



Esri Redistricting

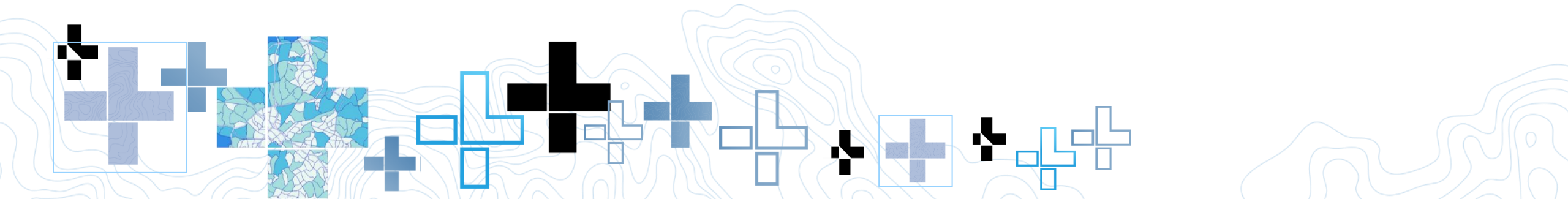
*Executive Briefing to
County of Los Angeles Citizens Redistricting Commission*

April 28, 2021



Agenda:

- A background in Redistricting.
- Esri Redistricting Solution
- Examples
- 2020 Census PL94-171 Data workflow.
- Open questions and next steps.



Redistricting Background

Some History:

1980's

Highly Constrained

1990's

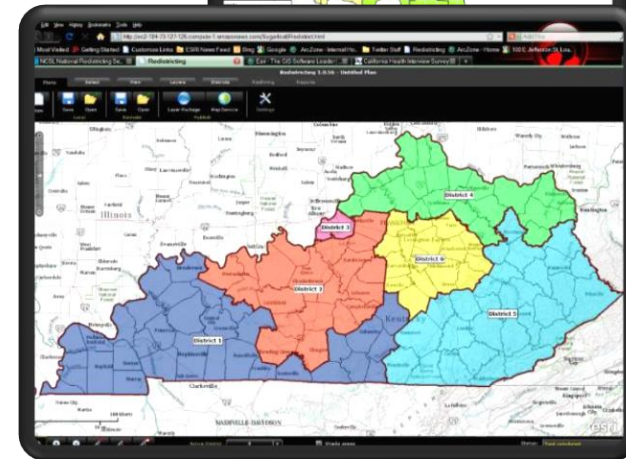
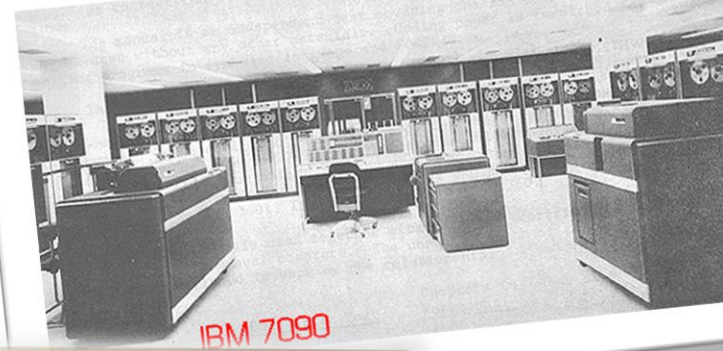
Tools available but cumbersome

