Traditional measures of gun violence — homicides, shootings involving injury, and victimization surveys — grossly underestimate the true scope of daily gun violence.
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Summary of First Half 2014 Results

Total Gunfire

SST™ aggregated the gunshot data from 56 cities out of all those we monitor in the U.S. In the first six months of this year, in those 56 cities, ShotSpotter® Flex™ detected a total of 19,946 separate incidents of gunfire.

Excluding holidays, there were 17,863 gunfire incidents in our coverage area in the first half of 2014, or 98.7 every day, approximately 4.1 incidents every hour.
Summary of First Half 2014 Results

Gunfire Incidents per Square Mile, by Region

Most incidents per square mile were in the Midwest and least were in the Northeast.

**Median:** 87.8/square mile  
**Average:** 110.2/square mile

The city with the highest rate of gunfire had an average of 381.8 gunfire incidents in the 6 month reporting period in a single square mile (2.1 per day). That city’s gunfire rate was 3.5 times higher than national average of 110.2.

The average incident rate per square mile is shown here.

Regional numbers are based on sample cities in that region.  
See Communities.
Summary of First Half 2014 Results

Peaks of Gunfire Incidents, Local Time by Region

By time zone, the peak for gunfire gets later as you move East. In the Pacific time zone, it’s 10:25pm.

The peak gunfire in Central time is 11:30pm, Eastern Standard time it’s 12:20am and in the Caribbean the peak gunfire time is 1:00am.

Friday, Saturday and Sunday together accounted for 53% of all weekly gunfire.

Notes on Coverage Areas: ShotSpotter Flex coverage on June 30, 2014 was comprised of 181 square miles across 56 U.S. communities. ShotSpotter Flex coverage per agency ranges from 1 to 13 square miles. Mean coverage area was 3.2 square miles per community. Those 181 square miles break down as follows: 59.6 in Northeast (across 23 communities), 36.9 in Midwest (across 12 communities), 36.4 in West (across 8 communities), 34.5 in South (across 9 communities), and 14.1 in the Caribbean (across 4 communities).
Comparing First Half 2014 with First Half 2013

In order to make a meaningful comparison between the First Half 2014 and the First Half 2013, we selected a subset of 31 of the 56 cities that maintained continuous ShotSpotter Flex coverage throughout both periods. The data from those 31 cities represents an “apples-to-apples” comparison.

**Gunfire Incidents**

Overall the number of gunfire incidents is down, significantly, by 20.6% both in absolute numbers from 14,703 to 11,675 and also in density, per square miles -27.2%, from 149.1 to 108.5/square mile in every region of the U.S. where ShotSpotter Flex is deployed.

At the same time, the average number of rounds fired per incident is up about 14%.
Comparing First Half 2014 with First Half 2013

Gunfire Incidents, by Region

Every single region in our sample of 31 communities saw a decrease in incidents per square mile.

The Midwest had the greatest decrease, from 275.8 gunfire incidents per mile in 1H2013 to 200.7 the following year. The Northeast had the largest decrease of 39.1% while the Caribbean had the least change, decreasing 5.2%.

Gunfire incidents are down in almost every ShotSpotter Flex city. In the 31 communities that we were able to analyze both for 1H2013 and 1H2014, gunfire incidents were down in 28 of the 31 communities, or 90% of them.

Regional numbers are based on sample cities in that region. See Communities.
Comparing First Half 2014 with First Half 2013

Rounds (Bullets) Fired per Gunfire Incident

Rounds (bullets) fired per gunfire incident were up by 36%. On average, 3.2 rounds were fired per incident during the first half of 2014, up 10% from first half 2013 average of 2.9 rounds per incident.

1H2014: 58,087 Rounds fired, 3.2 Average
1H2013: 42,830 Rounds fired, 2.9 Average
Comparing First Half 2014 with First Half 2013

**Rounds (Bullets) Fired by Gunfire Incident, by Region**

The average number of bullets fired per incident varies by region (i.e. 3.7 rounds/incident in the West this year), but comparing 1H2014 to 1H2013, that number dropped in each region.

Regional numbers are based on sample cities in that region. See Communities.
Communities with their Census Regions

These 31 cities were consistently monitored during 1H2013 and 1H2014, and represent an “apples-to-apples” comparison: Brockton, MA; Camden, NJ; Charlotte, NC; Chicago, IL; East Palo Alto, CA; Fall River, MA; Hartford, CT; Hempstead, NY; Kansas City, MO; Miami Gardens, FL; Milwaukee, WI; New Bedford, MA; New Haven, CT; Oakland, CA; Omaha, NE; Paterson, NJ; Plainfield, NJ; Prince Georges County, MD; Quincy, WA; Rochester, NY; Rocky Mount, NC; Saginaw, MI; San Francisco, CA; St. Croix, USVI; St. Louis, MO; St. Thomas, USVI; Springfield, MA; Suffolk County (Brentwood), NY; Suffolk County (Huntington Station), NY; Suffolk County (N Bellport), NY; Wilmington, NC.

