



Reimagining the **Elections Process** Through Location



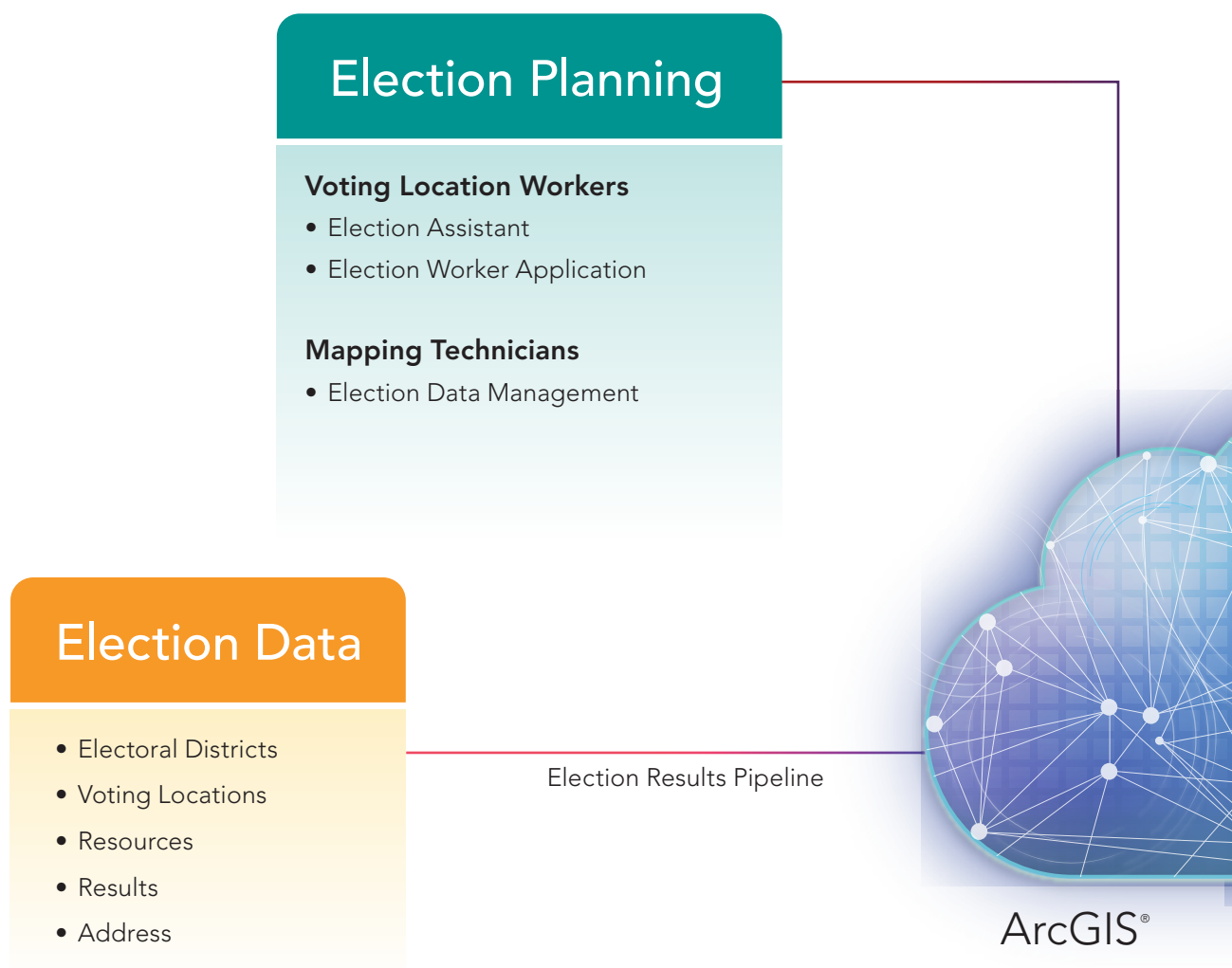
Driving Innovation for Secure and Efficient Elections

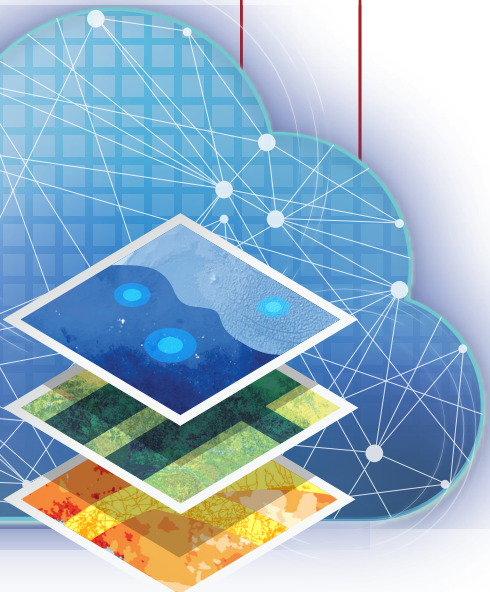
An Enterprise Approach to Elections

Location is at the heart of every election decision—from identifying where voters reside to allocating resources efficiently and ensuring accurate reporting of results. When election departments adopt a geographic approach, they organize and analyze information in the context of location. This transforms raw data into actionable insights, enabling smarter planning, efficient operations, and transparent engagement.