2000's

Usability and some public involvement

2010's

Almost consumer-level

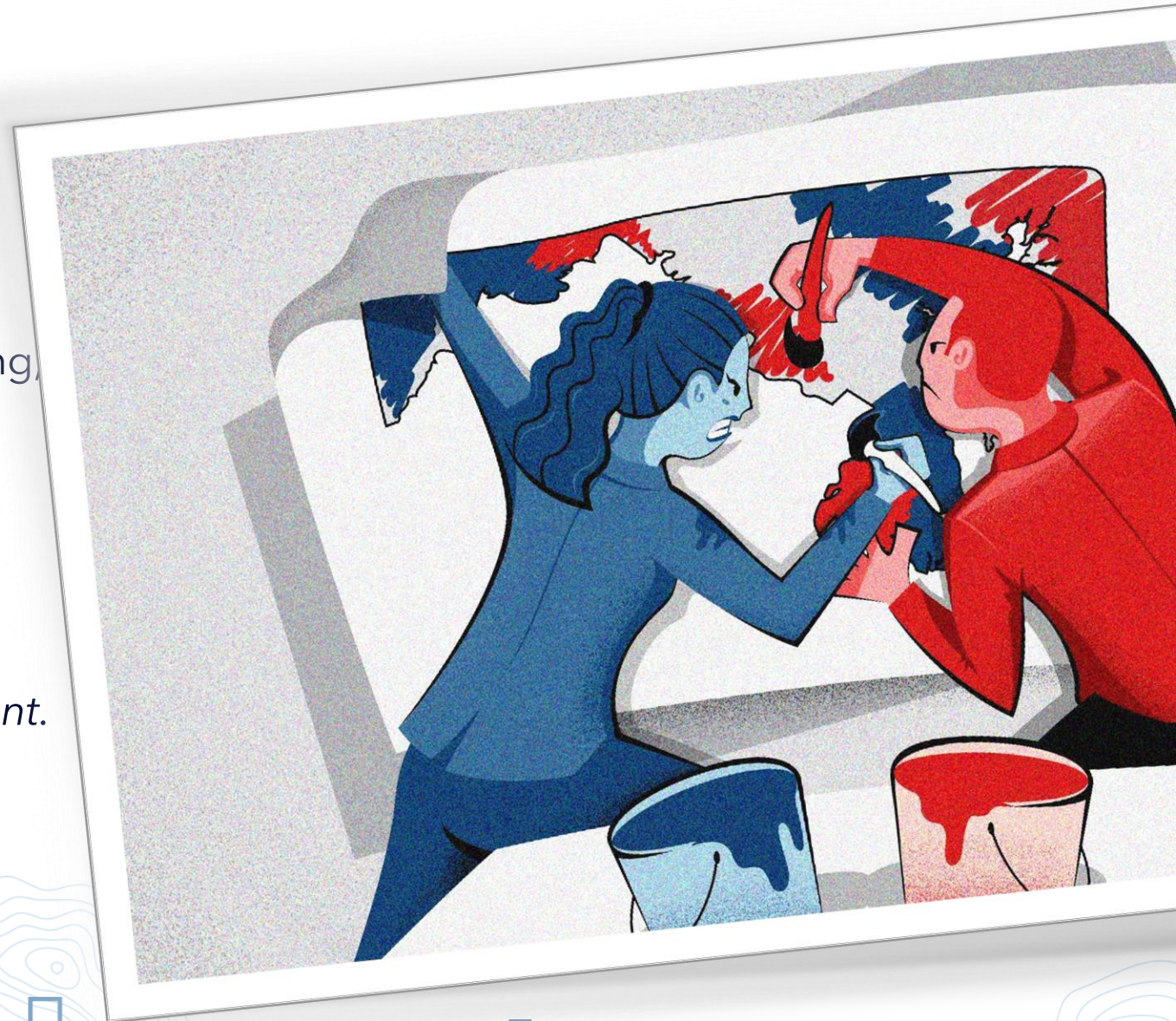


Esri Redistricting is a web-based solution that *enables governments, advocates, and citizens* to complete and securely share compliant redistricting plans.

Esri Redistricting provides comprehensive tools for plan creation, management, visualization, editing, and collaboration.

Built-in tools check for common compliance blunders.

