The criteria that states use to create and redraw legislative district lines vary greatly. Their processes range from simple to highly technical and politically complex. To the public, the redistricting process is a bit of a mystery. When left with a mystery, they fill the void with questions about transparency, openness and trust. This session will offer a different way to think about the redistricting process, one that addresses the technical and political needs but engages the public, too.

Richard Leadbeater, Esri
Shannon Valdizon, Esri
Council for State Government
Annual Conference December 2017
Technology Is Evolving

Expanding Your Capabilities

- Client / Server → Web Services & Apps
- Stand-Alone Desktop → Connected Desktop
- Data Models → Web Maps & Layers
- Static Data → Real-Time
- Single Server → Distributed Computing
- Custom Applications → Configurable Templates & Apps
- Proprietary Data → Open Data & Shared Services
- 2D Features → 3D Features
- Spatial Analysis → Spatiotemporal & Big Data Analytics
- Digital Cartography → Smart Mapping
Field Technology

Taking GIS Beyond the Office

- Collecting Data
- Reporting Observations
- Managing Work

Navigator
Collector
Survey123

Workforce

Connecting the Field with the Enterprise
A New App

- Visual, Intuitive, Responsive
- Dynamic Spatial Analytics and Visualizations
- Very Fast

Insights

Exploratory Analysis and Visualization

Linked and Responsive Charts and Maps

Integrated Spatial and Tabular Analysis

On-the-Fly Visual Models
Online GIS

Software as a Service (SaaS)

New and Improved
- Smart Mapping and 3D
- Analysis Tools
- Vector Tiles
- Credit Allocation
- Enhanced OGC Support
- Administration
- Social Log-ins
- UI/UX

Coming
- Improved Search & Data Management
- Org-to-Org Collaboration
- Raster Analysis
- More Smart Mapping & 3D
- More Content
- Interactive Data Analysis

Complete Cloud-Based Mapping Platform with Apps and Content

3.8 MILLION
Users +30%

ONE BILLION / Day
Map Views +35%

7.9 MILLION
Items +40%

18.8 MILLION
Open Data Downloads +411%

... Enabling Sharing and Collaboration
Enterprise Approach

Portal Abstracts and Organizes Any Data Type

Web Maps, Layers, and Scenes

REST Based Access

Any Data Source

Any Client

Distributed
Technology Hub - A New Cloud-Based GIS for Community Engagement

Connecting Government with Citizens

- Civic Hackers Startups
- Engaged Citizens
- Schools
- NGOs and Other Orgs
- General Public

Hub

Providing / Supporting

- Open Data
- Status Reporting and Dashboards
- Policy Initiatives
- Demographic, Business, and Environmental Data
- Citizen Surveys (Crowdsourcing)

Portal

Open Data

Enterprise GIS

New Cloud Offering Including Citizen User Roles

General Public

Schools

Civic Hackers Startups

Engaged Citizens

NGOs and Other Orgs
Using the Power of Where to Integrate Everything

Geography Provides the Platform
For Managing, Analyzing, and Applying Geographic Information

Integrating People, Processes, Things, and Data About Them
Web GIS Is the Modern GIS Architecture

Helping Everyone Do Their Work Better

Growing Exponentially

Leveraging Web Services

Sharing Knowledge

Collaboration

Improving Productivity and Efficiency
Web GIS Enables Community Engagement
Organizing and Managing Community Interactions

Providing Citizens Information . . .
. . . And Leaders Input

Citizen Communication
Citizen Surveys (Crowdsourcing)
Status Reporting
Open Data
Storytelling
Demographic Information

Community GIS Hub
Policy Initiative Based
• Create a product line that solves election management, redistricting and territory design problems for the desktop, enterprise, and online users

• Establish an online community where users can collaborate and share their results

• Provide online access to standard data content used by this community (Census, Zip, Precincts, etc.)

• Provide online tools to manage and disseminate election data and results
Redistricting Online
Increasing the collaboration between government and citizens

- Create
- Edit
- Publish
- Review
- Collaborate

US Census P.L Data
DOJ
Consulting Data
Historic Election Files
Advocacy Groups
Legislators
Legislative Staff
Portal
Citizens
Redistricting Online - Key Functional Components

- Plan Creation and Editing
- Census and Custom Geography Data
- Map Navigation
- Mash-ups
- Redlining
- Feature Selection
- Plan Publication and Sharing
- Data Export
- Printing
- Plan Integrity and Management
- Thematic Mapping
Redistricting Online Deployment Options

**Software as a Service (SaaS) Subscription Model**
- Per user pricing
- No custom features or data

**Managed Services Offering**
- Configured for organization
- Custom data packs
- All hosting components managed by Esri

**On Premise Offering**
- Installed behind organizations firewall
- Custom data packs
- Hosting components managed by organization

US Census P.L Data
DOJ
Consulting Data
Historic Election Files
Legislators
Advocacy Groups
Legislative Staff
Citizens
Redistrict Utah

Online Public Redistricting Tool

Case Study by Jerry Howe, Managing Policy Analyst, Office of Legislative Research and General Counsel
“...the Legislature shall divide the state into congressional, legislative, and other districts...”

Utah Constitution – Article IX, Section 1
Redistricting Committee

- 20 legislators appointed by President and Speaker
- Adopted principles and guidelines
- 28 meetings; including 17 public hearings across state
Principles adopted by 2011 Redistricting committee

Districts to be:
• Single Member;
• Contiguous; and
• Compact

Acceptable Deviations:
• Congressional ± 0.1%
• Legislative ± 3.5%
• School Board ± 3.5%
Public Participation Encouraged: Online Tool Developed

- Contracted with Esri to Create Online Tool
- Any Registered User May Submit a Plan
- Public Plans Required to Comply with Redistricting Principles
  - Single Member Districts
  - Compact and Contiguous
  - Meet Deviation Standards
  - Complete
Redistrict Utah

- Staff used ArcGIS and autoBound
- Public used an Esri web-based redistricting tool
• 5 tabs assist users to draw maps
• Each tab has a ribbon of tools and information
Public use of Esri Tool

- 1,000 Registered Users
- 323 Plans Submitted
- 271 Met Criteria
- 198 Congress Plans
Public Participation Beneficial

- Transparency Improved Public Relations
- Public Participation Reduced Criticism
- Public Participants Were Thoughtful and Knowledgeable
- *A Universal Truth:* Districts Drawn in Isolation are Easy, Complete Plans are Not
Public Participation Was Successful

- Citizen Plan Adopted!
- Headlines:
  - “Lawmakers endorse citizen map for new school board boundaries.”
  - “Lawmakers endorse Logan resident's map for school board boundaries.”
Unintended Consequences

We did not anticipate the public’s desire to:

• Explain in writing the merits of their plans; and
• Comment on other public plans.
Accommodate Public Comment

• In 2010, legislative leaders created a blog
  - Posted all redistricting plans (public and legislative) on web
  - Public comment and analysis was encouraged on all plans

• In 2020, Utah Will Improve Online Public Comment Options
Redistrict Utah

Online Home of Utah’s 2011 Redistricting Effort

Basics  Bills: Passed Maps  Bills: Special Session Maps  Maps  Meetings  Perspective  Your Map

Featured Articles

Legislative Enrolled Maps

After months of hard work, the redistricting process came to a close during the legislative special session, held in October. The Legislature approved the final maps, and Governor Herbert signed them into law. Each of the maps can be found below:

Read more