ShotSpotter®
Sense. Target. Protect.

Case Study

CONVICTED

The ShotSpotter Gunshot Location System® (GLS) captures critical forensic evidence that assists the Los Angeles County District Attorney's Office in convicting two gang members of murder.

Aerial image shows the geolocated position and sequence of each individual shot fired by Shooter A (red circles) and Shooter B (blue circles). Data analysis revealed the distance between Shot 7 (fired by Shooter B) and Shot 8 (fired by Shooter A) to be 15 feet and were fired a tenth of a second apart. This revealed that two shooters had committed the crime because a single shooter could not have fired both rounds from the two locations a tenth of a second apart.

The Search for Evidence

Due to rampant gang violence, the region of South Los Angeles, Calif., has a reputation as one of the most dangerous inner city areas within the U.S. To combat the violence, the Los Angeles County Sheriff's Department deployed the ShotSpotter Gunshot Location System® (GLS) as a wide-area acoustic surveillance system to target gun violence within the Century Station zone. Since its introduction, the ShotSpotter GLS has been used to accumulate data on gunfire happening within its coverage area, revealing the area's true level of gun violence. System data are used by deputies and crime analysts to develop violence suppression strategies and programs, while at the same time allowing officers to respond to gunshot incidents on a tactical basis as they occur. When admitted into evidence in trial proceedings, incident data have helped prosecuting attorneys obtain plea bargains, resulting in shortened trial times, thus reducing associated legal and court costs.

> "The ShotSpotter data and expert witness testimony provided unbiased corroboration for the eyewitness's description of the shooting and the number of shots fired, as well as the fact that there were two different shooters using different firearms."
>
> Deputy District Attorney Hector E. Gutierrez
> Los Angeles County District Attorney's Office,
> Hardcore Gang Division

Last year, the Los Angeles District Attorney's Office and the Los Angeles County Sheriff's Department were faced with the challenge of successfully prosecuting two known gang members for murder. As a result of the ShotSpotter GLS detecting, locating, and alerting deputies to the precise location of the crime, crucial physical evidence had already been seized, including shell casings, but could ShotSpotter provide additional acoustic evidence to strengthen the case?

"Recovering those shell casings was huge," said Detective Ty Labbé. According to Labbé, the only witness to the murder identified the shooters and testified that one perpetrator shot the victim, "firing multiple times from a MAC-10 type machine gun pistol" while the other shooter fired a revolver. The shell casings recovered at the crime scene matched the weapons described by the eyewitness as being used in the murder. Labbé stated that the .38 caliber casings recovered matched the only murder weapon recovered, and the Los Angeles County Sheriffs Crime Lab-Firearms Unit confirmed that the primer stamp of the other casings were, "consistent with the primer stamp of a MAC-10 or Uzi-type machine gun."

Still, Labbé and his partner Detective Martin Rodriguez, felt additional evidence was needed to corroborate the witness's testimony because the witness was a drug addict. He added, "You need to be able to corroborate a one-on-one I.D. Someone who witnesses someone else do something: we need additional evidence to corroborate that fact."

The prosecuting lawyer on the case, Deputy District Attorney Hector E. Gutierrez, agreed with their assessment that finding

compelling evidence to corroborate the witness was critical. "There was only one eyewitness whose character was less than ideal and the victim's wounds were also 'through and through,' meaning we had no bullets," explained Gutierrez. According to Gutierrez, additional evidence was needed in order to place two shooters at the crime scene, confirm the events as described by the witness, and negate any possible defense strategy.

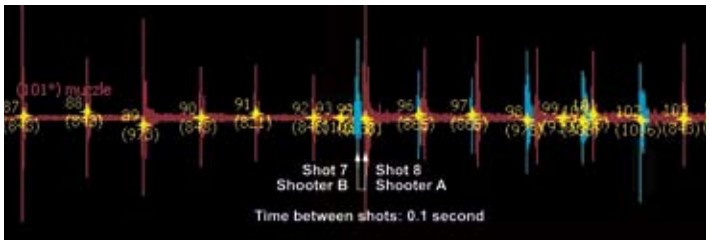
According to Labbé, they needed to prove that one person holding two guns could not have committed the crime. Knowing that the ShotSpotter GLS system had documented the event, detectives called the company and spoke with Customer Solutions Manager, Dana Kirsch Ray. They requested a detailed forensic analysis of the incident, a service provided by ShotSpotter to GLS customers.

Clear and Compelling Evidence

Ray recalled that, "the first question the detectives wanted to know was whether our system could tell if there were two people shooting at the victim."

Because the ShotSpotter GLS detects gunfire activity 24 hours a day and permanently stores all incident information in an auditable, verifiable database repository, Ray was able to perform a detailed analysis of incident data. Her analysis quickly established that weapons of two different calibers had fired a total of 18 rounds during the incident. She then gave investigators a timeline of shots fired: the timeline showed which gun had fired which round; that the time between shots proved that two weapons were involved; and confirmed due to their physical separation, two different individuals firing two different weapons had perpetrated the crime. Ray then further analyzed the data to identify "a shot-by-shot chronology which identified the precise location of each and every round fired."

