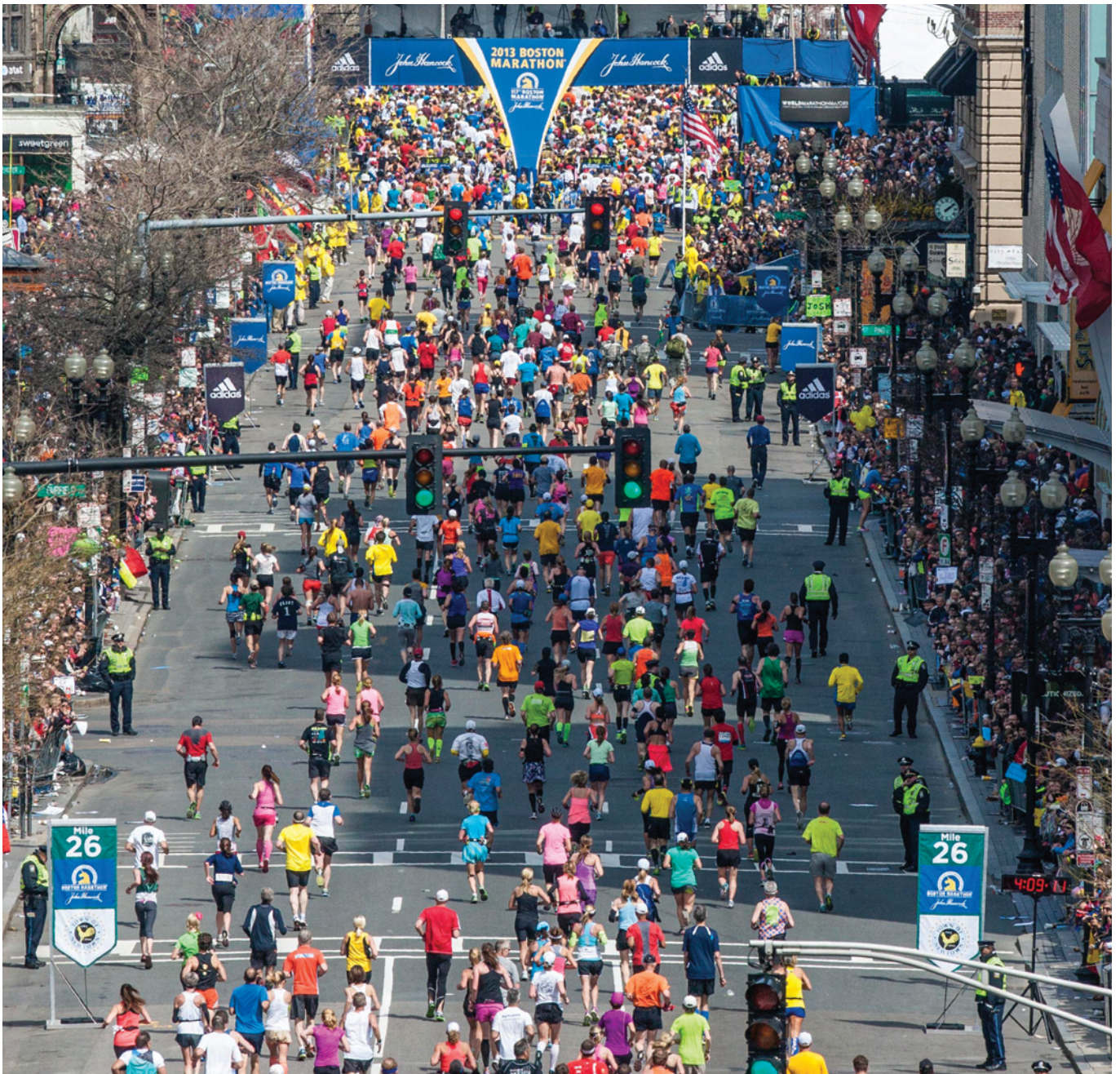




After Action Report for the Response to the 2013 Boston Marathon Bombings



December 2014

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EXECUTIVE SUMMARY

The *After Action Report for the Response to the 2013 Boston Marathon Bombings* reflects the findings of an after action review of response and recovery activities of public safety, public health, and medical personnel related to the April 15 bombings, the care and support of those impacted by the events in the following days, and the search and apprehension of the bombing suspects. The after action review was coordinated by a multi-disciplinary, multi-jurisdictional project management team consisting of key organizations involved in response activities, with the support of a private sector, third-party vendor.

This report details best practices, lessons learned and recommendations for the purpose of assisting public safety, public health, and medical personnel involved in the response in further developing actions that went well, and taking corrective measures to address areas needing improvement. The majority of these agencies and organizations implemented a number of the recommendations identified in this report prior to the 2014 Boston Marathon.

In addition to providing assistance to response agencies and organizations, the best practices and lessons learned identified through this after action process can hopefully provide insight to other agencies, jurisdictions and organizations across the nation and assist them in better preparing for potential incidents in the future.

Key Events

The Boston Marathon, unlike other large city marathon courses that run circuitously within a single jurisdiction, is a straight-line course that crosses eight cities and towns: Hopkinton, Ashland, Framingham, Natick, Wellesley, Newton, Brookline, and Boston. To ensure streamlined coordination among the many federal, state, and local public safety, public health and emergency medical services (EMS) personnel and the Boston Athletic Association (BAA), comprehensive, multi-jurisdictional, multi-disciplinary planning is conducted each year, beginning in January. This annual planning concludes with a tabletop exercise in which each of these partners participates to work through the coordination of response activities to several Marathon-specific public safety and medical scenarios. A significant byproduct of this planning process and exercise participation is the networking and relationship-building among public safety, public health and medical partners.

A significant planning component for the 2013 Boston Marathon was the enhancement of the medical system supporting the race. Under the leadership of the BAA, the medical system consisted of 26 medical tents along the course (including eight enhanced medical tents) and two medical tents at the Finish Line (Alpha Medical Tent and Beta Medical Tent). Alpha Medical

Tent was the medical tent located closest to the bombings.¹ This medical system was designed to have sufficient capabilities and capacity to handle an increased number of patients so as not to overburden area hospitals with non-critical patients.

On April 15, 2013, 80 representatives from state and local law enforcement, fire services and EMS, the BAA, the Massachusetts Emergency Management Agency (MEMA), the Massachusetts Department of Public Health (MDPH), the Massachusetts National Guard (MANG), the American Red Cross (ARC), the Federal Bureau of Investigation (FBI), and the Department of Homeland Security (DHS) staffed the Multi-Agency Coordination Center (MACC) at MEMA Headquarters in Framingham. The purpose of the MACC was to coordinate public safety, public health and EMS activities across the jurisdictions, and provide situational awareness. In addition to the MACC, various state and local coordination and operations centers were also activated, including: the Massachusetts Department of Public Health (MDPH) Department Operations Center (DOC), the Boston Police Department's (BPD) Law Enforcement Coordination Center (LECC), and the Boston Public Health Commission's (BPHC) Medical Intelligence Center (MIC).²

At 2:49 p.m. the first of two bombs was detonated at 671 Boylston Street; the second bomb was detonated thirteen seconds later 180 yards up course at 755 Boylston Street. It was later determined that explosions were caused by homemade improvised explosive devices (IEDs) hidden in backpacks and placed on the ground level in these viewing areas just seconds before they were detonated. The explosions took the lives of three individuals and injured 264 spectators—many critically, with 16 survivors suffering traumatic amputations.

Following the explosions on Boylston Street, emergency responders (police, fire and EMS), BAA medical volunteers from Alpha Medical Tent, and numerous spectators and bystanders quickly responded to the critically injured, triaging their injuries and facilitating their transport to area hospitals. The hospitals that received patients rendered life-saving medical care; as a result, every patient that was transported to a hospital from the scene survived.

Unified Command began to form moments after the explosions when senior law enforcement and emergency management officials came together on Boylston Street and immediately began coordinating priorities. Less than 40 minutes following the explosions, UC shifted operations to a Unified Command Center (UCC) established at the nearby Westin Hotel. The UC would ultimately include the Governor, Mayor of Boston, Secretary of the Executive Office of Public

¹ The 2012 Boston Marathon took place on an unseasonably warm day with temperatures above 90 degrees, and resulted in a large surge of patients with heat-related injuries. The approach to the 2013 Boston Marathon was intended to build capabilities to adequately handle a similar surge of patients directly on the course as opposed to transporting patients to area hospitals.

² The LECC was called the Unified Command Center at the time and was renamed to the Law Enforcement Coordination Center in 2014. To avoid confusion with the Unified Command Center that was activated at the Westin Hotel following the bombings, this facility will be referred to as the LECC throughout this report.

Safety and Security (EOPSS), MEMA Director, Massachusetts State Police (MSP) Superintendent, BPD Commissioner, Boston Fire Department (BFD) Commissioner, Boston Emergency Medical Services (Boston EMS) Chief, Director of the Mayor's Office of Emergency Management (OEM), MANG Adjutant General, Massachusetts Bay Transportation Authority (MBTA) Transit Police Department (Transit PD) Chief, and FBI Boston Special Agent in Charge (SAC). The UC made decisions on initial law enforcement response and investigation issues, including securing the crime scene, determining the extent of the ongoing threat, and protecting critical infrastructure, as well as managing the runners evacuated off the course. The UCC remained operational until Tuesday, April 16, 2013.

The UCC carefully crafted coordinated messages to provide periodic updates to the public. On the day of the bombing, four formal press conferences were convened to provide information to the public on the incident, explain what public safety officials were doing in response to the bombings, and ultimately, request photographs or video from the public taken before, during or after the bombings.

In the days that followed, a significant amount of coordination continued in support of law enforcement activities and the provision of mental health and human services to survivors, the families of the deceased, the runners, and other individuals who were greatly impacted by the incident. Local and state law enforcement worked with the FBI to secure and process the crime scene, respond to increased calls for suspicious activity and suspicious packages, and conduct the investigation. The City of Boston opened a reunification center at the Castle at Park Plaza facility (Castle) to assist affected individuals and runners. Over the course of its operation, the Castle provided services to an estimated 1,500 individuals.

On April 17, the President issued an emergency declaration for the incident.

On the morning of April 18, an interfaith service lead by the President, Governor and Mayor was held at the Cathedral of the Holy Cross in Boston.

On the evening of Thursday, April 18, the FBI publicly released photographs of the two suspects during a press conference. The FBI SAC provided a description of the two suspects, asked for the public to provide information on the suspects' identity and whereabouts, and cautioned the public that the suspects may be heavily armed and should be considered extremely dangerous. Thousands of tips and information poured into the FBI.

That night, around 10:28 p.m., Officer Sean Collier of the Massachusetts Institute of Technology (MIT) Police Department was fatally shot as he sat on patrol in his marked police vehicle on the MIT campus in Cambridge.

At 11:20 p.m., a Mercedes sport utility vehicle (SUV) was carjacked in the Allston neighborhood of Boston. The vehicle's owner was held captive in the car for nearly an hour as the two perpetrators drove around the area. On Friday, April 19 at approximately 12:19 a.m., the victim successfully fled his captors and called 911 when they stopped at a gas station on Memorial Drive in Cambridge. While being interviewed by Cambridge Police Department (Cambridge PD), the victim relayed that his captors may have been involved with the Boston Marathon bombings, based on conversations he had overheard between them.

While the interview was ongoing and before the connection between the carjacking suspects and the Boston Marathon bombings was made, police officials were able to locate the vehicle in nearby Watertown using the vehicle's GPS anti-theft system. At 12:41 a.m., Cambridge PD contacted Watertown PD to inform them of the location of the carjacked SUV. A Watertown officer responded to the location and quickly identified the vehicle. Before the officer could approach the vehicle, the first suspect exited the SUV and began shooting at the officer. As a second officer arrived on scene, a second suspect joined the first, launching homemade IEDs.

A firefight ensued between the suspects and responding officers. As the shooting continued, additional officers arrived on scene from Watertown, BPD, MSP, Cambridge PD, and Transit PD. Over 200 rounds of ammunition were expended between the two sides. In the course of the firefight, the first suspect was wounded. When he ran out of ammunition, he threw his gun and charged at a Watertown officer who subsequently wrestled him to the ground in the street. Meanwhile, the second suspect was able to enter the SUV and put the vehicle in gear. While fleeing the scene in the stolen vehicle, he struck the first suspect and dragged him a short distance with the vehicle, compounding his injuries.

As the second suspect fled the scene, a responding officer from the Transit PD was shot and critically wounded. The officer was transported to Mount Auburn Hospital, where medical professionals resuscitated him and performed life-saving surgery.

The first suspect was transported to Beth Israel Deaconess Hospital, where attempts were made to resuscitate him. He was pronounced dead a short time later. Fingerprints taken at the hospital identified the suspect as Tamerlan Tsarnaev. Law enforcement officials were then able to identify Dzhokhar Tsarnaev, Tamerlan's brother, as the second suspect.

The stolen SUV was located a half-mile down the street from the firefight, and it became clear that the suspect had fled on foot. A perimeter was established in the area where the suspect was believed to be located.

A Unified Command (UC) was formed to manage strategic decision-making.³ The UC gathered

³ UC included the Governor, EOPSS Secretary, Mayor of Boston, Executives from Watertown PD, BPD, Cambridge PD, Transit PD, MSP, MANG, MEMA and the FBI.

in the parking lot of the Arsenal Mall in Watertown, which would later also serve as the staging area for incoming mutual aid law enforcement. In the early morning hours, a shelter-in-place request was issued to the Town of Watertown, with notifications made through *WatertownALERT*, the Town's emergency notification system.

The UC requested that tactical law enforcement commanders develop a grid search plan to conduct house-to-house searches within the secured perimeter. Interagency, inter-jurisdictional Specialized Weapons and Tactics (SWAT) teams were deployed to support this mission.

As the hours continued and the suspect remained at large, the UC made decisions to suspend all service on the MBTA transit system, and to expand the shelter-in-place request to include Newton, Waltham, Belmont, Cambridge, and Boston, as well as Watertown. These decisions were communicated at a 5:45 a.m. press conference, as well as through several local and state public alerting tools.⁴

The shelter-in-place request had cascading effects on area hospitals, including impacts on staff shift changes, discharge of patients, and delivery of critical supplies. MDPH coordinated with BPHC and law enforcement to address inquiries received from hospitals and other healthcare venues, and issued clarifying information to hospitals through various platforms.⁵

Thousands of law enforcement officers arrived in Watertown from across Massachusetts, other New England states, and New York. Many of these law enforcement officers did not come in response to a mutual aid request, but self-deployed to the area once it became widely known that one of the Marathon bombing suspects was at large in the town. These officers staged at the parking lot of the Arsenal Mall in Watertown; although officers received basic logistical support, including food, water, and toileting, few were provided oversight, situational awareness, or guidance. While most officers did not deploy into the field from the staging area on their own, there were a significant number of occasions when officers responded based on information or calls they heard on their radios, at times placing themselves and the officers with the authority to respond at risk.

A Joint Information Center (JIC) was not established to support the events of the day. Although the coordination with the media who had arrived on scene seeking to capture the live, real-time footage of the investigation as it unfolded was well-coordinated, the management of information relayed through social media was not. Messages provided through various organizations' social media platforms were at times erroneous and in contrast to one another.

As the house-to-house search began to near its conclusion, law enforcement officials became increasingly concerned that the suspect had escaped the area. If the suspect were no longer in the

⁴ Notification systems included *WatertownALERT*, *ALERTBoston*, *ping4alerts!*, and the *Health and Homeland Alert Network (HHAN)*.

⁵ *WebEOC*, *HHAN*

area, the shelter-in-place request would put unnecessary burdens on residents and businesses in the affected communities. Given these circumstances, the UC decided to lift the shelter-in-place request and resume MBTA transit service. The Governor announced these decisions at a 6:03 p.m. press conference, thanked the public for their cooperation, and cautioned them to remain vigilant, asking individuals to report any suspicious activity to law enforcement.

At 6:42 p.m., Watertown PD received a 911 call from a resident reporting a sighting of the suspect in a winterized boat parked in his yard at 67 Franklin Street. Officers immediately responded to the home. The first officers on scene requested support from tactical teams and EOD units. A large number of law enforcement officers self-deployed to the scene after overhearing radio traffic about the location of the suspect. Within moments, more than 100 officers had gathered in front of and behind the home.

Several moments later, a responding officer fired his weapon without appropriate authority in response to perceived movement in the boat. Other officers then opened fire on the boat under the assumption the initial shot was fired at them by the suspect. Shooting continued for several seconds until a senior officer ordered a ceasefire.

After the MSP Airwing's infrared camera confirmed that the suspect was alive, law enforcement officials made several attempts to coerce the suspect from the boat. After a nearly two-hour standoff, at 8:41 p.m., the suspect emerged from the boat. He was arrested and transported by ambulance under heavy guard to Beth Israel Deaconess Medical Center. A press conference was held announcing the capture of the suspect.

On the evening of Monday, April 22, a ceremony was held to mark the FBI's returning of control of Boylston Street to the City of Boston. Under the leadership of Boston OEM, the City worked through the night and into the next day to restore the area. On Tuesday, residents and businesses were provided access to the area. That evening, a private ceremony for survivors, their families, and the families of the victims was held at the two bombing sites. At 3:00 a.m., Wednesday, April 24, Boylston Street was re-opened to the public.

Following the Presidential Emergency Declaration on April 17, MEMA coordinated with the impacted communities and FEMA over the next several months to implement the federal Public Assistance Program, seeking millions of dollars in reimbursements for eligible activities associated with the responses to the incidents of the week.⁶

⁶ The Public Assistance program was activated when the President issued the Emergency Declaration; under the Stafford Act, the PA program allows eligible public and private nonprofit organizations to receive 75% reimbursement for FEMA-approved response activities occurring from April 15 through April 22, 2013.

The Findings

A number of best practices and lessons learned were identified during the after action review process. Highlighted below are several key best practices and areas for improvement contained in the report. It is important to note that public safety, public health, EMS, and healthcare partners have been working collaboratively since the day of the bombings to address areas needing improvement, and many corrective action measures were implemented prior to the 2014 Boston Marathon.

Key Best Practices

- **Strong Relationships and Successful Unified Command.** Strong relationships created and maintained by key leaders were paramount to ensuring commanders, agency heads, and political leaders came together quickly to form Unified Command and facilitate collaborative decision-making after the bombings in Boston and during the manhunt in Watertown. Key leaders had the necessary trust and rapport that allowed for Unified Command to make effective, collaborative decisions, execute mission-tasking, maintain situational awareness, and coordinate public messaging. These relationships also contributed to leadership knowing where to obtain resources, whom to task with missions, how to mobilize mutual aid, how to coordinate communications, and effectively make bold decisions such as suspending transit service and issuing a shelter-in-place request.
- **All-Hazards Medical System for Marathon Day.** The all-hazards medical system in place on Marathon Day ensured that the capabilities and capacity to quickly triage and transport the injured from the scene of the incident were immediately available. Under the leadership of the BAA, an enhanced, all-hazards medical system was put in place for Marathon Day with the intent of taking pressure off the area hospital system by minimizing the number of patients who needed to be transported to hospitals.

On the day of the bombings, medical personnel supporting Alpha Medical Tent near the Finish Line immediately transitioned to a mass casualty response. They established triage and treatment groups and designated the tent as a casualty collection point. All critically injured patients were transported to area hospitals within 50 minutes. Although many patients sustained grave injuries, every patient who was transported to area hospitals survived.⁷ This can be directly attributed to the rapid triage, transport and treatment these patients received on scene and at hospitals.

- **Well-Planned and Organized Re-Opening of Boylston Street.** The City had to await the conclusion of the FBI's evidence collection and crime scene processing before it could begin work

⁷ Injuries included traumatic amputation, shrapnel wounds, burns, head trauma and hearing loss. The three individuals who lost their lives immediately died at the scene as the result of their injuries.

to restore and reopen this vital economic and social area. The restoration of Boylston Street required extensive cleaning, debris removal and rebuilding. Because the City would have very short notice as to when the area would be accessible to them, a great degree of planning and preparation was required. The Mayor assigned the responsibility for planning the re-opening of Boylston Street to Boston OEM, and tasked all other City departments to support this critical mission. The restoration of Boylston Street was extremely organized; residents and proprietors were able to access their homes and businesses within 18 hours after the area was released to the City and the street was re-opened to the public in less than 36 hours. The ability to restore and reopen Boylston Street so quickly after the area was released back to the City by the FBI is a testament to the strong planning undertaken by the City.

Key Areas for Improvement

- **Lack of Coordination and Management of Mutual Aid within the Watertown Incident.**

Throughout the day on Friday, April 19, over 2,500 law enforcement officers converged onto the staging area at the Arsenal Mall and surrounding neighborhoods in Watertown. Officers that were requested as mutual aid assets were properly folded into the operation. However, a significant portion of the officers that arrived in Watertown had self-deployed.

There was no command or management structure formally assigned to manage incoming mutual aid personnel. Officers were not assigned roles within the operation or provided briefings on the situation or command structure. This caused logistical issues, command and control issues, and officer safety issues.

- **Lack of Weapons Discipline.** Weapons discipline was lacking by the multitude of law enforcement officers in the field during both the firefight with the two suspects near Dexter and Laurel Streets, and the standoff with the second suspect who was hiding in a winterized boat in a residential back yard. Although initial responding officers practiced appropriate weapons discipline while they were engaged in the firefight with the suspects, additional officers arriving on scene near the conclusion of the firefight fired weapons toward the vicinity of the suspects, without necessarily having identified and lined up their target or appropriately aimed their weapons. Officers lining both sides of the street also fired upon the second suspect as he fled the scene in a vehicle.

Shortly after the firefight, an unmarked MSP black pickup truck was erroneously reported as stolen. This vehicle, with two occupants in it, was then spotted driving on Adams Street, near the scene of the shootout, and fired upon by an officer. Upon further inspection, it was determined that the occupants of the vehicle were a BPD officer and MSP trooper in plain clothes, both of whom were unhurt.

Weapons discipline was again an issue during the operation to capture the second suspect who was hiding in a boat parked in a residential backyard. An officer fired his weapon without

appropriate authority in response to perceived movement in the boat, in turn causing many officers to fire at the boat in the belief that they were being shot at by the suspect. Each of these incidents created dangerous crossfire situations.

- **Lack of a Joint Information Center.** The need to utilize a Joint Information Center (JIC) was evident during all phases of the week. While the UCC worked together to coordinate messages and host press conferences on the day of the bombings and the day the suspects were apprehended, a JIC would have better supported the management of the media requests necessitated by a 24/7 news cycle throughout the course of the week.

After the UCC stood down on Tuesday morning, public messaging became less coordinated. Agencies and organizations, which still had a need to provide public information, pushed out information over the remaining course of the week without having fully vetted and/or coordinated the messaging with one another. At times, this led to conflicting information in the domain of the media.

On the day of the search for the at large Boston Marathon bombing suspect, information was well coordinated when provided through press conferences, but various agencies utilized social media to provide information. In contrast to the press conferences, there was no coordination or validation of messages delivered by numerous agencies and organizations through social media. This led to some misleading or incorrect information being widely distributed through social media outlets.

Overall, the response to the Boston Marathon bombings must be considered a great success. All the patients who were transported to the hospitals survived—a credit to the emergency medical system, the swift triage and transport of the most critical patients, and the care they received at area hospitals.⁸ Throughout the week, police agencies worked together incredibly well, coordinating resources, assets, and sharing information. The suspects were identified and apprehended within five days, which can be directly attributed to this cooperation and coordination among local, state, and federal law enforcement agencies. Comprehensive mental health and human services were provided not only to survivors and their families, but also to any member of the public who had been impacted by the events. Boylston Street was re-opened to the public only nine days after the bombings.

The community that makes up the Greater Boston area has re-defined the events of that difficult week. The acts of cowardice rendered by two individuals have been surpassed with acts of valor, highlighting the community's tenacity and resilient spirit. The community's response to these tragedies has been recognized worldwide as STRONG.

⁸ The three individuals who lost their lives immediately died at the scene as the result of their injuries.

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Acknowledgements

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Cambridge Police Department

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Massachusetts Commonwealth Fusion Center

Massachusetts Department of Fire Services

Massachusetts Department of Mental Health

Massachusetts Department of Public Health

Massachusetts Emergency Management Agency

Massachusetts National Guard

Massachusetts State Police

Massachusetts State 911 Department

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Office of the Mayor

Boston Centers for Youth and Families

Boston Emergency Medical Services

Boston Fire Department

Boston Regional Intelligence Center

Boston Police Department

Boston Public Health Commission

Boston Transportation Department

Department of Neighborhood Development

Environment, Energy, and Open Space

Inspectional Services Department

Mayor's Office of New Urban Mechanics

Office of Constituent Services

Office of Emergency Management

Public Works Department

EasCare, LLC

Fallon Ambulance

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Boston Children's Hospital

Boston Medical Center

Brigham and Women's Hospital

Massachusetts General Hospital

Mount Auburn Hospital

Newton-Wellesley Hospital

Tufts Medical Center

Massachusetts Institute of Technology Police Department

Metropolitan Law Enforcement Council

North Eastern Massachusetts Law Enforcement Council

Pro EMS

Watertown Police Department

A special thank you to Jay Connor, the Boston Athletic Association, the City of Boston, the Massachusetts State Police, the Massachusetts Emergency Management Agency and MBTA Transit Police for providing the photos for this report.

INTRODUCTION

APRIL 15, 2013 WAS A PERFECT DAY FOR RUNNING. The air was cool, the sun was shining, and the complex logistics supporting the 117th Boston Marathon were operating smoothly. Every participant, be they mobility impaired, wheelchair racer, hand-cyclist, or runner, made their way to the Start Line with the emotions that are typically part of Marathon Day: excitement, nervousness and a heartening spirit of perseverance. By 11:00 a.m., all 27,000 runners were on the course; by 12:36 p.m., the winners for each race category had been declared.

The heart of the Boston Marathon is not about the winners; it is about the less renowned runners who seek their own personal victories as they make their way to Boston; it is about the hundreds of thousands of spectators who flock to the course to cheer them on; it is about the spirit of community, and commitment, and sacrifice so well reflected in the Patriots' Day holiday on which the Marathon takes place each year. The heart of the Boston Marathon is why so many people were still on the sidelines cheering on runners as they reached the Finish Line in the afternoon hours of April 15.

At 2:49 p.m., the race was forever changed. Two homemade improvised explosive devices (IEDs) were detonated on Boylston Street in two separate locations near the Finish Line. These explosions took the lives of three spectators: eight-year-old Martin Richard, 29-year-old Krystle Campbell, and 23-year old Lu Lingzi. An additional 264 spectators were injured, many critically.

This tragic event initiated a week-long response of the public safety, public health, and medical communities, which culminated in the death of one suspect, and the capture of another. In spite of the malevolence of the perpetrators of these actions, countless extraordinary acts of heroism, bravery and community triumphed.

Purpose

The purpose of this report is to describe the events related to response to the Boston Marathon Bombings and associated incidents; constructively evaluate and assess the public safety, public health, and medical response actions; and identify the unique issues and challenges faced by the responders during the week of April 15, 2013, with the goal of providing agencies and organizations involved in the incident with practical recommendations to address them.

Scope

The *After Action Report for the Response to the 2013 Boston Marathon Bombings* is the culmination of a review of the multi-disciplinary, multi-jurisdictional response, recovery and coordination

activities of public safety, public health, emergency medical services (EMS), and healthcare agencies and organizations. The report focuses on the following five key areas:

- Race Day preparation and planning;
- Initial response to the April 15 bombings (Day 1);
- On-going response activities (Days 2-4);
- Apprehension of the suspects (Day 5); and
- Recovery efforts.

The review process did not include an assessment of activities related to the investigation of crimes associated with these events, nor did it include intelligence sharing activities before, during or after the events. Rather, this report provides an overview of the incidents that occurred during the week of April 15, 2013; discusses the response activities of the public safety, public health, EMS, and healthcare communities during that timeframe; and details both best practices and areas needing improvement as identified through the review process.

Methodology

The *After Action Report for the Response to the 2013 Boston Marathon Bombings* was guided and developed by a multi-agency, multi-disciplinary Project Management Team (PMT) chaired by the Massachusetts Emergency Management Agency (MEMA) and comprised of senior representatives from the Massachusetts State Police (MSP), Massachusetts Bay Transportation Authority (MBTA) Transit Police Department (Transit PD), Massachusetts Department of Public Health (MDPH), Massachusetts National Guard (MANG), City of Boston Mayor's Office of Emergency Management (OEM), Cambridge Police Department (Cambridge PD), and Watertown Police Department (Watertown PD). The PMT contracted with the TriData Division of Systems Planning Corporation to assist with the review.

To obtain as much understanding as possible on the true depth and breadth of preparedness, response, and recovery actions, TriData interviewed more than 150 individuals.⁹ Interviews were conducted with the following individuals and organizations:

- Governor Deval Patrick, Commonwealth of Massachusetts
- Mayor Thomas Menino, City of Boston
- Unified Command members
- State, regional and local law enforcement
- State, local and private emergency medical services
- Federal, state and local public health

⁹ These interviews were primarily conducted in small groups organized by discipline or role. A small number of executive interviews were conducted one-on-one.

- State and local emergency management
- Massachusetts National Guard
- State, local and nonprofit human services agencies
- Healthcare administrators and medical personnel
- Boston Athletic Association

The assessment process also included a review of pertinent plans, reports, and documentation.

Organization of the Report

The report is organized into the following sections:

- **Executive Summary**
- **Introduction**
- **Section 1: Incident Timeline**, which chronologically lists key events related to the Marathon bombings beginning on April 15, 2013 at 7:00 a.m. through April 24, 2013;
- **Section 2: Overview of Incidents**, which provides a narrative detailing of the incidents and response and recovery activities that took place during the week of April 15, 2013.
- **Section 3: Analysis of Capabilities**, which provides an analysis of the actions and capabilities of responding agencies and organizations, and identifies best practices, areas requiring improvement, and associated recommendations to address these areas. Where applicable, the associated Public Health Preparedness and/or Healthcare Preparedness Program (PHEP/HPP) capability is identified.

