Privacy and Surveillance Advisory Board
ShotSpotter

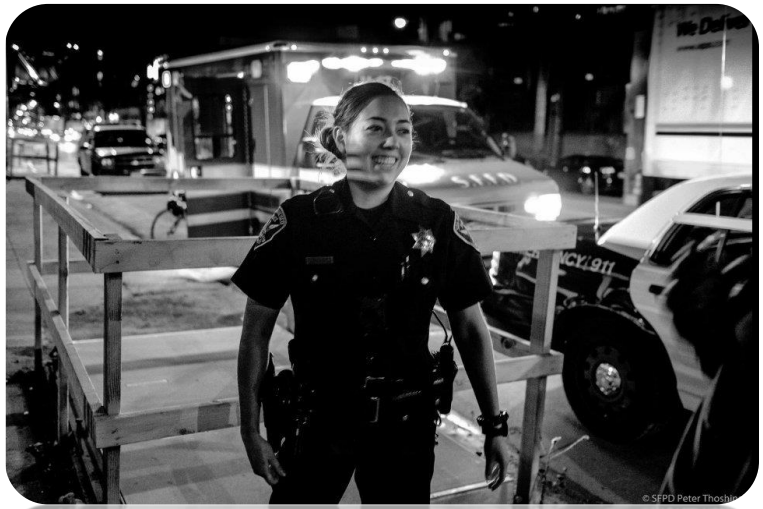
CITY & COUNTY OF SAN FRANCISCO

Police Department

August 28, 2020

SFPD stands for safety with respect for all. We will:

- Engage in just, transparent, unbiased, and responsive policing
- Do so in the spirit of dignity and in collaboration with the community
- Maintain and build trust and respect as the guardian of constitutional and human rights



What Is Captured by ShotSpotter:

- Short audio snippet of gunfire event
- Exact time and number of shots fired
- Safety awareness: multiple shooters or high-capacity weapon involvement
- Speed and direction of travel (if moving)
- “Dot on the map” with latitude and longitude indicating location

ShotSpotter Snippet Examples

4/11/20: Three shooters engaged in broad daylight shootout.
ShotSpotter Activation and 9-1-1 call for shots fired into a house.
Evidence recovered in several locations (aided by ShotSpotter)

1/13/19: ShotSpotter Activation and 9-1-1 calls (received 3 minutes after activation).
Witnesses describe suspect firing numerous rounds into the air as people leaving area nightclubs.

ShotSpotter Technology

Detect: ShotSpotter is gunshot detection technology (GDT) that uses acoustic sensors and sophisticated software to detect, locate and alert law enforcement agencies about illegal gunfire incidents in real-time.

Protect: The digital alerts include a precise location on a map (latitude/longitude) with corresponding data delivered to any smartphone, police vehicle or desktop. This information is key to better protecting officers by providing them with increased situational awareness.

Connect: Enables law enforcement agencies to proactively respond to criminal activity, better connect with their communities and bolsters their mission to protect and serve.

SFPD Authorized Use Cases

Gunshot detection:

1. Patrol Officers receive gunshot alerts to respond to crime scene.
2. Investigators use reports to find shell casing evidence on scene and to further analyze the incident.

