot Zone is the area where a known hazard or an immediate life threat exists. The Rescue Task Force (RTF) does not operate in the Hot Zone where they could be directly attacked by the shooter. The Warm Zone is an area that can be considered clear but not secure. There is no direct threat in this zone and the risk to RTF members is reduced but not absent. The Warm Zone is the new forward operations area for paramedics who previously would be staged in a safe zone. The Cold Zone is an area of little or no threat. The traditional mass casualty functions of triage, treatment, and transport would be set up in this zone.

Gaining rapid access to treat the injured is the role of the Rescue Task Force (RTF). This is a combination of police and fire resources each with their own primary objectives. The law enforcement role in the RTF is to provide force protection and safely move the EMS resources inside the potentially hostile environment (*Rancho Cucamonga Fire Protection District*, 2013). The paramedics are able to provide point of wound medical care within minutes of the injury.

The protocols for medical treatment in this situation have evolved based on evidence discovered by the military in combat situations (Butler, Hagman, & Butler, 1996). Medical care for active shooter victims is very similar to combat situations with a few exceptions. Paramedics are governed by state and local medical control protocols unlike military medical personnel. Military providers are usually treating young, healthy, military personnel while civilian victims could be geriatric, pediatric, disabled or have other co-morbidities that complicate their medical care (Callaway et al., 2011).

A collaboration of U.S. Navy and Marine Corps physicians developed a collection of best practices called Tactical Combat Casualty Care (TCCC) (Butler, Hagman, & Butler, 1996). They examined wound data from two major studies of military combat and discovered that approximately 20% of all soldiers killed in action died from extremity hemorrhage, tension pneumothorax or airway obstruction (Defense Logistics Agency, 1970). The later study of military combat care identified that 9% of soldiers killed in action died from extremity exsanguinations, 5% died from tension pneumothorax, and 1% from airway obstruction (Bellamy, 1984). These three primary causes of death are readily treatable in the field but they require rapid intervention. Tactical Combat Casualty Care (TCCC) has been modified from the military model and adapted to civilian applications by a group of physicians and paramedics identified as The Committee for Tactical Emergency Care: Evolution and Application of TCCC Guidelines to Civilian High Threat Medicine (Callaway et al., 2011). These guidelines have become the accepted standard of care in treatment of the wounded at Active Shooter Incidents.

Three phases of TECC care have been established based on the threat level present at the point of treatment. The first phase is *Care Under Fire* which occurs at the point of wounding while still operating in a high threat environment. This care is primarily limited to preventing

further injury and addressing severe hemorrhaging. A paramedic embedded in a SWAT team could provide care in this area as could law enforcement officers equipped with tourniquets. This high threat area is the Hot Zone so an RTF would typically not be operating here. Law enforcement teams would need to extract victims to an area of higher security such as a Casualty Collection Point in the Warm Zone where they could receive the second phase of TECC, which is *Tactical Field Care*. Medical treatment priorities in the Warm Zone differ from typical civilian medical treatment protocols because of the nature of the injuries. The typical ABC mnemonic for airway, breathing and circulation describes the priorities in standard prehospital care. The mnemonic CAB for circulation, airway and breathing is the TECC version of priorities based on the survivability time of each type of injury. Ballistic wounds tend to cause severe bleeding far more often than airway injury. Additionally, severe extremity hemorrhaging can cause patient death in one to two minutes while a patient might live four to five minutes with a compromised airway. Open chest wounds and tension pneumothorax are common ballistic injuries but they might not cause death for ten to fifteen minutes. Therefore, hemorrhaging is addressed first, airway obstruction is the second priority and chest wounds are addressed third.

The third phase of TECC, *Tactical Evacuation Care*, is applied in the Cold Zone where there is a limited threat of violence. This treatment modality is the standard mass casualty response model.

The best practices for response to Active Shooter Incidents center on the rapid delivery of the correct medical interventions by a Rescue Task Force (Sanow, 2013). These teams consist of EMS providers with law enforcement protection that are prepared to enter a Warm Zone where the risk is mitigated but not completely absent.

### **Best Practices for Agency Integration**



Preparation is the key to any successful incident response (Giovachino, 2013). Forty leaders from the fire service, law enforcement, emergency medical services and government agencies met in April, 2013 at the headquarters of the International Association of Police Chiefs (IACP) in Alexandria, VA. The event, named “Responding to Mass Casualty Shootings – Strengthening Fire/Law Enforcement/EMS Partnerships” was sponsored by the IACP, International Association of Fire Chiefs, Department of Homeland Security, Federal Bureau of Investigation, International Association of Fire Fighters, Fraternal Order of Police and the Metropolitan Police Chiefs Association. The objective of the event was to determine effective ways to integrate, coordinate, and improve public safety responses to Active Shooter Incidents (Sanders & Klaene, 2013). Several essential concepts for an effective unified response emerged. It is necessary for all agencies to recognize and understand the difference in response protocols for each organization (Kimery, 2014). Planning and training for an incident response should be a combined effort. Practical exercises are necessary to ensure the response plans work and clarify any issues that might be discovered. The National Incident Management System (NIMS) must be utilized as the foundation for integration of all command functions across agencies (Sanders & Klaene, 2013). Interoperability of communications is a vital component in the success of the incident response plan. The life threat to citizens and responders is very high and only a unified effort will mitigate the risks.

Development of solid relationships with other public safety agencies is critical to the success of the mission. Although fire, EMS, and law enforcement agencies share the common mission of saving lives, the individual strategies and tactics utilized by each organization in achieving that mission are quite different. It is vitally important to learn the objectives, strengths and weaknesses of the various responding agencies as well as getting to personally know the

players involved. The hazards of not having pre-incident relationships with law enforcement became obvious to the Littleton Fire Department (LFD) Incident Commander at the Columbine High School shooting incident. Chief Raymond Rahne of LFD did not have any prior relationships with members of the Jefferson County Sheriff's Office (R. Rahne, Battalion Chief, personal communication, October, 2010). He reported that he was not able to identify the law enforcement command until well into the incident. This resulted in a very close call for Littleton Fire Department members who were cleared to enter a supposedly secure parking lot. The erroneous security assessment came from a law enforcement officer who turned out to be from a distant county. The Littleton paramedics attempted to aid an injured student in the parking lot but were fired on from a second story window with an automatic weapon (R. Rahne, Battalion Chief, personal communication, October, 2010). Meeting your law enforcement counterparts for the first time should not be happening in the initial chaos of an active shooter incident.

Taking the time to get to know the law enforcement officers before a critical incident is essential. These officers might be the security detail assigned to an RTF and the paramedics' lives are in their hands. As fire companies learn to anticipate the actions of their members inside an IDLH, it is equally important that members of the RTF teams know in advance what to expect from their teammates. Although there are usually hundreds of responders on the scene, task groups come down to a few individuals working together and knowing their personal characteristics and behavior could result in success or failure.

Effective preparation also includes comprehensive pre-incident plans (*Arlington County Fire Department*, 2013). Early stages of pre-incident planning are centered on identifying which agencies will be involved and what strengths and deficiencies exist within each organization that should be accommodated in the plans. Although not every possible scenario for active shooters

can be anticipated, a generic response plan can assign the roles and responsibilities of the resources from the various agencies (*Rancho Cucamonga Fire Protection District, 2013*). The incident response plan will establish the command structure, control methods and communications procedures so that the mission is accomplished in the most effective means while mitigating the risk to responders (*Tulsa Fire Department, 2013*). Initial development of the response plan must be followed by review, revision, final approvals and distribution. The final plan will guide what is required for personal protective equipment, medical gear and specialized tools. Regular training and exercise of the plan will put all of the responders on the same page with a common understanding of terminology, procedures and individual responsibilities.

The Incident Command System (ICS) is used daily in the fire service so fire resources are very comfortable with the terminology and organizational structure (Occupational Safety & Health Administration [OSHA], 2014). Police resources use ICS infrequently and are often uncomfortable with its use. Active Shooter Incidents would seem to be primarily a police matter and therefore a police incident commander might seem obvious. Others might argue that treatment of the injured is the higher priority and therefore an EMS officer should be the primary incident commander. Based on a fire command officer's expertise in ICS, perhaps the fire officer would make a better incident commander. The concept of unified command is gaining momentum in law enforcement as it is used more often and its benefits are proven (Kimery, 2014). Unified command is essential at an active shooter incident because many resources from several different agencies will be operating simultaneously. This concept works well with fire-based EMS providers. The law enforcement component of unified command can direct the movement of Contact Teams and Rescue Task Forces in the high risk areas while the fire officer

directs the medical portion of the operation both interior and exterior (USFA, 2013). In simple geographic terms, actions taken in the Hot Zone are done by law enforcement only. Primarily only Fire/EMS resources are working the triage, treatment and transport functions in the Cold Zone. Operations in the Warm Zone are where the careful coordination of resources from different agencies is most critical.

### **Training**

Comprehensive training is an essential component in the successful completion of any mission. Active Shooter Incidents are high-risk, low-frequency events. Both law enforcement and fire service personnel will be working outside of their normal roles in these situations and the skills learned will not be exercised often (Blair & Martindale, 2013). The primary components of the initial training and exercises will focus on: 1) the National Incident Command System (NIMS); 2) Tactical Emergency Casualty Care (TECC); and, 3) tactical operation of the Rescue Task Force. Much of this training will be done jointly with law enforcement and fire service personnel learning to work together.

The National Incident Command System (NIMS) was created as an expansion of FIRESCOPE ("Firescope," 2013). Homeland Security Presidential Directive 5 (HSPD-5) made NIMS the standard format for incident command systems utilized throughout the United States. These systems are well known to Emergency Management professionals who routinely operate with them in training exercises and large disaster events. The fire service uses incident command to some degree every day. Every fire or rescue incident that involves more than one company routinely triggers establishing an incident command system. Fire Officers are accustomed to following the NIMS guidelines and scaling the command structure to meet the demands of the incident. Law enforcement agencies use NIMS to a much smaller degree. It is

not part of their everyday response to incidents. Law enforcement will face the bigger challenge to develop their skills and comfort level with NIMS. Effective command and control of Active Shooter Incidents will require that law enforcement and fire personnel be fully versed in the application of NIMS (USFA, 2013). Training to accomplish this level of comfort will require that fire and law enforcement personnel at all levels work together during both didactic and practical learning sessions. Responders can only appreciate the criticality of effective command and control when it is seen in action.

