

Identifying the components of a “modern” Active Shooter/Active Killer response protocol for the

Miramar Fire-Rescue 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 problem was the Miramar Fire-Rescue Department (MFRD) has not developed “modern” response protocols for Active Shooter/Active Killer (AS/AK) incidents. The purpose of this research was to identify the components required to develop a modern and comprehensive AS/AK protocol for the MFRD. MFRD EMS protocols and Standard Operating Guidelines (SOG) were evaluated to determine the current status of the MFRD’s response to AS/AK incidents. Literature review and interviews with MFRD, Miramar Police Department (MPD), local fire-rescue, and EMS leaders were conducted to determine who should participate in the development of local protocols, what specialized equipment, and training will be necessary for the MFRD to acquire for adequate and safe response to AS/AK incidents. A literature review was conducted to determine what national or regional guidelines are available for preparation for an AS/AK incident. The descriptive research method was used to answer the following questions: (1) What is the current MFRD response protocol for AS/AK incident? (2) Who should be involved in the development of an AS/AK protocol for the MFRD? (3) What specialized fire or EMS equipment and training will be needed in order to adequately address AS/AK incidents within the City of Miramar? (4) What national or regional standards are available for response to AS/AK incidents? The results of the literature review and interviews were examined, and based upon this information it was recommended that the MFRD create a committee to develop a AS/AK response protocol, acquire recommended equipment including ballistic PPE, and implement AS/AK training and drill requirements.

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Miramar Fire-Rescue Department.

### **Introduction**

In September 2013 the U.S. Fire Administration (USFA) published a document entitled “*Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents*” (2013). The purpose of this document is to provide a framework to assist local fire and emergency medical services (EMS) agencies in preparing for Active Shooter (AS) and Mass Casualty Incidents (MCI). Many fire-rescue and EMS agencies, including the Miramar Fire-Rescue Department (MFRD), saw this report as a significant “call to action” to prepare for AS/MCI’s that may someday occur in their jurisdictions. The problem is the MFRD has not developed “modern” response protocols for Active Shooter/Active Killer (AS/AK) incidents. The purpose of this research is to identify the components required to develop a modern and comprehensive AS/AK protocol for the MFRD.

The descriptive research method will be used identify the components required to develop a modern and comprehensive AS/AK protocol for the MFRD. MFRD EMS protocols and Standard Operating Guidelines (SOG) will be evaluated to determine the current status of the MFRD’s response to AS/AK incidents. Literature review and interviews with MFRD and Miramar Police Department (MPD) staff will be conducted to determine who should participate in the development of local protocols for response to AS/AK incidents. Literature review and interviews will be used to identify what specialized equipment and training will be necessary for the MFRD to acquire for adequate and safe response to AS/AK incidents. Interviews will be conducted with local fire-rescue and EMS leaders to determine how neighboring communities are preparing for the possibility of an AS/AK incident. Finally, a literature review will be

conducted to determine what national or regional guidelines are available for preparation for an AS/AK incident.

Research will be conducted to answer the following questions: (1) What is the current MFRD response protocol for AS/AK incident? (2) Who should be involved in the development of an AS/AK protocol for the MFRD? (3) What specialized fire or EMS equipment and training will be needed in order to adequately address AS/AK incidents within the City of Miramar? (4) What national or regional standards are available for response to AS/AK incidents?

### **Background and Significance**

The City of Miramar is middle sized community of approximately 130,000 residents located in Broward County in southeast Florida. Miramar is strategically located about half-way between the larger and more recognizable cities of Miami and Fort Lauderdale. Miramar, however, is not a coastal city and does not have a significant seasonal/vacationing population. The city offers a full range of public services including police and fire-rescue departments.

The Miramar Fire-Rescue Department (MFRD) is a fully paid career department that offers fire protection, emergency medical services (EMS), fire prevention, building plans review, public education, and emergency management (EM) services. The MFRD is staffed by approximately 128 personnel certified as firefighters and paramedics and about 12 civilian support staff. The MFRD operates five fire-rescue stations strategically located along the main east-west corridor, Miramar Parkway. The MFRD protects a wide assortment of critical infrastructure and other potential targets including: 178 bed Memorial Miramar Hospital; City of Miramar water treatment plants; City of Miramar waste water (sewage) treatment plant; critical media hubs such as the local NBC affiliate (NBC 6), Clear Channel radio broadcasting stations, and the Comcast (cable TV and data) regional distribution facility; US Immigration and Customs

Enforcement (ICE) detainment center; Federal Bureau of Investigation (FBI) field office; US Postal Inspection Service; 6 medical and bio-hazardous laboratories and testing facilities; 5 hotels; large retail stores: Wal-Mart, Sam’s Club, Super Target, Kohl’s, and Home Depot; 12 elementary, 4 middle, 2 high, 3 private (K-8th) schools, and 4 university or trade schools; a major natural gas pipeline and a major petroleum pipeline; and has a close proximity (1.1 mile) to Miami-Dade County’s Sun Life (Miami Dolphins) Stadium for mutual aid.

This topic was chosen because encountering an AS/AK event has become all too prevalent within the United States today. The MFRD is actively seeking ways to prepare for the possibility of an AS/AK within its coverage area. This research problem relates to the third course in the Executive Fire Officer Program (EFOP), Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) at the National Fire Academy (NFA). This research links to the description and use of the incident command system (ICS) as described in the *EAFSOEM Student Manual* (2014). Specifically, the *EAFSOEM Student Manual* (2014) states “Regardless of the size or complexity of an event or incident, the fundamental priorities remain constant: life safety, incident stabilization, and property conservation (USFA, 2013, p. 1-35). This project relates to the U.S. Fire Administrations (USFA) Strategic Goal 2: Improve local planning and preparedness (U.S. Fire Administration [USFA], 2014, p. 9).

### **Literature Review**

This section contains a review of the available literature in order to identify the components of a modern AS/AK response protocol as identified by other researchers of the subject. Specifically, this section will identify what stakeholders other researchers have identified as necessary for involvement in the development of an AS/AK protocol. It will determine what specialized fire or EMS equipment and training other researchers have identified

as needed to adequately address the challenges of an AS/AK response. Finally, this section will identify what national or regional standards are available in the literature to guide responses to AS/AK incidents.

