Redistricting System
Public Training

September 13, 2021

Agenda

1. General System Overview & Fundamentals
2. Getting Started
3. Creating your first plan
4. Editing an existing plan
5. What to expect after submitting a plan
6. Demo

Links of Interest

- IRC Homepage: https://irc.az.gov/
- IRC Redistricting Hub: https://redistricting-irc-az.hub.arcgis.com/
- Redistricting System: https://maps.azredistricting.gov/redistricting/

General System Overview

What is the Redistricting System?

The Redistricting System is a <u>free tool</u> available to anyone interested proposing changes to the <u>Arizona legislative and congressional grid maps</u>. The System provides users comprehensive data, features and functionality for plan management, visualization, editing, and community collaboration using the <u>latest available Census and State data</u> to draw maps and submit those plans to the Commission.
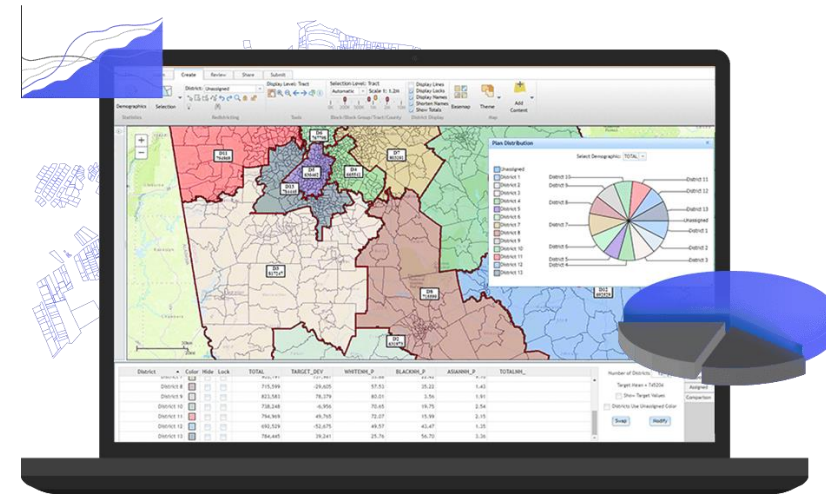
- Browser-based software for web GIS
- Facilitates collaboration, sharing and community building
- Intuitive interface
- No GIS experience required
- Connects legislators, professionals and the public in the redistricting process
- Provides transparency

Redistricting Page: https://redistricting-irc-az.hub.arcgis.com/pages/redistricting-system

Esri Documentation: https://www.esri.com/en-us/arcgis/products/esri-redistricting/overview

General System Overview
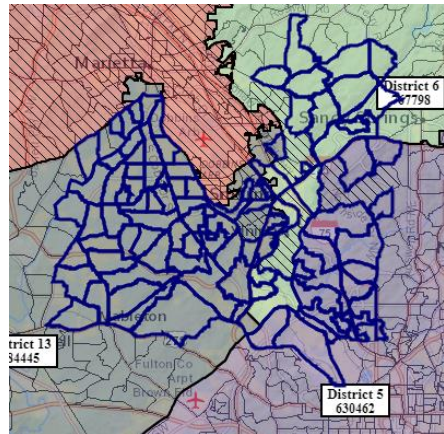
Two-stage Assignments

Integrated Basemaps
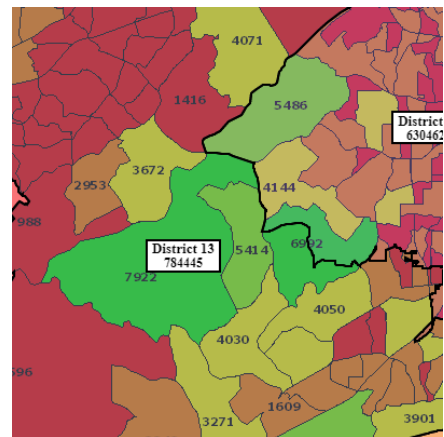
Thematic Maps

Regional View
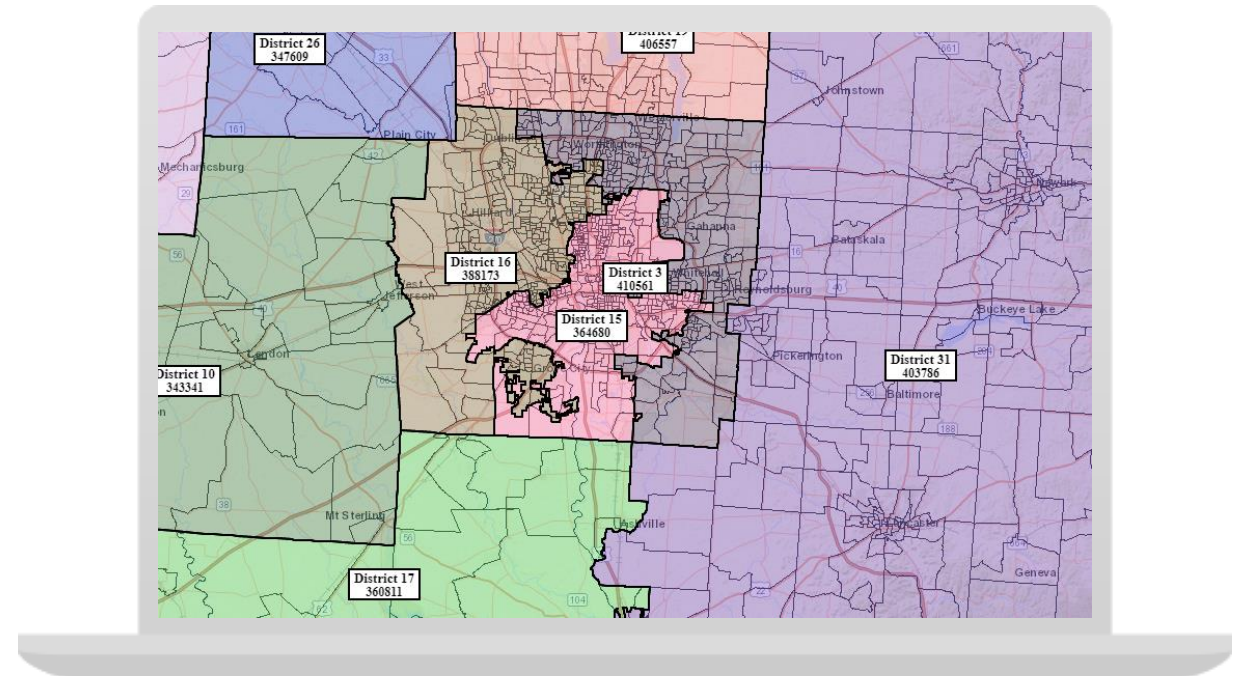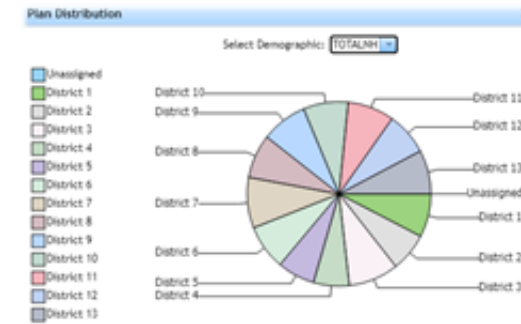
General System Overview: File

- 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.

