OPD ShotSpotter Contract Renewal

City Council Meeting
October 15, 2024

ShotSpotter in Oakland Police Department

ShotSpotter is a valuable tool for OPD that is imbedded in daily operations.

Rapid Response & Situational Awareness ▶
- ✓ Alerts received **within 60 seconds**
- ✓ Exact location with supporting audio and rounds fired
- ✓ Situational awareness for officer safety

Initial Scene Investigation ▶
- ✓ Identify victims and **Render Aid**
- ✓ Speak with witnesses
- ✓ Collect valuable evidence (shell casings, etc.)

Crime Lab Evidence & Case Management ▶
- ✓ Document findings from case
- ✓ Log **evidence for lab testing**
- ✓ Track Crime Gun findings and matches

Shooting Review & CeaseFire ▶
- ✓ **Support gun violence intervention activities**
- ✓ Weekly review of shooting investigations
- ✓ Collaboration on incidents and potential retaliation
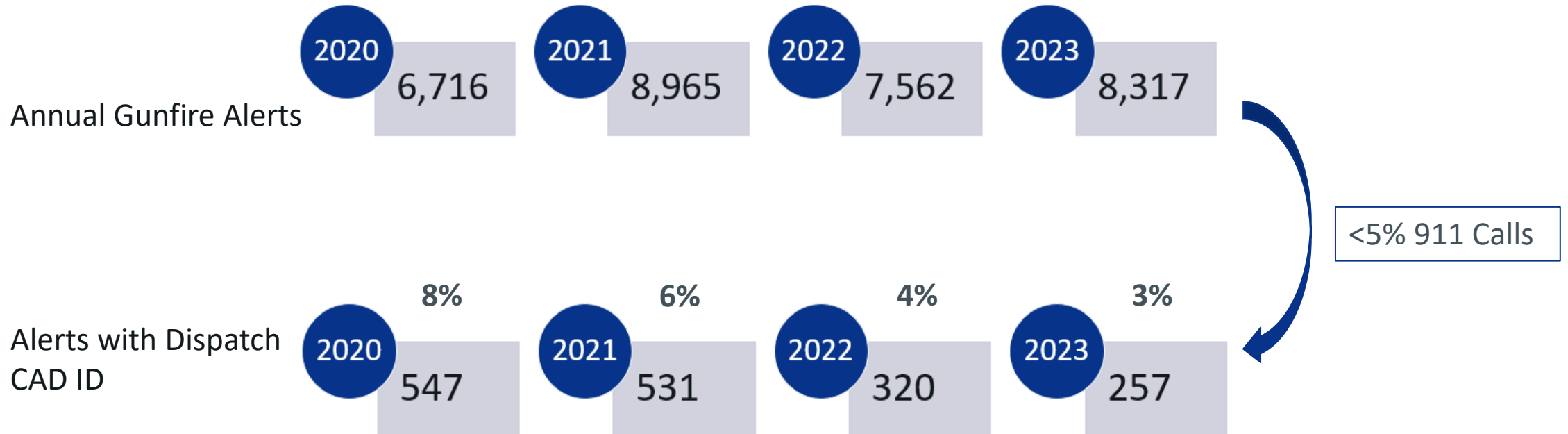
Ongoing Gunfire Intelligence ▶
- ✓ **Data-driven strategies & resource deployment**
- ✓ Aggregate data for trends and patterns
- ✓ Intelligence to support investigations

Gunfire Activity in Oakland

More than 95% of Gunfire is not reported in the first 15 minutes or at all.

Without this critical tool for public safety, gun fire in Oakland would largely go unreported.
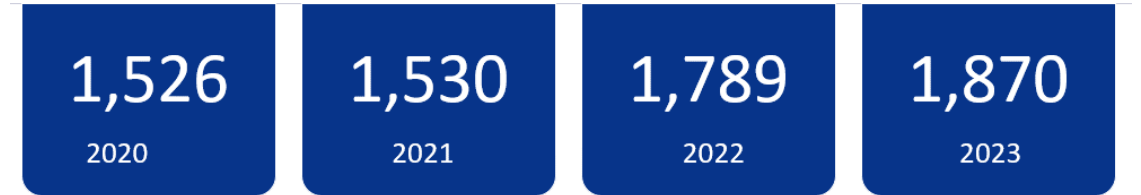
Annual Gunfire Alerts

2020	2021	2022	2023
6,716	8,965	7,562	8,317

<5% 911 Calls

Alerts with Dispatch CAD ID

8%	6%	4%	3%
2020	2021	2022	2023
547	531	320	257

The Value to Oakland – Key Metrics

Non-fatal Victims associated with ShotSpotter Alert

129	192	171	170
2020	2021	2022	2023

Non-fatal Victims - ShotSpotter Alone

101	76	96	113
2020	2021	2022	2023

Reports Taken

1,526	1,530	1,789	1,870
2020	2021	2022	2023

The absence of physical evidence does not indicate a false positive or that gunfire did not occur

700-1,000: Additional reports each year. Classified as Evidence Technician, Transport, Assignment Report or Administrative

Cost of Gun Violence

Defining Accuracy

The absence of physical evidence does not indicate a false positive or that gunfire did not occur.

Lack of a Victim

Lack of Property Damage

Lack of Recovered Casings

Lack of a Filed Case

False Positive

≠ Despite the lack of immediate evidence, the intelligence from shooting trends/patters have provided valuable insights.

