City Of Jersey City

Office of Emergency Management &

Homeland Security

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Emergency Management 2.0 How Social Media & New Technologies are Transforming Preparedness, Response, & Recovery

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Chairman McCaul and distinguished members of the United States House of Representatives Committee on Homeland Security I wish to extend my sincere appreciation To Representative Donald Payne Jr for affording me the opportunity to appear before you this morning.

As technology continues to evolve, emergency management organizations must adapt to new ways of responding to the media and public. The way people communicate and receive information has gone through a radical transformation in the last few years with the invention of social media.

The potential applications of social media information for disaster managers include providing:

- evidence of pre-incident activity
- near real-time notice of an incident occurring
- first-hand reports of incident impacts
- gauging community response to an emergency warning.

This information will contribute toward effective decisions for emergency responses. Yet to do this, emergency services organizations need a reliable way to identify and analyze emerging topics that indicate a significant disaster, emergency event or unexpected incident is occurring within a given time frame and at a given location.

The Federal Emergency Management Agency (FEMA) wrote in its 2013 National Preparedness report that during and immediately following Hurricane Sandy, “users sent more than 20 million Sandy-related Twitter posts, or “tweets,” despite the loss of cell phone service during the peak of the storm.”

New Jersey’s largest utility company, PSE&G, said at the subcommittee hearing that during Sandy they staffed up their Twitter feeds and used them to send word about the daily locations of their giant tents and generators. “At one point during the storm, we sent so many tweets to alert customers, we exceeded the [number] of tweets allowed per day,” PSE&G’S Jorge Cardenas, vice president of asset management and centralized services, told the subcommittee.

Following the Boston Marathon bombings, one quarter of Americans reportedly looked to Facebook Twitter and other social networking sites for information, according to The Pew Research Center.

The sites also formed a key part of the information cycle: when the Boston Police Department posted its final "CAPTURED!!!" tweet of the manhunt, more than 140,000 people re tweeted it.

Community members via a simple Google document offered strangers lodging, food or a hot shower when roads and hotels were closed. Google also adapted its Person Finder from previous use with natural disasters.

Emergency Responders are some of the biggest beneficiaries of social media, they also have to manage the challenges that these new networks present. Traditional lines of communication have been redrawn and social media has challenged the singular authority that First Responders require.

As each disaster sparks its own complex web of fast-paced information exchange it can both improve disaster response and allow affected populations to take control of their situation as well as feel empowered.

Drawing up an effective social media strategy and tweaking it to fit an emergency, however, is a crucial part of preparedness planning. As part of disaster preparedness it would be useful to teach the public how to use social media effectively, how to get information from the Web and also how to put out useful information.

The challenge for First Responders is how to integrate the directives that they formulate with the social media conversations impacted citizens are engaged in. Developing an informed public is the first step in getting both citizens and first responders working together.

Applying social media tactics to corporate and government crisis communication has several advantages.

First, it brings credibility to your organization at a time when it is likely to be most needed. This occurs because the use of social media – including but not limited to blogging and podcasting – is inherently conversational and transparent allowing near real-time information to be disseminated to concerned citizens, employees and the media. And at the same time, it prompts discussion, debate and feedback from the very people who most care about the crisis and who are more likely to shape the lasting perception of the incident once the immediacy dies down.

Social media also guarantees your message will be heard. Because there are no press deadlines, no misinformed reporters, and no need for the use of your Information Technology department, you can disseminate the information how you want and as quickly as you want.

Another benefit of social media is that it provides a unique and efficient way for crisis communicators to defend an organization's brand and reputation. For example, if a blog is speaking negatively about an organization or spreading false information, crisis communicators can respond by posting counter remarks or linking to other blogs and online content that sets the record straight.

Key points to consider as to the use of social media :

- You need to slow down the freight train that is coming at you. Use your social voice to let the public know you are aware of the situation, you are looking to find the answers, and you will be providing the facts as they become available. Putting the brakes on even a bit at a time will slow the velocity.

- When the crisis hits, start setting up alerts and searches based on the information you have, and who is talking about it. Talk to your people and determine what is factual and what is not. Here is the key to remember – if there is one ounce of truth to what has caused the crisis, then that is what you need to focus on. Kill the rumors by provide the facts and clarify the issues at play. This will remove the momentum.

- Tackle the issues head on. This is not the time to try to spin the story or make excuses for whatever has occurred. This is time for concrete facts and humility. "We're sorry. We're human. We strive for better and you deserve better." These three sentences can suck the oxygen out of a fiery room and remove the fuel. Own the situation. Explain what was wrong, why it was wrong, and how you will prevent it from happening in the future. Once you do that, the worst that can happen is people agree with you.

- Misinformation and competing directives can often come from unofficial sources and reach large numbers of people through viral distribution. On the other hand, social media allows First Responders to communicate directly with citizens without having to rely on third parties like traditional media.

