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What needs to be done to avert catastrophe?*

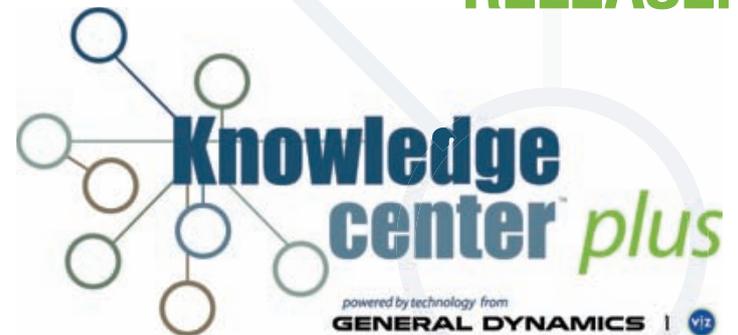
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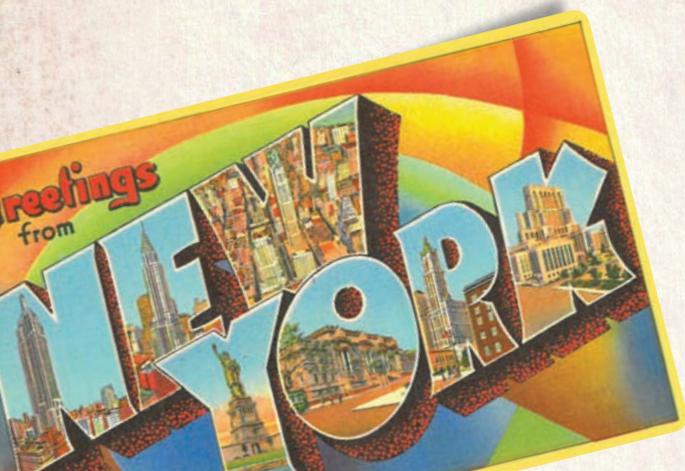
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**I think a lot of people** are missing the point of a background check as well as they don't understand what that means. A background check is nothing more than a report that is generated that lists criminal activity, and for more in-depth background, checks their reputation. It is up to the individual organization to determine what type of person is allowed to volunteer/work there or not. Thus an organization can say no child sex crimes but allow manslaughter (which is very common in my experience).  
**Curtis** — in response to *Unfit to Help?* in the Spring issue

**Boy Scouts, Little League** and the like all require background checks and are all volunteers. This is for volunteer efforts on blue sky days. While serving on the National Commission on Children and Disasters 2008-2010, the NVOAD [National Voluntary Organizations Active in Disaster] came to a consensus as to what a minimum background check is. While conducting background checks has a cost, the real threat is not conducting them. Imagine the liability to a community that during a disaster has an individual with a past that was readily available but to save the money was not found, and then acts in a criminal manner while volunteering.

However, it is not the fiscal cost that concerns me, but the trust issue. If some-

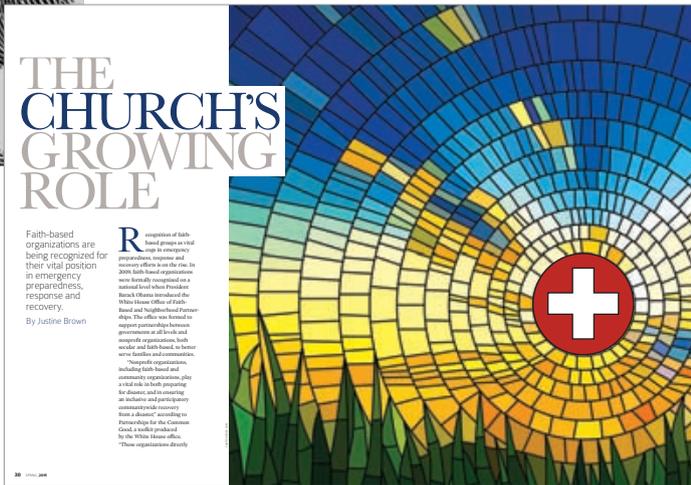
thing bad occurs, or someone is found to be, say, a sex offender, the public outcry will hamper our ability to meet the needs of survivors during their most vulnerable time. In today's social media climate, no program can afford not to take these steps up front.

Our program conducts background checks at the time of application to attend the course. We turn people away in almost every class.  
**Bruce Lockwood, East Hartford Fire Department** — in response to *Unfit to Help?* in the Spring issue

I agree with Mr. [Eric] Pickering [of the New Orleans Office of Homeland Security and Emergency Preparedness] 150 percent that we need to rebuild our faith-based and volunteer community organizations to provide the assets needed for response and recovery efforts. Mitigation is extremely important and communities are working on the process. However, I believe it is more important to get the people out of the mindset that the government will take care of them following a disaster and develop the philosophy that they are on their own and had better be prepared to take care of

themselves, because our "government(s)" may not be there in their time of need.  
**Judy Whidbee** — in response to *The Church's Growing Role* in the Spring issue

**I have been a pastor for 40-plus years** and a Red Cross disaster worker for 10-plus years. Churches, because they are voluntary organizations without a clear chain of command, do not do well as partners



in preparedness. As first responders, they have difficulty maintaining discipline and engaging in a focused response.

However, once a disaster hits they have loads of volunteers coming forward, but without much coordination. Rather than spend time and resources training individual congregations in the preparation phase, we would be better off having a small coordinating group prepared to quickly organize and direct the churches and their volunteers once the disaster has happened. Churches can also be organized into interfaith groups for the long-haul recovery process, once disaster recovery assistance and often denominational grants are then available.

**California Bob** — in response to *The Church's Growing Role* in the Spring issue

**f** We appreciate your feedback, and we invite you to join the conversation at [www.emergencymgmt.com](http://www.emergencymgmt.com) or on our Facebook page at [www.facebook.com/emergencymgmt](http://www.facebook.com/emergencymgmt)



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By Jim McKay

# Hoping for El Niño

**H**ere in California, we are enduring a serious drought and we're angry about it. We're going on five years now, the reservoirs are frighteningly low and Gov. Jerry Brown is beginning to levy real restrictions. Tensions are high.

Is it global warming or just a dry spell? It doesn't seem to matter much right now — the fact is we're suffering and we're not happy. The other night I took a minute with the hose and cleared some of

the state that is proud of its homes and accompanying landscaping and is now faced with some rather drastic restrictions. One refrain was, "We should not be forced to live on property with brown lawns, golf on brown courses or apologize for wanting gardens to be beautiful." The person continued: "We pay significant property taxes based on where we live, and no, we're not all equal when it comes to water."

The folks in this community (and many others across the state) are faced with possibly having to pay fines for overuse of water. "I think we're being overly penalized, and we're certainly being overly scrutinized by the world," said another resident whose water bill already averages about \$800 a month. "It angers me because people aren't looking at the overall picture," she added. "What are we supposed to do, just have dirt around our house on four acres?"

Another person in the article called it a "war on suburbia." "It's slowly becoming the land of one group telling everybody else how they think everybody should live their lives."

There is the possibility of some wonderful luck in the form of El Niño conditions forming over the Pacific Ocean that could bail out California this winter. We can only hope for that. But will we have learned anything? Will we be better equipped to conserve our water resources so we're more prepared for the next dry spell?

On a side note, *Emergency Management* was selected as Best Overall Trade Publication by the Western Publishing Association in May. We continue to be humbled and thankful for our readers' support and contributions. 

THERE IS THE POSSIBILITY OF SOME WONDERFUL LUCK IN THE FORM OF EL NIÑO CONDITIONS FORMING OVER THE PACIFIC OCEAN THAT COULD BAIL OUT CALIFORNIA THIS WINTER. ... BUT WILL WE HAVE LEARNED ANYTHING?

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the mountain dust from my truck. I was promptly scolded by my wife, who warned me against doing that again. It was just a brief squirt, I thought. How can I go through a whole summer without rinsing the truck?

I ran across a neighbor recently who had read a report about the local reservoir going dry by August because officials are releasing too much water to keep downstream salmon alive. The angst was evident in her tone.

I also talked to a farmer who refuted a series of articles in local newspapers that said agriculture uses 80 percent of California's water but accounts for just 2 percent of the economy. He said their contribution to the economy is more like 30 or 40 percent.

I read an article in *The Washington Post* about California residents facing real water restrictions. The writer interviewed residents from a region of

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## In the News

As of June 4, storm-related deaths had climbed to 31 in Texas since Memorial Day. Storms caused at least \$27 million in infrastructure damage, and roadways in 167 of the state's 254 counties were damaged. A region in Texas called "Flash Flood Alley" because of its vulnerability to storms continues to see its cities grow at a faster rate than other parts of the country, despite the flood danger, according to the *International Business Times*.



## Charlotte Launches New Communications Network

It took five years and a significant change in plans, but first responders in Charlotte, N.C., finally have a fourth-generation broadband network at their disposal.

The new high-end wireless network runs off commercially available 4G provided by Verizon that was formally introduced in May. The original project — where Charlotte would own and operate its own private LTE network — kicked off in 2010, but fell through in 2013.

Work on the network was scuttled when Charlotte and the First Responder Network Authority — the federal group charged with

delivering a nationwide public safety broadband network — failed to reach an agreement for wireless spectrum management. That brought a halt to the city's Broadband Technology Opportunities Program grant funding.

As a result, Charlotte officials believed it would be increasingly difficult to get authorization from the FCC to use specific radio frequencies, so the city shifted gears to look at what options the private sector could provide. After a renegotiation with the U.S. Department of Commerce that allowed Charlotte to repurpose its

leftover \$8.8 million in grant funds, the city was able to continue the project with help from the private sector.

The 4G network cost \$11.2 million overall, with Charlotte putting in about \$2.4 million, according to the city's CIO, Jeff Stovall. The project's main benefits include enabling fire and police agencies to share data with units in the field more securely and at a faster rate. It also gives responders the ability to use several high-end applications, such as GIS mapping and crime analytics programs, which were previously problematic on slower speeds.



## DATA VISUALIZATION TOOL MAPS DISASTERS

FEMA took a large step in its open data efforts by releasing a new data visualization tool that lets the public answer questions about their region's history of natural and man-made disasters.

Users can filter through raw data to learn about the number of disaster declarations made — events like fires, storms, snow, typhoons and terrorist attacks — by state, county or tribal nation. The tool has graphs and charts demonstrating financial costs associated with the events, along with links to FEMA resources that encourage disaster preparation.

From concept to execution, the tool took about a year to create. Now that the tool is public, FEMA hopes that when people see that disasters happen where they live, it will spur them to action.

## COLORADO TO DEPLOY WILDFIRE PREDICTION SYSTEM

Colorado will spend \$1.2 million over the next two years on a "revolutionary" fire prediction system that uses atmospheric weather data to predict the behavior of wildfires up to 18 hours in advance.

Gov. John Hickenlooper signed House Bill 1129 this spring. "This bill will predict the intensity and the direction of fires 12 to 18 hours ahead of time. That is really important so we know where to direct our planes, the aircraft we had a bill for last year and our firefighters," said Rep. Tracy Kraft-Tharp, D-Arveda, who introduced the bill. "This is really revolutionary."