Online functionality allows *Openness, Transparency, and Citizen Engagement.*



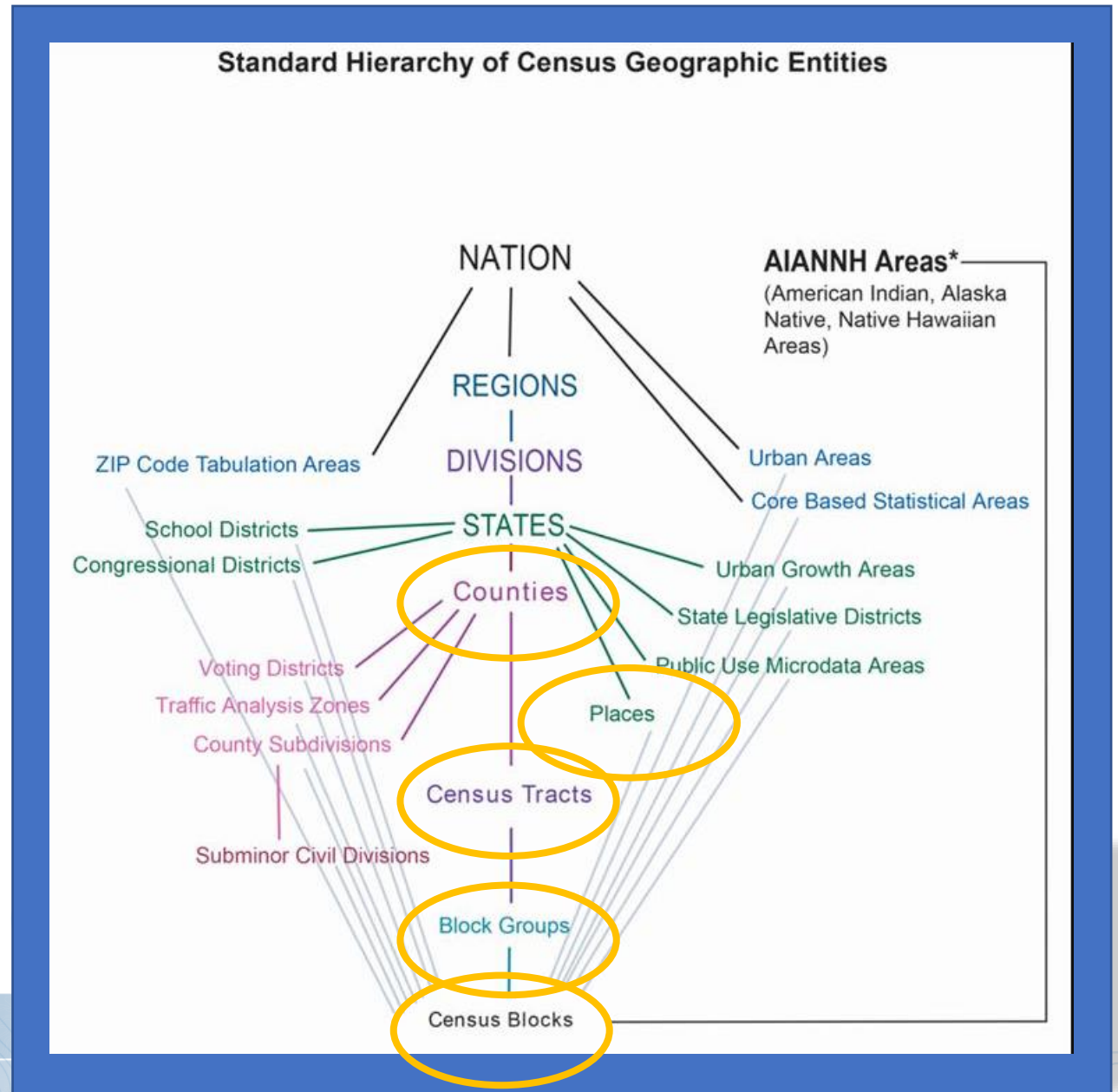
Census Data—The P.L. Story

Public Law (P.L.) 94-171

...enacted by Congress in December 1975, requires the Census Bureau to provide states the opportunity to identify the small area geography for which they need data in order