An enterprise-wide geographic information system (GIS) strategy brings together staff, workflows, and data, creating a unified system that supports every phase of the election process. This ensures consistency, scalability, and transparency while leveraging spatial analysis at every step.

A GIS-Enabled Election System





Election Operations

Ballot Collection Officers

- Collection/Return Checklists
- Dropbox Requests

Elections Officials

- Election Worker Manager
- Election Manager
- Election Performance Center

Ballot Rovers

- Election Manager

Stakeholder Engagement

Volunteers

- Become an Election Worker Site

Residents

- Transparent Elections Site
- My Elected Representative
- Election Results

Voters

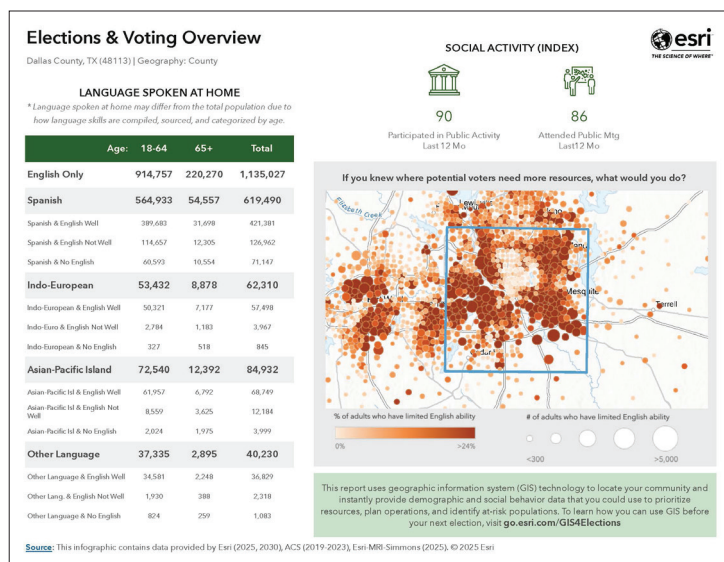
- Election Polling Places
- Voting Centers
- Voter Satisfaction Survey

Modernize Election Planning

Effective election planning relies on authoritative location data. With GIS, election offices can maintain precise address records, optimize precinct boundaries, and select voting sites that meet both accessibility and equity requirements. Spatial analysis enables election officials to strategically allocate resources, anticipate voter turnout, and evaluate participation trends—both before and after Election Day.

A GIS-enabled election system provides solutions for:

- **Address Data Management**
 - Maintain authoritative address data
 - Continuously improve data quality and accuracy
 - Share relevant location data with stakeholders
- **Improve Precincting**
 - Use demographic insights to draw balanced precinct boundaries and ensure equitable representation
 - Assign staff and equipment to polling sites where they're needed most
 - Ensure precinct boundaries align with community representation
- **Determine Voting Location Suitability**
 - Streamline site selection of polling places
 - Assess transportation options and travel time to voting centers
 - Evaluate demographics and community makeup to ensure equitable access and representation
 - Meet Americans with Disabilities Act (ADA) compliance by siting accessible voting locations for all voters



Create configurable infographics using ArcGIS Business Analyst™ to better understand your community and use that information to improve services and outreach efforts.

