



August 2013

Emergency Communications Case Study: **EMERGENCY COMMUNICATIONS DURING THE RESPONSE TO THE BOSTON MARATHON BOMBING**

The athletes competing in the 2013 Boston Marathon had prepared for months and even years to tackle the mental and physical challenges of running 26.2 miles. From the elite athletes to the middle-of-the-packers, each runner came to the starting line with a foundation of training and hard work. The same was true for the police, fire, and other emergency personnel present to support the race. It was their foundation of communications planning, training, and coordination that made a lifesaving difference when one of Boston’s best days became one of its worst.

PLANNING FOR RACE COMMUNICATIONS

The region’s public safety community was prepared for a challenging, large planned event on the morning of April 15, 2013. The Boston Marathon is one of the world’s oldest and most cherished races--attracting tens of thousands of participants, international media attention, and more than half a million spectators. The city has hosted its marathon since 1897 and over the years has honed its approach to the sprawling Patriot’s Day race as it has improved communications technology, coordination, interoperability, and planning across the region.

Steve Staffier, Communications and Interoperability Manager for the Commonwealth of Massachusetts and Statewide Interoperability Coordinator (SWIC), says that for the last several decades the State has worked with the Boston Athletic Association, Federal authorities, and the eight communities affected by the race to plan and coordinate communications among the various agencies that support the marathon.

In 2010, as part of assessing National Emergency Communications Plan Goal 1, the Department of Homeland Security’s Office of Emergency Communications (OEC) observed the Metro Boston

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National Emergency Communications Plan (NECP)

Goal 1
After Action Report/Improvement Plan (AAR)/(IP)
Metro Boston Homeland Security Region
2010 Boston Marathon

Response-Level Emergency Communications

"Capacity of individuals with primary operational leadership responsibility to manage resources and make timely decisions during an incident involving multiple agencies, without technical or procedural communications impediments."

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Homeland Security
Office of Emergency Communications

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Homeland Security Region’s communications capabilities during the marathon. In its assessment, OEC recommended further integrating communications into the event’s overall command and control functions. The region responded by requesting OEC technical assistance to train additional Communications Unit Leaders (COML) and used funding available through the Interoperable Emergency Communications Grant Program to train more Communications Unit Technicians (COMT). COMLs plan and manage communications during

an event while COMTs support the technical needs of the plan and communications unit. The region also participated in a Statewide Communication Interoperability Plan (SCIP) workshop, facilitated by OEC, to ensure public safety organizations understood the Statewide Plan and how to leverage existing resources and capabilities. Boston then participated in two additional SCIP workshops in 2012 to incorporate advancements in technology into the updated plan.

RACE DAY TURNS TRAGIC

Before the 2013 race, the region created a comprehensive event communications plan (Incident Command Form 205), a recommendation from OEC's 2010 assessment, and assigned Staffier as COML, supported by Blair Sutherland, a COMC from the Massachusetts State Police. Staffier states that during the planning for the 2013 race, the communications unit added a medical command and control radio network, enabling public safety supervisors and commanders to better circulate and share medical information.

The medical network turned out to be critical. At 2:50 p.m., an improvised explosive device detonated near the marathon's finish line, followed 13 seconds later by a blast from a second device several hundred feet away. The bombs killed three people and injured nearly 300 others.

As news of the bombs spread, Staffier says land and cell phone communications became saturated with users and were largely unavailable for about 90 minutes. During that intense period when first responders were tending to and treating the wounded, moving runners and spectators to safety, and securing the area, Staffier reports that the State's 800 MHz trunked radio system kept up with the demand.

"The radio system absolutely worked and became the key connection for the key decision makers back to their respective dispatch centers or command centers," Staffier says.

With severe congestion on the phone lines, emergency responders also turned to OEC's priority services – known as the Government Emergency Telecommunications Service (GETS) and the Wireless Priority Service (WPS) – to enhance call completion and support communications continuity. These

programs allowed personnel to make critical calls necessary to aid in the response.

INVESTIGATION TURNS TO MANHUNT

The need for coordinated communications only intensified as law enforcement turned its focus from bomb response to an investigation. The region continued to create and work from detailed communications plans to address the growing number of agencies present in the area. Staffier says those plans even allowed the National Guard members and State police officers who were working underground to secure the subway system to seamlessly connect to agencies above ground.

