

ShotSpotter Flex



**Data Driven Policing:
Leveraging Gun Fire Alert and Analysis Tools**

Presenters

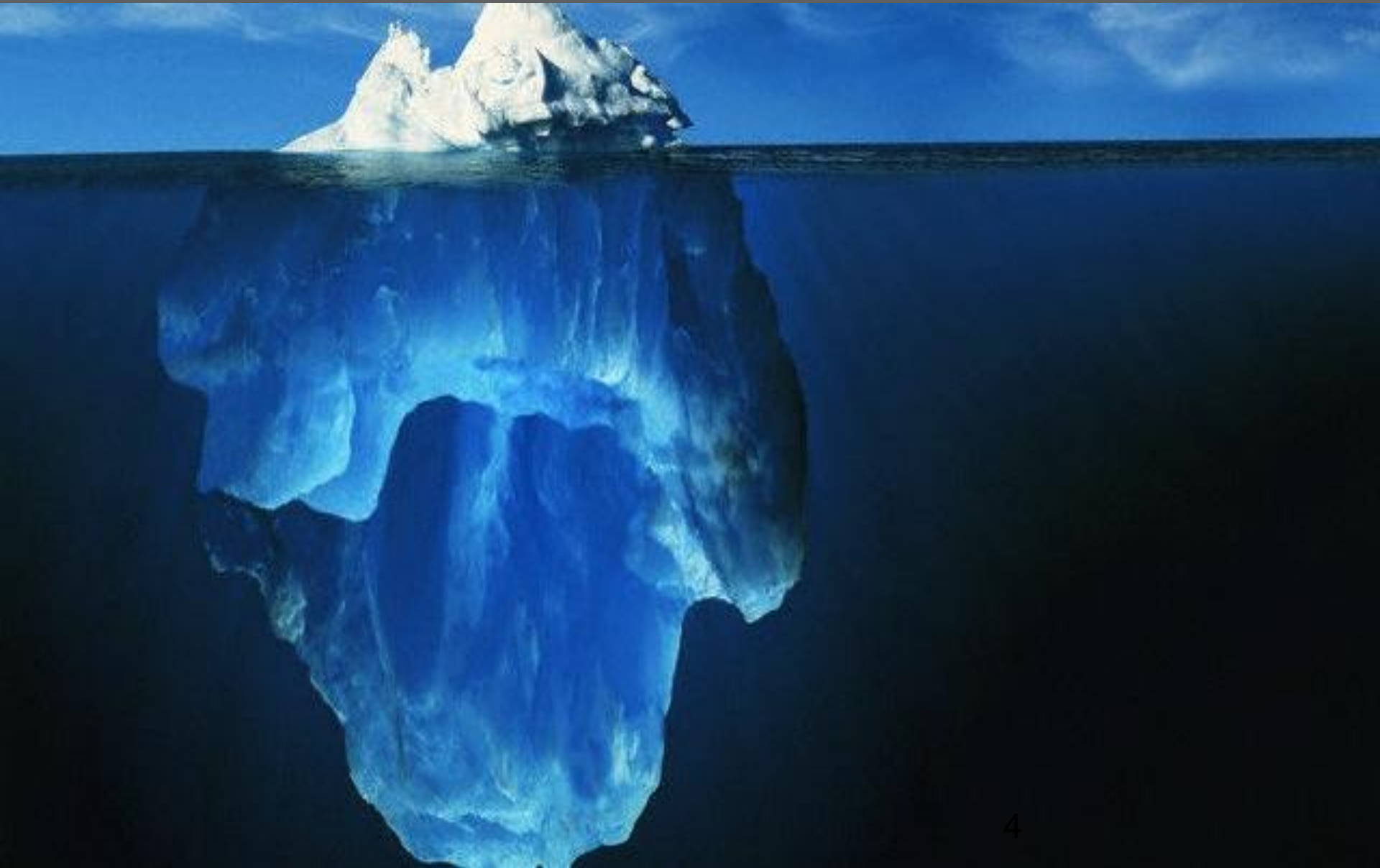
Ralph Clark
President and CEO
SST, Inc.

Gregg Rowland
Senior Vice President, North America
SST, Inc.

Context

- Homicide spike is an aberration but on-going gun violence activity is a **public safety** issue
- Seattle is not Oakland, CA or Newark, NJ but could proxy Nassau County in terms being “proactive”
- Seattle has many positives on which to build:
 - ① Data driven orientation
 - ② Strong sense of community
 - ③ Transparent city leadership