### **Current MFRD Response Protocol for AS/AK Incidents**

The MFRD follows the *Florida Regional Common EMS Protocols* established by the Greater Broward EMS Director’s Association (GBEMBDA) (2015). These protocols are established to give a general guideline for EMS service delivery within the region. The general protocols outline EMS care representing a typical case and progress to higher levels of care with the usual assumption that previous steps were not effective. Protocol 1.9 Mass Casualty Incidents (MCI), includes sections for delineating an MCI Organizational Chart and Active Shooter Organizational Chart. The purpose of the MCI protocol is “to efficiently triage, treat, and transport victims of mass/multiple-casualty incidents (MCIs) (Greater Broward EMS Medical Director’s Association [GBEMDA], 2015, p. 26)”. The MCI protocol is intended to be applicable to all multiple-victim situations and is designed for use on any event where the number of injured people exceeds the capabilities of the first-arriving units (GBEMDA, 2015).

The GBEMBDA MCI protocol includes the ability to scale from MCI Level 1 (5 to 10 victims) through MCI Level 5 (more than 1,000 victims). It includes the description and use of the Simple Triage and Rapid Treatment (START) system for adult victims and the adaptation for pediatric victims known as JumpSTART. The MCI protocol outlines the officer responsibilities and describes the need to establish a Medical Branch comprised of Triage, Treatment, Transport and Staging officers. It outlines the basic components for an MCI kit, as well as a MCI supervisor’s kit to be carried by all vehicles which are expected to respond to MCI’s. Finally, the protocol delineates the difference between a “normal” MCI organizational chart versus an

Active Shooter MCI organizational chart. Specifically, the protocols establish the possibility of the necessity of a Rescue Task Force(RTF) and that all AS/AK incidents will require a minimum initial response of a MCI Level 2. The protocols define the RTF as “Rescue personnel and Law Enforcement personnel formed to make entry into a structure to triage victims and provide life-saving immediate treatment as needed i.e stopping hemorrhage”. (GBEMDA, 2015, p. 28)

In addition to following the GBEMBDA EMS Protocols the MFRD has established a set of Standard Operating Guidelines (SOG) within its Administrative Policies and Operations Manual (APOM). MFRD SOG 604.00 Medical Assignment was established with the purpose “to establish guidelines for initiating a branch/sector/group providing medical care and treatment on an emergency scene.” (Miramar Fire-Rescue Department [MFRD], 2015, SOG 604.00 p.1) MFRD SOG 604.00 specifically requires that the *Florida Regional EMS Common Protocols* be consulted for additional direction.

MFRD SOG 608.12 Police Assist Calls was established to “insure responding crew’s safety and better facilitate our resources by avoiding fire rescue units staging on calls that are strictly police matters. If there is a medical need, the police on scene can request fire-rescue to respond. (Miramar Fire-Rescue Department [MFRD], 2015, SOG 608.12 p.1) MFRD SOG 608.12 requires that all MFRD units responding to shootings, stabbings, bomb threats, etc. must establish a staging area in a safe location until such time as the scene has been secured by the police. This guideline does not delineate between a “regular” (single victim) shooting and an active shooter who is intent on killing multiple people in a spree.

The Miramar Police Department (MPD) has a SOP that specifically outlines the departments planned response to an active shooter incident. This policy entitled *Response to an Active Shooter (Policy No. 303; Dated 07/02/2013)* has the express purpose for police personnel

to “capture and/or contain and/or neutralize an active shooter,...” (Miramar Police Department [MPD], 2014, p. 1). The policy provides definitions for several important aspects of AS/AK events. The Rescue Task Force is defined as a;

Multiple Resources WARM ZONE-Group of officers and rescue personnel assembled in the “Warm Zone” tasked with the immediate identification of seriously injured victims, rendering aid, and evacuation of victims. The Rescue Task Force will be coordinated through the Unified Command Post (MPD, 2014, p. 2).

### **Stakeholders for the Development of an AS/AK Protocol for the MFRD**

A rudimentary knowledge of active shooter requirements would indicate that the obvious and significant stake holders in the design and implementation of an AS/AK response guideline would be the MFRD and MPD. That being said, this literature review has indicated that there are several other stakeholders who should provide input and guidance into the development of a comprehensive AS/AK standard operating guideline (SOG).

Several researchers including Donovan ( 2008), Davis (2009), and Brookhyser (2013) indicate that it is important to consult the Special Weapons and Tactics (SWAT) team leaders and training personnel. These personnel are specifically trained for tactical scenarios that other EMS and law enforcement personnel are not. Personnel with SWAT Medic training will have particular insight into the equipment and training needed to develop a proper AS/AK response protocol for EMS personnel (Davis, 2009).

Michael G. Piper’s research for his 2013 Executive Fire Officer Program (EFOP) Applied Research Paper (ARP) indicated that in addition to law enforcement, fire, and EMS personnel engaging the local hospitals in discussion about AS/AK response is appropriate. He also noted the need for local schools to perform threat assessments and educate school staff,

parents, and the public on protective measures to be taken in the event of an AS/AK incident (Piper, 2013). Zimmerman (2013) recommended that the State Department of Education and Department of Human & Health Services be engaged in AS/AK response discussions as well.

It should be noted that the Federal Emergency Management Agency (FEMA) through its Emergency Management Institute (EMI) Individual study (IS) program provides a course entitled “*IS-907: Active Shooter: What You Can Do*” the target audience for this training is “all individuals, including managers and employees” (Federal Emergency Management Agency [FEMA], 2013, IS:907 Course Overview). This one hour course was written for non-law enforcement employees of institutions and businesses, and provides employees with the steps they should take if confronted with an active shooter incident.

The importance of including state or regional EMS standards authorities is critically important (Brookhyser, 2013). Paramedics and emergency medical technicians (EMT) branching out in treatment modalities beyond what they are trained for or what is approved by the licensing agency is not acceptable, and may create medical legal liabilities for EMS agencies. Researchers have noted the importance of having communications and dispatch personnel involved in the planning and preparation phase for AS/AK incidents. Dispatchers are typically the first line of information and communications during the initial stages of any emergency event. They interpret, compile, and relay information to units and personnel in the field (Smith, 1998; Vindigni, 2013).

Engagement and active participation of the local firefighters union or collective bargaining unit is critically important to the success of an AS/AK response protocol. Billings (2014) noted that a policy shift that requires firefighters to move further into the threat zone might lead to conversations with union leadership about changing working conditions. The

International Association of Firefighters (IAFF) (2014) issued a position statement supporting the need for an improved response to active shooter incidents. In its position statement the IAFF states,

Given the recent spate of what has become known as “active shooter” scenarios unfolding across the nation, fire and law enforcement departments, regardless of size or capacity, must find ways to marshal appropriate and effective responses to these events. Therefore, local jurisdictions should build sufficient public safety resources to deal with active shooter scenarios (p. 1).

