

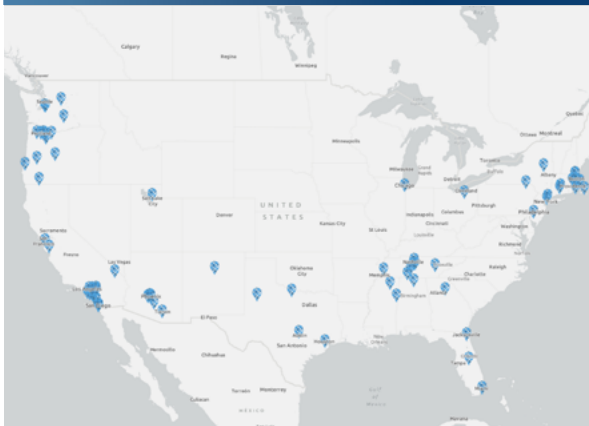


SUMMARY OF
PROFESSIONAL SERVICES
**EVARI GIS CONSULTING,
INC.**

WE MAKE GIS EASY

Evari GIS Consulting, Inc. was founded in 2009 with the mission of bringing value to clients through high quality implementation of Geographic Information Systems (GIS) and related technologies.

OUR EXPERIENCE



Visit our interactive projects map!



EXPERTISE IN GIS AND ASSET MANAGEMENT

Our staff has extensive experience in the private, nonprofit and government sectors. We focus on aligning projects' business needs with effective GIS implementation by obtaining a clear understanding of project specific requirements and industry-standard best practices. Our custom systems, services, and products provide our clients straightforward and intuitive ways to interact with, visualize and analyze geographic data.

CERTIFICATIONS

- California DGS Micro SBE: #1802048
- Metropolitan Water District of Southern California: SBE #176760
- City of San Diego: SLBE #11EC0371
- San Diego County Water Authority: SBE #41064
- Los Angeles BAVN: EBE, SBE (LA), SBE (Harbor), SBE (Proprietary) #56685
- City of Long Beach: SBE # 521849



WHAT IS GIS?

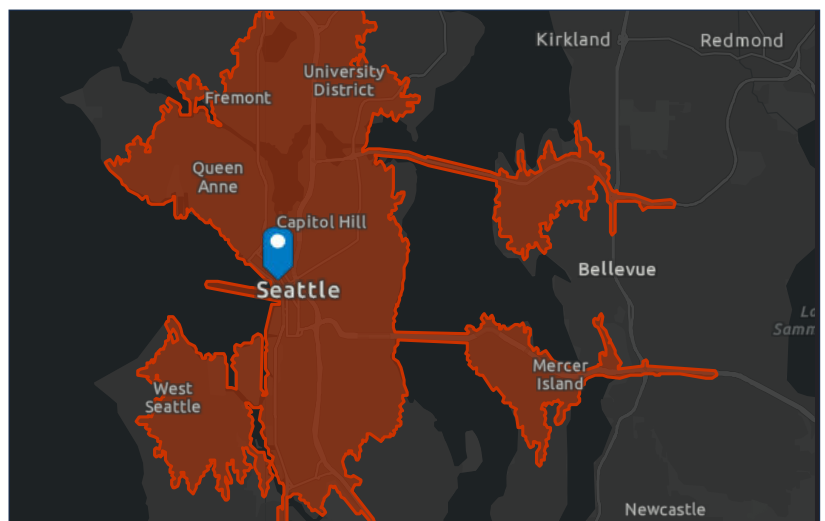
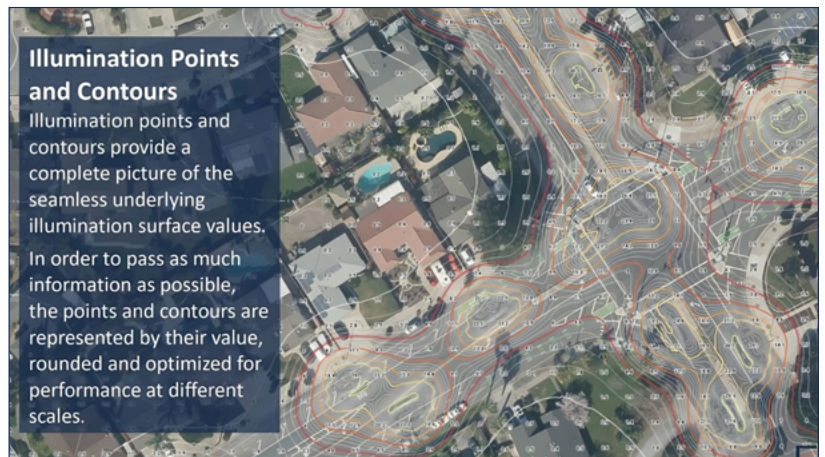
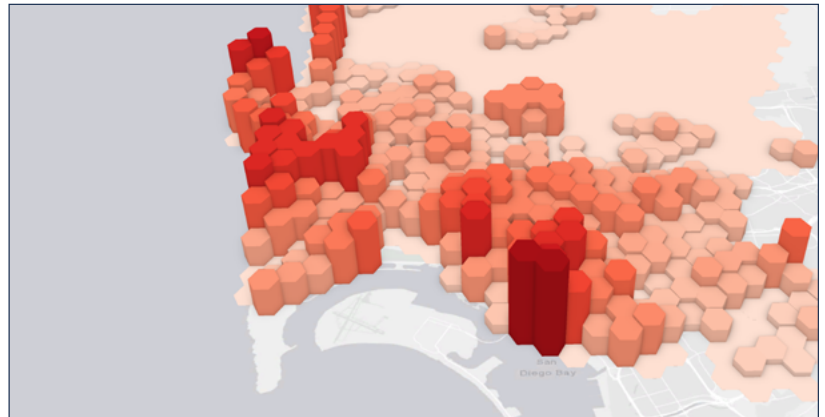
Geographic Information Systems (GIS) is a tool that captures and displays data related to positions on earth's surface. With GIS, it is possible to visualize many different types of data placed on a single map, enabling both intuitive visual understanding, and robust spatial analysis. Add to this the ability to visualize such data in real-time, and the result is more informed decision making for GIS users.