Save early and save often

Allows for importing files to start a new plan

Allows for exporting current plan as Image, KML, Fixed Text Format, Shapefile
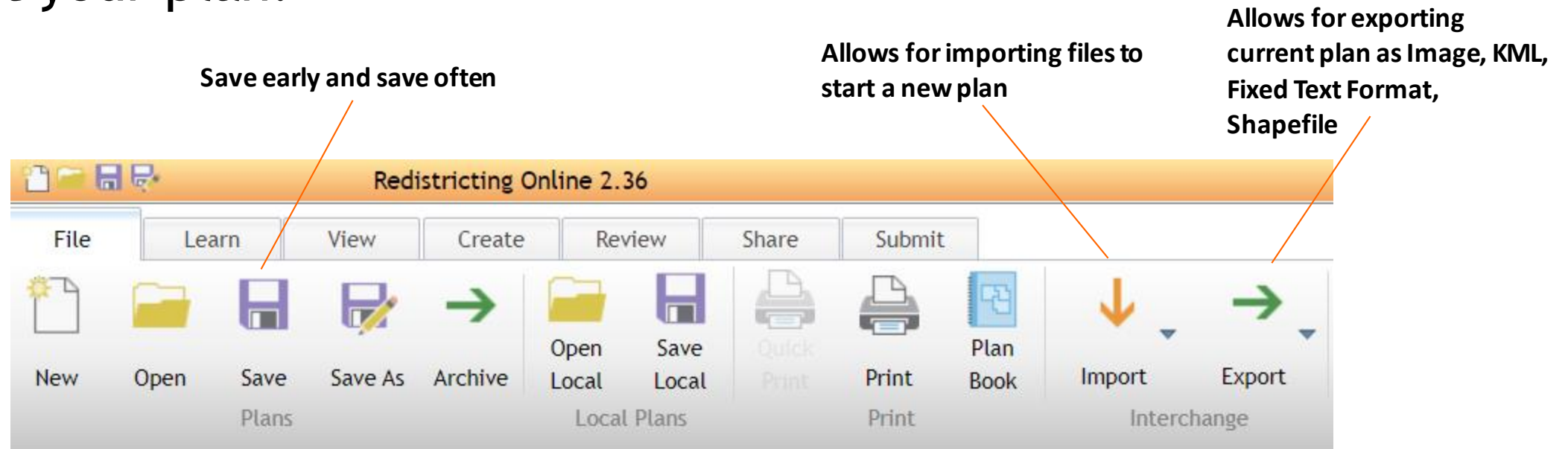
General System Overview: View

- The View tab allows you to change how the districts you create appear as well as allowing you to easily modify the districts by swapping and merging.
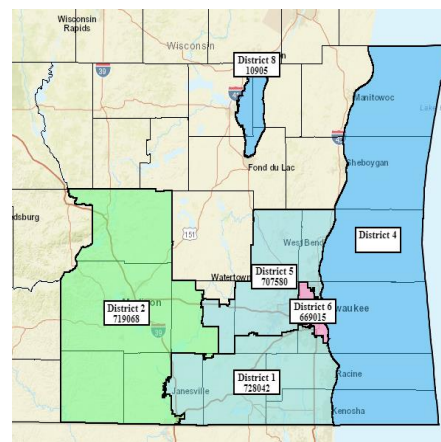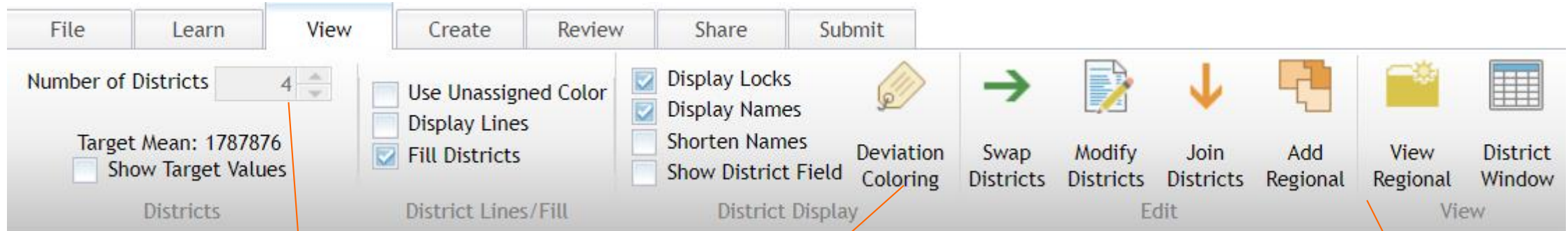

This will be set to 9 or 30 depending on which template is chosen.

Regions allow you to work within a subset of geographies for a given plan.

