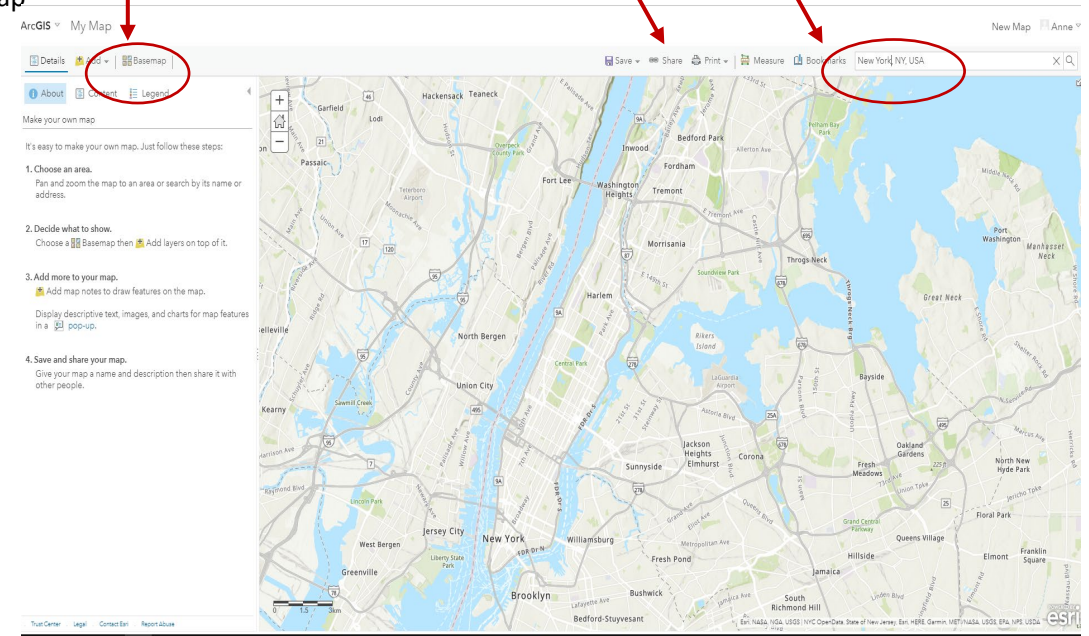
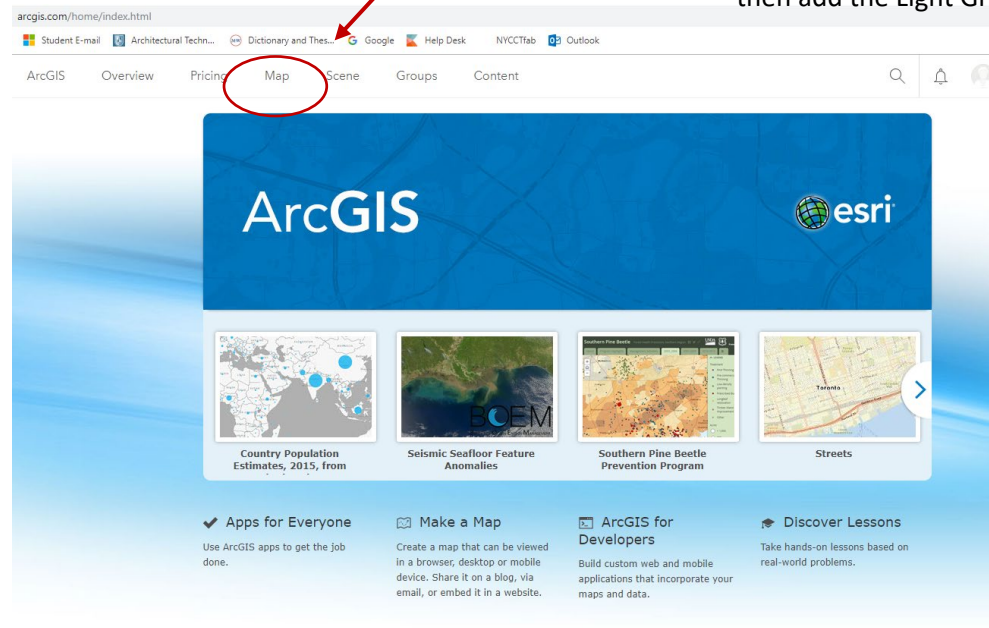


