

ArcGIS ONLINE BASICS - TRAINING SESSION

NOVEMBER 14, 2018

DATA AND MANIPULATION IN ARCONLINE

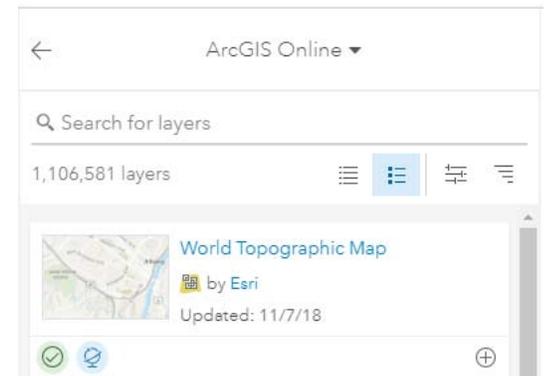
Your task: update the city's website to show what construction projects will be taking place over the next few years. These could be major projects like ODOT funded highway construction, or relatively minor projects, like local street resurfacing.

You will first create a web map and add edit your data. By the end of the training session you will have an online mapping application that shows project locations with pop ups detailing project information. Additionally, there will also be a layer of analysis that shows roughly how many residents could be impacted by the projects.

EXERCISE 1: FINDING DATA ON AGOL

1. If you aren't already logged into your AGOL account, please do so.
2. At the top of the screen, click on the word **'Map'**. *This starts a new map session.*
3. Zoom into Greene County. Click **Add> Search for Layers**
4. In pick list at the top (above the search box) default is set to 'My Content'. Choose 'ArcGIS Online' from this pick list.
5. In the 'Search for layers' box, type "ODOT" and "Greene". We want to add another layer of projects for background information. This layer has ODOT projects for Greene County.
6. You should see several layers: We want to add the layer called "District_work". Click the back arrow to return.
7. Click **'Done Adding Layers'** at the bottom of the screen.
8. Click the **'Legend'** button to see the different types of ODOT projects represented.

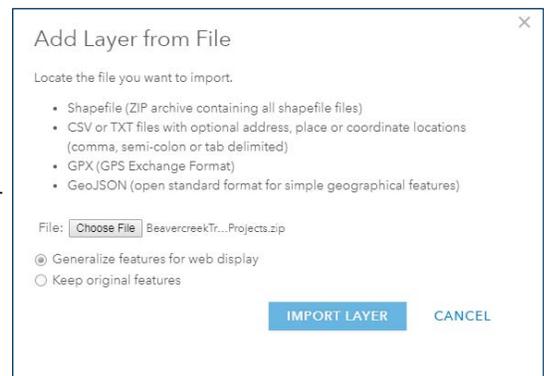
Home Gallery **Map** Scene Groups Content Organization



You have now searched for and found an appropriate layer of additional ODOT projects that can exist in your map. This layer was created by the Greene County Regional Planning Commission, and shared to 'Everyone' – that is why we can see it.

EXERCISE 2: ADDING YOUR OWN SHAPEFILE TO THE WEB MAP

1. If you haven't downloaded the training zip file before now, please visit: <http://www.mvrpc.org/gis-training> and download the zip file to your hard drive. This zip file contains a shapefile.
2. Click on **Add> Add Layer from File**. This will present a new pop up window.
3. Click **'Choose File'** and navigate to the folder where you saved the zip file, and select it. When done, click **'Import Layer'**.
4. The first thing it does is to bring up the panel where you can select how to draw it – we will skip this for now. Click **'Cancel'** at the bottom of the panel.
5. We **do** want to save this layer to our content, so that we can use it later as well as within this mapping session. Hover your mouse pointer over the layer name until you see the ellipses (...).

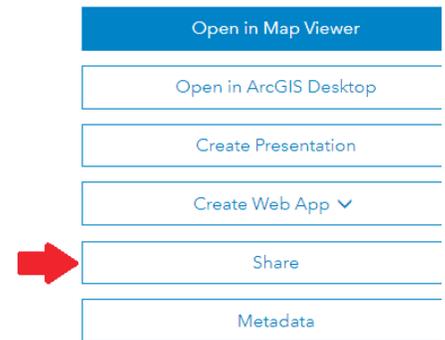


 Click on the ellipses and go to the bottom of the options and select 'Save Layer'.

