COMPUTATION AND VISUALIZATION

PROJECT 2

DASHBOARD FOR ANALYZING REGIONAL DATA BASED ON ZIP CODES

KAVYA PATI BANDLA

patibandla.ka@northeastern.edu

617-637-6694

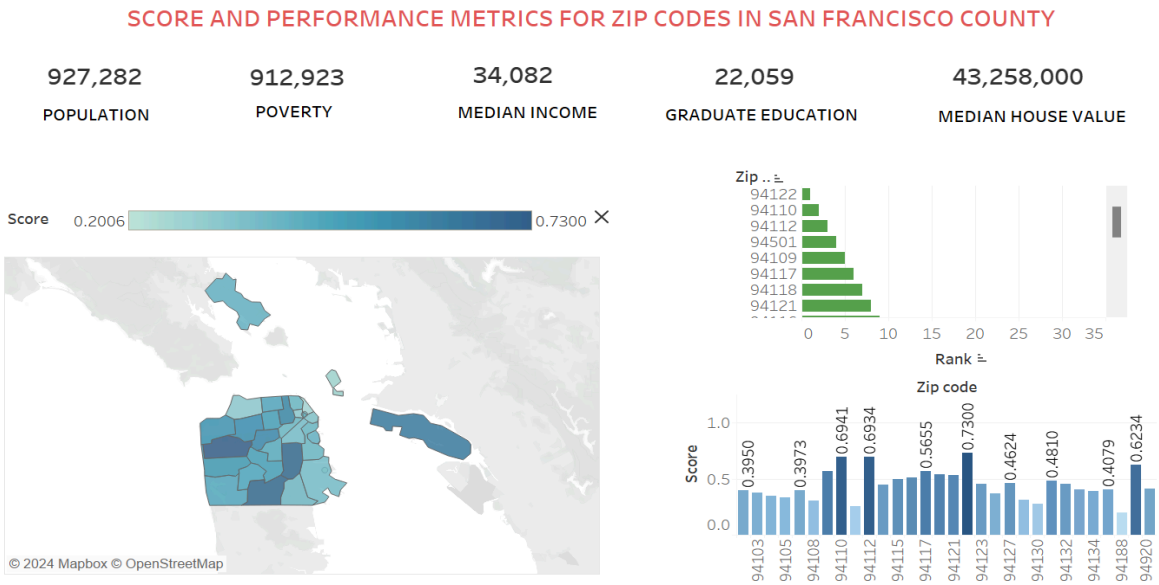
Data Selection:

The zipcodes for the San Francisco county region in the state of California are taken and the 5 key factors such as Education[1], Resident Population [2], Median Income[3], Median House prices[4] and Poverty[5] are taken to analyze the region and form a composite score with these factors.
The data is collected and joined on Zip code and then weights are assigned to the factors and cumulative score and rank of the region are generated.