TRIBUNE NEWS SERVICE

### FORECAST: HURRICANES

The National Oceanic and Atmospheric Administration has predicted a below-average hurricane season. The averages are two major hurricanes, six hurricanes and 12 named storms. Here are the predictions by the numbers:

**0-2** Major hurricanes with winds of 111 mph or higher

**3-6** Storms that could become hurricanes, meaning winds will be 74 mph or more

**7-11** Named storms with winds 39 mph or higher



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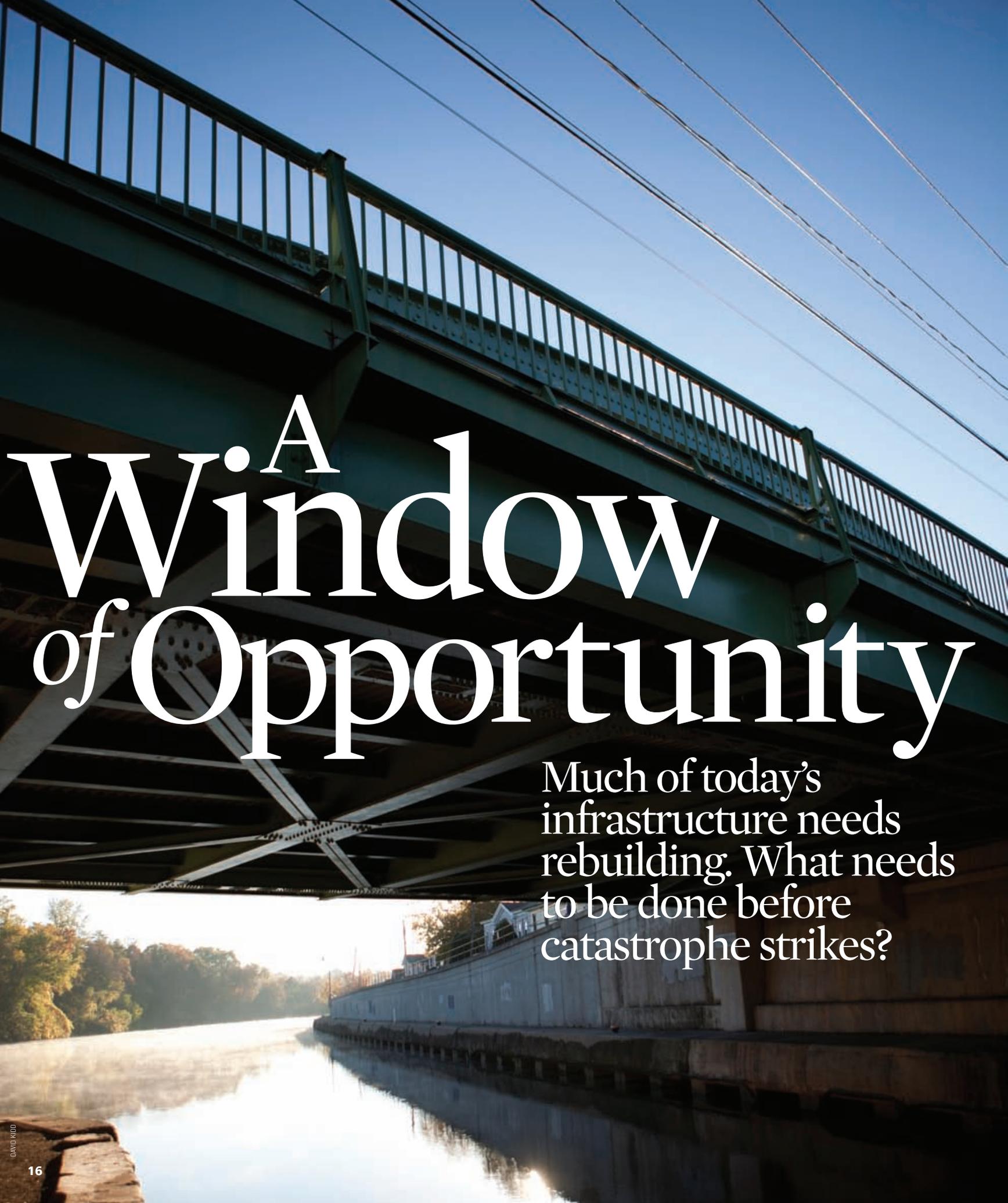
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# A Window of Opportunity

Much of today's infrastructure needs rebuilding. What needs to be done before catastrophe strikes?



America's GPA with regard to the state of critical infrastructure — roads, bridges, dams, drinking water, hazardous waste — is about a 1.3, equivalent to a grade of D+, according to the American Society of Civil Engineers (ASCE). It will take trillions of investment dollars to rebuild. Those costs are magnified if you acknowledge the trend of more intense natural disasters and the promise of more damage, largely from wind and water.

The solution isn't neat and tidy or easy, but with forward thinking, it presents opportunity. The Smarter-Safer coalition, composed of more than 30 groups, including major insurance companies, addressed the problem in an April 2015 report that says the U.S. must spend more money on infrastructure protection pre-disaster instead of wasting so much money rebuilding after an emergency happens.

It's a concept that's beginning to resonate, especially after events like Hurricane Sandy. Many experts agree that investments in more resilient infrastructure and an acknowledgment of infrastructure as a system are critical to viable long-term recovery.

By Jim McKay



### 'Tactical, Political Compromise'

The ASCE says it would take more than \$3.5 trillion to upgrade all U.S. infrastructure to decent working order by 2020. That figure grows when you add disasters, waste, fraud and inflation. And it seems most policymakers take a stand on the issue only after being hit hard by an emergency like a hurricane.

"The majority of policymakers are not leaders; they will follow the direction of the prevailing wind," said Aris Papadopoulos, the former CEO of Titan America. Papadopoulos was at the World Trade Center on 9/11, and after retiring from the construction business, he made resiliency a personal mission. "The private sector will have to lead in collaboration with a few policymakers who make it their agenda and bring the spotlight over on this problem."

The critical infrastructure — transportation, water supply and the like — need attention, but housing and light commercial buildings are another major area of need, and one that has been neglected to the detriment of the country, Papadopoulos said.

Building codes were developed as a sort of minimum requirement and are not at all adequate to protect residents or people in light commercial buildings.

"Building codes are a product of tactical, economic and political compromise and the lowest denominator of protection," Papadopoulos said. "In the U.S. we practice a fragmented, inconsistent and often outdated system of building codes, which unfortunately allows special interests to keep the bar as low as possible."

The bar is far higher for large commercial buildings, but those only account for around 20 percent of the nation's built environment, with homes and light commercial making up the rest. "We're saving lives but losing livelihoods, particularly homes, the nest eggs for most people's wealth," he said. "We're designing and building below the hazard levels and hoping the hazard doesn't hit."

The rate of losses resulting from disasters is escalating at an alarming pace. Globally the figure averages about \$300 billion a year, which is more than the gross domestic product of 80 percent of the world's nations, according to Papadopoulos. The U.S. leads with the worst losses in the decade between 2000 and 2009, with an average of \$35 billion a year, a figure greater than the total losses



of the next nine countries combined. Things have gotten worse since 2009, and the trend is projected to continue.

Papadopoulos called climate change a "convenient alibi to explain away what we wish to avoid exploring in more depth. In reality, the predicted impacts of climate change still lie ahead of us," he said. "Just imagine how much worse things could get several decades from now once climate change really kicks in."

Builders must embrace safety, much like carmakers embraced vehicle safety features decades ago after initially fighting them. They could build "fortified" or "code plus" homes. The Insurance Institute for Business and Home Safety came up with the fortified rating and has a state-of-the-art facility for testing homes. "Why shouldn't Zillow include that kind of information in their database?" Papadopoulos asked.

He said the government should admit that building codes, especially in residential and small commercial structures, don't protect property and owners should upgrade to code plus.

The government is incentivizing green construction, but that doesn't protect property from a disaster. The two should go hand in hand, said Cathleen Kelly, senior fellow at the Center for American Progress. "More permeable roads, more green infrastructure

to absorb heavy rainfall and restoring coastal areas are all hugely beneficial," she said.

### System of Systems

And then there are the interdependencies that connect certain infrastructures and complicate things when disasters strike. For example, infrastructure that pumps water may be dependent on the electrical grid, but when the power goes out during a disaster, other infrastructure, including the water pumping system, may be affected.

Thus various infrastructures need to be thought of more holistically. "If you're doing post-disaster planning, you really have to think from a context of multisystem engagement and multisystem prioritization," said Bob Prieto, senior vice president of Fluor, a global engineering construction company. That means those running the power system need to be cognizant of the priorities of restoring power to certain facilities.

It also means building infrastructure with a larger system in mind, not just buildings, and thinking of infrastructure more holistically. This is especially true in transportation, and there are committees beginning to work on the tools necessary for that to happen, Prieto said. "I would suggest that we really need to think about infrastructure in the post-



The American Society of Civil Engineers has ranked the state of the country's critical infrastructure a D+ and estimates it would cost more than \$3.5 trillion to upgrade all infrastructure to decent working order by 2020.



disaster context as a system of systems.”

As a first step, Prieto said it's important to understand the core competencies and capabilities of each infrastructure system and then take that thinking to the next level by recognizing their interdependencies.

Fred Krimgold, director of the Disaster Risk Reduction Program and a faculty member of the Advanced Research Institute at Virginia Tech, said sectors like transportation, energy, water and communications are aware of the consequences of failure of their own systems but not what happens “downstream.” “Up in New Jersey and New York after Sandy, a big problem was fuel shortage, not because they didn't have fuel but because they didn't have electric power.” All the fuel was in tanks in the ground and had to be pumped electrically.

Krimgold worked with a small Virginia city of around 50,000 to demonstrate the cascading failures that can happen when one infrastructure system shuts down. GIS capability showed the connectedness of the electric power system and the water system via overlays of system maps. “The guys from the water department and the guys from the power utility were able to identify points of dependency.”

The two entities were then able to sit down and negotiate potential solutions, Krimgold said. “For example, do you

need to upgrade if this is a single feed and a very high-priority pump in the water system? Should you do a double feed that is fed from another substation?”

The understanding of infrastructure as a system of systems, Prieto said, is beginning to resonate, along with the idea that rebuilding the same structures after a disaster is unacceptable. “We're past the denial stage. We're at the recognition stage, and I would call it a growing articulation of things that need to be done.”

The ASCE recently moved to establish a goal that would cut the life cycle costs of new infrastructure to half of today's prices. There are a lot of reasons for that, Prieto said, including the fact that we can't afford all the infrastructure we need or the repairs that will eventually be required. “It's not just about building it cheaper in the first instance. It's about adopting a life cycle view of building something that when all costs are considered is more capital efficient.”

There's a recognition that infrastructure standards were written for individual buildings, not with infrastructure systems in mind, especially where transportation is concerned. Prieto said there's beginning to be some work done to develop tools that address the need for a new approach.

Kelly also sees the acknowledgment of

the interconnectedness of infrastructure as critical to developing resilience, as is the understanding that more destructive natural disasters are expected in the future. “There are so many interconnections between the different sectors when it comes to resilience and the snowball effect that can occur when one system goes out,” she said. When the cell towers were down during Hurricane Sandy, for example, residents didn't know where emergency facilities were and how to get from point A to point B.

Flooding and wind are the main threats to infrastructure systems, according to Papadopoulos. “When you look at the history of insurance losses, wind and water [cause] probably close to 75 to 80 percent of losses,” he said. “Unfortunately the U.S. spent considerable resources on earthquake hazards.” And although earthquakes happen, he explained, they are much less frequent, and the cumulative effect is a small fraction of what is lost to water and wind.

