

TECHBeat

Dedicated to Reporting Developments in Technology for Law Enforcement, Corrections, and Forensic Sciences

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NLECTC
National Law Enforcement and Corrections Technology Center

A Program of the **NIJ**
National Institute of Justice

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TechBeat is the quarterly newsmagazine of the National Law Enforcement and Corrections Technology Center System. Our goal is to keep you up to date on technologies for the public safety community and research efforts in government and private industry.

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LOOK FOR  TO UPLOAD INTERACTIVE FEATURES

NOTE TO OUR READERS

TechBeat is going online only. Your last printed issue will be Summer 2013. Go to www.justnet.org and sign up for the online edition to ensure that you stay informed with up-to-date technology news regarding law enforcement, corrections and forensic sciences. Also access *TechBeat* with our mobile apps.



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The National Law Enforcement and Corrections Technology Center (NLECTC) System is critical to the National Institute of Justice's mission to assist state, local, tribal and federal law enforcement, corrections and other criminal justice agencies address technology needs and challenges.

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<http://www.justnet.org/androidapp/>

California Prisons Aim to **DISCONNECT** Unwanted **CALLS**

By Becky Lewis

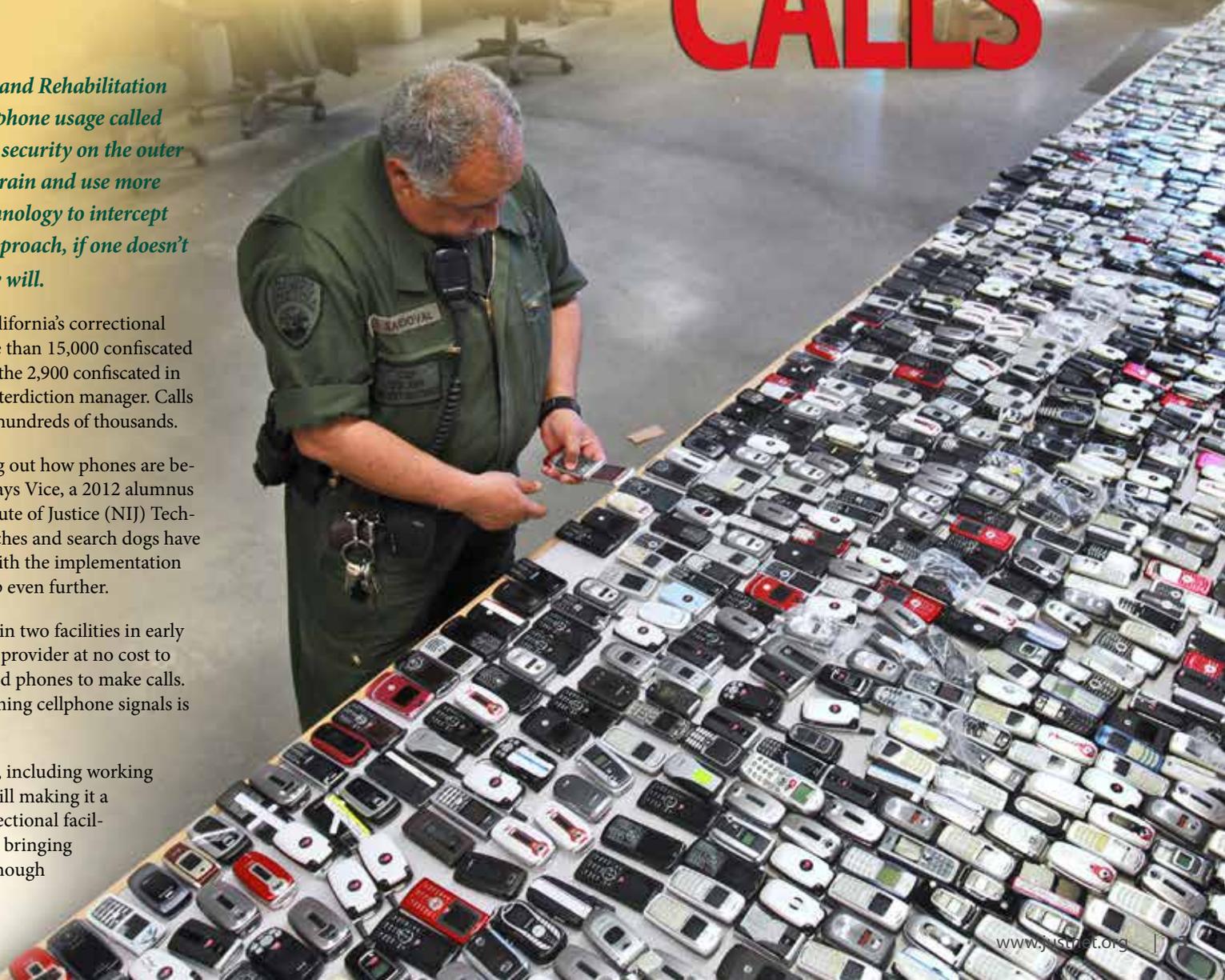
The California Department of Corrections and Rehabilitation (CDCR) has a plan to stop contraband cellphone usage called Operation Disconnect: install airport-style security on the outer perimeter, increase spontaneous searches, train and use more “sniffer” dogs, and use managed access technology to intercept calls. The plan has so many prongs in its approach, if one doesn’t find a particular device, another one surely will.

The number of cellphones confiscated inside California’s correctional system has steadily climbed for years, with more than 15,000 confiscated in 2011 alone, representing a huge increase from the 2,900 confiscated in 2006, according to Tim Vice, CDCR cellphone interdiction manager. Calls made from those phones likely numbered in the hundreds of thousands.

“We’re getting very good at searching, at figuring out how phones are being brought in, so we’re finding more phones,” says Vice, a 2012 alumnus of the Office of Justice Programs’ National Institute of Justice (NIJ) Technology Institute for Corrections. Increased searches and search dogs have accounted for much of the increase so far, but with the implementation of managed access, CDCR expects usage to drop even further.

CDCR launched a managed access pilot project in two facilities in early 2011, using ShawnTech Communications as the provider at no cost to the state. (Managed access allows only authorized phones to make calls. It is not jamming, which blocks all signals. Jamming cellphone signals is illegal in the United States.)