In summary, the appropriate stakeholders that should be involved in the development of an AS/AK response guideline should start with the leadership of the Miramar Fire-Rescue and Police Departments. Rank and file members of these departments should be included as well. If available and willing, these members should include personnel who have actively served in combat, or have specific military emergency medical training. The local IAFF or other bargaining unit representatives should be included in the discussion as well. Local hospital and trauma center personnel should be consulted, as well as the jurisdictions medical director. Regional law enforcement and medical/trauma experts should be included in the discussions and planning. Finally, the often forgotten communications personnel, such as 911 operators, dispatchers, and dispatch supervisors should participate.

### **Specialized Fire or EMS Equipment**

In April 2013 the American College of Surgeons and the Federal Bureau of Investigation (FBI) assembled a group of experts in the fields of trauma medical treatment, law enforcement, fire rescue, EMS, and military for the purpose of discussing and making recommendations for improving survival of victims of mass casualty shootings. The result of this meeting is casually

known as *The Hartford Consensus*. The *Hartford Consensus*' primary focus is on early hemorrhage control by initial arriving law enforcement personnel. The *Hartford Consensus* recommends the use of tourniquets carried and applied by law enforcement personnel followed by assessment by EMS personnel and rapid transport to a definitive care facility, i.e. trauma hospital. The Hartford Consensus recommends the use of the acronym THREAT for active shooter response. THREAT stands for:

1. **T**hreat suppression
2. **H**emorrhage control
3. **R**apid **E**xtrication to safety
4. **A**ssessment by medical providers
5. **T**ransport to definitive care

(Joint Committee to Create a National Policy to Enhance Survivability from Mass Casualty Shooting Events, 2013, p. 2). The THREAT model is also incorporated into and defined by the MPD AS/AK policy (MPD, 2014, p. 2)

In July 2013 the Joint Committee to Create a National Policy to Enhance Survivability from Mass Casualty Shooting Events reconvened and with the inclusion of National Security Staff of the Office of the President and FEMA representatives the committee established strategies focused on actions to achieve the objectives set forth in the first *Hartford Consensus*. This second meeting and resulting report became known as the *Hartford Consensus II: A Call to Action*. The *Hartford Consensus II* reiterated the need for law enforcement personnel to carry tourniquets, but also included the need for these personnel to have hemostatic dressings available as well. The use of tourniquets and hemostatic agents by EMS and fire rescue personnel was also emphasized by the *Hartford Consensus II* (Jacobs, 2013).

Some researchers recommend assembling a kit with specific trauma treatment material. Brookhyser (2013) recommends using a chest harness or backpack containing” triage ribbons, combat gauze, tourniquets, and other trauma specific items” (p. 29). Similarly, Davis (2009) recommends using a carrying case suited for the tactical environment that contains “hemorrhage control devices and equipment for airway management” ( p. 63). Additionally, supplies and equipment should be available to treat tension pneumothorax, control patient airways, and hemorrhage control for at least five patients (Billings, 2014).

Several researchers recommend the need for firefighters to have ballistic personal protective equipment (PPE) available. This equipment includes type IIIA ballistic vests and helmets specifically designed, colored, and marked for EMS and firefighters (Billings, 2014; Hubbard, 2013; Byrd, 2013). Specifically, firefighters or EMS personnel should don this ballistic PPE prior to entering the warm zone of an active shooter scenario. Smith (1998) suggests that ballistic protection may be necessary or useful for other responses beyond active shooter incidents. He also suggests that traditional fire department uniforms which have badges and other insignia that resemble police uniforms may place firefighters at additional risk. While not supported by other research and conducted prior to the latest active shooter information, Smith (1998) also recommends issuing pepper spray to firefighters, citing that it is non-lethal, requires less training, and has proven to be effective.

### **Specialized Training**

The *Hertford Consensus II* recommends “Train all law enforcement officers to assist EMS/Fire/Rescue in evacuation of the injured” (Jacobs, 2013, p. 477). The *Hertford Consensus II* also recommends to “Incorporate Tactical Combat Casualty Care and Tactical Emergency Casualty Care concepts into EMS/Fire/Rescue training” (Jacobs, 2013, p. 477). Finally,

*Hertford Consensus II* suggests that uninjured or minimally injured victims or by-standers can become rescuers. It suggests that a minimal amount of training in hemorrhage control may save lives that would otherwise be lost for lack of or delayed care (Jacobs, 2013).

Several researchers recommend training responders to use one of the tactical emergency care models. The most common of these models are Tactical Emergency Medical Support (TEMS) or Tactical Emergency Casualty Care (TECC) (Billings, 2014; Brookhyser, 2013; Byrd, 2013; Davis, 2009; Donovan, 2008; Hubbard, 2013; Spencer, 2013). TECC was developed to bridge the gap between the training and procedures used by civilian emergency medical personnel and the practices and principles used in combat casualty care. The TECC set of guidelines was based upon the Tactical Combat Casualty Care (TCCC) processes used by the military. TECC differs from Advanced Trauma Life Support (ATLS) in that it is specifically designed for use in high threat environments such as AS/AK events. TECC is divided into three specific phases; Direct Threat Care (DTC), Indirect Threat Care (ITC), and Evacuation (EVAC). The DTC phase is primarily focused on neutralizing the threat and performing basic life-saving hemorrhage control and airway management if tactically feasible. The second phase, ITC, is conducted once tactical supremacy has been accomplished and focuses on “Major Hemorrhage control, Airway, Breathing/Respirations, Circulation, Head & Hypothermia, and Everything Else (MARCHE) (Callaway et al., 2011, p. 108)”. The third phase, EVAC, as the name indicates, involves the safe removal of victims from the scene. This phase emphasizes the use of Mass Casualty Incident (MCI) guidelines and reassessing the patients to deal with life threatening injuries that may have been missed in the prior evaluations (Committee for Tactical Emergency Casualty Care [C-TECC], 2014).

Brookhyser (2013) recommends that specified members of his agency, the Las Angeles County Fire Department, should attend a 40-hour TEMS course and that all personnel attend a 4-hour tactical medical training course. Davis (2009) recommends that SWAT team members be trained in the 40-hour TEMS program. Likewise, Donovan (2008) recommends training in TEMS in order to improve trauma outcomes and identify appropriate equipment to acquire in preparation for AS/AK incidents. Research also suggests that personnel who may be asked to participate on an AS/AK rescue task force attend a TECC course (Byrd, 2013). Other research suggests that all EMS personnel should attend the TECC course because the closest medical teams would be able to respond to AS/AK situations more quickly and without the requirement to assemble as a team prior to entry (Spencer, 2013).

