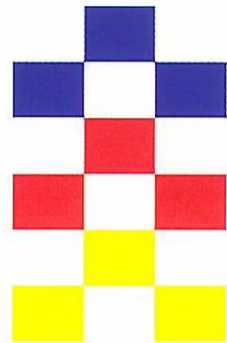


EMERGENCY SERVICE FOUNDATION SCHOLARSHIP 2017



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*Tactical Considerations for non-law enforcement first responders
involved in Warm Zone (non Hazmat) operations during a hostile event*

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Contents

| | |
|--|----|
| Abbreviations | 4 |
| Introduction | 5 |
| Background | 6 |
| Key Observations | 7 |
| Recommendations | 8 |
| Acknowledgements | 9 |
| Remembering the Las Vegas Shooting Victims | 10 |
| Part 1 Agency Visits | |
| Arlington County Fire Department | 12 |
| Fairfax County Fire Department | 13 |
| Las Vegas | 14 |
| San Bernardino County Fire Department | 16 |
| Los Angeles Fire Department | 18 |
| Part 2 Training Courses | |
| Trauma Care and Immediate Response | 22 |
| Tactical Emergency Casualty Care | 23 |
| IED Dynamics for EMS and Medical Professionals | 24 |
| EMS World Expo | 25 |
| Part 3 Lessons Learnt | |
| Las Vegas October 1 Route 91 Shooting | 26 |
| LAX Active Shooter | 29 |
| IRC Terrorist Attack San Bernardino | 30 |
| Orlando Pulse Nightclub Terrorist Attack | 32 |
| Conclusion | 34 |
| Appendices | |
| 1. Rescue Task Force Model | 35 |
| 2. TCCC/TECC | 38 |
| 3. Community Emergency Response Team | 40 |

Abbreviations

| | |
|--------|--|
| ALS | Advanced Life Support |
| AMR | American Medical Response |
| BLS | Basic Life Support |
| CCP | Casualty Collection Point |
| CERT | Community Emergency Response Teams |
| CFR | Certified First Responder (New York City equivalent of Victoria's EMR) |
| EMR | Emergency Medical Response (MFB/CFA) |
| EMS | Emergency Medical Service |
| EMT | Emergency Medical Technician |
| ETF | Extraction Task Force |
| FEMA | Federal Emergency Management Authority (USA) |
| HME | Homemade Explosives |
| ICP | Incident Control Point |
| IED | Improvised Explosive Device |
| VBIED | Vehicle –borne Improvised Explosive Device (car bomb) |
| JHAT | Joint Hazard Assessment Team (LAFD) |
| LAX | Los Angeles International Airport |
| MACTAC | Multi-Assault Counter- Terrorism Action Capabilities |
| MCI | Mass Casualty Incident |
| QRF | Quick Reaction Force |
| RTF | Rescue Task Force |
| SWAT | Special Weapons and Tactics |
| TECC | Tactical Emergency Combat Care |
| TCCC | Tactical Casualty Combat Care |
| TEMS | Tactical Emergency Medical Support |
| TSA | Transportation Security Administration (USA) |
| UC | Unified Command |

Introduction

This report provides an overview of the activities undertaken and information gained from an Emergency Service Foundation Scholarship study tour to the United States of America during October 2017. Information in this report is divided into 3 major parts

- **Agency Visits**
- **Training Courses**
- **Lessons Learned**

The following are some key concepts and definitions.

Understanding Hot, Warm and Cold Zones in an Active Threat Environment

| Zone | Level of Risk | Who can work here |
|-------------|---|---|
| Hot | Not cleared by police. Direct and immediate threat exists | Police and tactical medics only |
| Warm | Partly cleared by police. Threat minimal or can be mitigated | Police and Rescue Task Force (fire/ambulance/police integrated teams) |
| Cold | Area surrounding warm zone. Deemed safe to establish support zone | All agencies |

Unified Command (UC)

Involves the role of incident commander (incident controller in Australia) being shared by two or more individuals. It is being used at incidents across the USA to integrate police/fire/ambulance and any other relevant agency leaders at major incidents to ensure a common set of objectives and strategies are developed.

Rescue Task Force (RTF)

A RTF is an integrated team of police, paramedics and firefighters mobilised to enter the warm zone of a hostile act to begin point of wound care, triage and victim extrication. Police provide force protection so paramedics and firefighters can safely operate in that environment.

Background

In recent years the threat of a Hostile Act occurring in Australia and causing a Mass Casualty Incident (MCI) and increased danger to our first responders has escalated. The risks include that of complex coordinated attacks, 'lone wolf' attacks and also hostile acts not necessarily motivated by extremist terrorist ideology (Bourke St Vehicle Attack January 2017).

As I complete this report police in Victoria have foiled another terrorist plot; this time a plan to use a firearm to shoot New Year's Eve revellers in Federation Square.

The Hartford Consensus developed in the USA by a joint committee following the Sandy Hook Elementary School shooting in 2012 made key recommendations to enhance survivability from an active shooter or intentional mass casualty event.

It recommends that response should include the critical actions contained in the acronym THREAT

- Threat suppression
- Haemorrhage control
- Rapid Extrication to safety
- Assessment by medical providers
- Transport to definitive care

A capability gap currently exists in Victoria where Haemorrhage control and Rapid Extrication will be delayed due to Ambulance Paramedics and Firefighters not having the training or equipment to enter a warm zone to rescue victims.

Police have adapted their training for this; although it is likely their resources will be stretched and focused on threat suppression.

The MFB have put in place a number of initiatives aimed at minimising the risk to operational staff. These include;

- Signal 55 radio message which alerts all staff of a possible hostile act that is occurring
- An advisory the no more than two appliances are to respond to the scene, all other appliances must stage distant to the scene.
- Basic MCI trauma kits on appliances
- An advisory bulletin detailing firefighters and their officer's considerations at a hostile act as well as some clarification on hot/warm/cold zones.

Further equipment and training is still required though to allow safe operations within a warm zone.

This study tour investigated how agencies have changed training, equipment and protocols to overcome this same capability gap around warm zone operations which once existed in the USA. We are now seeing similar models to those researched being implemented in Canada and the UK.

This research saw the added benefit of firsthand accounts from responders who have implemented these new approaches and tested them at real world events as recently as 1st October 2017.

Unlike other parts of Australia, Victoria has a unique opportunity with firefighters trained and experienced in Emergency Medical Response available to assist Ambulance Victoria in saving lives.

Key Observations

- Unified Command is essential
- Rapport between police/fire/ambulance is a key part to the success of Hostile Act response.
- The use of Rescue Task Force teams ensures victims are accessed quicker than we have seen in the past while also keeping responders safety in mind.
- Most MCIs call for a heavy focus on Basic Life Support skills over Advanced Life Support skills
- At large scale MCIs where there remains a threat or where victim numbers are extremely high **triage tags don't work**. Initial sorting and sifting should occur followed by triage within the cold zone
- Not a Routine Call. On many occasions fire service response to a Hostile Act was initiated by what could be described as a 'routine call'.
 - 1993 World Trade Centre Bombing NYC – vehicle in carpark smoking
 - 2007 Melbourne CBD shooting by Christopher Hudson – manual call point activated
 - 2010 Times Square Car Bomb attempt – vehicle smoking
 - 2015 IRC Terrorist Attack San Bernardino – sprinkler activation due to bullet hitting pipe (crews not dispatched due to shared comms centre with police who notified fire department of active shooter calls)
 - January 2017 Bourke St Incident – EMR call
 - June 2017 London Bridge Attack – report of vehicle collision
- When it comes to preparation and training - THINK BIG. IF YOU CAN THINK OF IT SO CAN THEY
- A focus on training is important. If you run drills and exercises without the appropriate training you are just testing people, not actually improving.
- The most successful responses to Hostile Acts come from agencies that prepare and drill for them.
- Without a warm zone capability such as a RTF or Tactical Medics, preventable deaths will occur.

