



## Research on ShotSpotter - 2/2/19

Description: Founded in 1996 and is headquartered in Newark, California. They provide software-as-a-service based gunshot detection solutions for law enforcement officials and security personnel in the United States, South Africa, and internationally. The company's solutions include:

- ShotSpotter Flex, an outdoor public safety solution for cities and municipalities to identify, locate, and deter gun violence by incorporating a real-time gunshot detection system into their policing systems
- SST SecureCampus that helps the law enforcement and security personnel serving universities, colleges, and other educational institutions to mitigate risk and enhance security by notifying authorities and first responders of an active-shooter.
- SiteSecure, which serves various customers, such as corporations to safeguard their facilities; and public agencies focused on protecting critical infrastructure, including train stations, airports, and freeways.

Ticker: SSTI

Price: \$45.75

Market Cap: \$495M

Performance: +46.7% YTD

### Analysis

ShotSpotter is a really unique company. Essentially what they do is install a gunshot detection system that constantly scans for and reports gunfire to the proper authority channels. So for example, if a gunshot goes off the company uses their installed radars/sensors to pinpoint where and when the gunshot went off and immediately notify local authorities.

Watch the tutorial video here: <https://youtu.be/JJSNQoIvYkY>

Before we analyze the company specifically, we like to analyze the landscape. While crime will obviously and unfortunately always exist it would be wise to analyze trends to better gauge potential demand for SSTI's services.

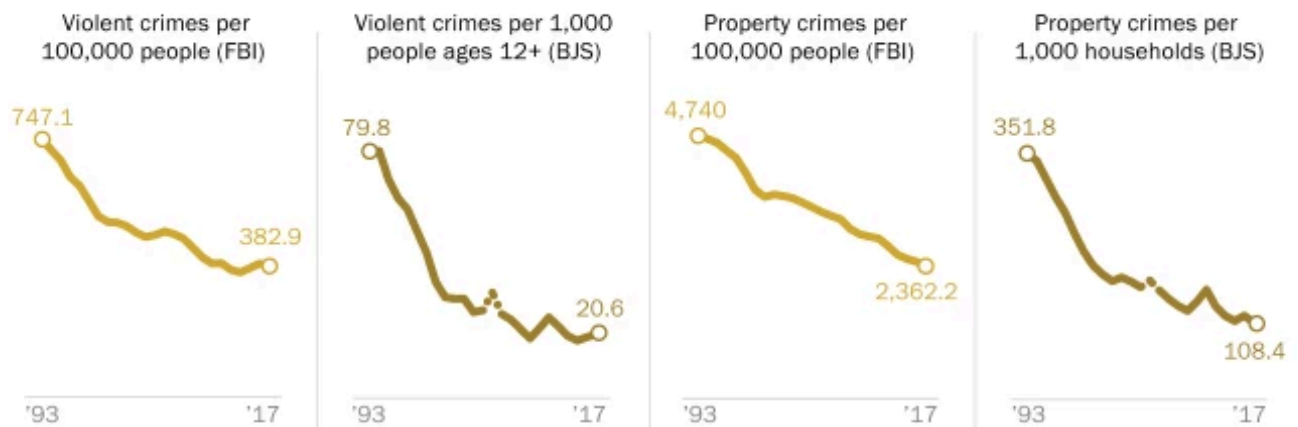
Here is the following we found from SSTI's site and research we've conducted:

Data we've found from the FBI suggests that crime is actually falling immensely. In the image below you will see that crimes since 1990:

- Per 100,000, has fallen from 747 instances to roughly 383
- Per 1000 people over the age of 12+, have fallen from approx. 80 to 20.6
- Property crimes per 100,000 people has fallen from 4,740 to 2,362
- Property crimes per 1,000 households has fallen from roughly 352 to 108.4

## Crime rates have fallen since the early 1990s

*Trends in U.S. violent crime and property crime, 1993-2017*



Note: FBI figures include reported crimes only. Bureau of Justice Statistics (BJS) figures include unreported and reported crimes. 2006 BJS estimates are not comparable to those in other years due to methodological changes.

