

COUNTY OF SUFFOLK



STEVEN BELLONE
COUNTY EXECUTIVE

EDWARD WEBBER
POLICE COMMISSIONER

POLICE DEPARTMENT

June 21, 2013

Tim Laube, Clerk of the Legislature
W.H. Rogers Legislature Building
725 Veterans Memorial Highway
Smithtown, New York 11787

Dear Mr. Laube:

Enclosed please find a report on our ShotSpotter program for the period of August 1, 2012 through March 14, 2013 compiled in response to a letter received from your colleagues, dated March 11, 2013. In addition to the information that you requested, we have included other important and relevant information about the progress of the program.

Starting with the month ending June 30, 2013, the Suffolk County Police Department will provide the Suffolk County Executive's Office and the Suffolk County Legislature with a monthly report of ShotSpotter activity.

Please let my office know if we can be of any further assistance.

Sincerely,

Edward Webber
Police Commissioner

RECEIVED
2013 JUN 21 AM 11:37
SUFFOLK COUNTY POLICE DEPARTMENT
COMMUNICATIONS CENTER

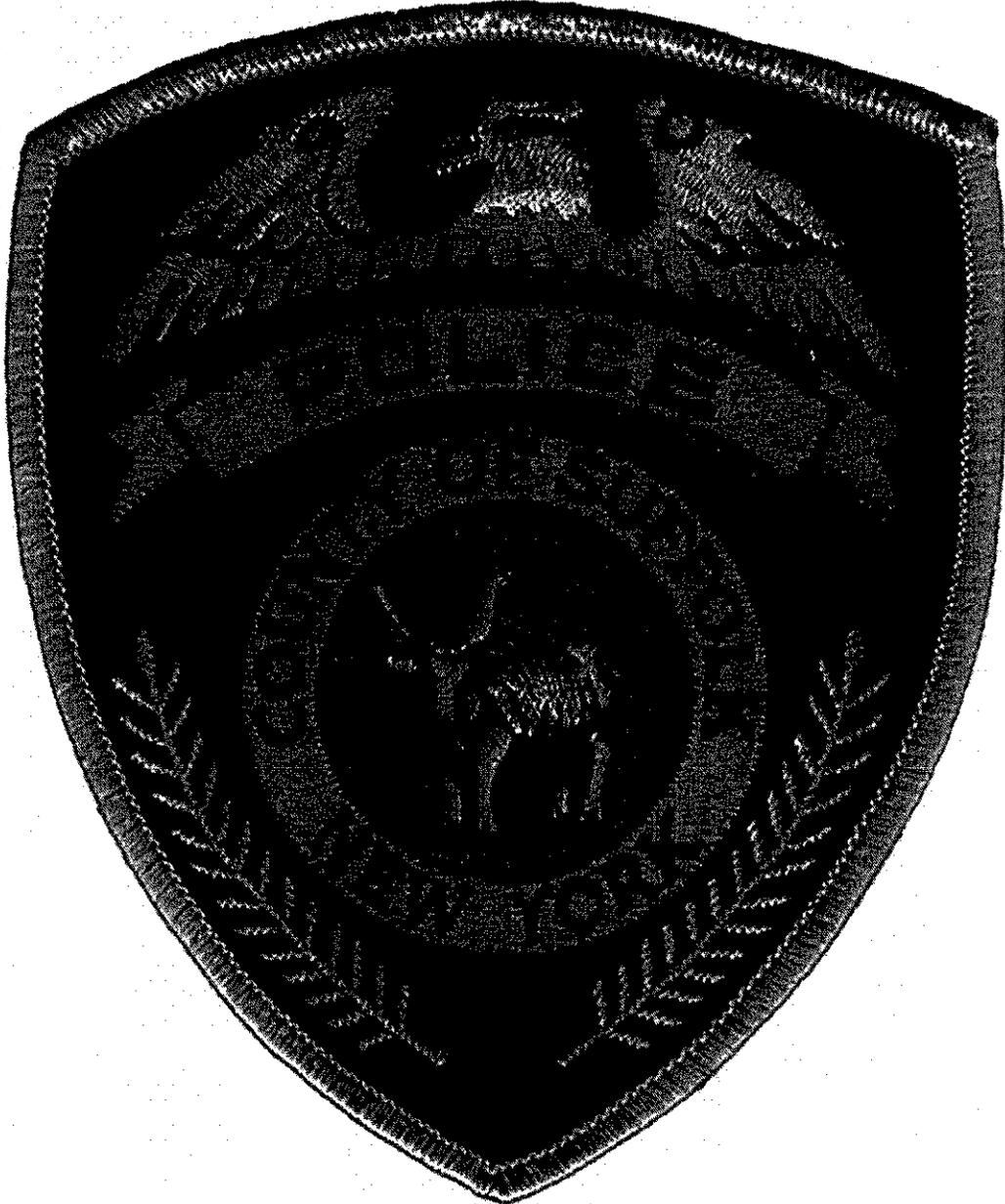


ACCREDITED LAW ENFORCEMENT AGENCY
Visit us online at: www.suffolkpd.org
Crime Stoppers Confidential Tip Hotline: 1-800-220-TIPS
Non-Emergencies Requiring Police Response - Dial: (631) 852-COPS
30 Yaphank Avenue, Yaphank, New York 11980 – (631) 852-6000



