

Living Atlas of the World Community Maps Program

Seth Sarakaitis

Shane Matthews

Mike Ridland

Tiffany Cronin



esri

THE
SCIENCE
OF
WHERE®

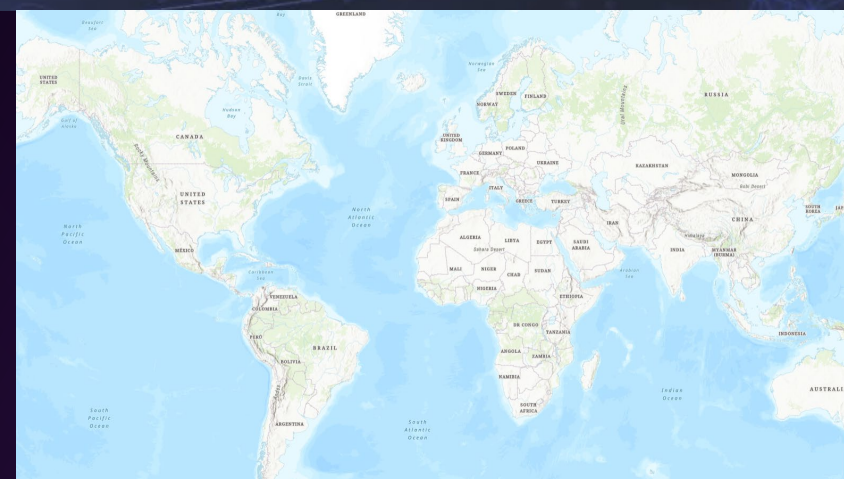
2021 ESRI USER CONFERENCE

The Community Maps Program – Back Story



ArcGIS Online

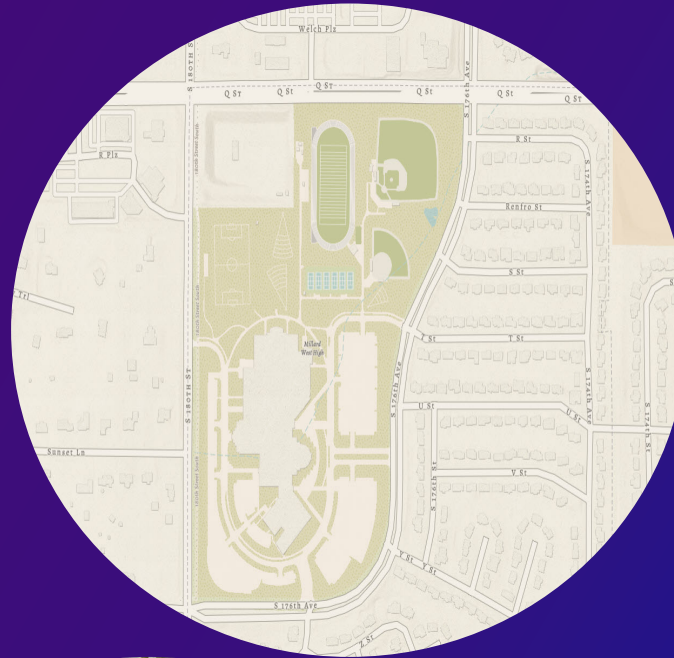
Connect people, locations, and data using interactive maps. Work with smart, data-driven styles and intuitive analysis tools. Share your insights with the world or specific groups.



Agenda

- **Shane Matthews**
 - Contributor Types
 - Communities
- **Mike Ridland**
 - Preparing Data
 - Sending Data to Esri
- **Tiffany Cronin**
 - Working with your data
 - Tips and Tricks
 - What to expect

Summary and Q&A





What is Community Maps? How do I participate?

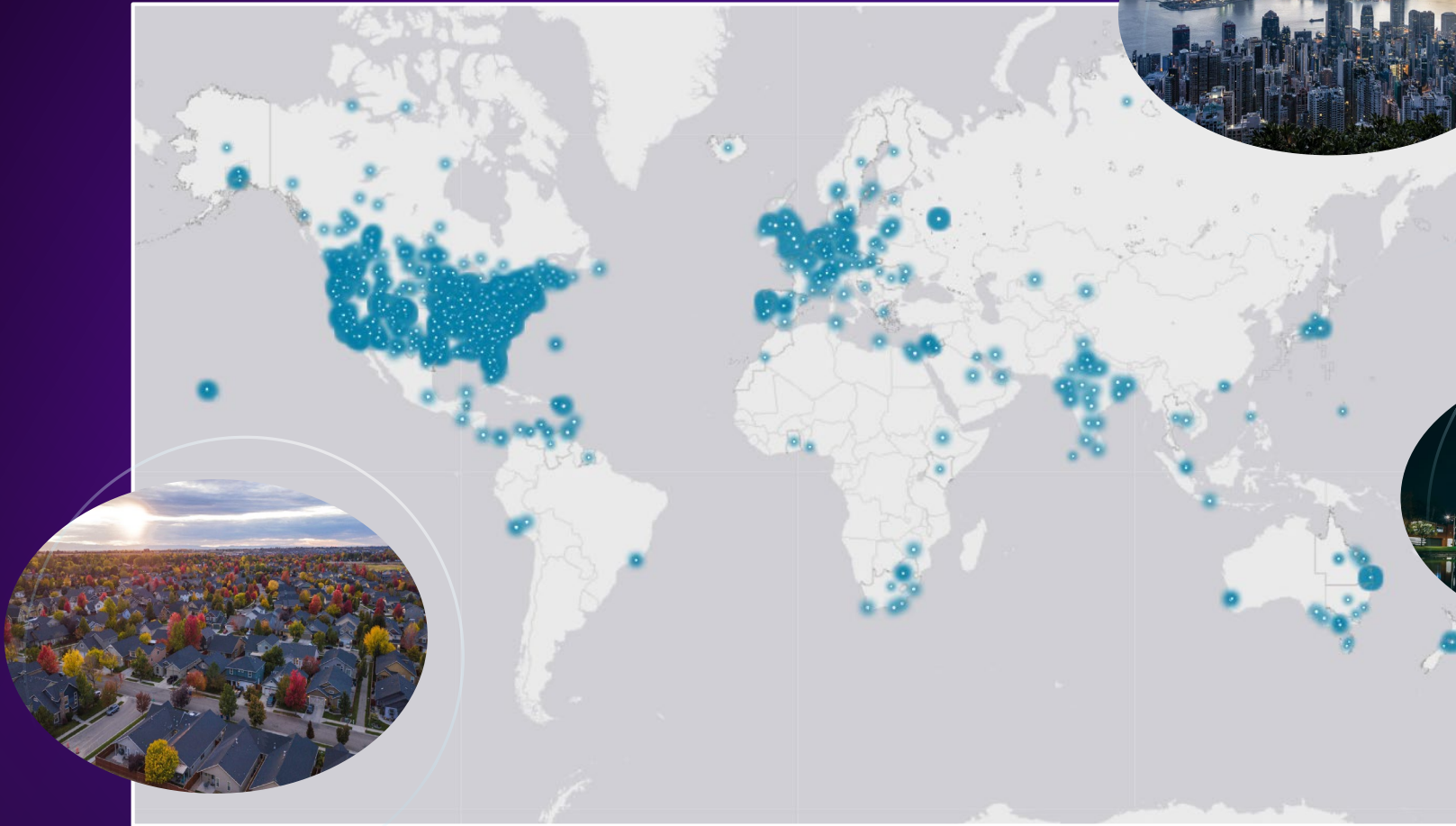
Shane Matthews

What is the Community Maps Program?



An effort to develop a suite of authoritative maps for use globally by the public.

Worldwide editors and contributors



Community Maps Contributors

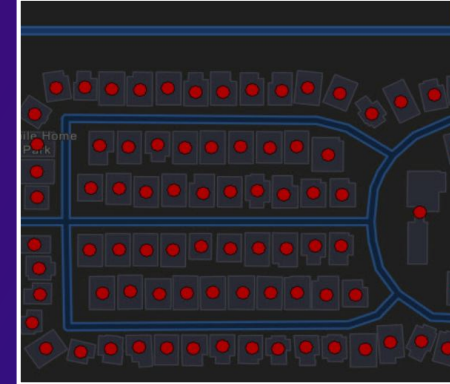
What types of data does Community Maps accept?