Source: FBI, Bureau of Justice Statistics.

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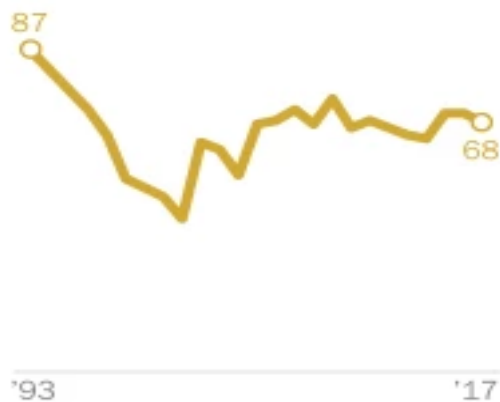
This is extremely important because the amount of crime there is needed to combat is directly correlated to how much demand there will be for SSTI. While the number is coming down, we

still feel there is enough crime for there to still be a need for Shotspotter's services, make no mistake. 383 violent crimes per 100,000 people is still 383 too much.

As they say, though: *Perception is reality*. Why do we bring this up? The FBI data also suggests that our perception of crime and the rate at which it occurs is skewed.

## Public perception of crime rate at odds with data

*% saying there is more crime in the U.S. than a year ago*



*Violent crimes per 1,000 people ages 12 and older*



Note: 2006 Bureau of Justice Statistics (BJS) estimates are not comparable to those in other years due to methodological changes. To allow for comparisons across the same time period, 2018 public opinion data not shown.

Source: Gallup, Bureau of Justice Statistics.

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As you can see above, we already covered that crimes per 1000 people ages 12+ has fallen nearly 74.2% from 1993 to 2017 but the percentage of people saying there is more crime today has only fallen from 87% to 68%.

What may be more important for SSTI and their rev/earnings may not be so much HOW much crime there is but more so HOW much people THINK crime exists today. Why? As fear grows, local neighborhoods and authorities will feel the pressure to better control the public and their towns and that means getting any extra support they can to please the citizens.

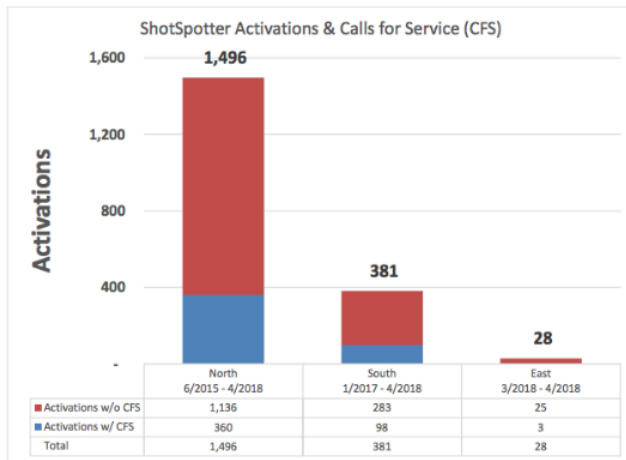
Let's move on to more data we've found that is extremely vital:

- According to SSTI website, 80% of gunshots are never reported to 911
- In 2017, only 45% of violent crimes tracked by BJS (Bureau of Justice Statistics) were reported to police. And in the much more common category of property crime, only about a third (36%) were reported. There are a variety of reasons crime might not be reported, including a feeling that police “would not or could not do anything to help” or that the crime is “a personal issue or too trivial to report,” according to BJS.
- Most of the crimes that *are* reported to police, meanwhile, are not solved, at least based on an FBI measure known as the “clearance rate.” That’s the share of cases each year that are closed, or “cleared,” through the arrest, charging and referral of a suspect for prosecution (or through “exceptional means,” such as the death of a suspect or a victim’s refusal to cooperate with a prosecution). In 2017, police nationwide cleared 46% of violent crimes that were reported to them. For property crimes, the national clearance rate was 18%.
- **124,760 people** in America are shot in murders, assaults, suicides & suicide attempts, unintentional shootings, or by police intervention.
  - **35,141 people** die from gun violence
    - 12,246 murdered
    - 479 killed by legal intervention
  - **89,620 people** survive gun injuries:
    - 66,673 injured in an attack
    - 1,284 people are shot by legal intervention