District Window

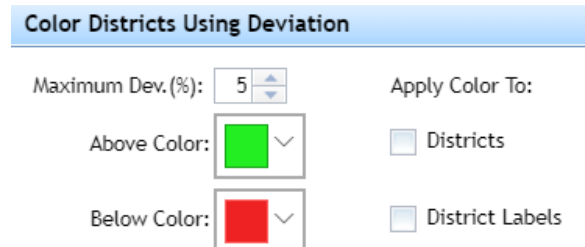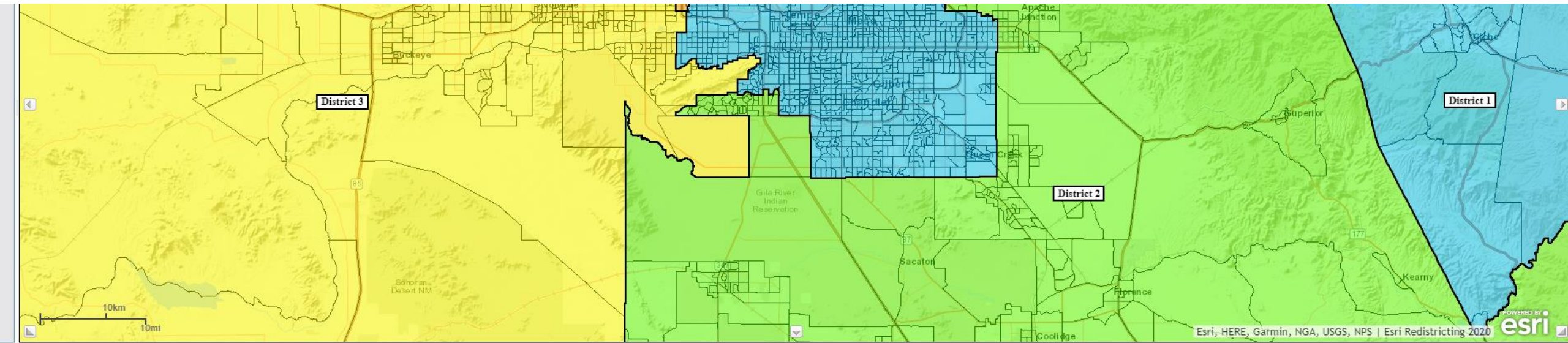| District	Color	Hide	Lock	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTMNNH
Unassigned		☐	☐	0	0	0	0	0	0	0	0	0	0	0
District 1		☐	☐	1,838,310	50,434	475,139	1,363,171	1,015,560	108,825	88,803	112,736	6,875	19,487	10,885
District 2		☐	☐	1,847,438	59,562	608,767	1,238,671	954,589	77,999	112,580	58,497	4,990	20,276	9,740
District 3		☐	☐	1,699,096	-88,780	773,691	925,405	688,345	114,593	35,427	57,565	4,583	15,712	9,180
District 4		☐	☐	1,766,658	-21,218	334,656	1,432,002	1,158,053	67,639	94,677	76,121	3,971	23,252	8,289

1 - 5 of 5 results

Districts
Proposed
Assigned
Comparison
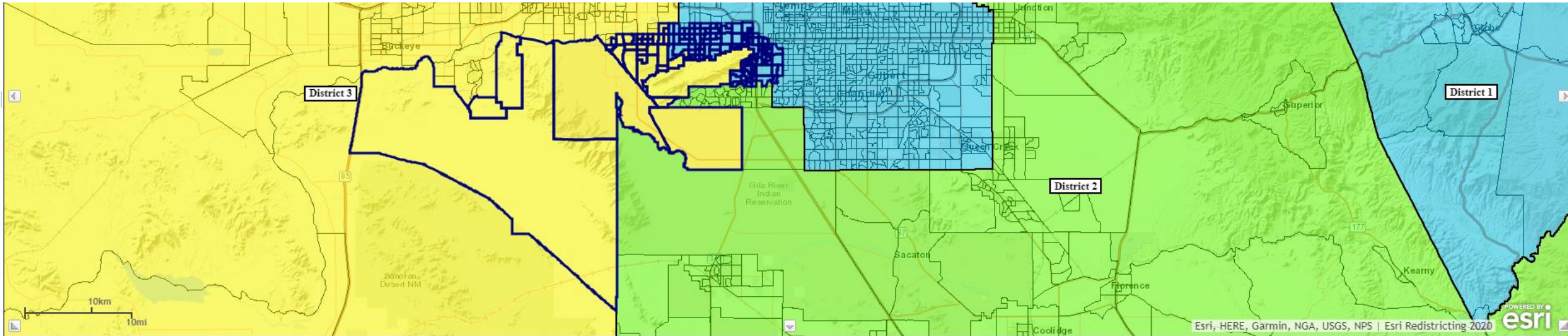Attributes

Allows for color toggling

Temporarily hides the district on the map

Another way to lock a district

8

District Window

- Proposed Tab shows how demographics would be different if two-stage selection is assigned.

District	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTMNNH
1	1,664,966 (-173,344)	-122,910	394,202 (-80,937)	1,270,764 (-92,407)	964,369 (-51,191)	86,061 (-22,764)	82,310 (-6,493)	104,213 (-8,523)	6,208 (-667)	17,985 (-1,502)	9,618 (-1,267)
2	2,087,639 (+240,201)	299,763	720,069 (+111,302)	1,367,570 (+128,899)	1,021,262 (+66,673)	112,525 (+34,526)	123,455 (+10,875)	70,371 (+11,874)	5,892 (+902)	22,400 (+2,124)	11,665 (+1,925)
3	1,632,239 (-66,857)	-155,637	743,326 (-30,365)	888,913 (-36,492)	672,863 (-15,482)	102,831 (-11,762)	31,045 (-4,382)	54,214 (-3,351)	4,348 (-235)	15,090 (-622)	8,522 (-658)

Districts
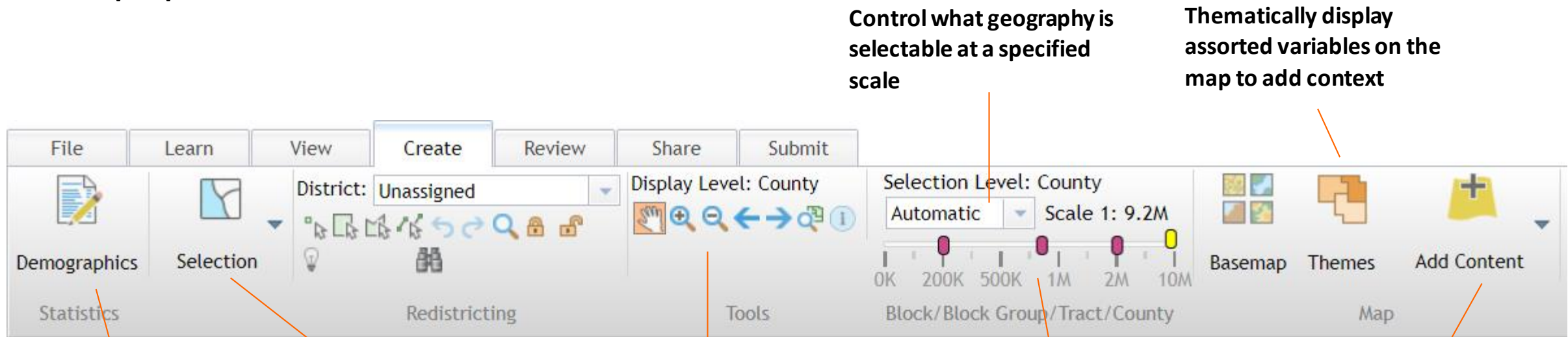Proposed
Assigned
Comparison
Attributes

