



# WISE-LR

## Wisconsin's Local Redistricting Software



### Legislative Technology Services Bureau

**Ryan Squires**

*GIS Manager*

# What is WISE-LR?

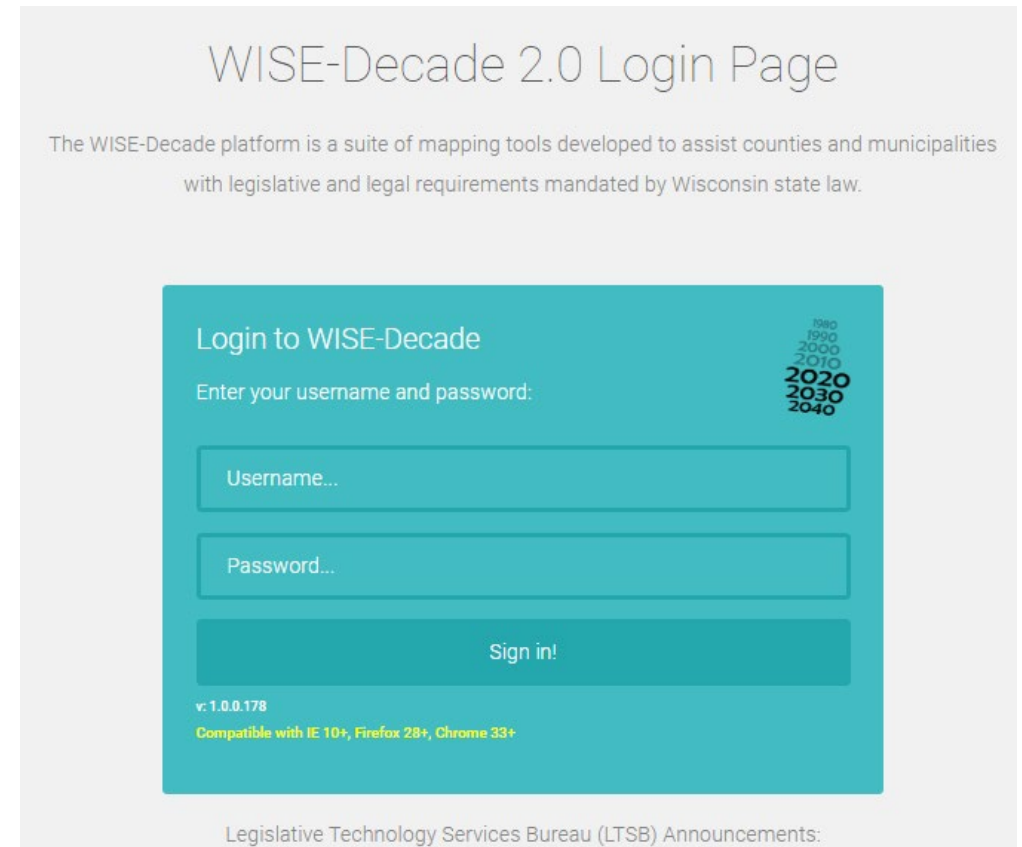
- In the State of Wisconsin, the Legislative Technology Services Bureau (LTSB) is responsible for providing technology and making the census data available for local redistricting.
- The local redistricting application, called **WISE-LR (Wisconsin Shape Editor for Local Redistricting)** is developed in-house by LTSB.
  - WISE-LR is a custom designed **web application** developed specifically for the state statutes of Wisconsin and local redistricting laws in 2021.
  - WISE-LR allows local officials, or their delegates, to create, analyze, and share **county supervisory plans, municipal ward plans, and aldermanic plans** with accurate demographic data.
- WISE-LR is built within the WISE-Decade suite of tools that has been utilized by all 72 Wisconsin counties for several years through varying data collection processes.
  - It does not require any downloaded data or purchased software.
  - All that is needed is a computer with internet access.

# WISE-LR Overview

- **WISE-LR Administrator**
  - Guides you through the stages and timeline of local redistricting and oversee the processes that require input from various jurisdictions.
  - Confirm Block Lines and create Supervisory Districts, Municipal Wards, and Aldermanic Districts.
- **WISE-LR Editor**
  - Map-portion that is accessed through each plan phase and is used to geographically create the new plan boundaries.
- The WISE-LR user interface is where both the WISE-LR Administrator and WISE-LR Editor are accessed.

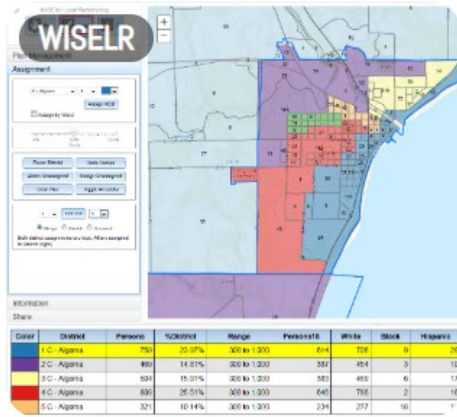
# Logging into WISE-LR

- Username for every user is your county name
  - e.g. “Dane”, “Iowa”, “Eau\_Claire”
- Normal WISE-Decade Password
  - Allows access to entire WISE-Decade platform
  - Sent to County Clerk, LIO, & their designees twice a year for BAS/Ward, Parcel, Foundational layer collections.
- WISE-LR Only Password
  - Only allows access to the WISE-LR system
  - Send to Municipal users, or any County user outside of the County Clerk and LIO. This is to ensure that only designated county officials may change or submit to unrelated programs.