to conduct legislative redistricting. The law also requires the U.S. Census Bureau to deliver this data no later than one year from Census day.

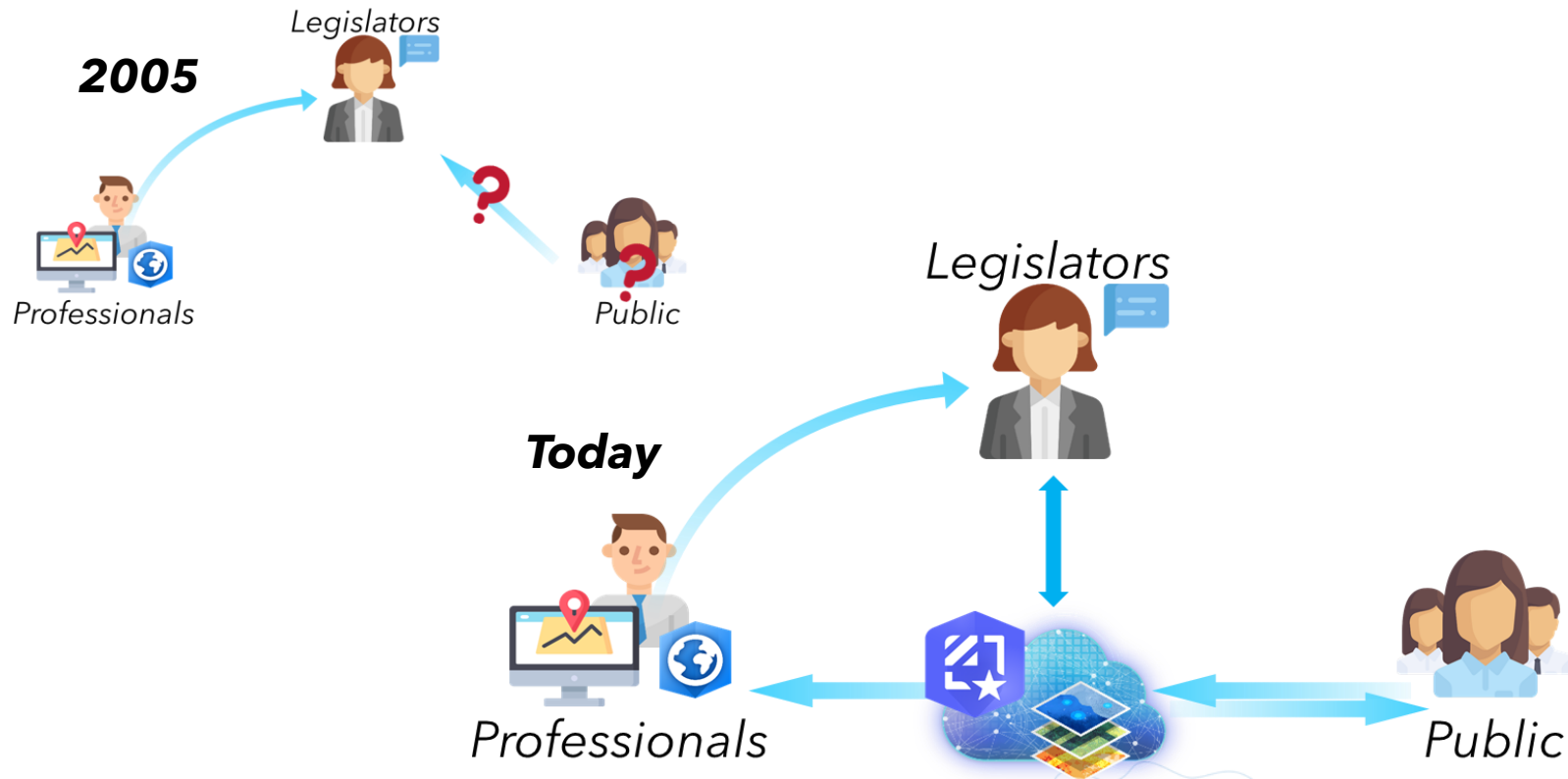
P.L. 94-171 requires the U.S. Census Bureau to furnish "basic tabulations of population" to each state, including for those small areas the states have identified.