THE 2280 GIS Project

Outline

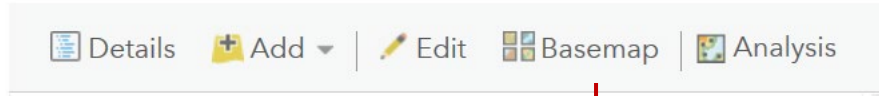
1. Opening ArcGIS Online,
2. Add theater location
3. Add Data for Land Use: MapPluto
4. Navigating Menus & Styling Map
5. Exporting Map

- Open ArcGIS.com and sign in with your new account that has **_CT** at the end. **You should see CUNY** in the title when the Homepage opens.
- Click on Map at the top menu
- Type in your theater name, New York, NY at the top right, and zoom out so you can see the neighborhood around your theater. **Save** the map.
- Select Basemap and explore the different maps, then add the Light Gray map



Outline -- General Navigation

1. Opening ArcGIS Online
2. Add Data for Land Use: MapPluto
3. Navigating Menus & Styling Map
4. Exporting Map



Top left Menu:

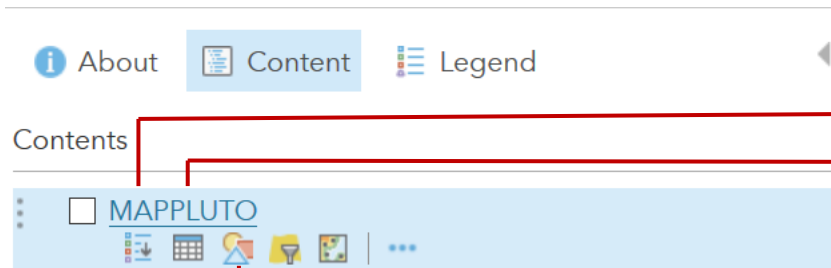
-Details: Gives basic details about the map ownership, who can view, etc

-**Add**: To insert operational layers to the map from the Web, from a File, from Living Atlas (a rich, curated collection of data sources)

-Edit: For insertion of Features, like Points, etc.

-**Basemap**: To insert base maps to build up from with operational layers of data

-Analysis:



Layer Menu (appears when the cursor hovers over layer in the Content Menu):

-Show Legend

-Show Table (containing the data for the map layer)

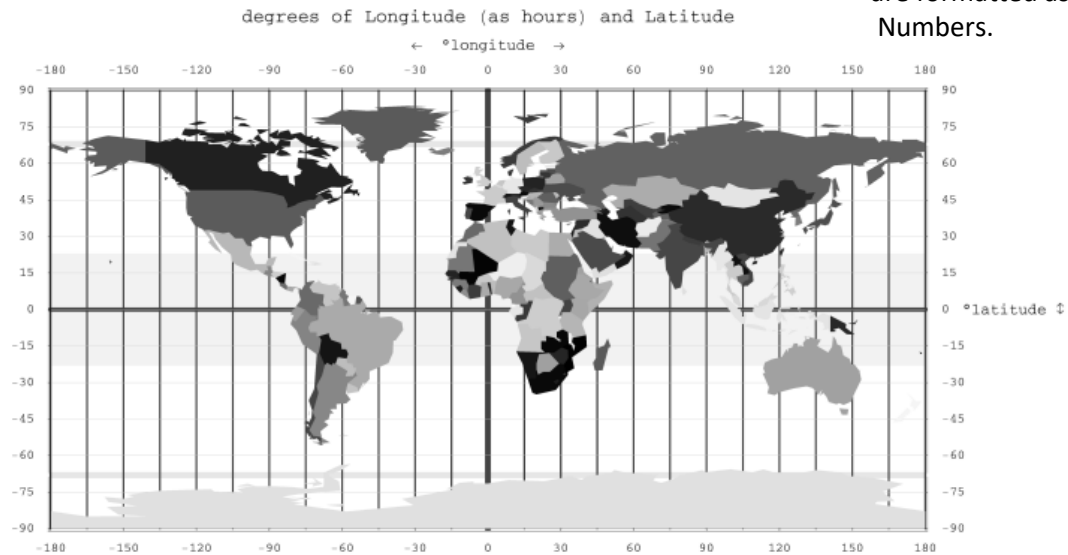
-Change Style (allows changes in color, size, transparency, symbol types, etc.)