District Window

- Assigned tab shows similar information as proposed, but without the change indicators
- Comparison tab shows differences between active plan and plan brought in for comparison
- Attributes tab pulls up attributes for external layers, accessed by the contents pane.
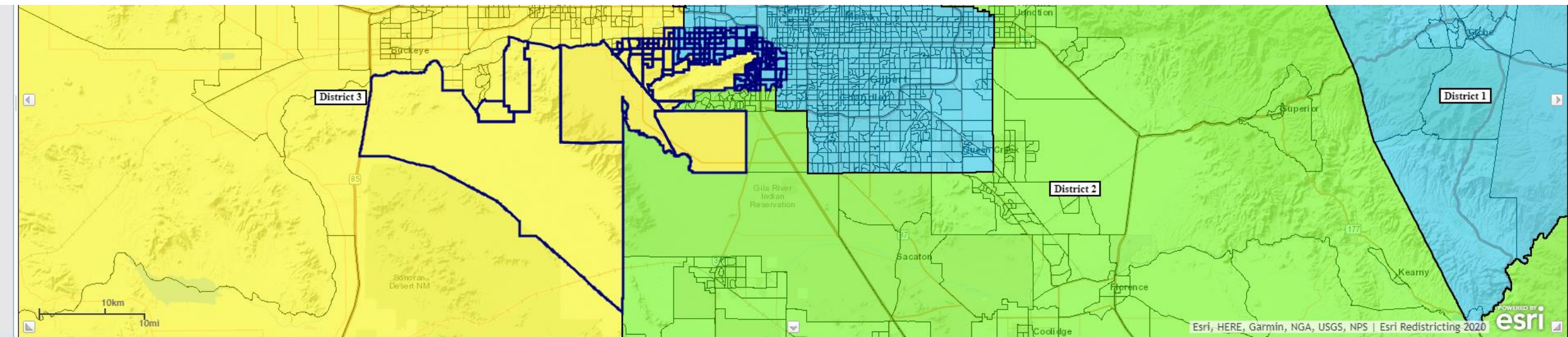
District	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTMNNH
2	2,087,639	299,763	720,069	1,367,570	1,021,262	112,525	123,455	70,371	5,892	22,400	11,665

Districts
Proposed
Assigned
Comparison
Attributes

General System Overview: 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.

Control what geography is selectable at a specified scale

Thematically display assorted variables on the map to add context

Access an assortment of authoritative variables

1. Select by Attributes
2. Select by Location

Basic map navigation

Indicates when a type of geography will start to draw on the map

1. Search for an address
2. Search ArcGIS Online
3. Add a Rest Service directly

Demographic Variables
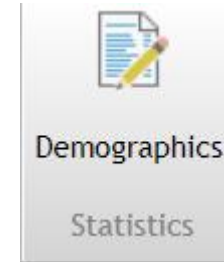
- Redistricting system comes with a variety of Census demographic datasets

- Sum and Percent for all variables

- Also allows for creation of custom variables

- Likely will not use all categories

- Key Terms
  - Universe: Total Population
  - OMB: Federal Office of Management and Budget
  - VAP: Voting Age Population

Demographics		
Name	**Sum**	**Percent**
▸ Key Elections Data	☐	☐
▸ AZ Standard Demographics	☐	☐
▸ Universe	☒	☐
▸ Standard	☐	☐
▸ Standard VAP	☐	☐
▸ Alternative	☐	☐
▸ Alternative VAP	☐	☐
▸ OMB	☐	☐
▸ OMB VAP	☐	☐
▸ OMB Non-Hispanic	☐	☐
▸ OMB Non-Hispanic VAP	☐	☐
▸ Any Part Demographics	☐	☐
▸ Alternative Tabulation	☐	☐
▸ American Community Survey (ACS)	☐	☐
▸ supplemental Elections Data	☐	☐

Basic Selection

- Dropdown menu indicates which district you are adding selected geographies to

- Four drawing selection tools
  - Point
  - Rectangle
  - Polygon
  - Polyline

- Undo/Redo

- Zoom to selected district

District: Unassigned

Redistricting

Toggles on two stage selection

Allows you to lock/unlock geographies, preventing them from being changed

# One Stage vs. Two Stage Selection

- One Stage: Will automatically assign the chosen geography to the chosen district

- Two Stage: Will allow you to preview before assigning geographies to districts. Pair with District Window Proposed Tab for best results

