



Customer Stories:

San Diego County Office of Emergency Services



Emergency app

alerts San Diego County residents
when there's trouble in paradise

- **Needs** - An effective way to communicate emergency information to a diverse population
- **Network Solution** - Mobile app provides fast, reliable way to alert residents and visitors
- **Value** - Better emergency preparedness, more effective communications during and after an event
- **Industry Focus** - County government
- **Size** - 3.3 million residents

About San Diego County

San Diego County is often rated among the nation's Best Places to Live, thanks to its miles of white sand beaches, a warm and dry Mediterranean climate, good schools and a lively nightlife. As a result, it has experienced steady growth and is now the fourth most populous county in the United States. The county comprises 18 cities, including San Diego, which is California's second largest city, and several unincorporated areas. The San Diego County Office of Emergency Services (OES) helps residents prepare for disasters and coordinates response and recovery efforts in the aftermath of an event. It also disseminates reliable information before, during and after disasters.

Situation

The natural beauty of San Diego County's sun-drenched coastline makes it easy to forget the ever-present potential for natural and man-made disasters. Floods, severe thunderstorms, hazardous material accidents and even earthquakes occur in the county, but wildfires constitute the most serious ongoing threat. The county used its website, traditional news media and a reverse-911 phone call system

to warn residents of potential problems. After especially devastating fires in 2003 and 2007, however, the OES wanted a quicker way to alert residents. Most recently, county officials wanted to make certain it could communicate effectively with all its citizens, including growing numbers of Spanish-speaking residents.

Solution

AT&T helped San Diego County OES launch “SD Emergency,” a mobile app that spreads the word about dangers to a wide audience via mobile devices. The app works across multiple operating systems, providing information in English and Spanish to help residents prepare for approaching fires, floods or other disasters. It also delivers alerts during emergencies and features a recovery section with resources to help people cope in the aftermath of disasters.

Wildfire danger increases with population growth

San Diego County is a picture-perfect community that features 70 miles of sundrenched beaches, one of the nation’s finest natural harbors, and varied terrain that ranges from lush forests to the Laguna Mountains, picturesque canyons and starkly beautiful deserts. These natural wonders and broad range of attractions – surfing and boating, hiking and biking, the world-famous San Diego Zoo, superb dining, a vibrant arts scene and more than 100 craft breweries – make it a great place to live and visit.

“It’s wonderful here,” says Stephen Rea, assistant director of the county OES. “We’ve got the beach, rolling hills, mountains and deserts. And we’ve got beautiful weather all year long.” Robert Barreras, Sr.,

the county Emergency Services coordinator, said unusual rains this year have only added to the area’s appeal. “San Diego, being America’s finest city, has that southern California weather and atmosphere,” he said. “This year it rained a little more than usual, but that brought out some green on the hills and a beautiful wildflower bloom; that’s something that doesn’t come around very often.”

The area’s many charms have contributed to steady population growth. The county grew from just over 3 million residents in 2010 to 3.3 million in 2016, creating a need for more housing and bringing new emergency management challenges. “The biggest issue we see is the spread of homes out into the wildland,” Rea said. When people build a home in the



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Stephen Rea

Assistant Director,
County of San Diego Office of Emergency Services

mountains and other undeveloped areas, they often want to preserve the beauty of the setting by keeping the surrounding trees and brush. “What they may not realize is that the flora in San Diego is made to burn,” he said. “If a fire starts it could grow pretty quickly and affect many people living in that wildland-urban interface. That’s our number one disaster issue.”

In one recent year, the city experienced 14 wildland fires that resulted in \$60 million in damages. Over the last 15 years, about one-third of the county’s land mass was burned. “It’s a major issue, but it’s not the only one we face,” Rea said. “In my tenure at OES, we’ve had major power outages and flooding caused by some serious rain storms.” As a coastal area, there exists the possibility of tsunamis, and the county also must prepare for the possibility of earthquakes, even though the risk is smaller in San Diego County than in other parts of California. “We’re planning for all hazards,” he said.

A progressive approach to technology

Getting information quickly to residents and visitors is a top priority when disasters threaten. The county had been using its emergency portal (readysandiego.org, sdcountyemergency.com, and sdcountyrecovery.com), along with traditional broadcast media and a reverse-911 system that calls residents’ landlines to warn residents of fire, approaching storms or other emergencies.

But San Diego County has a young population; the median age of its residents is 34.9 years, and people under 50 are much less likely than their parents to watch TV or listen to the radio. During the massive

wildfires of 2003 and 2007, traffic to the county’s emergency portal spiked, which caused it to crash. And the reverse-911 system was not as effective as it had been, since only about 40 percent of households still have a landline.

Always progressive – the county has been rated among the nation’s top ten technology innovators – San Diego County officials saw a clear need for a faster and more reliable way to reach people in danger’s path. They saw the possibilities that a mobile solution could offer, since 95 percent of Americans now have a cell phone. “Our commitment to leveraging technology comes from the top,” Barreras said. “Our Board of Supervisors had the vision to recognize that we’re a mobile society, and capitalize on technology by expanding emergency information out to mobile devices. We wanted to harness mobile device capabilities such as GPS and push notifications to help provide additional detail to residents.”