-Filter – allows filtering of material shown in the map. Can be added to and edited.

-Analysis – allows operations on the data shown, including buffering, overlaying, analyzing patterns

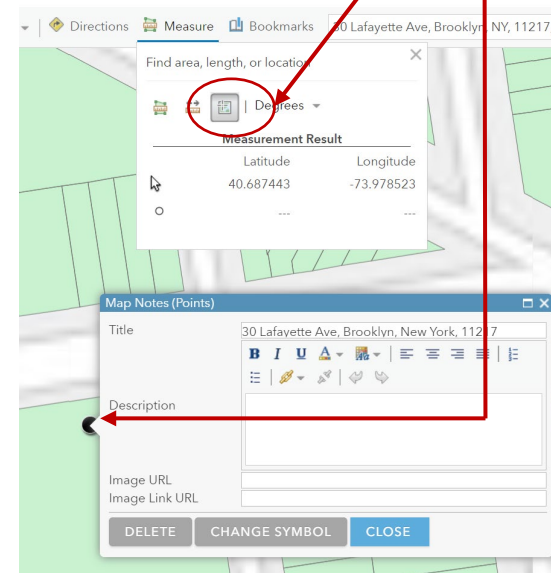
Outline

1. Opening ArcGIS Online
2. Add Data for Land Use: MapPluto
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- ↓ meridians are lines of equal longitude and run N-S paralleling time zones
- ↔ circles of latitude run E-W paralleling climate
- longitude changes along a circle of latitude
- latitude changes along a meridian
- this equirectangular projection does not preserve area, nor angle between locations

- Create a simple spreadsheet in Excel/Google Sheets that will give the location for the theater
- Select the symbol of the theater on your map
- Go to the Measure Menu tab, and click on the Location Option. Note down the Latitude and Longitude numbers to add to your spreadsheet.
- Make sure the Latitude and Longitude cells are formatted as Numbers.



Theater Name	Latitude	Longitude
Brooklyn Academy of Music	40.68711	-73.97707

Note: The longitude for NY is negative since we are in the Western Hemisphere, and the longitude will always be around 40.

