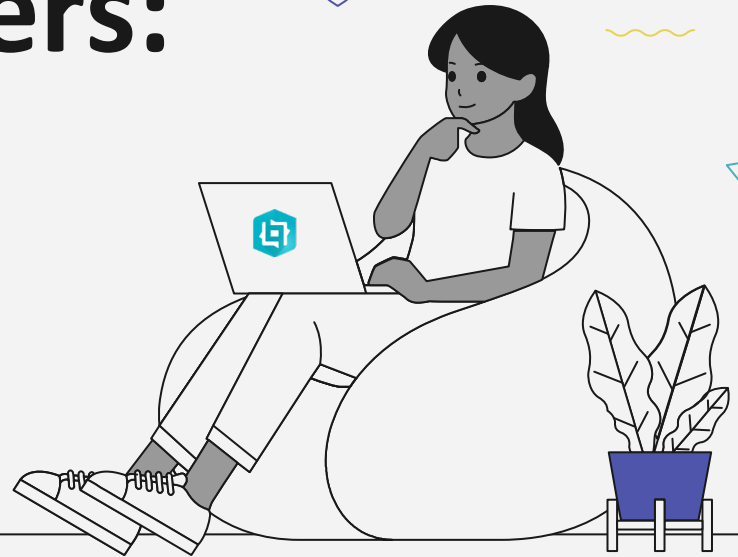


# A Tale of Two Experience Builders:

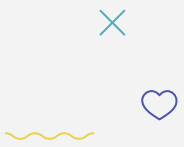
## Migrating Tacoma's Map Applications

Alicia Bradshaw | Idalis Laboy Cintron  
City of Tacoma





# Table of contents

- 1** Introductions
  - 2** Background: The Original Applications
  - 3** Why Move to Experience Builder?
  - 4** Goals for the Migration
  - 5** Lessons Learned
- 

# Introductions



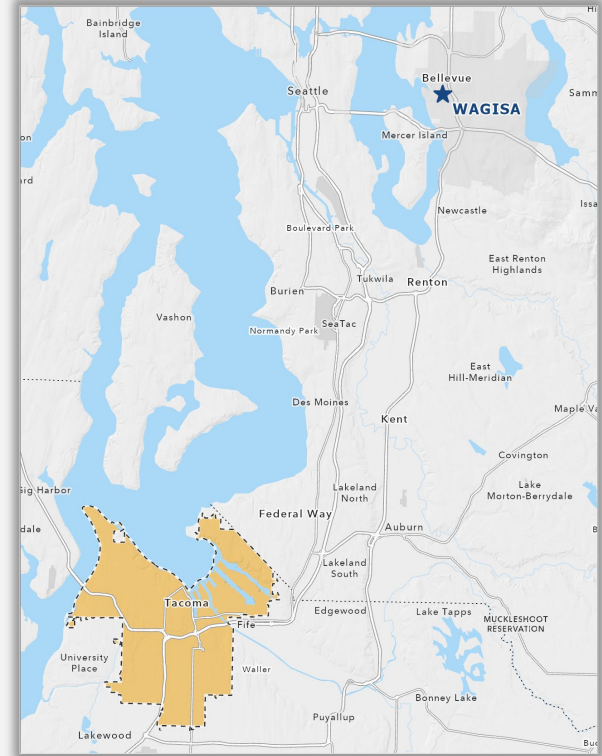
**Idalis Laboy Cintron**

GIS Analyst



**Alicia Bradshaw**

Senior GIS Analyst



# Tacoma GIS Environment

- The GIS Team consists of **9 GIS Analysts** supporting different departments across the organization.



**StaffMaps Portal (Enterprise)**

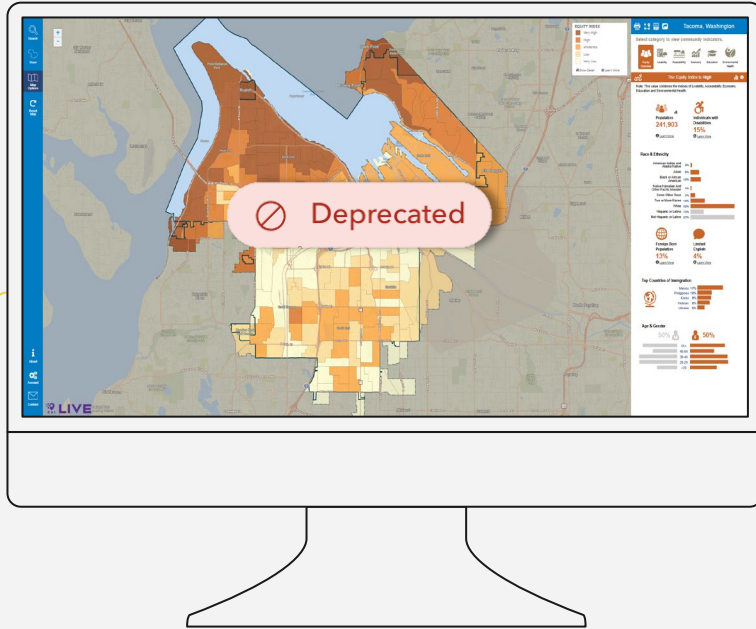
For **internal** data and applications.



**TacomaMaps (AGOL)**

For **public** content.