A recent Red Cross survey asked 1,058 adults about their use of social media sites in emergency situations. It found that if they needed help and couldn't reach 9-1-1, one in five would try to contact responders through a digital means such as e-mail, websites or social media. If web users knew of someone else who needed help, 44 percent would ask other people in their social network to contact authorities, 35 percent would post a request for help directly on a response agency's Facebook page and 28 percent would send a direct Twitter message to responders.

It is human nature to want to help people who need it. As social networks 'cut out the middle man' in traditional media and put ordinary citizens in direct contact with those in emergency situations, this impulse to help is even stronger. As a result, people organize amongst themselves to solve problems. In some cases this is in concert with emergency professionals;

however, in other situations it's not possible, and people act independently to issue help on the scene. Social media can help in both of these instances. The key to marshalling whatever help is available is to identify and prioritize needs that arise from the crisis and to track whether these needs are met. Because of the popularity of Facebook and Twitter, many help actions begin on these networks but because they haven't been designed to do this kind of work, their utility is limited.

One thing is clear—the public's use of social media in crises is growing. One of the many challenges this presents is the ability of first responders and governments to monitor this information and act on it in a timely manner.

The advent of social media has revolutionized the way people communicate and gather information about stories and topics that are important to them. This change has adversely affected the way public information officers must interact with the public and media during emergencies. By complementing your emergency communication plan with social media techniques, your organization has a better chance of communication messages, informing the public and media and ultimately surviving a crisis situation.

The first people to respond during a disaster are not usually trained responders or other professionals—frequently, they are simply bystanders. The enormous potential of social media is to leverage this fact to turn bystanders into lifesavers.

New Technology: Mutualink Interoperable Communications system

Behind any collaborative and coordinated undertaking, there must be effective communications. There is a misconception that the government can quickly and effectively respond in all incidents. In reality, a wide range of situations can occur in your community that requires varied degrees of response at different times of the situations.

This is most often true in long running or unfolding emergencies such as large natural and manmade disasters. In these situations, often the need for communications continuity across functions and sectors, such as communications among tactical, logistical, and public outreach, is often overlooked.

This can hamper response, mitigation and recovery efforts in many ways. This includes unnecessary traffic congestion or key transit points being blocked, medical, food, and shelter services being overwhelmed, and/or improperly located. During incidents many communications channels will reach peak capacity and alternate means of communication will be required to alleviate or supplement first line communications resources.

Enabling interoperable communications among disparate communications assets plays an important role in ensuring both seamless communications among different agencies and entities, regardless of their communications resources, but also provides the needed flexibility

to supplement availability and circumvent communications limitations when primary communications resources are unavailable.

A wide variety of communications resources are available and used within our communities. These include a plethora of two-way radio systems, the public telephone system, mobile telephone, satellite, and broadband data networks providing IP communications.

Despite a decade of significant investments and concerted efforts, a pervasive national communication interoperability solutions for emergency response has remained a bridge to far with, at best, small pockets of interoperable communications ability existing among a few select agencies.

With advanced and affordable interoperable communications resource sharing, these assets can be harnessed to provide a resilient and ubiquitous communications environment that will enable seamless communications across a multitude of partners, and provide critical communications paths among them.

Developing partnerships, engaging in planning and practice, and utilizing new and affordable communications bridging technology to facilitate communications among partners is essential to modern day emergency preparedness and response best practices.

The Mutuallink Interop Network is a ground breaking method of connectivity. The Network operates in a peer to peer environment that can be accessed via dedicated or virtual connections. The plug and play structure of the Network eliminates complex and expensive configurations.

Entities joining the Mutualink Interops Network are "automatically discovered" by all existing Network participants make the determination whether to include new Mutualink subscribers in their visible list of Network peers. Additionally, Network participants can search the directory by geography and entity type developing communities of similar agencies.

Communications on the secure Mutual ink Network are end-to-end encrypted using federally approved AES ciphers and are mutually authenticated using standard-based public-key cryptography.

An Interoperability WorkStation serves two primary functions, it is the point of communication between two entities on the Network for voice, text and sharing data files, it is also the control point by which resources may be contributed to the incidents.

The Interoperability WorkStation (IWS) allows users to communicate in several distinct methods;

- Intercom allows communications between Interoperability Workstations during an incident.
- Transmit broadcasts to radio and other resources participating in incidents and IWS users can text messages and share video feeds and data files with other incident participants.

Additionally, portable configurations of the Interoperability WorkStation can be moved, at any time to pre-determined destinations with qualified broadband access, providing users with back up dispatch capabilities.

It is a well-established fact that most of the NYC police and fire department first responders at the World Trade Center in the immediate aftermath of the 9/11 terrorist attacks had virtually no ability to communicate with each other. That utter lack of "interoperability" has been enshrined in the history books as one of the monumental shortcomings of that tragic day.

It is far less known that almost eight years later, on the day that Captain Chesley Sullenberger brought his Airbus A320 airliner down safely in what has since been dubbed "The Miracle on the Hudson," that many of the police, fire and emergency services agencies on the New Jersey side of the Hudson River — as well as many of the nearby New Jersey hospitals — were able to benefit from a remarkable degree of communications interoperability.