Vice says CDCR had to clear a few legal hurdles, including working with the state legislature to obtain passage of a bill making it a misdemeanor to smuggle cellphones into a correctional facility. (Previously, no law forbade individuals from bringing cellphones into a facility for distribution, even though inmates could not legally have the devices.) The



department also needed to work closely with the Federal Communications Commission and various wireless carriers such as AT&T, T-Mobile, Verizon, Metro PCS and Sprint.

“All those pieces had to be put in place before we could get the system out there,” Vice says.

Was all of the hassle worthwhile? In the first 11 days of the pilot project, the managed access systems blocked 24,190 call attempts from 2,593 unauthorized phones. With the population at the two facilities in March 2011 totaling just more than 6,565, that could mean that two of every three inmates had an illegal device.

“This shows we have a huge problem out there,” Vice says. “We don’t consider this the magic bullet. It is part of CDCR’s multilayer security strategy. It doesn’t locate the actual devices, and they can still use the memory cards in the phones to transfer information even though they’ve been stopped from calling, texting and accessing the Internet. However, the value of a phone goes down greatly if you can’t get outside access, and that makes smuggling them into the institution less attractive.”

Following the successful pilot project, CDCR moved forward with a competitive procurement to implement managed access throughout the state. The contract was awarded to GTEL in April 2012. GTEL receives the fees that inmates pay for landline usage, and in turn, will build a managed access “umbrella” at each facility.

Since landline use went up by 64.8 percent during the pilot project, Vice says the contractor should see a revenue stream increase, and this supports the concept that inmate ward telephone systems contracts can support the installation of managed access. As of the end of 2012, permanent managed access had been deployed at the CDCR prison in Avenal for design and engineering validation, with phased deployment to CDCR’s other prisons to continue throughout 2013.

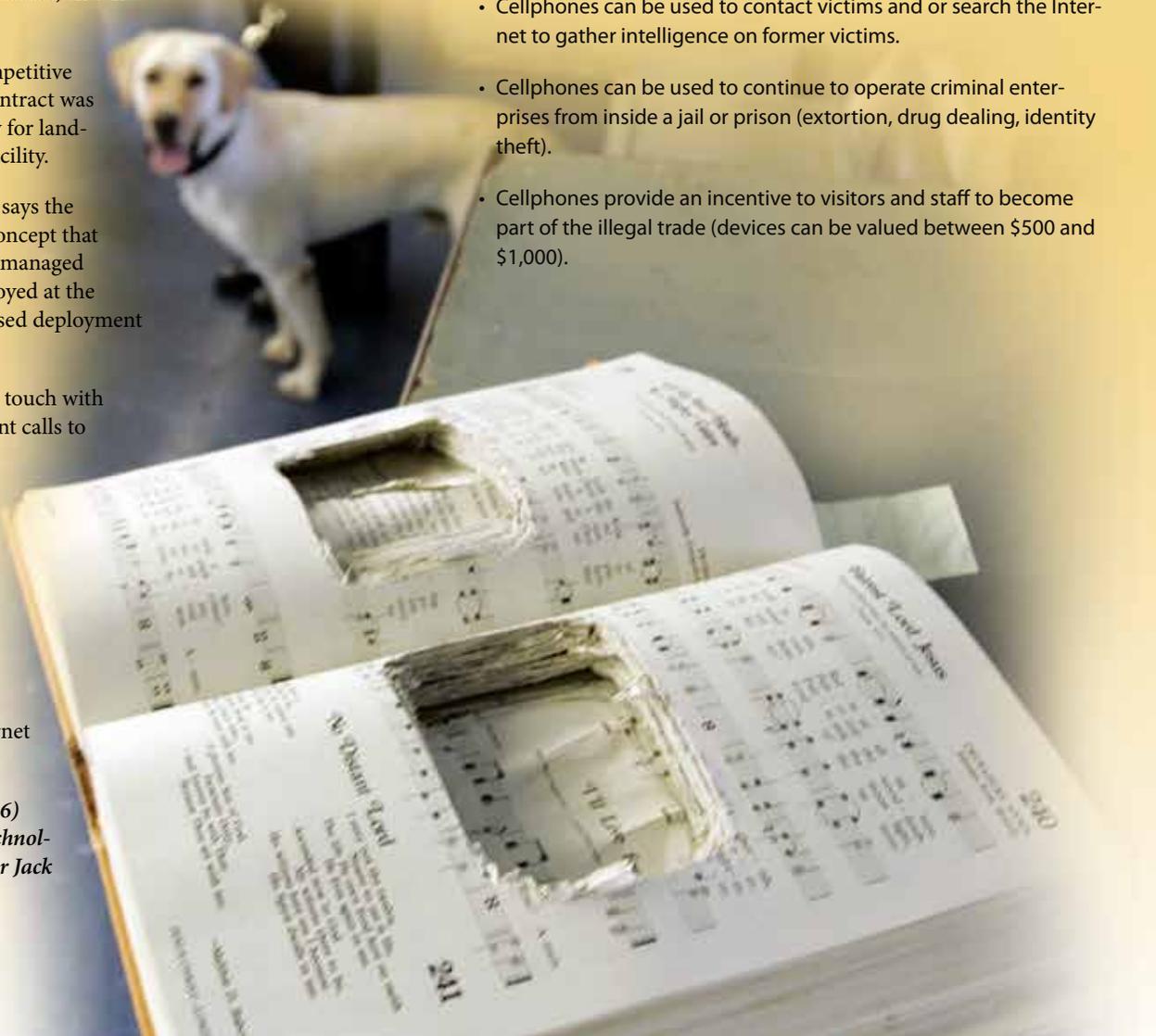
“Advocacy groups argue that inmates primarily use the phones to stay in touch with family and loved ones, but CDCR documented more than 199 harassment calls to victims outside the system in 2011,” Vice says.