Homicides \neq Gun Violence



The Problem

① **Homicides < Gunshot Injuries < Gun Violence**

1

5 x

100x

② People call 9-1-1 ***less than 20% of the time***

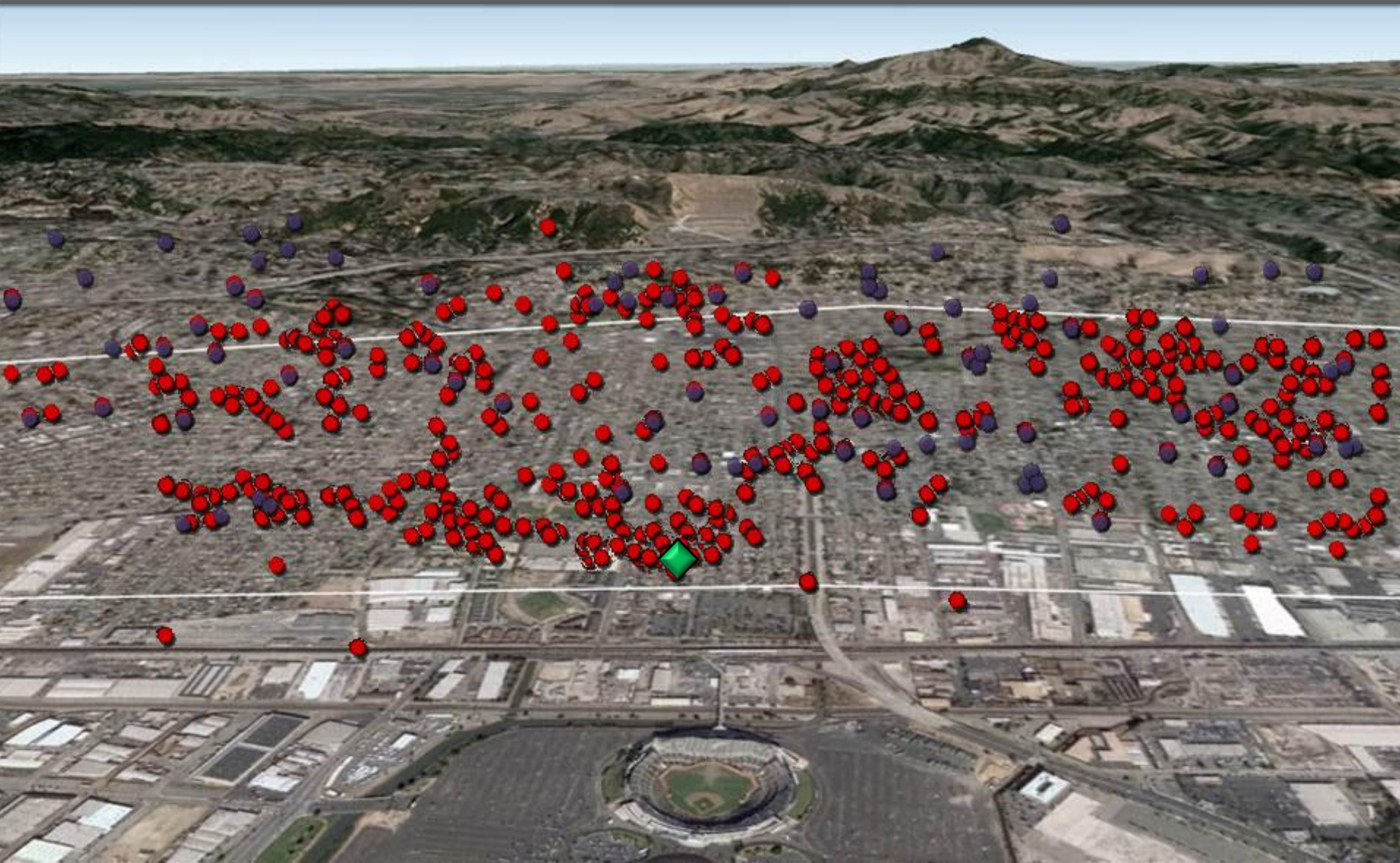
✓ Time = Late

✓ Location = *"I am not sure. Somewhere out there."*

③ As a result **Law Enforcement** is perceived as....
inefficient, ineffective, and worst case inept

④ Gun violence is Chicago, IL & Washington DC but also Rocky Mount, NC and Quincy, WA

Perception vs. Reality



Sources of Gun Violence Reduction

ARC: Awareness → Response → Consequences

① Deter

- ✓ Law enforcement rapid and precise response
- ✓ Community engagement (tolerance to intolerance)

② Interrupt

- ✓ Investigate potentially escalating events

③ Disrupt

- ✓ Serious away time for hyper violent offenders [20/80 rule applies]
- ✓ Gun take back vs. gun buy back

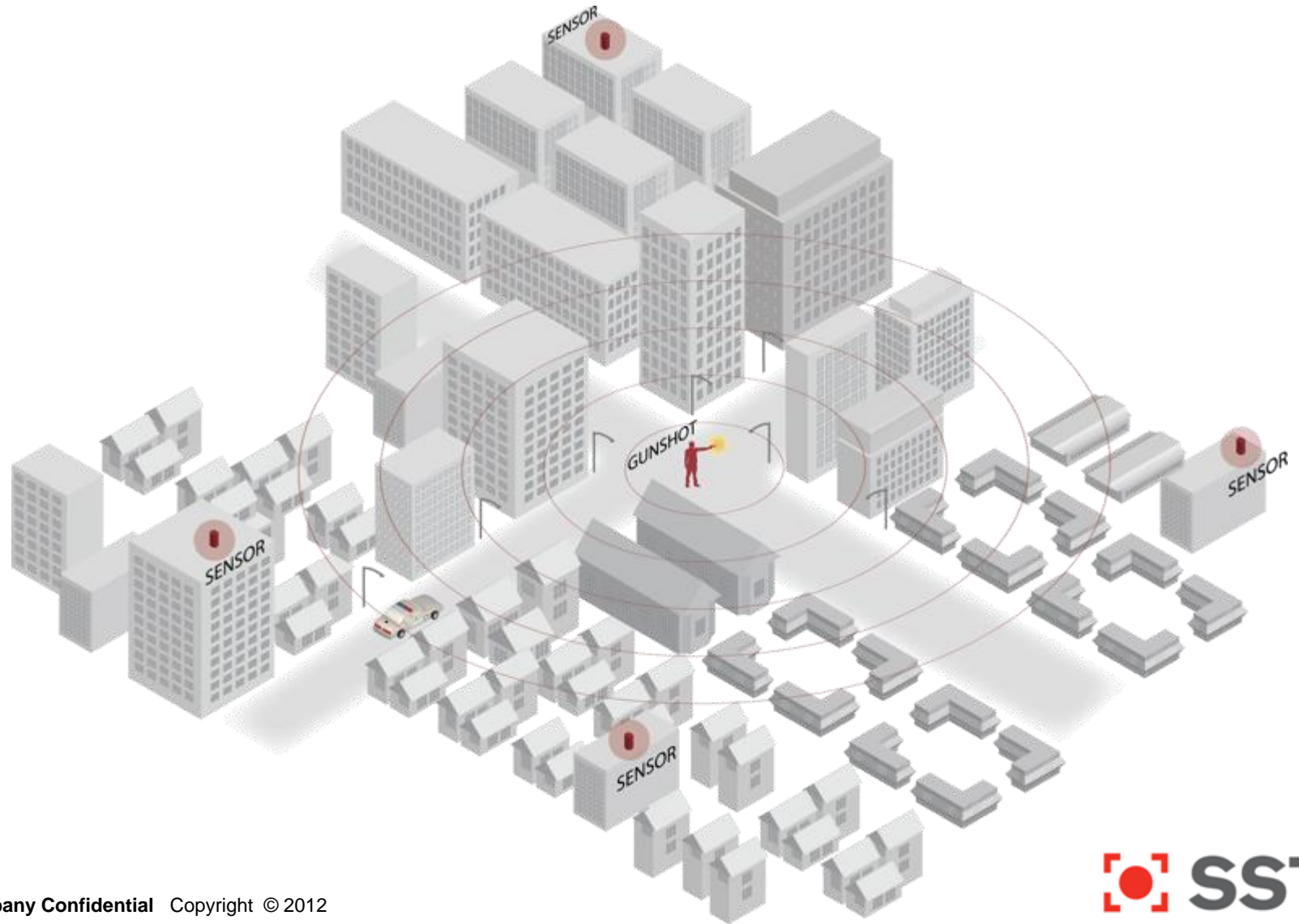
ShotSpotter Flex Solution

ShotSpotter Flex is.....

- ① an affordable managed service offering which leverages
- ② an **acoustic sensor network** deployed over wide areas that
- ③ provides the *When*; *Where* and *What* of gunshot incidents and
- ④ although passive, it is always on, in addition it
- ⑤ is forensically sound and a key intelligence tool with multiple use cases

The ShotSpotter Solution

Wide Area Sensor Deployment



SST 24x7 Monitoring Center



- Every subscription customer receives **24x7x365 incident monitoring**
- **Highly trained reviewers** see 10,000s of gunfire incidents: more gunfire than most cops!
- **Eliminates #1 and #2 customer friction points** (training of dispatch officers and false positives)
- Drives **constant, day-by-day interaction with customers**
- **Scales efficiently:** high customer-to-reviewer ratio

The ShotSpotter Solution

Immediate Gunfire Location

The screenshot displays the ShotSpotter Flex Alerts web interface. At the top, a red banner with a white 'M' icon reads "SHOTS FIRED at 1234 Wisteria Dr.". To the right is a search bar containing "GLS or CAD ID". Below the banner, a "List" button is on the left, and "Incident 7690" is the main heading. The incident details include: "23 rounds, stationary shooter", Flex ID: 7690, District: (blank), CAD ID: (input field with placeholder "enter CAD ID here"), Beat: Beat 3, Latitude: 37.463687, and Longitude: -122.131926. There is a chat icon with the text "Click to chat with SST about this incident". An audio player section shows a play button and the text "play audio from sensor 251ft away" and "switch to 0.5mi away". On the right is an aerial map of a residential street labeled "Wisteria Dr" with a red 'M' icon marking the incident location. The map has navigation controls and a scale bar. At the bottom, the interface shows "Logged in as: (blank) (using Alert-Mobile view)", "Logout", "Help", "About", "Connected 2012.2.1.20812", and a connection status icon.

