THE ORANGE COUNTY REGISTER
ocregister.com

Monday, May 5, 2008

GPS-based system helps get crews to fires fast

Vehicle location allows dispatchers to send a unit that's closest to accident, fire or other emergency, even if it's from neighboring agency.

By KIMBERLY EDDS

THE ORANGE COUNTY REGISTER

IRVINE - Virtual firemen pulling hoses into burning buildings won't be on the screens of Orange County's emergency dispatchers, but new technologies are allowing the county's first line of defense to keep tabs on fire engines, ambulances and supervisor vehicles as they roll across Orange County – responding to accidents, putting out fires and transporting victims to hospitals.

And knowing where help is needed and exactly where the cavalry is has emergency responders predicting quicker response times, better service and increased safety for residents and firefighters on the ground and in the air.

Making sure the closest fire crew gets to an emergency is the ultimate goal of the two-year effort by the Orange County Fire Authority to modernize the county's response efforts, but what appears to make sense on paper rarely makes sense when battling over budgets and city border issues. How those issues are going to be resolved when dealing with real-life emergency situations is still being hashed out by the county's fire chiefs.

Communication failures on Sept. 11 forced first responders across the United States to refocus on increasing interagency cooperation and collaboration. Funded by a combination of federal and state grants, the Fire Authority has rolled out the $2.8 million Automated Vehicle Location System and Geographic Information Systems that combine vehicle navigation systems, automated maps and GPS technology to create a countywide picture of emergencies and resources.

The Fire Authority and the Costa Mesa Fire Department were the last two agencies in the county to adopt the technology.

The programs went live May 1, integrating with the rest of the systems in place across Orange County.

All 267 of the county's fire engines and other emergency response vehicles have been outfitted with GPS units, allowing automated vehicle location to determine where the vehicle is and how fast and where it is going.

Accurate maps, building occupancy and location of emergency vehicles are crucial to putting out the county's fires. Before the upgrade, county fire crews were armed with little information, relying on barebones maps without individual addresses or details and losing valuable time as they tried to navigate lumbering engines.

THE ORANGE COUNTY REGISTER
ocregister.com

The system provides details based on layers of aerial photographs, allowing dispatchers and responders to pull up topographic maps of mountainous terrains, neighborhoods, individual houses and closed and available roadways in a way that would not be possible without the system. Building layer after layer of data allows first responders to access details of the emergency, speed and location of nearby fire crews, and even contact information in case evacuations need to be ordered.

With a 1-foot resolution, maps show surrounding brush, clearance, roof type and routes in and out of the area, giving crews a real-life view of the situation they are going into – crucial when they are responding to calls outside areas their comfort zone.

Color-coding allows dispatchers to see instantly which engines are going to calls, already on scene, unavailable or free. Quick recognition will translate into quicker, more effective dispatches, said Ryan Turner, senior communications supervisor for the OCFA.

In addition to recommending the closest units to an emergency, the bird's eye view provided by GIS also allows responders to plan for, map and assess disasters, including fires, floods and mudslides almost in real-time.

Tracking doesn't stop at the county line. Dispatchers will also be able to watch strike teams sent out of Orange County. And strike teams responding to large-scale Orange County emergencies will also be integrated into the county's system.

Computers in county fire engines are expected to be upgraded beginning sometime next year to incorporate the technology.

Ultimately, law enforcement will be also be integrated, creating a virtual world of public safety – and arming dispatchers and command staff with a view of the county that allows them to send help as quickly as possible.

Agencies can decide how much information about their own calls is shared with the other agencies. Some share everything. Others share the bare minimum. But as the county's coordinator for large scale emergencies, "having the ability to have the overall picture as well as accountability is just huge," said Turner.

Pulling the closest fire crew to a call regardless of jurisdiction is logical, said Costa Mesa Deputy Fire Chief Keith Jones, but making that call in the real world sets off a chain reaction, pulling resources farther from the areas they are sworn to protect. Costa Mesa engines being called into Santa Ana for a call could eventually find themselves stranded in Anaheim – miles from their station.

"We don't want to impact the residents of our city because we've lost one of our engines to Huntington or Newport or Santa Ana," said Jones.

The county's fire chiefs continue to wrestle with the practicalities of the dispatching system.

"It's an issue of how many are you going to grab for a neighboring agency because I have still have to cover my own dirt," said OCFA Battalion Chief Ron Roberts, who oversees dispatch operations.

Use of GIS by fire and police departments has exploded over recent years, as public safety officials are realizing how valuable having the technology can be when confronting catastrophes.

The Los Angeles City Fire Department has relied heavily on GIS and GPS, using the technology to coordinate large multiagency firefighting efforts and

beyond, including the 2006 Academy Awards and Grammy Awards. The chief of the Colorado Springs Fire Department testified on Capitol Hill last month, lauding the improvements vehicle location and GIS have made to his department's emergency response.

"We've got it. We're looking at it. We're talking about it," said Costa Mesa's Jones. "We're trying to put in the best possible system without going backward. We don't want to do that."