### Building Sustainably

There are signs of progress. Unfortunately it usually happens after a major incident. Following Sandy, the federal government set up a rebuilding task force led by former U.S. Housing and Urban Development Secretary Shaun Donovan. That led to a process throughout the region of thinking about

rebuilding in a more integrated, strategic way.

Mayor Bill de Blasio released a new plan in April called *One New York City: The Plan for a Strong and Just City*, which builds on the efforts former Mayor Michael Bloomberg began to develop a sustainable and resilient city.

The federal government has taken steps to push for an acknowledgment of climate trends in future planning agendas, such as the executive order issued by President Obama in November 2013 directing federal agencies to assess the risks of climate change to their assets, programs and grants to make sure investments go toward resiliency.

“That will ensure that all federal agency investments in infrastructure will be designed with the acknowledgment that climate change is happening, namely flooding,” Kelly said. “Otherwise we’re talking about investing taxpayer dollars on infrastructure that is right in the path of floodwaters and it’s not going to last for its intended lifespan. It’s a waste of taxpayer money.”

The Regional Plan Association uses scenario planning as a tool to develop plans. The concept is to consider a number of options that might occur in the future. “The idea is you don’t just plan for the storm that just happened; you know the future is uncertain and that any number of things might happen,” said Robert Freudenberg, director of the association’s Division of Energy and Environment. “You choose a range of scenarios that are likely to happen and start thinking through each of those.”

For instance, three scenarios to rebuilding coastal communities would be: one, that things stay the same; two, that big investments could be made to prepare for climate change; and three, that people are going to have to relocate away from coastal communities.

“By doing that it gives you the sense of all the steps you need to take and all the partners

you need to involve,” Freudenberg said. He called it kind of a “time out” from the urge to rebuild quickly, which has happened so often and with mixed results. “There’s a window of opportunity to think differently after a disaster, and unfortunately a disaster is often the motivating factor for thinking differently,” he said. “That starts to wear off after a while and things go back to business as usual.”

During that window of opportunity, it’s important to resist the urge to build back too quickly without foresight, which is often the tendency and sometimes pushed by politicians in the aftermath of a disaster. “You saw with the New Jersey Shore: There was such a focus on just getting that back in time for the next summer season that things were done quickly and poorly, and one of the projects burned down completely it was done so quickly,” Freudenberg said.

Sandy forced some in the region to recognize the possibility of more ominous storms, but sea-level rise is really starting to drive that acknowledgment home, he said. “It’s not just the big storm disaster where we’re recognizing we’re going to have to change the way we live or at least respond to the forces that exist beyond us on a high-tide basis.”

### Seventy-Five Years Ahead

In the community of Anacortes, Wash., officials saw an aging water treatment plant and took a futuristic approach to replacing it. Public Works Director Fred Buckenmeyer had attended an unrelated symposium on climate change and came away with the realization that things in the future relating to the water supply will be shifting.

So when it came time for the community to invest in a new treatment plant, Buckenmeyer considered what the situation might look like in 75 years. Anacortes invested in a

\$65 million redesign of the treatment plant, incorporating state-of-the-art design that takes into account the effects of climate change.

The new facility is 25 feet higher than the old one, all the electrical gear is built above the 100-year flood plain and everything below that is built with water-tight construction. The old plant was 50 feet wide, several hundred feet long and looked like a giant ice cube tray. The new one is compact. There’s also a redundant power system.

“The old system is built for 20 million gallons a day, and the new system is built for 57 million gallons a day and occupies a third of the footprint,” Buckenmeyer said.

The new system was built to facilitate the removal of an increasing amount of sediment from the local Skagit River, thought to be one of the impacts of a warming climate. Studies show that the amount of water in the river isn’t expected to change, but will come at different times of the year and more so in rain than snow, which will increase the sediment load. “We’re going to get more floods and higher floods,” Buckenmeyer said.

Residents are already dealing with it. “The river used to come up about once a year, and we maybe had to sandbag around the facility once every five years,” Buckenmeyer said. “That’s changing to like five times a year now.”

The plant has been in operation for about two years, and its worth has been proven already. “We had a high river event last winter,” Freudenberg recalled. “And what normally would have been a major risk event where we would have had 100 volunteers filling sandbags and the Army Corps of Engineers on site was just another day.” ✚

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## Costs Will Grow as Storm Trends Continue

**The frequency,** severity and cost of disasters like hurricanes, floods, fires and heat waves continue to grow and federal spending on recovery is unsustainable. According to the SmarterSafer Coalition, a group that includes major

insurance companies, property damage from disasters has averaged \$24 billion per year since 2004, compared to an annual average of \$9 billion from 1995 to 2003.

But that hasn’t stopped people from moving into

disaster-prone areas. A 2014 Reuters investigation found that 2.2 million new housing units were constructed in coastal areas between 1990 and 2010. And coastal properties take a disproportionate toll on the National Flood

Insurance Program. In Massachusetts, for example, just 150 properties in the town of Scituate accounted for 40 percent of the \$60 million in flood insurance payouts since 1978.

The costs will only grow. The Natural Resources Defense

Council estimated that floods could cost the country up to \$360 billion in damaged residential properties and hurricane damage could exceed \$420 billion by 2100.



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# In Denial

A lack of knowledge and indifference hampers disaster recovery. By Adam Stone

## Fire, flood, famine, nuclear disaster — we’ve been through them all and more, and yet we so quickly forget. All but a few Americans, depending on which survey you read, remain stubbornly unprepared for the next disaster. Without preparedness, there can be no resiliency.

Insurer Allstate reports that 40 percent of Americans have thought about an evacuation plan, but just 8 percent have practiced an escape plan. Thirty percent say they’d take their chances and leave at the last minute in the face of a storm. More than half of parents say they’ve been directly impacted by disaster, according to Save the Children, yet 67 percent don’t know about the emergency plan at their kids’ schools, and 42 percent wouldn’t know where to find their kids after an evacuation.

Certainly things are better today than they used to be. “Fifty years ago there were no flood maps. Anyone could do whatever they wanted on a flood plain,” said Gene Whitney, a member of the Committee on Increasing National Resilience to Hazards and Disasters at the National Academy of Sciences/National Research Council. “Today communities are aware of the high-risk zones and they use those flood maps to guide their land-use decisions.”

But not always and not very well. Poor planning on personal and civic levels impedes bounce back, stymieing a community’s resiliency when it’s time to rebuild. Why is this so? It may be in our genes.

“It’s hard-wired into us,” said Robert Meyer, co-director of Wharton’s Risk Management and Decision Processes Center at the University of Pennsylvania. For millennia humans survived by thinking about today’s food, not tomorrow’s storm clouds. “As human beings, we are prone to not thinking far enough into the future, and we are prone to not look too far into the past,” Meyer said. “When in doubt, we just do what everybody else is doing.”

Cash counts too, Whitney said. “Resilience and preparedness cost money, so when someone says they should harden their communications infrastructure to be more resilient to a disaster, people may not see that as a priority.”

Why put immediate needs first on the fiscal chain? It’s all about likelihood. “Disasters are probable-risk events,” Whitney said. “What are the chances that this hurricane is going to destroy my house? What are the chances that this flood is going to destroy my house? Maybe we had a flood back in ’88 and it did some damage, but people aren’t going to worry about that now.”

It’s called denial, the thinking that, “It isn’t going to happen to me, and if it does FEMA will swoop in like a golden eagle and fix it all.” That’s not a resilience plan.

But for emergency planners to overcome resiliency resistance, they should take a candid look at some of the community-level hurdles too, the structural factors that prevent whole populations from building resiliency plans.

Money comes first, as usual. “Who pays for the cost of recovery? It is a little unclear at the moment, and that is handicapping the development of strategies that will make us more resilient,” said James O’Donnell, executive director of the Connecticut Institute for Resilience and Climate Adaptation.

He points to the current structure in which the federal government subsidizes flood insurance. It’s a pricey endeavor, and O’Donnell argues that resiliency would be better served if government weaned shore-dwellers off the teat. “If people actually had to pay the full cost of the insurance for the risk that they have, they might make smarter decisions.” He said the private market for insurance should be allowed to participate in the coastal flood programs in a bigger way. And then people would change the trend of building bigger and bigger, closer and closer along the shoreline.

Would less government spending drive better resiliency? It counters the usual logic — government should shore up the bulwarks — but it opens the door to new ways of thinking.

Working the numbers might also help emergency planners sidestep a

persistent bugbear in the efforts to devise effective resiliency plans: Civic authorities can only demand so much, Meyer said. “As a society we’d rather have a situation where the government doesn’t tell us how to live our lives.”

It’s not just a matter of preference, but also of fundamental liberties. “If I own my home, you as the government can’t tell me to insure it,” said Gerald Galloway, an engineering professor at the University of Maryland.

Still, there are some ways in which government can drive specific action, for example by withholding funds. Emergency planners can set specific standards for rebuilding after an event, and if builders fail to meet those standards, they become ineligible for government disaster relief.

“If people don’t build back in a resilient way, the government simply says no,” Galloway said. “There may be some pushback, but people are getting tired of seeing money poured down the drain, in this case the flood plain, unnecessarily.”

Rules that impinge on property rights or individual liberties must be justified as being necessary in the protection of health and safety. That sets a high bar. Without a stick to wield to drive greater resiliency, government must turn to the carrot.

Working together with government officials, emergency managers can help lay the groundwork for policies that not only penalize bad planning but, more often, also find ways to reward smart preparations.

While banks may require flood insurance, government cannot make such requirements. On the other hand, tax authorities could give a break to those who get insured voluntarily or they may give tax incentives to building companies that go the extra mile, said Sean Scott, author of the disaster handbook *The Red Guide to Recovery*.

Financial incentives — the carrot — can be helpful, but they aren’t simple to utilize. Suppose the city or state opted to offer tax breaks to those who equipped their homes with additional fire protection measures. Who’s going to drop by to confirm these measures have been implemented? Or will tax breaks be given on the honor system?

As the manager of all things financial, government can certainly manipulate the tax code and other tools to generate resilience incentives. As an additional measure to drive best practices, emergency planners can also look to education.

Whitney points to the simple practice of using the ring shank nail. It'll keep a roof tacked down even in a heavy wind, at no more cost than an ordinary nail, but some builders may not be familiar with it. Education may start here, with zoning officials and others distributing literature to inform builders of their options.

At the level of the individual and the family, much has already been said about the need for education and much has been done. High-risk communities have produced public service materials in various forms, informing people about the steps they might take to prepare for an event and to restart their communities afterward.

## *By the Numbers*

*\$136 billion*

Federal spending on disaster relief from 2011 to 2013

*84*

Disaster declarations in 2014

*100 million*

People affected by disasters worldwide in 2013

*320,000*

People displaced by natural disasters in the U.S. in 2013

Such messaging might spell out how much water to keep on hand or which emergency routes to keep in mind. But there are other forms of education, less commonly addressed, that can have a big impact on a community's long-term ability to get up and running in the wake of a disaster.

Kids ought to learn this stuff in school, Galloway said. Even from a young age, children can be introduced to the basics of risk and response. "You can include that in the school curriculum, and then the first thing a child asks at home is, 'Mommy, why are we building in a swamp?'"

Along these same lines, the mayor can appoint every local child a deputy for water conservation during a drought. The initiative can teach them the basics of water management and pressure adults to keep water use within regulations.