Recommendations

1. Trauma care training for Victorian Paramedics and Firefighters based on the TECC principles including
 - Direct threat, indirect threat and evacuation care.
 - Initial treatment as per the MARCH acronym
 - Wound packing, airways, tourniquets, shock recognition and other lifesaving interventions
2. Continue to develop and implement an integrated response model that sees paramedics and firefighters able to enter the warm zone of an incident with police, to provide initial care and extrication of victims. This model will be able to be adapted and implemented Australia wide.
3. Establishing a Quick Reaction Force made up of police/firefighters/paramedics on standby during major events. This currently occurs in NYC, LA and Las Vegas.
4. Promote the use of firefighters at a MCI to help free up paramedics to focus on ALS interventions and transporting of victims.
5. Add MCI and Hostile Act escalation level for EMR calls on the Greater Alarm Response System (MFB)
6. Develop awareness packages for paramedics and firefighters looking at
 - Situational awareness
 - Bombing/IED incidents
 - Vehicle attacks and fire as a weapon
7. Provide fire services with more equipment to help combat MCI's
 - Replace pelican case first aid kits with a trauma kit backpack. These could also be used at EMR calls and rescue incidents such as high angle or confined space.
 - Provide tourniquets, haemostatic dressing and chest seals as per Australian Resuscitation Council Guidelines, **ANZCOR Guideline 9.1.1 – First Aid for Management of Bleeding - July 2017**
 - Provide a compact lightweight patient carry litter for all appliances which can also be used during routine EMR calls and rescues.
8. Replace existing blue tarps on MFB appliances with 3x coloured tarps which will be able to be used by Ambulance Victoria at MCIs in the triage process.
9. Agency command staff to implement and train in Unified Command.

Acknowledgements

I would like to start by thanking my wife Julie for her support during this process and during my time away from home.

Thank you to the following people who have provided support and guidance throughout the application and selection process

- | | |
|--|-----------------------|
| • Assistant Chief Fire Officer Mark Swiney | MFB |
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| • Senior Station Officer Michael Campbell | MFB |
| • Station Officer Sam Hull | MFB |
| • Inspector Mark Doney | Victoria Police |
| • A/Inspector Andrew Mckee | Victoria Police |
| • Sergeant Sarah Jencke | Victoria Police |
| • Matthew Pepper | NSW Ambulance Service |
| • Jenny Davis | ESF |

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Engineer Ryan Starling
The crews of station 224
- **Clark County Fire Department Las Vegas**
Deputy Chief Scott Webster
Captain Mark Kittelson
Battalion Chief Eric Poleski and his crew at station 18
- Sergeant Branden Clarkson **Las Vegas Metropolitan Police Department**
- **Members of the Los Angeles City Fire Department Homeland Security Division**
Assistant Chief Robert Nelson
Former A/Chief Michael Little
- Firefighter Nate Hiner **Arlington County Fire Department**
- Battalion Chief Lee Warner **Fairfax County Fire Department**
- **New York State Preparedness Training Centre**
Lori Percle
- **Progressive Force Concepts**
Callie Fraser
Leslie Shaffer
- Jason Tartalone **Sergeant Rescue Training**

Las Vegas Shooting

October 1, 2017 saw Las Vegas first responders tested like never before. My hat goes off to all involved, from those in the crowd who rendered aid, those responders who ran towards the danger and those who put their uniforms on and responded from home.

This incident occurred just 2 weeks prior to my arrival in Las Vegas. The shooting scene at Las Vegas Village remained a crime scene at least 3 weeks after the incident.

I was very moved and appreciative of the members of the Clark County Fire Department, Progressive Force Concepts and Sergeant Clarkson LVMPD who during the aftermath of this traumatic event still welcomed me into their stations and onto their training courses and provided me with their first-hand accounts of the incident.

It would have been easy to say sorry we are too busy and cancel the meetings but they chose to continue on and get back to business the way first responder do.



My heart goes out to the victims and their families.

Part 1

Agency Visits

- **Arlington County Fire Department Virginia**
- **Fairfax County Fire Department Virginia**
- **Clark County Fire Department Las Vegas Nevada**
- **Las Vegas Metropolitan Police Department**
- **San Bernardino County Fire Department California**
- **Los Angeles City Fire Department California**

Arlington County Fire Department (ACFD)

Arlington County is located in Virginia just over the river from Washington DC. There are many high level government and military establishments in this area including the Pentagon and Ronald Reagan Washington National Airport. ACFD has 10 stations and 327 uniformed and civilian employees providing a fire rescue and EMS service.



Response to Active Violence Incidents

ACFD are a progressive and well regarded agency when it comes to what they term as Active Violence Incidents. ACFD first developed the Rescue Task Force model back in 2009 after a large active shooter drill identified issues that EMS assets were staged for more than an hour before police declared the scene safe for medical operations. Since then they have continued to develop this capability along with Unified Command activities and further policies through their High Threat Response Program.

Complex Coordinated Terror Attacks FEMA Grant

When I met with ACFD they were just weeks into receiving a Federal Emergency Management Agency (FEMA) grant. This grant has allowed ACFD to seconde more members to the High Threat Response Program who are over the next 3 years going to look into each of the following areas

- Fire as a weapon
- Explosives
- Weapons of Mass destruction
- Active Shooter
- Future threats

For each discipline the program will develop

- Policy/procedure
- Integrated response
- Command training
- Reference documents



ACFD are also looking at developing Interagency Liaison Officers (ILO), a model developed by the London Fire Brigade.

The end goal of this grant is for their agency to be a warehouse of information with an ILO in Arlington, Fairfax, D.C and Maryland who will be the point of contact and subject matter expert for all active violence incidents.

Response Levels

Previously ACFD response to an Active Violence Incident saw an MCI response created. This has now been revised and a separate Active Violence alarm response is created which brings fewer resources but more specialised equipment such as the combined police/fire bomb squad.

Fairfax County Fire & Rescue Department (FCFRD)

FCFRD consists of 40 fire stations spread out across the county's 1,050 km², serving a population of 1.15 million residents. With over 1,300 uniformed staff, 300 civilian employees, and 300 operational volunteers, the Fairfax County Fire and Rescue Department is the largest fire department in the Commonwealth of Virginia.

Response to Hostile Acts

- FCFRD have added police radio channels to their radios to allow crews to monitor and potentially speak to police while staging for active violence incidents.
- Every firefighter and police officer in the county are trained in the RTF model but unfortunately with a combined number of approximately 3000 responders skills maintenance issues can arise.
- All appliances have rapid trauma kits which are used on all types of trauma calls. The department also has 72 sets of ballistics equipment kept on supervisor vehicles as seen in the image



Fairfax County Joint Event Action Guide

Released in 2014 this guide is currently being updated including for stabbing and vehicle attacks. It was developed to improve interoperability between police and fire/medical personal, establishing common terminology and expected actions/behaviour at incidents. Work is also being done on civil disturbance and IED guidelines.

Battalion Chief Warner stated

“If you look at our guide, you can see the intent is to build from simple to complex. The reality is the big incident will reflect how the patterns of behaviour are instilled on the daily incidents. If you only have a policy for the “big one”, you will never exercise it enough for everyone to remember it; it must apply in some ways to the day to day. The other thing is to make it very simple and adaptable.”

RTF/ETF

The Fairfax County approach sees the use of a Rescue Task Force (RTF) and Extraction Task Force (ETF). Like other agencies around the US the RTF enters the warm zone wearing ballistic vests and helmets to begin sorting, sifting and treatment of casualties. In Fairfax this team will be followed by an ETF made up of higher numbers of fire personal without ballistic protection. Due to the waves of police contact teams and the RTF's that have passed through the warm zone before the ETF, it has been decided that they are at less risk. The ETF still has force protection provided by police.