Exit two stage selection

Assign the selection

Find Unassigned geographies

Toggles on two stage selection

Zoom to current selection
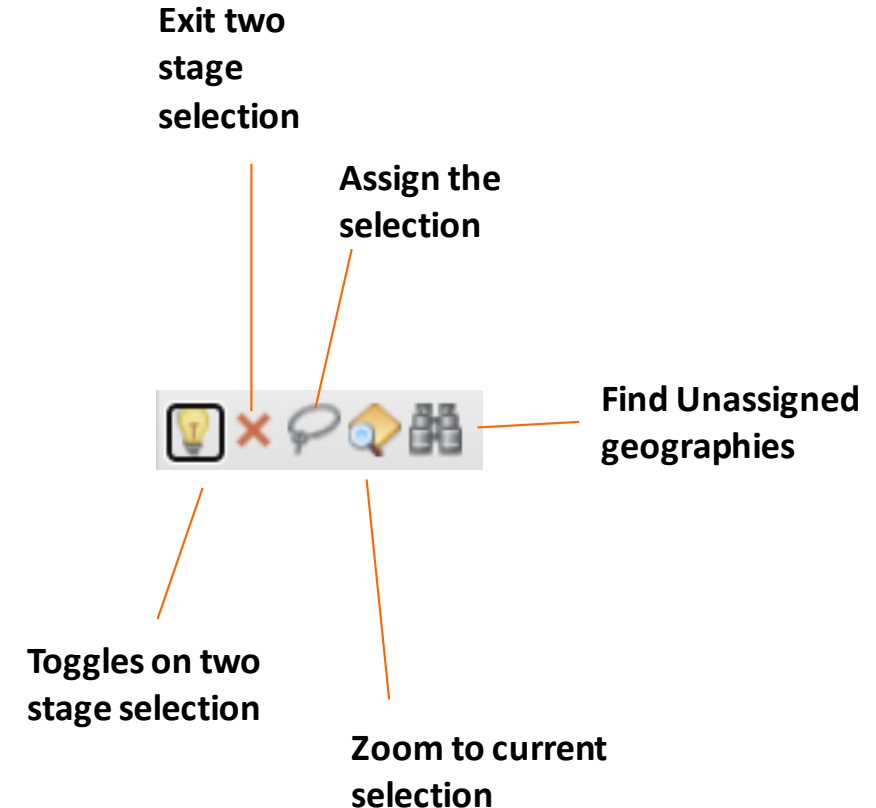
Themes

A thematic map allows you to convey information about a single topic or theme, such as voting population or a demographic variable.
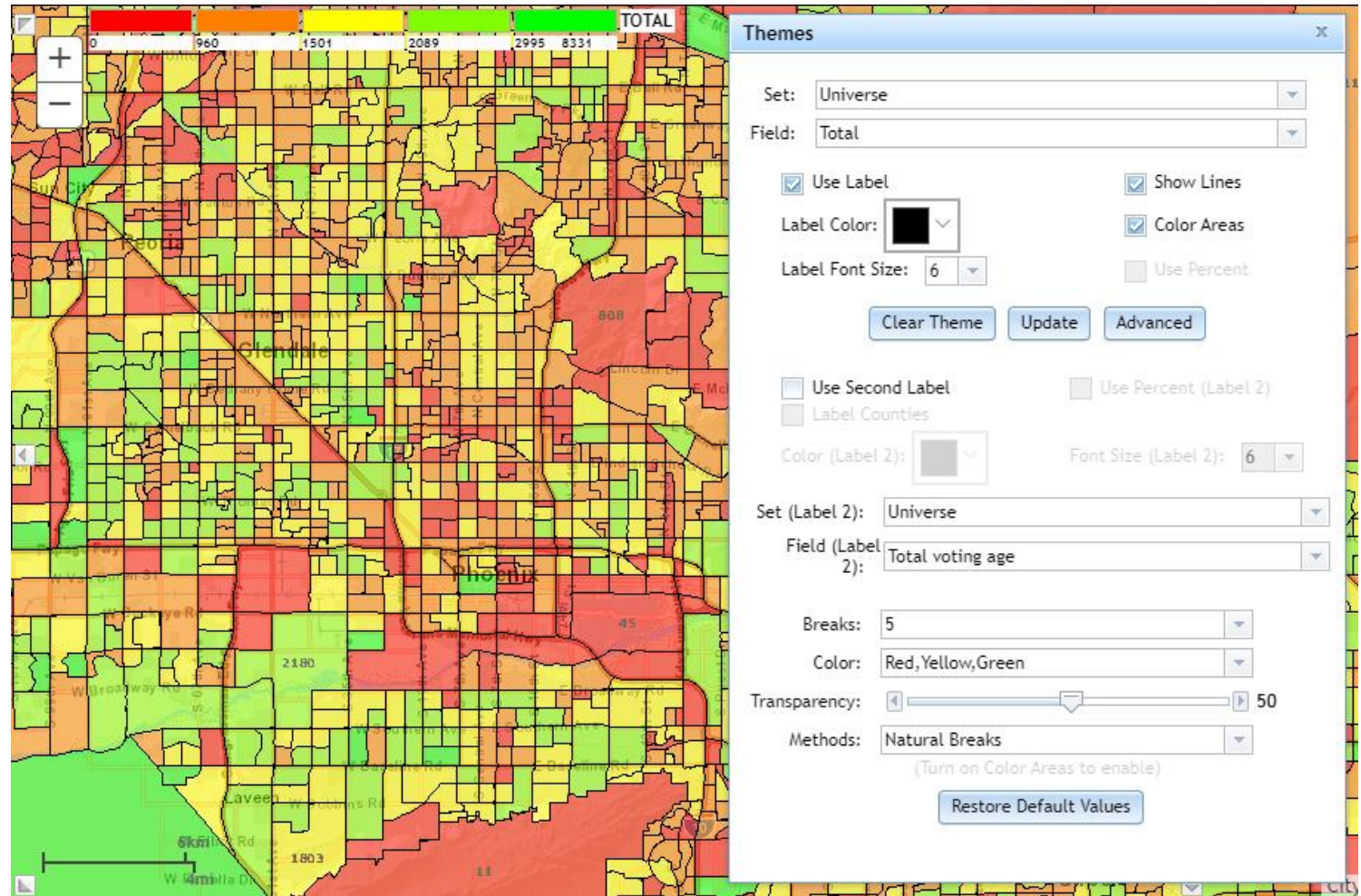
General System Overview: Review

- 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.
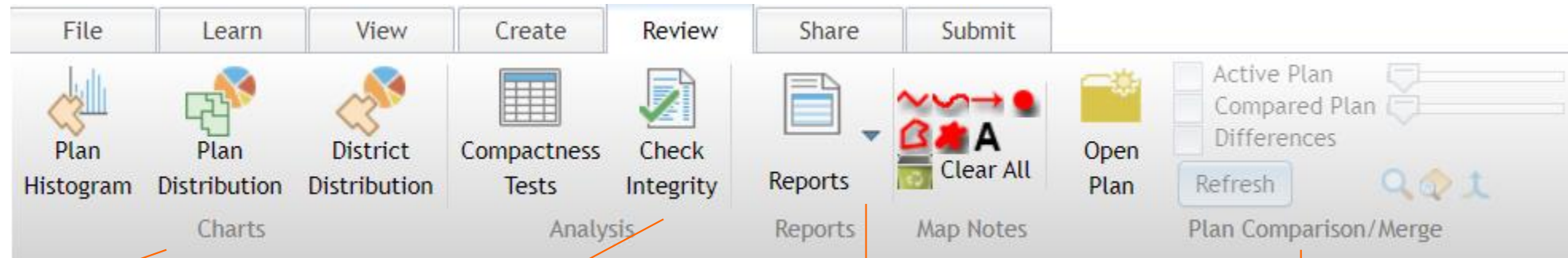
Visualize your district plans as you make them

