

ADVANTAGES AND LIMITATIONS OF ARCGIS ONLINE: BUILDING ONLINE MAPS AND APPS FOR A LOCAL NON-PROFIT

Tucson Area GIS Cooperative



For Speed These Lines

Source: Tucson Pima Arts Council
Public Art Gallery

April 12, 2013

Erik Glenn

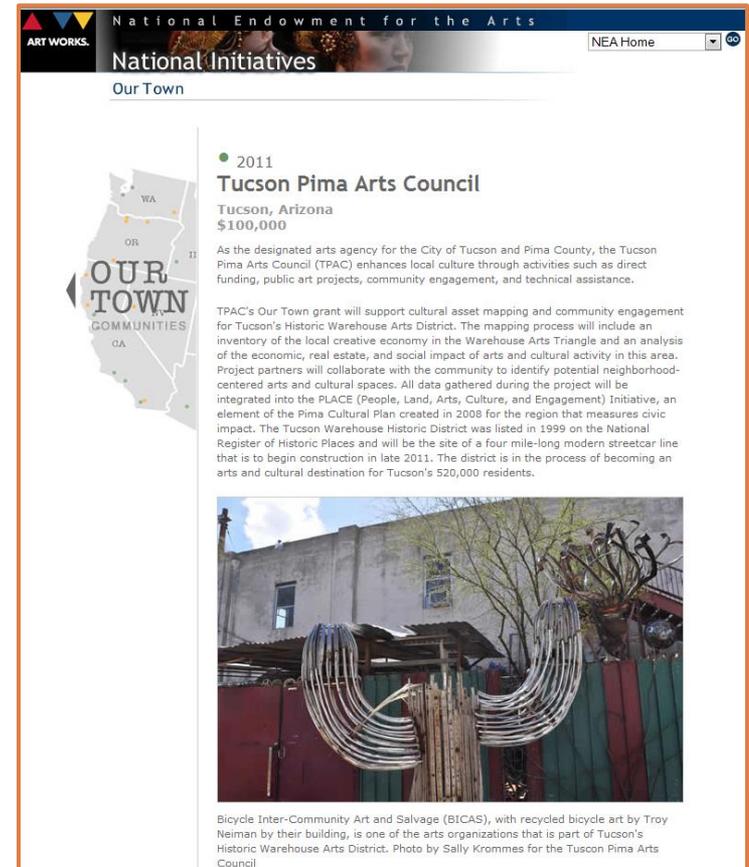
Presentation Outline

- Background
- Needs of Project
- Available Options
- Why ArcGIS Online?
- Existing Data/Attributes
- Data/Attributes to be Created
- Methods
- Results of Project
- Conclusions



Background

- Internship with Tucson Pima Arts Council in 2012
 - ▣ Contact: Rex Gulbranson
 - ▣ Our Town grant proposal included cultural asset mapping piece
 - ▣ As part of project, desire for Web map

