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Police look to predict crime by analyzing trends, data

By Kathleen Moore

CAPITAL REGION — A car crash, a code violation or even a weather forecast could soon help police stop a crime wave.

Police in Schenectady are tracking car crashes to help find criminals, while Albany is using the weather to predict when crime will occur. A regional effort with Troy may help them all add code violations to the mix as they try to figure out how to stop crime before it happens.

By tracking car accidents last fall, Schenectady police pinpointed patrols in the Mont Pleasant neighborhood and saw certain crimes plummet by 12 percent in the last quarter of 2012. They are using the same system to respond proactively to crime throughout the city, in hopes of getting similar results everywhere.

Maps of crashes, drunken-driving arrests and other traffic violations are overlaid with maps of crime reports. Police patrols are sent to the hotspots — locations where traffic problems and crime are high.

“What we know is, the driver that’s risky enough to drive drunk ... is often risky enough to take other risks,” said federal Highway Safety Specialist Shannon Purdy. “A lot of criminals are caught at seatbelt checks.”

Federal officials created the program, D-DACTS (Data-Driven Approaches to Crime and Traffic Safety), after noticing spikes in crime and traffic violations often happened in the same places.

Purdy said they theorized that car crashes might be the first statistical notice that a neighborhood is going downhill. When drivers see signs of a bad neighborhood — broken windows, graffiti, litter — they might respond in kind.

“You’re going to be more likely to disregard safety laws,” she said. “People feel they can get away with it.”

Police quickly hear of crashes — sometimes more quickly than they hear of criminals moving into the area. But, Purdy said, the same things that encourage speeding also encourage criminals to move in.

“Those neighborhoods are pretty ripe for criminal activity,” she said.

Stop and look

Police can’t simply stop every person who strolls down the street in a high-crime neighborhood, searching for drugs or guns. But they can stop those who pause without coming to a full stop at a stop sign, or run a red light.

“Then you use a little investigation,” Purdy said. “You might see the guns on the back seat.”

In other words, traffic safety is a legal way for police to search for criminals who live in the neighborhood.

Once crime goes down in an area, Purdy said, police don’t get to celebrate. Instead, they need to mobilize the community to clean up the neighborhood — making it less inviting to lawbreakers.

“So that they’re not just gone for three months,” she said.

At the same time, police have to turn to their maps again in search of the next hotspot.

“You have to provide that relentless follow-up. It’s got to be continuously monitored,” she said. “When you move the bad guys out of a neighborhood, they’re going to look for a new place to do their job.”

She said statistics show that forcing criminals to move cuts down on overall crime a little.

“It never returns to its previous intensity,” she said, “because people are lazy.”

The federal program doesn’t come with any grant funding, “but we’re hoping to save money” by helping police focus their efforts, Purdy said.

The program also gets lots of police into high-crime areas, which she said would be a strong deterrent.

"It's high-visibility traffic enforcement," she said. "If criminals see a whole lot of lights flashing on the side of the road, they're probably not going to do their business there."

In Mont Pleasant, residents have noticed. Traffic enforcement has been so heavy that some complain they can't run a light without being stopped.

"I know some people, they're a little annoyed because they're picking on little things," said resident Flora Ramonowski. "I like it."

But so far, she said, she still sees criminals on the street.

Mont Pleasant Neighborhood Association President Mohammed Hafez said he's pleased by the decrease in crime statistics – but the numbers are still too high.

"The numbers are showing a little bit of reduction," he said. "But assault is up. We've seen incidents on Crane Street at times. We are concerned with the business area.

"We want to revive Crane Street. Assaults, we're concerned with that category. Any crime is a serious issue."

More security cameras were installed last fall, as well, which some neighbors hailed as a victory. But Hafez isn't so sure. The cameras are used to find criminals after the fact, not to stop them in the act.

"If something happens, it's very good for it to be resolved, but the cameras won't prevent the crime from happening," he said.

Hotspot maps

He thinks the answer is more police. That is essentially what has been happening for the last few months – there has been a sizeable increase in police as patrols are sent to focus on the hotspots.

New Police Chief Brian Kilcullen hopes to reduce serious crimes throughout the city by 10 percent, partly through the new hotspots mapping program.

Mayor Gary McCarthy wants to take it further by adding code violation data to the mix. He's working with the Center for Technology in Government at the University at Albany, which could build a software platform to allow city departments to share information easily.

For the crime mapping, code violations could help pinpoint exactly where neighborhoods are beginning to look inviting to criminals. For firefighters, pulling up a code report could prepare them for what they will encounter when they run into a burning building. County social workers could use the same data to verify whether a house is safe enough for a child to live there.

"There's lots of people who need this code enforcement data," said Meghan Cook, project manager.

CTG wants to write a program that could be used by every agency and department in Albany, Schenectady and Troy and their respective counties. It's an ambitious goal that would take about two years of work and \$2 million. So far, the project hasn't won any grants, but McCarthy said he believes it will be funded soon. The program is just so unusual that it doesn't fit any of the normal categories for state grants.

CTG is applying for other grants that may fit the project better.

Creating the overlay map with the crime and traffic data is definitely doable, Cook said, if the project gets funded. She said a prototype could be created quickly while engineers buckled down to the detailed work of sharing code violations across county lines.

Using unlikely data – such as code violations or traffic accidents – to predict crime is the new trend in policing. Not everyone is using the program that Schenectady has, but most police departments are analyzing data now.

Felony weather

In Albany, analysts consider the weather along with their typical crime trends and maps.

"We really focus on behaviors," Chief Steve Krokoff said. "We know that when we have a cold spell and we have a sudden

warm up, we usually see a sudden increase in crime, street-related crime: robberies, assaults.”

So weather forecasts help them decide when to increase patrols, and crime trend maps help them determine where those patrols should go.

Likewise, they schedule special events for slow periods.

“When we have our first real cold snap, crime really drops significantly,” Krokoff said. “Lots of snow – snow does have a tremendous effect on crime. We can pull in some resources to work on the Police Athletic League, for example.”

Krokoff is watching the Los Angeles Police Department and others that have purchased new predictive policing software, in which they plug in seemingly unrelated data and get quick answers about where they should patrol.

“It can actually map out for you where crime is most likely to occur,” he said.

For now, his analysts do that laboriously, by hand. What intrigues him is that the software can take into account data the analysts wouldn’t know to consider. Among those items might be code violations or weather forecasts.

“And it could tell us exactly how many cars are needed where,” he said.

But he isn’t ready to make the investment yet.

“It’s still kind of in its infancy,” he said. “Let’s see what this really produces.”

Having maps based on crime trends counts toward an officer’s reasonable suspicion – legal grounds for stopping a passer-by. But he doesn’t think judges would look kindly on officers who simply said a “black box” told them to focus on a particular address.

“Someone needs to analyze what the computer saw and determine it to be a real crime trend,” he said. “So this could be a tool ... to bring in other casual links we’re not so aware of.”

Whether it’s tracking weather, car crashes or code violations, he said data-based predictions are the way of the future.

“It really is about trying to analyze data and draw inferences from that.”