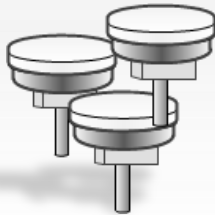
ShotSpotter Flex Reviewed Alerts Service

A gun is fired;
the sound of an
explosion radiates



1

Multiple ShotSpotter
sensors throughout
coverage area trigger



2

ShotSpotter Software
at SST Incident
Review Center
analyzes data and
pinpoints location



3

Police Dispatcher
coordinates response
to Gunfire Alert using
either ShotSpotter
Software or 9-1-1
System



4

Within minutes,
officers arrive to
precisely the right
location, fully aware
of the situation
before they get there



5



Practical Benefits of Gunfire Data



INCIDENT
RESPONSE

INCIDENT RESPONSE

- Actionable situational intelligence
- Safer & more effective strategic & tactical response
- Increased apprehensions & firearm confiscations
- Increases officer safety
- Reinforces positive community engagement

Practical Benefits of Gunfire Data



INVESTIGATIONS

- Faster location of evidence & witnesses
- Improves productivity of investigative resources
- Forensic data strengthens investigations

Practical Benefits of Gunfire Data



PROSECUTIONS

- Empirical data to strengthen prosecution
- Incident data is court-admissible & defensible
- Expert witness services & certified forensic reports

Practical Benefits of Gunfire Data



CRIME ANALYSIS & INTELLIGENCE

- Provides in-depth information otherwise unattainable
- Strengthens predictive analysis & intelligence
- Improves strategic & tactical planning & resource management
- Improves crime reporting & analysis to track improvements & support funding

Reports and Data Analysis

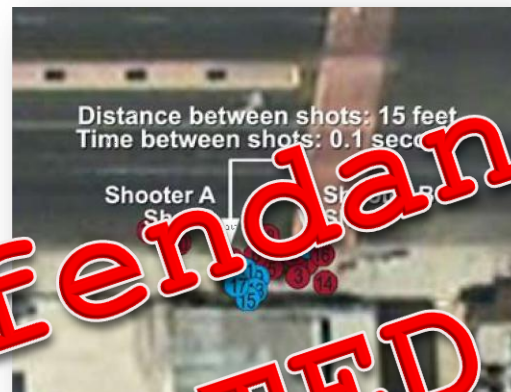
Detailed Forensic Report

- Detailed forensic reports provide law enforcement with an audio analysis and specific information needed regarding an incident.
- These reports are often used in court.
- Export testimony, from SST personnel is available to discuss the details of the report and how the system captures gunshot incidents.

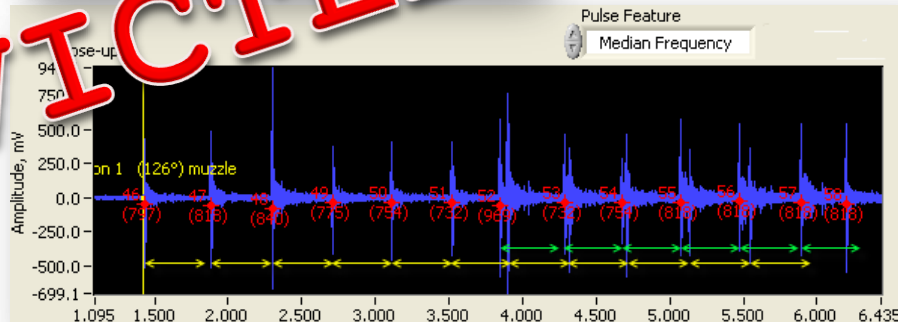
Investigate and Provide Evidence

ShotSpotter Forensic Analysis & Expert Witness Testimony

Initial ShotSpotter Alert



Both Defendants CONVICTED



ShotSpotter Forensics prove *two shooters* →
two Murder 1 Convictions

From Investigation to Prosecution

ShotSpotter evidence is solid and accepted

- Admitted as scientific evidence at trial in CA, NY, NJ, MI, MN, MO, WI, DC, AZ, MA, LA, AL, FL, SC. Over 400 court reports (DFR) provided.
- Continued challenges and legal acceptance via Kelly-Frye evidence examination at trial
- Expert witness in many cases
- Evidence presented in cases across US

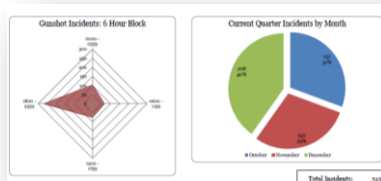
Feb 2009	Century City, CA, People vs Escarzaga, (Prosecution), 2 convictions
Mar 2009	Glendale, AZ, conviction
April 2010	Alameda County, CA. People v Omar Ward (Defense), verdict unknown.
Oct 2010	Monroe County, NY, People v Anthony Higgins (Prosecution), conviction
Oct 2010	Alameda County, CA, People v Johnson (Prosecution), conviction.
Jan 2011	San Mateo County, People v Maldonado (Prosecution), conviction
April 2011	Contra Costa County, CA, People v Bossett (Prosecution), conviction.
July 2011	Rock County, WI, People v Mance (Prosecution), conviction.
Sept 2011	Monroe County, NY. People v Brown (Prosecution), conviction.
Sept 2011	Washington DC, US v McCorkle (Prosecution), conviction.
Oct 2011	Alameda Count, CA. People v Barrientos (Prosecution), verdict unknown



SST Monthly Activity Reports

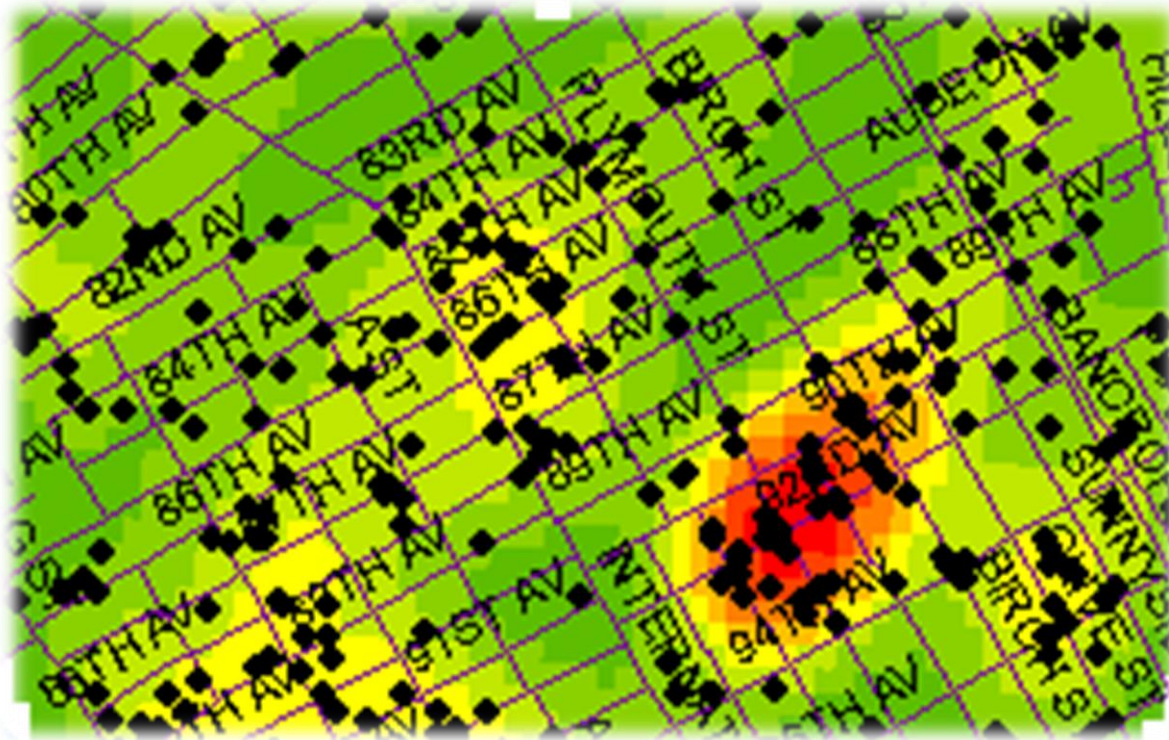
Each month, SST sends customers a report that lists all gunshot activity by time of day, day of week.

