Introduction to Spatial Analysis in ArcGIS Online

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Topics

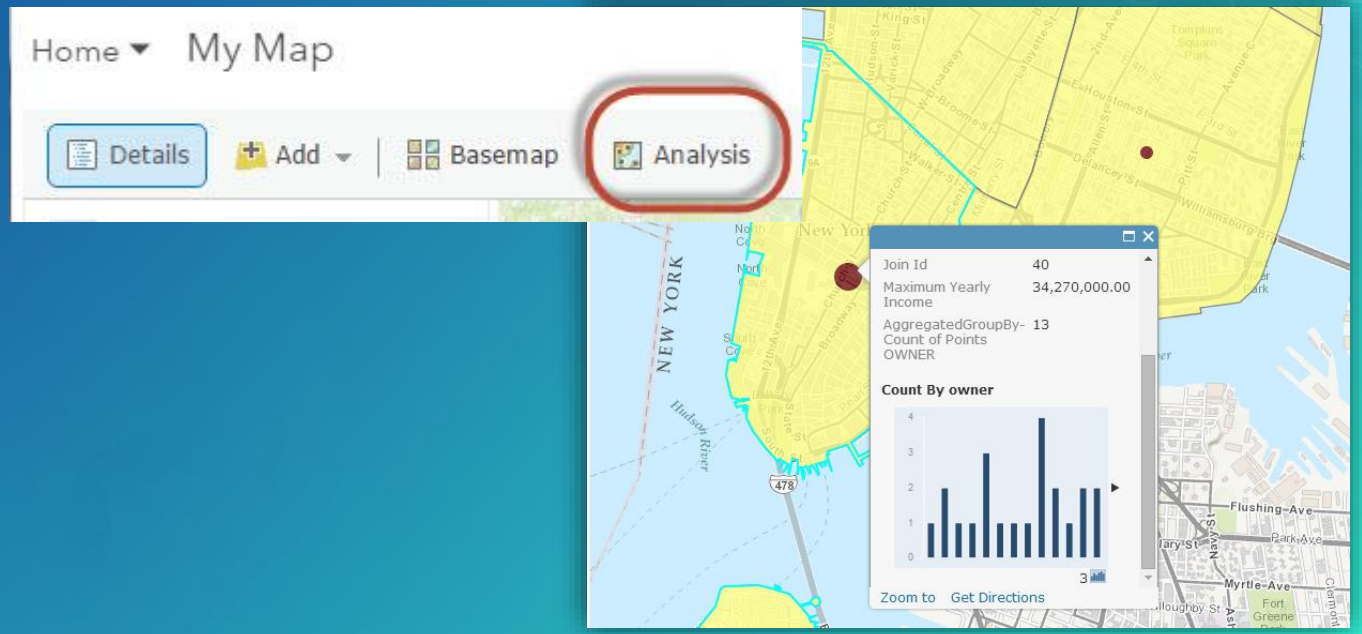
- Introducing ArcGIS Online Spatial Analysis
- ArcGIS Online Spatial Analysis Workflow
- Demos and examples
  - Using ArcGIS Online Analysis to Solve Problems
- Wrap up
- Q&A

Introducing ArcGIS Online Spatial Analysis

ArcGIS Online Spatial Analysis

What is it?

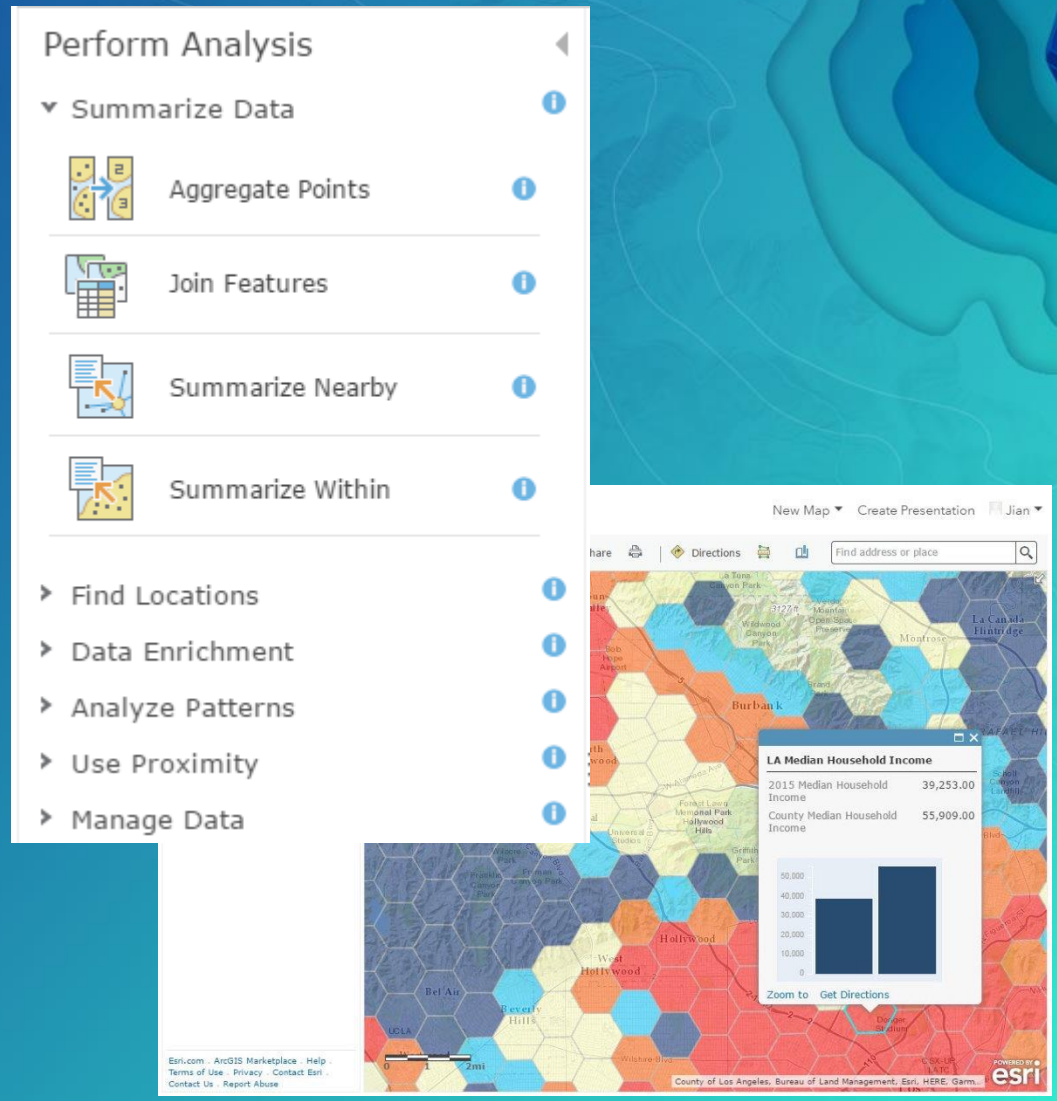
- Integrate analytics into ArcGIS Online for your organization's workflows
  - Everything runs in the cloud using ArcGIS Online
  - Ready to use content
- Use analysis tools to quickly, easily, and intuitively:
  - Discover relationships, patterns, and trends in data
  - Answer questions in a meaningful way



ArcGIS Online Spatial Analysis

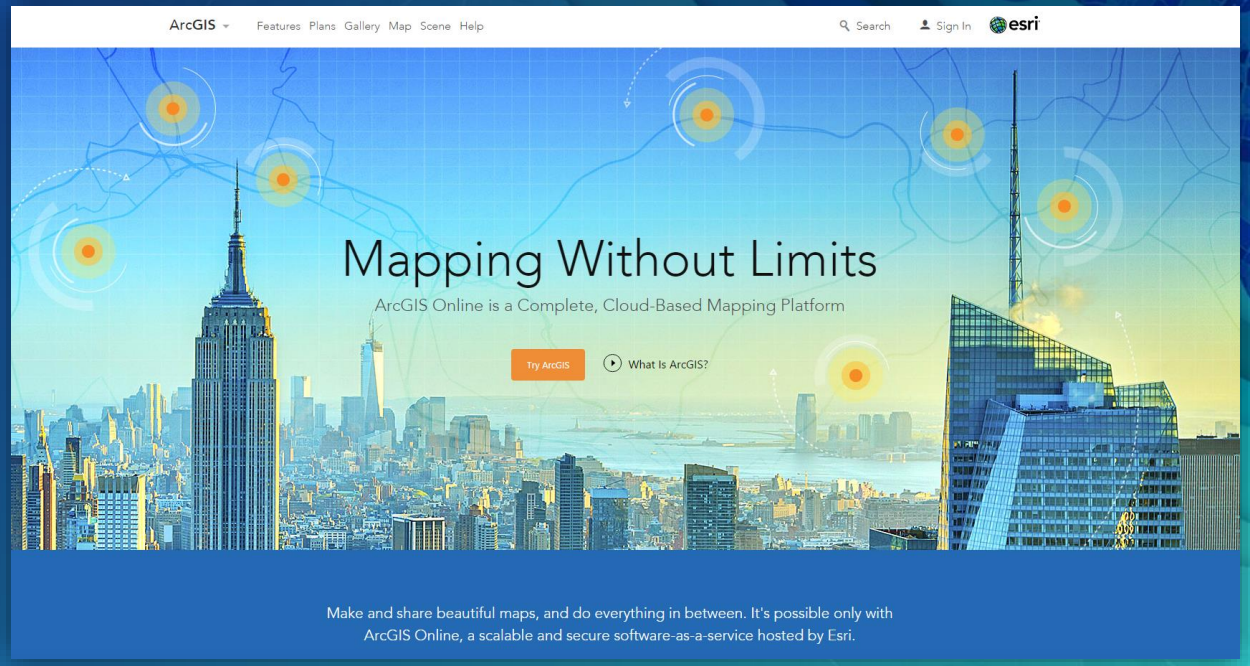
What is the value?

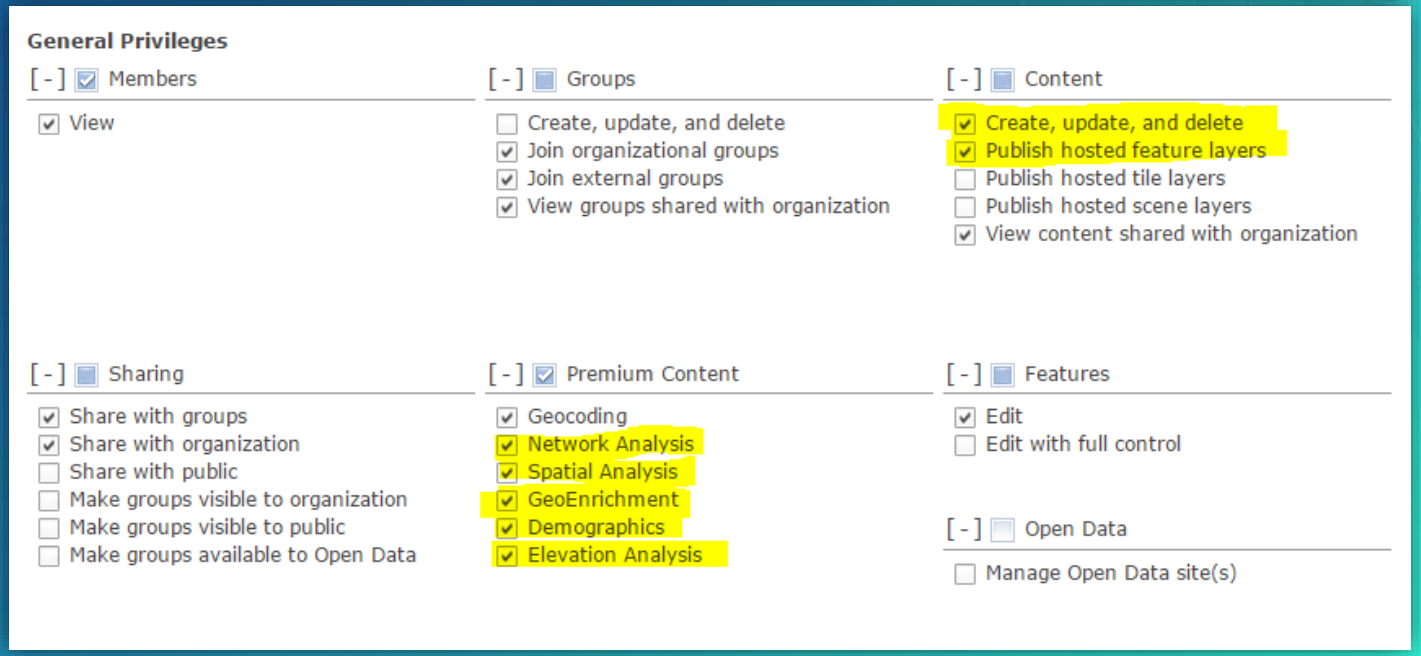
- Embracing Web GIS
- New and better ways to perform spatial analysis
  - Solutions based
  - Content and services
  - Easy and Intuitive



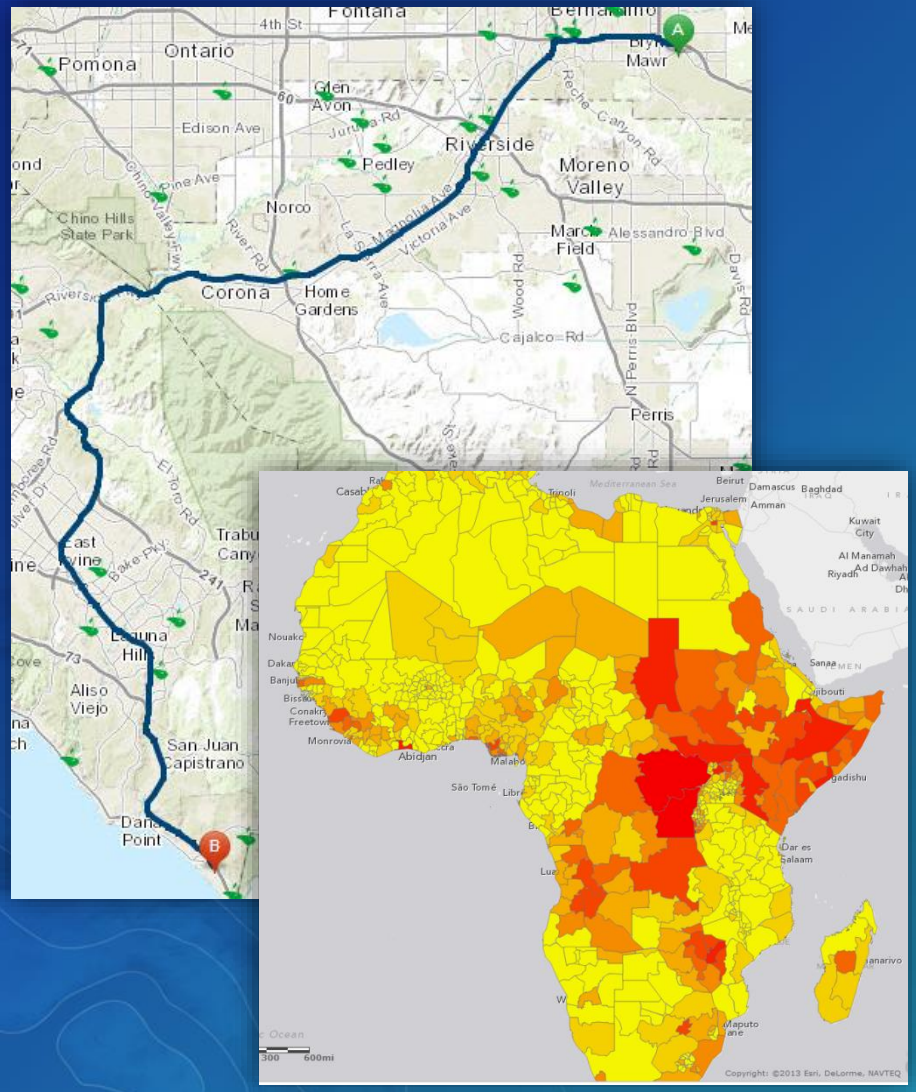
What do you need?