Mapping the Future of Election Planning with GIS

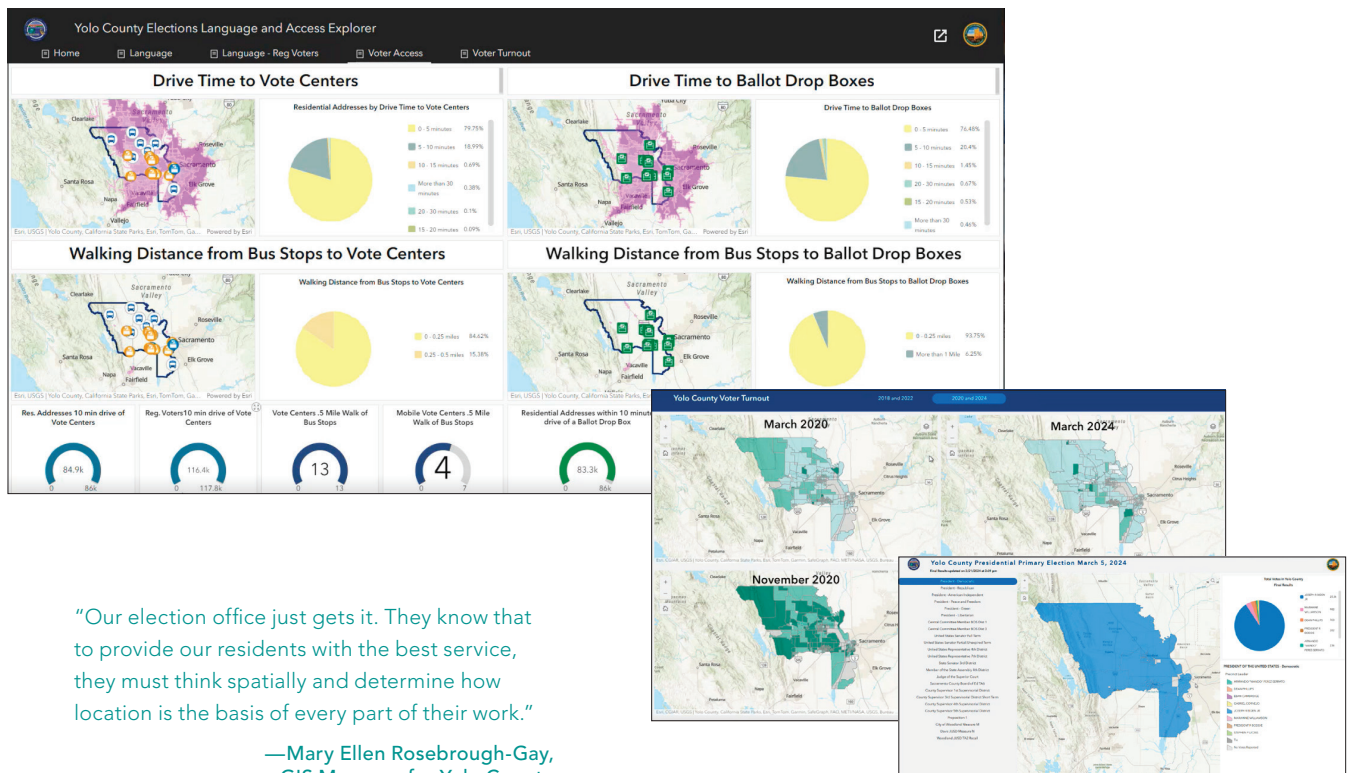
Yolo County, California

Yolo County began using GIS technology in its election operations and has since expanded its use in every aspect of elections. The Yolo County Elections Office improved planning and management with ArcGIS® technology, understanding that elections are spatial and involve knowing where voters live and where resources are needed.

Yolo County staff transitioned from addressing based on street range to using address points, verifying addresses against the county's primary address database. This shift ensured that the elections office had precise location data, which is crucial for effective election planning and precincting. It allowed the county to manage and organize voting locations more effectively. The ability to identify optimal polling places, including considerations for equity and on-site ADA checklists, ensured that all voters had accessible and convenient voting options.

With GIS, the county was able to analyze data from prior elections, including voter turnout, demographics, and volunteer help, allowing staff to plan better for future elections. Partnering with a local nonprofit, they use ArcGIS Survey123 to gather data on interactions and household languages, providing focused outreach to lower-turnout areas and saving thousands of dollars in resources. Today, the county can display voter information on a map and overlay other variables and demographic information to understand barriers to voting, calculate commute times for voters, determine optimal voting locations, and identify neighborhoods needing more resources.

This comprehensive approach has allowed Yolo County to ensure that all voters have accessible and convenient voting options, ultimately improving the overall election process.



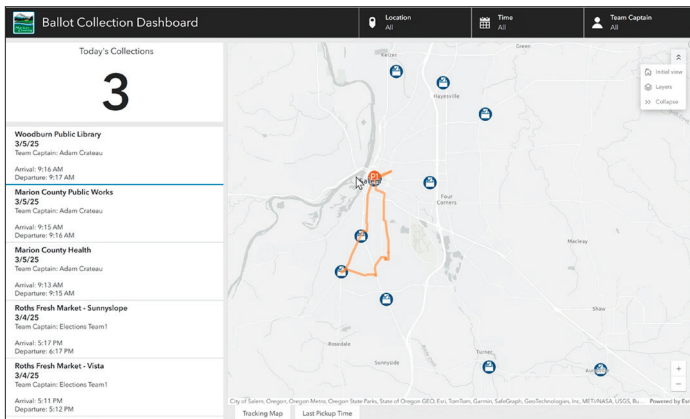
Optimize Election Operations

GIS enhances election efficiency and voter confidence with real-time insights, resource allocation, and voter satisfaction tracking. GIS-powered dashboards provide continuous monitoring of wait times, voter sentiment, and issues across the entire election cycle. Use GIS tools to maintain the chain of custody for ballots and equipment, streamline resource allocation, and deliver transparency from early voting to final reporting.

