

PART 2 – WEAVING THE PIECES

GIS Information

A Geographic Information System (GIS) is a set of tools for gathering, managing, and visualizing spatial data. A GIS can take information about your community's infrastructure and present it on a map, making it an easy way to communicate information. By presenting the data on a map, patterns can be identified, and decisions can be made by staff. An example could include a map of watermain breaks, which could indicate that 80% of breaks occur in one area of the community. GIS can support improved maintenance, operation and infrastructure planning.

Asset management is more than knowing what assets you have, it is about understanding where the assets are located and making decisions on how to manage those assets. When integrating GIS into the asset management process, these functions become more intuitive and a more holistic decision-making process can take place.

What is GIS Mapping?

GIS mapping involves layering multiple sets of spatial based data so that users can view various combinations of data on a map. Spatial (location) data and attribute (characteristics) data are layered and analyzed to provide a map of assets and the associated trends.

GIS maps can aid in the following asset management processes:

- Strategy and Planning
- Analysis, Design and Development
- Deployment, Operations and Maintenance

How does GIS Integrate with Asset Management?

All assets have a location; therefore, a GIS system provides a central database to store asset information. Building off an asset inventory, GIS provides a more complete picture of your community's assets, by illustrating the relationship between assets in a similar geographical area.

GIS can combine asset management, operations and maintenance activities, and community datasets into an effective asset management program. The steps of building asset inventories with their associated attribute overlays allows for predicting outcomes and aid in making informed decisions. The single greatest benefit of using GIS is to create a geospatial and time-based model of the infrastructure and natural environments to identify, calculate, and predict risk.

Additional Resources

Further resources on GIS Information are provided by the Environmental Systems Research Institute (ESRI) and has been provided as part of the supplementary material.

