RTC Transverter

User Manual

Viraj and Milan Patel

Outline

Vision Statement

For GIS students/analysts

who are looking to visualize spatial features that share similar attributes,

the RTC Transverter

is an exploratory tool

that will highlight the spatial features based on the selected field, value, and range.

Unlike current exploratory tools in ArcGIS,

our product is intuitive and simple while also providing all the related information about the highlighted feature(s).

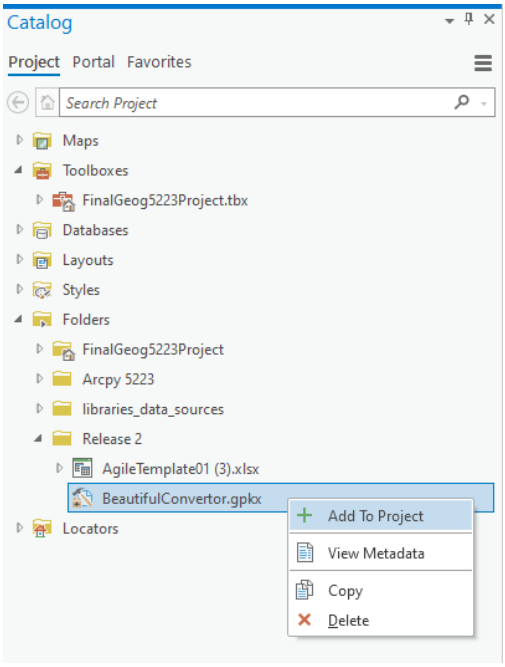
Installation

1) Download the .gpkx file to the desired folder.

2) Add the same folder as Connection using "**Add Folder Connection**" in the catalog pane.

3) Refresh and expand the folder and right-click on the **.gpkx** file.

4) Select "**Add to Project**".



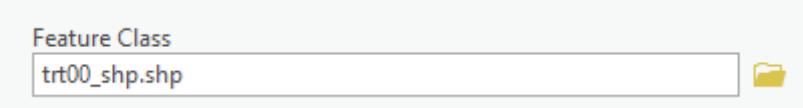
5) You should be good to go, in need for further assistance go to

https://pro.arcgis.com/en/pro-app/2.7/help/analysis/geoprocessing/share-analysis/use-a-geoprocessing-package.htm

How To Use

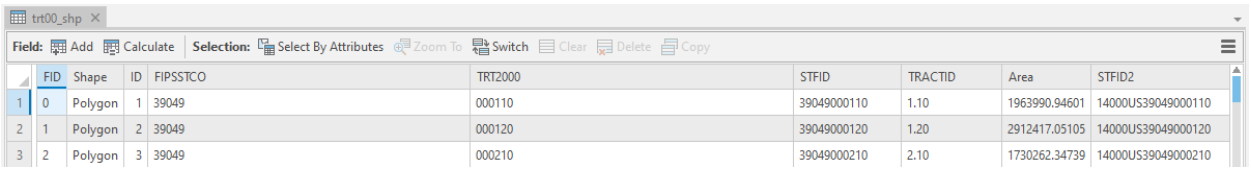
*For this example, the "**libraries_data_sources**" file is being used.

1. Enter Feature Class Path(Required)
    a. This accepts point, multipoint, and polygon feature files.



2. Enter the Order of Fields
    a. Enter the fields that you need in an order of importance. That order will be reflected in the front of the attribute table.
    b. Not all of the field(s) need to be inserted, only the fields that are the most important.

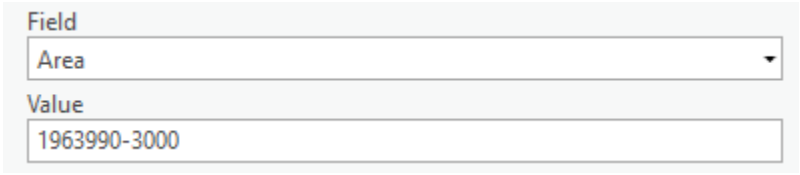
*Avoid putting auto-generated fields such as "**FID**" and "**Shape**" in the list.