Accurate and Timely- Data Across All Customers 2019

97%

Accuracy Rate

0.5%

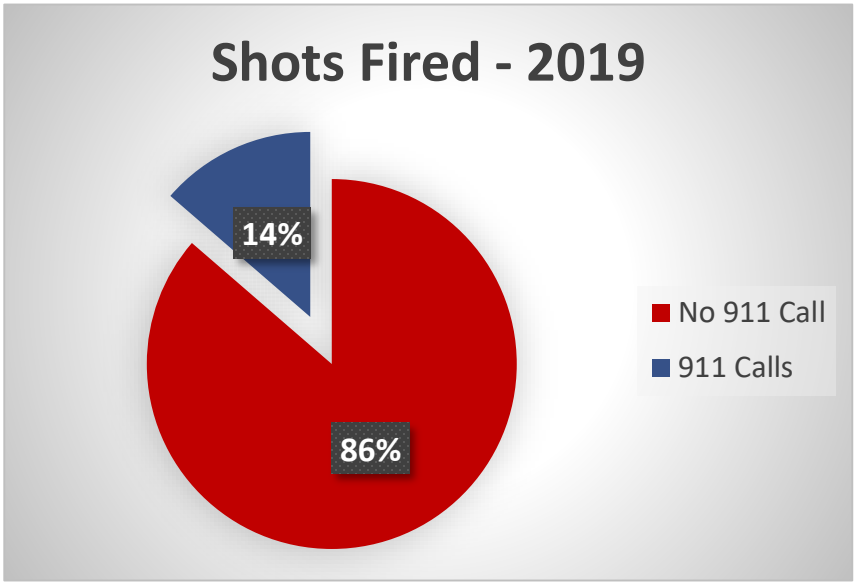
False
Positive Rate

34 sec

Average
Notification Time

2019 Unreported Gunfire (no 9-1-1 call)

With ShotSpotter, SFPD was able to respond to 86% (854) of the total gunfire activations in ShotSpotter coverage areas that were not otherwise reported through 9-1-1.

