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State Highway Patrol Enhances Safety and Efficiency with Mobile Computers

By Kim Hull, Captain and Technology Project Manager, Missouri State Highway Patrol, Jefferson City, Missouri

In 1999 a veteran officer was shot and killed near Saint Joseph, Missouri, after stopping a motorist suspected of stealing gasoline from a filling station. The motorist had an outstanding missing person and caution record entered in the National Crime Information Center's system at the time of the stop. The officer called the license number into the dispatch center, and the dispatcher retrieved the information from NCIC in nine seconds. But because the dispatcher was also responding to inquiries from four other officers at the time, two and a half minutes passed before the dispatcher attempted to contact the officer. By then, the officer had been fatally shot.

That year, the Missouri State Highway Patrol requested and received funds from the Missouri Department of Public Safety to buy wireless mobile computing devices (MCDs) that would allow officers to submit inquiries directly, without having to wait for a radio frequency to become available. The agency bought 18 Panasonic Toughbook 27 computers with Sierra MP-200 wireless modems were purchased for phase 1 (pilot evaluation) of the MCD project.

Pilot Project

To determine whether using the MCDs could decrease radio traffic and improve officer productivity, the agency selected 32 road officers to participate in the pilot project. It issued MCDs to 18 officers, making them the treatment group. It assigned 14 officers to the control group. The treatment group showed higher productivity in most areas. In a survey of members of the treatment group, the officers indicated that they were satisfied with the functionality of the MCD.

Implementation

In 2001 the MSHP received \$1.75 million in earmark funding to continue the program. Phase 2 of the project was initiated and 151 additional MCDs were purchased for deployment statewide. Total deployment was achieved on this phase by December of 2001. When officers were asked how they would rate the usefulness of the MCD in carrying out daily activities, 81.1 percent gave the MCD a "superior" or "above average" score. Most of the complaints directed toward the project were directly related to lack of availability of CDPD coverage in rural areas.

In 2002 the MSHP again was successful in obtaining a federal earmark for \$4 million to continue the MCD program along with other integration projects. The MSHP also received a COPS More 2002 grant to conduct a 38-unit pilot project using satellite technology for wireless inquiries.

Phase 3 started in May 2003, when 431 additional MCDs were purchased and installation was initiated. Because of the overall acceptability of the units and the trust in the project by the officers, the agency purchased GPS modems. It also updated phase 2 modems to GPS.

The configuration and installation of the units by MSHP employees caused myriad problems, largely because the radio shop, which was assigned the additional task of installing the MCDs, lacked the staffing to handle the new responsibilities. The agency addressed the shortfall by hiring temporary employees to conduct the new and retrofit installations.

It was also difficult to roll out security patches and software updates to the units because they were scattered throughout the state. Remote management software was installed on the MCD units and network routers were installed in the zone offices to help with the downloading of updates. Voice response software was also added in this phase that reads database responses aloud. This phase is currently 10 MCDs away from being complete.

Future Issues

Missouri, like most states, faces challenges when it comes to providing wireless voice or data statewide. Outside of building our own statewide system, satellite links appeared to be the only comprehensive solution. Through the COPS More 2002 grant, a project was initiated that will place 38 MCDs with satellite communications capability in remote locations around the state. After much research, the state issued a request for proposals from mobile satellite providers.

With the future deactivation of CDPD, MSHP is like many other agencies, looking for new wireless solutions. At the present time, we are testing CDMA, GSM, and IDEN technologies. In the spring of this year, we will start a CDMA pilot with 40 MCDs in the Kansas City area. Verizon and Sprint, the two major carriers in Missouri, have just approved several external GPS modems for use on their networks. This will not be a statewide solution, but it should provide substantial coverage with broadband capabilities.

Summary

The Missouri State Highway Patrol Mobile Computing Device Project has been a success. More than 600 units have been deployed, and another 100 are planned for the near future. Several divisions of the MSHP are working together to bring a technology solution to line officers.

The driving factor in this project has been officer safety. With this technology, officers no longer have to wait for a dispatcher to relay critical safety information. They can now get it themselves before they get out of their cars.

For more information on this project, please write to the author at Technology Project, Missouri State Highway Patrol, P.O. Box 568, Jefferson City, MO 65102 USA, or hullk@mshp.state.mo.us.

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