The IAFF Position Statement is clear that law enforcement and fire-rescue personnel should train together for the possibility of AS/AK events. Stating that “Initial and ongoing training and practice are imperative to successful operations” (IAFF, 2014, p. 1). Piper’s (2013) EFO ARP recommends “frequent and realistic training with external agencies” who may respond to an active shooter incident (p. 34). It was also recommended that full-scale exercises be conducted by the police and fire departments to insure cooperation among the agencies, and identify any issues that should be dealt with through a training regimen (Billings, 2014; Donovan, 2008). Zimmerman (2013) recommends that a long-term organizational goal should “include periodic multidisciplinary drills” (Zimmerman, 2013, p. 24).

### **National or Regional AS/AK Response Standards**

As previously mentioned he MFRD follows the *Florida Regional Common EMS Protocols* established by the Greater Broward EMS Director’s Association (2015). These protocols include guidance for MCI’s, trauma treatment, and the formation of rescue task forces

(GBEMDA, 2015). Searches on various state-wide websites indicated that no state-wide protocol or procedure exists to guide fire and EMS agencies in responding to AS/AK incidents. These searches included the following agencies: Florida Department of Health which licenses and certifies the states paramedics and EMT’s; Florida Department of Financial Services/Division of State Fire Marshal which oversees certification and licensure of firefighters and fire officer); Florida Division of Emergency Management which is responsible for administering emergency preparedness, response, recovery, and mitigation programs; Florida Department of Education which oversees Public Safety Telecommunicator training programs; and Florida Department of Law Enforcement.

There is no specific national standard for EMS or fire rescue response to AS/AK incidents, but the USFA’s “*Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents*” (2103) is widely endorsed by important fire service organizations. The Urban Fire Forum (UFF) hosted by the National Fire Protection Association (NFPA) endorsed many of the recommendations outlined in the USFA document in September 2013 in its *Position Statement: Active Shooter and Mass Casualty Terrorist Events* (Urban Fire Forum [UFF], 2013). The IAFF also endorsed the concepts outlined in the USFA document in its position statement (IAFF, 2014). Finally, the International Association of Fire Chief’s (IAFC) endorsed the concepts and recommendations made by the USFA in its position statement “*IAFC Position: Active Shooter and Mass Casualty Terrorist Events*” (International Association of Fire Chief’s [IAFC], 2013).

## **Procedures**

The research for this project was conducted in three phases to answer the following research questions. (1) What is the current MFRD response protocol for AS/AK incident? (2) Who should be involved in the development of an AS/AK protocol for the MFRD? (3) What specialized fire or EMS equipment and training will be needed in order to adequately address AS/AK incidents within the City of Miramar? (4) What national or regional standards are available for response to AS/AK incidents?

During phase one a literature review was conducted to determine what information is available pertaining to this topic. Phase two included designing an interview questionnaire that would enhance the understanding of how to develop an AS/AK response protocol for the MFRD. In phase three specific individuals within the MFRD, MPD, other local fire-rescue departments, and other relevant fields were identified to take part in the interview process.

### **Phase 1—Literature Review**

During the literature review commonalities were identified between suggested stakeholders that should be included in the development of an AS/AK response protocol for the MFRD. This research suggests that a core group of individuals representing EMS, fire-rescue, law enforcement, and other medical personnel with knowledge and experience in tactical casualty care should be included in the protocol development group. These common stakeholders will be discussed along with those identified through the personal interviews further in the discussion portion of this project. Likewise, the literature review indicated that specific and mission oriented equipment and training should be acquired by the department in order to adequately respond to AS/AK incidents. Again, this information will be discussed along with

any equipment or training that is identified by those interviewed further in the discussion portion of this project.

A literature search did not reveal any state guidelines for AS/AK response. Interviews will be conducted to see if the subject matter experts are aware of any state or regional guidelines for response to these types of events. Additionally, interviewees will be asked if they are aware of any additional federal guidelines not found during the literature review.

### **Phase 2—Interview Design**

There were two purposes for the creation of the interview questions for this project. The first purpose was to see if the information developed through the literature review was also considered relevant to the interviewees. The first set of questions was used to see how the interviewees rated certain components identified in the literature review. The second section gave the interviewees the opportunity to add any components (stakeholders, equipment or training) that were not mentioned in the previous section. Finally, interview participants were asked to suggest any major pitfalls or complications that may arise during the development of an AS/AK response protocol. Appendix A contains a sample of the interview sheet.

### **Phase 3—Participant Selection**

The interviewee selection process started with those individuals with expertise in tactical medicine, active shooter response, or experience with local protocol development who are currently employed with the MFRD. Second, MPD personnel with pertinent credentials or experience were interviewed. Third, individuals from local agencies within the region, including fire-rescue and EMS personnel were contacted. Finally, individuals who were identified by previous interviewees were contacted and asked to participate.

### **Interviewees**

Randy Gonzalez is the Division Chief of Emergency Medical Services (EMS) for the MFRD. Division Chief Gonzalez holds a Master’s degree of Public Administration (MPA) from Barry University, an Associate of Nursing degree from Broward College. He has 22 years of experience with the MFRD and previously held the rank of Division Captain of EMS (R. N. Gonzalez, personal communication, April 2, 2015).

Timothy Roche is the Captain of EMS for the MFRD. Captain Roche holds a Bachelor’s degree in Public Management (BPM) from Florida Atlantic University (FAU) and has more than 20 years of fire-rescue experience. Captain Roche is an EMS instructor at City College of Ft. Lauderdale and has been teaching EMS for more than 20 years. In his role as EMS Captain he is the primary developer of EMS protocols and procedures for the MFRD and is a significant contributor to the Greater Broward EMS Director’s Association (GBEMBDA) *Florida Regional Common EMS Protocols*. He has been trained in tactical medicine through the 8-hour NAEMT’s Law Enforcement and First Responder Tactical Casualty Care (LEFR-TCC) Course (T. Roche, personal communication, April 2, 2015).

William Huff is the Division Chief of Operations for the MFRD. He holds a Master’s of Public Administration (MPA) degree from Barry University, is an NFA EFO graduate, holds the Chief Fire Officer (CFO) designation from the Center for Public Safety Excellence (CPSE), and is an adjunct professor at Barry University. He has more than 30 years of experience in the fire and EMS service and is a previous EMS Division Chief for the MFRD for approximately 10 years. He has extensive experience with EMS protocol development and has taught EMS at various institutions in the region for more than 15 years. He has been trained in tactical medicine

through the 8-hour NAEMT’s LEFR-TCC Course (W. Huff, personal communication, April 2, 2015).

Lieutenant (Lt.) Craig McElhaney is a rescue supervisor with approximately 20 years of experience with the MFRD. Lt. McElhaney started the MFRD’s SWAT medic program approximately 13 years ago and continues to lead the department’s SWAT medic program. He has extensive training and experience in SWAT tactics and SWAT tactical medical treatment (C. McElhaney, personal communication, April 1, 2015).