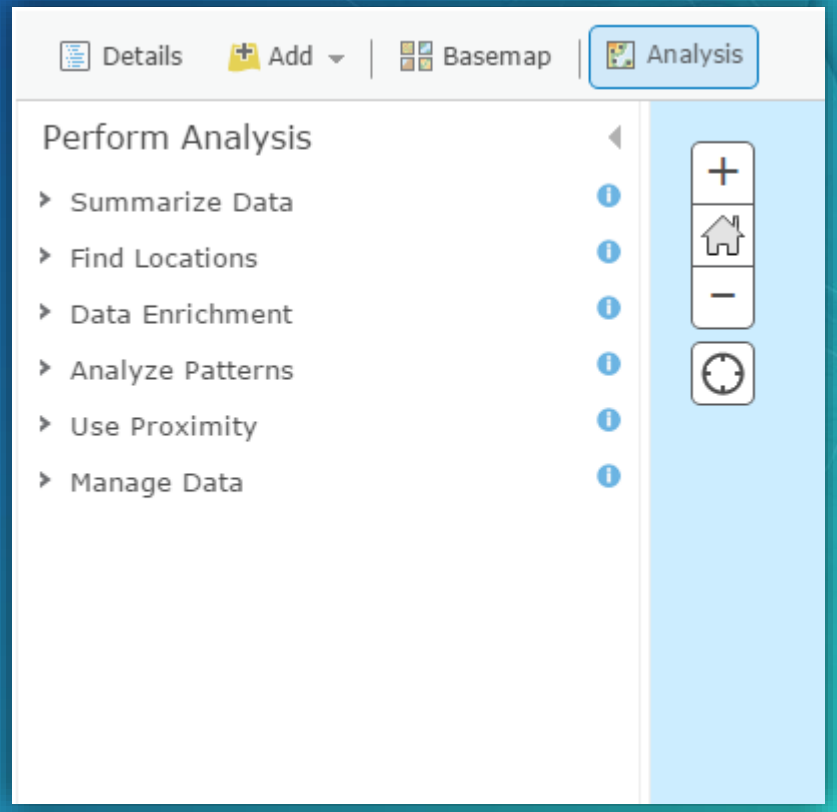
- ArcGIS Online Organizational account
- Role privileges:
  - Create items
  - Publish hosted features
  - Premium Content
    - Network Analysis
    - Spatial Analysis
    - GeoEnrichment
    - Demographics
    - Elevation Analysis
- Credits





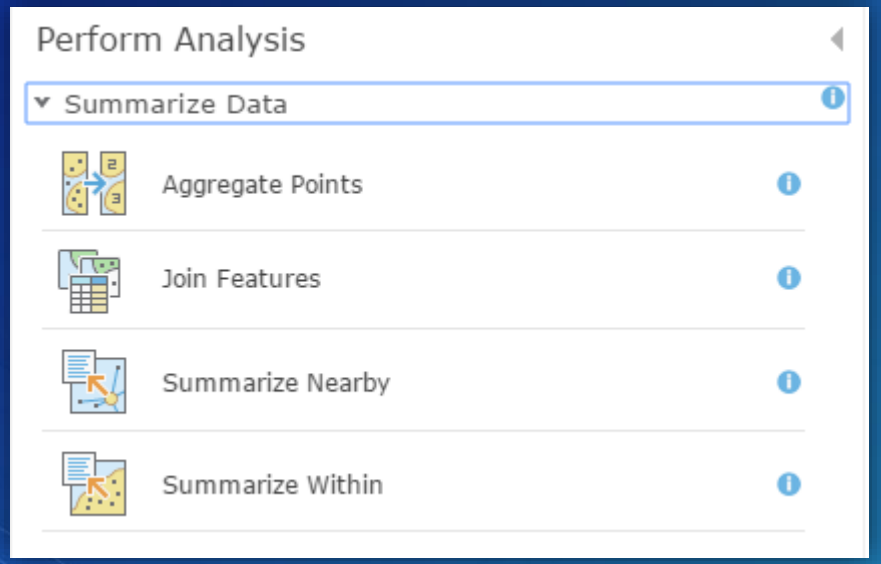
ArcGIS Online Spatial Analysis Tools

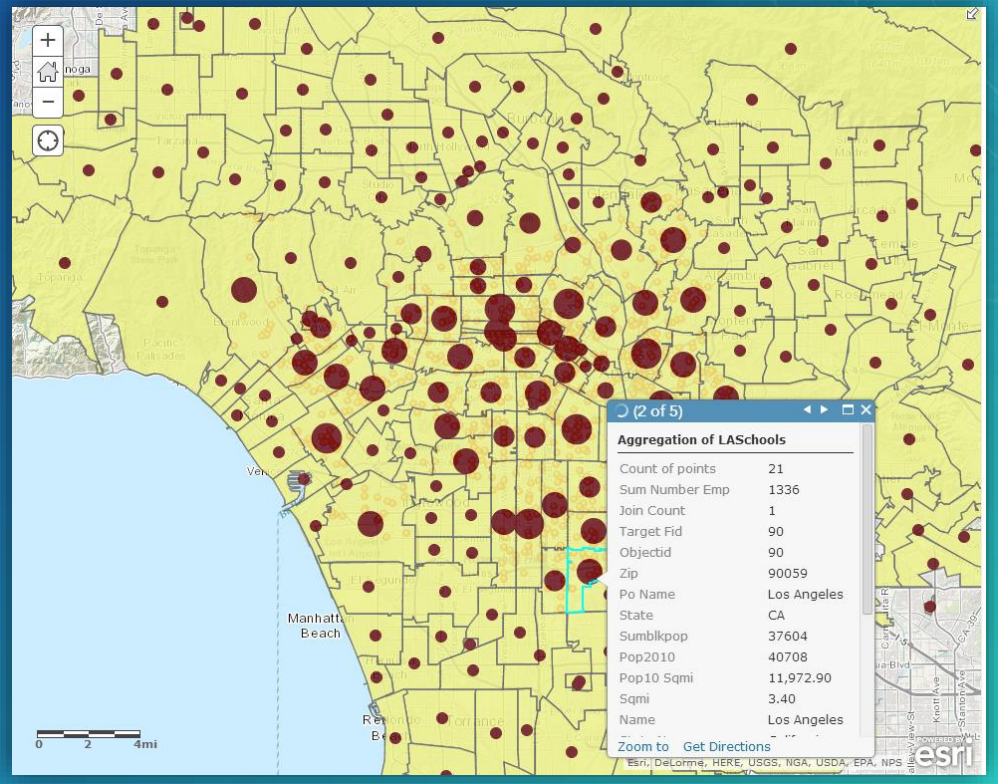




Summarize Data

- Calculate summary statistics for features and attributes

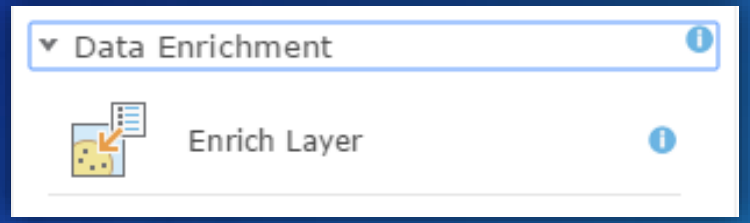


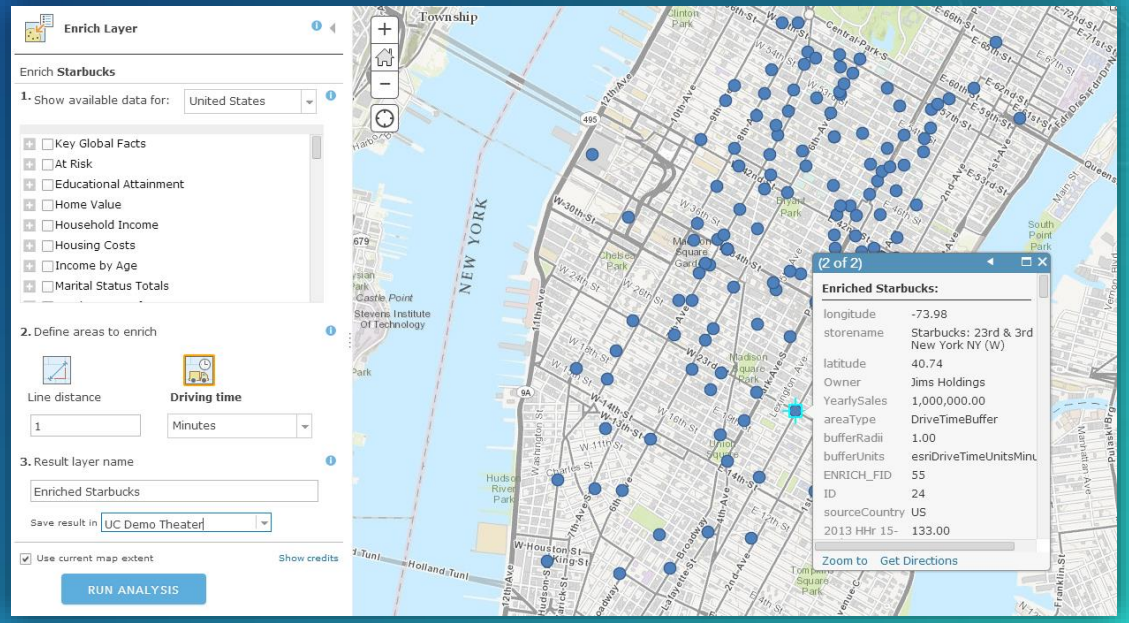


Number of schools by zip code

Data Enrichment

- Explore the character of areas
- Add detailed demographic data and statistics to your analysis

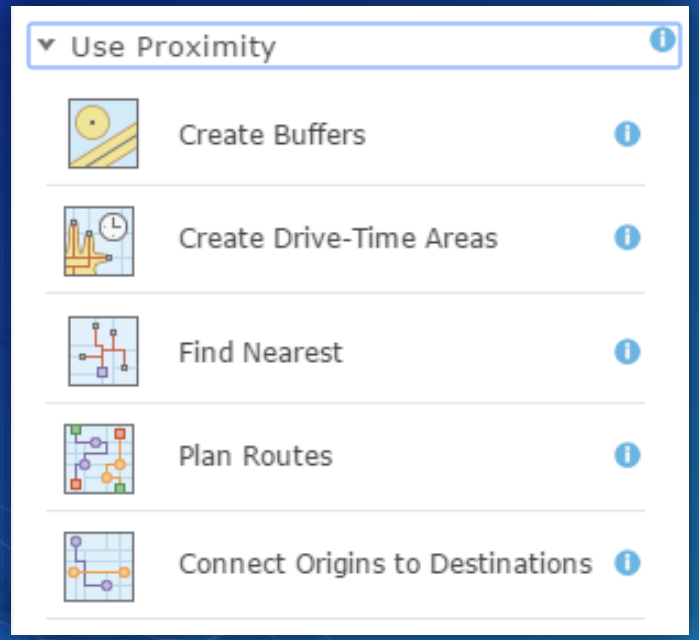


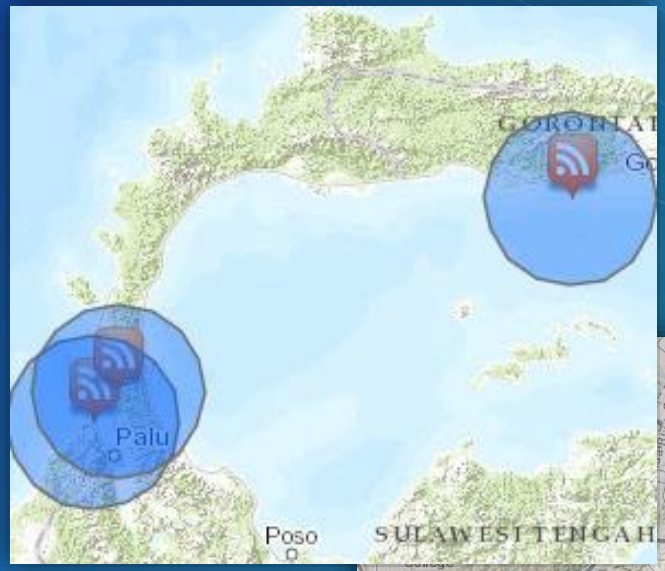


Who lives in the neighborhood surrounding each Starbucks store?

Use Proximity

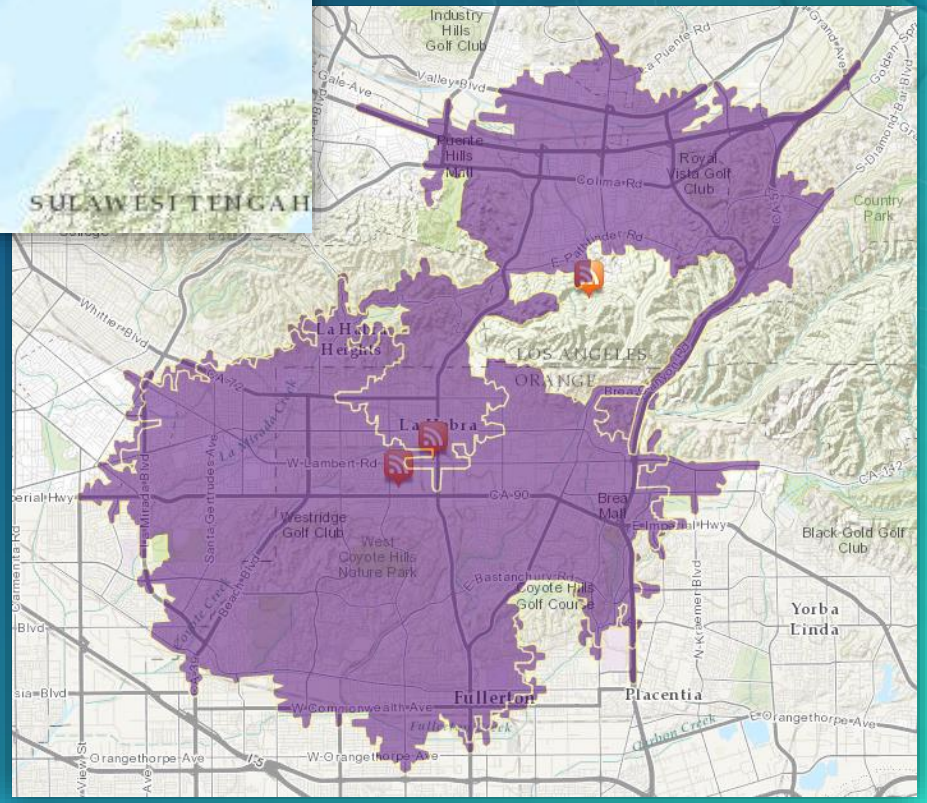
- "What is near what?"