In the era of Facebook and Twitter, planners need to look to social media as a potentially powerful means of broadening the public understanding. This will require a new approach. "You've got to be able to convey a compelling message quickly, in a way that they are going to digest it and act on," Scott said. "It's speed, it's entertainment, it's very concise snippets of information that answer precise questions. It's education as instant gratification. So far emergency planners are not even anywhere close."

Emergency planners also need to help people with definitions. As Hurricane Sandy loomed, authorities warned of a potential 14-foot storm surge. But the magnitude of that possibility wasn't understood by the general public.

For that matter, what do basic financial terms mean when it comes to planning for resiliency? "To me there is surprising ignorance over what property insurance is, why you would carry it and why it is priced the way it is," Meyer said. "People don't understand a lot of that. There is a total lack of education on risk and protection. Financial literacy is an acute problem."

This in turn feeds into another fundamental aspect of resiliency. While good policy and good education are essential, in the big picture "recovery is all about money," said Tamara Habib, co-founder of Firelily, a philanthropic effort to bridge the financial gap for communities in the wake of catastrophe.

"If you don't qualify for an insurance payout, you have to destroy your savings or



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take a high-interest loan. Think about the impact that has on your ability to spend in your community and support small business," she said. "There hasn't been much research into the connection of personal recovery and community recovery, but I think we'd find that the lack of financial assistance and knowledge significantly affects the ability of the whole community to recover."

The average American family has \$3,800 in its savings account, while the average house fire costs more than \$12,000 in repairs, according to Habib. "That's a significant financial gap to overcome," she said. "The largest source of financial assistance in the vast majority of cases is the American Red Cross, which is only able to provide an average of \$550 per family of four. And yet we expect people to immediately repair and rebuild. The stats speak for themselves."

Firelily takes a novel approach to resiliency as a sort of philanthropic Kickstarter that connects those in need with those looking to help victims rebuild. Such efforts likely won't solve the resiliency problem alone, but emergency planners should be aware that they have partners out there looking to achieve the same ends.

## Are You Resilient?

As emergency managers consider the question of resiliency, it helps to have benchmarks. Although every community will have its idiosyncrasies when it comes to short- and long-term recovery, some factors remain consistent. Resilient cities:

1. Are aware of their vulnerabilities and assets
2. Have diverse and redundant systems to cope with disaster
3. Have agencies that are integrated and share information
4. Are self-regulating — if one system fails, they can cut it off without allowing it to cascade into catastrophic failure
5. Are adaptive and flexible

SOURCE: JUDITH RODIN, PRESIDENT OF THE ROCKEFELLER FOUNDATION

Complicating all these factors is that resiliency itself is ill-defined. The term refers variously to the ability to weather the immediate crisis, the certainty with which the aftermath can be contained and the ability of the community to come back in the long term.

It's no surprise then that resiliency can sometimes present itself as a moving target. "It's not like one day the city council says, 'OK, we are done, the city is now resilient,'" Whitney said. "It is a matter of constant improvement." ➤

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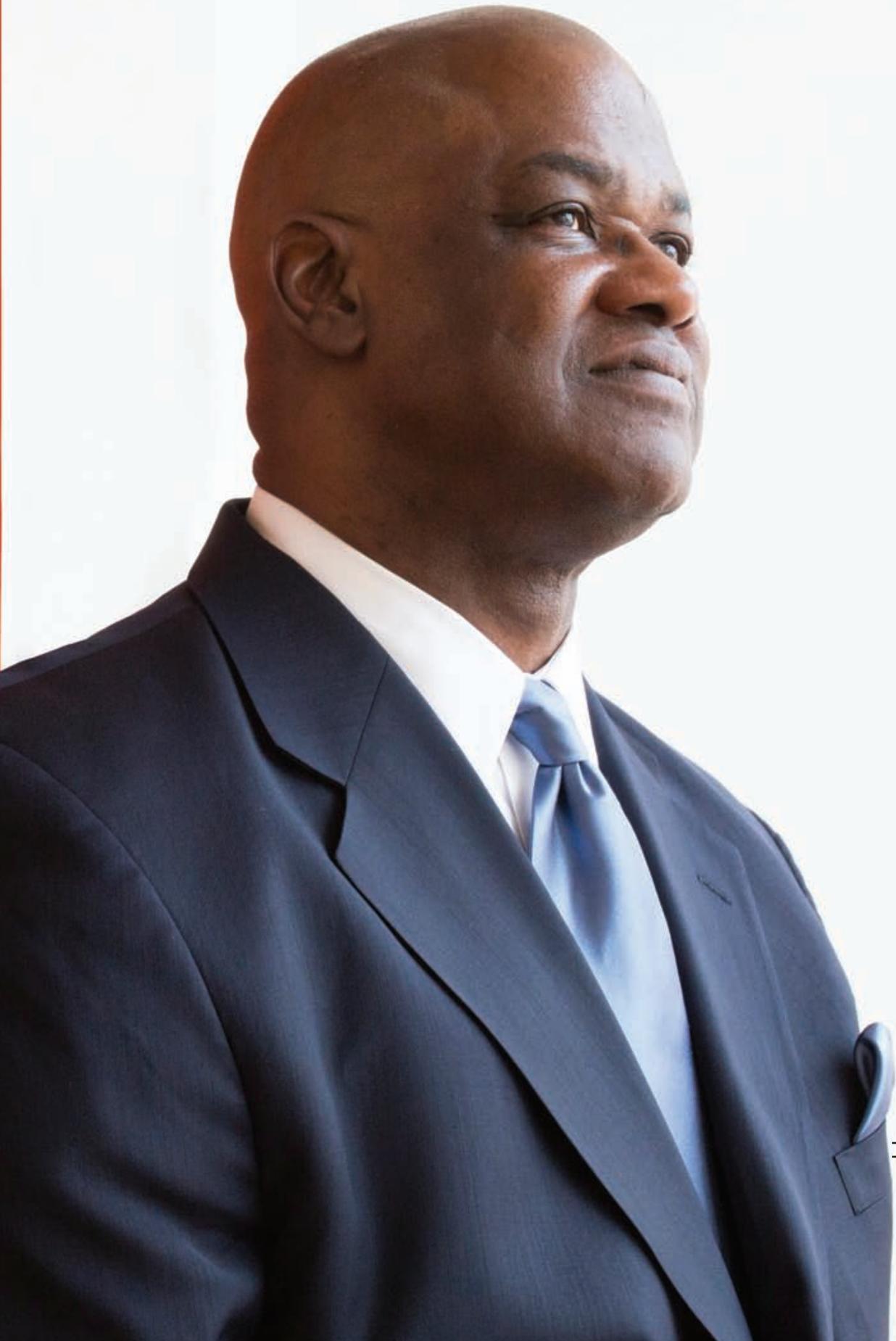
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# CHANGING OF THE GUARD

Several factors are converging to slowly make the field of emergency management more diverse, a necessity for effective disaster response. **By Justine Brown**





**Charles Sharp** is CEO of the Black Emergency Managers Association, which aims to increase diversity in the field.

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It's no secret that the field of emergency management is not overly diverse. The typical emergency manager is an older white male. This lack of diversity is rooted primarily in the profession's evolution. Many of the first emergency managers came from police, fire or first responder backgrounds, which for a long time were largely white, male-dominated fields in most parts of the country.

"Most emergency managers traditionally came from a pretty narrow slice of the professional world," said Joe Partridge, disaster recovery business continuity manager for CareOregon, a nonprofit involved in health plan services, reforms and innovations. "Even as recently as the late 1990s, emergency management director positions were almost always located within a police or fire department and typically staffed by either a retired or close-to-retired person from a first responder background — typically 55 years old or older and a white male."

Carmen Merlo, director of the Portland Bureau of Emergency Management in Oregon, has been working in emergency management for 18 years. "It's often the case that I'm the only female in the room," she said. "I still go to conferences where literally all of the panelists are white men."

Following 9/11, emergency management as a profession changed, evolving into more of a stand-alone career and opening up possibilities for a more diverse workforce. Though the profession still lacks much diversity, evidence suggests the tide is slowly changing. Some say that is not only a positive change for the profession in general, but also necessary to effectively serve an increasingly diverse population.

The emergency management workforce continues to be dominated by whites, even as population demographics continue to change. Soon, however, whites will no longer be the majority.

"We are limiting our effectiveness by not having a more diverse cadre of emergency managers," Partridge said. "Today people have a certain level of distrust of government, so anything we can do to ease that distrust is good. Having a staff that looks like the people they serve can create a powerful connection."

But Partridge said it also goes beyond that. Diversity may be important to emergency management not only as a practical matter



As broader connections are made to emergency management, the discipline will become more diverse, says Portland's Carmen Merlo.

but also because of the unique nature of the problems emergency managers encounter.

"We need diversity in our field to effectively manage the challenges we face, which are very diverse and come at us in unique ways," he said. "Part of the nature of being a disaster response organization is that you never really know what you're going to be facing. I've found that a diverse team performs better in terms of finding the right solution at the right time than a more homogenous team."

A diversity of experience and knowledge, said Merlo, leads to good public policy and better informed decisions. "We know that

certain people have limitations — whether it's mobility challenges, the fact that they don't have a car or they don't speak English — but we are responsible for protecting all residents of Portland, not just the majority of them," she said. "We need to know what the barriers might be for people to either understand our message or to take the actions that we're suggesting to them."

In addition, diversity is important in helping Merlo's organization build trust with certain communities in the city.

"We've learned from research and anecdotal information that when people are given emergency messages, one of the first things they do is to confirm the information — they don't take action right away," she said. "If we can build trust and relationships with diverse communities, hopefully that will result in people trusting the information we share and taking action more immediately."

## PAINTING A MORE DIVERSE PICTURE

Diversity can take many forms. So what does a more diverse emergency management staff look like?

"The key thing I strive for in the programs I run is a staff that resembles the community we serve," Partridge said. "That means there's gender diversity, racial diversity and



Diversity in emergency management can help foster the whole community approach.



Portland has adjusted training for its Neighborhood Emergency Team program to be more inclusive of the city's community members.

diversity of experience. First responder and military backgrounds are great, but a lot of the work that we do could also be amenable to an urban planning background, a finance background or public policy background.”

Charles D. Sharp is CEO of the Washington, D.C.-based Black Emergency Managers Association, an organization dedicated to encouraging African-American involvement in emergency management.

“To look at diversity, we have to think outside the box and look at who is part of the whole community, then try to match our staff to what we see,” Sharp said.

“Diversity means getting every member of the community involved in planning, preparedness and response. You need a staff that can relate to your community and help them better prepare before an emergency and recover after an emergency.”

Cities like Portland are making efforts to help shift the tide. The city's most outwardly facing preparedness effort is its Neighborhood Emergency Team (NET) program, through which it helps train residents in everything from light search and rescue to disaster medicine to how to turn off utilities.

“We want to make sure all of our programs are accessible to diverse communities,” said Merlo. “But if you look at who our NET volunteers are, the demographics skew very heavily toward older white males. For us to feel like we have a prepared, resilient community, we have to make sure we're providing this training to other people as well.”

Part of the challenge was that the program was originally offered only in the evenings, making it difficult for some working women with children to attend, and was often located in remote areas of the city that were challenging to get to without a car. In response, Portland is now making child care available at NET events and delivering trainings in locations within various communities.

“We know that the people who have less suffer disproportionately during disasters, and we really want to focus the limited resources and personnel we have on those with the biggest need,” Merlo said. “It's important that the decisions and policies we make benefit those that have the least.”

