



Shotspotter technology helps police locate source of gunfire

By Kim Curtis

ASSOCIATED PRESS

4:21 p.m. October 30, 2006

SAN FRANCISCO – Shots fired. Someone calls 911. Police arrive.

The old way of solving a shooting is changing as technology removes the middleman.

ShotSpotter, a Santa Clara-based company, plants microphones in high-crime areas in about a dozen cities nationwide that pinpoint gunfire and alert police dispatchers. Supporters say the system can eliminate the inconsistency that comes from human reports of gunfire, although its effectiveness is nearly impossible to gauge.

“It's a great program,” said Maj. Herbert Whetsel of the Charleston, S.C., police department, which has used Shotspotter since 2003. “We've got officers on the scene before calls start coming in.”

The Oakland Police Department, which earlier this month installed 100 devices covering about six square miles in high-crime areas, put its system to immediate use.

ShotSpotter was first to notify police late Saturday of man in a car firing an assault rifle at a group of people in East Oakland, according to Officer Roland Holmgren. Two men died, three other people were injured and no suspect has been arrested. It was unclear whether residents also reported hearing gunfire, although police say they often don't.

“You become desensitized to it, and people are probably afraid if they call police and police come and knock on their door ... that can get you hurt in Oakland,” said Lt. Pete Sarna.

Engineer Robert Showen founded the company about 10 years ago. He was trying to develop an acoustic sensor system to detect earthquakes, according to company spokesman Gregg Rowland. Living in a less-than-safe neighborhood, he soon wondered whether he could use similar technology to detect gunfire.

ShotSpotter relies on a computer to calculate the shooter's position by triangulation, using the slight difference in time the shots were heard by each listening station. It can direct police to within 40 feet of where shots were fired, according to the company. It also differentiates between gunfire and other similar noises like cars backfiring and fireworks, according to Rowland, although that's been disputed by at least one agency that uses the system.

Showen first tested the system in 1996 in Redwood City and sold four systems during the company's first seven years in business.

But its popularity has grown as law enforcement agencies rely increasingly on technology in a time of shrinking budgets. Shotspotter has installed seven systems this year. No one has ever returned the system, Rowland said.

“When you can show these kind of results, why would anyone want to turn it off?” he asked.

But results aren't clear cut. Most law enforcement agencies agree they're able to get to the scene of a shooting much more quickly with the help of ShotSpotter, but it's impossible to know what might've happened without it. No comprehensive study has been undertaken, and the only statistics cited by the company are anecdotes supplied by law enforcement agencies.

Even Redwood City police, which got ShotSpotter a decade ago, had no readily accessible statistics regarding the system's effectiveness.

The only numbers provided showed in June, July and August, 138 reports of gunfire were reported by ShotSpotter. Only 65 of those reports were within the police department's jurisdiction and none was actual gunfire, according to dispatcher Jennifer Meure, adding the system often picks up fireworks, backfires and construction noise.

The department pays \$9,600 a year for its system, according to Capt. Ron Matuszak, who said he couldn't recall its initial cost.

“It's hard to prove a negative,” he said. “I cannot tell you with any certainty that we've arrested anyone as a result of ShotSpotter ... I can tell you we get to the scene quicker.”

In Rochester, N.Y., a system has been in place since July and police have made at least six arrests with its help, according to spokeswoman Deidre Taccone. At least one man was convicted of a weapons charge after pleading guilty, she said.

On July 12, police responded to an alert from ShotSpotter and found a woman who said she heard shots fired nearby. She went outside and saw her neighbor holding a shotgun. He pointed it at her, yelled at her, then fled. She hadn't called 911, but police were already there and the woman was able to point them to her neighbor, who was quickly arrested. His case is pending, Taccone said.

Prosecutions, not arrests, are key, according to Jack King of the National Association of Criminal Defense Lawyers.

“It's a real expensive technology that, once in a blue moon, will result in a valid arrest,” King said, adding that he's concerned it could be used as a “general dragnet” to “round up every young black man in a particular neighborhood.”

The systems range in price from about \$100,000 to about \$2 million, Rowland said, adding that cost is based on the size of the coverage area. Most departments pay for it

with a combination of local, state and federal money. And, so far, the question of whether to cover that cost hasn't provoked much discussion.

And that worries King.

“It's just another kind of acquiescence that society is making to a surveillance society. ... Do we want to be constantly observed by audio and visual equipment?” he asked.
“Especially if it's questionable it will make us any safer.”