PRO WEST
& Associates
GIS CONSULTING • DATA SERVICES • APPLICATIONS

CITY OF WATERLOO, IA
Enterprise GIS: Planning, Implementing
& Bringing the Organization Together

Credit: Ervin Sabic

The City of Waterloo partnered with Pro-West to develop a GIS needs assessment and implementation plan, providing the City with a launchpad from which to build its enterprise GIS and bring together GIS processes, users and data across the organization.

The City of Waterloo had identified the need to implement enterprise GIS in order to achieve its short and long-term GIS goals. GIS users were dispersed across three Esri software accounts and six departments without a central source of accurate data or standardized processes, creating inefficiency, discrepancies in data being used, and a lack of insight into how other departments were using GIS.

FIRST STEP: STRATEGIC PLANNING

Uniting the disjointed GIS user group was the agreement that support was needed to organize and streamline how GIS was functioning.

Pro-West was hired to provide a GIS needs assessment and implementation plan that would address the City's challenges and provide clear steps to successful enterprise GIS deployment.

The process began with a week-long on-site discovery session, led by Pro-West and consisting of interviews with all 21 City departments and divisions to identify their needs and highlight gaps and opportunities to improve business processes by integrating location technology.

The information gathered during the on-site session was documented in a needs assessment and implementation plan,

defining the distinct needs of each City department and division as well as current staffing, data, hardware, software and applications.

PRO-WEST'S RECOMMMENDATIONS ADDRESSED:

- Infrastructure
- Software
- Data
- System integration
- Data sharing and automation
- Mobile GIS
- Training for GIS staff and users
- Applications
- Staffing

MOVING FORWARD WITH IMPLEMENTATION

Pro-West also worked with the City to devise a phased enterprise GIS implementation roadmap. This roadmap ensured the implementation would be affordable, practical, sustainable and well-supported.

Of course, an enterprise GIS can only be achieved with the right technology as its foundation. To ensure the most cost-effective

system, the City purchased an Esri Enterprise Agreement, which met all of its current licensing requirements with plenty of room for future growth. This efficient licensing approach has brought the ability for more individuals to edit their own data in GIS:
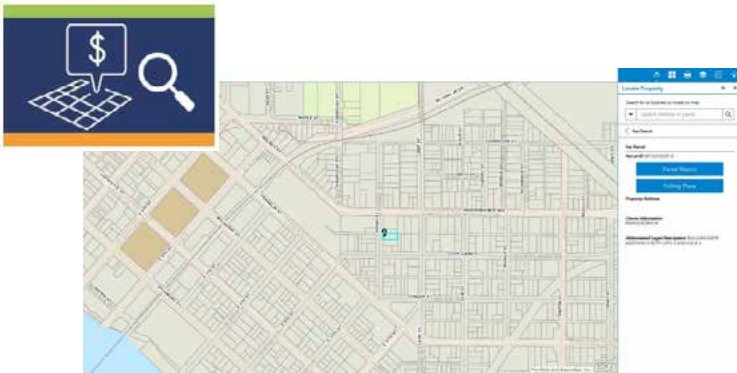
"Being able to have individuals edit their own data instead of relying on the Engineering Department to perform data editing has been an amazing increase in efficiency. There is data that is being created in GIS that has previously only ever been maintained in paper form."

- Ben Wagner, GIS Project Manager

Critical to a successful enterprise GIS deployment was updating, centralizing and standardizing the City's geospatial data to ensure an authoritative source was centrally available and consistently used by all staff and the public. Pro-West was tasked with completing a number of data-focused projects to support the City's mission:

- Completing the street centerline feature class with topology rules and attributes needed for geocoding

- Setting up automated tasks for transferring data from Black Hawk County to the City's enterprise GIS, and from the City's Water Works Microsoft Access database into GIS.

A further key component of the enterprise GIS roll-out was providing public access to geospatial data. The City worked with Pro-West to launch its own branded ArcGIS Online gallery and property viewer, empowering residents to find the information they need easily using their own devices:

AWARD-WINNING WORK

In 2019 the City of Waterloo received an Esri Special Achievement in GIS (SAG) Award recognizing its exceptional dedication to GIS, willingness to adopt new ideas and identify workflows that can be improved with GIS tech, proactively solving problems with location technology, and the rapid but carefully planned rollout.

DELIVERING VALUE

Through its enterprise GIS planning and implementation project, the City has achieved:

- Increased efficiency

- Accurate, accessible data

- Expanded use of GIS across the organization

- Scalable infrastructure design

- Increased security

- Citizen engagement

In addition to providing the tools the City needed to move forward with its enterprise GIS implementation, the plan produced with Pro-West has proven instrumental in gaining buy-in from elected officials for the time and financial investment needed to expand GIS in Waterloo.

NEW & FUTURE PROJECTS

With a robust enterprise GIS in place, the City has a well-defined set of projects on the roster.

Included are building on the public-facing property viewer to wards for City Council elections, school districts and more.

A GIS-based code enforcement solution is also in the works, starting with a prototype for officers to use and refine before delivering a final version. The City's Esri Enterprise Agreement means this is more cost-effective than ever, since the required software is already paid for, rather than having to invest in an additional technology.

However, perhaps most critical to the ongoing success of the City's GIS implementation is a follow-up assessment by Pro-West scheduled for late 2019. This will gauge the City's progress towards its goals, ensure implementation is being performed correctly, and amend the implementation plan as necessary.

"Having the needs of our GIS users across the organization documented, along with recommendations that are tailored to those needs, is invaluable. We have a clear plan for how to reach our goals and we are making real progress towards those goals.

"We also value having Pro-West to handle the "big ticket" tasks that we have not had the internal staff resources to accomplish but which are critical to our enterprise GIS success. Having those projects completed – such as our larger data development efforts – has helped us move forward faster than we could have by ourselves.

"I would recommend that anyone thinking about setting up an enterprise GIS plan it out properly and adopt a phased approach. It is much easier on everyone to get it set up correctly the first time, rather than having to start over months down the road."

- Ben Wagner, GIS Project Manager