Redistricting From the Administrative Side: A Need for Modernization & Reform

Tammy Patrick
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Consider how much time and attention is spent drawing the lines—analyzing the options, confirming the choices, reviewing the final determinations.
Lines are drawn very purposefully.
Drafts circulated and contemplated.
There were no members of the public present...
Community voices are heard

But this was the night for Gila Bend! Impassioned citizens of Gila Bend and the nearby San Lucy District of the Tohono O’odham Nation talked about the importance of keeping a JP Court in their community. From Tribal Council Members and the District Vice Chairwoman to the Mayor and town Librarian the message was heard loud and clear!
Individual concerns addressed
Final determinations solidified.
Then what happens?

I want to focus today on the implementation of those lines and where things can go awry.
We’ve all seen the headlines.

More than 2,000 Franklin County voters were assigned to wrong congressional district, election officials say

Virginia Politics

Va. election officials assigned 26 voter wrong district. It might’ve cost Democ pivotal race.

Defeated Georgia legislator alleges voters were given wrong ballots
"No one wants to be the next headline."
Part of the challenge is that the use of GIS is not deployed in every aspect of implementation—sometimes because of statutory requirements for metes and bounds.

“... the boundary follows the southern Kaysville municipal boundary eastward to the centerline of Highway 89, then northward along the center of Highway 89 to the Davis/Weber county boundary, then west along the county boundary to ... ”
Manual intervention can prove problematic in implementing those best-laid plans…
Some 147 voted in wrong House of Delegates race in Va.

By Max Smith | @amaxsmith
November 24, 2017 11:29 pm

The voters wrongly assigned in Fredericksburg live at:

- **5321-5517 River Road (Fredericksburg)** — These voters were wrongly assigned to the 28th District in 2012.
- **501-709 and 800-908 Charlotte Street (Fredericksburg)** — While not all voters in these street segments were assigned to the wrong district (in some cases, it was just the even side), those that had been were wrongly assigned to the 28th or 88th district in August 2012.
- **900-921 Sunken Road (Fredericksburg)** — Three out of four voters here were wrongly added to the 28th District in April 2015.
- **1001-1715 Charles Street (Fredericksburg)** — The voters on the odd side of this street segment are clearly within the 28th District but were instead assigned to the 88th through a series of updates made in 2012, 2015 and 2016. The block was properly entered in the 28th District during the initial 2011 redistricting process before being wrongly changed in early 2012.
GIS & Implementation

Not the panacea, but better than manual administration.

Sadly, not everyone has these tools or this ability.
BETTER ELECTIONS WITH GIS

NEws
Thousands of Virginians May Have Voted in the Wrong State House Districts
5 of 6 ELECTION DIRECTORS know about GIS and have access to a GIS expert. Fewer than 1 in 3 say they have a voter registration system that supports GIS data. According to NSGIC’s Election Director Report, Jan. 2019. Read more on www.elections.NSGIC.org.
Geo-enabled elections bring...

1. Data visualization
2. Mapping expertise
3. Inter-agency collaboration
4. Data management coordination

...to election data processes and administration.

AN ELECTORAL SYSTEM WITH INTEGRITY HAS NEVER BEEN MORE IMPORTANT.
NSGIC State Representatives Share How Elections Systems Work in Their States

in the Q1/Q2 2012 survey with 20 state respondents

VOTER ADDRESSES

55% of responding states verify voter registration addresses against a database of known addresses such as a driver’s license or state ID database, a statewide point address set, a master address database used for 911 call routing, or a commercially available address database.

Confirmation of voter registration addresses is important, as it is a voter’s physical address that determines his or her voting precinct, where his or her vote will be tallied, and the candidates or questions on the voter’s ballot.

ELECTION PRECINCTS

50% of states indicated they maintain statewide mapping of precincts. Within this group, 40% also maintain a GIS layer of sub-precincts.

Statewide voting precinct information in a GIS format is essential to geo-enabling elections. It is noteworthy that the majority of states do not have a content standard for attributes of statewide voting precincts.

OTHER DATA

82% of responding states keep up-to-date GIS layers of city and county boundaries, essential for computer-based mapping of precincts.

State-wide GIS data layers - especially city, county, school, and special district boundaries - are essential to map precinct boundaries across the state. The survey reflected, however, that accuracy of current city and county boundary mapping varies considerably.