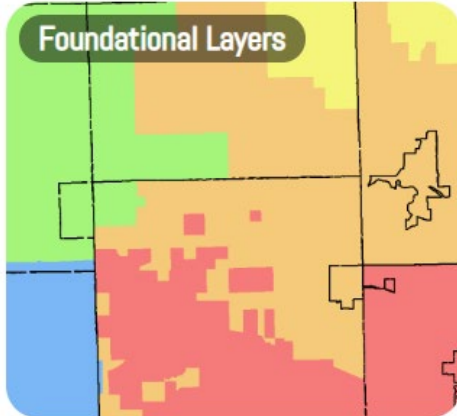
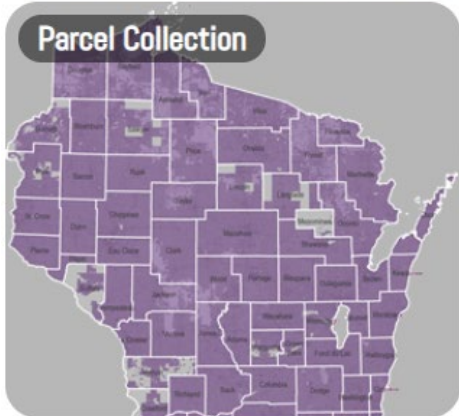
A screenshot of the WISE-Decade 2.0 Login Page. The page has a light gray background. At the top, it says "WISE-Decade 2.0 Login Page". Below that, a paragraph states: "The WISE-Decade platform is a suite of mapping tools developed to assist counties and municipalities with legislative and legal requirements mandated by Wisconsin state law." The main content is a teal-colored login form. It has the heading "Login to WISE-Decade" and a sub-heading "Enter your username and password:". There are two input fields: "Username..." and "Password...". Below the fields is a teal button labeled "Sign in!". At the bottom left of the form, it says "v. 1.0.0.178" and "Compatible with IE 10+, Firefox 28+, Chrome 33+". At the bottom right of the form, there is a vertical stack of years: "1980", "1990", "2000", "2010", "2020", "2030", "2040". Below the form, the text "Legislative Technology Services Bureau (LTSB) Announcements:" is visible.

# WISE-Decade and WISE-LR URL

<https://wisedecade.legis.wisconsin.gov>

Color	Count	Persons	%Count	Range	Percentage	White	Black	Hispanic
1-C: Algebra	750	750	25.00%	300 to 1,300	60%	706	0	26
2-C: Algebra	460	460	14.61%	300 to 1,300	33%	454	3	10
3-C: Algebra	534	534	15.07%	300 to 1,300	33%	483	6	17
4-C: Algebra	430	430	28.51%	300 to 1,300	64%	716	2	16
5-C: Algebra	321	321	10.14%	300 to 1,300	23%	277	16	1



**0 Confirm Block Lines**  
Status: In Progress

Start Date: 2/2/2021  
Due Date: ASAP

**1 Supervisory Districts**  
Status: Pending Stage 0

Start Date: 2/2/2021  
Due Date: 4/3/2021

**2 Municipal Wards**  
Status: Pending Stage 1

Start Date: 4/3/2021  
Due Date: 6/2/2021

**3 Reconciliation**  
Status: Pending Stage 2

Start Date: 6/2/2021  
Due Date: 8/1/2021

**A Aldermanic Districts**  
Status: Pending Stage 3

**Stage 0: Confirm Block Boundaries**

The County Land Information Officer (LIO) must confirm the final U.S. Census block geometry before redistricting tools will be released. [Census Blocks Viewer](#) (read-only viewer)

- The 60 day clock for Local Redistricting (Stage 1) begins NOW. No Supervisory or Ward plans may be drawn until the LIO has confirmed their blocks.
  - In other words, the longer it takes the LIO to review, edit (if they choose), and CONFIRM the final geography of the blocks, the less time there is for the drafting of Supervisory Districts in Stage 1.
- Per Wisconsin State Statute: If a block is affected by an annexation or detachment which establishes a municipal boundary that subdivides the block, the municipalities in which the block is contained shall incorporate only the portion of the block contained within their boundaries in their division ordinances or resolutions. [\(Section 5.15 \(2\)\(g\)\)](#)

LIOs may use the steps below to split the U.S. Census Blocks in order to:

- Add missing annexations
- Insert incorporations
- Correct any majorly egregious boundary error corrections

The US Census geography will be missing boundaries and municipalities that were created between the January 2020 BAS submission, and the Census' final delivery of the PL 94-171 redistricting dataset, and start of Local Redistricting.

- This stage is NOT meant for correcting minor geographic conflation errors.
- Counties that wish to split a block for any reason other than a change in municipal boundary, incorporation, or dissolution should contact USB directly.
- Any annexations that have occurred prior to redistricting should be addressed only at this time.

The US Census blocks may be split in the middle of the redistricting process. LIO's may submit an updated municipal boundary shapefile below, and re-initiate the split process. LIO's must again **verify** every split block, including any previously verified, before any changes are applied to the US Census blocks. If a previously verified block is ignored or rejected, it will be reallocated to the original municipality. It is advised to minimize the number of mid-redistricting split processes. Mid-Redistricting splits should only be made for the following reasons:

- An annexation occurred after the start of redistricting
- Balance Aldermanic District [\(Section 5.15 \(2\)\(c\)\)](#)
- Balance Supervisory District
  - [\(Section 59.10 \(2\)\(a\)\) - Milwaukee](#)
  - [\(Section 59.10 \(3\)\(b\)\) - Other Counties](#)

Ashland County Land Information Officer: Brittany Goudas-Weisbecker, [brittany.goudas-weisbecker@co.ashland.wi.us](mailto:brittany.goudas-weisbecker@co.ashland.wi.us), (715) 685-2002

**STEP 1: Split 2020 U.S. Census Blocks**

LIO Confirmation Code:  [Forgot Confirmation Code?](#)

[Initiate Split with 2021 BAS Data](#)

**STEP 2: Review & Verify Split Blocks**

Most Recent BAS Submission: 7/14/2020 12:24:41 PM  
 Block Split Last Run On: --Not Initiated--  
 Block Split Creation Status: --Not Initiated--  
 Block Split Integration Status: --Not Initiated--

LIO Confirmation Code:  [Forgot Confirmation Code?](#)

[Review & Verify Split Blocks](#)

**Confirm Block Boundaries**

LIO Confirmation Code:  [Forgot Confirmation Code?](#)

[Confirm](#)

# WISE-LR Administrator

## Admin Console:

- Five potential stages of local redistricting
- Includes status and specific deadline for each stage