Earthquake events

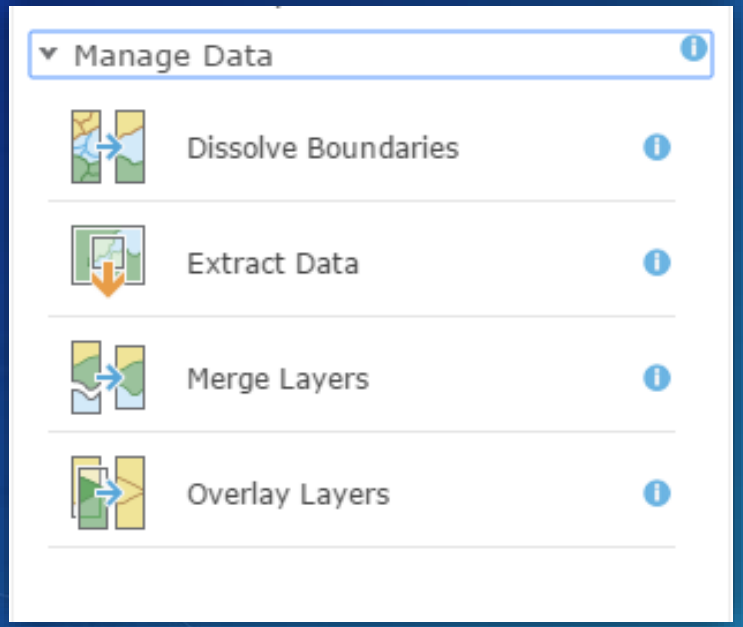
Create buffers

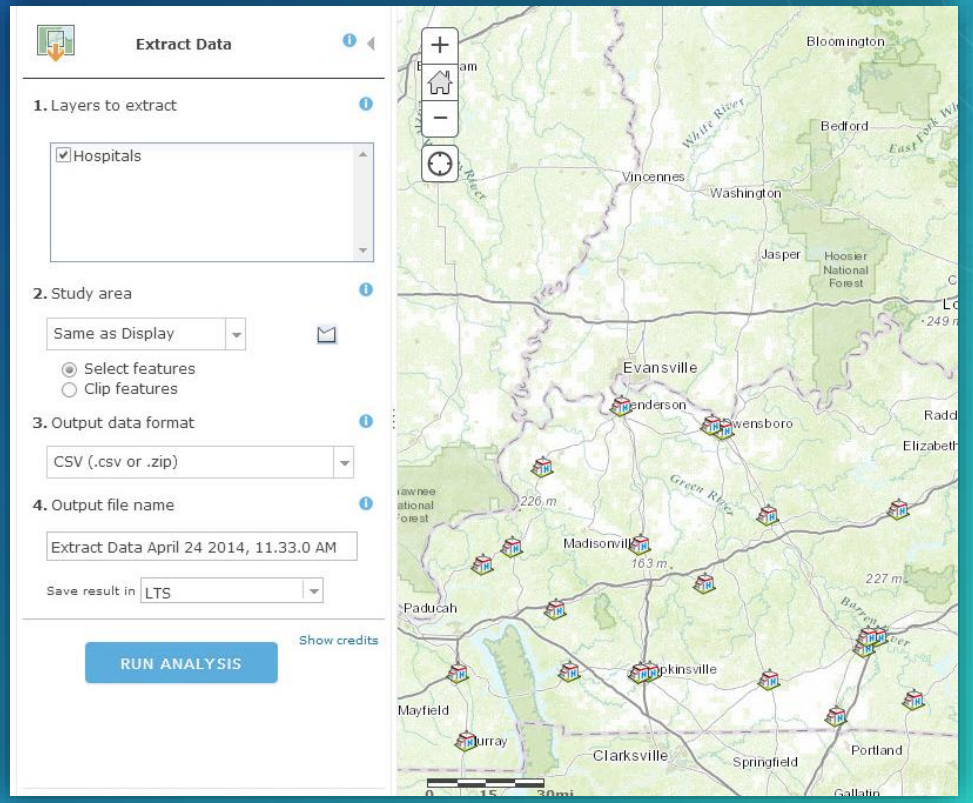


Drive-time areas

Manage Data

- Manage geographic data, and combine prior to analysis



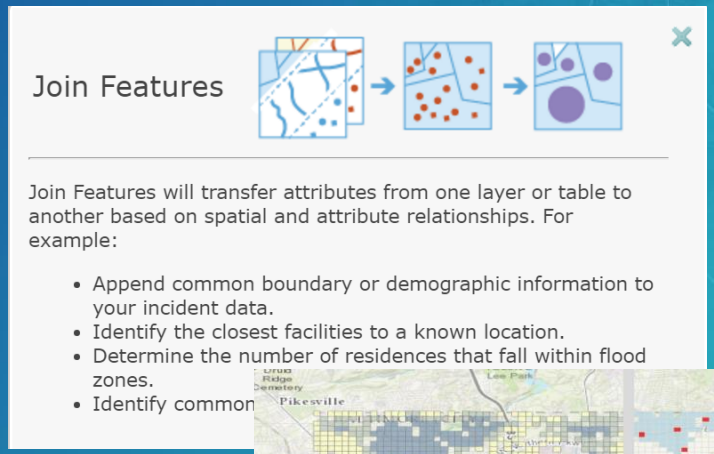


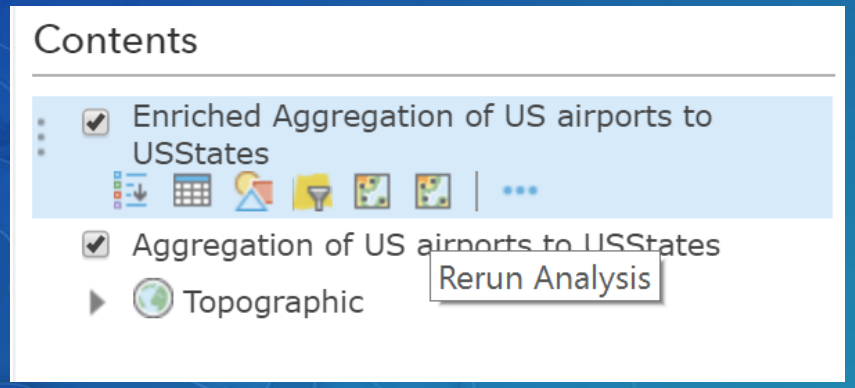
Ohio hospitals—extract data

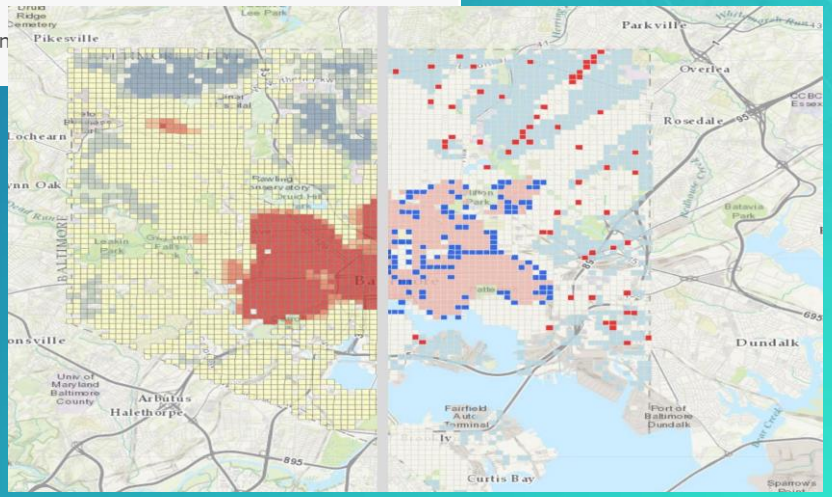
ArcGIS Online Spatial Analysis

Release Update

- Incremental release with each ArcGIS Online quarterly update
- New in last year:
  - Join Features
  - Find Outliers
  - Better sharing experience with network analysis results
- Latest release: June 2017
  - 26 workflows
  - Rerun analysis workflows







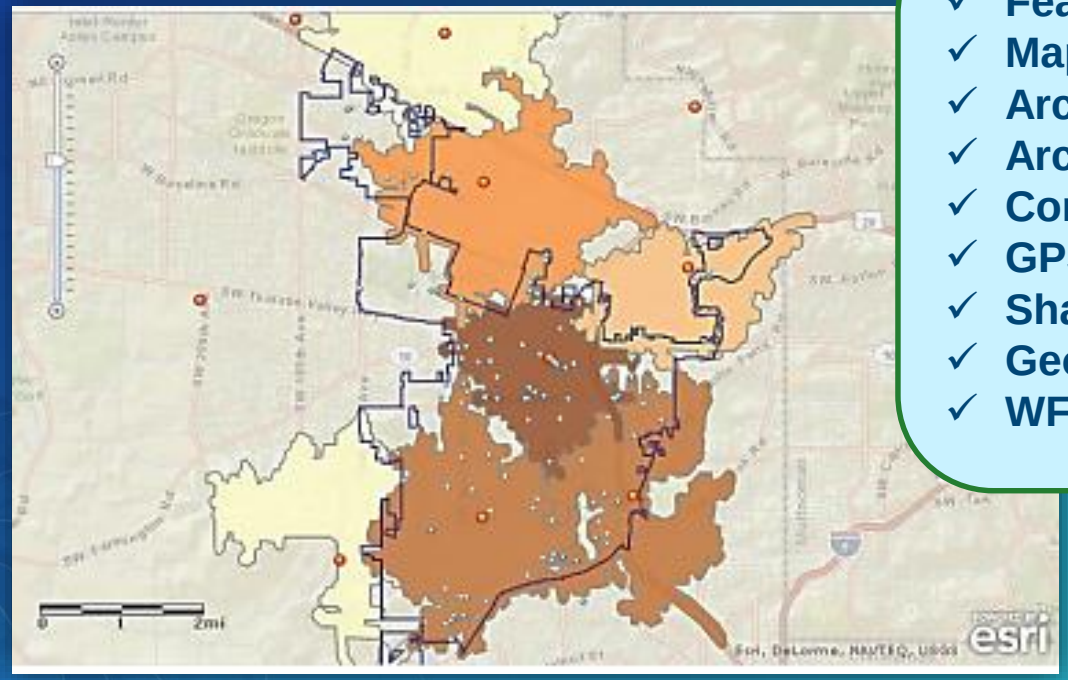
ArcGIS Online Analysis Workflow

ArcGIS Online Analysis Workflow

Assemble data

Prepare data

- Evaluate analysis needs
- Search local and online resources
- Create, publish, and filter data



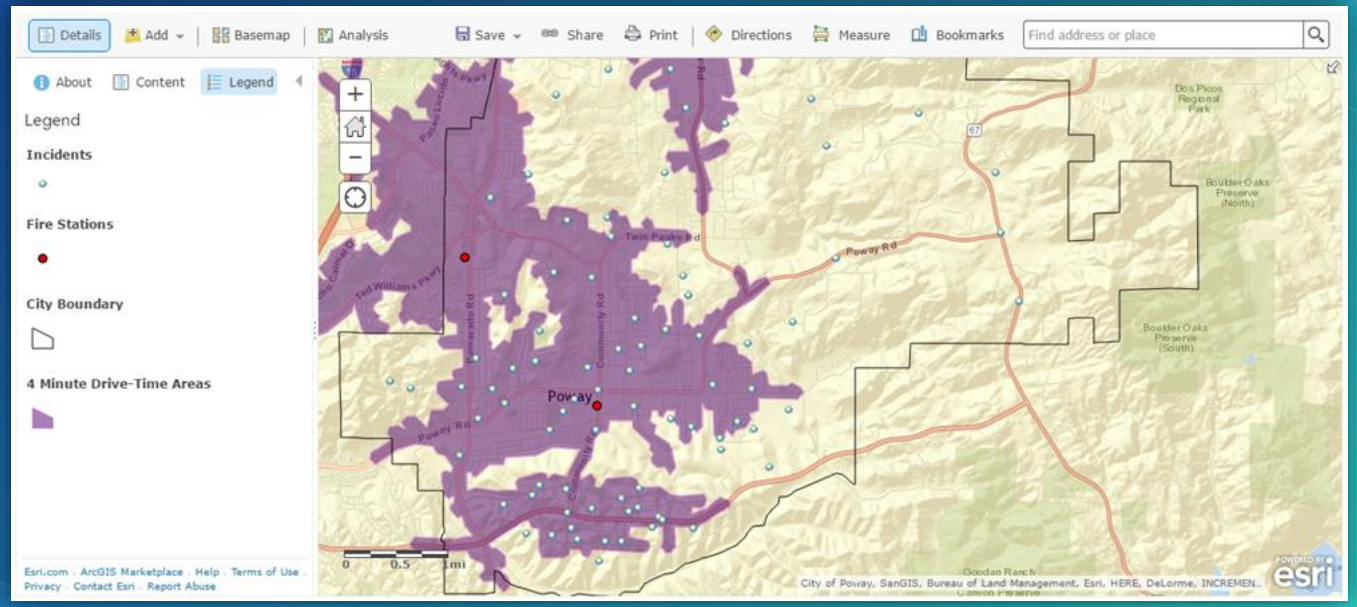
Supported data types

- ✓ Feature service
- ✓ Map service with feature layers
- ✓ ArcGIS Online Map Notes
- ✓ ArcGIS Online Route layers
- ✓ Comma-separated values (CSV) file (.csv)
- ✓ GPS exchange format file (.gpx)
- ✓ Shapefile (.zip)
- ✓ GeoRSS web feed
- ✓ WFS layers

Update map

Add to map

- Bring data into ArcGIS Online map viewer
- Optionally
  - Set symbology, map display extent, and bookmarks
  - Save map

