

**About the Quick Start Guides:** The EAC's Quick Start Guides are intended to familiarize local election officials with various topics they will likely encounter in election administration. The guides are a starting point to identify areas of concern and give officials a broad idea of factors they should consider in approaching a given topic.

### GIS & Election Administration

Recent advancements in technology have provided innovative ways to increase the efficiency, accuracy, and transparency of elections. This guide provides an overview of areas to use Geographical Information Systems (GIS) in elections. GIS software captures, stores, and displays data in interactive maps. For election administration, it can combine different datasets such as addresses, streets, buildings, aerial photos, voting precincts, and district boundaries into a single digital map. Election officials can use this data visualization for a variety of purposes.



### Polling Place Management

- [Selecting Polling and Drop Box Locations](#) - GIS layers can include population data and public transportation routes. Election officials can use this information to strategically locate polling places and drop boxes in areas where they are accessible to voters. Additionally, election officials can examine aerial photos of parking lots, exterior entrances, and building size before traveling to locations to confirm they meet accessibility requirements.
- [Polling Place Look-up Tools](#) - Helping people find their voting location is an important part of election administration. Election officials can use GIS to create address-specific look-up tools, similar to other familiar map applications. These tools can be configured with location-finding features, such as displaying how far the polling place is from a current location and guidance on reaching the polling place on foot, by vehicle, or with public transportation.
- [Polling Place Wait Time Management](#) - GIS is also a useful tool for resource management decisions. Poll workers can collect data about how long it takes to vote at polling places and upload the information into a GIS database. Election officials can either share the information in real-time during voting hours or analyze the data post-election to inform resource allocation or site selections in future elections.

### Protect PII

Take steps to protect all personal identifying information (PII) when creating a public GIS database. For example, the only fields necessary for polling place and drop box look-up tools are residential address and associated location information.



### Geocoding

Election officials can use interactive GIS maps to examine addresses, precincts, and districts for accuracy. Geocoding assigns a point on the map for every address in a street file. The address points can be compared to other information in the GIS workspace to identify discrepancies. This is a useful tool to validate changes made to precinct and district boundaries in election management systems. For additional information, see the EAC's [Local Election Officials' Guide to Redistricting](#).

### Public Education

- [Ballot Look-up Tools](#) - Election officials can help voters learn about contests and issues before they vote. Because what is on a voter's ballot is determined by where they live, GIS address look-up tools can help voters find ballot information for all contests in which they are eligible to vote.
- [Elected Representative Look-up Tools](#) - Voters do not always know who their representatives are or how to contact them. A GIS database can help voters find who represents them at every level of government. Representative look-up tools should be configured based on addresses and no other personally identifying voter information, so all people can find their representatives, even when not registered to vote.
- [Election Night Results](#) - There are many ways to display election results on websites. Posting election results in PDF reports with cumulative data for an entire jurisdiction is a common practice. However, it is not always useful or accessible for election analysts, candidates, voters, and the media. GIS can be used to visually display election results by voting precincts, or other geographical boundaries, to help present election data. For additional information on reporting election night results, see the [EAC's Best Practices: Election Results Reporting](#).

### Information Access

Remember many voters cannot access the internet to use web-based tools. Information available via the web should always be available via other means. Web-based tools should also be reviewed for usability and accessibility.