This report includes a map of the area with a visual display of hotspots based on the volume of shots fired.

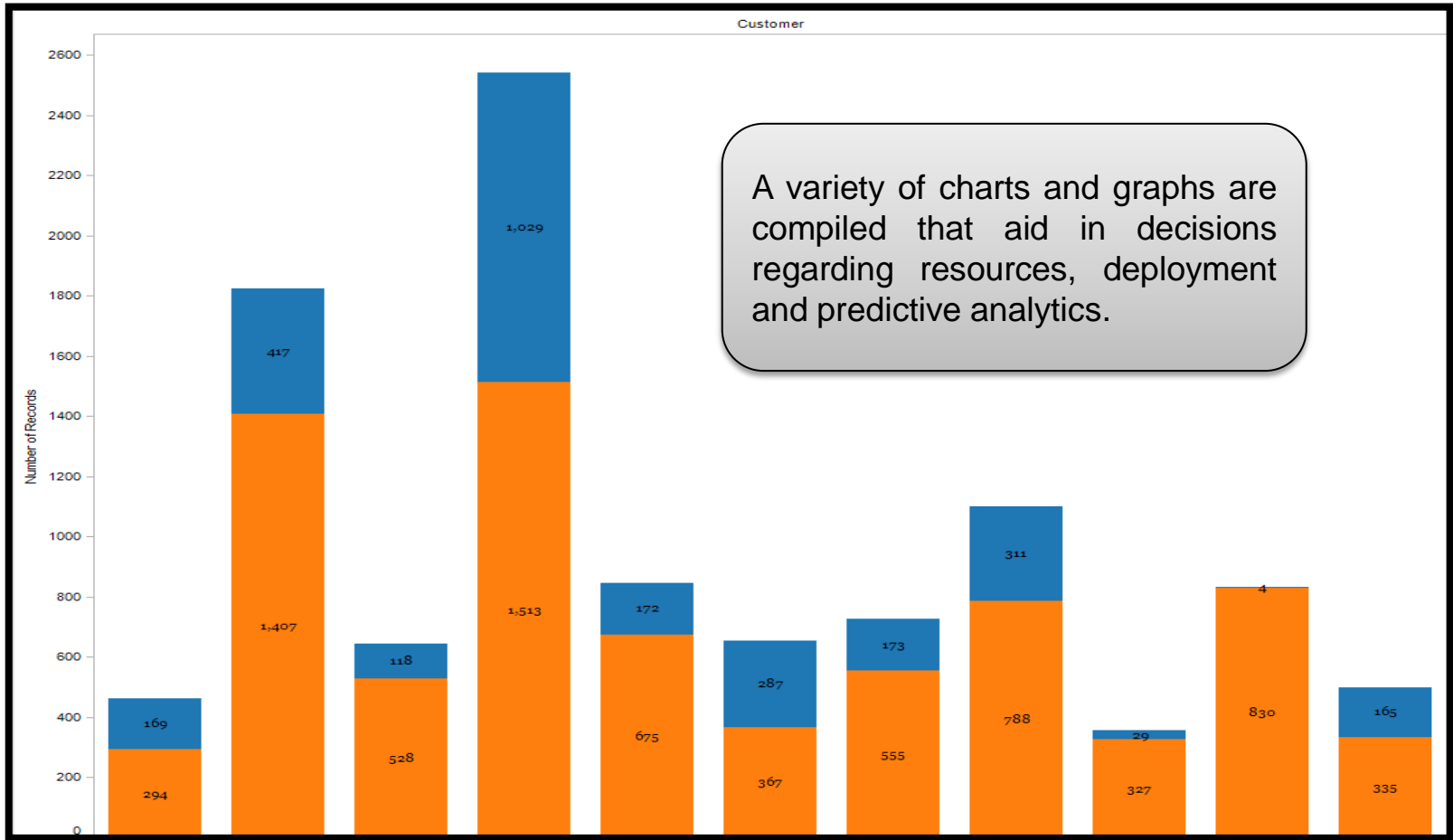


Hotspot Maps

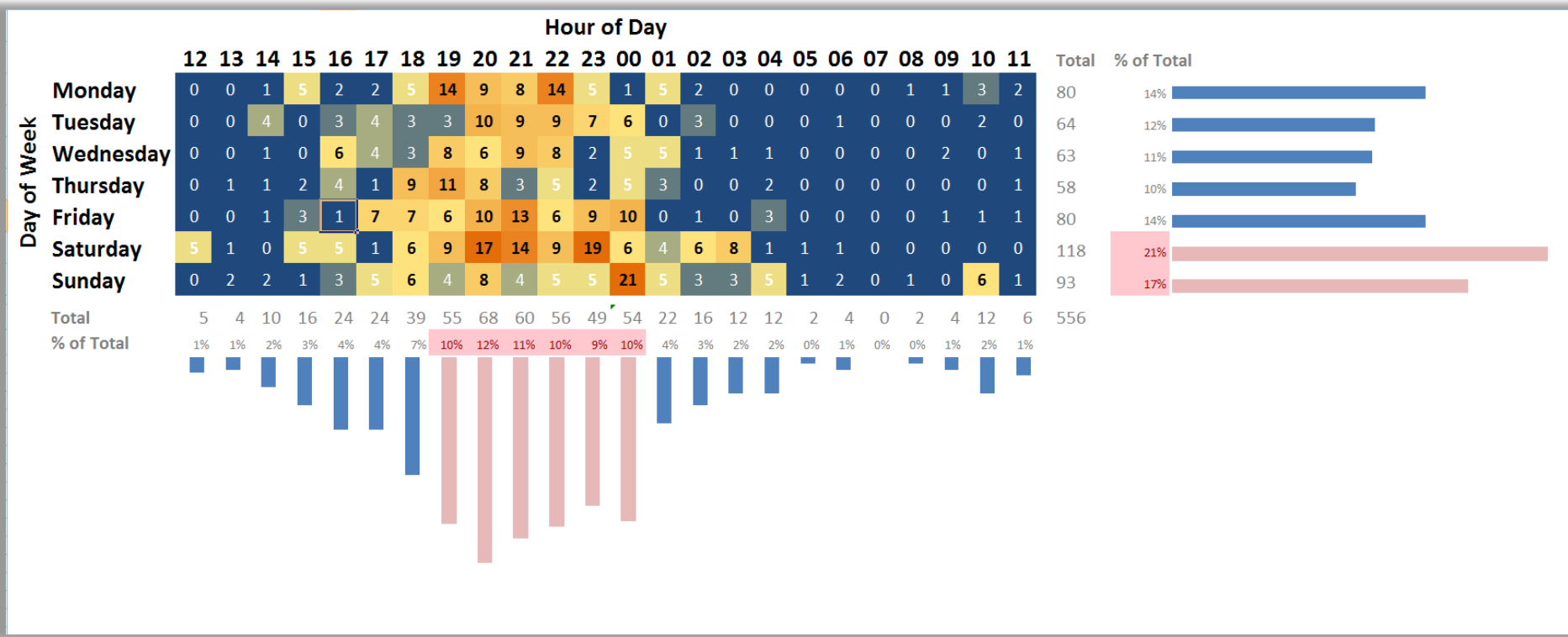
SST provides hotspot maps of areas based on the number of incidents or number of shot fired in a specific area. This data is significantly different than what is produced from CAD.