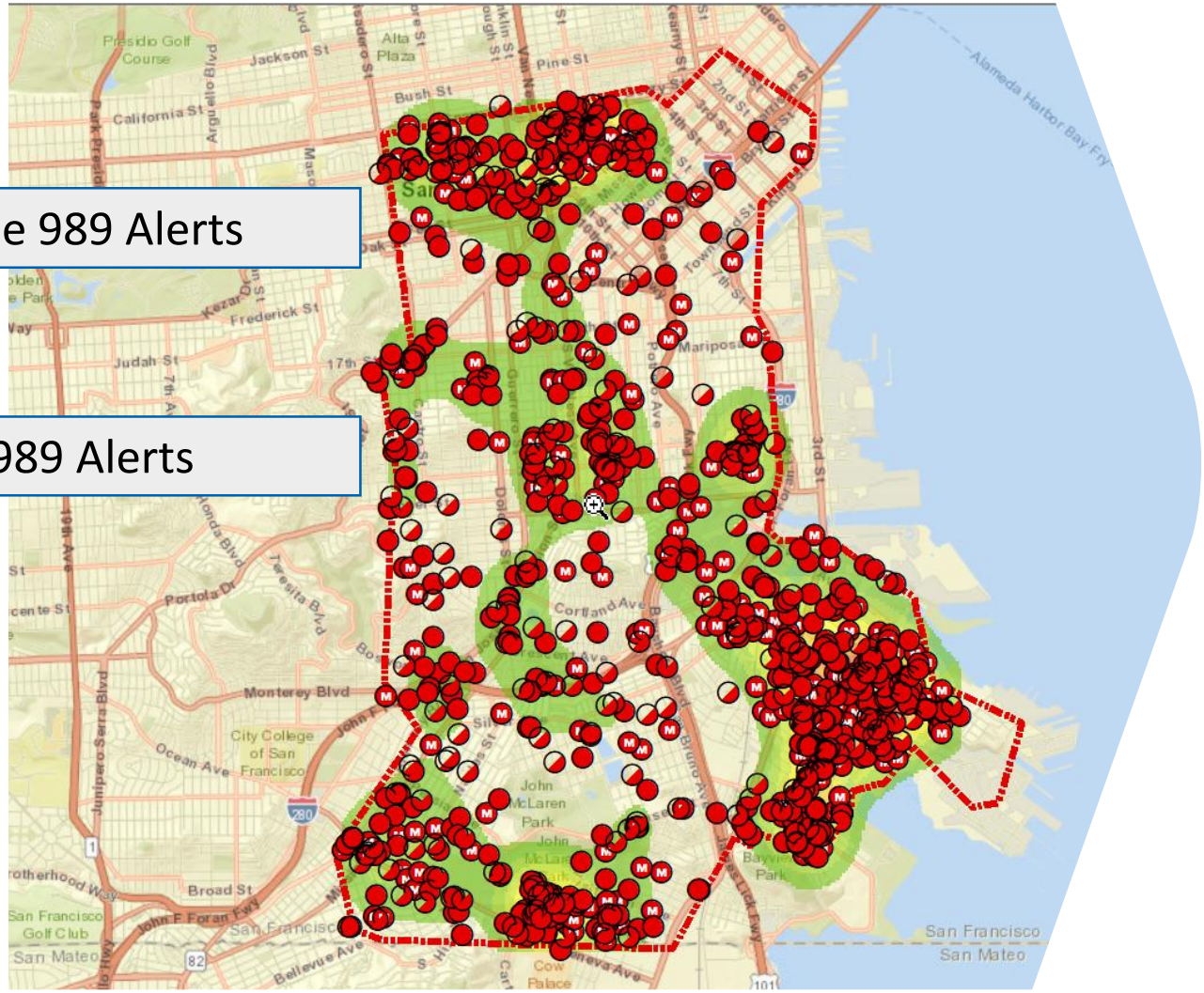


2019 data based on review of ShotSpotter incidents compared to 911 calls for