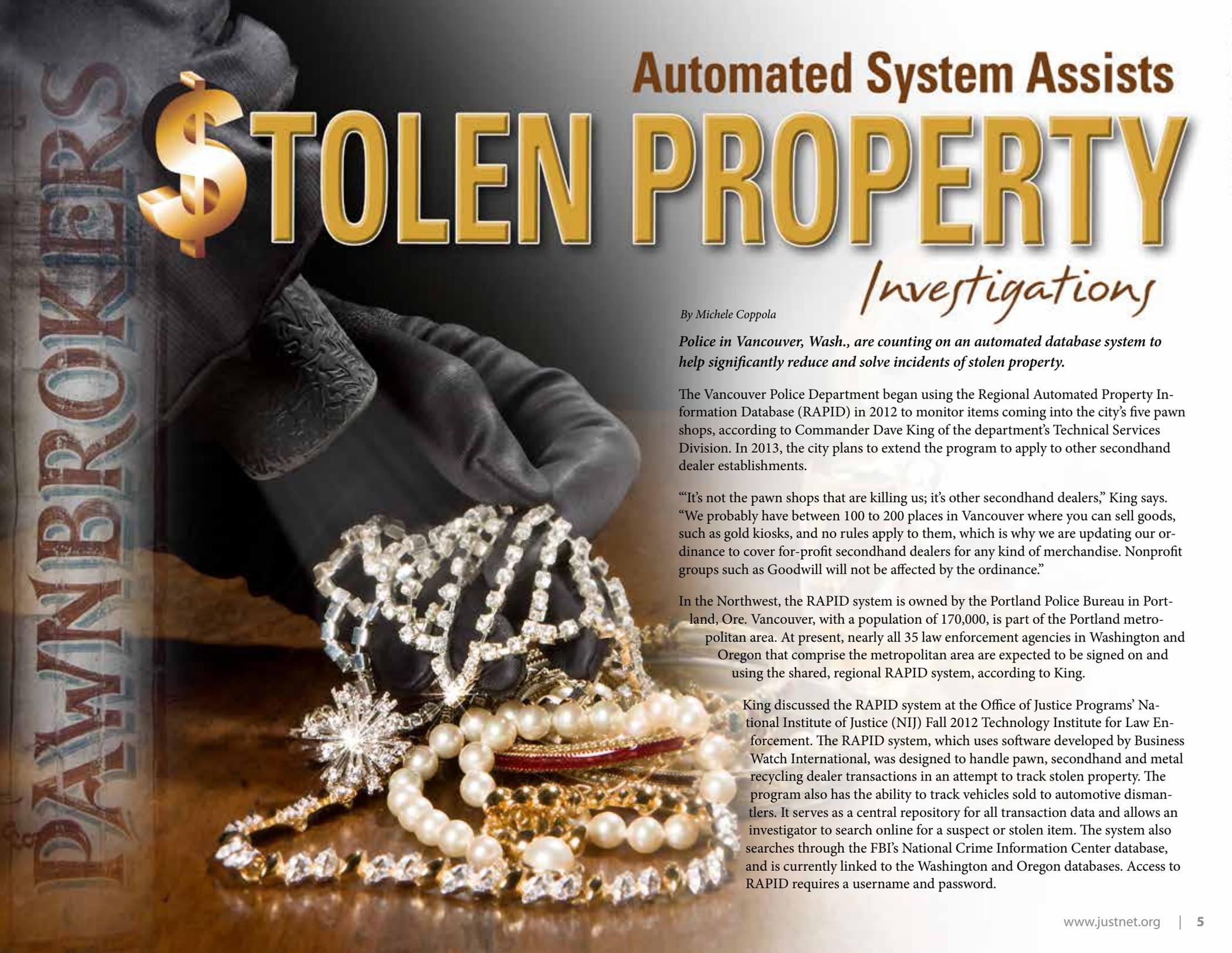
And the fact that this problem is not unique to CDCR is borne out by the attendance at a CDCR-sponsored event, the 2011 National Public Safety Technology Conference: Coping with Contraband Cellphones in Correctional Settings and Navigating the Narrowbanding Mandate, held on March 10, 2011. The conference brought together regional and national experts in the fields of contraband cellphones and narrowbanding to demonstrate and discuss various interdiction methods, including managed access and K9 programs. Vice says that approximately 250 persons attended in person, and more than 750 others participated via Internet access, all of them eager to share ways to manage this growing problem.

For more information on Operation Disconnect, contact Tim Vice at (916) 255-2221 or Tim.Vice@cdcr.ca.gov. For more information on the NIJ Technology Institutes for Corrections, contact NIJ Corrections Program Manager Jack Harne at (202) 616-2911 or jack.harne@usdoj.gov.

WHY ARE CONTRABAND CELLPHONES A PROBLEM?

- Cellphones can be used to compromise the integrity of a facility (relaying layouts, shift change, staff on duty, movement of other inmates, photos of facility interiors, impending searches).
- Cellphones remove the ability to monitor and record phone conversations, resulting in the loss of valuable intelligence and evidence.
- Cellphones can be used to plan and facilitate an escape.
- Cellphones can be used to contact victims and or search the Internet to gather intelligence on former victims.
- Cellphones can be used to continue to operate criminal enterprises from inside a jail or prison (extortion, drug dealing, identity theft).
- Cellphones provide an incentive to visitors and staff to become part of the illegal trade (devices can be valued between \$500 and \$1,000).





\$TOLEN PROPERTY

Investigations

By Michele Coppola

Police in Vancouver, Wash., are counting on an automated database system to help significantly reduce and solve incidents of stolen property.

The Vancouver Police Department began using the Regional Automated Property Information Database (RAPID) in 2012 to monitor items coming into the city's five pawn shops, according to Commander Dave King of the department's Technical Services Division. In 2013, the city plans to extend the program to apply to other secondhand dealer establishments.

"It's not the pawn shops that are killing us; it's other secondhand dealers," King says. "We probably have between 100 to 200 places in Vancouver where you can sell goods, such as gold kiosks, and no rules apply to them, which is why we are updating our ordinance to cover for-profit secondhand dealers for any kind of merchandise. Nonprofit groups such as Goodwill will not be affected by the ordinance."

In the Northwest, the RAPID system is owned by the Portland Police Bureau in Portland, Ore. Vancouver, with a population of 170,000, is part of the Portland metropolitan area. At present, nearly all 35 law enforcement agencies in Washington and Oregon that comprise the metropolitan area are expected to be signed on and using the shared, regional RAPID system, according to King.