Captain Erik Dodge is the Professional Firefighters of Miramar (PFFM) International Association of Firefighters (IAFF) Local 2820 President. He has held this leadership role within the local firefighter’s collective bargaining unit for approximately 18 years. He has been a firefighter and paramedic for approximately 22 years (E. Dodge, personal communication, April 2, 2015).

Dr. Mazyar Rouhani, M.D has been the Medical Director for the MFRD for approximately five years. He has approximately 16 years as a medical doctor specializing in emergency medicine and is the Director of Emergency Services at the Cleveland Clinic in Weston, Florida. He is trained in Advanced Trauma Life Support (ATLS) and is the assistant Medical Director for the Town of Davie Fire-Rescue Department (M. Rouhani M.D., personal communication, April 2, 2015).

Scott Sibner is a Training Sergeant (Sgt.) for the Miramar Police Department (MPD). He has approximately 25 years of law enforcement experience with the MPD. Sgt. Sibner was instrumental in developing the active shooter training program for the MPD and assisted in the development of an active shooter training exercise for MFRD personnel in 2014 (S. A. Sibner, personal communication, April 2, 2015).

Franco Dillena is a Sergeant for the MPD with approximately 16 years of experience as a police officer. Prior to joining the MPD Sgt. Dillena served as an U.S. Marine Corps Combat Reconnaissance operative. He has been a member of the MPD’s SWAT team for 13 years and currently serves as a SWAT team leader. He is a certified Emergency Medical Technician (EMT) and a police academy basic life support (BLS) instructor. He has advanced training in SWAT operations and SWAT team leadership (F. Dillena, personal communication, April 6, 2015).

Justin Parrinello is a Fire Captain for the Coral Springs Fire-Rescue Department (CSFRD). Captain Parrinello has been with the CSFRD for approximately 16 years rising through the ranks from firefighter to driver-engineer to lieutenant and finally captain. Captain Parrinello currently serves on the Regional Domestic Security Task Force (RDSTF) and Joint Terrorism Task Force (JTTF) board for Active Shooter training and response. He is the Assistant SWAT Team Leader and a SWAT team tactical medic. He teaches the LEFR-TCC Course through Florida TEMS, Inc. Captain Parrinello travels widely teaching all aspects of the Tactical Combat Casualty Care curriculum and serves as the Director of Operations for Florida TEMS, Inc., a privately held company specializing in tactical medical and casualty care training (J. Parrinello, personal communication, April 2, 2015).

### **Limitations**

It is noted that inherent in the interview process are certain limitations. First, the questions are limited to those asked in the interview. Open-ended responses were permitted and recorded, but respondents were asked to limit comments to the AS/AK incident response. Second, interviewees were personally known to the researcher and selected because of their knowledge or experience with AS/AK response, EMS protocol development, or tactical law

enforcement operations. Third, a larger distribution of the interview questions was not able to be conducted due to time considerations and the importance of limiting scope of this project.

## Results

### Current MFRD Response Protocols for AS/AK Incidents

Answering the first research question “What is the current MFRD response protocol for AS/AK incident?” was accomplished through the literature review. The MFRD currently has no specific response protocol to AS/AK incidents. It does, however, follow the Greater Broward EMS Director’s Association (GBEMBDA) *Florida Regional (Broward) Common EMS Protocols* (2015). The GBEMBDA EMS protocols contain a guideline for dealing with mass casualty incidents (MCI). This MCI protocol outlines triage procedures, trauma care, tourniquet usage and the use of a rescue task force (RTF) in the event of an active shooter incident. The protocol does not, however, describe specifically how the RTF is to be established, how they will be trained, how they should be equipped, nor what they will be required to do as part of the overall AS/AK strategy (GBEMDA, 2015).

In addition to the GBEMBDA EMS Protocols the MFRD has SOG’s which cover medical assignment and police assist calls. The medical assignment SOG requires the use of Incident Command System (ICS) principles to establish branches, divisions, and groups for use in MCI’s. It also requires that department personnel follow the GBEMBDA *Regional EMS Common Protocols* (MFRD, 2015). MFRD’s police assist calls SOG requires that fire-rescue units stage on calls that are strictly police matters (i.e. shootings, stabbings, bomb threats) and only proceed to the scene if there is a medical need. This guideline does not delineate between a single victim shooting and an active shooter (MFRD, 2015).

The MPD has a SOP that outlines active shooter response. This SOP includes a definition and composition of a RTF which includes utilization of fire-rescue personnel in the warm zone (MPD, 2014). This would indicate a lack of coordination between the MFRD and the MPD in planning for an AS/AK response.

Personal communications with Captain Justin Parenello revealed that the Fire Chief’s Association of Broward County (FCABC) has developed a regional *Uniform Active Shooter Response Policy*. This policy has been approved by the FCABC and the Broward County Chiefs of Police Association (BCCPA) and will soon be the accepted regional (Broward County) standard for AS/AK response. This policy is not published due to security concerns (J. Parrinello, personal communication, April 2, 2015).

### **Stakeholders in the Development of an AS/AK Protocol**

The list of stakeholders likely to be helpful in the development of an AS/AK protocol for the MFRD was identified primarily through the literature review and through the interviews conducted for this paper. Through the literature review the following basic set of stakeholders was identified; fire & police department leadership, local hospital or trauma center personnel, SWAT team leaders or members, SWAT team medics, local school board representatives, local health department representatives, state EMS licensing agency, 911 or public safety answering point (PSAP)/dispatch personnel, local IAFF leadership, and the local medical director. Additionally, interviewees recommended adding certain persons and groups to the stakeholders. Those additions will be discussed later in this paper.

Most of the interviewees considered involvement of the fire department (FD) leadership to be very important. Six of the nine participants ranked FD leadership involvement in AS/AK protocol development as a five (very important), the highest ranking. Two of the participants

ranked FD leadership as a four, commenting that SWAT team member involvement was a much higher priority. Only one interviewee ranked FD leadership as three, citing his opinion that policies and protocols were better developed at a lower level.

Similar to the above, most of the interviewees considered involvement of the police department (PD) leadership to be very important. Seven of the participants ranked PD leadership involvement in AS/AK protocol development as very important (ranking of five). One of the participants ranked PD leadership as a four, again citing the importance of SWAT team member involvement as a higher priority. Again, one interviewee ranked PD leadership as a three (moderately important), citing the same reason as previously stated for FD leadership.