Basemaps



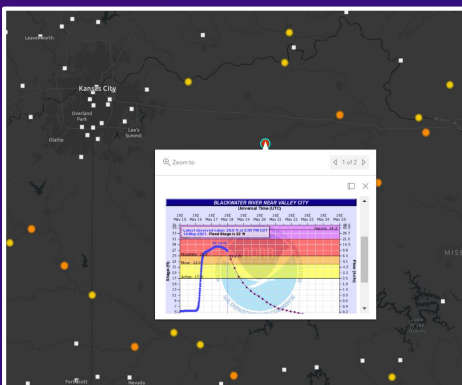
Imagery



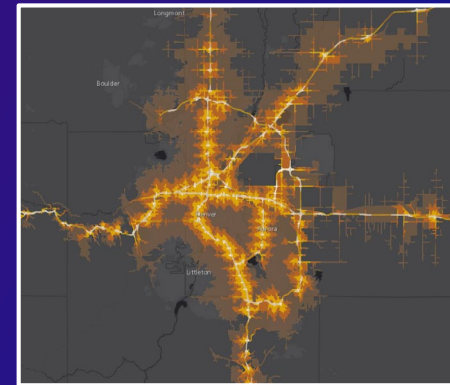
Addresses



Elevation and
Bathymetry



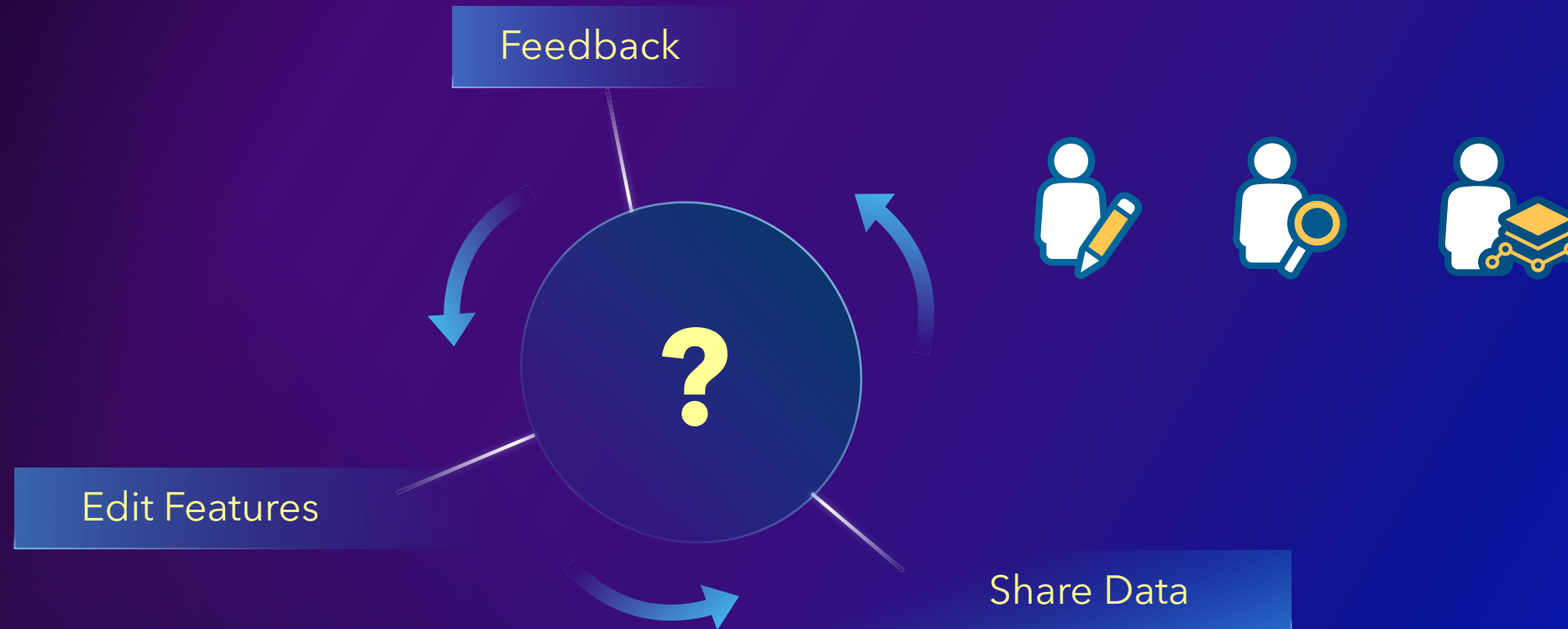
Hydrology and
Stream Gauges



Urban
Observatory

How do I contribute to Community Maps?

What type of contributor are you?



How do I contribute to Community Maps?



Provide Feedback

Geocoding



Basemap

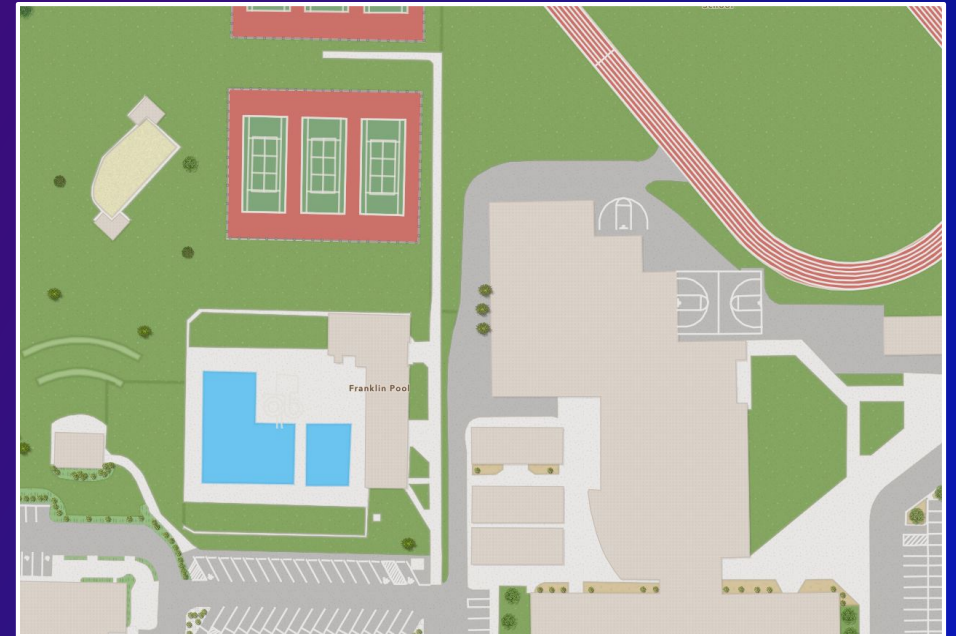


Imagery



Provide feedback on issues with Geocoding, Basemaps, and Imagery through ArcGIS Online.

How do I contribute to Community Maps?



The Community Maps Editor is a web app that enables you to edit parts of Esri's basemaps.



Edit Features

Add a Campus



How do I contribute to Community Maps?



Share Data

My Registered Layers ?

<input type="checkbox"/> Addresses		
<input type="checkbox"/> Address Points ?	<input type="checkbox"/> Distance Markers ?	
<input checked="" type="checkbox"/> Basemap - General		
<input checked="" type="checkbox"/> Admin3 (Municipal Boundary) ?	<input checked="" type="checkbox"/> Building Footprint ?	<input checked="" type="checkbox"/> Ferry ?
<input checked="" type="checkbox"/> Neighborhood ?	<input checked="" type="checkbox"/> Owner Parcel ?	<input checked="" type="checkbox"/> Points of Interest ?
<input checked="" type="checkbox"/> Railway Lines ?	<input checked="" type="checkbox"/> Road Centerline ?	<input type="checkbox"/> Waterbody ?
<input type="checkbox"/> Waterline ?		
<input checked="" type="checkbox"/> Basemap - Landuse		
<input checked="" type="checkbox"/> Airport ?	<input checked="" type="checkbox"/> Cemetery ?	<input checked="" type="checkbox"/> Commercial Retail ?
<input checked="" type="checkbox"/> Education ?	<input checked="" type="checkbox"/> Emergency Law Enforcement ?	<input checked="" type="checkbox"/> Golf Course ?
<input checked="" type="checkbox"/> Government ?	<input checked="" type="checkbox"/> Indigenous Lands ?	<input checked="" type="checkbox"/> Industry ?
<input checked="" type="checkbox"/> Local Park ?	<input checked="" type="checkbox"/> Medical ?	<input checked="" type="checkbox"/> Military ?
<input type="checkbox"/> National Forest/Parks ?	<input checked="" type="checkbox"/> Openspace ?	<input checked="" type="checkbox"/> Recreation ?
<input type="checkbox"/> State Forest/Parks ?	<input checked="" type="checkbox"/> Transportation ?	
<input checked="" type="checkbox"/> Campus and Special Area of Interest		
<input type="checkbox"/> Landscapes and Sports Fields, Hardscapes and Tracks ?	<input type="checkbox"/> Parking Lot and Pavement Marking Symbols ?	<input type="checkbox"/> Pavement and Sports Lines, Fences and Walls ?
<input checked="" type="checkbox"/> Trail ?	<input checked="" type="checkbox"/> Tree ?	
<input checked="" type="checkbox"/> Elevation		
<input checked="" type="checkbox"/> Hydrology		
<input checked="" type="checkbox"/> Imagery		
<input checked="" type="checkbox"/> Urban Observatory		

Share data in the form of zipped layers or services by registering map layers for your community.



Preparing Data and Registering Services

Mike Ridland

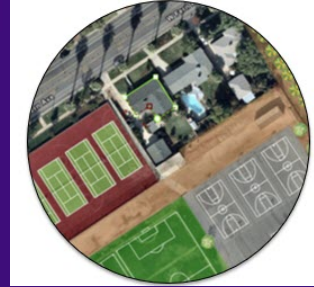
What can you provide?



(Feedback)



Send free-form
map ***comment***



(Edit)



Digitize large-scale
Features



(Share)

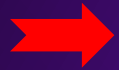


Send small- and
large-scale ***Layers***

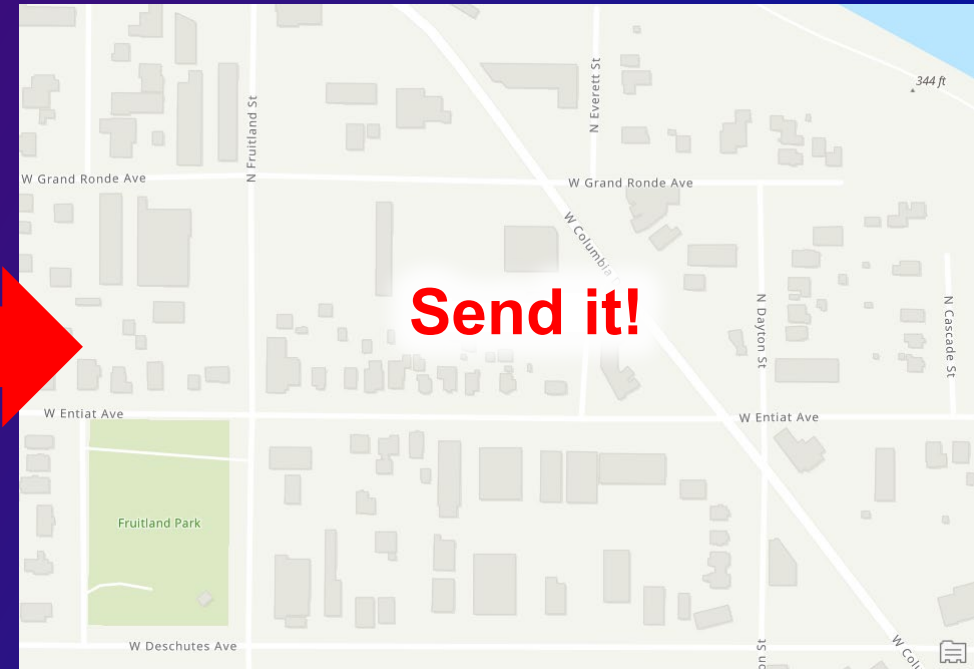
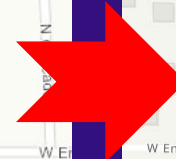
Send us (share authoritative) data that's missing: Use the **Contributor App**



(Share)



**Basemap is
missing buildings
in my entire area
and my city has
the layer!**



Send it!

Kennewick, WA

Knowing which layers you can contribute

- Layers List explains accepted layers and layer details
- “Preparing” Storymap explains process

Available Esri Community Maps Data Layers

This page provides a comprehensive overview of the basemap data layers accepted by Esri's Community Maps Program to enrich the basemaps used across Esri's platform, and are hosted in ArcGIS Online for free as part of the Living Atlas of the World.

Community Maps data contributors can use this information to determine which layers to contribute. Click on each layer to view details for labeling and symbology, and each layer references a specific Community Maps Data Preparation document to provide the data to Esri. Data preparation steps will vary on what type of data you will be contributing, and how you will be contributing it.

Please send your questions, comments and feedback to CommunityMaps@esri.com.

