

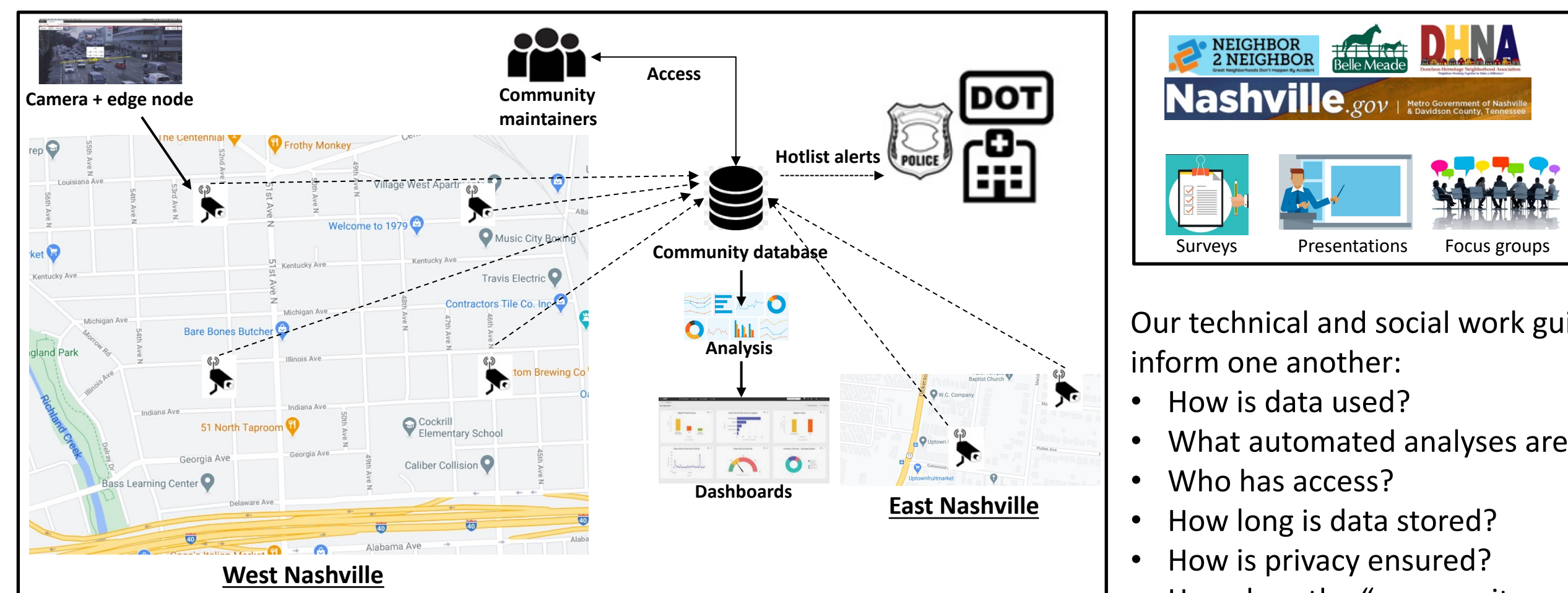
Improving Community and Neighborhood Safety Through Open Data Collection

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Our project investigates how data that is both community-contributed *and* community-maintained can improve neighborhood safety.



Our technical and social work guide and inform one another:

- How is data used?
- What automated analyses are run?
- Who has access?
- How long is data stored?
- How is privacy ensured?
- How does the “community-maintained” model work?

Project activities include:

- **Multiple presentations to city council and neighborhood organizations**
- **Discussions with local police precinct on data collection and privacy**
- **Community survey on Automated License Plate Recognition (ALPR)**
- **Research on algorithms and low-cost hardware for edge computing**
- **Legal (4th amendment) research on data collection and privacy**
- **Focus groups to study models for community-maintained data**

Intellectual merit: Our project addresses a new and burgeoning phenomenon in which crowdsourced data is used to improve public safety. Our project flips the traditional “publicly-contributed but privately-maintained” model to one in which data is both community-contributed *and* community-maintained. This presents several challenges which we are studying from the following perspectives.

Technology: Surveys of low-cost edge devices and algorithms suitable for collecting, analyzing, encrypting, transmitting, and storing data.

Data privacy: Appraisals of the protocols that might manage how these data are secured, stored, and kept private, including a characterization of anonymization methodologies.

Historical: Reviews and analysis of past episodes of public data collection and public safety, to determine how this history can provide guides for our current work.

Legal: Reviews of various state and federal statutes, as well as Fourth Amendment jurisprudence, with the goal of analyzing how the law might govern this type of information collection and storage.

Safety: Surveys, focus groups, and discussions with community stakeholders to understand the effects that data collection and technology can have on public safety.

Immediate Broader Impacts

- Our biggest impact is the broad social good of improving public safety and well-being in local communities.

Lasting Broader Impacts

- Our project sheds light on how and when data collection can foster community trust and improved social conditions, as well as how and when it can have the opposite effect.

Next steps

- We will use our current community survey to design focus groups to study the community-maintained model in depth.
- We will continue research on edge computing devices and algorithms.