We leverage the Esri Technology Stack (ArcGIS) and the Amazon Web Services Cloud Computing platform for a broad range of municipal GIS applications including:

- Planning
- Traffic
- Street lighting
- Infrastructure
- Utilities
- Stormwater
- Asset Management
- Architecture, Engineering, and Construction (AEC)

HOW CAN GIS HELP YOU?

GIS drives efficiency. At Evari, we seek to enable both public and private organizations to enhance their current enterprises through the effective use of GIS. We reduce the headaches that accompany the implementation of new technology by working closely with our clients to develop common-sense applications. Our staff has extensive experience with the geospatial industry and is familiar with a broad range of GIS applications.



THE CITY OF PHILADELPHIA, PENNSYLVANIA



LED Streetlight Conversion

The Philadelphia Energy Authority and the City of Philadelphia procured an energy efficiency project for the conversion of street lighting from High Pressure Sodium (HPS) luminaires to Light Emitting Diode (LED) luminaires with the City of Philadelphia's right-of-way. We served as a subconsultant, an investment-grade audit, Lighting System Database (LSDB) management, lighting design support services, community outreach facilitation, pilot project implementation, and equity analyses to target underserved communities in Philadelphia.

We performed a comprehensive street lighting audit of 132,000 assets within the city limits of Philadelphia, PA. Using GPS-enabled mobile tablets configured with the custom Esri ArcGIS Collector application, field auditors collected the location, associated attribute information and photos of each streetlight asset within the audit boundary. Our team developed custom WebGIS dashboards to monitor audit progress, providing key insights to relevant stakeholders throughout the project. Evari supported Field Audit, Preliminary Design, Installation, Project Management and Measurement and Verification (M&V) throughout the project.



THE CITY OF BOSTON, MASSACHUSETTS

CITY of **BOSTON**



Energy Management Services for Exterior Lighting

We managed the audit of over 75,000 streetlights, fire alarm control boxes, traffic control boxes, and electrified crossing signs within the City of Boston. Evari executed a data collection systems architecture and created various client-facing dashboards as well as editable web maps designed to facilitate the efficient review of streetlight assets to determine ownership and establish quality control.