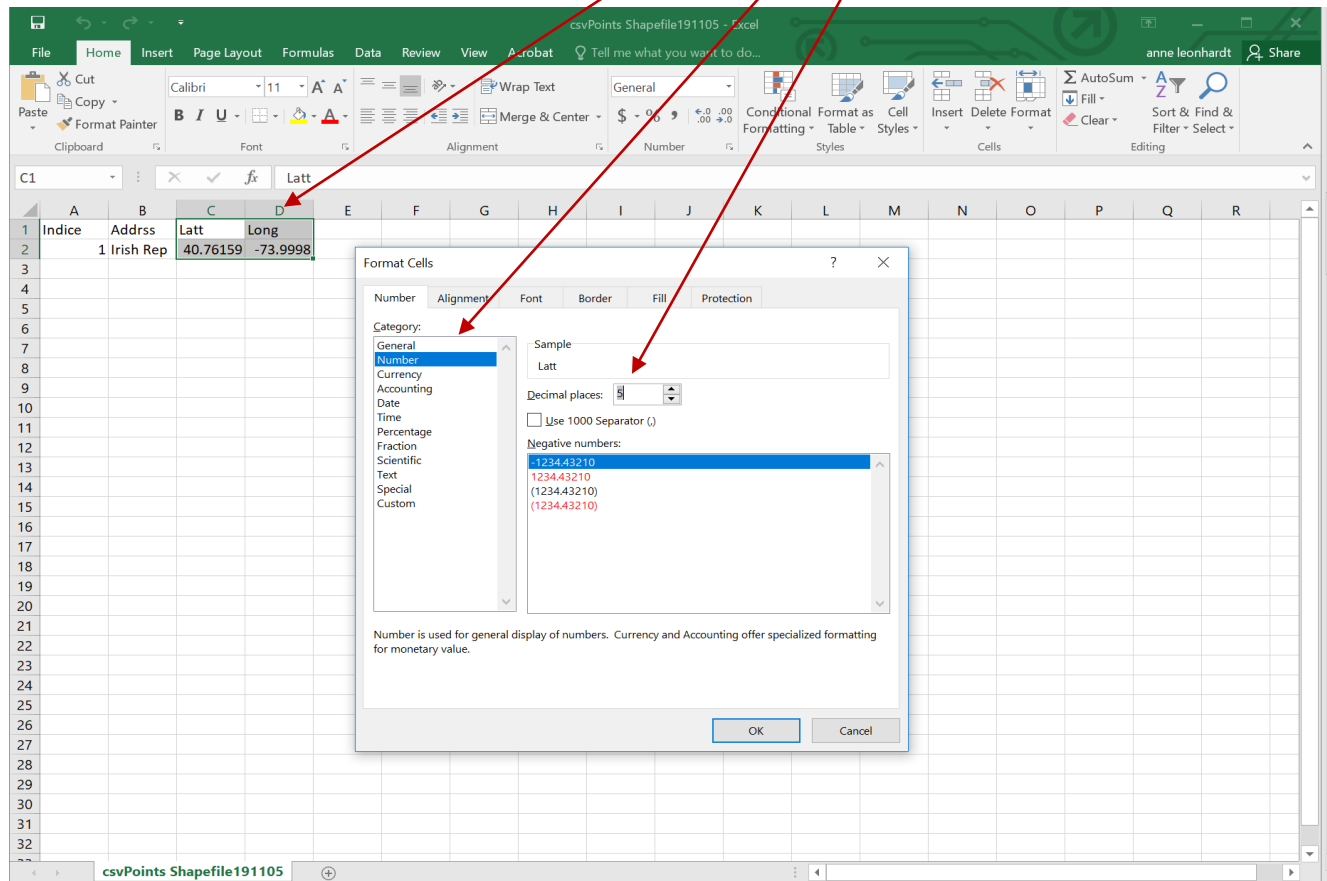
Outline

1. Opening ArcGIS Online
2. Add Data for Land Use: MapPluto
3. Navigating Menus & Styling Map
4. Exporting Map

-Format the purely numeric columns as “Number” format and make sure the Latitude and Longitude have five digits

-Save the file as a **.CSV file**

Add your file to the map. Click on Change style to increase the size and choose the color you’d like.