A necessary step to finalize and submit a plan

Display Census demographic information by geography

Able to compare your plans as well as others and see differences

Charts

As you make geography or district assignments, any opened charts update dynamically based on the changes made to districts and reflect up-to-date population changes.
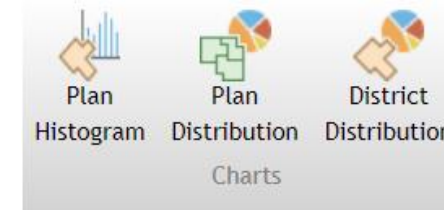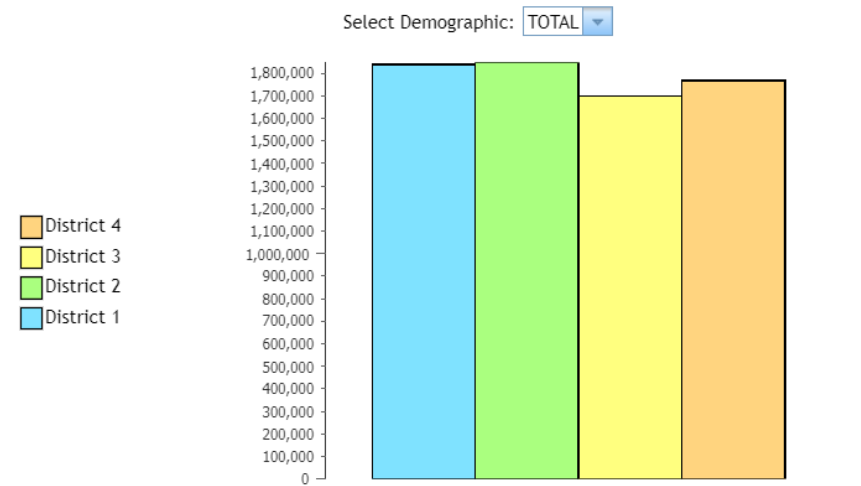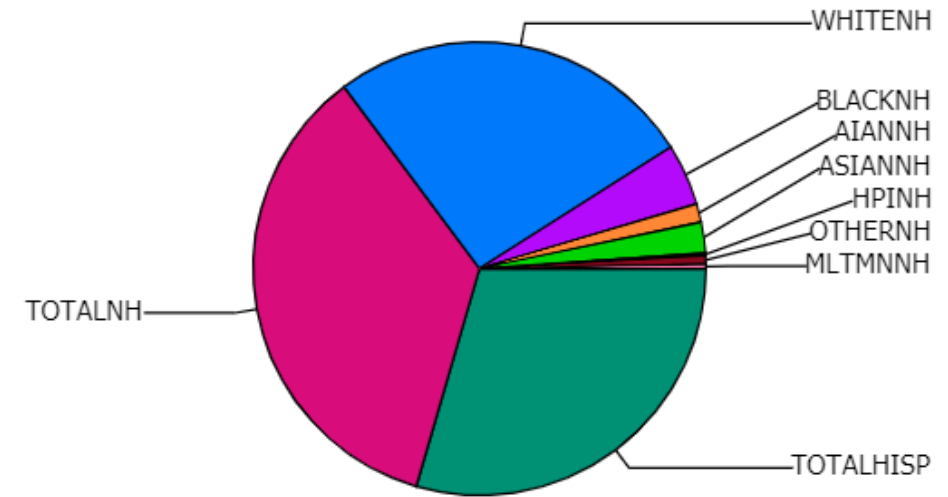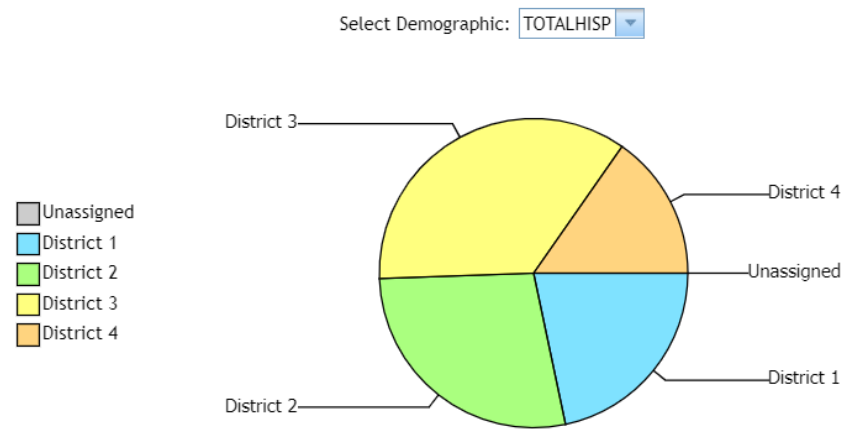
Checking Plan Integrity
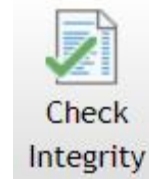
- All plans must be checked and valid to be able to be submitted.
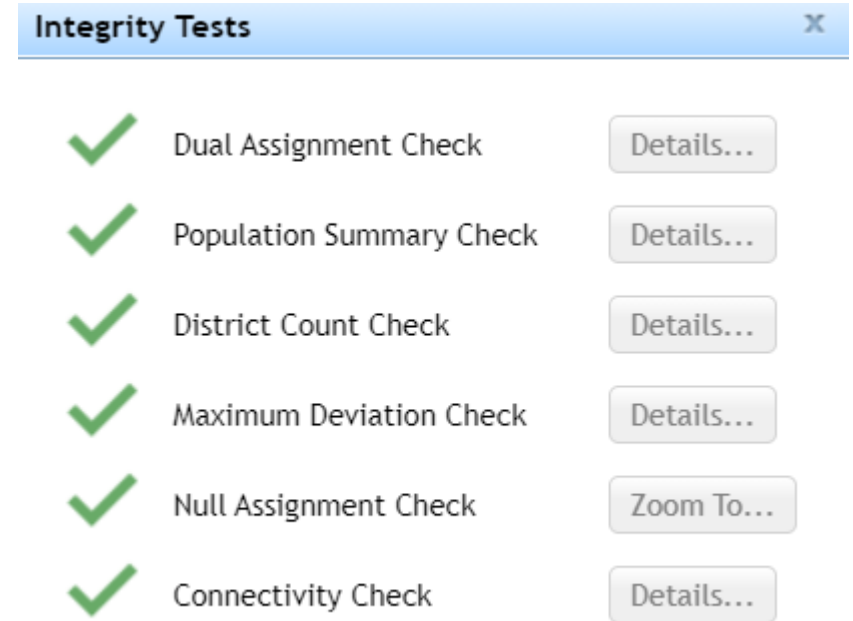
Data Quality Checks

Dual Assignment Check verifies that a geography is only assigned to one district.

Population Summary Check ensures that the total population count in all districts is equal to the whole area.

District Count Check ensures that all districts have at least one assignment.

Maximum Deviation Check verifies that each district deviation does not exceed the maximum deviation from the target deviation.

Null Assignment Check ensures that there are no unassigned geographies in your district plan.

Connectivity Check ensures that all parts of a district are connected with the rest of the district.