Defining ShotSpotter Accuracy

90 %   Contractually guaranteed accuracy

97 %   Average across all customers

99 %   Oakland 2023 Accuracy

<u>Missed Incidents</u>

An unsuppressed gunshot incident that meets reporting criteria but was not detected by ShotSpotter system

<u>Misclassified Incidents</u>

A detected and located incident, incorrectly classified by ShotSpotter. Misclassification types include: **False Positive** and **False Negative** incidents.

<u>Mislocated Incidents</u>

A gunfire incident correctly identified by ShotSpotter but produced with an inaccurate location greater than 25 meters (82 ft) from the confirmed shooting location.

The Value to Oakland – Key Metrics

Guns Recovered

Year	Value
2020	69
2021	88
2022	83
2023	99
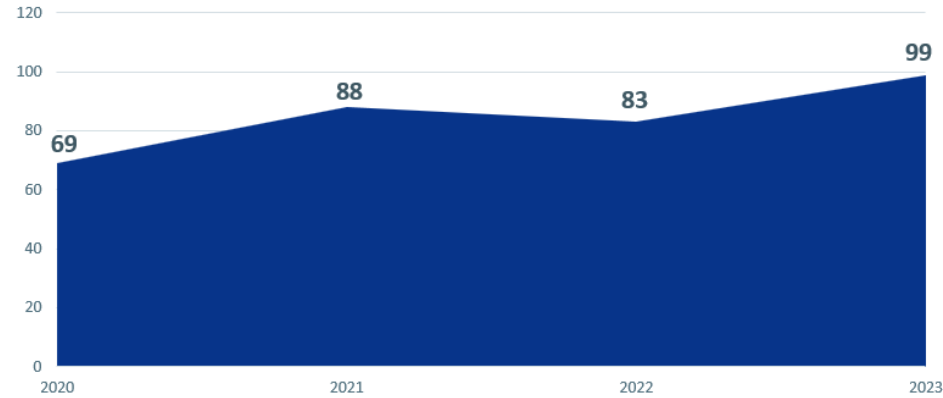
Crime Lab Matches

76% of **lab requests** are from a ShotSpotter alert

60% of **NIBIN hits/leads** are from a ShotSpotter alert

Arrests Associated with ShotSpotter Alerts

Year	Value
2020	252
2021	112
2022	105
2023	74
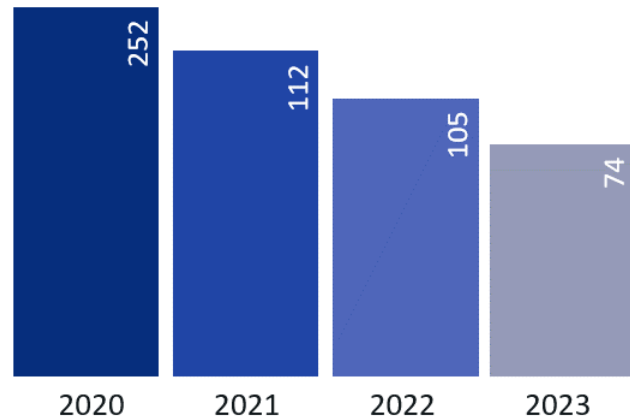
Crime Lab Requests

Year	Value
2020	1,170
2021	1,108
2022	1,252
2023	1,290

Gunfire Activity in Oakland – District View

While illegal gunfire is a problem for the entire city, 85% of this activity is concentrated in 4 districts.

District	2020	2021	2022	2023	Total	
1-Kalb	170	187	149	194	700	2.3%
2-Bas	694	914	754	788	3,150	10.2%
★ 3-Fife	686	1,025	833	850	3,394	10.9%
4-Ramachandran	93	182	262	281	818	2.6%
★ 5-Gallo	1,364	1,706	1,267	1,443	5,780	18.6%
★ 6-Jenkins	1,713	2,419	2,105	2,273	8,510	27.4%
★ 7-Reid	2,001	2,442	1,964	2,272	8,679	31.2%
Total	6,721	8,875	7,334	8,101	31,031	