After considering proposals from several providers, San Diego County chose AT&T Network Integration, a team that helped the county develop the custom “*SD Emergency*” app to alert residents and visitors to potential danger. AT&T Network Integration built on the county’s existing network, thereby reducing infrastructure costs, managing complexities and mobilizing the county’s emergency processes.

The app works across a wide variety of operating systems, making it accessible by most residents. “We did our due diligence,” Rea said. “After comparing more than one vendor, we decided to go with AT&T, because it had the best references and the best quote and we had the most confidence in AT&T.” The expertise of its AT&T team made it stand out,

Rea said. “They really understood app development and the capabilities and options we could take and were able to explain it to us clearly and concisely.”

Barreras said the county’s relationship with AT&T reflects its commitment to top-tier technology. “AT&T understood the county’s expectations and the county understood what AT&T could bring to the table, because of our past relationships,” he said. “That really helped move the project along in ensuring that we could successfully introduce a mobile app in a very condensed timeframe.”



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Emergency Services Coordinator,
County of San Diego Office of Emergency Services

“An incredible source of information”

As one of the first emergency management agencies to launch a custom app, Rea said, the county experienced a learning curve. “But by doing some homework and with the help of our partners like AT&T, we created a robust and quite elegant app in a short amount of time,” he said.

SD Emergency delivers in-depth information to help citizens prepare before an emergency strikes, giving users the ability to import or create their own emergency plan, plus the option to share it with family and friends. During an emergency, it provides updates, evacuation routes, shelter locations and even an interactive map. Reviews of the app have been positive. “During recent fires, I found this app to be an incredible source of information,” one resident wrote. “Maps showed exactly where the fires were, as well as up to the minute, official, detailed information on evacuations and shelters.” Another wrote, “I love knowing that my husband and kids have access to our emergency plan should we get separated.”

Barreras sees the mobile app as an extension of the county’s emergency planning efforts. “We’re a mobile society and what goes with us when we’re out and about is our phones,” he said. “The *SD Emergency* app has provided an amazing new mechanism for us to share information. It puts emergency preparedness, response and recovery activity in the palm of residents’ hands.”

The app has been upgraded a few times in the years since it was introduced. For example, the OES added

pages that enable the county's 18 cities to share local emergency planning information, Barreras said. "We want people to go to their local media and fire or police for small, local incidents," he said. "But if a larger incident occurs, that information will be posted on the app and our emergency operations center would activate," he said.

San Diego County further invested in its emergency communications systems by transitioning its emergency portal from premise-based servers to the cloud. This became one of the county's first cloud-based websites, and helped to eliminate the problems that occurred during traffic spikes. "During major fires a few years ago when CNN said, 'Go to sdcountyemergency.com,' traffic spiked and our servers failed," Barreras said. "By transitioning to the cloud, we knew that we would have a robust environment in which to ensure our emergency public information could be seen during a disaster. This highlights the county's vision to explore new technologies and leverage what's out there."

Connectivity is key

Once the commander targeted the river bank as the starting point, the AT&T team went to work to deliver a custom solution. The first step was installing a wireless perimeter fence equipped with sensors that transmit an infrared beam. When the beam is broken it sends a signal that the perimeter has been breached.

Simply sending a signal doesn't make the system smart, though. Evaluating the breach and deciding how to respond is what makes the system smart –

and valuable. Someone has to see what interrupted the beams and take appropriate action. The video cameras that transmit a constant feed wirelessly to the base command center enable the security team to see what triggers any alert – a deer or other wildlife, flying debris or an actual threat that requires security personnel to respond.

Another important aspect of the solution is the AT&T Business Messaging Tool Kit, which enables Maxwell personnel to communicate securely via group messaging. This streamlined communications system equips all security personnel with tablet computers that allow them to see what's going on in real time. A common operating portal ties these elements together, enabling the officer sitting at a dashboard to assess any situation and respond in real time.

Connectivity is key to making the smart base work. While there are many IoT solutions in the marketplace, connectivity is often the missing puzzle piece. There is no power along the river bank on the base, but AT&T uses SIM chip technology to transmit the camera feed wirelessly over its secure LTE network.

Worth a thousand words

Most recently, the county wanted to expand the app's capabilities to address the diversity of San Diego County. County residents speak nearly 100 different languages, and Spanish is the preferred language of nearly 30 percent of county residents. While this diversity can add to a community's strength, it can make communication more difficult, especially during an emergency when every second matters.



“From an emergency management perspective, we have to consider the needs of the whole community to ensure that we’re reaching and informing all individuals,” Barreras said. “If we’re only putting out English messaging, we’re missing a large portion of the community.”

AT&T helped the OES translate its emergency messaging into Spanish. “While it was relatively straightforward to translate the static pages, it became more of a challenge to translate some of the dynamic elements, including the map,” Rea said. “A picture is worth a thousand words. That’s very true when it comes to describing disasters and locations for shelters. And our geographic information systems

team did a spectacular job in getting that translated for the app and our webpage.”

The county plans to add translations for residents who speak other languages, including Vietnamese, Korean, Chinese, Somali, Arabic and American Sign Language. “This shows our commitment of trying to reach out to the whole community,” Barreras said.

The county will rely on AT&T’s expertise and networking strength going forward, officials said. “With emergency management, reliability is key,” Rea said. “AT&T brings us the reliability and redundancies we need.”