service within 15 minutes of event

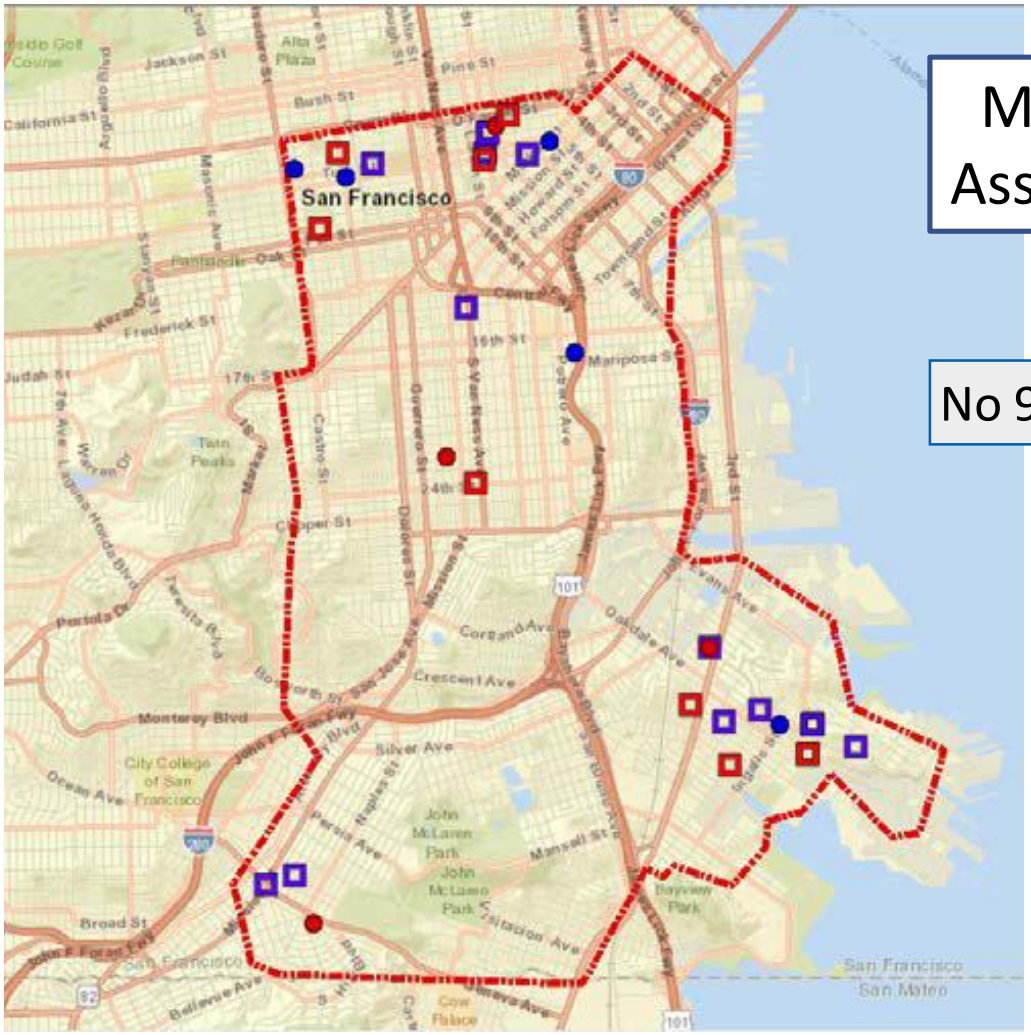
2019 Gunfire Data: 989 ShotSpotter Alerts