Patterns

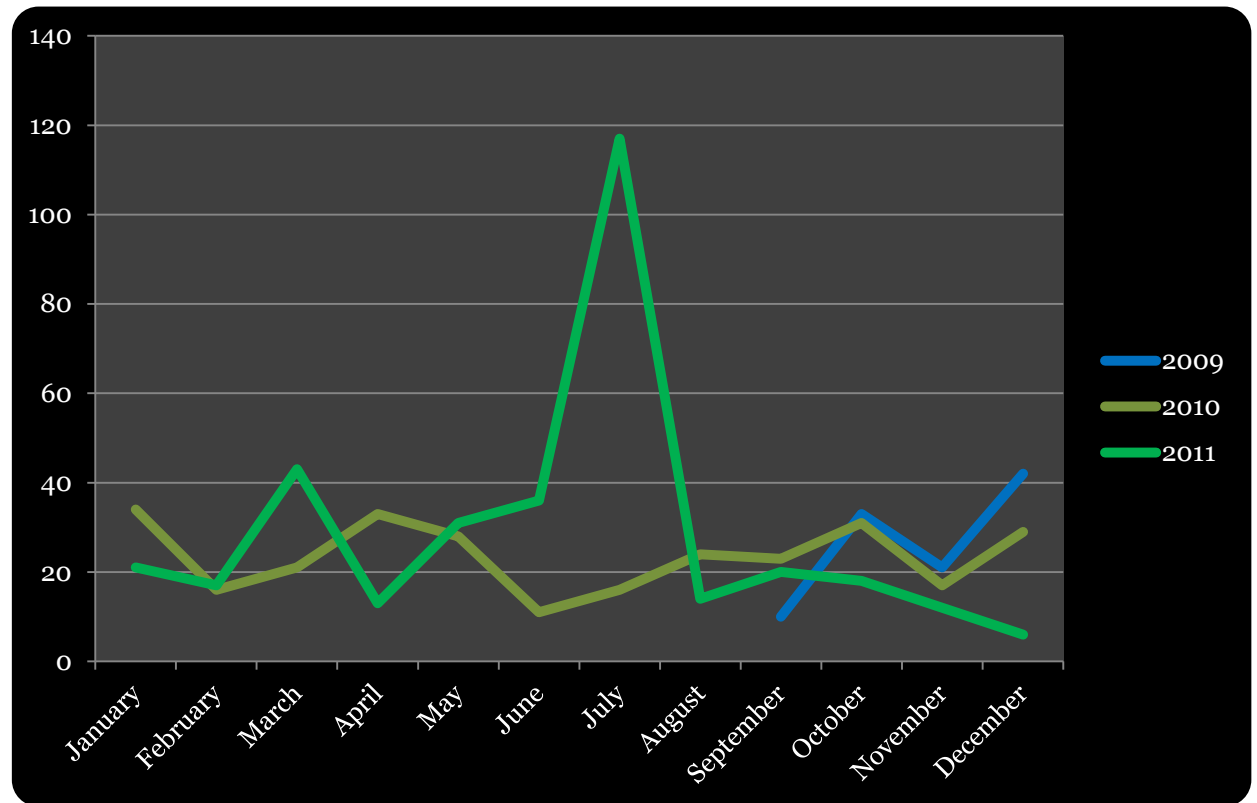


Time of Day/Day of Week Analysis



Progression Chart

This chart displays gunshot activity over three years. It shows the progression of gunshot incidents and the months that incidents are at their peak.



CompStat Information

Law enforcement agencies use a variety of different methods to conduct CompStat presentations. Size of the department, frequency and length of the meeting often determine items that will be discussed.

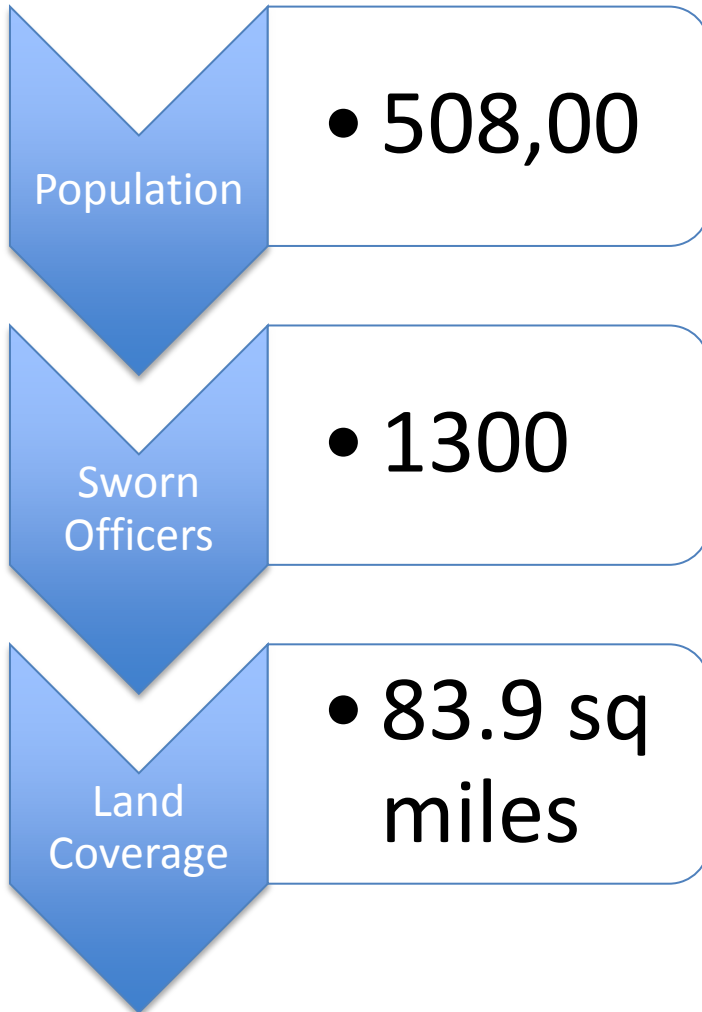
SST data is often incorporated into CompStat presentations. The data is extracted into a spreadsheet and combined with other CompStat charts, graphs and maps, or, the data is taken from SST programs with mapping and reports present and available for use to discuss problem areas and heightened activity.



