

GOVERNMENT TECHNOLOGY'S

A publication of e.Republic

# EMERGENCY

STRATEGY & LEADERSHIP IN CRITICAL TIMES

# MANAGEMENT

Winter 2008

A large, intense wildfire with bright orange and yellow flames dominates the background. A helicopter, marked with the number 202, is flying through the smoke and spraying a stream of water onto the fire.

# SAVING

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EVACUATED SAFELY

# LIVES

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# 20 Lessons Learned, Lives Saved

Reverse 911, WebEOC helped evacuate 500,000 as wildfires ravaged Southern California.

Cover Photo by Krista Kennell

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# All About You

Toward the end of 2007, we sent out a survey to gauge your interests and priorities, and to learn what you want from us here at *Emergency Management*.

The response was overwhelming.

Four hours after sending out the form online, we received 500 completed surveys, and ended up with nearly 900 overall.

We asked what stories you found most interesting on a scale of one to five — five being “very interested.”

Forty-four percent of respondents noted being “very interested” in articles on EM preparedness. And 45 percent of you answered the same about articles on EM response.

When it came to EM prevention and recovery, however, the majority of you answered with a three or four on the scale. Though you're somewhat interested in preparedness and response, the two “sexier” phases of emergency management are what pique your interest. Prevention and recovery may not be as glamorous, but they're equally as important, so this year we're bringing you more stories about the two phases.

We're also including a funding feature in each issue of *Emergency Management* this year. Nearly 60 percent of you rated your interest in funding stories as a four or five. Through our research and interviewing, we'll cover as much information as possible about applying for and securing funds in the future.

I also read through every written comment, many of which ask for more focus on smaller cities and

counties — that not everything happens to “the big guys” — and our future issues will reflect this focus.

You mentioned public health preparedness, the emotional and mental impacts of responding to emergencies, and campus security as areas you'd like to see us cover more — and we will. Campus security is the focus of two stories this issue, in fact.

## 2008 Priorities

According to our survey, your top four priorities for the year are:

Continuity of operations: **58%**

Interoperability/integration: **54%**

Command and control issues: **53%**

Work force training/retention/recruitment: **41%**

You also want to see more stories written by your peers. Starting this issue, Eric Holdeman, former emergency manager of King County, Wash., will have a regular column.

Keeping in tune with this — and with your high level of interest in education and training (75 percent of you gave it a four or five in the survey) — an emergency management educator will write an EM education story for each issue this year.

Overall, it appears you like *Emergency Management*, and we want to keep it that way. More importantly, we want to make our publication as useful and relevant to you as possible, so thank you for your valuable feedback. And please, tell us what you think — e-mail me at [jjones@govtech.com](mailto:jjones@govtech.com) and tell me personally what you'd like to read about or how we can improve. We're here for you. 🇺🇸



**Jessica Jones**  
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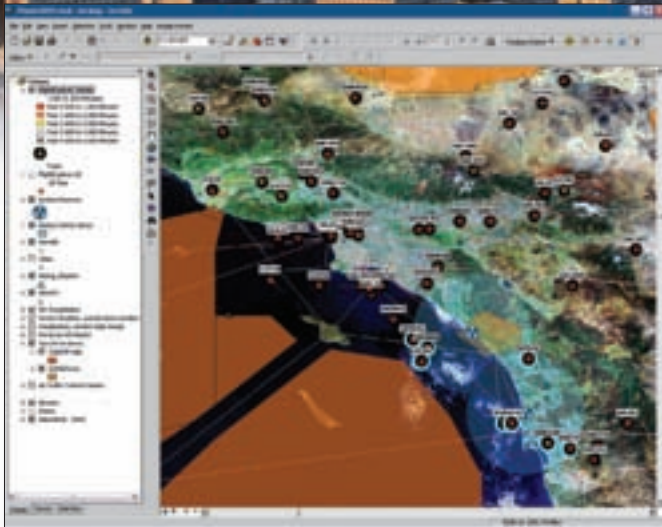


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- ▶ Modeling potential emergency events for planning, preparedness, and response



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## \* In the Field

Pinal County, Ariz., has seen its population surge in recent years, but emergency management resources haven't kept pace. Even with the recent economic downturn, the population is expected to continue increasing.

**To read how officials are using the downtime to play catch-up, turn to page 40.**









The administration building at James Madison University was destroyed by fire, but a prepared staff didn't miss a beat.

# Bouncing Back

by **Chandler Harris**

After a devastating fire, James Madison University retools its policies and continues preparation efforts.

On the evening of Nov. 16, 2003, a pinched extension cord caught fire under a couch at a doctor's office at James Madison University (JMU). The office, leased from the university by a doctor, was connected to the school's administrative offices. Soon the doctor's office and an entire building at JMU were engulfed in flames.

The university building at 1031 South Main St. in Harrisonburg, Va. — the Medical Arts Complex — was destroyed. The building, which was rebuilt and renamed Massanutten Hall, held some of the university's most vital information, and was considered the financial backbone because it housed the financial services offices.

Fortunately nobody was killed or injured in the fire, but the university sustained heavy administrative losses. Materials destroyed included payroll, accounts payable and receivable, and cash; and IT equipment such as servers, phone switches for campus buildings, and grants and contracts. All computer systems in the building were destroyed

— either by the fire or water used to douse the flames. JMU also lost paper files stored in the building, including all its employees' W-4 forms. More than 50 JMU employees were forced to move into temporary offices on campus.

Yet amid the disarray, the payroll department could still issue paychecks three days after the fire. The disaster revealed a resilient emergency plan as well as prepared staff at the university.

"The payroll running the following Wednesday revealed a lot of effort went into quickly trying to find locations for staff and get the system back up from the university department perspective," said Dale Hulvey, assistant vice president for information technology at JMU.

## Efficient Transition

Part of the successful rebound came from an efficient transition, Hulvey said, since every JMU employee affected by the disaster was notified the night of the fire

and given instructions for the temporary workstation location.

"A lot of effort went into quickly trying to find locations for staff, and get them functioning," Hulvey said. "These folks all relied on computers, and trying to get computers, phones and other equipment functioning was where the challenge was."

Although sensitive data was lost, it could've been much worse, university officials said. JMU retained most of its critical financial data in exterior servers housed at another location. Yet Hulvey admits that if the fire had reached the on-campus servers, the information loss would have been much more severe.

JMU officials say they could have done a few things differently prior to the fire, such as mandating better education about the proper use of electrical and extension cords, as well as highlighting the importance of storing sensitive documents in fireproof containers. JMU now requires the proper use of extension cords, and the university



payroll office uses document imaging solutions for its sensitive documents.

### All-Encompassing EM Plan

School officials say JMU's safety plan was the primary instrument that the university used to recover from the fire. JMU's comprehensive, 29-part safety plan is used by more than 400 different municipal and state entities worldwide as a model, according to university officials. The plan covers nearly every disaster imaginable, including floods, earthquakes, weapons, bombs, power failures, tornadoes, hurricanes and even biopredation — mold, mildew, insect or rodent infestation. The plan also includes salvaging water-damaged materials, with detailed instructions on environmental stabilization to decrease the risk of molds, as well as the best way to handle water-damaged materials to prevent loss.

The plan takes an interagency and intra-agency approach. It identifies each department's needs and roles in a disaster and pinpoints the appropriate local, state and federal agency for cooperative disaster relief on a case-by-case basis.

The university has a hierarchical command structure of safety officials. At the top is JMU's vice president of administration and finance, who is followed by the assistant vice president for resource planning and risk management in the JMU Division of Administration and Finance, the director of public safety, and the university's safety engineer.

The JMU safety engineer conducts "life safety" inspections of all residential, administrative, academic and maintenance shop facilities; provides preplanning consultations; and plans reviews of new construction and renovations. The safety engineer also provides guidelines and follow-up inspections of special events with large public assemblies, and is also directly involved in coordinating state and federal mandates for environmental safety and health on the JMU campus, including training and awareness programs.



The James Madison University campus is well positioned for any disaster with an emergency coordinator strategically located in every building.

Every campus building has a building coordinator who is responsible for the emergency planning and training of staff and students. Building coordinators are trained annually, and they, in turn, train the building occupants, handle procedures during a disaster and coordinate relocation if necessary.

"We tackle different kinds of training issues in work safety, including fire prevention, burning candles, hazardous materials, what to do with a chemical spill, what steps to do so nobody is hurt," said Towana Moore, associate vice president for business services at JMU. "We try to be as proactive as we were before the fire, so it becomes an automatic response on what they can do so we can be as safe as we can be."

The school also promotes risk management training and programs to prevent disasters. One primary issue addressed in risk management training after the 2003 fire was the safe use of surge protectors, extension cords and other appliances. The school also promotes active review of its emergency procedures. After the 2007 Virginia Tech shootings, JMU officials reviewed their emergency response to shootings to make sure there weren't holes or deficiencies.

### Dodging Danger

JMU officials annually test their plans to make sure their emergency procedures are effective.

In 2006, JMU took part in a regional training exercise with local and state emergency medical services, police and fire agencies that simulated an avian flu outbreak. In 2004, JMU also participated in an emergency drill with the local Harrisonburg and Rockingham Emergency Preparedness Task Force that simulated the discovery of an unknown substance in the university Convocation Center following a concert. University and community members participated to help determine appropriate steps for evacuation and mass inoculation.

The university no longer leases space to tenants, and has a strict policy and outreach efforts regarding extension cords and surge protectors. Officials at JMU admittedly dodged a bullet with the fire, but they are confident their emergency procedures are some of the best in the country.

"It could've been much worse," said Don Egle, director of public affairs and university spokesman. "Anytime you have a situation with a building burning down and you lose valuable paperwork, it's a very serious thing," he said. "But we addressed it quickly and efficiently. You can't prepare for every situation, but when you have infrastructure and planning in place, it helps in a very substantial way." +

# \* Major Player

Henry R. Renteria

Director, California Governor's Office of Emergency Services

During his 20 years at the Oakland Office of Emergency Services, Henry R. Renteria saw more than a lifetime of natural disasters — from the 1989 Loma Prieta earthquake to the fast-spreading 1991 Oakland firestorm.

Appointed in 2004 by Gov. Arnold Schwarzenegger as director of the California Governor's Office of Emergency Services — the state's top emergency management post — Renteria oversees emergency services for 38 million residents living in what's arguably the most geographically complex state in the country. He is a past president of the California Emergency Services Association, and helped launch the state's first public-private partnership initiative to support emergency planning and response.



PHOTO COURTESY OF HENRY RENTERIA

by **Matt Williams**

**With the different potential disasters in California — earthquakes, fires and floods — how does your agency manage effectively?** The California Office of Emergency Services, with other state agencies, is now more proactive and forward-leaning when responding to events. In the past, the way the emergency management structure has always been followed is that all disasters are local; they all start at the local level. The state was here to provide systems if the local government couldn't handle something.

That has changed over this administration. Gov. Schwarzenegger is very proactive. He's an action-oriented guy, and he made it clear to me that when something happens, regardless of the event's size and where it happens, we need to be on top of it immediately.

**When you say your agency is being "proactive," is there a technological component to that improvement?** Yes — everything from communications to warning systems. We have a 24-hour state warning center that's now connected to every local government and county in the state. When something happens, we can instantly send a warning message or communication request back and forth with that local government.

For example, this past weather emergency, we knew, because of our communications with the National Weather Service, that we were in the position to receive three winter storms in a row. We were able to identify the severity of those storms based on actual weather service intelligence and information they gave us.

We were in direct communication with all the first responders, special districts and the public to get everyone ready for those storms. In the past, we depended on the media to send this [message] out or local governments to use their own resources. Now we're all talking to each other.

