

On March 20, 2020, City Manager Gregory Rose declared a State of Emergency for the City of University City due to the COVID-19 Pandemic. Due to the ongoing efforts to limit the spread of the COVID-19 virus, the January 10, 2022 study session be conducted via videoconference

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**NOTICE OF STUDY SESSION – Gunshot Detection V5 System**

VIA VIDEOCONFERENCE  
January 10, 2022 at 6:00 p.m.

**AGENDA**

1. Meeting called to order
2. Changes to Regular Agenda
3. Gunshot Detection V5 System
4. Adjournment

**Members of the public can view the meeting by one of the following:**

**Webinar** via the link below:

<https://us02web.zoom.us/j/88282564229?pwd=WXJLZGILVEJiZWWhXK0kvVDZCZjNYQT09>  
Passcode: 092899

**Live Stream via YouTube:**

<https://www.youtube.com/channel/UCyN1EJ-Q22918E9EZimWoQ>

**Audio Only Call**

Or One tap mobile :

US: +13126266799,,88282564229# or +19292056099,,88282564229#

Or Telephone:

US: +1 312 626 6799 or +1 929 205 6099 or +1 301 715 8592 or +1 346 248 7799 or  
888 788 0099 (Toll Free) or 877 853 5247 (Toll Free)

Webinar ID: 882 8256 4229

International numbers available: <https://us02web.zoom.us/j/88282564229>

Posted this 7<sup>th</sup> day of January, 2022..

LaRette Reese  
City Clerk





**POLICE LINE DO NOT CROSS**

**University Gunshot Detection  
V5 Systems**



## Long-term affect on gun violence victims – Communities pay in treatment, therapy, and disruption

When it comes to how American children are exposed to gun violence, gunfire at schools is just the tip of the iceberg—every year, nearly 2,900 children and teens are shot and killed and nearly 15,600 more are shot and injured.

An estimated 3 million American children are exposed to shootings per year. Witnessing shootings — whether in their schools, their communities, or their homes—can have a devastating impact. Children exposed to violence, crime, and abuse are more likely to abuse drugs and alcohol; suffer from depression, anxiety, and posttraumatic stress disorder; fail or have difficulties in school; and engage in criminal activity.

<https://everytownresearch.org/gunfire-in-school/#13017>

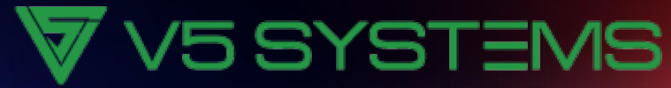




In an effort to continue to provide effective and innovative methods to protect the citizens of University City, the University City Police Department evaluated the gunshot detection system software. The software and cameras included license plate reader technology, live streaming cameras and a standalone gunshot detection system.

The police department has been extensively testing the usefulness and effectiveness of the V5 program from 01/2020 until 08/2021.

Gunshot detection software has the ability to protect patrol officers with increased tactical awareness such as number of rounds and shooters as they approach crime scenes. It can connect investigators to the location of shell casings and other forensic evidence, while also improving police-community relations.



# The Challenges of Implementing Gunshot Detection and Surveillance Outdoors

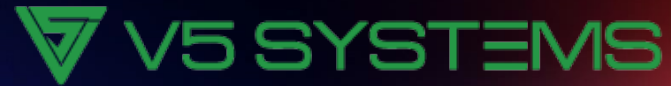
**High false positives** drives inefficient use of manpower and reducing confidence and utilization of technology

**No infrastructure** in outdoor areas where security is needed

**Cost** of trenching for power & connectivity is extremely high

**Time** to get permits for trenching and implementation can take months or years.\*

*\*We have Ameren permission to install our own systems with trained staff.*



## Accurate Acoustic Gunshot Detection and Outdoor Surveillance

Award-winning technology company has created the world's first self-powered edge computing and security platform for the outdoors.

- Founded in 2014
- HQ located in Fremont, CA with offices in Las Vegas, NV, Loves Park IL, Nashville TN, Nizhny Novgorod, Russia and Bangalore, India
- Securing BART, Veterans Affairs facilities, UCLA, San Jose State U, major US oil pipelines, among many other government and enterprise organizations
- First deployment in 2015 with Hayward PD, CA



# Detailed Visual Information at Our Fingertips

When at least three OnSound units detect gunfire, they can share data and work together to triangulate the acoustic sound and pinpoint the precise location and direction of the shot.

