

NCSL REDISTRICTING SEMINAR

REDISTRICTING DECISIONS AND DESIGN :
WHAT TO LOOK FOR WHEN LOOKING FOR SOFTWARE

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Fundamental Decisions To Make

- 1. Leadership Decisions**
- 2. Staff Composition**
- 3. Technology Choices**

Leadership Decisions

Leadership Decisions

- **How Much Public Participation and Outreach**
 - Public Meetings and Public Participation in Process
 - Public Hearing?
 - At the Capitol?
 - Around Your State?
 - Accessible Online to the Public?
 - Public Redistricting Submissions?
 - Provide Software Access To the Public?
 - At Home?
 - At the Capitol?

Leadership Decisions

- **Who Will Draw The Plans**
 - Staff?
 - Legislators?
 - Partisan Staff?
 - Outside Consultants?

Leadership Decisions

□ **What Will Be The Committee Assignments and Rules**

■ Will There be Explicit Procedures and Practices?

- Use Of Traditional Redistricting Criteria
- Written and Adopted Rules
- Address Partisan Gerrymandering?
- Public Hearing Dates and Procedures
- Acceptable Plan Deviations?

□ **How Much Transparency In The Process?**

- How Much Public Accessibility to Decision Making?

Staff Composition

Staff Decisions

- **Try To Get An Early Start On Staff Selection**
 - Training and Familiarity with Procedures and Software
 - Expertise and Comfort when Approaching Deadlines
 - Attend NCSL Seminars!

- **Design of Software and Hardware Support Services**
 - Quick and Effective Internal or External Support
 - Available 24/7

Technology Choices

Technology Decisions

- **Cloud Based or Internal Servers or Both?**
 - Do You Trust Your Internet When It Matters?

- **What Sort of System Will You Employ?**
 - Stand Alone Laptops?
 - Workstations?
 - Web Based Systems Dependent on the Internet?

Technology Decisions

- **Printers, Plotters, Servers and Laptops**
 - Breadth and Depth of Equipment Needs

- **Controlling The Environment**
 - Who has Access to Plans?
 - Certain Legislators?
 - What Staff?
 - Partisan Staff?
 - The Public?

- **Software**
 - The Tool to Accomplish Your Redistricting Goals

Software Feature Requirements

Software Feature Requirements

- 1. Database Development**
- 2. Plan Drawing**
- 3. Reporting**
- 4. Mapping**

Database Development

Jurisdictions	Plans Per Jurisdiction	Categories	Database Size
House Senate Congress Public Service Other	Unlimited?	PL 94-171 Voter Registration Election Returns Other	As Large As Needed

Database Development Requirements

- **Must Do Census Data Verification**
 - Verify Accuracy of PL 94-171 Census Data

- **Can Modify Census Data For State Requirements**
 - In 2010, There Were 63 Possible Combinations of Race and Ethnicity
 - How Does Your State Need to Combine This Data Into a Usable Format?

Database Development Requirements

- **Must Allow Integration of External State Databases**
 - Import and Integrate Your Registered Voter Data
 - Import and Integrate Your Election Return Data

- **Formulate Process Of Multi-level Disaggregation**
 - Ability to Apply External State Databases to Census Blocks By Formal Calculations
 - How Are You Parsing Out Your VTD Level Data to Smaller Census Blocks?

Database Development Requirements

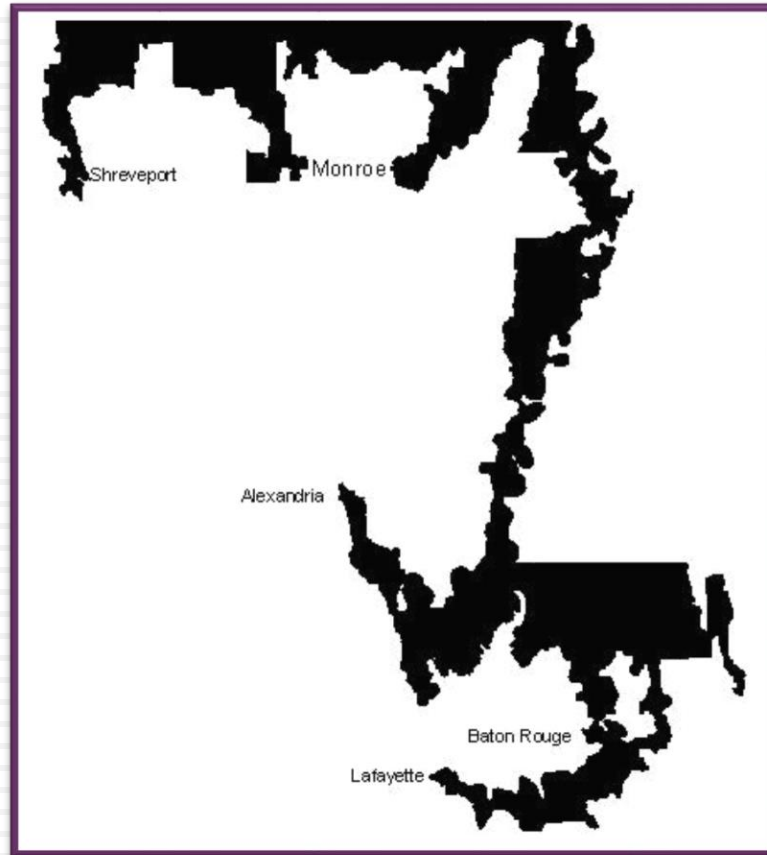
□ Real Time Backups of Plans

- While Being Drawn
- Fail Proof Backups

□ Define Public Submission Requirements

- Census Block Equivalency Files?
- Accepting Only A Shape File Will Require You To Build The Plan Yourself