No 9-1-1 call for 854 of the 989 Alerts

9-1-1 calls for 135 of the 989 Alerts



2019 Major Injury/Fatal: 34 ShotSpotter Alerts



Major Injury/Fatal: Homicides or Assault with Deadly Weapon Cases

No 9-1-1 call for 24 of the 34 cases (71%)

Homicides 9-1-1 call: 4
Homicides no 9-1-1 call: 9

Shootings 9-1-1 call: 6
Shootings no 9-1-1 call: 15

2019 Gunfire Calls for Service

9-1-1 was called on 135 ShotSpotter events. On average, the information the caller provided was 3 minutes and 20 seconds following the shots fired and over 5,000 feet (almost 1 mile) from the location indicated by ShotSpotter

3:20 min

Call time average

5,059 ft

Average distance from shots fired location

794 Green St
Metropolis A

DETAILS

Today	08:42:08	Area:	/Beat 3
CAD:	17-238759	Incident:	9900-70035

STREET VIEW

794 Green St

AUDIO

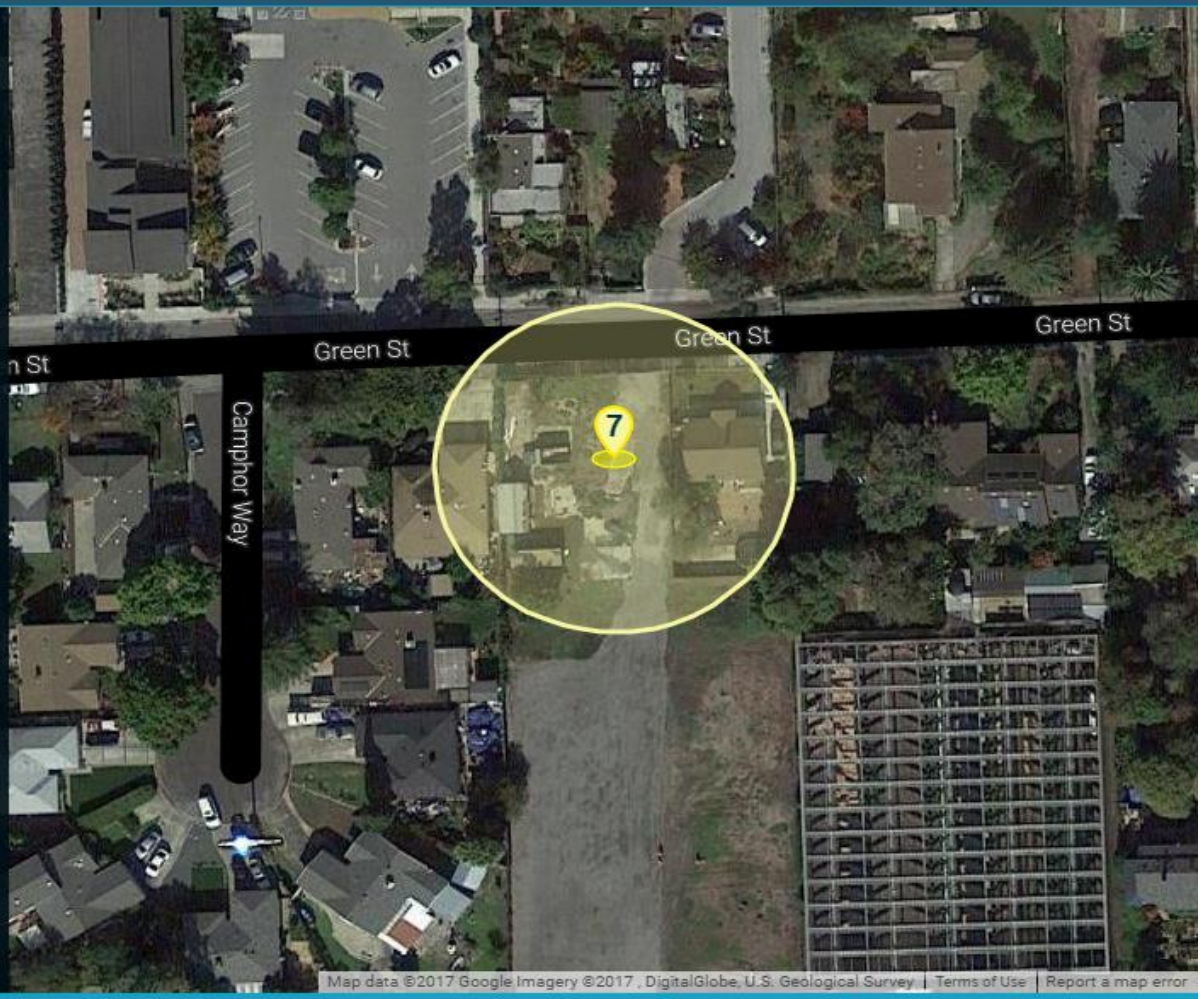
0 secs

COMMENTS

MOST RECENT

a few seconds ago