A GIS-enabled election system provides solutions for:

- **Election Day Management**
 - Maintain security and transparency with ballot box tracking
 - Use mobile apps and dashboards to log issues and dispatch support in real time
 - Report polling site readiness to stakeholders via field apps
 - Monitor polling place wait times and feedback in real time to improve voter experience
- **Operational Awareness**
 - Use dashboards to monitor resources and operational needs
 - Monitor real-time conditions that may impact operations, including changing weather, peak voting hours, and potential public safety threats
- **Chain of Custody**
 - Track equipment locations and ballot chain of custody through live data feeds
 - Route troubleshooters and rovers efficiently to voting locations that need attention

Marion County, Oregon's Ballot Collection Dashboard app allows drop site coordinators to track a driver's route and see exactly what time they arrived at and departed from each drop site they visited.



Have Complete Operational Awareness on Election Day

Georgia Secretary of State

During the primary elections in June 2020, staff at some of Georgia's state polling locations experienced difficulty operating new equipment. The delays resulted in a poor voter experience—with some residents waiting in line for hours to cast their ballots.

When state officials looked into the cause of the difficulty, they found that the lack of a precinct monitoring system was problematic. County elections officials had to manually input information each time a poll worker reported urgent issues with voting equipment. This meant county and state election officials could not see what was happening at the polling places, including how many technical problems were affecting voter wait times.

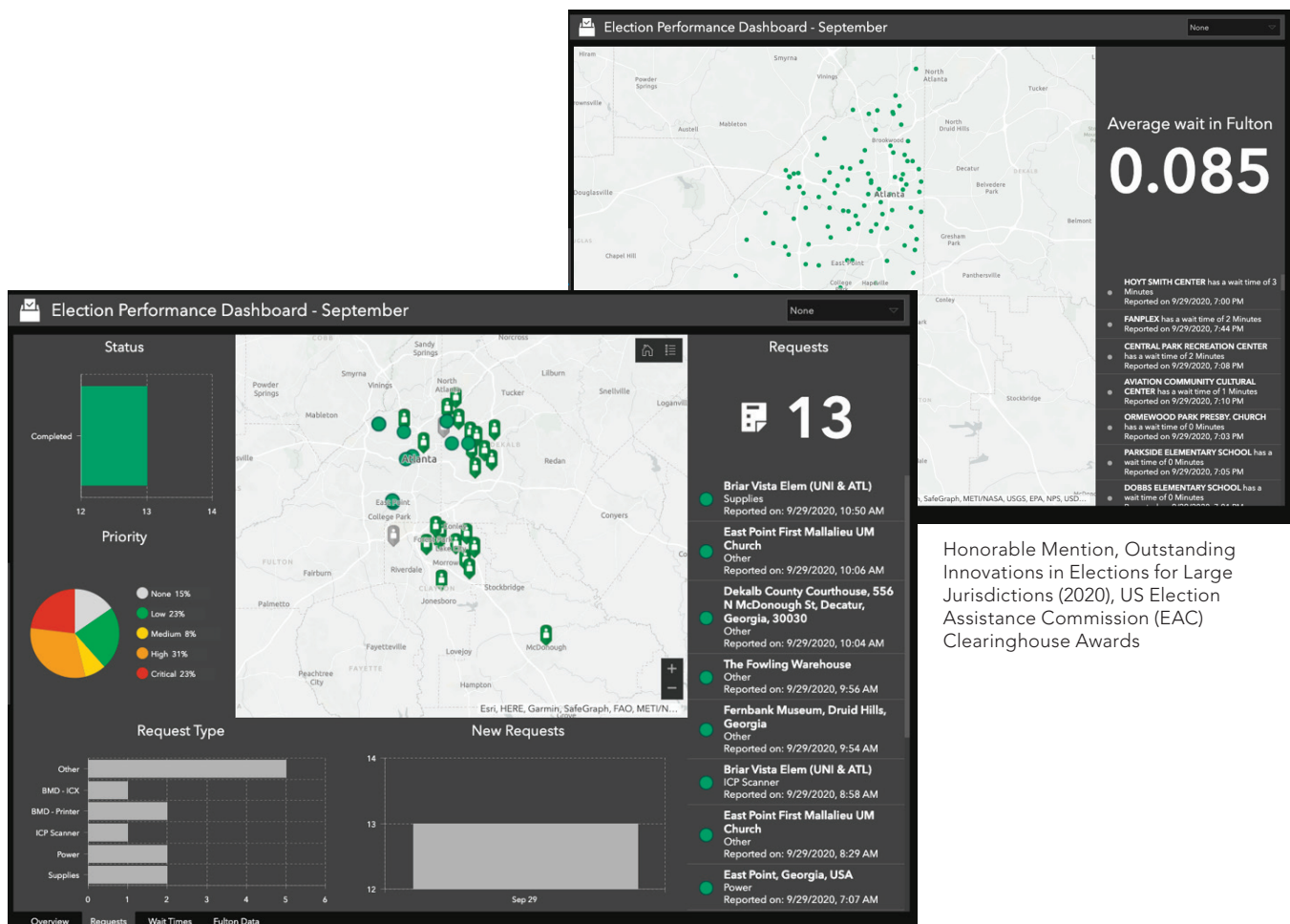
Staff from the Georgia secretary of state's office worked with partners at the county boards of elections to establish a road map to launch an elections performance dashboard and a wait-time reporting app right before the runoff primary in August 2020. The pilot program, which used