6. This pops up a new 'Create Item' window. For "Title", call it 'Beavercreek Training Projects', and for "Tags" put 'gis training'. Save it into your main folder.
7. Click the 'Create Item' button when you are done. This action saves the uploaded zip (remember, it's really a shapefile) into your content folder so that you can use and manage its properties.
8. Click the "Save" button above the web map. This will save your current web map so that you can open it later.
9. Name the map "Training" and for 'Tags' put 'gis training', just as you did for the layer. Save it into your main folder, and click the "Save Map" button. You have now saved your map.

EXERCISE 3: MANAGING YOUR CONTENT

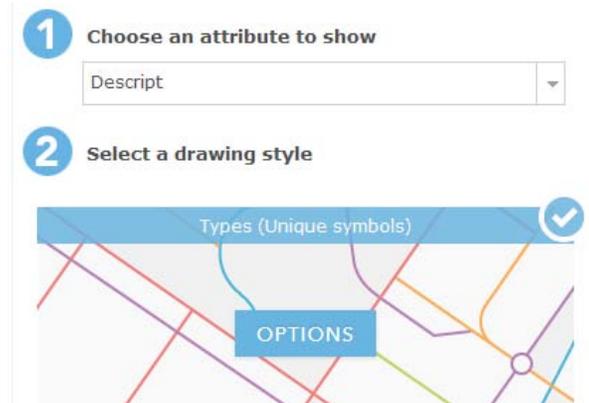
1. In the upper left of the screen (where it says 'ArcGIS'), click and pull down the menu to select 'Content'.
2. Make sure you are in the location where you saved the map and the layer.
3. Click on your web map called 'Training'; this opens up the Overview tab of your web map.
4. Among other things, this is where you can enter a description about your web map. Click 'Edit' to the right of where it says 'Description'; enter whatever you like. You can be as detailed as you like.
5. On the right hand side you'll see a number of selections inside of a narrow rectangle – click the bottommost one, 'Share'.
6. This opens a new box where you can share the web map with Everyone or groups you may belong to. Select 'Everyone' and click the 'OK' button. In a public account, items are either public or private; there's no 'in-between'. Organizational accounts have the ability to restrict access to only other organizational members.



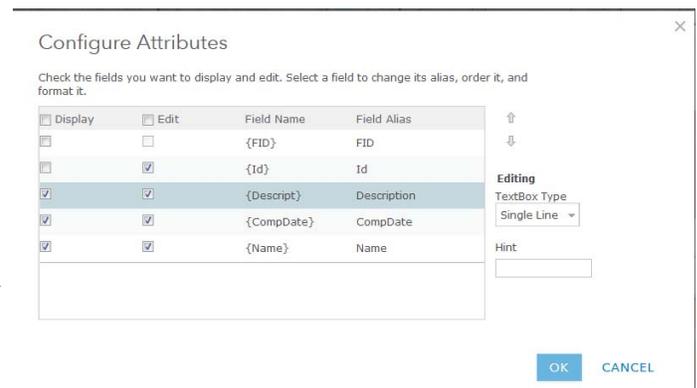
You have now managed the sharing settings and added a description to your web map.

EXERCISE 4: CHANGING THE APPEARANCE OF YOUR LAYERS

1. On the right hand side you'll see a number of selections inside of a narrow rectangle – click the top one, 'Open in Map Viewer'.
2. You are back in your web map, with the 'District_work' layer and your 'Beavercreek Training Projects' layer already added.
3. Hover your mouse pointer on the 'Beavercreek Training Projects' layer until you see the 'Change Style Icon' and click it.
4. You're now looking at the 'Change Style' pane. Here you can select what attributes to draw, and how to draw them. Under the 1st option 'Choose Attribute to show', select 'Descript' in the drop down menu. 'Descript' is a column in the attribute table that describes the project.
5. For the 2nd option 'Select Drawing Style', make sure that 'Types' is selected. Click the 'Options' button.
6. Clicking the 'Options' button opens up a display that shows all of the values that are under the 'Descript' field. Hover your mouse over one of the colored lines and click it. In this new pop up panel you can change the color of the line, its transparency, and its width & pattern. Take several minutes to go through each line category and customize your display. There is no 'right' way to do it - explore and create!



