

THE BATTLE OF NEIGHBORHOODS

Analyzing the population in different neighborhoods of Bangalore to construct new bus stations.

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Introduction

Bangalore, officially known as Bengaluru, is the capital of the Indian state of Karnataka. It has a population of more than 8 million and a metropolitan population of around 11 million, making it the third most populous city and fifth most populous urban agglomeration in India.

Owing to the population of Bangalore, transport and the time spent travelling every day is a huge issue today. On average, people spend about 2-2.5 hours in traffic every single day, and a major reason for this traffic is the number of cars on the road. We believe that if public transport were encouraged and the facilities were made more easily accessible, it could drastically cut down the number of personal cars on the road. So with this project, we're going to analyze the areas that lack a good public transport system. To be precise, we will try to find the top 5 areas that need new bus stations based on the population.

Methodology

Data Collection:

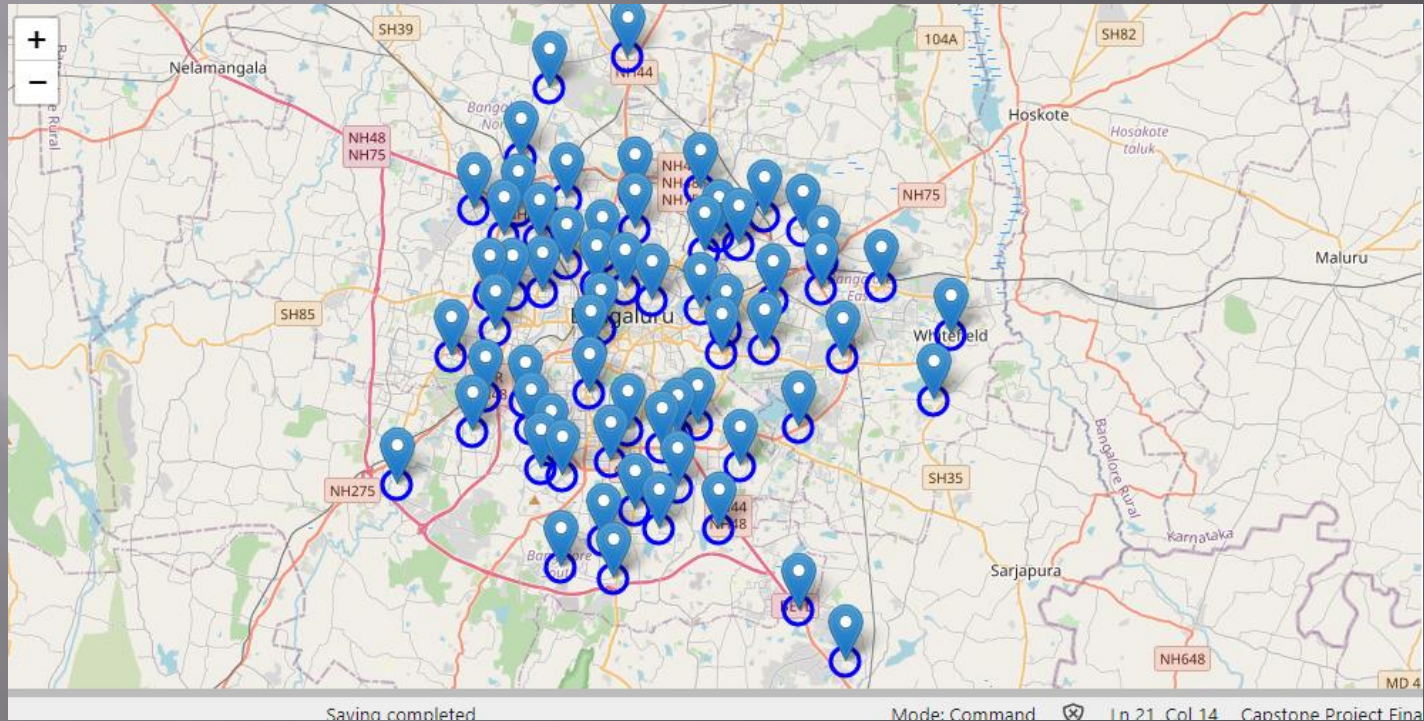
- ▣ The dataset used contains the following information-
- ▣ Name of the neighborhoods in Bangalore City
- ▣ Population of the neighborhood
- ▣ Average income of the residents living in the neighborhood
- ▣ The dataset used is from a fellow github user <https://github.com>
- ▣ We will also use foursquare API
'https://api.foursquare.com/v2/venues/explore?&client_id=1DMW4ITPQHBMV3UBZ2S2R4UBSVPL0LRFB0HQ2XGW0WCYXF214&client_secret=WKWTVF5N3I5XBVLFFEVI3KJ3HPORSJSEXYK50QCKX5GHCBBO&v=20180605&ll=12.972442,77.58064300000001&radius=1000&limit=1000'