[Understanding Geographic Relationships: Counties, Places, Tracts and More \(census.gov\)](https://www.census.gov/geo/www/understanding-geographic-relationships-counties-places-tracts-and-more)



A Vision for Redistricting

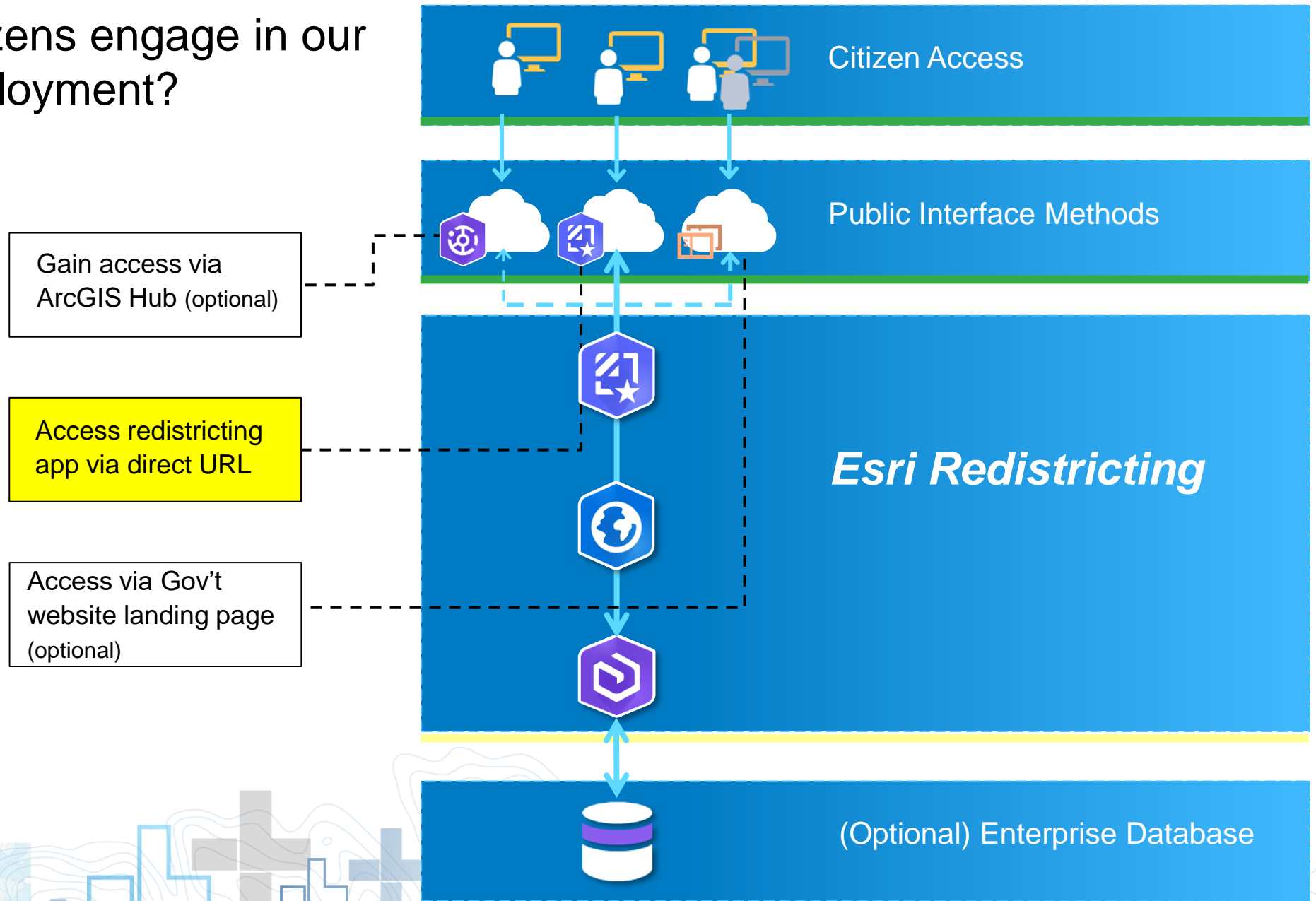
Esri Redistricting Story



A browser approach would increase collaboration within the legislature and between citizens

- Provided via web browser
- Facilitates collaboration, sharing, and community building
- Easy to use interface reduces costs associated with training
- Minimal GIS experience required
- Centralized IT
- Cost effective way to provide access to citizens

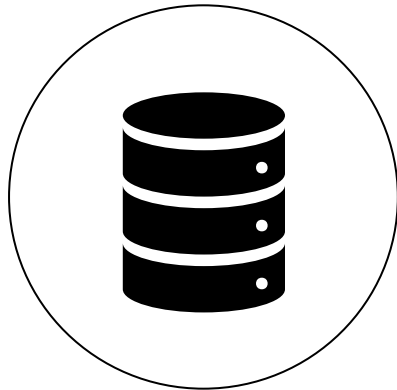
How can our citizens engage in our Redistricting deployment?



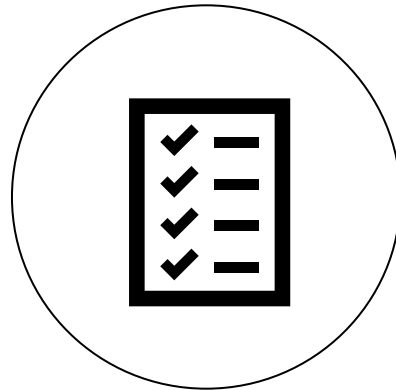
Features Overview



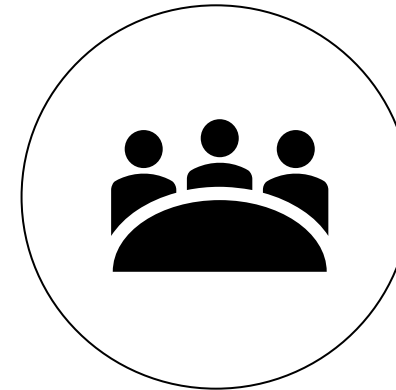
Esri Redistricting



Data
Sources



Plan
Management



Collaboration



Features Overview

Redistricting Online 2.33

Plan: AZ_Legislature | Invites (0) | AaronTrenak | Sign Out

File Learn View **Create** Review Share Submit

District: District 10 Display Level: County Selection Level: County Automatic Scale 1: 9.2M

Demographics Selection

Statistics Redistricting Tools Block/Block Group/Tract/County Map

District	Color	Hide	Lock	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTANNH
Unassigned		<input type="checkbox"/>	<input type="checkbox"/>	20,869	20,869	8,672	12,197	9,871	855	880	434	40	43	74
District 1		<input type="checkbox"/>	<input type="checkbox"/>	215,604	2,537	23,985	191,619	181,264	2,515	3,056	3,635	366	341	442
District 2		<input type="checkbox"/>	<input type="checkbox"/>	199,798	-13,269	118,424	81,374	68,267	6,194	3,045	2,810	258	271	529
District 3		<input type="checkbox"/>	<input type="checkbox"/>	201,971	-11,096	114,140	87,831	66,280	6,530	8,206	5,538	226	389	662
District 4		<input type="checkbox"/>	<input type="checkbox"/>	201,795	-11,272	120,385	81,410	59,242	6,614	11,889	2,555	270	293	547