Shot Spotter Report

June 2013



COUNTY OF SUFFOLK



STEVEN BELLONE
COUNTY EXECUTIVE

EDWARD WEBBER
POLICE COMMISSIONER

POLICE DEPARTMENT

ShotSpotter Report- June 2013

Background: On December 18, 2011, the ShotSpotter Gunshot Location System was activated in Suffolk County. The implementation of this system was driven by the dramatic increase in shooting incidents in certain portions of the Police District during 2010-2011. Initially, Huntington Station was identified as the location of a large number of shooting incidents and funds were allocated for a pilot program of the ShotSpotter System in the Huntington Station area.

During the planning process, prior to system implementation, ShotSpotter implemented a new business model within their company. While the initial project was to be a two square mile capital project, with all equipment owned and monitored by Suffolk County, the new ShotSpotter business model required leasing of their equipment. The Police Department contracted for a five year system subscription for North Bellport and a three year subscription in each other location, with all equipment owned and maintained by ShotSpotter. ShotSpotter employees monitor the sensors placed within the ShotSpotter coverage areas and notify the SCPD when they determine gunshots have been fired. All alert data is evaluated by ShotSpotter staff and apparent gunshot occurrences are sent to the Suffolk County Police Department for appropriate response.

The practical effects of the business model change were twofold: 1) this allowed for an expansion in coverage in Suffolk County from two square miles to seven for the same price, and 2) this relieved the Department's Public Safety Dispatchers of the responsibility of evaluating potential gunfire and classifying alerts, since the finished alert would be sent to us by ShotSpotter.

Due to the expanded coverage offered under this model, five communities in four precincts were chosen as suitable locations for the implementation of this system: North Amityville and Wyandanch (one square mile each), Huntington Station (two square miles), Brentwood (two square miles) and North Bellport (one square mile).

Statistics:

The ShotSpotter system was placed into service on December 18, 2011. During its first year in service, ShotSpotter received 1,052 activations resulting in dispatch of 712 calls for service to potential gunfire incidents. (Note: a single incident may generate multiple ShotSpotter activations) During that first year of service the Department responded to an average of two ShotSpotter assignments per day.

In early July of 2012 ShotSpotter made adjustments to their system, modifying the algorithm that they use to analyze sensor data. These changes have significantly reduced the number of calls for service generated by the ShotSpotter system. From December 18, 2012 through March 14, 2013, the Department responded to 89 ShotSpotter assignments in that 87 day period, approximately one ShotSpotter assignment per day.

As requested by the Suffolk County Legislature Public Safety Committee, the following data is submitted regarding ShotSpotter activations that resulted in police response, between 8/1/12 and 3/14/13. The stricter ShotSpotter notification algorithm has been in place during this entire period of time. In the 226 day period, the SCPD responded to 212 activations, less than one per day. A summary of activations and dispositions below shows that nearly 2/3 of police responses are classified as unsubstantiated, about 30% are false and less than 7% are confirmed gunshots. The confirmation rate varies substantially by precinct, from 2.8% in the First Precinct to 12.7% in the Fifth Precinct.

Total Activations 8/1/12 – 3/14/13
(Less Duplicates and ShotSpotter Link Down)

Entire System

1 st Precinct - 71	Unsubstantiated - 133	62.7%
2 nd Precinct - 38	False - 65	30.7%
3 rd Precinct - 48	Confirmed - 14	6.6%
5 th Precinct - 55		
212	212	100

Activations and Dispositions by Precinct

	<u>1st</u>	<u>%</u>	<u>2nd</u>	<u>%</u>	<u>3rd</u>	<u>%</u>	<u>5th</u>	<u>%</u>
Unsubstantiated	48	67.6	24	63.1	30	62.5	31	56.4
False	21	29.6	12	31.6	15	31.2	17	30.9
Confirmed	2	2.8	2	5.3	3	6.3	7	12.7
	71	100	38	100	48	100	55	100

Definition of Terms

False – Activation was caused by sound other than gunshots.

Unsubstantiated – No evidence of gunshots, but insufficient evidence available to definitively prove or disprove cause.

Confirmed – Evidence indicates that gunshots were fired.

A review of Department records for this time period also found eighteen (18) instances where outdoor gunshots were fired within the ShotSpotter coverage area, but no alert was received from ShotSpotter. This non-activation rate also varied substantially between precincts, from twelve (12) non-activations in the First Precinct to one (1) in the Fifth Precinct.

Locations of incidents involving outdoor gunshots, within a coverage area, which did not result in ShotSpotter notification to the Police Department are listed below along with two more recent non-activations.

