



AGENDA REPORT

TO: Edward D. Reiskin
City Administrator

FROM: LeRonne L. Armstrong
Chief of Police

SUBJECT: Gun Crime Data and Police Response
Annual Report

DATE: November 15, 2021

City Administrator Approval

Date: Nov 18, 2021

RECOMMENDATION

Staff Recommends That The City Council Receive An Informational Report Regarding Making Guns The Top Law Enforcement Priority For Oakland; Supporting The Decrease Of Illegal Guns And Gun Violence By Increasing Gun Tracing, Improving Response Time To Shooting Notifications, And Prioritizing Response To Gun Crime.

EXECUTIVE SUMMARY

This report covers several topics and operational areas related to gun crimes, gun crime prevention, and gun tracing data:

1. Explanation of ATF¹ eTrace² program;
2. Explanation of what OPD crime lab does and staffing levels;
3. Discussion of gun tracing connections to 911/Calls for service and ShotSpotter;
4. Total number firearms traced by OPD;
5. Firearms by caliber type;
6. Firearms recovered by crime type;
7. Recovery by state;
8. Recovery by time from purchase date to use in crime by year; and
9. Recovery by age of possessor by year.

OPD analyzes gun crime related data and relies on the ATF to trace guns used illegally in violent crimes. OPD also partners with the ATF locally on crime investigations and with academic researchers to trace the trajectory of guns that are used to commit violent crimes in Oakland. OPD relies on ShotSpotter, which is a gunshot location detection system to allow officers to better respond to gunshots. Finally, OPD uses eTrace to generate investigative leads which aid the OPD Criminal Investigation Division (CID) investigators to identify potential firearms trafficking networks and unlicensed purchasers.

¹ ATF = The Bureau of Alcohol, Tobacco, Firearms and Explosives

² eTrace = Electronic Tracing System

BACKGROUND AND LEGISLATIVE HISTORY

Gun crimes - homicides, non-fatal shootings, robberies, and aggravated assault - occur too often in the City of Oakland. In 2020, Oakland residents and visitors experienced the following citywide levels of homicides, aggravated assaults, and robberies:

- 102 homicides;
- 3,263 aggravated assaults (including 495 assaults with a firearm, and 418 shootings related to an occupied home or vehicle);
- 2,374 robberies (including 784 involving firearms).

So far in 2021³ Oakland residents and visitors experienced the following citywide levels of homicides, aggravated assaults, and robberies:

- 113 homicides;
- 3,100 aggravated assaults (including 534 assaults with a firearm, and 473 shootings related to an occupied home or vehicle);
- 2,249 robberies (including 920 involving firearms).

OPD is committed to using all available resources to combat and prevent these crimes. To accomplish this goal, OPD utilizes intentional strategies, technology, partnerships, data analysis, and policy.

OPD has produced several past reports on gun tracing for the City Council. The report titled, "\$1M Gun Tracing Allocation in FY 2015-2017 Budget" which outlined the use of \$1 Million dollars in one-time gun tracing funding, was presented to the Public Safety Committee on October 27, 2015. "Informational Report on Gun Tracing" was presented to the Public Safety Committee on March 14, 2017, and provided an update on the same \$1 Million in funding - as well as a gun tracing report from ATF. "Supplemental Gun Tracing Report" was presented to the Public Safety Committee on May 23, 2017, and "2nd Supplemental Gun Tracing Report" was presented to the Public Safety Committee on June 20, 2017, provided additional information on gun tracing funding. "Informational Report On Gun Crime And Gun Tracing" was presented to Public Safety Committee on April 23, 2019. Last, a supplemental report entitled "An Informational Report Regarding Making Guns The Top Law Enforcement Priority For Oakland; Supporting The Decrease Of Illegal Guns And Gun Violence By Increasing Gun Tracing, Improving Response Time To Shooting Notifications, And Prioritizing Response To Gun Crime" was presented to City Council on October 20, 2020 at the request of then City Council President Rebecca Kaplan.

ANALYSIS AND POLICY ALTERNATIVES

This report addresses the following information:

- An explanation of the ATF program;

³ Weekly Crime Report as of November 8, 2021

- An explanation of what the OPD Criminalistics Crime Laboratory (“Crime Lab”) does operationally and staffing levels; and
- An analysis of gun tracing connections to 911/calls for service and OPD’s gunshot location detection system (known as ShotSpotter).
- This report also contains information for total number of firearms traced by OPD, firearms by caliber type, firearms recovered by crime type, recovery by state, recovery by time from purchase date to use in crime by year, and recovery by age of possessor by year.

1) Explanation of the ATF eTrace program

OPD utilizes “eTrace” (Electronic Tracing System) which is an internet-based system that tracks the purchase and/or use history of firearms used in violent crimes. eTrace allows participating law enforcement agencies to submit firearm traces to ATF National Tracing Center (NTC). Authorized users can receive firearm trace results, search a database of all firearm traces submitted by their individual agency and perform analytical functions. eTrace permits investigators to track the origin of a gun recovered from a crime scene across multiple jurisdictions. eTraces are requested online through the ATF’s online eTrace portal. The portal also provides statistical reports, targeted trace data relevant to Oakland and real-time data verification and trace status updates.⁴ Data tables supplying demographic data regarding agency-collected firearms in this report were extracted from ATF’s eTrace system.

The ultimate goal of OPD’s use of eTrace is to generate investigative leads. These leads help the OPD Criminal Investigation Division (CID) investigators identify potential firearms trafficking networks and unlicensed purchasers.

2) OPD’s Crime Lab and Staffing levels

Operations

The Crime Lab is a full-service forensic testing laboratory that analyzes evidence collected from crime scenes to determine how an event occurred and, in some instances, identify who was involved. The four operational units of the Crime Lab are

- Firearms
- Forensic Biology (DNA)
- Latent Prints
- Drug Analysis

To address efforts to curb violent gun crime, the Crime Lab Firearms Unit analyzes cartridge cases left at shooting scenes to determine interconnectivity among firearms, assesses firearms for functionality and whether a particular firearm was the device which left evidentiary cartridge cases at scene. Other investigations involving relative positioning of shooters to victims or targets (trajectory analysis) and distance determinations can also be performed.

OPD’s Crime Lab uses ATF’s Integrated Ballistic Identification System (IBIS) to compare ballistic evidence with effective results. The Crime Lab’s firearms staff enter scanned images of

⁴ www.atf.gov

bullets and cartridges into the ATF National Integrated Ballistic Information Network (NIBIN) automated ballistic imaging system. This system uses computer algorithms to analyze images of cartridge case impressions and aids in providing investigative leads for possible matches at a greatly accelerated rate. However, OPD's laboratory firearms staff must still visually confirm matches with use of the IBIS imaging equipment and microscopes.

Staffing

OPD's Crime Lab includes a number of units staffed mainly by criminalists, highly skilled and specialized civilian professionals that do the day-to-day work of the Lab. The Lab has 22 funded criminalist positions of which 15 are filled. The Firearms Unit has suffered longstanding vacancies and currently has three (3) filled positions and two (2) Criminalist II vacancies.

Figure 1 below illustrates the sustained spike in IBIS requests since the start of the March 2020 COVID-19 Countywide Shelter in Place Order reflecting the extreme increases the city has seen in gun violence during this time. Since the start of 2021, the Firearms unit has received an average of 200 IBIS requests per month. Previously in 2019 the average was 89 IBIS request per month (completely pre-pandemic) and in 2020 it was 130 per month (inclusive of the beginning of the pandemic). This increase coupled with the vacancies translates into vastly increased firearm caseloads for the Crime Lab per criminalist. The vacant positions have been frozen for years due to budgetary constraints. Additionally, these positions require highly specialized skills and are thus difficult to fill when budgeting permits position recruitment, and there are lengthy training periods once staff is hired (3-6 months for those with firearms experience; 1 year or more for employees with no firearms background). The specialized nature of these positions render it challenging to move staff between Crime Lab units, but some cross-training has been provided to two DNA examiners to take on some rudimentary Firearms tasks in order to release some of the pressure felt by the Firearms Unit

Figure 1a: IBIS acquisitions, potential hits and notifications made from January 1, 2020 to September 30, 2021. Note sustained increase in caseload since July 2020.