- Acoustic Evidence
- Video Footage
- Exact Location On A Google Map







# OnSound: Gunshot Detection Highlights

**Multi-Sensor Approach:** V5 Systems multi-sensor approach allows intelligent video surveillance, license plate recognition, and acoustic gunshot detection solutions to gain real-time, quality, and type of crime information and collect critical evidence for investigations.

**Real-time information:** AI software running at the edge quickly delivers actionable alerts directly to users for faster response.

**Customizable coverage:** Allows the flexibility to cover small areas like city parks or entire cities through the deployment of compact and portable units.





# Information at Our Fingertips

## Customizable Notifications can be sent:

1. Directly to end-user
2. Dispatcher
3. V5 multi-sensor monitoring center
4. Combination of all three

## Are sent via:

1. SMS text message
2. Email
3. V5 dispatch call

## Can be viewed via:

1. Web-based user interface
2. Android or iOS app



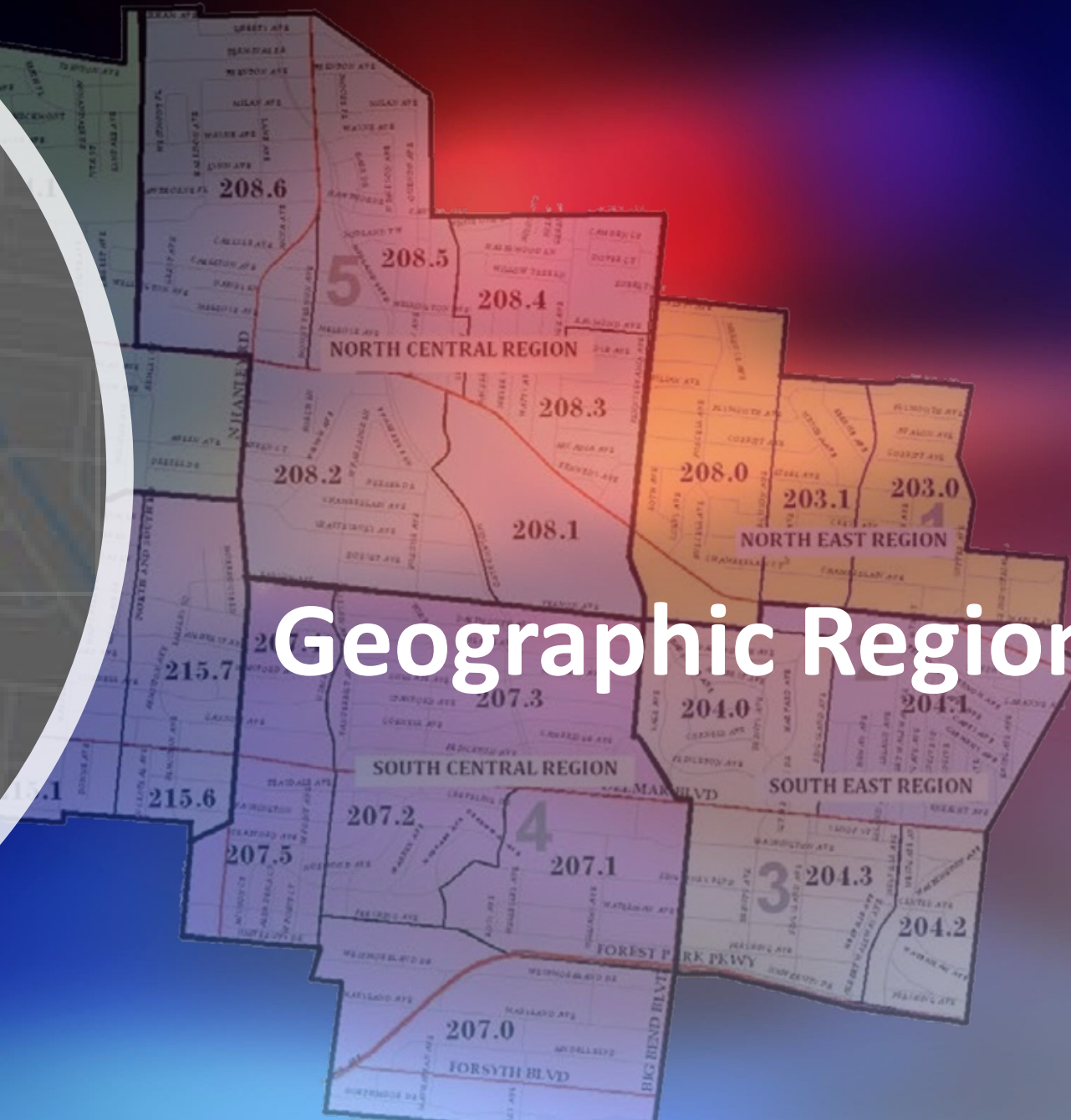
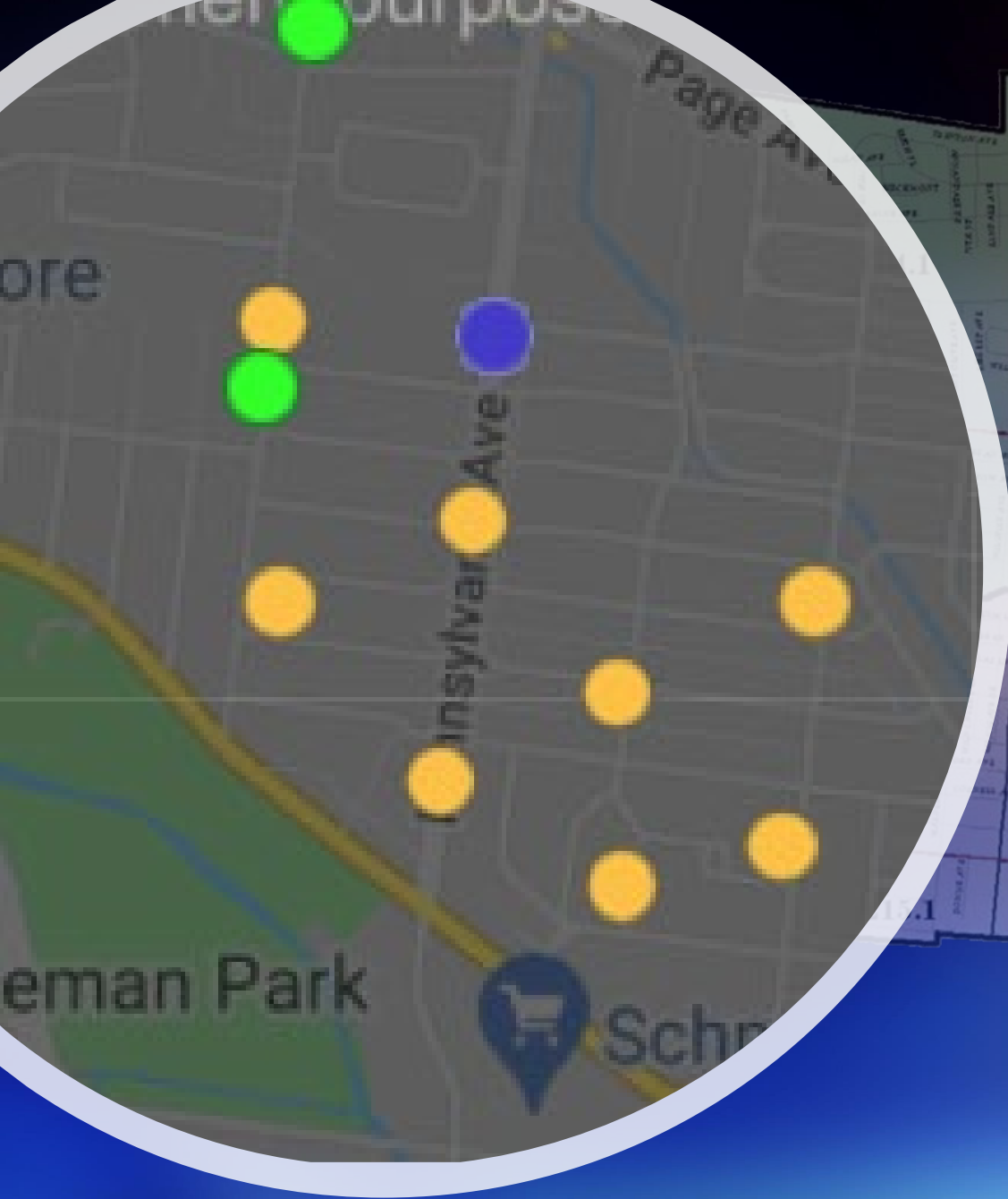


## OnSound: How it Works

**Gunshot is Detected and Classified:** When the AI software coupled with edge computing detects and classifies a gunshot, the validated alert is pushed out in “real-time.”

**MSOC Verifies Non-Gunshot Sounds:** If a sound is not classified as a gunshot, V5 MSOC personnel will verify the sound and if it is then classified as a gunshot, the alert will be pushed out at near real-time.

**AI Continues to Learn Ambient Environment:** AI technology will continue to learn its environment over time enhancing accuracy and further sharpening performance.