Redistricting Online 2.33

Plan: AZ_Legislature | Invites (0) | AaronTrenak | Sign Out

File Learn View Create Review Share Submit

New Open Save Save As Archive Open Local Save Local Print Print Book Plan Book Import Export

Statistics Redistricting Tools Block/Block Group/Tract/County Map

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Features Overview

Redistricting Online 2.33

District	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTANNH
Unassigned	21,274 (+405)	21,274	8,766 (+94)	12,508 (+311)	10,106 (+235)	877 (+22)	880	479 (+45)	40	43	83 (+9)
1	215,604 (+13,956)	2,537	23,985 (+845)	191,619 (+13,111)	181,264 (+12,687)	2,515 (+96)	3,056 (+115)	3,635 (+173)	366 (+7)	341 (+12)	442 (+21)
2	199,798 (+14,393)	-13,269	118,424 (-3,189)	81,374 (+11,204)	68,267 (+10,355)	6,194 (+327)	3,045 (+184)	2,810 (+256)	258 (+19)	271 (+13)	529 (+50)
3	201,971	-11,096	114,140	87,831	66,280	6,530	8,206	5,538	226	389	662

Integrity Tests

- ✓ Dual Assignment Check
- ✓ Population Summary Check
- ✓ District Count Check
- ✓ Maximum Deviation Check
- ✗ Null Assignment Check
- ✗ Connectivity Check

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- Population Summary
- All Districts Summary
- VAP Summary
- District Geography
- District Statistics
- Unassigned Geography
- Comparison Report
- Comparison Report Detailed
- Bill Text
- District Compactness
- Assigned District Splits
- Metes and Bounds

Date	User	Description
2021-04-14 12:34	CBanerjee	Open Plan
2021-04-15 11:53	CBanerjee	Open Plan
2021-04-15 12:01	CBanerjee	Open Plan
2021-04-15 12:08	CBanerjee	Open Plan
2021-04-15 12:49	CBanerjee	Open Plan
2021-04-15 12:50	CBanerjee	Share Plan
2021-04-15 12:52	CBanerjee	Open Plan
2021-04-15 12:58	CBanerjee	Open Plan
2021-04-16 11:48	CBanerjee	Open Plan
2021-04-16 11:56	CBanerjee	Open Plan
2021-04-16 12:03	CBanerjee	Open Plan
2021-04-16 12:43	CBanerjee	Open Plan
2021-04-16 12:44	CBanerjee	Share Plan
2021-04-16 12:46	CBanerjee	Open Plan
2021-04-16 12:52	CBanerjee	Open Plan
2021-04-16 04:36	AaronHrenak	Open Plan

Esri Redistricting Online

Welcome to Esri Redistricting Online!

Esri Redistricting Online assists state and local governments, advocacy groups, and the general public in drawing legislative and congressional redistricting plans following the 2010 U.S. Census. The foundation of Esri Redistricting Online is Esri's proven ArcGIS software platform and pertinent database components. ArcGIS software provides comprehensive features and functionality for plan management, visualization, editing, and community collaboration.

Esri Redistricting Online can be used for geographic redistricting and territory design. Esri Redistricting Online is a web-based application that establishes an online community where users can collaborate and share district plans. It uses GIS mapping technology, Esri data, and the latest available Census data to allow state and local government to prototype multiple redistricting scenarios before finalizing new boundaries.

Esri Redistricting Online provides online access to data content used by the community, including Census and PL 94-171 data. It includes tools to promote an increased collaboration between government and citizens. With Esri Redistricting Online and GIS, you can design optimal districts.

If you are new to the Esri Redistricting Online, start with the [Quick Tour](#), [Create Plan](#), or read the [Esri-assisted Questions](#). Please refer to the help icon in the top right-hand corner of the page for assistance using the redistricting application functions.

How to use this tool:

- 1) Login
- 2) Create Account
- 3) Create Districts
- 4) Review Tables/Charts
- 5) Share Plans

Here is a description of the numbered tabs at the top of this page that will guide you in the process of creating districts.

- 1) Learn This is the page you are on now and is the first step in the process.
- 2) Create Use the select tools and choose geographies to make district assignments. As you make assignments, the goal is to create balanced populations between districts.
- 3) Review View tables/charts that show the distribution of population within the districts you have created. The tables/charts are updated as you select and move populations between districts.
- 4) Share The share features allow you to invite friends and colleagues to view and /or comment on your plan. You can also invite others to build a plan together.

To get started, simply choose the **Create** tab, choose a district from the **Active District** menu. Choose a selection tool and select geographies by clicking or drawing on the map. The geographies selected will be assigned to the Active District.