Council District 1
Outline Denotes Coverage Area
01 Jan. to 31 Dec. 2023
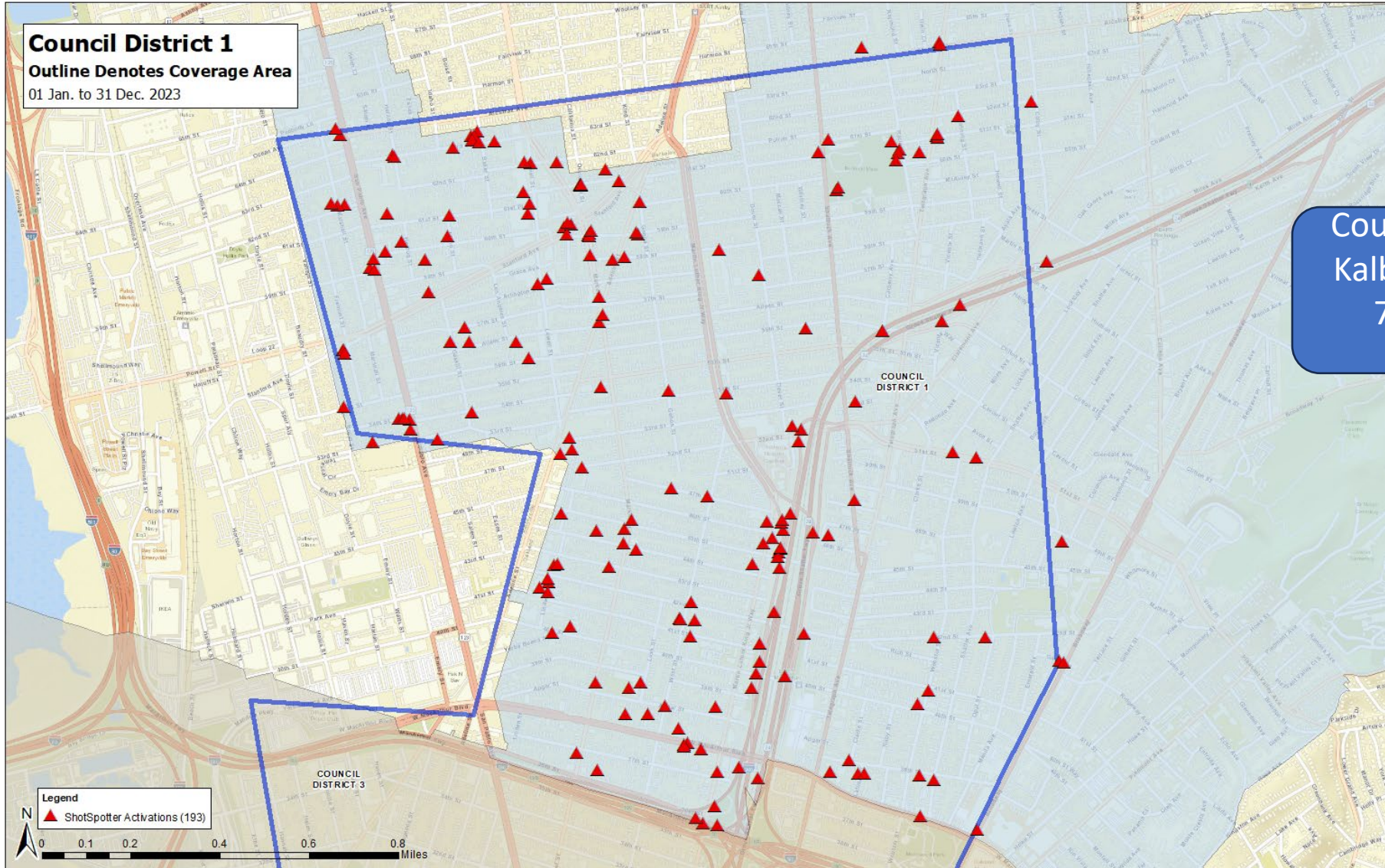
Councilmember Kalb – District 1
700 Alerts
2.3%

Legend
▲ ShotSpotter Activations (193)

District	2020	2021	2022	2023	Total	
1-Kalb	170	187	149	194	700	2.3%
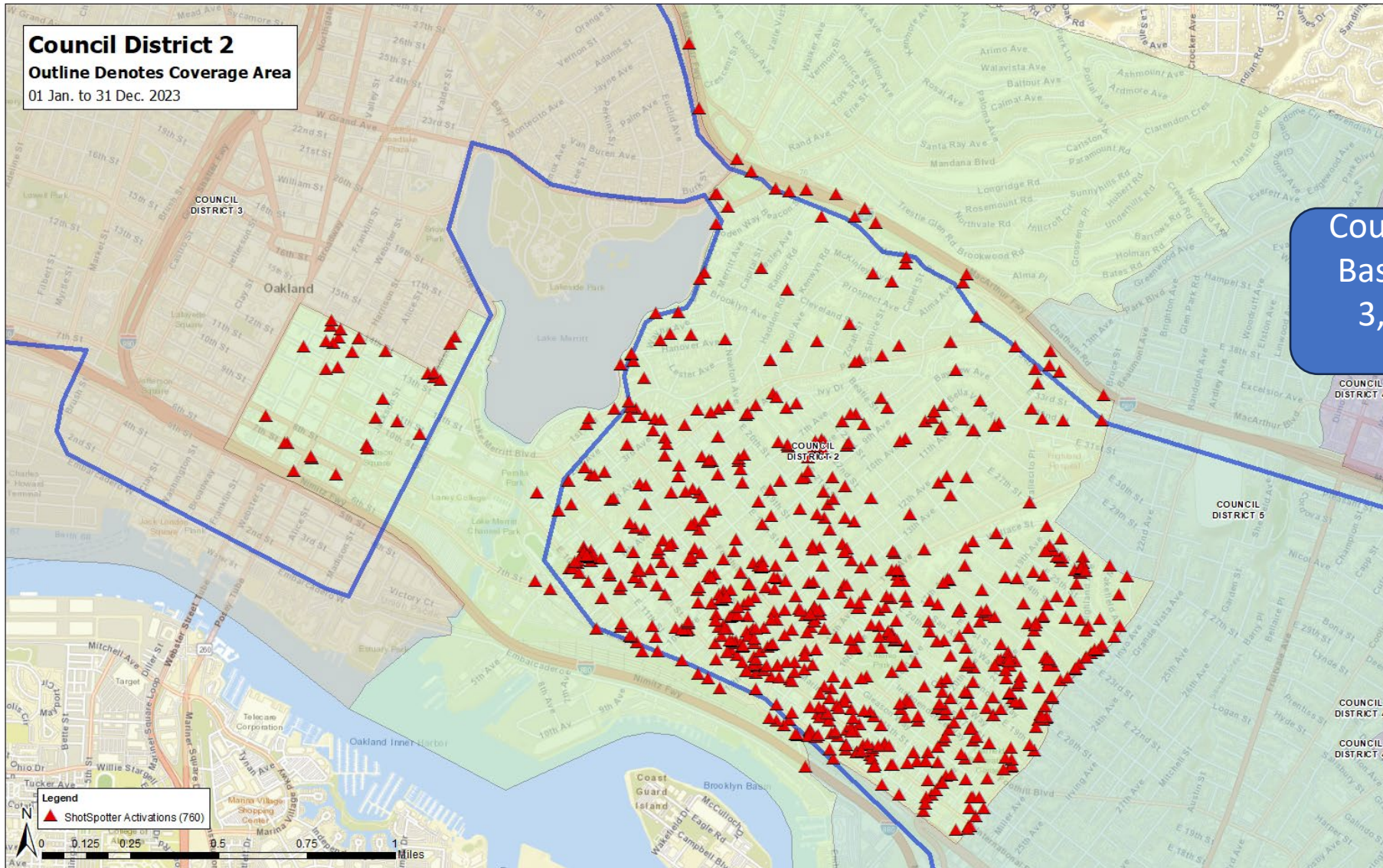
Council District 2
Outline Denotes Coverage Area
01 Jan. to 31 Dec. 2023