Plan Drawing



Plan Drawing Requirements

- **Unlimited Number of Plans and Types of Plans**
 - House/Senate/Congress/Other

- **Have Multiple Save Points**
 - Auto Save While Building Plans
 - Ability to Save Versions of Plans While Building Plan

- **Allow Multiple Assignment Levels**
 - Build Plans at Any Geography Level
 - Block, Block Group, Tract, VTD, County

Plan Drawing Requirements

- **View District Statistical Assignment Updates**
 - See Changes As They Happen
 - See Changes Before They Are Applied To A Plan

- **Don't Use An Automatic Plan Creation Utility**
 - This is Probably a Bad Idea.

- **Ability To Inquire on Geographic Features**
 - To Identify and Preview Data and Geography Before Assignment

Plan Drawing Requirements

- **Be Able To Lock Districts and Geography**
 - So There is No Accidental Assignment To Another District
 - To Protect Your Finished Areas

- **Ability To Undo Your Geographic Assignments**
 - Multi-Step Reversal

Plan Drawing Requirements

- **The Ability to Share Plans**
 - Full Access or Read-Only?
 - To Other Staff
 - To The Public

- **A Variety of Tools For Selecting Geography**
 - Lasso? Anything Contained? Or Touching?

- **Ability To Import and Export Plans**
 - Capability To Accept Submissions From Other Software Packages Used by the Public or Other Interested Parties
 - To ESRI Shape Files or Census Block Equivalency Files

Plan Drawing Requirements

- **Show Data By Percentage or Raw Numbers or Both**
 - You Want Different Data Display Options

- **Export Boundaries or Geography For Legislation**
 - Bill Text of Boundaries of Districts For Bill Drafting
 - Census Data Identification Reports For Bill Drafting

- **Overlay Other Plans or Geography As a Layer**
 - Counties Boundaries/Municipal Boundaries
 - To Compare Past Plans To Your Working Plan
 - Ability To Color Code and Alter Size of An Overlay

Plan Drawing Requirements

- **Longevity of Software For the Decade**
 - For Updating Geography and VTDs
 - For Inter-Decade Redistricting
 - For Other Legislative Needs

- **Some Granular Desires**
 - A Full Featured GIS
 - Swap or Renumber Your Districts
 - Copy Plans
 - Limiting Geography (For Sub-State Redistricting)

Reports

District Summary

	Total Population	Total White	Total Black	Total Asian	Total Other	Total Hispanic
District 1	930,075	717,577	155,788	23,525	25,069	68,116
	100.000%	77.153%	16.750%	2.529%	2.695%	7.324%
District 2	927,139	673,260	206,185	15,756	15,950	33,474
	100.000%	72.617%	22.239%	1.699%	1.720%	3.610%
District 3	864,269	282,469	535,791	21,788	20,174	44,261
	100.000%	32.683%	61.994%	2.521%	2.334%	5.121%
District 4	888,023	625,475	230,506	10,880	10,574	23,388
	100.000%	70.435%	25.957%	1.225%	1.191%	2.634%
District 5	923,866	537,411	358,615	9,602	10,424	23,321
	100.000%	58.170%	38.817%	1.039%	1.128%	2.524%
Grand Total	4,533,372	2,836,192	1,486,885	81,551	82,191	192,560
	100.000%	62.563%	32.799%	1.799%	1.813%	4.248%

Plan Statistics

<u>Districts:</u>	<u># of Members</u>	<u>Actual Population</u>	<u>Ideal Population</u>	<u>Absolute Deviation</u>	<u>Relative Deviation</u>
District 1	1	930,075	906,674	23,401	2.581%
District 2	1	927,139	906,674	20,465	2.257%
District 3	1	864,269	906,674	-42,405	-4.677%
District 4	1	888,023	906,674	-18,651	-2.057%
District 5	1	923,866	906,674	17,192	1.896%
Grand Total:	5	4,533,372	4,533,370		

Ideal Population Per Member:	906674		
Number of Districts for Plan Type:	5		
Range of District Populations:	864,269	to	930,075
Absolute Mean Deviation:	13,161		
Absolute Range:	-42,405	to	23,401
Absolute Overall Range:	65,806		
Relative Mean Deviation:	2.69%		
Relative Range:	-4.68%	to	2.58%
Relative Overall Range:	7.26%		

<i>Ideal - Actual:</i>	-2
<i>Remainder:</i>	2
<i>Unassigned Population:</i>	0

Reporting Requirements

- **Contiguity and Unassigned Unit Checks**
 - To Confirm Your Districts Connect
 - To Help You Find Small Unassigned Areas of Your Geography