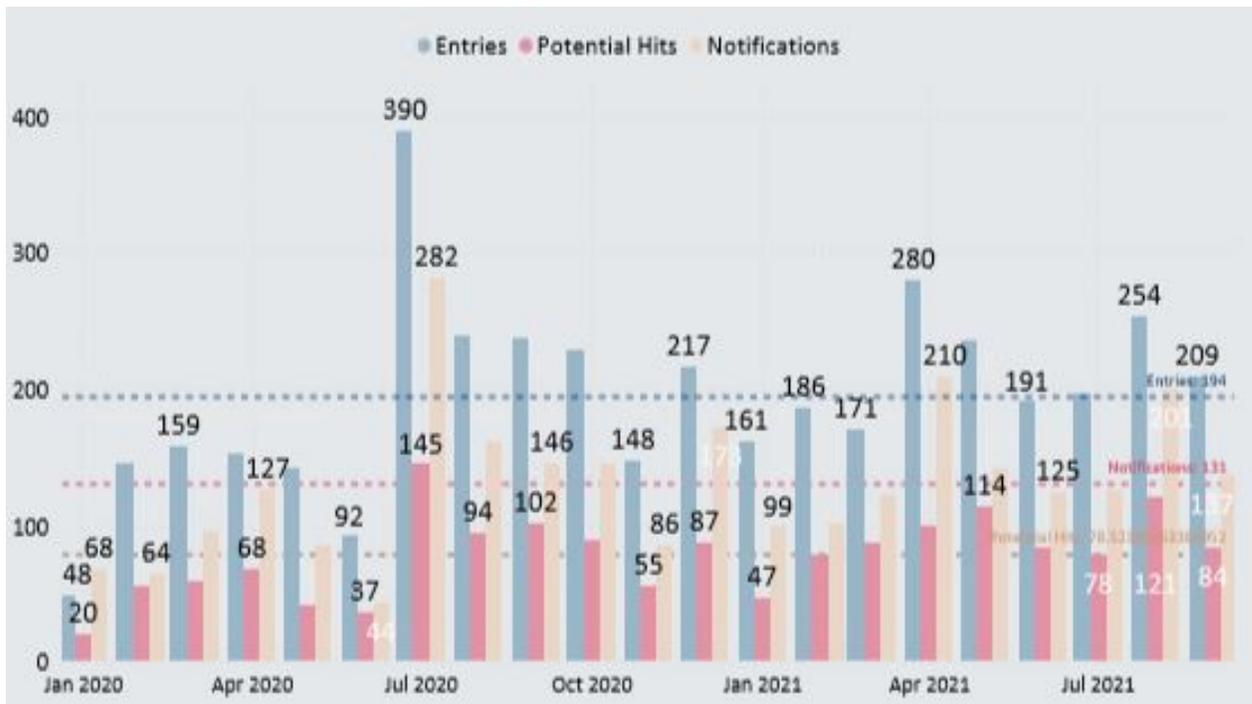
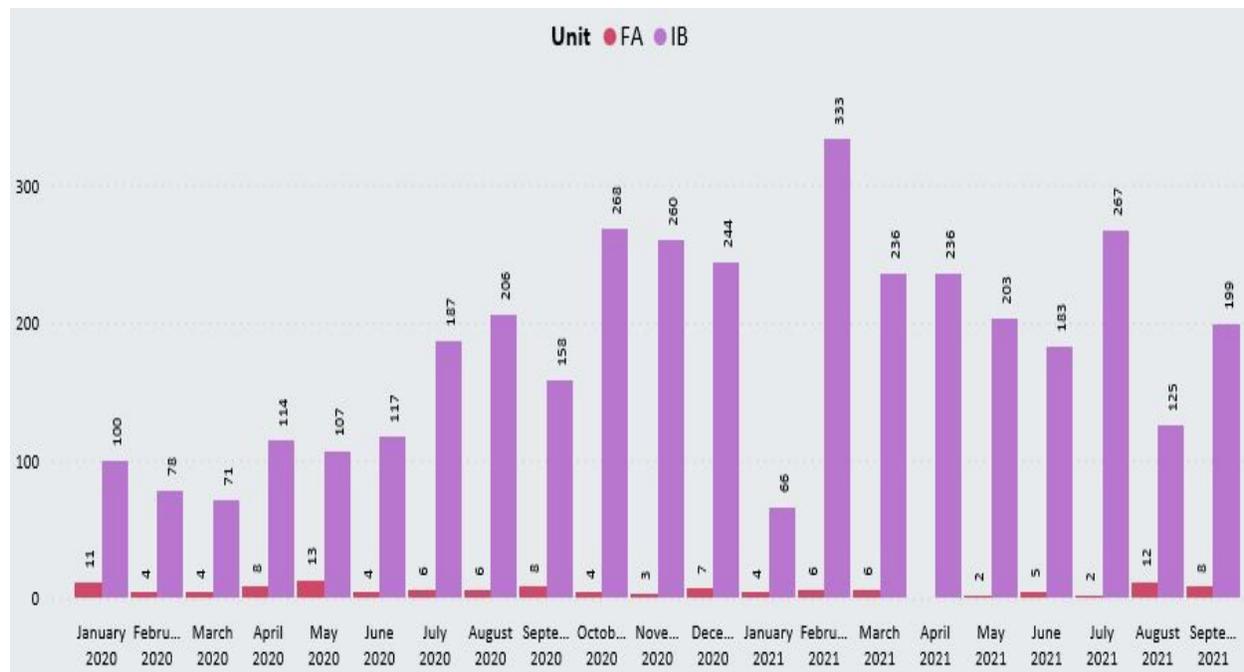


Figure 1b: Firearms Unit Caseload and Firearms Requests January 1, 2020 to September 30, 2021



To further contextualize the rise in Firearms Unit caseload, **Table 1 below** identifies the magnitude of workload increase from 2019 to present. Firearms Unit staff have been working tirelessly to address violent gun crime; this unit would benefit from some assistance to address the enormous increase in workload.

Table 1: 2019-2021 Laboratory Analysis Caseload and Productivity

	2019	2020	2021*
IBIS Acquisitions	1,703	2,388	2,075
Investigative leads	732	1,476	795
Requests received	1,370	1,910	1,815
Requests completed	946	1,335	1,438
Confirmed hits	29	18	12

*2021 represents January through September

In addition to filling the current vacancies, the Crime Lab Manager requested in October 2020, and was granted, a Forensic Technician position to assist with the eTrace program implementation. The technician was hired in August 2021. The role of this new technician is to assist laboratory operations towards increased productivity in IBIS acquisitions and eTrace requests. Even though the technician is currently in casework support training, she has already assumed enough duties to help alleviate some of the burden on casework qualified staff. In addition to a previously hired forensic technician, both forensic technicians have been trained in IBIS request entry, which frees firearms casework staff from taking time away from IBIS

