

Frequently Asked Questions
Arlington County Safety and Innovation Zone Demonstration Project

1. What is the objective of Arlington’s Safety and Innovation Zone Demonstration project?

This demonstration project seeks to test the ability of new technology to positively influence the quality of response to public safety incidents. The project is an opportunity to familiarize County staff with sensor technology and the associated data privacy and management requirements and risk mitigation strategies. The County will use the analysis performed during the demonstration project to assess the impact (both safety benefits and privacy risks) and make recommendations regarding continued usage of the technology.

2. How will stakeholders be engaged during the demonstration project?

The information presented to the County Board about the project has also been shared with community groups through presentations and continues to be available through the [project webpage](#).

In addition, the County has invited subject matter expert representatives from relevant County commissions, community members and university partners to participate in the Safety and Innovation Zone Data Privacy Oversight Panel. The Panel’s [charter](#) includes advising on the County’s approach to privacy risk identification and management as well as reviewing the data collected from the new technology to assess whether it is in line with the use cases and does not include any personally identifiable information. Specific use cases are outlined Question #5. The Panel serves as a forum for questions, concerns and suggestions to be expressed and responded to as well as a feedback vehicle on the County's approach to privacy risk management.

Panel meetings are virtual and open to the public. Meeting dates are posted on the project [webpage](#). Project partners, including Comcast, US IGNITE and the Commonwealth Cyber Initiative also participate in Panel meetings.

3. What benefits will this project bring to the County? How will success be measured?

Arlington County anticipates that the demonstration project will generate insights that will improve the quality of emergency response and the efficient use of public safety resources to benefit the community. The focus of this demonstration is specifically on use cases addressing crowd safety, public safety, and public health. Specific use cases are outlined in Question #5.

The primary benefit of the Safety and Innovation Zone is to provide an additional source of information to support the safety of the Arlington community and to learn how the County can improve emergency response activities for people needing assistance. The demonstration project will provide an opportunity for the County to examine real life examples of how technology can potentially enhance existing services and improve future public safety decisions.

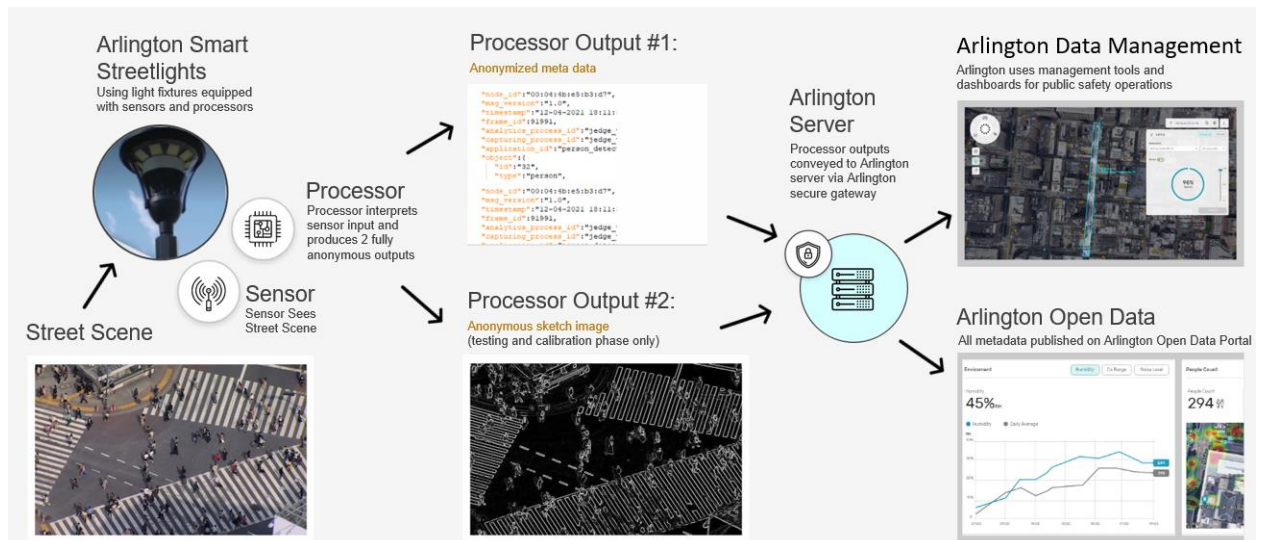
Success of the demonstration will be measured through metrics identified by the project team. The metrics will capture the value of information from the data analytics to support County public safety response teams, innovation, communication, and best practices with data management/ privacy.

4. How does the technology work?

There are sensors in the streetlights that are programmed to detect specific events (e.g. abnormal noise levels or high crowd volume) or types of data (pedestrian versus vehicle, air quality). The data gathered will specifically support the defined use cases identified as part of the demonstration project. Specific use cases are outlined in Question #5.