**0 Confirm Block Lines**  
Status: In Progress

Start Date: 2/2/2021  
Due Date: ASAP

**1 Supervisory Districts**  
Status: Pending Stage 0

Start Date: 2/2/2021  
Due Date: 4/3/2021

**2 Municipal Wards**  
Status: Pending Stage 1

Tentative Start Date: 4/3/2021  
Tentative Due Date: 6/2/2021

**3 Reconciliation**  
Status: Pending Stage 2

Tentative Start Date: 6/2/2021  
Tentative Due Date: 8/1/2021

**A Aldermanic Districts**  
Status: Pending Stage 3

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Status: In Progress

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Due Date: ASAP

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- Per Wisconsin State Statute: If a block is affected by an annexation or detachment which establishes a municipal boundary that subdivides the block, the municipalities in which the block is contained shall incorporate only the portion of the block contained within their boundaries in their division ordinances. [\(Section 5.75 \(2\)\(g\)\)](#)

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[Review & Verify Split Blocks](#)

**Confirm Block Boundaries**

LIO Confirmation Code:  [Forgot Confirmation Code?](#)

[Confirm](#)

# Stage 0: Confirm Block Boundaries

**0 Confirm Block Lines**  
 Status: In Progress  
 Start Date: 2/2/2021  
 Due Date: ASAP

**1 Supervisory Districts**  
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 Due Date: 4/3/2021

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 Status: Pending Stage 1  
 Tentative Start Date: 4/3/2021  
 Tentative Due Date: 6/2/2021

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 Status: Pending Stage 2  
 Tentative Start Date: 6/2/2021  
 Tentative Due Date: 8/1/2021

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- Balance Aldermanic District [\[Section 5.15 \(2\)\(c\)\]](#)
- Balance Supervisory District
  - [\[Section 59.10 \(2\)\(a\)\] - Milwaukee](#)
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**STEP 1: Split 2020 U.S. Census Blocks**

LIO Confirmation Code:  [Forget Confirmation Code?](#)

[Initiate Split with 2021 BAS Data](#)

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LIO Confirmation Code:  [Forget Confirmation Code?](#)

[Review & Verify Split Blocks](#)

**Confirm Block Boundaries**

LIO Confirmation Code:  [Forget Confirmation Code?](#)

[Confirm](#)

# Stage 0: Confirm Block Boundaries



WISE-LR Stage 0: Split US Census Blocks - Kewaunee County

Help PDF WISE-LR Admin [Submit Final Block Edits](#)

### Navigate Split Blocks

Filter by:

Not Verified: 126

Verified: 1

Rejected: 0

550619602003054 Split: 01

ZOOM

### Review Current Block Split

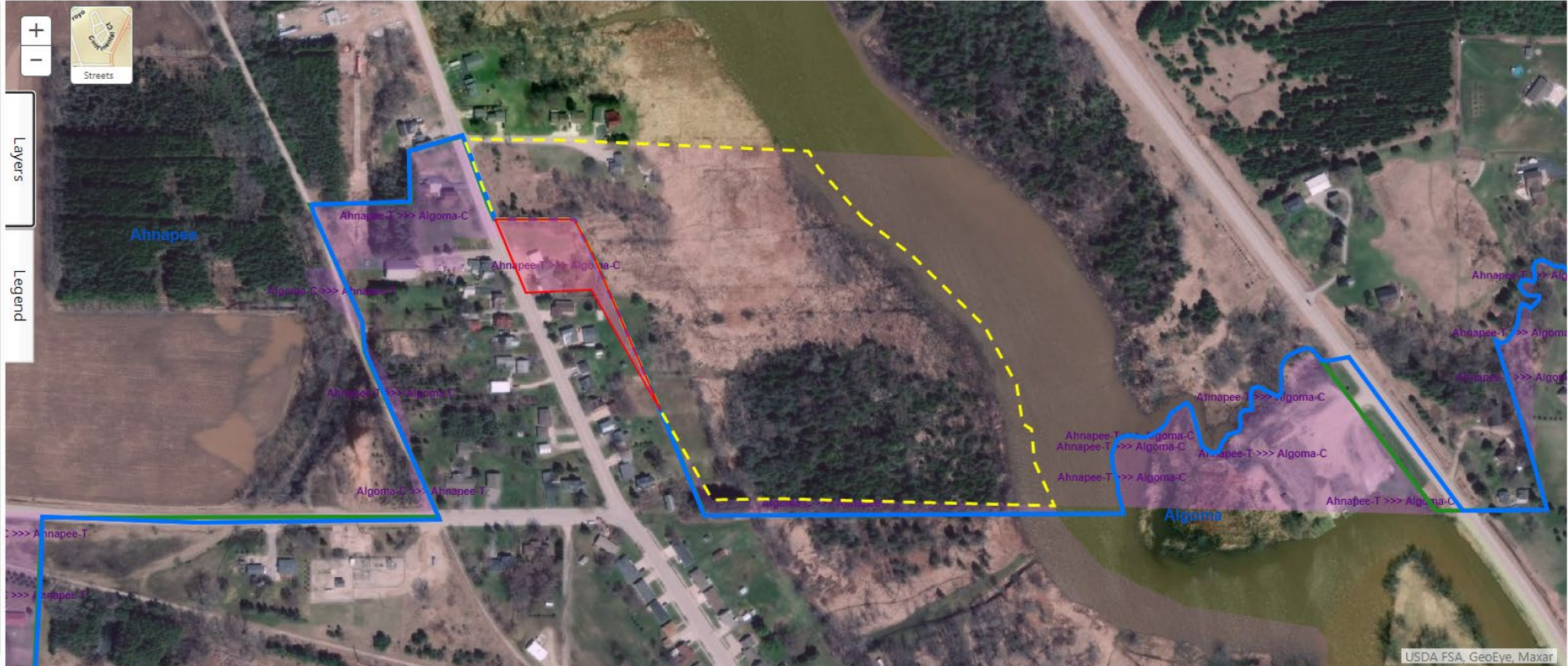
#### Current Block Split:

Block ID: 550619602003054  
 Split #: 01  
 Current CTV: Ahnapee - T  
 New CTV: Algoma - C

Status: **Verified**

Verify  Reject

Adjust the demographic numbers in the table below if population should be re-allocated to a different municipality as a result of the block split.