**Did improved communications capabilities hold true during the 2007 San Diego wildfires?** Comparing the [Oakland] firestorm in 1991 to this 2007 similar firestorm: The reverse 911 was used in San Diego — a real plus in warning large populations about the firestorm's severity and the need to evacuate.

In 1991, local government was taken somewhat by surprise because that fire rekindled the next morning. Due to the weather conditions, it quickly went out of control. You were also dealing with an urban fire department that wasn't trained in fighting wildland fire. That's another issue, but the point I'm making, again, is there was no alerting and warning system in place in Oakland when that fire occurred. Whereas in San Diego, it was organized by local government and reverse 911 was used for evacuations. 📍



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## Earthquake in New Zealand

IN LATE DECEMBER 2007, a strong earthquake hit New Zealand's east coast, causing power outages and damage to buildings, but no casualties.

The tremor measured 6.8 on the Richter scale, and struck at 8:55 p.m. (7:55 a.m. GMT). The epicenter was located 30 miles offshore, southeast of the city of Gisborne on the country's north island.

Authorities said Gisborne took the brunt of the quake, but damage appeared to be mostly superficial. — *Guardian Unlimited*

## Tornado Trouble

ON JAN. 7, TORNADOES RIPPED a half-mile path through Kenosha County, Wis., where an estimated 100 homes were destroyed. Though floods are expected in the state, Lori Getter of the Wisconsin office of Emergency Management said January tornadoes are rare — it's been approximately 100 years since a tornado was reported in January.

More than 35 tornadoes were reported across the Midwest Jan. 7 and 8, and tornadoes raked across more than 100 miles of central and northern Mississippi on Jan. 10.

Also on Jan. 10, a Vancouver, Wash., tornado damaged nearly 130 homes and caused at least \$500,000 in insured losses, according to estimates in late January.

After the tornado, Clark County officials told the Governor's Office that a disaster declaration wouldn't be necessary because most of the damage is covered by private insurance, *The Oregonian* reported.





PHOTO BY JESSICA JONES



## Fixing Interoperability

MORE THAN EIGHT IN 10 AMERICANS say a fix to the 9/11 interoperability problem should already be in place, and a majority said they now trust local authorities more than the federal government to overcome the nagging emergency communications obstacle.

According to a national In Motion Technology/RT Strategies poll released in January, 83 percent of those surveyed said the federal government already should have deployed an interoperability solution for first responders. Sixty-five percent of respondents said the federal government should have resolved the issue within a year after the 9/11 terrorist attacks.

PHOTO BY JESSICA JONES



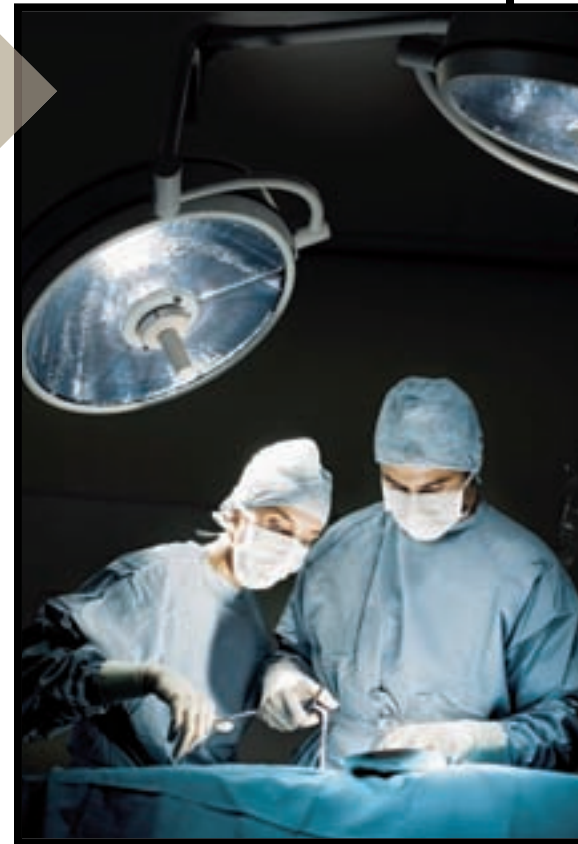
## Training Doctors

THE GOAL OF A NEW EMERGENCY medicine residency program approved by the American Osteopathic Association is to train doctors in Johnstown, Pa., to respond to local, national and international disasters.

Four residents will begin the four-year program in July, and four more will be added each year until the 16-student complement is reached, said Dr. Michael Allswede, program director and a bioterrorism expert. "They will earn an emergency medicine certification and also a master's [degree] in public health with a concentration in disaster response."

Memorial Hospital's residents will learn disaster-response skills that include setting up command posts to triage victims in case of chemical and biological attacks, police hostage situations and other emergencies.

Coursework will be offered in medical-surgical capacity development to help busy hospitals create contingency plans for influxes of patients during disasters. Graduates will be able to help hospitals improve performance for medical disasters, such as epidemics, bioterrorism and assassinations by poison. — Randy Griffith, *The Tribune-Democrat*



## Storm Slams West Coast

ON JAN. 4, A MAJOR WINTER STORM nailed the West Coast. California was hardest hit, prompting Gov. Arnold Schwarzenegger to declare a state of emergency in nine counties because of damage. Winds up to 70 mph uprooted trees and heavy rainfall caused localized flooding. At one point, more than 1.2 million Californians were without power; in some areas, residents waited four days for electricity to be restored.

A 163 mph wind gust was clocked atop the Sierra Nevada crest just west of Tahoe City. In the Sacramento Valley, Jan. 4 peak gusts reached 70 mph in Redding and 69 mph in Sacramento.

On Jan. 5, a levee on a rain-swollen canal ruptured in Fernley, Nev., affecting about 800 homes and businesses, according to the National Guard. Dozens of Fernley residents were rescued by helicopter and boat. On Jan. 8, President George W. Bush declared a state of emergency for the town, 30 miles east of Reno.



## \* In the News

On Feb. 14, 27-year-old Steven Phillip Kazmierczak — a 2007 graduate of Northern Illinois University (NIU) and student at the University of Illinois at Urbana-Champaign — entered NIU's Cole Hall carrying a Remington pump-action shotgun and three pistols concealed in a guitar case. He began shooting from the stage of a large auditorium used as a geology classroom, killing five and wounding 16.

Within 30 seconds of receiving reports of the shooting, police arrived on the scene,

according to officials. By the time they arrived, however, Kazmierczak was already dead from a self-inflicted gunshot wound.

Minutes after the shooting, administrators implemented an emergency plan they developed after the Virginia Tech tragedy. Alerts were disseminated to cell phones via text and voice-recorded messages, as well as e-mail. The day after the shooting, *The Red Eye*, an edition of the *Chicago Tribune*, ran stories about the tragedy. 📰

**RED EYE**  
Friday  
February 15, 2008  
An edition of the  
**Chicago Tribune**  
redeyechicago.com  
★ FREE ★  
A man grieves near  
the scene of  
Thursday's shooting  
at Northern Illinois  
University in DeKalb.  
(ERIC SUMRENG/  
DAILYCHRONICLE.COM/  
AP-PROTD)

**'HE JUST  
SHOOT**





adidas

Suit

# T STARTED ING AT PEOPLE'

HORROR AT SCENE OF DEADLY NIU RAMPAGE 8-9

muscles way metromix  
1.22 best art

Reverse 911, WebEOC  
helped evacuate 500,000  
as wildfires ravaged  
Southern California.

# Lessons

Learned,

# Lives



**IN OCTOBER 2007, 16 FIRES IN CALIFORNIA SCORCHED MORE THAN 500,000 ACRES,**

and destroyed an estimated 1,500 homes and structures from north of Los Angeles to southeast of San Diego.

But it wasn't just good fortune that more people weren't injured or killed during the fires: Officials evacuated 500,000 people in an orderly manner and provided shelter for more than 20,000 evacuees.

Though as many as seven people died and 90 were hurt, even more people would likely have been in peril if not for

the server-based and Web-based reverse 911 telephone alert systems, the addition of a Web Emergency Operations Center (WebEOC) system, and the collaboration of agencies.

"There's no doubt in anyone's mind that the reverse 911 saved lives," said Ron Lane, emergency services director of San Diego County. "There's no way we would have been able to notify everyone, especially during the first night of the fires."

# Saved

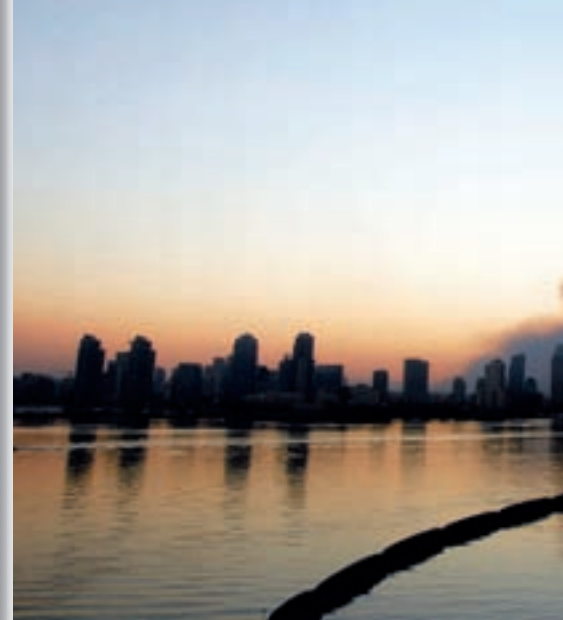
BY JIM MCKAY



NBC reporter Jay Gray surveys damage in a Rancho Bernardo, Calif., neighborhood, where wildfires destroyed much of the area.  
Photo by Andrea Booher/FEMA



Smoke from the Harris wildfires billows behind the San Diego skyline in the early morning of Oct. 23.  
U.S. Navy photo by Mass Communication Specialist 3rd Class Kathleen Gorbychelle



### Invaluable Systems

The number of people evacuated and those given shelter far exceed anything done during previous firestorms in the region.

During Southern California's 2003 blazes, 15 people died, more than 2,000 homes were destroyed and 56,000 people were evacuated. Some residents never received a notice to evacuate. That's not surprising considering the methods used for evacuation, which consisted of law enforcement personnel knocking on doors and notifying residents from loudspeakers.

The hectic, uncoordinated response to the 2003 fires prompted San Diego County officials

to invest in two mass-notification systems, and those are credited with saving lives last fall.

During a Sunday night-Monday morning period in parts of San Diego County, many residents went to bed thinking they were in no danger, only to be awakened by an alert telling them a new fire had started and was headed in their direction.

"We made a lot of phone calls that woke people up," Lane said. "I just think the fact that no one died in their cars while evacuating is a testimony to the fact that the reverse 911 and the local sheriffs' departments' outstanding work paid off.

"We used the 2003 fires as a game plan and an opportunity to identify what things we needed to do," Lane continued. "The key to reverse 911 is it's essentially an electronic knock on the door from the sheriff, instead of relying on sheriff's loudspeakers and going door-to-door to let people know as in 2003. We had many people die in their garages or in their escape routes in 2003. The fires just move so fast and there are only so many deputies — you can't be everywhere."

The San Diego County Sheriff's Department purchased a server-based reverse 911 system from PlantCML in 2005 that sent out 377,000 alerts during the 2007 fires. In 2006, the county

On Oct. 25, 2007, helicopters dropped water and fire retardant on the Harris fire, near the Mexican border, to stop the wildfire from advancing.  
Photo by Andrea Booher/FEMA



In El Cajon, Calif., on Oct. 28, 2007, Nick Ho, a community relations [CR] specialist from Austin, hands a FEMA assistance information pamphlet to California Gov. Arnold Schwarzenegger during his visit at the Local Assistance Center at Cuyamaca College. Other CR team members looked on as Ho explained FEMA's recovery efforts at the center. Photo by Gene Romano/FEMA





purchased for \$100,000 a Web-based reverse 911 system called AlertSanDiego from Twenty First Century Communications that made more than 170,000 calls during the latest fires. The Sheriff's Department system, purchased with \$300,000 of Urban Area Security Initiative (UASI) grant money, requires all calls be made at Sheriff's Department headquarters, whereas the county's system allows officials to make calls from wherever the Internet is available.