Addresses	Distance Markers	
Address Points		
Basemap - General		
Admin3 (Municipal Boundary)	Building Footprint	Building Footprint
Neighborhood	Owner Parcel	Points of Interest
Railway Lines	Road Centerline	Waterbody
Waterline		
Basemap - Landuse		
Airport	Cemetery	Commons
Education	Emergency Law Enforcement	Golf Course
Government	Industry	Local Park
Medical	Military	National Forest/Park
OpenSpace	Recreation	State Forest/Parks
Transportation	Tribal Lands	
Campus and Special Areas Interest		
Landscapes and Sports Fields, Hardscapes and Tracked Areas	Parking Lot and Pavement Marking Symbols	Pavement and Sports Lines, Fences and Walls
Tree		

Building Footprint

Polygon features used to symbolize buildings. Buildings can optionally be symbolized based on their feature types. If your building footprint data is symbolized as follows:

Landscapes and Sports Fields, Hardscapes and Tracked Areas

Landscapes and Sports Fields

This polygon layer represents unpaved areas that are used for aesthetic, recreational, or open space purposes. They are most commonly found on campuses and civic parks.

Geometry: Polygon
Feature Types:

OK

<https://communitymaps.arcgis.com/CMLayerList>

Preparing Your Basemap Data Contribution

Overview | Data from a Service | Data from a Geodatabase

The Community Maps Program accepts contributions of basemap data in two formats:

1. As a Service
2. From a Geodatabase

Either way, you use the Community Maps Contributor App to provide your data.

Read the Tips and Tricks document before you use the Contributor App.

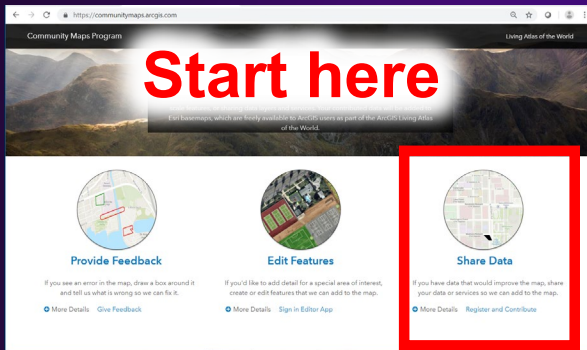
Review the Community Maps Data Layers List to understand how Esri defines Layers Types.

<https://esriurl.com/PrepBasemapContribution>

<https://esriurl.com/PrepBasemapContribution>

Process: Send us data with the **Contributor App**

- Share your authoritative data that would improve the map
- Requires Registration
- Share as GDB Layers or Services



<https://CommunityMaps.arcgis.com>



The screenshot shows the "Join the Community" registration form. A large red text overlay says "Register". Below it, the text "Who Where Which Layers" is written in red. There are three red checkmarks next to the "Where are you?" section. The form includes fields for "Who are you?", "Where are you?", "What would you like to contribute?", and "What are terms of participation?".



<https://communitymaps.arcgis.com/CMContributorApp/>

Contributing Data from Geodatabase

1. Download and use the Data Prep Tools

- Prep Tools **standardize data** and **accelerate process**
- <http://esriurl.com/CommunityMapsDataPrepTools>

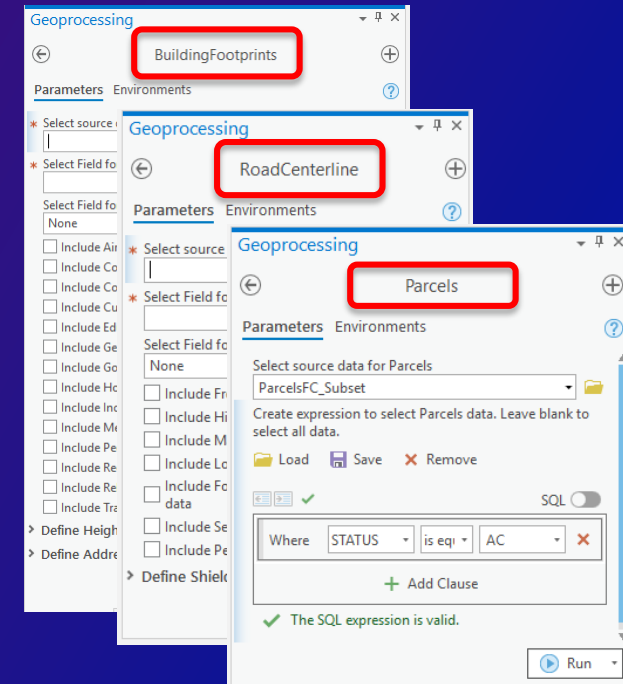
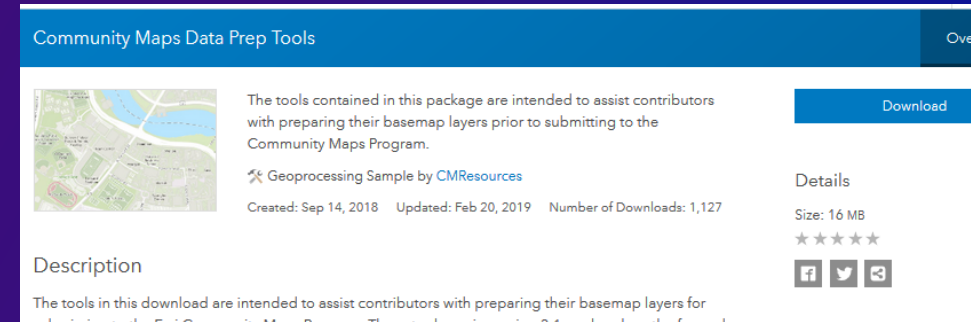
2. Run Prep Tools from ArcGIS Pro

- Run a Tool on a layer, one layer at a time, until done
- Output layers are saved in a file geodatabase

3. Send to Esri using the Contributor App

- Zip the file geodatabase
- <https://communitymaps.arcgis.com/CMContributorApp/>

4. Esri Curators review and add to basemap



Contributing Data from Services

1. Establish Service delivery parameters within Contributor App

- Hosted or Enterprise Services
- Built-in Data Prep process

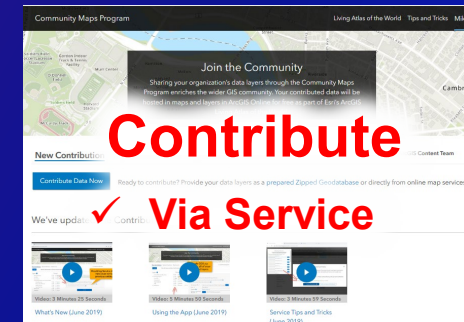
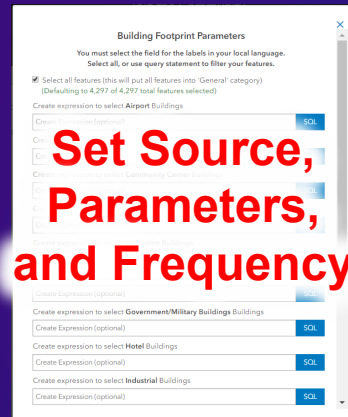
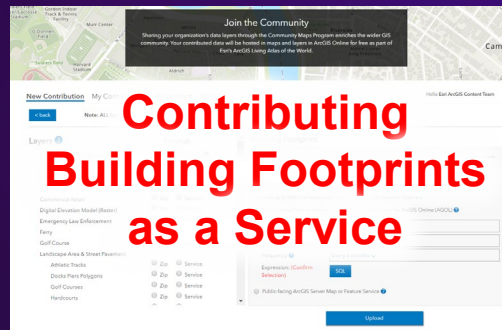


Create Service subscription

- Service delivery can automatically reoccur at pre-set interval

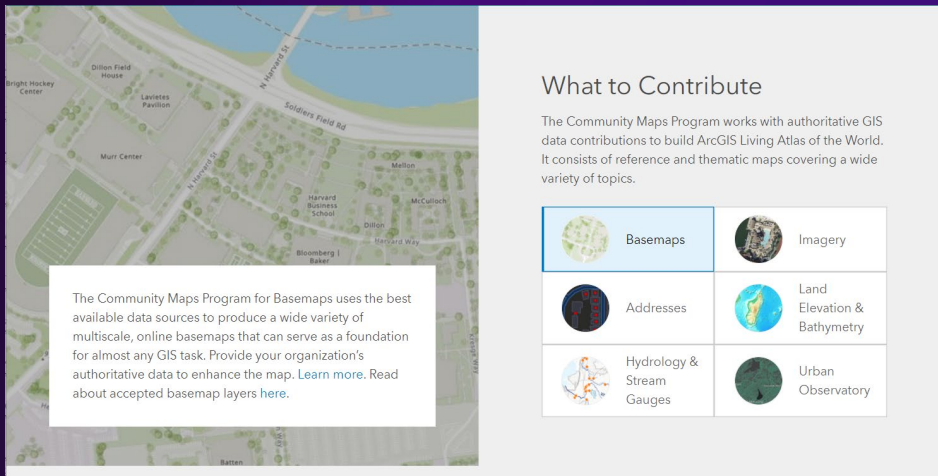
2. Contribute Layer(s) using Contributor App

3. Esri Curators review and add to basemap

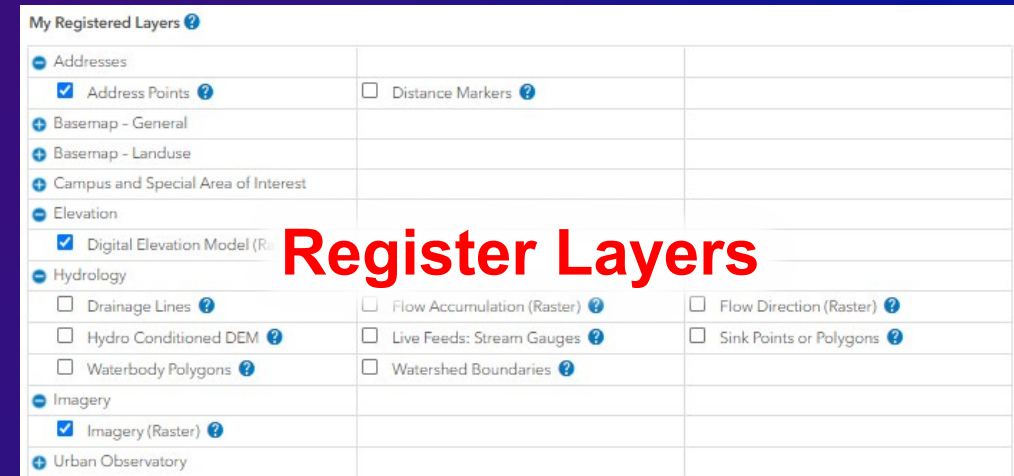


Contributing Addresses, Imagery, Elevation, and Stream Gauges

1. Learn about unique requirements from Living Atlas Storymaps
2. Register for these Layers using Contributor App
3. Once registered, Esri Community Data Curators work with you