The superset of 56 cities we analyzed in 1H2014 are:

Atlantic City, NJ Northeast
Baton Rouge, LA South
Bayamon, PR Caribbean
Bell Gardens, CA West
Belle Glade, FL South
Brockton, MA Northeast
Camden, NJ Northeast
Canton, OH Midwest
Cambridge, MA Northeast
Charlotte, NC South
Chicago, MA Northeast
East Chicago, IN Midwest
East Palo Alto, CA West
Fall River, MA Northeast
Hartford, CT Northeast
Hempstead, NY Northeast
Jackson, MS South
Kansas City, MO Midwest
Miami Gardens, FL South
Milwaukee, WI Midwest
Minneapolis, MN Midwest
New Bedford, MA Northeast
New Haven, CT Northeast
Oakland, CA West
Omaha, NE Midwest
Paterson, NJ Northeast
Peoria, IL Midwest
Plainfield, NJ Northeast
Prince Georges County, MD Northeast
Quincy, WA West
Richmond, CA West
Riviera Beach, FL South
Rochester, NY Northeast
Rocky Mount, NC South
Saginaw, MI Midwest
San Francisco, CA West
San Juan, PR Caribbean
San Pablo, CA West
Somerville, MA Northeast
South Bend, IN Midwest
Springfield, MA Northeast
St. Croix, USVI Caribbean
St. Louis, MO Midwest
St. Thomas, USVI Caribbean
Stockton, CA West
Suffolk County (Amityville), NY Northeast
Suffolk County (Brentwood), NY Northeast
Suffolk County (Huntington Station), NY Northeast
Suffolk County (N Bellport), NY Northeast
Suffolk County (Wyandanch), NY Northeast
Wilmington, DE South
Wilmington, NC South
Worcester MA Northeast
Yonkers, NY Northeast
Youngstown, OH Midwest
Appendix

Methodology and Notes

1. The 56 communities that had ShotSpotter Flex coverage as of June 30, 2014 are included in the first half analysis in this report.

2. In order to perform an ‘apples-to-apples’ comparison of gunfire rates during 1H2013 and 1H2014, only those 31 communities that had ShotSpotter Flex coverage for more than 98 days in both 1H2013 and 1H2014 are used in the comparison. Some communities were not covered during the entire six months in 1H2013 or 1H2014. Therefore, when calculating values such as gunfire incidents per square mile, care was taken to account for the different number of days of coverage for different communities. In these few cases, the chosen solution was to calculate the number of incidents by day and impute the number of gunfire incidents for those days for which there was no coverage, taking account known information about incident rates for the community, the day of the year, the day of the week, and the year. This method is like proration, but is more accurate. Imputation of incidents data for a half is done only for communities that have coverage data for more than 98 days in that half.

3. The incident data for Youngstown, OH and for Suffolk County (Amityville), and Suffolk County (Wyandanch), NY were are not used in the 1H2013 vs. 1H2014 comparisons because of changes to the coverage areas which would have made this comparison not ‘apples-to-apples’.

4. Incidents were counted only after formal qualification and operational use of ShotSpotter data by the client agency began, even if gunfire or other incidents were detected previously. Incidents were counted as gunfire if they were classified as Single Gunfire, Multiple Gunfire, or Possible Gunfire by SST-certified review personnel. All other incident types (fireworks, firecrackers, explosions unrelated to gunfire, transformer explosions, thunder, lightning, helicopters, etc.) are not classified as confirmed gunfire and were excluded from all statistics presented in this report. Gunfire incidents not reviewed by SST-certified review personnel are also excluded.

5. Square mileage is measured on the basis of contractual coverage area. For each such area, the geographic area is defined as the convex hull surrounding each coverage area. If the convex hulls data are not available, the contracted area is used. In some cases, small areas within these coverage areas are intentionally excluded when gunfire is regularly expected in those specific locations (e.g. a legal outdoor shooting range or police practice range). In those cases, gunfire which takes place in those locations outside of authorized areas is still included in the tallies, but gunfire which takes place during permitted (expected) periods is not included.

6. Gunfire incidents for a half year period were counted if the local time in the time zone of their occurrence was between 00:00:00 standard time (i.e., midnight) on January 1 and 23:59:59 daylight saving’s time on June 30 (i.e., 1 second before midnight on July 1). Incidents during the New Years and 4th of July holiday periods are not counted in the statistics unless explicitly noted because because gunfire during those holiday periods is highly inconsistent with the normal pattern. The holiday periods are from January 1, 00:00:00 to January 1, 06:00:00 and from June 30, 12:00:00 to June 30, 23:59:59.

7. When the Friday, Saturday and Sunday gunfire totals are compared to the rest of the week, a day is defined as starting at 06:00:00 local time and extending to 05:59:59 the next morning. For example, early 02:05 Sunday morning is counted as Saturday night.

8. Individual hours of the week and days of the week were calculated on a local time basis.