Interviewees generally considered the participation of local hospital or trauma center personnel less important than the FD and PD leadership. On a scale of one to five, five being the most important and one being the least important, the highest ranking was a four. Seven of the nine interviewees regarded the importance of SWAT team leaders or members to be very important. The other two participants rated the involvement of this group to be only moderately important (a rank of three) in the development of an AS/AK protocol. These two cited the opinion that SWAT team medics are considerably more important because of their knowledge and experience of tactical medical techniques. All nine of the participants ranked SWAT team medics to be very important (ranking of five). Several of the participants cited the additional tactical medical training and field experience as a reason for this high ranking. These personnel would be critical to the successful development of an AS/AK response protocol for the MFRD.

The participants appeared to have widely varying opinions about the importance of local school board representatives participating in the development of an AS/AK protocol for the MFRD. Interviewees tended to have a lower opinion as to the importance of the local health

department representatives involvement in AS/AK policy development. The highest ranking was a four out of five and one participant considered their involvement to be unnecessary giving it a NA (not applicable) ranking.

Similar to the response for local health department representatives, interviewees considered the importance of the state EMS licensing agency to be of only moderate importance. The interviewees considered the involvement of the local medical director to be of high importance. Five out of nine participants considered it to be a five (very important), three considered it to be a four, and one considered it to be a three (moderate importance).

By and large, participants in the interviews considered personnel who work in the communications center or public safety answering point (PSAP), such as 911 operators and dispatchers to be very important. Some interviewees noted that the dispatch center is the first line of information collection and dissemination of information for the event. Dispatchers and 911 call-takers often have a great understanding of the entire picture during the chaos of an AS/AK incident.

All of the participants in the interviews considered the involvement of the leadership of the IAFF local union to be important or very important. Most interviewees, seven out of nine, considered it to be very important (ranking of five). The other two rated this question as a four and a three respectively. Many of those ranking this question as a five commented that local union membership “buy-in” was critically important to the success of any change in the response for AS/AK events from stage-until-safe to direct-action (i.e. rescue task force). Table 1 shows a calculation of the scores provided by the interviewees. The number of participants selecting a ranking was multiplied by the ranking and the total score was derived.

**Table 1: Stakeholder Importance***Ranking the Importance of the Stakeholders*

Stakeholder	5	4	3	2	1	0	Total
SWAT Medics	9	0	0	0	0	0	45
IAFF Leadership	7	2	0	0	0	0	43
PD Leadership	7	1	1	0	0	0	42
FD Leadership	6	2	1	0	0	0	41
SWAT Members	7	0	2	0	0	0	41
Medical Director	5	3	1	0	0	0	40
911/PSAP	3	3	2	0	1	0	34
School Board	3	2	1	0	1	0	29
Hospital/Trauma	0	2	4	2	1	0	25
Health Dept.	0	3	2	2	1	1	23
State EMS	0	2	3	2	2	0	23

*Note.* This table assigns a point score corresponding to the ranking given by the participants and shows the importance assigned to the stakeholders by the interviewees.

Participants were asked to identify stakeholders that were not previously mentioned that should be included in the preparation of a protocol to respond to an AS/AK event in Miramar. Two of the participants recommended a greater involvement of the local school system. It was recommended that teachers and the school board police be included in the preparations in order to insure a consistent response by school personnel in case of an AS/AK event. It was also suggested that greater attention to school design and accountability measures would enhance AS/AK response and reduce the number of persons killed or wounded during the event.

One participant recommended that MFRD shift personnel representatives who have military or tactical experience beyond what is taught in the typical paramedic program should be consulted. This participant also recommended inclusion of the MFRD EMS Research and Design (R&D) Committee. The EMS R&D committee meets monthly to discuss and recommend changes to the EMS protocols. Another participant suggested that the department engage private consultants specializing in active shooter training to be involved in the protocol development process. This individual also recommended that the department seek assistance from neighboring departments who have AS/AK policies in place. On a broader/regional scale it was recommended that the department request the assistance from its mutual aid partners and the Regional Domestic Security Task Force (RDSTF) working group. Finally, it was suggested that the department seek guidance and input from the Trauma System Quality Improvement Committee (TSQIC). The TSQIC is a part of the Broward County Trauma Management Agency (BCTMA) which is tasked with oversight for the Broward County Trauma System (Broward County Trauma Management Agency [BCTMA], 2012).

### **Specialized Fire or EMS Equipment**

A list of specialized equipment likely to be needed for response to an AS/AK incident was compiled via the literature review. This equipment includes: tourniquets, hemostatic dressings, trauma kits, airway control devices, equipment to treat tension pneumothorax, ballistic PPE, and non-lethal weapons such as pepper spray. Similar to the ranking system of the stakeholders, questionnaire participants were asked to rank the equipment as to its usefulness in responding to an AS/AK incident.

All participants of the questionnaires rated the carrying of tourniquets by both law enforcement and fire-rescue personnel essential for response to AS/AK response. Similarly,

participants rated the carrying of hemostatic dressings by law enforcement and fire- rescue personnel as very important, only slightly less important than tourniquets. Rounding out the group of very important items needed for AS/AK response was a trauma kit containing multiple tourniquets, combat gauze, triage ribbons, etc. carried by fire-rescue personnel. Each of the above items rated a score of 43 or higher.

Respondents considered other items as less important. The questionnaire asked interviewees to rate airway equipment as to its importance. Many respondents felt that traditional airway adjuncts would not be useful in the RTF format because rescuers would need to focus their resources on bleeding, and airway management would likely come later in the event timeline. Supplies to treat tension pneumothorax rated higher on the importance scale. Most respondents indicated that this treatment could be rapidly deployed and can remain lightly-monitored while other patients are treated. Other airway management techniques require constant monitoring and manipulation.

Ballistic PPE, such as helmets and vests, worn by fire-rescue personnel rated of moderate importance, and several participants were torn between choosing a one or a five on the importance scale. Two of the participants, who happened to be the most knowledgeable and highly trained in tactical medical treatment, suggested that the only need for ballistic PPE was if firefighters were deployed too close to the “action”. Neither of these interviewees were in favor of using the rescue task force (RTF) concept and recommended training law enforcement personnel more extensively on tactical medicine. They were, however, in favor of using a casualty collection point in a safe area where fire-rescue personnel would triage, treat and prepare for transport of wounded victims.

Most of the participants considered the carrying of non-lethal weapons by fire-rescue personnel to be of minimal or no importance. Several suggested that this could lead to a false sense of security. Certain participants also cited the fact that pepper spray is not a directed contact weapon, and will likely impact anyone in the area, including the rescuers.

Many of the interviewees made suggestions for equipment that was not mentioned in the survey. The most common of this equipment suggested was a portable, folding, or collapsible stretcher, litter or other patient movement device. This device would allow the safe and efficient movement of victims by law enforcement personnel to a safe area where the RTF, firefighters or EMS personnel could treat them. One participant recommended that the RTF carry “room markers” to identify rooms that have been cleared of patients. Finally, one interviewee recommended that RTF member firefighters carry firearms when responding to an AS/AK incident. He recommended that appropriate training and shooting qualification should be included in the plan to deploy firearms to fire-rescue personnel. Table 2 shows a calculation of the scores provided by the interviewees. The number of participants selecting a ranking was multiplied by the ranking and the total score was derived.