SECTION 1

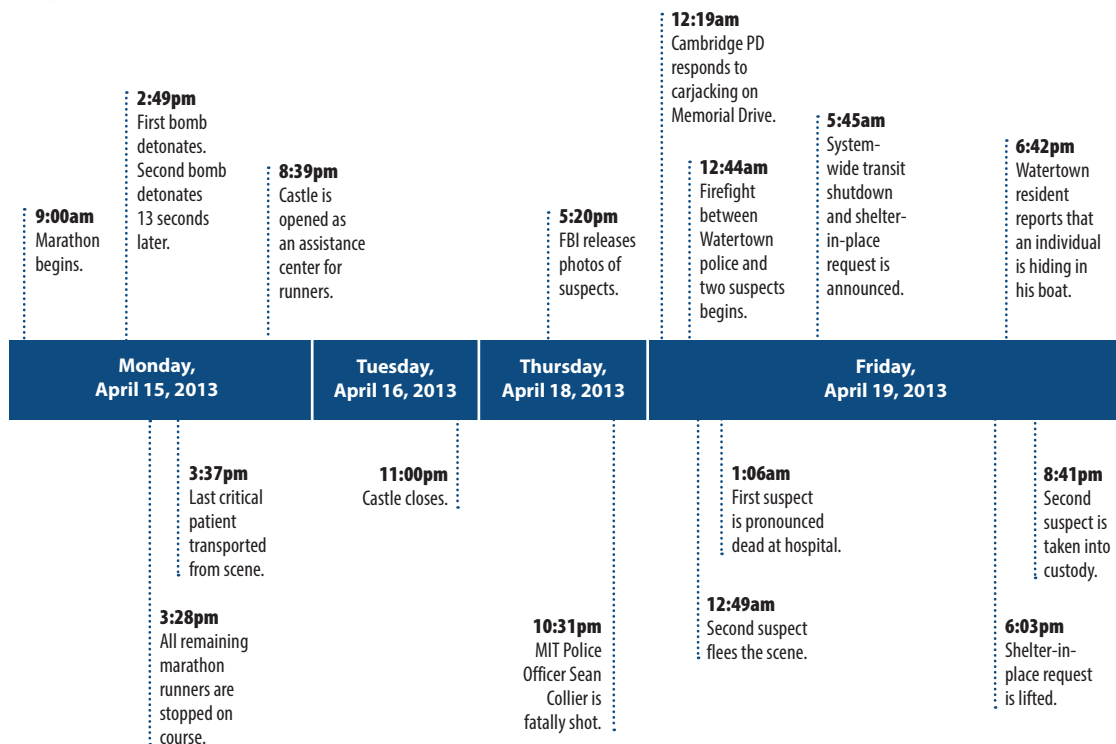
INCIDENT TIMELINE

THIS SECTION DETAILS THE TIMES OF KEY EVENTS related to the Boston Marathon (Marathon) bombings. The events included in this timeline were selected by the After Action Project Management Team as those that were most significant from a public safety and health perspective and would provide a condensed chronology of the incidents that took place throughout the week.

The timeline focuses on the actions of four disciplines: command, law enforcement, emergency medical and medical services, and human services. It provides an indication of the complexity of the events that unfolded, the coordination of decisions being made, and activities of over 20 agencies that often were proceeding simultaneously on parallel tracks.

Every effort was made to be as accurate as possible with timestamps; however, many timestamps are approximate, having been pulled from various sources.

Major Events Timeline



MONDAY, APRIL 15, 2013

-
- 7:00 a.m.** Multi-Agency Command Center (MACC) is activated with partial staffing at the Massachusetts Emergency Management Agency (MEMA) Headquarters in Framingham.
- Massachusetts Department of Public Health (MDPH) Department Operations Center (DOC) opens and is operational by 8:00 a.m.
-
- 8:00 a.m.** The City of Boston (the City) Law Enforcement Coordination Center (LECC) is operational at Boston Police Department (BPD) Headquarters, with representatives of BPD command staff, Boston Fire Department (BFD), Boston Emergency Medical Services (Boston EMS), Massachusetts Bay Transit Authority (MBTA) Transit Police (Transit PD), Massachusetts State Police (MSP), and Boston Regional Intelligence Center (BRIC).¹⁰
- MDPH staff arrive at their assigned medical tents along the route to provide situational awareness.
-
- 8:10 a.m.** MDPH conducts bed counts for Boston-area hospitals through the MDPH WebEOC.¹¹ Boston Medical Intelligence Center (MIC) is operational.
-
- 9:00 a.m.** The Marathon begins in Hopkinton with mobility-impaired athletes starting down the course, followed by wheelchairs (9:17), hand-cycles (9:22), elite women (9:32), elite men and Wave 1 of 9,000 runners (10:00), Wave 2 of 9,000 runners (10:20) and Wave 3 of 9,000 runners (10:40).
- MACC is fully operational, staffed with more than 80 personnel representing police and fire departments from Hopkinton, Ashland, Framingham, Natick, Wellesley, Newton, Brookline and Boston, MEMA, MSP, MBTA Transit PD, Commonwealth Fusion Center (CFC), Massachusetts Department of Fire Services (DFS), Massachusetts Department of Transportation (MassDOT), MDPH, MDPH Office of Emergency Medical Services (OEMS), Massachusetts National Guard (MANG), Office of Technology and Information Services (OTIS), American Red Cross (ARC), AMR Ambulance, Cataldo Ambulance, Fallon Ambulance, Boston EMS, the Boston Athletic Association (BAA), the US Department of Homeland Security (DHS), the Federal Bureau of Investigation (FBI), the Federal Aviation Administration (FAA), the Federal Emergency Management Agency (FEMA), the National Weather Service, and Amateur Radio.
-
- 10:45 a.m.** MDPH staff arrive at Newton Wellesley Hospital and the medical tents at the Finish Line to provide situational awareness.
-
- 11:00 a.m.** MDPH conducts initial pre-planned conference call with hospitals to check in and provide situational awareness.
- Approximately 27,000 runners are now on the Marathon course.
-
- 11:05 a.m.** Start of Red Sox game at Fenway Park in the Kenmore Square area of Boston.
-
- 12:00 p.m.** MDPH conducts initial pre-planned conference call with staff in medical tents along the route to obtain situational awareness regarding the level of activity in the tents related to providing support to injured runners.
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¹⁰ The LECC was called the Unified Command Center at the time, and was renamed to the Law Enforcement Coordination Center in 2014. To avoid confusion with the Unified Command Center that was activated at the Westin Hotel following the bombings, this facility will be referred to as the LECC throughout this report.

¹¹ WebEOC is an online information-sharing tool used by many public safety partners. On the day of the 2013 Boston Marathon, the MACC used the Massachusetts Emergency Management Agency (WebEOC) system and the MDPH WebEOC system. These systems were integrated for Marathon Day.

12:36 p.m.	Elite runners have finished the race; winners are declared.
1:00 p.m.	Updated hospital bed count is conducted by MDPH.
1:32 p.m.	Roads re-open in Hopkinton, Ashland, Framingham and Natick.
2:00 p.m.	MDPH conducts another pre-planned conference call with route hospitals to check in and provide situational awareness.
2:08 p.m.	Red Sox game ends.
2:24 p.m.	Course medical stations 1 through 8 are closed.
2:49 p.m.	The first bomb detonates in front of 671 Boylston Street (Marathon Sports store) near the Finish Line. The second bomb detonates 13 seconds later in front of 755 Boylston Street (Forum restaurant), approximately 180 yards up the course from the first bombing site. There are reports of multiple injuries. Triage and treatment start immediately at both explosion sites by nearby fire, police, EMS, medical personnel, and bystanders, who rush to help the injured.
2:50 p.m.	Multiple radio transmissions from BPD, BFD, Boston EMS and MSP begin to transmit over the airwaves. Alerts start coming into the MACC from field personnel including fire, police, public health, emergency medical services (EMS) and other agencies through radio networks, phone calls, and emails. Available information is immediately shared with respective chains of command.
2:51 p.m.	The BRIC shares situational awareness information about the explosions to its intelligence distribution list, which includes local, state and federal law enforcement agencies.
2:52 p.m.	BPD Explosive Ordnance Disposal (EOD) Teams, BPD Special Weapons and Tactics (SWAT) Teams, Cambridge PD EOD Teams, Cambridge PD SWAT teams, MBTA Transit PD and MSP EOD Teams, SWAT Teams, and Airwing units are deployed. The BRIC issues first of what will be 61 alerts for suspicious packages over the next five hours, which are ultimately checked and cleared by law enforcement EOD teams.
2:53 p.m.	Hospitals receive radio and email notification that a mass casualty incident has occurred at the Finish Line.
2:54 p.m.	BFD and the MANG CST complete their initial review of handheld and stationary air monitoring devices in the area of the Finish Line for chemical and radiological contamination near the Finish Line. Results are negative. Mobile measurements continue at bomb sites. Some area hospitals receive initial estimates of the number of patients to expect.

2:55 p.m.	Boston EMS broadcasts a request over the Boston EMS Area Mutual Aid (BAMA) radio system to private EMS ambulance companies for available ambulances; nine companies respond (Action, AMR, American, Armstrong, EasCare, Fallon, LifeLine, McCall, and Professional). They commit a total of 73 ambulances. As part of the Marathon operations plan, a staging area had already been established at the rear of the Alpha Tent. A secondary ambulance staging is set up at Boylston and Fairfield Streets, but is relocated several times when areas are deemed to be at risk.
2:56 p.m.	BFD receives reports of an explosion and fire at the John F. Kennedy (JFK) Presidential Library in the Columbia Point area of Boston. This event is initially considered to be a possible terrorist incident related to the bombings.
2:57 p.m.	Most Boston hospitals fully activate and staff their emergency operations centers (some had been activated earlier in the day for the Marathon). MDPH and the Boston MIC send additional alerts to Boston area hospitals through the Health and Homeland Alert Network (HHAN) and the Central Emergency Medical Direction (CMED) network. ¹²
2:58 p.m.	First ambulance leaves scene with critically wounded patient, headed to Massachusetts General Hospital.
3:00 p.m.	On scene commanders are informed that there is no chemical or radiological contamination associated with the bombs. Hospitals do not receive this information.
3:02 p.m.	MDPH broadcasts information on bombing to additional hospitals outside of Boston through the HHAN.
3:16 p.m.	Boston EMS advises via BAMA that ambulances are to obtain hospital destinations from CMED system. Shortly thereafter, patient distribution is transferred to on scene Boston EMS loading officers.
3:20 p.m.	Ambulances are advised to move out of the area of 700 Boylston Street because of another "confirmed" improvised explosive device, one of many false alarms that occur.
3:22 p.m.	Boston Emergency Operations Center (EOC) is operational.
3:28 p.m.	All Marathon runners from Boston through Newton have been stopped on the course, and impacted communities begin working to open pre-identified temporary shelters. In Boston, runners east of Massachusetts Avenue are directed to the Boston Common; runners west of the street are directed to Kenmore Square. The Westin Hotel is established as the <i>ad hoc</i> location for a Unified Command Center (UCC). Initially present at the UCC are BPD, BFD, Boston EMS, MEMA, MSP, Transit PD, and FBI, joined shortly thereafter by MANG.
3:30 p.m.	Law enforcement mutual aid begins to arrive on scene to assist with investigations and response to suspicious packages. Mutual aid units will continue to arrive from local, regional, and federal law enforcement agencies.
3:37 p.m.	Last critical patient transported from scene.

¹² The Health and Homeland Alert Network is a statewide network that delivers warnings and emergency information to the public safety, public health and healthcare communities.

3:42 p.m.	ARC "Safe & Well" website begins to be promoted to facilitate family reunifications. Individuals are encouraged to register themselves online and to use the website to search for loved ones.
3:56 p.m.	Boston, Brookline and Newton police request buses from MBTA to evacuate spectators, and move police into the area.
3:59 p.m.	Shelters are opened at Newton City Hall and at St. Ignatius Church and More Hall on the Boston College campus. Another shelter at La Salle College is opened 20 minutes later.
4:05 p.m.	The President contacts the Mayor of Boston and the Governor by phone.
4:25 p.m.	Boston Bruins game is cancelled.
4:30 p.m.	BPD Detectives are deployed to area hospitals for interviews and evidence collection. The Federal Aviation Administration (FAA) establishes temporary flight restriction of three nautical miles around and 3,000 feet above Boston.
4:31 p.m.	BPD Commissioner announces 12-hour shifts for all sworn personnel in BPD, and cancels all leave.
4:32 p.m.	Governor arrives at the Westin Hotel/UCC and is briefed by UCC leadership. They discuss the option of suspending service across the MBTA transit system because of security concerns, but a decision is made to keep much of the system open so that remaining spectators can travel home. However, service between Park Street and Kenmore stations is suspended. Transit PD increases security at MBTA stations, and begins conducting sweeps for suspicious packages at transit stations. MANG soldiers are later deployed to assist Transit PD in providing security at various transit stations.
4:47 p.m.	The first news conference is held with the Governor and UCC leadership at the Westin Hotel to convey initial information available about the bombings.
4:54 p.m.	The Mayor of Boston arrives at the Westin Hotel/UCC and meets with BPD Commissioner and other City of Boston department heads. ¹³ Tufts Medical Center declares Code Black (no further emergency patients accepted) because of suspicious package found in their emergency department. Code is soon lifted. Several other hospitals have similar false alarms over the next few days. Boston PD requests MANG soldiers to assist in securing crime scene perimeter. The request is approved by MEMA and the Governor.
5:00 p.m.	Boston Office of Emergency Management (Boston OEM) delivers phones, phone chargers, computers, and radios to resolve communications capability issues at the UCC.
5:11 p.m.	Brookline opens a shelter at 1187 Beacon Street.
5:49 p.m.	The second press conference is held with the Governor, Mayor, BPD Commissioner, BFD Commissioner, Boston EMS Chief, US Attorney, and other UCC leadership and elected officials. Updated information is shared.

¹³ The Mayor checked himself out of Brigham and Women's Hospital where he had been recovering from recent surgery.

5:52 p.m.	A request is made to major cellular carriers to provide mobile infrastructure for expanded cellular service coverage at the Westin Hotel.
5:58 p.m.	MBTA Green Line service resumes incrementally.
6:00 p.m.	Boston OEM and the Boston Centers for Youth and Families (BCYF) opens a facility at the Castle at Park Plaza (Castle) to provide immediate assistance to runners and others requiring shelter, counseling or other support. BPHC, Salvation Army, ARC, and other agencies help provide services. BPD and MANG provide security. The Castle remains open overnight.
6:10 p.m.	The President holds a press conference in Washington, D.C.
6:30 p.m.	UCC leadership conducts a strategy meeting at the UCC which includes the Governor, MEMA Director, BPD Commissioner, BFD Commissioner, Boston OEM Director, MSP, MANG, MDPH, FBI Special Agent-in-Charge (SAC) and others. Consensus is reached that the incident is likely a terrorist attack, and that the FBI will serve as the lead investigative agency.¹⁴ The third press briefing is held at the Westin Hotel/UCC with the Governor, BPD Commissioner, US Attorney, FBI SAC, and other UCC leadership and elected officials. At this press conference, it is announced that the FBI will be the lead investigative agency for the incident. In addition, the BPD Commissioner states that the BFD has confirmed that the fire at the JFK Library was accidental in nature, and therefore unrelated to the bombings.
6:54 p.m.	The perimeter of the crime scene perimeter is defined as a 12-block area. ¹⁵
8:00 p.m.	Runners' bags are secured, scanned by BPD EOD teams, and placed under guard by MANG until the following morning.
8:39 p.m.	The fourth press conference is held. The Governor announces that Boston would be "open for business" the next day, though it would not be business as usual. He provides updates on the incident, describes actions being taken, and announces the establishment of a support center at the Castle for runners.
8:50 p.m.	Last patient with incident-related injuries is transported to a hospital. ¹⁶

¹⁴ At the time of the bombings, the Director of MEMA also served as the Undersecretary for Homeland Security and Emergency Management for the Executive Office of Public Safety and Security (EOPSS).

¹⁵ The 12-block area had been reduced from a previous 15-block area.

¹⁶ These patients were typically those who had left the scene, gone to their hotel or homes, and later required transport to facilities due to their injuries.

TUESDAY, APRIL 16, 2013

MEMA prepares a written request for a Presidential Emergency Declaration, which is signed by the Governor and submitted to FEMA.

BPD, MSP, MBTA Transit Police, MANG and mutual aid law enforcement agencies continue to provide support for bombing investigation, increased security at MBTA stations, other infrastructure and landmarks, and response to numerous calls of suspicious packages.

The Governor, Mayor and public safety officials conduct individual interviews with various media outlets throughout the course of the day. The hospitals that received patients injured as a result of the bombings hold various press conferences.

The Governor and Mayor visit a number of survivors being treated in area hospitals.

12:00 a.m. The UCC at the Westin Hotel is stood down.¹⁷

MACC transitions to a partial activation of the State Emergency Operations Center (SEOC).

9:00 a.m. Runners are allowed to begin retrieving bags at Berkley and Stuart Streets in Boston.

9:40 a.m. A press conference is held at the Westin Hotel with the Governor, Mayor, FBI SAC, Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF), US Attorney, BPD Commissioner, MSP Superintendent, MEMA Director, Transit Police Chief, and other public safety and elected officials. The FBI confirms that the Joint Terrorism Task Force (JTTF), with support from local and state police, is working to solve the crime, asks for assistance from the public, and requests that the public provide information to the FBI tip line. The FBI confirms that two devices were detonated, and that no additional devices were present. The Mayor and Governor announce that the support/resource center at the Castle remains open for affected individuals.

10:00 a.m. Runners' bags are moved to the Castle and sorted by MANG.

5:07 p.m. A media briefing is held at the Westin Hotel with the Governor, Mayor, FBI SAC, U.S. Attorney, BPD Commissioner, MSP Superintendent, MEMA Director, Transit Police Chief, and other public safety and elected officials. The FBI provides an update on the investigation and evidence recovery and states they are looking for individuals that may have been carrying black, heavy bag(s) or backpack(s) that may have contained pressure-cooker type device(s). Details of the interfaith service are announced, including the participation of the President. The Mayor and Governor announce formation of the One Fund Boston where donations for victims and survivors could be sent.

7:00 p.m. The SEOC returns to normal operations for the overnight shift.

11:00 p.m. The Castle closes as an assistance center for runners and others affected by the bombing. The assistance center is moved to another location within the headquarters of City Year. Unclaimed runners' bags are transferred to BAA headquarters.

¹⁷ The Westin Hotel continued to be used for press conferences.

WEDNESDAY, APRIL 17, 2013

A Presidential Emergency Declaration is issued. The President plans to visit Boston on Thursday to participate in the interfaith service.¹⁸

The Governor, Mayor and public safety officials conduct individual interviews with various media outlets to provide updates on the incident, ongoing efforts to identify the perpetrators, and ongoing recovery efforts. The hospitals caring for patients injured as a result of the bombings hold various press conferences.

The Governor and Mayor visit a number of survivors in area hospitals.

Investigation into the bombing continues. As a result of the public request for tips and leads, the FBI has received a large number of photos and videos. Heightened security continues for key infrastructure and selected locations. Mutual aid resources and MANG continue to assist BPD and Transit PD with security.¹⁹

The SEOC is at a partial activation for the daytime shift and resumes normal operations overnight.

9:00 a.m. Boston opens a Business Assistance Center at the Park Plaza Hotel.

The City of Boston, American Red Cross, Massachusetts Office of Victim Assistance, and Massachusetts Attorney General's Office open a Family Assistance Center dedicated to providing information and services to survivors, their families, and the families of the deceased.

9:30 a.m. City of Boston Cabinet meeting is held at Brigham and Women's Hospital with the Mayor. The Mayor sets recovery priorities for the City.

¹⁸ A presidential visit necessitates increased security presence and law enforcement detail assignments.

¹⁹ Military police are now included as part of the complement of MANG personnel providing support.

THURSDAY, APRIL 18, 2013

As on Tuesday and Wednesday, intense investigation continues. Calls regarding suspicious packages and people continue to be received and investigated.

9:00 a.m.	Boston OEM increases Boston EOC staffing from City agencies to support the Presidential visit.
11:00 a.m.	Interfaith service is held at the Cathedral of the Holy Cross in Boston, with the President, Governor, Mayor and many other public safety and elected officials present.
12:54 p.m.	President and Governor visit survivors and families at Massachusetts General Hospital.
1:01 p.m.	First Lady visits survivors and families at Brigham and Women's Hospital.
4:00 p.m.	President's flight departs Logan Airport; security activities associated with the presidential visit are concluded.
4:01 p.m.	Boston OEM initiates a planning session to develop the City's plan for the recovery and restoration of Boylston Street. This planning session includes 13 City agencies, American Red Cross, Interstate Rental, and the BAA. ²⁰
5:20 p.m.	Press conference is held at the Sheraton Boston Hotel with FBI SAC, US Attorney, MSP Superintendent, BPD Commissioner, Transit PD Chief and other public safety officials. FBI releases photographs of suspects at press conference, and appeals for public's help in finding them.
10:28 p.m.	Armed robbery occurs at a convenience store located at 750 Massachusetts Avenue in Cambridge.
10:31 p.m.	Massachusetts Institution of Technology (MIT) Police Officer Sean Collier is fatally shot while sitting in his marked cruiser parked on the MIT campus. Officers from MIT Police Department (MIT PD) and Cambridge Police Department (Cambridge PD) respond. ²¹ The location of the shooting is in close proximity to the convenience store robbery, and the two incidents are initially thought to be related. They are subsequently determined to be unrelated. A notification of the shooting is broadcast over the Boston Area Police Emergency Radio Network (BAPERN).
11:16 p.m.	Cambridge PD issues a "Be On the Look Out" (BOLO) for suspect of armed robbery. ²²
11:20 p.m.	A sports utility vehicle (SUV) is carjacked on Brighton Avenue in the Allston neighborhood of Boston.
11:45 p.m.	Watertown Police officers are briefed at roll call on Officer Collier's murder.

²⁰ Interstate Rental is the BAA's primary equipment vendor for the Marathon.

²¹ Cambridge police officers who were en route to respond to the convenience store robbery were rerouted to MIT when the shooting took place three minutes later. It was not until the MIT scene was secured that Cambridge PD was able to send officers to the armed robbery call, obtain information, and generate the BOLO.

²² An official BOLO report is shared across the FBI's Criminal Justice Information Services system. The information must be entered into the system, which often takes some time to complete.

FRIDAY, APRIL 19, 2013

- 12:00 a.m.** Cambridge PD provides a supervisor and four officers to assist MIT police.²³
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- 12:13 a.m.** Watertown PD dispatch center puts out a BOLO on Cambridge armed robbery.
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- 12:19 a.m.** Cambridge PD receives a 911 call from the victim of the SUV carjacking and responds to a gas station at 820 Memorial Drive in Cambridge where the victim had escaped his captors. Approximately 20 minutes into the interview process, the carjacking victim provides information that associates the carjackers with the Marathon bombings. The victim also informs responding officers that his vehicle has a manufacturer tracking system, which is subsequently activated.²⁴
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- 12:26 a.m.** Cambridge PD issues a BOLO for the black Mercedes SUV and the carjackers, noting that the suspects are armed.
- A BAPERN broadcast is made regarding the two male, armed carjackers that are at large.
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- 12:41 a.m.** The manufacturer tracking system in the carjacked SUV locates the vehicle at 81 Dexter Avenue in Watertown. Cambridge PD dispatch center contacts Watertown PD dispatch center with information on the location of the carjacked SUV.
- Watertown PD dispatch center puts out a call over the radio with the location of the vehicle, and advises that a response should be treated as a felony stop.
- An officer responds to Dexter Avenue. As he drives down the street, he observes the SUV and radios in that he has located the car on Dexter Avenue. He observes the SUV, makes eye contact with the operator of the vehicle, and radios in that he has located the car on Dexter Avenue. As the officer then turns around to drive back toward the vehicle, the supervisor, who was only seconds away, instructs the officer to wait to approach the operator until he arrives on scene.
- The SUV and a Honda sedan turn left onto Laurel Street, and the officer follows at a distance behind. The operator of the SUV suddenly stops, exits the vehicle, and walks towards the officer's cruiser while firing a gun. At this time, the supervisor arrives in his police cruiser. The suspect fires his weapon at the arriving supervisor, shooting through the windshield and narrowly missing the officer. The second suspect emerges from the Honda sedan, and begins tossing homemade improvised explosive devices (IEDs).
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- 12:44 a.m.** The responding officers relay a radio transmission indicating shots fired. Upon hearing the radio call of shots fired, Watertown PD dispatch center calls for immediate assistance from other police departments.
- A firefight between Watertown police and the suspects ensues on Laurel Street. The suspects throw several additional homemade IEDs and a larger pressure cooker bomb at responding officers. While the shootout continues, officers from BPD, Cambridge PD, Transit PD, MSP, and nearby communities respond to the scene. Within the hour, several hundred police officers have arrived.²⁵
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²³ This assistance continues through the memorial service for Officer Collier on April 24, 2013.

²⁴ There was a significant language barrier between the responding officers and the victim.

²⁵ Many were already en route from the Officer Collier murder scene in Cambridge.

12:49 a.m.	The first suspect is tackled by responding police officers and subsequently struck by the vehicle the second suspect is driving while fleeing the scene. The first suspect is taken into custody and loaded into an ambulance for transport to Beth Israel Deaconess Hospital. As the second suspect flees the scene, shots are fired and an MBTA Transit PD Officer is severely wounded. The second suspect drives approximately a half mile, abandons the SUV on Spruce Street in Watertown, and flees on foot.
12:51 a.m.	The wounded officer is loaded into an ambulance that had been staged nearby. The ambulance transports the wounded officer to Mount Auburn Hospital in Cambridge. An unmarked black MSP pickup truck is incorrectly reported as a stolen vehicle. The occupants of the pickup truck are a MSP Trooper and a BPD officer, both of whom are in plainclothes. As the vehicle drives down Adams Street in Watertown, a few blocks from the scene of the shootout, an officer on scene fired at the vehicle and its occupants. No one is injured.
12:56 a.m.	Dexter Avenue, Laurel Street, and adjacent Cypress Street in Watertown are initially restricted as an active crime scene. A larger perimeter is later established to search for the suspect at large. This perimeter is held until a comprehensive grid search of the area is completed at approximately 6:00 p.m.
1:00 a.m.	Mutual aid EOD technicians begin to assist Watertown in rendering safe the unexploded IEDs remaining in the street after the gunfight. MEMA Director notifies the Governor and the Secretary of EOPSS about the events unfolding in Watertown. BPD notifies the Mayor of Boston. Multiple police units continue to arrive in Watertown at various locations.
1:06 a.m.	The first suspect is pronounced dead at the hospital after resuscitation attempts. He is identified by fingerprinting, which aids in the identification of the second suspect, his younger brother.
1:11 a.m.	Watertown PD receives a report of a suspicious individual behind a house on Spruce Street. The individual is questioned and released. Numerous reports are received by law enforcement officials throughout the course of the night and following day, and are subsequently confirmed to be unrelated.
1:12 a.m.	Watertown PD designates the Arsenal Mall in Watertown as a staging area and location for a command post. Command post trailers from six public safety agencies are subsequently set up there.
1:30 a.m.	Watertown PD requests that all responding officers report to the Arsenal Mall parking lot for staging. Watertown PD brings in two extra dispatchers to help handle the surge of 911 calls, which will total over 500 before the day ends.²⁶
1:57 a.m.	Watertown PD sends an emergency alert message to Watertown residents asking them to remain in their homes because of an active incident, and to report any suspicious activity.
2:05 a.m.	The FBI releases enhanced photos of both suspects with front view of faces.

²⁶ Typical call volume is 30 calls per day.

2:30 a.m.	A Unified Command Center (UCC) is established in a mobile command trailer at Arsenal Mall. Initially, Unified Command (UC) consists of Watertown PD, Cambridge PD, MSP, BPD, MBTA Transit PD, FBI, MANG and MEMA. Unified Command grows over the next few hours as additional agencies, including the FBI, arrive at the command post. A decision is made to conduct house-to-house searches. MEMA initially coordinates necessary resources and supplies to support the care and feeding of officers gathering at the Arsenal Mall staging area.
4:00 a.m.	The Massachusetts Department of Fire Services assists MEMA with logistics for the care and feeding of more than 1,000 law enforcement personnel gathered at Arsenal Mall staging area.
4:15 a.m.	MANG receives authorization from the MEMA Director to deploy and arm military police to Watertown.
4:30 a.m.	UC begins discussing the potential need to cease operations of the transit system and formulates a recommendation to suspend service on the MBTA and issue a shelter-in-place request. The MEMA Director telephones the Governor and Watertown Town Manager, and the BPD Commissioner telephones the Mayor of Boston.
5:00 a.m.	MANG sends 21 armored High Mobility Multipurpose Wheeled Vehicles (HMMVEEs) and 120 armed military police to help establish an outer security perimeter in Watertown and to assist in house-to-house searches.
5:15 a.m.	A conference call is conducted with UC, the Governor and the Mayor of Boston. The UC initiates the conference call to recommend that all MBTA service be suspended and that a shelter-in-place request be issued for Watertown, Newton, Waltham, Belmont, Cambridge and the Allston-Brighton neighborhood of Boston. After a brief discussion, the recommendations of the UC are accepted and a press conference is planned to announce these decisions. Amtrak train #2151 leaves South Station heading to New York City and Washington, D.C.
5:30 a.m.	UC finalizes tactical plans to conduct systematic door-to-door searches for the suspect at large. The searches begin to be conducted by law enforcement and SWAT personnel from the FBI, MANG, BPD, Cambridge PD, MSP, Transit PD, Metro Law Enforcement Council (MetroLEC), and Northeast Law Enforcement Council (NEMLEC). A Watertown PD officer is assigned to each team. The searches continue across 20 streets throughout the majority of the day.
5:39 a.m.	All MBTA transit service is suspended, including buses, commuter rail, and rapid transit.
5:45 a.m.	First press conference is held with the Watertown PD Chief, MSP Superintendent, BPD Commissioner, MEMA Director, MBTA Transit Police Chief, and other public safety officials to announce that all MBTA transit system service has been suspended, and to request that residents and businesses in Watertown, Newton, Waltham, Belmont, Cambridge and the Allston-Brighton neighborhood of Boston shelter-in-place, remain indoors and not congregate outside.
6:00 a.m.	The Watertown PD broadcasts a radio request for all responding officers to stage in the parking lot at the Arsenal Mall. Over the course of the day, more than 2,500 officers from 116 federal, state, and local law enforcement agencies arrive at the staging area.

6:21 a.m.	MEMA issues an emergency alert message to smartphones regarding the manhunt in Watertown, the MBTA closure, and the shelter-in-place request for Watertown, Newton, Waltham, Belmont, Cambridge and Allston-Brighton. ²⁷
6:23 a.m.	MEMA issues a HHAN alert to the public safety community regarding the manhunt in Watertown, the MBTA closure, and the shelter-in-place request for Watertown, Newton, Waltham, Belmont, Cambridge and Allston-Brighton.
6:30 a.m.	MDPH activates its Department Operations Center (DOC).
6:37 a.m.	MDPH issues a HHAN to hospitals to inform them that a shelter-in-place request is in effect and that the MBTA transit system has stopped operations. During the course of the morning, several area hospitals activate their emergency operations centers when they learn of the suspect at large, the shelter-in-place request, and the suspension of service across the MBTA transit system.
7:15 a.m.	A suspicious person carrying a package is reported to the UCC as having been picked up in Watertown by a taxi driven by a person of Middle Eastern descent. The taxi driver's name appears to be on the federal JTTF Terrorist Watch List, which heightens the concern. The destination of the taxi is reported to be South Station, a transit station serviced by both the MBTA and Amtrak.
7:49 a.m.	Transit PD subsequently lock down and secure all entrances and exits to passenger traffic at South Station.
7:59 a.m.	A second press conference is held across the street from the Arsenal Mall with the Governor, Watertown PD Chief, BPD Commissioner, MSP Superintendent and other public safety officials to provide information on the search for suspects, the murder of the MIT police officer and the status of the injured Transit PD officer. Also announced is the extension of the shelter-in-place request to include all of Boston—in addition to Cambridge, Watertown, Waltham, Newton, and Belmont—and the continued suspension of service across the MBTA transit system.
8:15 a.m.	All taxi service in Boston is suspended based upon the terrorist alert, investigative leads and the reported information on taxi driver and passenger allegedly en route to South Station. MEMA issues a HHAN message to the public safety community with information on the expanded area of the shelter-in-place request.
8:22 a.m.	MSP issues a HHAN message to the law enforcement community describing the suspect at large.
8:36 a.m.	The Amtrak train that departed South Station is stopped in Norwalk, Connecticut by law enforcement officials (Metropolitan Police Department and Norwalk Police Department) and searched for taxi suspect.
8:51 a.m.	A HHAN alert is sent to hospitals from MDPH notifying them to be on the lookout for the second suspect, who may be injured.