Las Vegas

During my time in Las Vegas I went on a ride along at Station 18 and had a meeting with fire department and police leaders responsible for developing all hostile act training and protocols.

Emergency Response in the Las Vegas Area

Las Vegas is protected by 5 separate Fire Departments, the Las Vegas Metropolitan Police Department (LVMPD) and a number of private emergency ambulance companies.

The main Las Vegas area that most Australians would be familiar with is covered by the Clark County Fire Department (CCFD) (the Strip and McCarran International Airport areas) and Las Vegas Fire Rescue (LVFR) (downtown and Fremont St areas).

This has similarities to our current arrangement here in Victoria with CCFD having some volunteers in rural areas and LVFR being a fully career staff department.

Both agencies have automatic aid agreements along the border and work with each other daily.

Both departments provide an ALS service staffing all engines and rescues (ambulances) with a paramedic.

They respond to all EMS calls although transport is conducted by one of the private transport companies such as American Medical Response (AMR), Medic West or Community Ambulance.



Preparing for a Hostile Act

Southern Nevada Fire Operations Hostile MCI Policy

In 2013 the first Southern Nevada Fire Operations Hostile MCI Policy was released. This policy is used by all 5 Las Vegas area Fire Departments to ensure greater interoperability. It covers command and control, incident protocols, equipment and response levels.

Quick Reaction Force (QRF)

Since FBI warnings of a threat to New Years Eve celebrations a couple of years ago major events in Las Vegas now have a QRF operating in the background. A fire department engine crew will be allocated to go out in police cars with members of the LVMPD providing a MACTAC capability. The role of a QRF is to be in the background of an event as a standby. They will be placed far enough away so they do not fall victim should an attack occur yet close enough to ensure quick response to the scene.

During New Years Eve Celebrations 2x QRFs are allocated to the strip and 1x to downtown.

Promoting Private Sector Involvement

Clark County Fire Department for a number of years has encouraged private enterprise to better prepare for a large scale incident. This includes encouraging a number of casinos to purchase their own MCI kits to have readily available.

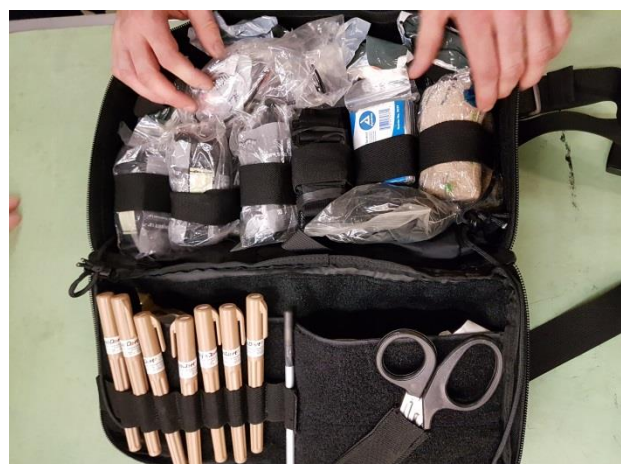
MACTAC

Multi-Assault Counter-Terrorism Action Capabilities is a program born in response to the attack in Mumbai India in 2008 in which al Qaeda-linked militants killed 166 people in a series of coordinated shootings and bombings over four days.

This program started as a collaborative effort between the Las Vegas, Los Angeles and Orange County areas in 2009. It involves a new, military-style, counter-terrorism plan and training intended to prepare first responders to deal with multiple coordinated attacks. The training includes teaching agencies to not commit all resources to the one incident leaving you vulnerable to further attacks.

All Las Vegas Metropolitan Police Department (LVMPD) officers undergo the training which involves a day in the academy and a day with SWAT learning some advanced tactics.

In 2012 LVMPD approached the fire departments to come on board with the program to develop capabilities for fire as a weapon and hostile act medical response. This lead to a fire department Captain being assigned to the LVMPD for 3 years to develop policy and equipment purchased for all fire appliances.



MACTAC/RTF Equipment carried on all fire appliances

San Bernardino County Fire Department



At 20,160 square miles, San Bernardino County is the largest county in the continental United States spanning between Los Angeles County and the state of Nevada. The San Bernardino County Fire Department covers 19,278 square miles of this area with approximately 67 fire stations and just over 650 firefighters. SBCFD respond to all 911 medical calls also but it is AMR (American Medical Response) who are responsible for transporting patients to hospital.

I spent two days with the crew at station 224 responding to calls and learning about how they prepare for what they refer to as Escalated Threat Environments. I also had the opportunity to sit down with Engineer/SWAT Medic Ryan Starling who was the first on scene SWAT medic at the 2015 IRC terrorist attack and first paramedic to enter the scene.

Response to Escalated Threat Environments

Since 2014 SBCFD has taken a proactive stance on Escalated Threat Incidents. This Includes

- Equipping their fire suppression and ambulance operator personnel with quality equipment including ballistic vests and helmets, MCI kits and patient carry litters.
- Training with local law enforcement agencies on escalated threat incidents, basic trauma care and incident command.
- Training teachers and local schools and police on how to respond to an escalated threat and bleeding control

“Joint training has been vital to ensure that all agencies are operating with the same incident objectives”

Rescue Task Force (RTF) Integrated police/fire team Warm Zone

All firefighters undergo TECC training as well as RTF specific sessions. They work under the cover of police to enter a warm zone to assess and rescue patients.

Tactical Medics (TEMS) Hot Zone

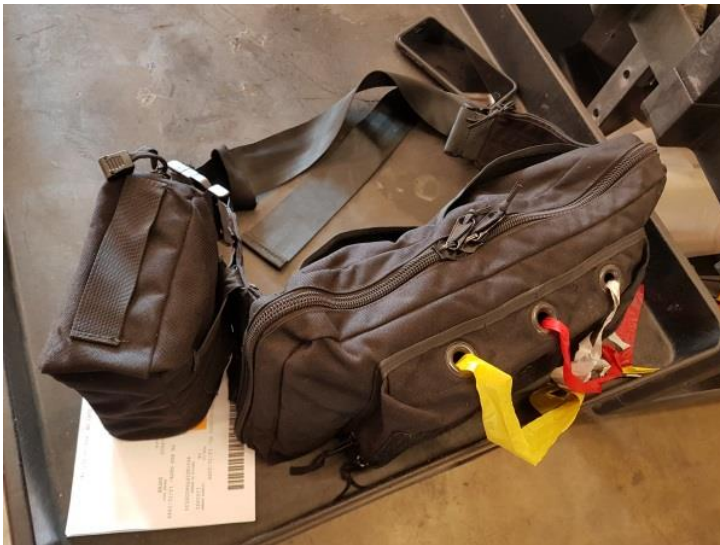
The SBCFD has two firefighter/paramedics who have undergone SWAT training with the police and are sworn in as reserve officers. They work their normal shifts for the fire department with the ability to be called out to operate as armed tactical medics with local law enforcement. Their main objective is to operate as part of the SWAT team in a Hot Zone and provide a medical response to its members.



Equipment

Apart from their usual compliment of medical equipment all SBCOFD appliances carry bum bag style MCI kits for each firefighter on that crew. The bags are versatile and are being used for many types of incidents involving triage and haemorrhage control. They contain triage tape, a quick litter for patient extrication as well as various medical supplies.

Each Firefighter is issued with a ballistic vest and helmet for response to active shooter or terrorist attacks.



Los Angeles City Fire Department

The LAFD is the third largest fire department in the USA. With 106 stations and more than 3,246 fire personnel and 353 support staff it is responsible for over 4 million people who live in the agency's 1220km2 jurisdiction. As well as fire and rescue services the LAFD is also the ambulance service for the City of Los Angeles with all firefighters trained to either EMT or paramedic level.

I spent a day with the Homeland Security Division of the LAFD. It was a busy and challenging day for the department with temperatures soaring to 39°C and the threat of brush fires very real. This threat was increased by recent intelligence that stated IS had encouraged its followers to use brush/bush fires as a form of terror attack to deplete emergency service resources.