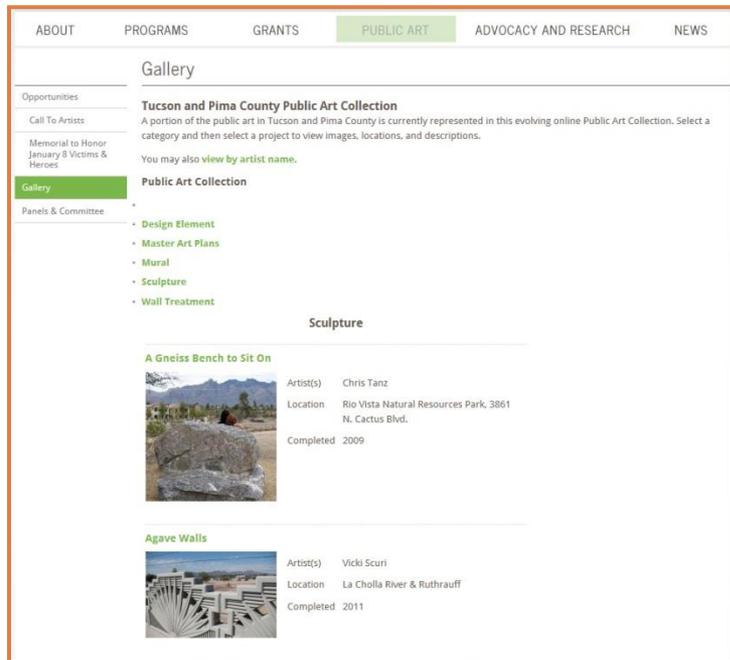


The screenshot shows the National Endowment for the Arts website. The header includes the NEA logo, the text 'National Endowment for the Arts', and a 'NEA Home' link. The main content area is titled 'National Initiatives' and 'Our Town'. A map of the United States highlights the West Coast states (WA, OR, CA) with the text 'OUR TOWN COMMUNITIES'. A green dot on the map indicates the location of Tucson, Arizona. The text next to the map reads: '2011 Tucson Pima Arts Council Tucson, Arizona \$100,000'. Below this, there is a paragraph describing the council's role as the designated arts agency for the City of Tucson and Pima County, and another paragraph detailing the grant's purpose: 'TPAC's Our Town grant will support cultural asset mapping and community engagement for Tucson's Historic Warehouse Arts District. The mapping process will include an inventory of the local creative economy in the Warehouse Arts Triangle and an analysis of the economic, real estate, and social impact of arts and cultural activity in this area. Project partners will collaborate with the community to identify potential neighborhood-centered arts and cultural spaces. All data gathered during the project will be integrated into the PLACE (People, Land, Arts, Culture, and Engagement) Initiative, an element of the Pima Cultural Plan created in 2008 for the region that measures civic impact. The Tucson Warehouse Historic District was listed in 1999 on the National Register of Historic Places and will be the site of a four-mile-long modern streetcar line that is to begin construction in late 2011. The district is in the process of becoming an arts and cultural destination for Tucson's 520,000 residents.'



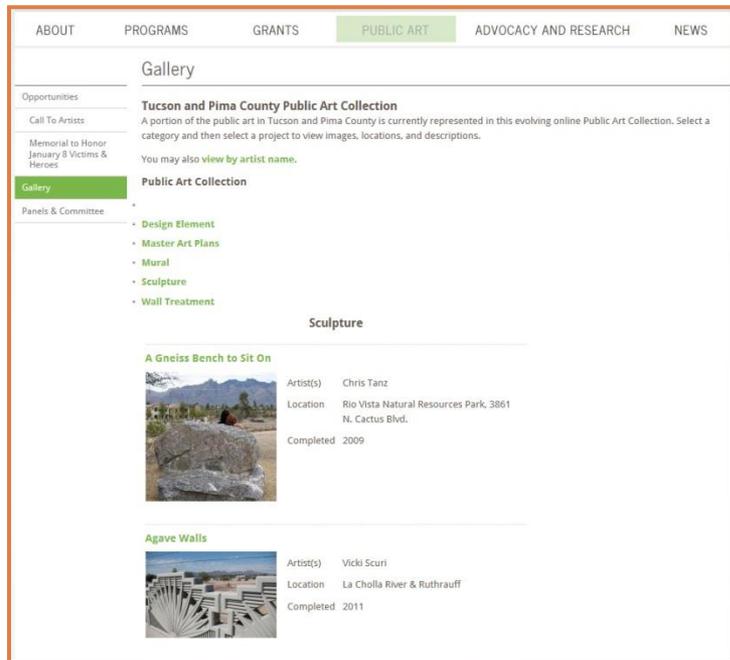
Bicycle Inter-Community Art and Salvage (BICAS), with recycled bicycle art by Troy Neiman by their building, is one of the arts organizations that is part of Tucson's Historic Warehouse Arts District. Photo by Sally Krommes for the Tucson Pima Arts Council