# Tacoma Equity Index Map



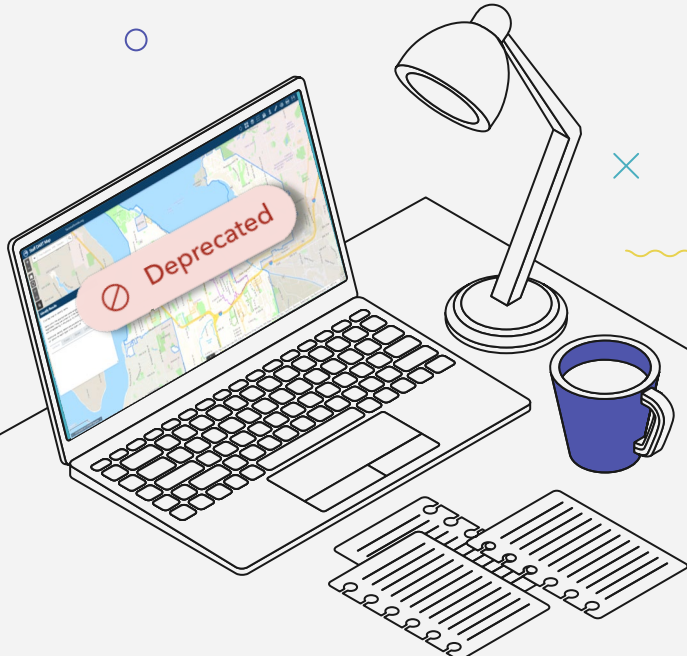
*The City of Tacoma Equity Index is a mapping tool that visually highlights opportunities to improve equitable access and outcomes for Tacoma residents.*

- Custom-built application developed by consultants
- Ongoing maintenance costs
- Hosted on consultant-managed servers
- Limited control over data methodologies and outputs
- Application and data maintenance costs of ~\$40,000 yearly

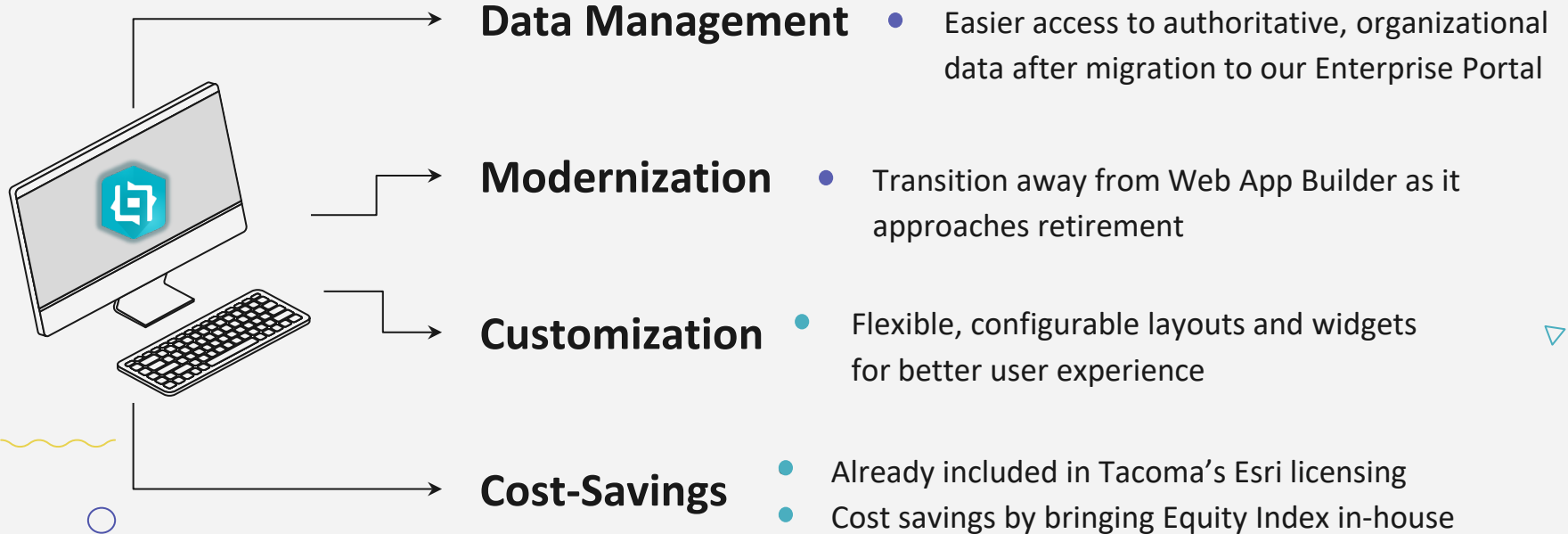
# StaffDART Map

*The internal “kitchen-sink” GIS application used across departments at the City of Tacoma.*

- Built using Web App Builder (deprecated)
- Hosted in ArcGIS Online
- Authoritative data now available in Enterprise Portal
- Internal application – needed to be migrated to Enterprise Portal



# Why Move to Experience Builder?



# Goals for Migration

- 1 Preserve core functionalities
- 2 Improve user experience
- 3 Leverage existing tools and technology  
(Experience Builder and custom widgets)

## Equity Index Map

- 4 Reduce costs by creating in-house
- 5 Host in ArcGIS Online portal  
(for public use)