TECC training for fire service medical providers will require more of a change in mindset than actually learning new clinical skills. The traditional triage assessment for trauma patients uses the “ABC” acronym. The responder typically assesses and addresses problems in the sequence of airway, breathing and then circulation. The principal tenets of TECC, based on military combat casualty statistics, suggest that a more appropriate acronym is “CAB” (Callaway et al., 2011). Immediate evaluation of circulation will identify any life-threatening hemorrhaging. Since this is the primary and fastest cause of death in combat victims, it must be addressed first (Bellamy, 1984). Application of tourniquets, direct pressure, pressure dressings and hemostatic agents are all presently within the fire responder’s skill set. Law enforcement officers will require additional training in this area since they could be required to utilize these skills to treat themselves, a partner or a victim while they are operating under fire in the Hot Zone. Airway is the second leading cause of death in combat victims so it would be addressed next (Bellamy, 1984). Applications of manual maneuvers to reposition airways or the insertion of airway devices are also current skills of fire personnel. Breathing and the likelihood of tension pneumothorax are the third concern in the sequence. Application of occlusive chest seals and use of a bag-valve mask are basic EMT skills that fire personnel already know. While law

enforcement officers will be less involved in medical care outside of the Hot Zone, they should have strong basic life support skills in the event that they find themselves in a position to render first aid.

Tactical operations based on the concept of Rescue Task Forces (RTF) will necessitate joint training for fire and law enforcement personnel. Standard Operating Practices for fire and General Orders for police will need to identify the roles and responsibilities of responders at Active Shooter Incidents. The logistics of RTF assembly, coordinated movement and completion of objectives is already being taught by independent training companies such as Survival Option Services (<http://www.survivaloptionservices>). Several different versions are being taught using different acronyms but they are all slight variations of the same model. Classroom sessions can cover the background and evolution of the RTF concept and its real world application at an Active Shooter Incident. The agency specific policies, terms, procedures and tactics are best learned in practical scenario-based training. Live exercises have the added advantage of identifying unexpected issues that can be resolved prior to any actual incident.

### **Equipment**

The fire service is accustomed to providing first responders with personal protective equipment to mitigate the risks posed by fire, rescue and emergency medical treatment incidents. The personal protection equipment is designed and manufactured according to national standards designed to provide the individual with maximal protection from harm. The expanded mission of firefighters entering the Warm Zone at an Active Shooter Incident poses new risks. Law enforcement officers are highly trained and equipped with personal protection equipment to minimize their risks when operating in a hostile environment under direct fire. The fire service appropriately stays out of that area of direct conflict. The Warm Zone is defined as having no

direct threat but that an indirect threat could still exist. Most fire organizations have chosen to provide ballistic protection to firefighters operating as part of an RTF in the Warm Zone as a safety precaution simply because the risk of ballistic injury exists even to a small degree where the RTF is functioning (Lightfoot, 2013). While the threat of injury or death from firearms might be new to firefighters, law enforcement agencies and military combatants have an extensive knowledge base on ballistic protection from which to draw.

The National Institute of Justice (NIJ) is the research, development, and evaluation agency of the U.S. Department of Justice (Office of Law Enforcement Standards, National Institute of Standards and Technology [National Institute for Justice], 2014). They assist law enforcement agencies in research and development of tools designed to address crime control and justice issues. NIJ establishes and maintains voluntary minimum performance standards for ballistic protection while conducting research in performance enhancement. NIJ Standard 0101.06 specifies the minimum performance for ballistic resistance of body armor. Five types of body armor are classified based on the level of protection they provide for specific sizes of ammunition. These types are identified as: IIA; II; IIIA; III; and IV. The present best practice in law enforcement suggests that patrol officers wear body armor rated at a minimum classification of IIIA and that SWAT personnel be protected at the III or IV level (Atwater, 2012). Many fire departments participating in the RTF concept have elected to protect their personnel to the same level as the law enforcement officers providing force protection to the team. This suggests that all members of the RTF in Manchester would be wearing Type IIIA body armor including vests and helmets. Arlington County Fire Department and others have purchased body armor with unique colors and name identification to differentiate themselves from their law enforcement counterparts (*Arlington County Fire Department, 2013*).

The second area of focus for specialized equipment is the implementation of Tactical Emergency Casualty Care (TECC). Hemorrhage control, airway management and treatment of tension pneumothorax have been identified as the three most critical focus areas for tactical medical care (Callaway et al., 2011). Massive hemorrhage is the primary threat to life in most ballistic injuries. Rapid application of a tourniquet device is one method of treatment. Where the use of a tourniquet is not practical because of wound location, The Committee on Tactical Emergency Casualty Care recommends the combined use of wound packing materials and pressure bandages. Kaolin-impregnated gauze serves as an excellent hemostatic agent. Application of the hemostatic agents in combination with wound packing material and a dressing that secures pressure on the wound has proven very effective in hemorrhage control for combat casualties.

Compromised or obstructed airway is the second most common injury resulting in preventable death according to both combat and police data (Defense Logistic Agency, 1970). Traditional non-tactical medical care could involve repositioning of the airway and insertion of oral airway devices. This practice would take up precious time in a tactical situation and would require that a responder maintain the airway. Since this is not a practical solution under fire, the insertion of a nasopharyngeal airway becomes the treatment of choice. The device is easily inserted, relatively stable and is effective in most applications.

The development of tension pneumothorax is the third most common type of preventable death identified in combat casualties. Traditional medical protocol would suggest that development of tension pneumothorax be considered with the onset of hypoxia, narrowing pulse pressure, tachycardia and tracheal deviation. The tactical environment makes this level of care impractical. The Committee on Tactical Emergency Casualty Care argues that any victim with a



penetrating chest wound and increasing respiratory distress should be immediately treated for tension pneumothorax based on the statistical probability that a tension pneumothorax already is present or will be in the near future (Callaway et al., 2011). The application of an occlusive chest seal dressing to the chest penetration wound is relatively quick and can be performed by any member of the RTF. Needle compression is a consideration when a paramedic is available and the tactical situation allows for the procedure to be safely completed.

Arlington County Fire Department utilizes medical supply pouches attached to the MOLLE strapping that allows firefighters to carry sufficient supplies to treat at least 5 shooting victims while remaining hands-free to maneuver safely inside the Warm Zone (Smith MD et al., 2009).

### **Procedures**

A six-step process was used to conduct this action research project. First, a review of the available research on Active Shooter Incidents (ASI) was conducted. A thorough analysis was performed on the characteristics and timelines of the incidents, perpetrator behaviors, types of injuries and the effectiveness of emergency response to these incidents. This analysis revealed the frequency and severity of these incidents and the challenges posed to public safety agencies in preventing further loss of life.

The second step was an analytical review of the position papers published by the national professional associations and organizations representing the various interests of public safety agencies and their personnel. This analysis provided the stakeholder perspectives for the emergency response personnel responsible for the planning and implementation of response to Active Shooter Incidents.

Third, the policies and incident response models of national fire, law enforcement and emergency medical services organizations and committees were examined to identify the recommendations being made at federal and national levels for active shooter incident response.

The fourth step was an analysis of standard operating procedures for Active Shooter Incidents from other fire departments. A request was made on the International Association of Fire Chiefs' Open Forum for these SOPs from fire departments that had established policies and procedures.

Fifth, a draft standard operating practice for MFRE response to Active Shooter Incidents was synthesized from national models and best practices developed by other fire departments. The draft SOP was informed by the lessons learned from Active Shooter Incident responses from Columbine High School in 1999 to present.

The sixth step was a collaborative review process that took the draft SOP as a basis for further discussion to develop a comprehensive, integrated and effective incident response plan for Manchester Fire - Rescue - EMS (MFRE) and Manchester Police Department (MPD) to Active Shooter Incidents in Manchester. The Hartford Distributors shooting incident in Manchester in 2010 was used as an additional test model to verify that the SOP could be practically applied. The collaborative process included the development of MPD general orders for ASIs, defining the roles and responsibilities of MPD officers. The detailed procedures contained in the MPD general orders were not in the scope of this research project. The interactive process was completed using multiple meetings, phone conversations and emails over the course of several weeks. Each member of the review panel offered input from the perspective of their area of expertise and authority.

Representation of The Manchester Fire - Rescue - EMS Department included: Chief Robert Bycholski; Assistant Chief David Billings, Chief of Operations; Battalion Chief Joshua Beaulieu, Chief of EMS Division; Battalion Chief Donald Farquhar, Chief of Training Division; and Battalion Chief Marc Lupacchino, Shift Commander. Chiefs Bycholski and Billings were responsible for all policy and administrative components of the response plan. Battalion Chief Beaulieu worked closely with the police representatives to work out the detailed integration of police and fire roles and responsibilities. Battalion Chief Farquhar worked with stakeholders to develop a comprehensive training plan that included highly-effective, joint training to the fullest extent possible. Battalion Chief Lupacchino was the on-duty shift commander who responded to Manchester's ASI in 2010 and acted as the fire officer in unified command. He provided valuable perspective as to the practicality of the response plan.

Michael Suhie, President, and Angelo Alleano, Vice President of IAFF Local 1579 represented the union local for the Manchester firefighters. They provided perspective to the collaborative team regarding contractual issues that could be involved with firefighters working in the Warm Zone.

Representatives from the Manchester Police Department included: Chief of Police Marc Montminy; Sargent Jon Laughlin, Training Officer; Steven Bresciano, patrol officer and member of Capital Region Emergency Services Team (SWAT); James White, Superintendent of Communications; Captain William Darby, Patrol Division Commander; David Roy, Training Officer; Adam Golden, patrol officer; and David Williams, patrol officer. Chief Montminy was responsible for all policy and administrative decisions related to police roles in ASIs. Officer Bresciano provided an important perspective from the regional SWAT resources. James White was responsible for the dispatchers' roles in an ASI. Captain Darby is a member of the

command staff and is responsible for the patrol division. His contribution was related to the responsibilities of patrol officers responding to an ASI as well as the expectations of the police incident command structure. Officers Roy, Williams, Golden and Bresciano, working with Sargent Laughlin of the training division, collaborated in the development of detailed procedures for the integration of police, fire and EMS resources on scene.