<u>Type of Incident(s)</u>	
Single Gunshot	61
Multiple Gunshots	69
Possible Gunfire	7

Coverage Area Analysis

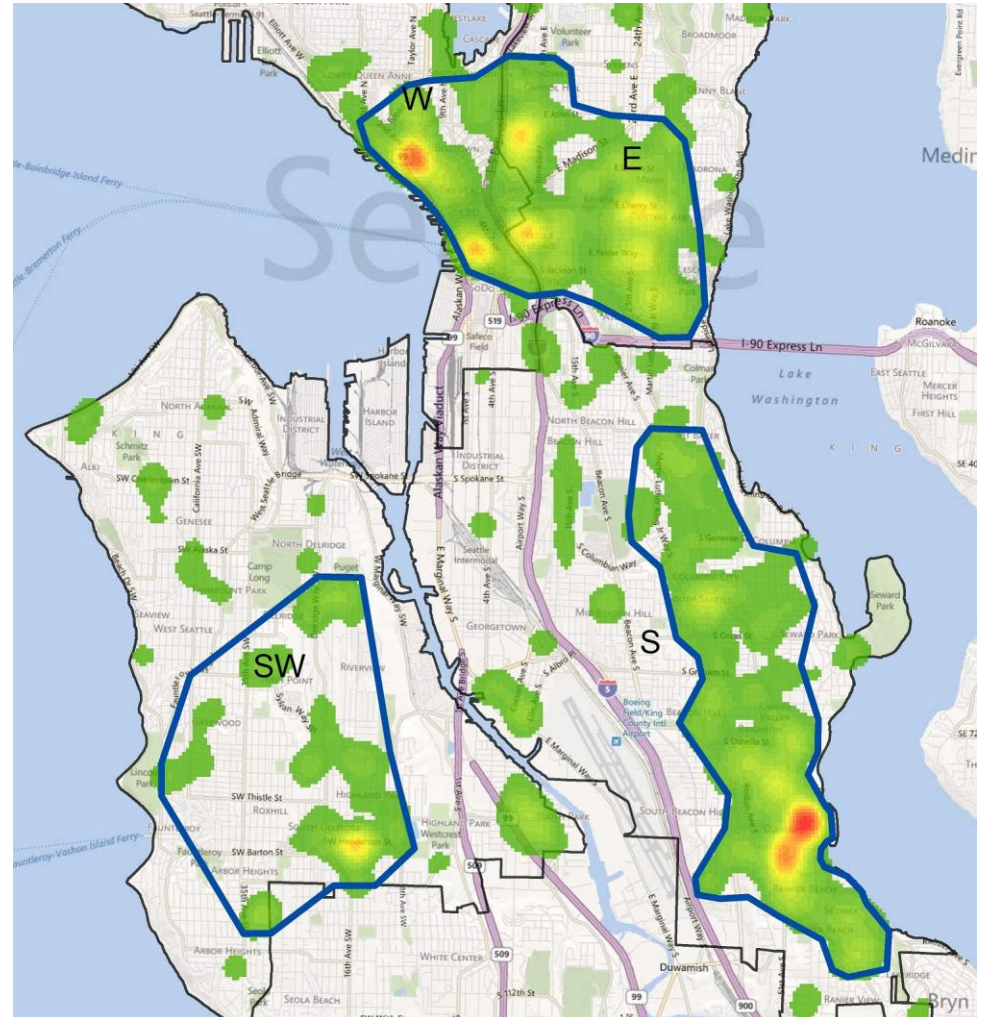
Seattle Demographics and Coverage Area



• 508,000

• 1300

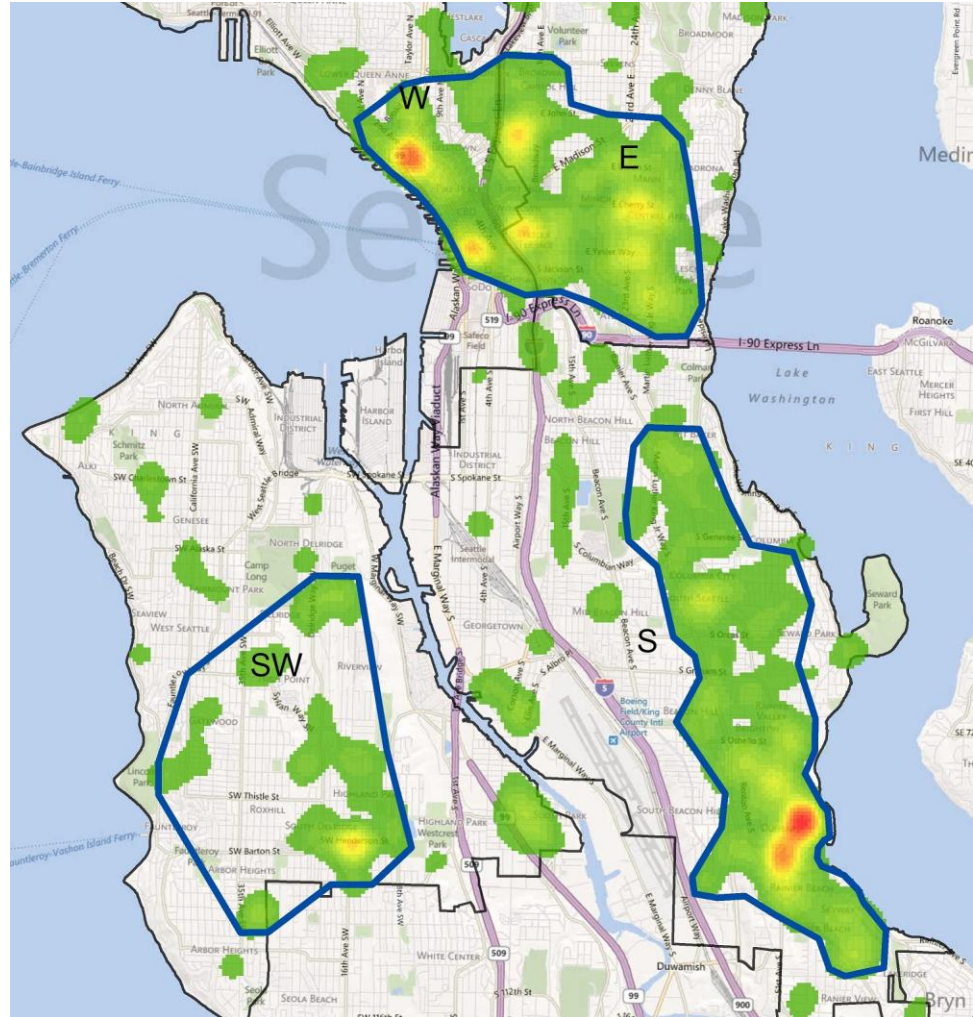
• 83.9 sq miles



Recommended Coverage Areas ShotSpotter Flex™

The majority of the calls for Shots, Shootings and Weapons occurred in 3 different areas of the city, totaling 15.0 square miles.