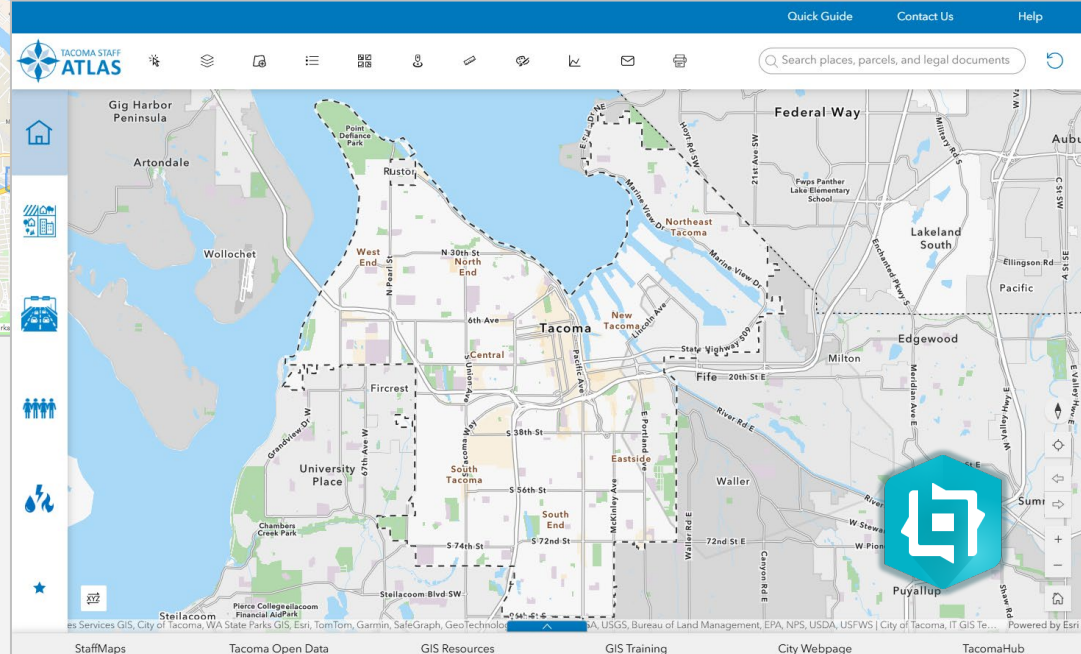
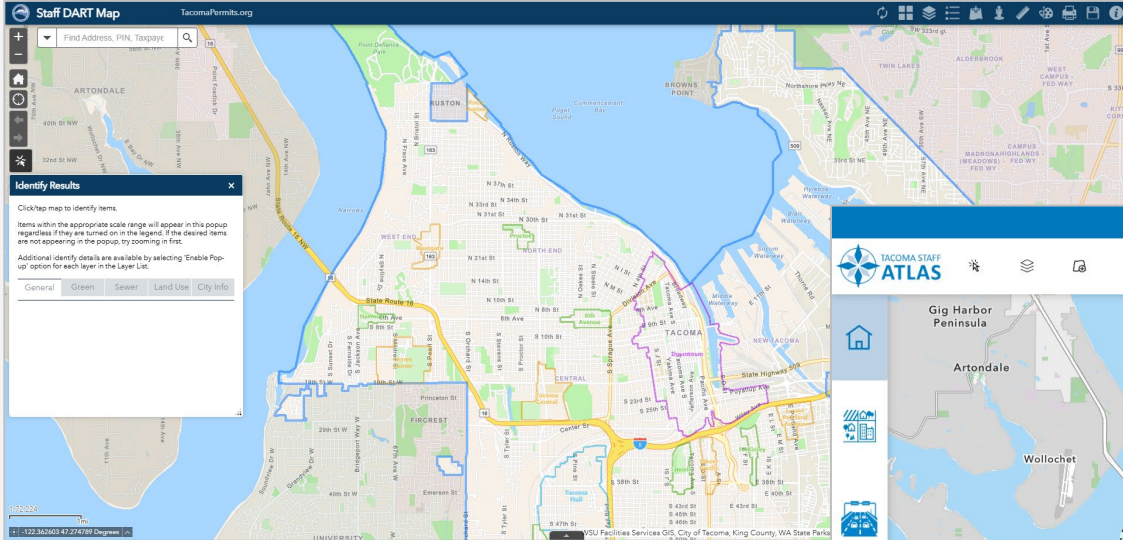
## StaffDART Map

- 4 Migrate off of Web App Builder
- 5 Host in Enterprise portal  
(for internal, staff use)