Reports

- Reports can be exported to PDF, Microsoft Excel, or HTML formats

- Reports display census demographic information by geography, by FIPS code, or as a percentage of the total plan population


Reports
- 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

Report Definition

Report Title:
Population Summary Report
☐ Use Percent(%)

Report Type:
◉ PDF
○ Excel
○ HTML

☐ Email the report   [Email Settings..]

Available Fields:
- ⊞ 📁 Key Elections Data
- ⊞ 📁 AZ Standard Demographics
- ⊞ 📁 Universe
- ⊞ 📁 Standard
- ⊞ 📁 Standard VAP
- ⊞ 📁 Alternative
- ⊞ 📁 Alternative VAP
- ⊞ 📁 OMB
- ⊞ 📁 OMB VAP
- ⊞ 📁 OMB Non-Hispanic
- ⊞ 📁 OMB Non-Hispanic VAP
- ⊞ 📁 Any Part Demographics
- ⊞ 📁 Alternative Tabulation
- ⊞ 📁 American Community Survey (
- ⊞ 📁 supplemental Elections Data

Report Fields:
- WHITENH
- TOTALHISP
- BLACKNH
- ASIANNH
- HPINH
- OTHERNH

Click Item above to add field   Click item above to remove field

[OK] [Cancel]

VAP Summary Report

| District No.	Total	Total voting age	Non-Hispanic white voting age population	Non-Hispanic black voting age population	Hispanic voting age population	Non-Hispanic American Indian/ Alaskan Native voting age population	Non-Hispanic Asian voting age population	Non-Hispanic Hawaiian or Other Pacific Islander voting age population	Non-Hispanic some other race voting age population
D1	1,838,310	1,410,436	835,751	78,345	321,643	63,084	85,920	4,647	14,320
	25.71%	25.45%	59.25%	5.55%	22.80%	4.47%	6.09%	0.33%	1.02%
D2	1,847,438	1,450,664	814,987	56,636	425,491	82,163	45,681	3,468	15,887
	25.83%	26.18%	56.18%	3.90%	29.33%	5.66%	3.15%	0.24%	1.10%
D3	1,699,096	1,256,645	576,996	79,081	511,050	26,041	42,891	3,305	11,537
	23.76%	22.68%	45.92%	6.29%	40.67%	2.07%	3.41%	0.26%	0.92%
D4	1,766,658	1,424,231	990,360	49,023	231,433	70,128	57,174	2,790	17,981
	24.70%	25.70%	69.54%	3.44%	16.25%	4.92%	4.01%	0.20%	1.26%
TOTALS	7,151,502	5,541,976	3,218,094	263,085	1,489,617	241,416	231,666	14,210	59,725

Comparison Maps

- Open two plans at once for side-by-side comparison
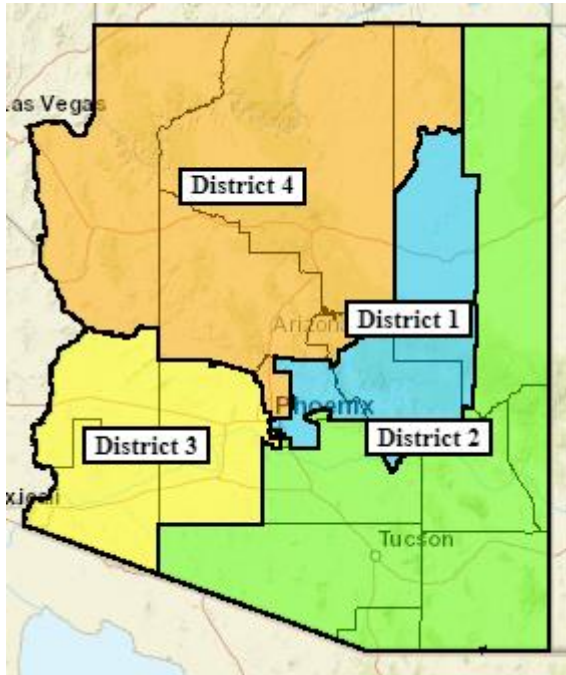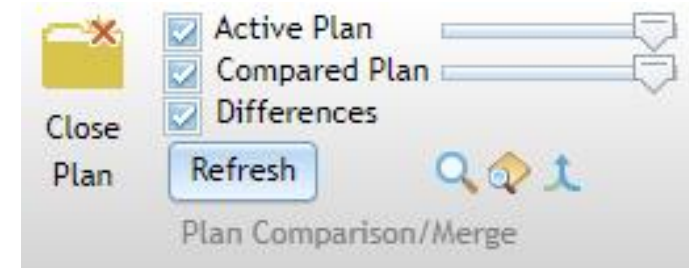
Active Plan
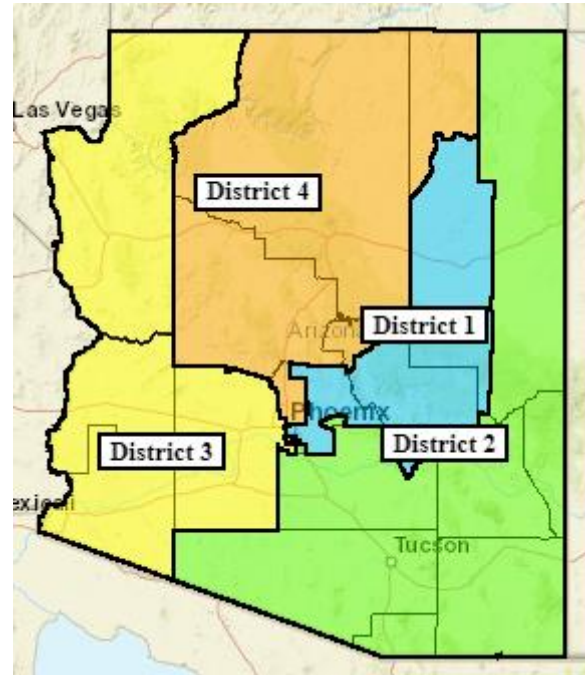
Compared Plan
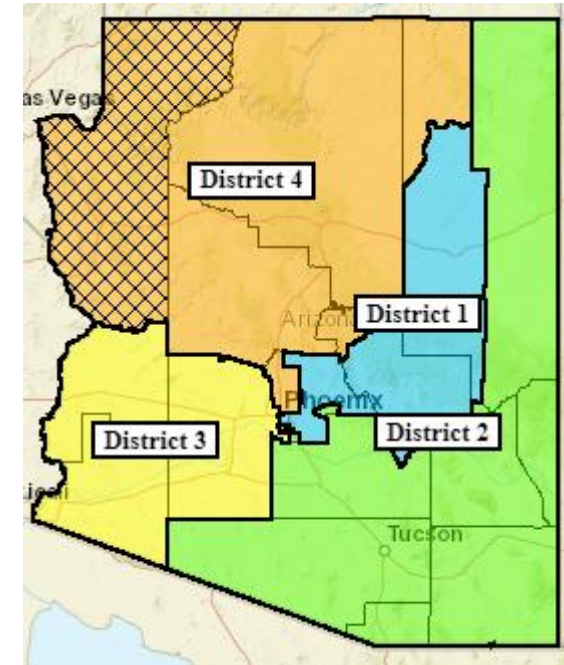
Difference

General System Overview: 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.