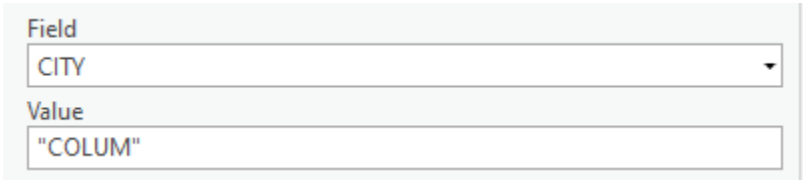
3. Enter the Field
    a. Type in the name of the field(s) that are important and required from the feature table of the Shapefile

b. It is not recommended to do a query using FID or Shape fields, although it will work, the result won't be as modified.

4. Enter the Value
   a. Enter the value of the field that would be used to highlight similar polygons.
   b. Below is the example of how to define an integer value, this is applicable for double, float, and integer whole values. Place a dash after the value and insert a number that would highlight all the features within that range.



   c. Below is the example of how to define a string value, all the user needs to do is put the partial or the whole value inside the double quotations. The example below uses a partial value of "**COLUMBUS**" thus it being "**COLUM**", you could also do something like "**LUMB**".



5. Enter the Output feature path

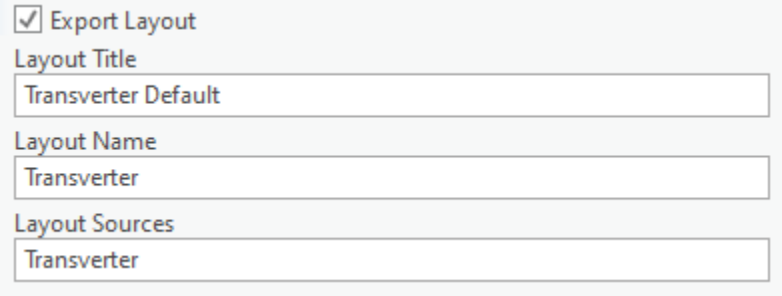
a. It is important to provide the same path of the folder which was used for **Part 1**.

b. Enter a custom name for the output file and it is important to add the **.shp extension**.

6. Checkbox for Generating Layout(Optional)

a. Click to check depending on if you want to have a layout generated for you.

b. If the checkbox is checked, additional parameters will be visible for further customization, although it's not necessary to change the default value.

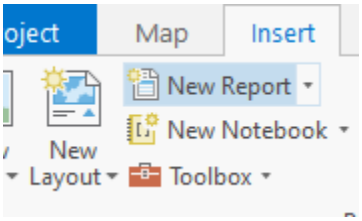


c. This is how your Geoprocessing window should look like so far:

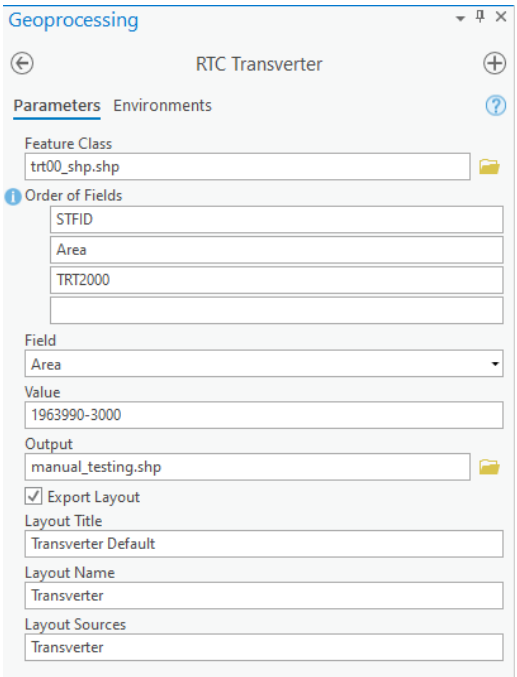
d. If you did not check the checkbox, fast forward to **Step 10**.