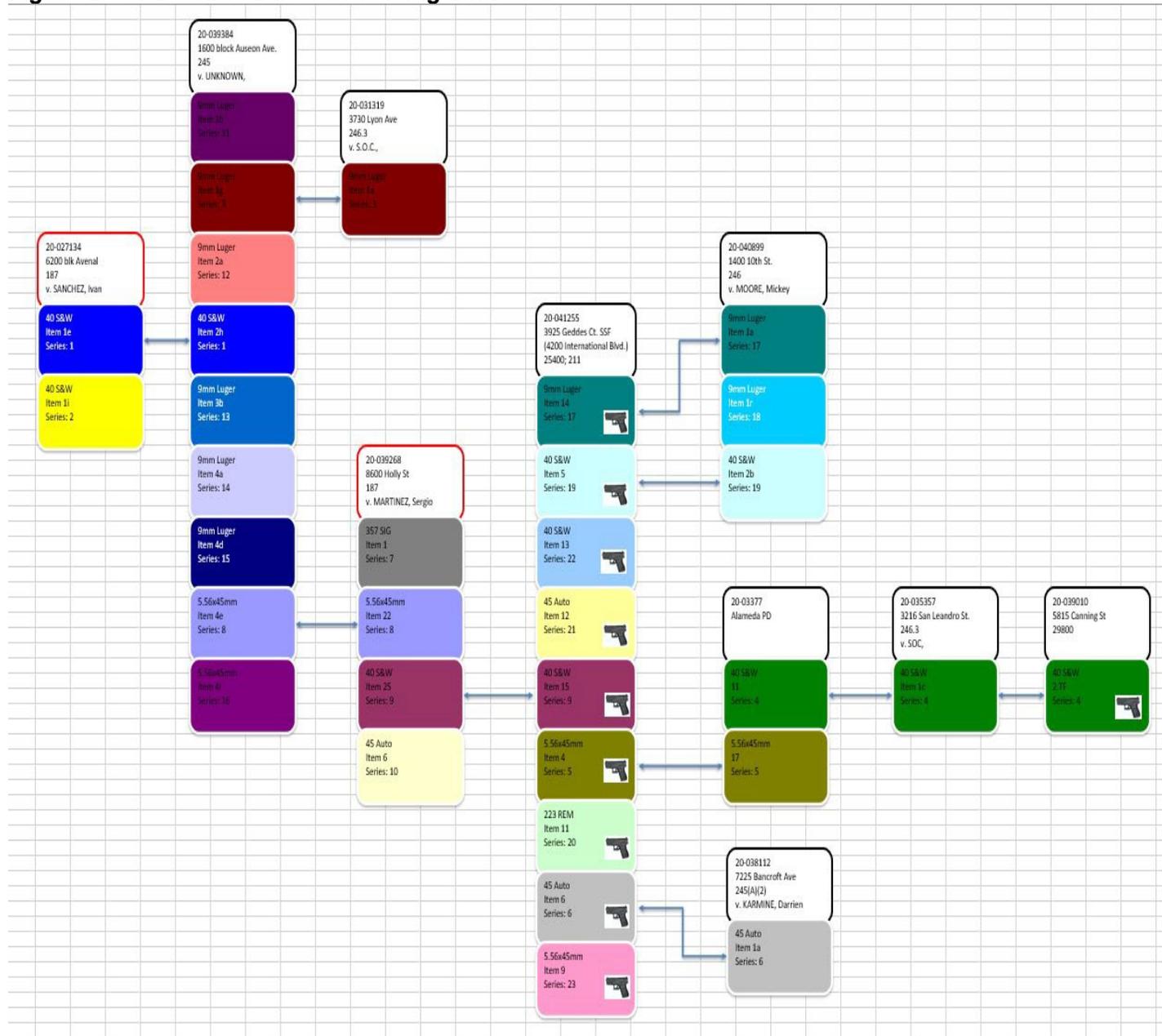
acquisitions to perform administrative work. Both technicians attended a “Ghost Gun” training in October 2021.

The Crime Lab has also worked with the Property and Evidence Unit (PEU) and acquired an eTrace account with the hope that laboratory staff, PEU and other investigative units can more fully collaborate on the department’s eTrace mission.

The NIBIN database provides information on the guns themselves - whether they were used in other crimes or are connected to other events. Because NIBIN contains information on the guns and the events (crime scenes) and associates (people) connected to the guns, as opposed to purchasing information, the NIBIN system tends to provide data about local (Oakland and primarily Bay Area) crime events. Additionally, NIBIN is networked to other Northern California Crime Lab terminals operated by the ATF. This local data offers strong opportunities to develop greater intelligence about local gun tracing and social crime networks.

As demonstrated in previous reports to City Council, link charts are an effective graphical tool to report complicated IBIS associations to law enforcement investigators. Based on the number of shootings in Oakland, these charts such as **Figure 2 below**, can become exponentially complicated due to multiple associations between guns. The in-house system developed by the laboratory works well for guns with a small number of associations, but it reaches capacity for complicated link charts. The laboratory is in discussions with Forensic Logic, the Department’s provider of CopLink (a national law enforcement data sharing network, formerly known as LEAP or Law Enforcement Access Portal) to provide an enterprise solution to Crime Lab’s in-house developed link chart system.

Figure 2: OPD Crime Lab Gun Tracing Link Chart



Crime scenes are represented by white rectangles at the top of a column. Similarly colored rectangles underneath represent the use of the same gun at multiple scenes through IBIS links with cartridge cases. The gun icon indicates a case in which the actual gun was recovered, and test fired to make a connection.

Eventually, these analytical links could be further followed up with eTrace information providing a complete picture to investigators as to the relationships among networks of gun usage.

3) Discussion of Gun-Tracing Connections to 911/Calls for Service and ShotSpotter

- a. ShotSpotter is a critical tool to identify shooting events in covered areas of the city in real time.
 - i. Continuation and expansion of this program would assist to identify shooting events sooner in areas not already covered.
- b. Casings from shooting scenes are collected and submitted to OPD property
- c. OPD Crime Lab analyzes requested casings
 - i. In the first half of 2021, 75% of the lab requests resulted from cases associated with ShotSpotter activations.
 - ii. Weekly ShotSpotter Activations Report (**Table 2**) as of 7/11/21

Communications Division needs to be fully staffed in order to reduce hold times for calls for service and continue prioritizing shots fired as Priority One calls.

Table 2: Weekly ShotSpotter Report through July 11, 2021

ShotSpotter Activations	Weekly Total	YTD 2020	YTD 2021	YTD % Change 2020 vs. 2021
Citywide	154	2,619	4,816	84%
Area 1	15	222	492	122%
Area 2	6	119	163	37%
Area 3	30	510	888	74%
Area 4	41	677	1,207	78%
Area 5	62	1,091	2,066	89%

- d. OPD started deploying limited overtime teams in Areas 4 and 5 in early 2021. OPD started ramping up restoration overtime teams in July 2021. Restoration overtime detail focuses on high visibility patrol to include walking patrols in areas of high violence and robberies which encompasses some ShotSpotter locations. ShotSpotter activations began trending downwards starting in June 2021 and started leveling off in September 2021. See **Figures 3a, 3b, 3c, and 3d below**.