Nancy Brunet, Prehospital EMS Director and Dr. James Castellone, Prehospital EMS Medical Director for The Eastern Connecticut Hospital Network provide medical control and direct the performance of the Department's paramedics. Their guidance and ultimately their approval was necessary to adjust both BLS and ALS treatment protocols for tactical environments as opposed to the traditional street environment.

The action research utilized in this applied research project had several limitations. The request for Standard Operating Procedures for Active Shooter Incidents was posted to an open forum. The significance of the offered SOPs could be limited by the nature of the forum where it is not possible to track who actually viewed the posting. Those individuals who saw the request and responded could be more progressive and more likely to be active in multi-agency discussions and collaborations. The effect of that influence could not be identified or measured. There is no way to examine all of the present practices related to Active Shooter Incidents and this action research is limited by the size of the sample SOPs that were chosen for review. The specific details of the inter-agency relationships that exist in Manchester have led to a local SOP that might have limited external validity. Most members of the collaborative team were active participants in the response to Manchester's 2010 Active Shooter Incident. These vivid memories played an unknown part in influencing the development process beyond the standard scientific approach to incident response planning.

## Results

The first research question asked, What MFRE department policies must be developed or modified to support this type of incident response? Active Shooter Incidents (ASI) are high-risk, low-frequency events. Studies of ASIs over the past 15 years indicate that perpetrators tend to be young, single males, intent on killing as many people as possible in a short period of time. They typically shoot themselves as soon as they are confronted by police and the attack is over within 5 to 7 minutes. While the Active Shooter Incident is the primary focus of this standard operating practice, it is also understood that the violent offender may be armed with something other than a firearm and still capable of severely injuring or killing multiple people. Manchester Fire - Rescue - EMS (MFRE) and the Manchester Police Department (MPD) share a common mission at these events: save lives. MPD's primary responsibility is elimination of the threat. MFRE is primarily responsible for providing rapid medical care to the injured. The outdated fire service response of staging and waiting for law enforcement to declare the scene safe deprives victims of immediate life-saving medical care. MFRE personnel will coordinate closely with MPD to provide EMS to victims early in the incident, in a reduced threat area, while MPD and other police resources continue to secure the scene.

The standard operating practice provides guidelines for MFRE operations at an Active Shooter Incident or a violent crime in progress incident. There are clearly identified instances where procedural components are mandatory to ensure the safety of MFRE and MPD personnel. The Rescue Team concept shall be implemented to effect rapid access to victims while maintaining safety of personnel. A Unified Command shall be established and the National Incident Management System (NIMS) shall be utilized at all Active Shooter or Violent Crimes in Progress incidents, so that close coordination of MFRE and MPD command and control

functions is maintained throughout the incident. Security assessments and decisions regarding movement of MFRE personnel within the threat areas shall be done in coordination with an MPD Command Officer.

MFRE policies and practices integrate, to the fullest extent possible, the recommendations for ASI operations from: The International Association of Fire Fighters; Urban Fire Forum; International Association of Chiefs of Police; Hartford Consensus II; FEMA; U.S. Fire Administration; International Association of Fire Chiefs; Fraternal Order of Police; Committee for Tactical Emergency Casualty Care; and Eastern Connecticut Health Network Medical Control for Prehospital Care.

The second research question asked, What are the most appropriate practices for MFRE response to Active Shooter Incidents? The results of this question require further breakdown.

### **Initial Responsibilities**

Upon report of an Active Shooter Incident, the Manchester Dispatch Center shall dispatch five companies and the shift commander to the incident. All available information will be provided to the Shift Commander while responding. Upon confirmation of an ASI, the Manchester Dispatch Center will make an all-officer notification of the incident via the Everbridge Automated Notification System. The first Battalion Chief calling in the Manchester Dispatch Center shall be assigned the Coverage Officer responsibilities and will follow the established procedures for securing jurisdictional coverage and emergency callback personnel.

The second Battalion Chief will report to the scene and assist with coordination of activities in the Cold Zone. The MFRE EMS officer assumes the role of Medical Group Supervisor as identified in the MFRE Mass Casualty SOP. Additional Battalion Chiefs should report to the Unified Command Post and await an assignment from Command. Active Shooter

Incidents are chaotic and unpredictable. The highest priority for all initial responders is to gather information on the actual situation found. The Shift Commander arriving on scene will have specific assignments. He will identify a staging area for all MFRE resources. He will establish incident command for MFRE. While MPD is initially focused on gathering information and setting up contact teams, MFRE will set-up Cold Zone operations. As MPD resources become available, the initial incident commander will meet with the MPD Officer-in-Charge to set-up a Unified Command Post. The Shift Commander will work with MPD Command to assess the situation and develop an initial action plan and assume the assigned responsibilities for Unified Command - MFRE. He will assign an MFRE officer to work with the Rescue Group Supervisor. He will request additional fire and EMS resources as necessary. Unified Command will identify the Threat Zones (Hot, Warm, and Cold) as soon as sufficient tactical information is available.

Upon arrival, all other MFRE companies shall stage apparatus in the designated staging area with consideration for maintaining unimpeded ambulance routes. The first two arriving companies will report, with all appropriate gear and PPE, to a staging area designated by Command for Rescue Team formation. The remaining arriving companies will be responsible for establishing a Treatment Area. This area should be established in the Cold Zone and consideration should be given to ambulance access, security considerations, and adequacy of space. Companies should report to the Treatment Area with all necessary medical and tactical equipment including PPE. The first company officer assigned to the Treatment Area is assigned the role of Treatment Unit Leader. All patients coming in to the Treatment area are triaged and assigned for treatment and transport by priority level. Additional resources for the Treatment Area are requested as indicated in the MFRE Mass Casualty Plan.

### **Continuum of Victim Care**

Tactical Emergency Casualty Care (TECC) guidelines identify medical treatment in the Hot Zone as “Care Under Fire”. The first arriving MPD officers can be anticipated to form a contact team and enter the building and move toward the shooter with the intent of eliminating the immediate threat. Initially the entire building and immediate area is the Hot Zone. The first contact team is instructed to bypass victims that might be found in their path to the shooter. During this procedure, the contact team clears potential entry corridors for following teams. This tactical information and reports of victim numbers and locations is relayed back out to Command or the Contact Team Group Supervisor who shares the information with Unified Command. According to TECC practices, subsequent contact teams entering the Hot Zone could stop to provide only immediately life-saving interventions. However, the contact teams’ primary focus remains on eliminating immediate threats. Contact teams will stop to provide “self-care” or “buddy care” for any member that is wounded within the Hot Zone.

Tactical Emergency Casualty Care (TECC) guidelines identify medical treatment in the Warm Zone as “Tactical Field Care”. Once the contact teams have cleared an area where victims have been located, a Rescue Team can be requested to operate in this Warm Zone. The Rescue Team is a unified asset in that it contains both police and MFRE personnel. The Rescue Teams will be directed by the Rescue Group Supervisor to move from the Cold Zone into the Warm Zone. The Rescue Team leader will determine where the Rescue Team operates in the warm zone and will make decisions regarding routes for ingress and egress based on the best available information about the location of victims and the location of any possible threats. Initial Rescue Teams will be directed to victims located by the contact teams.



Rescue Team personnel will stabilize only the immediately life threatening injuries of each victim before packaging the victim for evacuation to the primary treatment area or if deemed necessary, to a Casualty Collection Point in the warm zone. Tactical Field Care prioritizes: 1) maintaining situational awareness for potential threats; 2) hemorrhage control; 3) restoration of patent airway; 4) sealing open or sucking chest wounds; 5) needle decompression of tension pneumothorax; and 6) placement in recovery position until evacuation is possible. Initial Rescue Teams will focus on evacuating critical patients as they encounter them. The Rescue Team functions as one cohesive team. The Rescue Team can be expected to evacuate 2 or 3 patients during one entry into the Warm Zone. Subsequent Rescue Teams obtain information from previously assigned teams on where to begin looking for victims, as well as any pertinent hazard information. Victims found to be pulseless and apneic are left in place.

A Casualty Collection Point (CCP) can be established in a secured area in the Warm Zone. CCPs ideally will have ready access to building exit points; be large enough to accommodate treatment or staging of the number of victims that are anticipated; and can easily be secured. The establishment of a CCP will be considered in circumstances where several viable patients are found in one area and cannot be readily evacuated with available resources or a change in the incident dictates that it is no longer safe to exit the area with victims. Rescue Teams can be assigned here to further stabilize victims until they can be evacuated to the Treatment Area. This area must have constant police protection.

Tactical Emergency Casualty Care (TECC) guidelines identify medical treatment in the Cold Zone as “Evacuation Care”. MFRE mass casualty protocols for triage, treatment and transport in the Cold Zone are aligned with the “Evacuation Care” practices of TECC. Ambulatory victims are directed to the Treatment Area. Non-ambulatory victims initially treated

by a Rescue Team are evacuated by personnel from the border of the Warm Zone out to the Treatment Area. Victims are triaged and receive further care and preparation for transport to area hospitals.

Research question three asked, What are the best practices for integrating multiple agency operations at an Active Shooter Incident? The key component to integrating multiple agencies is implementation of the Unified Command concept. This is a team effort between MPD and MFRE to command and control the Active Shooter Incident from a stationary command post. The National Incident Management System will be utilized to the extent mandated by the size and complexity of the incident. Unified Command can be as simple as one MPD command officer and one MFRE command officer working together. The Active Shooter Incident is primarily a law enforcement event and the MPD command officer will have primary responsibility for the tactical operations. The MFRE command officer will have primary responsibility for providing rapid medical treatment and transport for all injuries, as well as for coordinating support activities in the Cold Zone.

It became readily apparent during this action research project that all responders from multiple agencies must share a common terminology in order to manage effective communication. The collaborative process developed a list of definitions resulting in a platform of common terminology. An unexpected benefit was realized in that the actual process provided clarification of roles and responsibilities. The following list of definitions provides a common basis for incident communications for all fire, EMS and law enforcement agencies:

**Active Shooter Incident**

An event where an armed individual(s) has used deadly force in a confined space with a captive audience and continues to inflict harm while having unrestricted access to additional victims. This definition does not include barricaded suspects or individuals threatening suicide.

**Casualty Collection Point (CCP)**

A Casualty Collection Point that is located in the Warm Zone. Contact Teams and Rescue Teams may bring victims to this secured location where they receive tactical emergency casualty care and are packaged for movement out to the Treatment Area.