Needs of Project



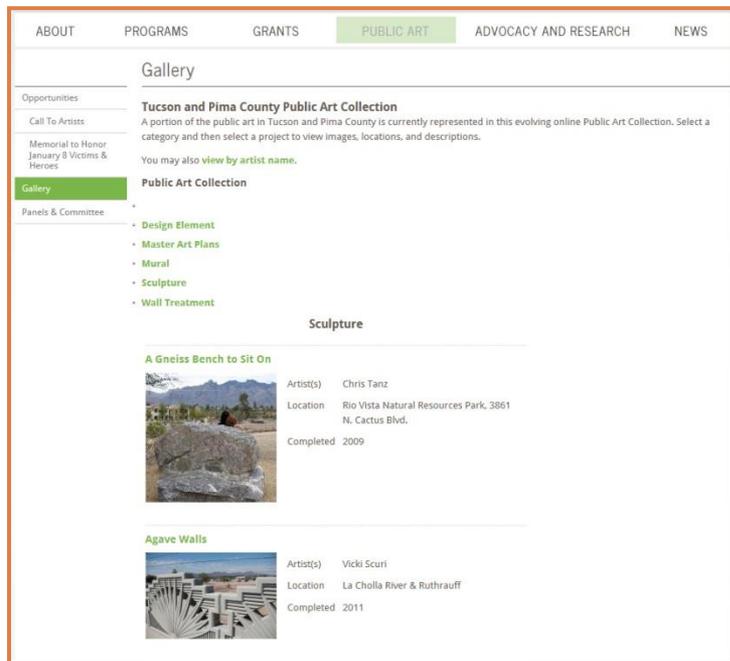
- Originally, Web component for all other Our Town maps
- Due to difficulties:
 - ▣ Decision made to create Web map showing arts attractions along Modern Streetcar route

Needs of Project



- Easily updated by non-technical staff
- Ability to convert spreadsheet data, .gpx files easily
- If possible, share on multiple platforms
- Low-cost (free, ideally)
- Short development time

Needs of Project



- Five categories of attractions
- Show arts areas with indistinct borders
- Include Warehouse Historic District boundary
- Configurable pop-ups that link to
 - ▣ more information, or
 - ▣ TPAC public art gallery

Available Options Considered

- ❑ Create customized Google Map
- ❑ Custom app using .kml files
- ❑ [EveryTrail](#) or similar
- ❑ Open Source solution
- ❑ ArcGIS Online

Why ArcGIS Online?

- Time required to implement

Resource Center Show: Web Content Only ▾ Our Town Notifications Help ▾ Sign Out

ArcGIS

GALLERY

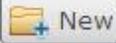
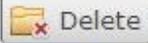
MAP

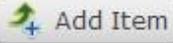
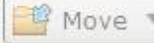
GROUPS

MY CONTENT

Find maps, applications and more... 

My Content

 New  Delete

 Add Item  Create Map  Share  Delete  Move ▾

Using 0% of 2GB

<input type="checkbox"/>		▲ Title	Type	Modified	Shared	Size
<input type="checkbox"/>		Art Along Tucson's Modern Streetcar Route	Web Map	Mar 4, 2013	Everyone	4 MB
<input type="checkbox"/>		Art Along Tucson's Modern Streetcar Route	Web Mapping Application	Mar 4, 2013	Everyone	1 KB

- Can embed in content website, consume with browser, share through social media
- Later: could create better Web/mobile apps to consume same map

Why ArcGIS Online?



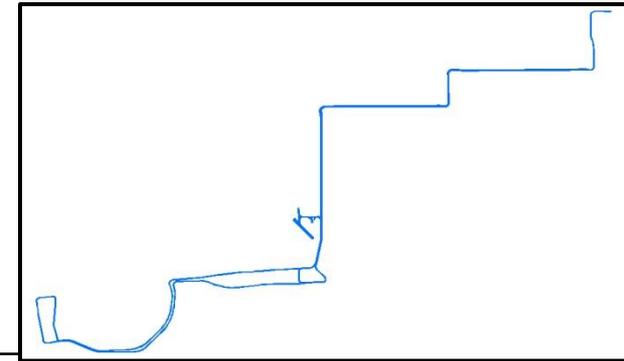
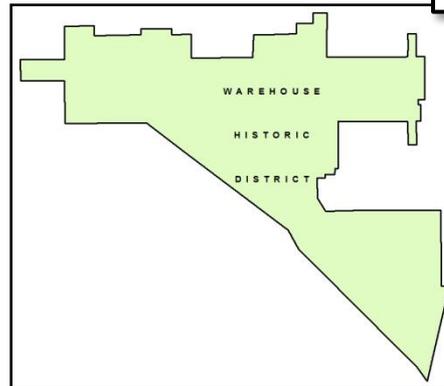
- Cloud storage
- Somewhat better symbology/pop-up/transparency/legend options
- Several basemap options
- Ability to customize further if needed
- Scalable

