CASE WESTERN RESERVE UNIVERSITY | School of Medicine

Practicum Experience: Using SVG Mobile for Geospatial Assessment of Campus Safety

Morteza Tavallaee, DDS, PhD
MPH Practicum | Preceptors: **Dr. Andrew Curtis, PhD; Jayakrishnan Ajayakumar, Ph.D.**
Case Western Reserve University, Department of Population and Quantitative Health Sciences



Background & Problem

- Campus safety is a public health concern in urban university settings.
- Inadequate pedestrian lighting may reduce visibility and increase opportunities for crime (CPTED).
- A reliable, mobile method was needed to efficiently collect georeferenced field data on lighting conditions.

Practicum Setting

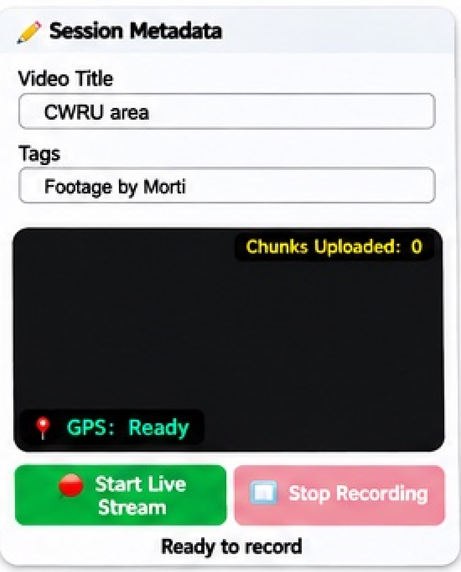
- Case Western Reserve University (CWRU), Department of Population and Quantitative Health Sciences (Curtis Research Lab).

Learning Objectives

- Learn and apply SVG Mobile for field data collection.
- Collect georeferenced observations of pedestrian lighting.
- Integrate field data with GIS to examine spatial patterns.
- Gain experience in a real-world public health research workflow.

Methods & Activities (Main Focus)

Mobile Video & GPS Recorder



Plan & Walk Route
Cover key areas on campus (nighttime)

Collect Data (SVG Mobile)
Record video with GPS and narration

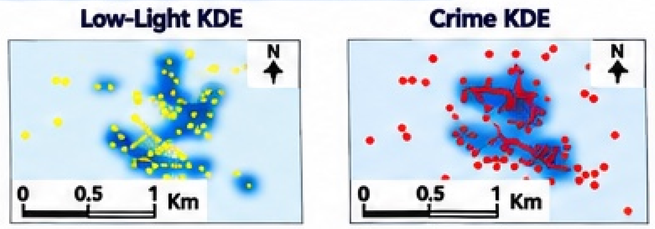
Upload & Verify
Upload recordings and confirm GPS and narratives

GIS Analysis
Map low-light locations and crime; perform KDE and overlay

Results



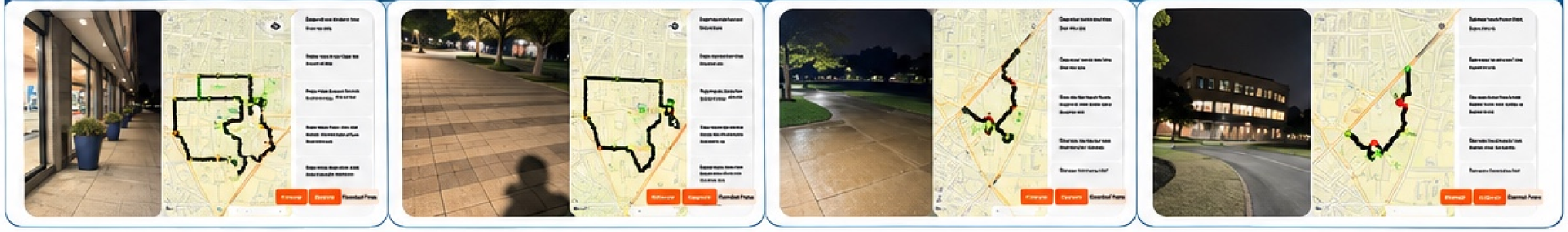
Kernel Density Estimation (KDE)



Key Findings

- 196 low-light locations.
- 180 reported crime incidents.
- Partial geographic correspondence, especially in central areas.

SVG Mobile Field-Recording Examples



Deliverables

- ✓ Georeferenced dataset of low-light locations.
- ✓ GIS maps (point, overlay, KDE).
- ✓ Summary of methods, results, and implications.

Lessons Learned

- ✓ SVG Mobile is an effective and efficient tool for collecting georeferenced field data.
- ✓ Integrating field observation with GIS can identify areas that may warrant additional safety assessment.
- ✓ Study design and data management are critical for high-quality spatial analysis.

Public Health Implications & Next Steps



- Use spatial evidence to prioritize lighting improvements on campus.
- Incorporate additional data (e.g., illuminance, pedestrian volume).
- Evaluate changes after lihting or other safety interventions.

Key Takeaway: The practicum demonstrated how SVG Mobile and GIS can be used together to collect, map, and analyze environmental data to inform campus safety efforts.