Redistricting Software
It's History & Considerations

By Kimball Brace
Election Data Services, Inc.
NCSL Columbus, OH 10/26/2019
Who is Election Data Services, Inc.?

Since 1979, more than half the nation has been helped by Election Data Services in redistricting

- Compiled extensive databases of election results and census demographics for redistricting in more than half the nation over past 4 apportionments & redistrictings
- Testified in more than 75 court cases, many concerning racial analysis of data
Who is Election Data Services, Inc.?

Since 1986, we’ve been on your wall.

Since 2010 you’ve needed a larger wall.
Look on the backside
Reapportionment Yearly Studies since 1990

Publishes annual reapportionment studies every December when Census Population Estimates are released.

Check [www.electiondataservices.com](http://www.electiondataservices.com) for latest studies and historical table of congressional delegations since 1790

Last estimates to be released December, 2019
Today’s Discussion

1. History of Redistricting Software usage

2. Vendor’s section

3. Q & A – Moderator & Audience
History of Redistricting Software

1980
- There were NO PCs
- Redistricting was done using mainframe computers & paper maps
  - Processing took all night to see what you drew
- Used Blue line, ammonia smelling, paper maps from Bureau
- Needed Lots of Wall Space & lots of Acetate Overlays
- Just Total Population, by Race, released for redistricting, No VAP
- Could create 10s of plans during legislative session

1990
- Had PCs, but were slow & not much hard disk space
- First use of GIS software to help process, but mostly main-frame usage
- “Spatial Spreadsheets” to link map drawing with results
- Census Bureau provided nation-wide TIGER files for first time.
  - Roads & other features were hand-drawn depictions of “where” it might be
- Hispanic & Voting Age Population added to PL file.
- Caliper/Maptitude & Citygate/AutoBound entered the market, ESRI helped
- Could create 100s of plans during legislative session.
History of Redistricting Software

2000
• PCs were faster and hard disk space was bigger
• TIGER files were updated to get closer to “ground truth”
• More than one race allowed in answers to Census
  • Major expansion of data files
• Could create 1,000s of plans

2010
• PCs again bigger & faster than before
• TIGER files improved their positional accuracy, but aerial photography still not hi-res
• Geocoding of voter files more in use, help with database building & locations & information on voters.
• Zillow entered market, helping some counties only
• Could create 10,000s of plans
History of Redistricting Software

2020
• Accurate depiction of precinct boundaries possible in TIGER, as block definitions opened up during PL process. Visible features no longer required.
• Improvements in resolution of aerial photography could mean members could see that church they want to keep in district.
• Will we get more data on PL file?
  • Citizenship counts
  • Impact of “disclosure avoidance” implementation
• Automated plan generation software now more available.
• How many plans will we create this decade?
Major Differences In Redistricting Systems

Manual Assignments
VS
Automated Plan Generation

Stand-alone System
(PC/Laptop/Networked)
VS
Cloud Based System
Vendor Demonstration

Each Vendor will have 12.5 minutes to present
• Asked each to start off showing the same function
  • Assigning of Geography to a district
    • Show any short cuts you’ve developed
• Remainder of time up to Vendor on what they want to show/talk about
• Everyone will be timed, with announcement at 10 minutes & 11 minutes

At Conclusion of all four vendors
• I’ll ask some initial questions
  • See handout list of concepts for discussion
  • Vendors have seen the list ahead of time & may answer some in their presentation
• Audience participation

Vendor Order
• Caliper/Maptitude
• CityGate/AutoBound
• ZillionInfo
• ESRI

After morning talk, vendors be in own room, 11am-5pm
• House A
• Senate B
• House B
• Senate A
I see that state lawmakers are re-drawing districts again.
Thank you

Kimball Brace
President
Election Data Services, Inc.
6171 Emerywood Court
Manassas, VA 20112
(703-580-7267 or 202-789-2004)

KBrace@electiondataservices.com or KBrace@aol.com
www.electiondataservices.com