²⁷MEMA uses a free smartphone application, now known as Massachusetts Alerts, as a means of sending emergency notifications and information to individuals who have downloaded the application.

9:00 a.m.	The Amtrak train is cleared by the law enforcement officials after no suspect is found on board. The taxi driver is subsequently found not to be a person of interest. The driver's name had been misspelled and is not the individual listed on the JTTF Terrorism Watch List.
12:34 p.m.	BPHC sends a message to area hospitals to clarify that essential healthcare personnel are allowed to travel to work to relieve healthcare staff currently on duty.
12:35 p.m.	A third press conference with the Governor, Mayor of Boston, MSP Superintendent, Watertown PD Chief, BPD Commissioner, Transit PD Chief, MEMA Director, and other public safety officials is held to reinforce that the shelter-in-place request remains in place; that individuals should remain indoors; that the search, which is now 60–70 percent complete, continues and that the investigation is ongoing.
12:49 p.m.	MDPH sends an update on the security situation and guidance on staffing for hospitals via the Statewide Hospital Listserv.
2:00 p.m.	At request of MSP and BPD, MANG provides three UH-60 Blackhawk helicopters to transport MSP SWAT teams to the second suspect's dormitory at UMass Dartmouth. Unified Command cancels that evening's Red Sox game.
2:05 p.m.	MEMA issues a HHAN message to the public safety community to clarify that although the shelter-in-place request remains in effect, individuals are allowed to travel home from work.
2:23 p.m.	MEMA issues an emergency alert message to smartphones to clarify that although the shelter-in-place request remains in effect, individuals are allowed to travel home from work.
2:44 p.m.	Boston sends an email to City employees to clarify that individuals are allowed to travel home from work.
3:24 p.m.	MDPH sends revised guidance via the Statewide Hospital Listserv to hospitals with information regarding patient discharges, staffing and dispensing of pharmaceuticals (many local pharmacies are closed).
3:35 p.m.	FEMA issues a Wireless Emergency Alert (WEA) on behalf of MEMA to clarify that although the shelter-in-place request is still in effect, employees are allowed to travel home from work.
4:30 p.m.	UC begins to evaluate the continued need for the shelter-in-place request. The majority of door-to-door searches have been completed, and law enforcement officials believe there is a possibility that the suspect has escaped the area. Given these circumstances, officials do not wish to continue shelter-in-place restrictions unnecessarily.
5:30 p.m.	MBTA resumes limited service.
6:03 p.m.	A fourth press conference is held with the Governor, Mayor of Boston, MSP Superintendent, Watertown PD Chief, BPD Commissioner, MEMA Director, Transit PD Chief, FBI SAC, US Attorney, and other public safety and elected officials. An update about the search for the suspect is provided, and the shelter-in-place request is lifted. The public is asked to remain alert and is reminded that a dangerous individual remains at large.
6:25 p.m.	MEMA issues an emergency alert message to smartphones stating the shelter-in-place request has been lifted.

6:42 p.m.	Watertown PD receives a 911 call from a resident at 67 Franklin Street who reports that an individual who is bleeding is hiding in his boat, which is shrink-wrapped with a winterized tarp and parked in his yard. Multiple police units respond, and SWAT teams and EOD teams are dispatched and arrive on scene. A security perimeter is established.
6:54 p.m.	An officer fires a shot at the boat followed by multiple shots from other officers. A senior law enforcement official on scene orders a ceasefire.
7:05 p.m.	Movement is reported under the tarp covering the boat.
7:43 p.m.	Law enforcement officials make a tactical decision to deploy flashbangs to coax the individual out of the boat. Watertown FD is placed on standby to respond to any subsequent fire.
7:46 p.m.	Flashbangs are deployed, but the suspect does not emerge from the boat. Law enforcement units continue to maintain a perimeter around the boat.
8:02 p.m.	An FBI Hostage Response Team is deployed to communicate with the individual and bring about his surrender. MSP Special Tactical Operations (STOP) Team deploys a Bearcat armored vehicle with a remote arm to pull back the tarp covering the boat. The FBI Hostage Response Team communicates with the suspect, but the suspect does not immediately surrender.
8:41 p.m.	The suspect emerges from the boat and is taken into custody. The suspect appears to be injured and is transported by ambulance under heavy guard to Beth Israel Deaconess Medical Center.
9:32 p.m.	A final press conference is held with the Governor, Mayor of Boston, MSP Superintendent, BPD Commissioner, Watertown PD Chief, MBTA Transit PD Chief, the US Attorney, FBI SAC, ATF SAC, and other public safety and elected officials to announce the apprehension of the second suspect.
10:04 p.m.	The President holds a press conference regarding the capture of the suspect.

SUNDAY, APRIL 21

2:00 p.m. The City of Boston holds a press conference at Engine 33 on Boylston Street to announce that the *ad hoc* memorial, which had developed over the previous days, is being moved from Boylston Street to Copley Square. The Boston OEM Director announces the overall plan for the restoration and reoccupation of Boylston Street once it is released back to the City.

MONDAY, APRIL 22

12:00 p.m. The One Fund begins registration of victims, survivors and families.

2:50 p.m. A moment of silence is held to honor victims.

5:00 p.m. The FBI conducts a flag lowering ceremony on Boylston Street in preparation of releasing Boylston Street back to the City.

5:02 p.m. FBI returns Boylston Street to the City of Boston.

5:03 p.m. City agencies begin to execute the Boylston Street recovery plan, including cleaning streets and sidewalks, removing debris, and making safety checks of buildings.

TUESDAY, APRIL 23

10:00 a.m. The City provides access to Boylston Street to businesses and residents of the cordoned off crime scene area. City agencies provide assistance to them on insurance and loans, and facilities the conduct of inspections needed prior to reopening.

7:00 p.m. Survivors and families visit the bombing sites under City escort.

WEDNESDAY, APRIL 24

City and state agencies continue assistance to businesses to help them reopen.

3:00 a.m. Boylston Street is opened to the general public.

12:00 p.m. Memorial service held for Officer Sean Collier at MIT in Cambridge, with the Vice President in attendance. Extensive security and security measures are implemented in support of the service.

OVERVIEW OF INCIDENTS

This section provides a narrative overview of the preparedness, response and recovery activities of public safety, public health and emergency medical response professionals related to the events associated with the 2013 Boston Marathon. This narrative does not aim to detail every activity of every organization involved in the events associated with the bombings and apprehension of suspects; rather, it has been developed to provide a high level overview of events of the week of April 15, 2013, and to give the account of the response and recovery efforts.

Background

The 26.2-mile Boston Marathon is an annual event held on Patriots' Day, a Massachusetts holiday that commemorates the anniversary of the April 19, 1775 Battles of Lexington and Concord. Unlike other large city marathon courses that run circuitously within a single jurisdiction, the Boston Marathon course is a straight-line course that crosses eight cities and towns: Hopkinton, Ashland, Framingham, Natick, Wellesley, Newton, Brookline, and Boston.

Because of this, a great deal of public safety planning is required each year for the Marathon to ensure streamlined coordination among public safety partners at the local, regional, state and

Official Boston Marathon Course Map



federal levels. A multi-disciplinary public safety committee begins meeting each January to plan for the upcoming Marathon. Representatives from state and local police, fire, emergency medical services (EMS), public health, the Massachusetts National Guard (MANG), and the Massachusetts Emergency Management Agency (MEMA) work in conjunction with the Boston Athletic Association (BAA) to review, update, and modify each jurisdiction's Marathon Day operational plan. This planning effort is coordinated by MEMA, which hosts the Multi-Agency Coordination Center (MACC) on race day.

Each year, the public safety committee reviews and incorporates lessons learned from previous years into Marathon Day operational plans. For example, unseasonably high temperatures in 2012 led to medical tents being inundated with large volumes of patients with heat-related injuries and illnesses, stressing the race's medical system. In response to this, the medical plan for the 2013 Marathon was further enhanced to ensure that medical tents had the capabilities to handle a higher medical surge along the route.

This multi-disciplinary, multi-jurisdictional planning process culminates each year with a tabletop exercise, which allows the incident commanders within the host communities and key supporting state agencies to discuss how to respond to various scenarios. In fact, the 2012 tabletop included a scenario on responding to a mass casualty incident at the Finish Line, resulting from a collapse of the spectator grandstands. In addition to the Marathon tabletop exercise and discussion, public safety officials participate throughout the year in numerous other tabletop and full scale exercises, all of which provide an opportunity to build relationships and test and improve capabilities. These include the multi-day, regional Urban Shield full scale exercises, coordinated by the City of Boston Mayor's Office of Emergency Management (OEM), which focuses on testing Metro Boston's response capabilities for complex scenarios.

On Marathon Day, local, regional, state and federal law enforcement, fire services, EMS, public health and transportation representatives gather with the BAA, American Red Cross and MEMA at the MACC to facilitate the coordination of public safety activities. Approximately 80 individuals typically staff the MACC in support of the Marathon.

Marathon Monday 2013

The Race

The 117th running of the Boston Marathon took place on Monday, April 15, 2013, with 27,000 registered runners participating in the race. The Marathon kicked off at 9:00 a.m. with the start of the mobility impaired participants, followed by wheelchair racers (9:17 a.m.), hand-cyclists (9:22 a.m.), elite women (9:32 a.m.), elite men and Wave 1 of 9,000 runners (10:00 a.m.), Wave 2 of 9,000 runners (10:20 a.m.), and Wave 3 of 9,000 runners (10:40 a.m.). By 11:00 a.m., all 27,000 runners

were on the course. By 12:36 p.m., the wheelchair, female and male winners had been declared.

The MACC, located at MEMA headquarters in Framingham, was activated at 7:00 a.m., and by 9:00 a.m., was fully staffed with more than 80 representatives from host community police, fire and EMS agencies, MDPH, the Massachusetts State Police (MSP), MANG, MEMA, American Red Cross, the BAA, other supporting state agencies, and key federal agencies. Additionally, in



2013 Winners

Boston, the Boston Police Department (BPD) stood up the Law Enforcement Coordination Center (LECC) to coordinate the public safety and security operation for the City.²⁸ Present at the LECC were senior officials from BPD, Massachusetts Bay Transit Authority (MBTA) Transit Police Department (Transit PD), MSP, Boston Fire Department (BFD), Boston EMS, the Boston Regional Intelligence Center (BRIC), and Boston University Police Department.

As part of its standard procedure, the Massachusetts Department of Public Health (MDPH) activated its Department Operations Center (DOC). Throughout the day, MDPH conducted pre-planned conference calls with its staff assigned to the medical tents along the route to gain situational awareness on the activity level of the tents and their saturation with injured or ailing runners. Although the number of runners needing treatment was lower than in

years past, MDPH continued to conduct pre-planned conference calls with course hospitals and hospital bed counts to ascertain the current capacity of area hospitals.

As runners cleared the cities and towns along the course, security and medical resources were dismissed. By 1:00 p.m., operations had ceased in Hopkinton, Ashland, and Framingham. MANG, which had deployed personnel to augment law enforcement in all of the host cities and towns except for Boston, began to release soldiers from duty.

The annual 11:05 a.m. Patriots Day Red Sox game ended at 2:08 p.m., and thousands of fans walked the short distance from Fenway Park to the Marathon route to cheer on the runners. While

²⁸ The LECC was called the Unified Command Center at the time, and was renamed to the Law Enforcement Coordination Center in 2014. To avoid confusion with the Unified Command Center that was activated at the Westin Hotel following the bombings, this facility will be referred to as the LECC throughout this report.

the elite runners had long finished by this time, crowds were still thick in Newton, Wellesley, Brookline and Boston with spectators who were enjoying the event.

The Bombings

At 2:49 p.m., the Finish Line area was rocked by an explosion at 671 Boylston Street, in front of the Marathon Sports store (Site 1). Thirteen seconds later, a second explosion occurred 180 yards up course at 755 Boylston Street, in front of the Forum restaurant (Site 2). It was later determined that the explosions were caused by homemade improvised explosive devices (IEDs) that were hidden in backpacks and placed by perpetrators in these densely populated spectator viewing areas. The two explosions immediately took the lives of three individuals: eight-year-old Martin Richard, 29-year-old Krystle Campbell, and 23-year-old Lu Lingzi. An additional 264 spectators were injured—many critically, including 16 individuals who suffered traumatic amputations. While the explosions damaged several buildings and caused an initial flash of fire, no buildings collapsed or suffered significant structural damage, nor did any fires burn beyond the initial explosions.



Finish Line Hours before the Bombings



Moments after the first explosion at Site 1.

The explosions prompted an immediate mass casualty incident response. Information and alerts began to come in to various operation centers including the MACC, MDPH DOC, BPD LECC, and BRIC from the response agencies on scene, including BFD, BPD, Transit PD, MSP, and Boston EMS.

It was quickly evident to many on scene first responders that this was an intentional act of violence. While they are trained to be mindful of the threat of ancillary attacks specifically targeting first responders, firefighters, law enforcement officers, and EMS personnel did not hesitate to rush forward to help the survivors. Spectators, BAA volunteers, and runners, including MANG soldiers who had just completed the 26.2 mile route as part of a rucksack march, also acted immediately to help those who had been injured.

Unified Command

Unified Command began to form moments after the explosions when senior law enforcement officials from BPD, MSP, and Transit Police, as well as the MEMA Director, came together on Boylston Street and rapidly started to establish priorities and coordinate response activities. It was quickly decided that a command post needed to be established away from the scene where a Unified Command could collectively direct response operations. At 3:28 p.m., less than 40 minutes after the bombings, an *ad hoc* Unified Command Center (UCC) was established at the nearby Westin Hotel with key leadership already in place under Unified Command and actively coordinating response efforts. Unified Command would ultimately include the Governor, Mayor, Secretary of the Executive Office of Public Safety and Security (EOPSS), Director of MEMA, Superintendent of MSP, BPD Commissioner, BFD Commissioner, Boston Emergency Medical Services (Boston EMS) Chief, Director of the Mayor's Office of Emergency Management (OEM), Adjutant General of the MANG, Transit PD Chief, and Federal Bureau of Investigation (FBI) Boston Special Agent in Charge (SAC).



Smoke from Site 1 billows as the explosion at Site 2 (seen in the center of the photo, in the distance up the street) occurs.



Site 2 – Second Explosion

Chemical, Biological, Radiological, Nuclear Material Monitoring

Joint Hazard Assessment Teams (JHATs), comprised of members of BFD, MSP, and the MANG Civil Support Team (CST), immediately checked pre-deployed air monitoring devices in the area of the Finish Line for potential contamination from the IEDs. The initial readings showed no presence of contamination from the bombs. This information was communicated quickly to on scene commanders, but was not relayed to hospitals. Though initial readings were negative, the JHATs continued to monitor the air to ensure the explosions were not “dirty” bombs.

Emergency Medical Services

By design, the Finish Line has a large number of medically trained personnel assigned to the area in support of the BAA's two medical tents, including Alpha Medical Tent. Alpha Medical Tent is located in Copley Square just after the Finish Line and is an “enhanced” medical tent for the

Marathon, staffed with medical professionals who volunteer their time to support the race's medical operations.²⁹ Alpha Medical Tent is designed to be equipped with more advanced medical technology and has authority to conduct more advanced medical treatment so that larger numbers of runners can be medically cared for in the tent rather than be transported to hospitals.



Medical Response at Site 1

At the time the bombs were detonated on Marathon Day, there were 16 ambulances pre-staged in Copley Square. In response to a 2:55 p.m. Boston Area Medical Alert (BAMA) radio broadcast by Boston EMS requesting additional ambulance assets, an additional 73 ambulances, including assets from private ambulance companies, staged within minutes to support the incident. Thirty Boston EMS ordered all EMS units via radio to stay at their locations until the exact location of the blasts and scope of the incident could be determined. EMS units that had staged outside the blast area maintained discipline, standing fast until ordered to respond to the scene.

Many critically injured survivors were quickly given essential life support services at the scene, such as tourniquets to stop excessive bleeding,

and then rapidly transported to hospitals. These efforts were described by a paramedic as “scoop and go,” with Boston EMS identifying the most critically injured and loading them into ambulances. Ambulances loaded with patients were en route to hospitals within nine minutes of the first detonation.

While some patients were triaged and loaded into ambulances directly on Boylston Street, large numbers of patients were brought into the Alpha Medical Tent through the Boylston Street entrance. Critically injured patients were immediately brought to the ambulance loading area located at the rear of the tent and transported to hospitals. A medical tent volunteer repeatedly messaged to medical tent staff and responders over the tent's public address system to keep the center aisle clear, allowing critically injured patients to be carried directly to the ambulance loading area without impediment. All critically injured patients were quickly transported from the scene. Less critically injured patients were triaged, prioritized, and staged near the ambulance

²⁹ Certified medical physicians, physician assistants, nurses, emergency medical technicians and paramedics.

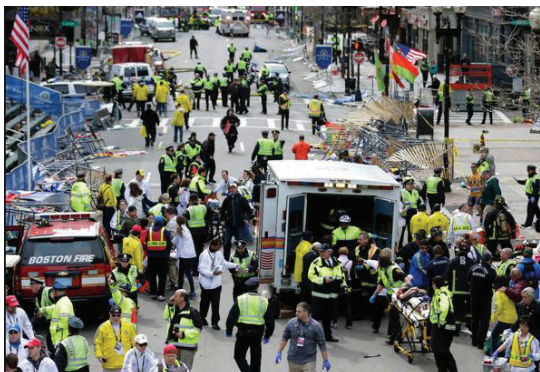
³⁰ The ambulance companies included AMR, American, Armstrong, Fallon, McCall, EasCare, and Professional Ambulance.

loading area to await transport. Some individuals with serious, but not critical injuries were taken by private cars to hospitals. Efforts were made to keep roadways leading into the vicinity of the impact area clear to allow ambulances to respond promptly. BPD made repeated radio broadcasts reminding responding officers to not block roadways with their vehicles.

Because Site 2 was farther up the street from Alpha Medical Tent, the first to respond to this scene were generally firefighters, law enforcement officers, and spectators who were nearby at the time the explosion occurred. The area was also difficult to access, with large crowds fleeing the area, interlocking metal barricades that were difficult to disassemble, and working fire apparatus and active ambulances in the street contributing to the access challenges. One critical patient had to be transported in a BPD patrol wagon. Despite these challenges, Boston EMS arrived on scene within minutes, assumed control of the triage and transport process, and established a second ambulance loading area.

Boston EMS assigned loading officers at three locations: Site 1, Site 2, and the rear of Alpha Medical Tent. These loading officers, in coordination with MetroBoston Central Medical Emergency Direction (CMED), coordinated patient transports by directing ambulances to certain hospitals. CMED is the coordination dispatch center, located in Boston EMS Dispatch, that assigns patient transports to hospitals based on patient condition, specialty needs, and citywide hospital capacity to ensure no one hospital emergency department is overloaded.³¹ Brigham and Women's Hospital received 23 patients, the most bombing survivors of any hospital. The distribution of patients across hospitals prevented any one hospital from becoming overloaded.

Although many patients sustained grave injuries, every patient that was transported to area hospitals survived. A total of 118 individuals were transported by ambulance in the aftermath of the bombings. In the hours and days that followed, more than 260 patients would seek medical treatment.



Medical Response at Site 1

³¹ Injuries included traumatic amputations, shrapnel wounds, burns, head trauma and hearing loss. The three individuals who lost their lives immediately died at the scene as the result of their injuries.

Hospitals

At 2:53 p.m., area hospitals received alerts via radio, email and the Health and Homeland Alert Network (HHAN) notifying them of the mass casualty incident.³² Once patients arrived at hospitals, they were triaged upon intake and then again in surgical units, to determine the priority of surgeries. Although it was known at the scene that the IEDs did not contain contaminants, this information was not transmitted to the hospitals. This slowed down the intake process, as hospitals had to make determinations about whether or not to decontaminate incoming patients. Ultimately, each hospital decided not to conduct decontamination activities, as they assumed the absence of notification meant no contamination, and the gravity of the patients was so severe they did not want to delay treatment.



Loading Patients

Since many hospitals already had their Emergency Operations Centers (EOCs) partially or fully activated, they were able to quickly coordinate surge capacity activities, adding staffing to their emergency divisions, stopping shift changes, and/or calling in additional staff. This enabled hospitals to provide the level of treatment and care the survivors required. Because of the critical and traumatic nature of the injuries endured by the survivors, a large percentage of emergency patients were admitted to the hospital. Many of these patients spent days, weeks, and months in the hospital receiving additional medical care and recovering from their injuries.

Because of the requirements of the Health Insurance Portability and Accountability Act (HIPAA), hospitals faced significant challenges in communicating information about survivors, such as their location and the criticality of their injuries, to concerned family members. HIPAA regulations require patients to affirmatively allow their medical information to be shared. Because of the condition of some patients, hospitals could not obtain this authority from them. Ultimately, hospital officials worked together with city and state public health officials to coordinate the sharing of information.

Security also continued to be a concern for the hospitals. In the hours after the bombings, it was uncertain if the bombings were merely one component of a larger plot. To provide added protection for critical infrastructure, law enforcement officers were assigned to hospitals to bolster security. Several hospitals were concerned about ancillary attacks. In fact, just before 5:00 p.m., Tufts Medical Center issued a Code Black in response to a suspicious package found

³²The Health and Homeland Alert Network is a notification tool used by MEMA and MDPH to alert public safety, public health and healthcare partners about emergency incidents and provide information about ongoing emergency situations.

in the Emergency Department.³³ Although the suspicious package was quickly cleared, it added to the uneasiness of hospital personnel.

In addition to providing an increase security presence, BPD and MSP officers and detectives were deployed to the hospitals to interview witnesses and collect evidence. Many hospital staff found the large numbers of heavily armed police officers and investigators in their halls to be intimidating. Although law enforcement officials never hindered the medical treatment of patients, some hospital staff and patients reported they were frightened by police questioning patients and family members and collecting cell phones, patient belongings, clothing and shrapnel removed from wounds as evidence. Some feared that these actions would add to the emotional trauma the patients and staff had already experienced from the bombing.

It was also not made clear to witnesses, family members, and survivors why police needed to take their cell phones. Boston PD did have a web portal which investigators could use to upload cell phone data and subsequently return the phones to their owners, but the website was soon overloaded from large amounts of data and files, and some cell phone brands were incompatible with the available software. Because of this, Boston PD needed to retain many phones for a period of time to view their contents, copy photos and videos, and maintain the chain of custody for evidence. However, this was not explained to patients, family members, witnesses or hospital staff.

Law Enforcement Response

Law enforcement officers in the area of the bombings were among the initial first responders who provided aid to survivors. Many rendered medical aid, applying tourniquets and calming the injured as they awaited medical support. Even as the most seriously wounded survivors were triaged and transported from the scene, law enforcement diligently investigated the possibility of additional threats and began securing Boylston Street. BPD began establishing an initial 15-block perimeter around the scene (the area was later reduced to 12 blocks). To ensure the area was effectively cordoned off and cleared of people, BPD had to evacuate all remaining individuals in buildings and businesses along Boylston Street who had not initially fled the area.

Law enforcement officials were concerned that the bombings could be part of a larger plot. This was compounded by reports that surfaced minutes after the bombings of additional explosions at the John F. Kennedy Presidential Library (JFK Library), only five miles from Boylston Street. The JFK Library fire was later found to be an accidental electrical transformer fire and not an intentional explosion, but these initial reports greatly increased the concern of law enforcement officials that additional acts related to the bombings were imminent.

³³ Code Black requires the closure of an Emergency Room to new patients because of an imminent threat.

EOD

Explosive ordnance disposal (EOD) personnel responded to the area to sweep for additional devices. A Transit PD EOD unit, assigned to the Copley MBTA station approximately 500 yards away from the Finish Line, was one of the first teams to respond. Ultimately, an EOD command structure was created to coordinate the multiagency EOD response, which included teams from BPD, MSP, Transit PD, Cambridge Police Department (Cambridge PD), New Hampshire State Police, Connecticut State Police, Rhode Island State Police, Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF), and the FBI.³⁴ EOD teams worked collaboratively to clear the scene of all suspicious packages. Each of these EOD units had had a similar base of training in procedures, use of equipment, and terminology, which facilitated their coordination.

EOD personnel had to inspect the enormous quantity of backpacks, purses, and bags that were abandoned by spectators fleeing the area. Each bag had to be treated as a potential IED. Over the five hours following the explosions, the BRIC received 61 reports of suspicious packages, each requiring an EOD unit assessment. As these reports were received, EOD teams inspected and, in some instances, conducted controlled detonations of suspicious packages. Given the large number of packages in the area, and the number of additional reports, it was 12 hours before EOD units could clear the scene and release it for evidence collection and crime scene activities.

Specialized Weapons and Tactics

Special Weapons and Tactics (SWAT) resources were deployed for a variety of missions, including protection of critical infrastructure and high-value targets such as hospitals, government buildings, and hotels. A SWAT command and staging area was stood up at the Boston Common to coordinate incoming tactical mutual aid support, which included teams from the MSP, Cambridge PD, Transit PD, Revere Police Department, Everett Police Department, the North Eastern Massachusetts Law Enforcement Council (NEMLEC), Metropolitan Law Enforcement Council (MetroLEC), and the South Eastern Massachusetts Law Enforcement Council (SEMLEC). The law enforcement councils (LECs) were able to assist with crime scene perimeter security and bolstering police presence in and around the City of Boston in the days that followed the bombings.

Infrastructure Protection

Given the concern for ancillary attacks and potential on-going threats, law enforcement officials designated resources to create lists of critical infrastructure within and around the City of Boston. MBTA facilities were identified as one of the most important assets in need of heightened security measures. As the Transit PD Chief joined the UCC, discussions regarding the need to shut down the transit system ensued; however because the transit system was essential to getting people

³⁴ MSP requested resources from other State Police organizations in New England through the New England State Police Compact.

out of the impact area as quickly as possible, the closing of the transit system was not a feasible option. Officials focused instead on increasing security measures at key transit stations to ensure the safety of all riders. Implementing increased security measures required calling in additional members of the Transit Police Department, and requesting mutual aid support from Amtrak Police Department, Everett Police Department, and Chelsea Police Department, which were able to deploy additional canine units and bomb dog handlers, and augment security at South Station.

The Transit PD also requested security support from the MANG. After a discussion among the Unified Command, the Governor approved this request and deployed 1,000 MANG soldiers to support security missions at MBTA stations across the City of Boston.³⁵ These MANG soldiers, though unarmed, served as a force multiplier by increasing the presence of security personnel in transit stations and assisting Transit PD officers in performing random bag checks.

Investigation

By 7:40 p.m., the lead investigative responsibilities for the incident had transitioned from BPD to the FBI, as the FBI has jurisdiction for all terrorism related incidents. The central coordination center for investigative actions was relocated to the FBI's Boston Office. The FBI brought in hundreds of agents and specialists from throughout New England to work the investigation. Strong collaboration and coordination was evident from the outset among investigators from MSP, BPD, Cambridge PD, Transit PD, ATE, Immigration and Customs Enforcement (ICE), and the FBI.

Management of Remaining Runners on Course

When the Marathon was officially stopped by public safety and race officials, approximately 5,000 runners were still on the course throughout Newton, Brookline and Boston. These runners needed to be directed off the course to temporary shelter locations, but shelter facilities had not been formally activated in support of the race. Referring to a temporary shelter list that had been developed years prior, the MACC worked with communities to identify buildings that could potentially support evacuated runners. The MACC then coordinated with communities to open these facilities and to assist in the transportation of runners to these shelters and subsequently from these shelters back into Boston.

Runners in Newton and Brookline were directed to Newton City Hall, as well as to St. Ignatius Church and More Hall on the Boston College campus. An additional shelter at the Student Center of Lasell College in Newton was later opened. In Boston, runners stopped east of Massachusetts Avenue were directed to the Boston Common, and those west of Massachusetts Avenue were directed to Kenmore Square. All the runners were off the course by 4:45 p.m.

³⁵ The Governor authorized 2,000 MANG soldiers to support marathon bombing response missions. Of these, 1,000 were assigned to support MBTA security missions.

These shelters were intended only to provide a temporary safe haven for runners to gather until they could be transported to Boston and minimal or no services were provided at these locations. A centralized location where runners could collect their belongings, and where runners and any other impacted individuals could be provided overnight shelter accommodations, counseling and other support services was required. Within an hour of the bombings, Boston OEM began working with Boston Centers for Youth and Families (BCYF) to open the Castle at Park Plaza (Castle) as a reunification center. By 6:00 p.m., the Castle was operational with support from OEM, BCYF, American Red Cross, Boston Public Health Commission (BPHC), BPD, MEMA, and MANG, and offered counseling, food and water, help for the runners, family reunification services, and overnight shelter accommodations.³⁶ Media access to the Castle was restricted to ensure privacy for impacted individuals and survivors seeking services at this center. The Castle remained open through 9:00 p.m. on Tuesday, April 16, after which time the nonprofit organization City Year, located on Columbus Avenue several blocks from the Castle, became the new location for providing counseling and support services.

Substantial challenges existed with reuniting runners with their personal belongings. Some runners had been lodging at hotels that were now located within the secure crime scene perimeter, and could not access their belongings contained in those hotel rooms. These individuals were able to obtain assistance at the Castle, where OEM staff coordinated with BPD and the FBI to provide escorted access to these rooms.

An even more complicated issue was reuniting runners with their BAA-issued “yellow bags.” On the morning of Marathon Day, the majority of runners load onto buses in Boston and ride out to Hopkinton, the location of the Start Line. To assist runners with maintaining their belongings, the BAA issues runners a bag that is tagged with their race number. Runners can place their personal belongings that they do not wish to carry along the course into the bag, and check the bag in Hopkinton at the Athletes Village. Bags are then transported back by bus to the area near the Finish Line, where they are staged until picked up by runners.

When the explosions occurred, the normal process for retrieving runners’ bags was disrupted. The bags had to be relocated away from the impact area and swept by EOD teams to ensure there were not additional devices hidden in them. Boston OEM coordinated with the BAA to have the bags transported to Berkeley Street, where they were swept by EOD teams and then guarded by MANG soldiers to ensure their security. The following morning, the Boston Department of Transportation transported the bags to the Castle, where they were unloaded outside and organized by MANG soldiers to expedite the distribution process. Runners were informed by the BAA that they could pick up their belongings outside the Castle. With this announcement came an influx of media, trying to capture stories from impacted runners. After some discussion, it was determined that

³⁶ Eight individuals who had been displaced stayed overnight at the Castle.

the bags should be moved into the Castle to limit the exposure of runners to the media as they arrived at the Castle.

Public Information

Senior leadership realized the importance of communicating with the public, and decided early on that the public needed to hear from the City and Commonwealth leadership as often as possible. Key leaders within the UCC worked together to craft clear, concise, and unified messages. Over the course of the first day, four press conferences were held by the members of the UCC.

The first press conference was held at 4:47 p.m. It was relatively brief, with the Governor and Boston Police Commissioner making well-coordinated and informative statements. During this press conference, information about the incident was confirmed, including: two bombs had been detonated near the Finish Line and a large number of people had been injured; all injured parties had been transported from the scene; no additional devices had been found in the vicinity of the Finish Line, but packages left behind by spectators fleeing the area were still being assessed; a third explosion, suspected to be related, had occurred at the JFK Library; officers had been deployed to hospitals to speak with families and witnesses; and all available

city, state and federal resources were on scene or en route to the scene to assist in the response.³⁷ The public was asked to go home or to their hotel rooms and not congregate around the City. Lastly, it was announced that two hotlines had been established: the first, the Mayor of Boston's 24-hour constituent Help Line, could be used by individuals looking for family members; the second, a law enforcement tips hotline, could be used by those who may have witnessed anything around the time of the bombings.³⁸

A second press conference was held an hour later at 5:49 p.m. with the Governor, BPD Commissioner and Mayor, who had arrived earlier at the UCC after checking himself out of the hospital. During this press conference, these officials shared updated information with the public, in-



First Press Conference



Second Press Conference

³⁷ The explosion at the JFK Library was later determined to be an accidental fire and not related to the Marathon bombings.

