

Arlington Civic Federation Safety and Innovation Zone

October 12th, 2021

Demonstration Project Public Benefits

Crowd Safety

- Improved pedestrian flow and safety
- Improved awareness of erratic or unanticipated behaviors

Public Health

- Improved detection and medical response times for residents needing assistance

Public Safety

- Improved detection of environmental shifts
- Improved quality of fire response times

Project Summary



Overview

- 12-month pilot on the 2900 block of Clarendon with a phased approach
- 10 lights on 7 light fixtures will be replaced for the period of the pilot
- Algorithms will be applied to the sensor data to support defined use cases

Project status

- Lights are operational
- System configuration is in process to receive data
- Engaging university partners and public safety staff on the data validation process
- Project privacy principles and supporting work processes are being evaluated through engagement with the data privacy panel
- Training of key staff on dashboard application

Project Use Cases and Outcomes



The use cases are defined to understand how the following data can be beneficial

- People counting
- Occupancy
- Environmental shifts (humidity, air quality, noise)
- Object (including left objects, vehicle and micromobility) counting
- Objects impacting crowd safety
- Distress help movements and call

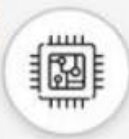
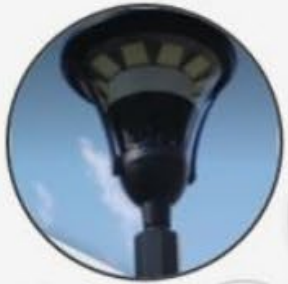
Outcomes

- Understanding of how sensor technology impacts public safety response
- Validated County data privacy principles and approach (privacy panel, data management panel)
- Educate County staff on sensor technology, data privacy and data management risks and risk mitigation strategies
- Defined communications approach for future similar efforts
- Track identified project metrics

How does the sensor work?

Arlington Smart Streetlights

Using light fixtures equipped with sensors and processors



Processor

Processor interprets sensor input and produces 2 fully anonymous outputs



Sensor

Sensor Sees Street Scene

Street Scene



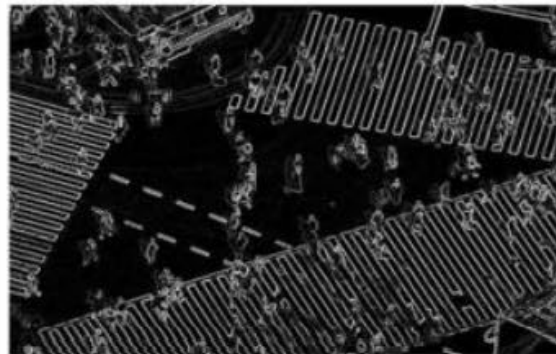
Processor Output #1:

Anonymized meta data

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"node_id": "00:04:5bre5:b3:d7",  
"swg_version": "1.0",  
"timestamp": "12-04-2021 18:11",  
"zone_id": "91991",  
"analyze_process_id": "jedge_",  
"capturing_process_id": "jedge_",  
"application_id": "person_detect",  
"object": {  
  "id": "32",  
  "type": "person",  
},  
"node_id": "00:04:5bre5:b3:d7",  
"swg_version": "1.0",  
"timestamp": "12-04-2021 18:11",  
"zone_id": "91991",  
"analyze_process_id": "jedge_",  
"capturing_process_id": "jedge_"
```

Processor Output #2:

Anonymous sketch image
(testing and calibration phase only)



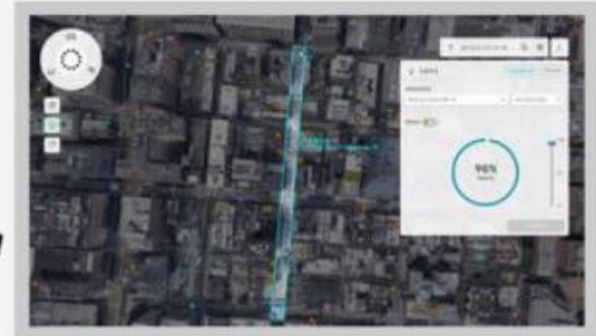
Arlington Server

Processor outputs conveyed to Arlington server via Arlington secure gateway



Arlington Data Management

Arlington uses management tools and dashboards for public safety operations



Arlington Open Data

All metadata published on Arlington Open Data Portal



Sensor Analytics Dashboard

Heatmap

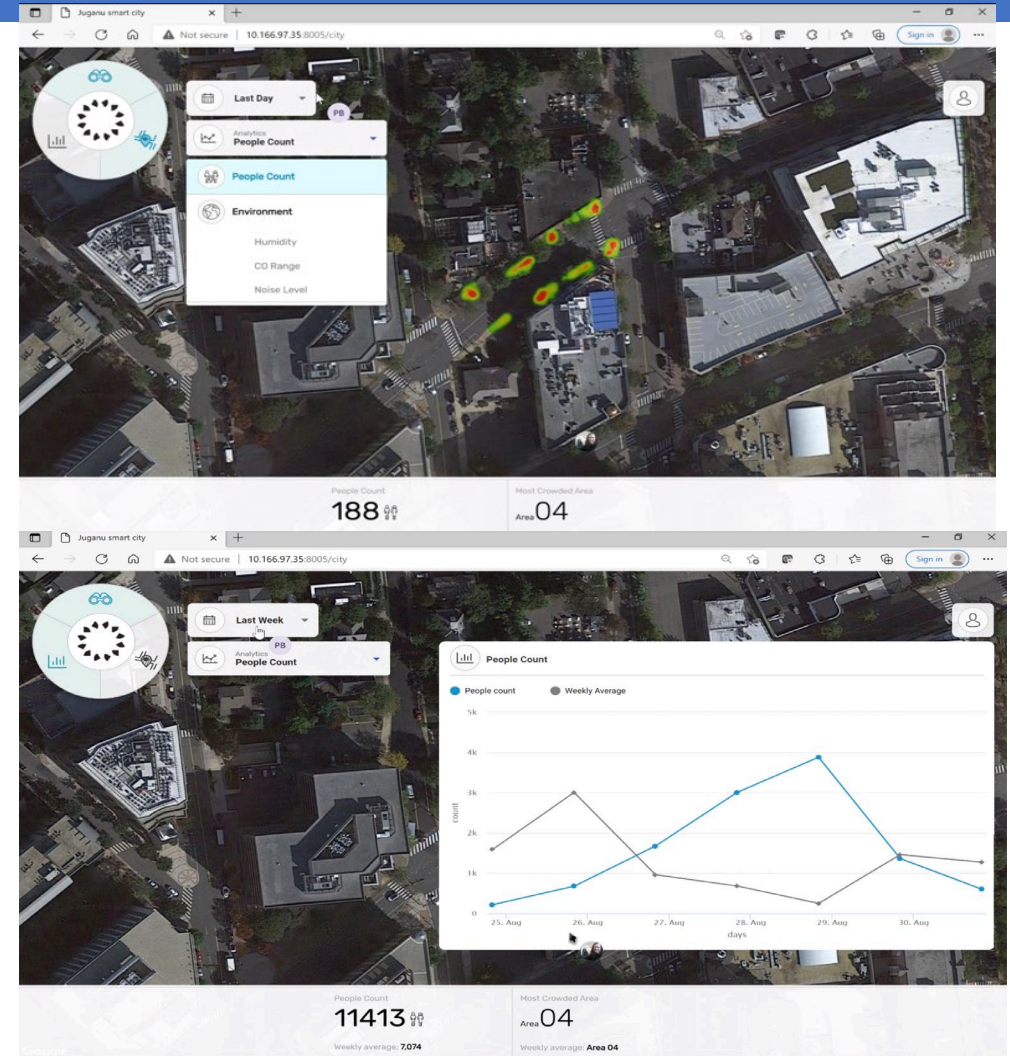
- **Heatmap:** displays a colored overlay on the satellite map view of the most crowded areas where people are counted relative to other areas at the specified time.

Counts

- **Count:** Numerical information related to people counts, humidity, decibel, and CO
- **Previous period comparison**
- **Most Crowded Area:** Name of the area where the largest number of people were detected during specified time period

Graph

- Data on people counts, humidity, decibel, and CO presented in a graphical format over time selected



Project Webpage Communication

<https://projects.arlingtonva.us/projects/safety-and-innovation-zone-demonstration-project/>



A project webpage has been developed to provide transparency and information about the project.



Frequently Asked Questions
County Board presentations
Safety and Innovation Zone Privacy Panel
Project Charter Privacy Impact Assessment Report
Schedule of upcoming planned privacy panel meetings



Webpage and documents updated as the project progresses