The city can also learn from some of those communities. “We've learned that the communities that have very strong social ties — where people know each other and look out for each other — tend to both respond better and recover faster from a disaster,” Merlo said. “But at the same time it's often those communities that have the least. It's not just about us taking care of them and protecting them; we also have a lot to learn from them.”

The Portland Bureau of Emergency Management employs 18 people, more than half of whom are women. The staff includes African-American, Hispanic and Asian members. While Merlo said she's happy with the progress the agency has made, it still has a way to go in terms of achieving true diversity.

But awareness itself can also go a long way toward helping change the status quo. “My obligation as a manager is to look at the staff I have and to look at each new candidate I'm looking to hire and ask myself, ‘Will this person increase the diversity of my team?’” Partridge said. “I try to add an additional element of diversity whenever I make a new hire. The idea I always come back to is I want a team that can efficiently solve the problems placed in front of us. It's not about a set quota, it's about how can I increase the diversity of my team to better serve the people in the community that we work for?”

## A SLOW BUT STEADY SHIFT?

A few factors — such as the retirement of the baby boomers and the advent of emergency management degree programs at many universities — may help add diversity to the field over the next several years.

“New educational offerings in emergency management are helping to separate emergency management from its close ties to fire and law enforcement,” said Sharp. “In many jurisdictions throughout the U.S. more than 50 percent of emergency managers come from fire. Now is the time for emergency management to break off from that, and the degree programs are helping.”

One school Sharp knows of added Emergency Management 101 as a core requirement, so no matter what major a student chooses, he or she gets a basic introduction to emergency management along with it.



But some say the current degree programs have room for improvement.

“A lot of them have a very strong homeland security focus,” Merlo said. “I would like to see broader programs that also talk about climate change and natural hazards.”

The newness of the programs also leaves many unanswered questions. “It’s still too early to say if the degree programs are helping,” Partridge said. “Thus far in my experience, the degrees don’t necessarily make the difference in terms of whether we hire someone or not. In theory I can see it being helpful because it helps broaden the base from which we’re typically drawing candidates into the field. But I’m not sure it’s the top factor in helping increase diversity.”

Merlo said some of the responsibility lies within emergency management agencies themselves. “We could do more to make people aware of what bureaus like ours do, and talk to young people and educate them about a career in emergency management.”

“The key thing I strive for in the programs I run is a staff that resembles the community we serve.”

Partridge agreed that awareness of emergency management is critical and sometimes requires agencies to reach out to other areas to find the diversity of skills they need.

“What’s helping is different industries increasing their understanding of the value of disaster management and emergency management,” he said. “I think specifically about health care and higher education. Those two industries have a lot of folks with really different backgrounds than you would normally find in other fields, so they draw an interesting and diverse candidate pool. I think those folks have started to branch

out a bit and may find emergency management an interesting field to explore.”

“As people begin to understand that emergency management has broader connections to other areas, like urban planning and infrastructure maintenance, I think people will come into the field from different disciplines,” Merlo said. “And as the field becomes more professional and you start to see more defined career paths and educational programs that specialize in emergency management, we’ll start seeing greater diversity.”

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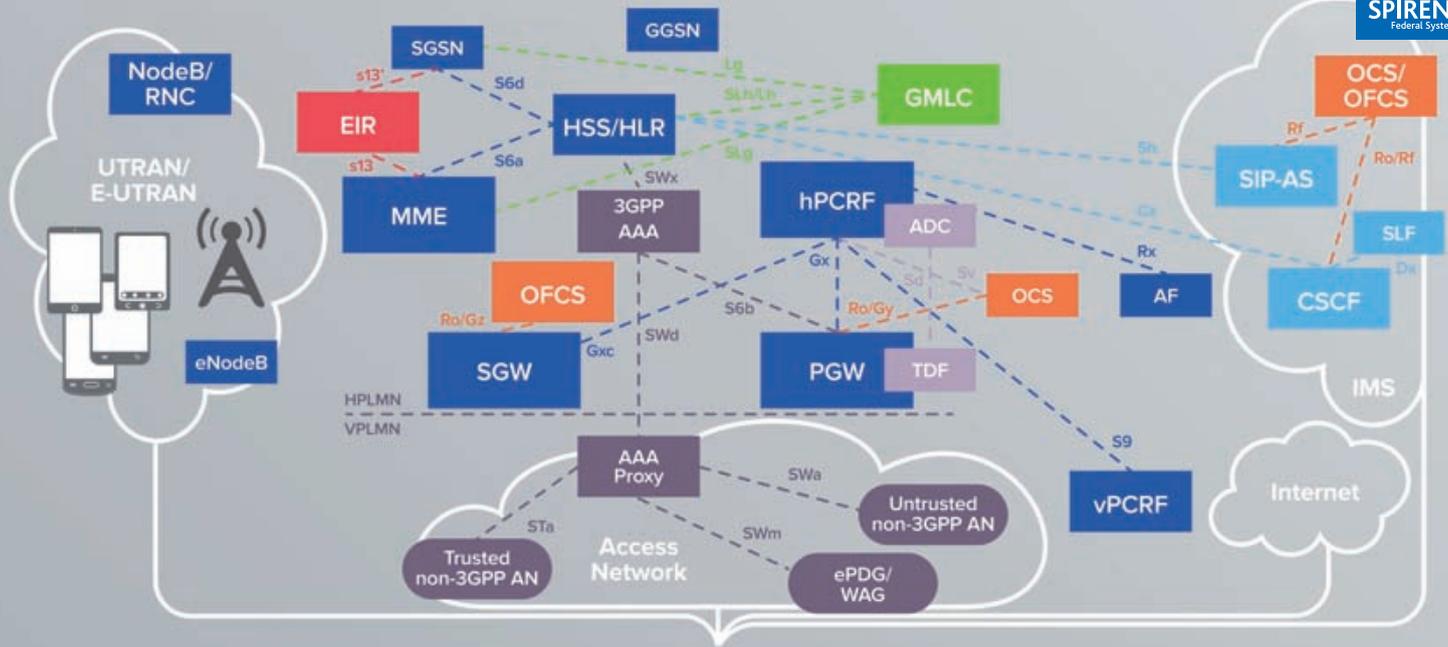


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Virtual Operations  
Support Teams  
help tame the  
flow of information  
from social media.

By Margaret Steen

# The Social M



When a disaster happens, emergency managers need as much information as they can get about where the problems are, who needs help and what the public wants to know. The advent of social media has made much more information available more quickly, but the information can be chaotic, difficult to find and not always reliable. And the volume of data can be overwhelming.

“With a fast-breaking, big event, you could have hundreds if not thousands of tweets in an hour,” said Tim Howson, deputy director of the Ashtabula County Emergency Management Agency in Jefferson, Ohio. “This could be thousands of bits of information that someone may need to be aware of or decipher or discard. Someone’s got to do that.”

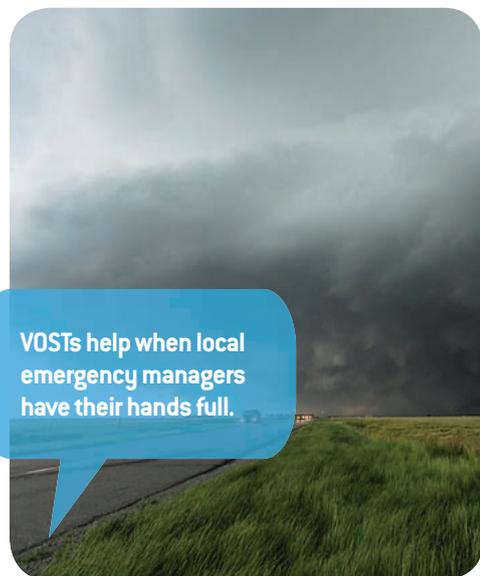
And many emergency management departments are not set up to do that on their own.

“There are a lot of emergency management programs that are one-man shows,” Howson said. In a crisis, these managers are trying to coordinate with fire departments and other emergency service providers, as well as government officials such as county commissioners. “They don’t have the resources or the time” to monitor social media.

To help sort through the information, emergency managers are increasingly turning to VOSTs, or Virtual Operations Support Teams.

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“A VOST is a group of people that come together acting as a trusted agent for local jurisdictions that either have a pre-planned event or incident. They help manage social media for those jurisdictions,” Howson said. “They are not there to replace or displace any kind of social media footprint that a local jurisdiction already has. They’re there to augment the local reps.”



When a tornado hit Oklahoma City in May 2013, the National Weather Service asked the Oklahoma VOST to get reports about damage from social media. Lloyd Colston, director of emergency management in Altus, Okla., volunteers with VOSTs, including the Oklahoma team and the American Red Cross.

As the event unfolded, Colston directed his team to include requests for rescue. When a team member discovered a tweet from a woman who reported being trapped in a warehouse, Colston called Oklahoma City 911. A short time later, the woman tweeted that she had been rescued.

“If I’m in Oklahoma and a tornado is bearing down on my city, how much monitoring can I do?” Colston said. The advantage of a VOST is that the team is virtual — volunteers in other locations monitor social media while those at the disaster site focus on other tasks. Having members in different time zones also makes it easier to ensure there’s 24-hour coverage during an incident.

VOSTs can be activated to help either a government entity or a nonprofit. The volunteers may be local or in other parts of the country — or even international.

Team members communicate with one another during an event using tools like Skype, Google Hangouts or Google Docs to document workflow, track hours and seek feedback.

VOSTs offer several advantages for emergency management agencies. Requests for help may be more likely to come via social media because data communications channels tend to be more resilient than voice communications, said Colston. So people who can’t call 911 may still be able to send a tweet saying they need help.

When jurisdictions are required to match FEMA funds with money or volunteer time, the hours VOST volunteers spend can help offset local costs, Colston said.

**B**efore jumping onboard and creating a team, each emergency management agency needs to specifically define the VOST’s role.

“One of the things that’s established when a VOST is activated is what does the local jurisdiction want?” said Howson. “What is the mission? Does the local jurisdiction want the VOST to monitor what’s been done on social media? Track it? Curate it so it’s saved for a later date? Do they need stuff created for them — a blog or website?”

Howson started to develop a VOST in Ohio after taking a class on social media for disaster response and recovery and subsequently joining a VOST from the Pacific Northwest. The first incident he worked on was a wildfire, and the response included the tribal and federal governments. “I monitored social media and watched for incidents, requests for help — anything that might come through that would be of interest to the public information officer.”

Howson’s team saw reports of smoke, concerns about public health and an account of an accident involving a fire truck. The team made sure the public information officer knew about the public health concerns, for example, so the department could distribute information on how to handle the hazards of smoke. “And if people expressed kudos to the firefighters, we made sure they knew that,” he said.

This is a typical job for a VOST. Generally volunteers may amplify official messages, by retweeting them or sharing them on Facebook, for example, but they don’t use official emergency management accounts. Although VOSTs will sometimes take on the role of updating a Web page, in many cases they simply report on what they see on social media.

“The Colorado VOST only provides situational awareness,” said Micki Trost, strategic communications director for the Colorado Division of Homeland Security and Emergency Management. “They are not PIOs. Our mission is to make sure the local PIO is aware of what’s going on so they can provide the right messaging during their event. We’re always in the background.”