³⁸ Within minutes, the hotlines began receiving hundreds of calls.

cluding: information that the explosion at the JFK Library, located 5 miles from the Finish Line, was an incendiary device and not yet linked to the bombings; confirmation that there had been fatalities as a result of the bombings, although the number of fatalities was not disclosed; that a 15-block area around the Finish Line had been secured and cordoned off; and that no suspect was in custody. In addition, the public was reminded that the two hotlines were operational and that officials were working to open a center where individuals could receive assistance in looking for family members or could serve as a meeting location for family members.

A third press conference was held at approximately 6:30 p.m., which included a large number of elected officials and dignitaries. During this press conference, it was announced that the lead for the investigation was being transitioned from BPD to the FBI, and it was also confirmed that the fire at the JFK Library was accidental in nature and unrelated to the Marathon bombings.

The last press conference on April 15 was held at 8:39 p.m. The Governor announced that the City of Boston would be open for business on April 16 but it would not be business as usual. Leaders at the UCC also used this opportunity to request that the public provide photographs or videos they may have taken before, during or after the bombings. The response from the public was overwhelming and ultimately proved to be invaluable in identifying the two suspects.

Ongoing Activities

In the days following the bombings, a great deal of coordination and activity continued. Although the Westin Hotel stood down as the UCC on Tuesday, key agencies involved in response, investigative and recovery activities continued to operate command posts and emergency operations centers to coordinate these efforts.³⁹

The public also wanted to provide assistance and offer tributes to those who had been greatly impacted by the bombings. Many visited Boylston Street, creating an impromptu memorial to survivors and victims. In addition, to harness the generosity of so many who wanted to give, the Mayor of Boston and the Governor formed the One Fund, a single repository to collect donations for the survivors of the bombings.

Law Enforcement

The FBI headquartered the investigation of the incident at its Boston office, where they continued to form and deploy taskforces focused on various aspects of the investigation. BPD and MSP were integral components to the investigation and provided personnel to support interagency investigative teams to track down leads and coordinate with the FBI.

³⁹ The Westin Hotel continued to be used through Tuesday for press conferences.

In addition to supporting the investigation, BPD and MSP also had to focus on providing policing services to an understandably shaken community. To assist supporting BPD with ongoing security missions and suspicious package checks, MSP established an operations center at Troop F (Logan Airport). In addition to MSP field commanders, the MSP operations center included representatives from MANG, Transit PD, United States Coast Guard (USCG) and Massachusetts Port Authority (Massport). MSP field commanders at the Troop F barracks operations center coordinated closely with BPD, FBI and Unified Command.

BPD increased its uniformed police officer presence by bringing in mutual aid resources from surrounding communities and law enforcement councils (LECs), including MetroLEC and NEMLEC. The City also worked with MEMA and the Governor to deploy MANG soldiers within the City of Boston to continue and expand its security mission. MANG missions included supporting traffic control points in the Back Bay, security support along the crime scene perimeter, and continuing support for the Transit PD with security and bag checks at MBTA stations throughout the transit system.

BPD also coordinated EOD teams from the City of Cambridge, MSP, Transit Police and other New England State Police agencies to bolster their capabilities to respond to the tremendous increase in suspicious package calls. While no additional devices were discovered, the volume of these calls greatly stressed EOD capabilities as each package had to be assessed, and in some cases, disposed of through a controlled detonation, before they could be deemed inert.

Public Information

Federal, state, and local leaders were cognizant of the need to periodically update the media. On April 16, two coordinated press conferences were held at the Westin Hotel. The first press conference included the Governor, Mayor, FBI SAC, US Attorney, BPD Commissioner, MSP Superintendent, MEMA Director, Transit PD Chief, and other local, state and federal public safety and elected officials. The FBI provided an update on the status of the investigation, confirmed that two devices were detonated, and asked the public to provide any relevant information to the FBI tips hotline. The Mayor and Governor announced that the support/resource center at the Castle remained open for affected individuals.

A second press conference was held on Tuesday evening. The FBI once again provided an update on the investigation and stated that they were looking for individuals that may have been carrying black, heavy bags or backpacks that may have contained pressure-cooker type devices. The Mayor and Governor announced the details of the interfaith service and the formation of the One Fund.

A press conference was planned for Wednesday, but it was cancelled. The Governor and Mayor conducted numerous interviews with local and national media outlets throughout the day to update the public on the status of the investigation and to reassure the public of coordination and

collaboration among the UCC organizations to find the individuals responsible for the bombings. Calls from the public continued to pour into the Mayor's Help Line.

Various hospitals held their own press conferences to discuss the status and condition of the patients they had received.

Healthcare and Mental Health Services

The health and medical needs, both physical and emotional, of survivors, witnesses, responders, and the community as a whole required substantial coordination in the days, weeks, and months that followed the bombings. In the short-term, hospitals focused on providing the survivors the medical care they required, which included in some cases, several subsequent surgeries, rehabilitation, and physical therapy for their primary injuries and treatment for secondary injuries such as hearing loss.

Hospitals continued to grapple with patient reunification and information sharing. The hospitals struggled to find the balance between providing information to loved ones and interested parties, such as the One Fund, and protecting the patients' privacy. The consulates and embassies of numerous countries contacted hospitals, public health, and public safety agencies to determine if any of their citizens were among the injured. Ultimately, city and state public health officials worked with the hospitals to create *ad hoc* systems to facilitate patient information sharing, which included a centralized list of patients maintained by the BPHC Medical Intelligence Center (MIC).

Boston OEM, BPHC, MDPH and the Massachusetts Department of Mental Health continued to assess the needs for and coordinate the provision of mental health services for survivors, their families, runners, volunteers, first responders, hospital staff and others in the community that had been impacted in some way by the events. An abundance of public and private practitioners wanted to help, but coordinating these assets presented substantial challenges. There was uncertainty about who was deploying which groups, and what each agency's responsibilities were. It was eventually decided that the MIC would handle all requests and associated logistics for these services, and a central email address and phone number was designated to streamline coordination of requests and offers for providing services. Although it took two days to effectively streamline the process for coordinating in-coming mental health personnel and services, these services were made available very quickly. Mental health services were available to the general public, and information on where to obtain these services was provided through the Mayor's Help Line. One resource that was especially helpful during the early days was the federal Mental Health Team that arrived through coordination with the regional United States Department of Health and Human Services staff. Since this resource arrived as a team, they were able to deploy quickly to meet initial requests for mental health assistance while allowing state and local entities the time needed to develop a more coordinated process.

The Castle

The Castle remained operational through Tuesday evening, serving an estimated 1,500 individuals over the course of its operations. OEM worked with the BAA to limit media access to the Castle to ensure the privacy of individuals seeking services or obtaining their belongings. The staff supporting Castle operations also helped resolve other issues for the runners, such as providing a van shuttle service to transport runners to their hotels, the airport and to Hopkinton (the Marathon Start), where some had left rental cars. To provide an opportunity for runners who were still on the course when the explosions occurred and the race was stopped to “finish” their Marathon, the BAA created a ceremonial Finish Line where runners could “finish” the Marathon and collect their medal when they arrived at the Castle to gather their belongings. In spite of the anger and grief that many felt, this act of “finishing” the Marathon created a positive environment for many.

By the end of the day on Tuesday, about 90 percent of the runners’ bags were reunited with their owners. When the Castle stood down its operations, the unclaimed bags were transferred to BAA headquarters.



A runner receives a Finisher's Medal.



Runners' bags at the Castle

Once the Castle operation stood down, services were transferred to the City Year Program headquarters in Boston. City Year opened one of its function rooms for counseling services, and organized other services, including bringing in a nurse. BCYF worked with the Mayor’s press office to announce this change, posted notice at the Castle, and distributed information through social media and on the websites of City departments and agencies.

Family Assistance Center

By Wednesday, April 17, the City of Boston opened a Family Assistance Center (FAC) exclusively for survivors who required medical care. This FAC was created to streamline access to services and programs for the survivors, their families, and the families of the three victims who lost their lives, and was staffed by the Massachusetts Attorney General’s Office, Massachusetts Office of Victim Assistance (MOVA), U.S. Department of Health and Human Services, American Red Cross, Boston OEM, and BPHC. The FAC assisted the families in communicating with hospitals,

offered mental health services, and researched and provided information on survivor services, including compensation, benefit information, and legal services. Because there was a concerted effort not to publicize the location of the FAC to limit press access to survivors and their families, officials made targeted outreach to impacted individuals and families to make the existence of the FAC and its services known to them. The FAC stood down its operations on April 26, and its services were relocated to the BPHC's main office on Massachusetts Avenue.

Memorial Service and Presidential Visit

Following the bombings on Monday, the Governor proposed that an interfaith memorial service be held to provide the community an opportunity to grieve together and begin the healing process. That service was planned for Thursday, April 18 at 11:00 a.m. at the Cathedral of the Holy Cross in Boston. The interfaith service would include a number of religious and public dignitaries as speakers.

On Tuesday, April 16, city and state officials were notified that the President and First Lady would attend the interfaith service being planned for Thursday. This event required a substantial planning effort



Interfaith Memorial Service

for the City, in particular for BPD and Boston OEM, whose resources were already strained. The need for security planning was compounded, as the suspects were still at large.

On Thursday, Boston OEM activated the Boston EOC to serve as the primary operations center for the interfaith service. At 11:00 a.m., the President arrived at the Cathedral in Boston. The Governor and Mayor spoke at the service, sharing thoughts and prayers for the survivors, and reiterating the importance of healing, carrying on, and helping each other get through this difficult time. The President echoed this message and talked about the resilience of the City of Boston and the members of the community. After the service, the President and First Lady met for several hours with survivors and their families at Massachusetts General Hospital and Brigham and Women's Hospital. They departed Boston at approximately 4:00 p.m.

Recovery Planning

On Tuesday, April 16, the Governor requested a Presidential Emergency Declaration to activate a variety of federal public assistance programs to assist in the recovery effort. The Emergency Declaration was granted on Wednesday.

At 9:00 a.m. on Wednesday, April 17, the Mayor held a Cabinet meeting at Brigham and Women's Hospital to set recovery priorities for the City and discuss the upcoming Presidential Visit. The Mayor was eager to get the impacted area back to normal as soon as possible. During the course of the Cabinet meeting, the Mayor asked the OEM Director to take the lead in developing and executing a plan for reopening the Boylston Street area for residents, businesses and the general public as quickly as possible after the FBI completed its investigation activities and released the area back to the City.

On Thursday, the Boston EOC coordinated activities in support of the President and First Lady's visit. As soon as the visit concluded, OEM conducted a planning meeting at the EOC with BPD, BFD, Boston EMS, BPHC, Inspectional Services Division, Mayor's Office of Neighborhood Services, Boston Transportation Department, Department of Neighborhood Development (DND), Boston Redevelopment Authority, Boston Parks and Recreation Department, Public Works Department, the Office of Constituent Services, ARC, the BAA, and Interstate Rental. Together, these agencies planned for several hours, and by the next day the City had developed a plan for the recovery and restoration of Boylston Street.

The Recovery Plan for Boylston Street had three primary objectives:

- Removing debris, cleaning streets and sidewalks, and disassembling the bleachers and overhead infrastructure near the Finish Line;
- Providing access to residents and business owners prior to the general public. Businesses needed to clean up and restock, and had to pass several inspections before obtaining occupancy permits and officially reopening; and
- Providing an opportunity for survivors and family members of the deceased to return to the incident sites, if they wished, before Boylston Street was reopened to the general public.

This plan would later be executed by the City.

As part of their operations, the FBI wanted access inside the commercial buildings and apartments within the crime scene perimeter to ensure there were no other unexploded devices. DND, working in cooperation with OEM and the Mayor's Help Line, identified the owners and renters of these properties and developed a list of them. These individuals were given information about the status of the crime scene and the FBI's request. They were asked to provide a key to their office

or residence, which was secured and later used by police and a representative from the City to ensure the premises were safe.

Business Assistance

As a core component of the City's recovery planning, DND took the lead in developing an assistance plan for businesses. DND worked closely with the Office of Constituent Engagement/Mayor's Help Line and OEM to identify all businesses in the affected area, and reached out to the owners with information about status of the area and the plan for reopening the area, including actions businesses would be required to take as part of the re-entry process such as obtaining required health and occupancy permits.

MEMA worked to quickly obtain a Small Business Administration (SBA) Economic Injury Disaster Loan (EIDL) declaration for impacted businesses. The City opened a Business Assistance Center, where the SBA was co-located, to provide information on available resources for businesses and assist them with navigating the insurance claim process and obtaining EIDL loans. In addition, DND sought out options for small business loans that some merchants needed to cover losses during the period of forced closure, negotiating with banks on their behalf. DND also answered questions about insurance coverage and served as ombudsman with the SBA on its EIDL program.

Apprehension of Suspects

The Photos

Through the investigative process, law enforcement officials obtained photos from surveillance cameras that captured digital images of the suspects. On Thursday, the FBI, US Attorney's office, and other law enforcement personnel deliberated about whether to release the photos to the public, weighing concerns about the suspects fleeing and the general safety of the public. A decision was made to release the photos, and a 5:20 p.m. press conference with the FBI, BPD, MSP, ATE, US Attorney and Transit PD was held at the Sheraton Boston to show the images to the public and request their assistance in identifying the suspects.

The FBI SAC made a statement and showed surveillance footage of two males, one with a black baseball cap (Suspect 1) and one with a white baseball cap (Suspect 2), carrying heavy backpacks down Boylston Street near the intersection of Gloucester Street, and walking in the direction of the Finish Line shortly before the explosions. The FBI also displayed fairly clear, static images of the suspects showing their faces. The FBI SAC stated that Suspect 2 had been seen placing a backpack down on the ground in front of the Forum restaurant (Site 2) moments before the explosions. The FBI requested the public, and in particular witnesses who were near the bombing locations,

to contact the FBI through the FBI tips hotline or through a website that had been established for the investigation. The FBI SAC cautioned that the public must consider these individuals as armed and dangerous, must not approach them, and must contact law enforcement individuals should they be identified or seen.

Immediately after the press conference, the FBI's tip hotline was inundated with calls from people who thought they could identify the suspects or had information about their location. This press conference also generated an increase in suspicious activity and suspicious packages calls to BPD and MSP.

Events Precipitating the Manhunt

At 10:28 p.m. on Thursday, April 18, Cambridge PD responded to an armed robbery at a convenience store located at 750 Massachusetts Avenue. Nearby, on the campus of the Massachusetts Institute of Technology (MIT), MIT Police Department (MIT PD) Officer Sean Collier was on duty in his cruiser parked between the Koch Institute Building and the Stata Center Building facing out toward Vassar Street. Around this time, it is believed that an individual or individuals approached Officer Collier from the rear of the vehicle and fatally shot him in his vehicle in an attempt to take his weapon. Initially, it was thought that the robbery was related to the homicide of Officer Collier. It was later determined that the two were unrelated.

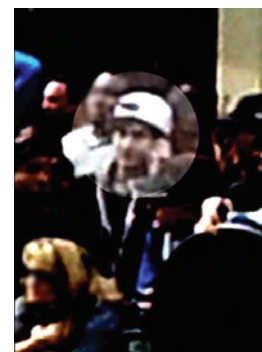
At 10:31 p.m., MIT PD put out a broadcast over the BAPERN radio network that one of their officers had been fatally shot on their campus in Cambridge. Cambridge PD and MSP responded to the scene.⁴⁰ At 11:16 p.m., Cambridge PD issued a "Be On the Look Out" (BOLO) for the armed robbery suspect.⁴¹ Transit PD received



FBI Unveils Images



Photos of Suspect #1: "Black Hat"



Photos of Suspect #2: "White Hat"

⁴⁰ The Middlesex County District Attorney has jurisdiction over the investigation of homicides in Cambridge. The District Attorney exercises this jurisdiction through a State Police Homicide Unit assigned to its office.

⁴¹ An official BOLO report is shared across the FBI's Criminal Justice Information Services system. The information must be entered into the system, which can take some time to complete.

information that the perpetrator may have entered the Red Line, and additional Transit PD officers were dispatched to Red Line stations and began searching the stations and trains.

At 11:20 p.m., a Mercedes sport utility vehicle (SUV) was carjacked in Allston, a neighborhood within Boston. The perpetrators of the carjacking drove around for some time with the owner of the vehicle held captive in the car before stopping at a gas station on Memorial Drive in Cambridge. With the vehicle stopped, the victim seized this moment to flee the vehicle and run to across the street to another gas station located at 820 Memorial Drive. At 12:19 a.m. on Friday, April 19, Cambridge PD received a 911 call from the victim of the SUV carjacking and responded to the scene.

At 12:26 a.m., Cambridge PD issued a second BOLO describing the SUV and the two male perpetrators of the carjacking, noting that the suspects were armed with guns. In addition, a BAPERN broadcast was issued with details of the suspects. Cambridge PD began to coordinate with the vehicle manufacturer to activate the vehicle's GPS anti-theft tracking system.

Approximately 20 minutes into the police interview with the victim, Cambridge PD learned that the victim had reportedly overheard the carjackers claim to be associated with the Marathon bombings, and were discussing the possibility of going to another major city to conduct a similar crime.⁴²

Watertown Firefight

The Watertown Police Department (Watertown PD) overnight shift is staffed to manage a traditionally low call volume. At 11:45 p.m. on April 18, roll call was conducted for the overnight shift which included a briefing on the murder of MIT Officer Sean Collier. A Lieutenant, a Sergeant, and four patrol officers were on duty for this overnight shift.

On Friday, April 19 at 12:41 a.m., Cambridge PD contacted Watertown PD to inform them that the tracking system of the carjacked SUV indicated that the vehicle was located near 81 Dexter Avenue in Watertown. At this time the responding officers were unaware that the perpetrators of the carjacking were potentially associated with the Marathon bombings. The Watertown PD dispatch unit relayed the information over the radio and advised officers that the response should be treated as a felony stop.

A patrol officer in the area responded to the call, driving down Dexter Avenue. He drove past the SUV, and identified it as the vehicle in question, noting it was occupied by one individual at the time. The responding officer put out a radio transmission stating that he had the SUV in sight. The on-duty Sergeant radioed the officer, advising him that he was nearby, and instructed the officer to wait for his arrival before approaching the vehicle.

⁴² There was a significant language barrier between the responding officers and the victim.

In the meantime, the SUV continued to drive down Dexter Avenue and turned left onto Laurel Street, with a Honda sedan occupied by another individual driving immediately behind the SUV. The responding officer trailed the vehicles without his blue lights on to keep them in his line of sight.

As the officer turned onto Laurel Street to follow the SUV, the first suspect emerged from the SUV and began firing his weapon at the cruiser while walking toward it. The Sergeant drove around the corner seconds later, and also took fire from the first suspect. Shots struck both officers' police cruisers, narrowly missing the two officers. The officers unsuccessfully attempted to remove their patrol rifles from the secure mounts in their vehicles, and returned fire with their handguns. The second suspect emerged from the Honda and began throwing homemade bombs at both police officers. Two pipe bombs and a large pressure-cooker bomb exploded; two more pipe bombs landed in the street nearby but did not explode. The officers radioed that shots had been fired, prompting the Watertown PD dispatch to request assistance from surrounding police departments and to stage a Watertown Fire Department ambulance at a nearby convenience store.

A firefight between Watertown PD and the suspects ensued. While the shootout continued, additional officers from Watertown PD, as well as officers from BPD, Cambridge PD, Transit PD, MSP and nearby communities responded to the scene.⁴³ Over 200 rounds were fired between the two sides.

During the firefight, the first suspect was shot as he stood outside the SUV. When he ran out of ammunition, he charged at a Watertown PD officer who was approaching the suspects from behind a residence. This officer tackled the suspect to the ground, and a second Watertown PD officer joined in to assist the officer and attempt to get the suspect in handcuffs.

The second suspect entered the SUV and drove directly toward the officers struggling with the first suspect on the ground. The officers were barely able to roll out of the way of the oncoming vehicle; however, the first suspect was not able to get out of the way and was struck and dragged a short distance as the vehicle continued driving down the street. The first suspect was taken into custody and transported by Boston EMS ambulance to Beth Israel Deaconess Hospital.⁴⁴ The second suspect ultimately drove out of the area, while being shot at by the numerous law enforcement officers lining the streets. The multitude of police vehicles parked in the roadway delayed the pursuit of the second suspect, and he was able to make it approximately one-half mile down the road before abandoning the vehicle on Spruce Street and fleeing on foot.

Transit PD Officer Richard Donohue, Jr. was shot and critically wounded during the firefight. Officers on the scene tended to Officer Donohue to slow the bleeding with pressure and a tourniquet.

⁴³ Many had already been en route from the Officer Collier murder scene in Cambridge.

⁴⁴ By protocol, Boston EMS units respond along with BPD SWAT units whenever they are deployed. In this case, Boston EMS had sent both a basic and advanced life support ambulance and shift commander to the Watertown incident, and they were staged a safe distance away during the shootout.

At 12:51 a.m., Officer Donohue was loaded into the Watertown Fire ambulance for transport, but egress from the area was challenging given the numerous police vehicles parked in the vicinity and blocking street access. To circumvent the congestion made by the multitude of police vehicles and allow for the two paramedics to remain in the rear of the ambulance with the patient, a Watertown PD officer drove the ambulance to Mount Auburn Hospital, the nearest medical facility. Mount Auburn Hospital was approximately two miles away from the shooting scene, but did not have a trauma center. Nevertheless, the EMTs aiding Officer Donohue believed he would not survive a longer ride to a facility with a trauma center, and directed that he be brought to Mount Auburn. Officer Donohue had to be resuscitated upon arrival at the hospital, but the medical team at Mount Auburn was able to save his life.

At 12:51 a.m., immediately after the gunfight, an unmarked MSP black pickup truck was incorrectly reported as stolen. The truck was then spotted driving on Adams Street, a few blocks from the scene of the firefight, with two occupants. The moving vehicle with unidentified occupants was fired upon by an officer. Upon further inspection, it was determined that the occupants of the vehicle were a BPD officer and MSP trooper in plain clothes, who were unhurt.

At 12:56 a.m., Dexter Avenue, Laurel Street, and adjacent Cypress Street in Watertown were restricted as an active crime scene. EOD teams worked to clear the explosive devices that remained undetonated on the street. Many of the residents had been awakened by gunfire, bomb blasts and sirens during the firefight. Although some homes and cars were struck by bullets and shrapnel, none of the residents in the neighborhood where the firefight took place were injured.

The Watertown PD dispatch center successfully handled the surge of more than 500 calls to 911.⁴⁵ They brought in two extra dispatchers, for a total of four, and ensured that calls were answered expeditiously, with few calls rolling over to overflow handling. Newton Police provided mutual aid personnel to Watertown to handle extra call volume not directly related to the search for the suspects. This assistance allowed Watertown PD to focus on searching for the suspect at large and managing the influx of mutual aid resources.

At 1:06 a.m., the first suspect was pronounced dead at the hospital after unsuccessful attempts to resuscitate him were made. Using fingerprints taken at the hospital, the suspect was identified as Tamerlan Tsarnaev. His records contained a picture of his younger brother, Dzhokhar Tsarnaev, which appeared to match the photo of Marathon bombing “Suspect 2” that had been distributed by the FBI.

⁴⁵ The Watertown dispatch center's normal volume is approximately thirty calls per day.

Search for “Suspect 2”

Around 1:00 a.m., BPD notified the Mayor of Boston about the events unfolding in Watertown, and the MEMA Director notified the Governor and the Secretary of EOPSS. By 1:12 a.m., Watertown PD designated the Arsenal Mall in Watertown as a staging area and location for a command post. Command post trailers from six public safety agencies were subsequently set up there. Key leaders from Watertown PD, BPD, Cambridge PD, Transit PD, MSP, MANG, MEMA and the FBI established an initial Unified Command (UC). The UC later expanded to include the Mayor, the Governor and the Secretary of EOPSS.

Given the suspect at large had escaped on foot, law enforcement officials believed there was a strong likelihood he remained in the area. Law enforcement cordoned off a 20-block area of Watertown and maintained that perimeter with the hope of containing the suspect. At 1:57 a.m., Watertown PD sent a *WatertownALERT* message to residents asking them to remain in their homes because of an active law enforcement incident, and to report any suspicious activity.⁴⁶

Around 2:30 a.m., the UC ordered a house-to-house grid search be conducted in the 20-block secured area to attempt to locate the second suspect. MSP and BPD supervisors began to devise a tactical plan to conduct these searches. By 5:00 a.m., MANG deployed 21 armored High Mobility Multipurpose Wheeled Vehicles (HMMVEEs) and 120 armed military police to help establish an outer security perimeter in Watertown and to assist in house-to-house searches.

By 5:30 a.m., tactical plans for the grid search were finalized and a systematic door-to-door search for the suspect at large began. A Tactical Operation Center (TOC) was stood up at the command post



Members of Unified Command at the Unified Command Center



National Guard Supporting Perimeter Security in Watertown



Law Enforcement Personnel Developing Grid Search for Suspect At Large

⁴⁶ *WatertownALERT* is the Town's public emergency notification system that provides emergency alerts via phone, text and email to individuals who opt to participate in the system. Publicly registered phone numbers of residents and businesses are automatically included in the system.

to coordinate the tactical grid search. Using sectional maps to organize the searches, the area to be searched was divided into five sectors and SWAT teams, comprised of members from Watertown PD, BPD, MSP, Cambridge PD, Brookline PD, NEMLEC, and MetroLEC, and augmented with FBI agents and MANG soldiers, were assigned to each sector. Each team operated under its own command structure.

While the tactical grid search plans were being developed, the UC began having discussions about how to best ensure the safety of the public while law enforcement officials searched for the suspect. Because the suspect was on foot, there was potential he would seek access to the transit system, which, because the suspect was considered armed and very dangerous, could have placed the ridership of the transit system at great risk. Discussions initially focused on closing MBTA subway stations and suspending bus routes in the immediate area. However, the MBTA advised the UC that a targeted suspension of subway and bus services was not feasible. This led the UC to the conclusion that the safety of the public required the immediate suspension of all public transportation services. The UC also recognized that to maintain the safety of the public, all residents in Watertown and surrounding communities should remain at home and indoors, and that a shelter-in-place request would be required.

At 5:15 a.m., the UC conducted a conference call with the Governor and Mayor of Boston to recommend the following protective actions: suspension of all MBTA service and the sheltering-in-place of Watertown, Newton, Waltham, Belmont, Cambridge and the Allston-Brighton neighborhood of Boston. After some discussion, the recommendations of the UC were accepted and authorized.

The UC was cognizant of the importance of communicating these protective action decisions prior to peak commuting times. At 5:45 a.m., a press conference was held with the MSP Superintendent, Watertown PD Chief, BPD Commissioner, MEMA Director, Transit PD Chief, and other public



First Press Conference Announcing the Shelter-in-Place Request and Suspension of the Transit System



Highway Sign



SWAT Team in Watertown

safety officials to announce that all MBTA transit system service had been suspended, and to request that residents and businesses in Watertown, Newton, Waltham, Belmont, Cambridge and the Allston-Brighton neighborhood of Boston shelter-in-place by remaining indoors and not congregating outside.

Shortly thereafter, the City of Boston issued an *ALERTBoston* message to the residents of Boston, and MEMA issued an emergency notification message through a smartphone application to the general public, as well as a HHAN alert to the public safety community regarding the manhunt in Watertown, the MBTA closure, and the shelter-in-place request.⁴⁷

At 6:30 a.m., MDPH activated its DOC in anticipation of support needs for the shelter-in-place. At 6:37 a.m., MDPH issued a HHAN message to hospitals to inform them that a shelter-in-place request was in effect and that the MBTA transit system had ceased operations.



Members of Unified Command meet with the Governor and Mayor

Around 7:15 a.m., the UC received a report that a suspicious person carrying a package had been picked up in Watertown by a taxi. The driver of the taxi was a person whose name appeared to be on the federal Joint Terrorism Task Force (JTTF) Terrorist Watch List. The destination of the taxi was reported to be South Station, a transit station serviced by both MBTA and Amtrak. Understandably, this caused great concern for the UC. By 7:49 a.m., Transit PD had locked down and secured all entrances and exits to passenger traffic at South Station, but an Amtrak train departed South Station heading for New York City at 5:15 a.m., prior to the lockdown.

The UC agreed to extend the shelter-in-place request to all of Boston. At a 7:59 a.m. press conference, the Governor, Watertown PD Chief, BPD Commissioner, MSP Superintendent and other public safety officials announced the expansion of the shelter-in-place request to include all of the City of Boston. Officials also used this press conference as an opportunity to provide information on the search for the suspect, the homicide of the MIT police officer, and the status of the injured Transit PD officer. The continued suspension of MBTA services was also reaffirmed.

The shelter-in-place request had cascading effects on area hospitals. Many of the hospitals did not know how to interpret the request and many treated it as a lockdown order for their facilities. Many had questions about whether they could release their staff at the end of their shifts, whether staff expected to come on shift would be permitted to travel to work, and whether they

⁴⁷ *ALERTBoston is the City's public emergency notification system that provides emergency alerts via phone, text and email to individuals who opt to participate in the system. MEMA used a free smartphone application, now known as Massachusetts Alerts, as a means of sending emergency notifications and information to individuals who have downloaded the application.*

could discharge patients. Secondly, they had concerns about the impacts on delivery of some of their essential supplies, especially linens. Typically, these items are not stocked in hospitals and are delivered on a “just in time” basis.

When hospitals initially reached out to local police departments for guidance, they received conflicting information. To help reduce confusion about what the shelter-in-place request meant for healthcare employees, MDPH coordinated with BPHC and law enforcement to address inquiries received from hospitals and other healthcare venues. Clarifying messages were subsequently issued through the HHAN, the MDPH Statewide Hospital Listserv, MEMA’s emergency notification smartphone application and an email to all City employees.

At 8:15 a.m., all taxi service in Boston was suspended based upon the terrorist alert, investigative leads and the reported information on the taxi driver and passenger allegedly en route to South Station. At 8:36 a.m., the Amtrak train that departed South Station at 5:15 a.m. was stopped in Norwalk, Connecticut and searched for the taxi suspect. By 9:00 a.m., the Metropolitan Police Department and Norwalk Police Department cleared the train after no suspect was found on board. The taxi driver was subsequently found not to be a person of interest and, in fact, was not listed on the JTTF Terrorism Watch List; the driver’s name had been misspelled as it was entered into the database inquiry, and subsequently had been confused with that of another individual who was in fact on the list.

As the hours went by, an overwhelming number of law enforcement officers arrived in Watertown from across Massachusetts, other New England states, and New York. Many of these law enforcement officers had self-deployed to the area once it became widely known that a Marathon bombings suspect was at large in Watertown. In many cases, their supervisors were not aware they had responded to Watertown. Law enforcement officials from a wide array of local, state and federal agencies arrived, including many federal organizations that typically do not respond to local incidents. Over the course of the day, more than 2,500 officers from 116 federal, state, and local law enforcement agencies arrived at the staging area. Most had no specific assignments and remained at the staging area for much of the day.