Councilmember
Bas – District 2
3,150 Alerts
10.2%

Legend
▲ ShotSpotter Activations (760)

District	2020	2021	2022	2023	Total	
2-Bas	694	914	754	788	3,150	10.2%

Council District 3
Outline Denotes Coverage Area
01 Jan. to 31 Dec. 2023

Councilmember
Fife – District 3
3,394 Alerts
10.9%

Legend
▲ ShotSpotter Activations (826)

0   0.125   0.25   0.5   0.75   1
                                                    Miles
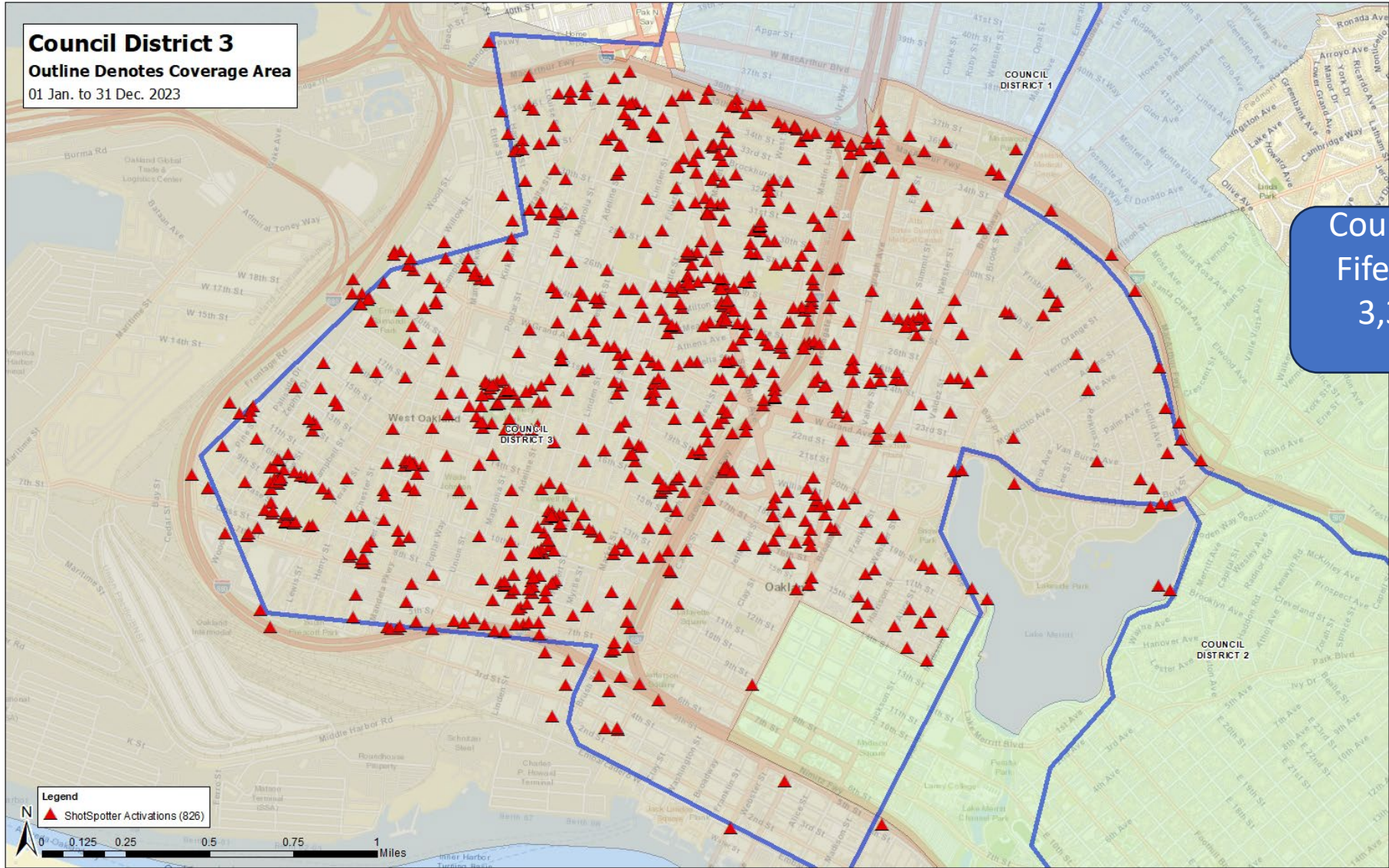
District	2020	2021	2022	2023	Total	
3-Fife	686	1,025	833	850	3,394	10.9%