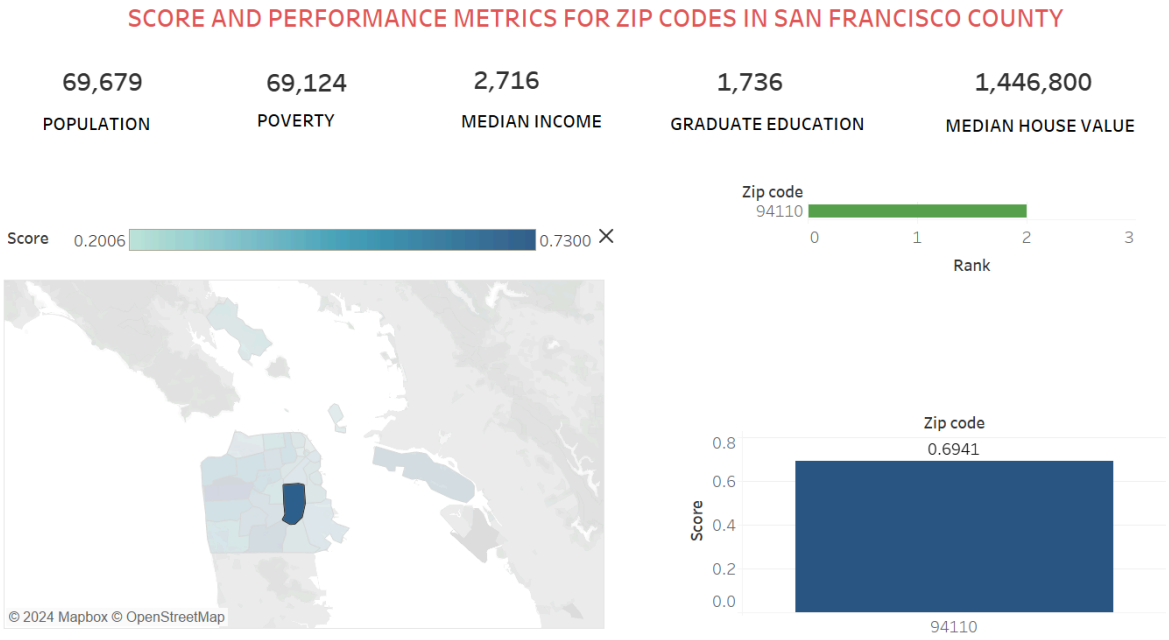
Score Calculation

The weighting system for the composite scoring system is taken such that the Education is given a weight of 0.3, the population aspect of the regions are given a weight of 0.25, median income is given a weight of 0.2 and the median house rates in the region contribute with a weight of 0.15. The poverty value is taken with a negative correlation such that the higher value will indicate a lower score.

Dashboard



The map shows the regions according to the zip code and are colour coded based on their composite scores that are calculated. The Higher score indicates the region is performing better. The map is used as a filter to visualize the values of the zipcodes effectively.



The filter in the map allows the user to select a particular zip code and analyze all the features for the given zip code. The Ranks of the zip codes are divided into 3 categories with a colour coding of Green, yellow and red, which shows the region is in the Good, average or below average category.

Data Citation:

[1]U.S. Census Bureau. (2022). *ACS 5-Year estimates: School enrollment (Table B14001)* [Data file]. Census Bureau Data. Retrieved December 10, 2024, from https://data.census.gov/map/050XX00US06075$8600000/ACSDT5Y2022/B14001?t=School%20Enrollment&layer=VT_2022_860_Z2_PY_D1&loc=37.7850,-122.7806,z9.0572

[2]U.S. Census Bureau. (2020). *Decennial Census: Resident population (Table P1)* [Data file]. Census Bureau Data. Retrieved December 10, 2024, from https://data.census.gov/map/050XX00US06075$8600000/DECENNIALDHC2020/P1?t=Resident%20Population&layer=VT_2020_860_00_PY_D1&loc=37.7850,-122.7806,z9.0572

[3]U.S. Census Bureau. (2022). *ACS 5-Year estimates: Income and earnings (Table S1903)* [Data file]. Census Bureau Data. Retrieved December 10, 2024, from https://data.census.gov/map/050XX00US06075$8600000/ACSST5Y2022/S1903?t=Income%20and%20Earnings&layer=VT_2022_040_00_PP_D1&loc=37.7850,-122.7806,z9.0572

[4]U.S. Census Bureau. (2022). *ACS 5-Year estimates: Housing value and purchase price (Table B25077)* [Data file]. Census Bureau Data. Retrieved December 10, 2024, from https://data.census.gov/map/050XX00US06075$8600000/ACSDT5Y2022/B25077?t=Housing%20Value%20and%20Purchase%20Price&layer=VT_2022_040_00_PP_D1&loc=37.7850,-122.7806,z9.0572

[5]U.S. Census Bureau. (2022). *ACS 5-Year estimates: Income and poverty* [Data file]. Census Bureau Data. Retrieved December 10, 2024, from https://data.census.gov/map/050XX00US06075$8600000?t=Income%20and%20Poverty&layer=VT_2022_040_00_PP_D1&loc=37.7850,-122.7806,z9.0572