Status: **Verified**

BORDER	COUSUBFP	NAME	CTV	PERSONS	WHITE	BLACK	HISPANIC	ASIAN	AMINDIAN	PISLAND	OTHER	OTHERMLT	PERSONS18	WHITE18	BLACK18	HISPANIC18	ASIAN18	AMINDIAN18	PISLAND18	OTHER18	OTHERMLT18
	00600	Ahnapee	T	5	4	0	0	0	1	0	0	0	5	4	0	0	0	1	0	0	0
	01000	Algoma	C	2	2	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0
		<b>Totals:</b>		7	6	0	0	0	1	0	0	0	7	6	0	0	0	1	0	0	0



# Stage 1: Tentative Supervisory District Plan

- A **Supervisory District plan** is created by grouping **US Census blocks** together.
- During Stage 1, counties have a maximum of **60 days** to create a tentative Supervisory District plan.

**0 Confirm Block Lines**  
 Status: Complete  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**1 Supervisory Districts**  
 Status: In Progress  
 Start Date: 2/2/2021  
 Due Date: 4/3/2021

**2 Municipal Wards**  
 Status: Pending Stage 1  
 Tentative Start Date: 4/3/2021  
 Tentative Due Date: 6/2/2021

**3 Reconciliation**  
 Status: Pending Stage 2  
 Tentative Start Date: 6/2/2021  
 Tentative Due Date: 8/1/2021

**A Aldermanic Districts**  
 Status: Pending Stage 3

**Stage 1: Tentative Supervisory District Plan**

During stage 1, counties have a maximum of 60 days to create a tentative Supervisory District plan.

- A Supervisory District plan is created by grouping US Census blocks together [\(Section 59.10\(3\)\(b\)1\)](#)
- Municipalities must create wards entirely within a single Supervisory District.
- Supervisory Districts must be contiguous and "substantially equal in population" [\(Section 59.10\(2\)\(a\)\)](#)
- Multiple plans may be created, but only one final plan can be submitted.

The county board is required to submit a tentative county supervisory district plan to each municipal governing body in the county. The county board is required to hold a public hearing on the tentative plan. If a municipality needs to be divided and placed in more than one supervisory district, the board is to indicate the approximate location of the territory from which a ward is sought and the approximate population of the ward.

Ashland County Clerk: Where's Waldo, zach.robison@legis.wisconsin.gov, (608) 283-1830  
 Total County Population: 16,157  
 Maximum Number of Supervisors: 21  
[\[Section 59.10\(3\)\(a\)\]](#)

Create New or Load Existing Plan

--New Plan--

Create New Plan New Plans Remaining: 200

Plan Name:

District Count:  
  
*(This number may be changed later)*

Email Address:

Plan Password:

Confirm Plan Password:

Start with:

# Stage 2: Municipal Ward Plans

**0 Confirm Block Lines**  
 Status: Complete  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**1 Supervisory Districts**  
 Status: Complete  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**2 Municipal Wards**  
 Status: In Progress  
 Start Date: 2/2/2021  
 Due Date: 4/3/2021

**3 Reconciliation**  
 Status: Pending Stage 2  
 Tentative Start Date: 4/3/2021  
 Tentative Due Date: 6/2/2021

**A Aldermanic Districts**  
 Status: Pending Stage 3

**Stage 2: Municipal Ward Plans**

During Stage 2, municipalities with over 1,000 people have a maximum of 60 days following the receipt of the proposed county supervisory district plan to create their ward boundaries. [View Tentative Supervisory Plan](#)

- Wards must be entirely within a single supervisory district.
- Municipalities are encouraged to try to fit their wards within the supervisory districts given to them (from Stage 1): [Section 5.15\(2\)\(d\)](#). However, municipalities can disagree and submit their own plan(s).
- Wisconsin State statutes dictates that the range of the allowable population within each ward is based on the total population of the municipality. This is built into the drawing tool. [Section 5.15\(2\)\(b\)](#)
- Wards must reflect changes in population: [Section 5.15\(1\)\(a\)3](#), changes in minority population: [Section 5.15\(1\)\(a\)2](#), changes in municipal boundaries: [Section 5.15\(7\)](#), and facilitate the creation of aldermanic districts of equal population [Section 5.15\(2\)\(b\)m](#).
- In "Stage 3: Reconciliation", municipalities and counties will have the opportunity to reconcile any conflicting boundaries that would cause a ward to be divided into multiple supervisory districts. [Section 59.10\(3\)\(b\)2](#)

Select Municipality:  
 ASHLAND, City of

Create New or Load Existing Plan  
 --New Plan--

Create New Plan New Plans Remaining: 198

Plan Name:

District Count:  
  
*(This number may be changed later)*

Email:

Plan Password:

Confirm Plan Password:

**Ashland County:** 15 of 16 municipalities have an approved plan, or a population less than 1,000 persons.

Municipality Status:  
 View Required Only  
 View Incomplete Only

**KEY:** Incomplete Complete Not Required\*\* Not Required  
 \*\*Stage 2 ward plan not required as population under 1,000 persons, however, the confirmed Supervisory plan divides municipality.

**MELLEN, City of**  
 Approved On:  
 Approved By:  
 Ordinance/Legal ID:  
City of Mellen Municipal Clerk: -No Contact On Record-

**MORSE, Town of**  
 Approved On: Tuesday, February 2, 2021  
 Approved By: 123 (@)  
 Ordinance/Legal ID: 123  
[View Plan](#)  
Town of Morse Municipal Clerk: -No Contact On Record-

**PEEKSVILLE, Town of**  
 Approved On:  
 Approved By:  
 Ordinance/Legal ID:  
\*Note: Stage 2 ward plan not required as population under 1,000 persons, but confirmed Supervisory plan divides municipality.  
Town of Peeksville Municipal Clerk: -No Contact On Record-

**SANBORN, Town of**  
 Approved On:  
 Approved By:  
 Ordinance/Legal ID:  
Town of Sanborn Municipal Clerk: -No Contact On Record-

**Stage 2 will end automatically when the last required municipality has confirmed their ward plan.**  
 Aldermanic Districts may be drawn at any time once a municipal ward plan has been approved. However, it is recommended that Aldermanic Districts are created after *Stage 3: Reconciliation*.

