

Technology adds to firefighting toolbox

Mobile computers to allow firefighters to see maps, floor plans, photos, other info as they speed to scene

By Glenn Smith
The Post and Courier
Sunday, November 2, 2008



Brad Nettles
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James Langdon demonstrates the North Charleston Fire Department's CommandScope software that is being installed in all the department's trucks.



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The department will not need large map books on their trucks after the software is installed.

Alarms sound and firefighters race through the night to a burning building along a crowded commercial strip. Adrenalin runs high. Every minute counts.

The crew fumbles through a thick, three-ring binder searching for a floor plan to the building. They find a hand-drawn sketch with a few notations from three years earlier. Is the plan still good? Have changes been made to the building since then? What potential hazards await them inside?

The answers could well determine whether they get out alive. That lesson was driven home last

year at the Sofa Super Store blaze that killed nine

Charleston firefighters.

With the aid of state-of-the-art technology, the North Charleston Fire Department hopes to eliminate some of on-the-go guesswork and better prepare firefighters for dangers they might encounter while responding to emergencies.

The city is spending about \$430,000 to equip a dozen fire stations and at least 22 vehicles with mobile computers outfitted with CommandScope software that enables firefighters to instantly view maps, floor plans, photographs and other crucial information while driving to calls. The system is expected to go live in January and eventually contain information on more than 4,000 business in North Charleston, said Fire Engineer James Langdon, who is coordinating the project.

"Everyone in the department is definitely excited about this," Langdon said. "To have this information at our fingertips is very critical."

The city of Charleston is moving in the same direction, buying four laptop computers for command-level officers this year and upgrading software to allow for mobile access to building information. Charleston plans to spend \$111,300 in the next fiscal year to outfit some 21 front-line vehicles with laptops, said Wes Ratterree, the city's chief information officer.

North Charleston is the first city in South Carolina to install the cutting-edge CommandScope software, though five other municipalities are testing it out, said David Howorka, executive vice president of Chicago-based RealView, which created the software. The city's effort to catalogue thousands of buildings is among the most ambitious the company has seen, he said.

The fire department is working with RealView to create a secure Web portal where North Charleston businesses can update details about their buildings through an online account. They are also working to create a system where residents can submit information about their homes to help firefighters key in to critical information, such as finding a bed-ridden or handicapped resident, Howorka said.

The importance of detailed "pre-planning" for emergencies has been demonstrated time and again in the fire service, often as a result of tragic incidents.

Charleston firefighters responding to last year's deadly Sofa Super Store fire carried a "pre-plan" that made no mention of the store's potentially dangerous steel truss roof system, the maze-like placement of furniture or the enormous amount of water that would be needed if this forest of combustible couches caught fire. Nine city firefighters died in the June 2007 blaze.

Two months later, two New York City firefighters died battling a blaze in lower Manhattan at the former Deutsche Bank building, which was being demolished. No pre-plan existed for the building, and firefighters didn't know they would be hampered by insufficient water, blocked exits and other hazards, an investigate review found.

Langdon said even the best pre-plans are of little use if they are not easily accessible in an emergency. For years, each North Charleston firetruck had carried three thick binders packed with street maps and pre-planning documents. It could take firefighters up to an hour to find the building information they needed, only to learn it was outdated anyway, he said.

Langdon brought a stack of these binders to a City Council meeting in April to show what firefighters were up against. Council wasted little time in approving the funding.

North Charleston City Councilman Bob King, chairman of council's Public Safety Committee, said city officials see the importance of being as up-to-date with technology as possible. "It makes for better work performance, and it gives them the tools they need to operate with."

Bobby Halton, editor in chief of Fire Engineering magazine, said trucks outfitted with mobile computers are fairly common in many metro areas, but cost concerns have limited the number of fire departments equipped with advanced pre-planning software such as North Charleston is using. "It's not as widespread as we wish it would be," he said. "(North Charleston) is actually moving out ahead of the curve and it's something we absolutely encourage."

*Reach **Glenn Smith** at 937-5556 or gsmith@postandcourier.com.*

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