Edit the metadata of your plan

Log that provides an audit trail about interactions with any plan

Create private groups to share your plans and collaborate with others

Creating and Managing Groups

- Groups are a good way of managing who has access to specific content

- Key features
  - Creates a new group
  - Modify group name / description
  - Deletes group
  - Add/Remove Users

Manage Groups

Group Name
Test Group 1

Title: Test Group 1

Description: This is a test group.

Owner: Test.AZRedistricting
Created: 2021-09-10 10:09

redistrictadmin

Members:

Close

Getting Started: Create an account

- Navigate to https://maps.azredistricting.gov/redistricting/
- Select "Create a Redistricting account"

Sign into the Redistricting System

Please login using your Redistricting System Account

Create a Redistricting account

Forgot Your Password? Click here to reset

Create Account

Please enter the following information for your Redistricting Online user account. All fields are required.

First name:

Last name:

Email address:

Username:

Password:

Confirm Password:

Create   Cancel

Getting Started: Logging in for the first time

Creating your first plan

- Log into the Redistricting System

- Select a Grid Map template*

Choose Template Plan

Choose a template plan:

Plan Name	Description
Demo Grid Map 4 Districts - Legislative	This is a demo map to be used during training.
Demo Grid Map 4 Districts - Congressional	This is a demo map to be used during training.

OK

Note: The Demo Grid Maps shown during training will be replaced by an approved Grid Map for both sets of districts. These approved Grid Maps will consist of nine (9) districts for Congressional plan and thirty (30) districts for Legislative plan within the allowable target deviation for Total Population of +/- 5%.

Creating your first plan

Creating your first plan

- Select Save As to save the selected Grid Map template as your own plan.

- Provide metadata for your plan.

- Start modifying your plan to reflect your desired input into the redistricting process.
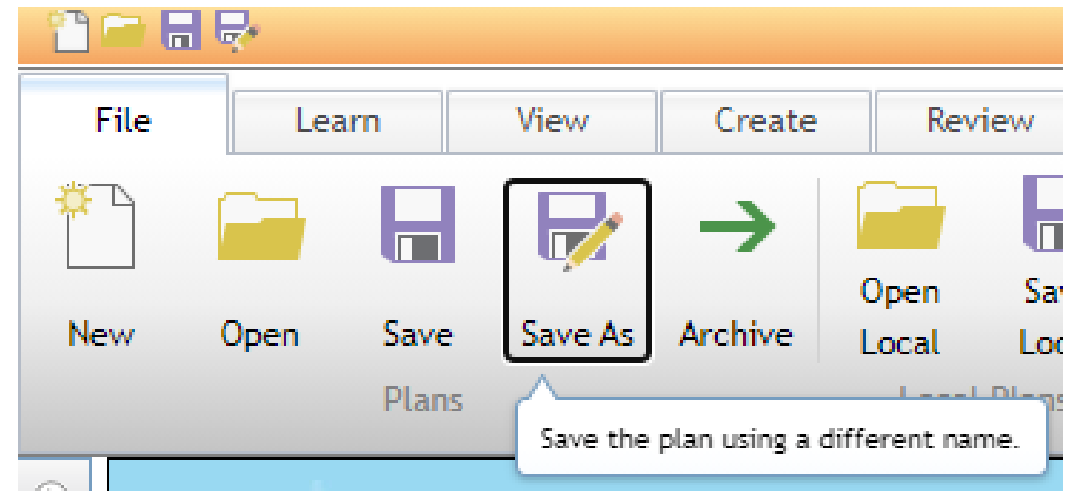
Editing an existing plan

The following steps are necessary to open an existing plan that you are currently editing as well as a plan that has been shared with you through your group memberships.

1. Log into the Redistricting System

2. Select a Grid Map template

3. Select Open

4. Select an existing plan from the list of plans to continue working
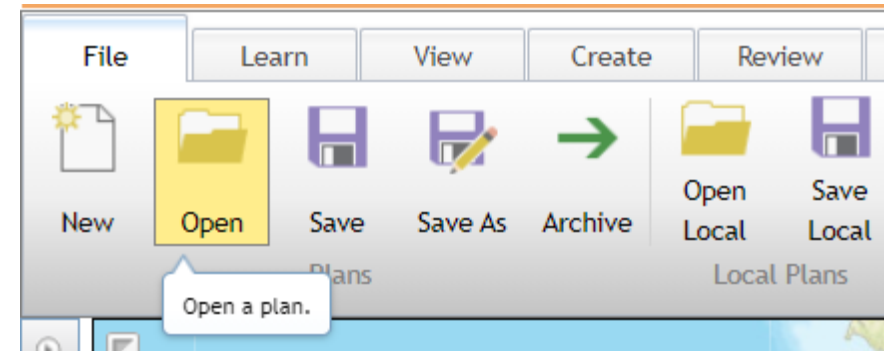
Submission Process

- After validating your plan successfully, you can now submit the plan.

- Submitting the plan makes it final and unable to be edited.

- You can still access the plan and Save As to continue editing the resulting new plan.

What to expect after submitting a plan

- You will receive an automated email with details about your submitted final plan.

- Your plan will be made publicly available on IRC's AZ Redistricting Hub within 1-2 business days.

https://redistricting-irc-az.hub.arcgis.com/

Demo

Additional Learning Resources

- IRC Redistricting Training Series: Link - Coming Soon!

- Esri Redistricting Demos: YouTube Playlist

- Esri Documentation: Link

- Esri Redistricting Resources: Link

- Esri Redistricting Blog Post: What you need to know about redistricting

- What's new in Esri Redistricting: Check out the latest news

- Esri Redistricting Learn Lesson: Learn to draw plans with self-guided instructions

- Understanding Demographic variables: Description of the demographic variables

Thank you