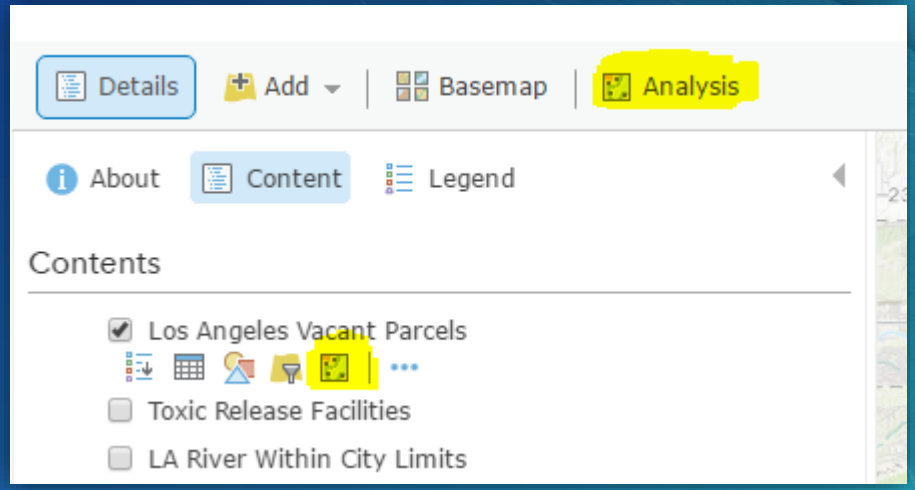


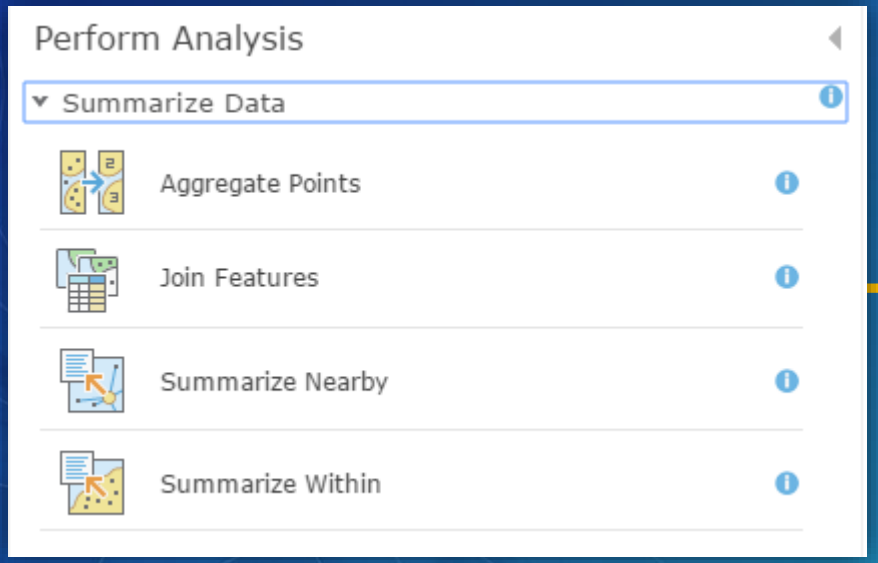
Living Atlas Analysis Layers and custom analysis layers do not need to be added to map

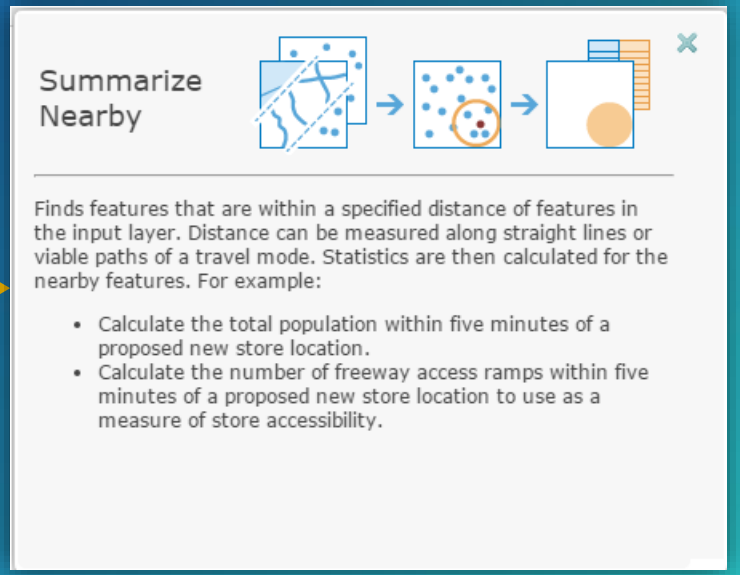
Analyze data

- **Open Analysis tools**
- **Determine appropriate tool(s)**

Perform analysis



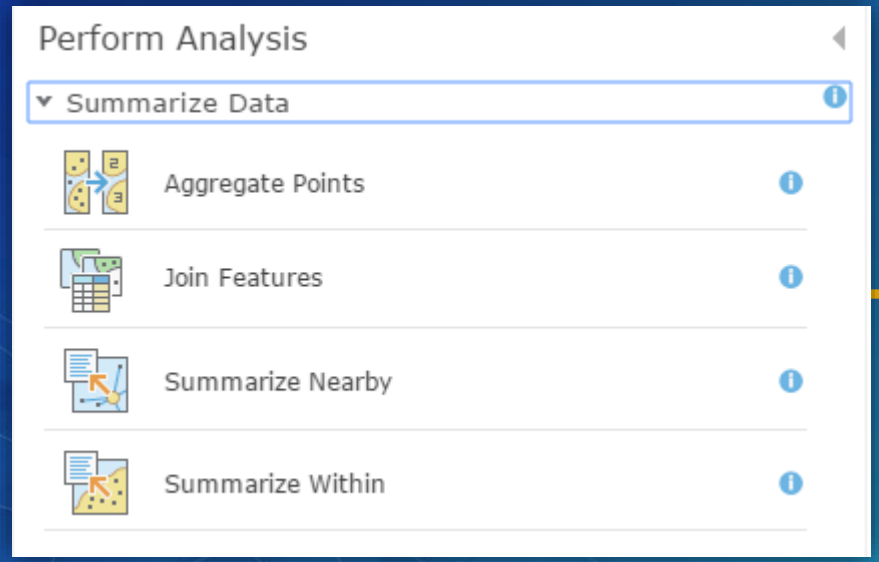


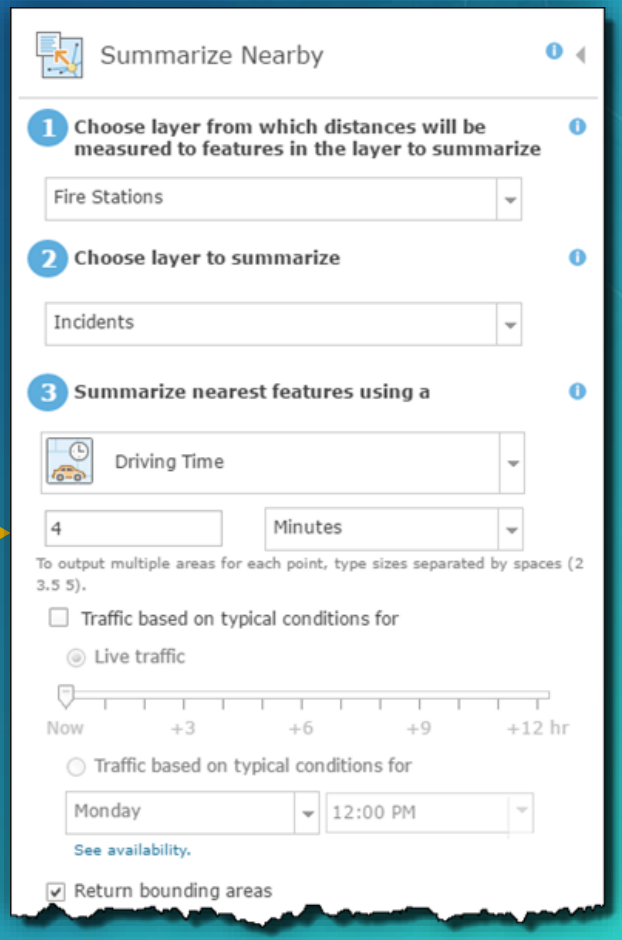


Analyze data

- **Determine appropriate tool(s)**
- **Apply parameters**

Perform analysis

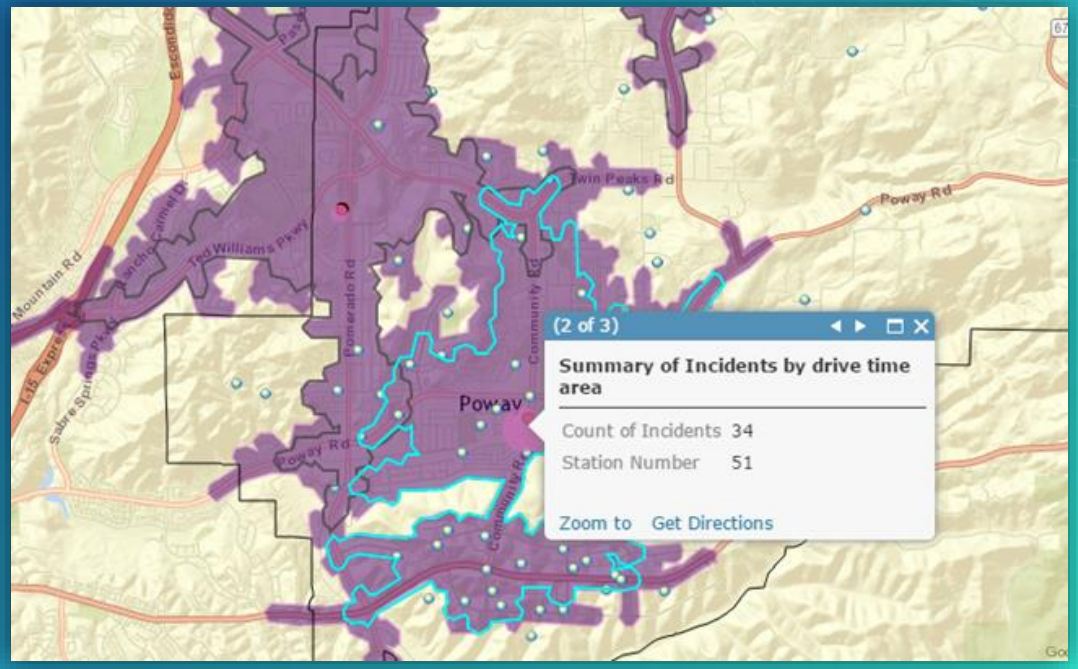




Use and review results

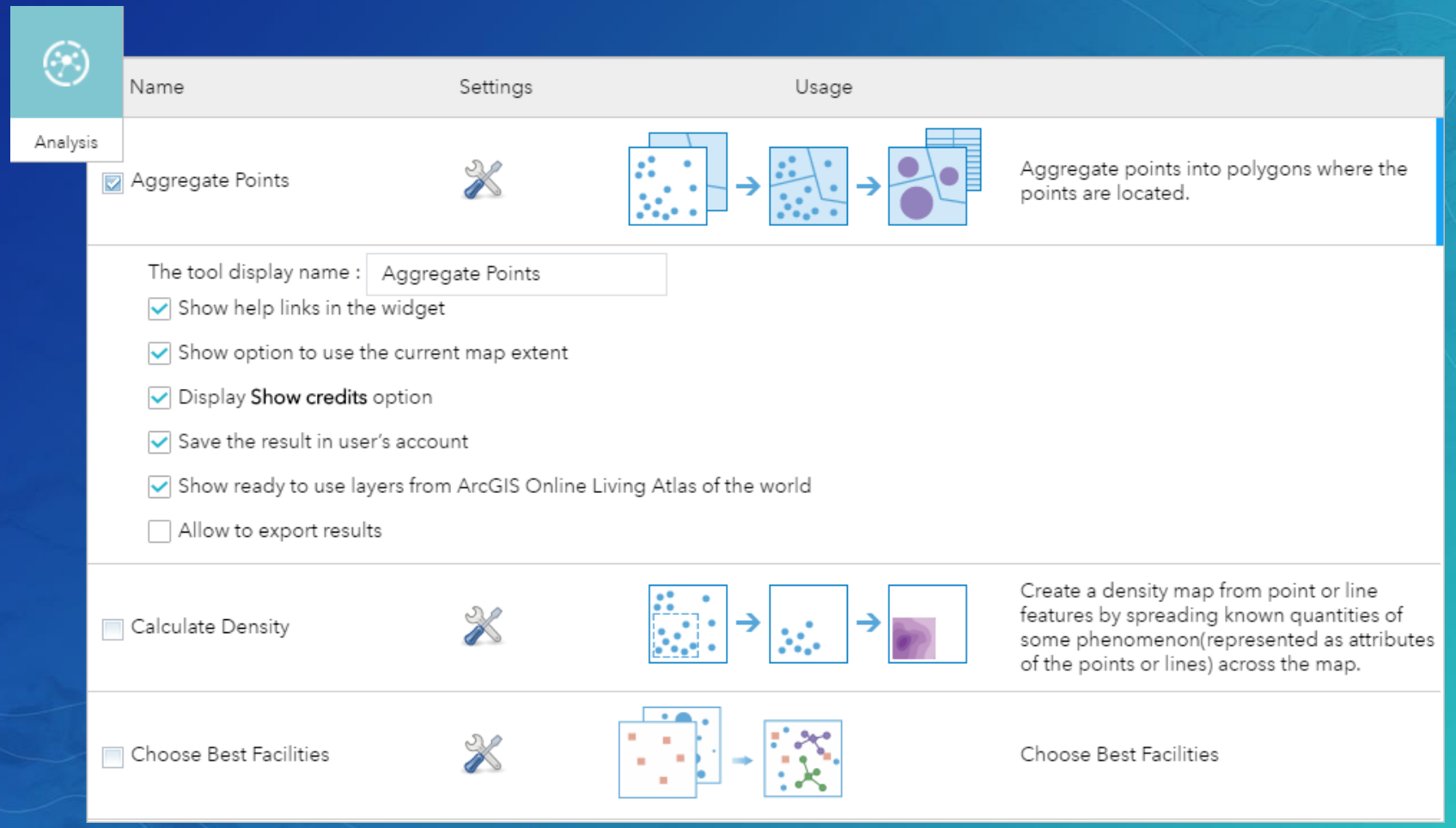
Review results

- Added to web map
- Published as hosted feature services within the organization
- Configure results layer – pop-ups, symbology
- Share the results