But both systems proved invaluable and a far cry from having sheriffs' deputies going door-to-door to evacuate people as was the case in 2003. "There were fewer people killed and fewer people arrested because of [the two systems]," said San Diego County Sheriff Bill Kolender.

Officials tap into the 911 database to access telephone numbers to call when sending out a reverse 911 message. "We just code it onto a GIS map system, and then when we want to call an area, we just draw a polygon on the GIS map around the area we want to call," Lane said, "and it automatically calls all the homes in that area."

The reverse 911 calls are coordinated so that the evacuation is done in phases, Lane said, and the WebEOC lets every jurisdiction know what part of the community is being evacuated at a certain time. "For example, we call the top half of the northern part of the community and tell them to evacuate one way, and we call the bottom half of the community and tell them to evacuate another way," he said. "Being able to do phased evacuations allowed much more orderly, efficient and effective evacuation than just going to the media and saying, 'The whole town, evacuate.'"

## AIDING EVACUATION

Several schools and cities used Connect service, developed by the NTI Group, to notify students about school closures and residents about air quality problems stemming from the Southern California wildfires.

Connect service — there is Connect-ED for schools and Connect-CTY for municipalities — is used to send mass voice or text messages quickly with a high success rate.

The San Diego Unified School District reportedly sent nearly 400,000 voice messages in six different languages to update parents on school closures with a 95 percent accuracy rate during the fires.

The University of San Diego kept its students and staff abreast of the situation with the voice and text messages, and the Poway Unified School District, where there were heavy evacuations, used the service to notify 280,000 parents and staff.

*U.S. Navy Photo by Mass Communication Specialist Seaman Michelle Rhonehouse*



Residents return to their homes and search for possessions among the rubble left by the San Diego wildfires. Photo by Andrea Booher/FEMA



San Diego County officials also used a 2005 UASI grant for the \$100,000 WebEOC system, which gives officials from 85 different agencies teleconference capabilities, and some added capacity and redundancy into its 800 MHz wireless system. That forged the collaboration that made evacuating and providing shelter an orderly process. “We had more than 300 people logged in at one time during the height of the fires,” Lane said. “Everybody had situational awareness of

know what parts of the county were being evacuated at a certain time and where people were going. That allowed the Red Cross, animal control and other agencies to prepare and respond accordingly. It all worked remarkably well, Lane said.

“When the Sheriff’s Department issued a reverse 911 message, they put it in WebEOC so everybody else knew that area was being evacuated,” Lane said. “Our joint information

**“Being able to do phased evacuations allowed much more orderly, efficient and effective evacuation than just going to the media and saying, ‘The whole town, evacuate.’”**

— Ron Lane, emergency services director, San Diego County

what was going on, what areas were being evacuated, what every hospital’s status was.”

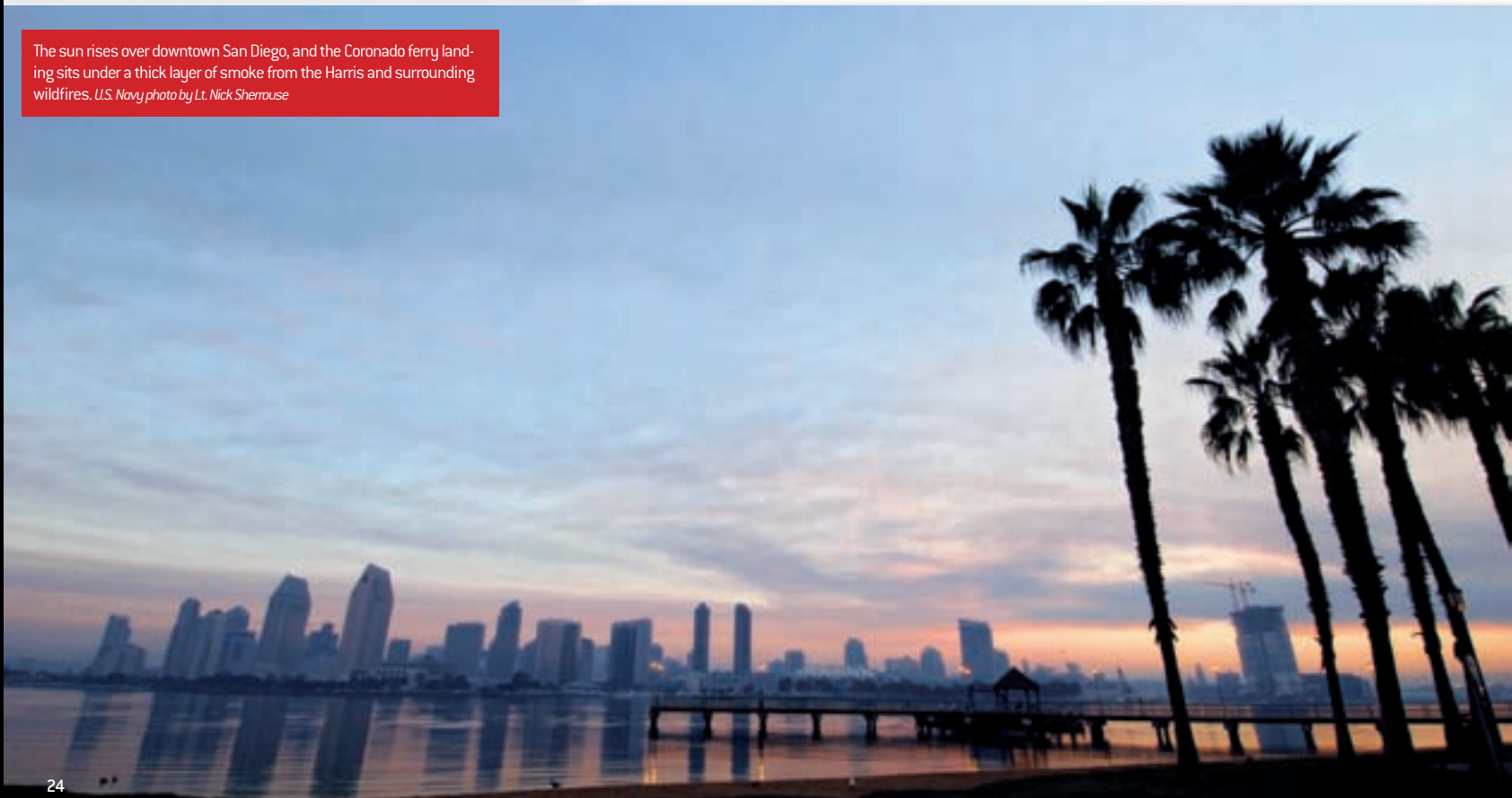
The Emergency Services Integrators (ESI) WebEOC system allowed officials to share data with other jurisdictions and agencies in real time, and access satellite images, mapping information and national weather trends.

Officials used WebEOC in tandem with the mass notification systems by letting everyone

center put that information out to the media. The Red Cross saw that and put together the shelters; the animal control people saw that ... being able to communicate so that all the different agencies knew the second one agency did something all the others could adjust and make appropriate decisions. That allowed us to ensure we got the right resources at the right place at the right time.”

Continued on p.52

The sun rises over downtown San Diego, and the Coronado ferry landing sits under a thick layer of smoke from the Harris and surrounding wildfires. U.S. Navy photo by Lt. Nick Sherouse





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PHOTOS COURTESY OF KENNESAW STATE UNIVERSITY



BY JESSICA JONES

# First Safety

Georgia's Kennesaw State University overhauls its emergency management plan, focusing on communication and training.

In fall 2006, student enrollment at Kennesaw State University (KSU) broke 20,000 — double the student population in 1990.

But as enrollment crept up and more on-campus housing was added, the school's emergency plan remained untouched. Therefore, the original plan — based on an outdated culture and school structure — needed to work for twice the number of people.

But KSU, located about 25 miles outside Atlanta, is turning things around. In May 2007, the university hired Robert Lang, a former Georgia Institute of Technology homeland security director, to create an up-to-date emergency plan to protect students, faculty and staff.

"The events that day at Virginia Tech shocked all of us who learn, work, teach, live or are otherwise engaged on the campuses of colleges and universities in this nation, and brought to

mind valid concerns for the safety of the Kennesaw State University community," said KSU President Daniel S. Papp, who was appointed in July 2006. "While no campus can absolutely prevent such a tragedy from occurring, all of those who are charged with the safety and security of KSU have taken, and are taking, numerous steps to ensure the security and safety of KSU's students, faculty, staff, administrators, visitors and guests."

Responsibility for ensuring security and safety falls to the Strategic Security and Safety Department, headed by Lang, which is expanding KSU's emergency plan to encompass any situation that could happen on campus, certifying crisis managers and creating an entirely new communications method. In addition, the department is taking steps to ensure the new emergency plan — unlike the old one — is widely available.

## Changing Culture

Prior to Lang's arrival, the school's emergency plan resided on the KSU Police Department's intranet, and required a password to obtain, Lang said. "Which is really not a good situation to have, because you want as many people [as possible] to know how to evacuate," he said. "By having that plan password protected, people not only did not know where it was, but there was some confusion on whether we had one or not."

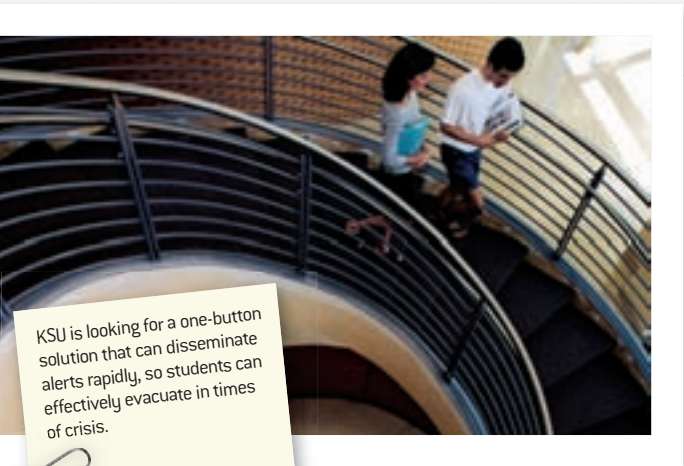
Because the police department staff created the former plan, they knew it existed, Lang said, but there was no training, public relations or education relative to crisis management being conducted. "Nobody pulled [the plan] out and read it, and the reality was nobody even knew what was in it," Lang said.

"We're now moving out of that realm because of the amount of population we

have here,” he said, noting that KSU has more than 20,000 students, and approximately 5,000 faculty and staff members. “We’re trying to change that culture, change that philosophy of inclusion versus only a need-to-know type thing.”

So now, KSU’s emergency plans will be readily available, giving students and staff information on how to evacuate buildings, what to do during an emergency and where to assemble.

In addition, the old plan — a single document designed solely for a police response — is being expanded. Previously it told police officers how to operate when they responded to emergencies, but Lang is working to create a plan that encompasses every potential situation that could ultimately happen on the campus.



“Not only is it terrorism and active shooters, like at Virginia Tech, but it includes the natural disasters and how to mitigate those ... the flooding, the tornadoes, the hurricanes,” he said.