<https://livingatlas.arcgis.com> Contribute Tab



<https://communitymaps.arcgis.com/CMContributorApp/>

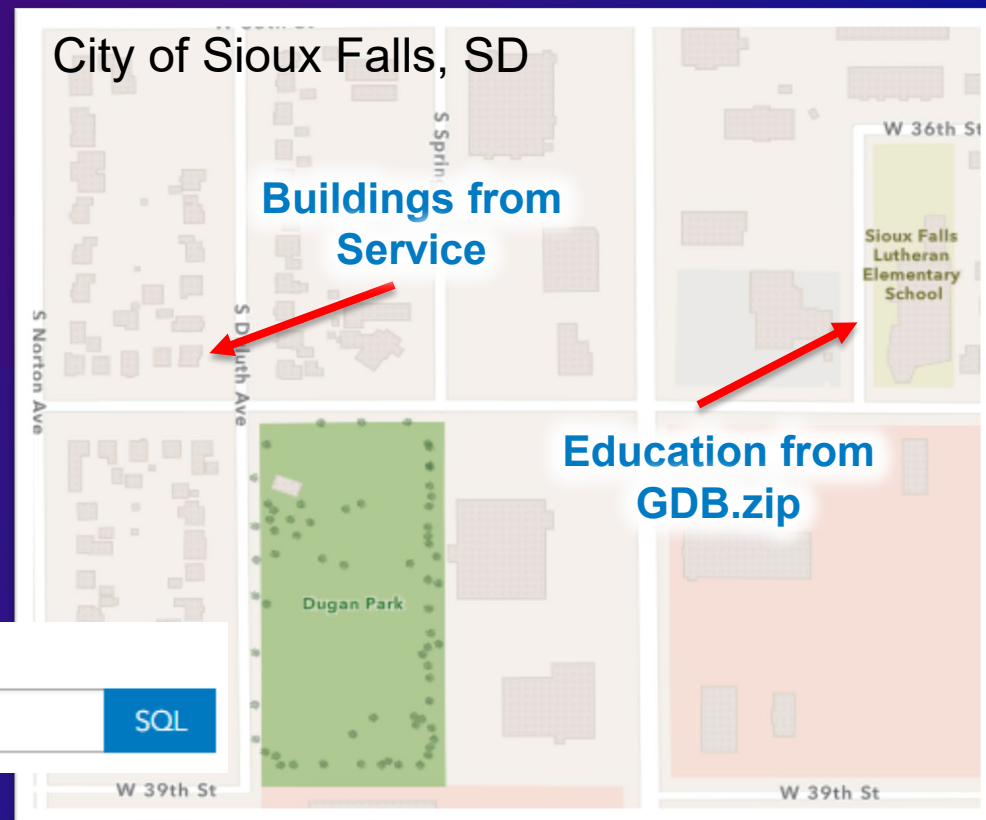
Contributor App **Best Practices**



Create expression to select **Local Road** (439 of 503 selected)

ROADCLASS = 'Local'

SQL



- **Consider mixed contributions if not all layers are together as GDB or Service**
 - You CAN provide some layers as GDB.zip and others as Service at the same time
- **Your Service must be publicly or semi-privately shared until we fetch your data**
 - Read the Sharing section in FAQs



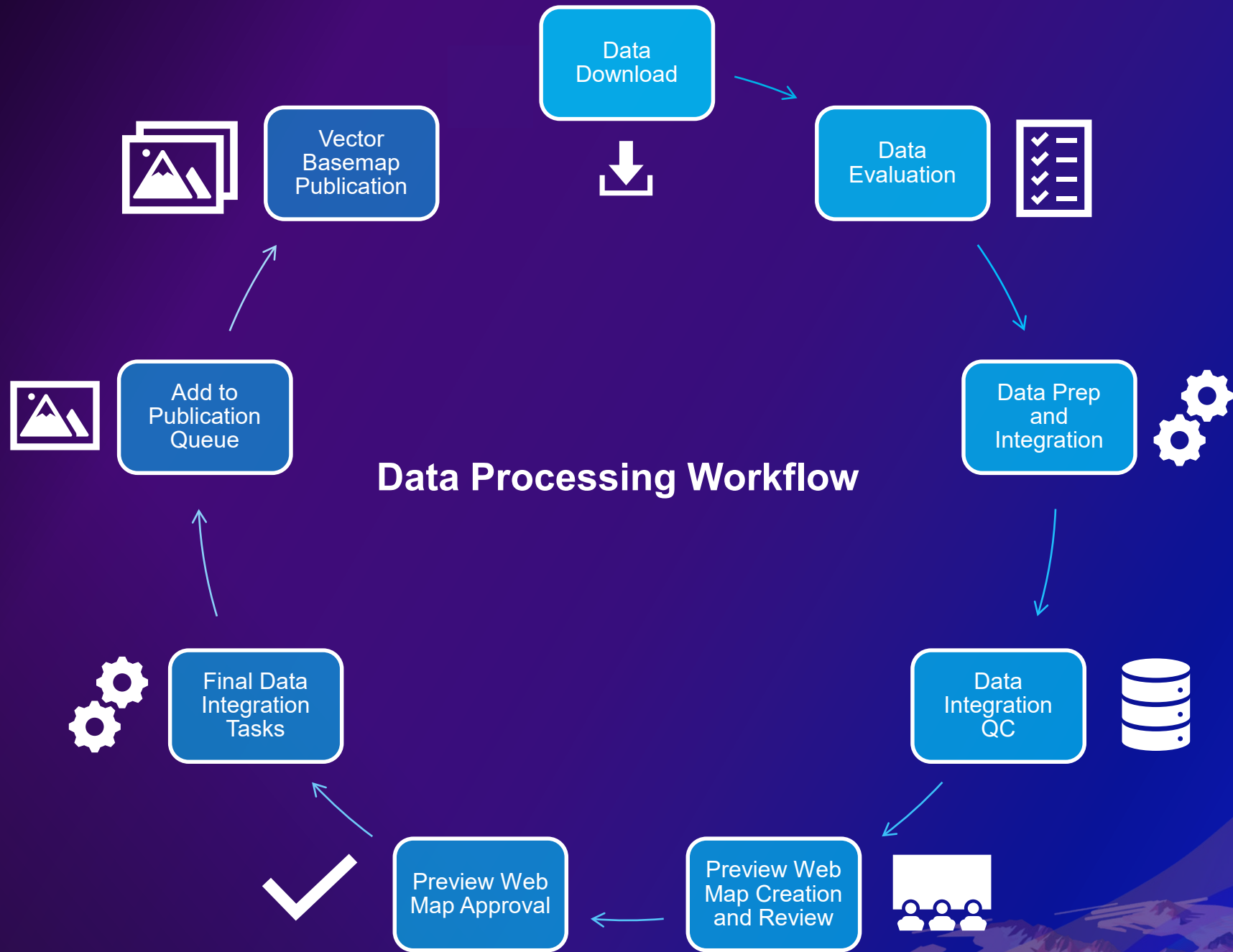
Basemap Data Integration Workflow

Tiffany Cronin

What is data integration?

- The process of adding new or updated contributor content into the master Community Maps database.
- Area of interest (AOI)
- Data is clipped to AOI
- Existing data is removed within AOI, new data is appended
- Replacement vs. Supplemental