At both 1:30 a.m. and 6:30 a.m., Watertown issued a radio broadcast to all responding officers requesting them to stage at the parking lot of the Arsenal Mall. As large numbers of self-deployed officers continued to arrive, the ability to manage them became increasingly difficult. The UC, which was very much focused on the activities associated with the search for the suspect and the protective measures for the public, did not formally designate a lead for managing these mutual aid assets. Incoming personnel were not provided briefings on the situation or the command structure of the response operation. In addition, there was no systematic way to track incoming officers, provide assignments, and/or deny access to unnecessary mutual aid support. This resulted

in confusion about who had overall authority in the field as ongoing law enforcement activities were conducted. Given this lack of oversight, many of the officers staged in the area self-deployed to calls based on radio transmissions regarding possible locations of the suspect. This self-deployment compromised officer safety.

From a logistics perspective, the thousands of officers present in Watertown for the duration of the operation required care and feeding. MEMA and the Department of Fire Services coordinated with nonprofit organizations, such as American Red Cross and Salvation Army, and private sector partners such as Target and Home Depot, to organize basic services for these individuals, including food, water, portable toilets, and other supplies.

As the search went on, a number of leads were identified, including one at the University of Massachusetts in Dartmouth, where the suspect attended school. To quickly investigate this lead, the FBI needed helicopters to fly agents, BPD officers and MSP SWAT teams. MANG quickly coordinated the deployment of three Blackhawk helicopters to fly these assets to Dartmouth.



Officers at the Staging Area



Blackhawks Near Staging Area

Although the helicopters were flown by combat-trained pilots who were experienced in flying into tight spaces under combat conditions, finding a landing zone in Watertown large enough to safely put down the helicopter was challenging. MANG quickly searched for a landing zone near the Arsenal Mall parking lot where the bulk of the out-of-town police had staged, and identified an area that was just large enough for a helicopter to land. Several vehicles had to be towed from this area to make sufficient space available to land the helicopters.

The helicopters arrived around 2:00 p.m. MANG personnel on the ground had to guide the helicopters into the landing zone via hand signals. SWAT teams and FBI agents loaded onto the helicopters within 20 seconds of landing to allow the helicopter to quickly get off the ground. Although SWAT teams had not trained for this situation, the airlift went well. However, in the haste to land the helicopters, the Watertown Fire Department was not notified in advance and therefore was not able to stage fire equipment nearby in the event of an accident.

A third press conference was held at 12:35 p.m. to provide an update on the status of the ongoing search. The press conference included the Governor, Mayor of Boston, MSP Superintendent, Watertown PD Chief, BPD Commissioner, Transit PD Chief, MEMA Director, and other public safety officials. Officials reiterated that the shelter-in-place request remained in place and reminded individuals to remain indoors. Officials provided an update on the grid search, indicating that it was 60–70 percent complete, but that the suspect remained at large. In addition to this press conference, later in the afternoon, officials pushed out messages to the public safety community and the public to provide clarifying information and guidance on the shelter-in-place request, which included statements that individuals were allowed to travel home from work. In addition, various agencies and organizations provided information through social media platforms. This information was not always coordinated and at times led to erroneous and conflicting messages about the status of the search being provided to the public.

As the majority of door-to-door searches were completed, law enforcement officials came to believe that there was a possibility the suspect had escaped the area. At 4:30 p.m., the UC began to contemplate the continued need for the shelter-in-place request. Residents had been confined to their homes for nearly 12 hours, and businesses were eager to get back to work. Given the probability that the suspect had fled the area, officials did not wish to continue the shelter-in-place request unnecessarily and restored service to the transit system at 5:30 p.m.



Third Press Conference in Watertown

The Governor, Mayor of Boston, MSP Superintendent, Watertown PD Chief, BPD Commissioner, MEMA Director, Transit PD Chief, FBI SAC, US Attorney, and other public safety and elected officials held a press conference at 6:03

p.m. to provide an update on the search, and inform the public that the shelter-in-place request had been lifted. After thanking the public for graciously complying with the shelter-in-place request, officials reminded them to remain vigilant as a dangerous individual remained at large, and to report any suspicious activity to law enforcement.

Apprehension of “Suspect 2”

At 6:42 p.m., shortly after the shelter-in-place request was lifted, Watertown PD received a 911 call from a resident living at 67 Franklin Street. The resident reported that when the shelter-in-place request was lifted, he went to check a loose strap hanging from his winterized boat parked in his backyard. When he unzipped the tarp, he immediately observed blood, and—a moment later—saw a body laying in the boat. He immediately returned to his house and dialed 911.

Officers immediately responded to the home, which was located in a residential neighborhood. Three Watertown PD officers and three BPD officers were first on scene, and not knowing whether the suspect was armed or still had explosives, requested support from tactical and EOD units.

Once radio traffic about the location of the suspect was made, a large number of law enforcement officers self-deployed to the scene. Within moments, more than 100 officers had gathered in front of and behind the home. It was unclear who was responsible for the inner and outer perimeters.

At 6:54 p.m., an officer, without appropriate authority, fired his weapon in response to perceived movement in the boat and concern the suspect had a weapon. After this first shot, many other officers on scene opened fire at the boat, assuming they were being fired upon by the suspect. Weapons continued to be fired for several seconds even while on scene supervisors ordered a ceasefire. After the shooting stopped, the suspect did not emerge. At 7:05 p.m., movement was observed in the boat.

At 7:43 p.m., with no additional movement in the boat from the suspect, officials devised a plan to coerce the suspect from the boat by deploying flashbangs. After placing Watertown FD on standby to respond to any potential related fires, law enforcement officers deployed flashbangs at 7:46 p.m., but were unsuccessful in driving the suspect from the boat. Using an MSP helicopter with infrared camera technology, police officials were able to confirm that the suspect was still alive and moving within the boat.

At 8:02 p.m., the UC deployed an FBI Hostage Response Team to communicate with the suspect in an effort to persuade him to surrender, and an MSP Special Tactical Operations (STOP) Team Bearcat armored vehicle pulled back the tarp covering the boat with a remote arm. The FBI Hostage Response Team then communicated with the suspect, but the suspect did not immediately surrender.

At 8:41 p.m., the suspect emerged from the boat and officers rushed in to make the arrest. The suspect, who had sustained injuries during his various encounters with law enforcement, was transported by ambulance under heavy guard to Beth Israel Deaconess Medical Center.

A final on scene press conference was held at 9:32 p.m. with the Governor, Mayor of Boston, MSP Superintendent, BPD Commissioner, Watertown PD Chief, Transit PD Chief, US Attorney, FBI SAC, ATF SAC, and other public safety and elected officials to announce that the



Final Press Conference in Watertown Announcing Apprehension of the Suspect

second suspect had been apprehended and taken into custody. An impromptu celebration ensued with Watertown residents coming out of their houses to thank officers.

The areas around Franklin Street, where the boat was located, and Laurel Street, where the fire-fight occurred, remained closed as crime scenes until the FBI and MSP could complete their investigative and evidence collection activities several days later.

Memorial for MIT Officer Sean Collier

After consultation with the MIT Police Chief, the Cambridge Police Commissioner instructed his police department to assist with police operations at MIT to provide MIT PD a chance to recover from the shock of having one of their officers killed. Cambridge PD provided this assistance beginning the last half shift on Friday, April 19 until Friday, April 26.

Cambridge PD assisted MIT PD Police in setting up a planning team for the massive April 24 memorial service for MIT PD Officer Sean Collier. Although one suspect was dead and another in custody, it was not yet known whether there were additional accomplices at large, and therefore security for the memorial service was very tight. The planning team carefully coordinated with numerous public safety partners, including MSP, FBI, US Secret Service, and MEMA, to develop the public safety operational plan.

The memorial service was held at Briggs Field, a large sports field in Cambridge on the MIT campus, under extraordinary security. Over 30,000 people attended the service to pay tribute to Officer Collier, including the Vice President, Governor, MIT students, staff and administrators, and thousands of law enforcement officers from across the country.



Officer Sean Collier Memorial Service



Recovery

Reopening Boylston Street

With the City's plan to re-open Boylston Street well-developed and in place, Boston's EOC began organizing and staging equipment for the restoration to ensure resources were readily available to deploy once the area was released to the City.

Recognizing that the public may not fully understand the enormity of the tasks that had to be completed prior to re-opening Boylston Street, the Mayor and OEM publically released details of the recovery plan after it was finalized. On Sunday, April 21, the Mayor briefed the media at Engine 33 on Boylston Street on the City's plan for the restoration and re-occupation of the impacted area.

On Monday, April 22, the City learned that the FBI wanted to have a ceremony the following evening, at which time a flag would be given to the Mayor signifying the formal return of the crime scene area to the City of Boston. Upon conclusion of the ceremony, the City would be permitted to allow work crews, residents, and businesses back into the area. OEM requested all EOC liaisons be at the EOC by 3:00 p.m. on Monday for a full activation of the EOC to ensure

the readiness of resources and logistics to begin recovery activities.



**Flag Ceremony Honoring the Return of
Boylston Street to the City of Boston**

On Monday, April 22, a 5:00 p.m. ceremony was held to memorialize the return of Boylston Street to the City. At 5:22 p.m., OEM gave the go-ahead to Boston personnel and their partners, who had been lined up at the ready, to enter the impacted area with their equipment to immediately begin executing the restoration plan. Efforts to take down the infrastructure

that had been constructed for the Marathon, including VIP bleachers, the large media bridge over the Finish Line, and the medical tents, commenced. Activities for clearing debris from and sanitizing sidewalks, streets and business began, and building inspections were conducted.

On Tuesday, April 23, personnel from various city agencies activated the Hynes Convention Center as a central coordination location for providing systematic access for residents and business owners to the area. Individuals registered here, and beginning at 10:00 a.m., one block in the impacted area was opened each hour. Depending upon the composition (residences, hotels, and businesses), density and population of the block being opened, the numbers of individuals seeking access at that hour ranged from 100 to 1,000. Each person was escorted by a city employee to his or her place of business or residence. By 4:00 p.m, all residents and businesses who wanted to

access their premises had been allowed to enter. In the evening, survivors, their families and the families of the deceased were provided an opportunity to privately visit the sites and participate in a small ceremony.

After the private ceremony, city workers continued to prepare Boylston Street for public use. They worked through the night to replace street lights, continue cleanup, and ensure memorials had been carefully relocated to Copley Square. By 3:00 a.m., the job was completed and Boylston Street re-opened to the public quietly and without fanfare.

Presidential Emergency Declaration

On Tuesday, April 16, the Governor submitted a written request for a Presidential Emergency Declaration for the bombings. On Wednesday, April 17, the President issued the Emergency Declaration, activating the Public Assistance (PA) Program for eligible public and private nonprofit organizations to allow up to 75 percent reimbursement for FEMA-approved response activities occurring from April 15 through April 22, 2013.⁴⁸

The emergency declaration and PA Program involved complex issues. Because the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) and its associated policies and regulations were developed to address disasters resulting from natural hazards, some nuances to these policies and regulations were difficult to apply to manmade incidents such as acts of terrorism. In particular, the policies and regulations defining eligible emergency protective measures and requirements for mutual aid required a degree of interpretation and analysis to define applicability for this incident's response activities.

It was identified early on that activities associated with the investigation of the crime were not eligible costs under the PA Program. Such activities included gathering and analyzing the thousands of photographs and video feeds provided to and obtained by law enforcement, questioning witnesses and suspects, analyzing and sharing intelligence information and performing forensics and attribution tasks. In addition, enhanced security measures related to the visit of dignitaries such as the President, First Lady and Vice President were ineligible.

Activities deemed to be eligible emergency protective measures included response to the bombings, securing crime scenes, response to additional threats, increased security because of heightened security risks not associated with enhanced security measures for dignitary visits, door-to-door searches, and EOC/command post operations.

⁴⁸When the declaration was issued on April 17, 2013, the initial incident period was defined as April 15–22, 2013. MEMA appealed the incident period to include emergency protective measures that continued for several days after the apprehension of the suspects to include security for the Officer Sean Collier memorial service, as well as the enhanced security that continued until it could be confirmed that no other suspects were involved in the incidents. On July 19, 2013, FEMA approved the extension of the incident period through April 26, 2013.

Early on in the PA process, MEMA hosted a meeting with FEMA and key sub-applicant representatives from Boston, Watertown, Cambridge, and MSP, to discuss mutual aid reimbursement requirements. Over the course of the incident period, more than 150 different municipalities and agencies had provided mutual aid to Boston and Watertown. The majority of mutual aid was provided through regional law enforcement councils (LECs); however, some direct mutual aid was provided to Boston by municipalities. In addition, MSP requested assistance from New Hampshire, Rhode Island and Connecticut for EOD units, K-9 teams and Search and Rescue teams through the New England State Police Compact. MEMA hosted this meeting to address issues and identify actions, such as amending mutual aid agreements or establishing post-event mutual aid agreements, which needed to be taken to ensure eligibility of mutual aid costs. Ultimately, the City of Boston took responsibility as the requesting authority for all mutual aid receiving by law enforcement councils, assuming the 25 percent cost share associated with these activities.

To best be able to discuss and resolve the complex issues related to eligibility of costs associated with the emergency declaration and PA Program, FEMA embedded PA staff at MEMA Headquarters (HQ), establishing an informal Joint Field Office. To further ensure a continued open dialog to best address the complicated issues associated with the emergency declaration and PA Program, MEMA and FEMA hosted weekly coordination meetings with sub-applicants whose project worksheets were more complex, including Boston, Watertown, Cambridge, MSP and MANG. The meetings helped proactively address questions and issues related to the compiling of appropriate documentation to support project worksheets, and to assist sub-applicants through the PA process.

While the restrictions on eligible activities seemed to be clearly defined, it was extremely difficult for PA sub-applicants to clearly differentiate and document which law enforcement officers were working on activities associated with the investigation or enhanced security for the dignitary visits versus activities associated with eligible emergency protective measures. In addition, certain specialized law enforcement equipment, such as SWAT vehicles, bearcats, and MSP helicopters, were not captured in FEMA's standard equipment rates and required significant coordination time and resources with sub-applicants and FEMA HQ to identify reasonable reimbursement rates for equipment.

Numerous hospitals, which are typically eligible private nonprofit sub-applicants, incurred significant increased operating costs for the unexpected surge in number of patients, overtime costs for medical surge staff, and holdover staff for the April 19, 2013 shelter-in-place request. However, although these increased operating costs were associated with the medical surge capacity they were required to implement in direct response to the bombings, costs were deemed ineligible under Recovery Policy 9525.4 (Emergency Medical Care).

Subsequently, FEMA carefully reviewed Recovery Policy 9525.4 and revised the policy in February 2014 to deem certain emergency medical care activities eligible for reimbursement under the PA Program. Unfortunately, hospitals were not successful in their formal appeals to FEMA to have their costs deemed eligible because the provisions of the policy that were in place at the time the costs were incurred deemed these activities ineligible.

Months after the Presidential Emergency Declaration, MEMA learned of a Department of Justice (DOJ) Bureau of Justice Assistance (BJA) reimbursement grant opportunity for law enforcement agencies that would cover 100% of costs associated with the law enforcement response to the Marathon bombings.⁴⁹ While this was good news for the eligible law enforcement agencies, the delay in communicating the availability of this grant opportunity caused a great deal of unnecessary time and resources to be spent on interpreting the PA Program policies for costs that were not eligible under the PA Program, but were eligible under the DOJ grant. Ultimately, law enforcement agencies were able to take advantage of the DOJ grant to recoup investigative activities and mutual aid costs.

⁴⁹Under the Stafford Act Public Assistance Program, applicants may receive up to 75% reimbursement for eligible costs.

ANALYSIS OF CAPABILITIES

IN THIS SECTION OF THE REPORT, AN ANALYSIS OF the actions and capabilities of responding agencies is provided. This analysis is based upon information reviewed in documents and obtained during interviews with stakeholders, and identifies best practices, areas requiring improvement, and associated recommendations to address these areas.

The analysis is organized according to five focus areas:

- Preparedness
- Day 1: Initial Response to Explosions
- Days 2-4: Ongoing Response to Explosions
- Day 5: Apprehension of Suspects
- Recovery

Each focus area contains a discussion identifying best practices, a review of specific capabilities applicable to the respective focus area (such as command and control, law enforcement response, health and medical response, public information, etc.), and a related discussion about areas needing improvement. Best practices and recommendations to address areas needing improvement are not listed by priority. For health and medical capabilities, the associated Public Health Emergency Preparedness/Hospital Preparedness Program (PHEP/HPP) Capability is identified.

It is important to note that a great deal of progress has been made by all agencies involved in addressing the identified areas for improvement. Many of these improvements were adeptly displayed during public safety and medical operations supporting the 2014 Boston Marathon.

FOCUS AREA 1

Preparedness

BEST PRACTICES

BEST PRACTICE 1.1

Developing and Maintaining Pre-Existing Professional Relationships

The response to the Boston Marathon bombings and the incidents that ensued in the following days is an extraordinary example of how pre-existing relationships among local, state and federal leadership and public safety and public health partners enhance capacity and capabilities to respond to complex incidents in a manner that cannot tangibly be captured or addressed in a written plan.

Pre-existing professional relationships among key leadership and front-line personnel, developed through years of planning for the Marathon and other special events, training and exercising together, and experience with prior large-scale incidents, proved to be critically important throughout the incidents that week. These relationships built the trust and rapport that allowed for Unified Command (UC) to come together organically and quickly and supported timely, effective, and collaborative decision making. These relationships also allowed leadership to call for resources, task missions, mobilize mutual aid, and coordinate communications effectively. It took just a few calls or personal conversations among senior leadership to obtain approval and arrange assistance for many aspects of the response. The relationships also supported the coordination of providing assistance for runners, provided confidence in capabilities, and eased the sharing of information among city, regional, state and federal organizations. Even at the highest level, the relationship and coordination was evident: the Governor and Mayor knew each other well and were able to easily coordinate state and local resources as needed, and coordinate release of information at joint press conferences.

BEST PRACTICE 1.2

Integrated Public Safety Planning Activities In Support of Marathon Day

Each year leading up to the Boston Marathon, the Boston Athletic Association (BAA), in partnership with the Massachusetts Emergency Management Agency (MEMA), facilitates a robust planning effort with all public safety stakeholders that have a role in supporting the Marathon. Stakeholders include police, fire, and private and public sector emergency medical services (EMS) organizations from each of the eight cities and towns that host the Boston Marathon, MEMA, Massachusetts State Police (MSP), Massachusetts Department of Public Health (MDPH), Mas-

sachusetts National Guard (MANG), American Red Cross (ARC), area hospitals, and the BAA.⁵⁰ The planning meetings include a review of lessons learned from the most recent marathons and ensure modifications to plans and Marathon Day activities are developed to address them.

Each of these entities provides a representative to the Multi-Agency Coordination Center (MACC) on Marathon Day to coordinate public safety response and provide situational awareness for activities along and impacting the course. These agencies are better prepared to respond to any incident impacting the Marathon because they plan together, have built relationships with one another, and know the plans well.

BEST PRACTICE 1.3

Implementation of a Comprehensive Medical System Supporting the Marathon

The all-hazards medical system in place on Marathon Day ensured capabilities and capacity to quickly triage and transport the injured from the scene of the incident. Under the leadership of the BAA, an enhanced, all-hazards medical system is put in place each year for Marathon Day with the intent of taking pressure off of the area hospital system, allowing them to receive only critical patients. The 2012 Marathon took place on an unusually hot day, causing a large influx of patients with heat-related emergencies to the medical tents and hospitals. Although a very capable medical system was in place, this large influx greatly stressed the medical system and caused race, medical and public safety officials to re-evaluate the medical system for the following year's Marathon. As a result, in preparation for the 2013 Marathon, these officials further enhanced medical protocols and capabilities to better enable the medical system to support larger numbers of patients on the course rather than requiring transport to hospitals.

This medical system proved to be very advantageous in handling the surge of injured persons. This system was supported by the BAA, ARC, MDPH, Boston Emergency Medical Services (Boston EMS), Boston Public Health Commission (BPHC), hospitals, and private ambulance companies, and was designed to provide support to runners for all hazards—everything from cuts and blisters to heat injuries and cardiac arrest. This system included the activation of 26 medical tents along the course staffed with medical volunteers and ambulances staged nearby in support of them. Eight of these tents were enhanced medical tents and supported by advanced medical volunteers, equipment, and staged ambulances. Alpha Medical Tent was also an enhanced medical tent located just past the Finish Line, and was staffed with a large number of medical volunteers, as well as members of Boston EMS and ARC, and was supported by a number of ambulances staged nearby.⁵¹

In addition, the hospitals take significant preparedness measures for Marathon Day. Hospital

⁵⁰ The Marathon route passes through Hopkinton, Ashland, Framingham, Natick, Wellesley, Newton, Brookline and Boston.

⁵¹ Certified medical physicians, physician assistants, nurses, emergency medical technicians and paramedics volunteer their time to provide services at Marathon medical tents.

preparedness included partial or full staffing of their Emergency Operations Centers (EOCs); monitoring WebEOC for information on events; conducting briefings for supervisors and admitting staff; implementing patient tracking systems; and preparing for patient surge by having emergency plans on hand and establishing caches of supplies, such as ice and immersion tubs for heat victims.⁵² Because Marathon Day always takes place on the Patriots' Day holiday, hospitals scheduled fewer surgeries and other medical appointments on race day, which allowed emergency departments, operating rooms, and other services to be ready to handle a surge. In addition, MDPH, under Emergency Support Function (ESF) 8 at the MACC, routinely obtained bed availability information from area hospitals throughout the course of the day prior to the bombings occurring.

Lastly, the Boston Fire Department had decontamination units ready on side streets and was prepared to decontaminate runners, spectators and first responders, if necessary.

PHEP Capability 1 – Community Preparedness
HPP Capability 1 – Healthcare System Preparedness
PHEP/HPP Capability 3 – Emergency Operations Coordination
PHEP/HPP Capability 6 – Information Sharing
HPP Capability 10 – Medical Surge

BEST PRACTICE 1.4

Activation of a Multi-Agency Coordination Center in Support of Marathon Activities

As has occurred for many years, a Multi-Agency Coordination Center (MACC) was fully staffed and operational on race day to support related public safety and health activities. The MACC, located at the State Emergency Operations Center at MEMA Headquarters in Framingham, had over 80 representatives from the BAA, ARC, MEMA, MDPH, as well as state and local law enforcement, fire services, emergency medical services (EMS), emergency management, public health and medical agencies and organizations with a role in supporting the Marathon. Because the MACC was fully staffed with multi-disciplinary partners, the MACC was able to play an integral role in coordinating with the Unified Command Center (UCC) to obtain assets in support of the response to the bombings and the management of runners and spectators.

BEST PRACTICE 1.5

Participation in Multi-Jurisdictional Exercises

Participation in tabletop, functional and full scale exercises enhanced capabilities and proficiency to respond to the mass casualty incident generated by the bombings. The importance of practicing response and coordination roles and responsibilities, and collaboratively addressing identified

⁵² WebEOC is a web-based situational awareness tool used by MEMA, MDPH and the City of Boston to exchange information about ongoing emergency incidents.

issues during exercises was cited by numerous public safety and health professionals. Exercises such as the annual Boston Marathon tabletop exercise, the annual Urban Shield full scale exercise, and numerous other functional exercises that occur frequently among local, state and federal partners in Massachusetts, increased the skills, partnerships and understanding of the Incident Command System (ICS) among leadership and responders. This increase in skill sets made for a better prepared public safety, EMS and healthcare response system on the day of the bombings.

Each year, local, state and federal public safety partners with a role in providing safety and security for the Boston Marathon participate in a tabletop exercise to discuss how to coordinate responses to a number of scenarios, ranging from severe weather to a mass casualty incident. In the 2012 tabletop exercise, participants exercised a scenario that included a mass casualty incident (collapsed grandstand) in the area of the Finish Line in Boston. Participants were able to work through how they would collaboratively respond to a mass casualty incident. Indeed, the initial response to the bombings was similar to what had been practiced during that scenario.

Urban Shield is an annual full-scale exercise conducted in Greater Metropolitan Boston under the Urban Areas Security Initiative (UASI) program. This 24-hour exercise generally includes participants from the nine jurisdictions in the UASI, and also integrates specialized regional assets such as law enforcement councils.⁵³ Prior to the 2013 Boston Marathon bombings, Urban Shield exercised response to terrorism-related mass casualty incidents. These exercises included the following goals and objectives:

- Demonstrate the capability to provide management, direction, control, and coordination of response activities and multi-agency coordination.
- Evaluate regional tactical capabilities related to law enforcement intervention/interdiction operations.
- Evaluate the region's ability to respond to and properly manage a Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) event, including the integration and effectiveness of localized police, fire, and Hazardous Materials (HazMat) services.
- Assess the ability to utilize the Metro-Boston Emergency Tracking System with participating ambulatory care providers and hospitals.
- Establish proper command centers utilizing the National Incident Management System (NIMS) and ICS principals to maintain on-site communications, direct and coordinate arriving regional, state, and federal first responders, and integrate regional Special Weapons and Tactics (SWAT) Teams and maritime units with fire, hospital and EMS personnel.

⁵³ The nine jurisdictions which comprise the Metropolitan Boston UASI region are Boston, Brookline, Cambridge, Chelsea, Everett, Quincy, Revere, Somerville and Winthrop.

- Demonstrate the capability to successfully deter, detect, disrupt, investigate, and/or apprehend suspects involved in criminal activities related to homeland security.
- Assess the region's ability to safely and appropriately deploy tactical personnel using a variety of techniques and resources.
- Assess the region's ability to properly respond, assess and render safe explosive hazards.
- Test the ability of EMS personnel to provide mass casualty triage and expedient field treatment of multiple casualties while law enforcement tactical teams provide protection, resulting in intra-agency and multi-discipline integration and coordination.

Many agencies interviewed for the *After Action Report for the Response to the 2013 Boston Marathon Bombings* cited Urban Shield Boston as having directly contributed to their preparedness for dealing with the bombings, including exercising interagency communications, dealing with various contingencies, and promoting relationships among the key personnel who work together in an emergency.

BEST PRACTICE 1.6

Hospital Participation in Emergency Preparedness Planning and Exercises

Each hospital involved in the response to the Marathon bombings participates in coordinated emergency preparedness and response planning, has designated emergency managers, and maintains updated emergency operations plans. In addition, hospitals participate in internal drills and simulations as well as external inter-facility, multi-disciplinary exercises to ensure capabilities for mass casualty response and medical surge. This level of preparedness contributed to the hospitals' ability to successfully receive and treat large numbers of critical and non-critical patients, and coordinate the sharing of information with healthcare, public health and public safety partners.

BEST PRACTICE 1.7

Formal Mutual Aid Agreements

The initial response to the bombings required extensive coordination of mutual aid assets including requesting and deploying Explosive Ordnance Disposal (EOD) teams and increasing police presence throughout the City of Boston. An EOD command structure was quickly created to manage the coordinated multi-jurisdictional effort to assess and clear the scene, suspicious packages, and runners' bags. The mutual aid was facilitated through existing relationships and agreements. For example, EOD assets from New Hampshire, Connecticut and Rhode Island State Police Departments were activated through the New England State Police Compact, which allows states to request and receive interstate law enforcement assets.

Additionally, Boston Police Department (BPD) was able to activate mutual aid from Massachusetts Bay Transportation Authority (MBTA) Transit Police Department (Transit PD), Cambridge Police Department (Cambridge PD), and assets from the Law Enforcement Councils (LECs) through pre-existing agreements. Metro Boston Law Enforcement Council (MetroLEC) and North Eastern Massachusetts Law Enforcement Council (NEMLEC) as recognized LECs have the authority, when requested, to deploy regionally-formed tactical and specialized resources such as EOD teams, SWAT teams, K-9 units, motorcycle units, and negotiators throughout the Commonwealth. These systems allowed the City of Boston to access additional EOD teams to assist with the surge of calls for suspicious packages. LEC units were also utilized to increase presence at identified critical infrastructure throughout the City.

From an EMS perspective, existing mutual aid agreements and protocols greatly contributed to the speed of response from the EMS community. In the moments after the explosions, Boston EMS was able to contact each of their mutual aid partners through a dedicated radio channel to quickly summon aid to the scene.

BEST PRACTICE 1.8

Use of Notification Systems and Tools to Share Information

MDPH maintains the Health and Homeland Alert Network (HHAN) that is used by MDPH, BPHC and MEMA to issue alerts to healthcare and public safety communities, respectively. The HHAN is a tool that can provide rapid emergency notification through email and phone. It is also used by MDPH to provide information to and request information from hospitals such as resource availability, patient surge, and long-term needs. Use of the HHAN is well-established in Massachusetts, as MEMA and MDPH both use and test the system regularly. During the Marathon-related incidents, MDPH and the BPHC Medical Intelligence Center (MIC) used the HHAN as a direct communication link to provide critical information to hospitals; MEMA used the HHAN to provide critical information to the public safety community.

PHEP/HPP Capability 6 – Information Sharing

BEST PRACTICE 1.9

Pre-Race Assessments of Route by Joint Hazard Assessment Teams (JHATs)

For the 2013 Boston Marathon, monitoring for chemical, biological, radiological, nuclear and explosive (CBRNE) material was conducted by multi-disciplinary Joint Hazard Assessment Teams (JHATs). Each team within the City of Boston included representatives from the Boston Fire Hazardous Materials Team, Boston Police EOD Team, the MANG Civil Support Team (CST), and the Federal Bureau of Investigation (FBI).⁵⁴ These collaborative teams had extensive capabilities, and

⁵⁴ JHATs assigned along the route outside of the City of Boston included representatives from the MSP EOD, Massachusetts Department of Fire Services (DFS) HAZMAT Team, and the MANG CST.

conducted ongoing monitoring of contaminants in the area of the Finish Line on both mobile and fixed devices, and swept for explosive devices multiple times prior to the start of the race.⁵⁵ After the bombings took place, JHATs were able to quickly determine that the bombs did not contain chemical, biological, radiological or nuclear materials soon after the explosions took place.

AREAS NEEDING IMPROVEMENT

IMPROVEMENT AREA 1.1

Lack of an Integrated Public Safety Plan for Marathon Day

Although integrated, public safety planning was done well, a single, integrated, comprehensive operational plan for all public safety organizations was not developed for the 2013 Boston Marathon. Stakeholders developed a number of individual plans focusing on specific disciplines and/or jurisdictions, but these plans were not synchronized to form a single operational plan or to support the sharing of a common operating picture. The format and content of the individual plans were inconsistent and varied in substance and level of detail from community to community, and from agency to agency. In addition, although many plans identified potential locations that could serve as shelters for runners, none of the plans detailed how runners would be directed to shelters, or how they would be transported to a final destination. While there were some elements of capabilities to handle a course disruption, there were no specific details on how a response to a course disruption would be coordinated among disciplines and jurisdictions.

Agencies/Jurisdictions Involved: All public safety agencies supporting the Marathon

Recommendation 1: Create an Integrated, All-Hazards Public Safety Operational Plan for the Boston Marathon Each Year.

An integrated public safety operational plan that includes all disciplines and jurisdictions, addresses all hazards, and provides appropriate contingency planning should be developed for the Boston Marathon each year.

IMPROVEMENT AREA 1.2

Need for Enhanced Security for the Marathon Course

Because the Boston Marathon is a large, public, family event, a majority of the course is open to the public. There are very few locations along the course that have hardened, secure viewing areas, such as the VIP seating area at the Finish Line, which was across the street from where the first

⁵⁵ The improvised explosive devices that exploded were brought to the area by the suspects just prior to detonation, and were not on site for an extended period of time.

device was detonated in 2013. The areas surrounding the Finish Line in Boston and the Start Line in Hopkinton, which are deemed to be higher risk than other public viewing areas, are screened for the presence of contaminants and devices several times during the day, and are patrolled by law enforcement personnel. However, these areas are open to the public, are heavily populated, and no screening of persons or baggage is conducted.