**Clear**

A law enforcement term that describes an area that has been swept initially by officers and no immediate threat has been seen.

**Cold Zone**

The geographical area where there is little or no threat to personnel. This is the location of the Unified Command Post, Staging, Treatment Area, and other incident support resources.

**Concealment**

A law enforcement term that describes any barrier that prevents the perpetrator from seeing responders or other potential targets. This does not necessarily provide ballistic protection.

**Contact Team**

Law enforcement teams of 2 or more police officers who form immediately upon arrival and enter the building with the intent of rapidly engaging the shooter to prevent further injury or loss of life.

**Cover**

A law enforcement term that describes any barrier that provides ballistic protection to responders or other potential targets.

**CREST**

The Capital Region Emergency Services Team is a group of police officers from area departments who are specially trained and equipped to provide Special Weapons and Tactics (SWAT) services anywhere in the region.

**Critical Patient**

Within the scope of this document, a critical patient is one who has sustained a life threatening injury, such as penetrating trauma with severe bleeding or airway compromise, and cannot self-evacuate from the scene to a treatment area.

**Dead Patient**

Within the scope of this document, a dead patient is one who is found with no pulse or breathing effort as a result of trauma.

**Expectant Patient**

Within the scope of this document, an expectant patient is one who is found to have signs of life such as some respiratory effort or a pulse but also has injuries incompatible with life.

When the number of critical patients exceeds the resources available to manage them, expectant patients are not treated until all other critical patients are treated.

**Hot Zone (Kill Zone)**

The geographical area where there is direct and immediate threat to personnel. This is the area where law enforcement contact teams will be actively searching for and engaging the shooter. No MFRE personnel will operate in this zone.

**Mass Casualty Incident SOP**

This is the MFRE Standard Operating Practice for dealing with mass casualty incidents. For the active shooter scenario, the standard triage, treatment and transport functions of the mass casualty SOP will be established in the Cold Zone.

**Perimeter Supervisor**

The law enforcement officer assigned responsibility to establish and maintain perimeter security resources. When no perimeter supervisor is assigned, this remains a command responsibility.

**Rescue Group Staging Area**

An area identified by the Rescue Group Supervisor or Command that serves as a staging point for police and fire Rescue Team personnel and gear. This is located in the cold Zone and is the place where rescue teams form up prior to entering a warm zone area.

**Rescue Group Supervisor**

This is a unified subcommand role with an MPD supervisor and an MFRE supervisor. The MPD supervisor is responsible for setup and coordination of Rescue Teams. This includes constant monitoring and adjustment of: Hot, Warm and Cold Zones; Rescue Team Staging Area; and the CCP (if established). The MPD supervisor assigned in this role communicates with Unified Command regarding Rescue Team status and movement.

**Rescue Team**

A team of police officers and MFRE firefighters deployed into the Warm Zone to provide point of wound care to victims. Ballistic protection is worn by all members of the Rescue Team. The police officers provide full-time security for the team. MFRE personnel provide tactical emergency casualty care (TECC) to victims. Victims are moved to the CCP for further care or

are evacuated to the Treatment Area by the Rescue Team. A Rescue Team must include at a minimum: two (2) qualified police officers; one (1) qualified MFRE firefighter/paramedic; and two (2) qualified MFRE firefighter/EMTs. Note: “Rescue Team” was preferred over “Rescue Task Force” by law enforcement representatives on the development team.

### **Rescue Team Leader**

One police officer in each Rescue Team will be assigned responsibility for the safety and movement of the Rescue Team in coordination with direction from the Rescue Group Supervisor.

### **Secure**

A law enforcement term that describes an area that is actively monitored and maintained free of any immediate threats to responders.

### **Staging Area**

Resources arriving on scene will be directed to a staging area. Separate staging areas will be established for police resources and for fire / EMS resources. Police and Fire command officers will designate staging areas for their respective disciplines. If necessary, a staging officer may be assigned to assist in moving resources in and out of the staging areas.

### **Tactical PPE**

In addition to the department-issued station wear and universal precautions equipment, all MFRE personnel assigned to function within a Rescue Team will don ballistic protection including vest and helmet.

**Tactical Emergency Casualty Care (TECC)**

A set of best practices and guidelines for police, fire and EMS providers to follow in the treatment of casualties in a high-threat, civilian, tactical and rescue environment. These are the military combat casualty guidelines revised for civilian application.

**Treatment Area**

A designated area in the Cold Zone where MFRE personnel and other EMS providers perform triage, treatment and transport functions for victims. Victims may arrive in this area on their own or be brought here by Rescue Teams.

**Warm Zone**

The geographical area where there is no direct or immediate threat to personnel. This area has been cleared by law enforcement contact teams but the reduced potential for threat still exists until the shooter has been contained and the area fully searched. MFRE personnel can operate in this area as part of a Rescue Team for short periods of time. A continuous risk versus benefit assessment is essential to determine if and when the potential to save the lives of civilian victims outweighs the risk to responders.

**Unified Command**

A team effort between MPD and MFRE to command and control the active shooter/ violent crimes in progress (VCIP) incident from a stationary command post. The National Incident Management System will be utilized to the extent mandated by the size and complexity of the incident. Unified Command can be as simple as one MPD command officer and one MFRE command officer working together. The active shooter/ VCIP incident is primarily a law enforcement event and the MPD command officer will have primary responsibility for the tactical operations. The MFRE command officer will have primary responsibility for providing

rapid medical treatment and transport for all injuries, as well as for coordinating support activities in the Cold Zone.

### **Violent Crime in Progress**

An event where an individual(s) has used deadly force in a confined space with a captive audience and continues to inflict harm while having access to additional victims. This definition does not include barricaded suspects or individuals threatening suicide.

The fourth research question asked, What specialized equipment is required for responses to Active Shooter Incidents. The highest threat to both MFRE and MPD responders at the scene of an ASI is ballistic injury. MFRE personnel will not operate in the Hot Zone where there is an active and direct threat. The Warm Zone has a reduced level of indirect threat but it is not absent of threat. Therefore, MFRE personnel assigned to operate in the Warm Zone will wear a ballistic vest and helmet as standard personal protective equipment. The ballistic protection will be rated at a minimum protection level of IIIA as classified by The National Institute of Justice Standard 0101.06. The tactical equipment will be a unique color and have "RESCUE" clearly printed on the front and back in order to facilitate differentiating MFRE personnel from law enforcement personnel. Ballistic protection will be rapidly adjustable to allow donning by all MFRE personnel.

Medical treatment supplies will be needed to address the types of injuries typically found with ballistic injuries. MFRE personnel assigned to a Rescue Team will carry sufficient tourniquets, pressure dressings, hemostatic agents, occlusive chest seal dressings and 14 gauge chest decompression needles to treat at least five victims before having to return to the Cold Zone for more supplies. These medical supplies will be carried in packs that can clip-on to the ballistic armor. This allows the firefighters to remain as "hands free" as possible.



Rescue Teams will be expected to move victims to either the Tactical Casualty Collection Point or out to the Treatment Area as quickly as practical. Each of the three firefighters assigned to a Rescue Team will carry a foldable, lightweight patient transport device. This technique could allow a Rescue Team to carry or drag up to three victims to safety while the law enforcement officers remain focused on security.

Research question five asked, what specialized training is required for MFRE personnel? A truly integrated response by fire and police personnel is a novel concept that requires changes in attitude, knowledge and skills. A comprehensive training program for members at all levels of the fire and police organizations must be carefully developed and fully implemented. Many of the deficiencies in knowledge and skills were identified during the collaborative development process of the response plan. It is not practical or effective to train firefighters to be law enforcement officers or to train police officers to be paramedics. Each agency has its established strengths. The ASI training program would strive to develop the required skills where the actual integration of both agencies takes place.

MFRE personnel are knowledgeable and comfortable working with NIMS. MPD senior command staff is familiar with NIMS but use it infrequently and therefore have not developed a comfort level. MPD supervisors and patrol officers have a limited familiarity with incident command. Tabletop exercises with the command staffs of the two agencies will help develop the concepts of unified command and lead to a higher level of competency for both agencies. This foundation will allow the live exercises to be more successful. Line personnel for both agencies will receive refresher training in NIMS.

The law enforcement officers and members of CREST, the regional SWAT asset, have extensive training in tactical operations. MFRE personnel must receive sufficient training to be

familiar with the tactical operations that could take place at an ASI. Familiarity with the ballistic armor, secure movement in a tactical situation and the security expectations of the incident will ensure that MFRE personnel are operating safely on scene and are providing support to the overall tactical operation. Learning situational awareness in a tactical environment will be an important concept for MFRE personnel to develop.

Most MPD patrol officers are certified as Emergency Medical Technicians (EMT) but have very limited exposure to providing emergency medical care since MFRE responders are arriving on scene quickly and assuming those responsibilities. MPD officers will receive training in the recommended practices of Tactical Emergency Casualty Care. They will be operating in the Hot Zone without EMS personnel and might have a need to apply self-care or buddy-care. Application of tourniquets or other hemorrhage controls are critical skills for these officers to possess. MFRE paramedics will assist in this training. MFRE personnel receive annual refresher training in providing triage, treatment and transport functions at mass casualty incidents. This training will be expanded to include the management of mass casualty operations in the Cold Zone of an ASI.

Joint training will be necessary when training both agencies on the actual integration of personnel during the operations of Rescue Teams. This will require extensive didactic instruction in the integrated response to an ASI and the implementation of tactical and victim care strategies. Practical exercises will take this new knowledge and translate it into psychomotor skills for all responders. Joint exercises will provide opportunities to reinforce the skills learned and determine where additional training might be required. The FBI branch in Connecticut is planning an active shooter exercise in Manchester during the summer of 2014 and

this will be an excellent opportunity to test the integrated response plan with a full-scale, multi-agency exercise.

Active Shooter Incidents are low frequency, high risk events (Lightfoot, 2013). As a result, annual refresher training and practical exercises will be necessary to keep the knowledge and skills of both agencies at peak readiness. It can be tempting to assume that these skills will not be necessary in Manchester and therefore the continual practice is wasteful. Manchester experienced an Active Shooter Incident in August of 2010 and recent history in the United States indicates that another ASI is a very real possibility (Counterterrorism Bureau, New York City Police Department, 2012). Training and practice of the integrated response plan will be a continuous process.