The VOST leader will likely be asked to report back to the local entity at specified times, said Cheryl Bledsoe, technology manager with Clackamas County 911 in Washington state and a certified emergency manager. She runs monthly conference calls for the VOST Leadership Coalition. It’s also important for the jurisdiction to set escalation criteria: “If ‘this’ happens, notify us immediately.”

Bledsoe said that during a wildfire, local jurisdictions may want to be notified anytime there are references on social media to a firefighter dying in the line of duty — “not because they don’t know that the firefighter has died, but because they want to be able to reach the family before the name breaks in the media.”

It’s also important for the local jurisdiction to plan how it could use a VOST during an emergency. “It’s really difficult to send people to surf the Internet for anything and everything,” Bledsoe said. “It is a huge haystack of information; pre-planning is vital.”

That planning process includes deciding who will be on the team and how it will be activated. The Colorado VOST has a formal process for becoming a member, as well as protocols for activation, said Nathan Hunerwadel, communications specialist with the state’s Division of Homeland Security and Emergency Management. Together he and Trost manage the Colorado VOST.

Members participate in a mini social media exercise and complete a background check. They also are required to participate in a certain number of activations per year.

When a local jurisdiction needs assistance, they fill out forms explaining the resources required to get approval through the chain of command. The process can move rapidly — normally fewer than 30 minutes.

The Colorado VOST, which became a state resource in March 2014 but existed on a local level before that, supported Jefferson County when it was hit with floods in 2013 and for the 2014 memorial service for a law enforcement officer. It also has helped during protests in Boulder and for planned events like the 2014 USA Pro Cycling Challenge and 2015 Alpine World Ski Championships.

In a typical activation, the team organizes volunteers into shifts during which members monitor social media — from Twitter and Facebook to newer, anonymous apps like Yik Yak. Depending on what the jurisdiction is interested in, the team may be gathering information about road closures, traffic problems or where crowds are gathering.

Hunerwadel said one key to success is to make sure that either he or Trost has a direct connection to a local leader. “When we find something that’s related to the mission, we notify the liaison on the ground,” he said.

Ongoing training is important as well. The team Howson formed in Ohio now has monthly training sessions. “It takes a level of commitment,” he said.

**S**ocial media can be complex, and VOST members need to be trained to distinguish legitimate information from rumors.

For example, some of the photos circulating online during an emergency are doctored or from previous events. It’s important for VOST members to be able

to differentiate between a real photo of a current event and a spoof or a photo posted to honor an anniversary, for example.

“A lot of the VOST teams are scouring social media and learning how to validate that data — how to look at metadata and tell if a picture is fake or accurate,” Bledsoe said.

Setting up a mechanism for team members to talk to one another also helps, Hunerwadel said. “We have a Skype chat room where we talk back and forth. If a question comes up, they can post in that room.”

VOST members, and the local emergency managers who activate the teams, must also stay up-to-date on the latest technology and know who is using which types of social media.

It’s critical for anyone trying to use social media in an emergency to know what platforms are popular in the community they serve, Colston said. “There’s a social media platform for Russian-speaking expatriates. If you don’t know your audience, you’re not going to hit them.”

Social media is always changing, and the teams must stay abreast of what’s new. Just six months ago, the Colorado VOST focused primarily on Facebook and Twitter. Now a new generation of social apps like Yik Yak and Snapchat are gaining popularity. Some are location-based, which is helpful, but also anonymous, which can complicate follow-up.

These are challenges, but they can be overcome.

“There was a lot of fear initially about whether or not information could be validated on social media,” Bledsoe said. She pointed out that 911 dispatchers send police officers and firefighters in response to one phone call even though the caller’s information can’t be validated. Rumors on social media can be dispelled quickly (though they also can be amplified).

Bledsoe advises those organizing a VOST to consider issues including liability insurance and whether volunteers working from their homes out of state would be covered. The jurisdiction should treat the VOST like any other volunteer organization, providing training, doing background checks and keeping volunteers engaged with the program.

“I firmly believe that the VOST teams of today will be the 911 dispatchers of tomorrow,” Bledsoe said. 911 centers are working toward being able to accept text and video messages in addition to voice calls — and the evolution of emergency communications systems isn’t likely to stop there. As 911 centers begin to need employees who can sort through other types of information, Bledsoe thinks people who have been on VOSTs will have many of the skills they need.

For VOST members and emergency managers, keeping up with technology will be critical.

“Technology has evolved very rapidly,” Bledsoe said. “It’s really important to understand that the tools that are working today might not work the same way tomorrow.”

People’s expectation that social media can be used to communicate with emergency workers is unlikely to change, though.

The public “expects people to be monitoring — they expect that when they tweet they get help,” Colston said. “On the government side, I’ve had police, fire and EMS folks say, ‘I don’t have time to monitor Twitter.’ They are absolutely busy.”

And that can create a rewarding job for VOSTs.

“The best thing about it is knowing that you’ve helped someone,” Howson said. When Toledo’s water supply was deemed unsafe in 2014, Howson’s team assisted the Ohio Emergency Management Agency. “We found a tweet from a single mother with a special-needs child — she tweeted that she needed water for her and her child.” The response was escalated to the American Red Cross, and “within about 30 minutes they were delivering water to her. That was the most rewarding thing I’ve done online in a long time.” +



The Colorado VOST has a formal process for becoming a member.



msteen@margaretsteen.com



BEMA, led by Charles Sharp, (right) encourages diversity in emergency management.

# Sharpening the Narrative

Charles Sharp leads the Black Emergency Managers Association's quest for inclusion.

*Charles Sharp is CEO of the Washington, D.C.-based Black Emergency Managers Association (BEMA). Sharp co-founded the association in 2010 after retiring from the U.S. Air Force Reserve Command as an emergency manager after 24 years.*

*With the Air Force, Sharp conducted emergency plan development and exercise design and evaluations, as well as served as a lead inspector general with the Air Combat Command at Langley Air Force Base in Hampton, Va. He was the first U.S. Air Force member to complete the resident FEMA Incident Command System train-the-trainer course in 2002.*

By Jim McKay | Editor

### ➤ What led you to become CEO of BEMA?

I worked for the National Science Foundation in high school. I was an emergency manager in the military, so I knew a lot of emergency managers. I was restricted during Katrina — we couldn't just go and show up as military personnel. When the earthquake hit Haiti, I said, "Wait a minute. There's a problem here. What is it about our communities?" I asked what planning is taking place. As I retired in 2008, a few of us got together and said let's start an association to look at networking, career opportunities and advancement for African-Americans and other individuals at the federal, county, state and city levels.

It carried over to us forming the Black Emergency Managers Association. Most of the individuals who are in the association work with federal, state, county or city government. There are some restrictions to what they can and cannot say. Being retired, I have no restrictions. I can address issues and be open and honest about what needs to be done.

We're not just exclusive to African-Americans — we're inclusive. Anyone

can be a member of BEMA. Our mission is to get more disadvantaged people into the profession of emergency management and homeland security.

Inclusion is the main reason we were formed: to ensure that the whole community, everyone in the community, is involved. The African-American community's participation in the planning and a lot of other areas is sometimes practically zero. That's one of our initiatives. To get not only the black community but community organizations, faith-based organizations, and the Hispanic and Asian communities involved.

### ➤ Why are African-Americans and other ethnic groups left out of the profession?

I think it's a matter of priority. To do the extensive, long-term planning, it's something a lot of people in ethnic communities don't plan for, not only in the U.S. but throughout the world.

I talked to a researcher in emergency management looking at urbanization. People within the city limits constantly hear sirens — police, fire, EMS — and to them it's almost like a constant bombardment of noise, of emergency-type situations. They're constantly hearing it and that plays a role.

One of the things we push in BEMA is community involvement at the family level and the neighborhood level. Neighbors should get involved in preparedness and understand the vulnerabilities of the community. It takes everybody. One of the things we emphasize is during that time of crisis, the community takes charge. How are we going to survive and be resilient during this time of crisis?

We know that it's not just left up to our first responders to respond, it's up to our community to respond. I ask individuals, "Who are the first responders?" It's the individuals standing in the disaster. Law enforcement and fire are secondary responders. They come and take a leadership role.

You almost have to take a simplistic view — what do they do day to day — and enhance that, provide examples. Understanding their culture and how they live is important. What

are some of the things occurring in their lives? What are they preparing for? How do they prepare their kids? It's almost adding it to day-to-day living and sharing that information. It's that practical information that will affect their immediate families.

Every year I participate in a Real Men Read program at one of the charter schools, where men of African descent read to students. One of the things I read was something on the history of water and how to apply just one concept so they could take it home to their parents, just to get them to understand the importance of water. I printed out a coloring book on water so they could take it home and share it with their families, enhancing what they're doing every day so it becomes almost second nature. They may be planning and not really knowing

“When you're interfacing at the operational level, going door to door in communities, it's good to have some cultural knowledge. The problems we're having in Baltimore are about cultural knowledge.”

it. Some people bring an umbrella to work with them in the morning. That's planning.

⊕ **Are you seeing any progress? Is the profession becoming more diverse?**

Yes. It's a slow process and takes time. We promote within the community at all levels, not just the emergency management level. The community has to buy into what we're doing. It's not just us as professionals over here — we want everyone involved. We're also branching out into other areas to get faith-based organizations involved. They have a different perspective. When

you look at those within the faith-based arena, ministers and those leaders are constantly doing crisis management.

⊕ **How do we improve the inclusion of various groups?**

That's the hard part. Trust in local government. Having individuals that are the same ethnicity come into communities and provide information. How does that community communicate? What are the unofficial forms of communication in that community?

Word of mouth sometimes travels faster than an official letter. Who does the

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community trust? There's an unofficial leader in probably every black church, and usually they sit up front in the first pews. And they're female, they wear a hat and they're the one the minister listens to. Usually in every organization there's one unofficial leader who can move things and get things done.

**+** Is it important for African-Americans to fill lead roles?

It is and it isn't. When you're interfacing at the operational level, going door to door in communities, it's good to have some cultural knowledge. The problems we're having in Baltimore are about cultural knowledge. People perceive things differently based on their culture. I recently did a workshop in the Middle East on cybersecurity, and one of the things that I do even here in the U.S. is let groups know that they are the subject matter experts about their community. I am not; I don't know their communities. I know D.C., I was born and raised here,

Different perspectives from diverse groups help bring new ideas to emergency management. The mission of the Black Emergency Managers Association is to get those groups represented.



FEMA

but everyone who lives in the community is an expert on that community.