# Stage 3: Reconciliation

**0 Confirm Block Lines**  
 Status: Complete  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**1 Supervisory Districts**  
 Status: In Reconciliation  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**2 Municipal Wards**  
 Status: In Reconciliation  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**3 Reconciliation**  
 Status: In Progress  
 Start Date: 2/2/2021  
 Due Date: 4/3/2021

**A Aldermanic Districts**  
 Status: Pending Stage 3

## Stage 3: Reconciliation of the Supervisory Districts and Municipal Wards

The third 60-day stage requires counties to adopt final supervisory district plans and cities to establish aldermanic district plans.

[View Tentative Supervisory Plan](#)

- If an approved municipal ward plan contains any ward that is not entirely within a single supervisory district of the plan approved in stage 2, then that municipality will be shown as "invalid" below. Municipal wards must nest within County Supervisory Districts.
- To correct conflicts between the supervisory districts and municipal wards, either return to 'Stage 1: Supervisory Districts' to confirm a new Supervisory District Plan or 'Stage 2: Municipal Wards' to confirm a new ward plan. When all confirmed municipal wards nest properly within the approved county supervisory district plan, the County Clerk may submit the final version of the wards to the State Legislature by entering their confirmation code.
- Aldermanic Districts may be drawn at any time once a municipal ward plan has been approved. However, it is recommended that Aldermanic Districts are created after Stage 3: Reconciliation.

**Ashland County:** 8 of 16 municipal ward plans are valid with approved supervisory plan

KEY: Invalid Valid

**AGENDA, Town of**  
 Approved On:  
 Approved By:  
 Ordinance/Legal ID:  
 Town of Agenda Municipal Clerk: -No Contact On Record-

**ASHLAND, City of**  
 Approved On: Tuesday, February 2, 2021  
 Approved By: Test (zach.robinson@legis.wisconsin.gov)  
 Ordinance/Legal ID: 123  
 City of Ashland Municipal Clerk: -No Contact On Record-

[View Plan](#)

**ASHLAND, Town of**  
 Approved On:  
 Approved By:  
 Ordinance/Legal ID:  
 Town of Ashland Municipal Clerk: -No Contact On Record-

**BUTTERNUT, Village of**  
 Approved On:  
 Approved By:  
 Ordinance/Legal ID:  
 Village of Butternut Municipal Clerk: -No Contact On Record-

### Confirm Final Boundaries

County Clerk Confirmation Code:  [Forgot Confirmation Code?](#)

[Confirm Final Plans](#)

# Stage A: Aldermanic Districts

**0 Confirm Block Lines**  
 Status: Complete  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**1 Supervisory Districts**  
 Status: Complete  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

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 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**3 Reconciliation**  
 Status: Complete  
 Start Date: 2/2/2021  
 Completed Date: 2/2/2021

**A Aldermanic Districts**  
 Status: In Progress

**Stage A: Aldermanic Plans**

Aldermanic Districts are created by grouping confirmed municipal wards (from Stage 2). [County-Wide Map Viewer](#)

- Aldermanic Districts may be drawn at any time once a municipal ward plan has been approved.
  - However, it is recommended that Aldermanic Districts are created after Stage 3: Reconciliation.
  - If a new version of municipal wards are confirmed, any aldermanic plans based on the prior wards may be invalid as well.
- Alteration of aldermanic districts [\[Section 62.08\]](#)

Select Municipality:

Create New or Load Existing Plan

Create New Plan New Plans Remaining: 196

Plan Name:

District Count:  
  
*(This number may be changed later)*

Email:

Plan Password:

Confirm Plan Password:

Start with:

[Create](#)

# Confirmation Credentials – Confirming a Plan

- Provided by LTSB to LIO, County Clerk, and Municipal Clerks
  - Unique to that single individual
- Officially confirms Supervisory, Municipal and Aldermanic Plans once adopted, and verifies US Census Block Geography
  - Plan Ordinance or Legal ID required to confirm
  - Only the LIO's code will work to confirm block lines in Stage 0

Tentative Supervisory Plan: Ashland County

Select Final Plan  
New Plan Name Here

Enter Ordinance/Legal ID:  
\_\_\_\_\_

Confirm Supervisory Plan  
County Clerk Confirmation Code: \_\_\_\_\_ [Forgot Confirmation Code?](#)

[Confirm](#)

Confirm Final Boundaries

County Clerk Confirmation Code: \_\_\_\_\_ [Forgot Confirmation Code?](#)

[Confirm Final Plans](#)

Municipal Ward Plan: AGENDA, Town of

Select Final Ward Plan  
\_\_\_\_\_

Enter Ordinance/Legal ID:  
\_\_\_\_\_

Approved By:  
Name: \_\_\_\_\_  
Email: \_\_\_\_\_

Confirm Municipal Ward Plan  
Municipal Clerk Confirmation Code: \_\_\_\_\_ [Forgot Confirmation Code?](#)

[Confirm Ward Plan](#)

# WISE-LR Editor

## WISE-LR Editor

- Mapping application where all plans are drawn

WISE for Local Redistricting: Editor | Stage 1: County Supervisory Districts | Ashland Co. (Plan: New Plan Name Here) Help PDF WISE-LR Admin

ID Pan Refresh  
Opacity: 0% 50% 100%

Assignment

Labels & Layers

Show Approved Plan(s)

Approved Ward Plan(s) (if Exists)  
 Approved Supervisory Plan (if Exists)  
*(Boundaries confirmed by the county or municipal clerks will be visible)*

Label on Map

Population (by block)  
 Districts  
 Municipalities  
 Approved Ward Plan(s)  
 Approved Supervisory Plan  
 Additional Layers

Additional Layers

Show Currently Enacted Boundaries:  
Wards

Legend

Blocks  Municipalities  
 Wards  Supervisory  
 Legislative  Congressional  
*(These layers represent the currently-enacted boundaries)*

Overlay URL

Map Service REST URL:   
e.g. https://arcgis/rest/services/.../mapserver/0  
 View Label Field