Overall, crimes are still prevalent but falling in the United States while the perception of gun violence hasn’t fallen proportionally to the amount of actual crimes reported. Regardless many crimes aren’t reported and there is still a HUGE market for SSTI to tackle as it no secret that in today’s day in age authorities seem to be under more scrutiny than ever before and could use a service like that of SSTI to help in anyway possible.

Perhaps more importantly than everything, how have SSTI’s services performed?

- Currently have 13,000 sensors deployed
- Over 650 square miles covered under contract
- Over 99,000 alerts sent in 2017
- Over 700,000 gunshots recorded
- Covering over 90 cities/municipalities



## Sacramento

ShotSpotter has detected 1,905 gunfire incidents, resulting in 142 arrests, 132 guns taken off the street and also resulted in 3,600 positive interactions in the community according to Sacramento Police Department statistics.

**142**  
arrests

**132**  
gun seizures

Cincinnati, OH

**48%**

reduction in  
shooting victims

Denver, CO

**102**

arrests made with the  
help of ShotSpotter

Chicago, IL

**40%**

reduction in  
Englewood shootings

Camden County, NJ

**46%**

decrease in homicides  
by shootings

New York, NY



closer relationship between  
cops and community

St. Louis County, MO

**23**

arrests made with the  
help of ShotSpotter

San Diego, CA

**2.5 min**

reduction in response  
time to crime scene

Pittsburgh, PA

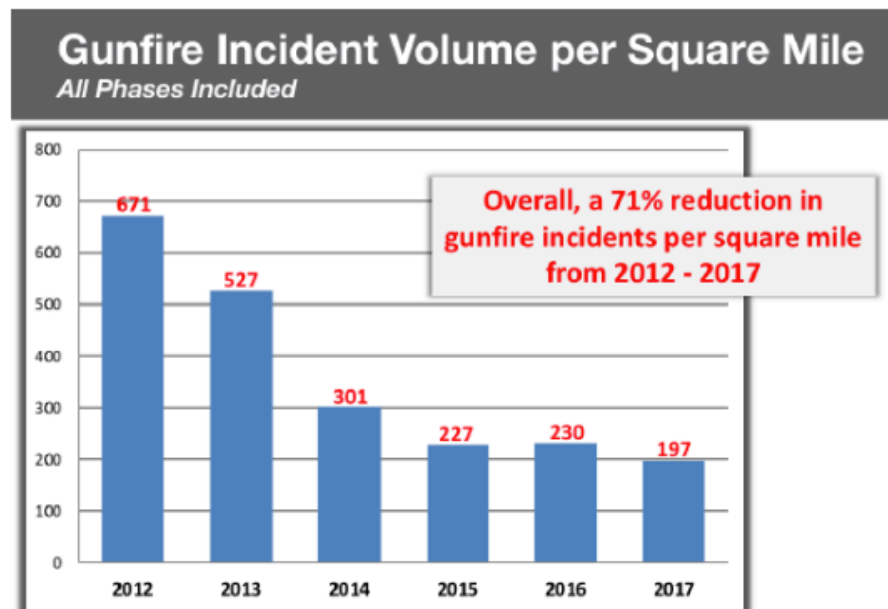
**83**

gunshot victims found with  
the help of ShotSpotter

Rochester, NY

**40%**

decrease in gunshot  
incidents



Source: Oakland Police Department

According to SSTI's statistics all seems to be working pretty well as they have not only been bringing the amount of crimes down but also the very important and crucial response time down as authorities don't have to wait for the call to be reported and dialed in.