Figure 3a: Area 4 ShotSpotter activations January 2021 through September 2021

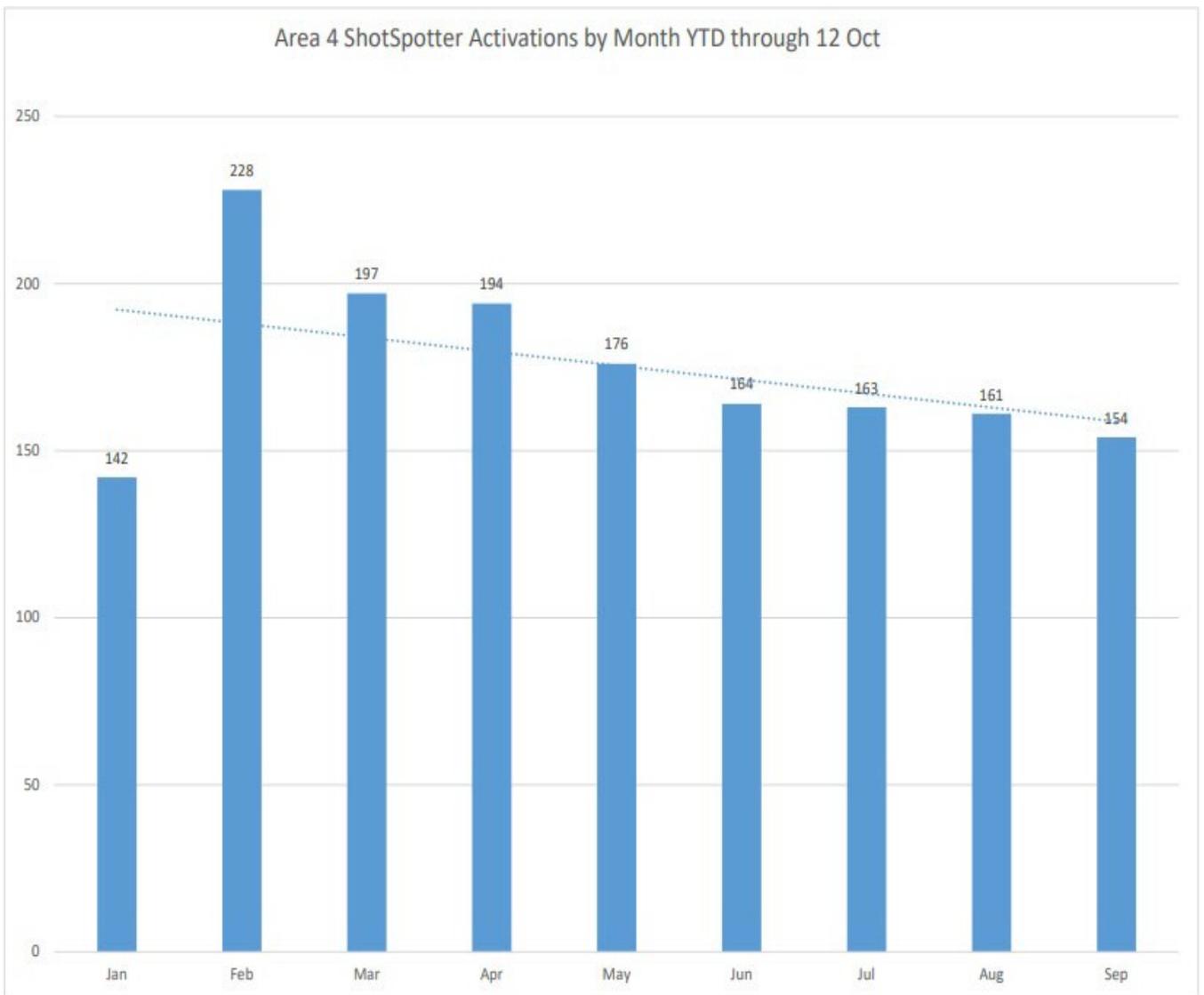
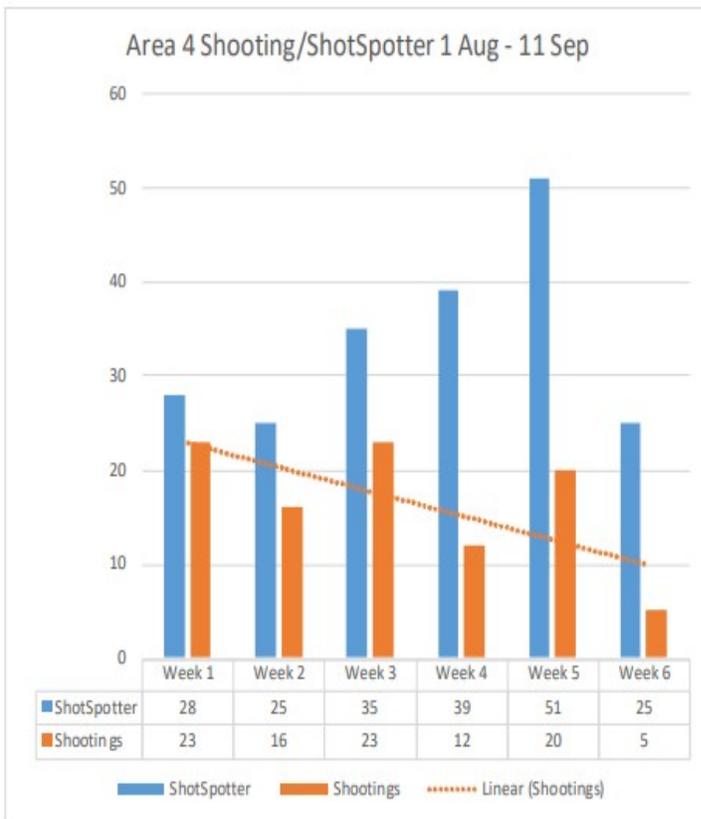


Figure 3b: Area 4 ShotSpotter Activations August 2021-September 11, 2021 and Shooting Violations



CRIME ANALYSIS

**Week over Week ShotSpotter and Shooting Activity in Area 4
 1 Aug 2021—11 Sep 2021**



Comparison of 6 weeks of operation to 6 weeks prior to operation by shooting violation:

Statute Violation	Prior 6 Weeks	Current 6 Weeks	Change
PC245(A)(2)	26	25	-4%
PC246	20	11	-45%
PC246.3	56	37	-34%
PC246.3(A)	9	5	-44%
PC247(B)	21	17	-19%
PC664/187	2	1	-50%

Injury Shooting numbers during operation:

PC245(A)(2)	Count
8/1-8/7	3
8/8-8/14	4
8/15-8/21	6
8/22-8/28	4
8/29-9/4	3
9/5-9/11	0

Figure 3c: Area 5 ShotSpotter activations January 2021 through September 2021

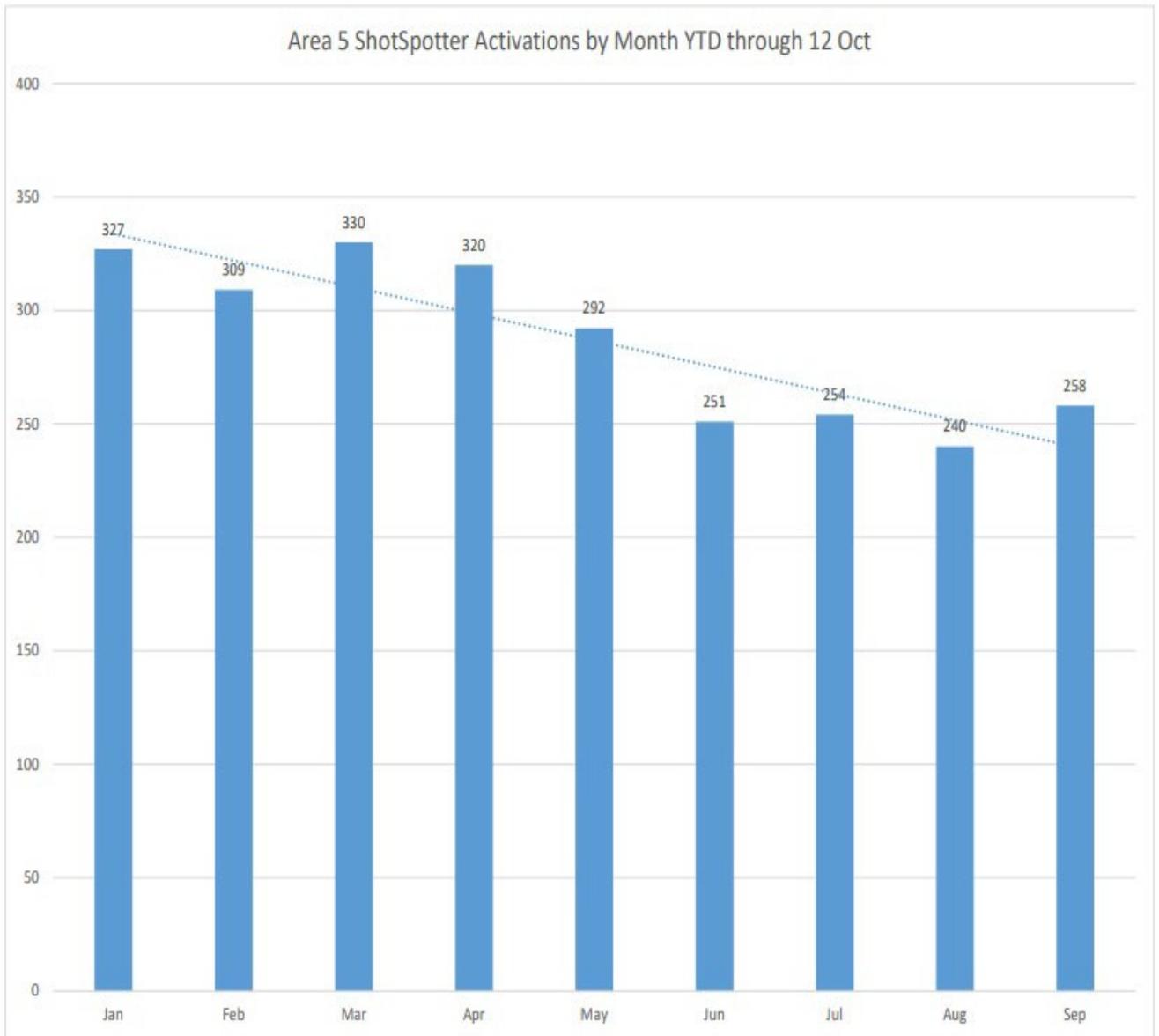
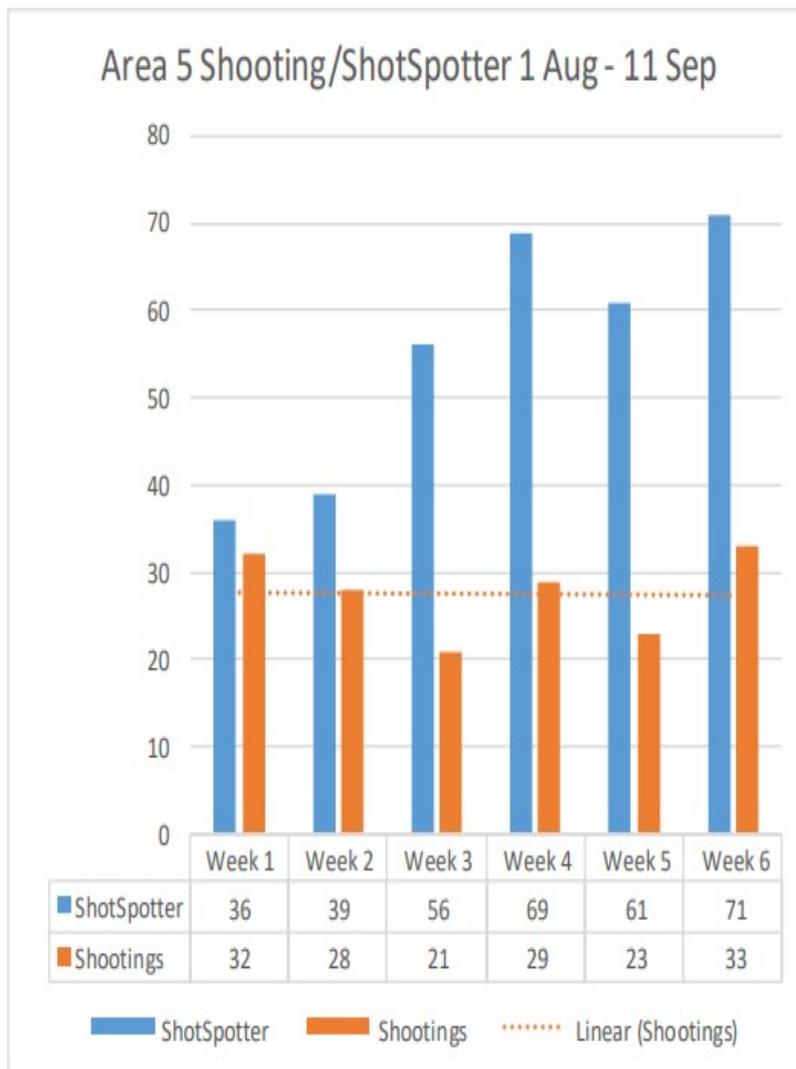