### **Discussion**

The Active Shooter Incident at Columbine High School was the pivotal event in causing a paradigm shift in the response of law enforcement agencies to these types of incidents (Kimery, 2014). The practice of establishing a perimeter and waiting for SWAT gave way to the formation of small entry teams of patrol officers who immediately engaged the shooter. Law enforcement agencies took this valuable lesson learned and immediately modified their response protocols. Similarly, the stage and wait approach to these events by the fire service was proven ineffective (Smith Jr. & Delaney, 2013). Unfortunately the fire service was not as quick to find a more effective approach to providing medical care to victims. FEMA's Lessons Learned Information Sharing Group found that "EMS active shooter incident protocols should consider a plan that takes into consideration the pressing medical needs of the wounded" (Kimery, 2014, p. 36). Despite the delayed arrival, the fire service found an effective response in the Rescue Task Force (RTF) concept (Atwater, 2012).

The U.S. Fire Administration, International Association of Fire Fighters, International Association of Fire Chiefs, and the International Association of Police Chiefs are united in their support of this response model (Smith Jr. & Delaney, 2013). Arlington County Fire Department has taken a leading role in translating the concept into actual practices (*Arlington County Fire Department*, 2013). Other fire departments have developed slightly modified versions of the RTF concept (*Fort Knox Fire Department*, 2013; *Green Valley Fire District*, 2012; *Orange County Fire Authority*, 2013). This response model was clearly the appropriate starting point for this action research project. The speculative application of the RTF concept to Manchester's Active Shooter Incident in 2010 strengthened the belief that this model was a good basis upon which to build.

The collaborative team adopted the RTF concept and made practical modifications to the practices that allowed the response model to fit Manchester's public safety agencies. The capabilities of the on-duty police and fire resources are best utilized with a systematic approach to assigning roles and responsibilities during the first few minutes of the incident. Pre-scripting assignments to match local resources provides more clarity of responsibilities during the otherwise chaotic and information poor environment of the early stages of an ASI (USFA, 2013).

NFPA 1500 has contained language for the last two decades that would suggest that firefighters should not be placed into law enforcement activities where they might be exposed to risk of injury from criminal activity (NFPA, 2013). The traditional role for firefighters at police events was to wait for police to secure the incident or stage in a safe area until police could bring patients out to a safe treatment area. This policy has proven ineffective in saving the lives of victims (Atwater, 2013). The policy shift of moving firefighters deeper into the threat zones could have led to discussions with the local union regarding a change in working conditions and

the departure from the standard roles and responsibilities of firefighters. The International Association of Firefighters (IAFF) released a position statement indicating their acknowledgement of the need for policy change ("IAFF Position Statement," 2014). They recognized that the traditional stage and wait approach was not providing the necessary level of emergency medical services in a timely manner that could save lives. The IAFF endorsed the RTF concept and supports the newly identified roles for firefighters. Manchester's IAFF Local 1579 supports the national labor organization's position and endorsed the RTF concept on a local basis. They were a critical element in the development of Manchester's SOP for Active Shooter Incidents.

There will continue to be a direct threat within a Hot Zone as long as the shooter remains active. Locating and suppressing the threat in the Hot Zone continues to be the responsibility of law enforcement officers who are clearly more adept and prepared for this role than any other emergency responders (USFA, 2013). The Rescue Task Force can operate in both the Warm and Cold Zones. The majority of emergency responders will be performing their activities in the Cold Zone. The national response model suggests that identification of the threat zones should be one of the initial actions upon arrival at an active shooter incident (USFA, 2013). This practice is supported in the Arlington County model.

It became apparent during this research project that gathering information at an ASI was much more difficult than performing the typical size-up at a fire scene. The mass exodus of building occupants and the conflicting reports of shooter location makes the identification of threat zones extremely difficult. Manchester Police will have primary responsibility for determining the actual situation and developing a tactical plan. The entire building and immediate grounds could be the Hot Zone until entry teams begin to move through the building.

The boundary of the Warm Zone follows closely behind the entry teams as they move deeper into the building. The fire service is accustomed to dealing with a relatively constant threat zone or IDLH. The IDLH expands or contracts based on the effectiveness of the fire attack. The threat zones in an ASI are fluid and have no clear demarcation within the structure (Allen & Gurske, 2013). Dealing safely with this challenge is one of the primary reasons why a unified command is critical to the success of an ASI. These situations are information poor and new tactical intelligence can cause the threat zones to shift rapidly requiring carefully coordinated movement of resources.

Active Shooter Incidents can be the civilian equivalent of the military battlefield in many ways (Blair et al., 2014). Examination of battlefield injuries and deaths has informed the civilian response to medical trauma in the ASI. Tactical Combat Casualty Care, employed by the military, demonstrated the effectiveness of identifying the most prevalent types of survivable injuries and being equipped and prepared to treat them at the point of wounding (Bellamy, 1984). The Tactical Emergency Casualty Care Committee has adapted this knowledge and experience into a set of practices for responding to large civilian incidents involving violence (Callaway et al., 2011). The TECC practices address treatment priorities and modalities in each of the threat zones. Extremity hemorrhage continues to be the most critical type of survivable ballistic injury according to The Hartford Consensus (Joint Committee to Create a National Policy to Enhance Survivability from Mass Casualty Shooting Events, 2013). Based on the urgency of intervention, Manchester police officers will be trained and equipped to apply tourniquets to victims encountered in the Hot Zone. This would not apply to the initial entry team who could bypass victims in their search for the shooter. Responsibility for further medical care of these victims would be deferred to the Rescue Task Force. The RTF operating in the Warm Zone would

provide corrective measures for tension pneumothorax and airway obstruction in addition to hemorrhage control. The TECC practices are endorsed by MFRE's medical control and have been adopted as the standard of victim care in the new Standard Operating Practice.

The "Responding to Mass Casualty Shootings – Strengthening Fire/Law Enforcement/EMS Partnerships" event brought many different public safety agencies together to consider the ASI problem (Sanders & Klaene, 2013). The various agencies had to recognize the threat and the challenges to an effective response before they could come together to look at integrated responses. This coming together was a major milestone in the joint planning and response initiatives in many municipalities. This need might have appeared somewhat obvious after so many Active Shooter Incidents. However, it has taken a great deal of state and national attention before the trend has gained momentum. As recently as the Sandy Hook School Shooting, integration of the responding agencies was not preplanned (Sanow, 2013).

Manchester had the unfortunate experience of an Active Shooter Incident in 2010. The need for Fire and Police to work together in Manchester became apparent then. However, even with that impetus, an integrated response plan has been four years in development. There has been great value in meeting with the public safety agencies and working through the challenges of an integrated response. It first was necessary to acknowledge that although Fire and Police share a common goal of saving lives, the respective agencies' objectives were quite different. Similarly, the terminology of one agency was largely foreign to the others. A set of common terminology to be used at ASI events was established. The joint planning process proved to be a very valuable learning experience for all stakeholders. Inter-agency relationships were established that would be critical to the success of an ASI response. It became apparent during the development process that this level of planning for integrated responses should be extended

to other types of incidents. The development process itself proved to be as valuable as the actual production of a plan.

The use of NIMS and Unified Command in particular is vital to the successful response of an ASI ("Firescope," 2013; Sanders & Klaene, 2013). NIMS was established by the United States Department of Homeland Security in order to provide a consistent means for local, state and federal agencies to work together to prepare for, plan responses to, and recover from both natural and man-made disasters (USFA, 2013). The State of Connecticut has adopted NIMS as the standard system for management of emergency responses within the State through the issuance of Executive Order Number 34 by Governor Malloy (State of Connecticut, 2013).

Unified Command has been recognized as an important component of the Incident Command System in Manchester for many years. The Manchester Fire - Rescue - EMS Department has utilized this system with mutual aid partners for the last two decades. Although the Manchester Police Department recognizes the importance of Unified Command in concept, it has been difficult to accomplish on scene of an emergency until well into the incident. This began to change after the ASI that occurred in Manchester in 2010. Fire and Police supervisors have improved in their efforts to establish a Unified Command structure at larger incidents that involve multiple agencies. Regional police agencies in Connecticut are working towards a structured mutual aid system which will continue to improve command and control of ASIs in Manchester. Recognizing the benefits of Unified Command through training and actual experience will serve to strengthen the local commitment to continue this essential practice.

Law enforcement agencies have begun intensive training in the threat mitigation element of an ASI through in-house and contracted training (Atwater, 2012). Several training models are available through private training providers (<http://activeshootertraining.com>):



<http://www.crisisconsultinggroup.com>: <http://www.schoolviolencesolutions.com>). They are quite similar in their core elements and to varying degrees follow the Advanced Law Enforcement Rapid Response Training (ALERTT) model developed by the Texas State University in conjunction with the U.S. Department of Justice and the FBI (Schweit, 2013). The Department of Homeland Security offers similar training through the Federal Law Enforcement Training Centers (U.S. Department of Homeland Security, 2014).

The risks encountered while operating in the threat zones of an Active Shooter Incident are new to firefighters. Extensive training is needed to function effectively in this new environment. Training is the key element to firefighter safety at these incidents. The core training areas are NIMS, TECC and the tactical operations of the RTF. Members of MFRE already have a working knowledge of NIMS and possess the medical skills required by TECC. Therefore, the focus of MFRE's ASI training will be on the tactical operations for the Rescue Task Force operating in the Warm Zone. Both didactic education and practical exercises are required. There are several private training providers offering classes for utilizing the RTF concept (<http://www.arkmedcorp.com>: <http://www.survivaloptionservices>). Each organization has coined their own acronym for the actual process of operating the RTF and approach to the sequence of training.

Delivery of training has many challenges in Manchester as it does in many small suburban career departments. On-duty personnel are busy responding to calls for service. They are not available for uninterrupted periods of time where training could be accomplished. Overtime budgets are already strained due to staffing shortages. It is not feasible to bring personnel in on an overtime basis for training classes. Many of the larger training initiatives accomplished by MFRE have only been possible through grant awards that included personnel

costs for overtime. The only option is to deliver training to small groups of on-duty personnel in a modular format that can tolerate interruption. It is cost-prohibitive to bring in contracted training providers for multiple class deliveries. A train-the-trainer approach fits well in this application. A core group of police and fire personnel will attend a formal course and then adapt that curriculum for delivery in Manchester. A strong collaboration between the police and fire training divisions will make this approach effective.