Concerns/Limitations

- No labeling! (with free version, anyway...)
- Limited built-in symbology options
 - ▣ Colors, shapes, line types
- Limited supported data types
- Somewhat limited pop-up configurations (again, without custom app)
- Graphics, including custom point symbols, need persistent URL
- Harder to create great experience for all platforms

Existing Data/Attributes

- Warehouse Historic District
- Modern Streetcar route
- Staff ideas about delineation of arts areas
- Most public art info. in database/spreadsheet
- Public art images & details hosted on TPAC Website



Data/Attributes to be Created

- Manual creation of arts areas geometry
- Separation of arts attractions into five feature classes
- Creation of new arts attractions
 - ▣ Addresses, or
 - ▣ Coordinates
- QC/manual updates of arts attraction locations and attributes

Methods

- Create account
- Update attributes/add fields for links
- Edit point features using heads-up digitizing
- Web Mercator projection/ArcGIS Online scales
- Design for different scales
- Create new feature classes for labels
 - ▣ Label at each scale
 - ▣ Create annotation feature classes
 - ▣ Feature Outline Masks to convert to feature geometries

Methods

- Create multiple buffers of arts area polygons
- Convert all features to shapefiles
- Zip and upload to ArcGIS Online
- Choose basemap, basemap options
- For features, set:
 - ▣ Symbology
 - ▣ Visibility ranges
 - ▣ Transparency
 - ▣ Legend visibility
 - ▣ Pop-ups



Make a Web Application

After the download completes, follow these steps to get your application working.

- **Unzip the downloaded file.**

Once unzipped, you'll see a folder that contains all the necessary files. Read the file named readme.html for instructions on deploying and configuring your application.

- **Deploy the Web application to your Web server.**

Copy the application files to your Web server.

- **Configure the Web application.**

You can make simple changes to the Web application, like providing a different title, without having any programming experience. Minimally, you'll need to reference the map ID to display your map in the Web application. Follow the instructions in the readme.html file to do this.

Your map ID is: 50bc699f929d43cfa6cb46b3bfe40f6e

To find this ID later, find the map again in ArcGIS.com and view the map details. The URL will contain this ID.

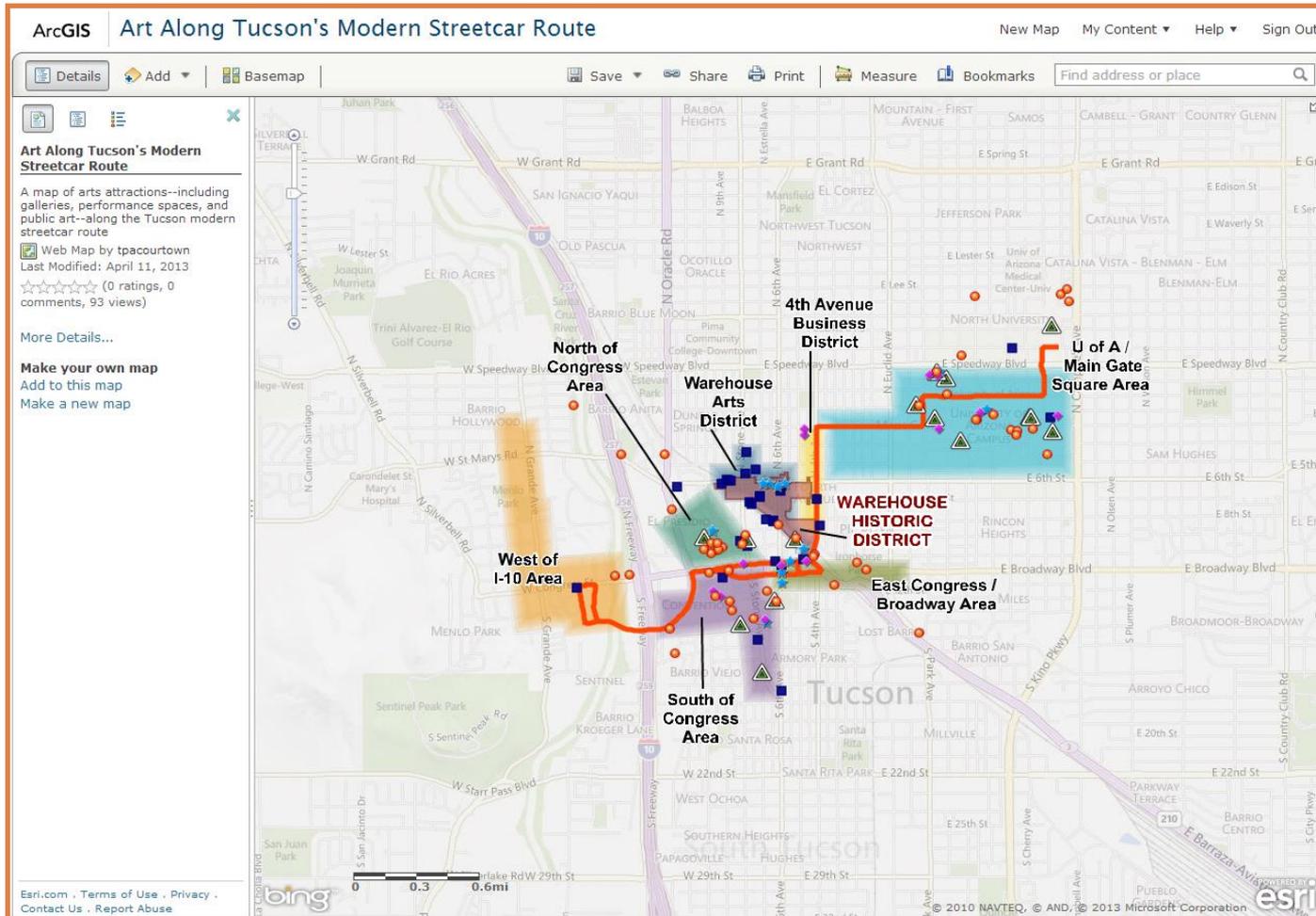
[< Back](#)