Given the public nature of the event, it was not difficult for the suspects to place portable improvised explosive devices (IEDs) in densely populated spectator areas near the Marathon course with the goal of detonating them within moments of placing them.

Agencies/Jurisdictions Involved: BPD, MSP, MANG, FBI, and local law enforcement in communities along the route

Recommendation 2: Implement Strategies and Enhance Security to Limit Risk for Large, Public, Mass Gathering Events, While Maintaining a Family-Friendly Atmosphere.

Because the Boston Marathon is a large, public, family event, there needs to be an appropriate balance between security protocols and the feel of the event. However, steps could be taken to enhance the overall security of the event, and thereby increase the sense of security felt by runners and spectators. Local and state law enforcement should re-evaluate existing security protocols and make determinations as to what security enhancements should be implemented along the course. These could include: prohibitions on bags along the course; screening of bags along the course; establishment of additional designated hardened, secure areas; increased numbers of staged law enforcement response assets along the course; increased capability to monitor and detect behavioral indicators; and other measures as deemed appropriate by law enforcement and security experts. However, these protocols should not be so intrusive as to change the feeling of the event.

FOCUS AREA 2

Day 1: Initial Response to Explosions

BEST PRACTICES

CAPABILITY: COMMAND

BEST PRACTICE 2.1

Swift Establishment of Unified Command and a Unified Command Center

Incident commanders came together quickly on Boylston Street, and within 30 minutes made a decision to stand up a nearby Unified Command Center (UCC). The Westin Hotel, which is located a block south of Boylston Street, became the ad hoc UCC location for the next 24 hours, housing various representatives from multiple agencies that comprised Unified Command (UC). The co-location of Unified Commanders created an environment for collaborative decision-making, streamlined execution of mission-tasking, and coordinated public messaging.

CAPABILITY: LAW ENFORCEMENT

BEST PRACTICE 2.2

Effective Communication to Prevent Emergency Vehicles from Blocking Access to Impacted Areas

Responders were cognizant of the need to keep roadways in the vicinity of the bombing clear to allow ambulances to respond promptly to the bombing sites. BPD helped to facilitate the rapid transport of the injured to hospitals by continuously reminding police officers via radio transmission to be mindful of where they parked their vehicles when responding to the scene to ensure roads were clear and open to ambulance access.

BEST PRACTICE 2.3

Effective Collaboration to Secure the Perimeter of the Designated Crime Scene Area

Measures were taken to preserve the crime scene as soon as possible after the injured were cleared from the scene. An initial 15-block crime scene area was cordoned off, centered on the area of Boylston Street where the bombs had been detonated.⁵⁶ Streets surrounding the crime scene were secured by police and MANG, with public works sanitation trucks and street barriers used as

⁵⁶ The perimeter was later reduced to a 12-block area.

physical barriers to prevent vehicle access. Boston Department of Transportation set up electronic signs to divert traffic around the cordoned off area. The cordon was extremely effective and enabled the preservation and collection of evidence.

BEST PRACTICE 2.4

Security Rapidly Increased at Key Critical Infrastructure

During the early stages of the incident, it was not clear how widespread the attack was, so prudent measures were taken to quickly increase security at iconic landmarks and key critical infrastructure, including hospitals and the transit system. Transit PD greatly enhanced security along the transit system, augmented by MANG. Security was increased sharply at hospitals that received individuals injured by the bombings, as it was unknown at the time whether any of the injured were also the perpetrators of the attack, or whether additional devices had been planted in their belongings. Hospital security personnel were augmented by BPD, MSP and other mutual aid law enforcement resources to screen entrances, safeguard the injured patients, and monitor for suspicious behavior.

CAPABILITY: CBRNE

BEST PRACTICE 2.5

Swift Determination that the Bombs Did Not Contain Contaminants

Chemical, biological, radiological and nuclear (CBRN) monitoring systems pre-staged in the area near the Finish Line provided immediate negative results after the IED detonations. The monitoring was undertaken by Joint Hazard Assessment Teams (JHATs) using mobile and fixed monitoring equipment. The fixed monitor measurements determined immediately that no contamination was present after the bombs detonated. Additional monitoring continued with portable and static sensors to ensure the initial readings were accurate and to create a baseline should any further devices detonate. The ability to ascertain quickly whether the bombs contained contaminants was incredibly important, as decisions about personal protective gear for responders and decontamination of patients and spectators would have had to be made had contaminants been present.

CAPABILITY: MUTUAL AID

BEST PRACTICE 2.6

Organization of Mutual Aid EOD Assets and Deployments

There were a large number of abandoned and suspicious packages and bags identified in the hours and days following the bombings. Many spectators left behind bags, backpacks and other items

on Boylston Street near the Finish Line in their haste to leave the area. Each of these packages had to be screened for potential devices and cleared from the scene as soon as possible. In addition, the runners' bags, which were staged on buses near the Finish Line, also had to be screened and cleared, and bags of individuals riding the transit system were also randomly screened by Transit PD and MANG. Boston received 61 reports of suspicious packages in the hours after the bombings, each of which required an EOD unit assessment. In the days following the bombings, hundreds of additional calls were placed to 911 regarding suspicious and abandoned packages.

A large number of EOD assets were required to screen and clear the volume of abandoned and suspicious packages. The integration and deployment of EOD teams—which included assets from BPD, MSP, Cambridge PD, Transit PD, MANG, New Hampshire State Police, Connecticut State Police, Rhode Island State Police, FBI, Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), United States Air Force and United States Navy—were well organized. BPD established a central EOD command center to coordinate EOD resources and issue assignments. Because most of the EOD personnel from the various agencies had received similar training, and had worked together in the past on exercises and incidents, they were smoothly integrated.

CAPABILITY: USE OF MASSACHUSETTS NATIONAL GUARD

BEST PRACTICE 2.7

Ability to Quickly Reassign Massachusetts National Guard Assets to Support Priority Security Missions

After the bombings, BPD and Transit PD requested MANG assets to support law enforcement missions by providing crime scene perimeter support, and conducting security missions in transit stations. The request for MANG resources was quickly approved on scene at the UCC by the MEMA Director and the Governor.

The MANG swiftly reassigned personnel who were already in the area to provide traffic and crowd control support along the route to this mission. Within 30 minutes, 450 soldiers were made available, enabling BPD personnel to focus on the investigation and enhancing the ability of the Transit PD to provide security and conduct bag searches in transit stations. MANG continued to provide support for various missions such as security, EOD and CBRN monitoring over the next five days. These missions were swiftly organized and executed.

CAPABILITY: HEALTH AND MEDICAL

BEST PRACTICE 2.8

Capability of the Marathon Medical System to Immediately Transition to Mass Casualty Incident Response

The medical system activated to support the Marathon, and in particular the medical tents located near the Finish Line, was able to quickly adapt and transition from a system designed to support runner casualties to one that was able to respond to a mass casualty incident involving large numbers of critical patients.



Alpha Medical Tent (upper left white tent)

Triage and treatment groups were immediately established at the Finish Line. Alpha Medical Tent, staffed by Boston EMS and numerous medical volunteers, including licensed physicians, physician assistants and nurses, became a casualty collection point. Boston EMS immediately contacted Metro Boston Central Medical Emergency Direction (CMED) to initiate the Mass Casualty Incident Plan, and to be ready to assign patients to hospitals. While some patients were triaged and loaded into ambulances directly on Boylston Street, large numbers of patients were brought into the Alpha medical tent through the Boylston Street entrance. Critically injured patients were immediately brought to the ambulance loading area located at the rear of the tent and transported to hospitals. Less critically injured patients were triaged, prioritized and staged near the ambulance loading area to await transport.

Ambulance assets that had been pre-staged for the Marathon were deployed, and additional mutual aid ambulances were requested by Boston EMS over the Boston Ambulance Mutual Aid (BAMA) radio system. Nine companies responded to the request, providing 73 additional ambulances.

Sixty critical patients were quickly triaged and made ready for immediate transportation to hospitals.⁵⁷ Within 40 minutes, all critical (red) patients were identified and readied for transport. Although many patients sustained grave injuries, every patient that was transported to area hospitals survived.⁵⁸ This can be directly attributed to the rapid triage, transport and treatment these patients received.

⁵⁷ Boston EMS uses the SALT (Sort, Assess, Lifesaving Interventions, Transport/Treat) method of triage.

⁵⁸ Injuries to survivors included traumatic amputations, shrapnel wounds, burns, head trauma and hearing loss. The three individuals who lost their lives died immediately at the scene as a result of their injuries.

BEST PRACTICE 2.9

Use of Incident Command in Controlling Resource Deployment for Emergency Medical Services Response

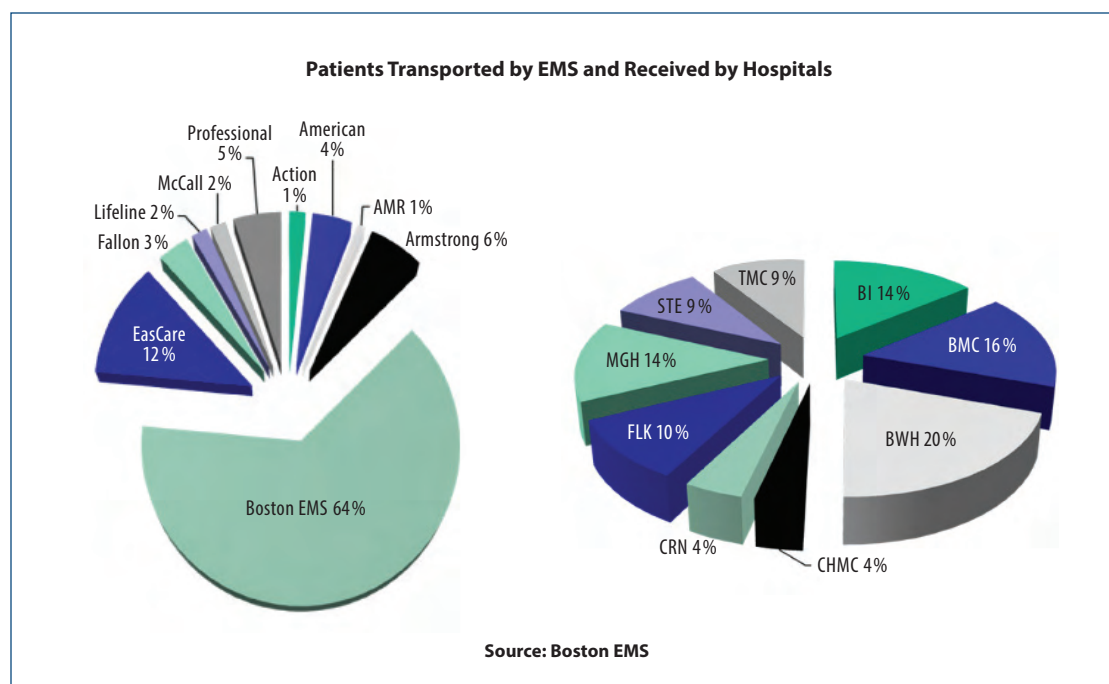
As part of the City's Marathon operational plan, Boston EMS institutes ICS and assigns roles and responsibilities at the start of the event. One of the first orders after the bombings came from a Boston EMS captain assigned as the Logistics Officer when he initially instructed EMS transport units to hold position until Command advised on the initial strategic approach. He ordered all EMS units via radio to stay at their assigned locations until the exact location of the blasts and the scope of the incident could be determined. If units had initiated an immediate response, safety and efficiency could have been compromised. As it turned out, there was only a very short pause before strategic and tactical EMS directives were communicated, but this hold in place order is a best practice for ensuring responder health and safety. Initial directions provided responders with situational awareness for safety, rapid triage and treatment strategies, and an orderly method to initiate rapid transport of critically injured patients.

PHEP Capability 3 – Responder Safety and Health

BEST PRACTICE 2.10

Patient Distribution

For mass casualty incidents with more than 10 patients, Boston EMS relies on the Metro Boston Central Medical Emergency Direction (CMED) to assign patients to hospitals based on their condition, specialty needs, and citywide surge capacity. During the incident, ambulances were



advised to contact CMED for patient destination assignments until Boston EMS loading officers could be established. Loading officers then directed destinations for patient transport. This coordination resulted in no one single hospital in the area being overwhelmed.

HPP Capability 6 – Information Sharing

HPP Capability 10 – Medical Surge

BEST PRACTICE 2.11

Area Hospitals Were Well Trained On and Implemented Emergency Protocols

Most area hospitals had either fully or partially activated their EOCs to support normal Marathon activities. Having hospital EOCs already activated when the mass casualty incident (MCI) occurred enabled the hospitals to more quickly coordinate resources to support and implement medical surge activities to respond to the number of patients they received. Within an hour of the bombings, all hospitals receiving MCI patients had their EOCs fully activated.

Hospitals also effectively implemented the Hospital Emergency Incident Command System (HEICS). The hospitals had practiced HEICS regularly to develop proficiency for use during normal Marathon Day activities as well as to respond to a mass casualty/medical surge capacity incident. Each hospital had buy-in for use of HEICS throughout their organizations, including medical providers, administrators, staff members and volunteers, and had enough depth of staffing to support the HEICS structure.

Lastly, each of the Boston hospitals that treated bombing patients has a dedicated, full-time emergency manager that helps ensure the hospital has viable medical surge capacity plans and procedures, and the ability to effectively implement HEICS.⁵⁹

HPP Capability 1 – Healthcare System Preparedness

HPP Capability 10 – Medical Surge

BEST PRACTICE 2.12

Effective Coordination Among Public Health and Healthcare Partners

Local, state and federal public health agencies began immediately coordinating resources and sharing information related to the bombings. Key personnel knew each other well and used established information-sharing and communications systems to great advantage. The ESF-8 desk at the MACC had reach-back capability at the MDPH Department Operations Center (DOC), as well as with the MIC in Boston. When resource requests came in to the MACC, the ESF-8 desk was able to reach back to the MDPH DOC to confirm requests and work with area hospitals and the BPHC MIC to fulfill the requests when ESF-8 became overwhelmed with calls.

PHEP/HPP Capability 3 – Emergency Operations Coordination

PHEP/HPP Capability 6 – Information Sharing

⁵⁹Mass casualty procedures, such as declaring a pre-defined alert level for the hospital, ensured that the Emergency Department and operating rooms were prepared and staffed to handle the surge of critical patients.

CAPABILITY: INFORMATION-SHARING/SITUATIONAL AWARENESS

BEST PRACTICE 2.13

Effective Collaboration to Maintain Situational Awareness

Situational awareness and information sharing among state and city officials and agencies on the day of the incident was strong. Information sharing among public health and medical professionals was particularly strong. In addition to direct phone calls and face-to-face meetings, WebEOC and the HHAN were effectively used by public health, healthcare, mental health and human services personnel to share situational awareness and incident information. Designated systems, such as Boston's WebEOC, MDPH's WebEOC, and MEMA's WebEOC, were used effectively used for sharing situational awareness about the incident.

PHEP Capability 6 – Information Sharing

CAPABILITY: PUBLIC INFORMATION

BEST PRACTICE 2.14

Frequent and Coordinated Public Messaging

The leadership of the organizations involved in incident response realized the importance of frequent and coordinated communications with the media and the general public and reached a consensus on the goal of providing information from key city and state leadership as often as possible. Key leaders worked together within the UCC to craft clear, concise, unified messages they could deliver to the public and the media regarding the incident, its impacts, and measures that were being taken in the aftermath.

Over the course of the day of the bombings, four press conferences were held by the members of the UC. The first press conference was held within two hours of the explosions; it was relatively brief, with only the Governor and Boston Police Commissioner making statements. An hour later, a second press conference was held which included the Mayor of Boston, who arrived at the UCC after checking himself out of the hospital. During this press conference the leadership shared updated information with the public. At the third press conference, leaders announced that the lead for the investigation was being transitioned to the FBI, and relayed to the public that the John F. Kennedy Library incident was an accidental fire and not related to the Marathon bombings. During the last press conference, leaders announced that the City of Boston would be open for business on April 16, but it would not be business as usual. Additionally, leaders at the UCC used this opportunity to request that public provide photographs or video that they took before, during or after the bombings.

Each hospital impacted by the incident also designated a public information officer to coordinate

information that could be released to the media and the public.

In addition to traditional media outreach, key leaders designated the 24/7 Mayor's Help Line as a central location to provide information to the public and respond to inquiries about the bombings. This single clearing house for public inquiry proved invaluable. The public was encouraged to call this primary call center to speak directly with a trained call-taker about Marathon bombing-related questions. More than 8,000 calls were received.

Public information was also posted to city and state websites and extensive use was made of social media sites such as Facebook and Twitter.

PHEP Capability 4 – Emergency Public Information and Warning

CAPABILITY: HUMAN SERVICES OPERATIONS

BEST PRACTICE 2.15

Swift Establishment of Temporary Reunification Center

The City quickly established the facility known as the Castle at Park Plaza (Castle) as a temporary shelter and human services center where counseling, food and water, assistance for the runners, and family reunification services could be provided. Displaced runners were the primary customers of the Castle in the early stages of the operation. International and out-of-state runners and their family members were a particular concern; many had to get to the airport for flights home, but did not have their identification cards, passports or personal belongings, because they were in their BAA-issued runners' bags which were not yet available for retrieval, or were in the rooms of their hotels located in the cordoned off crime scene area. Through the Castle, OEM was able to coordinate assistance with BPD and FBI for these individuals to gain access to the hotels with appropriate law enforcement escort and enable them to retrieve their belongings.

The Castle remained open Monday night as a shelter, hosting eight individuals displaced by the attack, and closed around 9:00 p.m. on Tuesday. After that time, the nonprofit organization City Year, located on Columbus Avenue several blocks from the Castle, became the new location for providing counseling and support services.

PHEP Capability 7 – Mass Care

AREAS NEEDING IMPROVEMENT

CAPABILITY: COMMAND

IMPROVEMENT AREA 2.1

Boston EOC Was Not Activated Prior to the Bombings

Boston's EOC was not activated for the running of the 2013 Marathon. It had been the City's standard practice to open only discipline-specific command posts to support Marathon Day activities, and not the Boston EOC.

The EOC was operational 30 minutes after the bombings occurred. This delayed the activation of Boston's WebEOC and sharing of situational awareness information through that portal. There was a longer delay in gathering several critical OEM personnel and personnel from other agencies to staff the EOC; that delay would have been avoided had the EOC been open in support of the traditional Marathon Day, even if only partially. Although OEM personnel did maintain the ability to communicate internally, and began receiving and responding to requests even before the EOC was opened, the collection and dissemination of information through WebEOC and coordination with agency EOC liaisons was delayed.

Agencies/Jurisdictions Involved: City agencies with responsibility for planning for the Marathon

Recommendation 3: Activate Boston EOC in Support of the Marathon.

The Boston EOC should be open and staffed with appropriate City agency liaisons as a precautionary measure. The liaisons to the EOC should be individuals who are authorized to communicate with other senior agency personnel and to make decisions.

IMPROVEMENT AREA 2.2

Need to Clearly Define Emergency Response Roles and Responsibilities within the City

On the day of the Marathon bombings, numerous operations centers and command centers were activated across the City. Once the bombings occurred, the existence of so many operations centers created confusion at times, and contributed to confusion about which City agencies were leads for which response efforts.

While many City departments rightfully organize an emergency preparedness component within their respective missions, and establish agency-specific operations centers to support their agency's response activities, the city-wide perspective for coordination of emergency response must be maintained by Boston OEM at the Boston EOC. To effectively maintain a common operating picture on city-wide emergency response activities, each City department with a role

in emergency response must have a representative at the Boston EOC to provide situational awareness and coordinate resources for the response. Each agency can still operate a department operations center as a reach-back capability for the Boston EOC and to tactically manage the department's emergency response activities, but a city-wide common operating picture can only be maintained in one, centralized location—Boston EOC.

Agencies/Jurisdictions Involved: City of Boston

Recommendation 4: Designate the Boston EOC as the City's Lead EOC and Clarify Roles of All City Departments in Boston EOC.

To eliminate confusion over roles and responsibilities and effectively maintain a common operating picture on city-wide emergency response activities, ensure that each City department with a role in emergency response designates a representative at the Boston EOC to provide situational awareness and coordinate resources for the response.

IMPROVEMENT AREA 2.3

UCC Location was Not Pre-Identified or Well-Equipped

Although the UCC was stood up fairly quickly, the physical location of the UCC had not been pre-identified and therefore the location was not well equipped to support such an operation. The Westin Hotel was very gracious and accommodating to representatives of the UCC, providing space, food, and available resources to support emergency operations. However, UCC leadership soon learned that hotels do not necessarily have the capabilities and equipment on hand to support the activities of an emergency operations center, such as large quantities of phones, phone jacks, electrical outlets, computer equipment, and other resources necessary to support emergency operations.

Agencies/Jurisdictions Involved: City and state public safety partners with responsibility for planning for the Marathon

Recommendation 5: Pre-identify and equip location(s) in Boston that can serve as a UCC should a large-scale incident disrupt the Marathon.

IMPROVEMENT AREA 2.4

Numerous Command Centers Not Uniformly Coordinated

Numerous command centers, operations centers and command posts were established to support the Boston Marathon. While large scale events and incidents often require and operate with multiple operational centers, the coordination and hierarchy of these various centers was not clear, especially after the bombings took place. The bombings resulted in additional command and

coordination centers being established as well, and there was confusion at times as to the role, responsibilities and authorities of each. Overall coordination of response could be strengthened under an ICS unified command structure, clearing articulating roles, responsibilities, relationships and authorizes of all operations centers and discipline-specific missions.

Agencies/Jurisdictions Involved: All agencies and organizations with a role in supporting the Marathon

Recommendation 6: Develop and Implement a Unified Coordination System for the Marathon.

All agencies and organizations with a responsibility for supporting the Marathon should plan and design a unified coordination system that identifies roles, responsibilities, reporting relationships and missions for all organizations and operations centers supporting Marathon public safety and medical operations.

CAPABILITY: MULTI-AGENCY COORDINATION CENTER

IMPROVEMENT AREA 2.5

Early Release of Public Safety Assets

Generally, public safety assets are relieved as soon as runners have cleared a community and roads are re-opened. However, crowds may still linger, especially at public transit system stations. The Transit PD relies on support from local police departments to maintain security at station locations. Nevertheless, in some cases, local officers were relieved of their duties while there still were thousands of people present in the area and/or waiting for transit. In addition, because the race was going so smoothly, the emergency buses that were staged in Hopkinton were dismissed around 2:00 p.m., and were therefore not immediately available to help transport runners still on the course after the bombs had detonated and the race was stopped. Having these buses readily available would have better supported transporting runners and spectators to shelters.

Agencies/Jurisdictions Involved: Local law enforcement, MSP, MEMA, Transit PD, MANG

Recommendation 7: Retain Public Safety Assets for a Longer Duration.

Public safety assets should be maintained at an appropriate level until crowds have largely dispersed and the contiguous city or town is cleared of runners. Maintain emergency buses on standby until the race has successfully concluded.

CAPABILITY: LAW ENFORCEMENT

IMPROVEMENT AREA 2.6

Lack of Coordination and Communication Between Law Enforcement and Hospitals on Security and Investigative Protocols

Boston hospitals found the large numbers of heavily armed police officers and investigators in their halls, who were present to provide security, conduct victim interviews, and collect evidence, to be intimidating. Although law enforcement officials never hindered the medical treatment of patients, some hospital staff and patients reported they were frightened by police questioning patients and family members and collecting cell phones, patient belongings, clothing and shrapnel removed from wounds as evidence. Some feared that these actions would add to the emotional trauma the patients and staff had already experienced from the bombings. In addition, law enforcement officers assigned to protect hospitals did not always coordinate their presence with the hospital security department.

It was also not made clear to witnesses, family members, and survivors why police would take their cell phones. BPD had a web portal which investigators could use to upload cell phone data and subsequently return the phones to their owners, but the website was soon overloaded from thousands of megabytes of pictures, and data from some cell phone brands could not be downloaded with the available software. BPD had only one technician in charge of this function to address issues, and therefore they were not able to be resolved quickly. Because of these factors, BPD needed to retain the phones for a period of time to be able to view their contents and maintain the chain of custody for evidence, but this was not explained to patients, family members, witnesses or hospital staff.

Conversely, as the hours and days wore on, the presence of law enforcement in hospitals greatly decreased even though the suspects remained at large. Hospitals security departments were left feeling understaffed and vulnerable as hospital security officers are generally unarmed.

Agencies/Jurisdictions Involved: BPD, MSP, Hospitals

Recommendation 8: Provide Additional Training to Hospitals on Investigative Protocols and Evidence Collection.

Law enforcement officials should provide additional training to local hospitals to ensure their understanding of investigative protocols and evidence collection.

Recommendation 9: Establish Protocols for Integrating Local Law Enforcement into Hospital Security during Emergencies.

Hospitals and local law enforcement should meet to discuss the circumstances under which law enforcement resources may be assigned to enhance hospital security, and establish protocols for

integrating local law enforcement into hospital security operations when an ongoing incident requires uniformed police presence. Protocols should include ensuring hospital security departments are aware of the arrival of local law enforcement, and the extent of their mission (enhanced security, investigation, evidence collection, etc.).

Recommendation 10: Explore Mechanisms for Bolstering Hospital Security.

Hospitals should consider options for contracting for additional security personnel when needed.

HPP Capability 1 – Healthcare System Preparedness

IMPROVEMENT AREA 2.7

Safety Inspectors Restricted from Accessing Secured Incident Area

Safety inspectors from Boston Fire Department (BFD) and the Boston Office of Inspectional Services (OIS) sought access to the restricted area to conduct safety assessments of infrastructure impacted by the blasts to ensure that personnel in the restricted area were not at risk of a secondary incident related to compromised infrastructure. The safety inspectors were not allowed access out of concern for maintaining the integrity of the crime scene, despite having experience with working in crime scenes alongside investigators. As a result, investigators working the crime could have been at risk and the City exposed to liability claims.

Agencies/Jurisdictions Involved: BPD, BFD, FBI, OIS

Recommendation 11: Identify or develop a process that could allow for safety inspections to be conducted while simultaneously ensuring the integrity of the crime scene.

IMPROVEMENT AREA 2.8

Lack of Adequate Relief for Law Enforcement Officers

Many law enforcement officials experienced critical incident stress associated with observing and responding to an incident of the magnitude of the bombings, and continued to serve long shifts in the days and weeks afterward, compounding this stress with fatigue.

Agencies/Jurisdictions Involved: Local and state law enforcement

Recommendation 12: Ensure Adequate Relief.

Law enforcement command personnel should anticipate the potential relief needs of law enforcement officers supporting a long-term incident, and ensure officers are provided adequate relief, using mutual aid resources as necessary.

CAPABILITY: HEALTH AND MEDICAL

IMPROVEMENT AREA 2.9

Limited Use of Triage Ribbons and Tags

Most of the first EMS personnel on scene had arrived by foot or golf cart, and were not equipped with triage tags. While one of the first orders was to bring triage tags to the scene, formal triage did not take place when it was determined the scene was still unsafe. Patients were quickly moved to Alpha Medical Tent, or directly to arriving ambulances.

As a result, several hospitals reported having difficulty sorting and tracking patients. Although this did not hinder medical treatment, hospitals find the tags very helpful, aiding them in more quickly identifying the seriousness of injuries, obtaining patient history, and providing notification to families.

Agencies/Jurisdictions Involved: BFD, Boston EMS, mutual aid EMS providers, hospitals

Recommendation 13: Provide Additional Training On and Exercise the Use of Triage Ribbons and Tags for Mass Casualty Incidents.

EMS personnel should train and exercise using triage tags and ribbons during mass casualty incidents to ensure they are well practiced in efficiently implementing this system. Sweep triage teams should attach a triage ribbon to each patient. Triage or treatment units or EMS personnel during transport should attach triage tags to each patient. Initially, patient condition and identity (if available) should be recorded, with additional details provided as time and conditions permit.

HPP Capability 1 – Healthcare System Preparedness

HPP Capability 10 – Medical Surge



IMPROVEMENT AREA 2.10

Interlocking Crowd Control Barriers Created Challenges for First Responders Attempting to Access the Injured

Crowd control metal bicycle racking was used all along Boylston Street to create separation between spectators and runners. The racking was interlocking, meaning that rack segments were attached to one another via a hooking element. To disassemble the racking, each segment must be physically lifted beginning at the end of the full assembly to enable detachment. This type of racking is used to prevent spectators from easily disassembling segments and creating unpermitted access to restricted areas.



Interlocking bicycle rack.

While the racking was effective in assisting with crowd control during the race, it proved to be a challenge to responders when attempting to access the injured after the bombings. The interlocking rack created difficult access for responders reaching the sidewalks of Boylston Street from the course; responders had to either climb over the barricades or go to the end of the block to begin unlocking them.

Racking was also used to restrict vehicular and pedestrian access to the course, and in the immediately aftermath of the bombings, limited the access of response vehicles in some areas, albeit only for a very short period of time.

Agencies/Jurisdictions Involved: BAA, BPD, MSP

Recommendation 14: Identify an Alternative Mechanism to Secure Crowd Control Barriers that Allow for Easy Disassembly by First Responders During Emergencies.

Although the challenges associated with the racking were able to be overcome, alternative mechanisms for securing racking that can be easily disassembled by responders during emergencies should be explored.

IMPROVEMENT AREA 2.11

Clarification for Hospital Staff on Roles in Responding to Bomb Threats

Bomb threats or identification of suspicious packages occurred at two hospitals in the days after the bombings. Hospitals have established protocols for responding to bomb threats that sometimes include hospital staff providing assistance in identifying items that look to be out of place. These actions are requested of hospital staff because hospital staff know their facilities better than outside agencies that may respond to a threat, and therefore they can more readily identify something that seems out of place.

However, in the aftermath of the bombings, some hospital staff expressed concern about being asked to assist in searching areas to identify items that looked out of place. There was a misunderstanding that hospital staff were being asked to respond to a suspicious item rather than merely identifying a suspicious item. However, hospital staff had not been—nor should they have been—asked to approach or assess suspicious or out-of-place items; rather, they needed only report them to authorities.

Agencies/Jurisdictions Involved: Hospitals

Recommendation 15: Ensure Hospital Staff are Familiar with their Facility’s Bomb Threat Procedures, Protocols, Roles and Responsibilities.

Hospitals should ensure that all staff members understand their hospital’s protocols and procedures, as well as their individual roles and responsibilities during a bomb threat or discovery of a suspicious package. Hospitals should regularly exercise these procedures in coordination with local police and fire departments.

HPP Capability 1 – Healthcare System Preparedness

IMPROVEMENT AREA 2.12

On-Hand Availability of Amputation and Vascular Kits

The large number of critically injured patients with traumatic amputations or requiring amputation stressed the availability of medical resources, in particular amputation kits and vascular kits. Although requests for these resources were made to the ESF 8 desk at the MACC, all requests for kits were able to be filled by neighboring hospitals.

Agencies/Jurisdictions Involved: Hospitals, MDPH, BPHC

Recommendation 16: Evaluate Inventory for Responding to Mass Casualty Incidents.

Hospitals and EMS agencies should evaluate options and contingencies for obtaining additional supplies and equipment in an MCI. In addition, each region should work to develop a listing of regional resources that can be accessed during emergencies, and detail steps on how to obtain such resources.