Figure 3d: Area 5 ShotSpotter Activations August 2021-September 11, 2021 and Shooting Violations



**Week over Week ShotSpotter and Shooting Activity in Area 4
 1 Aug 2021—11 Sep 2021**



Comparison of 6 weeks of operation to 6 weeks prior to operation by shooting violation:

Statute Violation	Prior 6 Weeks	Current 6 Weeks	Change
PC245(A)(2)	45	42	-7%
PC246	36	16	-56%
PC246.3	90	85	-6%
PC246.3(A)	15	3	-80%
PC247(B)	27	20	-26%
PC664/187	2	0	-100%

Injury Shooting numbers during operation:

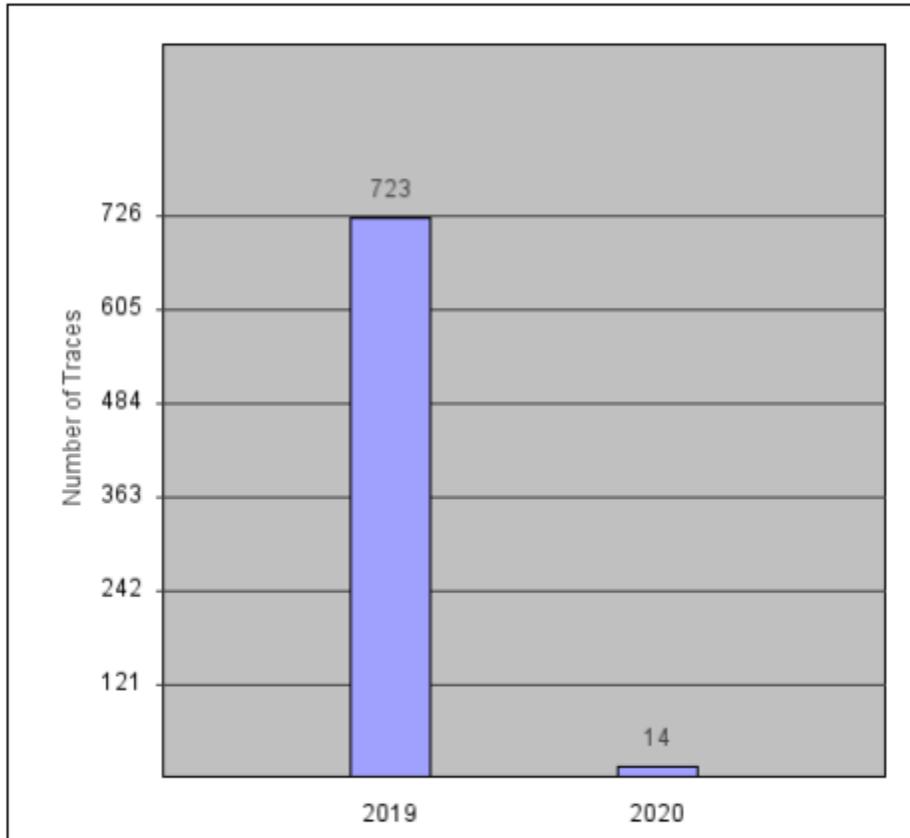
PC245(A)(2)	Count
8/1-8/7	7
8/8-8/14	5
8/15-8/21	8
8/22-8/28	5
8/29-9/4	6
9/5-9/11	10

4) Total Number of Firearms Traced by OPD by Year (2019-2021)

Table 3a:

For RecoveryDate Range:

1/1/2019 TO 12/31/2019

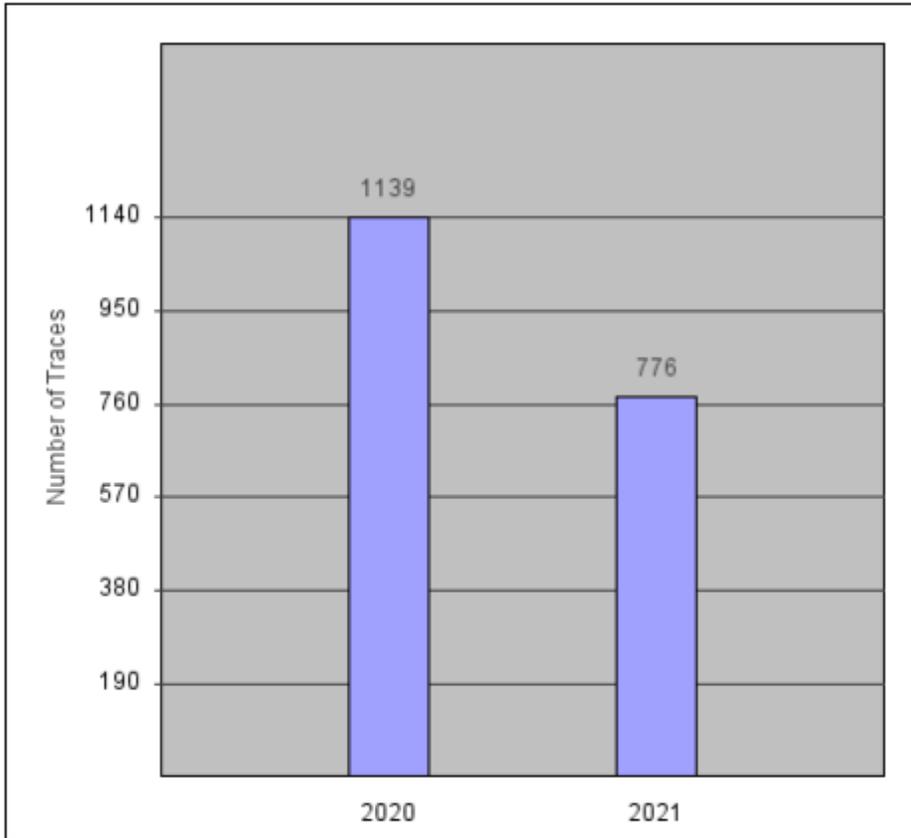


Year	Number of Traces*
2019	723
2020	14
Total Count:	737

Table 3b:

For RecoveryDate Range:

1/1/2020 TO 9/23/2021



Year	Number of Traces*
2020	1139
2021	776
Total Count:	1915

Table 3c:

Type	2019*	2020*	2021*
Derringer	1	3	0
Pistol	554	734	480
Revolver	68	88	55
Rifle	67	124	79
Shotgun	40	57	31
Machine Gun	0	2	0
Partial Firearm ⁵	6	4	0
Unknown type/Combo	12	143	140

*2019 = 748 total traced; *2020 = 1155 total traced; *2021 = 785 total traced

5) Firearm Caliber* by year (2019-2021)

Table 4:

Type	2019	2020	2021
.45*	62	110	72
.40	172	201	121
9 MM	232	285	187
10 MM	10	10	15
.38	26	42	26
.32	8	12	8
.25	11	5	5
.22	58	56	35
.357	16	39	21
.233/5.56 MM	20	47	37
.380	31	34	19
.44	1	5	5
.500	1	0	0
7.62 MM	11	38	12
5.7 MM	4	8	12
Shotguns, lever action rifles, long guns, misc.	84	263	230

*caliber refers to the approximate internal diameter of the gun barrel; unless followed by MM for millimeters, the decimal refers to percentage of an inch of diameter.

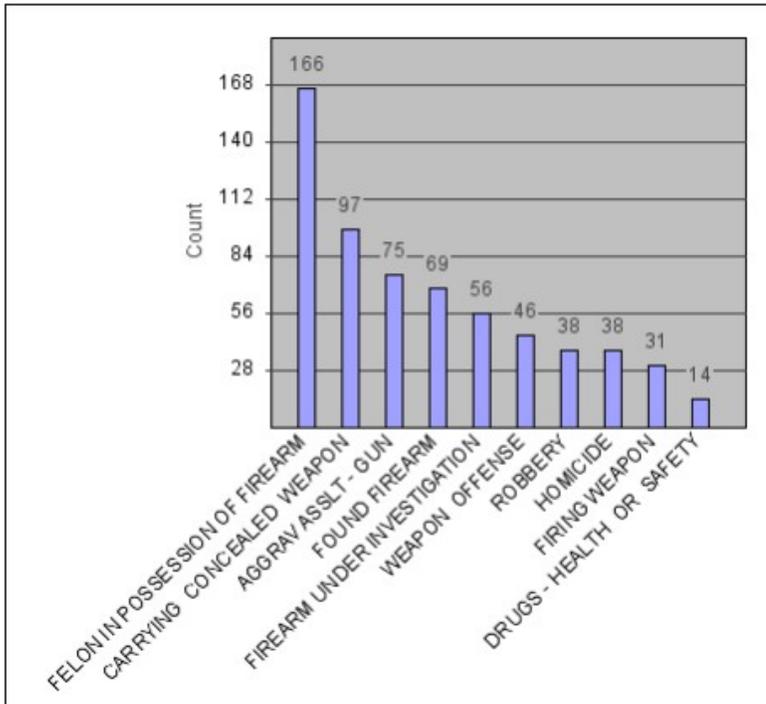
⁵ Receiver or frame of gun

6) Firearm Recovery by Crime Type by Year (2019-2021)

Table 5a:

For RecoveryDate Range:

1/1/2019 TO 12/31/2019

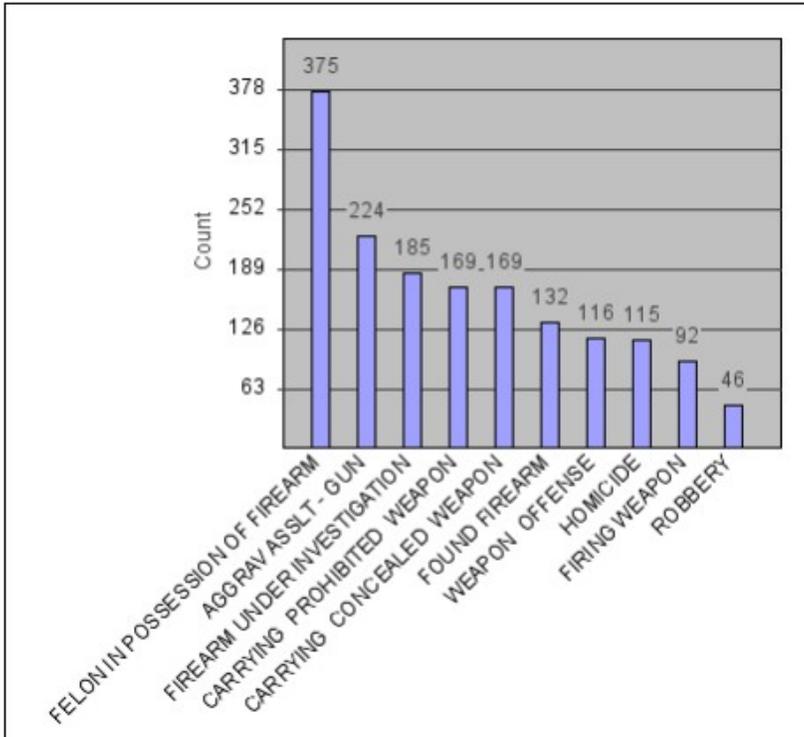


Crime	Count*
FELON IN POSSESSION OF FIREARM	166
CARRYING CONCEALED WEAPON	97
AGGRAV ASSLT - GUN	75
FOUND FIREARM	69
FIREARM UNDER INVESTIGATION	56
WEAPON OFFENSE	46
ROBBERY	38
HOMICIDE	38
FIRING WEAPON	31
DRUGS - HEALTH OR SAFETY	14
BURGLARY	12
STOLEN PROPERTY	12
CARJACKING - ARMED	8
SUICIDE	8
DOMESTIC DISTURBANCE	8
POSSESSION OF WEAPON	6
VEHICLE THEFT	5
AGGRAV ASSLT-WEAPON	5
HOMICIDE - ATTEMPTED	5
ASSAULT	4

Table 5b:

For RecoveryDate Range:

1/1/2020 TO 9/23/2021



Crime	Count*
FELON IN POSSESSION OF FIREARM	375
AGGRAV ASSLT - GUN	224
FIREARM UNDER INVESTIGATION	185
CARRYING PROHIBITED WEAPON	169
CARRYING CONCEALED WEAPON	169
FOUND FIREARM	132
WEAPON OFFENSE	116
HOMICIDE	115
FIRING WEAPON	92
ROBBERY	46
DRUGS - HEALTH OR SAFETY	41
DOMESTIC DISTURBANCE	35
HOMICIDE - ATTEMPTED	25
VEHICLE THEFT	24
SUICIDE	22
CARJACKING - ARMED	17
DOMESTIC VIOLENCE	16
STOLEN PROPERTY	15
BURGLARY	15
THREAT-TERRORISTIC - STATE OFFENSES	11