Council District 4
Outline Denotes Coverage Area
01 Jan. to 31 Dec. 2023

COUNCIL DISTRICT 2

COUNCIL DISTRICT 4

COUNCIL DISTRICT 5
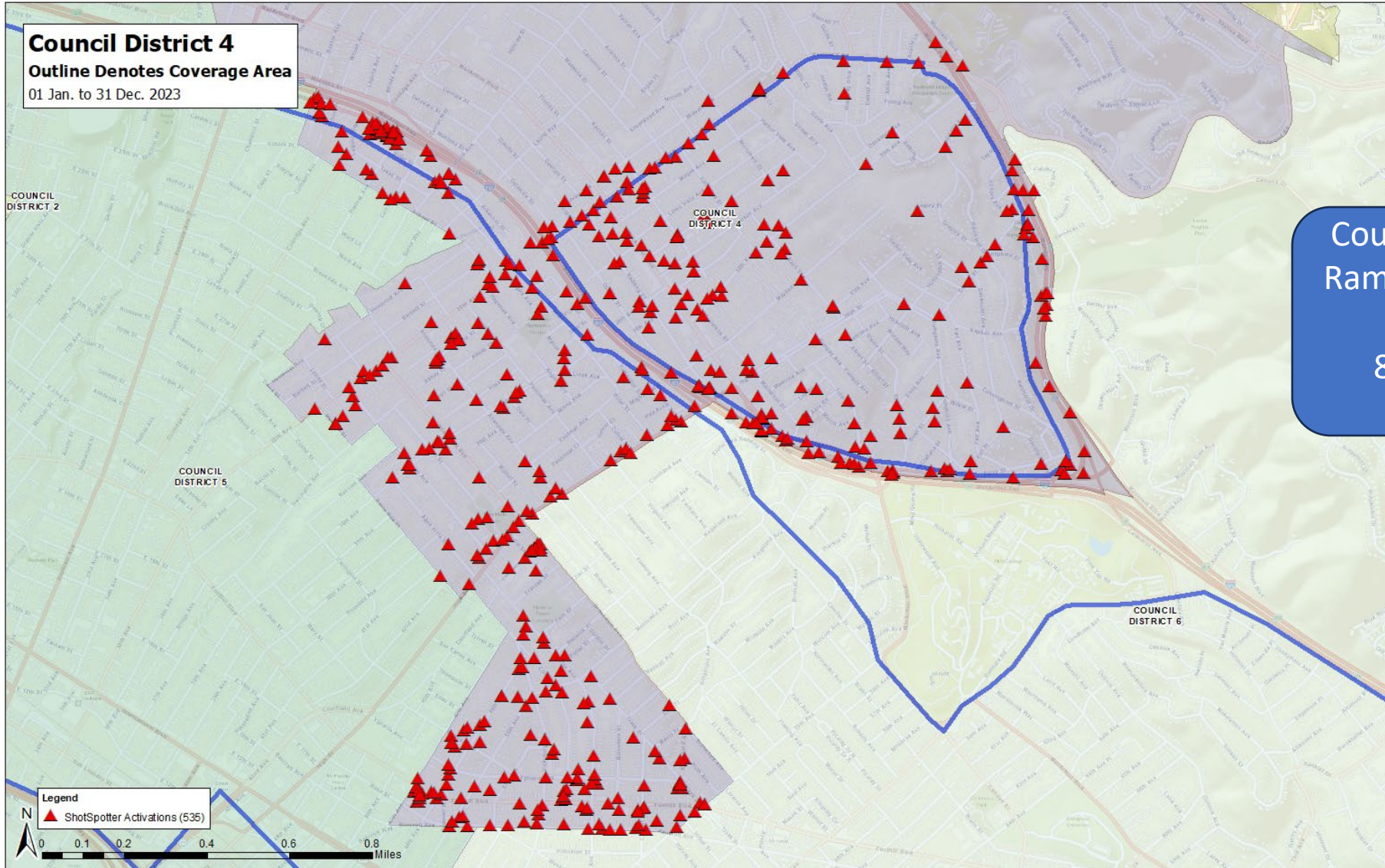
COUNCIL DISTRICT 6

Councilmember Ramachandran – District 4
818 Alerts
2.6%

Legend
▲ ShotSpotter Activations (535)

