



Date: March 4, 2024

To: Wanda S. Page, City Manager
Through: W. Bowman Ferguson, Deputy City Manager
From: Patrice V. Andrews, Chief of Police
Subject: Contract for ShotSpotter Respond Services Agreement

Executive Summary

On September 20, 2022, the City Manager executed a contract permitting the Department to conduct a one-year pilot of the ShotSpotter® Respond™ Gunshot Detection, Location, and Forensic Analysis Service. The pilot commenced on 12/15/2022 and concluded on 12/14/2023. An independent evaluation has been conducted by the Wilson Center for Science and Justice at Duke University. Based on the results of the program pilot, the Department proposes continuing the program in the existing three-square mile coverage area for an additional three years.

Motion

To authorize the City Manager to execute a three-year contract with SoundThinking, Inc. to continue using the ShotSpotter® Gunshot Detection, Location, and Forensic Analysis Service in the total amount of \$658,500.

Background

During the period 2019-2021, the City of Durham averaged of 2,533 sound of shots calls for service, 804 shooting incidents, and 262 gunshot wounds per year. A disproportionate number of these events occurred in a three-square mile area, representing 2.7 percent of the land mass but 33.9 percent of the incidents involving gunshot wounds. The ShotSpotter coverage area was designed based on this data. *During the program pilot, 30.1 percent of the incidents involving gunshot wounds occurred in this area, indicating a continued concentration of these events.*

According to ShotSpotter, less than 20 percent of gunfire events are reported to 911 nationally. When citizens do report a gunfire event, the 911 call typically comes several minutes after it has occurred, and the location provided is usually mislocated by 750 feet (on average). As a result, valuable time and resources are wasted trying to locate the incident, greatly diminishing the opportunity to identify suspects and witnesses, recover evidence, and -- most important -- render life-saving aid to victims. *During the program pilot, 26.9 percent of gunfire events published by ShotSpotter were also reported to 911. Just 34.1 percent of these calls were within both 3 minutes of the ShotSpotter alert and 300 feet of the incident location.*

Based on the analysis of known gunfire events, ShotSpotter deployed networked sensors within the three-square mile coverage area. The acoustic arrays are a passive system, and do not record or activate until a possible gunshot is detected. ShotSpotter's Incident Review Center (IRC) uses a two-factor incident review process to minimize false alerts. The IRC review process results in publishing an alert to law enforcement (gunshot or probable gunshot), or dismissal (non-gunshot). The entire process (i.e., recording the impulsive sound, two-factor review, and publishing alerts to authorized users) is designed to be completed in less than 60 seconds. *During the program pilot, the median time to complete this process was 34 seconds.*

Under the terms and conditions of the ShotSpotter Services Agreement, ShotSpotter committed to meet or exceed the following Service Level Agreement (SLA) standards as it provided its ShotSpotter Gunshot Location Services.

Gunshot Detection & Location	90 percent of unsuppressed, outdoor gunfire incidents, using standard, commercially available rounds greater than .25 caliber, inside the Coverage Area will be detected and located within 25 meters of the actual gunshot location. <i>During the program pilot, Durham's performance was 95.5 percent.</i>
Reviewed Alerts	90 percent of gunshot incidents will be reviewed and published in less than 60 seconds. <i>During the program pilot, Durham's performance was 92.9 percent.</i>
Service Availability	The ShotSpotter Gunshot Location System service will be available to the Customer 99.9 percent of the time with online access to ShotSpotter data, excluding scheduled maintenance windows. <i>During the program pilot, this standard was met.</i>

Issues and Analysis

ShotSpotter is a tool designed to provide law enforcement with accurate and timely information about gunfire events in the coverage area, which compliments human reporting that may be insufficient by itself to send help when and where it is needed. The observed impacts from using such a tool are based on a combination of the tool's performance, and what the Police Department does with the additional information.

Officers arriving at the scene of a ShotSpotter activation are expected to make a reasonable effort to locate potentially injured victims, property damage, and/or evidence of a shooting. Examples of such efforts may include, but are not limited to, getting out of the vehicle to check publicly accessible areas, securing any physical evidence, and/or speaking to potential witnesses. Under no circumstances is a ShotSpotter alert used as the sole basis for establishing probable cause or reasonable suspicion to conduct a search or investigative stop. *During the program pilot, there were no resident complaints received by the Department's Professional Services Division regarding officer conduct when responding to ShotSpotter events.*

While the evaluation of the pilot program by the Wilson Center has not been published yet, Department data indicates that confirmed shootings in the pilot area received a police response in a median average of 271 seconds. This represents an 88 second improvement compared to the one-year period prior to the pilot. There was very little change (4 second increase) in the response time to confirmed shootings elsewhere in the City.

During the program pilot, there were 48 gunshot wounds accurately detected, including 2 with no corresponding resident call to 911. There were also 1,450 shell casings collected at crime scenes, which produced NIBIN leads to other shootings in 94 cases. There were 21 guns recovered and 24 arrests made resulting from gunfire events reported by ShotSpotter.