Close

Project Results

- Draft Web map produced
- Modifications made based on staff feedback
- Final Web map and Web app produced and hosted on ArcGIS Online
- Links, code for embedding, downloadable apps provided to staff
- Staff training manual created
- Staff training exercise conducted

Web Map Demonstration



Web App Demonstration

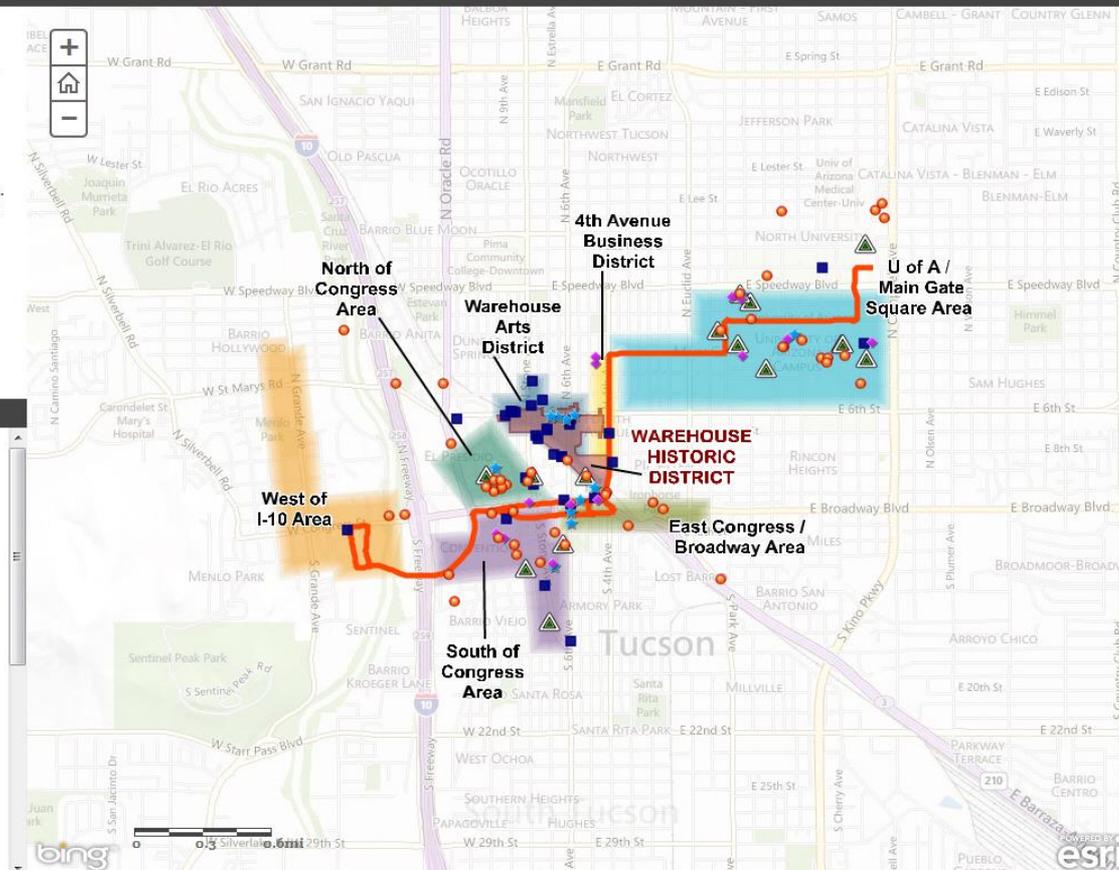
Art Along Tucson's Modern Streetcar Route