Adding Analysis to Web Apps using Web AppBuilder for ArcGIS

Review results



Adding Analysis to Web Apps using Web AppBuilder for ArcGIS

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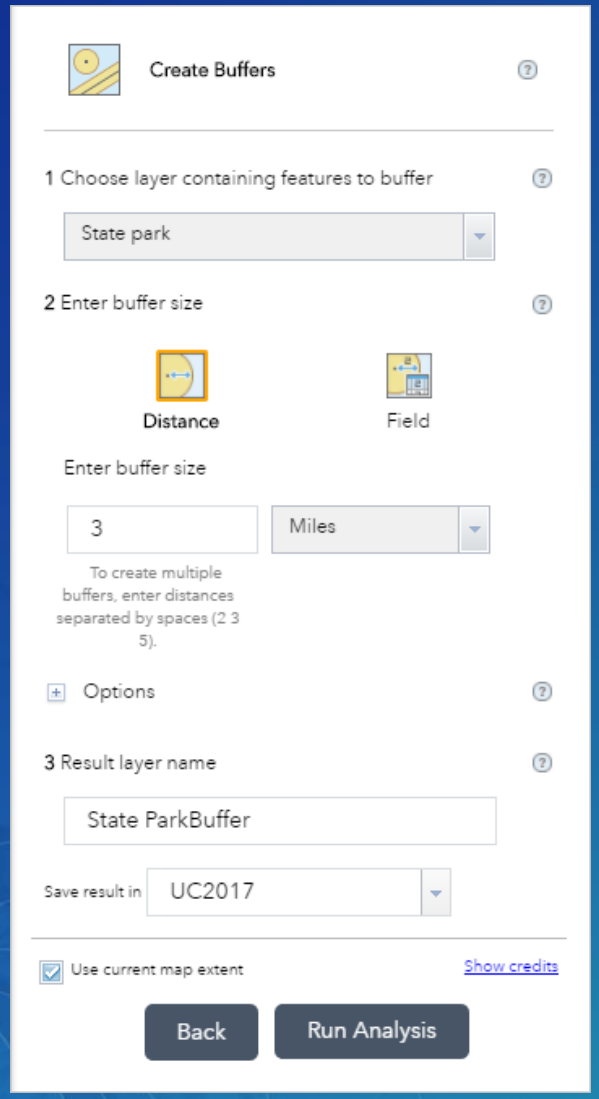
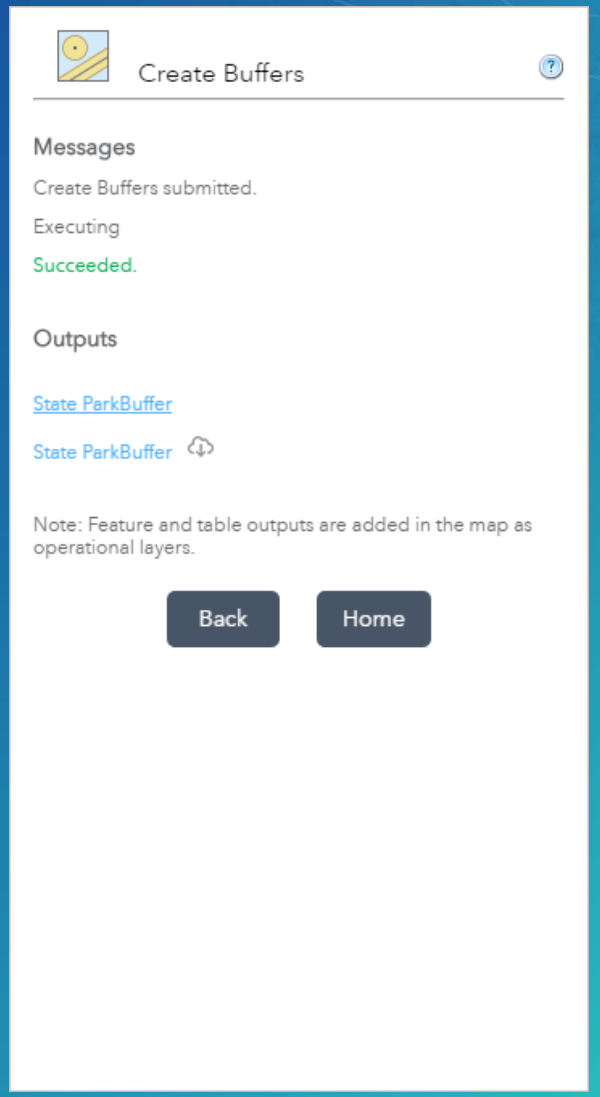
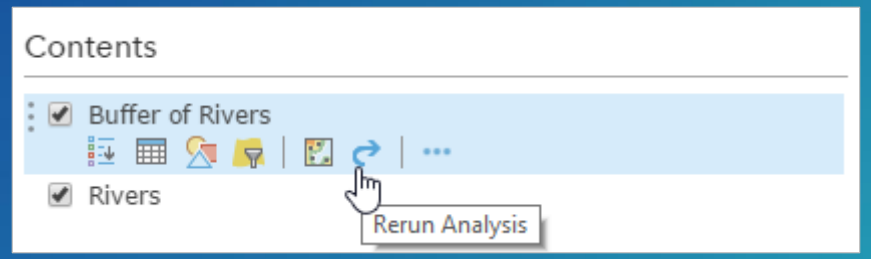




Re-run analysis

Rerun analysis

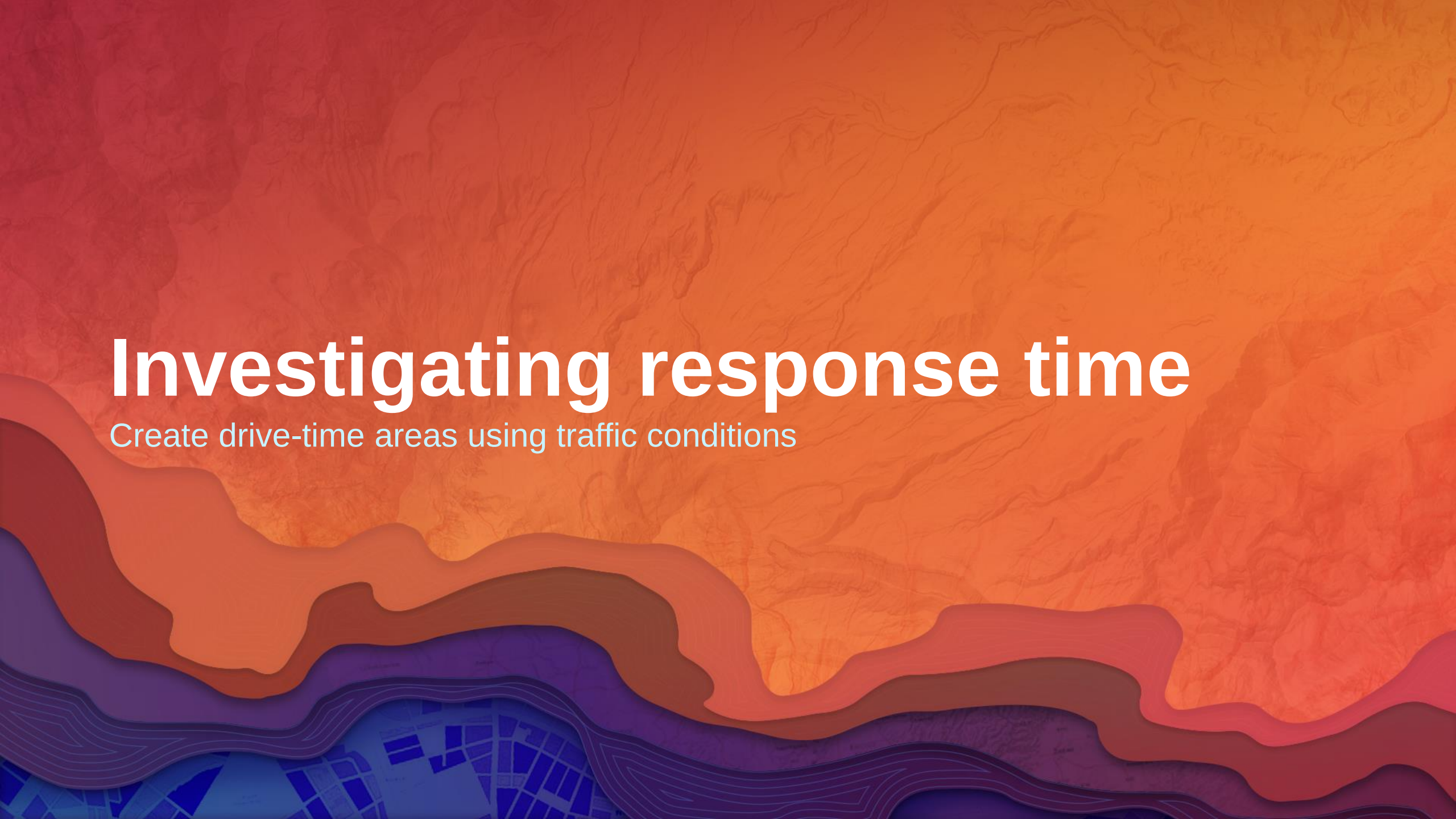
- Analysis can be re-run from a result layer
- All the previous parameters will be honored
- The tool can be rerun with the same parameters, or the parameters can be updated



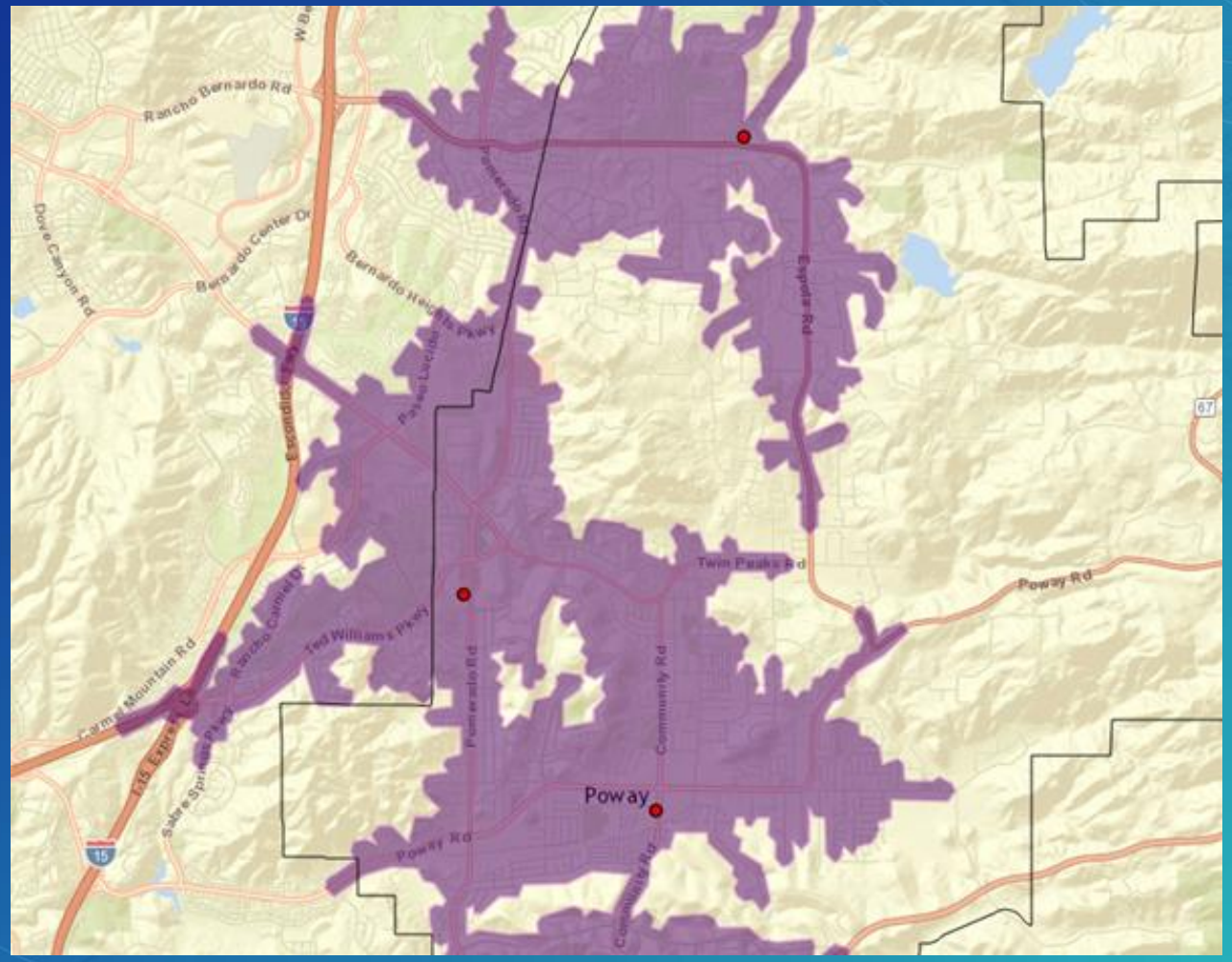
Demos – Using ArcGIS Online Analysis to Solve Problems