HPP Capability 1–Healthcare System Preparedness

CAPABILITY: MULTI-AGENCY COORDINATION CENTER (MACC) COORDINATION

IMPROVEMENT AREA 2.13

Challenges with Evacuation of Runners and Spectators from the Course

There were approximately 5,000 runners on the course in Boston, Brookline, and Newton when the bombings occurred and the race was stopped. Subsequent to the stoppage of the race, there was a need to provide temporary shelter to stranded runners until they could be transported back to Boston to gather their personal belongings and reunite with family members. The management of the evacuation of large numbers of runners off the course was not pre-planned and was therefore unsystematic.

Several years prior to the 2013 Boston Marathon, plans for opening and operating temporary shelters along the course were started. However, these plans were never fully developed and temporary shelters were neither staffed nor unlocked during the 2013 Boston Marathon. In addition, coordination of buses to transport runners from the course to shelter locations, and from shelter locations to Boston, were not readily available, as emergency buses had been released about an hour prior to the bombings.

Communication with runners and spectators along the course was non-existent. There were no public address systems in place to communicate with runners and spectators. Many learned of the incident by word of mouth, and many were distressed about family members that may have been near the bomb sites waiting to watch them finish the race. In addition, responders had no centralized way to communicate with runners on what to do and where to go other than through in-field personnel. In-field personnel did not always have adequate information available.

Agencies/Jurisdictions Involved: MACC Agencies

Recommendation 17: Develop a Formal Course Evacuation Coordination Plan.

MACC agencies with a role in coordinating response to course disruption or evacuation of the course should develop a formal course disruption and evacuation coordination plan that identifies temporary shelter locations, stages appropriate transportation assets, designates communications protocols and equipment, and assigns roles and responsibilities.

PHEP Capability 1 – Community Preparedness

IMPROVEMENT AREA 2.14

Care and Feeding of In-Field Personnel

During the extended deployment of public safety personnel after the bombings, the care and feeding of personnel deployed in field and at remote command centers was not effectively orga-

nized. Many times personnel, including MANG soldiers, were in field without food or relief for long periods of time.

Agencies/Jurisdictions Involved: MANG

Recommendation 18: Ensure In-Field Personnel Have Food and Relief.

Plan for supplying food and other necessities for in-field personnel who may be activated for long periods of time.

CAPABILITY: COMMUNICATIONS

IMPROVEMENT AREA 2.15

Lack of Cell Service in the Moments After the Bombings

Because of the volume of cell phone calls that were attempted or made in the minutes after the bombings, cell phone service became saturated and inaccessible in the moments following the bombings. However, texting remained available, and cell phones with Wireless Priority Access (WPS) service were able to successfully complete calls.⁶⁰

Many responders in the field did not have WPS active for their cell phones and were unable to complete cell phone calls during this time. Although many responders had radios and some also had satellite phones as redundant forms of communication, the disruption of cellular communication created challenges for providing situational awareness to key leadership, and making and communicating key decisions.

Within an hour, a Cell-On-Wheels (COW) was deployed to the area to provide additional cell service capacity.⁶¹

Agencies/Jurisdictions Involved: Appropriate public safety personnel

Recommendation 19: Obtain WPS Access for Key Public Safety Personnel.

Evaluate the need to obtain WPS for key public safety personnel, and obtain access to WPS as appropriate.

Recommendation 20: Obtain Redundant Communications Systems and Equipment for Key Leadership, and Create Protocols for Implementing Them.

Evaluate the need to obtain redundant communications systems for key leaders. If obtained, develop protocols for implementing these systems.

⁶⁰ Wireless Priority Service (WPS) is a subscriber-based service for emergency personnel and officials managed by the Department of Homeland Security (DHS) Office of Emergency Communications (OEC) that provides priority cellular access to subscribers during an emergency or crisis situation.

⁶¹ Cell on wheels (COW) is a portable cellular site that provides temporary wireless coverage to locations where cellular coverage is minimal or compromised.

IMPROVEMENT AREA 2.16

Underutilization of Command Channel

When traditional communications systems were overloaded in the first moments after the bombings, radio systems remained operational. Many disciplines automatically deferred to their traditional radio networks and protocols, and some of the radio channels designated for the Marathon under the communications plan went underutilized—in particular the designated Unified Command Channel. Some disciplines were unfamiliar with the Marathon communication plan and had difficulty initially accessing the designated channels and quickly reverted back to the internal systems that they felt most comfortable using. This limited the ability to coordinate across disciplines over interoperable communications systems.

Agencies/Jurisdictions Involved: All disciplines

Recommendation 21: Conduct Additional Training on the Marathon Communications Plan and Use of Designated Radio Channels.

Ensure all disciplines are aware of the Marathon Communications Plan and how to access all designated channels.

IMPROVEMENT AREA 2.17

Lack of Charging Equipment for Radios and Cell Phones

Because of the long duration of the event and incident, response partners worked far longer hours than anticipated, and used their communications equipment more than anticipated. The ability to obtain fresh radio batteries and charge radio and cell phone batteries became a critical need. Although resources were not stockpiled and ready for immediate deployment, Boston OEM and Massachusetts ESF 2 (Communications) worked with communications providers to set up radio charging banks in the UCC and other critical areas, and provide numerous cell phone chargers. However, this took some time to arrange.

Agencies/Jurisdictions Involved: MA ESF 2, MEMA, Boston OEM

Recommendation 22: Maintain an adequate supply of or develop a streamlined process for obtaining radio and cell phone chargers and batteries.

CAPABILITY: INFORMATION SHARING AND SITUATIONAL AWARENESS

IMPROVEMENT AREA 2.18

Lack of Communication Regarding Negative CBRN Results at the Finish Line

Although senior leadership and the UC were quickly advised by fire and MANG CST personnel that there were no CBRN contaminants in the IEDs, this information was not widely relayed to other responders, the MACC, or the hospital community. Many assumed that there was no need to broadly distribute the information because the results were negative. However, as hospitals began receiving the injured, they were placed in the difficult position of having to make critical decisions regarding decontamination in the absence of information. Because the presence of contaminants was neither confirmed nor denied, it was entirely possible that hospitals reasonably might have implemented decontamination protocols and activities; in fact, many hospitals seriously debated the need to activate patient decontamination. If they had done so in this incident, treatment for critically injured patients would have been unnecessarily delayed. Ultimately, given the criticality of many of the wounded, and assuming that the absence of information meant no contaminants were present, decontamination units were not activated and patients were immediately moved into hospital facilities.

Agencies/Jurisdictions Involved: BFD, MANG CST, UC leaders, hospitals

Recommendation 23: Ensure That All CBRNE Results Information are Widely Communicated to the Public Safety, Public Health and Healthcare Communities During a Mass Casualty Incident.

All CBRNE monitoring results—negative and positive—must be rapidly reported to all public safety, public health and healthcare partners as soon as possible.

IMPROVEMENT AREA 2.19

Challenges with Accessing Patient Information

Although the ARC “Safe and Well” website was promoted as a resource for obtaining information about friends and family members who may have been impacted by the bombings, this was not a suitable resource for this particular incident. The website is designed for information sharing in response to natural disasters; individuals can register themselves on the website as a means to let their loved ones know they are all right. Loved ones then search the website for posted information. In the immediate aftermath of the bombings, most of the injured were not able to register themselves, and their family members had an immediate need for identifying information.

Another complication to obtaining patient information is the Health Insurance Portability and Accountability Act (HIPAA). HIPAA is designed to protect the privacy of healthcare patients,

but during a large-scale emergency, the provisions of HIPAA can often prevent hospitals from providing patient information to family members that are seeking to locate, identify the status of, and/or be reunited with their loved ones. Human services and victim assistance organizations also often seek patient information to make outreach to survivors and/or their families regarding available services.

Because hospitals did not receive strong guidance on possible emergency provisions to HIPAA, individual hospitals were left to interpret HIPAA requirements on their own. As a result, some hospitals withheld patient information, believing HIPAA requirements prohibited them from releasing it, while other hospitals interpreted HIPAA regulations to allow release of patient information in emergency circumstances, and provided patient information to family members and human services agencies.

In addition, a centralized source from which family members of victims and human services organizations could obtain patient information could not be established because of HIPAA concerns. Family members and human services agencies had to make outreach to numerous organizations to try to access critical patient information.

Lastly, it was not clear whether HIPAA requirements pertained to foreign nationals. Patient information was generally not provided to the State Department, consulates and many embassies which were seeking information about the many international runners and spectators who had participated in Marathon activities.

Agencies/Jurisdictions Involved: Hospitals, MDPH

Recommendation 24: Develop and Distribute HIPAA Guidance for Emergency Situations.

MDPH should collaborate with appropriate federal authorities, legal counsel and hospitals to develop guidance on emergency allowances to HIPAA to release patient information. This guidance should be distributed to all hospitals.

Recommendation 25: Identify Whether a Central Resource of Patient Information Can Be Developed and Shared After Mass Casualty Incidents.

MDPH should coordinate with legal counsel, hospitals and human services organizations to determine whether a centralized resource of patient information could be developed following mass casualty and other emergency incidents, and whether information contained in that resource could be shared with family members of victims and survivors and/or human services agencies.

PHEP/HPP Capability 6 – Information Sharing
HPP Capability 1 – Healthcare System Preparedness

CAPABILITY: PUBLIC INFORMATION

IMPROVEMENT AREA 2.20

Lack of Emergency Alerting

Although there was vast media coverage of the bombings, no emergency alerts were generated for the public. MEMA did not issue an emergency broadcast message. In the City of Boston, the policy for issuing alerts through ALERTBoston requires that City officials provide initial information through news media, and ALERTBoston provides follow on information. As such, the City did not issue an emergency alert through ALERTBoston. The first public messaging did not come until the first press conference, nearly two hours after the bombings occurred.

Agencies/Jurisdictions Involved: MEMA, Boston OEM

Recommendation 26: Review Protocols for Issuing Emergency Alert Messages.

MEMA and Boston OEM should review protocols that would prompt and allow emergency personnel to issue emergency alerts during quickly-unfolding incidents.

IMPROVEMENT AREA 2.21

Lack of Incident-Specific Pre-Scripted Message for Mayor's Hotline

Call center staff were able to develop a frequently-asked-questions sheet to assist call-takers in providing consistent information to their callers. However, having a template to develop such information sheets would save time, ensure consistent messaging, and ensure all pertinent information is being captured.

Agencies/Jurisdictions Involved: Boston Office of Constituent Services

Recommendation 27: Develop Information Sheet Templates for Call Center Staff.

Develop ready-to-use templates including script outlines with basic responses and typical questions with answers that can be used by all call center staff during an emergency situation. Ensure call center staff are adequately trained on their use.

CAPABILITY: HUMAN SERVICES OPERATIONS

IMPROVEMENT AREA 2.22

Lack of Disaster Mental Health Coordination Plan

Because there is no formal disaster mental health coordination plan, there was initial confusion among public health and mental health agencies regarding the availability of mental health resources, what resources were needed where, and who was serving as the lead coordinating agency.

It was challenging to coordinate the many dozens of counselors, therapists, and other mental health specialists from numerous sources, and to identify the most relevant specialties to address the current needs. There was no centralized source that provided a detailed listing of credentialed mental health providers in the greater Boston area, so identifying available disaster mental health resources was challenging.

In addition, the roles for managing mental health resources were not clear. Although some providers placed personnel on standby pending a request to deploy them, others activated personnel on their own. As such, there was some duplication in providing counselors at particular locations. There were also organizations that were frustrated because they were told they were not needed, even though the demand appeared to indicate differently.

Agencies/Jurisdictions Involved: BPHC, MDPH, Massachusetts Department of Mental Health (DMH), mental health providers

Recommendation 28: Develop a Disaster Mental Health Coordination Plan.

MDPH and DMH, in coordination with MEMA and ESF 8, should lead the development of a Statewide Disaster Mental Health Coordination Plan with all appropriate public health and disaster mental health partners. The plan should delineate roles and responsibilities for coordinating the activation of a disaster mental health support system after a major incident or disaster. The plan should address the provision of services for an extended period of time and should recognize the roles of local, state, federal, and private sector entities. Such a plan would be useful for mass casualty incidents as well as major emergencies and disasters.

PHEP Capability 3 – Emergency Operations Coordination
PHEP Capability 7 – Mass Care

Recommendation 29: Develop a Centralized Source that Identifies Disaster Mental Health Specialists.

MDPH and DMH should partner to explore the potential for developing a centralized source of information on available disaster mental health service providers, including contact information, credentials, specialized training, and other applicable details. If feasible, this source should be developed as a part of existing tools currently used to capture similar information for available disaster response personnel.

PHEP Capability 3 – Emergency Operations Coordination
PHEP Capability 15 – Volunteer Management

IMPROVEMENT AREA 2.23

Lack of Understanding of Mass Care Roles and Responsibilities

Though the various agencies worked well together at the Castle, there were several instances where primary responsibility for a particular aspect of the operation was unclear. One such issue was the role of the ARC at the Castle. The ARC is the designated lead agency at Boston Logan Airport for family assistance center operations that are stood up for aircraft or airport disasters. At the Castle however, OEM was in charge overall, and BPHC was lead for physical and mental health services. The ARC assumed they were in charge of the shelter and had begun to operate at the Castle in accordance with their own system. Eventually OEM and BCYF were able to resolve the situation with the ARC, but it took time to arrive at an agreement.

Agencies/Jurisdictions Involved: BPHC, OEM, ARC

Recommendation 30: Clarify mass care and shelter roles in the City.

IMPROVEMENT AREA 2.24

Challenges with Coordinating the Return of Runners' Personal Belongings

One of the biggest issues for runners who had just finished the Marathon or who were stopped somewhere on the route was reuniting them with their personal possessions, which were contained in BAA-issued yellow bags tagged with their race number. On the morning of Marathon Day, the majority of runners load onto buses in Boston and ride out to Hopkinton, the location of the Start Line. To assist runners with maintaining their belongings, the BAA issues runners a bag that is tagged with their race number; runners can place their personal belongings that they do not wish to carry along the course into the bag, and check the bag in Hopkinton at the Athletes Village. Bags are then transported back by bus to the area near the Finish Line, where they stay staged until they are picked up by runners.

Several thousand runners were still on the course or had just crossed the Finish Line when the explosions occurred, so the normal process for retrieving their bags was disrupted. The BAA had the primary responsibility for reuniting runners with their bags, but struggled with how to accomplish the task. Recognizing the urgency associated with the mission, OEM worked with BAA to establish a return plan at the Castle. The bags were relocated away from the impact area and swept by EOD teams to ensure there were no additional devices in them. MANG soldiers guarded them overnight to ensure their security. The following morning, the Boston Department of Transportation transported the bags to the Castle and placed them on the sidewalk where members of the MANG were tasked with security and helping runners locate their bags. Runners were informed by the BAA that they could pick up their belongings outside the Castle. With this announcement came an influx of media, trying to capture stories from

impacted runners. After some discussion, it was determined that the bags should be moved into the Castle to limit contact between runners and the media.

Agencies/Jurisdictions Involved: Boston OEM, BAA

Recommendation 31: Develop Alternate Plan for Reuniting Runners with Personal Belongings.
Boston OEM and the BAA should develop a coordinated plan to reunite with their belongings should the race become disrupted.

CAPABILITY: USE OF NATIONAL GUARD

IMPROVEMENT AREA 2.25

Unarmed Soldiers Supporting Law Enforcement Missions

On the day of the incident, the policy of the Commonwealth and the MANG was not to arm MANG soldiers assigned to a disaster response mission. As such, all MANG soldiers deployed to support the bombing response were unarmed, even those assigned to support law enforcement missions. In addition, soldiers have the authority to use force only when protecting themselves.

Soldiers assigned to law enforcement missions have a greater likelihood of being involved in an escalating law enforcement situation. Unarmed soldiers in such situations are then dependent upon nearby police officers to ensure their protection, increasing risk to both the soldier and the officer.

Agencies/Jurisdictions Involved: MANG

Recommendation 32: Explore Revising Policy to Allow Arming of Soldiers Assigned to Law Enforcement Missions.

MANG and MEMA should develop a coordinated plan for arming soldiers assigned to law enforcement missions, under appropriate circumstances.

FOCUS AREA 3

Days 2–4: Ongoing Response to Explosions

BEST PRACTICES

BEST PRACTICE 3.1

Continuation of Strong Mutual Aid

A large number of mutual aid assets remained in the City in the days following the bombings. These mutual aid assets continued to be well managed and well coordinated. An EOD command center was established to coordinate asset response to the large volume of calls received regarding suspicious and abandoned packages.

A command center was also established to coordinate the large numbers of SWAT teams present in the City from MSP, Cambridge PD, Transit PD, Revere PD, Everett PD, NEMLEC, MetroLEC, and the South Eastern Massachusetts Law Enforcement Council (SEMLEC). These resources were deployed for a variety of missions including protecting critical infrastructure and high-value targets such as hospitals, government buildings, and hotels, assisting with securing the crime scene perimeter, and bolstering police in and around the City of Boston in the days following the bombings.

BEST PRACTICE 3.2

Establishment of “Walk-In” Disaster Mental Health Clinics for the General Public, Survivors and Their Families

There was a surge in disaster mental health counseling needs the days following the bombings. Thousands of spectators were witnesses to the aftermath of the bombings, and were in need of crisis counseling services to help them process what they had witnessed. The BPHC, MDPH, DMH, and the Region I United States Department of Health and Human Services (USHHS) collaborated to quickly stand up clinics where members of the public could go and obtain initial crisis counseling services.

To support this effort, USHHS, in consultation with BPHC and MDPH, activated a 20-member disaster mental health team which included personnel with specialized areas of disaster mental health expertise, including specialties in children, medical personnel, and eyewitnesses. The team deployed for two weeks and provided psychological first aid, helping determine what ongoing services individuals may need.

BEST PRACTICE 3.3

Privacy for Impacted Individuals at the Castle

The City of Boston went to great lengths to ensure the privacy of individuals arriving at the Family Reunification Center (the Castle) to obtain information and gather their belongings, including media restrictions near and in the Castle. This provided a level of comfort to individuals seeking guidance and services at the Castle.

BEST PRACTICE 3.4

Establishment of A Separate Family Assistance Center For Survivors, Their Families and the Families of the Victims

In coordination with ARC, the Massachusetts Office for Victim Assistance (MOVA), the Massachusetts Attorney General's Office, and other city, state and federal agencies, BPHC opened a Family Assistance Center (FAC) on Wednesday, April 17, with the mission of coordinating services and resources for survivors, their families, and the families of the victims. The FAC was separate from the Family Reunification Center and the services being provided to runners and the general public at the Castle. FAC services included: mental health counseling; financial assistance, including emergency funds for travel and food while supporting hospitalized family members; provision of disability placards; and spiritual care. The location of the center was not publicly disclosed, and adequate security was in place to ensure privacy of all individuals arriving at and departing from the FAC.

BEST PRACTICE 3.5

The Mayor's Help Line Staff Adjusted Well to the Rapidly-Changing Events and Related Information Needs.

The staff of the Mayor's Help Line fielded thousands of calls, emails, mail and social media inquiries in the days following the bombings, and were able to quickly adapt to the changing information needs of the public. Initially, the majority of calls received were inquiries from the public about friends and family members who may have been in the area of the Finish Line when the bombings occurred. Information requests then began to shift to inquiries regarding how donations could be made, as well as residents and businesses within the crime scene area seeking recovery information. Later, the call center received inquiries about the planned memorial services for both the bombing victims as well as MIT Police Officer Sean Collier.

Help Line personnel coordinated with the Boston OEM, the Department of Neighborhood Development (DND), the BAA, and the City of Cambridge regarding information that could be provided to the public, and shared with them trends on inquiries being received so that these agencies could gather appropriate information. Help Line staff also assisted in identifying and developing a list of impacted business and property owners that could be used by other City departments seeking to provide information and/or services to them.

AREAS FOR IMPROVEMENT

CAPABILITY: HEALTH AND MEDICAL

IMPROVEMENT AREA 3.1

Lack of Tourniquet Kits for Responders

Many responders did not carry tourniquet kits on their person as standard-issue equipment. Many injured during the bombings required tourniquets to stop excessive bleeding; responders were quick in their thinking and were able to fashion tourniquets from materials they found or were made available, such as belts and shirts. The need to look for these resources placed an added burden on responders and increased the time for applying a tourniquet. Having tourniquets readily available can help save not only members of the public who may be injured during a critical incident, but also other first responders who may become injured as well.

Agencies/Jurisdictions Involved: Law enforcement agencies, fire services agencies, EMS agencies

Recommendation 33: Issue and Train on Tourniquet Kits for All First Responders.

First responders across the Commonwealth, in particular police, fire and EMS, should have a tourniquet kit issued to them as standard practice. Conduct training to ensure first responders know how to apply issued tourniquets on the injured.

IMPROVEMENT AREA 3.2

USHHS Disaster Mental Health Team Required Logistical Support

The disaster mental health team activated by USHHS did not have a logistics officer who could make lodging and transportation arrangements for the team. BPHC was expecting the team to arrive with its own support and logistics capabilities. As this was not the case, BPHC staff had to devote time to locating lodging and transportation and to manage other administrative matters while simultaneously managing a high volume of other incident-related issues.

Agencies/Jurisdictions Involved: USHHS, BPHC

Recommendation 34: Assign a Logistics Coordinator to Disaster Mental Health Team.

USHHS should ensure that disaster mental health teams include administrative/logistical support personnel to coordinate on-site logistics so that these activities do not become an additional burden to the jurisdiction impacted by the incident.

CAPABILITY: PUBLIC INFORMATION

IMPROVEMENT AREA 3.3

Lack of Joint Information Center

Although press conferences had been successfully conducted to provide coordinated public messaging on the day of the bombings, a formal Joint information Center (JIC) was never established. The lack of a JIC was not an issue on the day of or the day after the bombings, as all leaders were present together in the UCC and/or at press conferences. When the UCC stood down, public messaging became less coordinated in the absence of a JIC. Agencies and organizations, which still had a need to provide public information, pushed out information over the remaining course of the week without having fully vetted and/or coordinated the messaging with one another, resulting in conflicting information in the domain of the media, and in particular, in social media outlets.

Agencies/Jurisdictions Involved: All

Recommendation 35: Establish a Joint Information Center for Large Scale Incidents to Ensure Coordinated Public Messaging.

Establish a JIC for large scale incidents or events to ensure that all public messages, including those disseminated through social media, are coordinated and validated.

CAPABILITY: HUMAN SERVICES OPERATIONS

IMPROVEMENT AREA 3.4

Lack of a Family Assistance Center Plan

Neither the City nor the Commonwealth had a formal FAC Plan for coordinating services for survivors, their families and the families of the victims separate and distinct from plans for sheltering and other service needs of impacted members of the public. The organizations that stood up the FAC modified an existing ARC plan for aircraft disasters. Developing a plan would identify all considerations needed for establishing a FAC, including services, staffing, security, supplies and potential locations.

Agencies/Jurisdictions Involved: MEMA, OEM, ARC, Centers for Youth and Families

Recommendation 36: Develop a Family Assistance Center Plan.

Both the City and the Commonwealth should develop a FAC plan for providing services to survivors, their families and the families of victims after a major incident.

PHEP Capability 1 – Community Preparedness
PHEP Capability 7 – Mass Care

FOCUS AREA 4

Day 5: Apprehension of Suspects

BEST PRACTICES

CAPABILITY: COMMAND

BEST PRACTICE 4.1

Shelter-in-Place Decision

The UC utilized law enforcement information and expertise to weigh the pros and cons of requesting residents to shelter-in-place and suspending transit services. Based on the law enforcement information, which led the UC to believe that there was a large area of concern, they collectively made the decision that there was a need to request residents to shelter-in-place. The UC did not make this decision lightly, as they understood the impacts of this request. However, the UC agreed that the overarching objective was to maintain public safety and to capture the suspect. The UC was also cognizant of the importance of making this decision and communicating it prior to the peak commuting times.

The UC, based on law enforcement information, also believed that it was necessary to suspend all transit services to limit the suspect's ability to evade the police or jeopardize the safety of commuters. The UC discussed the impacts of this decision and ultimately determined that a shutdown of the system was necessary. Unlike the day of the bombing, the transit system was not currently being used as a mechanism to evacuate large crowds as it was after the bombings. Therefore, the UC determined that the public safety benefits temporarily outweighed the need for and convenience of public transportation. This decision was made with the input of state and local senior leaders, who collectively scripted the message that was shared with the public. This message was also directly shared with the other disciplines that would be most impacted by this decision, such as public health and hospitals.

The UC was cognizant of the burden this placed on residents and business owners. Several times throughout the day the UC assessed whether they should maintain the request by reviewing any current or new law enforcement information, the progress of the grid search, and duration of the request to ensure that it was not placing too large of a burden on the community.

BEST PRACTICE 4.2

Decision to Conduct Grid Search

The Watertown Police Department (Watertown PD), with the assistance of MSP, BPD, and Cambridge PD officers, were able to maintain the perimeter around the crime scene and the suspect's potential location. This was done to impede his ability to escape the area successfully. The UC established a Tactical Operations Center (TOC) and systematically coordinated assignments for the various SWAT teams that would support this search effort, including the MSP Special Tactical Operations (STOP) team, Watertown PD, BPD, Brookline PD, Cambridge PD and tactical teams from NEMLEC and MetroLEC. MSP and BPD supervisors divided the area to be searched into five sectors and created teams that consisted of local, state or regional tactical officers, FBI, and MANG. Each team was assigned a sector to search. As each search assignment was completed, uniformed personnel were assigned to provide perimeter security in the completed search area, and the SWAT teams moved on to a new assignment. This entire effort was systematic and well-managed, with strong command and control of all teams.

BEST PRACTICE 4.3

Unified Command Decision-Making was Well Coordinated

Key state and local officials assembled quickly as Unified Command (UC) at the Arsenal Mall parking lot to coordinate decision-making, strategize about the apprehension of the suspect at large, and maintaining the safety of those in the Metro Boston area. Together they made decisions on the strategy for the search for the suspect at large, the shelter-in-place request, taxi service suspension, and the transit shutdown.

CAPABILITY: LAW ENFORCEMENT

BEST PRACTICE 4.4

Effective Response by Watertown Police

The two Watertown PD officers who were first to respond to the Watertown neighborhood where the suspects were located performed remarkably well, taking heavy fire while pinning the suspects in one location. Additional responding Watertown officers also took heavy fire, and were able to subdue one suspect by tackling him to the ground. All four officers demonstrated incredible bravery and discipline under pressure, maintaining communications with their dispatch center, and critically wounding the suspects. Their effective tactical response ensured the residents of the neighborhood were not hurt.

BEST PRACTICE 4.5

Ability to Handle Increased 911 Call Volume

The Watertown dispatch center successfully handled the surge of more than 500 calls to 911; the typical call volume is approximately thirty calls per day. They brought in two extra dispatchers for a total of four, and ensured that calls were answered expeditiously. Only a few calls rolled over to overflow handling.

In addition, Newton Police provided mutual aid personnel to Watertown to handle extra call volume not directly related to the search for the suspects. This assistance allowed Watertown PD to focus on searching for the suspect and managing the influx of mutual aid resources.

CAPABILITY: MUTUAL AID

BEST PRACTICE 4.6

Ability to Utilize Tactical and Specialized Mutual Aid

While the number of officers that arrived to assist Watertown PD created many challenges, the initial mutual aid was managed well. Watertown PD was able to utilize incoming officers to assist with maintaining a perimeter around the area where it was thought the suspect might be hiding. This was done to ensure the suspect could not exit the area while the UC and TOC created a systematic plan to conduct the search.

Through the City of Boston, the UC was able to mobilize LEC tactical support. The LEC units had been supporting BPD to increase police presence with saturated patrols. When requested in Watertown, the LECs were able to transition the existing command structure from Boston to Watertown. This allowed the tactical and EOD teams to fold into the grid search with a strong understanding of command. When they arrived for the house-to-house searches, the groups reported to either BPD or the MSP commanders, depending on their assignment. Throughout the search operation the tactical units were organized, well managed and disciplined.

CAPABILITY: HEALTH AND MEDICAL

BEST PRACTICE 4.7

Staging of Ambulance Near the Initial Firefight

Watertown dispatchers staged ambulance and fire/EMS units near the initial firefight location as soon as they heard that shots were fired. The immediate availability of an ambulance directly contributed to saving the life of a Transit PD officer who was rapidly transported to Mount Auburn Hospital after being critically wounded.

BEST PRACTICE 4.8

Decision to Transport Wounded Officer to Nearest Hospital

Given the criticality of his wounds, Watertown EMS personnel made the decision to transport the wounded officer to the nearest hospital, Mount Auburn, rather than to the nearest trauma center, which was located a few minutes further away. This decision placed the officer in a medical facility a few minutes sooner than if he had been transported to a trauma center, and enabled medical personnel to save his life.

BEST PRACTICE 4.9

Ability of Mount Auburn Hospital Emergency Department to Receive Critically Wounded Patient

Although the hospital is not a trauma center, the Mount Auburn Hospital Emergency Department staff was prepared to receive, and able to save the life of the critically wounded Transit PD officer.

CAPABILITY: COMMUNICATIONS

BEST PRACTICE 4.10

Effective Use of Interoperable Communications

Interoperable communications worked well among the public safety partners in Watertown. As the incident began to grow, Watertown requested communications support through the MEMA's Statewide Interoperability Coordinator (SWIC). Working with MSP, and activating the Communications Unit Team (COMU), they were able to create a "super patch." This patch enabled six radio systems to communicate seamlessly. Although a few agencies experienced difficulty with interoperable communications because their radios were not correctly programmed, any arriving federal, state or local law enforcement officer with a correctly programmed radio could communicate through this patch.

CAPABILITY: PUBLIC INFORMATION

BEST PRACTICE 4.11

Effective Use of Emergency Alerting

In addition to the traditional media sources, the public received information via emergency alerting systems used by Watertown, Boston and MEMA. Just before 2:00 a.m., Watertown PD issued a WatertownALERT to its residents to request they shelter-in-place while a search for an suspect at large was conducted.⁶² Depending upon how individuals had opted to receive information, residents

⁶² WatertownALERT is the Town's public emergency notification system that provides emergency alerts via phone, text and email to individuals who opt to participate in the system. Publicly registered phone numbers of residents and businesses are automatically included in the system.

received this alert via landline phone, cell phone, text message and/or email. Additionally, the City of Boston issued an ALERTBoston around 6:30 a.m. to inform residents of the shelter-in-place request.⁶³ Residents received additional alerts with updated information about the shelter-in-place request during the course of the day. Moreover, MEMA uses a smart phone app now known as Massachusetts Alerts as one means of communicating emergency information to the public. The app provides geographically targeted emergency alerts to end users by issuing a tone and providing an emergency message. The public received additional alerts through each of these notification tools with updated information about the shelter-in-place request during the course of the day.

BEST PRACTICE 4.12

Coordination of Information for the Mayor's Help Line

Information was well-managed by the Mayor's Help Line staff as the shelter-in-place request guidance evolved throughout the day. Initially, the Mayor's Chief of Staff contacted the Help Line Director at 6:00 a.m. to advise him of the shooting in Watertown earlier that morning, the escape of the second suspect, and the shelter-in-place request from the Mayor and Governor. The Director was advised to again ramp up staffing at the Help Line in anticipation of increased call volume. As a result of the early alert, the Help Line was prepared for heavy call volume and effectively handled over 3,000 calls pertaining to the shelter-in-place request; 99% of the calls were answered within 30 seconds.