Data Processing Workflow

Data Evaluation and Comparison



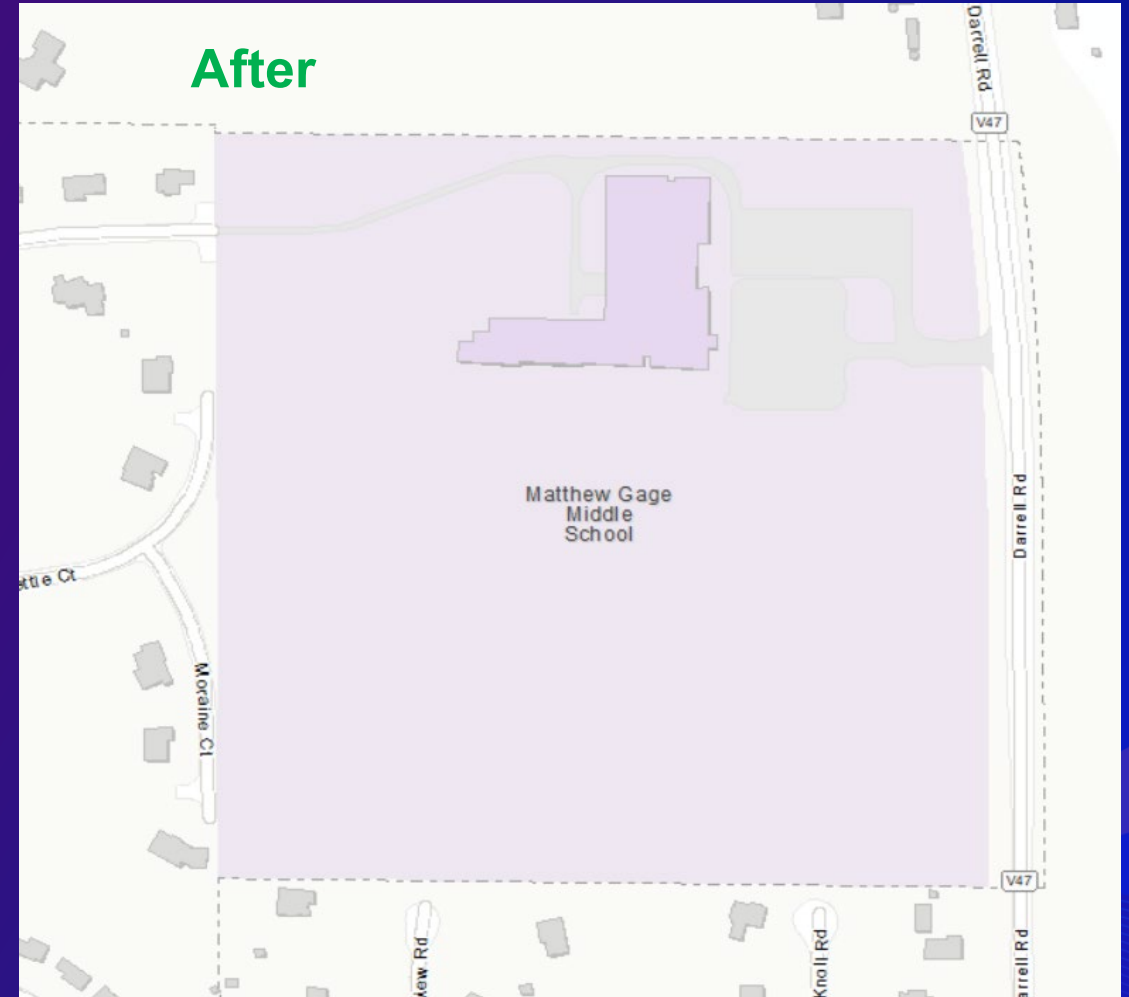
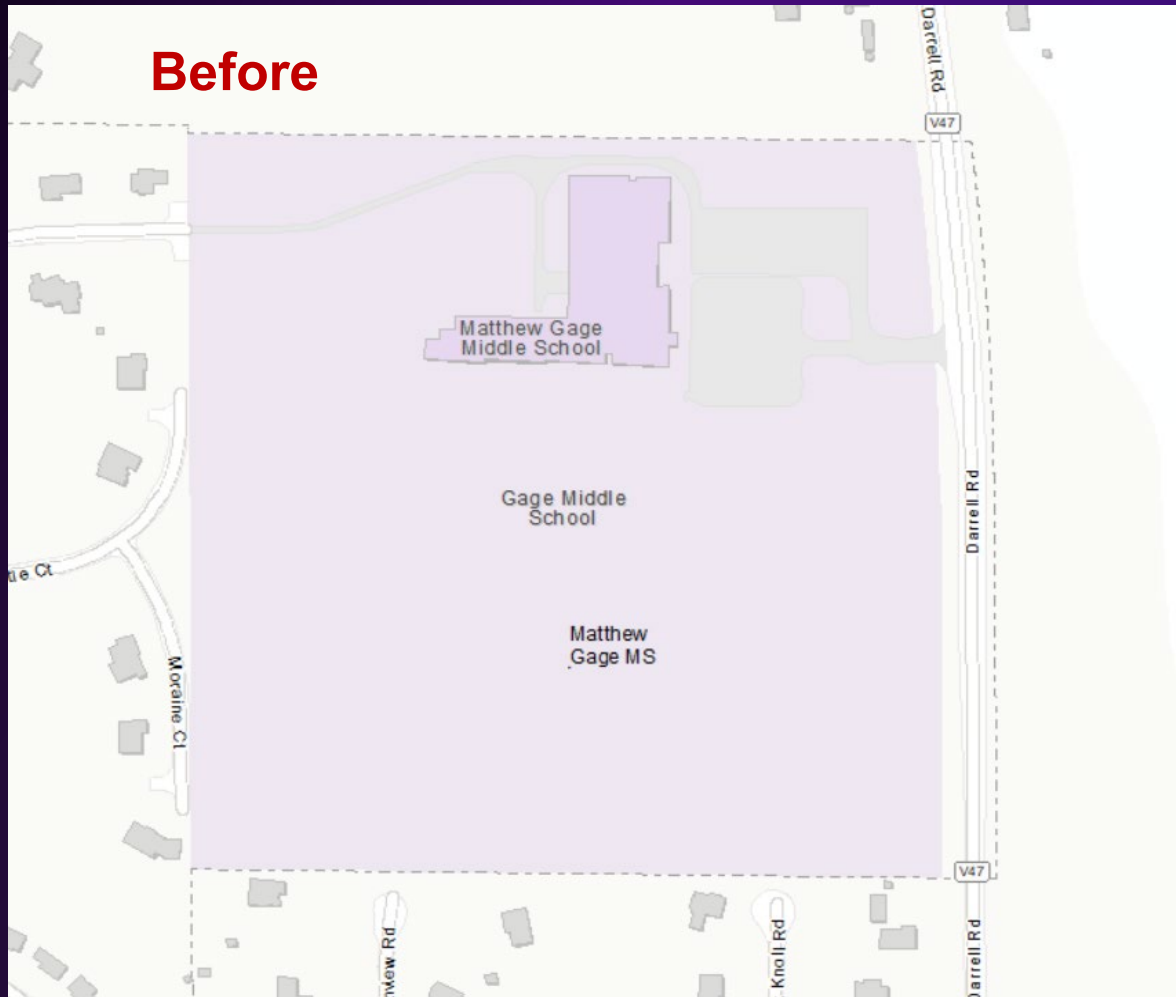
- **Overall content:** Will it improve the basemaps? Is the dataset complete for area of interest? Are there missing features?
- **Spatial accuracy:** Will the content align well with existing data layers? Are there potential edgematching issues? How does it align compared to imagery?
- **Attribution:** Do names exist where appropriate? Are features classified such as building type, road type (ramps, local roads, highway/freeways, etc), and jurisdiction and route information?
- **Replacement or Supplemental:** Should the new content replace the existing data layer for the area of interest? Can a subset of features be added to supplement the existing data?



Data integration tasks and common data errors to avoid



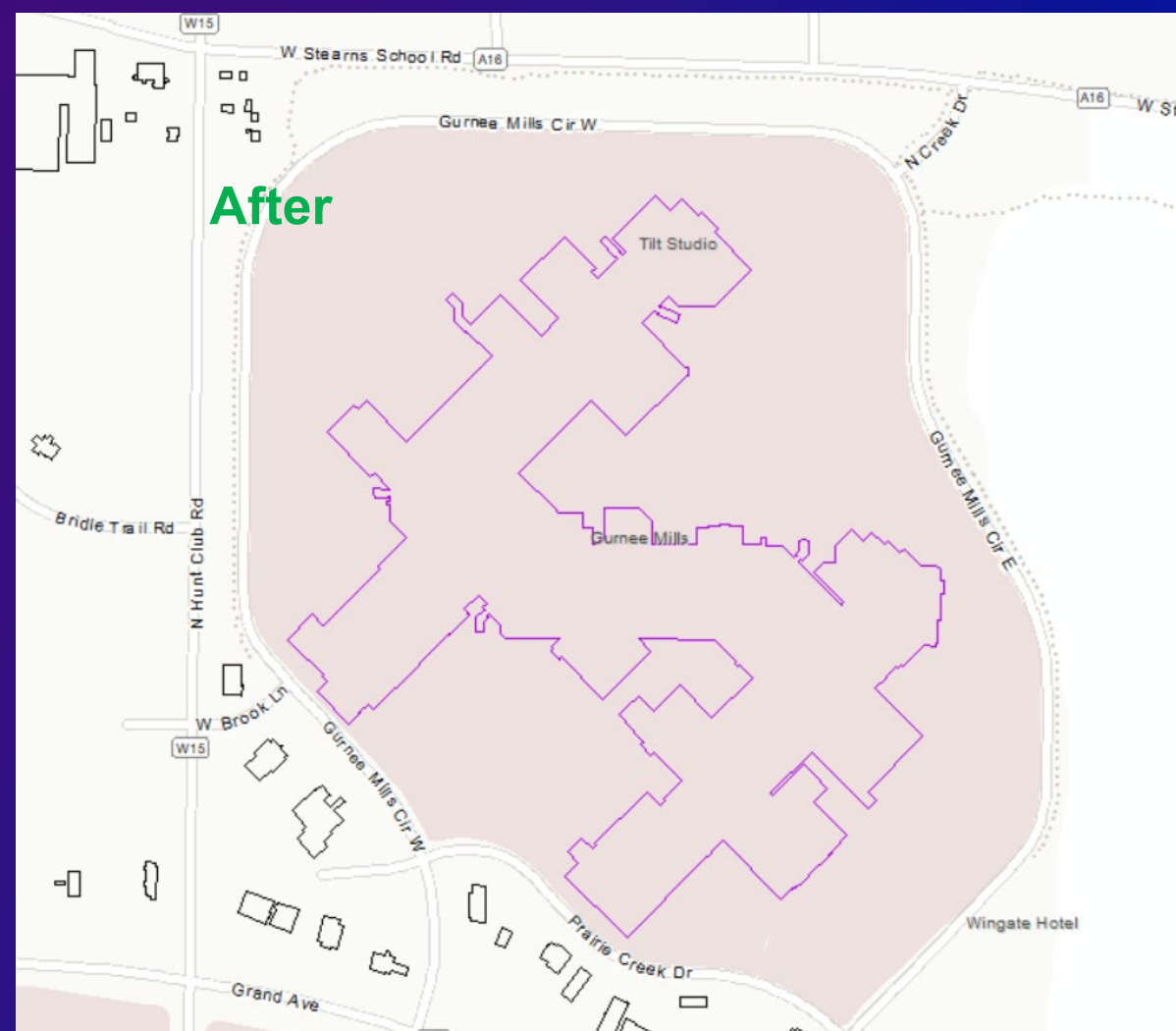
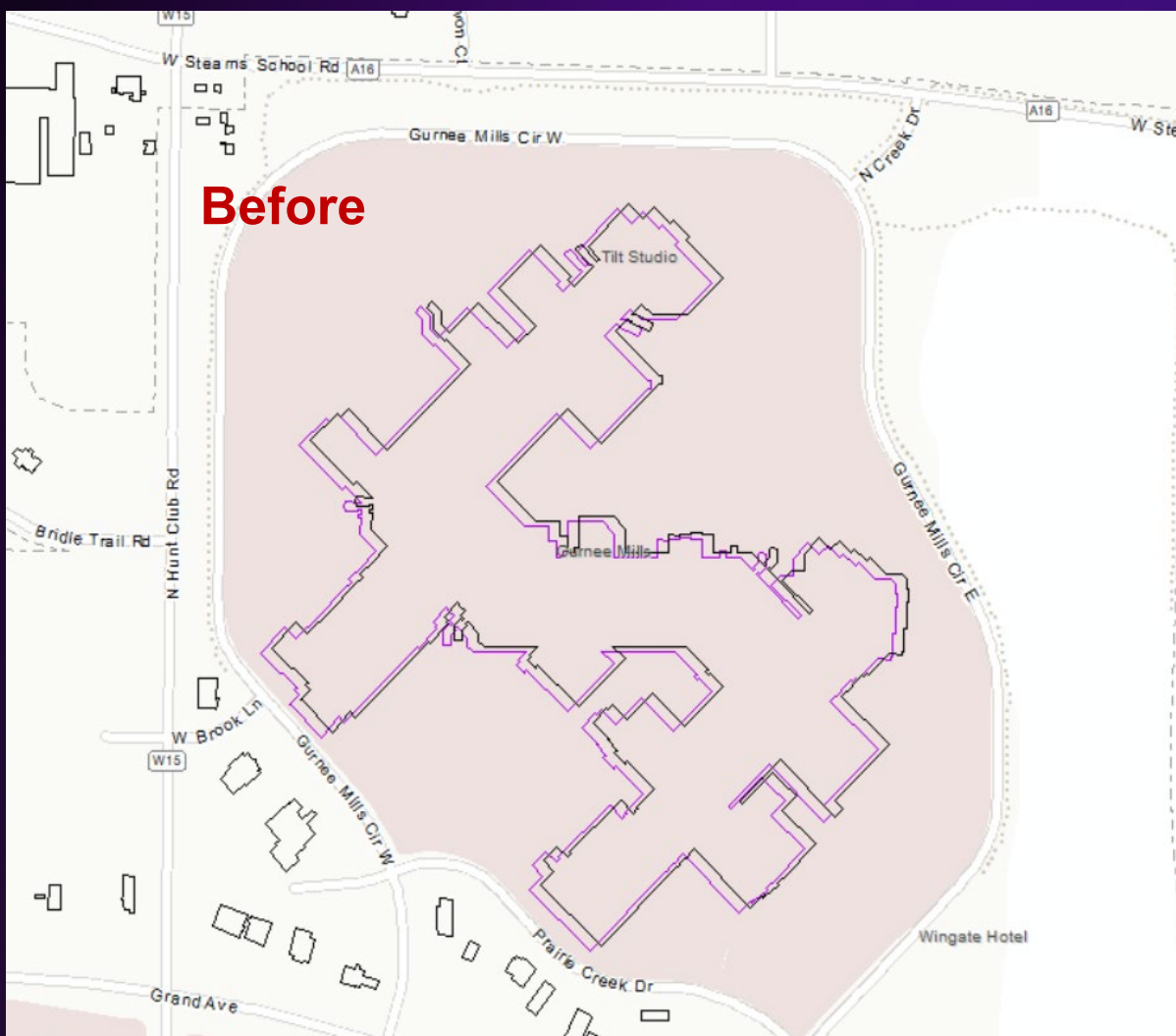
Building/Landuse/POI with name variations



Data integration tasks and common data errors to avoid



Stacked building features with different building classification and/or names



Data integration tasks and common data errors to avoid



Stacked building features with different building classification and/or names

Yellow arrows point to the first two rows of the top panel.