The plan also accounts for the fact that KSU’s campus is adjacent to Interstate 75, a major highway, and near a rail line that frequently transports hazardous materials. “We really need a plan that’s going to tell people what to do, and not just evacuate,” Lang said. “When a chemical spill happens, you need to shelter in. So we’re trying to put all of those, as much as we can, into a document that people can easily read and understand.”

### Crisis Certification

Besides gathering all training material for the new emergency plan and pulling in subject-matter experts from around the area to help, Lang said KSU will certify crisis managers. “We want to put in a certificate program for the

## “Communications is the heart of not only the way to get the message out, but could be the heart of why things didn’t work.”

— Robert Lang, assistant vice president of strategic security and safety, Kennesaw State University

crisis group so we can generally train,” he said. The training will include identifying and dealing with explosives, using fire extinguishers, performing first aid and using an automatic external defibrillator.

“All of these things are playing into a large program where everyone will be a player, versus two or three people in the police department telling people what to do,” Lang said. “We’re trying to train people so that when things happen, we have crisis managers in the hallways with their vests on — the orange vests — with the whistles telling people how to get out of the building, telling them where to assemble. Then we do all the necessary things to mitigate the disaster or emergency.”

Certified crisis managers will help evacuating people and assist in other public safety efforts. “What we’ve done here is we have a single point of contact, a single crisis manager, for every building. But because some of our buildings have two wings, four or five floors, you need a lot more people to help you out,” Lang said. “So they recruit one for each end of the building for each floor. You’re looking at probably eight to 10 additional people trained and being able to assist during an emergency.”

### Rapid Communication

Another a top priority, Lang said, is creating entirely new communications methods,

including a Web page for training issues and implementing technologies to quickly spread the word about an emergency situation.

Though an e-mail system enabling mass dissemination of messages was already in place, communicating via other avenues is in the works.

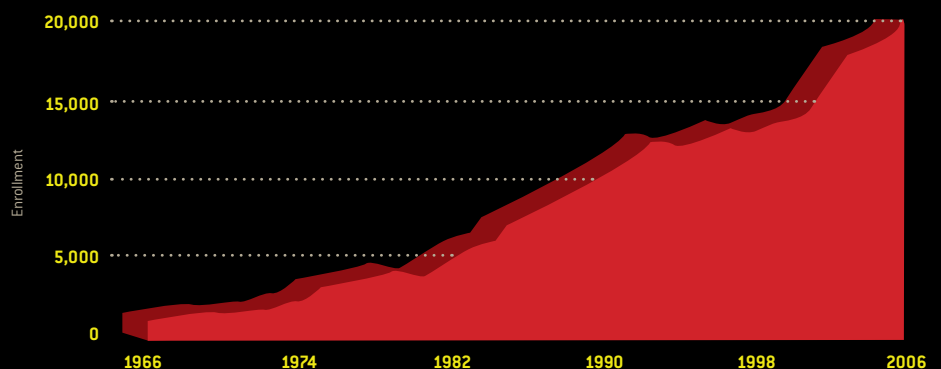
The bottom line, Lang emphasized, is getting the word out to the people. Communication failures almost always are a factor in unsuccessful crisis response, he said. Lang pointed to 9/11 and the London bombings when cell towers were saturated so no one could call in or out. “These are the kinds of things we still haven’t fixed yet,” he said, “so communications is the heart of not only the way to get the message out, but could be the heart of why things didn’t work.”

KSU recently contracted with the NTI Group Inc. to use Connect-ED — a Web-based solution that lets users send thousands of messages in minutes to cell phones, home phones, PDAs and work phones, and it distributes notifications via e-mail, voicemail, text message and teletypewriter or telecommunications devices for the deaf (TTY/TDD). Connect-ED also tracks delivery to recipients.

The university conducted its first test using Connect-ED in mid-December 2007, sending 64 voice messages, which were received within one minute, Lang said, adding that it will likely take a bit longer to notify all 25,000 of KSU’s

### KSU Student Enrollment

The following graph depicts KSU’s gradual increase in student enrollment from fall 1966 to fall 2006.



Source: Kennesaw State University



Kennesaw State University's  
Clendenin Science Building.



students and staff. In the test, Connect-ED verified that 61 voice notifications were received — three messages weren't received due to inaccurate telephone numbers.

Messages were clear at both the start and the end of the drill, but an internal survey noted minor discrepancies, such as most message recipients had given incorrect telephone data — inputting an office phone versus a cell phone. E-mails were received as planned shortly after the voice messages arrived.

The test covered voicemail and e-mail only, as the Strategic Security and Safety Department didn't have time to set up a text simulation with the cell phone carriers due to potential spam issues. Lang said that's the next test.

Overall, he said, officials were satisfied with the new procedures. However, there were some lessons learned.

"We needed clearer evacuation instructions from our crisis managers," Lang said. "Most people don't know north from east, so we need to identify exits via color or signage."

Also, because the building used during the exercise has a four-story open foyer, the whistles used by crisis managers weren't audible, so whistles will have to be blown harder and longer. In addition, multiple assembly areas need to be identified as evacuation options ahead of time to react to specific circumstances.

Lindsay Martin, a KSU senior, said she already considered the campus safe, partially because of the existing mass e-mail system, but knowing that additional improvements are under way makes her feel more secure.

"If there are any issues going on on-campus, they send out, not like a warning threat, scary-type e-mail, but just to make you more knowledgeable," she said. "It's nice to know they're in the works of getting a crisis plan. And [Lang] has an FBI background — that's really cool. It

never ceases to amaze me the cool things that are happening here."

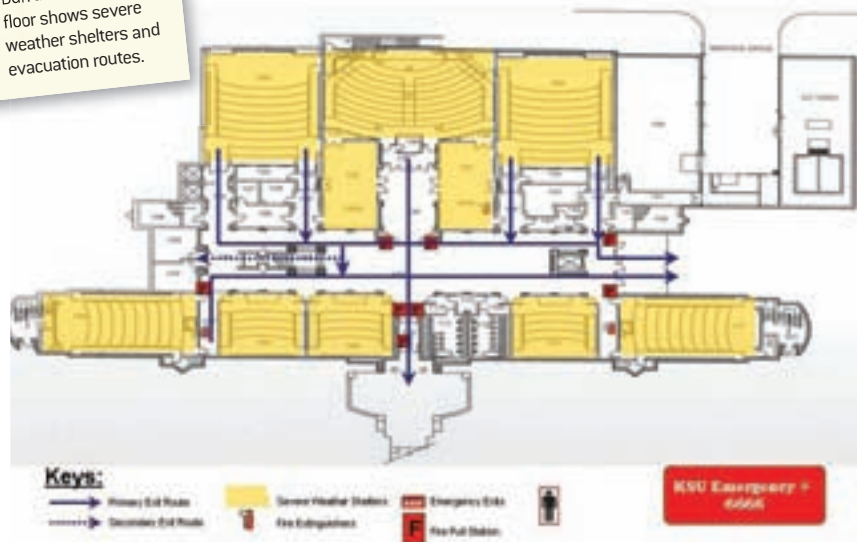
### Next Steps

Ultimately KSU wants what Lang called a one-button solution.

"This is a problem a lot of universities are facing — they're putting in a lot of systems that are going to solve individual situations," he said. "For example, they're going to put in this notification system on the cell phone and the e-mail. Then they're going to go out and get an Internet protocol intercom system [to] talk to individual rooms, classrooms and buildings."

Lang said KSU also wants digital signage and an early warning system with sirens. Ultimately all of these systems need to be connected so hitting one button will activate all of them during an emergency situation.

This map of the KSU Burruss Building's first floor shows severe weather shelters and evacuation routes.



"We want a one-button approach [that] sends out a message," he said, "and at the same time, sends the early warning sirens off; it sends a message through the intercom system; it sends a message to your cell phone, your text messaging, your e-mail, your fax, your regular phone in the office — all of that with one button. That's where we're going."

KSU is nearing an agreement for a one-button solution with Emergency Management Telecommunications Inc. for its SchoolCall911 product, which can notify via telephone, cell phone, fax, TTY/TDD, e-mail, page/intercom, FM radio, siren, satellite, Internet, pager, road sign and radio frequency.

KSU is working to solidify some aspects of the agreement. Lang said he wants to make sure the procurement process is done correctly and the university is getting a system that does exactly what it needs.

"I think we've identified the product; we just have to make sure we're getting what we think we're getting," he said, adding that at this point, the university is moving as quickly as it can to implement this plan. "We want the parents of the students who come here to feel comfortable that their student is taken care of, that we do know what to do, and that we are going to protect them and offer them a safe environment. That's the whole driving force of this thing." +

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# GTSI

Using information technology to create public value

Since 1983, state and local governments have leveraged GTSI's brand name products and professional services to fulfill their responsibilities to constituents and communities. From electronically managing Medicaid records to reduce fraud to implementing in-car video surveillance systems that decrease crime to deploying municipal broadband networks for expanded communications to developing IT infrastructures that safeguard personal data, authenticate identity, and improve traffic flow, GTSI's information technology products, services, and solutions create public value.

Teams of GTSI engineers with more than 100 industry, vendor, and professional certifications and PMI-certified project managers work closely with agency staff to develop technology roadmaps aligned to each state's IT strategic plan. Years of working with state and local governments give GTSI a high level understanding of agency policies, purchasing requirements, budgets, and business objectives. This knowledge and insight along with the precise application of technology figure prominently in each GTSI IT infrastructure solution that addresses agency priorities for:

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- Storage Consolidation
- Network and Physical Security
- Unified Communications
- Mobile Evidence Capture

## Increasing accessibility and responsiveness through technology-enabled government

All GTSI's IT infrastructure solutions support the public sector's move toward technology-enabled government and address each stage of the technology lifecycle. They are designed for long-term security and scalability and incorporate technology innovations that support advanced applications such as VoIP, digital video, and wireless communications; e-discovery; virtualization; mobility, in-car and fixed-camera video surveillance; and ID authenti-

cation and authorization. GTSI recommends the best hardware and software components and designs, deploys, manages, and supports each IT infrastructure solution. Agencies can easily adapt each solution to their technology roadmap without compromising budgets or performance.

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The public sector can procure IT products, services, and solutions without delays or risk using GTSI's financial services. Each agency can work with

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- Drive projects to completion quicker
- Obtain the best and most relevant technology and services, when they are needed
- Build in refresh cycles so technology remains current
- Eliminate the responsibility of ownership
- Reduce total cost of ownership
- Retain a single source for IT assets, services, and financing

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GTSI's expert application of brand name hardware and software combined with engineering and project management services propels public sector's technology-enabled government initiatives from future state into the realm of accomplishment.

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BY JULIAN GILMAN

ILLUSTRATION BY TOM MCKEITH

**IN DECEMBER 2007**, Congress passed the federal government's omnibus appropriation bill allotting \$3.96 billion in homeland security grants for state and local governments for fiscal 2008.

Included in the grants was a \$35 million increase in Urban Area Security Initiative (UASI) funding from 2007, and \$205 million more than President George W. Bush requested. The Port Security Grant Program was fully funded for the first time at \$400 million, and a new Interoperability Grant Program promises \$50 million in grants to develop interoperable radio communications.

If state and local governments have not decided on the priorities and spending plans for grant funds they may receive, they're behind the eight ball — planning should begin about a year in advance of grants announced for the upcoming fiscal year.

Here are some strategies that may help you obtain the most funding possible for your government entity.



# Funding Break- down





Helping local  
emergency  
managers obtain  
fiscal 2008 funds  
from their states.

### Be Precise

Whether it's fiscal '08 or '09, potential grant recipients should develop precise investment justifications (IJ) that outline plans and timetables for their priorities under their Homeland Security Strategy (which needs to be in line with the state's strategy). Projects started in past grant cycles should be evaluated: Where is it as far as project completion? An IJ should be prepared that allows for either its successful completion or the continuation of work to adhere to the schedule originally developed.