Investigating response time

Create drive-time areas using traffic conditions

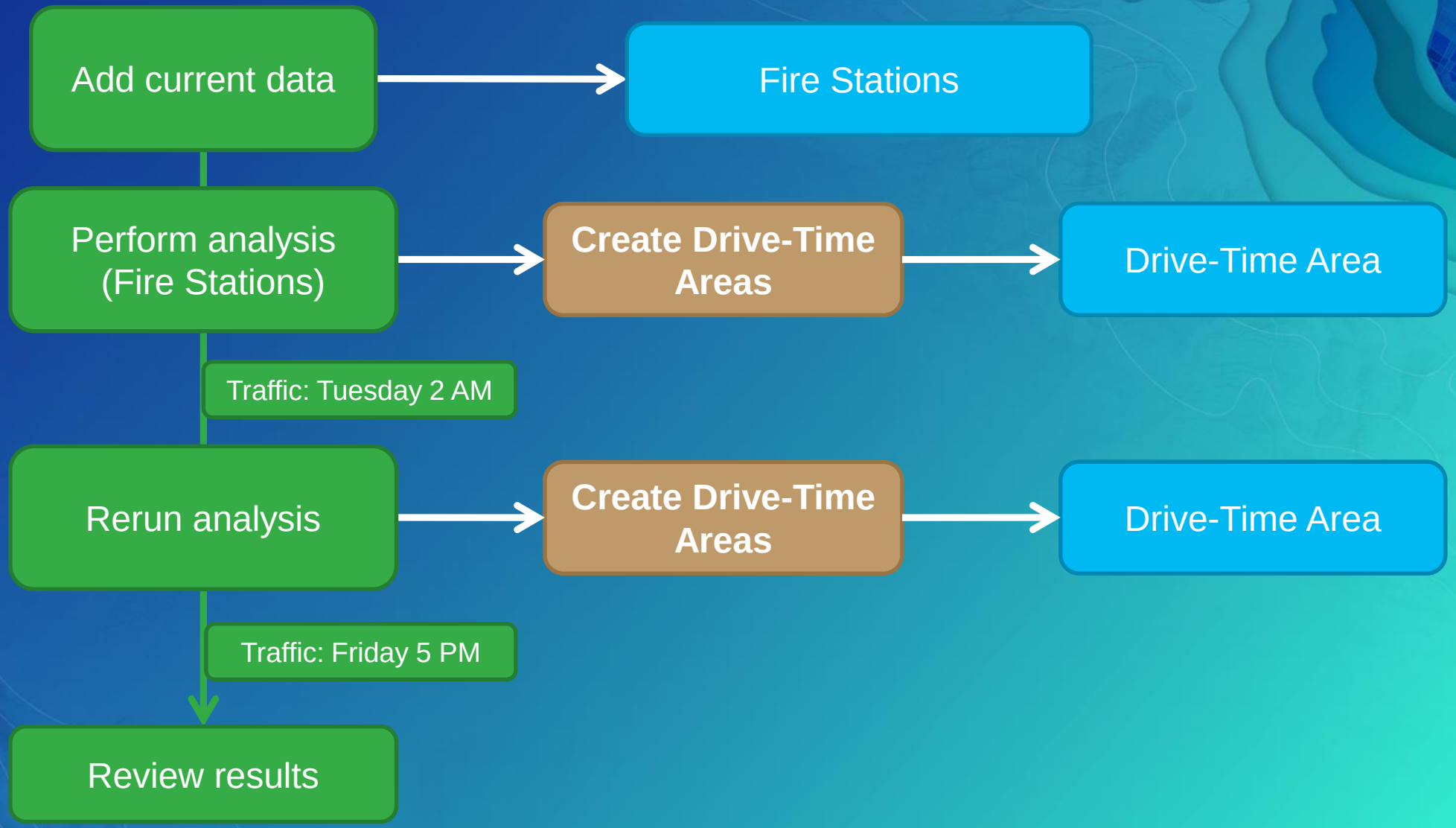


Demo Scenario



Find the areas of the city within a four-minute drive time

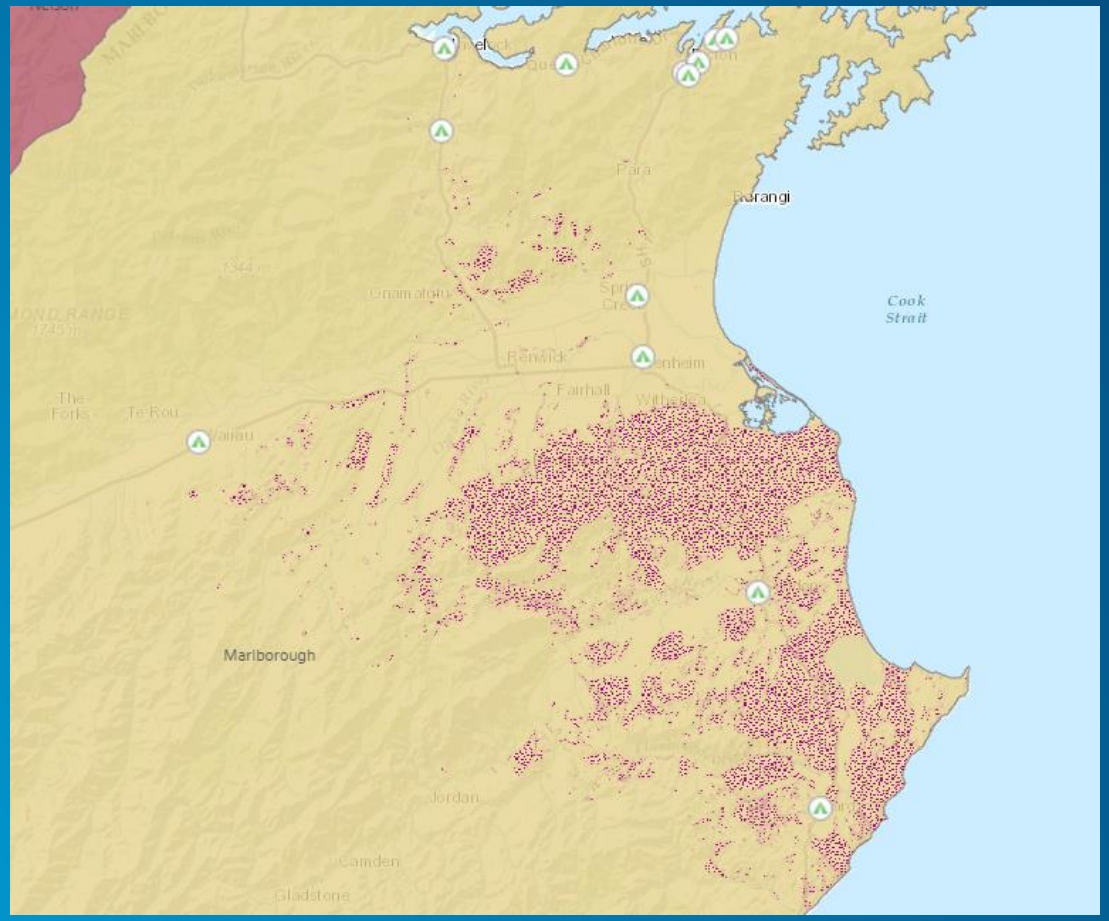
Demonstration review



Analyzing invasive species

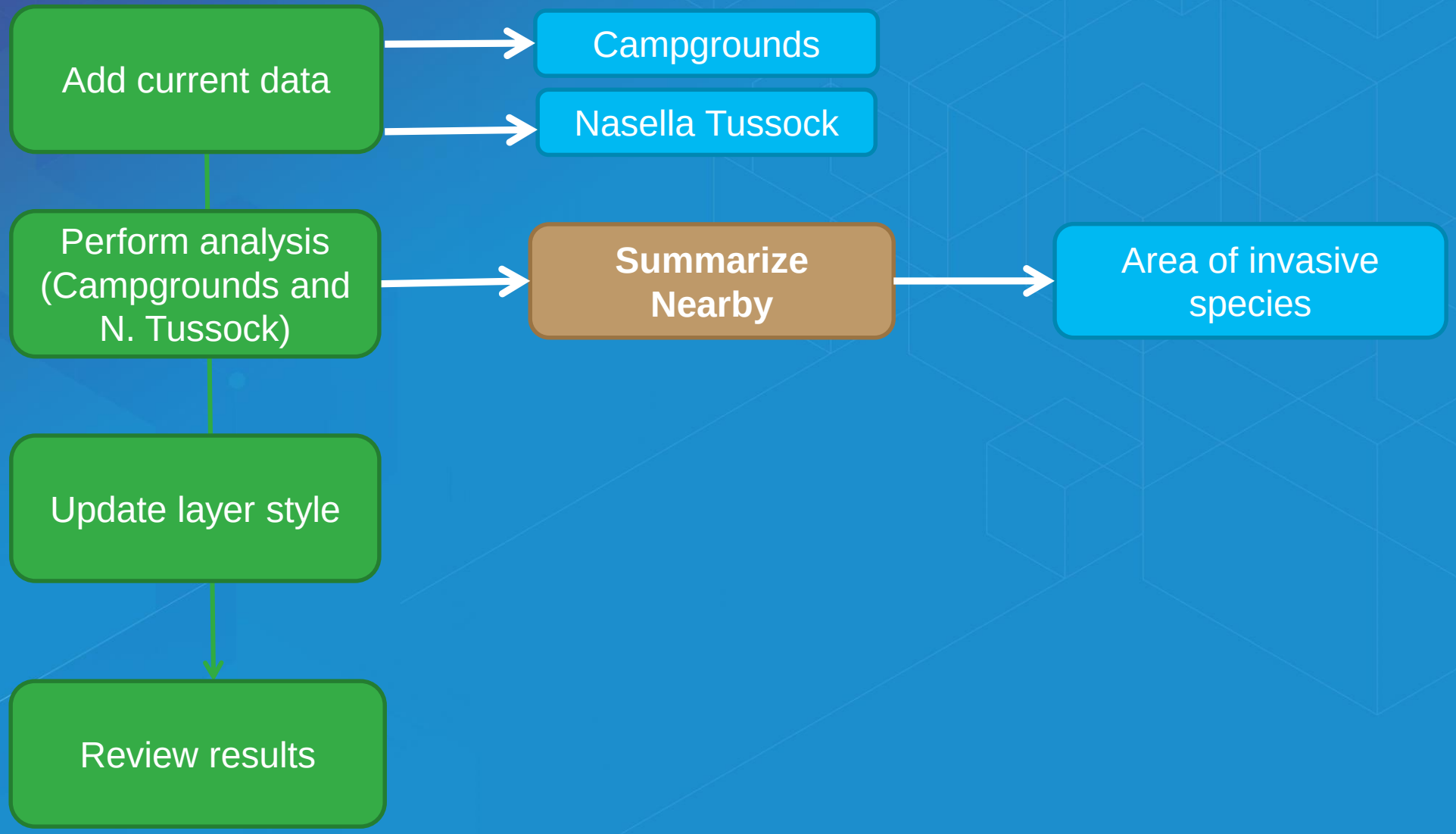
Summarize affected areas near campgrounds

Demo Scenario



Determine which campgrounds are near areas affected by an invasive weed

Demonstration review



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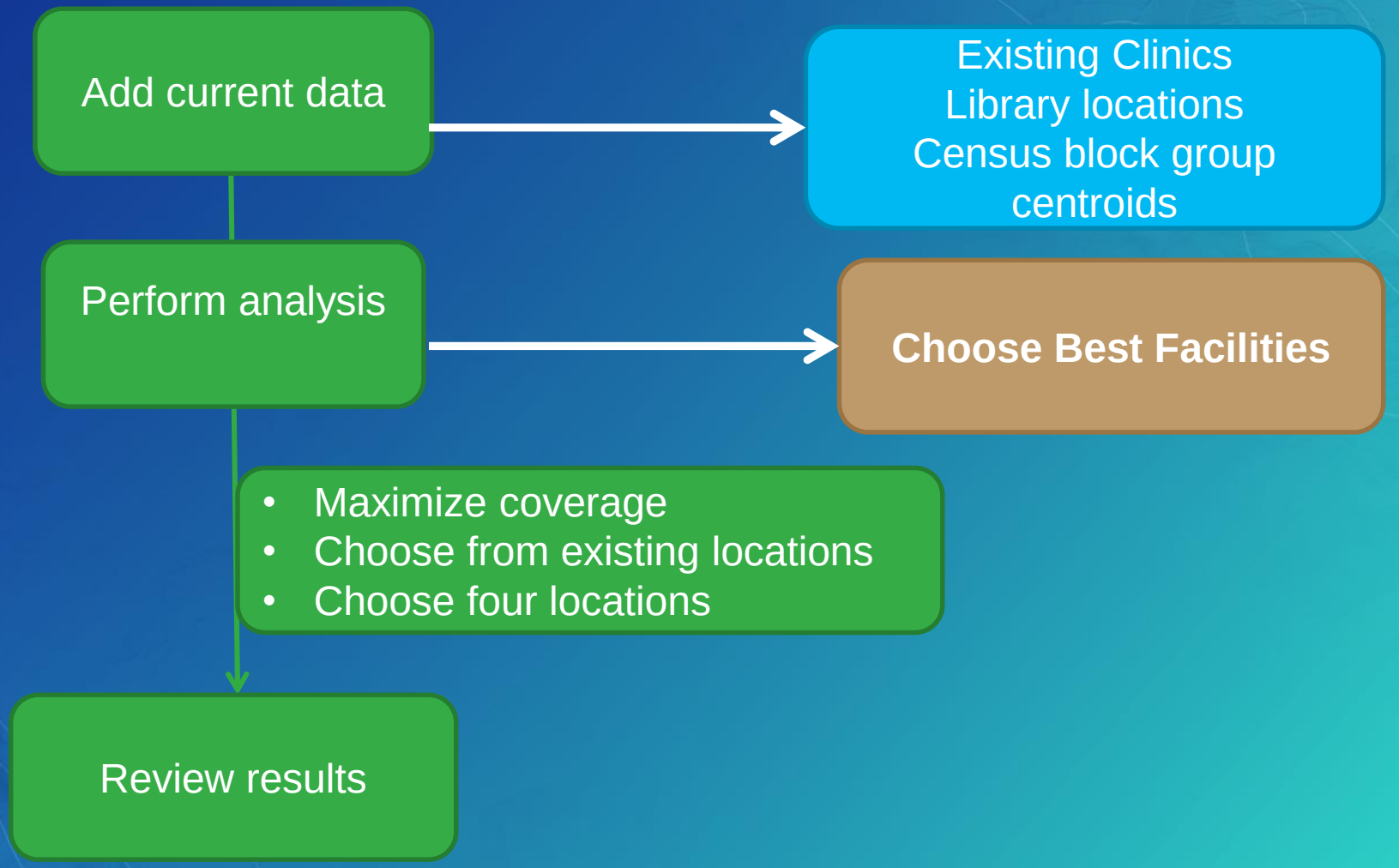
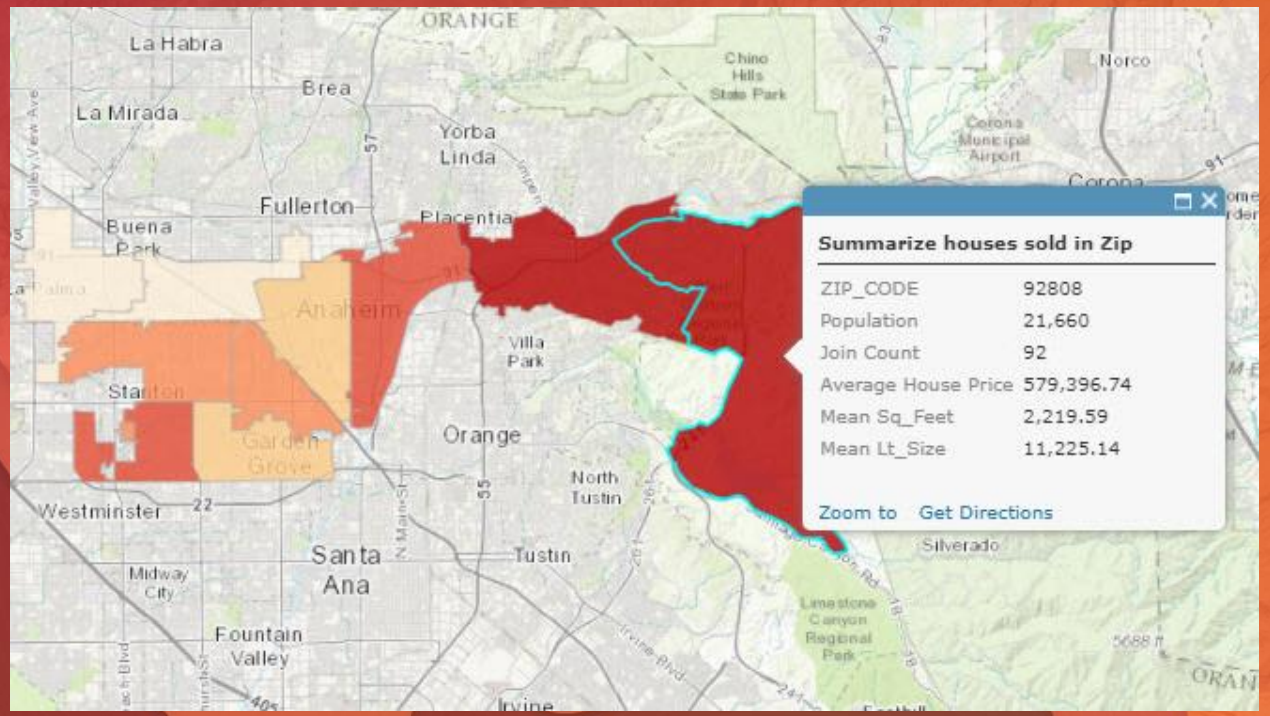
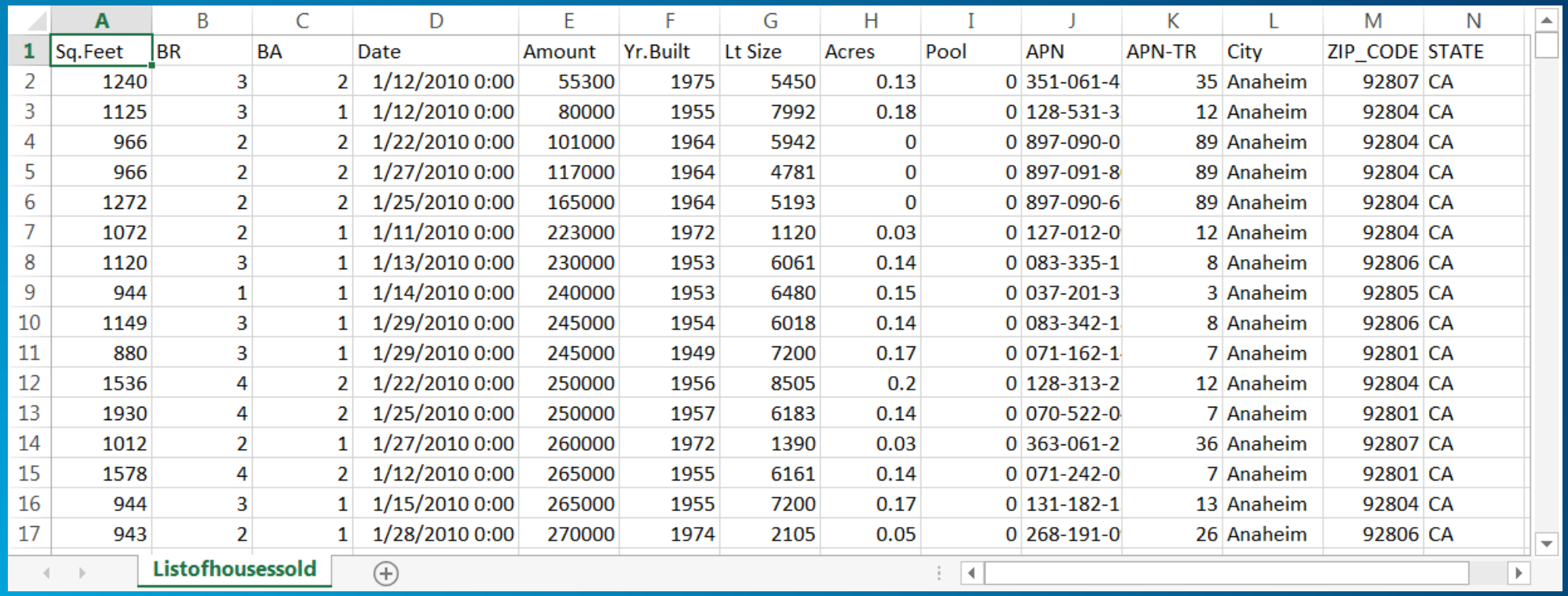