Modified CAD to 17-238759

email support@shotspotter.com



DETAILS

794 Green St
Metropolis A

7
an hour ago

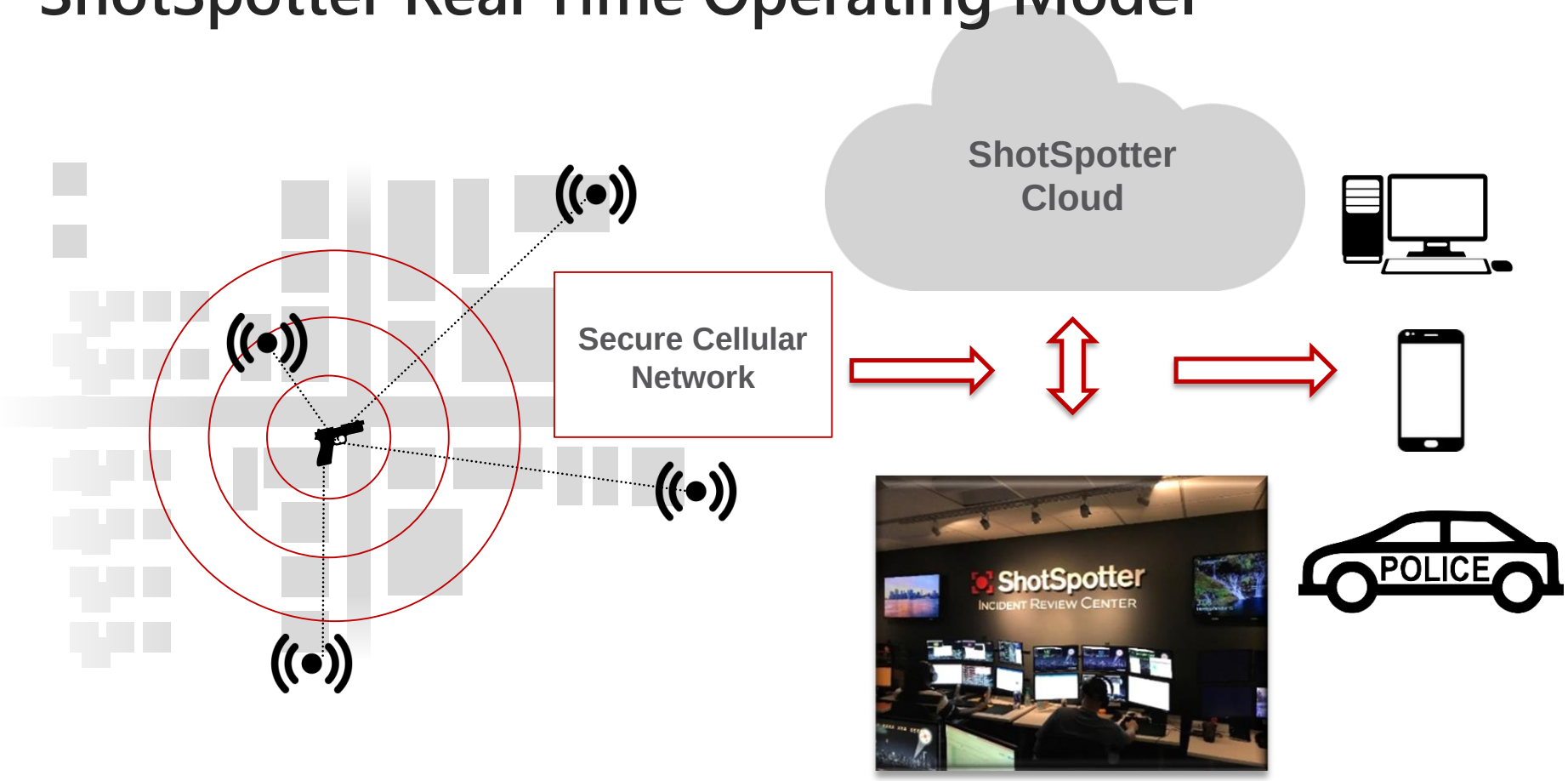
ShotSpotter®

ZOOM OUT

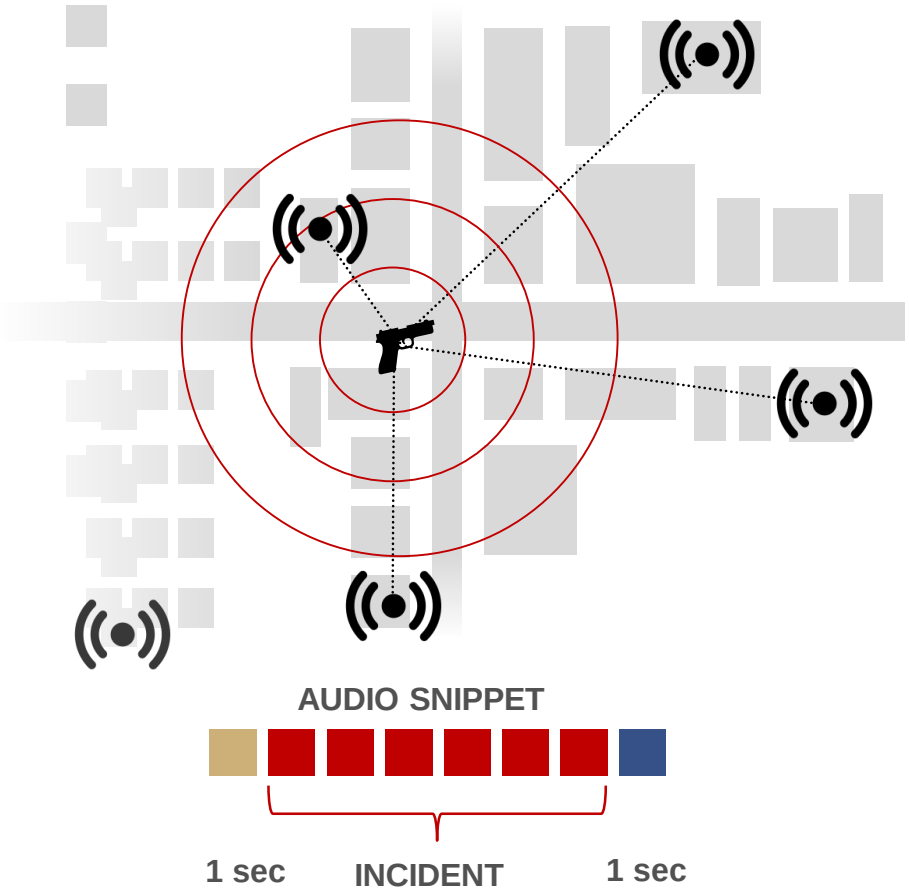
ZOOM IN

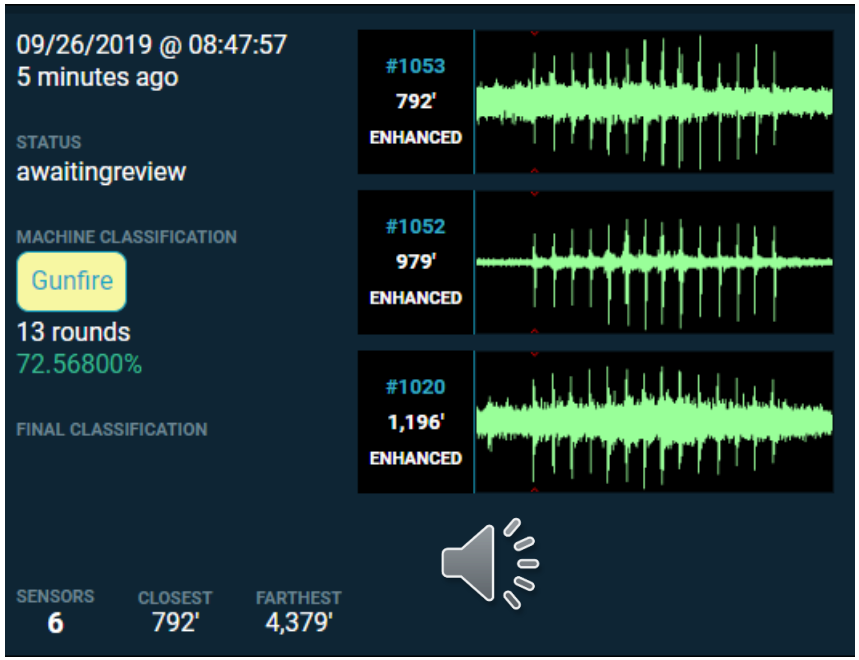
CLOSE UP

ShotSpotter Real Time Operating Model



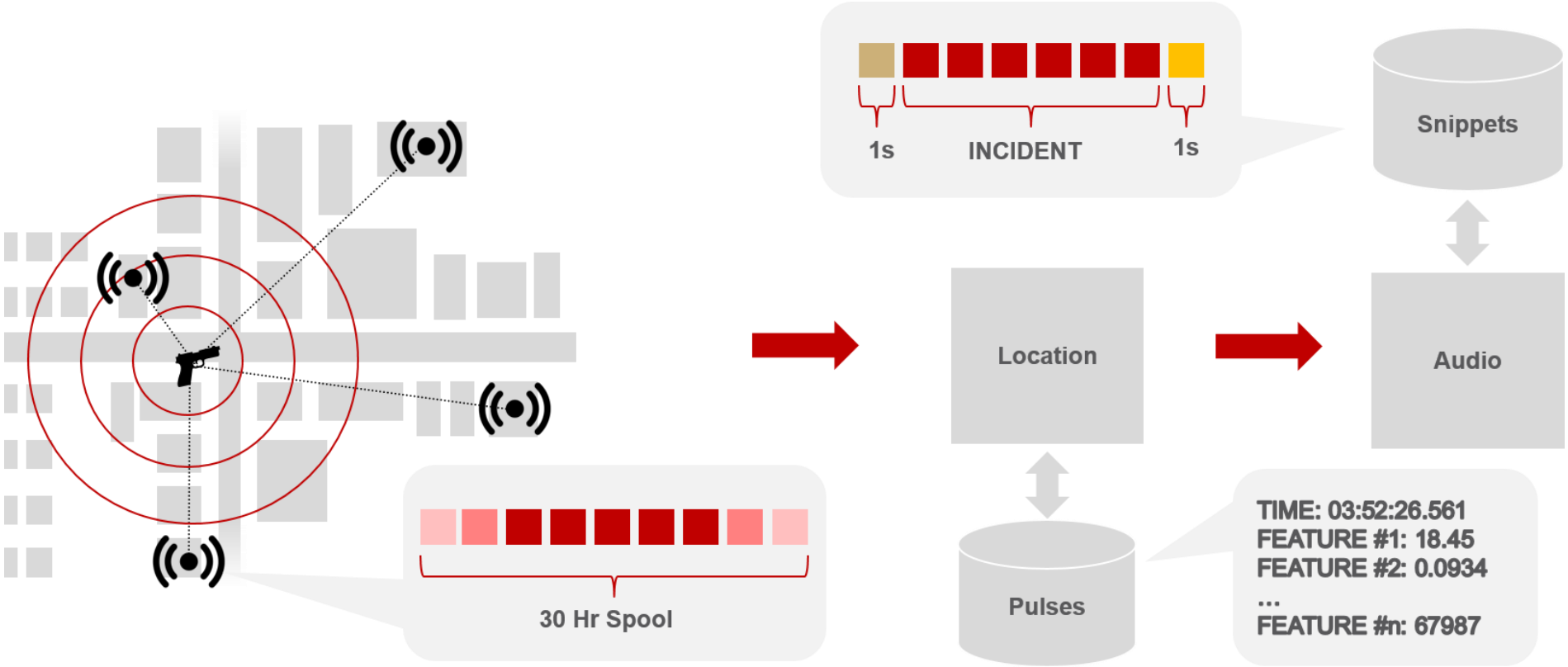
ShotSpotter Review





Review app used in ShotSpotter's Incident Review Center

ShotSpotter Data Storage



ShotSpotter Privacy Protections:

- ShotSpotter acoustic sensors are not positioned, tuned or specialized to pick up human voices. The sensors use ordinary microphones that are similar to ones found in cellphones and are placed high above the street.
- Sensors “listen” for gunshot-like sounds and trigger only when detecting an impulsive sound (instantaneous and sharp). When at least three different sensors detect a gunshot-like sound at the same time and determine a location, they send a short audio snippet to ShotSpotter headquarters.