Analysis

Share

Assignment

Labels & Layers

Show Approved Plan(s)

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Overlay URL

Map Service REST URL:   
e.g. https://arcgis/rest/services/.../mapserver/0  
 View Label Field

Analysis

Share

Color	District	Population	Deviation	% Deviation	Contiguous?	Compactness	Pop 18+	White	Black	Hispanic	Asian	Am Indian	Pac Isldr	Other	Multi-Other	LOCK
Orange	1	761	-8	-1.04%	False	0.19	602	676	0	9	8	58	1	2	7	<input type="checkbox"/>
Pink	2	754	-15	-1.95%	True	0.27	618	647	7	9	0	89	1	0	1	<input type="checkbox"/>
Brown	3	733	-38	-4.88%	True	0.63	577	625	3	28	0	79	0	0	0	<input type="checkbox"/>
Purple	4	737	-32	-4.10%	True	0.45	570	667	1	21	4	37	1	1	5	<input type="checkbox"/>
Green	5	730	-38	-5.07%	True	0.67	537	636	8	19	10	56	0	1	0	<input type="checkbox"/>

# Understanding the Attribute Table

- Population (& Demographics)

- Aggregate count of block population(s) assigned to a district.

- Valid Range (Ward Plans)

- Statutorily described range that the ward population must fall within.

- Deviation from Ideal (Supervisory Plans)

- The ideal population of a Supervisory District is the total population of the county divided by the number of districts. This field will show the count deviation from that ideal population.

- % Deviation

- Indicates how far from the ideal division of the population by the number of districts or wards.

Color	District	Population	Deviation	% Deviation
▼	1	1,108	339	44.08%
▼	2	754	-15	-1.95%
▼	3	272	-497	-64.63%
▼	4	123	-646	-84.01%
▼	5	674	-95	-12.35%

Color	District	Population	Deviation	% Deviation	Contiguous?	Compactness	Pop 18+	White	Black	Hispanic	Asian	Am Indian	Pac Isldr	Other	Multi-Other	LOCK
▼	1	1,080	311	40.44%	False ▲	0.44	833	958	0	18	16	75	1	2	10	<input type="checkbox"/>
▼	2	754	-15	-1.95%	True	0.27	618	647	7	9	0	89	1	0	1	<input type="checkbox"/>
▼	3	733	-36	-4.68%	True	0.63	577	625	3	26	0	79	0	0	0	<input type="checkbox"/>
▼	4	737	-32	-4.16%	True	0.45	570	667	1	21	4	37	1	1	5	<input type="checkbox"/>
▼	5	730	-39	-5.07%	True	0.67	537	636	8	19	10	56	0	1	0	<input type="checkbox"/>

# Geometric Attributes

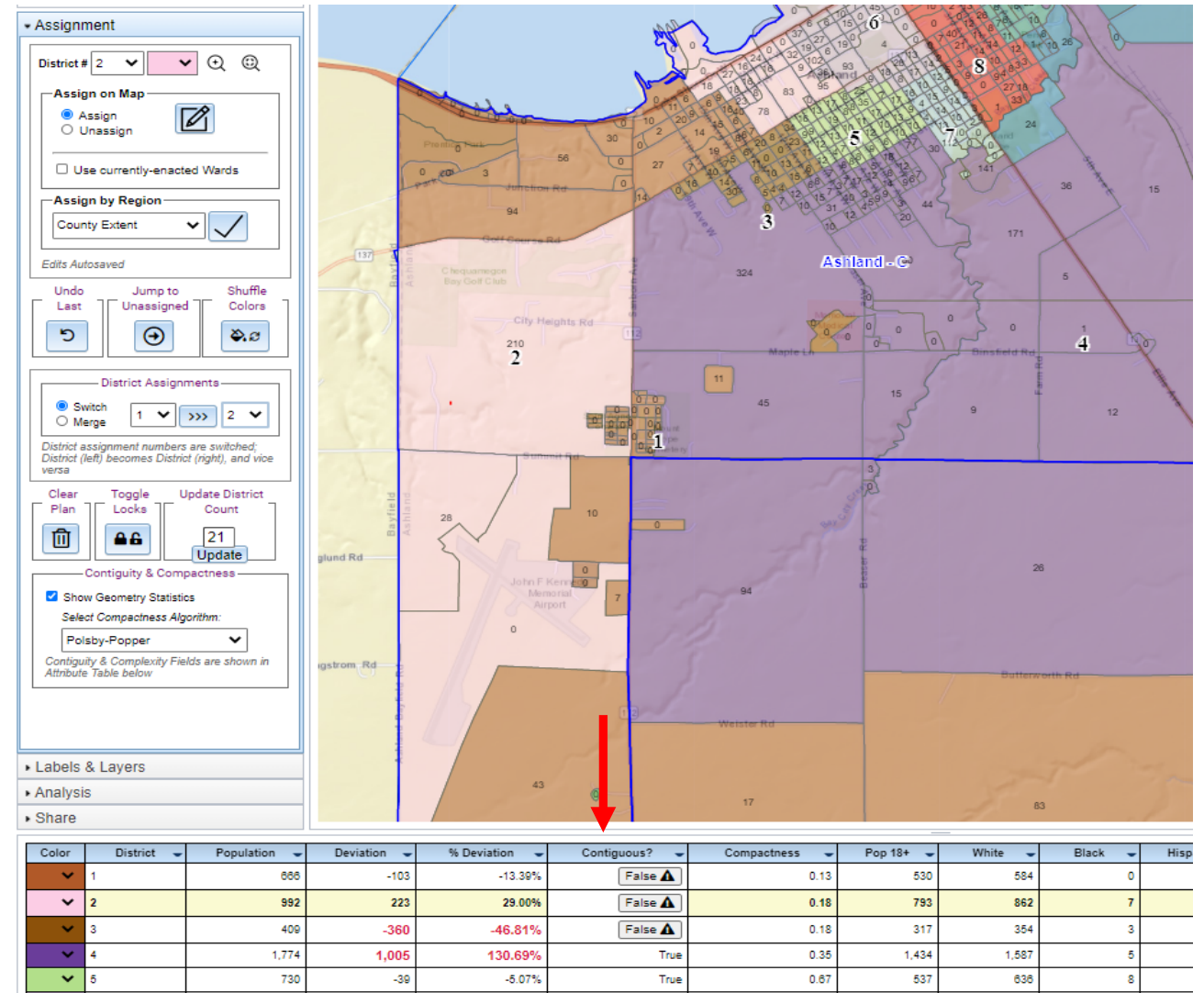
## 1. Contiguity

### ○ True or False –

- ✦ All blocks within a district (or ward) share a boundary with (or touch) one another.
- ✦ In other words, the district is a single polygon area when ‘True’ or the district has blocks disconnected from the main district when ‘False’.

