Streamlining the Chain of Evidence

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Supervisor Christy Price of the Charlotte-Mecklenburg Police Department's Crime Scene Search unit has just returned from a task that would have ruined most people's day and put them off food for a week. A homeless man died in one of the city's wooded areas. His body was reported several weeks after his demise and it had been in a tent during one of the worst heat waves in the Southeast in years. Price says processing the scene wasn't that bad; most of the flies had left the tent.

Price is one of the shift supervisors for the 27-person CMPD crime scene unit. And despite the grisly task she's just completed, she gives me the impression that she truly loves her job. One of Price's colleagues later tells me, "If you weren't meant for this job, you don't last long."

Tools of the Trade

Price eagerly shows off all of the unit's cool high-tech equipment, including her favorite tool of all, a Faro 3D scanner that has made scene diagramming much easier and faster. Price is one of the unit's experts on the device. She sits down at a computer assigned specifically for use with the scanner and shows me how to make models from its scans in CrimeZone software. She is working on how to animate the models.

At my request she assembles the scanner to demonstrate how it works. It goes together in minutes and Price starts making a quick demo scan of the room.

The crime scene unit's Faro is used for major scenes and at all homicide and officer-involved shooting scenes, Price says. Every crime scene tech in the unit has been trained to use it, and it is kept in a hard plastic case in the unit's offices waiting to go into the field. Inside the box is a Powerpoint instruction sheet on how to operate the scanner that the techs can refer to if they forget how to do something. There are also multiple 4GB SD flash memory cards. Each Faro scan is made on a new card, Price explains.

After the 3D scanner demonstration, Price, fellow Crime Scene Supervisor Michelle Scheuerman, and Crime Scene Tech Kristine Woodhouse sit around a table in the bullpen area of their offices and explain how to handle body dumps, what it's like when the department investigates the exceedingly rare "true whodunit" murder, the intricacies of collecting trace evidence, and the frustrations of the job. "Of all the evidence we collect, only a very small portion is actually used." says Woodhouse. "But out at the scene we have no way of knowing what will be used."

Rolling Stock

CMPD's crime scene techs travel out to the scenes in a variety of vehicles parked just outside their offices and accessed through the unit's vehicle bay. Price opens up the back and side doors of one of the unit's full-size vans. It's full of gear, ranging from a Hilti PD 42 laser measurement device to digital camera equipment with multiple flash options to such no-glamour tools as rakes, shovels, and ladders.

At the other end of the parking lot is the unit's mobile crime lab. Built on a Ford F550 chassis, the CMPD's mobile crime lab is a combination command vehicle and crime tech van, and it only rolls out on the big jobs.

The CMPD's mobile crime lab is loaded with all of the stuff in the crime scene vans, and it's equipped with a generator, special lighting, and a computer workstation. It's also essentially a rolling office, complete with coffee maker, microwave, and refrigerator for when the crime scene techs spend long hours at a complicated scene.

26 Hours

CMPD crime scene techs say their work can be very physically demanding and officers often don't realize what is involved. "I don't know how many times I have shown up on a scene and the officers have said to me, 'It's just going to be pictures,'" says Crime Scene Supervisor Roy Patterson. "But it doesn't work like that. We have to document everything. We have to search for evidence that the officers did not see, even though they have searched. We have more training in finding evidence. I've been out on a scene for hours where officers told me it would 'just be photos.'"

Scheuerman has a quick answer to the longest time she's spent at a scene. "Twenty-six hours. It was an officer-involved. After working my eight-hour shift I went home. I was home for two hours and then I had to come back and work for 26 hours straight. The guy had shot at officers from a tri-level house. There were 60 discharged pistol cartridges and 12 spent shotgun shells. We had to process the scene in and out. It was a very long day. There were boxes and boxes of evidence."

The boxes of evidence collected by Scheuerman and her fellow crime scene techs at that massive scene may still be in the basement property room of the CMPD's headquarters. Each property control sheet for each piece of evidence from that 2009 incident was filled out by hand and then keyed into the department's database. Last year the department started streamlining its evidence management workflow.

220,000 Items

On a shelf deep inside the CMPD's property room and surrounded by hundreds of other items of tagged and inventoried evidence there is a Corona Light beer box. It's one of many curious items inside the facility, and it spurs a question from me to Lt. Brian Russell, commander of the department's property and evidence division who is giving me the tour. "What's the story behind that?" I ask. Russell answers: "I don't know. I would lose my mind if I tried to figure out why all these things are in here." That's probably true. The CMPD's property room is as expansive as any other major law enforcement agency's evidence repository. It is organized into shelf after shelf of general evidence, vaults for handguns, vaults for long guns, vaults for drugs, coolers for DUI blood samples, and safes for small

valuables. The collection of some 220,000 items of evidence is overwhelming.

Making sure that all of this property is available to detectives for their investigations and returned to owners or properly disposed of when the time comes is one of Russell's primary responsibilities. It's his goal to implement technologies and policies that will reduce the amount of time officers and crime scene techs have to spend on property reports. He also wants to make sure property is returned to owners or disposed of in a timely fashion in order to reduce the amount of evidence the department is holding.

Since last spring Russell has, with the support of the department's command staff, implemented a computerized evidence management system. The heart of the system is software from Porter Lee Corp. called PLIMS (Property and Laboratory Information Management System). Evidence is entered into the system usually by officers or crime scene techs via PLIMS and assigned a barcode so that all concerned personnel can easily track it.

Russell says PLIMS is a vast improvement over the department's previous system. "If an officer brought in guns, drugs, and money, he or she would have to fill out three different property sheets because of the way we stored the stuff in the past," he explains. The old system was even more taxing on the department's crime scene techs. "It wasn't uncommon that for a major crime scene our crime scene search people had to do 50 property sheets. They love the new system."

Force Multiplier

The PLIMS database in use at the CMPD streamlines the evidence intake process because officers and techs only have to enter the basic information

on the case once; after that they can add each piece of evidence to the case with just a few key strokes. The software runs on the department's secure intranet, and officers can even create records for evidence in their cars.

Which is good because all evidence collected by CMPD officers must be driven to headquarters and turned over to the property room. That's become quite a problem for the department, which has more than 1,800 sworn officers in 13 divisions around Charlotte and Mecklenburg County plus responsibility for the city's Douglas International Airport. Currently, officers can easily burn an hour of what could be patrol time bringing evidence to headquarters.

Russell's solution for this problem is about to go into effect. He plans to leverage the capabilities of PLIMS to let officers not only fill out record information in the field but temporarily store the evidence in their division headquarters.

The department has purchased Sentinel evidence lockers and is installing them in 12 of the division stations and at the airport station. When the lockers are in place toward the end of this summer, officers will be able to use PLIMS to fill out property management forms and assign barcodes, print out the barcodes, and secure the evidence in lockers at their divisions for pickup, thereby avoiding the trip to HQ. "The evidence lockers will be a force multiplier by letting officers turn in evidence at their divisions for pickup by one of my employees. They will no longer have to drive the evidence here themselves and they can get back on the street sooner," says Russell.