King discussed the RAPID system at the Office of Justice Programs' National Institute of Justice (NIJ) Fall 2012 Technology Institute for Law Enforcement. The RAPID system, which uses software developed by Business Watch International, was designed to handle pawn, secondhand and metal recycling dealer transactions in an attempt to track stolen property. The program also has the ability to track vehicles sold to automotive dismantlers. It serves as a central repository for all transaction data and allows an investigator to search online for a suspect or stolen item. The system also searches through the FBI's National Crime Information Center database, and is currently linked to the Washington and Oregon databases. Access to RAPID requires a username and password.



“The nice thing about the system is a patrol officer can query the system at any time and does not have to depend on a detective to provide the information, and searches can be very specific,” King says. “As resources diminish, we have seen a reduction in our detective unit and crimes against persons usually take precedence over property crimes. This technology can be used to leverage limited resources.”

If a search does not produce a particular suspect or item, investigators can save the search and RAPID can notify them via email, pager or text message if it detects the suspect or item in the future.

The system includes a dealer entry screen. Depending on the law in a jurisdiction, the retailer must enter certain types of information into the database, such as the seller’s name, thumbprint, driver’s license number, physical description and a photo of the seller, and a photo and detailed description of the item and serial numbers. RAPID receives dealer transactions either by the direct real-time entry of the data by the dealer or a daily upload. Also important is that dealers appreciate the level playing field and that everyone is held to the same standards.

If an agency chooses, it can also activate and use sex offender, computer LoJack and SIRAS matching functions in RAPID. SIRAS is used by retailers to identify and track their serialized products and deter theft.

Beginning in October 2009, Maryland has adopted state laws that require the use of RAPID for reporting all pawn, second-hand, precious metal and scrap metal recycling transactions. In 2012 in Maryland, the system, which is managed by the Maryland State Police, helped lead to 1,322 arrests, 2,192 cases closed and the recovery of \$4.8 million in stolen property. Since 2009, the system has helped lead to 3,588 cases closed, 2,453 arrests and the recovery of more than \$13.2 million in stolen property.

Other states with jurisdictions participating in RAPID include California, Colorado, the District of Columbia, Delaware, Florida, Georgia, Michigan, New Jersey, New Mexico, North Carolina, Oklahoma, South Carolina and Virginia.

“The fact that it is a regional database is huge,” King says. “To me, it’s the threat of apprehension that keeps some would-be crooks honest. It will be harder for them to steal and sell stolen property in our jurisdiction. I anticipate a reduction in property crimes once we get it fully implemented.”

For more information on RAPID, contact Commander Dave King of the Vancouver Police Department at dave.king@cityofvancouver.us; Brent Bates of the Portland Police Department at brent.bates@portlandregon.gov; Maureen Walter of the Maryland State Police at maureen.walter@maryland.gov; or Capt. Dalaine Brady of the Maryland State Police at dalaine.brady@maryland.gov. For information on the NIJ Technology Institutes for Law Enforcement, contact Law Enforcement Program Manager Michael O’Shea at michael.oshea@usdoj.gov.

RAPID Successes

Since it began using the Regional Automated Property Information Database (RAPID) in the fall of 2009, Maryland has had a number of investigative successes. Examples include:

- The Baltimore Police Department used RAPID to investigate a commercial burglary, resulting in three arrests and the recovery of \$2.5 million in stolen scrap metal.
- The St. Mary’s County Sheriff’s Office and the Maryland State Police used RAPID to identify two suspects selling large amounts of jewelry, some of which was linked to a burglary. The investigation led to the arrest of two suspects, the closure of two additional burglaries and the recovery of \$13,750.
- In Baltimore, RAPID helped police solve a homicide. Investigators asked their pawn unit to query RAPID to determine if property stolen from the victim had been sold. The property turned up in RAPID and the seller was arrested and charged with first-degree murder.
- In Frederick, the sheriff’s pawn unit used RAPID to arrest an Arizona man wanted for manufacturing and selling more than \$70,000 in fake gold and who had committed \$10,000 worth of the same fraud in Maryland.
- A husband and wife were arrested in Howard County for a series of burglaries after the woman stole a 1971 high school ring. Investigators entered the ring into the RAPID database, leading to the couple’s arrest and the recovery of \$4,000 in jewelry.
- In 2012, Maryland dealers notified law enforcement three different times that they suffered losses due to being sold fake gold jewelry. Bulletins were sent to all law enforcement agencies and dealers. Good communication between law enforcement and dealers resulted in warrants for some of the sellers and no more financial losses to the dealers.

Sources: Regional Automated Property Information Database Fact Sheet, Governor’s Office of Crime Control and Prevention, January 2012 and RAPID-2011 Year in Review, Maryland State Police, January 2012.

TECHshorts

Technology News Summary

TECHshorts is a sampling of the technology projects, programs and initiatives being conducted by the Office of Justice Programs' National Institute of Justice (NIJ) and the National Law Enforcement and Corrections Technology Center (NLECTC) System, and other agencies as well. If you would like additional information concerning any of the following TECHshorts, please refer to the specific point-of-contact information that is included at the end of each entry.

In addition to TECHshorts, JUSTNETNews, an online, weekly technology news summary containing articles relating to technology developments in public safety that have appeared in newspapers, newsmagazines and trade and professional journals, is available through the NLECTC System's website, www.justnet.org. Subscribers to JUSTNETNews receive the news summary directly via email. To subscribe to JUSTNETNews, go to <https://www.justnet.org/subscribe.html>, or email your request to asknlectc@justnet.org or call (800) 248-2742.

Note: The mentioning of specific manufacturers or products in TECHshorts does not constitute the endorsement of the U.S. Department of Justice, NIJ or the NLECTC System.

Institute for Preventive Strategies Offers Certificate Program Center for Rural Development

The Institute for Preventive Strategies (IPS), a national service of The Center for Rural Development and a partner of the Rural Domestic Preparedness Consortium, sponsors a certificate program designed around the National Strategy for Homeland Security and emerging national metrics and standards. The Prevention Certificate Program teaches first responders to use a set of collaboration and learning tools to build a common professional framework and language for defining and solving problems related to prevention, response and recovery in homeland security. The program aims to improve the ability of every jurisdiction in the United States to develop capacity in preventing terrorism, demonstrate coherence with a common standard of practice in prevention of terrorism, and ensure that every jurisdiction has a basic ability to recognize crucial links between prevention, response and recovery. Lessons use Internet-based simulations that reflect real-world terrorism prevention problems. Through simulation, learners assess a situation accurately, make decisions and ultimately experience likely consequences.

