How-To Guide for Street Length Visualization

Collecting and Processing the Data

1. Retrieve the population by gender data
    a. This can often be found on a city's open data portal
    b. Calculate and save the **percentage of population by sex**
2. Download the city's gendered street geojson from GeoChicas
    a. https://github.com/geochicasosm/lascallesdelasmujeres/tree/master/data
3. Import the geojson data into QGIS or ArcMap
4. Save the geojson as a shapefile
5. Use a built in function to calculate the length of each line object in meters
6. Export the shapefile as a CSV with, at minimum, columns "gender" and "length"
    a. "gender" should have values "Male" or "Female"
7. Use Python to run the file "street_math.py" and include the name (or path if it is in a different folder) of the CSV file as a command line argument

```
(greenbelts) C:\Users\meita\Documents\MIT\Spring 2020\11.458\project>python street_math.py "FINAL_ba_lengths.csv"
the men have a total of: 3292860.688312268, which is 94.75057524372642%
the females have a total of: 182432.92319569376, which is 5.249424756273599%
```

    a. Save the **total lengths of streets by sex**

Editing the Visualization

1. Begin from existing visualization file
2. Update text
    a. Update title to correct city
    b. Update male and female **total length values**
        i. Divide the values by 1000 to get it in kilometers
    c. Update the population text to the correct percentage
    d. Update the sources
3. Update the street length icons
    a. Determine how many levels of streets will be for the male visualization, referred to as m_x
    b. Divide the total male length by m_x to get the kilometer representation of one level, referred to as lev_km

    c. Divide the total female length by lev_km to get the number of levels to represent female streets
    d. Edit the female and male visualization so there are the correct number of levels

Creating the Visualization

1. Follow the design guidelines to create the twitter card
    a. Use the colors and fonts for the text
2. Create the street length icons
    a. Determine how many levels of streets will be for the male visualization, referred to as m_x
    b. Divide the total male length by m_x to get the kilometer representation of one level, referred to as lev_km
    c. Divide the total female length by lev_km to get the number of levels to represent female streets
    d. Edit the female and male visualization so there are the correct number of levels
3. Use the PNG's in the "street_length_images" folder to create the correct number of levels for each gender