The primary focus of new equipment requirements for MFRE operating at ASIs is ballistic protection. The International Association of Fire Chiefs and the International Association of Fire Fighters have both published position papers regarding the effective utilization of firefighters at ASIs ("IAFF Position Statement," 2014; IAFC, 2014). Both international associations recommend providing ballistic protection to firefighters operating in a RTF within the Warm Zone. It makes sense that the firefighters would have the same level of protection as the police officers providing security to the team. The National Institute of Justice establishes the protection standards for law enforcement agencies (National Institute for Justice, 2014). Manchester police officers operating in the Warm Zone will don Type IIIA vests and helmets. Similarly, MFRE firefighters will don equivalent PPE before entry into the Warm Zone. While the level of ballistic protection is the same, the *EMS blue* color and a *RESCUE* designation on the firefighter vests will visually differentiate the firefighters and police officers of the Rescue Task Force.

Approximately sixty-five percent of MFRE's call volume is for emergency medical services. This is similar to most fire-based EMS providers in a suburban setting. MFRE personnel are well-trained and practiced with emergency medical skills. MFRE paramedic companies already carry the medical equipment needed at an ASI. However, the TECC practices

recommend that sufficient supplies of specific equipment be carried by the RTF to treat a minimum of five shooting victims (Callaway et al., 2011). Hemorrhage control, airway management and treatment of tension pneumothorax are the three priorities for medical intervention in the threat zones. MFRE personnel functioning in a RTF will carry tourniquets, wound packing materials, hemostatic agents and pressure dressings to address hemorrhaging. Nasopharyngeal airways will be carried to address airway obstructions. Pneumothorax issues will be addressed with occlusive chest dressings and needle decompression kits. These supplies will be carried in tactical kits that can clip on to the firefighter's ballistic vests so that personnel can move in a hands-free manner. These kits will be included in the routine inspection and rotation of medical equipment inventory.

### **Recommendations**

The purpose of this action research project was to develop a Standard Operating Practice for Manchester Fire - Rescue - EMS to provide a safe and effective means to respond to Active Shooter Incidents and work within a unified structure with the Manchester Police Department. While the focus of this project is MFRE, these recommendations might be beneficial to future readers for consideration in evaluating their public safety organization's response to Active Shooter Incidents. While minor adaptations might be necessary for local protocols, the Rescue Task Force model provides an effective means to mitigate the threat while providing timely medical care to the injured.

It is recommended that the Standard Operating Practice found in Appendix A be adopted as MFRE policy and procedures for the integrated response to Active Shooter Incidents. These are nationally recognized and accepted practices with minor revisions agreed upon by the collaborative development team. This model takes full advantage of the respective strengths of

Manchester Fire -Rescue - EMS and the Manchester Police Department. Command and control practices of the SOP follow Presidential Directive No. 5 and the State of Connecticut Executive Order 34 which stipulate the use of the National Incident Management System at these incidents. Medical treatment practices of the SOP are defined by the nationally-recognized Tactical Emergency Casualty Care Committee and are compatible with local medical treatment protocols. The SOP was developed through collaboration with both police and fire representation and is ready for final approval and implementation.

The development of a comprehensive training plan is the next recommendation. The program should include classroom education and practical skills training in order to prepare police officers and firefighters for their roles and responsibilities on the scene of an Active Shooter Incident. A train-the-trainer approach is recommended in order to deliver the extensive training course while minimizing operational disruption and training costs. Practical application of skills should be practiced in scenario-based sessions utilizing realistic settings and props. The key to any successful incident response is effective command and control. Police command staff and fire officers should receive additional training in the command and control functions for an Active Shooter Incident. This component of the training should be delivered and practiced in joint sessions with both police and fire officers together so that the expectations for each role are clearly understood by all officers. It is highly recommended that a full scale exercise be employed as time and financial resources allow. Only a full-scale exercise can truly identify the strengths and deficiencies of the planned response.

The success of integrated responses with other public safety agencies is relationship-driven. The collaborative effort that was initiated for this applied research project has established new relationships among the members of MFRE and MPD on many different levels.

It has also served to strengthen existing relationships. Public safety agencies of all types are encouraged to open these types of discussions. The planning and preparation for an integrated response to Active Shooter Incidents is an excellent place to begin. However, the type of unified response that is selected to work on first is perhaps not as important as simply getting the collaborative process started. The process itself leads to a better understanding of each agency's goals and the challenges that are faced with the completion of agency objectives. Learning to speak the same language with a platform of common terminology is a critical component. Identifying the strengths and weaknesses of each agency results in a better understanding of how the individual agencies can support the other's mission. Economic constraints make the sharing of resources essential as pressure increases to find new ways to meet the evolving needs of the community. The positive results of this project support the need for continued collaboration.

Members of the collaborative team learned more about their peers in other organizations throughout this process. The importance of the human connection in this process must be recognized and its development encouraged. The human connection on the scene of an emergency is extremely important. Firefighters typically know their department brethren well and learn to anticipate their behavior in any given situation. Trust amongst the firefighters becomes second nature. While this level of familiarity might not ever be attained with members of other agencies, it would certainly be helpful for the firefighters in a Rescue Task Force to personally know the police officers providing their security. Similarly, it would be helpful for fire officers to personally know the police commanders they are working with in a unified structure. Roles and responsibilities will be assigned on the scene of an emergency incident. The fact that these are human actors functioning in these roles should not be minimized.

It is strongly recommended that Unified Command be utilized at all incidents involving fire and police agencies regardless of the size or complexity of the incident. The fire service is quite accustomed to the Incident Command System largely because it is used every day. Police agencies use the Incident Command System infrequently and are often hesitant to use it for anything but the large or complex incident. Law enforcement officers could benefit from completion of FEMA's IS-100.LEB: Introduction to the Incident Command System (ICS 100) for Law Enforcement online training (FEMA Emergency Management Institute, 2014). Even without a comfort level with the Incident Command System, the concept of Unified Command is easily understood. It doesn't have to be any more complicated than the fire boss and the police boss standing next to each other in front of the incident address. Employing some form of Unified Command at every incident involving fire and police resources leads to a higher comfort level with the process. Establishment of Unified Command at a complex incident then becomes a familiar step in the response. This recommendation might not be easily accomplished but the benefits are worth the continued effort to make the necessary cultural changes.

## References

- 9 Dead in Manchester, Conn Workplace Shooting. (2010, August 3, 2010). *The Hartford Courant*. Retrieved from [http://articles.courant.com/2010-08-03/news/hc-omar-thornton-workplace-shooting-020100803\\_1\\_workplace-shooting-east-hartford-shooting-victims](http://articles.courant.com/2010-08-03/news/hc-omar-thornton-workplace-shooting-020100803_1_workplace-shooting-east-hartford-shooting-victims)
- Allen, C., & Gurske, J. (2013, September 4). Active Shooter Response: The Rapid Treatment Model. *Fire Engineering*. Retrieved from <http://www.fireengineering.com/articles/2013/09/active-shooter-response-the-rapid-treatment-model.html>
- Atwater, P. A. (2012). Force Protection for Fire Fighters Warm Zone Operations at Paramilitary Style Active Shooter Incidents in a Multi-Hazard Environment as a Fire Service Core Competency. *Calhoun Institutional Archive of the Naval Postgraduate School*. Retrieved from <http://hdl.handle.net/10945/6764>
- Atwater, P. A. (2013, January 28). The Fire Service's Role in Active-Shooter Situations. *Fire Rescue Magazine*, Retrieved from <http://www.firerescuemagazine.com/article/strategy-and-tactics/fire-service-s-role-active-shooter-situations>
- Bellamy, R. F. (1984). The causes of death in conventional land warfare: Implications for combat casualty care research. *Military Medicine*, 149(2), 55-62.
- Blair, J. P., & Martindale, M. H. (2013). United States Active Shooter Events from 2000 to 2010: Training and Equipment Implications. Retrieved from <http://alert.org/files/research/ActiveShooterEvents>
- Blair, J. P., Martindale, M. H., & Nichols, T. (2014, January 7). Active Shooter Events from 2000 to 2012. *FBI Law Enforcement Bulletin*. Retrieved from

[http://leb.fbi.gov/2014/january/active-shooter-events-from-2000-to-2012?goback=.gde\\_44228\\_member\\_582](http://leb.fbi.gov/2014/january/active-shooter-events-from-2000-to-2012?goback=.gde_44228_member_582)

Butler, F. K., Hagman, J., & Butler, E. G. (1996). Tactical combat casualty care in special operations. *Military Medicine*, 16(), 3-16.

Callaway, D. W., Smith, E. R., Cain, J. S., Shapiro, G., Burnett, W. T., McKay, S. D., & Mabry, R. L. (2011, Summer/Fall 2011). Tactical Emergency Casualty Care (TECC): Guidelines for the Provision of Prehospital Trauma Care in High Threat Environments. *Journal of Special Operations Medicine*, 11(3), 104-122.

Callaway, D. W., Smith, E. R., McKay, S. D., Shapiro, G., Cain, J. S., & Mabry, R. L. (2011, Spring/Summer 2011). C-TECC - Evolution and Application of TCCC Guidelines to Civilian High Threat Medicine. *Journal of Special Operations Medicine*, 11(2), 95-100.

Counterterrorism Bureau, New York City Police Department. (2012). *Active Shooter: Recommendations and Analysis for Risk Mitigation*. Retrieved from <http://www.nyc.gov/html/nypd/downloads/pdf/counterterrorism/ActiveShooter2012Edition.pdf>

Defense Logistics Agency. (1970). *Evaluation of Wound Data and Munitions Effectiveness in Vietnam: Final Report*. Alexandria, VA: Defense Documentation Center.

Emergency Response to Tactical Law Enforcement Incidents. (2013). Retrieved from <http://www.firescope.org/specialist-groups/safety/downloads/emergency-response-to-tactical-law-enforcement-incidents.pdf>

FEMA Emergency Management Institute. (2014). Course Overview: IS-100.LEB. Retrieved from <http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-100.LEB>



Giovachino, M. (2013, March). Improving Officer Safety Through Preparation & Practice.

*DomPrep Journal*, 9(3), 8-9.