For more information, visit <https://www.preventivestrategies.net/public/home.cfm?CFID=13607&CFTOKEN=46203568>.

App Features Emergency Response Guidebook for Hazmat Incidents U.S. Department of Transportation

A mobile app is available to help first responders handle a hazardous materials incident. The app from the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration features its *Emergency Response Guidebook 2012*, which covers information on managing hazmat incidents. With the app, police, firefighters and other first responders can quickly locate information using a word search function. The guidebook includes new evacuation tables for large toxic gas spills and standard response procedures for gas and liquid pipeline incidents.

To download the software, for the iPhone go to Apple iTunes at <https://itunes.apple.com/us/app/erg-2012-for-iphone/id592158838?mt=8&ign-mpt=uo%3D2>; for the Android visit Google Play at <https://play.google.com/store/apps/details?id=gov.nih.nlm.erg2012>. The apps were created jointly with the U.S. Department of Health and Human Services' National Library of Medicine. An instructional video for learning how to use the ERG2012 is available at <http://www.youtube.com/watch?v=wlZTc7z7yjI&feature=youtu.be>.

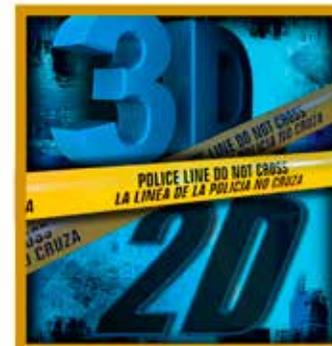


For more information, visit <http://phmsa.dot.gov>.

Report on Evaluation of 2D/3D Crime Scene Imaging Coming Soon Forensic Technology Center of Excellence

Virginia Commonwealth University (VCU), a partner in the Forensic Technology Center of Excellence, will release the results of the testing and evaluation of 2D and 3D crime scene imaging technologies during spring 2013. Four Virginia agencies — the Arlington County Police Department, Roanoke Police Department, Forensic Science Academy of the Virginia Department of Forensic Science, and Virginia State Police — worked with VCU to evaluate three imaging technologies:

- SceneVision™ Panorama, which uses a commonly available digital SLR camera and a tripod to produce a two-dimensional panoramic image.



- Panoscan, a mid-level technology that requires its own specialized camera head and a tripod to produce a spherical two-dimensional panoramic image.
- Leica ScanStation C10 3D Laser Scanner, which captures a three-dimensional image of a scene and measures all the evidence at a scene, eliminating the need for manual measuring.

The final report is expected in March; evaluation results will be discussed in a workshop on June 11-12, 2013 in Richmond, Va.

For more information, contact Michelle R. Peace, Ph.D., at (804) 827-8591 or mrpeace@vcu.edu.

Be Sure to Check Body Armor Labels National Institute of Justice

The National Institute of Justice strongly encourages buyers of body armor to ensure the armor they are considering is NIJ compliant. Check the body armor label for the model designation, and that the label states, "This model of armor has been determined to comply with NIJ Standard-0101.06 by the NIJ Compliance Testing Program and is listed in the NIJ Compliant Products List." Then go to https://www.justnet.org/other/ballistic_cpl.html to confirm the armor is on the list. Only armor tested through the CTP and determined to meet the requirements of *Ballistic Resistance of Body Armor, NIJ Standard 0101.06*, is included on the CPL.

For more information, visit https://www.justnet.org/body_armor/body_armor_labels.html.

Studying How to MANEUVER SUSPECTS TO A STOP!



By Becky Lewis

The police cruiser closes in on the fleeing suspect vehicle and sends it into a spinning stop as the backup vehicles close in and surround it, preventing escape. That's the way it happens in the movies and on television, anyway.

In reality, law enforcement officers know that the PIT Maneuver is an extremely dangerous tactic with a small window of effectiveness, and recent research by the National Institute of Justice (NIJ) Weapons and Protective Systems Technology Center of Excellence (WPSTC) attempts to quantify its potential for effective employment.

In October 2012, WPSTC Pursuit Management Technology staff partnered with the Michigan State Police (MSP) Precision Driving Unit (part of the state police academy) to characterize vehicle dynamics during the use of the PIT Maneuver. Their principal concern was the behavior of vehicles equipped with electronic stability control technology. Using a combination of vehicle types (neither car with electronic stability, both with electronic stability), instructors and students from the MSP's Pit Maneuver Training Courses ran vehicles through the test

protocol at a variety of speeds. WPSTC compiled results using Video VBOX, a commercially available data collection system, to capture the behavior of vehicles during testing via both video and data.

Engineering Project Manager Mike Hendrickson says that finding the appropriate testing venue and vehicles proved the biggest stumbling blocks in conducting the testing, and the partnership with MSP not only provided the right kind of course, it also gave the center access to the Dodge Chargers and Ford Crown Victorias commonly used by law enforcement agencies. (MSP conducts annual testing of new police vehicle models and has an ongoing relationship with the manufacturing community.) VBOX USA also contributed to creating the right testing environment by renting its GPS-based equipment to WPSTC and providing a technician who assisted with data collection.

“The number-one thing we looked at in the study was the difference between vehicle dynamics in cars that have electronic stability control systems and cars that do not,” Hendrickson says.

Over a period of four days, WPSTC instrumented five different types of vehicles, starting with an MSP vehicle used during a pursuit course being conducted at the same time as the testing. Researchers used

results from this car as a baseline for comparison, then conducted testing on the other vehicles to obtain stability control comparison results. Key observations include:

- The amount of steering input required of the pursuit vehicle to induce an effective spin is dependent on whether the target vehicle is equipped with stability control technology; interestingly, employing PIT at lower speeds with aggressive steering input caused significant damage to the target vehicle.
- In a vehicle equipped with stability control, it is imperative that the steering input occurs after the pursuing vehicle's front bumper has "mated" with the target vehicle's rear bumper; "Double Tap" impacts are likely and serious damage to both vehicles is possible if the PIT maneuver is employed incorrectly.