All local governments, whether in a UASI or not, should also follow the same process, spelling out their funding needs to accomplish projects that have been approved by the state.

It's very important that local governments know and understand exactly how the state will evaluate and determine its grant funding allocation process. With 56 states and territories, this gives rise to 56 methodologies on "who gets what" in the local government funding process.

Some states are clear about how they'd like the money spent, and the locals then need to be clear in planning how they will follow suit. Other states often leave it up to the local officials as to how they would like to spend the money. In that case, locals must articulate through a complete project description/plan exactly "the what, why and how" of their grant fund needs.

The best-case scenario includes a formal process at the state level where local representa-

### It's very important that local governments know and understand exactly how the state will evaluate and determine its grant funding allocation process.

tion has input into the process, where possible, so that all concerns are heard and taken into account for the total homeland security process, including grant funding allocation. It's critical for everyone at the table to put politics aside and understand that personalities take a back seat to the important projects that benefit all citizens at the state and local levels.

### The Right People

If a local jurisdiction is unsure of the state's strategy, timetables, priorities and motivations, opening a line of communication with the "right people" within the state homeland security infrastructure is a definite priority.

The State Administrative Authority (SAA) is the office that administers the U.S. Department of Homeland Security (DHS) grant funds to the local government entities. If you're a department within the local government or a member of an organization and feel left out of the overall homeland security process, the first step is to call your local government and ask to talk with the department or person who handles the homeland security program. If that doesn't work, call your state's department of public safety, department of emergency management or other department that would handle these types of issues and ask, "Who is my SAA for homeland security matters?" Then call the SAA directly and ask about how to be included in the process.

Unfortunately one of the biggest problems with this process is a lack of communication. In most cases, this isn't from a lack of trying, but a lack of the "right people" being involved. We all have enough to do, and sometimes people are sent to important meetings as what I call "placeholders." These people contribute little to the process, and in some cases make decisions lacking the needed expertise. This can and does create gaps in knowledge and local-level involvement on issues and programs that they really need to know and understand.

A key to developing a good investment/project plan is to include milestones with realistic dates. It's like writing a project report, as if you were trying to sell a project to your

boss. You might want to do a Critical Path Method where you say, "This is where we need to be at this point in time, and this is the amount of money I'm going to need to get us there." If you don't get all the funding you need, then this changes the critical path to project completion. Then show a new completion date and show the time change throughout the timeline for the new successful project completion date.

If you're planning for tomorrow, you're not planning to achieve a goal other than spending a certain amount of grant funding. When I dealt with local governments at the state level in this process, it amazed me that I was told local government couldn't plan in advance because it didn't know how much money it was going



### Summary: Securing Funds

- ▶ Develop a precise investment justification plan;
- ▶ initiate and establish communications with the right people;
- ▶ create realistic deadlines for project milestones;
- ▶ establish priorities and ensure that they are attainable; and
- ▶ know your problems and solutions.





to get. That amounts to planning to spend a certain amount of money, not planning to achieve a critical project or goal important to your homeland security strategy.

Locals — or states for that matter — shouldn't wait to see how much money they might get before making a list of priorities to accomplish. Priorities should be outlined, starting with Priority No. 1 and proceeding down a list to whatever number of priorities you feel will accomplish your homeland security goals and objectives. When the funding is known, then follow what I call the "checkbook approach" to allocate your new funds.

Start with a balance, let's say \$50,000. Your No. 1 priority will cost \$5,000, No. 2 will cost \$24,500, No. 15 will cost \$12,500, and No. 20 will cost you \$9,850. So now you're \$1,850 in the hole. You put in \$1,850 of county funds to complete the projects; you did priorities No. 15 and No. 20 at this time because of costs that could be fit into the remaining grant funds.

### Plan Ahead

Planning should be done at least 12 to 13 months ahead or even beyond that. Let's say, for example, you're digging wells, and that was one of 10 priorities you wanted to start working on. You know you need to dig 500 wells over a period of time — say five years. You probably won't get enough money to dig all 500 wells in one year. You determine that you can dig 100 to 110 wells a year, so you'll need a funding stream of four to five years. So you

### Flexibility is important in this process, because priorities can and do shift. Goals and objectives might have to be re-examined every year.

have incremental goals of digging 100 to 110 wells each year and a total goal of digging 500 wells. You figure the incremental costs and the total costs for the project and include them in the investment/plan.

Flexibility is important in this process, because priorities can and do shift. Goals and objectives might have to be re-examined every year. You may have to shift priorities up or down a couple of spaces in any given year; but you shouldn't have your No. 1 priority in, say, 2008 drop to No. 10 in 2009. If there's not continuity, someone isn't planning well.

**Sample 2008 Homeland Security Grant Award: Projects and Costs**

Grant Award Date	Projects (Priority #)	Cost of Project	Balance of Grant
March 2008			<b>\$50,000</b>
	2 communications towers (1)	\$5,000	\$45,000
	35 programmable handheld radios (2)	\$24,500	\$20,500
	15 personal protective equipment sets (15)	\$12,500	\$8,000
	2 monitoring systems (20)	\$9,850	<b>-\$1,850</b>
<b>Priority Projects for Next Grant Award (2009)</b>			
March 2009			<b>Unknown</b>
	HAZMAT truck (3)	\$75,000	
	2 inflatable boats (4)	\$25,000	
	Dive equipment (5)	\$13,000	
	Shelter/tents for search and rescue	\$2,500	

All of these elements affect the quality of your state's investment/plan, or IJ, which will receive a final "grade" from DHS. You'll be awarded grant money based partly on that grade and how it compares to the needs of the other jurisdictions

you are competing against. The number of investments/plans you develop should be the number that you can successfully accomplish in any one grant period. Don't do a mediocre job on 15 plans and be unable to achieve only a percentage of them; do eight really well that you have a reasonable probability of completing successfully. The number shouldn't have a bearing on how much funding you receive. If it's a priority, it's a priority.

Your investment/plan should be precise, and easy to read and understand; some jurisdictions hire outside writers and editors to help with the process. Keep in mind, however, that no one should know your problem or solution better than you.

It's critical to consider previous feedback from your state, if there is any, and to have a consistent theme throughout the investments/plans for how the money will be spent. +



For any questions pertaining to funding, please e-mail [funding@govtech.com](mailto:funding@govtech.com). All questions — with answers from Julian Gilman — will be published in the spring issue of *Emergency Management*.



HAZMAT: Hotzone, shown here, is a video game that trains first responders how to respond to hazardous materials emergencies.





In early 2006, a dozen staff members from the California Department of Health Services received extensive training on how to administer antibiotics from the Strategic National Stockpile in the event of an anthrax attack.

Unlike previous exercises the state had run, however, this simulation didn't involve recruiting mock patients or setting up a staging area. The setting — and patients — were all virtual. Researchers from the University of California-Davis Health System re-created a 3-D model of the California Exposition and State Fair in Second Life, an Internet-based world in which people are represented by virtual body doubles called avatars.

"The aim of the exercise was to see if the state could constantly train people in setting up emergency clinics," said principal investigator Dr. Peter Yellowlees, a professor of psychiatry at UC-Davis, whose research interests include the use of virtual reality for health education on the Internet. "One big advantage is that they could do this training 24/7 from wherever they are, and you don't have to recruit patient volunteers."

Yellowlees isn't alone in seeing the potential of using virtual reality simulation to train first responders, medical personnel and emergency management officials. Across the country, researchers are exploring how simulations can augment training efforts. Much of the impetus is coming from the growing use of simulation in medical training. Most medical schools are incorporating simulation in their curricula and measuring its effectiveness.

Second Life  
and other  
virtual worlds  
prove helpful  
in practicing  
for real-life  
threats.

# Trial

By David Rath

# Run

## REAL-LIFE APPLICATION



Another driving force is the U.S. Department of Defense, which for years has been funding research about computer simulation for war fighting and medical purposes. Research to support military operations done by organizations such as the Telemedicine and Advanced Technology Research Center is being customized for homeland security exercises.

Robert Furberg, a research analyst for the Center for Simulator Technology at research institute RTI International in Research Triangle Park, N.C., noted that virtual reality simulations are appealing for emergency response training.

“A full-scale exercise takes a lot of advanced preparation and requires daylong drills — it is expensive and time-consuming,” he said. “With simulation, we can run through a mass casualty event and change the parameters. Each case is a little different, and it is available 24/7.”

### Virtual Patients

With an \$80,000 grant from the California Department of Health Services, Yellowlees and his staff sought to determine if they could make the training in *Second Life* realistic and worthwhile for emergency medical personnel.

Two years ago, they went to a real-life simulation held at the Sacramento Exposition Center, with 250 state employees and 1,000 members of the public volunteering as trial patients. Yellowlees and his crew taped the exercise as patients were registered, signed consent forms, were examined and given simulated antibiotics.

They then worked to re-create the environment in *Second Life*. Virtual patients flowed through the clinic, while staff members role played. The program can be adjusted to simulate different numbers of patients. For instance, it could be ramped up from 100 to 150 patients per hour. Yellowlees said his team also built quiz tools to assess how well people have grasped what they’ve learned.

He said he believes the project was a success because they made the virtual environment look reasonably like the real thing. Also, feedback from state employees indicated the program worked quite well. Nevertheless, California has yet to expand its use. “That was 18 months ago and they haven’t taken us up on it yet,” he added. “They are trying to see how it fits into their long-term goals.”

### Virtual Reality Triage

With funding from the Telemedicine and Advanced Technology Research Center, RTI has been working for several years on a simulation platform for primary care doctors, nurses and paramedics. A virtual reality simulation that runs on a basic laptop computer allows medical workers to study and practice their triage skills in a role-playing game.

The entire system is situated within a learning management system that includes didactic content, such as Flash animations and audio narratives that medical workers review before entering the simulation environment.

When 28-year-old Paxton Galvanek witnessed a tragic car accident in late November 2007, he used life saving techniques he learned while playing the online game *America’s Army*.

Galvanek credited the combat medic training he completed in the game with teaching him the critical skills he needed to evaluate and treat the victims at the scene.

Galvanek was driving with his family when he witnessed an SUV on opposing lanes lose control and flip about five times. While his wife called 911, he stopped his vehicle and ran across the highway to the scene.

Assuming the role of first responder, he quickly assessed the situation and found two victims in the smoking vehicle. Needing to extract them quickly, he helped the passenger out of the truck and noticed he had minor cuts and injuries. He told the man to stay clear of the smoking car and quickly went to the driver’s side where he located a wounded man. He pulled the driver to safety on the side of the road.

Galvanek noticed the man had lost two fingers and was bleeding profusely, and had suffered head trauma. Galvanek found a towel, put pressure on the man’s hand, and instructed him to sit down and elevate his hand above his head while pressing the towel against his lost fingers. Galvanek then attended to his head cut and determined that injury was not as serious as his hand.

When a medically trained Army soldier in plain clothing arrived on the scene, he informed Galvanek that the two men were in stable condition and there was nothing more he could do to assist until the paramedics arrived, Galvanek left the scene.

To assume the role of combat medic in the game, players must go through virtual medical training classes based on the actual training that real Army soldiers receive. Through the game, players learn to evaluate and prioritize casualties, control bleeding, recognize and treat shock, and administer aid when victims aren’t breathing.

The program includes 30 examples of casualties that trainees can encounter, with a total of nine in any one scene. “The bulk of the cases are trauma victims, but we are adding in medical cases,” said Furberg, who is a practicing paramedic. “Realistically people are going to be

Continued on p.50



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# Playing Catch-Up

A photograph of a desert landscape at sunset. The sky is a warm, golden-orange color. In the foreground, several tall saguaro cacti are silhouetted against the bright light. In the background, there are rolling hills and mountains, also silhouetted. The overall scene is peaceful and scenic.