Download the full report at www.NSGIC.org/geo-enabled-elections
What’s hiding under the log? (& when do you want to find out about it?)

At a recent meeting of state election officials we discussed line accuracy and voter placement.

One state likened it to kicking over a log and “expecting bugs, but finding snakes”…
“Bugs”

Green = Legislative line
Blue = Congressional line
Red = Precinct line
Purple = GIS highlight
Yellow = Census block
Bugs of all shapes
Some single issues
Some much bigger ones
Alignment of maps from different sources
And natural changes—rivers change even in the desert
NSGIC State Representatives Share How Elections Systems Work in Their States

In the Q1/Q2 2018 survey with 31 state respondents

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Voter placement as well as drawing other district lines all rely on that state foundation.

Municipalities:
County Districts:

Changes to BOS/MCCC/SHCD
Precincts:

• In some cases precincts are split so will have minor boundary changes to accommodate the new IRC lines:
Precincts:

Here we would recommend following the boundary of the SRPMIC rather than the highway as this creates a split:
Precincts: Some splits defy common sense.

Here the voters south of this line would have an inordinate distance to travel to be included with the rest of the population in their new voting precinct.
Recently published, this report documents the multitude of election administrative functions—including district line maintenance and placement of voters.

America’s Election Model: The Architecture of Elections
NIST-EAC Interoperability Election Modeling Working Group
Revision: 0.1

Knowing how your state does it, compared to other processes, can be informative on where efficiencies can be gained (and where errors may be made).
These models also offer an opportunity to review a state’s election procedures for security vulnerability points.
Maintain Geographic Data

Figure 5
Maintain Geographic Data

Maintaining geographic data and associating it with individual voters form the building blocks of everything else in election administration. Election officials need to maintain address information, district boundaries, precinct boundaries and precinct split information in order to determine what an individual voter is eligible to vote on in a given election.
1.1.1 Maintain addresses
Every election office needs to know where people in their jurisdiction could live.

1.1.2 Maintain district boundaries
Once we know where our voters live, we need to know which contests they can vote on.

1.1.3 Maintain precinct boundaries
Based on where they live, each voter is assigned a specific precinct — a smaller district within the larger jurisdiction.

1.1.4 Determine precinct-splits
A precinct-split is the smallest subset of ballot configurations based on how the different districts overlap within a precinct. For instance, two addresses may share a congressional district but have different school districts. The precinct-split makes sure only one instance of every race is on the ballot.

1.1.5 Index address to precinct-split
Addresses are indexed to the appropriate precinct-splits, and voters are assigned accordingly.
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Maintain Election District Boundaries

Figure 20
Maintain Election District Boundaries

Districts can change for a variety of reasons, but if the district has associated elected offices or taxing authority, then the election office needs to track it.
1.1.2.3 Determine district boundary
District boundaries are just polygons on a map. They tend to follow physical features, such as rivers, power lines, roads, etc. Election offices interpret and implement the district documentation given to them.

1.1.2.4 Determine if other districts are affected
Sometimes one district will affect another. For example, if a city annexes a nearby township, the city will need to provide representation to its new voters. That could mean extending a particular district's lines.

1.1.2.5 Maintain district boundaries
If other districts are affected, each one that is affected must be evaluated.

1.1.2.6 Modify or draw new lines
Lines are drawn, but they must follow other existing lines, usually coming from the census.

1.1.2.7 Validate spatial relationships
This is a “check your work” step. Election offices can use a geographic information system (GIS) or a thorough manual process of validation. This process is complete when all spatial relationships are valid.

1.1.2.8 Determine reprecincting requirement
Depending on the jurisdiction and the district boundaries in question, a precinct may need to be redrawn. For example, some counties have rules that precincts cannot cross congressional districts.