You need a system for disruption in those communities, not only from an emergency management perspective for planning, but from a resiliency perspective to look at the entire system, to give a different view, a different perspective to focus on. "Have

you considered this?" This is not only affecting your elderly but the functional needs of individuals. What about the homeless? That's something a lot of people don't think about. It's going to take everybody to rebuild and restructure the community. **+**

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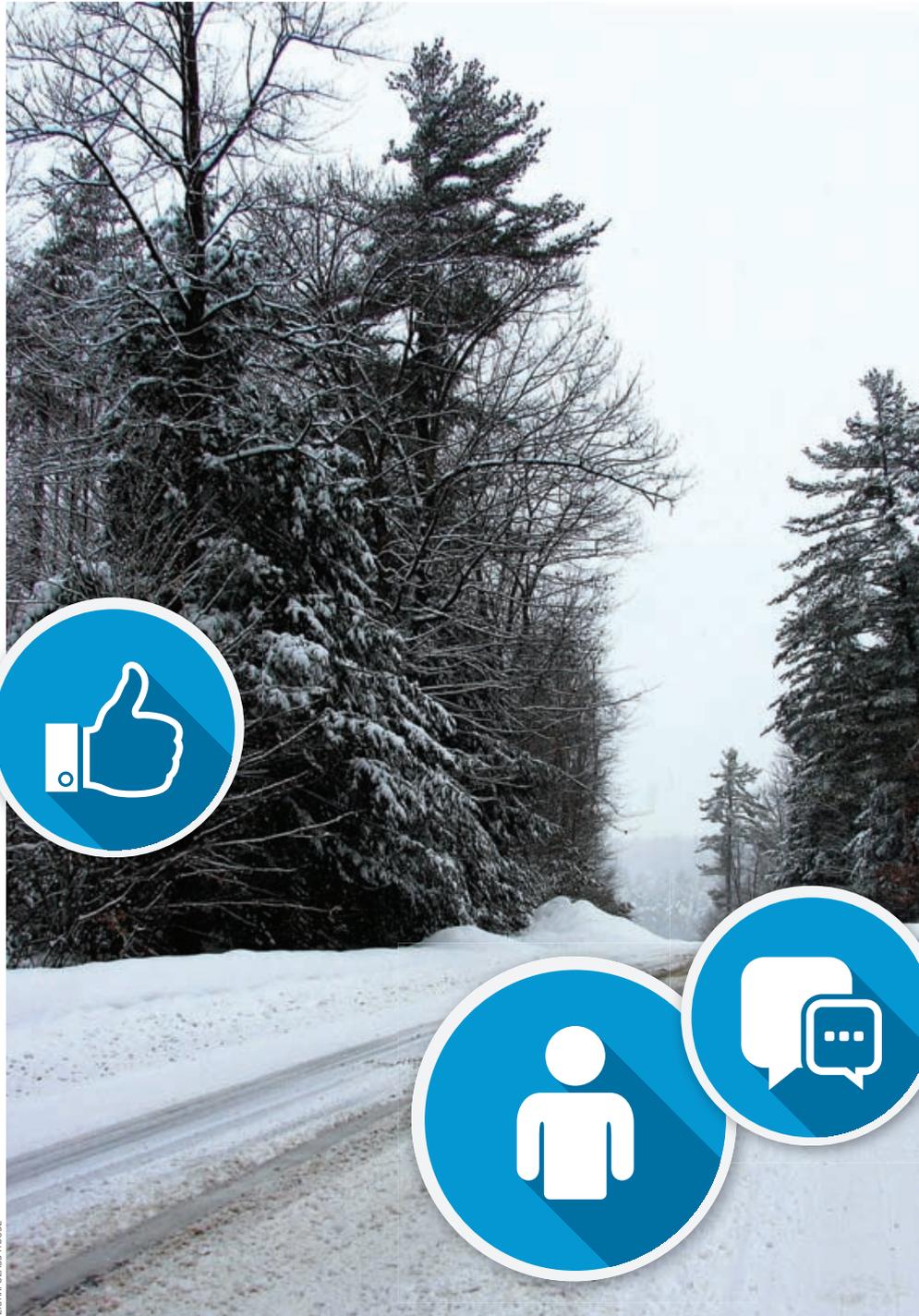
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# Social Media: The Next Level

An experiment helps responders integrate social media into disaster response.

By **David Rath** | Contributing Writer

Last November the emergency management team in Nashua, N.H., participated in a cross-border disaster preparedness exercise with Canadian agencies to evaluate how digital volunteers and social media can be incorporated in the official emergency response to address alerts, warnings and notifications as well as mutual aid.

A short time later, over Thanksgiving weekend, a powerful nor'easter hit New Hampshire, causing multiple accidents and power outages. "We ended up using skills learned during the exercise right away," said Justin Kates, Nashua's director of emergency management. "Through social media posts, our digital volunteers were tracking roads that were closed and compiling that info onto GIS maps to help first responders direct resources, clear trees from roads and restore power."

Public information officers (PIOs) have used social media to share information with the public about disasters for years. But emergency management agencies are beginning to work on how to incorporate social media into operations to improve situational awareness for responders. And including social media in exercises is one way they're building capacity and relationships, while also identifying best practices.

## Beyond the EOC

The exercise Nashua took part in was called CAUSE III, the result of collaboration between Defence Research and Development Canada's Centre for Security Science, Public Safety Canada and the U.S. Department of Homeland Security Science and Technology Directorate, in partnership with various provincial, municipal and nongovernmental organizations. The experiment focused on integrating social media and digital volunteers into recovery efforts from a simulated hurricane impacting the Northeast.

A closed, Web-based experiment portal simulating social media applications like Facebook, Twitter and YouTube was used to deliver a high volume of pregenerated injects to prompt participant reactions and enable participants to interact with one another in a risk-free environment. Five hundred people participated by logging into the experiment's simulation Web portal.

As the experiment unfolded, participants coordinated actions and resources, addressed rumors and misinformation, and carried out

other disaster management strategies in real time in response to the evolving conditions.

Kates said Nashua participated because it was trying to take its social media use to the next level. "In the past when we'd open the EOC, we'd have one person sit there and handle social media using TweetDeck. It was very basic," he recalled. "We were trying to figure out how we could capitalize on the skills of our Community Emergency Response Team volunteers who were tech-savvy and knew how to handle that Web 2.0 environment and use them remotely so they don't have to come to the EOC."

Volunteers can sort through social media posts and alert agencies to information that's important for responders to know. That group has become Nashua's Virtual Operations Support Team (VOST), and the Thanksgiving event was its first real test.

The Centre for Security Science at Defence Research and Development Canada issued a report summarizing the results of CAUSE III. "We were able to demonstrate

in a measurable way that using social media and digital volunteers leads to improved recovery outcomes," said research analyst Kate Kaminska. "We spent a lot of time developing metrics that helped us quantify some of the benefits of using the technology and reaching into nontraditional stakeholder communities to help during response and recovery."

**"The closed environment gives people a level of comfort. They don't feel like they are being watched or judged."**

Kaminska described some of the advantages of creating a closed mock social media environment: "Although you can't easily simulate the volume of information that flows in a real emergency, the benefits are huge. The closed environment gives people a level of comfort. They don't feel like they are being watched or judged."

The other benefit is having controlled conditions in an experiment. It may be slightly artificial, but agencies can measure different aspects much more easily.

Doing such exercises with digital volunteers is important, Kaminska said, because emergency management organizations must build relationships ahead of an emer-

gency. "You are not going to reach out to a VOST or other volunteer organization in the middle of a crisis," she said. "You have to have that relationship established ahead of time, and exercises like CAUSE are one way of building those and building trust. We saw these VOSTs really step up to the plate. They really delivered what they had promised."

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### Behind the Curve

One finding of the research report was that while digital volunteer groups were seen as a great resource, the participants, “Also saw a pressing need to develop their own capacity and capability to exploit the potential of networked technology and social media for emergency management by listening to, influencing and engaging other stakeholders and the public as resources and partners in disaster response and recovery.”

Dan Cotter, director of the Office of Interoperability and Compatibility for DHS’ Science and Technology Directorate, said a few factors have kept emergency management agencies a little behind the curve on social media at times. There are privacy issues related to sensitive information on social platforms that must be worked through, he said, and there are many different formats and types of data being disseminated. “How do we keep track of it all?” he asked.

“With exercises like CAUSE III, we are learning about VOSTs and understanding requirements VOSTs are expected to support,” Cotter said. “We need to make sure we have consistent training and guidance within VOSTs’ membership, and we want to make sure there is a strong culture of collaboration between the VOSTs and emergency management agencies.”

Cat Graham is co-founder and vice president of Humanity Road, a nonprofit that provides social media disaster preparedness and response information during events and participates in training exercises worldwide. (It was one of the organizations taking part in CAUSE III.) She said many emergency managers recognize the power of social media but say they don’t have enough resources to capitalize on it. “Everybody agrees it’s useful,” said Graham, “but we are still early in this development phase of the adoption of social media and understanding how to use it effectively in an emergency.”

One valuable aspect of including social media in disaster preparedness exercises is the opportunity for emergency managers to understand how to follow the crowd. “Social media is a dialog,” Graham said, “and the key thing about an exercise is that it not only teaches emergency management what is possible with social media, it also teaches them a good way of listening, following and responding to that crowd.”

Humanity Road takes lessons learned from live emergency monitoring of disasters and feeds them back into future exercises. “That is why we like working with events like CAUSE III,” Graham said, “because social media exercises provide a way to feed real-life examples back into practice to figure out when we have this kind of situation, what are we going to do?”

Sara Estes Cohen, a project manager for consulting firm GHI International, works with the DHS’ Virtual Social Media Working Group providing guidance to the emergency preparedness and response communities on the safe, sustainable use of social media technologies.

“One of the things we did for the CAUSE III experiment was to develop a data schema to help standardize information coming in from social media so it could better fit with information coming in from traditional sources,” she said.

Cohen has recently been working with emergency management officials in Loui-



to the information and capabilities it already has. “We also would like to send out specific questions through our public information office about what people are seeing and collect the responses in Google Docs,” he said. “Then during a real event, if we have 100 people on social media saying there is a flooded mall and they are sending photos, we can send a confirmation team to act on that.”

Social media can play a critical role in showing citizens that the state is incorporating what they are doing in its decision-making processes, and that it understands they are a vital resource, Breaux said. Nashua’s Kates said that although his emergency management agency is active on social media, there are other departments in the municipality that aren’t, and their presence on the platforms would be helpful during an event. “If you are not telling your story on social media, someone else is telling it for you,” he said. “With every storm, more and more citizens are reaching out to us using social media. Sometimes that’s one of the only

“If I incorporate social media, I’ve just multiplied my force by 100. That’s the direction we need to go.”

siana on how to integrate social media into operations and into the state’s annual hurricane preparedness exercise. “The first thing we did was sit down with the team and discuss their information requirements, how they interact with social media now, what are they doing with it, where is it coming from, and who they are giving it to.”

### My Eyes and Ears

Kevin Breaux, assistant deputy director for preparedness, response and interoperability in the Louisiana Governor’s Office of Homeland Security and Emergency Preparedness, calls the nine regional coordinators across the state his eyes and ears. “If I incorporate social media, I’ve just multiplied my force by 100. That’s the direction we need to go.”

Breaux said the state has discussed incorporating VOSTs into its annual hurricane exercise. The exercise could help show senior executives that social media is going to be something the state can depend on, in addition

ways they can reach us. Their cellphone is charged, and they put a post on Facebook.”

Cohen has seen much more significant and widespread adoption of social media in regions that have been affected by a major disaster. “Prior to the event, when emergency management is not part of the mission of an agency, they don’t understand where they fit, especially concerning information coming in from social media.”

But once an event occurs, all of a sudden, the power company is using social media to track what people are saying about outages compared to official reports. Public works leverages information about where fire hydrants are damaged, and its value becomes clear. “You can then see the adoption of social media spread from the PIO, where it started when social media became a thing, out into operations, into the rest of the EOC,” she said. “That happens every year as technology advances and as events occur.” ⊕

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By Eric Holdeman

# 100 States, Not 50

**T**here are 50 stars on our U.S. flag representing the 50 states that make up the Union. But when it comes to emergency management there are 100 states, not 50.