Data Cleaning:

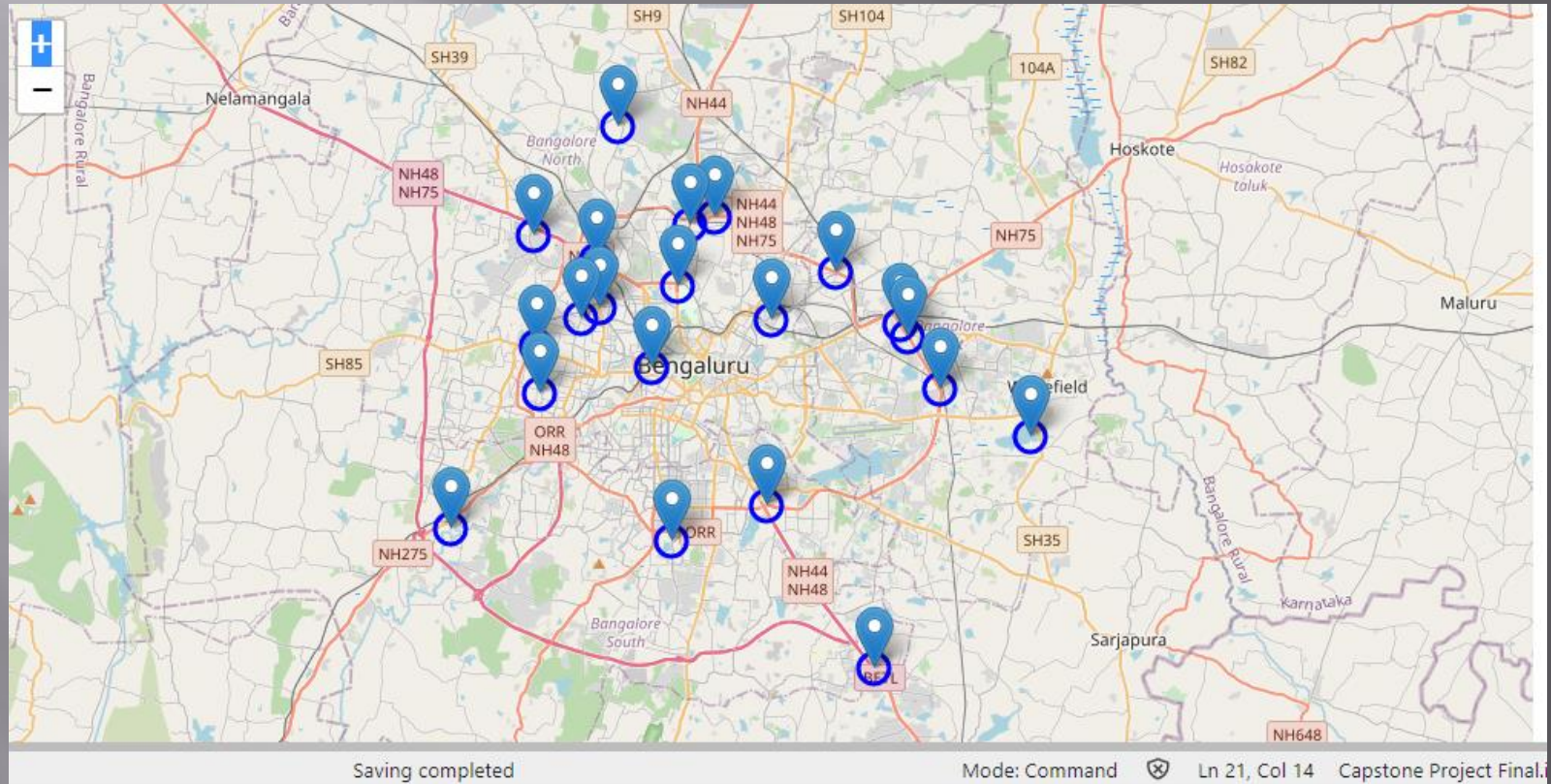
- Dropped unnecessary columns or columns with no data.
- Dropped duplicate venues while classifying different venues under different neighborhoods.
- Raw data contained 2378 venues, whereas the cleaned data contained 2013 venues.