"We weren't trying to come back with recommendations on what law enforcement should do," Hendrickson says. "We observed and characterized our observations scientifically so agencies can make informed decisions on employment and pursuit policy. They could possibly use these results to determine whether to change their tactics, such as deciding whether to use the PIT Maneuver at various speeds."

Testing came about as the result of meetings between the WPSTC's Pursuit Management Technology Working Group (TWG) and the instructors at the Federal Law Enforcement Training Center (FLETC), whose members and respective agencies had serious questions about the effectiveness of the PIT Maneuver against vehicles with stability control. Lt. Jim Flegel, director of the MSP Precision Driving Unit and a member of the Pursuit Management TWG, facilitated the testing by providing the venue and driving instructors. WPSTC staff compiled results during the remainder of 2012. A 15-minute DVD and a more detailed technical report will be released in 2013. Their release will be announced via www.justnet.org, the website of the National Law Enforcement and Corrections Technology Center System and its social media channels.

During initial research, WPSTC researchers uncovered a study from the University of Michigan, "Active Safety Measures for Vehicles Involved in Light Vehicle to Vehicle Impacts," by Ph.D. candidate Jing Zhou that used computer simulations to model the behavior of target vehicles equipped with electronic stability control during the PIT Maneuver. This study, coupled with research conducted by FLETC, served as a starting point for actual vehicle dynamics testing.

During the FLETC project, researchers examined why students trained in the electronic stability control equipped Dodge Charger experienced catastrophic accidents when they moved back into the Ford Crown Victoria. They determined that students had learned to drive a more technologically advanced vehicle faster and more aggressively with no negative results. As a result of these findings, FLETC also looked at how stability control technology could impact the use of PIT. Both the University of Michigan study and the FLETC project provided anecdotal evidence that vehicles equipped with stability control would behave differently during a PIT Maneuver.

"FLETC conducted a basic study with cameras and instructors. They didn't instrument the vehicles," says Hendrickson. "We wanted to move the research one step further. Now that we've done actual research with the Crown Vics and the Chargers, we'd like to do some further research, similar to the University of Michigan study, using CarSim®, which will create a computer model for any type of vehicle."

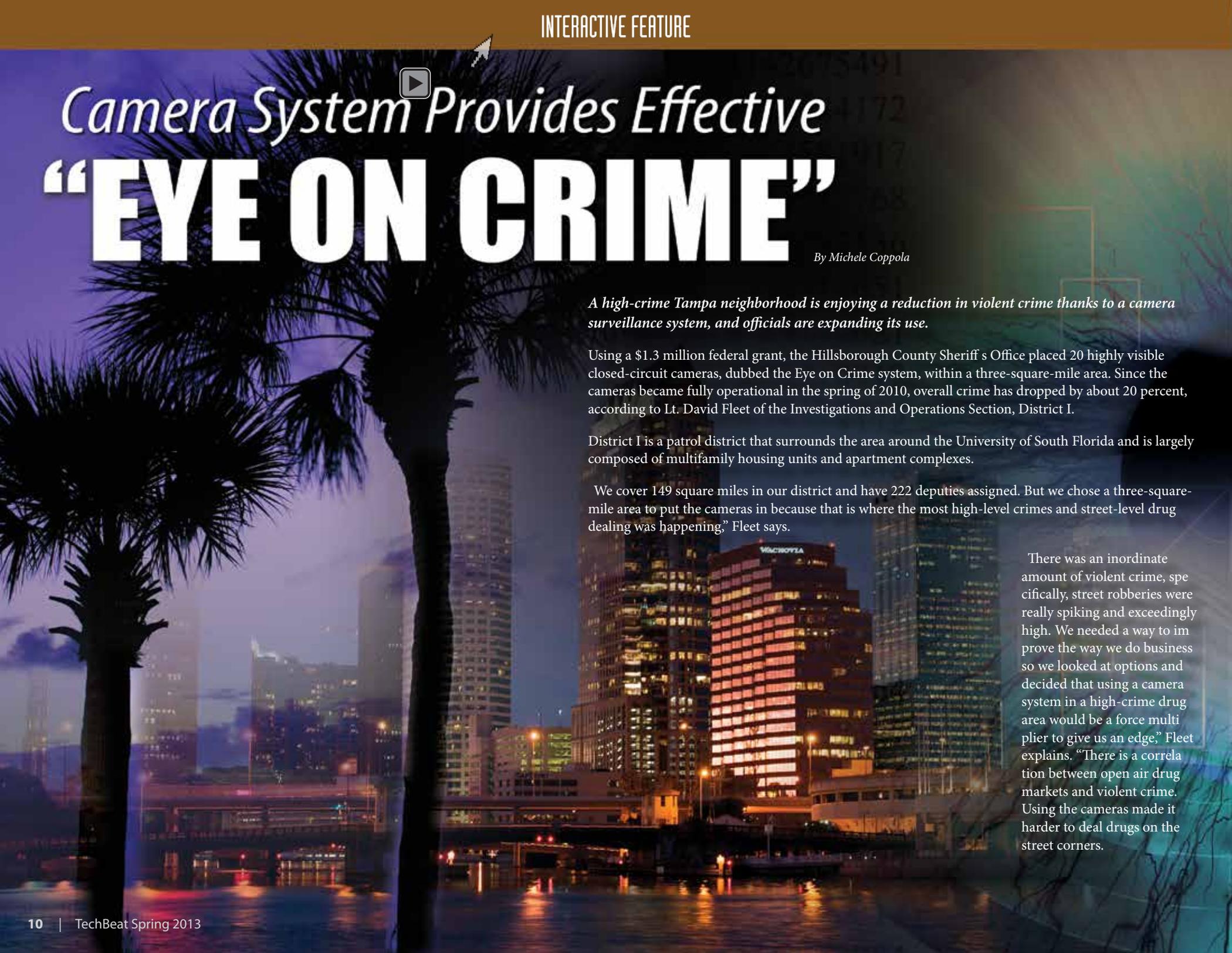
For more information on the PIT Maneuver project, contact Mike Hendrickson, WPSTC Focus Area Manager for Pursuit Management Technology, at (814) 865-1289 or mxh181@arl.psu.edu. For more information on the Weapons and Protective Systems Technology Center of Excellence, contact NIJ Program Manager Brian Montgomery at (202) 353-9786 or brian.montgomery@usdoj.gov.



What is the PIT Maneuver?