In addition to the numbered tabs above, the **File** tab allows you to save and open plans you have created, open plans that people have shared with you, and print your plan. Make sure to **SAVE** your plan.

Please refer to the help icon in the top right-hand corner of the page for assistance using the redistricting application functions.

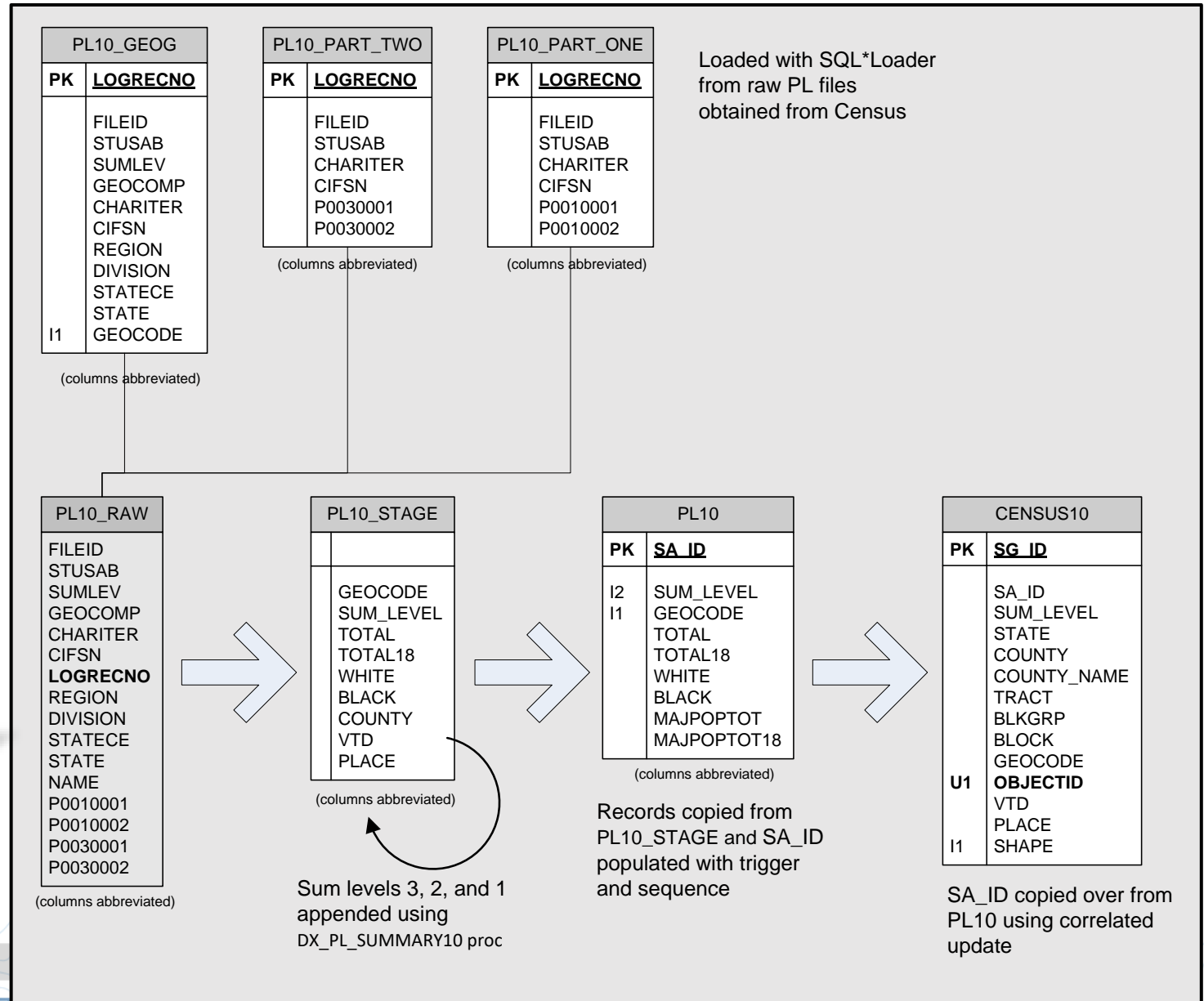
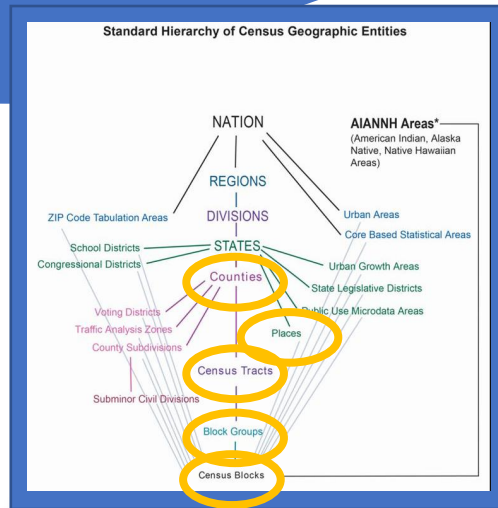
For full and complete help, click [help](#).