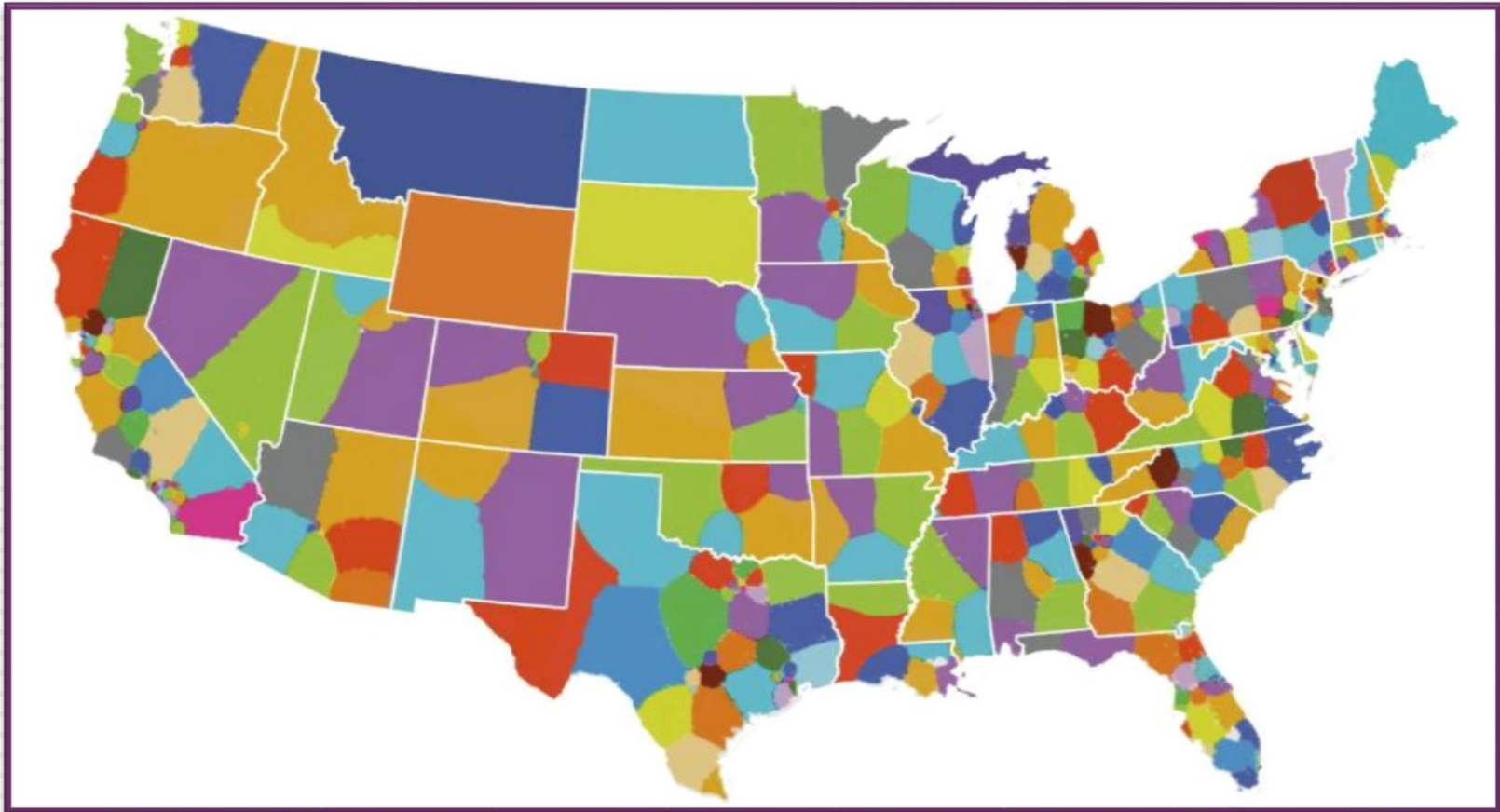
- **Population Equality Reporting**
 - Population Deviation Reports To Meet State and Federal Requirements

Reporting Requirements

- **Ability To Report on All Dataset Attributes**
 - Must Be Able to Pick and Choose The Data You Want to Report
 - Registered Voters/Election Returns/Racial Combinations

- **District Reports**
 - Reports That Summarize The Relevant Statistics and Summaries Of Pertinent Data For Plans and Individual Districts

Mapping



Mapping Requirements

- **Must Have A Robust Labeling Technique**
 - For Accurate Maps
 - For Providing As Much Information As Possible
- **Needs Quick District Layout Prints**
 - For Fast Map Creation
 - Consistent Format and Representation of Information

Mapping Requirements

□ **Have Standard Templates**

■ Themes That Reflect Consistency

- Colors

- Labels

- Legends

■ This Will Limit Confusion

■ This Will Promote Consistency When Displaying Multiple Plans or Comparing Plans

□ **Display Any Data in Database**

■ The Ability To Label Districts with Anything in Your Database

Questions!