- When you are happy with how all of your categories look, make sure to click **“OK”** at the bottom of the *‘Change Style’* pane. Then click the **“Done”** button at the bottom of the pane.
- Above the layers, select **‘Legend’** – this switches the display in the table of contents to a colorful legend for both layers. Confirm that the layer reflects your changes, and then select **‘Content’** to go back to the previous view.
- Hover again over the *‘Beavercreek Training Projects’* layer until you see the ellipses (...) and click them. You can see other options there like *Rename* (which you can), *Remove* (please **don’t**), *Configure Pop-ups* (which we will later), and *Create Labels* (which we will do now). Select **“Create Labels”**.
- This opens up a new panel where you can control which attribute you want to show up as a label, as well as the text type and its placement. Make sure to choose **“Name”** for the label text. Take a few minutes to vary the text size and placement.
- If you are having trouble locating the projects, temporarily turn off the *‘District_work’* layer and look for the projects around the US35/I675 interchange. You should see 5 road projects, all labeled.
- Now that projects are labeled with their names, you’ll want to configure information that is displayed in popups when a user clicks on the feature. Go back to the ellipses (...) and select **“Configure Pop-ups”**. This opens up the *‘Configure Pop-up’* panel.
- In this panel you can edit the title of the popup and customize what the user sees. For the *‘Pop-up Title’*, write **“Project:”** in the box, and leave the {Name} portion.
- A little lower, you’ll see smaller blue text that says *“Configure Attributes”* – click on that. This opens up a new panel where you can select which attributes the user will see in the pop-up and can format them as well. Under the *‘Display’* column, uncheck the box for both the **“FID”** and **“Id”** rows – we don’t need to display these. Under the *‘Field Alias’* column, click where it says **“Describe”** – lets spell the whole word out. Type in *‘Description’*. This column will now display its full name. When done, click the **“OK”** button at the bottom, and click the **“OK”** button at the bottom of the *Configure Pop-up* panel.
- Click on one of the projects and observe the pop-up - does it look as you expected?
- Feel free to explore other configurations in the pop-up panel if you have time.



EXERCISE 5: EDITING YOUR LAYER

- Let’s add some projects to our layer. Click on the **‘Edit’** button  above the table of contents. A new option comes up, called **‘Add Features’**.
- This new menu shows the different types of road projects that you can create in the layer. Say you want to add in a new road widening project for the length of Grange Hall Road from Dayton-Xenia Road all the way to Kemp Road – to do so more easily, zoom in on the map to this location. Now click on the last symbol, **‘Widening’**. 
- As you move your mouse pointer over the map, you’ll notice a little popup window that says *‘Click to start drawing’*. Click the intersection of Grange Hall & Dayton-Xenia to begin your new project line. Then click again at the intersection of Grange Hall & Kemp. Notice that the popup changes to *‘Double click to complete’* – do so.
- A new popup appears – this is a window to the attribute table of the line feature that you just created. Here you can switch its Description, add in a CompDate (Completion Date) and give it a Name.

--Write "**Grange Hall Widening**" in the 'Name' field, and "Nov 2019" in the *CompDate* field and then click the "Close" button.

- Now add several more projects of different types, and feel free to name them whatever you want (within reason).
- When you're all done go to the upper left and click on "**Details**" to go back to the table of contents.
- Hover your mouse pointer over your layer until you see the ellipses (...), click them, and then choose "**Save Layer**". This will ensure that your new projects are saved to your layer.
- Click the "**Save**" button to save your web map.

CHOROPLETH MAPPING- ADDING POPULATION DATA

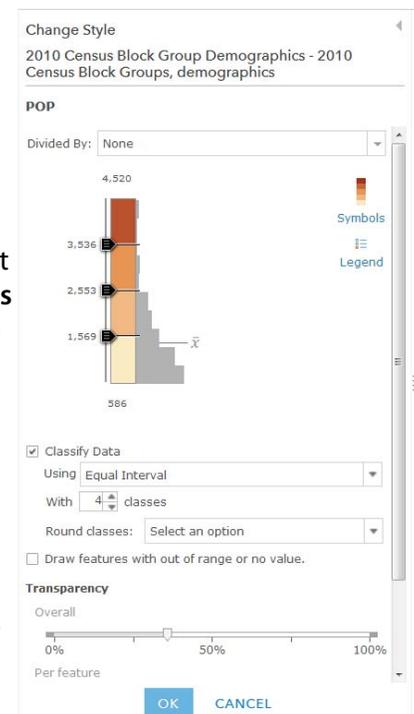
Besides the roadway projects in the map, it would also be helpful to include population totals so users can see how many people near each roadway project will be affected. Are the projects where a lot of people live or not many?