How the P.L.
table is
populated.

Steps for processing 2020 Census P.L. data

1. Download 2020 Census PL94-171 data from Census Bureau
2. PL data is loaded into staging database, the separate parts are joined into a singular table
3. Summarization of all relevant attributes is performed per hierarchy (block, block group, tract, county, place, voting district)
4. Summary data is joined to corresponding geography
5. Data is exported to file geodatabase for delivery to Product Team
6. Modified Edges feature class added to each state file geodatabase
7. ArcGIS Pro document created for each state
8. Map Service published for each state
9. App configuration file updated to include new service
10. Software updated to latest build
11. Regression testing performed
12. Implementation coordination with customer

2020 Census P.L. data workflow



State of Florida Hub Mock-up

Guide to State Legislative Redistricting in Montana (arcgis.com)

esri Florida Senate and House of Representatives (For Demo Purposes Only)

★ Redistricting Florida

This web page can be used as a collaboration tool in two ways. It can be used for the public to make comments on Florida's submitted plans or as a tool to create and share your own plans.



The U.S. Constitution requires that each district have about the same population: each federal district within a state must have about the same number of people, each state district within a state must have about the same number of people, and each local district within its jurisdiction must have about the same number of people.

Step 1: Who is your elected official?

Use the application to find your current elected officials in your voting district.

<https://learn.arcgis.com/en/projects/redraw-political-boundaries-with-public-participation>

Learn ArcGIS Lesson Gallery Teach with GIS Sign In English



Learn ArcGIS

Guided lessons based on real-world problems

New Lessons




Learn ArcGIS Lesson Gallery Teach with GIS Sign In English

Lesson Gallery / Lessons

Redraw Political Boundaries with Public Participation

Draw Congressional Districts for the Next Election 2 hours

[Start lesson](#)



[Overview](#) [Lessons](#)

Advances in GIS technology, and the improved transparency it brings, has opened the backrooms where politicians once picked their voters by drawing districts enhancing their re-election chances. Now, the public gets a say in redistricting. In this lesson, you're an analyst dividing Maryland's 24 counties (including one equivalent) into seven congressional districts. You'll create a majority-minority district that complies with federal election mandates. And you'll share your proposals with coworkers before they're released for public comment. (Before starting, you may want to review an accompanying [story map explaining redistricting](#).)

Builds skills in
Mapping & Visualization

Focus industry
Government

Key Takeaways



Esri Redistricting

Open and Transparent should provide;

- *a web-based environment for creating and sharing plans,*
- *the ability to collaborate on plans and engage your communities,*
- *clarity into the redistricting process*



What You Need to Know About Redistricting

Government

October 12, 2020



Richard Leadbeater

Geography is Destiny

I recently listened to a series of podcasts about the upcoming redistricting process. The host of the podcasts reviewed a collection of stories examining the many legal battles concerning redistricting over the past several years. Eventually, the host used a phrase that grabbed my attention. While describing the winners and losers in redistricting, he said, "Geography is destiny." Isn't that fitting? Credited to Napoleon and his geopolitics theories,

Openness, Transparency, and Citizen Engagement

Introductions



Richard Leadbeater, Global Manager State Government Industry Solutions

Email: rleadbeater@esri.com

Office: 909-369-4448

Twitter: @PolicyMapper

Joined Esri in 1997. Mr. Leadbeater's focus is on developing tools and solutions addressing government administrative functions with attention towards the use of GIS in support of policy development, elections, redistricting, and government administrative processes.

Before Esri, Mr. Leadbeater worked as the Geographic Information Project Manager developing and implementing GIS, CADD, and Document Imaging technologies at the Washington Suburban Sanitary Commission. The WSSC is one of the largest public Water and Wastewater Utilities in the United States.

Mr. Leadbeater received a BS in Social Science and Geographic Arts from the University of Maryland in 1983.

"My goal is to move the application of GIS and geographic analysis further, from its present use by technology professionals, into the conversations that define government policy and its operations. The data governments generate must be thought of as a resource, a valued resource, that wants exploitation. I believe that data in the 21st century is what timber, iron, and coal were to the 19th century. More importantly, this resource needs proper crafting. Today, we talk about producing and mining data, but the real value is in the creation of finished goods."