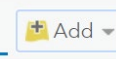


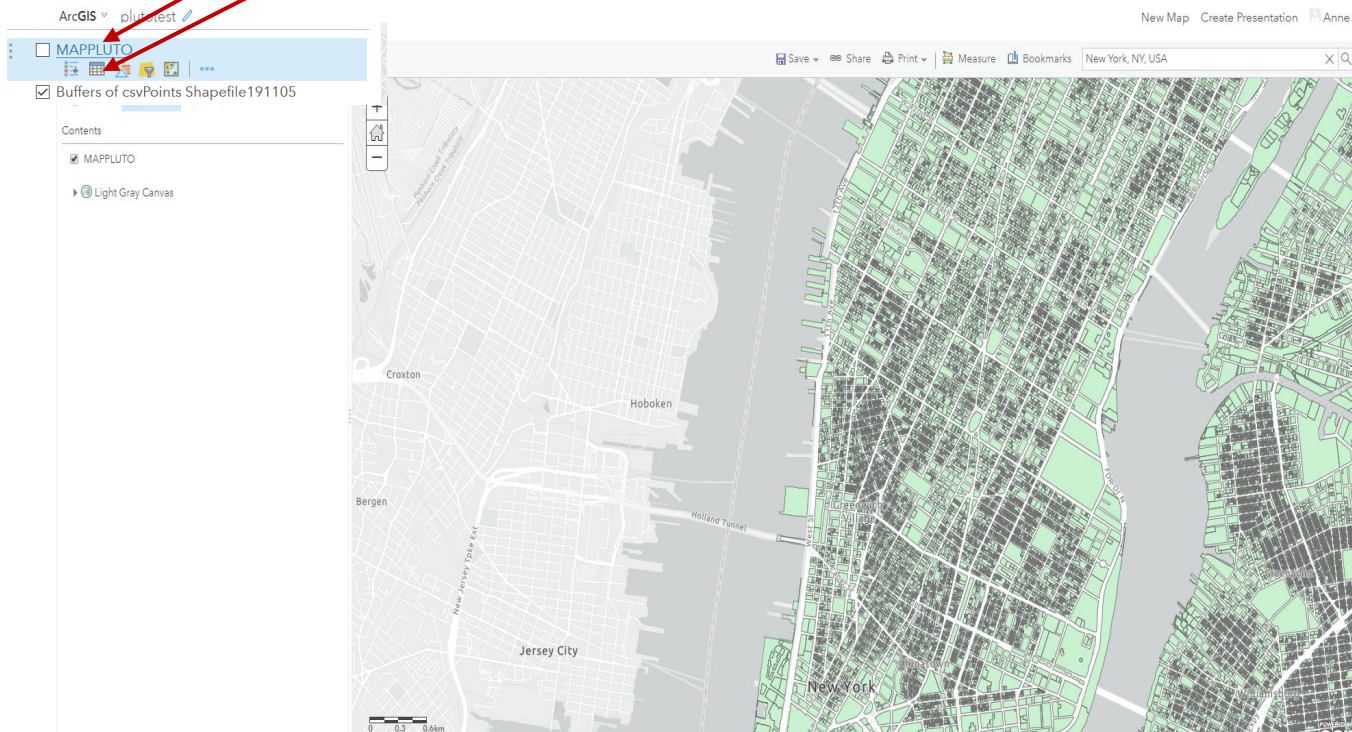
Rules of thumb for preparing data to enter into a GIS file-

-Column titles should always be one word, number columns should always be in a number format, and spreadsheets saved as a .csv files. Latitude and longitude should always be included.

Outline

1. Opening ArcGIS Online
2. Add Data for Land Use: MapPluto
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- Go to the Add Menu on the top left. 
- Expand the Add Layer from Web box and Paste in this website to add:
<https://services5.arcgis.com/GfwWNkhOj9bNBqoJ/arcgis/rest/services/MAPPLUTO/FeatureServer>
- Hover to the right of the layer and drag it below your Theater location layer.
- Hover over the MAPPLUTO Layer in the Contents pane at the left, and click on the Select Table icon that appears



Outline

- 1. Opening ArcGIS Online
- 2. Add Data for Land Use: MapPluto
- 3. Filtering and Styling Map
- 4. Exporting Map

- The data table appears at the bottom of the map, as seen below. Take a look at the table column headings and scroll down.
- Look at the Pluto Data dictionary to understand the https://www1.nyc.gov/assets/planning/download/pdf/data-maps/open-data/pluto_datadictionary.pdf?r=19v1
- Select the Filter icon and Choose "Borough" "=" "MN" (or the Borough your theater is in). To select MN, click on Unique Value. This will filter out information from other boroughs and make the file size more manageable.

