

# Location Analysis for New Restaurant Opening

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## 1. Introduction

Opening a restaurant is a difficult undertaking. But the work is more manageable if broken down into different sub-tasks. There are many tasks which needs to be taken care of while opening a restaurant. Some of them are the following (assuming that the person already has the required funds):

1. Choose a restaurant concept
2. Form the menu items
3. Write the restaurant business plan
4. Choose a location
5. Permits and Licenses etc.

This assignment focuses on point 4 – Choose a location, to open a restaurant in the city of Bangalore (Bengaluru), Karnataka, India.

When choosing a location for a new restaurant, the following features are among the most important:

1. Visibility and accessibility
2. The demographics
3. Labour costs and minimum wage
4. Competition in the area etc.

So, what is Location Analysis? Location analysis is a technique for finding the best location to open a new restaurant. We need to analyse potential locations and their access to customers, their location in relation to equipment and food suppliers and other important factors.

So, choosing a good location for your business might be the single most effective thing to do, to get success. Having a good menu and professional staff is important to restaurant success but having a good location can give the necessary push for success in the restaurant business.

In this assignment we will try to find the optimal location to open a new restaurant in the city of Bangalore. Since there are lots of restaurants in Bangalore, we will try to detect locations that are not already crowded with restaurants. We would prefer locations which are close to the city centre as possible.

## 2. Data

Data has been collected from the following sources:

1. Dataset with various neighbourhoods and its Pin codes are collected from the link <https://finkode.com/ka/bangalore.html>. This dataset has the neighbourhoods with the pin codes and the district name.

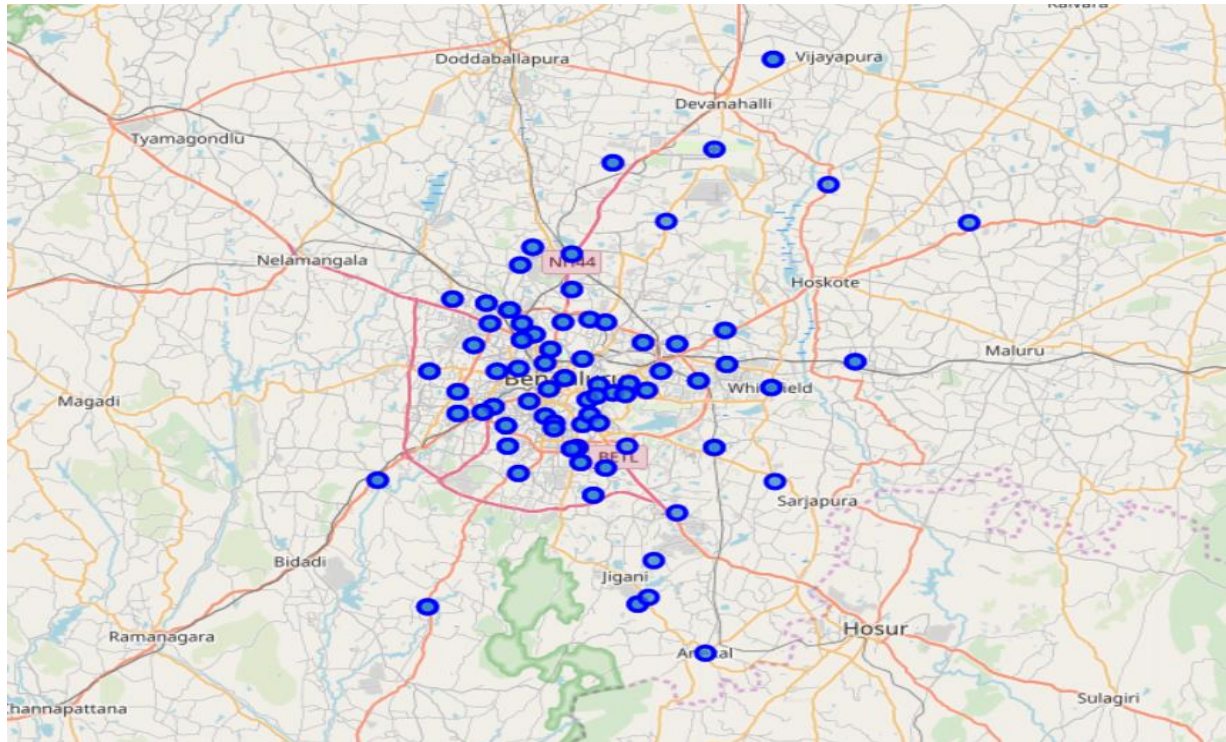
[211]:

	Post Office	District	Pincode
0	A F Station Yelahanka S.O	Bangalore	560063
1	Adugodli S.O	Bangalore	560030
2	Agara B.O	Bangalore	560034
3	Agram S.O	Bangalore	560007
4	Amruthahalli B.O	Bangalore	560092

2. geopy.geocoders is used to collect the geo coordinates for various neighbourhoods in Bangalore city.

[222]:

	postcode	neighbourhood	latitude	longitude
0	560001	M.G Road	12.973015	77.616612
1	560002	Bangalore City	12.979120	77.591300
2	560003	Malleswaram	13.016341	77.558664
3	560004	Basavanagudi	12.941726	77.575502
4	560006	J.C.Nagar	15.349723	75.137521
5	560007	Air Force Hospital	12.964027	77.627500



3. Foursquare API is used for collecting various venue details in the neighbourhoods of Bangalore city.

[231]:

	Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	Venue	Venue_ID	Venue Latitude	Venue Longitude	Venue Category
0	M.G Road	12.973015	77.616612	The Oberoi	4b530849f964a520108d27e3	12.973457	77.618289	Hotel
1	M.G Road	12.973015	77.616612	Vivanta by Taj	4cbc9d194352a1cd453f9ff5	12.973365	77.619951	Hotel
2	M.G Road	12.973015	77.616612	Teppan	4faff6ade4b0c0e08eb8d691	12.975727	77.616879	Japanese Restaurant
3	M.G Road	12.973015	77.616612	Foodhall	4fabd03ae4b050ddf0aa376	12.973486	77.620117	Department Store
4	M.G Road	12.973015	77.616612	Benjarong	4bcaeaabfb84c9b639e91d3e	12.975615	77.616916	Thai Restaurant

As we are only doing location analysis for opening a new restaurant in the city, we will remove all other venue details from the dataset and keep only the venues which are restaurants.

So, the dataset will look like as below:

[31]:

	Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	Venue	Venue_ID	Venue Latitude	Venue Longitude	Venue Category
2	M.G Road	12.973015	77.616612	Teppan	4faff6ade4b0c0e08eb8d691	12.975727	77.616879	Japanese Restaurant
4	M.G Road	12.973015	77.616612	Benjarong	4bcaeaabfb84c9b639e91d3e	12.975615	77.616916	Thai Restaurant
5	M.G Road	12.973015	77.616612	Yauatcha	523d691011d20523c79c04ca	12.973318	77.620072	Asian Restaurant
13	M.G Road	12.973015	77.616612	Cafe Mozaic	4ba270e9f964a52043f937e3	12.973642	77.619762	Restaurant
14	M.G Road	12.973015	77.616612	Le Jardin	4f484abfe4b0d63740f04e9a	12.973562	77.617864	French Restaurant

Based on the definition of our problem, factors that will influence our decisions are the following:

1. Number of existing restaurants in the neighbourhood.
2. Distance between the restaurants.
3. Distance of neighbourhood from the city centre.
4. We will even look into various zones in Bangalore city and try to figure out the best place to open a restaurant in a zone as well.