"The secretary of state's office and many of our county elections directors are really excited to have the opportunity to use this new tool and add it to our toolbox—to provide a better user experience both for the voters and [for] the poll and election workers."

—Gabriel Sterling, Voting System Implementation Manager at the Office of Georgia Secretary of State

ArcGIS to monitor 35 county precincts during the runoff primary, was considered a game changer by Secretary of State Brad Raffensperger.

A new level of situational awareness, provided by the Election Performance Dashboard, enables election officials to respond to emerging equipment issues, with the advantage of real-time monitoring of voter wait times. If officials see a spike in that data, they can now dispatch field tech experts to the polling location instead of waiting for problems to be reported by phone.



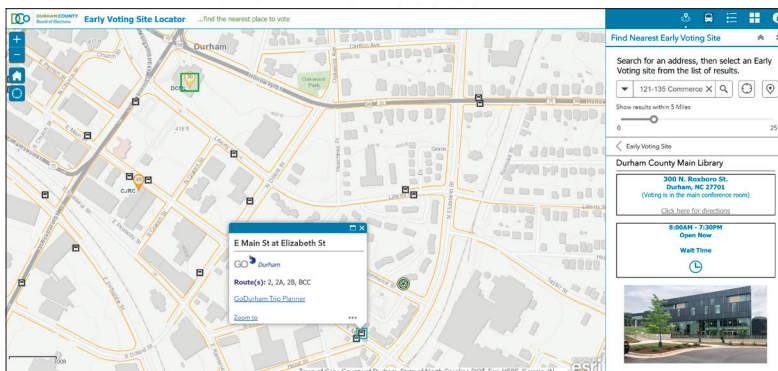
Honorable Mention, Outstanding Innovations in Elections for Large Jurisdictions (2020), US Election Assistance Commission (EAC) Clearinghouse Awards

Strengthen Stakeholder Engagement

Boosting voter participation and public trust is a top priority for election officials. GIS delivers the actionable insights and tools needed to achieve these goals. Interactive maps, apps, and dashboards deliver authoritative information in real time, keeping voters, candidates, and the media informed. By modernizing outreach and reporting, elections offices create confidence and strengthen community engagement.

A GIS-enabled election system provides solutions for:

- **Public Outreach**
 - Publish interactive maps and apps that direct the voter to the correct voting location
 - Collect voter feedback via public surveys to improve future elections and build public trust
 - Provide an address-based lookup tool so voters can identify their representatives
- **Reporting**
 - Publish real-time election results to keep voters and media informed
 - Evaluate the impact of get out the vote (GOTV) efforts by assessing voter turnout and trends through demographic data and mapping
 - Demonstrate accountability and compliance through post-election reporting
- **Manage the Election Volunteer Workforce**
 - Identify local volunteers for recruitment
 - Support and manage volunteer staff by providing field apps for outreach and reporting resource needs



Durham County, North Carolina, created its Early Voting Site Locator web map, which guides voters to the polls with information on bus routes to increase voter turnout.