N
0   0.1   0.2   0.4   0.6   0.8
Miles

District	2020	2021	2022	2023	Total	
4-Ramachandran	93	182	262	281	818	2.6%

Council District 5
Outline Denotes Coverage Area
01 Jan. to 31 Dec. 2023
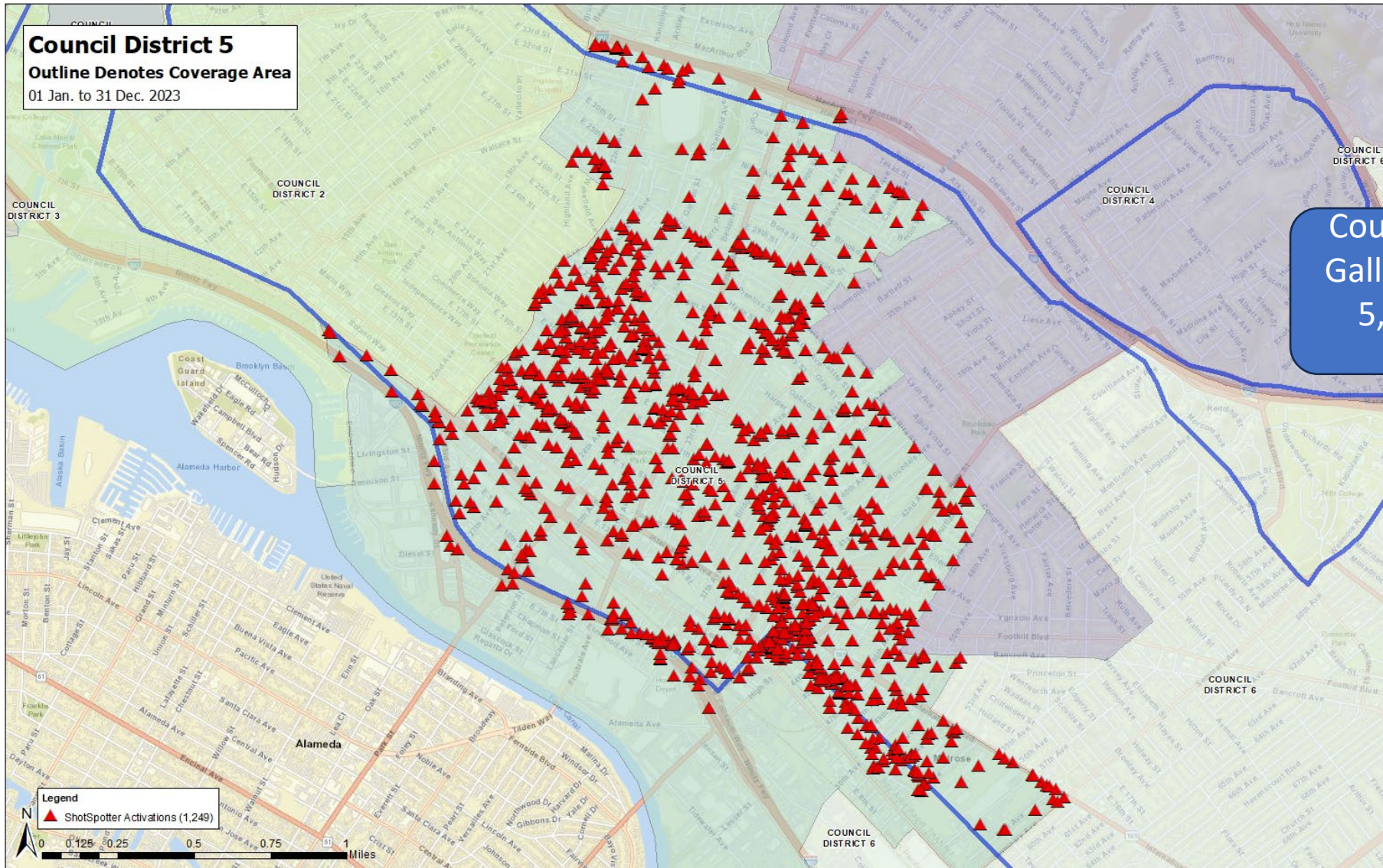
Councilmember
Gallo – District 5
5,780 Alerts
18.6%

Legend
▲ ShotSpotter Activations (1,249)

District	2020	2021	2022	2023	Total	
5-Gallo	1,364	1,706	1,267	1,443	5,780	18.6%

Council District 6
Outline Denotes Coverage Area
01 Jan. to 31 Dec. 2023
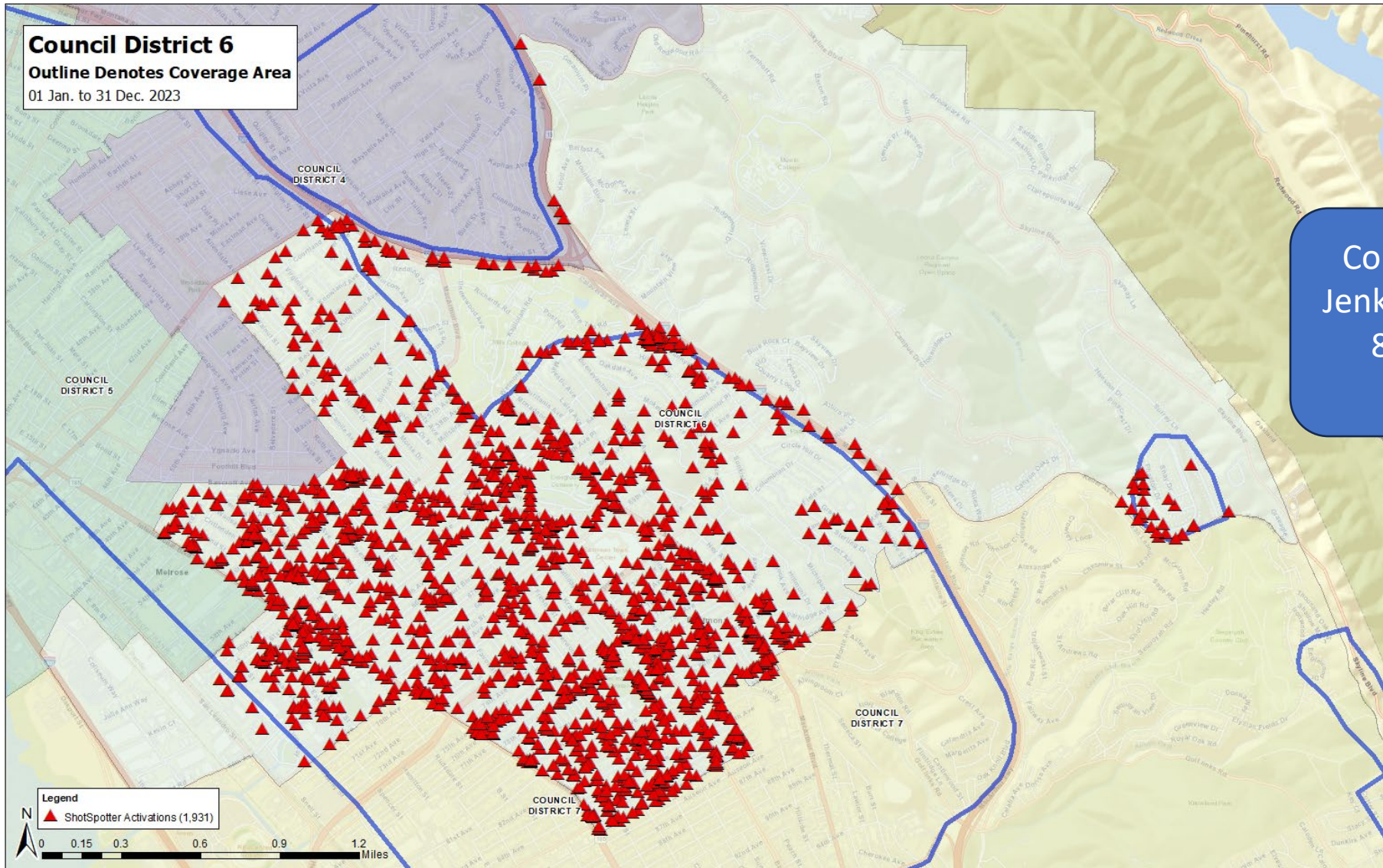
Councilmember
Jenkins – District 6
8,510 Alerts
27.4%