Create expression to select Airport Buildings	(29 of 57,863 selected)	
CONSTTYPE = 'IA'		SQL
Create expression to select Commercial/Retail Buildings	(36 of 57,863 selected)	
CONSTTYPE = 'IA' OR CONSTTYPE = 'IB'		SQL



Green arrows point to the first two rows of the bottom panel.

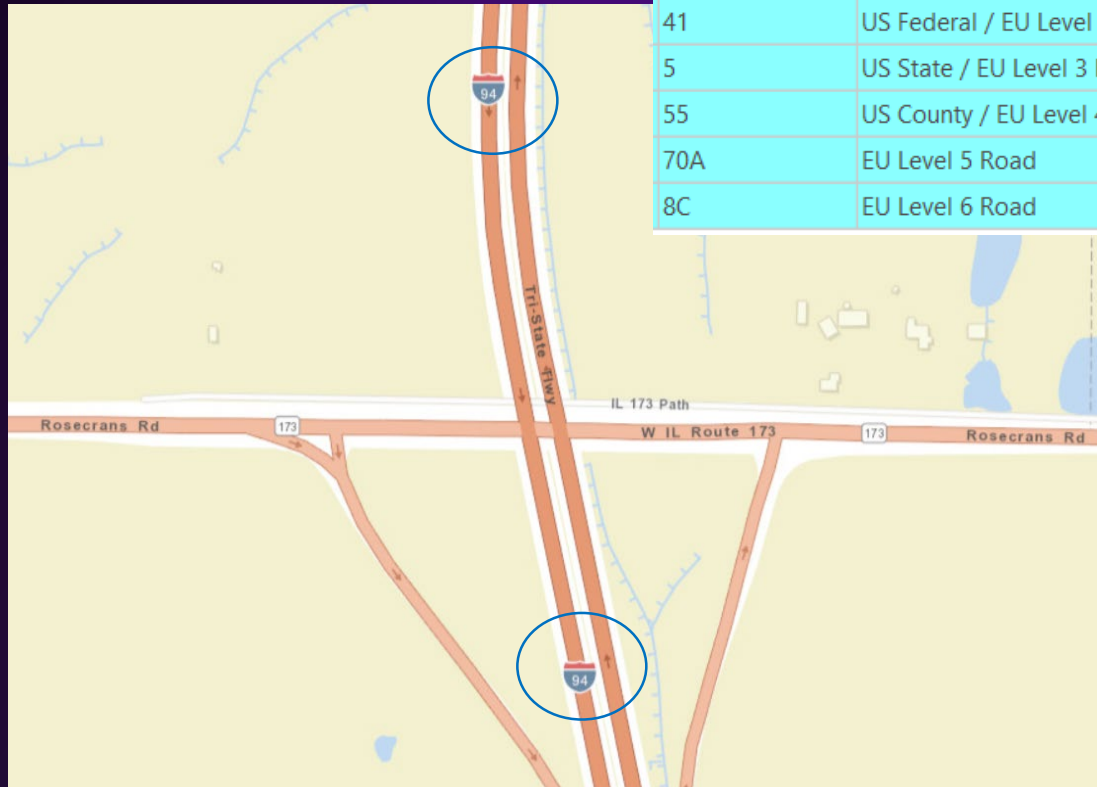
Create expression to select Airport Buildings	(29 of 57,863 selected)	
CONSTTYPE = 'IA'		SQL
Create expression to select Commercial/Retail Buildings	(7 of 57,863 selected)	
CONSTTYPE = 'IB'		SQL



Data integration tasks and common data errors to avoid



Road Centerlines missing Hwy Type/Route attribution



HWY1	HWY1_TYPE
10	US Interstate / EU Level 1 Road
41	US Federal / EU Level 2 Road
5	US State / EU Level 3 Road
55	US County / EU Level 4 Road
70A	EU Level 5 Road
8C	EU Level 6 Road

Define Shield Symbols and Ramps

Create expression to select **Interstate Shield** Symbols

WHOLE_NAME = 'I-94'

SQL

FEDROUTE ▼

Create expression to select **Alternative Interstate Shield** Symbols

Create Expression (optional)

SQL

Select Field for Alternative Interstate Shield numbers (Required) ▼

Create expression to select **U.S. Highway Shield** Symbols

CFCC2 = 'A2'