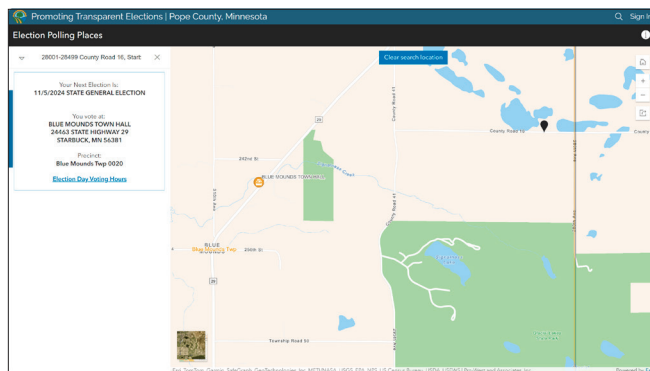
Building Transparency and Driving Voter Confidence

Pope County, Minnesota

Pope County has a long history of elections, but its traditional methods for sharing polling place information and election data were outdated and often inaccurate. Residents struggled to find correct polling locations, and the county lacked a routine for managing election-related spatial data. Existing maps were inconsistent, and the state's polling place finder relied on third-party mapping tools that frequently mislocated rural polling sites.

To address these challenges, Pope County partnered with Pro-West & Associates to implement Election Outreach, a configuration from ArcGIS Solutions. The team configured the county's Promoting Transparent Elections site—a single destination where voters can access authoritative election information. The site includes an interactive map built with ArcGIS Experience Builder, enabling residents to find their elected representatives and polling locations by entering an address or clicking on the map. It also provides key election dates, FAQs, and access to current and past election results.

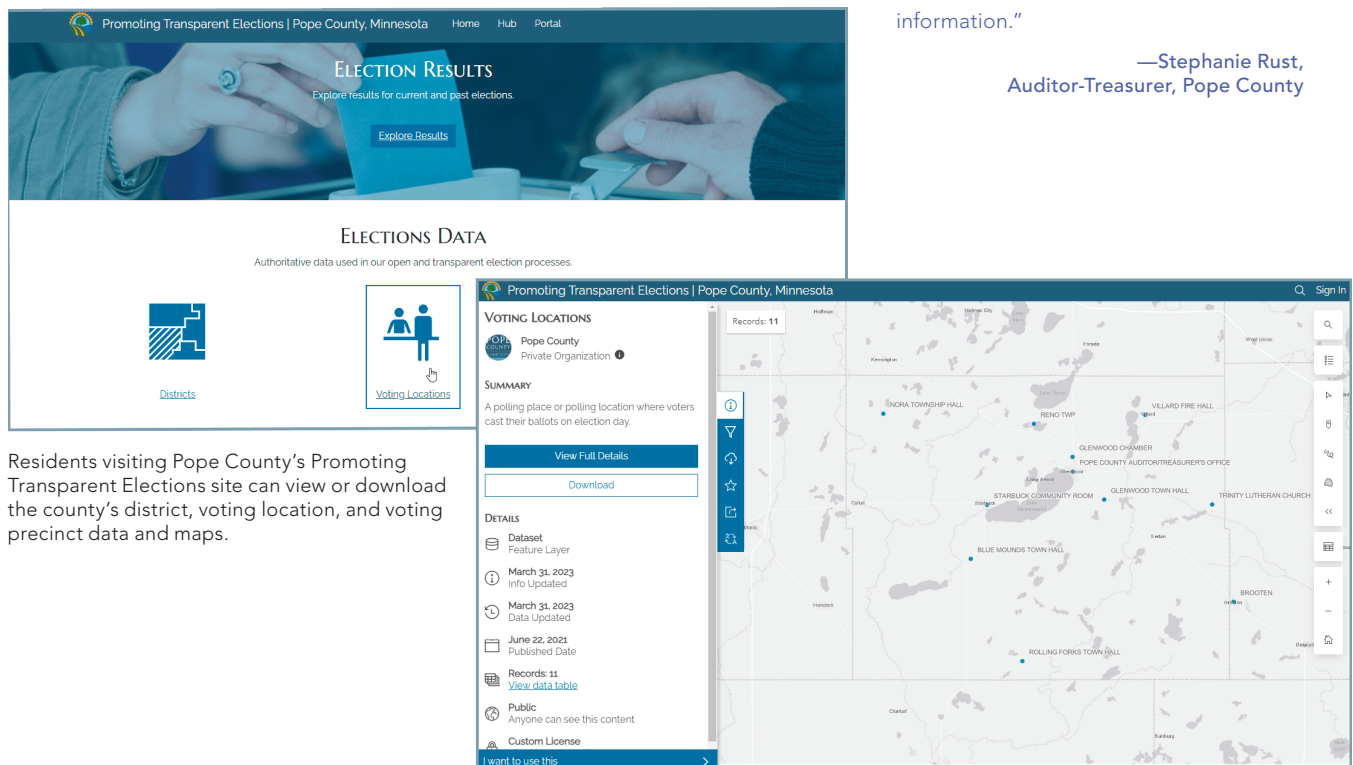
Beyond information access, the site encourages civic participation by allowing residents to sign up as Election Day volunteers. By integrating authoritative spatial data and intuitive apps, Pope County improved the accuracy of its election information and streamlined how voters engage with the democratic process. This modern approach ensures transparency, builds trust, and strengthens community involvement.