EXERCISE 6: ADDING 2010 CENSUS POPULATION DATA TO THE MAP

- In your webmap, go to the **Add Icon** > **Search for Layers**. 
- Type in "**2010 Census mvrpc**" in 'find:'. Make sure the **In:** box has "*ArcGIS Online*" selected.
- Hit '**Enter**' key on your keyboard (or **Go** button on mobile keyboard).
- In the results dropdown list, find "2010 Census Demographics Block Group Level" (author "kypolk") and Click the title of the layer. In the new-opened details box window pane, scroll to the bottom and click "**Add to Map**."
- In the **Contents** panel, hover mouse over very left-hand side of *2010 Census Demographics Block Group Level* and grab the 3 gray vertical ellipses. Click and drag the layer to the bottom of the list so it does not cover the road projects.

EXERCISE 7: CHANGE STYLE OF 2010 CENSUS POPULATION DATA

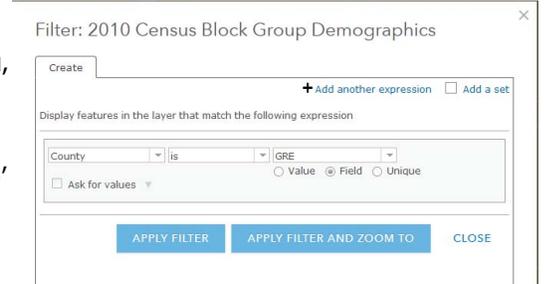
- Click on the "**Change Style**" icon  underneath *2010 Census Demographics Block Group Level* in the left-pane. In the 1. *Choose an Attribute to show* box, look through the dropdown menu to see your choices. They are listed alphabetically. Scroll to **POP** (*short for population).
- In the 2. Select a Drawing Style, there are different types of ways to represent the polygons. For this exercise, choose the middle box, **Counts and Amounts (Color.)** Click the **Select** button in the middle, then click **Options** to bring up the options menu.
- Use the **Symbols** in the upper right hand side of the pane to select color. Pick your desired color scheme. Click **OK**. Take a few minutes to decide how you want to configure. Play around! Just remember, based on the earlier guidelines, you will want to pick a scheme that emphasizes the higher number of people, the darker the color.
- Check the '*Classify Data*' box. In the dropdown menu that pops up, select either **Quantile** or **Equal Interval** to start. Determine your preferred number of classes (ideally between 3 and 7), and to what extent, if any, to round classes (meaning to round the numbers-- i.e. 877 to 880). Again, try a couple classifications or break points to see what you think looks good.
- Lastly, on the transparency bar, the default is currently set at very Opaque. Slide the bar on the scale so that some of the basemap can be shown peeking through, but you can still see color differences.
- Click **OK**. Click **DONE**.



EXERCISE 8: APPLYING FILTER TO DATA

If you zoom out once or twice, you will see that the dataset has 8 counties worth of data. The next step will be to filter the data to only show Greene County.

1. Click the **Filter** icon  under *2010 Census Demographics Block Group Level*. Three dropdown menus appear. In the left-hand menu, find **County** (4th field listed). Check middle menu to be sure **'Is'** is highlighted.
2. Underneath the right-hand menu, click the bubble next to **'Unique'** and then select **'GRE'** in right-hand dropdown menu. Click **Apply Filter**.



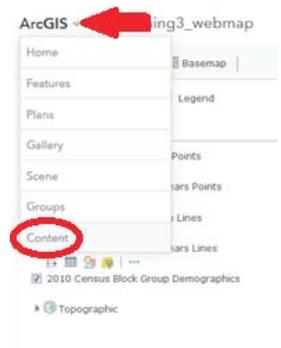
Map should now only portray block groups within Greene County. Click **Save**.

BUILDING A MAPPING APPLICATION

Once webmap is finished, it is time to create a mapping application.