SQL

FEDROUTE ▼

Create expression to select **Alternative U.S. Highway Shield** Symbols

AFEDRTE IS NOT NULL

SQL

AFEDRTE ▼

Create expression to select **State Highway Shield** Symbols

STRROUTE IS NOT NULL

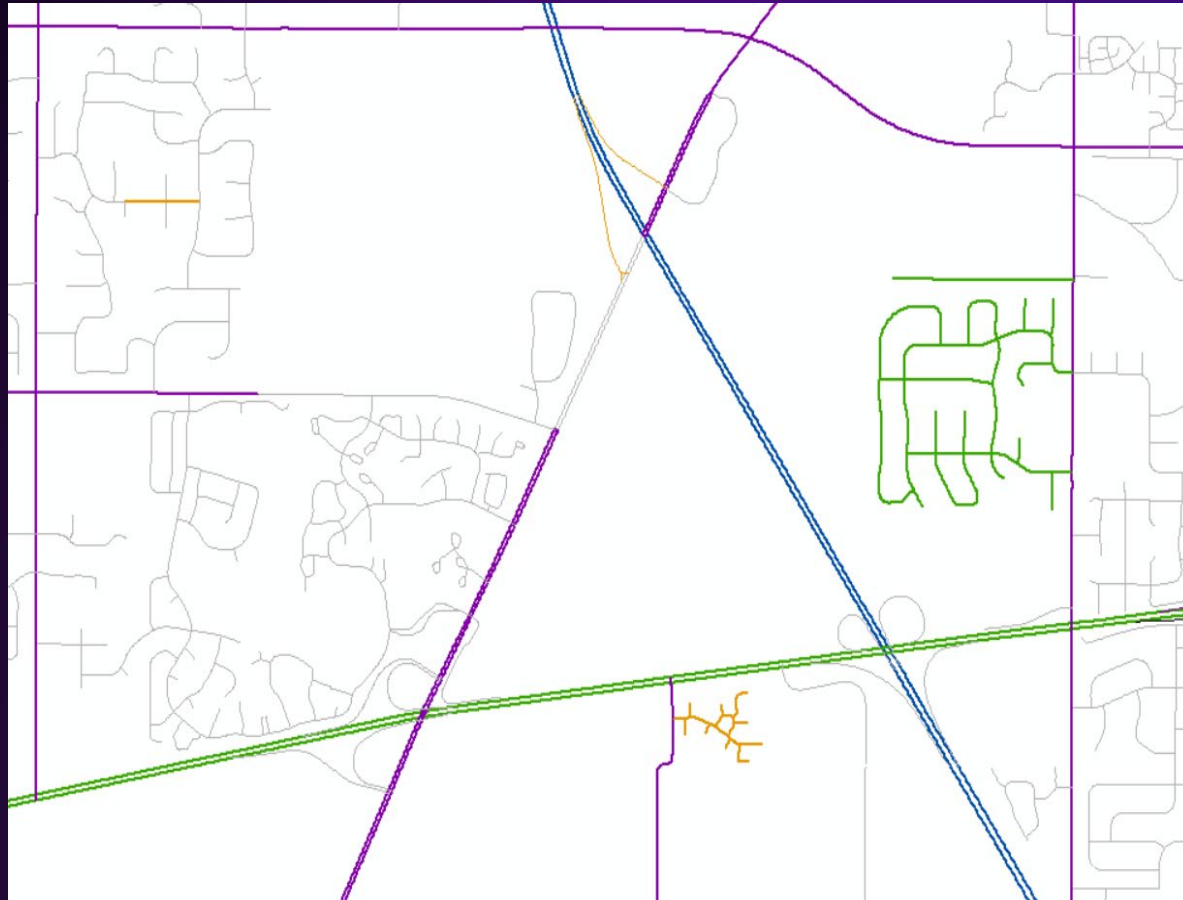
SQL

Data integration tasks and common data errors to avoid

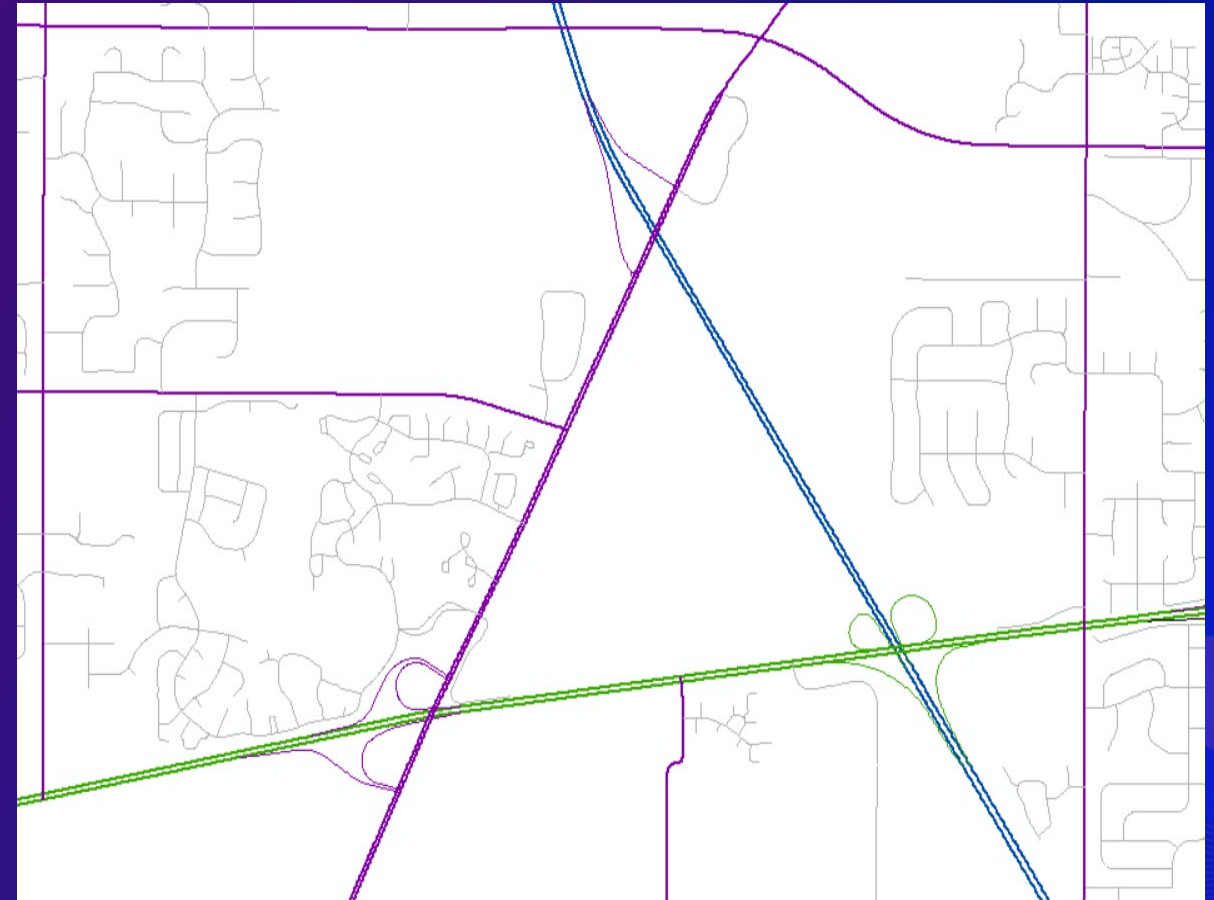


Road Centerline classification editing

Before



After

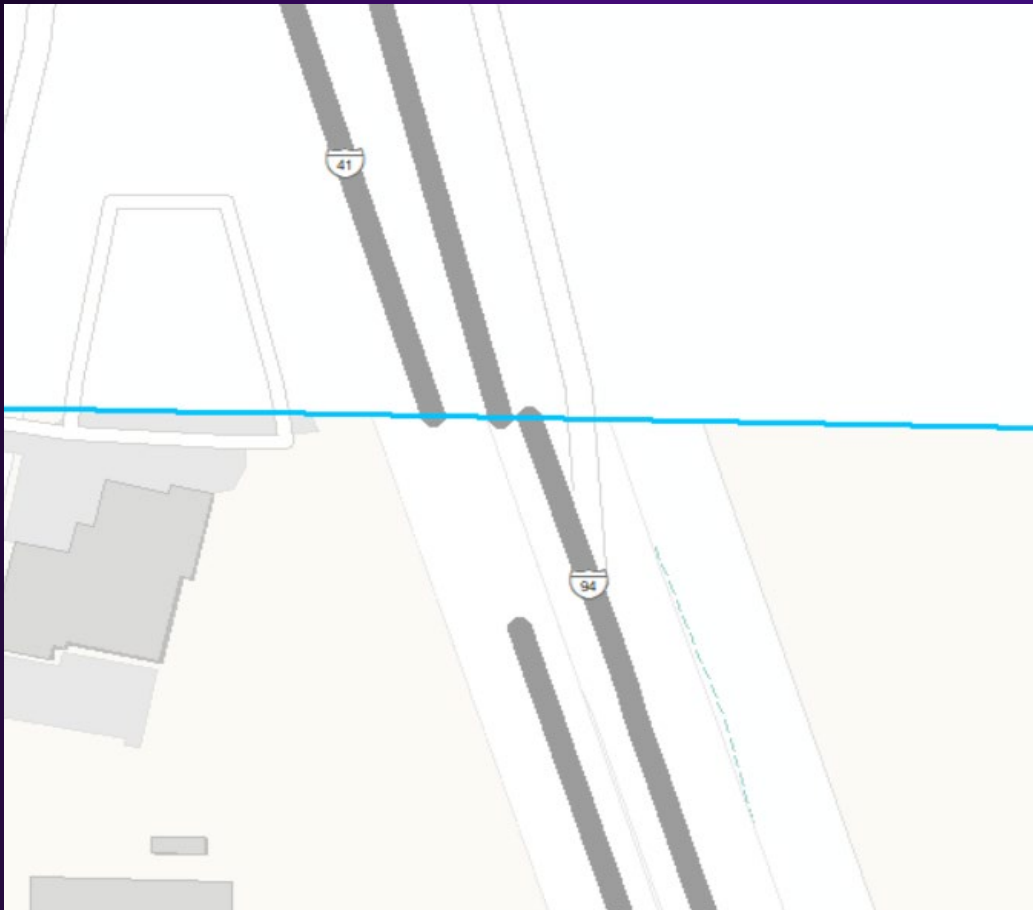


Data integration tasks and common data errors to avoid

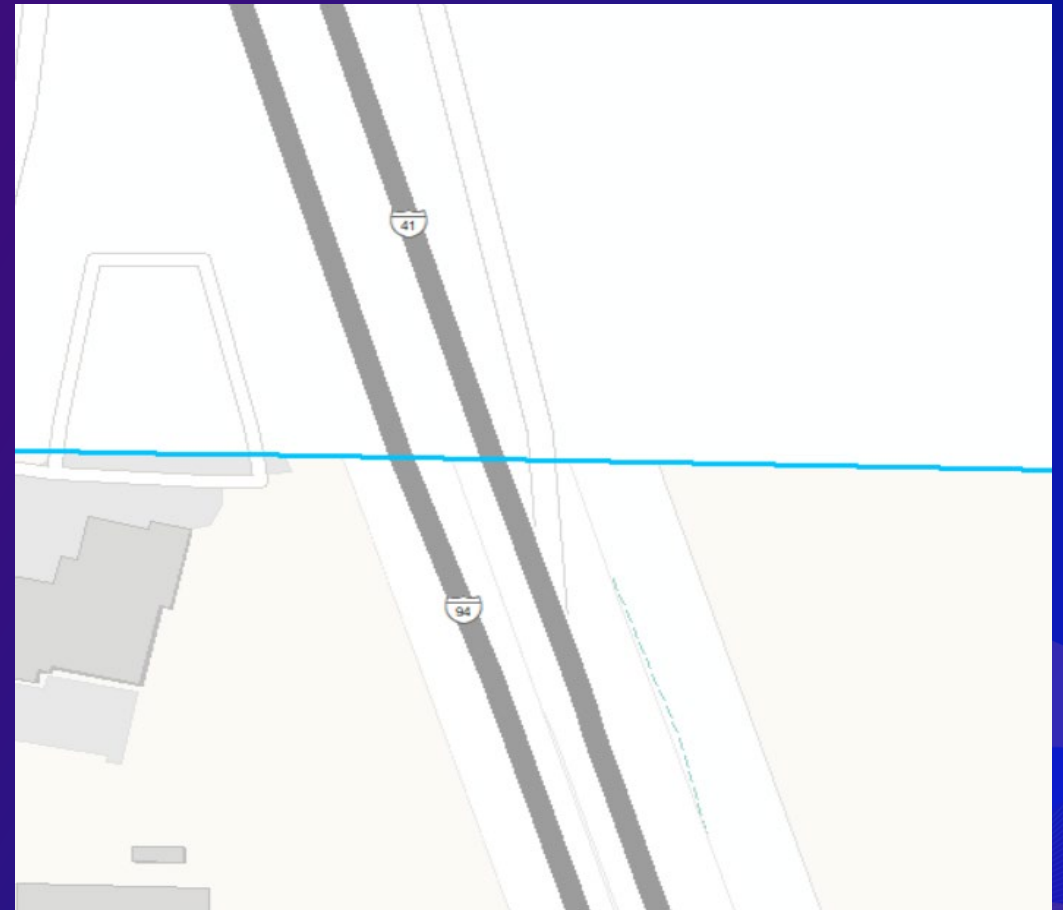


Edgematching

Before



After





Preview Web Map

<https://communitymaps.arcgis.com/CMContributorApp>

A draft topographic map cache for your area of interest is ready for your review and approval.

