



Maximizing the Value of GIS

Geographic Information Systems (GIS) programmers and researchers have continually sought ways to advance the reach of geospatial data collection and the associated problem-solving capabilities that they offer. As advances have been achieved, users have been able to utilize new ways to gather, visualize, and analyze graphical data.

The development within GIS that we see today offers new possibilities for utility managers to extend the reach of planning efforts. As computing power and data storage have increased, new tools have been developed to allow for significant new capabilities in urban planning, disaster response, market research, and resource management. With these capabilities, the advent of modernized utility distribution systems carries real potential for continued development. GIS offers capabilities never seen, and the potential offers new applications for communities.

Utilities that engage in public projects for the use by system operators depend on real-time feedback from all supported systems to help guide the direction of any effort and to ensure that the project achieves targeted objectives. The ways in which utilities can utilize GIS systems to guide the progress of engagement efforts can vary quite widely:

- System operators can access web-enabled mapping tools to enter data, thereby reducing the work involved in completing project tasks
- GIS-based tools provide a format for engineers to provide feedback about such items as design and construction preferences
- Custom mapping tools offer opportunities to create a vision for stakeholders to view related to the vision of project efforts
- Location-based survey data can be gathered on GIS-connected tools to allow utilities to respond more adeptly to feedback
- Dashboards offer a comprehensive view into the status of projects with real-time capabilities

Small Shovel can help utilities to fully leverage GIS systems. By better assessing the needs of the service territory and the resources needed, utilities can leverage a disparate set of data to enhance more dynamic decision making. Some of the use cases Small Shovel supports include:

- **Spatial Analysis** – Spatial analysis utilizes formal techniques to study geographic data. Utilities can utilize this toolset by leveraging system GIS data to understand issues like siting new facilities, distribution characteristics, and utility network layout.
- **Community Engagement** – By overlaying community engagement tools like surveys and incident reports with mapping technology, utilities can more deeply aggregate data to perform detailed analytics concerning a variety of customer-facing projects.
- **Data Mapping** – Utilities are increasingly using sensors to track issues that measure distribution system performance. By leveraging GIS-enabled platforms, utilities can more effectively manage

data that stems from these sensors to assess real-time conditions and identify the need for mitigation strategies.

- System Modernization – More and more, utilities are looking to deploy smart grid/smart water programs to leverage technology to enhance the level of services delivered to customers. The technologies deployed under system modernization initiatives includes a wide variety of use cases for electric and water utilities. Without GIS, the capabilities of these systems are limited to one-off programs. With GIS, these programs can interoperate at the distribution level and support a deeper level of impact.
- Enhanced System Planning – Utility leaders can use GIS to enable system modeling and visualization to support planning efforts. Visualization tools can help users assess the impact of key items like new housing developments prior to implementation.

How can Small Shovel help your utility? Contact us at info@smallshovel.com to find out!