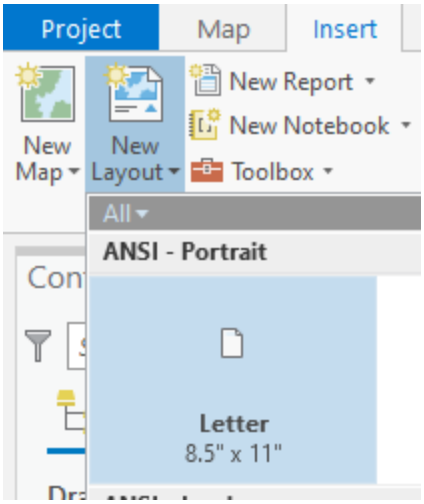
***The steps below are only required if the checkbox is checked from the previous part(Step 6).**

7. If you don't have an existing layout then go to **Insert** on the ribbon window and click **New Layout**.



8. Select the "**ANSI Portrait Letter 8.5" x 11""**



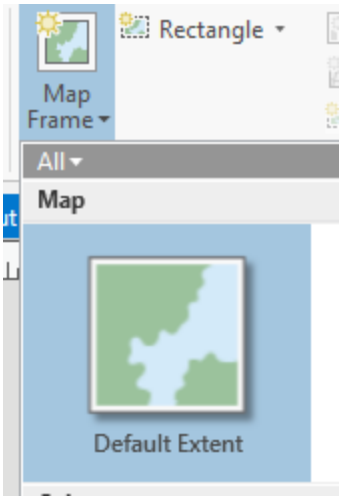


9. Add the following elements to the layout and place them wherever on the layout page.

   ***Do not rename the elements.**

   a. Map Frame

      i. To add the Map Frame, make sure you're on the Insert tab on the ribbon and select the following:

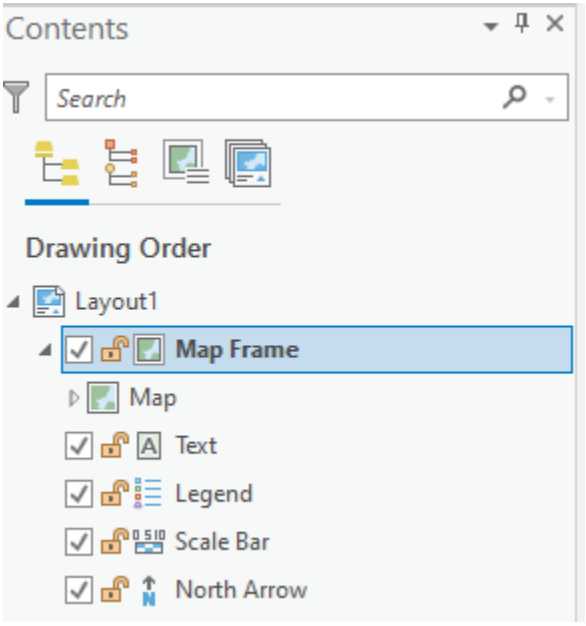


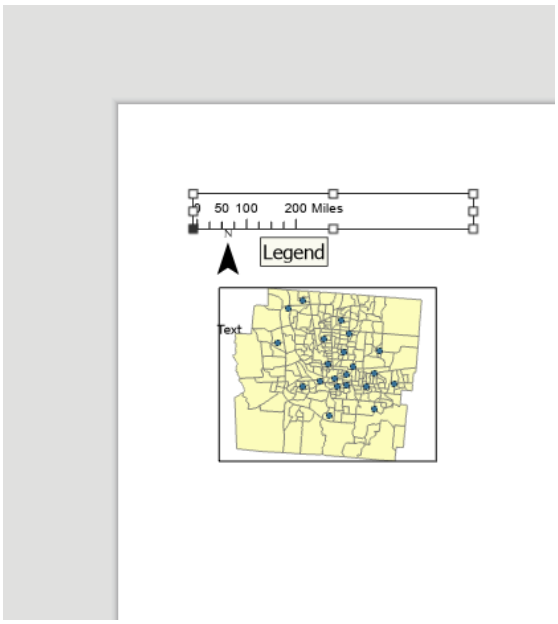
b. North Arrow

c. Scale Bar

d. Text Box

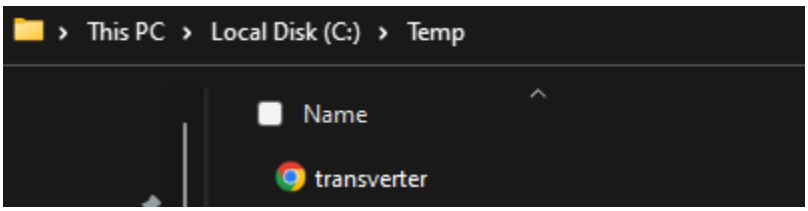
e. Legend



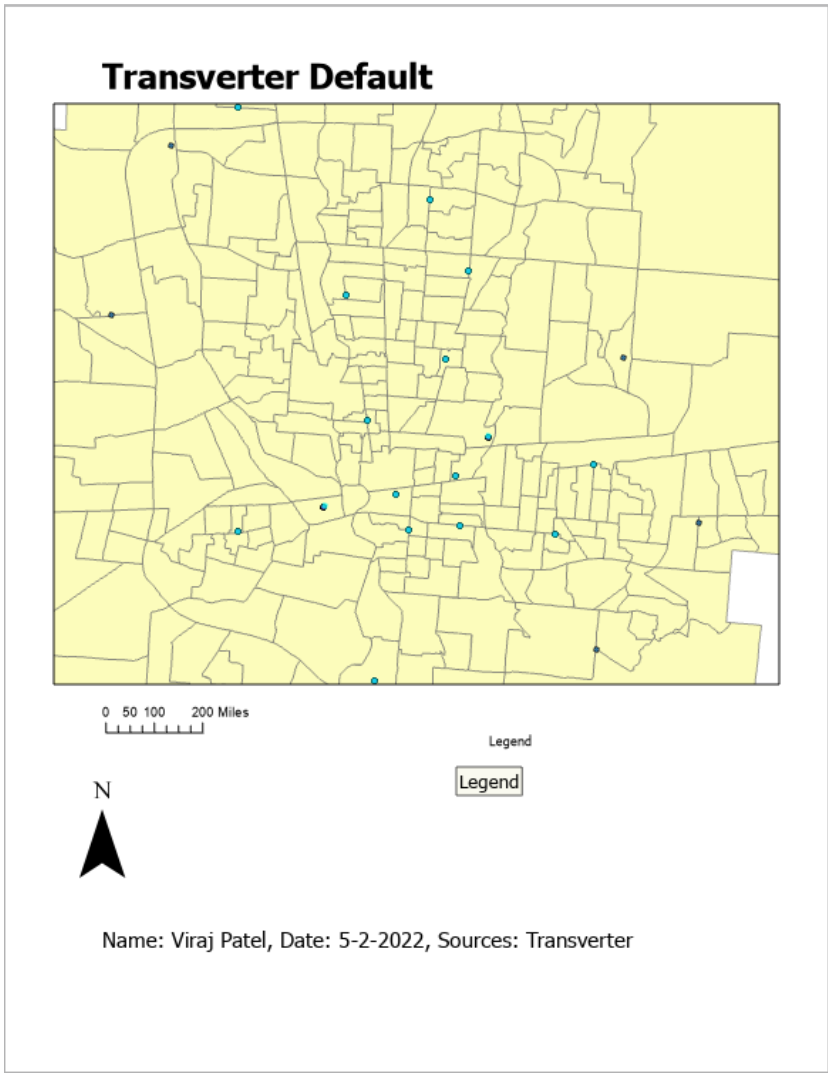


10. Click "**Run**" 

11. Navigate to this path “**C:\Temp**” and there should be a pdf file called “transverter.pdf”



Successful Output Example



Software Development Process

The development of the RTC Transverter was divided into 6 sprints and the software had 3 releases for testing purpose and quality checks. The sprints were given types to put the important components first on a task.

The first sprint implements the feature of allowing the user to select the input and output of their desired folder of data sort and clean the data with empty values.

The second sprint consisted of tasks to provide the ability to sort the data and sort it by the user's preference. Those tasks would allow the user to select the important fields and choose an optional value range for the field. The RTC Transverter will sort the data with the given condition from the user.

The third sprint in the development process focused on the map layer and the ability to manipulate it to find more information about the features. The third sprint implemented selecting the features on the map to show the data, highlight similar features to the selected one, and zooming to it.

The fourth sprint focused on generating an output for the highlight and important features from the provided data from the user. The user will be able to choose the output directory and the RTC Transverter will output the shapefile with the modified data into that folder. The program will also generate a map layout which will be auto-formatted when the program has been run and the pdf will be saved as a pdf.

The fifth sprint will focus on the software's documentation and writing the metadata providing the purpose of each parameter of the tool.

The sixth sprint is the final sprint and that focuses on writing the manual, fixing the bugs from testing, and overall preparing for the final release.