**Table 2: Specialized Equipment***Ranking Equipment Needed to Adequately Respond to AS/AK Incidents*

Type of Equipment	5	4	3	2	1	Total
Tourniquets carried by PD	9	0	0	0	0	45
Tourniquets carried by FD	9	0	0	0	0	45
Hemostatic dressings carried by FD	8	1	0	0	0	44
Trauma Kit carried by FD	8	1	0	0	0	44
Hemostatic dressings carried by PD	7	2	0	0	0	43
Tension pneumothorax carried by FD	6	2	0	1	0	40
Airway control carried by FD	3	4	1	1	0	36
Ballistic PPE worn by FD	5	2	0	0	2	35
Non-lethal weapons carried by FD	0	1	1	1	6	15

*Note.* This table assigns a point value corresponding to the ranking of the value of having the equipment available to specific personnel during an AS/AK event.

### **Specialized Training**

Specialized training needed by fire-rescue personnel (and law enforcement) to effectively respond to AS/AK incidents was identified through the literature review. This training included Tactical Emergency Casualty Care (TECC), tactical or combat movement, full-scale exercises conducted between law enforcement and fire-rescue personnel, Incident Command System (ICS) training, and self-defense training. Using the one to five ranking system used for the stakeholders and specialized equipment a questionnaire was presented to the participants who were ranked the specialized training as to its importance in responding to AS/AK incidents.

Each of the participants of the questionnaire rated having a full-scale exercise between law enforcement and fire-rescue as very important (five out of five ranking). This corresponds

with the recommendations listed in the literature review. Respondents also felt that ICS training was very important. Seven of the nine interviewees considered this type of training to be a five out of five on the ranking scale. The one individual who ranked ICS training as average in importance considered TECC training much more important and recommended that ICS could be conducted outside of the AS/AK training evolutions.

TECC training for all fire-rescue personnel was rated higher than TECC training for specific members of the department. Interviewees commented that there was no consistent method to insure that specific fire-rescue personnel responding to an AS/AK incident could be selected and deployed in a rapid manner. They felt that if all personnel were trained in tactical medicine then in the event of an AS/AK incident a sufficient number of tactically trained paramedics would be on hand quickly. One rater suggested an “all-or-nothing” approach to the TECC training. He felt strongly that all personnel should be trained to the same level of competency.

Tactical or combat movement training for fire-rescue personnel was considered to be of moderately high importance for the interviewees. One individual felt that if firefighters needed to use the skills of tactical movement then they were deployed too close to the hot zone and should retreat. He rated this category as a one out of five and was also not in favor of the RTF concept. Finally, the respondents indicated that self-defense training was of little use in an active shooter incident and rated this training as not very important. Some interviewees felt that this type of training may give the firefighters a false sense of security when responding to AS/AK events.

Some of the interviewees recommended additional types of training. One individual recommended some type of training that teaches evasion skills to firefighters, such as “run-hide-

fight” training. Another respondent recommended training for fire-rescue personnel to help identify potential threats before an AS/AK event develops. The purpose of this training is to use the five phases of the active shooter to prevent an AS/AK incident from ever happening (Marcou, n.d.). A third participant recommended that specific training for equipment such as tourniquets, hemostatic dressings, and triage ribbons should be incorporated into the preparation for AS/AK incidents. Table 3 shows a calculation of the scores provided by the interviewees. The number of participants selecting a ranking was multiplied by the ranking and the total score was derived.

**Table 3: Specialized Training**

*Ranking the Importance of Specialized Training for AS/AK Response*

Type of Training	5	4	3	2	1	NA	Total
Full-scale exercise (law & fire)	9	0	0	0	0	0	45
TECC for <b>all</b> fire-rescue personnel	8	1	0	0	0	0	44
ICS Training	7	1	1	0	0	0	42
Tactical/Combat movement training	5	2	1	0	1	0	37
TECC for <b>specific</b> fire-rescue personnel	3	3	0	1	1	1	30
Self-Defense for fire-rescue personnel	0	2	1	0	4	1	15

*Note.* This table assigns the point value corresponding to the ranking scale used to rate the importance to specific specialized training in responding to an AS/AK incident.

As part of the questionnaire interviewees were asked to identify any pitfalls or complications that the MFRD should anticipate when developing an AS/AK response protocol. All of the participants indicated that getting “buy-in” from the firefighters for the “paradigm shift” from stand-by until secured by law enforcement to rescue task force/early entry was crucial to the success of any AS/AK specific response policy. Several interviewees commented

that training conducted in conjunction with MPD would enhance the firefighters understanding of the risks and protections in place for fire-rescue personnel.

Many of the participants mentioned that the expense of specialized equipment and training was a major concern, particularly where ballistic PPE is concerned. A respondent familiar with the purchasing and “shelf-life” of ballistic vests stated that vests would cost somewhere in the neighborhood of \$2,000 and need to be replaced every five years. This is an expense that the department may not be prepared for. Other participants suggested that the additional training in preparation for AS/AK events could become an obstacle to preparation. He recommended that firefighters should undergo at least 8 hours of initial training and approximately 16 hours per year of refresher training. Again, given the already full training schedule for cross trained firefighter-paramedics this would be an additional burden and would likely be a complication to overcome.

### **National or Regional Standards for Response to AS/AK Incidents**

As previously stated in the literature review section of this paper there is no regional, state, or national standard protocol for active shooter response. Recommendations for response guidance material were also referenced in the literature review. Respondents to the questionnaire were not aware of any national or regional standard operating guidelines or response requirements for AS/AK incidents.

## **Discussion**

This section looks at the relationship between the information derived from the literature review and the results of questionnaire. The section will provide an analysis of the study results and present organizational challenges for the MFRD. It is divided into five subsections that are aligned with the four research questions mentioned in the introduction of this paper.

**Current MFRD Response Protocols for AS/AK Incidents**

The MFRD does not currently have an adequate response protocol for response to active shooter/active killer incidents. The MFRD’s standard operating guidelines (SOG) cover response to MCI of all sizes and police department calls including shootings, but do not specifically address the unique challenges of response to an AS/AK event. The MPD has a SOP that involves the use of fire-rescue personnel in a RTF, but this activity has not been incorporated into the MFRD’s policies. This demonstrates a lack of coordination between the departments that should be addressed as soon as possible.