IAFF Position Statement: Active Shooter Events. (2014). Retrieved from

[http://www.iaff.org/Comm/PDFs/IAFF\\_Active\\_Shooter\\_Position\\_Statement.pdf](http://www.iaff.org/Comm/PDFs/IAFF_Active_Shooter_Position_Statement.pdf)

International Association of Fire Chiefs. (2014). IAFC Position Paper on Active Shooter Events.

Retrieved from

[http://www.iafc.org/files/1ASSOC/IAFCPosition\\_ActiveShooterEvents.pdf](http://www.iafc.org/files/1ASSOC/IAFCPosition_ActiveShooterEvents.pdf)

Iselin, B., & Smith, E. R. (2009, November 30, 2009). Arlington County, VA, task force rethinks

active shooter incident response. *Journal of Emergency Medical Services*. Retrieved from

<http://www.jems.com/print/4622>

Joint Committee to Create a National Policy to Enhance Survivability from Mass Casualty

Shooting Events. (2013). *Hartford Consensus II*. Hartford, CT: Author.

Kimery, A. (2014, February 28). Active Shooter After Action Reports Analyzed In FEMA

Lessons Learned "Trend Analysis". *Homeland Security Today*. Retrieved from

<http://hstoday.us/singlr-article/active-shooter-after-action-reports-analyzed-in-fema-lessons-learned-trend-analysis>

Lightfoot, J. D. (2013, February 25). Rethinking Active Shooter Response: Every second counts

when a madman is looking to kill as many people as possible. *Police Magazine*.

Retrieved from <http://www.policemag.com/channel/careers->

[training/articles/2013/02/rethinking-active-shooter-response.aspx](http://www.policemag.com/channel/careers-training/articles/2013/02/rethinking-active-shooter-response.aspx)

*Manual of Operations: Tactical Response Scenario* [Standard Operating Procedures]. (2013).

Rancho Cucamonga, CA: Rancho Cucamonga Fire Protection District, Mike Bell - Fire Chief.

- Multiple Agency Response to Violent Incidents* [Standard Operating Guidelines]. (2013). Tulsa, OK: Tulsa Fire Department, Ray Driskell - Fire Chief.
- National Fire Academy (2013). Unit 2: Assessing Community Risk. In (Ed.), *Executive Analysis of Community Risk Reduction* (2nd ed.). Emmetsburg, MD: FEMA.
- National Fire Protection Association. (2013). *NFPA 1500 Standard on Fire Department Occupational Safety and Health Program*. Quincy, MA: National Fire Protection Association.
- National Fire Protection Association. (2013). *UFF Position Statement: Active Shooter and Mass Casualty Terrorist Events*. Retrieved from <http://www.nfpa.org/~media/Files/Research/Resource%20links/First%20responders/Urban%20Fire%20Forum%202013%20Active%20Shooter%20Position%20Statement.pdf>
- Occupational Safety & Health Administration. (2014). *Incident Command System (ICS)*. Retrieved from [https://www.osha.gov/SLTC/etools/ics/what\\_is\\_ics.html](https://www.osha.gov/SLTC/etools/ics/what_is_ics.html)
- Office of Law Enforcement Standards, National Institute of Standards and Technology. (2014). *Ballistic Resistance of Body Armor, NIJ Standard 0101.6*. Retrieved from <http://www.ncjrs.gov/pdffiles/nij/223054.pdf>
- Roberts, M. R. (2010, August 1, 2010). On the front line. *Fire Chief Magazine*. Retrieved from <http://firechief.com/ems/paramedic-cross-training-201008>
- Sanders, R., & Klaene, B. (2013). *Strength in numbers: How the fire service can play a key role in an integrated approach to responding to mass casualty shootings*. Retrieved from National Fire Protection Association Website: <http://nfpa.org/newsandpublications/nfpa-journal/2013/september-october-2013/features/strength-in-numbers.pdf>
- Sanow, E. (2013, October, 2013). Latest active shooter tactics. *Law and Order*, 6.

- Schweit, K. W. (2013, May 7). Addressing the Problem of the Active Shooter. *FBI Law Enforcement Bulletin*. Retrieved from <http://www.fbi.gov/stats-services/publications/law-enforcement-bulletin/2013/May/active-shooter>
- Smith Jr., E. R., & Delaney, J. B. (2013, December). A New Response: Supporting paradigm change in EMS' operational medical response to active shooter incidents. *Journal of Emergency Medical Services*, 48-55. Retrieved from [www.jems.com](http://www.jems.com)
- Smith MD, E. R., Iselin, B., & McKay, W. S. (2009, December). Toward the Sound of the Shooting. *Journal of Emergency Medical Services*, 49-55. Retrieved from [www.jems.com](http://www.jems.com)
- Standard Operating Guidelines: Active Shooter Incidents* [Standard Operating Guideline]. (2012). Green Valley, AZ: Green Valley Fire District - Simon Davis - Fire Chief.
- Standard Operating Procedure: Active Shooter Response* [Standard Operating Procedure]. (2013). Fort Knox, KY: Fort Knox Fire Department, Marvin Gunderson - Fire Chief.
- Standard Operating Procedures: Active Shooter Incident* [Standard Operating Procedures]. (2013). Orange County Fire Authority, CA: Orange County Fire Authority.
- Standard Operating Procedures: Rescue Task Force Response* [Standard Operating Procedure]. (2013). Arlington, VA: Arlington County Fire Department, James Schwartz - Fire Chief.
- State of Connecticut. (2013). Executive Order 34. Retrieved from [http://www.governor.ct.gov/malloy/lib/malloy/EO\\_34\\_NIMS.pdf](http://www.governor.ct.gov/malloy/lib/malloy/EO_34_NIMS.pdf)
- The Columbine High School Shootings: Timeline of Events*. (2001). Retrieved from Denver Post website: <http://extras.denverpost.com/news/colreport/columbinerep/pages/NARRATIVE%20Time%20Line.htm>

U.S. Department of Homeland Security. (2014). Active Shooter Preparedness. Retrieved from <http://www.dhs.gov/active-shooter-preparedness>

U.S. Fire Administration. (2013). *Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents*. Retrieved from [http://www.usfa.fema.gov/downloads/pdf/publications/active\\_shooter\\_guide.pdf](http://www.usfa.fema.gov/downloads/pdf/publications/active_shooter_guide.pdf)

United States Fire Administration. (1999). *Wanton violence at Columbine high school*. Emmitsburg, MD: USFA.

*Washington Post*. Retrieved from [http://www.washingtonpost.com/politics/sandy-hook-elementary-school-shooting-leaves-students-staff-dead/2012/12/14/24334570-461e-11e2-8e70-e1993528222d\\_story.html](http://www.washingtonpost.com/politics/sandy-hook-elementary-school-shooting-leaves-students-staff-dead/2012/12/14/24334570-461e-11e2-8e70-e1993528222d_story.html)

## Appendix A



# STANDARD OPERATING PRACTICES

## PART 8 - CHAPTER 16

### Chapter 16

## Active Shooter Incidents / Violent Crimes in Progress

### General

Active Shooter Incidents (ASI) are high-risk, low-frequency events. Studies of ASIs over the past 15 years indicate that perpetrators tend to be young, single males, intent on killing as many people as possible in a short period of time. They typically shoot themselves as soon as they are confronted by police and the attack is over within 5 to 7 minutes. While the Active Shooter Incident is the primary focus of this practice, it is also understood that the violent offender may be armed with something other than a firearm and still capable of severely injuring or killing multiple people. MFRE and MPD share a common mission at these events: save lives. MPD's primary responsibility is elimination of the threat. MFRE is primarily responsible for providing rapid medical care to the injured. The outdated fire service response of staging and waiting for law enforcement to declare the scene safe deprives victims of immediate life-saving medical care. MFRE personnel will coordinate closely with MPD to provide EMS to victims early in the incident, in a reduced threat area, while MPD and other police resources continue to secure the scene.

### Policy

This SOP provides guidelines for MFRE operations at an Active Shooter Incident or Violent Crime in Progress. There are clearly identified instances where procedural components are mandatory

to ensure the safety of MFRE and MPD personnel. The Rescue Team concept shall be implemented to effect rapid access to victims while maintaining safety of personnel. A Unified Command shall be established and the National Incident Management System (NIMS) shall be utilized at all Active Shooter or Violent Crimes in Progress Incidents, so that close coordination of MFRE and MPD command and control functions is maintained throughout the incident. Security assessments and decisions regarding movement of MFRE personnel within the threat areas shall be done in coordination with an MPD Command Officer.

These policies and practices integrate, to the fullest extent possible, the recommendations for ASI operations from the following organizations: International Association of Fire Fighters; Urban Fire Forum; International Association of Chiefs of Police; Hartford Consensus II; FEMA; U.S. Fire Administration; International Association of Fire Chiefs; Fraternal Order of Police; Committee for Tactical Emergency Casualty Care; and ECHN Medical Control for Prehospital Care.

## Practice

**08.16.01**

### **Definitions**

**04/15/14**

#### Active Shooter Incident

An event where an armed individual(s) has used deadly force in a confined space with a captive audience and continues to inflict harm while having unrestricted access to additional victims. This definition does not include barricaded suspects or individuals threatening suicide.

#### Casualty Collection Point (CCP)

A Casualty Collection Point that is located in the Warm Zone. Contact Teams and Rescue Teams may bring victims to this secured location where they receive tactical emergency casualty care and are packaged for movement out to the Treatment Area.

#### Clear

A law enforcement term that describes an area that has been swept initially by officers and no immediate threat has been seen.

#### Cold Zone

The geographical area where there is little or no threat to personnel. This is the location of the unified command post, staging, Treatment Area, and

other incident support resources.

#### Concealment

A law enforcement term that describes any barrier that prevents the perpetrator from seeing responders or other potential targets. This does not necessarily provide ballistic protection.

#### Contact Team

Law enforcement teams of 2 or more police officers who form immediately upon arrival and enter the building with the intent of rapidly engaging the shooter to prevent further injury or loss of life.

#### Cover

A law enforcement term that describes any barrier that provides ballistic protection to responders or other potential targets.

#### CREST

The Capital Region Emergency Services Team is a group of police officers from area departments who are specially trained and equipped to provide Special Weapons and Tactics (SWAT) services anywhere in the region.

#### Critical Patient

Within the scope of this document, a critical patient is one who has sustained a life threatening injury, such as penetrating trauma with severe bleeding or airway compromise, and cannot self-evacuate from the scene to a treatment area.