The population surge in one Arizona county created a lack of emergency management resources, leaving officials scrambling to remedy the situation.



BY AMY YANNELLO



**P**inal County, Ariz., Sheriff Chris Vasquez has watched his county's population explode — during the last two decades, it has increased threefold, from 116,000 people in 1990 to an estimated 336,000 as of December 2007, according to U.S. Census Bureau figures. The county posted a nation-leading 16.6 percent increase in “housing starts,” totaling 18,000 new homes from July 1, 2005, to July 1, 2006.

Despite the phenomenal growth spurt, Pinal County has gone without additional, commensurate emergency management resources.

Sandwiched between the urban centers of Tucson and Phoenix, the county covers 5,300 square miles — an area the size of Connecticut — and has nine cities and towns within its incorporated boundaries. Largely rural and desert, the landscape now is dotted with homes as cities annex larger and larger swaths of land.

All this has strained emergency management resources, infrastructure and personnel. But officials say that with a stagnant economy due to the housing market slump, it's an ideal time to play catch-up.

A better flood watch system, expanded radio and communications capabilities for first responders, and additional law enforcement personnel are three areas that need the most attention, according to Pinal County officials.

#### **Officer Shortage ... and More**

“If I want 40 percent of my deputies' workday to be spent being proactive,” Vasquez said, referring to officers patrolling and making contact with

suspicious subjects to stop crime before it starts, “I need another 210 deputies.”

Currently Vasquez has a burdened 250-officer force. For now, he depends on about 150 volunteers in search-and-rescue and citizen patrol programs to aid sheriff's deputies and other first responders should a disaster or other emergency occur.

“What we've done recently, because all law enforcement is under a [budget] deficit, is enter into intergovernmental agreements with all nine cities and the Arizona Highway Patrol to pool resources in the event of a disaster,” Vasquez said. The agreement with the highway patrol guarantees Pinal additional buses, a helicopter and communications equipment it doesn't have now.

But manpower isn't the only need in Pinal County, where roads, telecommunications and flood control infrastructure are lagging. Funding is even further behind.

Atop the county's priority list is an expansion of its radio coverage to improve interoperability, which is the ability of first responders from different agencies to communicate with one another.

“We're trying to pedal fast during the slowdown in housing,” said Jay Vargo, the county's IT radio communications director. “Dispatch needs to be connected, as do the computers in [sheriff's] patrol cars. We need to build towers to extend coverage to areas that are without coverage now.

“People move in, and it takes awhile to get the tax base,” Vargo continued, “but police and fire services still need to be supported.”

It will take from \$1.5 million to \$2 million to retrofit Pinal County's patrol cars with laptop computers, he said.

Currently Vargo's 2007-08 budget has \$154,000 set aside to replace older radios and radio equipment. Similar amounts of money will be needed each of the next several years to support growth and introduce new technologies designed for voice and data applications, Vargo said.

As for the communications towers, the county has shared and co-located them at other public safety sites. But it's merely a quick fix: New towers to serve expanded growth will cost at least \$500,000 apiece. Pinal County is exploring shared-cost options with other agencies to defray the cost.

"There are many dead spots in the county where the dispatcher can't hear the deputy and vice versa, and we're trying to tighten that up," Vasquez said. "We're trying to get laptop computers so our deputy can have text communication with an officer in the city of Casa Grande and at our dispatch. That's the difference between seconds and a half-hour to 45 minutes."

### Budget Crunch

Like many jurisdictions nationwide, emergency management funding in Pinal County continues to be a problem.

"Pinal County is reviewing all components of its operations in order to accommodate the next wave of explosive growth coming our way," said David Snider, chairman of the Pinal County Board of Supervisors.

"It's two-pronged. It's looking at the system we have, and we're looking at revising to accommodate 21st-century growth," he continued. "The second part is the infrastructure issue — and that's a function of time and money."

Snider said the county must balance the cost of expanding the infrastructure that new growth demands with the expense of "normal" services that are government's everyday role.

In Arizona, some jurisdictions rely on developer impact fees to fill the coffers. They come from four sources: transportation and roads, public safety, open space, and water systems maintenance and development.

Developer impact fees may only be used for one-time equipment purchases — not for personnel or maintenance. So while a county may use impact fees to purchase a police car, the

## "People move in, and it takes awhile to get the tax base, but police and fire services still need to be supported."

— Jay Vargo, IT Radio Communications Director, Pinal County, Ariz.

money cannot be used to fix patrol cars or hire additional officers.

Last year, Pinal County adopted impact fees and secured about \$2 million in its first year of implementation, according to Snider.

The county has also embarked on a program with the private sector to provide a wireless umbrella for Pinal County by the end of 2009, Snider said. The Wi-Fi network is expected to cost \$23 million, but officials say the cost will largely be covered by WI-VOD Corp., a private company. The county won't own the system, but it will be a subscriber.

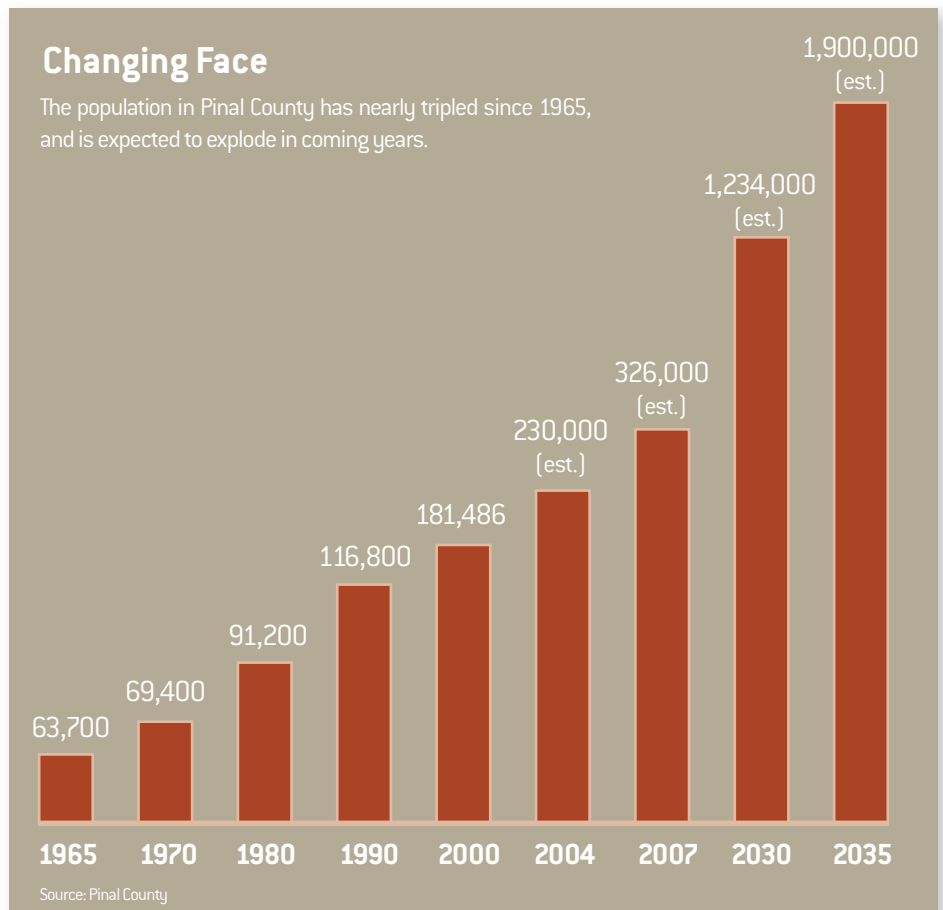
Pinal County spent more than \$266,000 on emergency management programs in 2007. About \$69,000 of that amount came from an Emergency Management Performance Grant (EMPG). The EMPG is a long-standing federal program funded by the Department of Home-

land Security that provides assistance to state and local personnel who do emergency planning, training and interdisciplinary coordination.

The bulk of the county's expenditure for emergency management was allocated for developing emergency plans for Pinal County's nine cities, cross-training public officials and city workers on the use of those plans, and paying for personnel costs for the county's three-person emergency management team. Other costs included response and recovery, as well as education and outreach to the public.

Pinal County expects to see its 2008 EMPG grant allotment double to nearly \$140,000, but talk of eliminating the grants in 2009 have county officials worried.

A Nov. 26, 2007, document from the U.S. Office of Management and Budget indicated that the fiscal 2009 federal budget might slash





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funds for domestic homeland security and eliminate grant programs that benefit port security, transit security and emergency management — the EMPG is one of those priorities.

“It appears now that we may lose everything altogether if they abolish this in 2009,” said Pete Weaver, emergency manager for Pinal County. “This will affect planning, training exercises, and ultimately response and recovery for every local agency nationwide. [It could] truly crush those already operating on a shoelace.”

Weaver estimated the EMPG would need to rise to \$200,000 annually for the county to properly serve its population.

“The county has stepped up,” Weaver said, “and if the EMPGs would rise to \$200,000, I’d be in good shape. We could expand to meet our needs. Right now, we’re moving in the right direction, but if these cuts go through, we’ll go backward.”

According to a December 2007 *Associated Press* report, the Homeland Security Department has given \$23 billion in antiterrorism grants to states and municipalities since the 9/11 attacks. Some critics claim the programs are pork barrel spending.

Not so, say Weaver and Vasquez.

“Only 30 of our [240] cars now have mobile data terminals,” Vasquez said. “And the EMPG grants can do this. Losing the funding now would probably kill us. Right now, the economy is in a decline with the housing market taking a downturn, and the state is hurting because of it. Losing these grants now would really hinder us from achieving what we want to achieve.”

In addition, plans to add and train deputies — and expand radio interoperability capabilities — would be curtailed if the grants fall through, Vasquez said.

County officials also are working to install an early warning flood detection system and a reverse 911 directory telephone system to call residents.

“One of the big things I’m worried about is that we don’t have a warning system,” said Elise Moore, Pinal County flood control section chief. “The rivers go across our roads ... and often when it’s raining, we have to send people out to monitor the rivers because we don’t have gauges out there to tell us where and how it’s flooding. The state and other counties have this, but we don’t.”



Florence, Ariz., has a total area of 8.3 square miles, according to the 2000 United States Census Bureau, which also listed its population at 17,054. With Pinal County’s overall increase, this number has likely increased.

The county will spend \$100,000 this year to acquire the necessary computers and first four gauges to start the process.

“This new urban population has high expectations of us,” Moore said. “They expect to be able to get to work in the morning, [whereas] in the more rural areas, they expected some surface flooding, or not to be able to use some of the streets some days. So we really need to be on top of where it’s going to be flooding and address that right away. That’s why it’s so important to monitor flows.”

### **Volunteer Involvement**

In this time of rapid growth and scarce resources, Weaver found success in a program he initiated to bring together the county’s volunteer organizations in order to pool limited resources and share knowledge with emergency management agencies after a disaster.

The Pinal County Regional Volunteer Organizations Active in Disaster (VOAD) put

together the various groups — the Salvation Army, United Way, Lutheran emergency ministries and others — to form a partnership for pre-planning for emergencies and disasters. The program is modeled after a similar one at the Arizona Division of Emergency Management.

“Each volunteer group brings unique opportunities and resources to the table, so a combined and more complete case management can better fulfill the needs of victims,” Weaver said. “We also have a better view of the scarce resources so as to not duplicate services, formulate organized donations management and minimize waste.”

Emergency Management has a seat at the table, and VOAD, in turn, is a part of the Pinal County Emergency Operations Center during emergencies and disasters.