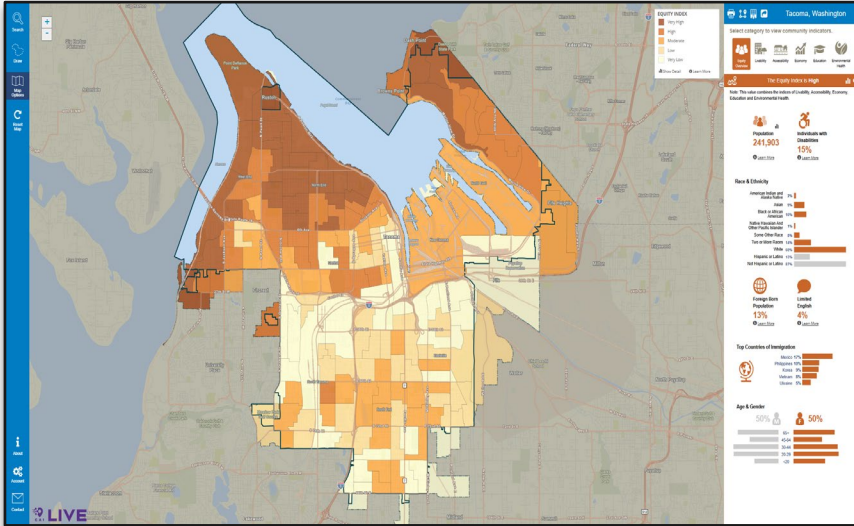
# Results: StaffDART Map to Staff Atlas

## Experience Builder

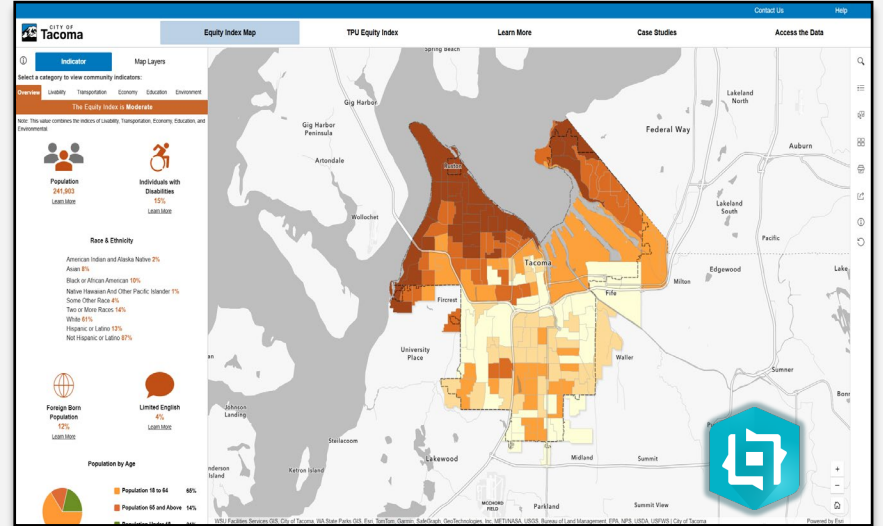
## Web App Builder



# Results: Tacoma Equity Map Application



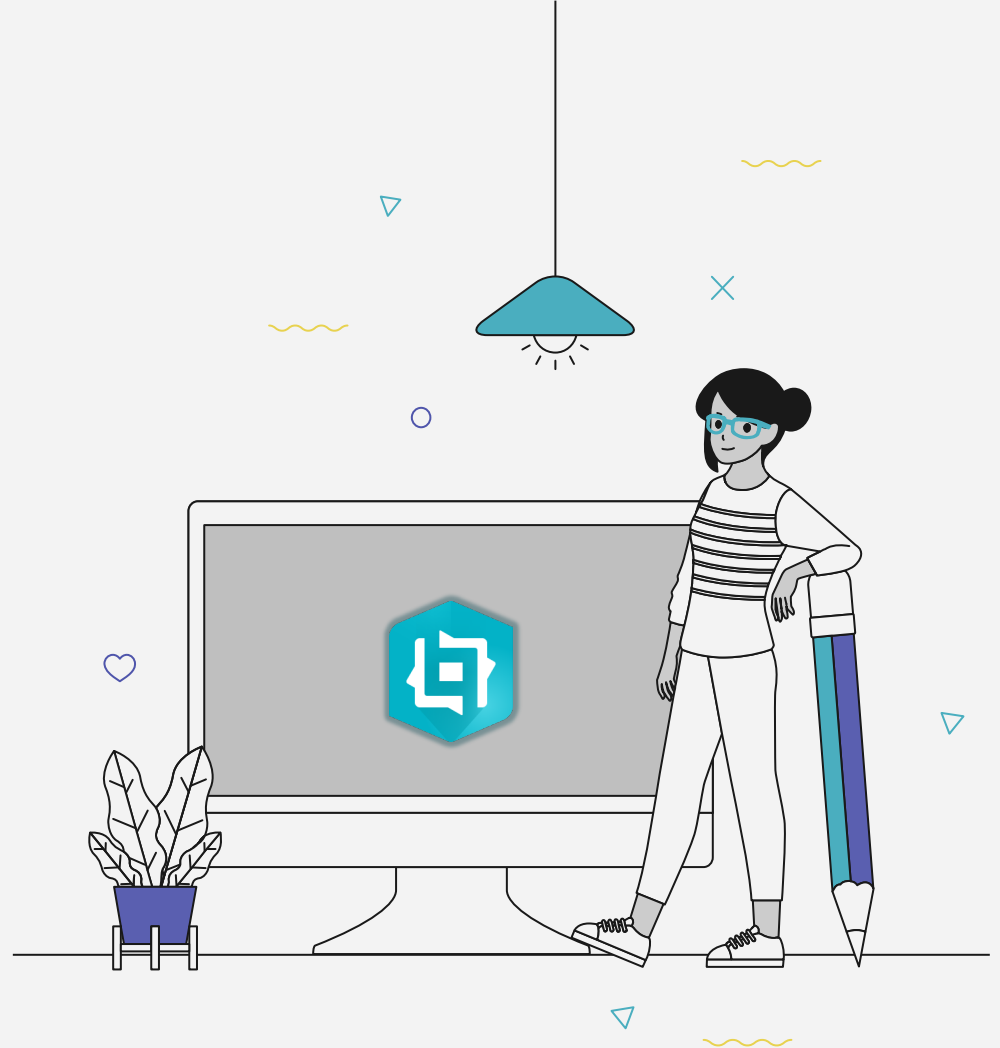
Consultant Custom Application



City of Tacoma ExB Application

# Lessons Learned

when migrating to  
Experience Builder



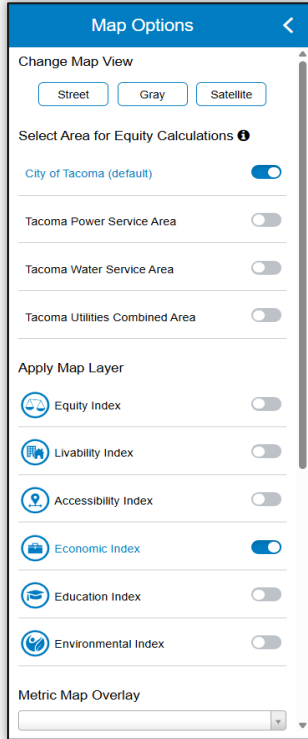
1

# Out-of-the-Box vs. Custom



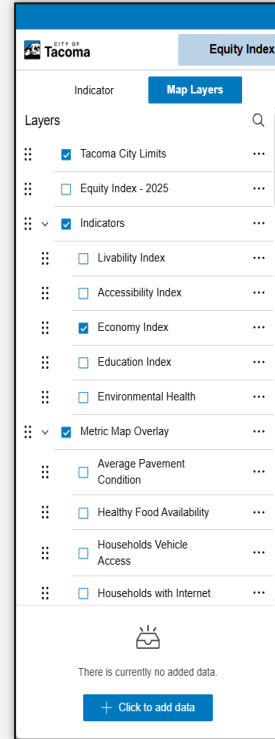
**Problem:** Some functionalities that Experience Builder out-of-the-box widgets can't quite replicate.

Consultant Map Layer List



vs.