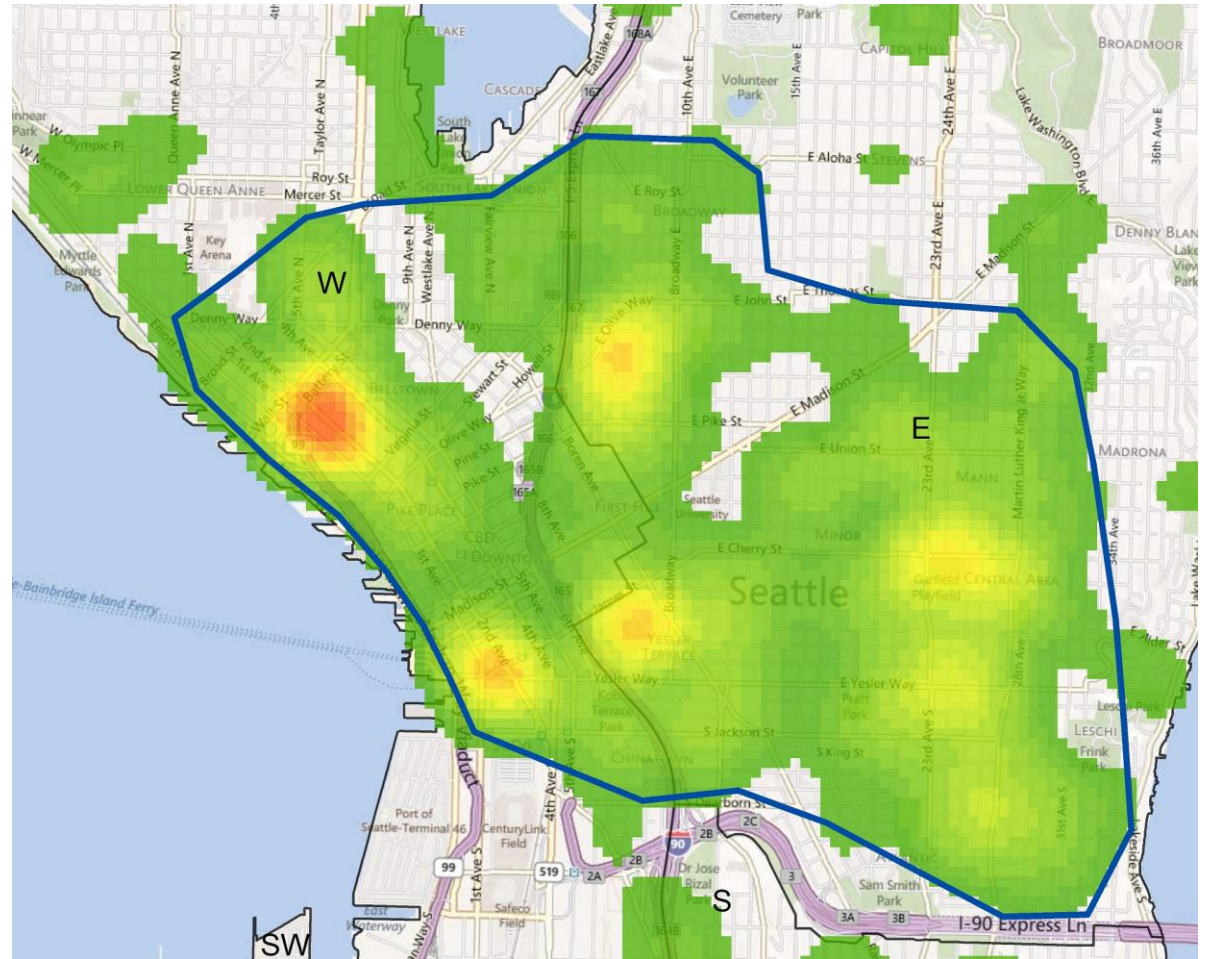
These areas cover approximately 17.9% of the city, but account for 55.1% of calls for Shots & Weapons.



West Precinct and East Precinct

The blue polygon represents a recommended 5.0 square mile ShotSpotter Flex coverage area in the West and East Precincts.

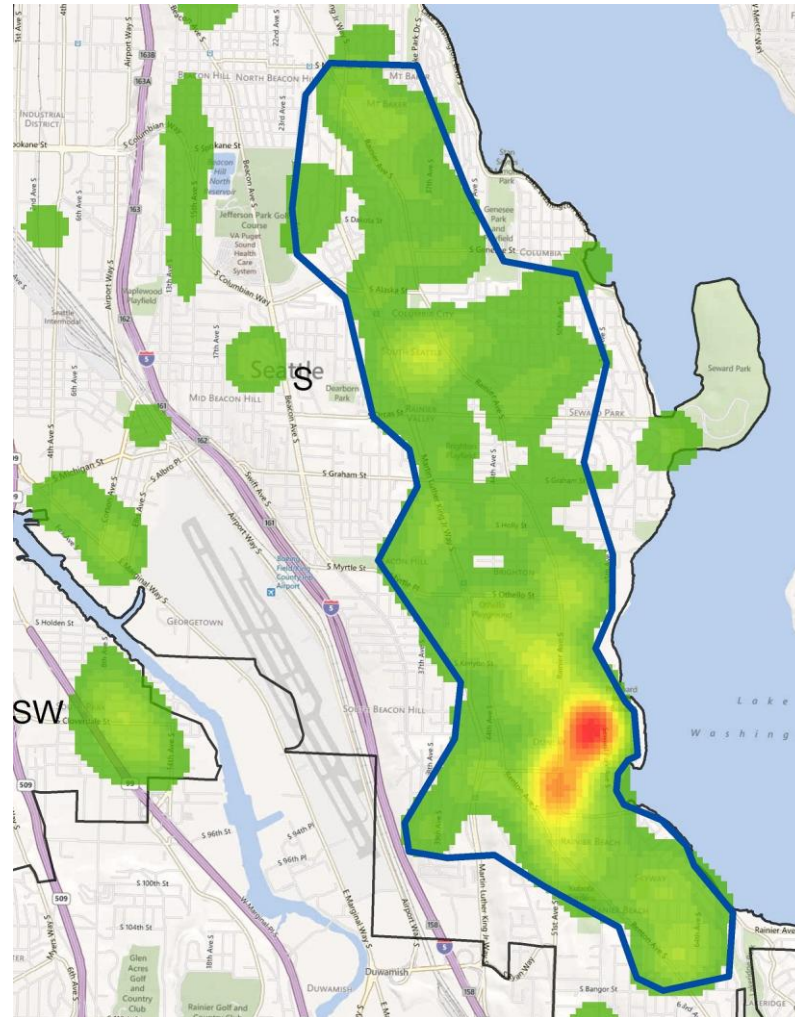
The analysis showed that 25.9% of the City's calls for service (Shots, Shootings, and Weapons) fell within this area.



South Precinct

The blue polygon represents a recommended 5.0 square mile ShotSpotter Flex coverage area in the South Precinct.