In the PIT Maneuver, a pursuing vehicle attempts to force a fleeing vehicle to abruptly turn 180 degrees, causing the vehicle to stall and stop. Law enforcement adapted it from the "bump and run" technique (now illegal) formerly used in stock car racing. The higher the speed at which the bump takes place, the easier it is to take out another car; the bumped car travels farther before stopping at higher speeds. At one time, the higher the speed, the more unpredictable and dangerous the whole maneuver became. With cars equipped with stability control technology, this is no longer the case. Spins at both low and high speeds are unpredictable if the officer is not aware that the car is equipped with stability control. Officers trained in executing the maneuver learn about the potential risk factors and how to wait for optimal conditions before attempting to execute it. Also, many law enforcement agencies have reinforced bumpers on patrol cars to assist with executing the technique and to make it safer to perform.

PIT stands, variously, for Precision Immobilization Technique, Pursuit Immobilization Technique, Pursuit Intervention Technique, Push It Tough, Parallel Immobilization Technique, and Precision Intervention Tactic.



Camera System Provides Effective “EYE ON CRIME”

By Michele Coppola

A high-crime Tampa neighborhood is enjoying a reduction in violent crime thanks to a camera surveillance system, and officials are expanding its use.

Using a \$1.3 million federal grant, the Hillsborough County Sheriff's Office placed 20 highly visible closed-circuit cameras, dubbed the Eye on Crime system, within a three-square-mile area. Since the cameras became fully operational in the spring of 2010, overall crime has dropped by about 20 percent, according to Lt. David Fleet of the Investigations and Operations Section, District I.

District I is a patrol district that surrounds the area around the University of South Florida and is largely composed of multifamily housing units and apartment complexes.

We cover 149 square miles in our district and have 222 deputies assigned. But we chose a three-square-mile area to put the cameras in because that is where the most high-level crimes and street-level drug dealing was happening,” Fleet says.

There was an inordinate amount of violent crime, specifically, street robberies were really spiking and exceedingly high. We needed a way to improve the way we do business so we looked at options and decided that using a camera system in a high-crime drug area would be a force multiplier to give us an edge,” Fleet explains. “There is a correlation between open air drug markets and violent crime. Using the cameras made it harder to deal drugs on the street corners.

The cameras are overt by design. They are housed in a large white box with a sheriff's office star on it and a blue strobe light on the top. Deputies monitor the cameras at the District I headquarters and can also access the camera feeds from the laptop computers in patrol cars. The cameras can zoom, pan and monitor a 360-degree field of view. Video can be stored for 30 days or more if needed.

We wanted people to know the cameras were there to dissuade them from committing crimes, and we wanted people to understand that we were not trying to be secretive and watch people without them knowing it," Fleet says. "We put up signs and talked to community leaders and informed the community on the locations of the cameras. We anticipated we would get resistance from the community, but people in the community were very supportive.

Since its deployment, the camera system has been used in more than 600 investigations and has helped solve numerous crimes, including robberies, burglaries, illegal drug cases and a homicide. The system has also provided information and evidence in traffic fatalities and missing person cases. In 2012, the University Area Community Development Coalition awarded the department a public safety award for the Eye on Crime program.

By and large use of the camera system did not result in simply shifting crime to another neighborhood, Fleet says. "We found a couple of areas where crime rose a little higher, but overall our analysis did not show that the cameras were just forcing crime to another area.

Fleet spoke about the camera program at the Office of Justice Programs National Institute of Justice (NIJ) Fall 2012 Technology Institute for Law Enforcement.

In the fall of 2012, with \$500,000 in funding from state Law Enforcement Trust Funds, the sheriff's office added six more cameras in the district and two license plate reader cameras along two traffic corridors.

Fleet says the cameras have helped identify suspects in a 2012 fatal shoot ing and a hit-and-run fatality. In the hit-and-run incident, the camera did not photograph the license plate but got a good side shot of the vehicle that showed unique wheels and rear damage. Investigators found the vehicle several hours later and identified and arrested the driver. The cameras have also been helpful in undercover work, providing remote viewing of law enforcement undercover drug or gun transactions and making it safer for the officers.

In the next phase of the project, with additional funding from the Law Enforcement Trust Funds, the sheriff's office plans to place cameras in a different high-crime area of District I and incorporate video feeds from private

businesses, beginning with the University Mall, which sits near the University of South Florida.

The camera system is absolutely successful," Fleet says. "A camera system is expensive at first, but in the long run it is a great program.

For more information on the camera program, contact Lt. David Fleet at dfleet@hcsso.tampa.fl.us or (813) 247-0651. For information on the NIJ Technology Institutes for Law Enforcement, contact NIJ Program Manager Michael O Shea at michael.oshea@usdoj.gov.



"The camera system is absolutely successful. A camera system is expensive at first, but in the long run it is a great program."

**—Lt. David Fleet,
Hillsborough County Sheriff's Office.**



video online

Video Transcript



Vehicle Enhances EMERGENCY RESPONSE

By Michele Coppola

A specially designed vehicle used as a mobile command and control center is providing a Nevada sheriff's office and the surrounding region with vital communications and intelligence gathering ability at the scene of an emergency.

The Washoe County Sheriff's Office (WCSO) Critical Incident Response Vehicle acts as a mobile analytics and intelligence gathering center, transporting communications equipment and staff from the WCSO's Regional Analysis Center to the field to coordinate emergency response.

"We have a regionwide approach to crimes and incidents that happen," explains Lt. Eric Spratley, who was involved in planning the vehicle along with intelligence gathering analysts from WCSO. "Our sheriff had the idea to take the center out to the scene of a critical incident so we could quickly have analysts at the scene along with the first responders. It could be a biological or terrorist incident, a crime, a natural disaster or a fire."

From the scene, analysts can more effectively coordinate with first responders, analyze data and exchange critical information among agencies.

The vehicle, unveiled in 2012, was developed with grants totaling \$573,000 from the U.S. Department of Justice Office of Community Oriented Policing Services and the U.S. Department of Homeland Security. WCSO

Sgt. Michelle Bello discussed the vehicle at the Office of Justice Programs' National Institute of Justice (NIJ) Fall 2012 Technology Institute for Law Enforcement.