Legend
▲ ShotSpotter Activations (1,931)

District	2020	2021	2022	2023	Total	
6-Jenkins	1,713	2,419	2,105	2,273	8,510	27.4%

Council District 7
Outline Denotes Coverage Area
01 Jan. to 31 Dec. 2023
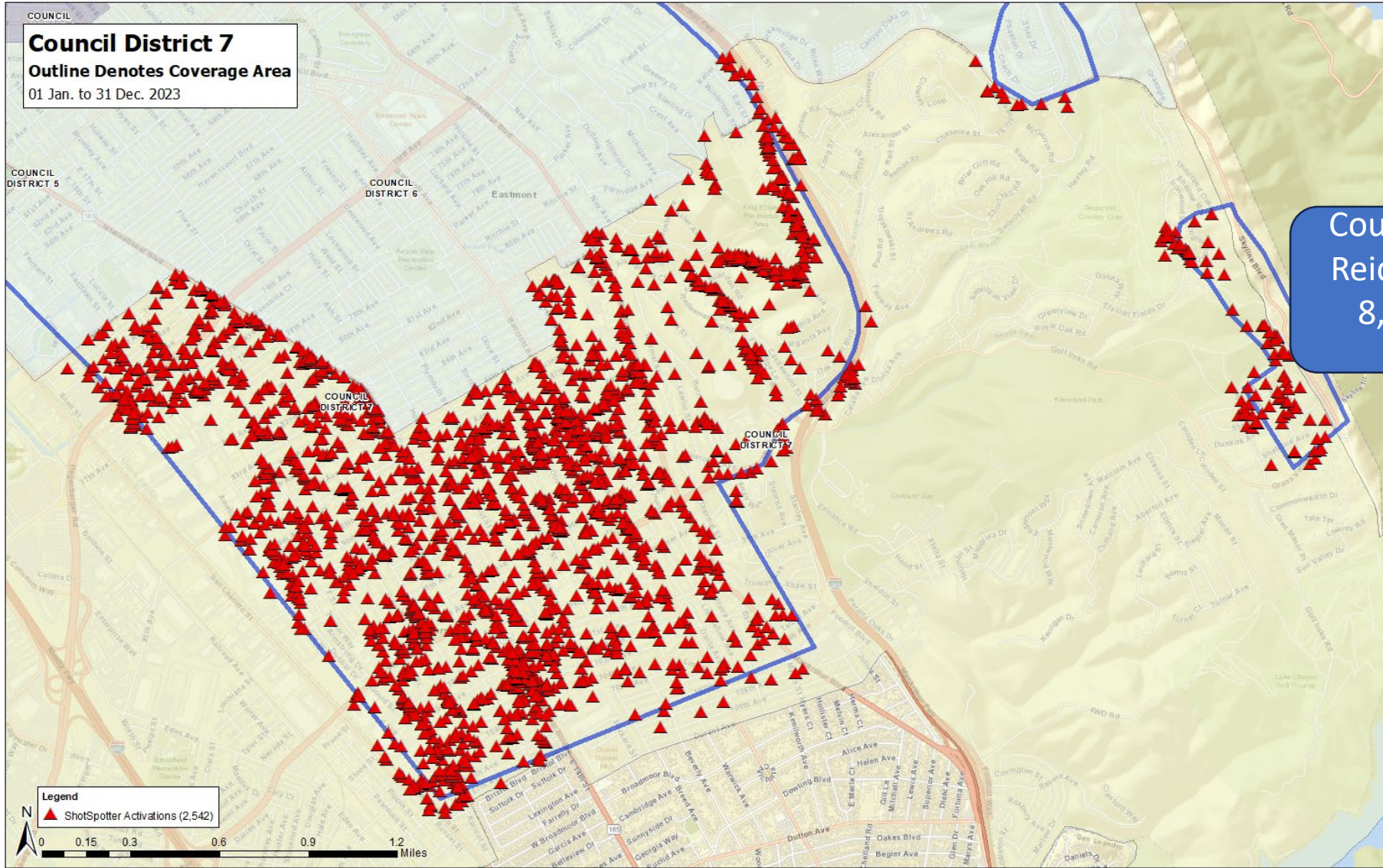
Councilmember
Reid – District 7
8,679 Alerts
31.2%

Legend
▲ ShotSpotter Activations (2,542)

District	2020	2021	2022	2023	Total	
7-Reid	2,001	2,442	1,964	2,272	8,679	31.2%

Understanding ShotSpotter

The ShotSpotter acoustic gunshot detection technology is based on science.

