

Where to go when you want to eat Chinese food in India?

Introduction

India is a country with rich cultural heritage and tourism. Each metro city in India has its unique style of diversity and culture with different native languages. Let's assume a tourist from China would like to visit metro cities in India and want to stay for a while with choice of Chinese food in that region. The problem here we aim is to analyse the Chinese food category restaurants in major Indian cities and find out the best nearby place to have Chinese food for Chinese tourists.

Data section

Here I'm using the Foursquare API to collect data about locations of Chinese food restaurants in 6 major Indian metro cities which are: Mumbai, Delhi, Pune, Bangalore, Chennai, Hyderabad. These are one of the most densely populated metro cities in India with rich heritage of tourism and best places to visit for any tourist.

Methodology

The aim here is to assess which metro city in India would have the highest Chinese food restaurants density in each region. I used the Four-Square API through the venues channel. I used the near query to get venues in the respective list of metro cities. Also, I use the CategoryID to set it to show only Chinese food category places. An Example of my connection url as follows:

"https://api.foursquare.com/v2/venues/explore?&client_id={ }&client_secret={ }&v={ }&near={ }&limit={ }&categoryId="4bf58dd8d48988d145941735"

Here Category id 4bf58dd8d48988d145941735 is # Chinese Food Category

After that this request is used for 6 metro cities in India and got their top 100 venues. I saved the name and coordinate data only from the result and plotted them on the map for visual inspection.

Next, to get an indicator of the density of Chinese restaurants in each place, I calculated a centre coordinate of the venues to get the mean longitude and latitude values. Then I calculated the mean of the Euclidean distance from each venue to the mean coordinates. That was my indicator; mean distance to the mean coordinate.

Results

To analyse the data visually and view the places in each city, we used geoplot generated with folium which helps us to understand the density of Chinese food places in each city highlighted in blue colour.

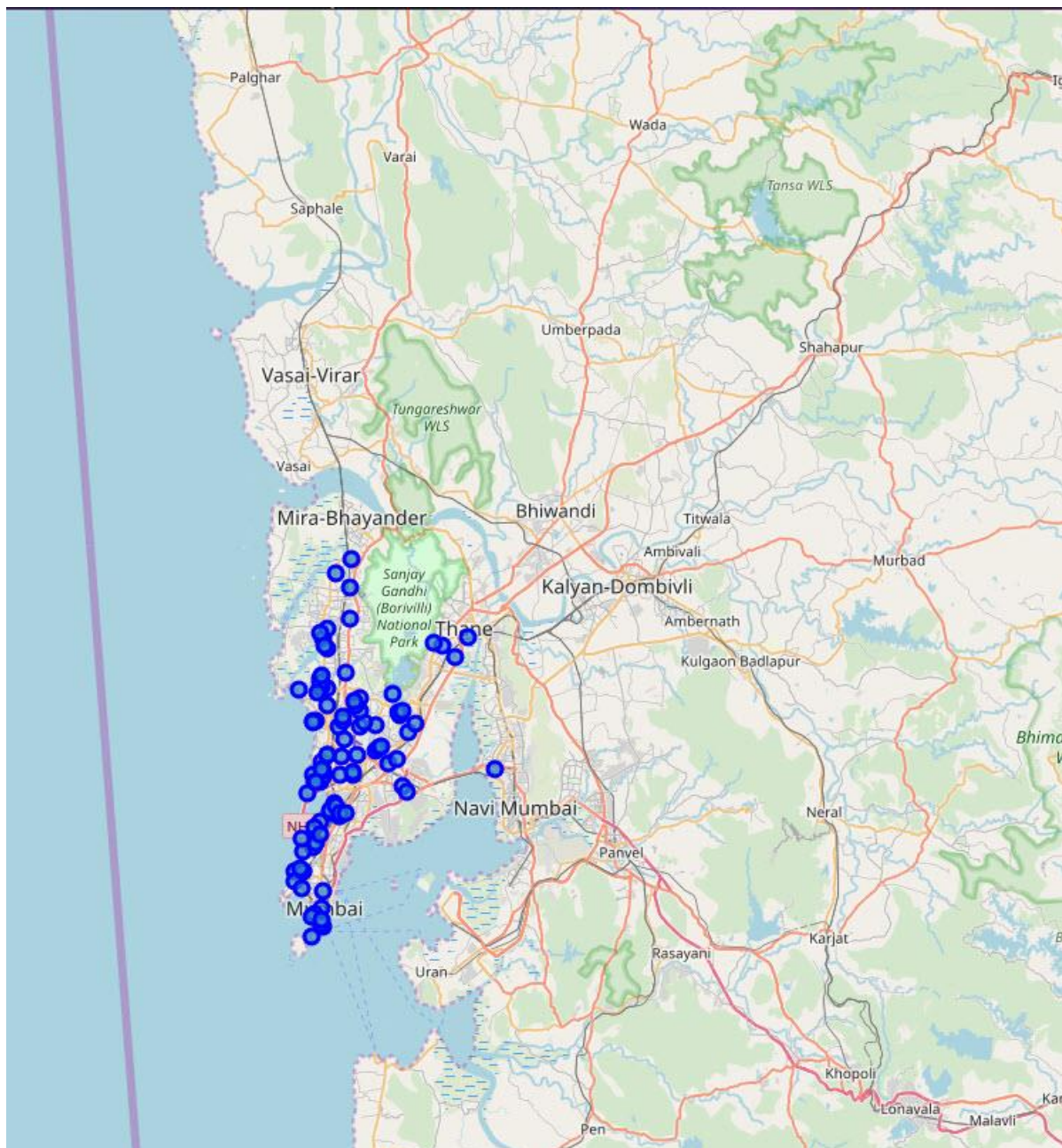
Total number of Chinese Restaurants in each city :