Esri Map Layers Widget



# 1 Out-of-the-Box vs. Custom

StaffDART Map



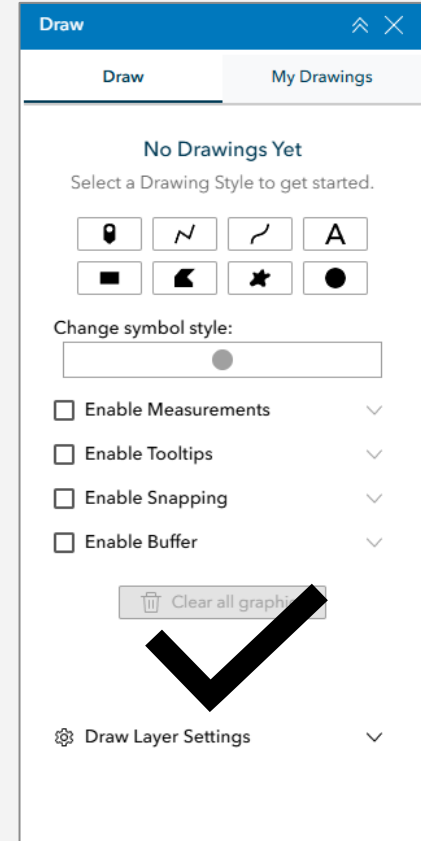
Esri Draw Widget



**Problem:** Out-of-the-box widgets don't always have the functionality that users are looking for.

**Solution:** Advanced Draw Widget (custom) offers far more functionality and slightly better user experience.

Advanced Draw Widget





The screenshot displays a map application interface. On the left, a 'Map Layers' panel is visible, listing various layers with checkboxes and expand/collapse icons. The layers listed are: Name Label, Parcels, Plat-ROW-Legal, Environmental, Infrastructure/Utilities, Community, Land Use, Transportation, Equity Index, and Jurisdictions. On the right, the map view shows a 'General Theme (Atlas...)' and a large number of 'Service - Feature Service (7)' and 'Service - Map Service (4)' layers, indicating a high density of data sources.

**Problem:** More data = slower load.

**Solution:** Limit your number of data sources.



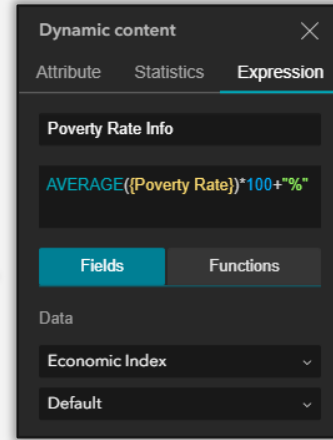
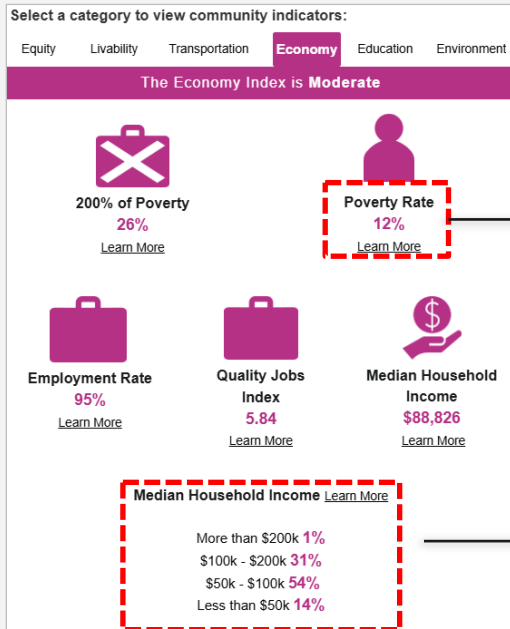
This is no longer a “kitchen-sink” app. Users can find additional datasets using the Add Data widget.

## 3

# Data Formatting

**Problem:** Text fields do not support data expressions or Arcade calculations.

**Solution:** Format fields with numeric fields to support Arcade expressions and scripts.



Arcade script

Name

More than 200k

Run

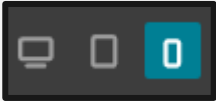
```

1 var fs = $dataSources["dataSource_7-713884494ddf42c6afb62b2a430ee0fb-1983e1a14f2-layer-3"].layer;
2 var total = Count(fs);
3 var above200k = Filter(fs, "medianhouseholdincome >= 200000");
4 var blockgroup = Count(above200k);
5 var percent = (blockgroup / total) * 100;
6 return `${Round(percent,0)}%`

```

4

# Mobile View

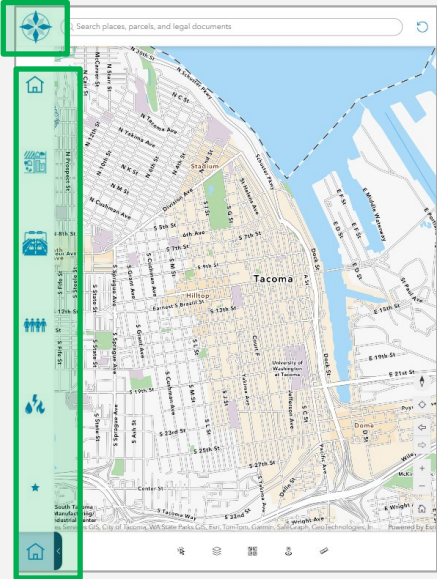
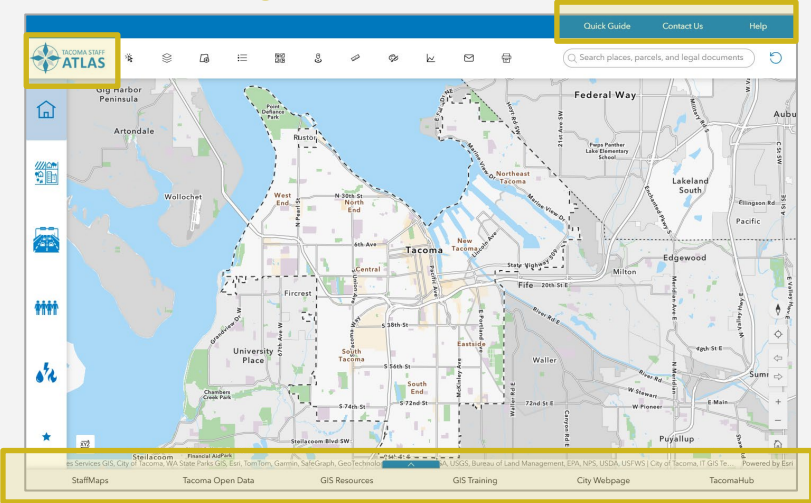


**Problem:** Auto layout for smaller screen sizes are clunky.

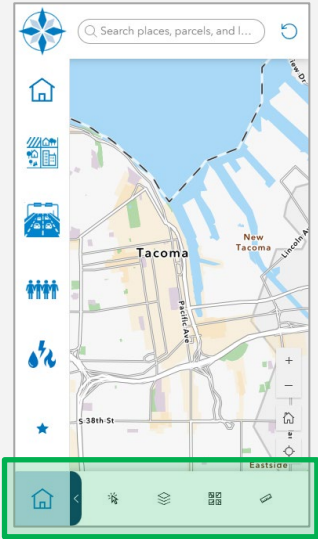
**Solution:**

- Custom configure layouts for smaller screen sizes.
- Move widgets you don't need for smaller screen sizes to the **pending** list.
- Add **new**, separate widgets for smaller screen sizes.