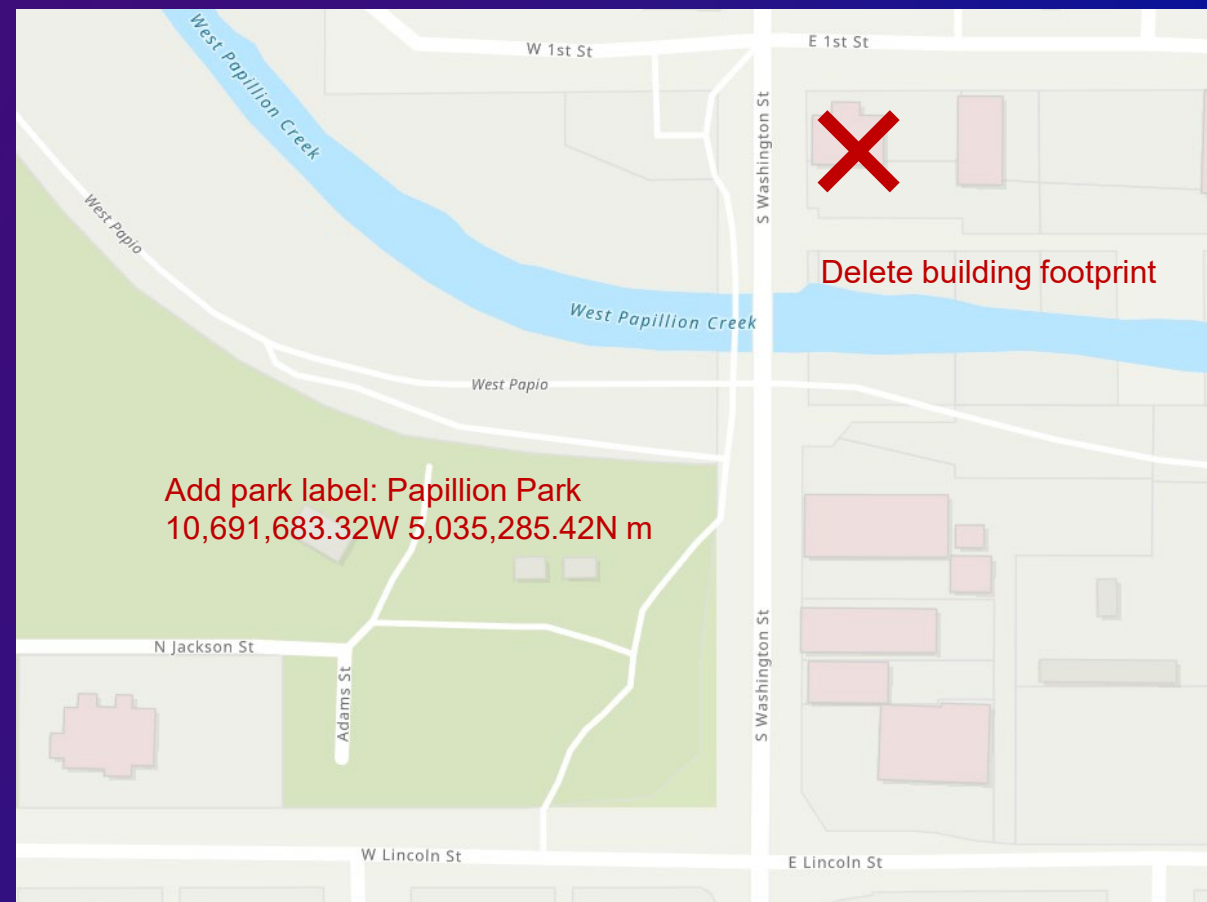
Preview

Click "Preview" to view the map as an ArcGIS Online web map. We welcome your feedback regarding the data you have submitted before the map is published to ArcGIS Online.

Please note the following when reviewing the map:

- Your data is visible at the four largest scales, L16 to L19 (1:9,000 to 1:1,000).
- Vegetation, Hillshade, and Contour Lines have not been included; however, they will display at the appropriate scales once published.

Approve As IS **Minor Corrections Email** **Resubmit Dataset(s)**



Your response is requested within **seven (7) business days**:

- ✓ approve
- ✓ provide minor corrections
- ✓ resubmit revised data



communitymaps@esri.com



Publication to the Vector Basemaps

Basemaps are refreshed every three weeks

<https://esriurl.com/CMVectorBasemapGroup>

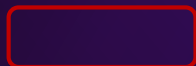
July						
SU	MO	TU	WE	TH	FR	SA
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

August						
SU	MO	TU	WE	TH	FR	SA
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September						
SU	MO	TU	WE	TH	FR	SA
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2
3	4	5	6	7	8	9



Release/Publication



Database freeze and extract

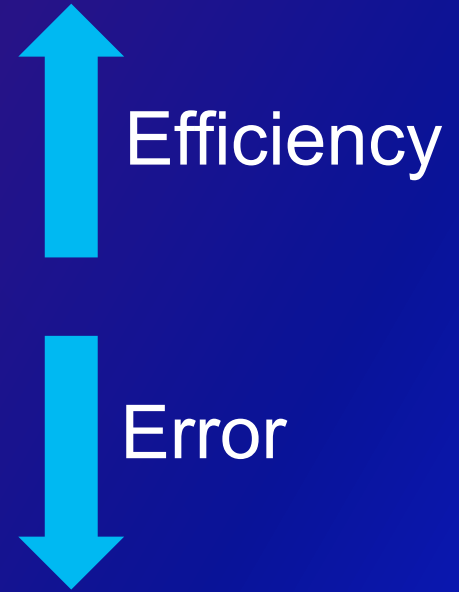


communitymaps@esri.com



Best practices

- ✓ Add communitymaps@esri.com to your contact list
- ✓ Clean your data prior to contributing
- ✓ Run the Data Prep Tools if providing data as a GDB
- ✓ Add feature service contributions
- ✓ Carefully manage your feature service subscriptions
- ✓ Only submit data layers that need updating
- ✓ Provide multiple layers in a single submission



Updates

... keep the basemaps current and useful!

- One update per year is requested
- Two times per year is preferred
- Off cycle updates as needed



Summary

Notes:

communitymaps@esri.com

<https://communitymaps.arcgis.com>

<https://livingatlas.arcgis.com>

- **Community Maps Goals** – Improve Living Atlas of the World Foundation Layers
- **Communities** – Imagery, Elevation, Addresses, Basemaps
- **Feedback** – Few minor map corrections
- **Editor App** – Detail for campus locations
- **Contributor App** – send geodatabase or register feature services

The screenshot shows the 'Community Maps Program' landing page. At the top, it says 'Community Maps Program' and 'Living Atlas of the World'. A large banner image of a mountain range is in the background. A dark box in the center says 'Join the Community' with a paragraph of text: 'Your input makes a difference! Join the community by providing feedback, creating large scale features, or sharing data layers and services. Your contributed data will be added to Esri basemaps, which are freely available to ArcGIS users as part of the ArcGIS Living Atlas of the World. Watch [this video](#) for a tour of what you can do!'. Below this, there are three circular icons with text: 'Provide Feedback' (with a map icon showing a red box), 'Edit Features' (with a map icon showing a red polygon), and 'Share Data' (with a map icon showing a red rectangle). Each icon has a paragraph of text below it explaining the action and a link to 'More Details'.

Community Maps Program Living Atlas of the World

Join the Community

Your input makes a difference! Join the community by providing feedback, creating large scale features, or sharing data layers and services. Your contributed data will be added to Esri basemaps, which are freely available to ArcGIS users as part of the ArcGIS Living Atlas of the World. Watch [this video](#) for a tour of what you can do!

Provide Feedback

If you see an error in the map, draw a box around it and tell us what is wrong so we can fix it.

[More Details](#) [Give Feedback](#)

Edit Features

If you'd like to add detail for a special area of interest, create or edit features that we can add to the map.

[More Details](#) [Sign in Editor App](#)

Share Data

If you have data that would improve the map, share your data or services so we can add to the map.

[More Details](#) [Register and Contribute](#)

The screenshot shows the Esri ArcGIS Living Atlas of the World Community Maps Program page. The top navigation bar includes 'esri', 'ArcGIS', 'Industries', 'About', 'Support', and a search bar. Below the navigation bar, there's a header with 'ArcGIS Living Atlas of the World' and a map background. The main heading is 'Community Maps Program' with the subtext 'Add your data to Esri's basemaps'. Below this, there are links for 'Contribute', 'Community Maps Program', and 'Help'. A large blue section contains the text: 'Join the Community! You can **provide feedback**, **create** detailed **features**, and **share data** layers and services. Your contributed data will be added to Esri basemaps, which are available to ArcGIS users as part of ArcGIS Living Atlas of the World.' with a 'Join the Community' button. At the bottom, there's a map snippet and a section titled 'What to Contribute' with text: 'The Community Maps Program works with authoritative GIS data contributions to build ArcGIS Living Atlas of the World. It consists of reference and thematic maps'.

esri ArcGIS Industries About Support

ArcGIS Living Atlas of the World Home Browse Apps Blog Contribute My Contributions My Favorites

Community Maps Program

Add your data to Esri's basemaps

[Contribute](#) [Community Maps Program](#) [Help](#)

Join the Community! You can **provide feedback**, **create** detailed **features**, and **share data** layers and services. Your contributed data will be added to Esri basemaps, which are available to ArcGIS users as part of ArcGIS Living Atlas of the World.

[Join the Community](#)

What to Contribute

The Community Maps Program works with authoritative GIS data contributions to build ArcGIS Living Atlas of the World. It consists of reference and thematic maps

Summary

DCGIS

Sign In

Omaha/Douglas County GIS

Open Data Portal

Search Open Data

Welcome to the Omaha/Douglas County GIS Open Data website. From here you can access various geospatial data layers, maps, and apps for public use. If you have questions or comments, please [contact us](#).

COVID-19 Resources

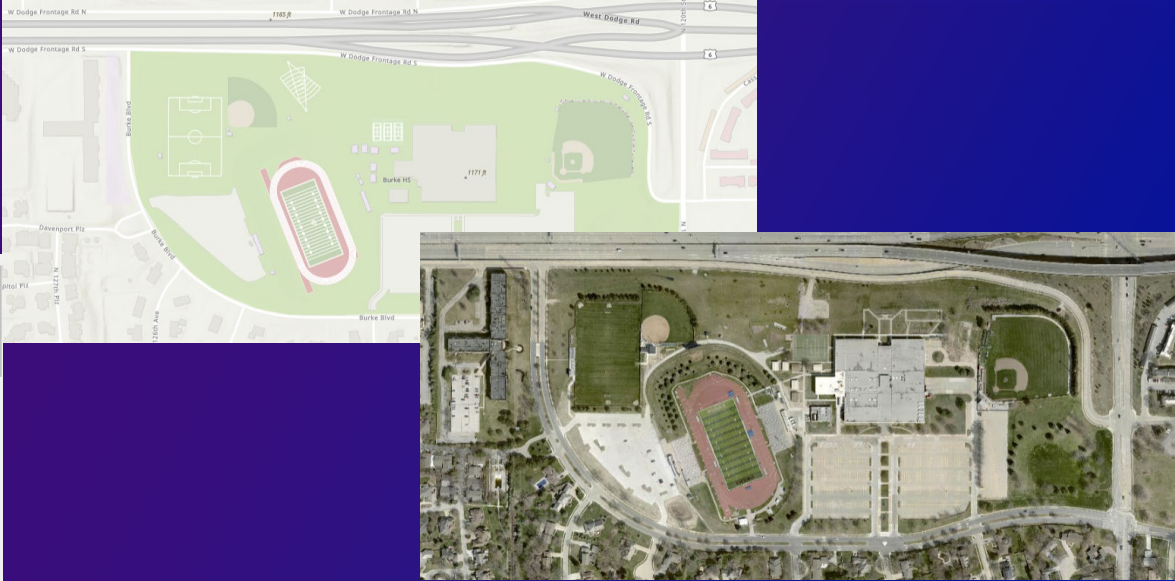
Douglas County COVID-19 GIS HUB | Douglas County COVID-19 Dashboard

New & Popular Data

- Aerial Photos/Imagery
- LiDAR/Elevation Data
- REST map services
- Request Omaha Sewer Data (Omaha Public Works)
- Request Douglas County Elections Data (DC Election Commission)

New & Popular Apps

- ***NEW*** DCGIS Drone Flight Viewer
- ***NEW*** Omaha TIF Lookup
- DOGIS.org public map viewer
- OmahaHotline.com (citizen reporting)
- What City? (find out what city an address is in)



COVID-19 INFORMATION

Yakima County information & data
[Read On.](#)

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