On top of this that afternoon the city was hosting the first baseball game of the World Series (Major League Baseball Championships) at Dodger Stadium. I was fortunate enough on this day to tour the Emergency Operations Centre for the LAFD and as well as attend the Unified Command Post set up at Dodger Stadium.

During this period plans were also being made for upcoming protests by the ANTIFA movement, an anti-government protest group known for their militant protest tactics.

The LAFD were planning to be part of the preparedness for these protests through the use of

- **Tactical EMS teams**
- **Tactical Planning**
- **Arson Investigation**

Homeland Security Division (HSD)

The homeland security division is dedicated to ensuring safety against terrorism and other hazards. Its 3 roles are to

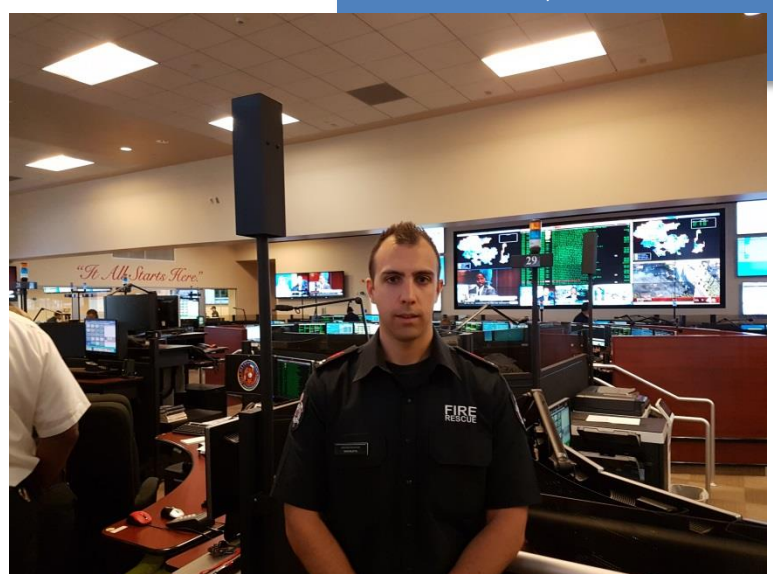
- Liaise
- Support
- Investigate

The division oversees the following units.

- TEMS (Tactical Emergency Medical Support)
- CBRNE (Chemical, Biological, Radiological, Nuclear, and Explosive)
- HAZMAT (Hazardous Materials)
- USAR (Urban Search and Rescue)
- Maritime
- JHAT (Joint Hazard Assessment Team)
- ACTS (Arson Counter Terrorism Section)
- CERT (Community Emergency Response Team)



The Homeland Security Division



"It All Starts Here" the Emergency Operations Centre

Response to Escalated Threat Environments

TEMS Unit (Tactical Emergency Medical Support)

The LAFD has 12 Tactical Medics working with LAPD, LAX and FBI SWAT. 6 are full time in the unit while another 6 are pulled from their usual duties on stations when needed. These medics have undergone parts of the SWAT course minus the weapons handling and operate as the medical capability for local SWAT units. They wear a modified fire department uniform and unlike San Bernardino these medics are not armed or sworn police officers.

As well as their operational duties they conduct training within their agencies providing the medical component to the MACTAC training for officers as well as the stop the bleed program at LAX.

JHAT (Joint Hazard Assessment Team)

A team comprising fire and police personal with a focus on CBRNE training, equipment, and response. Thanks to a grant this is a full time unit that will often deploy to high-profile special events and dignitary stand-by. They focus on Hazmat events with a criminal nexus.

Trauma Treatment and Evacuation Aid Bag

The intent of the Trauma Treatment and Evacuation Aid Bag is to bring critical lifesaving equipment to the patient in one compact backpack. It is specifically designed to treat trauma injuries during Active Shooter/Multi-Casualty Incidents (AS/MCI), but could also be used for earthquakes, lost/injured hikers, cliff rescues or any situation where trauma injuries are the primary concern for the patient.

This backpack is a viable option to the LAFD standard issued trauma box due to its portability and ease of use. The bag was developed to treat patients in various tactical environments and includes a mega mover patient litter for evacuation of victims.



LAFD at Special Events Dodger Stadium World Series 24th November 2017

I was fortunate enough to tour the Unified Command post and meet firefighters and TEMS unit medics on standby for the event.

TEMS

The benefits of having members of this unit as part of the Counter Assault team are that they can act as the eyes for the fire department. If an incident occurs they are quick to react and provide critical information back to the command post as well as having the ability to set up a Casualty Collection Point early.

JHAT

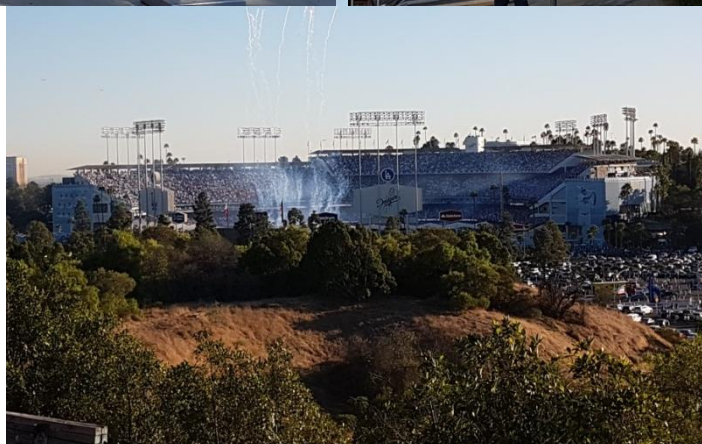
By being on hand at special events it ensures a quick response and potential early mitigation of a threat without having the logistical issues of responding hazmat resources from outside.

RTF

Having a fire suppression appliance on standby means that should an incident occur such as fire as a weapon these crews can act to combat that or a MCI they are already on scene ready to deploy as the first RTF to treat and evacuate patients.

Resources

- Unified Command Post
- Ambulance on standby
- 2x TEMS medics allocated to one of the LAPD SWAT Counter Assault teams strategically located around the stadium
- 1 Fire Engine assigned as a RTF crew
- JHAT
- CERT Volunteers were called in to patrol and provide water and support for the crowd attending the game.





Unified Command Post



TEMS equipment ready for deployment



Loan wolf attacks remain a concern for the LAFD. They are extremely unpredictable. Areas of concern include

- LAX
- Staples Centre
- Hollywood
- Santa Monica pier
- Rail networks moving hazardous materials

Some of the major events the LAFD work at include

- LA Marathon
- Academy Awards
- Games at the LA Coliseum
- Events at the Staples Centre

Part 2 Training Courses

I completed 3 training courses as part of this research trip.

Trauma Care and Immediate Response (TCAIR)

This 2 day course in Las Vegas was attended by military, civilian and private security participants. It followed the TCCC principles to develop students' skills in pre hospital trauma care in high threat situations. The course taught students to follow the MARCH acronym during the 3 phases of care. During all this a focus on situational awareness and responder safety is emphasised.