1.1.2.9 Maintain precinct boundaries
If reprecincting is required, the process for maintaining precinct boundaries (Process 1.1.3) is cued. This process involves determining the geographic extent of change, developing alternatives, and validating these changes.
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GIS (as Kernels of Corn)
Why now?
Important juncture in time
Time to implement is now, before the Census

Road to the 2020 Census

2020 Census Operational Timeline

March: Census Bureau delivers questions to Congress
April: Open 6 regional census centers
October: Full implementation of the communications program
October: Partnership specialists begin working for Census Bureau
January: Begin enumeration in remote Alaska
February: Group Quarters Operation begins
March: Leave begins
March: Internet Self-Response begins
April 1: Census Day
May: Nonresponse Followup begins
December 31: Deliver apportionment counts to the President

2018
January-March: Open 40 area census offices
June-September: Open remaining 2018 area census offices

2019

2020
August: Conduct in-field Address canvassing

2021
March 31: Complete delivering Redistricting Summary Files to all states (PL 94-171)

Key census activities start in 2018 and continue through 2021
New Voter Registration Systems

New ways to use GIS
Up to 11 points per address, FRONT DOOR is one of them
Other uses for GIS: Improved ballot tracking

Mail Carriers
“At a Glance”

Hover your cursor over carriers for more information on how the DMS system works...

The use of geo-fence technology is a proactive approach to increasing carrier visibility to aid street management. However, the addition of route deviations may cause inaccuracies, which in turn may cause supervisors to react to delays that do not exist.
Other uses for GIS: Emergency Preparedness
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Pennsylvania Polling Locations
Visualization of data is more quickly done.
WASHOE COUNTY, NV: Precinct Audit
WASHOE COUNTY, NV: Precinct Audit
WASHOE COUNTY, NV REDISTRICTING 2021

CHALLENGES WE FACE:

• Limited Resources & Technology
• Population Growth Is Not Evenly Distributed
• Adding a 6th Ward to the City of Reno

• Manual Processes:
  • Creating and/or Consolidating Precincts
  • Moving/Splitting Streets and Ranges
  • Moving Voters
How We Will Face the Challenges:

• Planning & Coordinating Early: identifying & recruiting key assets and people
• Enlisting Outside Resources & Seeking Input
• Being Consistent & Methodical During the Process and Managing Time Efficiently
• Incorporating All Changes at the Same Time
• Proofing, Proofing, & Re-Proofing
The Good News
Election audits are a big topic right now, district audits and voter placement need to be part of that discussion.

MAKE REVIEWS EASY

Geospatial data made visual on a map are much easier to check for accuracy than lengthy voter address lists. The same technology used to locate a restaurant can make quality control of voter lists, and district updates, easier.
Pilots!

KY
MN
NE
PA
WV
Case Study #1

Utah was the first statewide GIS adoption for election administration.

“Placing voters within election boundaries is essential to enable a highly accurate election process. It’s hard to imagine relying on anything but a well-implemented GIS system for reliable boundaries and locating voters.”

Justin Lee, Election Director Utah
Wisconsin not only is a case study, but also partnering with West Virginia in their pilot project!
WASHINGTON

“Geo-enabled elections are accurate elections. GIS integration allows us to quickly, easily, and accurately pinpoint our voters to ensure they receive the correct ballot.”

Lori Augino, Election Director
Washington

Case Study #3

Washington is converting to a new voter registration system that Secretary Wyman and her staff ensured was geo-enabled.
The Weekly GIS Jurisdictions Audit is initiated each week when the State Board of Elections emails a GIS audit reminder to the county boards of elections. Attached to the weekly email is a spreadsheet that identifies the number of flagged address records that are potentially incorrect in the Geocode application. These potentially incorrect address records could be caused by one of the following issues. The address records:

- do not have an assigned jurisdiction
- are assigned to the wrong congressional district
- are assigned to the wrong North Carolina House district
- are assigned to the wrong precinct
- are assigned to the wrong North Carolina Senate district
- are registered in the wrong county
- are assigned to the wrong prosecutorial district
- are assigned to the wrong superior county district

Case Study #4
WEEKLY audits in North Carolina...
HAWAII

“GIS has been critical in improving Hawaii’s voter registration processes including online voter registration, which resulted in fewer paper registrations and better use of staff time. Additionally, during natural disasters, GIS has allowed us to quickly understand the impact on voters and plan for alternatives.”

Marc Arakawa, Hawaii Office Of Elections
STOP THE PRESSES! Amendment, Redistricting Fights Put NC Ballot Printing on Hold editions.lib.umn.edu/electionacadem...
Ultimately we need to be asking:

Our we using the most effective method?
Is it being used at all levels of government/district creation?
Do we need to change statutes?
Are our elections offices appropriately funded/resourced?
Was all the redistricting effort for naught if voters are provided the wrong ballot?
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Questions?