### ○ Municipal islands are allowed

- ✦ While legally allowed, municipal islands (or actual islands) assigned to a district within the main municipality may show up as non-contiguous.



The screenshot shows a software interface for redistricting. On the left is a control panel with various options like 'Assign on Map', 'Assign by Region', and 'Contiguity & Compactness'. The main area is a map of Ashland, WI, with several districts colored and numbered (1-8). A red arrow points to a small, disconnected area within District 2. Below the map is a data table with columns for Color, District, Population, Deviation, % Deviation, Contiguous?, Compactness, Pop 18+, White, Black, and Hisp.

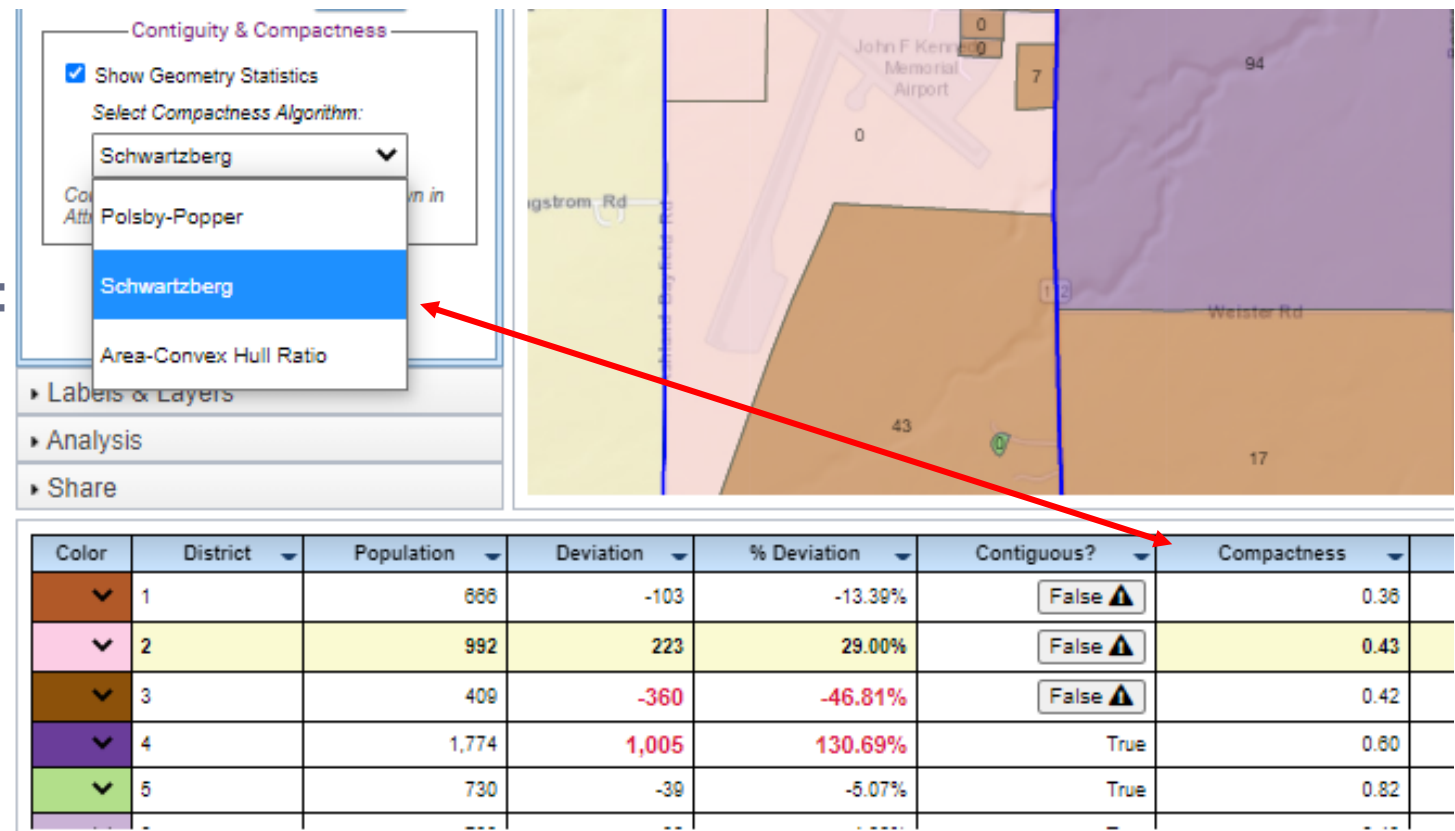
Color	District	Population	Deviation	% Deviation	Contiguous?	Compactness	Pop 18+	White	Black	Hisp
1	1	666	-103	-13.39%	False ▲	0.13	530	584	0	
2	2	992	223	29.00%	False ▲	0.18	793	862	7	
3	3	409	-360	-46.81%	False ▲	0.18	317	354	3	
4	4	1,774	1,005	130.69%	True	0.35	1,434	1,587	5	
5	5	730	-39	-5.07%	True	0.67	537	636	8	



# Geometric Attributes

## 2. Compactness Measurements

- A score between 0 and 1
  - ✦ 1 is most compact
- Three algorithms to select from:
  1. Polsby-Popper
  2. Schwartzberg
  3. Area-Convex Hull Ratio