- Human voices will never trigger a sensor because they do not produce an instantaneous sharp sound and they are not loud enough to be picked up by three or more sensors.
- Live streaming of sensor audio is not possible by company employees, police or third parties.

ShotSpotter Privacy Protections:

- Upon detecting a likely gunshot, trained ShotSpotter personnel listen to a short computer-generated audio snippet of the gunfire to double check that it is actually gunfire.

- It is highly unusual for a human voice to be included in a snippet. For this to occur, the voice must be concurrent with the gunfire. There is no personally identifiable information in any ShotSpotter audio snippet.

Policy Highlights

- ShotSpotter does not collect PII of community members.
- SFPD uses ShotSpotter for Patrol Response and for Investigations.
- SFPD must contract with ShotSpotter in order to benefit from the sensors and alerts.
- Data is secured by ShotSpotter and CAD/RMS systems.
- Authorized personnel must always gain access through a login/password-protected system which records all login access.
- SFPD Data Sharing is restricted and only allowed for law enforcement purposes.
- ShotSpotter retains verified incident data indefinitely, but purges other sounds after 30 hours.
- SFPD retention schedule is subject to evidence laws, CA penal code and statute of limitations.
- SFPD will update public website to include Surveillance Technology Policies and provide contact information for members of the public to submit inquiries.
- The Department of Police Accountability manages complaints from civilians.
- ShotSpotter unanimously passed the review of the Oakland Privacy Commission in November 2019.

Questions