Let's dive into the business now:

In their most recent quarter:

- Revenues increased 35% to a record of \$9.2 million, up from \$6.8 million in the third quarter of 2017.
- Gross profit was 55%, up from 50% from the third quarter of 2017.
- Net loss totaled \$1.4 million, an improvement from the net loss of \$1.6 million for the same period in 2017.
- Adjusted EBITDA totaled \$199,000 versus a loss of (\$156,000) in the same period of 2017.
- Added 36 net new "go-live" square miles of coverage during the quarter.
- Increases 2018 revenue guidance to a range of \$34.4 million to \$34.6 million, a 45% increase compared to the prior year.
- For the full year 2018, the company sees revenue of \$34.4 million to \$34.6 million
- Established initial 2019 revenue guidance of \$45 million to \$47 million.

So here's our dilemma. We love what the company stands for and find the technology pretty cool but at a \$500M market cap, the company trades at over 10x forward sales. This is expensive as many SaaS cloud companies don't trade at this valuation. Speaking of cloud companies, this is something that bothers us slightly about the company. On the website the company considers themselves a cloud company but we aren't really sure how that it is considering humans are interpreting the sensors when they go off.

Regardless there are some serious pros and cons so let's walk through them and lay them out in an easy to read manner:

Pros:

1. Little competition in the space
2. Company approaching profitability after years of losses
3. Rev growth implied for 2019 of 33.33%, down from the 45% expected from 2017 to 2018
4. Many different markets to tackle as the company is currently employing sensors in South Africa to help Rhinos from poachers
5. Internationally the company has barely hit the ground so there is a huge opp here
6. Continued scrutiny on cops and social rights will most likely push for more tech and transparency
7. Company boasts a 141% customer retention rate, meaning that they not only do a good job of keeping customers they also come back to SSTI to add more coverage
8. Company is data heavy with deserves premium multiple in today's world as data is everything
9. Strong market opportunity for high schools, colleges, and local communities as opposed to just high crime areas
10. Almost 100% of revenue is subscription-based and recurring which also allows for great multiple on rev

Cons

1. Steep valuations on just about all metrics (P/E, P/S, P/CF, PEG, EV/Sales, EV/EBITDA)
2. Legal issues
  - a. There was a case that can be read [here](#) and an article [here](#) in where SSTI has changed what they reported several times due to being able to tell whether the sounds in the audio were gunshot or an overhead helicopter or some sort. Please read the two documents for more details as it is very complex but we will quote the article, "While this technology may have advanced to the point where its data can be used as an investigative tool, it is not sophisticated enough to generate data that is reliable enough to be admitted as 'scientific' evidence in a criminal trial," the Innocence Project's Dana Delger wrote in her brief.
3. Low barriers to entry for competition

4. Increased competition will most likely reduce pricing power and materially impact margins
5. Any slowdown in growth that is unexpected will result in a severe fall in valuation
6. Overbought technically
  - a. RSI, MFI, and Williams %R indicate shares are in overbought territory

Overall, we believe SSTI should be used as a means of trading due to its crazy volatility. If you are looking to invest, we'd wait for a pullback here. If you already own it and are well in the green it may be wise to take some profits here as shares are up almost 50% since Jan 1<sup>st</sup>. While we are happy the company is approaching positive cash flow and profitability, we believe shares are just too rich now that they've run this much from the high \$20's. We will say that owners of the stock are obviously not caring about valuation right now and that is why we believe technicals will be the major deciding factor for where shares head short-term.

We will monitor the company because we do like what they are doing, especially given the fact that SSTI believes they have only penetrated 10% of the market so far and believe the total addressable market in revenue terms is \$1.5B. In other words, SSTI believes they are just scraping the surface.

This is simply a case of liking the company but not the price. If we had been asked this question back in December on the pullback from \$60s to \$20s we'd have a completely different response but now that shares are in the mid \$40s we think the risk far outweighs the reward.

Unlike other companies, where we say to swing it in and out, what can be done here is hold a core position and trade the other portion. The whipsaw the stock experiences is simply too strong not to take advantage of every so often.