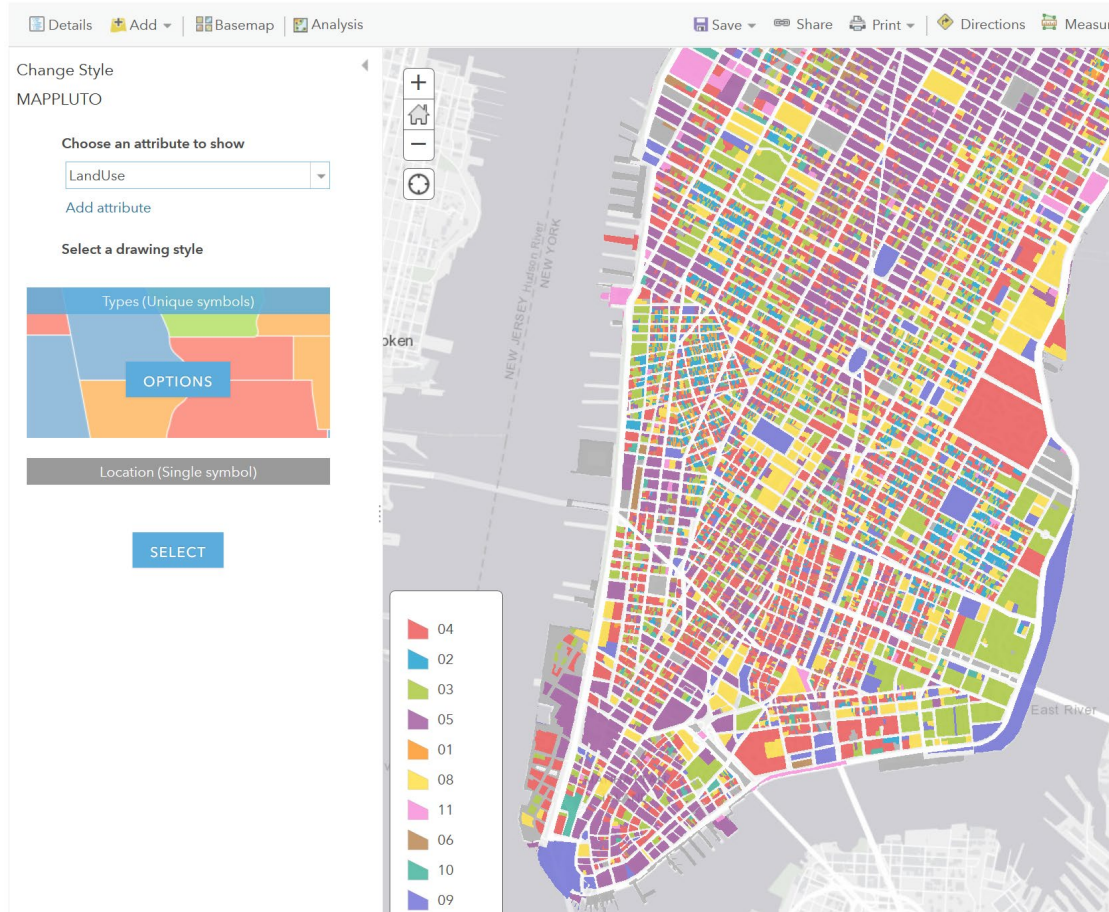
The screenshot shows the ArcGIS Online interface for a map titled 'New Map C' in the 'plutotest' workspace. The map displays a grid of land use data in green, overlaid on a light gray canvas. The map includes labels for 'Croxtton', 'Hoboken', 'Bergen', and 'Greenwich Village'. A scale bar indicates 0, 0.3, and 0.6 km. The data table at the bottom is titled 'MAPPLUTO (Features: 857321, Selected: 0)' and contains the following data:

Borough	Block	Lot	CD	CT2010	CB2010	SchoolDist	Council	ZipCode
QN	16,224	12	414	934.01	3002	27	32	11,694
SI	101	76	501	67	1007	31	49	10,301
SI	348	16	501	147	3010	31	50	10,314

Outline

1. Opening ArcGIS Online
2. Add Data for Land Use: MapPluto
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- Select the Symbology icon when you hover over MAPPLUTO. Change the attribute to show to "LandUse".
- Research what the numbers in the Legend mean
- Click on Options. and simplify so all residential zones are one color (click on the color you want to change to get started).
- Finally, in the Symbols area, rename the numbers to correspond to land use type (label all Residential Building types, Residential.