## Moved to Pending



## Added for Mobile



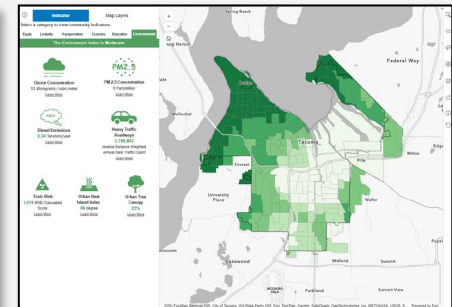
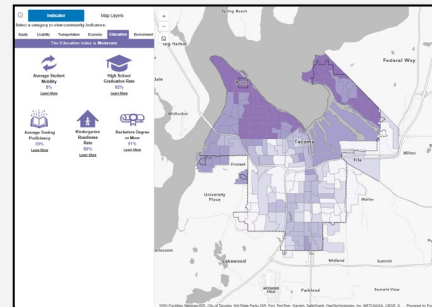
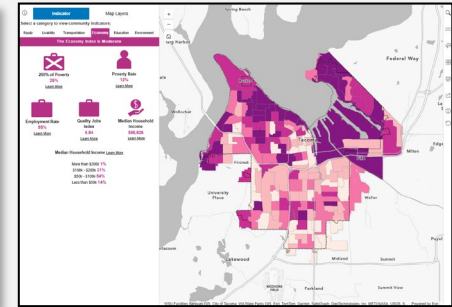
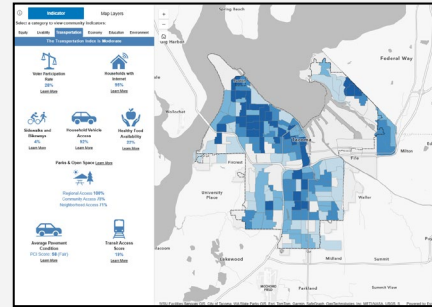
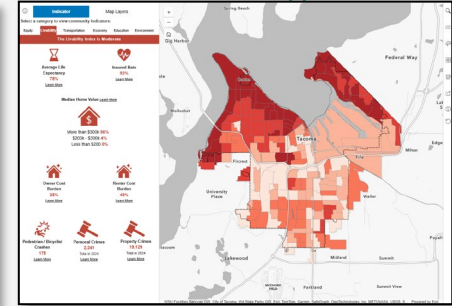
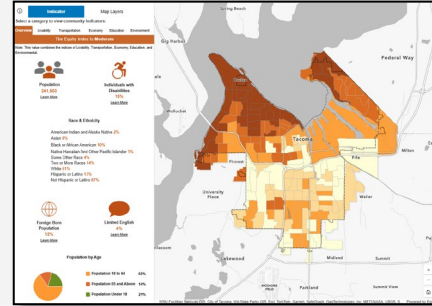
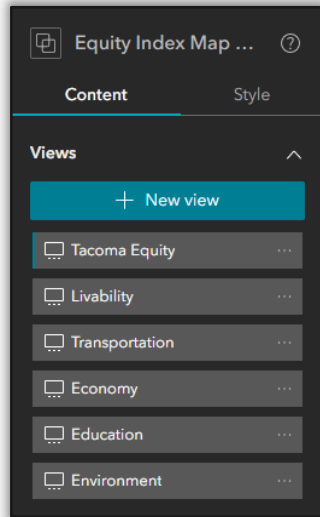
5

# Section Widget

**Problem:** How to switch between themes?

**Solution:**

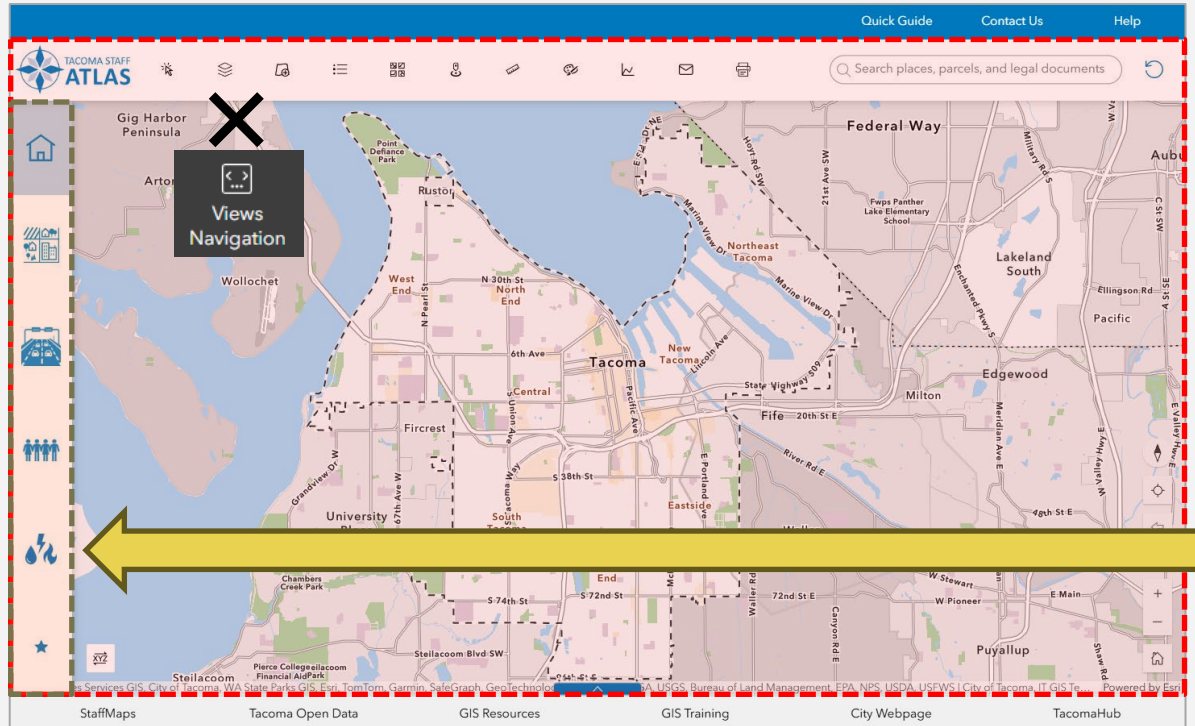
- Use of section views to switch between themes
- Ability to preserve the same layout and map across different categories