The vehicle includes the following features:

- Workstations for four analysts in the rear of the vehicle. Analysts have access to a variety of analytical and crime programs such as ArcGIS.
- Satellite to enable connectivity and communications with responders in the field.
- Masts with a camera so analysts can gather information via live video, and a downlink to download video recorded by a helicopter.
- A radio Regional Interoperability System for enhanced communications ability.
- Ability to print large maps and charts.
- Four-channel digital video recorder system for recording various cameras on and around the vehicle.





- Outside display monitor and presentation area to accommodate a larger group.
- Touchscreen LED televisions and conference room.

“We did not want to buy technology for today; we wanted to buy it for the future. For example, LED technology is lighter, thinner and cheaper so we made it part of the specifications,” Spratley says.

“The vehicle is a large, box van style command post vehicle. The difference is the way we designed it,” he adds. “We wanted to use every square inch of the space. Many times mobile command vehicles disregard the driver area. We had the builder install a computer workstation in the driver’s area in the front, so while the analysts are in the back of the vehicle crunching the information, and command staff are working with the information, officers on the street can use the workstation to download their data and then continue their work in the field.”

The mobile command vehicle can be utilized by multiple law enforcement and emergency response agencies in the entire Northern Nevada area and be dispatched during natural or manmade disasters and assist in data collection for all incidents. Responders in the field can also carry rugged handheld computers with a special application

developed in-house at WCSO to transmit mapping and other data back to the vehicle for the analysts.

Spratley notes that the sheriff’s office deployed the vehicle in the fall of 2012 when a major weather system caused flooding and knocked out power to the Lake Tahoe substation. The response vehicle was driven to the substation so radio capability could be patched in for dispatch.

The vehicle also has been deployed during a wildfire and special events. Desiree Hubbell, the technology systems developer for WCSO who provides technical support for the vehicle, notes that in a fire situation, responders equipped with mobile devices can verify which properties have been damaged and send the information back to the vehicle.

“It helps us manage our resources better and results in the better use of personnel and of our finances,” Spratley says.

For more information, contact Lt. Eric Spratley at (775) 328-8740, dspratley@washoecounty.us; Desiree Hubbell at (775) 321-4908, dhubbell@washoecounty.us; or Sgt. Michelle Bello at MLBello@washoecounty.us. For information on the NIJ Technology Institutes for Law Enforcement, contact Law Enforcement Program Manager Michael O’Shea at michael.oshea@usdoj.gov.

Slide Show Transcript



slide show online

VIRTUAL DESKTOP

SYSTEM SAVES POLICE DEPARTMENT TIME AND MONEY

By Becky Lewis

Given the opportunity to equip a state-of-the-art police station with a state-of-the-art IT system, the Greenwich Police Department in Connecticut went from a network of approximately 60 personal computers to almost zero. Instead, the agency moved its resources to the Cloud, with officers able to use any of 120 “thin clients” to access their personal virtual desktops.

Capt. Mark Kordick, commander of the operations division, said the department identified early on that existing computer resources were not adequate. The move to the new building was a “clean slate” change, with nothing transferred except paper files. That included leaving behind the aging, cobbled-together string of “hand-me-down” PCs and 14 physical servers representing a range of manufacturers.

“We knew we wanted a virtual environment, and we’ve found that administering it is so much easier,” says Kordick, an alumnus of the Office of Justice Programs’ National Institute of Justice (NIJ) Fall 2012 Technology Institute for Law Enforcement. “In a nutshell, rather than an officer having a PC with its own operating system, the thin client gets its programming from a ‘giant brain’ down in the basement.”

Kordick says that although Greenwich elected to implement enough resources to enable users to each have a “persistent desktop” system using thin clients that remain in their offices, it’s also possible to build alternate environments that pool resources, wherein a user checks out a thin client, uses it and returns it to a pool for circulation. Patrol officers can log into the system from the car laptops using a VPN connection, and can log into the same session on a thin client in the building to finish reports. (A few areas, such as the forensics, do have PC stations because of the type of software needed in that division.)

“I can sit in my office working on something, be called into my boss’s office, sit down at the thin client in his office and pick up exactly where I left off to show him what is going on,” Kordick says.

Because the thin clients have no moving parts, they seldom, if ever, break down, Kordick says. In the three years since the November 2009 launch, only one unit has failed, compared to the hardware problems encountered almost daily when Greenwich ran a network of traditional PCs.

“We use trained officers, not IT professionals, as administrators, and the infrastructure is very easy to administer for nontechnical types,” Kordick says. “They don’t have to chase down problems with individual units. If someone has trouble with a session, they just kill the user’s old Windows desktop and issue a new one. It’s really easy to

push out hardware and software updates because they don't have to remote into a PC or run around with a CD. If there's an update, they just build one new desktop and clone it. The next time each user logs on, the update is there."

He adds that there is potential for significant long-term savings, as Greenwich did not need to hire any new administrative officers despite more than doubling the network's size. Also, the thin clients themselves cost relatively little at approximately \$200 each. Kordick says that data storage costs proved Greenwich's biggest expense. However, starting from scratch in a new building gave the agency the opportunity to "do everything right," including implementing adequate storage space. And there are potential savings in this area as well, he says.

"It costs a lot of money to deploy computers all over a building. Every one of them has wasted resources on its hard drive, and its processing power sits idle most of the time when it could work 24/7. With a virtual network, all of the processing power and memory goes in one big bucket. If you need more, you can get more, if you need less, you use less. It also eliminates the potential problems created when users save files on their desktops, which is a benefit from a security standpoint."

The operational advantages are such that he would have wanted to use a virtual network even without the cost savings, Kordick says, because, "It's very efficient and very easy to work with. What's funny is, the 'computer naïve' can't even tell the difference. To them, it performs exactly the same."

For more information on the Greenwich Police Department's implementation of virtual desktop infrastructure, contact Capt. Mark Kordick at (203) 622-8040 or mkordick@gmail.com. For more information on the NIJ Technology Institutes for Law Enforcement, contact NIJ Law Enforcement Program Manager Mike O'Shea at (202) 305-7954 or michael.oshea@usdoj.gov.

"I can sit in my office working on something, be called into my boss's office, sit down at the thin client in his office and pick up exactly where I left off to show him what is going on."

—Capt. Mark Kordick, Greenwich Police Department.



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