“This is a huge reason why we have been successful in keeping up with the growth and emergency needs,” Weaver said. +



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BY BOB JAFFIN

A LIBERAL ARTS EDUCATION IS A PREREQUISITE TO PRODUCING QUALIFIED EMERGENCY MANAGERS.

AS AN INSTRUCTOR FOR MORE THAN 30 YEARS, I've become increasingly discouraged as more and more students demonstrate they can't apply conceptual thinking to relatively simple scenarios. And this is compounded by their inability to write coherent sentences and paragraphs that can be assembled into cohesive, focused and comprehensible papers.

As a current doctoral student at North Dakota State University said, "The quality of the research being done, and the quality of the papers and books being published, are an embarrassment to the emergency management profession."

Obtaining a liberal arts education — studies at the university level that provide general knowledge and develop intellectual capacity — promotes success and growth in the field not only on an individual basis, but also for the discipline as a whole. ▶





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## Ensuring Survival

A liberal arts education is the critical foundation that allows for additional and specialized professional education. Regardless of the academic discipline, there is an overriding imperative at the highest levels of the academe to create knowledge that forms the discipline's core, which garners peer recognition and acceptance.

The essence of a doctoral dissertation is the ability to pick an appropriate topic, undertake research that it can be replicated, and then report the research in a way that can be understood and accepted (though not necessarily agreed with). Accomplishing this requires an education that extends far beyond emergency management (EM) and includes a solid foundation in the liberal arts.

**With the exception of elected officials, no one else in modern society is required to acquire and maintain as wide a body of knowledge as emergency managers.**

Nevertheless, liberal arts education has been given short shrift in most discussions about the development of newer, technologically complicated professional degree programs.

This lost focus on the liberal arts is proving more than just short sighted for EM: It's also detrimental to the development of knowledge that's critical for the long-term success and necessary growth and maturation of the discipline. Lack of this education hinders the development of learning that is required to define the EM discipline, which ensures its survival and acceptance as a legitimate field of study.

## Critical Elements

Emergency managers must become adept in elements of many, if not all, of the social sciences in order to become effective change agents who can promote socioeconomic and scientifically-based community improvement, development and redevelopment. They must also actively develop their communication skills. It is an absolute requirement for every emergency manager to communicate effectively both orally and in writing. This is not optional — it's a crucial element to success.

EM continues to evolve as both a discipline and a career. Most writings on the subject characterize EM as a closed loop consisting of four

phases that never end: mitigation, preparedness, response and recovery. If you read beyond that accurate but vastly oversimplified model, you'll quickly discover that EM, in its purest and most simplistic form, is all about the creation of sustainable communities.

We should use the creation of sustainable communities to define and develop the elements of an effective and efficient undergraduate program that can produce fully functional emergency managers. A strong liberal arts education, in turn, is the necessary prerequisite to produce truly qualified emergency managers.

Sustainable communities are designed and developed based on their histories — in terms of naturally occurring events such as weather, earthquakes, floods and forest fires. The emergency manager also must understand the

urban/exurban interface; economic development; the community's socioeconomic needs; and civic affairs and local government, including the inherently adversarial relationship between unfettered development and environmentally sound development.

## Body of Knowledge

The bulk of today's literature, thinking, government focus and hiring practices — if and where they exist — continues to overemphasize the operational aspects of the response and recovery phases, as well as issues first responders have related to the mitigation and preparedness phases.

This is perhaps the most glaring shortcoming in the federal government's creation of the Department of Homeland Security (DHS), and the continuing effort to subsume the Federal Emergency Management Agency (FEMA) under the DHS umbrella.

That ill-advised effort has driven many institutions to rethink or reframe program elements to ensure they qualify for direct or indirect funding under DHS requirements. Consequently EM and its core liberal arts knowledge, skills and abilities are replaced by the need to design programs to meet these arbitrary funding requirements.

## Broad Education

As part of their definitional role, emergency managers must have some formal education or training in all of the following:

- Anthropology
- Archaeology
- Chemistry
- Civil Engineering
- Communications Technology
- Ecology
- Emergency Medicine
- Environmental Science
- Geography
- Finance
- First Aid
- Forensics
- Geology
- History
- Law Enforcement
- Logistics
- Physics
- Psychology
- Politics
- Public Health
- Sociology and/or Social Engineering
- Topography
- Weather
- Urban Planning
- The Grant Process
- The Roles and Capabilities of Nongovernmental Organizations
- The Urban/Exurban Interface

The end result? We're creating programs that produce operationally qualified "super first responders" — people who are ready to fulfill the 16 emergency support functions of the National Response Framework and are equipped by their education to function in an interagency environment under the National Incident Management System.

We are not, however, producing folks who can contribute to the economically and environmentally supportable development of their communities.

With the exception of elected officials, no one else in modern society is required to acquire and maintain as wide a body of knowledge as emergency managers. In fact, the military effectively breaks the EM job into dozens of military specialties.



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Some knowledge areas require a student to take several courses, and the list contains 24 identifiable courses — somewhere in the neighborhood of 102 credit hours of what are considered general education requirements. Most college programs today — not just EM programs — cap general education at 60 to 66 hours for a baccalaureate degree.

At the same time, in their role as purveyors of behavioral changes — and advocates for community development based on local geography and history — emergency managers must possess superb communication skills and a broad education.

Much like their peers in other government sectors (e.g., public service, public safety and public protection), emergency managers must constantly deal with elected officials, private citizens, nongovernmental organizations, utility companies, all levels of government regulators, various social agencies and many other advocacy groups. And to deal with such a diverse group of people requires knowledge and skills found in the liberal arts: economics, psychology and sociology, human behavior, written and verbal communication, government and civics, environment and ecology, geography and geology, weather and climate, and urban development, to name several.

### Core Competencies

A 2005 survey of core competencies and courses included in baccalaureate EM programs, sponsored by the FEMA Higher Education Project, shows how deeply the traditional liberal arts are embedded in the core of EM.

The research's purpose was to identify the 10 core competencies and the 10 core courses that academicians who are running existing EM programs felt should constitute a model EM program: The top competency was critical thinking, and No. 2 was verbal communication. Legal and written communications were No. 4 and No. 5; management, leadership, financial management and human behavior also made the list.

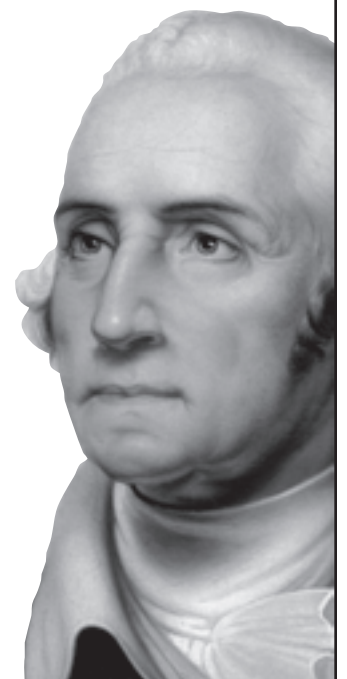
All of these core competencies are taught in the liberal arts, and they are not crucial solely to the EM community, but also the public at-large. +

What's the difference between a degree in homeland security versus a degree in emergency/disaster management? In our spring issue, Bob Jaffin distinguishes between the two courses of study.

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“You’ve got a guy driving in to the EOC who hasn’t sat in that chair in more than six months ... and all of a sudden he’s in charge of some aspect of this emergency response. It’s not something he does every day. This is where the simulation can be valuable.”

— Randy Sickmier, exercise plans manager, Emergency Management Training, Analysis and Simulation Center

Continued from p.38

injured by more than kinetic forces. Someone will be so freaked out, they have a heart attack. Or a diabetic person will forget to eat. These have to be triaged as appropriately as everyone else in the mix of injuries.”

The triage simulator has been used at pre-deployment training of Army medical staff on their way to Iraq. RTI also developed a program to train civilian Iraqi primary care physicians to use the Simple Triage and Rapid Treatment method.

Furberg’s efforts to localize the content of that simulation led him to a startling realization. “I was looking to make it appropriate for local learners and asked a few contacts in Baghdad to send a picture of a triage tag doctors use in Iraq that I could insert in the simulation,” he recalled.



When he got no response within a week, he contacted them again. His Green Zone contacts said they had asked several Iraqis and no one knew what Furberg meant by color-coded triage tags. “They said in Baghdad they don’t do triage. They just load all the wounded into a van and sort them out at the hospital,” he said. “Apparently, for these emergency physicians, this simulation was the first time they were getting any formal triage training.”

The triage simulator also was tested at the Duke University School of Medicine in 2006. In a program designed to prepare medical students for disaster management, some students were trained using verbal presentations while others

used virtual reality-based training. Furberg said that when asked to perform triage, the trainees who used the simulator performed as well, or better than, the group trained traditionally.

Furberg is convinced that virtual reality simulation is a valid educational method for triage training, and that it should be carried over to widespread civilian use.

“It is a high-yield way of upgrading skills with minimal investment upfront,” he said, adding that triage in an emergency situation challenges the standards of normative care. It asks emergency physicians and other care providers to make decisions they don’t normally need to make.

Also, he argued that these are perishable cognitive skills. To apply them effectively, you have to use them. “If there is one skill that could maximize or improve the outcome in a mass casualty incident, it’s triage,” he added. “It drives the remainder of the response.”

### Running Simulations for EOCs

While some simulations are designed to help first responders practice, others use modeling to train people in emergency operation centers (EOCs). The Emergency Management Training, Analysis and Simulation Center (EMTASC) in Suffolk, Va., works to create realistic simulations to help train managers to communicate in an emergency.

“You’ve got a guy driving in to the EOC who hasn’t sat in that chair in more than six months,” explained Randy Sickmier, EMTASC’s exercise plans manager. “During the day, he’s the public works officer for Staunton, Va., and all of a sudden he’s in charge of some aspect of this emergency response. It’s not something he does every day. This is where the simulation can be valuable.”

With grant funding from Virginia, the nonprofit EMTASC was formed in 2005 as a partnership between Old Dominion University and 17 companies involved in modeling and simulation efforts. For agencies that want to include simulations in their EOC exercises, EMTASC can model an incident such as a



Some triage scenes from RTI International’s Sim-Patient, a virtual reality medical training application, were developed at the Duke University School of Medicine’s Disaster Preparedness Intersession with civilian users in mind. Other scenes were designed and used to train Iraqi civilian physicians basic disaster medical operations in Baghdad.

hurricane and feed emergency response managers data in the same format they would receive it during an emergency.

Officials in Virginia, who run an annual training effort called the Virginia Emergency Response Team Exercise, have taken advantage of the modeling capability, said Sickmier, who is an employee of Northrop Grumman Corp., on loan to EMTASC.

In one training scenario, the agency modeled plans to reverse traffic on Interstate 64 so that all traffic would be outbound during a hurricane evacuation. “We modeled the capacity of the roadways with maps and data from the Virginia Department of Transportation and the state emergency management plan,” Sickmier said. “It allowed the team to assess how long it would take to evacuate a certain region.”

Although users’ response has been enthusiastic, Sickmier admits that finding customers among state and local emergency response organizations has been difficult so far.

“Localities are always going to have difficult funding decisions to make,” he said. “It’s tough for them to make the choice between spending on hardware such as radios versus more information or training.”

But as the models are developed through federal grant funding, Sickmier said, other regions will be able to adopt it at lower cost, and then modify them for their particular environment.

“Every time you do it,” he said, “it gets cheaper.” +





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In San Diego on Oct. 26, 2007, northern California fire crews set fire back-burn to stop the Poomacha fire from advancing westward.  
Photo by Andrea Bocher/FEMA



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### Converging Technologies

The reverse 911 and WebEOC technologies allowed agencies to adjust quickly when circumstances arose for which there were no plans. “We had never anticipated this coming; we had never sheltered more than 5,000 people at a time, and we sheltered more than 20,000 during this fire,” Lane said. “We had to do some major adjustments, setting up two major shelters — one at Qualcomm Stadium and one at Del Mar Fairgrounds. That was a major effort.”