Phases of Care

- Care Under Fire
- Tactical Field Care
- Tactical Evacuation Care
- M - Massive Haemorrhage
- A – Airway
- R – Respiration
- C – Circulation
- H – Hypothermia/head injury

On day 2 students were taken to a military training area in the desert to participate in practical scenarios



Tactical Emergency Casualty Care (TECC)

This 2 day course in Monessen Pennsylvania was attended by EMT's and Paramedics as well as members of the public. TECC is the civilian adaption of TCCC, teaching students skills in the 3 phases of care

- Direct Threat Care (Hot Zone)
- Indirect Threat Care (Warm Zone)
- Evacuation Care (Cold Zone)



Assessment Scenario



Wound packing

IED Dynamics for EMS and Medical Professionals

This 1 day course taught by experienced police bomb technicians and doctors at the New York State (NYS) Preparedness Training Centre was attended by first responders from the NYS area. The course was split into two parts:

1. Morning Session

- History of IEDs
- IED components
- Attack methods
- Manufacturing
- Home Made Explosive (HME) laboratory

2. Afternoon Sessions

- Medical response
- Blast injuries
- Bombing case studies

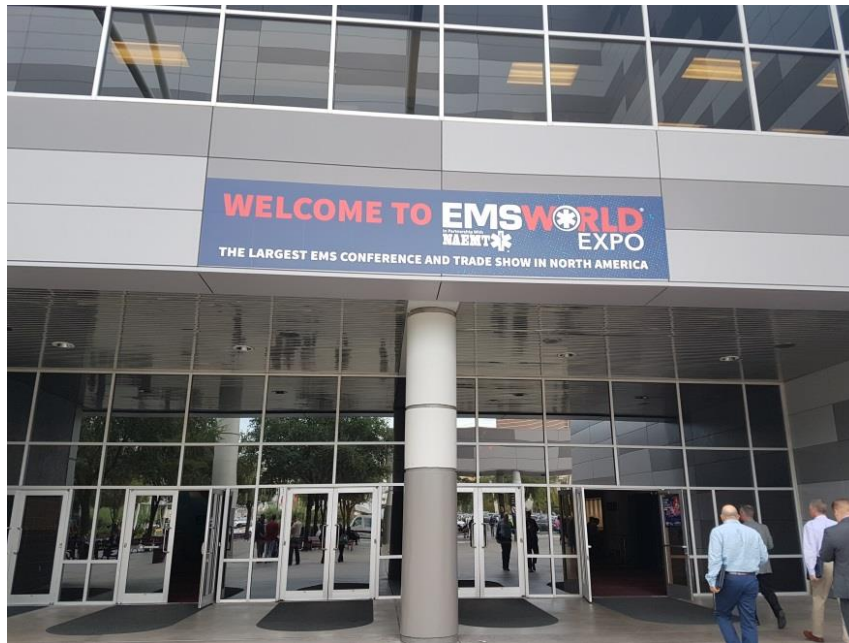


This course included visiting a mock HME laboratory and viewing a replica VBIED used in the Times Square bombing attempt in 2010.



EMS WORLD EXPO (LAS VEGAS 2017)

This is the largest expo of its kind in North America. During this week I attended conference sessions on terrorist attacks in Orlando and Israel, Rescue Task Force demonstrations and active shooter simulations as well as an exhibit hall with numerous products and suppliers.



Part 3 Lessons Learned

October 1 Route 91 Active Shooter Incident (Las Vegas)

It will still be some time before the official after action report is complete. Some of the lessons learnt that came out of my meeting with CCFD and LVMPD are:

- “Our relationship with other agencies was one of the biggest successes in this incident”
- Radio traffic was an issue
- Warm zone operations need a separate radio channel
- A fire Captain during debrief stated that when he recognised individual LVMPD officers it provided a calming effect
- This situation saw a need for mostly basic life support interventions
- MCI truck had to split its equipment between 2 triage areas

After fleeing the original scene, gunshot victims were reporting to various hotels in need of medical attention. Calls to 911 for these victims caused confusion and false reports that there were multiple shooters throughout the strip.

When comparing this to the terrorist attack at the Ariana Grande Concert in Manchester this year responders made mention that it was fortunate that rather than young teens the crowd at the Las Vegas attack had many off duty first responders and former military personnel who were quick to swing into action to help others

RTF Deployment

- On the night 16 RTF teams consisting of 4-6 police officers with 3 or more firefighter/medics were deployed
- Patients who responded were marked with orange tape, those with no response black.
- RTF teams were also deployed to retrieve many victims in surrounding hotels due to confusion that there were multiple shooters.



First Hand Accounts

I was fortunate enough during my stay to have a number of responders sit down and talk with me about this incident. I appreciate the willingness of them to do so and the “tell it how it is” attitude. The fact is that no matter what you do, no one will ever be fully prepared to respond to something of this magnitude. We can however continue to train and prepare so that if that day comes we are in a better position than previously to respond.

Battalion Chief Eric Poleski (CCFD)

Monitoring the radio from in station Chief Poleski heard Engine 11 who were on another call come up on air stating they could hear gun fire. Due to the nature of this Chief Poleski responded immediately and by the time he arrived it was confirmed there was an active shooter incident going on and crowds of people were fleeing the area.

He set up north of the incident on Las Vegas Boulevard and made contact with another battalion chief who eventually set up Unified Command south of the incident where the LVMPD call centre and CCFD station 11 happened to be situated.

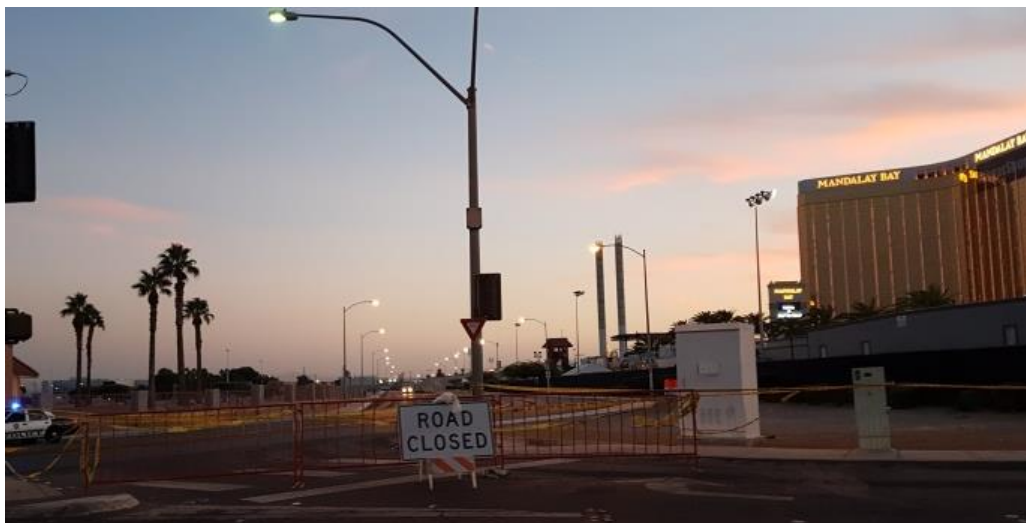
Going on his experience from previous events and drills he ensured staging considerations were made to allow a circular flow for ambulance egress and good freeway access.

Points raised about the night

- A private company EMS supervisor joined him very early on and stayed with him which was a great help with managing resources
- Once a southern branch Tac channel was set up he didn't hear from them again
- He never heard the information that the shooting was coming from an elevated position, he thought it was in the crowd
- LVMPD officers were asking early on where the unified command was set up. It took some time to get it established
- Had it been in the past emergency services would have flooded the area and congested ambulance egress paths. He feels they are getting better at not doing this now
- The comms centre was inundated. Much of the info about the incident was coming to him via his mobile phone and from other crews rather than the radio
- Chief Poleski felt that previous drills for hostile act response had helped in their response on this night
- Relationships between police and fire with crews familiar with each other from training helped
- He said LVMPD were quick to set up and provided good protection at all staging and triage areas
- Many responding appliances did not make it to the staging areas as they were being flagged down by victims
- Years ago without RTF training people more would have died within the incident

Crucial parts of Hostile Act Response

- Have a good communications set up
- Have the correct people in the command post (police, fire, EMS, security)
- Start planning resources early
- Forming relationships between police/fire/ems are very important



Paramedics Callie Fraser and Leslie Shaffer (AMR and Medic West)

Callie and Leslie were called in on the night of the shooting and told to head straight to the scene. Like most emergency responders they were stopped by victims before even making it to the staging area. They began using triage tags but gave up pretty quickly as there were just so many patients and so little time. They found themselves transporting 1 critical patient on the stretcher with 3 other patients on the bench seat. Patient's received a piece of tape with their name, injury and maybe vital signs if time allowed.