**Stakeholders in the Development of an AS/AK Protocol**

Research indicates that the MFRD should include several stakeholders in the development of an AS/AK response protocol. The most important of these is the highly trained and experienced cadre of MFRD SWAT medics. Second, it is very important to include representative from the firefighters union. These personnel can assist with gaining buy-in from the rank-and-file fire-rescue personnel for assuming the higher level of risk commonly associated response to AS/AK incidents. Third, it is important to have participation of the police and fire-rescue department leadership as well as the medical director in the policy development. Leadership personnel and the medical director will ultimately need to sign off on any changes to the response guidelines and treatment protocols. Finally, 911/dispatch personnel should be consulted so that the policies align appropriately with the functionality of the communications system. Other stakeholders such as the local hospital or trauma center, health department, state EMS licensing agency, and school board are less important and may be consulted for the specific purposes and expertise that they may possess.

### **Specialized Fire or EMS Equipment**

It is clear from the research that tourniquets, hemostatic dressings, and trauma kits containing these items plus dressings to manage tension pneumothorax are the most important supplies and equipment needed to respond appropriately to an AS/AK event. Folding or collapsible stretchers or litters are also considered to be important. The literature review was slightly in conflict with the recommendations of several of the questionnaire participants when considering the importance of ballistic personal protective equipment (PPE). Ballistic PPE is recommended by all of the major fire service organizations including the IAFF, IAFC, and the UFF hosted by NFPA. It is also included in the recommendations of the *Hertford Consensus II*. Airway management devices and non-lethal weapons such as pepper spray are less important, may not be necessary, and may actually be detrimental to the AS/AK response.

### **Specialized Training**

Frequent and regular full-scale AS/AK exercises conducted between the MFRD and the MPD are critically important. These exercises and drills instill confidence in the procedures, allow participants to practice with the equipment, require that police and fire-rescue personnel work together as a team, and uncover problems with the procedures in a safe and controlled environment.

Tactical Emergency Casualty Care (TECC) training for all fire-rescue personnel is also very important. This higher level of shooting victim trauma triage and rapid treatment is not taught in the current paramedic or firefighter curricula. This training is specific to AS/AK events and teaches responders to recognize threats, rapidly assess and treat patients, and manage shooting victims through the evacuation phase. Tactical/combat movement training for MFRD personnel is also important and can be included with training conducted as part of the full-scale

exercises. ICS training is also important to insure coordination between MFRD, MPD, and any incoming mutual aid law enforcement or fire-rescue units. Self-defense training for fire-rescue personnel is not important for AS/AK response and may lead firefighters into a false sense of security.

### **National or Regional Standards for Response to AS/AK Incidents**

There is no regional, state, or national standard protocol for active shooter response, therefore AS/AK SOG's developed locally will be the only standard available for MFRD personnel to follow. These SOG's should comply with the Fire Chief's Association of Broward County (FCABC) active shooter guideline which has been in development for several months and was recently approved by the Broward County Chiefs of Police Association (J. Parrinello, personal communication, April 2, 2015).

### **Recommendations**

Based upon this study it is recommended that the MFRD create a committee to develop an active shooter/active killer response protocol. This committee should be comprised of representatives from the SWAT medics, SWAT team leaders, fire and police department leadership, IAFF local 2820, and members of the MFRD EMS R&D committee. The product derived from this committee should be reviewed by the medical director and dispatch center personnel. The protocol should comply with the FCABC active shooter policy and the *GBEMBDA Regional Common EMS Protocols*. The committee should design an AS/AK specific trauma kit containing sufficient tourniquets, hemostatic dressings and other equipment. The committee should research and recommend appropriate training for all members of the fire-rescue department. The committee should research and recommend a suitable method and equipment for moving patients to casualty collection points.

The MFRD should budget for and acquire ballistic PPE for all of its members to use while on duty. This PPE should be maintained properly and replaced periodically according to the manufacturer’s instructions. The MFRD should purchase equipment recommended by the AS/AK committee and maintain this equipment at appropriate levels and locations throughout the city. The MFRD should conduct TECC training for all of its firefighters. The MFRD and MPD should schedule and conduct AS/AK training drills for all members at least twice per year. Finally, all personnel within the police and fire-rescue departments should be required to complete ICS training and routinely practice the principles outlined by the incident command system.

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**Appendix A**

**Miramar Fire-Rescue Active Shooter/Active Killer Questionnaire**

<b>Interviewee Name:</b>	
<b>Interviewee Qualifications:</b>	
<b>Agency or Discipline:</b>	

**Stakeholders**

On a scale of 1 to 5, 1 being the not very important, and 5 being very important, please rank the following stakeholders for the development of an Active Shooter/Active Killer response protocol for the Miramar Fire-Rescue Department.

Stakeholder	1	2	3	4	5
Fire Department Leadership					
Police Department Leadership					
Local Hospital or Trauma Center Personnel					
SWAT Team Leaders or Members					
SWAT Team Medics					
Local School Board Representatives					
Local Health Department Representatives					
State EMS Licensing Agency					
911/PSAP Personnel					
Local IAFF Leadership					
Local Medical Director					
Other (please describe):					

**Specialized Equipment**

On a scale of 1 to 5, 1 being the not very important, and 5 being very important, please rank the following types of equipment for use in responding to an Active Shooter/Active Killer response.

Barrier	1	2	3	4	5
Tourniquets carried by law enforcement personnel					
Hemostatic dressings carried by law enforcement personnel					
Tourniquets carried by fire-rescue personnel					
Hemostatic dressings carried by fire-rescue personnel					
Trauma Kit containing triage ribbons, combat gauze, tourniquets, etc.					

carried by fire-rescue personnel.					
Airway control devices carried by fire-rescue personnel					
Equipment to treat tension pneumothorax carried by fire-rescue personnel					
Ballistic PPE (vests & helmets) worn by fire-rescue personnel					
Non-lethal weapons (pepper spray) carried by fire-rescue personnel					
Other (please describe):					

**Specialized Training**

On a scale of 1 to 5, 1 being the not very important, and 5 being very important, please rank the following types of training necessary for fire-rescue and EMS personnel to be prepared for responding to an Active Shooter/Active Killer response.

Purpose	1	2	3	4	5
Tactical Emergency Casualty Care (TECC) training for <b>specific</b> fire-rescue personnel					
Tactical Emergency Casualty Care (TECC) training for <b>all</b> fire-rescue personnel					
Tactical/combat movement training for fire-rescue personnel					
Full-scale exercises conducted between law enforcement and fire-rescue personnel					
ICS Training					
Self-defense training for fire-rescue personnel					
Other (please describe):					

**Please describe any pitfalls or complications that may arise when developing an AS/AK response protocol:**

**Are you aware of any national, state or regional AS/AK regulations of protocols?**