Case study

Snohomish County Sheriff's Office



At a glance

Industry: Public Sector: Public Safety

Application: e-Ticketing/e-Citations

Products: Intermec CN3

Snohomish County Sheriff's Office Improves Safety, Speed with Intermec CN3

Cutting through the chilling rain while carefully shifting between traffic, Deputy David Crandall's motorcycle advances on a speedster barreling down a rural Snohomish County road in western Washington. Red and blue LED lights come alive as the siren breaks the cacophonic roadway. The violator eases up and stops along the shoulder. Parking behind him, Deputy Crandall dismounts and, from the right saddlebag of the motorcycle, withdraws a device smaller than a twoway radio. With his gun hand free, he uses the device - a rugged mobile computer called an Intermec CN3 - to scan the violator's driver license and registration and select applicable variables on a software-based Probable Cause Affidavit. Then he prints a citation for the driver as an electronic version is sent back to the headquarters in real time. It's just another night for the cutting-edge Snohomish County Sheriff's Office.

The solution is known as e-ticketing, and because it improves citation safety, speed and accuracy, it's becoming more prominent throughout the country. Deputy Crandall's office is the first law enforcement agency in the state of Washington to use a Windows Mobile based e-ticketing solution, with other agencies taking note.

Safety on the Road

For law enforcement officers, maintaining situational awareness is a critical safety requirement. Therefore, both the size and ergonomics of a mobile computer have to be appropriate for citation uses.

"When I'm standing on the side of the road issuing a traffic citation, I'm not standing there holding a laptop that requires the use of both hands," Crandall said. "With the Intermec device, I hold it in one hand, which means my gun hand is completely free if I need to draw my weapon. My attention is not diverted down, so I can deal with what's on my CN3 and still watch the violator."

The Need for Speedy Citations

The improved efficiency associated with e-citations has profound implications in terms of deputy coverage. Less time writing tickets means more time protecting the citizens of Snohomish County.

"Before, it took approximately 4 to 5 minutes to hand-write a ticket using pen and paper, and now it takes about 2 minutes to do a ticket with the Intermec CN3," Crandall said. "Based on the increase in the tickets using the CN3 compared to hand writing, it's equivalent to at least one extra deputy on the road in the traffic unit every day."



Roughly 260 deputies are assigned to Snohomish County, and 20 are assigned to the traffic unit. All 20 deputies use the Intermec CN3 for citations. Prior to implementing the Intermec CN3 e-citation solution in April 2009, deputies hand-wrote 12 to 15 paper citations on average each day. Then they would return to the precinct and fill out Probable Cause Affidavits for each one, which would take an hour to an hour and a half. Now, the deputies averaged between 18 to 25 citations each day.

"We saw a 41 percent increase in citations written between June and August of 2008 versus June through August of 2009 using the Intermec CN3," Crandall said.

The Intermec CN3 runs Anacapa Sciences' Mobile Officer's Assistance system. The Probable Cause Affidavit form is integrated into the citation application, and officers can easily change variables such as the location of the stop, the traveling direction, and the measurement of the radar using a stylus to click simple drop-down menus. This form integration means they don't need to return to the precinct for extra paperwork.

Sealing and Strength

The Snohomish County Sheriff's Office has jurisdiction over sections of Interstate 5, Highway 99, and numerous state routes. Working on the road requires rugged equipment, because drops to asphalt can be common. For a law enforcement officer, a smart phone won't cut it. One example of the need for ruggedness came shortly after Deputy Crandall's office implemented the Intermec CN3 mobile computers. Crandall's partner had left an Intermec CN3

in his coat pocket, got on his motorcycle and drove off. The device fell out while he was going 45 miles per hour, tumbling and bouncing until it came to a stop.

"In a real-world situation, it didn't break," Crandall said. "We didn't have to send it in for repairs or anything. It worked just fine, and that's why we chose the Intermec CN3."

With the Cascade Mountains to the east and Pacific sounds to the west, clouds coat the Snohomish skies more than 200 days each year, and precipitation soaks the streets more than 160 of those days. While citizens may love their scenic county, these conditions are menacing for outside equipment.

"We get some weird days here when a storm front moves in, and it just rains all day long," Crandall said. "One day, we had this steady, solid rain; it was just relentless."

On this particular November day, moisture reached the internal components of Crandall's radar, and the device stopped working. Without weatherized sealing, his radio became too wet to function as well.

"But what kept working was the CN3, through all the cars that I stopped," Crandall said. "It would get wet, and I would just shake it and go right on with my business. The CN3 never quit working. Never."

The Problem with Paper

Precincts encounter several problems with hand-written tickets, accuracy being one of them. Hand-written tickets

contain two carbon copy sheets beneath the original so that the officer keeps a copy, the violator receives a copy, and the court house receives a copy.

"We've had problems in the past where deputies weren't pressing hard enough as they were filling out the ticket, so the bottom two copies were illegible," Crandall said. "With the e-ticketing solution, that's completely taken care of. Everything is completely legible because it's right there on the device."

Motorcycle units are in almost every municipality in the state of Washington, and they ride yearround, barring any ice or snow.

"Our biggest challenge that we're faced with is the rain, because no matter what kind of paper you have, it's very difficult to write a ticket in the rain," Crandall said. "The paper falls apart, the ink runs, the pen cuts through the paper when it gets wet. It's just absolutely miserable."

Adding to the difficulty of hand-written tickets is the cold weather. The e-ticketing solution helped Crandall's office with this, because it allowed the deputies to wear gloves while using the device's stylus. Ultimately, both the device and the software have proven to be a good fit for law enforcement e-ticketing citations.

"My experience with Intermec has been phenomenal," Crandall said. "My advice to other law enforcement agencies would be to get the latest and greatest out there... I would absolutely recommend this to other motorcycle units."



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