#### Dead Patient

Within the scope of this document, a dead patient is one who is found with no pulse or breathing effort as a result of trauma.

#### Expectant Patient

Within the scope of this document, an expectant patient is one who is found to have signs of life, such as some respiratory effort or a pulse, but also has injuries incompatible with life. When the number of critical patients exceeds the resources available to manage them, expectant patients are not treated until all other critical patients are treated.

#### Hot Zone (Kill Zone)

The geographical area where there is direct and immediate threat to personnel. This is the area where law enforcement contact teams will be actively searching for and engaging the shooter. No MFRE personnel will operate in this zone.

#### Mass Casualty Incident SOP

This is the MFRE Standard Operating Practice for dealing with mass casualty incidents. For the active shooter scenario, the standard triage, treatment and transport functions of the mass casualty SOP will be

established in the Cold Zone.

#### Perimeter Supervisor

The law enforcement officer assigned responsibility to establish and maintain perimeter security resources. When no perimeter supervisor is assigned, this remains a command responsibility.

#### Rescue Group Staging Area

An area identified by the Rescue Group Supervisor or Command that serves as a staging point for police and fire Rescue Team personnel and gear. This is located in the cold zone and is the place where rescue teams form up prior to entering a warm zone area.

#### Rescue Group Supervisor

This is a unified subcommand role with an MPD supervisor and an MFRE supervisor. The MPD supervisor is responsible for setup and coordination of Rescue Teams. This includes constant monitoring and adjustment of: hot, warm and cold zones; Rescue Team staging area; and the CCP (if established). The MPD supervisor assigned in this role communicates with Unified Command regarding Rescue Team status and movement.

#### Rescue Team

A team of police officers and MFRE firefighters deployed into the Warm Zone to provide point of wound care to victims. Ballistic protection is worn by all members of the Rescue Team. The police officers provide full-time security for the team. MFRE personnel provide tactical emergency casualty care (TECC) to victims. Victims are moved to the CCP for further care or are evacuated to the Treatment Area by the Rescue Team. A Rescue Team must include at a minimum: two (2) qualified police officers; one (1) qualified MFRE firefighter/paramedic; and two (2) qualified MFRE firefighter/EMTs.

#### Rescue Team Leader

One police officer in each Rescue Team will be assigned responsibility for the safety and movement of the Rescue Team in coordination with direction from the Rescue Group Supervisor.

#### Secure

A law enforcement term that describes an area that is actively monitored and maintained free of any immediate threats to responders.

#### Staging Area

Resources arriving on scene will be directed to a staging area. Separate staging areas will be established for police resources and for fire / EMS resources. Police and Fire command officers will designate staging areas for their respective disciplines. If necessary, a staging officer may be assigned to assist in moving resources in and out of the staging areas.



### Tactical PPE

In addition to the department-issued station wear and universal precautions equipment, all MFRE personnel assigned to function within a Rescue Team will don ballistic protection including vest and helmet.

### Tactical Emergency Casualty Care (TECC)

A set of best practices and guidelines for police, fire and EMS providers to follow in the treatment of casualties in a high-threat, civilian, tactical and rescue environment. These are the military combat casualty guidelines revised for civilian application.

### Treatment Area

A designated area in the Cold Zone where MFRE personnel and other EMS providers perform triage, treatment and transport functions for victims. Victims may arrive in this area on their own or be brought here by Rescue Teams.

### Warm Zone

The geographical area where there is no direct or immediate threat to personnel. This area has been cleared by law enforcement contact teams but the reduced potential for threat still exists until the shooter has been contained and the area fully searched. MFRE personnel can operate in this area as part of a Rescue Team for short periods of time. A continuous risk vs. benefit assessment is essential to determine if and when the potential to save the lives of civilian victims outweighs the risk to responders.

### Unified Command

A team effort between MPD and MFRE to command and control the active shooter/ violent crimes in Progress (VCIP) Incident from a stationary command post. The National Incident Management System will be utilized to the extent mandated by the size and complexity of the incident. Unified Command can be as simple as one MPD command officer and one MFRE command officer working together. The active shooter/ VCIP incident is primarily a law enforcement event and the MPD command officer will have primary responsibility for the tactical operations. The MFRE command officer will have primary responsibility for providing rapid medical treatment and transport for all injuries, as well as for coordinating support activities in the Cold Zone.

### Violent Crimes in Progress

An event where an individual(s) has used deadly force in a confined space with a captive audience and continues to inflict harm while having access to additional victims. This definition does not include barricaded suspects or individuals threatening suicide.

**08.16.02****Initial Actions****04/15/14**Dispatch

Upon report of an active shooter incident, Fire Alarm shall dispatch a Level 5 MFRE assignment and provide all available information to the responders. Upon confirmation of an active shooter incident, Fire Alarm will make an all-officer notification of the incident via Everbridge. The first Battalion Chief calling in shall be assigned the Coverage Officer responsibilities and will follow the established procedures for securing jurisdictional coverage and emergency callback personnel. The second Battalion Chief will report to the scene and assist with coordination of activities in the Cold Zone. The MFRE EMS officer assumes the role of Medical Group Supervisor, as identified in the MFRE Mass Casualty SOP. Additional Battalion Chiefs should report to station 2, sign on as available with Fire Alarm and await an assignment from Command.

Arrival of MFRE Resources

Active Shooter Incidents are chaotic and unpredictable. The highest priority for all initial responders is to gather information on the actual situation found.

Initial Shift Commander responsibilities are:

- \* Identify the staging area for all MFRE resources
- \* Establish incident command for MFRE
- \* While MPD is initially focused on contact teams, MFRE will set-up Cold Zone operations
- \* Assign an MFRE officer to work with Rescue Group Supervisor
- \* Meet with the MPD Officer-in-Charge to set-up a Unified Command Post
- \* Work with MPD Command to assess the situation and develop an initial action plan
- \* Request additional fire and EMS resources as necessary
- \* Identify the Threat Zones (Hot, Warm, And Cold)
- \* Assume designated responsibilities for Unified Command - MFRE

Upon arrival, all other MFRE companies shall stage apparatus in the designated staging area with consideration for ambulance routes.

The first 2 arriving companies will report, with all appropriate gear and PPE, to a staging area designated by Command for Rescue Team formation.

The remaining arriving companies will be responsible for establishing a Treatment Area. This area should be established in the cold zone and consideration should be given to ambulance access, security considerations, and adequacy of space.

Companies should report to the Treatment Area with all necessary medical and tactical equipment including PPE.

The first company officer assigned to the Treatment Area is assigned the role of Treatment Unit Leader.

All patients coming in to the Treatment area are triaged and assigned for treatment and transport by priority level.

Additional resources for the Treatment Area are requested as indicated in the MFRE Mass Casualty Plan.

## 08.16.03

### Continuum of Victim Care

04/15/14

#### "Care Under Fire", TECC in the Hot Zone

The first arriving MPD officers can be anticipated to form a contact team and enter the building and move toward the shooter with the intent of eliminating the immediate threat. Initially the entire building and immediate area is the Hot Zone. The first contact team is instructed to bypass victims that might be found in their path to the shooter. During this procedure, the contact team clears potential entry corridors for following teams. This tactical information and reports of victim numbers and locations is relayed back out to Command or the Contact Team Group Supervisor who shares it with Unified Command. According to TECC practices, subsequent contact teams entering the Hot Zone could stop to provide only immediately life-saving interventions. However, the contact teams' primary focus remains on eliminating immediate threats. Contact teams will stop to provide "self-care" or "buddy care" for any member that is wounded within the Hot Zone.

#### "Tactical Field Care", TECC in the Warm Zone

Once the contact teams have cleared an area where victims have been located, a Rescue Team can be requested to operate in this Warm Zone. The Rescue Team is a unified asset in that it contains both police and MFRE personnel. The Rescue Teams will be directed by the Rescue Group

Supervisor to move from the Cold Zone into the Warm Zone. The Rescue Team leader will determine where the Rescue Team operates in the warm zone, and will make decisions regarding routes for ingress and egress based on the best available information about the location of victims and the location of any possible threats. Initial Rescue Teams will be directed to victims located by the contact teams. Rescue Team personnel will stabilize only the immediately life threatening injuries on each victim before packaging the victim for evacuation to the primary treatment area or if deemed necessary, to a Casualty Collection Point in the warm zone. Tactical Field Care prioritizes: 1) maintaining situational awareness for potential threats; 2) hemorrhage control; 3) restoration of patent airway; 4) sealing open or sucking chest wounds; 5) needle decompression of tension pneumothorax; and 6) placement in recovery position until evacuation is possible. Initial Rescue Teams will focus on evacuating critical patients as they encounter them. The Rescue Team functions as one cohesive team. The Rescue Team can be expected to evacuate 2 or 3 patients during one entry into the warm zone. Subsequent Rescue Teams obtain information from previously assigned teams on where to begin looking for victims, as well as any pertinent hazard information.

Victims found to be pulseless and apneic are left in place.

A Casualty Collection Point can be established in a secured area in the Warm Zone. CCPs ideally will have ready access to building exit points, be large enough to accommodate treatment or staging of the number of victims that are anticipated, and can easily be secured. The establishment of a CCP will be considered in circumstances where several viable patients are found in one area and cannot be readily evacuated with available resources, or a change in the incident dictates that it is no longer safe to exit the area with victims. Rescue Teams can be assigned here to further stabilize victims until they can be evacuated to the Treatment Area. This area must have constant police protection.

#### "Evacuation Care", TECC in the Cold Zone

Ambulatory victims are directed to the Treatment Area. Non-ambulatory victims initially treated by a Rescue Team are evacuated by personnel from the border of the Warm Zone out to the Treatment Area. Victims are triaged and receive further care and preparation for transport to area hospitals. MFRE mass casualty protocols for triage, treatment and transport in the Cold Zone are aligned with the "Evacuation Care" practices of TECC. Refer to SOP 07.01.07 for a complete description of MFRE mass casualty incident response.

**08.16.04****Incident Termination****04/15/14**

Tasks for incident termination include;

Terminate incident command structure

MPD and MFRE command officer debriefing

Conduct decontamination of personnel and equipment

Rehab all personnel

Collect all incident documentation

Conduct informal AAR with on-scene MFRE personnel

Consider keeping MFRE personnel out-of-service for CISM

Implement recommendations in SOP 03.06.03 for CISM.