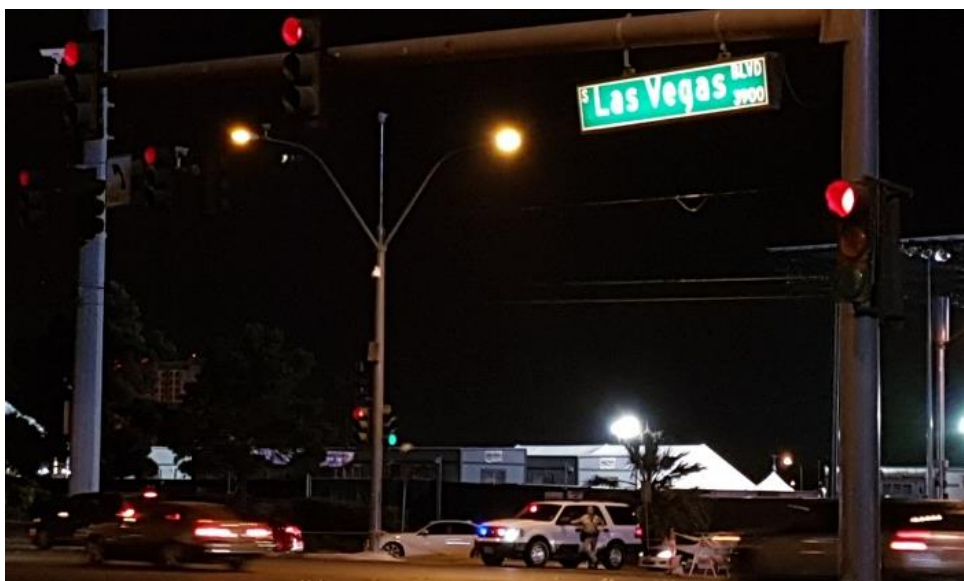
Points raised about the night

- It was not all gunshot wounds. Falls and being crushed in crowds caused injuries such as tibia and fibula fractures
- Ambulances had just 2 chest seals and 2 tourniquets which were used up very quickly
- They found they were being dispatched by mobile phones and in person from supervisors. Official radio use was kept for command
- Much of the information they got was from friends and the media.
- Paramedics and EMTs were used in hospitals to assist. A local hospital close to the event was overwhelmed and not being a trauma centre meant many patients were transported out to trauma hospitals, with buses used for walking wounded
- "RTF teams were good and nailed it"
- There was no funnel of patients. Victims scattered, so on this occasion the use of multiple Casualty Collection Points was great
- They had to be quite assertive and refuse to transport minor injuries to ensure they kept moving onto more critical patients
- They were not happy that EMS are the only responders not issued with ballistic vests and helmets
- Good debriefing and stress assistance was provided by their employers
- There was no briefing on arrival. It was assumed crews arriving knew what was happening, which was not the case
- Only victims with major injuries got IV's.
- "We didn't need any ALS vehicles on the road that night. Our whole night was spent doing BLS work, ferrying patients off to trauma centres as quickly as possible."

Crucial aspects to dealing with a Hostile MCI

- Split radio channels as your usual workload of calls unrelated to this incident will still occur
- Expect radio communications to shut down
- Knowing resources is a key part. Military surgeons were called in as they are more experienced with this type of trauma than those in the civilian setting
- Brief all oncoming crews as to the situation and any safety concerns
- **Aggressive trauma training is needed.** Civilian EMS systems generally have a different approach and not much training on basic but important skills such as tourniquets and wound packing. This type of incident calls for a completely different approach than your traditional medical response

"It's about doing the most with what you got"



LAX Active Shooter November 1, 2013

The Incident

At approximately 9:18 AM Friday 1st November 2013 a lone gunman approached a TSA checkpoint in terminal 3 of LAX and shot TSA Officer Gerardo Hernandez in the chest at point blank range with a rifle. Hernandez eventually succumbed to his injuries minutes later.

The shooter then proceeded through the concourse shooting and wounding several other victims.

By 9:20 AM police were receiving reports of the incident and by 9:25 AM airport police reported they had the suspect in custody.

In under 10 minutes the gunman had killed TSO Hernandez, injured up to 7 people (4 from gunshot wounds) and caused chaos for approximately 4500 passengers who self-evacuated and a further 20,000 passengers who were sheltered in place on aircraft and in terminals.

Although the shooting was over in minutes the response and recovery effort took up to 30 hours.

This was not the first time a shooting has occurred at LAX. In 2002 a terrorist opened fire at an airline ticket counter killing 2 people before he was killed by a security guard.

The following information is from the After Action report compiled by the Los Angeles World Airports.

The report can be found here

<https://www.lawa.org/uploadedFiles/LAX/LAWA%20T3%20After%20Action%20Report%20March%2018%202014.pdf>

After reading this report it appears the successful apprehension of the shooter can be credited to the skill and heroism of the LAWAP and LAPD officers involved in conjunction with the MACTAC training provided to them.

The report does however raise the issues of delayed establishment of a Unified Command, issues with terminology and knowledge of airport layout for LAPD and LAFD as well as communications issues.

- Observation 2 on Pg 19 'Response Operations' discusses how initially the LAPD and LAFD set up different Incident Command Posts (ICP) to that of the Los Angeles World Airports Police (LAWAP).

Unified Command was not set up until 45 minutes after the incident started which subsequently delay deployment of integrated medical teams.

- Observation 2 on Pg 19 'EMS Integration' details that the public safety review found that LAFD did not initially integrate with the LAWAP at their command post due to security concerns about its location and close proximity to the scene of the initial shooting. "This hampered the incident commander's ability to coordinate law enforcement and fire department activities related to victim extraction from the danger area."

Note: At the time of the incident the LAFD TEMS capability was still in development and not yet in effect.

UCLA Shooting 1st June 2016

Two men were killed in a murder suicide at the University of California Los Angeles (UCLA). At the time confusion led authorities to believe it was a mass shooting attempt and a huge Active Shooter response was initiated.

A key point I took away from discussing this incident with firefighters was the issues around getting the RTF set up due to confusion as to the location of the warm zone and the amount of shooters.

IRC Terrorist Attack December 2, 2015 (San Bernardino)

The Incident

The Inland Regional Centre terrorist attack was a mass shooting and attempted bombing attack that occurred on December 2, 2015 at a government building known as the Inland Regional Centre in San Bernardino California. It resulted in 14 people killed and 22 others seriously injured making it the deadliest terror attack in the US since 9/11.

It eventually came to an end after a shootout with the offenders hours after the initial attack.

The terrorists were Syed Rizwan Farook and Tashfeen Malik a married couple. Farook was a U.S.-born citizen of Pakistani descent, who worked as a health department employee. Malik was a Pakistani-born lawful permanent resident of the United States.

On the morning of the attack Farook entered a training event/Christmas party for health department employees around 8:30AM. He left the venue at approximately 10:30AM leaving behind his county employee backpack containing 3 pipe bombs inside.

Due to incorrect wiring the pipe bombs failed to detonate. When this occurred shortly before 11:00AM Farook and Malik instead began a shooting spree. They used AR15 rifles killing two people outside the building before moving inside.

The two were only on scene approximately 4 minutes before managing to evade capture and escaping. They were on the run until they were located by police and killed during a shootout later that afternoon.