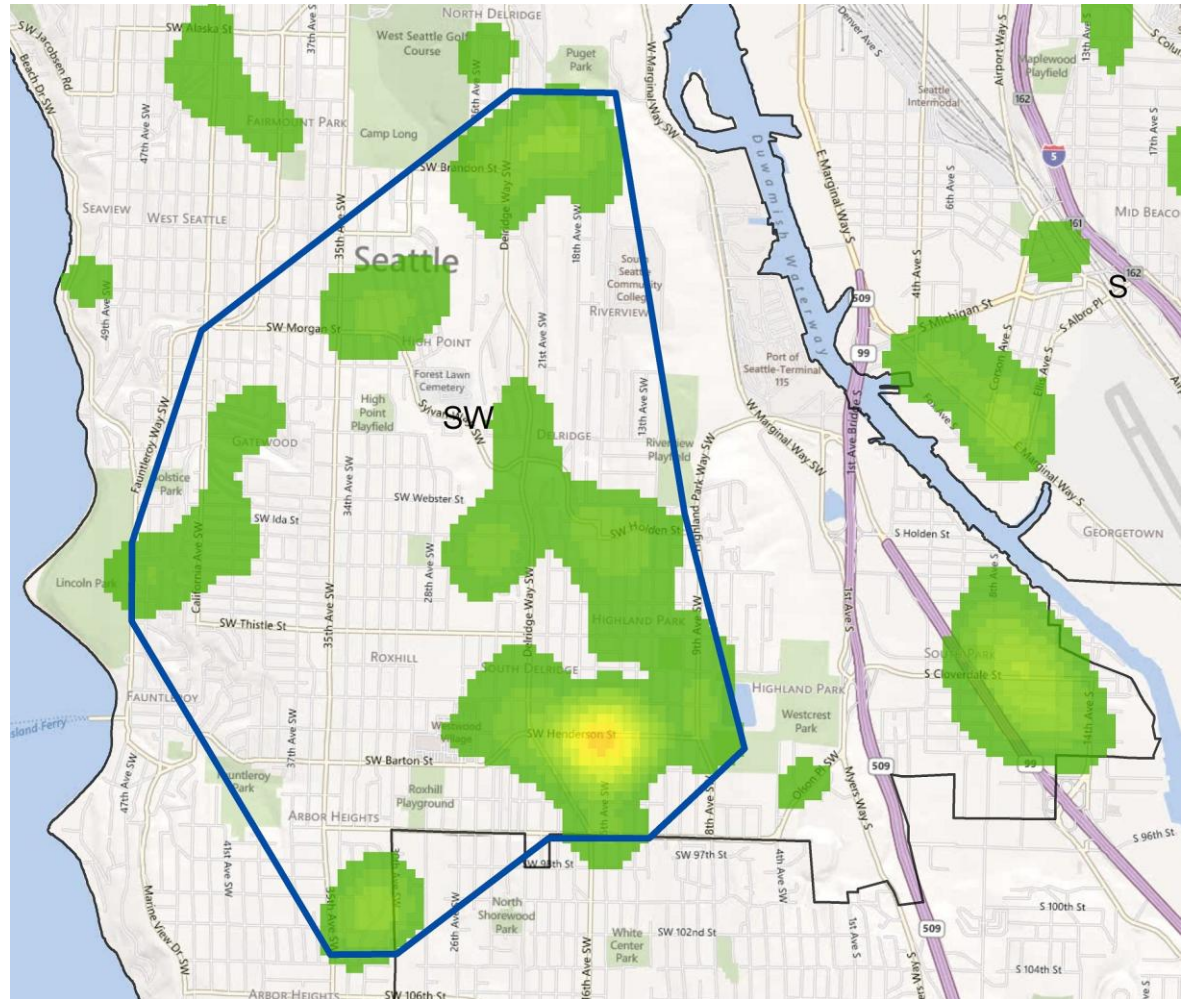
The analysis showed that 21.3% of the City's calls for service (Shots, Shootings, and Weapons) fell within this area.



Southwest Precinct

The blue polygon represents a recommended 5.0 square mile ShotSpotter Flex coverage area in the Southwest Precinct.

The analysis showed that 7.9% of the City's calls for service (Shots, Shootings, and Weapons) fell within this area.



Questions?

ShotSpotter Flex

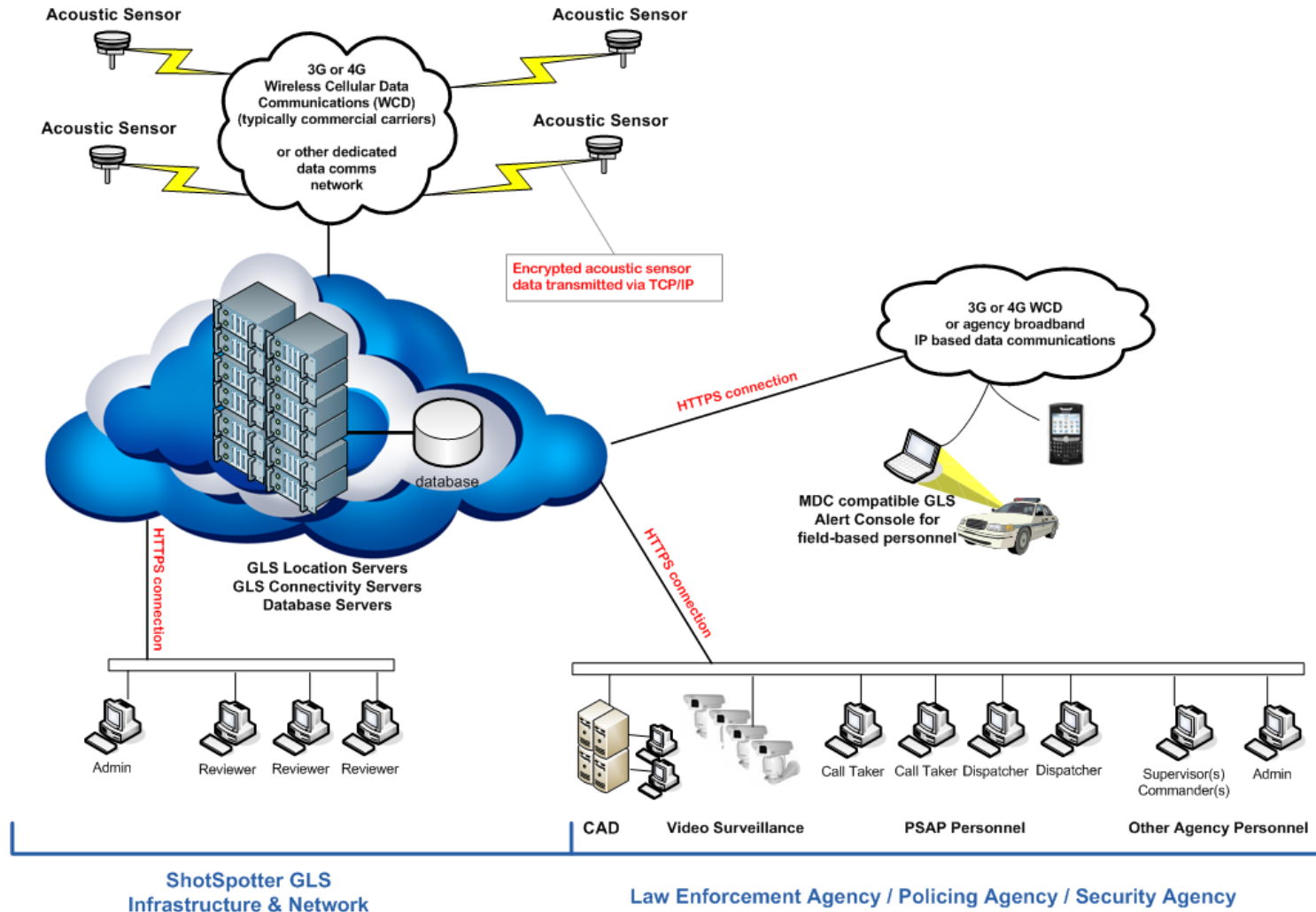


Thank you

Additional Materials

ShotSpotter Flex Subscription Service

ShotSpotter Flex – Architecture



ShotSpotter Flex – Key Facts

- No installation or maintenance required of customers
 - No servers
 - No IT configuration (except a web browser)
 - No sensor hardware to deploy or maintain
- Single annual fee per square mile [\$40-60K]



The fight to stop gun violence starts with ShotSpotter

Leadership Program to Reduce Gun Violence

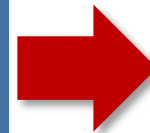
Awareness

- Less than 20% of gunfire incidents are reported through traditional 9-1-1 system
- Enables quick & precise identification of gunfire location and other critical related information
- 24 x 7 coverage
- Immediate review by trained gunfire experts



Response

- Safer response for first responders faster and more precise
- More situational awareness & intelligence available
- Detailed incident and gunfire data
- Value-added analysis provided by expert reviewers
- Immediate & quick law enforcement presence
- Enhances ability to secure scene
- Improves investigations



Consequences

- Awareness among perpetrators that law enforcement will respond and enforce
- Enables government and communities to create real penalties for crimes
- Creates collaboration and cohesion between communities, law enforcement and governments
- Improves quality of life and economic vitality within communities