- Mumbai, IN = 197
- Chennai, IN = 91
- Delhi, IN = 92
- Bangalore, IN = 174
- Pune, IN = 95
- Hyderabad, IN = 67

Let's visually see each city by plotting the places in a map

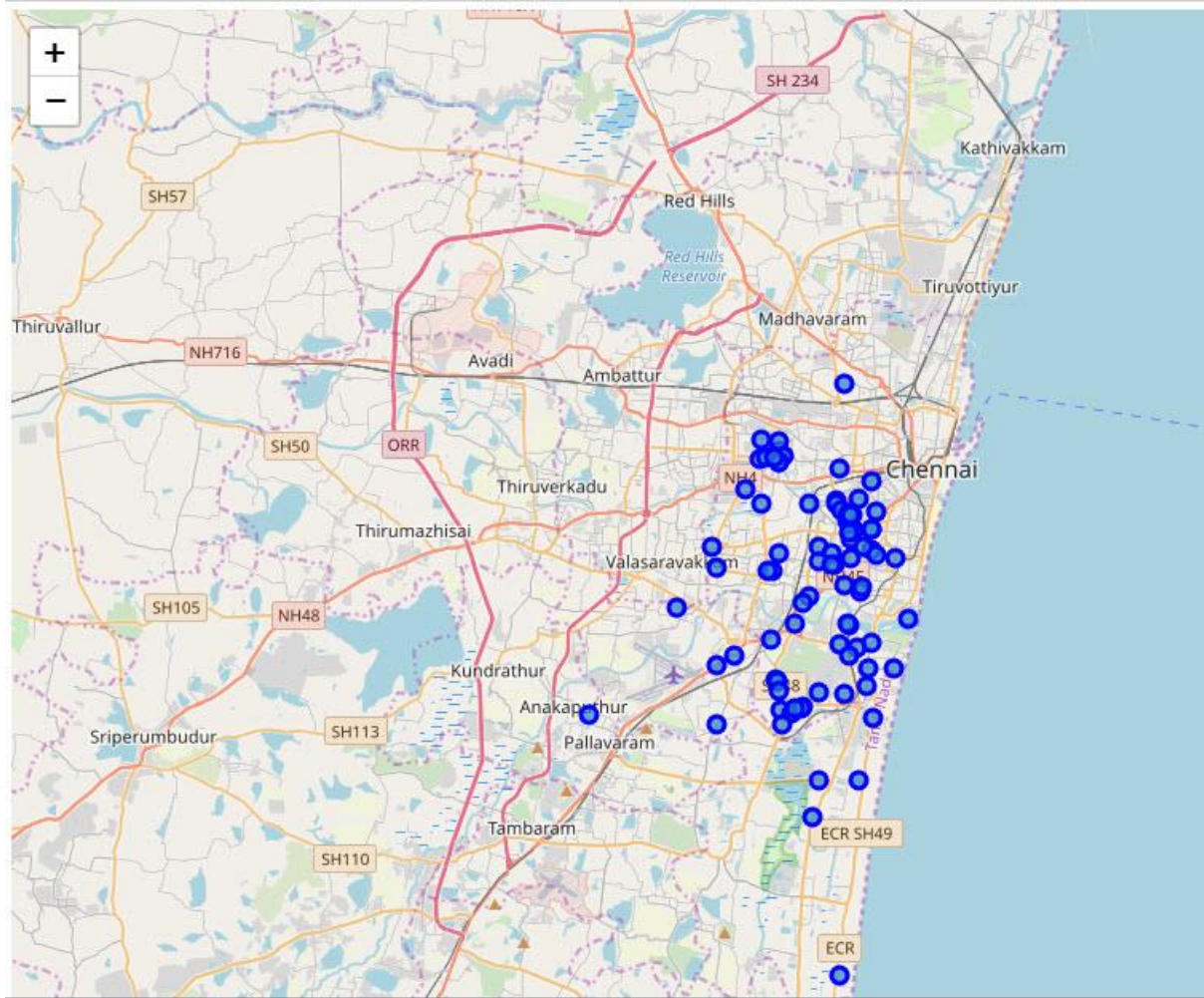
Mumbai City:

Add alt text

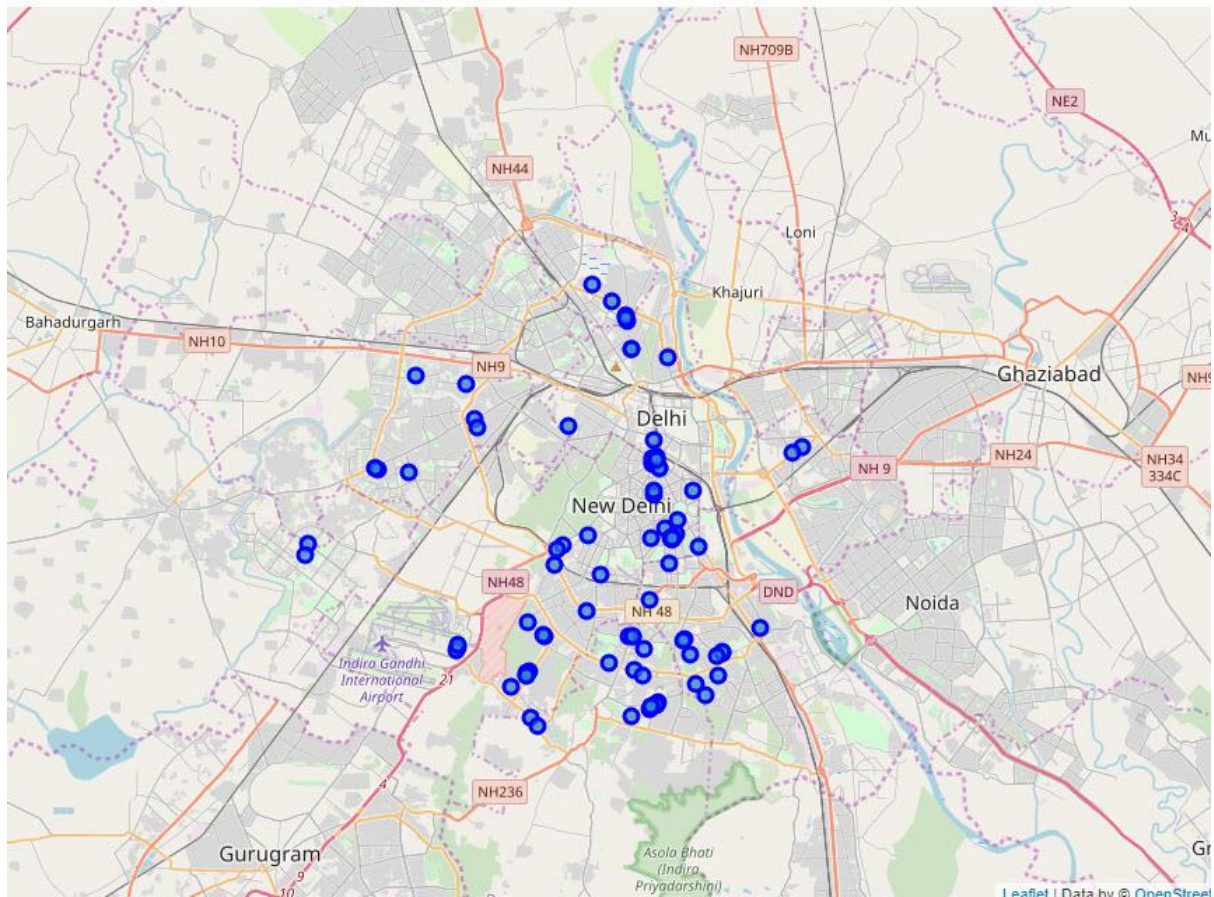


Chennai City:

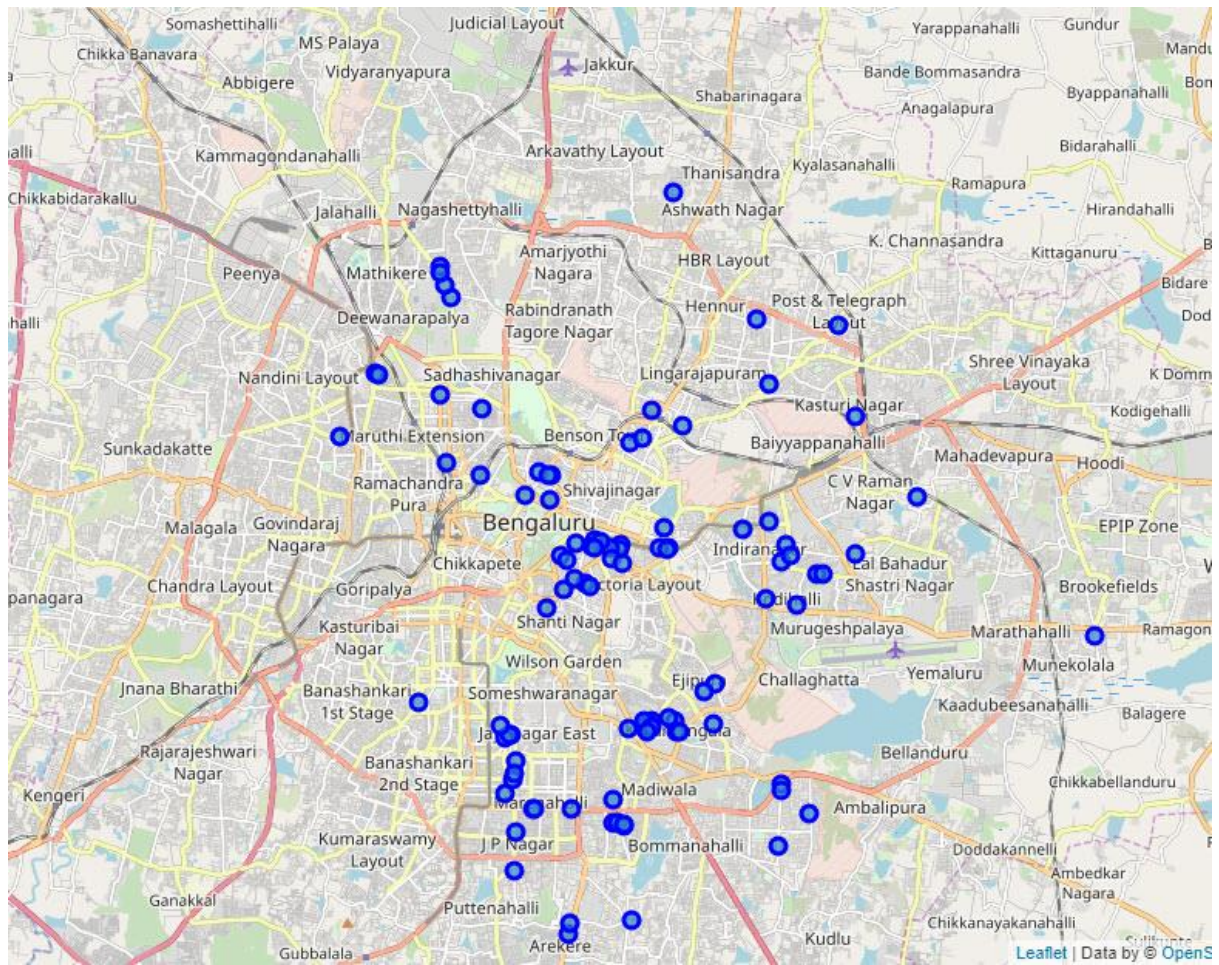
Add alt text