We were subcontracted by Ameresco to perform a comprehensive municipal asset audit within the City of Boston. Evari was tasked with collecting spatial and attribute data, and photographs of ~75,000 streetlight fixtures, traffic control boxes and fire alarm control boxes. Evari managed teams of 30 field and desktop technicians responsible for field data collection, asset data enrichment, and quality control review. Evari hired local staff with an equity goal to ensure audit dollars stayed local in Boston. Project management staff designed training and assessment materials to ensure staff are accurate, efficient, and safe in the field.





COUNTIES IN THE STATE OF OREGON



ADA Curb Ramp Asset Inventory Database Development and Support

We provided data collection and management solutions to efficiently and successfully audit curb ramps in the Oregon Counties of Clackamas, Multnomah, Hood River, and Washington. The database was populated with ODOT's existing ramp data and the database structure was designed and developed based on their needs - to assess the conditions of existing curb ramps to ensure ADA compliance.

Using Evari's ArcGIS Enterprise solution, ODOT was empowered to: collect data and photos in the field using Evari's Audit App, view and track project progression in real-time with a custom web application, and make edits to the attributes and geometry of the curb ramps post hoc using another custom web application. To improve the efficiency of the audit, we pre-populated attributes in the ramp database from existing data using spatial analysis.

EvariLUX

REGIONAL ILLUMINATION PHOTOMETRICS



EvariLUX is a suite of tools developed by Evari to incorporate IES files into GIS (Geographic Information Systems) software, to support our clients working on outdoor lighting projects. Using existing lighting data, replacement fixture technical details, and available measurements of the physical environment, EvariLUX displays an unprecedented level of detail on how replacement LED lighting can be optimized for specific conditions, a significant improvement over the current lighting design process.

EvariLUX provides three primary benefits:

- Lighting designers can view and analyze street lighting from a regional perspective.
- Outputs make lighting designs accessible to project stakeholders, key decision makers and the public.
- Lighting data can be viewed alongside other data which lives within GIS, such as traffic engineering records, environmental data, census data and much more.

By presenting illumination data in web-based and desktop GIS environments, EvariLUX breaks down the walls between lighting professionals and adjacent stakeholders. Its analyses not only allow lighting professionals to identify areas of light trespass by comparing lighting outputs to right-of-way GIS information, but also empowers engineering and planning professionals to leverage the power of related geographical datasets such as the location of high night-time traffic collisions, endangered species habitats, demographic information or high-crime areas.

EvariLUX is displayed in any number of WebGIS formats, bridging the interdepartmental gap between lighting designers, utility providers, traffic engineers and environmental planners.

EvariLUX can be deployed on anywhere from 100 to 1,000,000 fixtures, customized to provide any number of specific insights on the benefits of improved lighting on your project.

Learn more at <http://evarilux.com/>

EVARI PLUS FIELD PHOTO-DRIVEN DATA COLLECTION



Evari Plus One of our key differentiators, Evari Plus, facilitates a photo-driven data collection process. The traditional role that field photos play is transformed through technological integration of photo and text recognition. Field photos are used to qualify, expand upon, and document attributes entered by field auditors.

Our photo-driven approach leverages field photos to create attribute data in the office. For example, instead of entering the model (Cobra, Post-Top, etc) of a streetlight in the field, we will simply collect "model" photos.

High-resolution images are uploaded to a cloud server where attribute data is harvested through one of the following three pathways:

- External staff evaluates the photo and enters data in order to confirm conditions
- Evari looks at the photo and inputs data
- Artificial intelligence models identify image patterns and text, such as NEMA labels or LED luminaires in the photo.

Auditors use the application to collect photos of infrastructure to reflect existing field conditions.

There are major advantages to this approach:

- **Faster** - By collecting photos, field auditors take less time at each pole and collect more data per working hour. Manual field photo reviews, programmatic image recognition and associated data entry occur concurrently.
- **More accurate** - Attributes collected in the field are dependent upon a single auditor entering data based on their observations. Programmatically detecting attribute data from field photos is automatic and reliable.
- **More valuable final deliverable** - Photos taken during audit or installation are available through web applications throughout the project. They are included as part of the final deliverable as photographic documentation of work progress and completion

The Evari Camera App is a custom-built application which streamlines the collection of field photos, persisting the link between the GPS point and the associated photos. Installers will be provided with training and on-call support throughout the project.

Evari preconfigures tablets with the custom application to ensure seamless synchronization with the project database, hosted on an Amazon Web Services S3 bucket to allow secure and