PLUTO DATA DICTIONARY

Sej

VALUE	DESCRIPTION
01	One & Two Family Buildings
02	Multi-Family Walk-Up Buildings
03	Multi-Family Elevator Buildings
04	Mixed Residential & Commercial Buildings
05	Commercial & Office Buildings
06	Industrial & Manufacturing
07	Transportation & Utility
08	Public Facilities & Institutions
09	Open Space & Outdoor Recreation
10	Parking Facilities
11	Vacant Land

-Finally, in the Symbols area, rename the numbers to correspond to land use type given in the MapPLUTO dictionary (label all Residential Building types, Residential, etc.)
-Click OK and done

Change Style
MAPPLUTO

LandUse

Click to edit symbol or label.

LABEL	COUNT	Symbols
04	4318	
02	2991	
03	1663	
05	2711	
01	1613	
08	795	
11	264	
06	289	
10	165	
09	84	
<input checked="" type="checkbox"/> Other	209	Ungroup
07	167	
No value	42	

Counts based on sampling data.

Transparency

Overall

Per feature

Set from Attribute Values

Visible Range

World

Room

OK CANCEL

Change Style
MAPPLUTO

LandUse

Click to edit symbol or label.

LABEL	COUNT	Symbols
04	4318	
02	2991	
03	1663	
05	2711	
01	1613	
08	795	
11	264	
06	289	
10	165	
09	84	
<input checked="" type="checkbox"/> Other	209	Ungroup
07	167	
No value	42	

Outline

1. Opening ArcGIS Online
2. Add Data for Land Use: MapPluto
3. Filtering, Analysing, and Styling Map
4. Exporting Map

- Use the Analysis tools to add a buffer around the theater to help visualize the neighborhood. Hover over the csv point layer that locates the theater.
 - Select Analysis > Use Proximity > Create Buffers
 - Next, choose Distance and select a 1 mile buffer radius distance from the theater that defines the limit of your neighborhood and helps focus your analysis
 - Next choose the layer name and deselect Use current map extent, then Run Analysis
 - In the Change Style tab, take away the Fill color to be No Color and choose the Outline color. Work with the Outline width so the Buffer is visible.

Home ▾ 191113Theaterdraft

Details Add Edit Basemap Analysis

Perform Analysis

- Summarize Data
- Find Locations
- Data Enrichment
- Analyze Patterns
- Use Proximity
 - Create Buffers
 - Create Drive-Time Areas
 - Find Nearest
 - Plan Routes
 - Connect Origins to Destinations
- Manage Data

The screenshot shows the ArcGIS Online interface with the 'Analysis' tab selected. The 'Use Proximity' sub-menu is expanded, and the 'Create Buffers' option is highlighted. Red arrows point from the 'Use Proximity' and 'Create Buffers' options in the menu to the corresponding steps in the instructions above. The background shows a map of Weehawken, NJ, with a red circle indicating the theater location.

Create Buffers

- 1 Choose layer containing features to buffer
 - csvPoints Shapefile191105
- 2 Enter buffer size
 - Distance
 - Field
 - Enter buffer size: 1 Miles
 - To create multiple buffers, enter distances separated by spaces (2 3.5).
- 3 Result layer name
 - Buffer of csvPoints Shapefile191105
 - Save result in: aleonhardt_CUNYICIS
 - Use current map extent

RUN ANALYSIS

The screenshot shows the 'Create Buffers' tool configuration panel. Red arrows point from the instructions above to the 'Distance' tool icon, the '1 Miles' input field, and the 'Use current map extent' checkbox. The background shows a map of Weehawken, NJ, with a red circle indicating the theater location.