EXERCISE 9: BUILDING A MAPPING APPLICATION WITH A CREATED WEB MAP

1. Fix zoom extent so that it shows all of Beavercreek, OH but not much more (sub-county level). Click **Save**. (It is good to do this since the last saved zoom extent on the web map is how it will open next time or in an application.)
2. In top lefthand corner, select arrow next to **ArcGIS** and select **Content** at bottom of menu. It will navigate back to your *Content* page.
3. Again, towards the top, select the **Create** button.  Create ▾ Select **'Using a Template'** under **App**.
4. This loads many types of applications, listed alphabetically. For today's purposes, select **'Basic Viewer'**. Then click **Create Web App** button.
5. This brings up another prompt. Pick a title that is informative and relates to your web map, but perhaps varies slightly from the web map title, such as *RoadwayProjectsApp*. You will be required to type in at least one tag. If typing multiple tags, separate each tag with a comma (,). Today use **'training'** but in the future you will want to use tags that will be easy for you to draw up when needed.
6. Click **Done**. New screen loads with app. Now it is ready to configure.



Create a New Web App ×

Specify a title, tags, and summary for the new web app.

Title:
RoadwayProjectsApp

Tags:
 ×
Add tag(s)

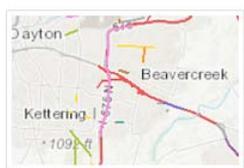
Summary: (Optional)
Enter a summary

Save in folder:
mvrpc

[Back](#) [Done](#) [Cancel](#)

General **Theme** Options Search

Training



Select Web Map

Application title
Defaults to web map title

Application subtitle
Optional subtitle text

Details [Edit](#)

Enter content for the details panel

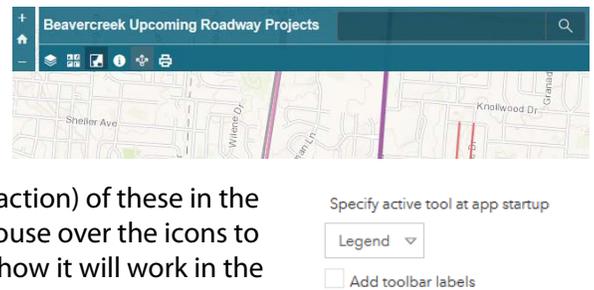
7. The first configuration here should be to tie the already completed web map from the previous exercises to this new application. In the new *Select Web Map* prompt box, navigate to your webmap. Click the webmap, then click the blue **Select** button on right-hand side.

Four tabs are filled with presets and options to configure: *General*, *Theme*, *Options*, and *Search*. Take a few minutes and click through each tab. As you go through these next few steps, periodically click **Save** and then click **Launch** button on the bottom of your screen. It will open up the saved application thus far so you can see your progress. This will be handy to keep track of different updates and what the app will look like to the users!

8. In the *General* tab (it is the default tab opened on your screen once the map has been selected), click the button **Select Web Map**. Continue to configure the **General Tab**: Come up with Appropriate title, e.g. *"Beavercreek Upcoming Roadway Projects"*
9. For the *Details* text box (3rd one down in **General** Tab): Be sure to cite the source of your data and write 1-2 sentences describing what the map shows. If there are additional weblinks you'd like to point readers to, this is a good place to include those. For purposes today type-

'The purpose of this map is to teach ArcOnline Basic applications using both existing and training level data. Source: Ohio Department of Transportation and City of Beavercreek Engineering Department (not really)'

10. Configure the **Options** tab: Decide which tools to activate and which to leave unchecked in the *Toolbar Options*. Make sure the **Legends** box is checked here. Play around with some of the others, like placing a scalebar on the map, or creating an overview map. You will see the addition (or subtraction) of these in the application menu icons in your preview panel. Hover your mouse over the icons to see which tool is included. You may click on each icon to see how it will work in the application.



11. It is also a good idea to make sure the legend is immediately available to users. For this, in the last prompt in the **Options** tab, find the *Specify Active Tool at Startup*. Click the dropdown menu provided and select **Legend**.
12. Configure the **Theme** tab: Play with the application colors and layout options.
13. In the **Search** tab, decide if you would like Search enabled. If no, uncheck the box from *Enable Search tool*. Otherwise, leave it alone. Click **Save** to the right of the instruction pane after each change to see the application updated.
14. Click the **Launch** button (located next to the **Save** button) to see how the application will look to users.