Lessons Learnt

- Set up Unified Command immediately. Having supervisors from all agencies on scene and face to face early on is important to improve the outcome of any similar events
- Set up triage with egress to hospital considered. At this incident triage was established on the south side of the incident whereas the command post was located to the north. This was to ensure ambulance crews were not driving past the warm/hot zone when en route to hospital.
- Pre designate assignments. While en route the first Battalion Chief began allocating resources such as triage, treatment leader, RTF. This ensured as crews arrived on scene they were tasked and did not waste time getting set up.
- Have a public relations plan/team set up. Get all agencies on same page. After a large scale incident occurs the media and public will be asking questions and expecting answers. All agencies need to be on the same page when providing information.
- Perimeter control/force protection is highly important. During the FBI investigation the movements of the terrorist's mobile phone was mapped. It showed that on a number of occasions just after the attack the terrorists returned to areas close to the command post. It is believed this was either an attempt to detonate the unexploded pipe bombs while responders were inside or to attack the command post. In the event the initial explosion did occur it is possible that the terrorists would have opened fire on first responders responding to the bombing.
- Use appliances as safety barriers ie around triage area
- It won't always be possible to carry patients out to the triage area. Due to the location of this incident a CCP was set up on the edge of the warm zone at the rear of the building. The distance to triage provided some difficulty so it was decided to use a number of probation department pick-up trucks to ferry the wounded .

- Communicate with hospitals early to establish where to send victims.
- Things may not always be out of place. On this occasion it took some time to discover the unexploded pipe bombs as they were located in a County issued employee backpack. 5 other backpacks exactly the same were also in the room.
- Triage tags and processes are not always feasible. Initially it's advised to sort and sift patients. If they can walk they get themselves to triage, if they do not respond they are tagged black and if they are responsive but unable to self-extricate they are tagged orange.

Focus on the greatest good for the greatest amount of people

Key Points

- The first fire department response was triggered by a bullet hitting a sprinkler installation. It was fortunate that the police and fire dispatch centres were located together and police were able to notify the fire department that they were receiving reports of an active shooter at that location before the fire department had responded any crews.
- Key words are very important. San Bernardino has a fairly high crime rate and shootings are not uncommon. Therefore the term active shooter was used to raise the awareness of the crews being dispatched.
- Top military surgeons have supported a review which stated more people would have died if not for the initial treatment of casualties.

Every patient transported was discharged

Incident Facts

14 engines responded

Within 15 minutes a triage area had been established

The RTF process was adopted and teams deployed

It was fortunate that local SWAT teams were conducting active shooter training on the day of the incident which meant they were on scene with their medic fairly quickly.

Extremely difficult scene to walk into. Screams from injured people, the smell of gun powder smoke and water flowing from sprinklers.

Strike teams deployed to move up and cover city fire stations

The County issued backpack which contained the pipe bombs was the same as 5 other packs located in that room. This shows things may not always be out of place.

22 pipe bombs later recovered from the home of the terrorists

The last victim was seen to by a surgeon in Hospital just 57 minutes after the attack started .

The local media pulled Ryan Starlings details from public record, calling him each day and setting up in front of his house.

Northpark School Shooting 10th April 2017

Captain Mike Westfall of station 224 was the first officer on scene at what was reported as a shooting outside a school. It turned out to be an MCI school shooting with 3 killed and 1 injured from a domestic related murder suicide.

On arrival Capt. Westfall was met by a police officer carrying a victim. The first arriving police officers who were also members of the part time SWAT unit knew Capt. Westfall well as he had trained with the SWAT team previously as a medic. This is said to have had a calming effect on the police and upon request and due to the trust and relationship built with these police instead of taking the position of RTF Supervisor Capt. Westfall decided to enter the warm zone as leader of the RTF. This is another example of the benefits that come from building relationships with other agencies.

Pulse Nightclub Shooting June 12, 2016 (Orlando)

The Incident

On the 12th June 2016 a lone gunman entered the pulse nightclub armed with 2 firearms and began shooting.

This eventually lead to a siege which was ended a few hours later when police stormed the building killing the gunman and freeing around 30 hostages.

At the time it was the deadliest mass shooting in US history with 50 dead including the attacker and over 50 injured.

To this day it remains the deadliest US mass shooting where the gunman did not kill themselves.

The gunman is said to have pledged allegiance to ISIL although it was also considered a hate crime due to it occurring at a gay nightclub on a Latin night which drew in a mainly Hispanic crowd.

The shooting scene itself was quite unique in that there was a fire station across the street and a hospital just 1 ½ blocks away.

This information was obtained from the Keynote speech at the EMS World Expo provided by

Dr Christopher Hunter

Assistant program director of the emergency medicine residency program at Orlando Regional Medical Centre,
Associate medical director of the Orange County EMS System

Dr Hunter said it is best to consider it not as a single MCI but as multiple

- Shooting scene
- Hospital
- Family arriving

Spanning from 2 separate hostile events

- Initial active shooter
- Siege

Key Points

- Always planned and trained for the major targets such as the Disney Parks didn't really consider random non-descript nightclub
- 41 deceased at scene, 57 transported to hospital, some by police
- "Civilians are first responders we need to train them in CPR and bleeding control"
- Lots of police transports and even pick-up trucks were used
- Of the 49 fatalities there was a total of 209 wounds ranging from 1 to 13 gunshot wounds per victim

Lessons Learnt

- Victims come in waves so a processes need to ensure only the sickest go to a trauma centre
- Drills and training helped
- Usual trauma process/skillsets don't work. During MCIs basic skills and a focus on major bleeding, airways, and hypothermia are critical.
open airway, hold pressure, transport
- Orlando Regional Hospital was closed so only pulse victims could go in which worked well.
- Things that saved lives was opening operating rooms, bringing in surgeons and clearing out beds/wards/ICUs to allow for intake
- Communications with police/fire/ambulance is important. Unified Command initially had issues and didn't get set up together. Communications via radio is no good its needs to be face to face
- Human error occurs. Call centre staff are flat out. They give initial info but may not provide updates as they are too busy
- Plan for fatalities and plan for care of survivors. Need to plan for worst case scenario
- Plan for the families who will come to the scene or to hospitals to find loved ones
- Meet ambulances at door and take the patient so they can continue back to scene
- Within hospital a modified triage is key during an MCI. Loss of pulse, move on to next
- Most fatalities were not from isolated extremity wounds. Tourniquets would not have saved them. Tourniquets are good but civilian injury patterns differ to military injury patterns
- Family reunification. Plan to have them all come together and provide them information. This also helps to get them out the way of medical staff.
- Media relations are important. Know public records and privacy laws as agencies will need to be ready as the media will try everything to get the exclusive information.
- Post incident support functions are important. Crews will be working the crime scene in all weather conditions for some time with dead bodies present. Bring in the health department to assist with decontamination and disposal of equipment.
- Be prepared to see self-dispatching units and patient tracking issues.

Conclusion

A capability gap exists in Victoria and it concerns warm zone (non hazmat) operations including the extrication of victims during a hostile act.

For many years now agencies in the USA have been fine tuning a new approach to Active Shooter events with the aim to save lives. With the increased threat of terrorism these same approaches have now been tailored to meet the requirements for all hostile act response not just active shooters.

We now have an opportunity to explore new training, procedures and working relationships to better address these concerns and provide a better service to the Victorian Community.

I would like to thank the board of the Emergency Services Foundation and member organisations for this opportunity and hope that this research will help to better prepare our emergency services to respond to hostile acts.

Appendix 1

The Rescue Task Force Models

Most EMS and Fire agencies in major US cities and many other regional areas now train and deploy the Rescue Task Force model. We are seeing similar models now being developed in Vancouver Canada and London England.

