HOW-TO

How Tech Can Help Cities Reduce Crime

Camden, N.J. ranks among the United States' most dangerous cities -- and in 2011, its police force was cut in half. However, a state-of-the-art 'tactical information' center, combined with gunshot-spotting cameras, in-cruiser GPS technology and analytics are helping the embattled city cut crime.

By Jen A. Miller
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According to the FBI, Camden, N.J. is the most dangerous city in America with more than 75,000 residents.

That said, Camden has made strides in reducing crime by using a multi-faceted technological approach to policing through what's known as the Real Time Tactical Information Center, a $4.5 million endeavor. Since 2011, when the system was first implemented, violent crimes have dropped 30 percent, and non-violent crimes have dropped 38 percent. Aggravated assaults with a firearm are also down 61 percent in that same time period.

Camden County Police Chief Scott J. Thomson calls it a "significant departure from policing" in that it moves both toward the future and the past.

"With our boots-on-the-ground goals, it's like 1840s policing of having cop building relationships," he says. "What's allowed them to do that is having bleeding-edge technology. It's back to the future technology."

Faster 911 Response Times, Access to Vehicle Information

Camden started building the Real Time Tactical Information Center from scratch using a variety of IT vendors (whose names are confidential) and an in-house IT person. Camden is now on the seventh iteration of the system, which runs online with a data center in department headquarters with a offsite disaster-proof backup location.

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"All of this runs off a language none of us [police officers] speak," Thomson says. Having everything merged into one platform not only helps the department constantly update and improve the system, he adds; it also makes addressing any software issues much faster.

The system has drastically cut emergency response times by removing the police dispatcher. Instead, because cars are GPS-tracked through an Automated Vehicle Locator System, the system automatically locates the two nearest patrol cars to an emergency and directs them via in-car computers to that location. Nationally, the typical time from someone calling 911 to emergency response arriving on the scene is nine minutes, Thomson says. In Camden, it's now 90 seconds.

In addition, the system includes 120 cameras, positioned around the nine-square-mile city, which can all be moved on command. Feeds that update every 1.5 seconds from those cameras are shown on televisions in the Real Time Tactical Information Center. On their computer screens, officers can see where the cameras are pointing, as indicated by a green cone. These cones are overlaid onto the map nothing where officers are located and where emergencies are happening at any given moment.

Officer squad cars are also equipped with cameras that can take photographs of over a dozen cars a second. "We look for stolen cars, suspended registrations, partial characters of vehicles that were involved in crimes," Thomson says. Officers also compare those license plates against the FBI's National Crime Information Center, the state of N.J.'s crime information database and their own city database to determine which of those vehicles or drivers need to be questioned.

'Shot Spotter' Locates Gunshots Before Officers Arrive on Scene

A major part of the Real Time Tactical Information Center is a system called the Shot Spotter — a series of 35 microphones placed in two-thirds of the city, with the final third to be linked soon.

"Thirty percent of all gunshots were never reported," Thomson says. "People became so desensitized to the sounds of gunshots that they stopped calling the police."

Now, when a shot is fired, a few things happen. First, the system triangulates the location of the shot or shots with an exactness of nine feet. The location is then marked on Google Maps. Next, officers within the Real Time Tactical Information Center receive a recording of the gunshots; they can listen to determine how many shots were fired, how many guns were involved and even what types of guns were shot. Finally, officers can move their cameras to that location to visualize the situation before patrol cars arrive.

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In one recent case, Shot Spotter picked up two gunshots. Officers listened to the recording and heard two shots from what sounded like the same gun. The Shot Spotter triangulated the location to one house. When officers arrived on the scene and saw no one in the street, and no indication that someone had fled the scene or that anyone had been injured there, they left — but an unmarked police car parked down the street from that house. Fifteen minutes later, the officer intercepted a 16-year-old who exited the house carrying a high-powered rifle with a scope.

In another case, a man took multiple hostages in a house. Officers in the Real Time Tactical Information Center saw on their map — through GPS and before the SWAT team moved in — that squad cars were positioned in an exterior and interior perimeter around the scene. Then they were able to watch the SWAT team apprehend the man, who surrendered immediately.

Improving Efficiency by Monitoring Officers, Adding Observations

ctical Information Center also keeps data on officers, with the goal of making their patrols
e system tracks whether officers spend enough time in predetermined patrol areas and
s stay in one location before moving on to another area. (Green areas are well-patrolled, red areas are not and yellow areas fall in the middle.)

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The goal, Thomson says, is to make each patrol stop last between 11 and 15 minutes: "Within 15 minutes, you know if you need to be there or not."

Captains review their data in weekly meetings that also add about information collected from the field. While the Real Time Tactical Information System is a powerful tool, Thomson says, it "tells one story, but it doesn't tell the whole story."

Having an earlier edition of the system already in place played a crucial part during what Thomson calls the department's "darkest period," when the City of Camden police force was disbanded in favor of a county force and lost half of its officers in one day. Officers saw immediately the true effect of what Thomson calls "force multiplication" that the system allows. Now, Camden has 330 officers, with a target to bring staff levels to 411.

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