"We had other radio nets or patches that we tied together to ensure regional SWAT teams could talk with Boston and State police assets, as well as logistical and support communication amongst the technicians," Staffier reports.

In the early morning hours of Friday, April 19, the region transitioned to yet another communications plan after the two bombing suspects killed an MIT campus police officer, carjacked an SUV, and engaged in a shootout with police. As the region went into lockdown while law enforcement searched for the one surviving suspect, Federal, State, and local public safety agencies created a base camp in Watertown, where the suspect was believed to be hiding and was eventually found. To support communications among such a large and diverse group of agencies, officials created what Staffier calls a "superpatch."

"We actually had six different radio systems all patched together at a system level and it worked smooth," he says. "That allowed all those different agencies on different radio bands to communicate" and supported the entire tactical operation.

A FOUNDATION OF PLANNING, TRAINING, AND COORDINATION

During the May 9, 2013, hearing on Capitol Hill about the Boston Marathon bombing, Kurt Schwartz, Director of the Massachusetts

Emergency Management Agency, testified: "We benefited from our history of using pre-planned events like the Marathon as real-life opportunities to exercise and utilize our command posts and emergency operations centers, to test our operational



The Communications Unit Leader (COML): A Valuable Resource for Incident Commanders

July 2011



plans and mutual aid systems, to activate our specialized response teams, to stay familiar with the technology based systems that we rely on during emergencies, and to strengthen personal and professional relationships amongst people, agencies, disciplines, and jurisdictions that otherwise may not have many opportunities to work together.”

Staffier also emphasized the importance of strong working relationships among communications personnel.

“Overall, the key to our success is that we have the State communications unit team, which is made up of COMLs, COMTs, and all of the subject matter experts who run these radio systems,” he says.

In addition to the regular meetings, the team is well practiced at creating communications plans for special events. “That,” Staffier stresses “is more key than anything money can buy as far as systems and technology.”

LESSONS LEARNED

Every major event reveals things that could have been done better. Boston was no different.

One major issue during the bombing and its aftermath was the battery life of the portable radios carried by law enforcement and public safety during the long shifts and deployments the situation required. Massachusetts officials are exploring the idea of creating a power and battery trailer and purchasing an extra supply of batteries to ensure radios stay functional.

When phone lines became saturated in the first hours after the bombing, OEC’s priority services were called on. Staffier notes that the events were a reminder of the need for agencies to regularly test

their GETS and WPS accounts and keep them up to date so they can be accessed immediately.

Throughout the response activities occurring that week, GETS had a call completion rate of over 99 percent, providing routing to over 280 calls. Over 93 percent of calls made via WPS were completed, offering emergency responders much needed cellular connectivity. OEC also expedited 152 WPS enrollment requests to provide priority for critical response personnel on the cellular networks.

Another issue that arose was incomplete implementation of the Massachusetts Tactical Channel Plan. Best practices suggest that standard interoperability channels, which help provide baseline interoperability across all jurisdictions statewide, should be programmed into each public safety radio. Staffier says that those agencies that followed the plan were able to plug into the channels immediately. However, a small number of agencies that came to assist did not have the interoperability channels programmed in and needed to be given a pre-programmed radio to use.

In addition, during the response to the bombings and the subsequent investigation and manhunt, public safety was reminded of the need for communications staff and operational staff to work in concert to ensure seamless response efforts. Although great strides have been made in recent years, Staffier says there could be an even better flow of information from operations to communications about the functions and assignments needed in a given operational period and what kind of radio channels or radio nets were required.

As the nation mourns the four lives lost in Boston and supports those injured in the blasts, OEC and its stakeholders continue the process of examining and understanding the communications successes and gaps revealed during a week of extraordinary events. OEC remains committed to working with its Federal, State, local, and tribal partners to create new training offerings, explore policy and practice changes, invest funds where needed, and spread the word to ensure first responders have the tools and knowledge to further strengthen their communications efforts.

FOR ADDITIONAL INFORMATION

Please contact OEC@dhs.gov or visit www.dhs.gov (keyword OEC).