1 Gun is fired
When a gun is fired, the sound of a muzzle blast radiates outward.

2 Gunshot is Detected and Located
Acoustic sensors are triggered by the impulsive sound. The sound is classified as a gunshot through a process of machine classification. Sound triangulation determines the precise location.

3 Gunshot is Reviewed
The data is relayed to the ShotSpotter Incident Review Center where analysts quickly audit the data and publish confirmed gunshots to police.

4 Police Respond
Alerts are sent to dispatch centers and patrol officers' smartphones and MDTs for immediate response. The entire process takes less than 60 seconds.
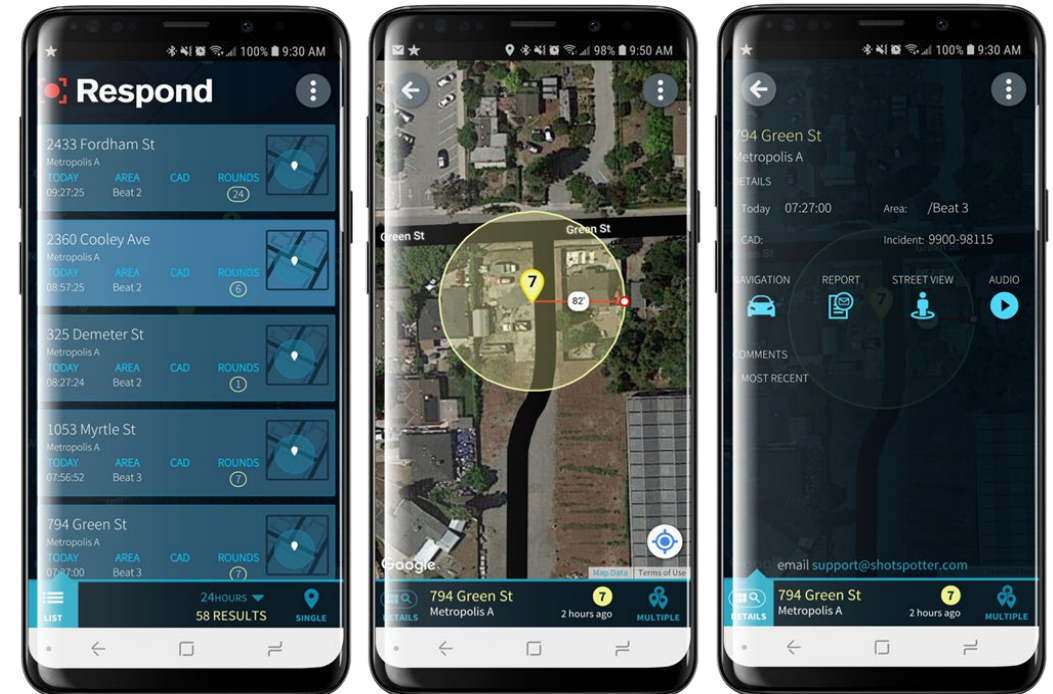
Understanding ShotSpotter

Specific location data and incident specifics are sent to offices within 60 seconds.

Patrol Car View

Cell Phone View

Setting the Record Straight

In previous meetings, several inaccurate claims were made about ShotSpotter.

Claim	Fact
"Many jurisdictions have declined to adopt the technology after pilots or have not to renewed upon expiration."	Incorrect. More than 170 cities in the US use ShotSpotter (In the last 18 months: • 136 existing municipalities renewed ShotSpotter • 40 new municipalities deployed ShotSpotter • 25 existing customers expanded their coverage areas
"80% of alerts do not lead to physical evidence – therefore fails 80% time."	Incorrect metric. ShotSpotter is designed to detect gunfire • Absence of physical evidence does not mean gunfire did not occur – ShotSpotter is accepted as digital witness • >95% or more of gunfire incidents do NOT get 911 call • In fact, evidence collection rates on 911 gunfire incidents without ShotSpotter– are even lower • ShotSpotter evidence collection rates up to 3x higher

Setting the Record Straight

Claim	Fact
"ShotSpotter is not accurate."	False. • Contractually 90% accuracy • Across all customers, independently verified 97% • Oakland: 99%
"Studies show that ShotSpotter has no impact on crime."	Even though ShotSpotter is not designed to prevent gunfire, independent research* suggests: • Response to gunfire significantly faster than those called into 911 • 24% reduction in assaults and homicides • 26:1 ROI • After ShotSpotter goes live, fatality rates are about 4 percentage points lower in the areas with the technology. • In Chicago, "a 3-in-4 chance that the technology saves about 85 lives per year."

Summary

ShotSpotter is a valuable tool for OPD in that it provides valuable insight into illegal gun activity across Oakland that it otherwise would not be aware of.

The ShotSpotter Technology…

✓ helps render aid to victims and save lives

✓ enables faster and a more comprehensive response to criminal gunfire (less than 5% of which is reported by 911)

✓ assists in collecting evidence, apprehending criminals, and recovering illegal guns

✓ is a critical foundation that enables Operation Ceasefire

✓ is a force multiplier to support current OPD patrolling resources