**No ShotSpotter Activation for Outdoor Gunshots in Coverage Area
8/1/12 – 3/14/13**

<u>1st Pct. (12)</u>	<u>Location</u>	<u>Guaranteed or Possible Area</u>	<u>ShotSpotter Notified</u>
8/18/12	Main Ave., Wyandanch	(P)	Yes
8/19/12	Jefferson Ave., Wyandanch	(G)	Yes
8/26/12	Centerwood St., W. Babylon	(P)	Yes
9/16/12	Mount Ave., Wyandanch	(G)	Yes
9/17/12	Essex St., W. Babylon	(P)	
10/2/12	Straight Path, Wyandanch	(P)	Yes
10/27/12	36 th St., Wyandanch	(P)	
11/3/12	Davidson Ave., Wyandanch	(G)	Yes
11/14/12	Maple Lane, N. Amityville	(P)	
12/3/12	Straight Path, Wyandanch	(G)	Yes
2/1/13	Nicolls Rd., Wyandanch	(G)	Yes
2/3/13	E. Smith St., N. Amityville	(G)	Yes
<u>2nd Pct. (2)</u>			
8/14/12	New York Ave., Huntington Sta.	(G)	Yes
9/19/12	Tippin Dr., Huntington Sta.	(G)	Yes
<u>3rd Pct. (3)</u>			
9/13/12	Suffolk Ave., Brentwood	(P)	
12/18/12	4 th Ave., Brentwood	(G)	Yes
2/6/13	Dunton St., N. Bay Shore	(P)	
<u>5th Pct. (1)</u>			
1/7/13	Duane Ave., N. Bellport	(G)	Yes

Post 3/14/13 – No ShotSpotter Activation

<u>1st Pct. (1)</u>			
5/26/13	Corral Dr., N. Amityville	(G)	Yes
<u>5th Pct. (1)</u>			
4/26/13	Bayview Ave., N. Bellport	(G)	Yes

Analysis:

Since the inception of ShotSpotter in 2011, the Department has had several commands monitoring ShotSpotter activity, and also appointed a liaison to maintain regular contact with ShotSpotter in order to provide feedback and act as a conduit for information flow between the parties. As a result of those ongoing communications, ShotSpotter made significant changes in July of 2012 to refine the algorithm they use to notify us of ShotSpotter activations. The change resulted in about ½ as many responses by police than occurred prior to the new algorithm.

A review of data collected between 8/1/12 and 3/14/13 found that in 11 out of 12 confirmed activations, the ShotSpotter notification to 911 was received prior to or instead of a 911 call. The review also revealed 18 instances where no ShotSpotter activation was received by the Police Department, even though shots were fired outdoors within the coverage area. Police Officers responded to these incidents via a 911 call rather than ShotSpotter notification. Two additional similar incidents have occurred after 3/14/13 that resulted in 911 responses to gunshot incidents. In one case, we discovered that the Department was not notified due to a ShotSpotter internal evaluation process that requires gunshots to activate three sensors rather than the two which were activated in this incident. The Department continues to notify ShotSpotter when these non-activation events occur, and will encourage further system modifications, and improvements in the evaluation process, in order to receive these calls immediately through the ShotSpotter network.

Based on the period analyzed, the following additional observations are submitted:

- The overwhelming number of activations are classified as unsubstantiated or false.
- Reckless Endangerment arrests have been made in at least two cases due to ShotSpotter activations for celebratory gunfire.
- There have been no documented arrests or prosecutions by patrol officers responding to the scene of ShotSpotter reported assaultive gunfire incidents.

Conclusion:

Based on the data examined to date, it is evident that our ShotSpotter system has not yet reached its maximum level of efficiency. While the system has successfully alerted the Department to confirmed gunshots, there are other instances where we were not alerted when gunshots were fired within the coverage area. Additionally, about 30% of our ShotSpotter responses are found to be false alarms. Further research also needs to be conducted by ShotSpotter to determine why the confirmation rate varies so widely between some of the precincts.

Internally, our Department took a decentralized approach to monitoring of the system, data collection, analysis of incidents, classification of outcomes, and notifications to ShotSpotter regarding problems or concerns. These tasks are currently split between the Patrol and Support Services Divisions.

Based on our recent study, we have streamlined and centralized all ShotSpotter liaison and review activities within the Support Services Division. A liaison has been appointed within the Communications Section and secondary assistance with data collection is provided by our Research and Development Section. Regular contact will be initiated with ShotSpotter to make mandatory notification of non-activations and false alarms, as well as allow timely communication of ideas, suggestions and concerns, with the goal of initiating system improvements. Monthly reports, starting with the month ending June 30, 2013 will be prepared and shared with the Office of the County Executive and Suffolk County Legislature Public Safety Committee.

Implementation of the above procedures and continued monitoring of the ShotSpotter system through the end of 2013 would give ShotSpotter time to initiate system improvements and provide us with enough reliable data to perform an analysis of system benefits in conjunction with current costs.



ACCREDITED LAW ENFORCEMENT AGENCY

Visit us online at: www.suffolkpd.org

Crime Stoppers Confidential Tip Hotline: **1-800-220-TIPS**

Non-Emergencies Requiring Police Response - Dial: **(631) 852-COPS**

30 Yaphank Avenue, Yaphank, New York 11980 – (631) 852-6000