The processing of the data occurs as follows (see figure below):

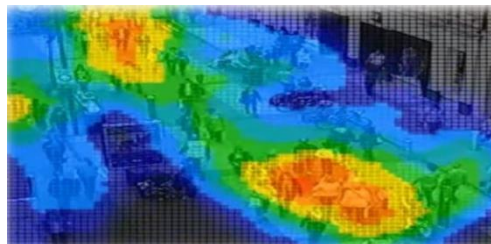
- There are three types of sensors being utilized, an optical sensor, audio sensor, and an environmental sensor.
- The sensors detect information and processors generate data to support the use cases.
- Analysis is done at the edge (at the location of the sensor), the raw data - including any visual data - is not saved and does not go beyond the outdoor enclosure.
- Each light fixture is connected by an encrypted wireless mesh network to the County's Network Operation Center.
- Anonymous, processed data is securely transmitted to the server in the Arlington County Network Operations Center.



Anonymous, processed data is (a) used to generate sketch images for technology calibration, (b) published to the County's Open Data Portal and (c) evaluated for possible inclusion in the County's Emergency Operations Center Watch Desk as an additional situational awareness input.

The sensor is a plug-in for the processor. For example, by itself the optical sensor is just a lens no different than a lens on a pair of eyeglasses with no recording or processing capability. The sensors are hardwired to the processor. While a camera processor is able to decode the light/dark refraction from the lens into an image, the installed streetlight processor does not have this functionality.

The Processor Outputs #1 and #2 in the image above provide a visual of the information outputs that will be provided. The image to the right shows an overlay of what a camera would show (individual people) versus what will be shown in the dashboard (a heat map based on defined algorithms). Audio sensors will record changes in noise levels. Environmental sensors will record humidity and air quality.



5. What data will be collected?

The data collected from the smart lighting sensor solution includes only the information needed for the approved use cases. These use cases are:

- People counting
- Measuring crowd occupancy
- Environmental shifts, including relative humidity, air quality, noise levels
- Object counting (e.g., bicycles and parked vehicles)
- Objects impacting crowd safety (e.g., parked vehicles impacting sidewalks)
- Distress help movement and sound
- Fall detection

6. Who owns the data? Who will have access to the data?

Arlington County has ownership and full authority over what is collected and the actual data itself.

Designated County public safety, environmental services and technology services staff will have access to the data. During the initial “training” period, a third-party partner will be provided supervised, remote access to the technical systems to calibrate the technology. The County will authorize all actions taken by the third-party partner.

After the Training phase, Arlington County will publish processed sensor data to the public on the County's [Open Data Portal](#). Per the solution design described in Question #4, no personally identifiable data will be collected or retained.

Arlington County will apply existing, established permissions and practices for data use, storage and destruction to the text-only metadata related to this project. Metadata is data that describes basic information related to what the sensor is processing, such as a counts, location, timestamp, and file size.

7. How will the data be used?

The data will be evaluated to determine if it is useful to include in the County’s Emergency Operations Watch Desk as an additional situational awareness input. If so, one or more alerts will be created to inform the Watch Desk when specific events/thresholds occur. The data will not be used for any investigative purposes. The same data available to the Watch Desk will also be available on the County's Open Data Portal.

8. How will you protect my privacy?

The project scope has been tailored to prevent the collection of personal information and instead makes use of aggregate data. For example, the technology senses a person differently from an object such as a vehicle, performs a person count and the data that is saved is the person count not any information about the individual people. No facial recognition is possible from the data collected.

County staff performed a privacy impact assessment to identify and mitigate any recognized privacy risks. A public report [LINK] of this assessment is posted on the project webpage. The full report was also reviewed by the project's Data Privacy Oversight Panel.

Once data collection begins, County staff and the project's Data Privacy Oversight Panel will review the data for any privacy concerns and, upon approval, all the data will be published to the County's Open Data Portal.

The County has partnered with Comcast, US IGNITE and the Commonwealth Cyber Initiative to support not only learning about new technology but also the associated privacy risk management. Feedback from the project's Data Privacy Oversight Panel is also critical for effectively engaging with the community when working with technologies with potential privacy impacts. Through this demonstration project, the County is validating its approach to ensure this and future efforts will be appropriately privacy risk informed.

9. How much will this cost?

To launch the demonstration project, the County is accepting a donation of approximately \$90,000 from the project partners. The County's estimated contribution to the project is \$13,601 for contractual services needed to mount and maintain the proposed light fixtures throughout the demonstration project. This contribution will be supported by the County's Capital Contingent Fund (313).

10. How long will the demonstration project last and what will happen at the completion of the project?

The demonstration project will last for 12 months from the date that calibration is complete. Calibration activities are scheduled to be complete in July 2021. It is anticipated the project will end during Summer 2022. Once the project is complete the demonstration project light fixtures will be removed and the original light fixtures will be reinstalled. There will be an assessment report and the findings will determine any next steps.

11. Additional questions or concerns?

For general questions about the demonstration project, contact Holly Hartell, Arlington County Assistant CIO for Strategic Initiatives, at hhartell@arlingtonva.us.

For privacy questions, contact Jaime Lees, Chief Data Officer for Arlington County at jlees@arlingtonva.us.