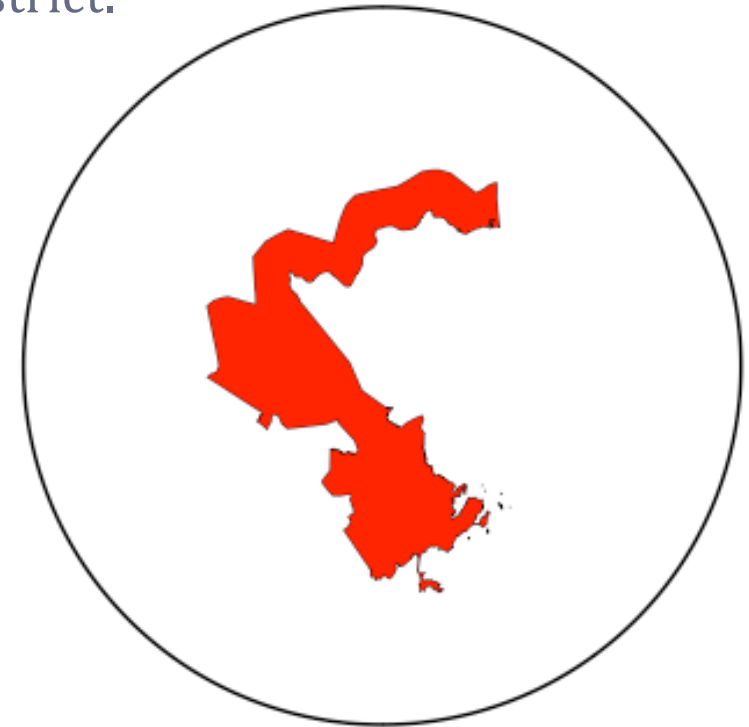
Color	District	Population	Deviation	% Deviation	Contiguous?	Compactness
▼	1	666	-103	-13.39%	False ⚠	0.36
▼	2	992	223	29.00%	False ⚠	0.43
▼	3	409	-360	-46.81%	False ⚠	0.42
▼	4	1,774	1,005	130.69%	True	0.60
▼	5	730	-39	-5.07%	True	0.82

# Compactness Measurements

## 1. Polsby-Popper:

- Measures the ratio of the area (A) of the district to the area of a circle whose circumference is equal to the perimeter (P) of the district.

$$= 4\pi * \frac{A}{P^2}$$



*Circumference Equal to District Perimeter*

Graphic Credit: <https://fisherzachary.github.io/public/r-output.html>

# Compactness Measurements

## 2. Schwartzberg:

- Ratio of the perimeter (P) of the district to the circumference of a circle whose area is equal to the area of the district (A).

$$= \mathbf{1} / \frac{P}{2\pi\sqrt{(A/\pi)}}$$



*Circle with Area Equivalent to the District*

Graphic Credit: <https://fisherzachary.github.io/public/r-output.html>

# Compactness Measurements

## 3. Area/Convex Hull:

- Compares the area of the district (A) to the area of the smallest bounding convex polygon (C). The score penalizes for boundary contortions, but grants flexibility, as any non-concave polygon is seen as ideal.

$$= \frac{A}{C}$$



*Convex Hull*

Graphic Credit: <https://fisherzachary.github.io/public/r-output.html>

# Analysis

- **Approved Plan Comparison**

- ✦ Show wards in multiple supervisory districts

- **Summarize Demographics**

- ✦ Enter District/Ward numbers to Summarize.

- **Overlay Demographics**

- ✦ Add a dynamic, thematic overlay of demographics

WISE for Local Redistricting: Editor | Stage 2: Municipal Wards | Adams - C, Adams Co. (Plan: TTTT) Help PDF WISE-LR Admin

ID  Pan  Refresh

Opacity: 0% 50% 100%

► Assignment

► Labels & Layers

▼ Analysis

**Approved Plan Comparison**

Find areas of conflict between your plan and other stage's approved plan(s). Click to zoom to parts of a ward in more than one supervisory district.

Adams, C, Ward: 2	Supervisory Dist: 10
Adams, C, Ward: 2	Supervisory Dist: 12
Adams, C, Ward: 3	Supervisory Dist: 11
Adams, C, Ward: 3	Supervisory Dist: 12

**Summarize Demographics**

Unassigned  
 Combination

Enter Wards to Summarize:  
1, 4  
e.g. 1, 3-5, 7-10

Summary of Districts: 1, 4

► Share

Color	Ward	Population	Valid Range	% Deviation	Contiguous	Compactness	Pop 18+	White	Black	Hispanic	Asian	Am Indian	Pac Isld	Other	Multi-Other	LOCK
Red	1	661	300 to 1,000	34.35%	True	0.37	484	620	17	15	1	5	0	0	3	<input type="checkbox"/>
Blue	2	652	300 to 1,000	32.52%	False	0.71	463	599	6	23	10	12	0	2	0	<input type="checkbox"/>
Light Blue	3	322	300 to 1,000	-34.55%	True	0.41	271	312	6	3	0	1	0	0	0	<input type="checkbox"/>
Orange	4	332	300 to 1,000	-32.52%	True	0.39	276	316	2	5	2	5	0	1	1	<input type="checkbox"/>

# Sharing Plans

## WISE-LR Editor

- Public Share URL
  - ✦ Only visible within WISE-LR to other county users if plan is SHARED
- Private Share URL
  - ✦ Distributes UNSHARED plans; always visible.
  - ✦ Anyone with access to this URL will be able to see your plan.
  - ✦ Be careful with how this is distributed.


## WISE-LR Viewer

- What people see if they open a shared URL
- Share pane
  - ✦ Send an email to someone with the plan's data.


Share

Share Plan

Viewer URLs

Public Share: 

`https://wisedecade.test.legis.wisconsin.gov`  
(Only visible if plan is SHARED.)

Private Share: 

`https://wisedecade.test.legis.wisconsin.gov`  
(Distributes UNSHARED plans; always visible)

Export/Import Plans

Export  
 Import

Select: Block List (.CSV) ▼

Email Data

Import Shared Plan

Select: --Currently Enacted Plan-- ▼

Import

Export/Import Plans

Export  
 Import

Select: Block List (.CSV) ▼

Email Data

# Questions?

<https://legis.wisconsin.gov/ltsb/local-redistricting/>

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