Outline

1. Opening ArcGIS Online
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Add other layers with information you've decided on from the Living Atlas and Open Data NYC. See suggestions below, and also browse the catalogue and info pages found at:

- <https://livingatlas.arcgis.com/en/>

-

• Considerations:

- Open the table for the layer you've added to become familiar with the data included. If there are multiple layers for different scales, like Country, Zipcode, Block.etc. turn off everything except Block. See also if there is a readme file associated with it you can locate to learn more. Turn off other layers so you can focus on each layer.
- Check the source of the data and see if you consider it trustworthy (the U.S. Census Bureau and ESRI are more reliable than a research institute that a Google search returns strange information for).
- Filter it as with MapPLUTO to the Borough level, and check what data is being displayed. Look at the column headings and see if there is some other information that would be useful to look at. Use the Change Style as with MapPLUTO to select the new type of information.
- Look at the information represented and check the units, and if it is raw data, percentages, etc. See if it would be suited to change.
- Repeat this process with other data layers. Once you're happy with each layer, see about turning on other layers as overlays – one layer could have the transparency increased so multiple parts of the information show at once. Experiment and decide if some layers could be shown together as overlays. The different data can help understand other types of data, for example, Land Use may assist in making sense of income or median age data.
- To close a data table attached to a map, click on the top right of the table.
- Optional Extra Credit: Once you have the data identified, explore the Analysis tools (use the information icons to see the scope of the different tools. Some tools you might find interesting are: Find Nearest, Interpolate Points, and Aggregate Points.

Living Atlas Layers for Demographic Analysis [11/30/20]

- **Median Household Income**
 - Meta-Data: <https://www.arcgis.com/home/item.html?id=45ede6d6ff7e4cbbbffa60d34227e462>
 - Map layer access: https://services.arcgis.com/P3ePLMYs2RVChkJx/arcgis/rest/services/ACS_Median_Income_by_Race_and_Age_Selp_Emp_Boundaries/FeatureServer
- **Median Age**
 - Meta-Data: <https://www.arcgis.com/home/item.html?id=d227d6a4ee3e4d2d87eb9843ee14dd87>
 - Map layer access: https://services.arcgis.com/P3ePLMYs2RVChkJx/arcgis/rest/services/ACS_Median_Age_Boundaries/FeatureServer
- **Language Spoken at Home**
 - Meta-Data: <https://www.arcgis.com/home/item.html?id=527ea2b5ba814c8ca1c34a2945e1b751>
 - Map layer access: https://services.arcgis.com/P3ePLMYs2RVChkJx/arcgis/rest/services/ACS_Language_by_Age_Boundaries/FeatureServer
- **Ethnicity**
 - Meta-Data: <https://www.arcgis.com/home/item.html?id=23ab8028f1784de4b0810104cd5d1c8f>
 - Map layer access: https://services.arcgis.com/P3ePLMYs2RVChkJx/arcgis/rest/services/ACS_Population_by_Race_and_Hispanic_Origin_Boundaries/FeatureServer
- **OpenStreetMap Amenities North America**
 - Meta-Data: <https://www.arcgis.com/home/item.html?id=bad87ec08d394721a032cd97a0f640a7>
 - Map layer access: https://services6.arcgis.com/Do88DoK2xjTUCXd1/arcgis/rest/services/OSM_Amenities_NA/FeatureServer
- **OpenStreetMap Landuse North America**
 - Meta-Data: <https://www.arcgis.com/home/item.html?id=282127096f344ed39a8d895d498d94c4>
 - Map Layer Access: https://services6.arcgis.com/Do88DoK2xjTUCXd1/arcgis/rest/services/OSM_Landuse_NA/FeatureServer