At the request of the New Jersey State Police OEM the Jersey City OEM Homeland Security Mobile Command/Communications vehicle equipped with the Mutualink Interoperability system was dispatched that day to Weehawken, NJ.

Onboard cameras connected thru the Mutualink system focused on the floating, crippled aircraft, where they were able to capture video images of the stunned passengers, and share those images in real-time with area hospitals, emergency rooms, other public safety agencies and local command centers.

In October 2009 for the first time, a public safety emergency response marine vessel was outfitted with an advanced multimedia interoperable emergency communications platform enabling seamless communications, and video and information sharing among agencies both in the water and on the ground.

The system, developed by Mutualink, allows real time coordination during incident response by enabling communications between incompatible two way and push to talk radios, telephone PBX systems, and mobile telephones, along with the ability to share and view live feeds from video camera networks traditionally not accessible by remote parties. Following 9/11 and Hurricane Katrina, attaining interoperability between technologies that are normally incompatible with each other to improve response has been a federal priority.

The state-of-the-art boat dedicated in the honor of fallen police officer Marc Dinardo was acquired by the Jersey City Office of Emergency Management/Homeland Security thru Department of Homeland Security(DHS) Urban Area Security Initiative (UASI) funds and is operated by the Jersey City Police Emergency Services Unit. It patrols the same Hudson River waters where US Airways Flight 1549 made a successful water landing and supplements maritime assets of the NYPD, NJSP and the US Coast Guard.

In 2012 a Bomb Command vehicle was purchased for the Jersey City Police Emergency Services Unit thru DHS UASI funding and this to was outfitted with a Mutualink system. As was the case with the marine vessel, Mutualink designed a special application providing connectivity to the on-board bomb robot enabling bomb technicians to share video with counterparts throughout the country greatly enhancing information sharing capabilities.

Mutualink CEO Mark Hatten credits the success of the project to Jersey City's progressive leadership and commitment in the area of homeland security and emergency preparedness. "Jersey City has been at the forefront of interoperable emergency communications and from the beginning it has been a guiding force in helping us shape a solution that meets the rigors and needs of responders and personnel in real situations. The maritime interoperable communications deployment directly results from Jersey City's vision of enabling unified communications capabilities across all environments," stated Hatten.

Previous projects with Jersey City included the installation of Mutualink into their mobile command vehicle, the first to operate over a wireless data connection, as well as into their Emergency Operations Center. Hatten added, "When Jersey City came to us with the idea of doing a marine deployment, we saw it as a great opportunity for both sides to work together and make it a reality." Mutualink developed a hardened interoperable work station that can be used not only in harsh maritime environments experienced by tactical and response boats, but also in other severe land based environments.

The successful deployment into a marine environment required Mutualink to engineer a new piece of hardware capable of operating in extreme environmental conditions. A new Interoperability Work Station (IWS) was developed within an IP67 rated water proof enclosure requiring no outside ventilation for cooling and flash drive technology was incorporated to handle the excessive vibrations and pounding a boat typically experiences on the water at high speeds. A Furuno 17" LCD screen displays the Mutualink software and video while communication audio is capable of coming over an amplified speaker system or a privacy handset. Data connectivity is accomplished using a Firetide™ wireless mesh network with antennas directed out over the water carrying the encrypted data back to land where it then rides Jersey City's fiber network. Mutualink can also operate in a mobile environment over satellite and cellular data networks.

Mutualink has significantly enhanced our capabilities to react and respond internally but also our ability to interoperate with any other agency on the network including many of our neighbors and critical assets in the private sector to include;

- Newport Shopping Mall (Directly connected to inter-state(PATH) and inter-county transit(Hudson Bergen Light Rail) systems.
- New Jersey City University, Saint Peters University.
- Jersey City Public School System(Sixteen facilities with approximately 35 thousand students).
- Jersey City Medical Center(Level 2 trauma center)
- Christ Hospital
- Jersey City 9-11 Emergency Communications Center
- Port Authority of NY/NJ Police Communications Desk
- Goldman Sachs (Jersey City "Gold Coast Financial area).
- Le Frak organization (Largest property owner of residential and commercial properties located in the Hudson River Newport area)
- Mack-Cali properties

This is all accomplished using the same communications infrastructure we already have in place." Newark, Paramus, Trenton, and Atlantic City are just some of the New Jersey cities already using the Mutualink system along with twenty two area hospitals in northern New Jersey which can now interoperate via dispatcher, radio, video and text messaging.

Enhanced communications continue to be of vital importance for effective response to disasters. Lack of communications directly contributes to low levels of situational awareness for both high-level commanders and emergency responders in the field.

When all lines of contact are down, effective response to disaster is greatly diminished. Establishing and maintaining lines of direct contact between decision makers, formal and informal responders, government officials, and the public is a primary objective in any emergency planning or response scenario.

A continuing reexamination of providing emergency communications is critical for lessening their impacts of future disasters. Utilizing advances in technology that allow for higher degrees of mobility for communications systems introduces a new level of flexibility for operational command structures.

In closing, I would like to once again express my sincere gratitude for affording me this opportunity to appear before you today.