

Hands-free police in control

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By Tom Long, Globe Correspondent | January 15, 2006

EXETER, N.H. -- As a bitter wind sandblasted snow across the sidewalks of downtown Exeter, Officer Stephan Poulin sat in the warmth of a police cruiser carrying on a conversation with the car.

"Siren," he said.

"Siren," croaked the cruiser and a horn began to wail.

"Lights," said the officer. The car repeated the command and the lights blinked on.

Though not precisely in the driver's seat, high technology is certainly riding shotgun in the police cruiser of the 21st century.

The voice-activated system was developed by Project 54, a program at the University of New Hampshire, named after the '60s TV show "Car 54, Where Are You?"

About 450 police cars in 65 departments are now equipped with the system. Most are in New Hampshire, though police cars in Boston, Maryland, and California are also equipped.

At the command of "pursuit," the cruiser's computer can activate the siren and blue lights, flash headlights, and send a message to the dispatch center with the officer's position, freeing the officer from fiddling with switches and buttons as he or she weaves through traffic.

"You can keep your hands on the wheel when you're in hot pursuit, when a split-second decision can mean the difference between life and death, particularly for a pedestrian," said Poulin, whose cruiser is equipped with a laptop computer that controls the system.

The voice-activated computer can also raise the cruiser's antenna, turn the radar off and on, and run background checks when the officer reads out the registration number of a car that has been pulled over. It can also switch the frequency of the radio, allowing the officer to communicate with different police departments as he races through jurisdictions.

"Officers' hands are freed up during critical situations, and it has also made day-to-day operation of the cruiser safer and easier," said Exeter Police Chief Richard Kane, who has outfitted five of the force's front-line cruisers with the voice-activated system.

About 25 students, four engineers, a technician, and three faculty members in the university's electrical and computer engineering department are involved in the project.

The system grew out of the fatal shooting in 1997 of two state troopers, a judge, and a newspaper editor. A gunman also wounded four officers in a shootout in the remote town of Colebrook. As local and federal officers tracked the killer, many could not communicate with one another by radio.

"There was a real problem with officers having to operate equipment in their cars and racing at high speeds, and flooding the airwaves with radio transmissions," said William H. Lenharth, a University of New Hampshire professor who is lead engineer on the project.

It costs about \$1,000 to outfit a cruiser that already has a computer onboard. "We designed the system so the hardware could be bought over the counter," said Lenharth. He and his colleagues at Project 54 continue to add new capabilities to the system.

They are working on a program that allows first responders at a hazardous material spill to determine the chemicals involved and the equipment required to clean it and communicate that information to other police cars and fire engines as they arrive on the scene.

Another improvement allows officers equipped with personal digital assistants to communicate with their cars from as far as 300 feet away, enabling them to conduct background checks and other tasks while keeping an eye on a suspect.

"People were awestruck at first that an officer could communicate with his cruiser by voice, but now they have come to accept it," said Lenharth.

"From the start, our intention was to change the way people think about building and designing equipment for police cars." ■