A map of arts attractions--including galleries, performance spaces, and public art--along the Tucson modern streetcar route

Tucson's modern streetcar will connect the Mercado District, Downtown, 4th Avenue, the University of Arizona and U of A Medical Center by late 2013. All along the streetcar route, a plethora of arts opportunities await. From public sculptures, murals and other design elements to galleries, museums and attractions, there's so much to see and do. Check out this map to gather information and plan your visit!

LEGEND

- Public Art 
- Performance Space 
- Gallery 
- Museum 
- Creative Industry 
- Streetcar Route 



Final Embedded Version

```
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111.0121,32.1966,-
110.9233,32.2551&displayslider=true&displayscalebar=true&displaylegend=true&displaydetails=true&displaybasemaps=true">
</iframe><br /><small><a href="http://www.arcgis.com/apps/StorytellingTextLegend/index.html?appid=57de41a43ce9488bb3822acda14a05f2"
style="color:#0000FF;text-align:left" target="_blank">View Larger Map</a></small>
```

Potential Future Customizations

- Publish hosted feature services
- Editable layers
- Customized point symbols (with graphics files)
- Different pop-ups
- Customized Web apps (Javascript, Flex, Silverlight) with additional graphics, widgets (e.g. search), tools
- Creation of Mobile apps (iOS, Android, Windows Mobile, Windows 8)
 - ▣ Could even use service like EveryTrail to consume/share .kml version

☐ Who is eligible to participate in the Nonprofit Organization Program?

The Esri Nonprofit Organization Program is designed to provide conservation and humanitarian nonprofit organizations around the world an affordable means of acquiring ArcGIS software and services. Other types of nonprofit organizations may also be eligible for membership in the program.

Eligibility is based on your formal tax-exempt status and the type of work you do.

In the USA this is signified by your 501(c) designation and National Taxonomy of Exempt Entities (NTEE) category.

The primary criterion is tax-exempt status as granted by your country. The specific nature of this status varies by country. Your eligibility status and tax-exempt verification will be determined by your local Esri distributor as part of the request process.

☐ What is the cost of the software for qualified organizations?

A qualified member of the Nonprofit Organization Program will receive the specified ArcGIS software at no cost. An administrative fee will be assessed to cover operational expenses.

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to create an interactive
mapping application for Haiti
disasters. Read the [case](#)
study.

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ArcGIS Online Developments/ Other Considerations

- Developer licensing/pricing for ArcGIS Online
- Open source
- Amazon Web Services or other cloud/hosted solution
- ***Will be required to utilize own Bing Maps key in future***

Conclusions

- ❑ Free version of ArcGIS Online isn't top-of-the-line
- ❑ Making medium-quality maps for ArcGIS Online can often take more effort than expected
- ❑ However, it works well for organizations looking for Web mapping capabilities, but that don't have
 - ❑ Money
 - ❑ Time
 - ❑ Technical expertise
- ❑ It also is 1) customizable and 2) extensible
- ❑ **Questions?**