The case presented unique challenges said Ray. "In most cases when you have a shootout, the shooters are firing in opposite directions because they're shooting at each other. In this case, the two shooters were standing next to each other shooting towards



(Above) Detailed timeline and shot frequency analysis of each round fired revealed that two guns were fired in the crime.

a third person [the victim]. They were firing at the same time, in the same direction, using bullets of nearly the same caliber. These circumstances made it harder to differentiate between the sounds of the two gunshots, and we had to rely on other data from the ShotSpotter system, such as the timing and physical separation of each shot, to positively determine the number of weapons and individuals shooting them."

According to Labbé, "the ShotSpotter GLS provided an absolute court-admissible corroboration of the statement made by the lone witness to the crime."

"The ShotSpotter GLS system was able to show that two different weapons were being fired as well as the sequence in which those weapons, Weapon A and Weapon B, were fired," said Labbé. "It was also able to show distance, which put Shooter A and Shooter B where the witness said they were standing in relationship to the victim. These distance measurements corroborated the location where the physical evidence—shell casings—were located by investigators, giving us evidence to recreate the crime scene, further corroborating the testimony of the lone witness to the murder."

Additionally, Ray was able to confirm that Shooter B had only fired six rounds. According to Labbé, that evidence was also essential to the case. "We know where Shooter B was standing based on the witness and we know the revolver he had on him

“ShotSpotter’s combination of technology and data analysis, in my opinion, was crucial to convince the jury,” said Labbe. “It corroborated a witness at the scene who was no longer available to be questioned.”

Detective Ty C. Labbé
Los Angeles County Sheriff's Department, Homicide Division

only shoots six bullets without a reload.”

Beyond Reasonable Doubt

As the trial date neared, the value of the ShotSpotter data took on an increasing and essential importance to the case and its ultimate verdict.

“The eyewitness to the murder was [himself] murdered in the weeks prior to the trial,” said Gutierrez. “When I tried this case we did not have live eyewitness testimony.” Though the witness’s testimony had been read into the court record, this presented a challenge for Gutierrez. “Our concern was that without that witness it was possible that a juror or some jurors might feel there was insufficient evidence or that they needed to see the person in court.”

Ray testified as an expert witness and explained how the system works, how it stores incident information in a historical database, and how incident data confirmed the witness’s story of events.

An audio recording of the event, automatically captured by the ShotSpotter GLS, was played for the court while Ray explained to jurors how she analyzed the audio to distinguish differences in weapon caliber, identify the number of shooters, plot the sequence of shots fired by each gun, and pinpoint the location of each round fired.

For Gutierrez and the members of the jury, hearing the actual audio from the event was “very powerful.”

“When the sound of the gunshots was played, the jurors realized ‘we are hearing the shots fired at this person who ultimately died,’” said Gutierrez.

Guilty as Charged

According to those involved in the case, the scientific nature of the forensic data, analysis, and expert witness testimony provided by the ShotSpotter GLS and the company’s expert personnel provided circumstantial evidence essential to proving beyond a reasonable doubt that the defendants were guilty of murder in the first-degree, with all special allegations true.

“ShotSpotter’s combination of technology and data analysis, in my opinion, was crucial to convince the jury,” said Labbé. “It corroborated a witness at the scene who was no longer available to be questioned.”

For Gutierrez, the ShotSpotter data was compelling in two ways. “The jurors were able to hear the sound of these two different firearms being used,” said Gutierrez. “The ShotSpotter GLS data and expert witness testimony provided unbiased corroboration for the eyewitness’s description of the shooting and the number of shots fired, as well as the fact that there were two different shooters using different firearms.”

To law enforcement personnel working to alleviate violence on the streets of South Los Angeles, the ShotSpotter GLS has repeatedly proven itself to be a mission-essential tool. By providing persistent wide-area acoustic surveillance that captures and stores unbiased forensic evidence of weapons fire, the ShotSpotter GLS proves its value beyond use in police communications and dispatch centers. Crime investigators, as shown in this case study, use system data in cooperation with prosecutors to strengthen court cases, secure convictions, and obtain more plea bargains.

When case trials conclude faster or result in a plea bargain as a result of ShotSpotter GLS evidence, prosecutors and members of a district attorney’s office can address additional court cases with greater efficiency and reduced costs for the court, prosecution, jail, and armored transport of defendants between jail and court. The result is a reduction in gun violence and improved community and law officer safety while the police department and judicial organization achieve greater effectiveness with available resources.

ShotSpotter®

Sense. Target. Protect.

Corporate Headquarters
1060 Terra Bella Avenue
Mountain View, CA 94043-1881
Tel: +1 650 960 9200
Fax: +1 650 887 2106
Toll Free: +1 888 274 6877
www.shotspotter.com

2010-02