Demo

Summarize house sales per zip code

Demo Scenario

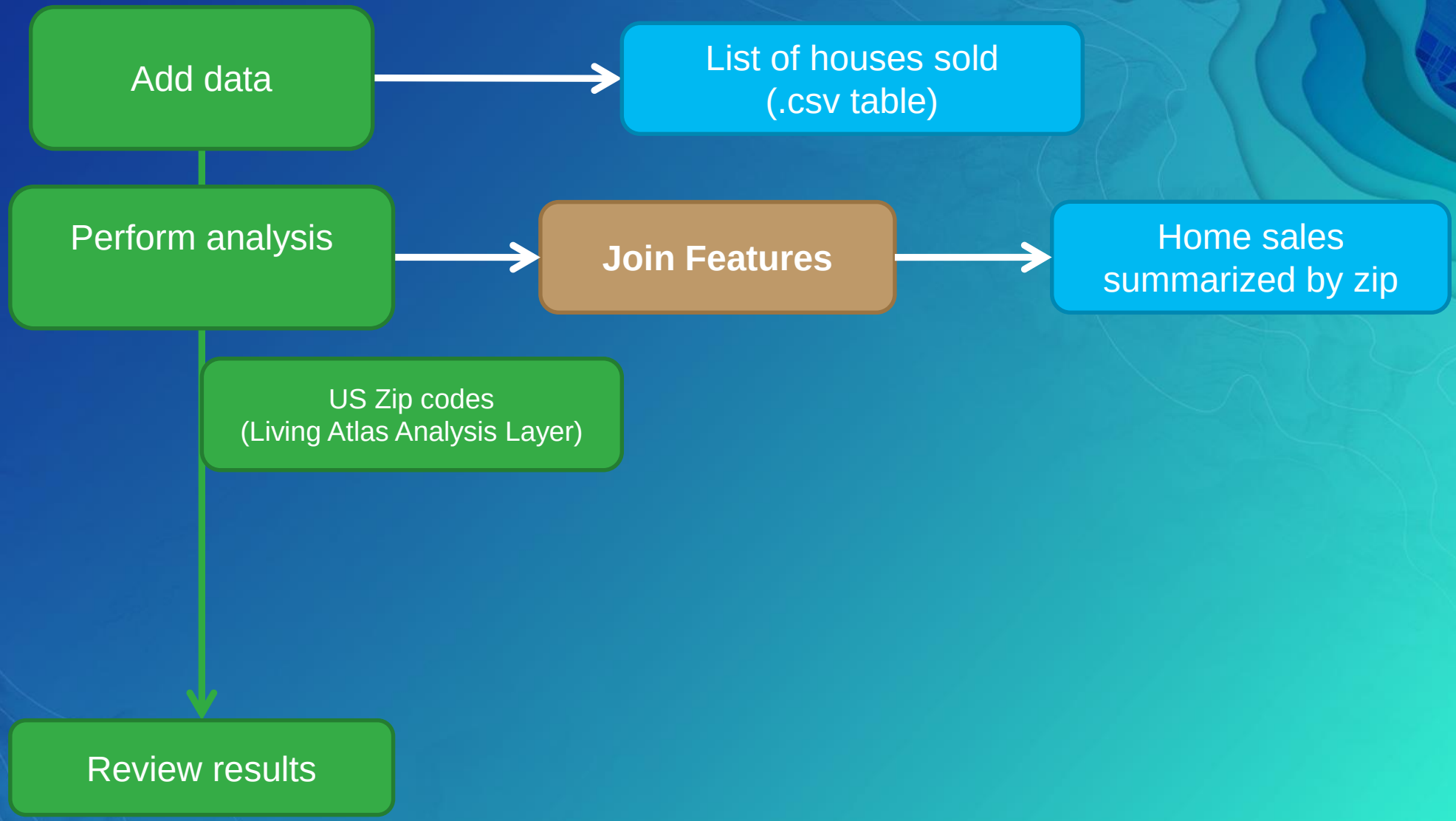


	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Sq.Feet	BR	BA	Date	Amount	Yr.Built	Lt Size	Acres	Pool	APN	APN-TR	City	ZIP_CODE	STATE
2	1240	3	2	1/12/2010 0:00	55300	1975	5450	0.13	0	351-061-4	35	Anaheim	92807	CA
3	1125	3	1	1/12/2010 0:00	80000	1955	7992	0.18	0	128-531-3	12	Anaheim	92804	CA
4	966	2	2	1/22/2010 0:00	101000	1964	5942	0	0	897-090-0	89	Anaheim	92804	CA
5	966	2	2	1/27/2010 0:00	117000	1964	4781	0	0	897-091-8	89	Anaheim	92804	CA
6	1272	2	2	1/25/2010 0:00	165000	1964	5193	0	0	897-090-6	89	Anaheim	92804	CA
7	1072	2	1	1/11/2010 0:00	223000	1972	1120	0.03	0	127-012-0	12	Anaheim	92804	CA
8	1120	3	1	1/13/2010 0:00	230000	1953	6061	0.14	0	083-335-1	8	Anaheim	92806	CA
9	944	1	1	1/14/2010 0:00	240000	1953	6480	0.15	0	037-201-3	3	Anaheim	92805	CA
10	1149	3	1	1/29/2010 0:00	245000	1954	6018	0.14	0	083-342-1	8	Anaheim	92806	CA
11	880	3	1	1/29/2010 0:00	245000	1949	7200	0.17	0	071-162-1	7	Anaheim	92801	CA
12	1536	4	2	1/22/2010 0:00	250000	1956	8505	0.2	0	128-313-2	12	Anaheim	92804	CA
13	1930	4	2	1/25/2010 0:00	250000	1957	6183	0.14	0	070-522-0	7	Anaheim	92801	CA
14	1012	2	1	1/27/2010 0:00	260000	1972	1390	0.03	0	363-061-2	36	Anaheim	92807	CA
15	1578	4	2	1/12/2010 0:00	265000	1955	6161	0.14	0	071-242-0	7	Anaheim	92801	CA
16	944	3	1	1/15/2010 0:00	265000	1955	7200	0.17	0	131-182-1	13	Anaheim	92804	CA
17	943	2	1	1/28/2010 0:00	270000	1974	2105	0.05	0	268-191-0	26	Anaheim	92806	CA

Listofhousessold

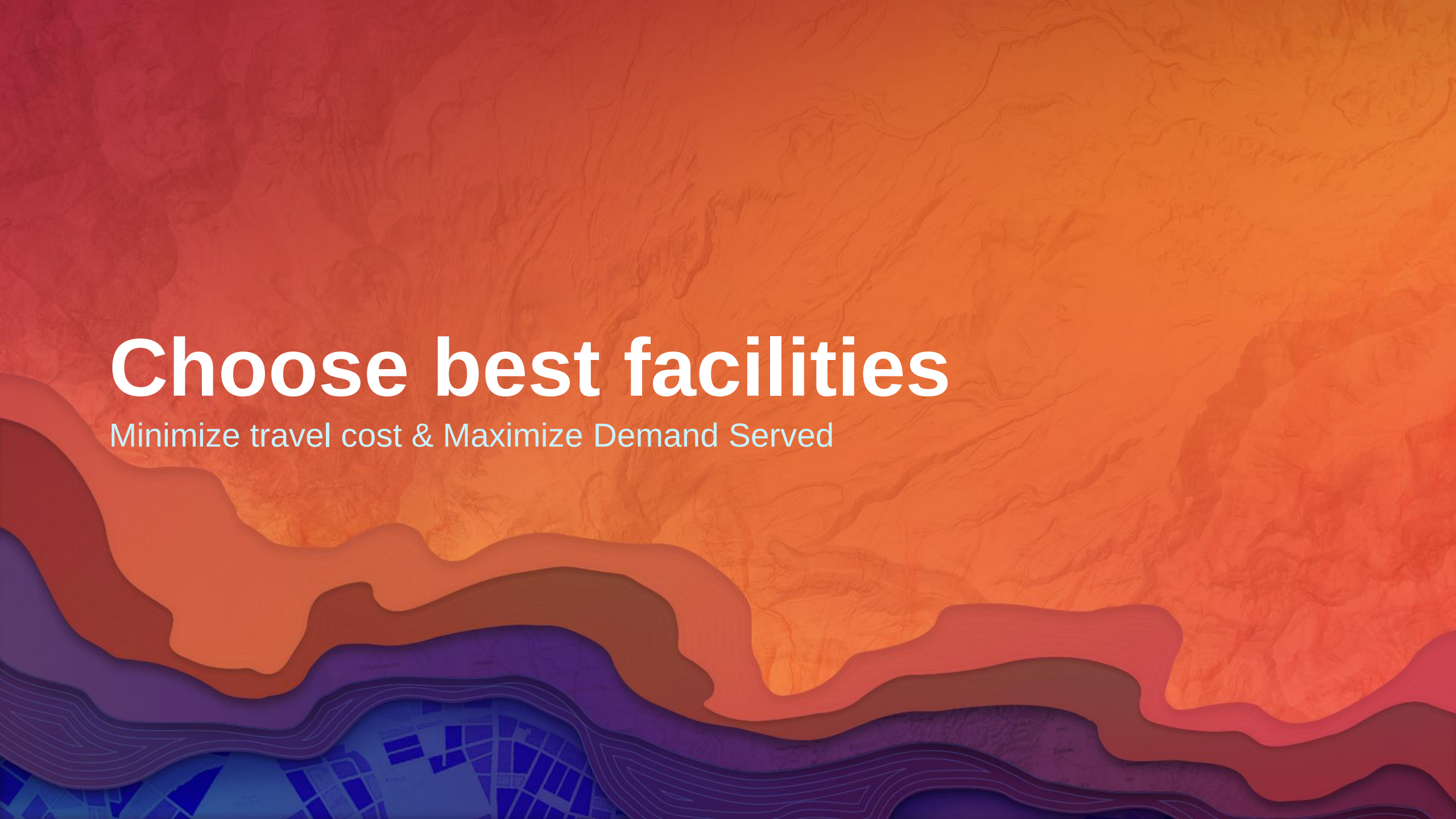
Determine what is the average sales price per zip code in the area?