Three hospitals were evacuated as well, and the improved communication helped focus the transportation efforts of the local transit system, which adjusted by going to a holiday schedule.

The county’s 800 MHz wireless radio system also played a large role in the improved communications, because more agencies were included this time around and more redundancy was built into it after many of the repeaters were destroyed in 2003. Many repeaters and more than 300 new Motorola radios were added to the system after the 2003 fires — and it paid off.

“They built in enough sites and enough capabilities so that even when repeater sites went down because of the fire, we were able to

redirect calls and still communicate,” Lane said. “As agencies came in from other parts of the state to help us, they were provided with radios to communicate with us in the field.”

That made a big difference this time around, Kolender said.

“We had everybody on the same frequency this time. That allowed us to communicate with them at the beginning and at the end, [and] really helped as we coordinated everybody’s efforts,” Kolender said, adding that the system had been in use for years, but it wasn’t until recently that the majority of agencies came aboard. “We had a lot of people working together that we did not have with the 2003 fires.”

In the future, officials will consider text messaging to repopulate communities once the fire threat is gone. For now, Lane and his cohorts are ecstatic about how the evacuations were conducted.

“Compared to other exercises and other things I’ve been involved in, we had outstanding situational awareness this time — far better than I would have ever thought,” he said. “I never felt at any time that we didn’t know what was going on in the field.” +



### SAFE FOR PETS

One of the many lessons learned from Hurricane Katrina was that animals also need care and refuge during disasters. That lesson was not lost on Southern Californians during the fire, as horses, dogs, cats, goats, and other pets and livestock were provided shelter from the flames.

More than 2,000 horses were boarded at a fairground in San Diego, and dogs, cats, horses and goats were cared for in campgrounds and even mall parking lots. Many evacuation areas allowed people to bring their pets, and the word was spread via the news media that areas were needed to provide for animals.

During Katrina, many people hesitated to evacuate because pets weren’t allowed in shelters, so many chose to stay at home with their pets rather than abandon them. Photo by Andrea Bocher/FEMA



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# What's Next?

During the last seven years, we've lived through dramatic changes in the field of emergency management. Homeland security has emerged as a peer organization, a subset of emergency management, and in some places even replaced emergency management in name and purpose.

There have been significant changes to terminology, programs, plans and funding. Are we truly entering a new era of long-term civil defense, or will the pendulum soon swing in another direction?

In recent years, the emergency management field has exploded to near-cosmic proportions due to mega-disasters — and mega-funding that far exceeded anything we've seen before.

The alphabet soup of grant programs — EMPG, SHSP, UASI, HRSA, CDC, Port and Transit, and Public Health — can make even the experienced emergency manager's head spin.

The 9/11 terrorist attacks, the Indian Ocean Tsunami and Hurricane Katrina have changed America's perspective on disasters, and focused media attention like never before on the discipline of emergency management and how government responds to disasters.

As a local emergency manager in 2001, I was used to scraping by with what little discretionary funds we could manage from our internal operating budget, and grants were mostly limited to Emergency Management Performance Grants (EMPG). When we were selected to be a Project Impact community — an initiative FEMA launched in 1997 to reduce risk and prevent potential damage from disasters — the

\$300,000 provided was an unprecedented opportunity.

But the creation of the Department of Homeland Security and the ensuing federal grant funds changed all that.

Between 2003 and 2007 in King County, Wash., my Office of Emergency Management team administered more than \$34 million in Homeland Security grants. The alphabet soup of grant programs — EMPG, SHSP, UASI, HRSA, CDC, Port and Transit, and Public Health — can make even the experienced emergency manager's head spin.

When you look at the national-level documents created, you can sense the extent of the changes. A new National Response Plan replaced the Federal Response Plan, and has

in turn been replaced by the National Response Framework. We now have the Target Capabilities List (TCL), the Universal Task List (UTL), a National Incident Management System (NIMS) and the National Infrastructure Plan, to name just a few.

What's next?

This is what we should ask one another. One year from now, a new federal administration will be in place, new people will be appointed, and undoubtedly, new programs will be launched. The "not invented here" mentality of new administrations guarantees that old programs will fall out of favor and new ones will be created.

Unfortunately our future may not be planned; it may be totally reactive based on the next catastrophic disaster we witness on TV. Since we live in a knee-jerk, grant creation society, we seem to react to the event and funding by adjusting our programs. And the event need not be catastrophic in



## Grant Acronym Dictionary

**EMPG:**

Emergency Management Performance Grants

**SHSP:**

State Homeland Security Program

**UASI:**

Urban Area Security Initiative

**HRSA:**

Health Resources and Services Administration

**CDC:**

Centers for Disease Control and Prevention

nature. For example, a series of isolated terrorist attacks against U.S. mass transit systems would drastically change all of our personal and professional worlds.

Though everyone across the public safety spectrum works daily to mitigate such an event, there's no telling what's in store. I won't hazard a guess at what's next in the way of disasters, programs or funding. But if the recent past is any indication, hold on to your hats — it's going to be quite a ride. ➔



by **Eric Holdeman**

Eric Holdeman is the former director for the King County, Wash., Office of Emergency Management, and is now with ICF International. His blog is located at [www.disaster-zone.com](http://www.disaster-zone.com).



# Five Critical Considerations for Assured Communications in a Crisis



1. Communication is the key to effective disaster preparation and recovery. Redundancy is essential for the flow of communication. Don't get caught without options.

When your system takes a hit, when the power goes down, are you 100 percent sure your systems will support your disaster response?



2. An emergency off-site center should be considered in a continuity of operations plan. A reliable and tested plan B allows an organization to rebound and restore essential operations in the event of an emergency.

If your physical location is compromised, do you have the built-in resiliency necessary to keep core operations running smoothly?



3. Recognize organizational interdependencies. Have a plan to keep every relevant agency, department and organization in the loop with accurate information to effectively coordinate crisis response.

Do you have reliable and accurate data systems that provide ready access to essential information necessary to contain catastrophic situations?



4. Establish a plan to ensure that the right people are put in the right places during an emergency. This includes the ability to manage resources from the disaster site itself.

Do you have dispatch capabilities that conserve time and help mitigate incident loss?



5. High assurance telephony, IP network and radio connectivity are vital to voice, video and data connectivity in the event of an emergency.

Are you fully leveraging existing technology investments? Do you have 100 percent confidence in the technology solutions that support your interoperable communications plans?

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**Convergence Communications, Pierce Manufacturing, Dell, Safety Vision, Motorola, Garmin, CODE 3**



The command vehicle's capabilities help control and pilot it safely and securely through city streets, or deep into rural locations. Numerous operational capabilities are within an arm's reach for the driver: Safety Vision's backup camera, Code 3 V-Con siren, Motorola XTL 2500 radio, and the Garmin Street Pilot 2730.

PHOTOS COURTESY OF CONVERGENCE COMMUNICATIONS





The mobile command's operations center provides seating for up to six individuals, and is equipped with high-speed wireless access points, as well as laptop computers, which can be used to connect to the local E-SPONDER Express server that's rack-mounted within the mobile command. With the Dell laptops deployed, response personnel can create and manage their incident action plans on-scene throughout however many operational periods the command vehicle is deployed. Responders can also take the laptops outside the mobile command center and remain in continuous contact with the Mobile Command as long as they're in range of the center's external wireless network.

**T**he Eureka Fire Protection District's (EFPD) Missouri Fire Region C Mutual Aid Mobile Command Center, stationed at the Eureka, Mo., Fire Department, is designed to tackle any major emergency within the 82 square miles it protects.

The vehicle itself was manufactured by Pierce, and features satellite, night vision, emergency lights, six Dell laptops, a server and six cellular phones. On site at major incidents, the mobile command center uses E-SPONDER Express, created by Convergence Communications, to manage and support incidents within the National Inci-

dent Management System/Incident Command System (NIMS/ICS) structure.

At the agency level, E-SPONDER allows the pre-staging and creation of Incident Action Plans, resource tracking and electronic versions of ICS series forms. The customizable software enables diverse governmental or corporate entities to exchange information necessary for daily activities, plan events, coordinate command and control during events and incidents, and review and evaluate performance afterward.

E-SPONDER Alerts provides a notification capability that enables two-way communication for up to thousands of

people, triggered automatically in workflow or on demand as the situation dictates.

"With this new technology, our ability to adapt to the situations we are responding to is much richer," said EFPD Fire Chief Greg Brown in a press release. "Our ability to better communicate, coordinate and collaborate is allowing us to provide services in ways we've never been able to before, while meeting the obligations we have to our citizens, as well as our local and federal partners." ✦

# Emergency Shelter

When wildfires ignited across Southern California last fall, Gov. Arnold Schwarzenegger asked me to go to Qualcomm Stadium in San Diego and get a firsthand look at the medical care being provided to evacuees sheltered there.

I arrived on the first day of shelter operations and was immediately impressed with the programs and services already established. A medical clinic was completely staffed, and several large rooms around the stadium were designated for housing nursing home residents and other medically fragile evacuees. Many of the evacuated nursing homes ensured their patients were accompanied by nurses, medicines and other essential supplies.

In addition, a national retailer donated pharmaceutical supplies and a local hospital provided an on-site pharmacist to distribute medication to evacuees who were in need.

The Medical Reserve Corps set up a system to get trained medical professionals to the stadium and it was quite successful. As health-care workers arrived and began to serve the evacuees, an overall command structure developed quickly: A medical director position was established and an incident command center was set up to provide a coordinated approach to meeting the evacuees' needs.

I made rounds of the various medical units. There were clinical stations for a wide range of services, including ophthalmology and dermatology, to meet individuals' ongoing needs. Overall, evacuees received the food, water, shelter and medical care they needed, and were in good spirits. Movies were shown on the stadium scoreboard, TV sets were put near cots, and balloon artists and ventrilo-

Sonia and Aaron Brubaker, shown at San Diego's Qualcomm Stadium, wore masks designed to reduce the effects of smoke from the Southern California wildfires. Photo by Michael Raphael/FEMA



This cannot be overstated: In the aftermath of a disaster, when events are unfolding rapidly, collaboration is key.

quists circulated among the crowd, creating a positive and supportive environment despite the devastation that was less than an hour's drive away. The evacuees were very grateful for the care they received.

Both evacuees and volunteers also appreciated of the visit by Gov. Schwarzenegger and U.S. Department of Homeland Security Secretary Michael Chertoff to check on their condition.

Though things went smoothly, the experience still offered some important lessons for responding to future emergencies.

While accompanying Medical Director Dr. James Dunford, as he toured the stadium, I saw that one of his major struggles was organizing the abundance of volunteers, equipment and supplies. The outpouring of generosity was so great that it became a huge logistical challenge. For example, when some doctors, nurses and other medical professionals arrived at the

stadium unannounced offering to help, he had to quickly determine the best way to deploy them. He also had to decide how and where to store the donated supplies — a large task, and a situation some emergency managers don't consider until they are inundated with donations.

I came away from my time at Qualcomm Stadium with a better appreciation of the significant challenge of caring for thousands of individuals displaced during a major disaster. I also have a deeper gratitude for the professionals who stand ready to respond to our next emergency.

Another lesson learned from the wildfires — and perhaps the biggest — is the importance of state and local officials working together in a coordinated fashion. This cannot be overstated: In the aftermath of a disaster, when events are unfolding rapidly, collaboration is key. +



by **Dr. Mark Horton**

Dr. Mark Horton is the director of the California Department of Public Health.





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