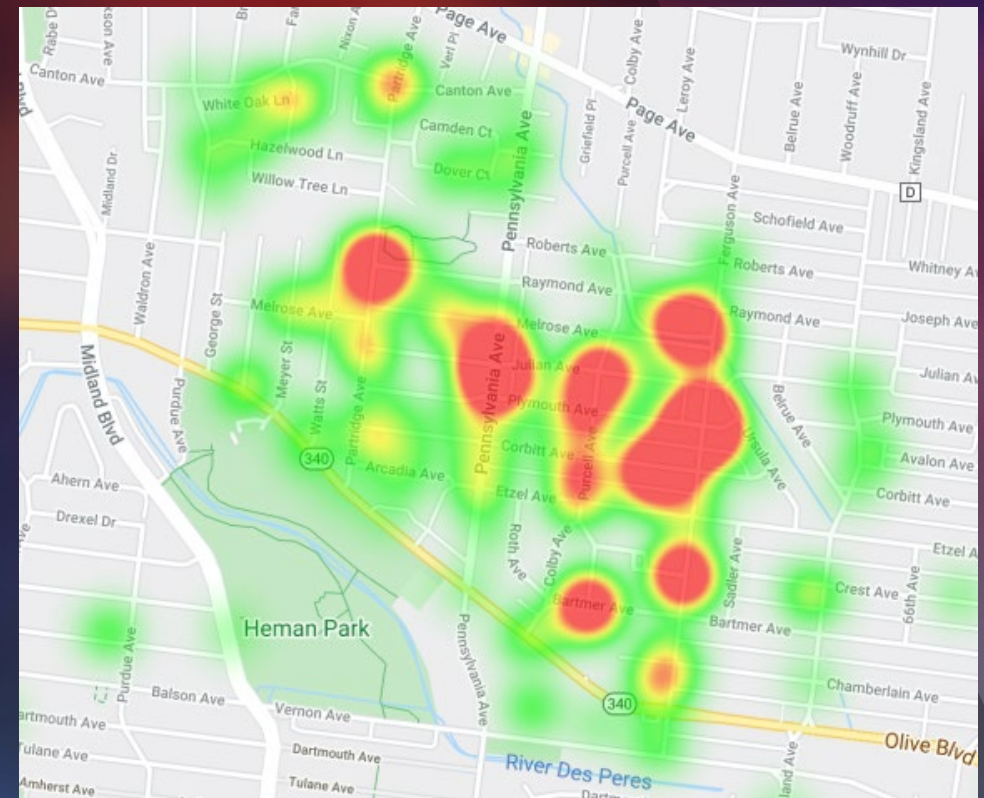


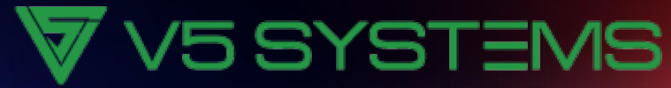
# Geographic Regions



# Number on gunshots within U City and hot-spots

- May 31, 2020 thru December of 2021
  - Calls for Shots Fired = 208
  - V5 detection = 71
    - V5 detections, 55 corresponded with a call for service, resulting in 3 arrests.
  - Avg response time 1.9 minutes





## Our Evaluation PRO's

1

### Highly accurate, real-time alerts

AI-driven platform yields its outstanding accuracy because it continuously learns ambient sounds in its specific environment. Coupled with edge computing enables alerts to be sent in real-time.

2

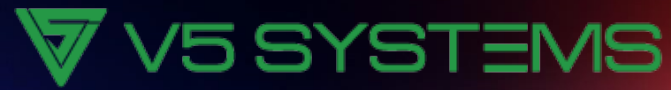
### Self-powered and Portable

Free from the electric grid via proprietary solar technology, battery, and power management system. Allows the ability to move the units as crime “hot spots” move or for special events (fair, celebration, presidential debate, etc.). UCPD owns the equipment.

3

### Savings on time & money on deployment

We can rapidly deploy units in under 30 minutes per unit vs. months to years (when permitting and trenching are involved. Trenching, on average, costs ~\$750K per ½ mile.



## Our Evaluation CON's

1

### Inability to link with local cameras and recent technology advances.

Although the software and interface is user friendly, current technology allows for detections to be linked to cameras in the area.

2

### Service outages and technical support issues

Throughout the evaluation period there were several outages that occurred. In the beginning, the company was responsive but that subsided during the evaluation period. This may have been in part due to their recent acquisition.

3

### Company acquisition

Since August of 2021, V5 Systems is in the process of being acquired by an outside this firm. This has limited use of the equipment due to the lack of employees still on staff.