Although all agencies operate a little differently the overall concept is the same, an integrated police/fire/ems team deployed to enter a warm zone to begin point of wound care and extrication of victims. Police provide force protection for paramedics and firefighters to safely operate in that environment.

| Jurisdiction | Police Compliment | Fire/EMS Compliment | Capabilities |
|-----------------------|------------------------------|--|--|
| Los Angeles City | 2 officers (minimum) | 2 FF or Paramedics | All firefighters trained, equipment on all appliances |
| Arlington County | 4 officers | 2 FF or Paramedics | All firefighters trained, equipment on all appliances |
| Fairfax County | RTF - 3 officers (2 minimum) | 3 (from fire suppression unit) | All firefighters trained, equipment on supervisor vehicles |
| San Bernardino County | Up to 4 officers | 3 (from fire suppression unit) 1 - Captain (safety/comms) 2 - FFs or FF Paramedics | All firefighters trained, equipment on all appliances |
| Las Vegas area | 4 officers (2 minimum) | 3 (from fire suppression unit) 1 Captain (safety/comms) 1 FF Paramedic 1 FF | All firefighters trained, equipment on all appliances |
| New York City | 4 officers | 5 1 Captain (EMS) 2 EMT's 3 FF | Select group trained and are on call |

Los Angeles City Fire Department (LAFD)

In LA a RTF will enter the warm zone encouraging walking wounded to self-extricate while they continue on treating patients until their supplies are exhausted. They will then begin extricating patients. Additional RTF teams will be allocated to extricate or if needed push further into the warm zone to attend to victims not attended to by the initial team.

LAFD policy states no more than 4 police and 4 fire personal will form a RTF to ensure ease of movement through the scene.

Arlington County Fire Department (ACFD)

All ACFD firefighters have undergone RTF training and equipment is carried on all appliances. A RTF is made up of crews from fire suppression vehicles to allow crews in ambulances to remain available to transport victims in ambulances.

The only ALS skill used by the RTF is needle decompression. The crews enter the warm zone and begin treating and moving through until they use all their equipment. They then begin to extricate victims starting with the most critical.

Crews now wear ballistic vests with a technical rescue type helmet. Previously crews had ballistic helmets although it was decided that as they were provided force protection by police the helmets were not needed and funding could be better spent on other vital equipment upgrades.

ACFD recently deployed a RTF to the shooting scene of congressmen at an Alexandria baseball pitch in June this year.

Fairfax County Fire & Rescue Department (FCFRD)

Initially at a Hostile Act, Fairfax County will deploy a RTF to begin treatment and triage. This team will be followed by an Extraction Task Force (ETF) which like a RTF has police providing force protection but is made up of higher numbers of fire personnel not wearing ballistic equipment.

Due to the numerous contact and RTF teams that have passed through the warm zone Fairfax believe the risk to the ETF is lessened and crews only work in the area for a short time as they extract patients. This model has been developed to increase the speed in that victims are extricated.

San Bernardino County Fire Department (SBCFD)

Just like in Las Vegas, although AMR respond alongside SBCFD the RTF teams are only deployed by the fire department.

A rescue group supervisor will oversee the operations of the primary RTF team (treatment team) and the non-primary RTF teams (evacuation teams). The role is initial patient contact, sorting and sifting, tagging and treatments involving haemorrhage control and airway management.



Las Vegas area fire departments

Although EMS response is a combined effort by private ambulance and fire departments in Las Vegas, the RTF model is only used by the fire departments. The role of private ambulance EMTs and Paramedics remains to treat in the cold zone and transport casualties.

All fire departments in the Las Vegas area train their firefighters to perform the duties of a rescue task force. All 5 fire departments operate the same so that LVMPD have greater ease working with all agencies within their jurisdiction. A MACTAC cache of ballistic helmets, vests and MCI treatment kits are kept on all frontline fire appliances

Fire Department City of New York (FDNY)

The EMS system in New York is similar to our system here in Victoria. Even though the ambulance service comes under the banner of FDNY they operate separately. EMT's and Paramedics ride the ambulances out of their own stations while firefighters are medical first responders operating only firefighting appliances. The RTF in NYC is a combination of both firefighters and EMS staff.

RTF teams were set up in NYC just over a year ago and have already been deployed to incidents such as the 2016 Chelsea bombing and an active shooter at the Bronx-Lebanon Hospital in June this year.

Under the Interagency Response Protocol the initial RTF deployed in NYC is limited to 7 FDNY personnel plus NYPD force protection. Optimal crewing is one EMS supervisor; one BLS ambulance crew and one CFR engine (chauffeur remains with appliance).

The preference is to allow crews to remain together.



A FDNY RTF on one of their first deployments to the Chelsea Bombing.

Photo source <https://www.nyunews.com/2016/09/17/breaking-explosion-in-chelsea/>

Appendix 2

TCCC/TECC

Tactical Combat Casualty Care is the standard of care in battlefield prehospital medicine. It was developed after years of research into preventable causes of death on the battlefield in Iraq and Afghanistan. It was developed to help save lives in the tactical environment and bring these lessons learnt to the civilian world.

The three most common causes of preventable death on the battlefield are

- Haemorrhage from extremity wounds
- Tension pneumothorax
- Airway problems

The TCCC Approach

- Identify preventable cause of death
- Address them aggressively
- Combine good medicine with good tactics

Objectives

- Treat casualty
- Prevent additional casualties
- Complete mission

The TCCC program is military focused and is now compulsory for all serving US military and some allied countries military forces.

Tactical Emergency Combat Care is the civilian adaption of TCCC and looks at a much wider scope of responder and patient demographics. It is based on the civilian tactical environment, whether it is an emergency service worker responding to a scene or a member of the public who has found themselves in the middle of a terrorist attack.

Both courses are very similar with the medical interventions taught the same and the phases of care similar.

Participants with no first aid experience right up to paramedics and doctors can undertake a TCCC or TECC course and are likely to learn new skills that one day may help save a life. All the skillsets are taught to the participants on the course but it will depend on an individual's qualifications and scope of practice as to what they will be able to use in the real world.

Even those well experienced in the pre hospital setting will learn a new clinical approach to tactical and Mass Casualty situations.

The courses are 2 days each and are now being used and taught internationally.

Both programs teach the MARCH Acronym for the triage and treatment process.

- M - Massive Haemorrhage
- A – Airway
- R – Respiration
- C – Circulation
- H – Hypothermia/head injury

The programs teach the following, all in a tactical setting

- Haemorrhage control
- Surgical airway control and needle decompression
- Strategies for treating wounded responders in threatening environments
- Techniques for dragging and carrying victims to safety
- Situation awareness
- Shock recognition and treatment
- IV Access
- Fluid Resus
- Basic Pharmacology
- Eye Injuries
- Splinting
- Burns
- Hypothermia
- Traumatic Brain Injuries
- RTF and CCP procedures
- Prolonged field care considerations

| Terminology Differences for Phases of Care | |
|--|----------------------|
| TCCC | TECC |
| Care Under Fire | Direct Threat Care |
| Tactical Field Care | Indirect Threat Care |
| Tactical Evacuation Care | Evacuation |

Appendix 3

Community Emergency Response Team (CERT)

The CERT program was created by the LAFD in 1987 and has since been adopted by FEMA. It promotes a partnership between the emergency services and the community. The program trains volunteers in the community to help family/friends/community in the event of an overwhelmed/delayed response from the emergency services.

The benefit of this training means that in the event of a major disaster (either natural or hostile event) members of the community will be more self-sufficient and able to provide themselves and their community with some basic skills until emergency services are able to arrive.

Training for this program is for persons 18 years of age and over and goes for a total of 17 ½ hours.

All who complete the program are provided some basic equipment to assist them and make them easily identifiable to emergency services. Some can choose to undertake extra training to drive fire department vehicles (non-emergency).

Training areas include

- Disaster preparedness
- Disaster fire suppression
- Disaster medical operations
- Patient Assessment
- Light Search and Rescue
- Disaster Psychology
- Terrorism awareness
- Isolation of gas and electricity services



Packs provided to all trained CERT volunteers



All volunteers receive a guide for reference

On the day I spent with the LAFD I witnessed CERT volunteers being used as a visible deterrent to patrol high risk areas for brush fires and also as a support unit driving around handing out water and assisting crowds as they made their way to the Dodger Stadium for the World Series game.