Demonstration review

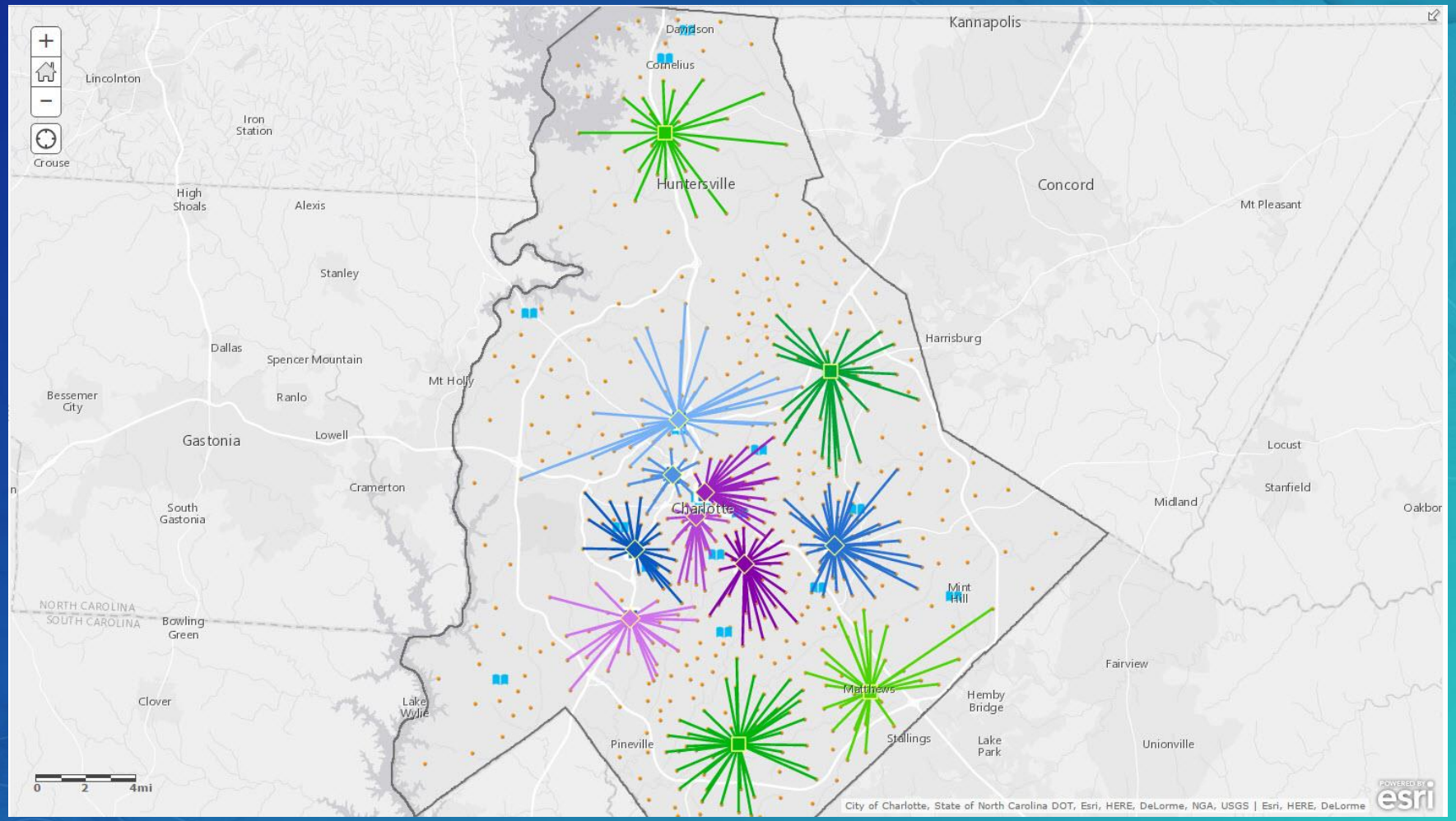


Choose best facilities

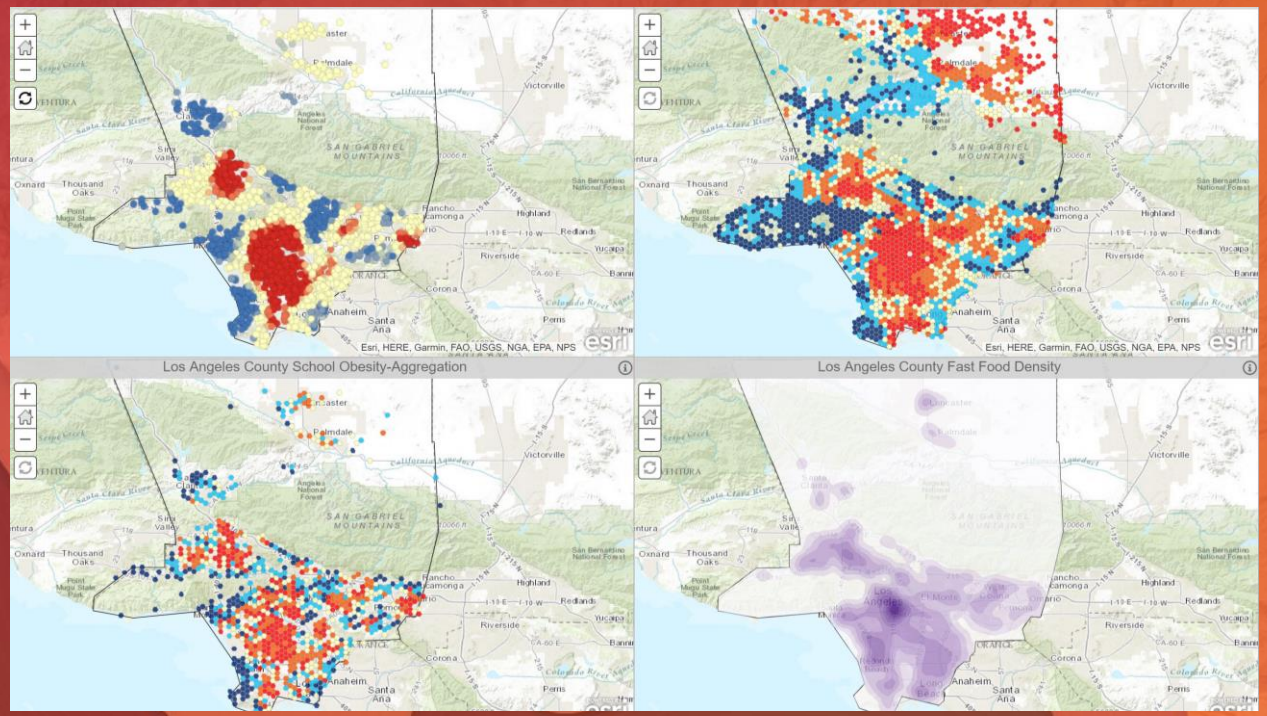
Minimize travel cost & Maximize Demand Served



Demo Scenario



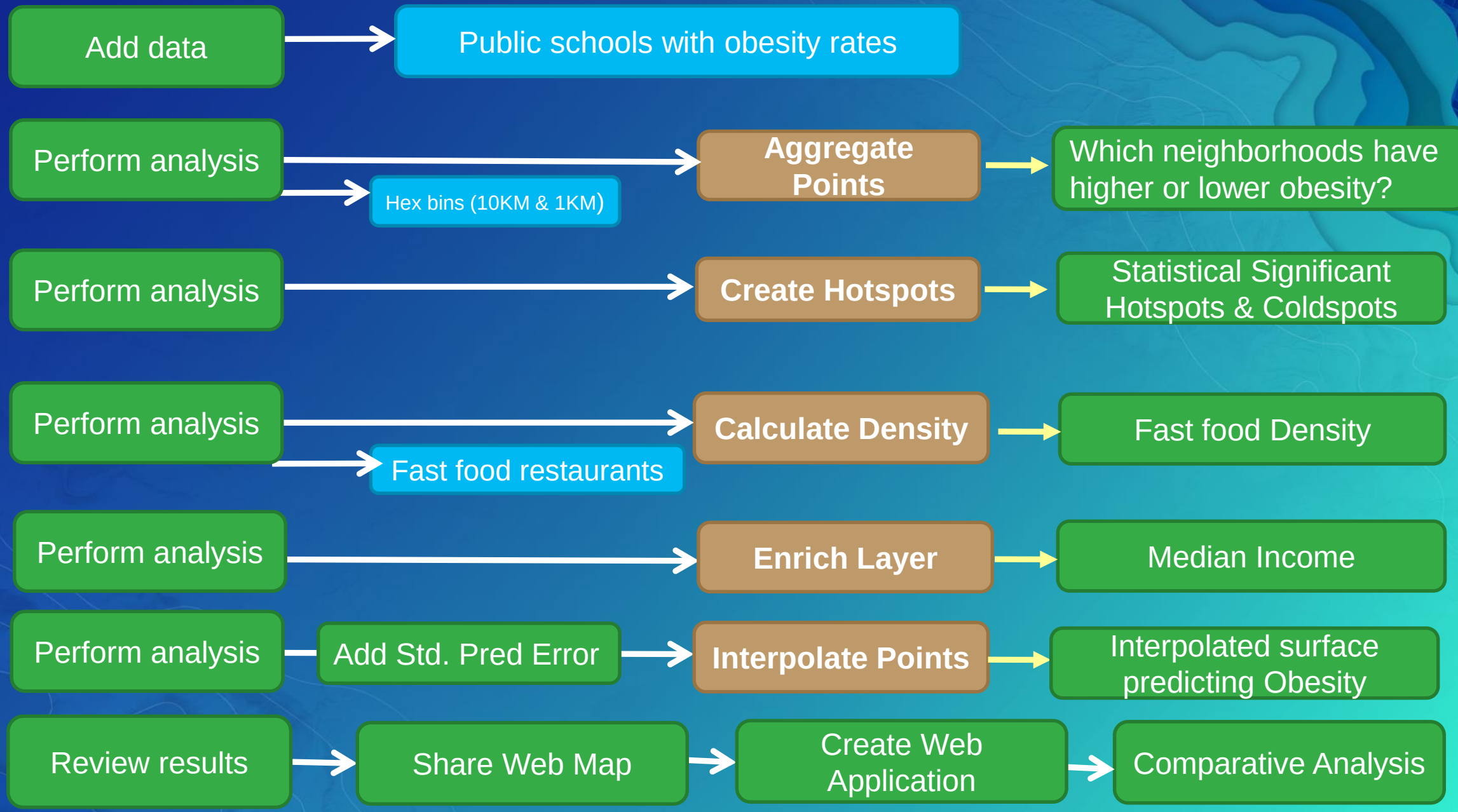
Find the best locations for additional clinics



Demo

School Obesity Analysis

Demonstration review



Wrap up

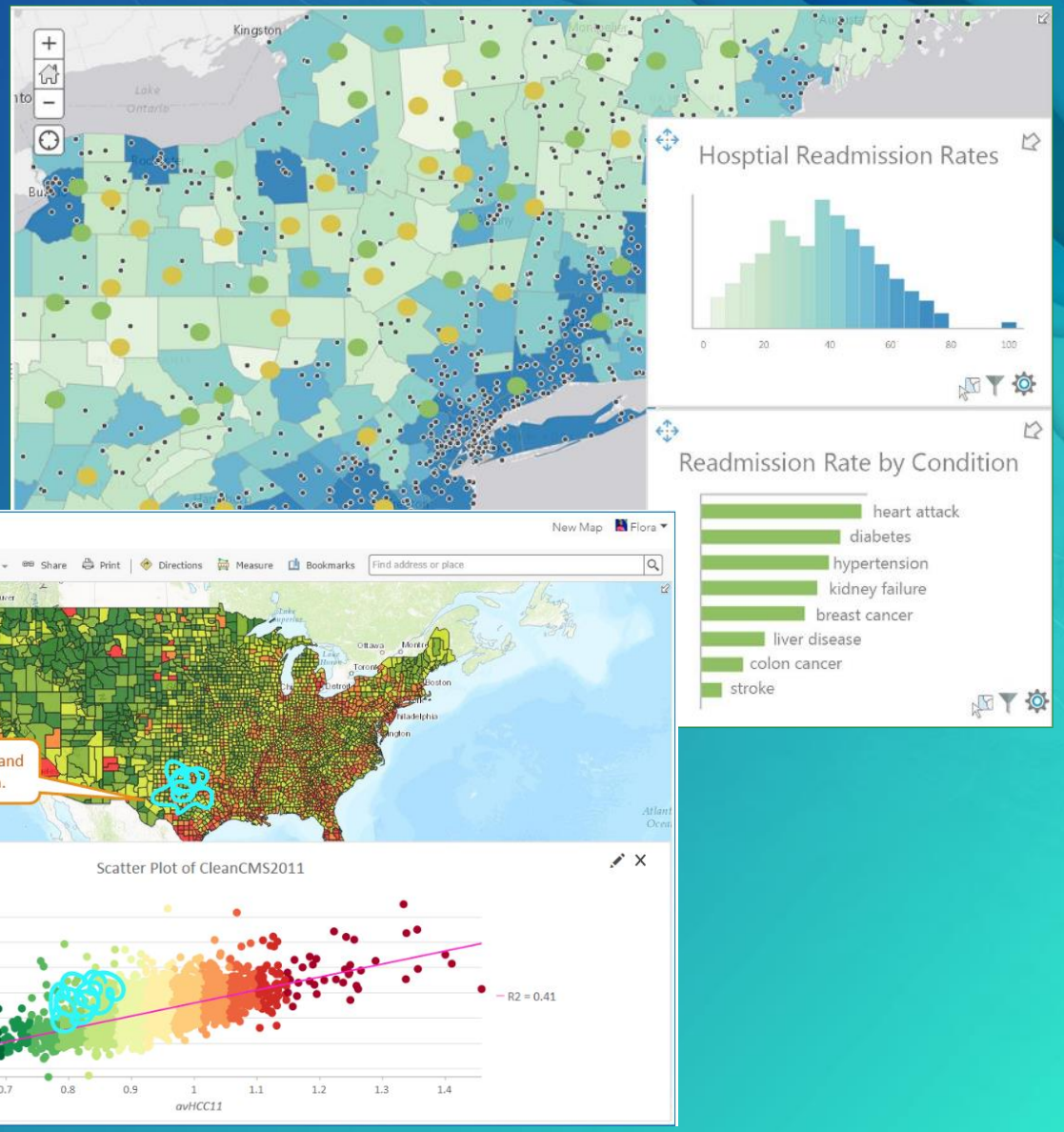
Summary

- Spatial analysis adds valuable insight by providing hosted tools that work with your data in your ArcGIS Online organization
- Performing spatial analysis online is easy and intuitive
- Use ArcGIS Online spatial analysis to discover geographic relationships, patterns, and trends

ArcGIS Online Spatial Analysis

What's next?

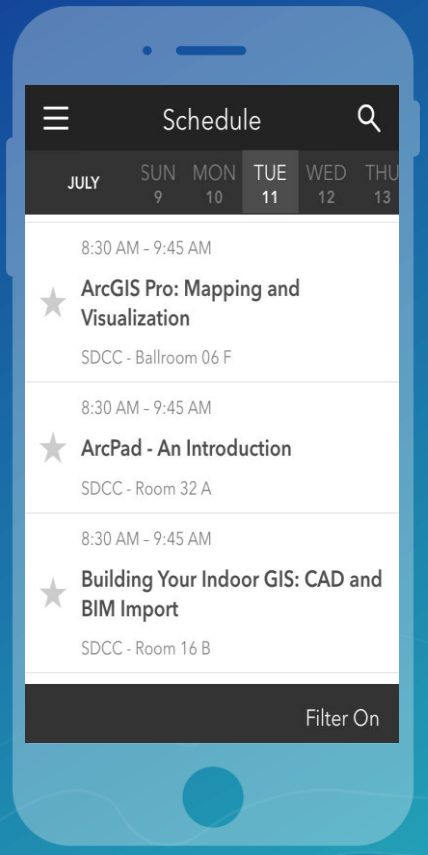
- Continue to improve rerun analysis experience
- Charts
- New Analysis tools
- Chaining analysis functions



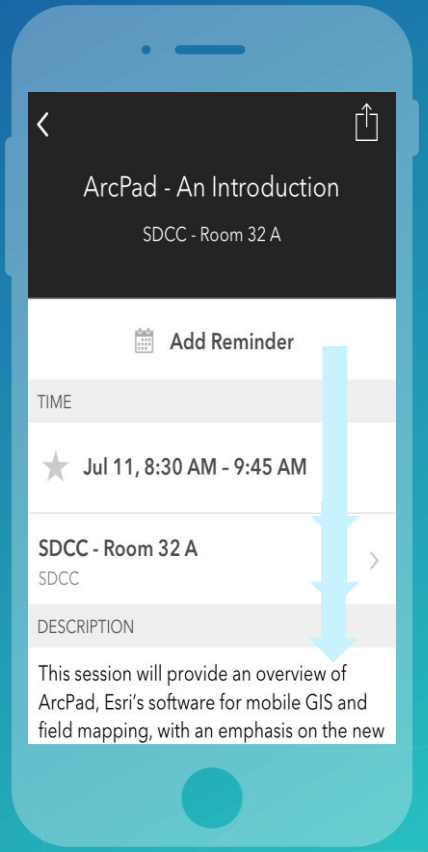
Please Take Our Survey on the **Esri Events App!**

Download the Esri Events app and find your event

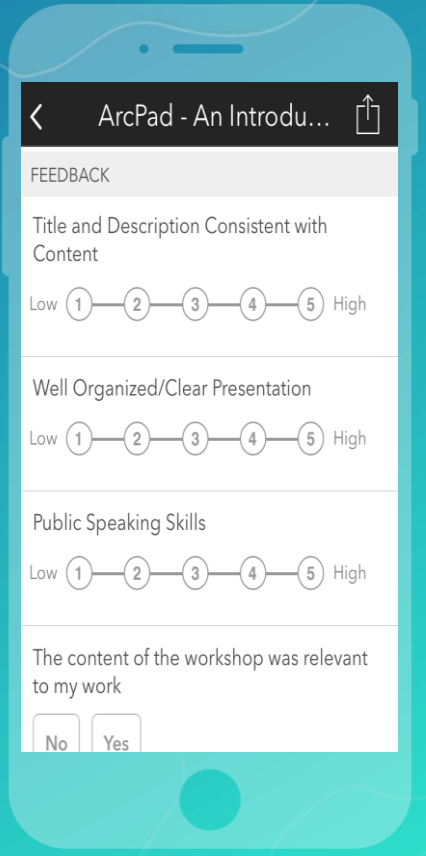
Select the session you attended



Scroll down to find the survey



Complete Answers and Select "Submit"



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