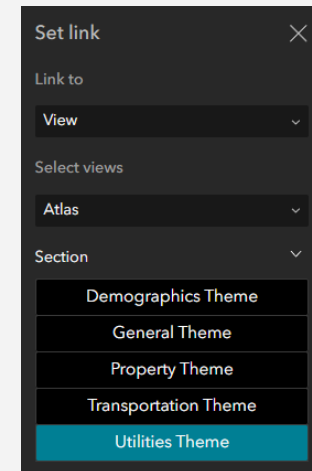
# Views Navigation



**Problem:** You cannot use views Navigation widget *inside* of a **Section**.



**Solution:** If you need to navigate between views from *inside* a section, use **buttons** and link to different sections instead.



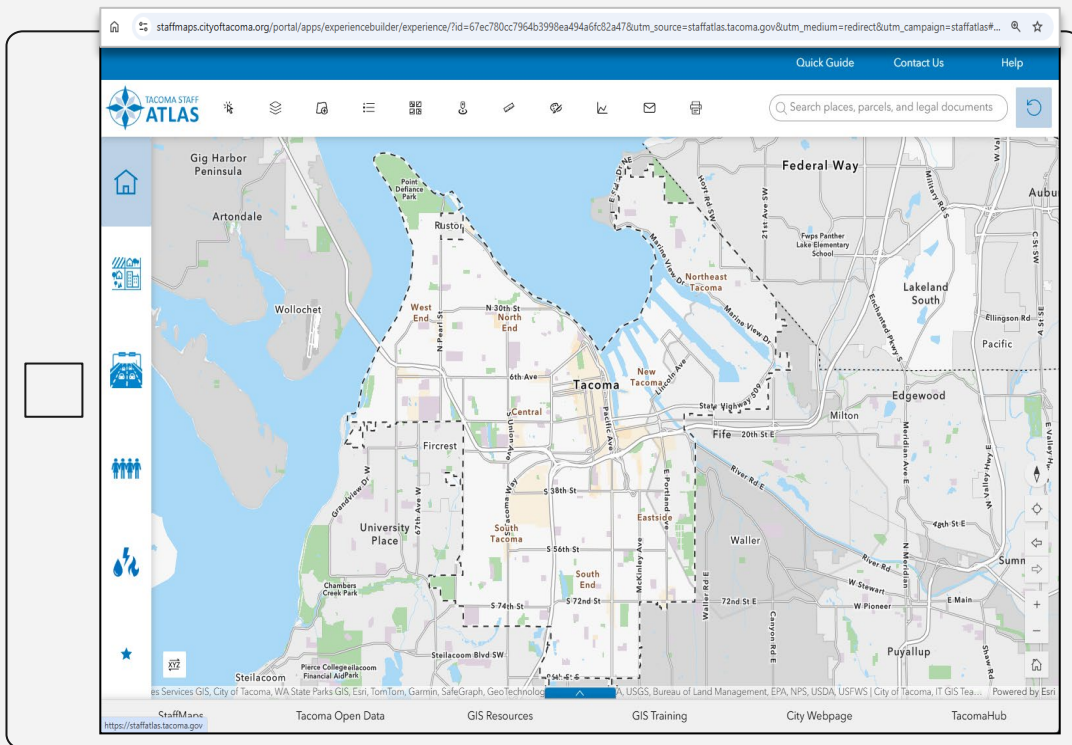
# Reset Map Button



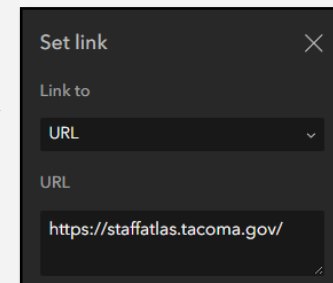
**Problem:** Long URLs and parameters can cause performance and stability issues

**Solution:**

- Create a reset button to return the app to its default map extent and starting view
- Clear filters, selections, and temporary settings to improve performance and simplify navigation