7) *Recovery by State of Origin by Year (2019-2021)*⁶

Table 6:

State or Area	2019	2020	2021	State or Area	2019	2020	2021
Alabama	6	5	2	New Mexico	0	3	1
Alaska	2	3	1	New York	8	9	2
Arizona	40	104	68	North Carolina	3	4	1
Arkansas	6	5	5	North Dakota	0	0	0
California	266	337	222	Ohio	5	8	7
Colorado	3	7	2	Oklahoma	11	21	12
Connecticut	19	25	5	Oregon	13	14	7
Delaware	0	0	0	Pennsylvania	3	5	6
Florida	14	18	9	Puerto Rico	1	0	0
Georgia	29	36	29	Rhode Island	0	0	0
Hawaii	1	0	0	South Carolina	4	5	3
Idaho	4	9	4	South Dakota	2	0	0
Illinois	5	7	2	Tennessee	4	4	7
Indiana	4	5	2	Texas	18	33	31
Iowa	2	0	1	Utah	11	22	10
Kansas	1	1	4	Vermont	1	5	4
Kentucky	0	1	3	Virginia	2	5	3
Louisiana	5	4	6	Washington	7	10	7
Maine	0	1	0	West Virginia	0	1	0
Maryland	6	6	1	Wisconsin	1	1	0
Massachusetts	23	25	7	Wyoming	0	1	0
Michigan	2	6	5	No source ⁷	109	223	237
Minnesota	0	4	1				
Mississippi	3	7	2				
Missouri	6	7	4	TOTAL	748	1155	785

⁶ OPD cannot produce data on firearm tracings per licensed dealer by county and state as OPD does not have access to this data.

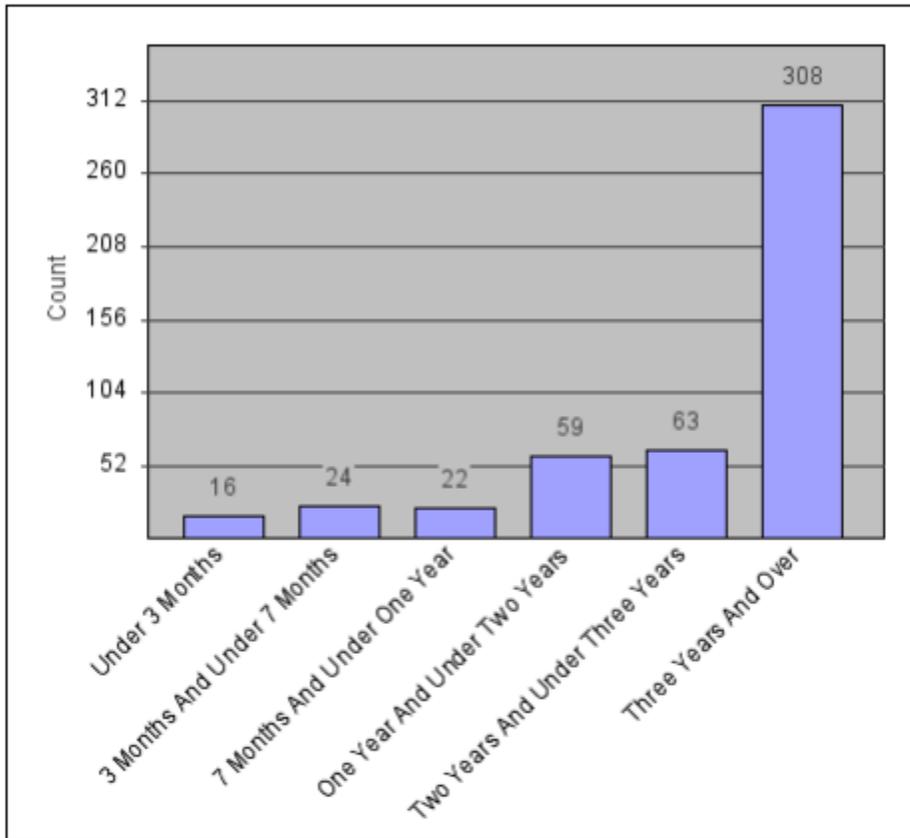
⁷ Note – The traces with no source State (*Premises State*) or with non-logical source states i.e. Massachusetts (MA), Connecticut (CT), can be because of a number of reasons to include but not limited to: trace is not completed; the trace has reverted to the original manufacture of the recovered firearm; or the firearm recovered is an PMF.

8) Recovery by Time from Purchase Date to use in Crime by Year (2019-2021)

Table 7a:

For RecoveryDate Range:

1/1/2019 TO 12/31/2019

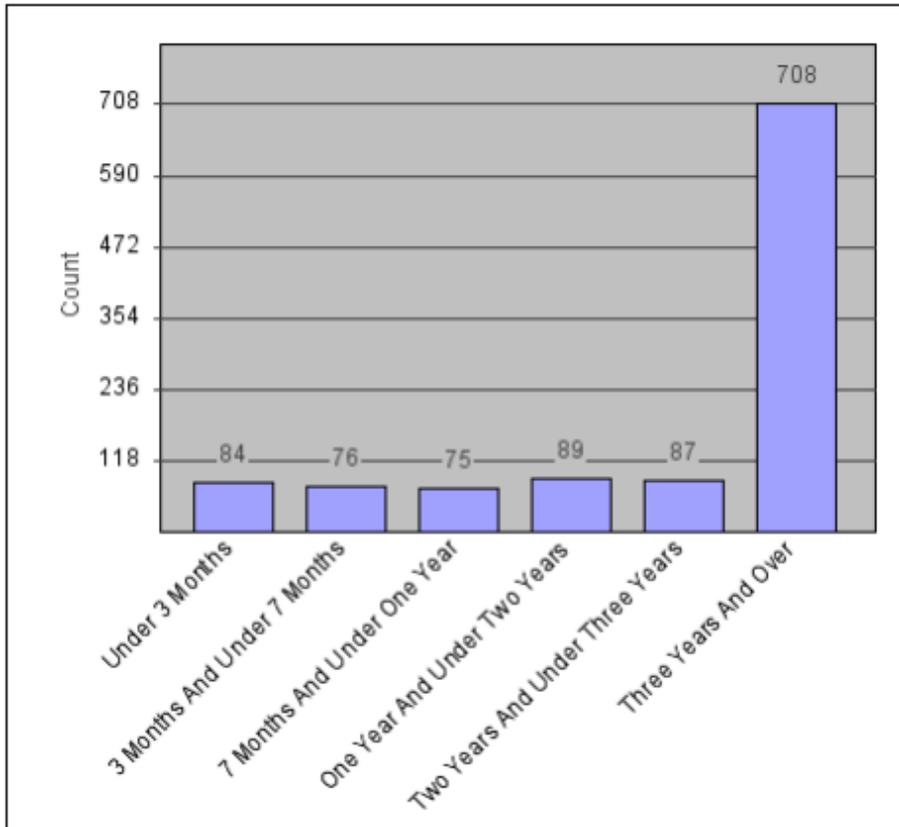


Rate	Count*
Under 3 Months	16
3 Months And Under 7 Months	24
7 Months And Under One Year	22
One Year And Under Two Years	59
Two Years And Under Three Years	63
Three Years And Over	308
Unable to calculate *	245
Total Count:	737

Table 7b:

For RecoveryDate Range:

1/1/2020 TO 9/23/2021



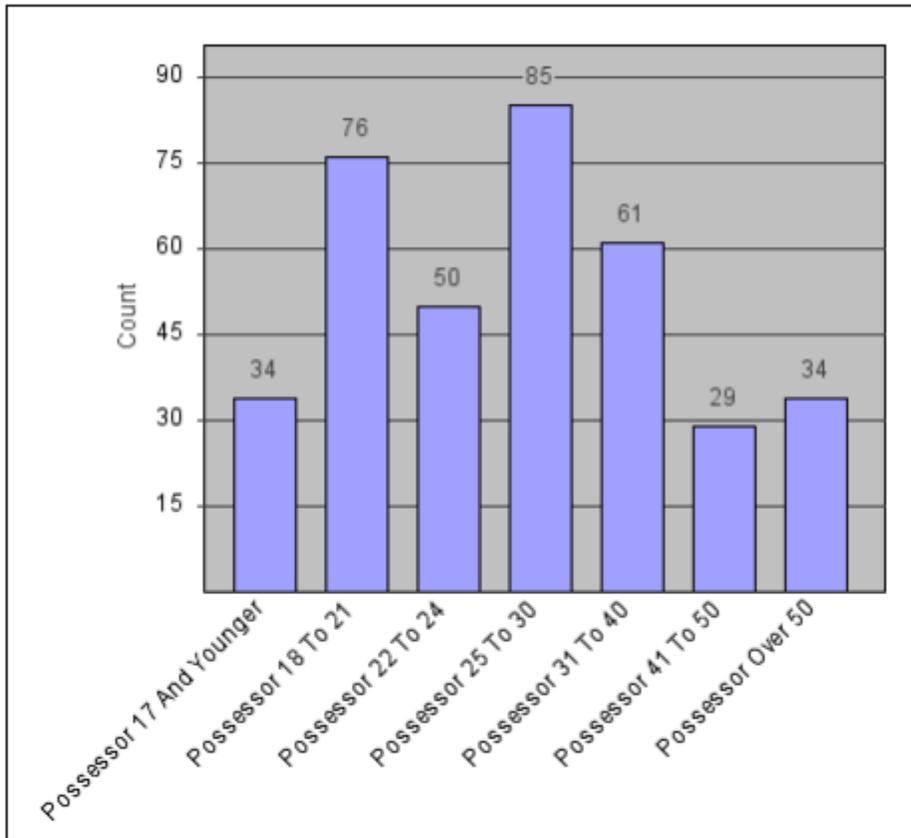
Rate	Count*
Under 3 Months	84
3 Months And Under 7 Months	76
7 Months And Under One Year	75
One Year And Under Two Years	89
Two Years And Under Three Years	87
Three Years And Over	708
Unable to calculate *	796
Total Count:	1915

8) Recovery by Age of Possessor by Year (2019-2021)

Table 8a:

For RecoveryDate Range:

1/1/2019 TO 12/31/2019

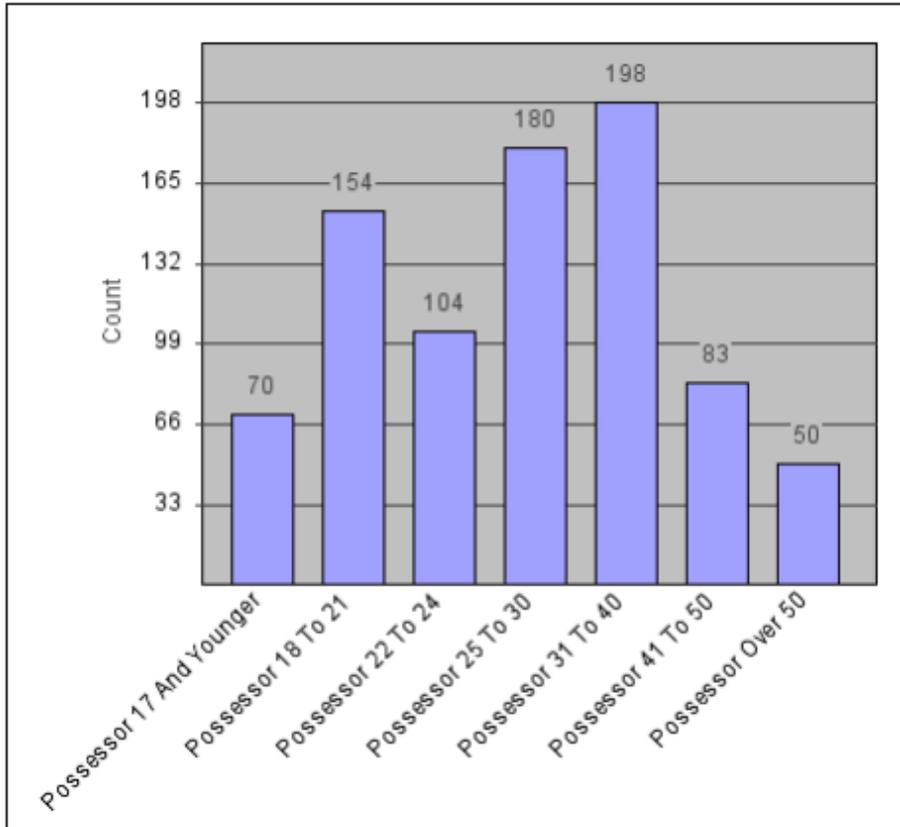


Age	Count*
Possessor 17 And Younger	34
Possessor 18 To 21	76
Possessor 22 To 24	50
Possessor 25 To 30	85
Possessor 31 To 40	61
Possessor 41 To 50	29
Possessor Over 50	34
Unable to calculate *	368
Total Count:	737

Table 8b:

For RecoveryDate Range:

1/1/2020 TO 9/23/2021



Age	Count*
Possessor 17 And Younger	70
Possessor 18 To 21	154
Possessor 22 To 24	104
Possessor 25 To 30	180
Possessor 31 To 40	198
Possessor 41 To 50	83
Possessor Over 50	50
Unable to calculate *	1076
Total Count:	1915

9) What are the prioritizing actions to stop and respond to gun crime?

Reducing gun violence is a top priority for the OPD. First, the Ceasefire strategy is the primary model used to combat gun violence in Oakland. This strategy calls for a reliance on crime data and intelligence to focus on those who commit shootings and homicides in Oakland. There is a strong emphasis on removing guns from the community. The specific focus is removing them from the individuals who are using them for violent crimes.

Second, there is significant coordination within OPD and with external law enforcement partners through the OPD Crime Gun Integration Center (CGIC). CGIC works closely with the OPD Crime Lab to rapidly analyze and disseminate the results of ballistic links that are produced by the OPD Crime Lab. This allows OPD to make connections between guns and shootings. There is also significant coordination with the Department of Violence Prevention (DVP), community partners and community-based organizations to take intervention steps with those most prone to violence. OPD staff engage in direct communication with subjects prone to violence. A legitimate attempt to steer them toward the services offered by DVP and other community groups is made during one-on-one conversations and at larger group call-in's.

Last, the Violent Crime Operation Center's (VCOC) was established in early 2021 to centralize the strategic dissemination of criminal intelligence and deployment of Departmental resources in support of the Criminal Investigation Division and intelligence-led violent crime prevention. VCOC has a multi-pronged approach to fighting and deterring violent crime It aims to:

- receive, analyze, and disseminate criminal intelligence and information;
- reduce and Prevent Crime through intelligence driven enforcement;
- support the Department's Ceasefire strategy in using data to reduce group/gang violence;
- provide real-time assistance to field units;
- identify crime patterns/ trends/areas for preventive measures and follow up investigations; and to
- collaborate with external partners such as FBI, USMS, and DVP, to prevent, interrupt, and solve violent crime.

This approach has proven to be effective. In Q2 2021 VCOC was responsible for 62 arrests including 19 for homicide.

COORDINATION

OPD personnel reviewed the City Council data request internally across various Police Services Agency divisions.

SUSTAINABLE OPPORTUNITIES

Economic: There are no economic opportunities associated with this report.

Environmental: There are no environmental opportunities associated with this report.

Race and Social Equity: Residents and visitors of Oakland benefit from efforts to stop violent gun crimes. Gun crimes statistically impact less advantaged communities more than affluent communities. OPD efforts to trace firearms associated with violent crime can positively impact less advantaged communities and decrease the inequities associated with violent crime.

ACTION REQUESTED OF THE CITY COUNCIL

Staff Recommends That The City Council Receive An Informational Report Regarding Making Guns The Top Law Enforcement Priority For Oakland; Supporting The Decrease Of Illegal Guns And Gun Violence By Increasing Gun Tracing, Improving Response Time To Shooting Notifications, And Prioritizing Response To Gun Crime.

For questions regarding this report, please contact Paul Figueroa, Captain, at pfigueroa@oaklandca.gov.

Respectfully submitted,



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