Data Visualization:

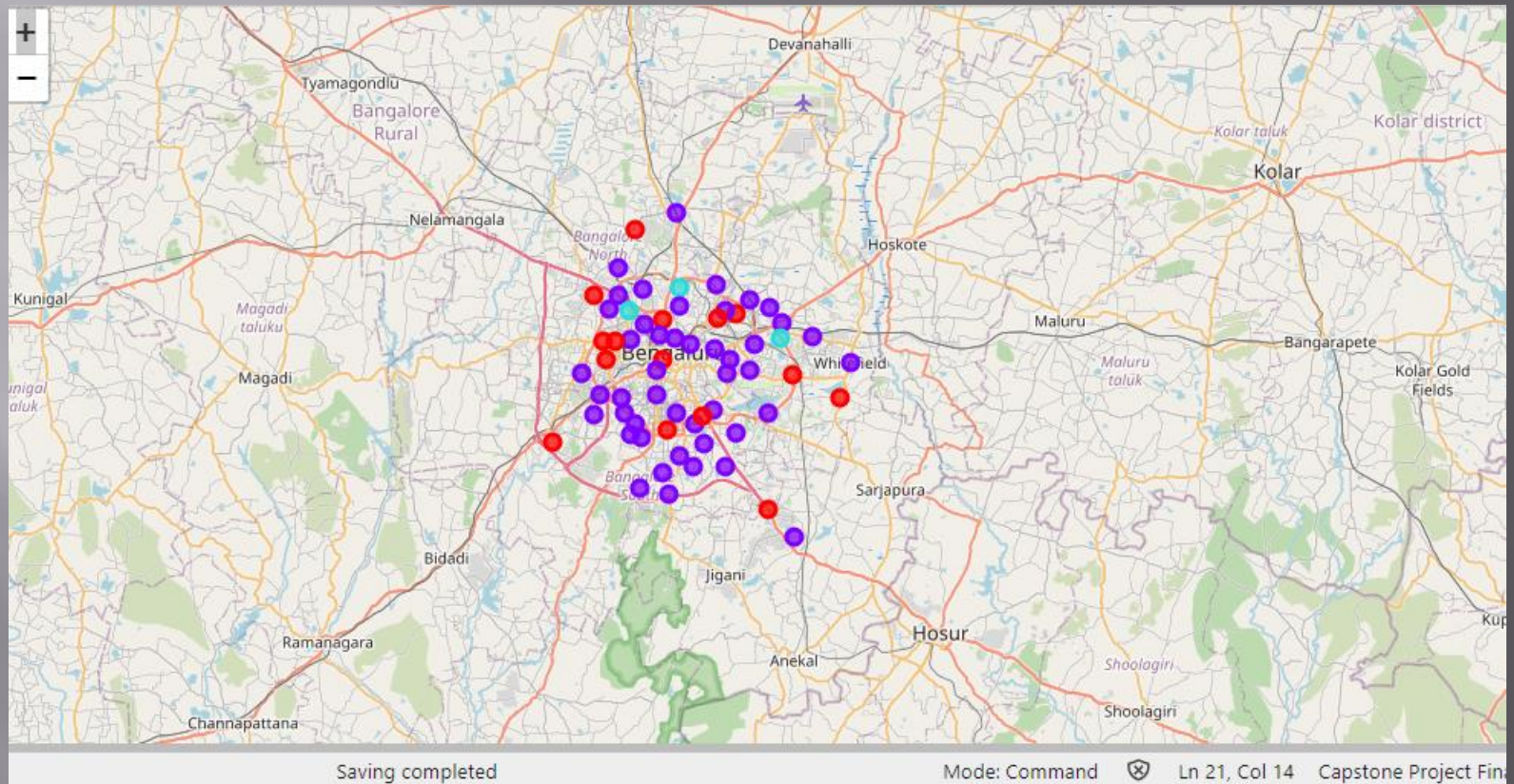
Map of Neighborhoods in Bangalore:



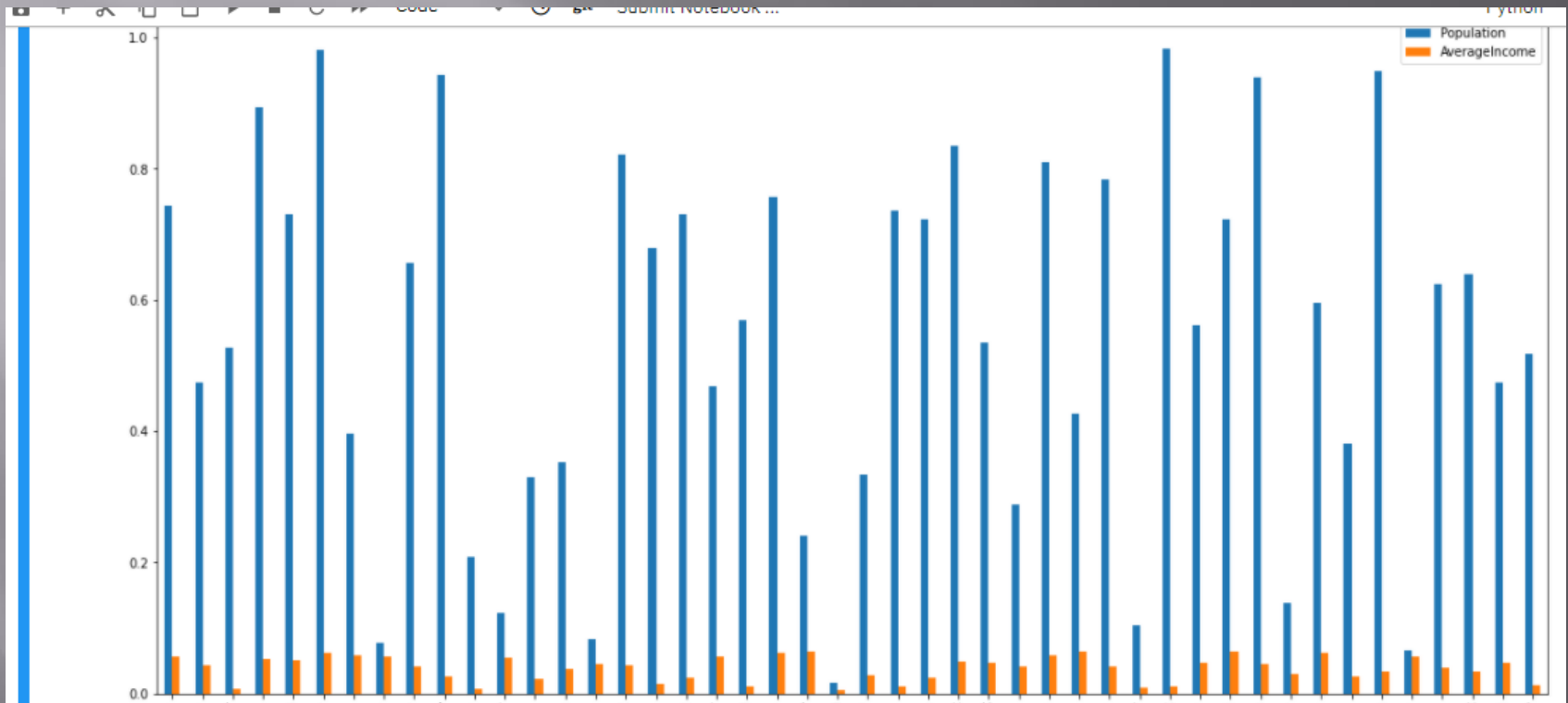
Map of neighborhoods with bus stations in Bangalore:



Map of neighborhoods divided into three clusters:



Bar Chart of Neighborhoods vs. Population & Average Income:



Conclusion

Based on the previous bar chart and the cluster map, we sliced out the neighborhoods with no bus station (cluster 1), high population and relatively low average income. This is because the residents with lower average income would prefer and need the perks of cheap public transport more than their affluent neighborhoods.

After sorting the cluster in the way we desired (high population and low average income), we successfully concluded that the top 5 neighborhoods that need new bus stations are:

- ▣ 1. Kumaraswamy Layout
- ▣ 2. Vasanth Nagar
- ▣ 3. Hulimavu
- ▣ 4. Girinagar
- ▣ 5. HBR Layout