**Reset Map**

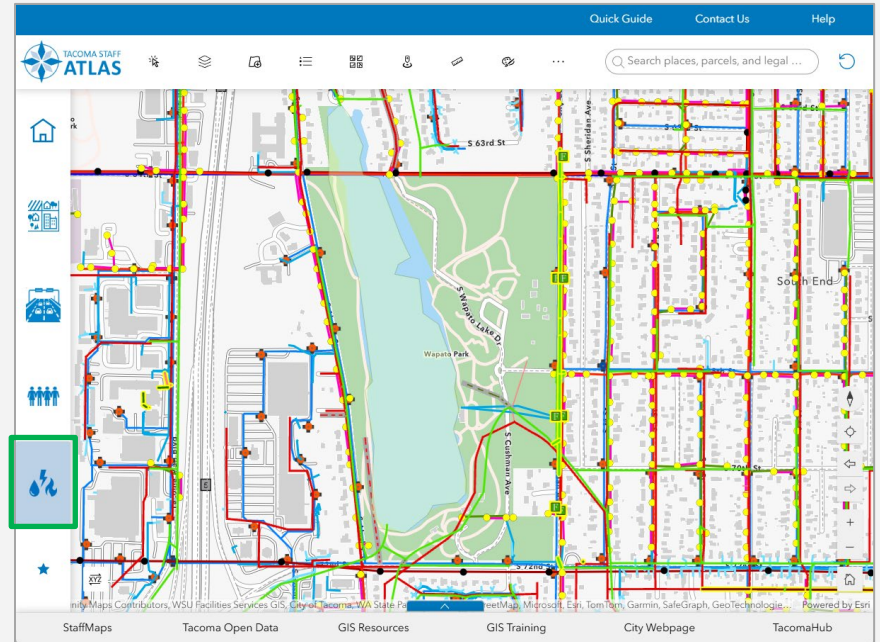
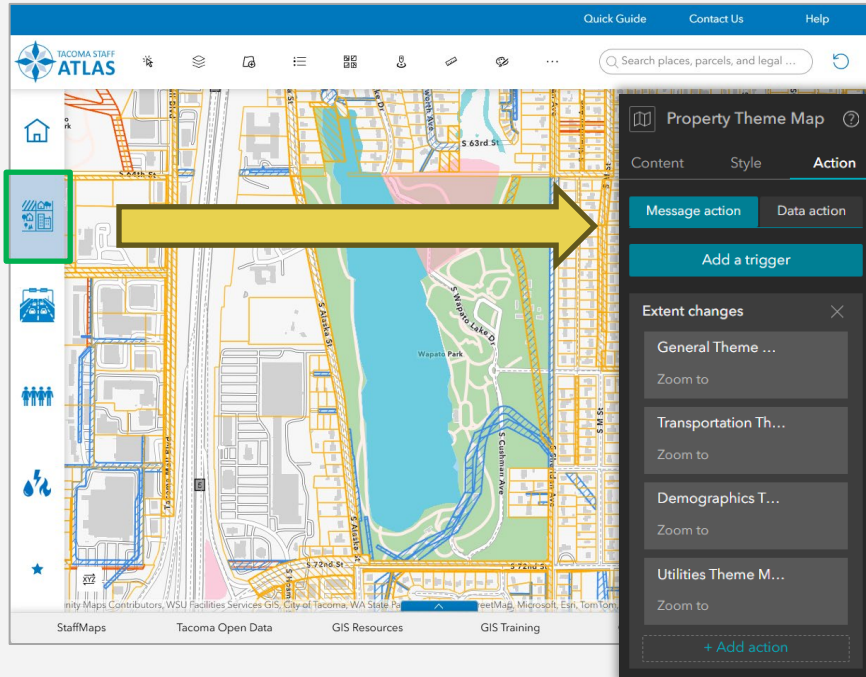


# 8 Preserving Map Extents



**Problem:** Customer wants to preserve map extents between views.

**Solution:** Add an Action so when the extent changes in one map, it zooms to the same extent in other maps/views.



# Add Data Widget



**Problem:** Typically, when you use the Add Data widget, it takes users a few clicks to show the data on the map – and the map zooms to the extent of the added data.

**Solution:** Add an Action to the widget so that when data is added, it automatically adds to the webmap. This saves clicks and also preserves the current map extent.

The image displays two screenshots of the ATLAS web application interface, illustrating the configuration of the 'Add Data' widget.

**Left Screenshot:** Shows the 'Add Data' widget in its initial state. The widget is empty, displaying the message 'There is currently no added data.' and a '+ Click to add data' button. A yellow arrow points from this button to the 'Add Data' configuration panel.

**Right Screenshot:** Shows the 'Add Data' configuration panel with the 'Action' tab selected. The 'Data action' is configured to 'Add a trigger'. The 'Data added' section shows 'General Theme ...' and 'Add to map'. A '+ Add action' button is visible at the bottom of the configuration panel.

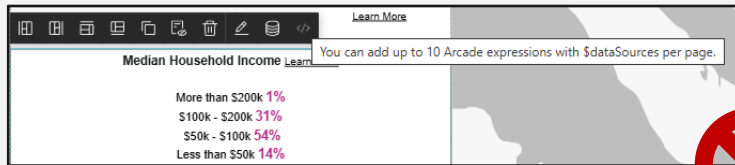
The background of both screenshots shows a map of Tacoma, Washington, with various zoning districts overlaid. The 'Map Layers' panel on the right of the second screenshot shows the 'Zoning Districts with Overlays, pre-2025 (Tacoma)' layer selected.

# Experience Builder Limitations

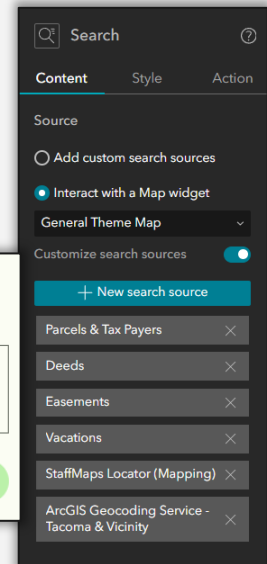
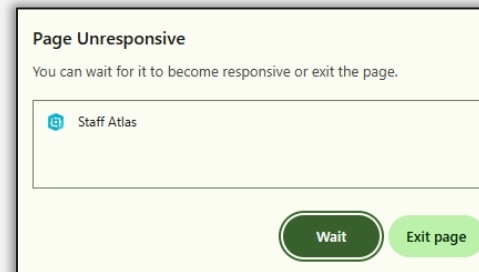


## Helpful reminders:

- Each app page supports a maximum of **10 Arcade expressions**, including dynamic content and dynamic style set by the Arcade script.



- Limit your search sources for the search bar. Experience Builder becomes unresponsive after trying to add too many search sources.



# Thank You!

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**Idalis Laboy Cintron**

[icintron@tacoma.gov](mailto:icintron@tacoma.gov)



**Tacoma Equity Map**



**tMap App**  
Public version of Staff Atlas