The Election Polling Places app allows voters to quickly find their polling place and Election Day hours.

“The GIS-based solutions we implemented have improved the accuracy of information we provide and the ease with which voters can access that information.”

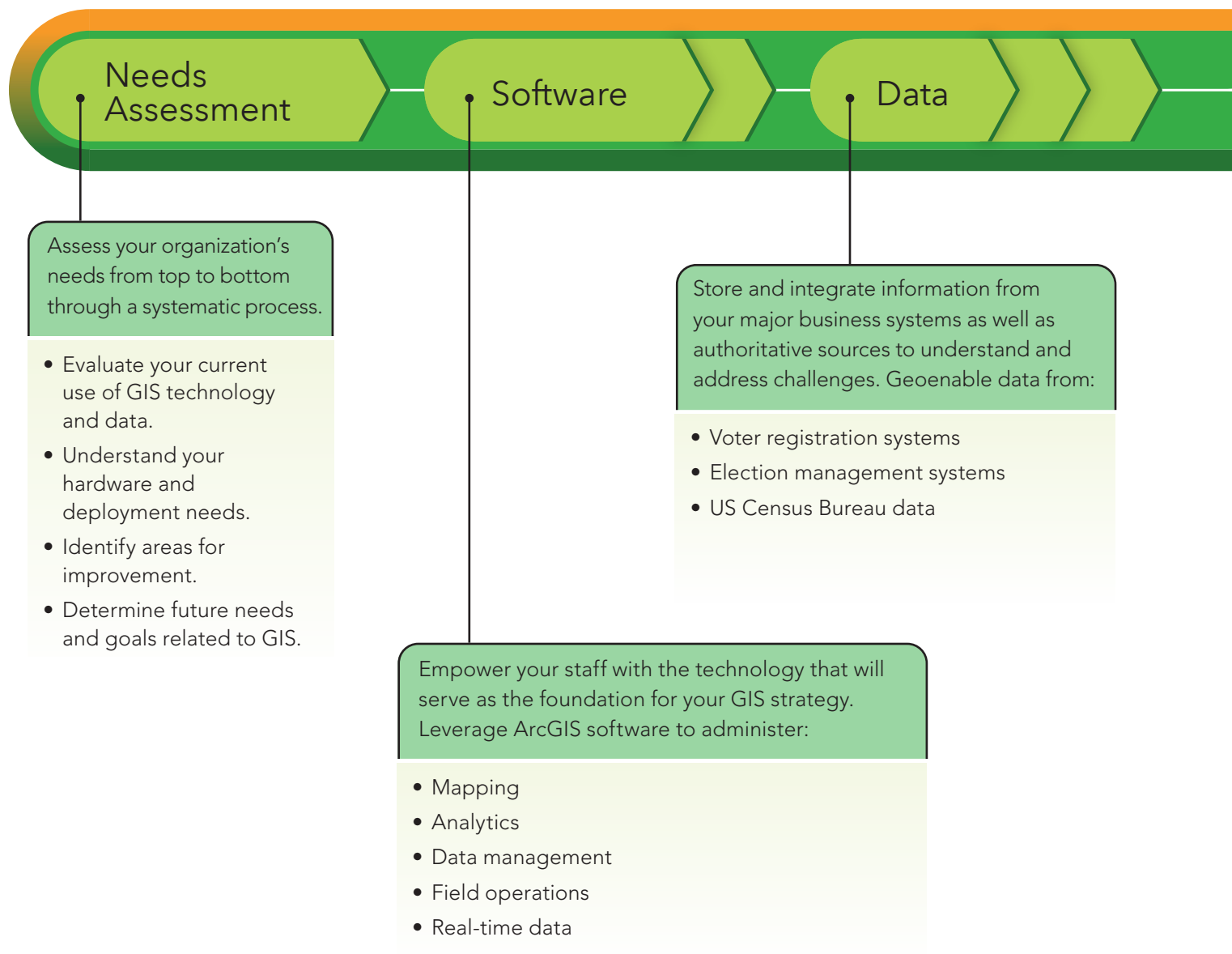
—Stephanie Rust,
Auditor-Treasurer, Pope County