No, I'm not using some form of new math. What I'm referring to is the juxtaposition of rural and urban areas that exists in each state. Every state has at least one urban area. Some, like Florida and California, have more than one. Other states have one large urban area that dominates the politics, infrastructure, resources and attention of business, industry and state-level politicians. New York has New York City and upstate. Illinois has Chicago and then the rest of the state. Even a state like Nebraska has Omaha versus the more rural areas.

THE MORE DIALOG YOU CAN ACHIEVE BEFORE A DISASTER, THE MORE EFFECTIVE YOU WILL BE WHEN THE CHIPS ARE DOWN.

Emergency management is not immune from these urban versus rural differences. Perhaps the biggest disparity is the number of resources, generally meaning money, but that translates quickly into funding for staffing and the number of program areas that can be supported. In many ways these 100 state emergency management "districts," which I'll call urban and rural, use different methods to achieve success.

I don't know of an urban emergency management program that believes it has all the resources it needs to provide a fully capable service. Even New York City believes it needs more than the gargantuan sums it receives from the federal government in the form of homeland security grant funds. While urban areas get more funding and have more resources than their rural counterparts, the populations they serve, the terrorism threat and sometimes their physical

proximity to hazards — many times on the coasts — means they really don't have unlimited funding when compared to the threats they face.

What urban areas do have are many more professional responders in the form of law enforcement, fire and other public agencies with associated response functions like transportation, public works and utilities. When it comes to large-scale emergencies and the smaller, normal-size disasters, urban districts typically have the internal resources to respond to these events without asking for help.

On the other side of the equation, some suburban and rural emergency management agencies are lucky if they have one full-time emergency manager. Emergency management is more likely to be located in a department like the sheriff's office, and the emergency management function may only be an additional duty performed by a person with other primary responsibilities.

However, there is one huge advantage these smaller jurisdictions have over the larger urban area emergency management programs. To exist and respond appropriately to incidents and disasters, they have learned to cooperate with one another. There are stronger interdisciplinary and cross-jurisdictional partnerships that exist day to day. The integration with state and federal agencies that are collated in small districts is much stronger because of the need for a closer working relationship and sharing of resources.

In your state, wherever you are, consider reaching out to emergency managers from "the other state," be they in a rural or urban environment. The more dialog you can achieve before a disaster, the more effective you will be when the chips are down and you have to work together as one state. 



ERIC HOLDEMAN IS THE FORMER DIRECTOR OF THE KING COUNTY, WASH., OFFICE OF EMERGENCY MANAGEMENT. HIS BLOG IS LOCATED AT [WWW.DISASTER-ZONE.COM](http://WWW.DISASTER-ZONE.COM).

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What does more "juice" mean for agencies? IPT lithium polymer Life-Saver Series batteries cover shift after shift without fail. Now Impact Power Technologies has engineered a battery that delivers 40-plus hours of "juice." More power means consistent communications and safer first responders, as well as competitive replacement costs and more overall savings.

Impact Power Technologies has ramped up the milliamps to 4,700, thereby increasing the power more than 30 percent, making it the highest-capacity battery in the industry, according to the company.

[www.impactpowertech.com](http://www.impactpowertech.com)



## PROTECTING MARATHONERS

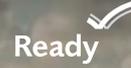
Asynchrony provided support to the National Guard using the Mobile Field Kit during the Boston Marathon, protecting the 36,000 runners and approximately 1 million spectators. The Mobile Field Kit was used

to identify and communicate potential chemical, biological, radiological and nuclear threats along the marathon route. Connecting seven tactical computers and a command-and-control computer via a wire-

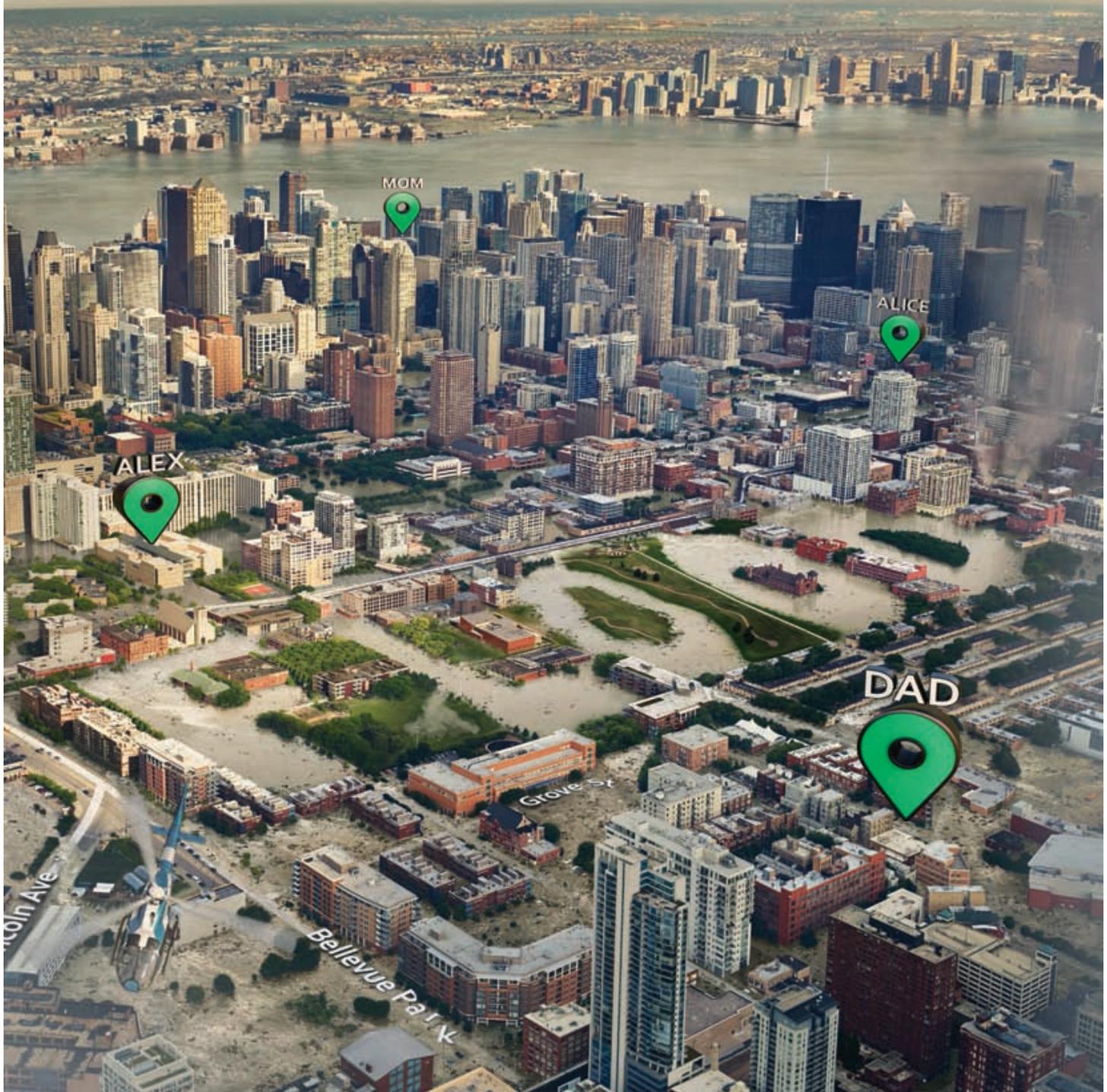
less network, the field teams were able to communicate and manage the safety of the event. At the Boston Marathon, the National Guard led teams outfitted with detection systems, performed sweeps

during the race and reported the readings. Teams were set up to be mobile with the field kits for dispatch to areas of concern in the event of a threat. [www.asynchrony.com](http://www.asynchrony.com)

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know where to find  
your family  
in an emergency



START YOUR PLAN AT [READY.GOV](https://ready.gov)



By Ronda Oberlin

# Risk Must Be Personalized

**E**mergency preparedness isn't about three days of water or extra batteries for your flashlight. If it were, we could stop investing in emergency preparedness campaigns and put the money toward buying 72-hour kits for every person in America. But we don't, because that won't make our communities more disaster resilient.

Preparing people for emergencies is about changing the way they think, not just before disasters, but also during them. What will make our

communities more disaster resilient is to use emergency preparedness outreach as training for individuals to become effective disaster decision-makers: to teach them how to think in a crisis; to know what the disaster environment looks and feels like; to adapt; and to be empowered to take the necessary actions once decisions are made.

Effective disaster communication is not new territory. Researchers have been identifying ways to make risk and crisis communication more effective since the days of duck

and cover. What's missing is the practical application of those lessons in emergency management.

Emergency workers aren't ever sent into a crisis without training — and if they were, we wouldn't dismiss their failure to respond correctly with a shrug and a “you can't cure stupid.” Yet we expect members of the public to respond correctly without any training or understanding of what might impede their response.

We don't necessarily need to do more than we are already, but we need to do it smarter. If the goal of our risk communication is awareness,

we've already lost the disaster resilience battle. Being aware that tornadoes can happen in your area isn't the same as realizing that a tornado can hit your home, damage your possessions and possibly injure your family. Being aware will not incite you to take action, create a disaster supply kit or identify your best shelter area and hold a tornado drill with your family.

Risk has to be personalized. Risk communication must be understood and believed. It has to be confirmed, and the people hearing it have to assess it in light of their own experience, knowledge, resources and abilities. They have to believe that the outcome is worth the expenditure of the time, resources and emotional energy it will take to do what they are being asked to do. But doing that thing isn't all there is to it. Resilience comes from the information that motivates the action as much as from the action itself.

Teach people to anticipate uncertainty. Help them build mental models that will orient them in a crisis. Give them confidence so they are ready, willing and able to take timely action during a disaster.

Research shows that people are likelier to do new things when they have been successful at doing other things. Taking one small step toward reducing their risk makes them more likely to take another step — with effective risk communication to guide them. Let's stop settling for awareness and finally make our communities resilient.

We can make our messages smarter by being consistent, credible, accessible, empowering and engaging. It's not as hard as it sounds. +

BEING AWARE THAT  
TORNADOES CAN  
HAPPEN IN YOUR  
AREA ISN'T THE SAME  
AS REALIZING THAT  
A TORNADO CAN HIT  
YOUR HOME, DAMAGE  
YOUR POSSESSIONS  
AND POSSIBLY  
INJURE YOUR FAMILY.



**RONDA OBERLIN** IS  
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EMERGENCY MANAGEMENT SINCE 1999.

# Freedom of Information/Public Records Request

**Part I:** I hereby request to:  Inspect  Copy the following records:  
(please be specific and include names, dates, keywords, and name of record type where possible).

*Please provide all Everton City and Police Department social networking content from May of 2012 regarding special notices and street closures related to the Everton Memorial Day parade*

**Part II:** What format do you request?  Electronic  Paper

**Part III:** Name of individual(s) requesting information: John A. Reizer  
Address: 1076 Freedom Way City: Everton State: TX Zip: 75496  
Phone: (210) 867-5309 Email: jpublic1@gmail.com



## For Internal Office Use Only

Date Request Received: **July 1, 2014** Request Status: **Pending**

**Notes:** Staff has invested more than ten hours scrolling through social media pages and collecting stored screenshots from department hard drives. Citizen comments no longer available, City Attorney issued subpoena to social network - response still pending after four weeks.

# HOW WILL YOU RESPOND?

ArchiveSocial automates the capture and retrieval of records from social networks including Facebook, Twitter, YouTube, Instagram, and LinkedIn for compliance with state and federal public records laws.

<http://archivesocial.com/respond>





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