Based on department data, there is no evidence of a reduction in gunshot victims in the pilot area compared to the rest of the city. However, one year is a very small sample to measure changes in rare events, such as a person being shot. Additional data would be needed to determine if ShotSpotter as a tool helps the Department reduce crime over time. There have seen several success stories documented in which information from ShotSpotter has been critical in pursuing criminal charges, finding victims quickly, and rendering medical aid, including:

- Shortly after 2 a.m. on 1/27/23, officers responded to the 100 block of W. Knox Street where they found Shakida Rivers, 41, who had been shot. The location was approximately 3,400 feet outside the ShotSpotter coverage area, so officers were not alerted to gunfire in the area. However, the system was able to later provide relevant information to investigators about when the shooting occurred and the number of rounds fired. The Durham Police Department has arrested and charged Shawn Leroy Butler, 25, of Durham for the murder of Rivers.
- Shortly before 7 p.m. on 5/6/23, officers received the first of two ShotSpotter notifications about rounds being fired near the 1200 block of Merrick Street. They were able to use the information to locate a gunshot victim leaving the area in a vehicle. Six days later, a suspect was arrested in the same area, and was in possession of a privately made handgun. A check of the NIBIN system showed it to be the gun involved in the shooting. The suspect was charged in both cases, and also extradited to Connecticut on a felony parole violation.
- Shortly before 1 p.m. on 7/25/23, several ShotSpotter notifications were received regarding rounds being fired in the area of Colfax Street and Linwood Avenue. While responding, officers were notified that someone at the scene had been shot. The first 911 call was 47 seconds after the first ShotSpotter notification. Upon arrival, officers found the victim had suffered life-threatening injuries and applied multiple tourniquets to slow the bleeding. The victim was transported to Duke University Medical Center and survived. The information provided by ShotSpotter helped officers respond in less than 4 minutes from when the first shots were fired, allowing them to quickly render aid to the victim.
- At approximately 1:30 a.m. on 9/2/23, a ShotSpotter notification was received regarding rounds being fired in the area of Neville Street and Mallard Ave. Responding officers arrived 3 minutes and 26 seconds later, and located a gunshot victim in a nearby park. Unfortunately, the victim did not survive his injuries. However, there were no 911 calls received regarding the incident, and the victim would not have been easily seen where he was located. Without the information provided by ShotSpotter, he likely would not have been discovered until at least daylight by a passerby.
- Shortly after 6:00 a.m. on 12/3/23, officers responded to a ShotSpotter alert in the 700 block of Bacon St. While investigating, they heard additional gunshots being fired from the 600 block of Troy St. Using the ShotSpotter mobile app on the officers' city-issued cell phone, officers used the resulting alert to quickly respond to the location, where they located an adult male victim who had been shot. The victim was transported to a local hospital where he was later pronounced deceased from his injuries. The total elapsed time from when the additional ShotSpotter alert was published to officers arriving on the scene was 1 minute, 24 seconds. Officers estimated it would have taken considerably longer to locate the victim without the ShotSpotter information.

Alternatives

Alternatives include returning to the previous methods by which the Police Department becomes aware of gunfire events in the coverage area, which include residents calling 911 when they hear what they believe to be gunfire, officers directly hearing gunfire nearby while in their patrol areas, and notification from area hospitals when someone walks into an emergency room suffering from a gunshot wound.

Financial Impact

Funding for year 1 of the contract is available in the Department’s general fund budget. Funding for year 2 and year 3 has been requested through the Budget process as a Budget Request.

Contract Year	City Fiscal Year	Amount
Year 1	FY23-24	\$219,500
Year 2	FY24-25	\$219,500
Year 3	FY25-26	\$219,500
Total		\$658,500

Equal Business Opportunity Summary

Due to the nature of this agenda item, a review by the Finance Department was not required.

Contractor Workforce Diversity & Hiring Practices

According to the contractor’s responses to the “Contractor Workforce Diversity Questionnaire,” the contractor is a large employer (over 100 employees) consisting of mostly professional/skilled workers. The contractor believes it has a diverse workforce because it hires candidates from diverse backgrounds, nationalities, and cultures, bringing a fresh array of perspectives to the table. They further believe that they have diverse employees that have different talents, experiences and skill sets to help their company develop creative and inventive solutions. The contractor did list a few examples of efforts it makes to have a more diverse workforce.

Part A – Employee Diversity Breakdown Table for Primary Location

Employment Category	Total Employees	Total Males	Total Females	M-a-l-e-s					F-e-m-a-l-e-s				
				White	Black	Hispanic	Asian or Pacific Islander	Indian or Alaskan Native	White	Black	Hispanic	Asian or Pacific Islander	Indian or Alaskan Native
Project Manger	5	5		3	1	1							
Professional	113	80	33	53	11	4	10			16	8	3	5
Labor													
Clerical	29	7	22	5		1	1			6	8	4	1
Totals	147*	92	55	61	12	6	11			22	16	7	6

*This number includes Male & Female count from "Two or More Races"

Part B – Employee Diversity Breakdown for the Consolidated Company

Employment Category	Total Employees	Total Males	Total Females	Males					Females				
				White	Black	Hispanic	Asian or Pacific Islander	Indian or Alaskan Native	White	Black	Hispanic	Asian or Pacific Islander	Indian or Alaskan Native
Project Manger	5	5		3	1	1							
Professional	178	131	47	82	16	8	22		21	8	5	12	
Labor													
Clerical	31	8	23	6		1	1		7	8	4	1	
Totals	214*	144	70	91	17	10	23		28	16	9	13	

This number includes Male & Female count from *Two or More Races

- Attachments**
- ShotSpotter Respond Services Agreement
 - Map of the ShotSpotter Deployment Area