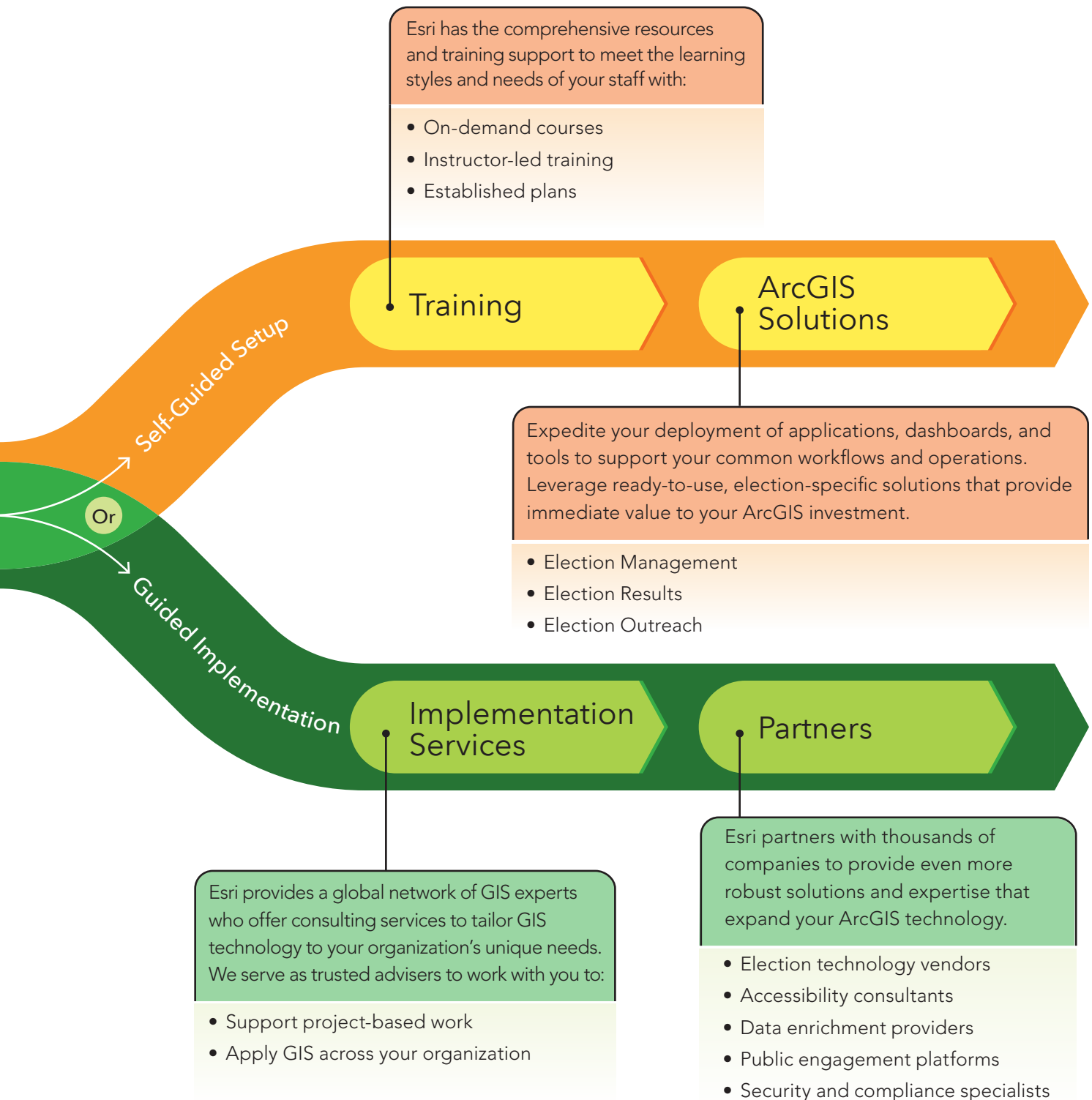


Residents visiting Pope County's Promoting Transparent Elections site can view or download the county's district, voting location, and voting precinct data and maps.

The Path to Election Excellence

There are repeatable steps and defined elements for a solid GIS program based on best practices from thousands of organizations that have maximized their return on investment. The following is a blueprint to guide you to your organization's success.





Contact Esri staff to conduct a needs assessment and determine the best strategy for modernizing your workflows, supporting projects, and incorporating new technological capabilities.

link.esri.com/elections





Esri, the global market leader in geographic information system (GIS) software, location intelligence, and mapping, helps customers unlock the full potential of data to improve operational and business results.

Founded in 1969 in Redlands, California, USA, Esri software is deployed in hundreds of thousands of organizations globally, including Fortune 500 companies, government agencies, nonprofit institutions, and universities.

Esri has regional offices, international distributors, and partners providing local support in over 100 countries on six continents. With its pioneering commitment to geospatial technology and analytics, Esri engineers the most innovative solutions that leverage a geographic approach to solving some of the world's most complex problems by placing them in the crucial context of location.

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