Basic Mapping File

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Invalid Date

```
from itertools import count
from math import nan
import pandas as pd
import matplotlib.pyplot as plt
import os
import pip
import seaborn as sns
import geopandas as gpd
import json
import pyproj
from pyproj import CRS
from pyproj import Proj
from shapely import Point, LineString, Polygon
from shapely.geometry import linestring
import numpy as np
import folium as fol
from folium.plugins import MarkerCluster
#os.getcwd()
orig_data =
 ↪  'C:\\Users\\wyatt\\student30538-w26\\final-project-whartwig\\Original-Data\\'
data_drop =
 ↪  'C:\\Users\\wyatt\\student30538-w26\\final-project-whartwig\\Cleaned-Data\\'
```

Read in cleaned files

```
stl_tracts = gpd.read_file(data_drop + 'stl_tracts.geojson')
stl_select = gpd.read_file(data_drop + 'stl_select.geojson')
newstl = gpd.read_file(data_drop + 'newstl.geojson')
```

```
newcounty = gpd.read_file(data_drop + 'newcounty.geojson')
county_all = gpd.read_file(data_drop + 'county_all.geojson')
```

```
#stl_tracts
```

Mapping

Base map

```
#All cencus tracts in current STL City/County
all_tracts = fol.Map(location = [38.625029, -90.186772], tiles='cartodb
 ↪  positron', zoom_start = 10)
fol.GeoJson(stl_tracts, tooltip=fol.GeoJsonTooltip(fields=['COUNTY', 'TRACT',
 ↪  'POPULATION']),
            popup=fol.GeoJsonPopup(fields=['COUNTY', 'TRACT', 'POPULATION',
 ↪  'DENSITY']),
            style_function=lambda x: {'fillColor':'blue', 'color':'black',
 ↪  'weight': 1,
                                      'fillOpacity':
                                       ↪  0.1,}).add_to(all_tracts)
all_tracts
```

```
<folium.folium.Map at 0x17dced6a510>
```

New city cencus tracts

```
#Proposed City in new St. Louis County by Census Tract
new_stl = fol.Map(location = [38.625029, -90.186772], tiles='cartodb
 ↪  positron', zoom_start = 10)
fol.GeoJson(stl_select, tooltip=fol.GeoJsonTooltip(fields=['COUNTY', 'TRACT',
 ↪  'POPULATION']),
            popup=fol.GeoJsonPopup(fields=['COUNTY', 'TRACT', 'POPULATION',
 ↪  'DENSITY']),
```

```
            style_function=lambda x: {'fillColor':'blue', 'color':'black',
 ↪  'weight': 1,
                                      'fillOpacity': 0.1,}).add_to(new_stl)
new_stl
```

```
<folium.folium.Map at 0x17dcf184500>
```

New city and county

```
#New St. Louis City and County Boundry and Stats
stl_next = fol.Map(location = [38.625029, -90.186772], tiles='cartodb
 ↪  positron', zoom_start = 10)
fol.GeoJson(newstl, name='New St. Louis',
 ↪  tooltip=fol.GeoJsonTooltip(fields=['NAME']),
            popup=fol.GeoJsonPopup(fields=['NAME', 'POPULATION', 'SQMI',
 ↪  'DENSITY']),
            style_function=lambda x: {'fillColor':'blue', 'color':'black',
 ↪  'weight': 1,
                                      'fillOpacity': 0.1,}).add_to(stl_next)
fol.GeoJson(newcounty, name='New County Without St. Louis',
            tooltip=fol.GeoJsonTooltip(fields=['NAME']),
            popup=fol.GeoJsonPopup(fields=['NAME', 'POPULATION', 'SQMI']),
            style_function=lambda x: {'fillColor':'red', 'color':'black',
 ↪  'weight': 1,
                                      'fillOpacity': 0.1,}).add_to(stl_next)
fol.GeoJson(county_all, name='New County with St. Louis',
            tooltip=fol.GeoJsonTooltip(fields=['NAME']),
            popup=fol.GeoJsonPopup(fields=['NAME', 'POPULATION', 'SQMI']),
            style_function=lambda x: {'fillColor':'orange', 'color':'black',
 ↪  'weight': 1,
                                      'fillOpacity': 0.1,}).add_to(stl_next)
fol.LayerControl().add_to(stl_next)
stl_next
```

```
<folium.folium.Map at 0x17dd04ca600>
```