CAPABILITY: SITUATIONAL AWARENESS AND INFORMATION SHARING

BEST PRACTICE 4.13

Activation of BPHC MIC and MDPH DOC to Coordinate of Information for Hospitals

Because the impacts of the shelter-in-place request were significant for hospitals and healthcare providers, the BPHC MIC and the MDPH DOC were activated by 6:30 a.m. to coordinate related information needs. Personnel at the BPHC MIC and the MDPH DOC coordinated closely to provide situational awareness information to and respond to questions from hospitals about the implications of the shelter-in-place request. The shelter-in-place request generated a significant level of concern among healthcare facilities. Hospitals and healthcare providers needed to know if travel was allowed for: staff to return home when shifts ended; staff coming in for their shifts; deliveries of medical equipment, pharmaceuticals, and other critical supplies such as linens and food to hospitals, clinics, and homes; non-emergency EMS transport of patients; and filling of prescription medication. The agencies assembled and represented at the MIC and DOC contributed greatly to communicating these concerns and seeking answers.

PHEP Capability 3 – Emergency Operations Coordination

PHEP/HPP Capability 6 – Information Sharing

⁶³ ALERTBoston is the City's public emergency notification system that provides emergency alerts via phone, text and email to individuals who opt to participate in the system.

CAPABILITY: USE OF THE NATIONAL GUARD

BEST PRACTICE 4.14

Provision of Critical Resources

The MANG expeditiously coordinated key resources that helped law enforcement personnel to follow up on investigative leads. MANG provided helicopters to transport SWAT teams to key locations in the southeastern part of the Commonwealth where investigators believed the suspect had recently been and/or was currently located. In addition, the MANG provided military police and armored High Mobility Multipurpose Wheeled Vehicles (HMMVEEs) to assist in the house to house search.

AREAS FOR IMPROVEMENT

CAPABILITY: COMMAND

IMPROVEMENT AREA 4.1

Lack of Clearly Identified In-Field Command

There was confusion about who had overall authority in the field as ongoing law enforcement activities were conducted. This issue became heightened as hundreds and then thousands of out-of-town police officers responded to Watertown. Because no Logistics Chief was assigned to coordinate incoming personnel, incoming personnel were not briefed, incorporated into ICS, or—with the exception of the tactical teams—organized into deployable teams or units. Instead, agency commanders and supervisors focused primarily on commanding their own personnel. In addition, many personnel did not recognize command authority from anyone outside their own agency.

Agencies/Jurisdictions Involved: Law enforcement agencies

Recommendation 37: Conduct Enhanced ICS Training for Law Enforcement.

Ensure appropriate law enforcement personnel received enhanced ICS training to stress the importance of a command structure in a complex incident involving multiple mutual aid resources, as well as the critical role of the Logistics Section Chief.

Recommendation 38: Establish a Statewide Policy Regarding On Scene Command During Complex Critical Incidents.

Law enforcement officials representing law enforcement agencies from across the Commonwealth should create plans and policies that can be implemented to maintain on scene command at complex incidents.

IMPROVEMENT AREA 4.2

Proximity of Command Vehicles to Staging Area

The vehicles used as command posts were located directly next to the designated mutual aid staging area. Because the staging area was overflowing with personnel and equipment, access to the command vehicles was, at times, problematic.

Agencies/Jurisdictions Involved: UC members

Recommendation 39: Ensure command vehicles are located away from staging area.

CAPABILITY: LAW ENFORCEMENT

IMPROVEMENT AREA 4.3

Lack of Weapons Discipline

Weapons discipline was lacking by the multitude of law enforcement officers in the field during both the firefight with the two suspects near Dexter Avenue and Laurel Streets in Watertown, as well as during the capture of the second suspect who was hiding in a winterized boat in a residential backyard.

Although initial responding officers practiced appropriate weapons discipline while they were engaged in the firefight with the suspects, additional officers arriving on scene near the conclusion of the firefight fired weapons toward the vicinity of the suspects without necessarily having a target lined up and identified, or having appropriately aimed their weapons. Officers lining both sides of the street also fired upon the second suspect as he fled the scene in a vehicle. Both instances created dangerous crossfire situations.

Shortly after the firefight, an unmarked MSP black pickup truck was erroneously reported as stolen. The truck was spotted driving on Adams Street, a few blocks from the firefight, with two occupants. An officer witnessing the vehicle fired upon it. Upon further inspection, it was determined that the occupants of the vehicle were a BPD officer and MSP trooper in plain clothes. They were unhurt.

Weapons discipline was also an issue during the actions to capture the second suspect who was hiding in a winterized boat parked in a residential backyard. One officer fired his weapon without appropriate authority in response to perceived movement in the boat, and surrounding officers followed suit in a round of “contagious fire,” assuming they were being fired on by the suspect. Weapons continued to be fired for several seconds until on scene supervisors ordered a ceasefire and regained control of the scene. The unauthorized shots created another dangerous crossfire situation.

Agencies/Jurisdictions Involved: Law enforcement agencies

Recommendation 40: Conduct Additional Training on Weapons Discipline.

Conduct additional ICS and firearms training with a focused emphasis on weapons discipline, including ensuring careful target acquisition, trigger discipline, and authorization.

IMPROVEMENT AREA 4.4

Police Vehicles Hindered Access to and Egress from the Area

Unlike the day of the bombings in Boston, there was no radio traffic reminding responding personnel to maintain open roadways as they approached the scene. In an effort to respond quickly to the ongoing incident, arriving police officers stopped their vehicles at the closest point of access to the ongoing scene and abandoned them, often with emergency lights on and doors left open. This bottleneck of vehicles hindered access to the area by senior police officials, as well as egress from the area. This also was an issue for the ambulance transporting a critically wounded officer and for police vehicles that may have otherwise been able to pursue the fleeing suspect.

Agencies/Jurisdictions Involved: Law enforcement agencies

Recommendation 41: Review Protocols and Conduct Training on Management of Responding Vehicles.

Review protocols for responding officers and the management of their vehicles, as well as for dispatchers to remind responding officers to maintain open roadways when appropriate. Conduct training to ensure these protocols are universally understood.

IMPROVEMENT AREA 4.5

Inability to Retrieve Tactical Weapons from Vehicle Gun Mount

During the firefight with the two suspects, initial responding Watertown police officers were not able to remove their patrol rifles from the secure mount in their vehicles and use them against the suspects. Because these rifles are rarely used and securely locked, officers did not have much experience removing them. As such, the officers could not make the rifle available for use at this critical time.

Agencies/Jurisdictions Involved: Law enforcement agencies

Recommendation 42: Regularly Exercise Removing and Using Rifles and Other Tactical Equipment Installed in Vehicles.

Although this issue occurred with a Watertown police officer, it is common that law enforcement officers do not regularly practice removing and using tactical equipment mounted and/or stored

in their vehicles. As such, all law enforcement officers should exercise removing equipment from their mounts/storage areas at least weekly, and practice using the equipment to ensure they are able to access and use it under high-stress conditions.

IMPROVEMENT AREA 4.6

Lack of Training on IEDs

Officers confronted by IEDs had not been trained to deal with them. While the likelihood of such encounters is rare, an incident that includes IEDs can be a highly dangerous situation for responding officers. Law enforcement in the United States seldom face such a threat, and most have little to no IED awareness training.

Agencies/Jurisdictions Involved: Law enforcement agencies

Recommendation 43: Conduct IED Awareness Training for Law Enforcement.

Ensure law enforcement officers can obtain IED awareness training.

IMPROVEMENT AREA 4.7

Better Use of Local Expertise

It is widely known that local officials have the best understanding of their jurisdiction. However, many law enforcement officials did not make best use of local expertise even though most mutual aid responders were not familiar with the people and geography of Watertown. Lack of familiarity with the streets of Watertown made the deployment of resources and identification of out-of-place items more difficult. False leads may have been more quickly investigated and eliminated, and some arrests may have been cleared more quickly if the Watertown PD had been consulted about them.

Agencies/Jurisdictions Involved: Law enforcement agencies

Recommendation 44: Consult Local Knowledge as Standard Practice.

Mutual aid law enforcement officials should always rely on local expertise familiar with the community.

CAPABILITY: MUTUAL AID

IMPROVEMENT AREA 4.8

Self-Deployment and Lack of Coordination and Management for Mutual Aid Assets and Personnel

Within 12 hours of the initial firefight with the two suspects, over 2,500 federal, state, and local officers converged on Watertown. As these mutual aid personnel began to arrive on scene, Watertown PD quickly identified the parking lot of the nearby Arsenal Mall as the staging area for all personnel responding to the scene. Watertown PD successfully conveyed the request to stage at the Arsenal Mall to the commanders of the departments and teams that had responded to the scene, and directly communicated this request to many of the officers who had arrived in the area but did not have explicit field assignments. The majority of officers complied with this request and arrived at the designated Staging Area.

The UC did not designate a Logistics Section Chief or Staging Area Manager to manage, coordinate and deploy personnel staged at the Arsenal Mall. Because no command or management structure was formally assigned to manage incoming mutual aid personnel, officers were not assigned roles within the operation or provided briefings on the command structure, status of the search, operational missions or priorities. It was not clear to incoming law enforcement personnel who had overall authority in the field as ongoing law enforcement activities were conducted.

As time went on, and in the absence of information, officers began to self-deploy into the field. Some officers listened to radio transmissions or heard media reports and took it upon themselves to deploy into the field rather than being assigned by the UC or the TOC. Others gained access into areas in the field through professional relationships they had with colleagues already in the field. Some officers did inquire about the need for assistance, but in some cases, were given a request to deploy by an unauthorized individual. In some cases, because the command structure was not evident, officers only responding to orders received by their respective chain of command. When information about the potential location of the suspect was transmitted over radios, many officers self-deployed to the residential neighborhood where the boat was located. Each of these self-deployments created significant in-field command and control and officer safety issues.

Agencies/Jurisdictions Involved: Watertown PD and all agencies requested to send or self-deployed mutual aid assets

Recommendation 45: Revise the Mutual Aid Protocol.

Convene a meeting of state and local law enforcement officials coordinated by MEMA to establish a law enforcement mobilization plan for mutual aid at large incidents that addresses:

- Requests for immediate assistance (within 15–30 minutes);
- Identification of an Incident Commander (in cases where the community with the incident needs assistance in managing a large event);
- Specific requests by the IC or UCC for longer term assistance (usually for specific capabilities such as SWAT, EOD, and crime scene investigation);
- Management of mutual aid personnel resources;
- Guidelines for responding mutual aid personnel; and
- Use of ICS for law enforcement in a large incident.

Depending upon the magnitude and type of incident, there needs to be a planned process that provides for immediate response from nearby agencies, and then limits and manages the response. The 2009 Massachusetts Statewide Law Enforcement Mobilization Plan (SLEMP) included many recommendations similar to ones we make here to address the law enforcement coordination gaps. That report could be the launching point for a renewed discussion. Legal jurisdiction is not really the issue—the relevant state laws governing authority to render mutual aid suffice. Rather, what is needed is agreement on the process to mobilize law enforcement resources, and how the incident commander will be selected. The protocols that are developed can be enacted with a statewide policy or a Governor’s Executive Order.

Recommendation 46: Provide Mobilization Training.

Following development of the law enforcement mobilization plan proposed in the recommendation above, develop in-service training modules for all police officers in Massachusetts to understand the statewide mobilization system and policies for rendering mutual aid.

Recommendation 47: Designate a Dedicated Logistics Section Chief and/or Staging Area Manager.

Designating a Logistics Section Chief and/or Staging Area Manager will support the operation, create check-in procedures, and will track sources, personnel, assignments and deployments from the staging area.

Recommendation 48: Limit Self-Deployment.

It must be part of police training throughout the state that in complex, large incidents or multiple incidents, an officer does not respond unless requested by an official with the authority to make such a request. Only police units assigned by incident command should respond. If an officer who does not have an assignment happens to be near the location where the suspect is reported to be, that officer should report availability to respond, rather than responding directly to the incident.

CAPABILITY: LOGISTICS

IMPROVEMENT AREA 4.9

Lack of Support for In-Field Personnel

Although the officers staged at the Arsenal Mall were well cared for, the officers working in the field often went long periods of time without breaks, food or water. No one was assigned responsibility for coordinating these logistics, and as such, there was not a systematic way to provide food, drink or relief for the officers maintaining the perimeter and conducting the grid search.

Agencies/Jurisdictions Involved: UCC, law enforcement agencies, MANG

Recommendation 49: Plan for and Provide Adequate Relief for Responders.

Designate a Logistics Section Chief, especially for larger incidents, to ensure officers in the field are provided an opportunity for relief, even if it is only for a short period of time. Additionally, when staffing a long operation, Command should plan for a second shift to limit officer fatigue and maintain officer/responder safety.

CAPABILITY: COMMUNICATIONS

IMPROVEMENT AREA 4.10

Challenges with Use of Radios

Generally, there was a strong interoperable capability that allowed responders to communicate with one another. However, some SWAT teams experienced issues trying to communicate between teams because they were utilizing radios that did not have the required interoperable channels programmed. This limited their ability for on scene coordination. Federal law enforcement systems were not compatible with the state system, limiting the ability of federal law enforcement agents to communicate directly with state and local responders.

In addition, during the early part of the incident, it was difficult at times to transmit or receive critical information by radio. Many of the first responders displayed poor radio discipline and several police departments reported hearing unnecessary chatter. Responders also underutilized the dedicated tactical channels. During disaster incidents, public safety personnel often are reluctant to use tactical channels. There were available interoperable capabilities throughout the incident, but responders who may have needed additional training to increase proficiency reverted back to the channels that they use for day-to-day incidents.

Agencies/Jurisdictions Involved: All EMS, fire, and law enforcement agencies and dispatch centers.

Recommendation 50: Reinforce the Need to Maintain Radio Discipline.

All first responders need to be reminded of the need for good radio discipline during a large scale event, and provided with protocols outlining appropriate and inappropriate use of messaging.

Recommendation 51: Provide Training to Field Personnel on the Capabilities of their Radio Systems for Use in Large Operations.

Additional training and tactical exercises should be conducted to increase public safety personnel's experience and comfort with using interoperable systems and tactical channels.

Agencies/Jurisdictions Involved: SWAT teams from law enforcement councils and police departments

Recommendation 52: Address Radio Equipment Gaps in Interoperability.

Review radio equipment gaps in interoperability and make recommendations to address them.

Recommendation 53: Ensure Interoperable Channels are Programmed into Public Safety Radios.

The Massachusetts Tactical Channel Plan outlines the need to program the state interoperability channels into every radio. The agencies and SWAT teams with these channels programmed on their radios were able to access radio patches that allowed interoperable communications between teams. Those teams that did not have the channels programmed were either unable to communicate across teams or needed to utilize a cache radio. Additionally, consider holding joint training and exercises for area SWAT teams, to identify and resolve communications and coordination issues prior to the next major incident where multiple SWAT teams need to operate together.

Recommendation 54: Federal agencies should evaluate how their systems can be better integrated into local and state systems.

CAPABILITY: INFORMATION SHARING AND SITUATIONAL AWARENESS

IMPROVEMENT AREA 4.11**Interpretation of the Shelter-in-Place Request Created Confusion and Inconsistencies in Enforcement.**

On Friday morning, the UC suspended transit service and requested residents to shelter-in-place. There was some confusion, especially in medical facilities, about the interpretation of this request and distinguishing the difference between this shelter-in-place request and a lockdown. It was unclear to them if they could change shifts or discharge patients. When hospitals, medical facilities, and other impacted businesses called local police for guidance, they were given inconsistent

messages. For example, there were cases when just in time deliveries, such as linens, were stopped by police; whereas, in other areas they were allowed.

Agencies/Jurisdictions Involved: MEMA, area hospitals, private ambulance services, community vendors to hospitals

Recommendation 55: Work to Create Formal Definitions and Protocols for Shelter-in-Place Requests.

There must be a concentrated effort on the part of political officials, in collaboration with public health entities and hospitals, to develop formal definitions and protocols for shelter-in-place requests. MEMA should work with MDPH and other stakeholders to clarify shelter-in-place requests and identify critical personnel and services that may be exempt.

HPP Capability 1 – Healthcare System Preparedness

CAPABILITY: PUBLIC INFORMATION

IMPROVEMENT AREA 4.12

Lack of Joint Information Center

Four coordinated press conferences were held throughout the day to communicate important information to the public such as: the shelter-in-place request; the suspension of transit services; the status of house-to-house searches; warnings of controlled detonations of suspicious packages in the area; the lifting the shelter-in-place request; and ultimately, the apprehension of the at large suspect.

In addition to sharing information with the public through traditional media outlets, various agencies utilized social media to provide information. In contrast to the press conferences, which were well managed and provided periodic coordinated messages, there was no coordination or validation of messages delivered by numerous agencies and organizations through social media. This led to some misleading or incorrect information being widely distributed through social media outlets.

Other notification tools were used to provide information about the shelter-in-place request and clarify the meaning of the shelter-in-place request. However, there were some issues with accessing notification tools, such as Watertown's *WatertownALERT* system, which are not used as part of daily operations. The individual(s) with access codes or log in information were not readily available. This created some delays in pushing information out to the public.

Agencies/Jurisdictions Involved: All

Recommendation 56: Activate a Joint Information Center.

Utilize a Joint Information Center (JIC) or Joint Information System (JIS) concept to manage large

incidents. A JIC would have primary responsibilities of coordinating messaging across and between agencies and jurisdictions and managing the media. This could include providing periodic briefings between press conferences to satisfy the media's need for the most updated information. A JIC/JIS could also provide a mechanism to coordinate messages shared with traditional media and on social media platforms.

Recommendation 57: Ensure Cross-Training on the Use of Notification Tools and Social Media.

Agencies should ensure that more than one person within the agency can access notification tools and official social media accounts.



Media Presence During Second Press Conference in Watertown

CAPABILITY: SHELTER-IN-PLACE IMPACTS

IMPROVEMENT AREA 4.13

Better Identify Critical Infrastructure, Services, and Personnel when Citizens are Requested to Shelter-in-Place.

The shelter-in-place request had some clear impacts on area hospitals. Generally, hospitals were well prepared for a long-term operation; area hospitals were able to handle patient surge, caring for and feeding patients longer than anticipated, and holding over hospital staff. Because of the shelter-in-place request, hospitals experienced issues obtaining laundry services and other critical, operational supplies.

Agencies/Jurisdictions Involved: Boston area hospitals

Recommendation 58: Better Define Critical Sectors, Personnel and Possible Exemptions for Shelter-in-Place Requests.

Area hospitals should work with DPH and MEMA to better define critical sectors, critical personnel, and outline possible exemptions from orders or requests that impose travel restrictions.

HPP Capability 1 – Healthcare System Preparedness
HPP Capability 3 – Emergency Operations Coordination
HPP Capability 10 – Medical Surge

Recommendation 59: Ensure that a regional stockpile of surgical supplies are ready for rapid access.

HPP Capability 1 – Healthcare System Preparedness
HPP Capability 3 – Emergency Operations Coordination
Capability 10 – Medical Surge

FOCUS AREA 5

Recovery

BEST PRACTICES

BEST PRACTICE 5.1

Well-Planned and Organized Re-Opening of Boylston Street

Boston OEM excelled at spearheading plans to reopen Boylston Street. The restoration of Boylston Street was extremely organized, enabling residents to access their homes, businesses to be re-opened, and the public to revisit in record time. Trucks and personnel from various agencies staged at the boundary of the cordoned off area, ready to mobilize the moment the area was released to the City. Cleaning, restoring, inspecting and other activities were well thought out in a formal plan, and the plan was executed with strong coordination among several city agencies.

On the morning of April 17, the Mayor assigned the responsibility for planning the re-opening of Boylston Street to OEM, and tasked all other City departments to support this critical mission. On Thursday, OEM and the agency representatives at the EOC supported the President and First Lady's visit from their arrival at Logan Airport at 10:30 a.m., until their departure at 4:00 p.m. Immediately following the departure of the President and First Lady, OEM initiated a planning meeting with the agencies present in the EOC, including Office of Neighborhood Services, DND, Office of Inspectional Services, BPHC, Department of Public Works, BFD, and BPD, to develop the City's plan for the recovery and restoration of Boylston Street.

The planning session, which lasted approximately four hours, included 13 City agencies, ARC, Interstate Rental and the BAA. The resulting document was a comprehensive, five-phase plan that addressed all aspects of making the area ready for re-opening, from building inspections and street cleanup to resident and business owner reentry. OEM published the recovery plan and regularly updated the status of progress against the plan via WebEOC.

Recognizing that most people might not be fully aware of the enormous task involved in cleaning up and sanitizing the crime scene area and readying businesses to reopen, OEM and the Mayor publically released details of the recovery plan two days after it was finalized. OEM and the Office of Mayor announced the details of each phase of the recovery plan during an April 21 press conference so that those directly affected, as well as the City at large, better understood the actions and activities that needed to be undertaken and completed before the area could be opened to the public. This transparency helped the public remain patient and reduced anxiety, as it was evident

that everything possible was being done to regain access to the area and renew commerce.

An important component of the recovery plan was providing private access to the area to survivors, their families, and the families of the deceased before the broader public opening. The City organized a special gathering for survivors and ensured that the survivors and the relatives of the deceased had an opportunity to visit the area before it was opened to the public.

OEM oversaw the implementation of the recovery plan, which included cleaning of the streets, the orderly re-population of buildings, provision of onsite mental health support, and the streamlining of health and occupancy permitting.

BEST PRACTICE 5.2

Strong Assistance to Businesses

As a core component of the City's recovery planning, DND took the lead in refining a corollary assistance plan for businesses. DND worked closely with the Office of Constituent Engagement to develop a contact list of all the businesses in the affected area, then reached out to the owners with information about the plan for reopening the area. Information included actions the businesses would be required to take as part of the reentry process, such as obtaining required health and occupancy permits, and providing access to the FBI to some locations as their investigation continued.

MEMA worked to quickly obtain a Small Business Administration (SBA) Economic Injury Disaster Loan (EIDL) declaration for impacted businesses. The City opened a Business Assistance Center, where the SBA was co-located to provide information on and assist business with obtaining EIDL loans. In addition, DND sought out options for small business loans that some of the merchants needed to cover losses during the period of forced closure, negotiating with banks on their behalf. DND also answered questions about insurance coverage and served as ombudsman with the SBA on its EIDL program.

BEST PRACTICE 5.3

Early Meetings To Discuss Mutual Aid Response in Relationship to the Presidential Emergency Declaration and the Public Assistance Program

On April 17, 2013, the President issued an emergency declaration for the Boston Marathon bombings. The incident period for this emergency was ultimately defined as April 15–26, 2013.⁶⁴

Over the course of the week, more than 150 different municipalities and agencies provided mutual aid to Boston and Watertown. Most, though not all, mutual aid was provided through regional law enforcement councils; however, some direct mutual aid was provided by municipalities to

⁶⁴When the declaration was issued on April 17, 2013, the initial incident period was defined as April 15–22, 2013. MEMA appealed the incident period to include emergency protective measures that continued for several days after the apprehension of the suspects to include security for the Officer Sean Collier memorial service, as well as the enhanced security that continued until it could be confirmed that no other suspects were involved in the incidents. On July 19, 2013, FEMA approved the extension of the incident period through April 26, 2013.

Boston. In addition, MSP requested assistance from New Hampshire, Rhode Island and Connecticut for EOD units, K-9 teams and Search and Rescue teams through the New England State Police Compact.

The Public Assistance (PA) program, which is triggered once a Presidential Emergency Declaration is issued, has stringent requirements relating to mutual aid for natural disasters, and it was not immediately clear how these requirements would be interpreted and applied to the Marathon bombings. As such, MEMA hosted a meeting with FEMA and key sub-applicants, including representatives from Boston, Watertown, Cambridge, and MSP, to discuss these issues. Additionally, they were able to identify actions, such as amending mutual aid agreements or establishing post-event mutual aid agreements, which were needed in order to ensure eligibility of mutual aid costs. These discussions were very valuable in heading off potential issues that would have emerged later in the PA reimbursement process.

BEST PRACTICE 5.4

FEMA Staff Co-Located at MEMA

The emergency declaration and PA Program involved complex issues. Although costs associated with activities for emergency protective measures were eligible for reimbursement, costs related to the investigation and security measures for the Presidential visit were not eligible, and were not always easy to distinguish. In addition, mutual aid agreements needed to be appropriately documented. To best be able to discuss and resolve the complex issues related to eligibility of costs associated with the emergency declaration and PA Program, FEMA embedded PA staff at MEMA Headquarters, establishing an informal Joint Field Office. Having FEMA staff readily available greatly streamlined the PA process for FEMA, MEMA and the sub-applicants.

BEST PRACTICE 5.5

Weekly Public Assistance Program Coordination Meetings

To ensure a continued open dialog to best address the complicated issues associated with the emergency declaration and PA Program, MEMA and FEMA hosted weekly coordination meetings with sub-applicants whose project worksheets were more complex, including Boston, Watertown, Cambridge, MSP and MANG. The meetings helped proactively address questions and issues related to the compilation of appropriate documentation to support project worksheets, and to assist sub-applicants through the PA process.

BEST PRACTICE 5.6

Revision of FEMA Recovery Policy RP9525.4 (Emergency Medical Care)

Numerous hospitals, which are eligible private nonprofit sub-applicants under the PA Program, incurred significant increased operating costs for the unexpected surge in number of patients,

overtime costs for medical surge staff, and holdover staff for the April 19, 2013 shelter-in-place request. However, these increased operating costs, which were associated with the medical surge capacity they were required to implement in direct response to the bombings, were deemed ineligible under Recovery Policy 9525.4 (Emergency Medical Care).

Subsequently, FEMA carefully reviewed RP9525.4, and revised the policy in February 2014, to deem certain emergency medical care activities eligible for reimbursement under the PA Program.⁶⁵

BEST PRACTICE 5.7

Continued Provision of Mental Health Services

State and local mental health resources continued to be made available to the community at large for several weeks following the bombings. Emotional support and healing for the community remained a high priority. Resources continued to be made available to the public and were well advertised through various media outlets.

PHEP Capability 7 – Mass Care

AREAS FOR IMPROVEMENT

CAPABILITY: HEALTH AND MEDICAL

IMPROVEMENT AREA 5.1

Better Mental Health Services for Non-Public Safety Personnel, Healthcare and Human Services Providers

The mental health needs of some healthcare and human services providers who supported individuals impacted by the bombings were not adequately addressed. In addition, City of Boston personnel who were part of the Boylston Street recovery effort and felt the stress of physically working in the impacted area did not have their mental health needs adequately addressed.

Many of these individuals had first line interactions with survivors, their families, and others who were greatly impacted by the incident, and committed long hours over many days to provide support services and to restore Boylston Street back to normal. Appropriately, there was much concern and many resources provided for the well-being of public safety personnel, the public, employees of impacted businesses, and families members of those who were heavily impacted by the bombings. However, the level of support for non-public safety employees, healthcare providers, and human services providers was not as substantial. While a few city offices and some healthcare and human services employers set up debriefing sessions, some departments did little more than refer staff to an Employee Assistance Program.

⁶⁵ Unfortunately, hospitals were not successful in their formal appeals to FEMA to have their costs deemed eligible because the provisions of the policy that were in place at the time the costs were incurred deemed these activities ineligible.

Agencies/Jurisdictions Involved: Healthcare providers, human services providers, City of Boston, Commonwealth of Massachusetts

Recommendation 60: Ensure Access to Mental Health Services for All Employees Involved in Disaster Response and Recovery Activities.

Healthcare employers, human services employers, the Commonwealth and the City of Boston should explore opportunities to provide post-disaster services for employees. Employee Assistance Programs should not serve as the sole resource for employees who have had direct contact with survivors, families, and impacted individuals, or have worked directly in the area of impact.

PHEP Capability 7 – Mass Care

PHEP Capability 14 – Responder Safety and Health

Recommendation 61: Train Managers on Psychological First Aid.

Healthcare employers, human services employers, the Commonwealth and the City of Boston should consider providing psychological first aid training to managers to provide them with skills to identify signs of psychological trauma in their employees.

PHEP Capability 7 – Mass Care

PHEP Capability 14 – Responder Safety and Health

IMPROVEMENT AREA 5.2

Difficulty in Applying Stafford Act Policies to a Terrorist Incident

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) and its associated policies and regulations were developed to address disasters resulting from natural hazards. As such, there are nuances to these policies and regulations that are difficult to apply to manmade incidents, such as acts of terrorism. In particular, the policies and regulations defining eligible emergency protective measures and requirements for mutual aid required a degree of interpretation and analysis to determine applicability for this incident's response activities.

FEMA decided early on that activities associated with the investigation of the crime were not eligible costs under the FEMA PA Program. Such activities included gathering and analyzing the thousands of photographs and video feeds provided to and obtained by law enforcement, questioning witnesses and suspects, analyzing and sharing intelligence information and performing forensics and attribution tasks. In addition, enhanced security measures related to the visit of dignitaries such as the President, First Lady and Vice President were ineligible.

Activities deemed to be FEMA-eligible emergency protective measures included securing crime scene(s), response to additional threats, increased security because of heightened security risks (not including enhanced security measures for dignitary visits), door-to-door searches, and EOC/command post operations.

While the restrictions on eligible activities seemed to be clearly defined, it was extremely difficult for PA sub-applicants to clearly differentiate and document which law enforcement officers were working on investigative activities and enhanced dignitary security, versus FEMA PA-eligible emergency protective measures activities. In addition, certain specialized law enforcement equipment was not captured in FEMA's standard equipment rates, including SWAT vehicles, bearcats, and MSP helicopters, and required significant coordination, time and resources with sub-applicants and FEMA Headquarters to identify reasonable reimbursement rates for equipment.

Agencies/Jurisdictions Involved: FEMA, MEMA

Recommendation 62: Develop Strong PA Guidance on Eligibility of Activities for Acts of Terrorism.

FEMA, in coordination with MEMA, should proactively develop strong guidance for sub-applicants on eligible activities, costs and documentation requirements associated with the PA Program for acts of terrorism.

IMPROVEMENT AREA 5.3

Better Communication Regarding All Federal Funding Opportunities

Months after the Presidential Emergency Declaration, the Executive Office of Public Safety and Security (EOPSS) and MEMA learned of a U.S. Department of Justice (DOJ) Bureau of Justice Assistance (BJA) reimbursement grant opportunity for law enforcement agencies that would cover 100% of costs associated with law enforcement response to the Boston Marathon bombings, including investigative and mutual aid costs.⁶⁶

While this was ultimately good news for the eligible law enforcement agencies, the delay in communicating the availability of a second federal grant program caused a great deal of unnecessary time and resources to be spent on interpreting the FEMA PA Program, and advocating for flexibility for costs initially deemed ineligible by FEMA. To properly identify eligible costs for the DOJ grant, MEMA had to coordinate with all potential applicants within a very short application period to determine what costs that were deemed ineligible under the PA program would be eligible under this new DOJ-BJA funding opportunity.

Agencies/Jurisdictions Involved: DOJ, MEMA

Recommendation 63: Ensure Timely Communication of Post-Disaster Grant Opportunities.

Ensuring timely communication of grant opportunities will allow the State Administrative Agency (SAA) and program staff to better communicate with potential applicants, streamline the request for information, and ultimately, create more efficient and effective use of federal grant dollars.

⁶⁶ Under the Stafford Act FEMA Public Assistance Program, applicants may receive up to 75% federal reimbursement for eligible costs.



PRODUCED BY:

Massachusetts Emergency Management Agency

Massachusetts Department of Public Health

City of Boston

City of Cambridge

Town of Watertown

Massachusetts Bay Transportation Authority Transit Police Department

Massachusetts National Guard

Massachusetts State Police