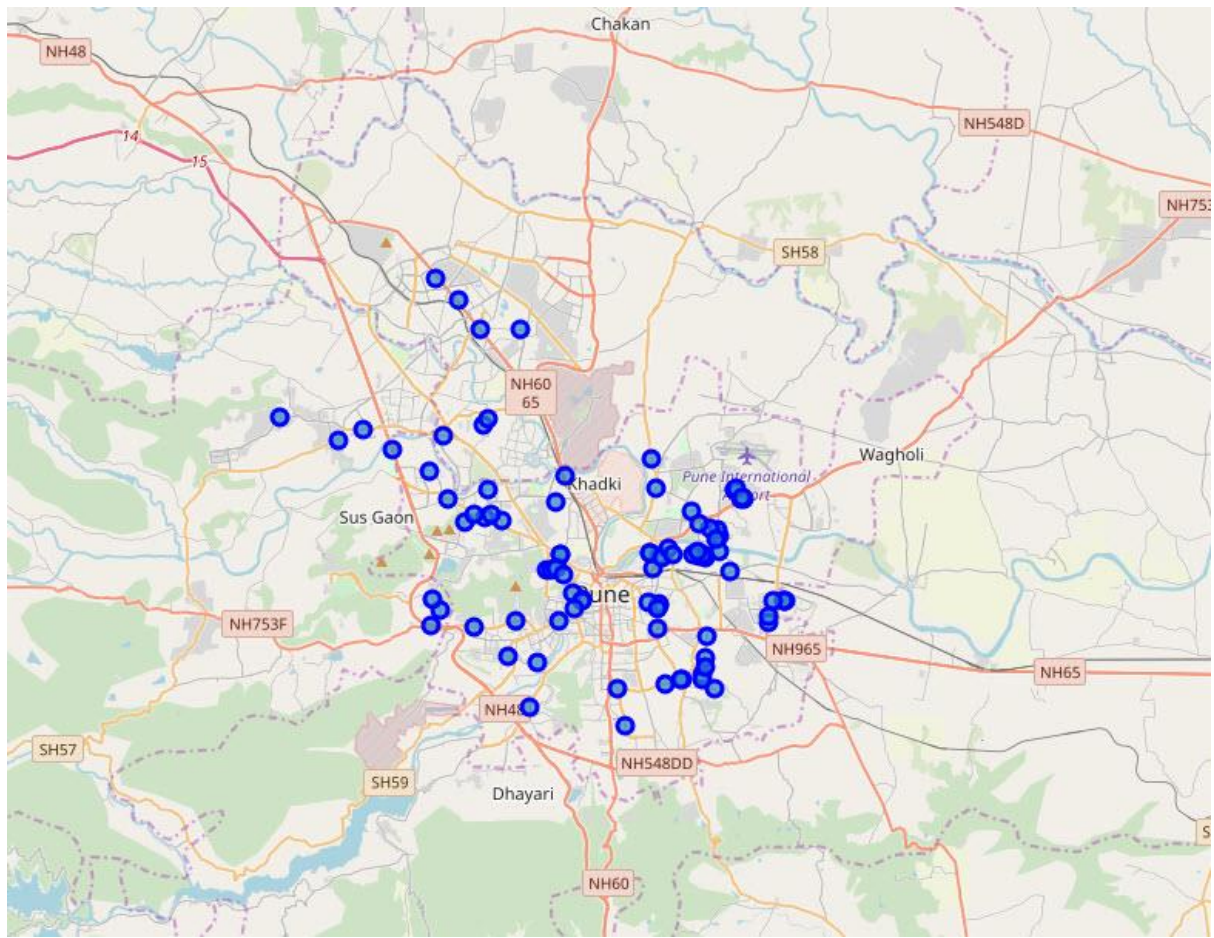
Delhi City:



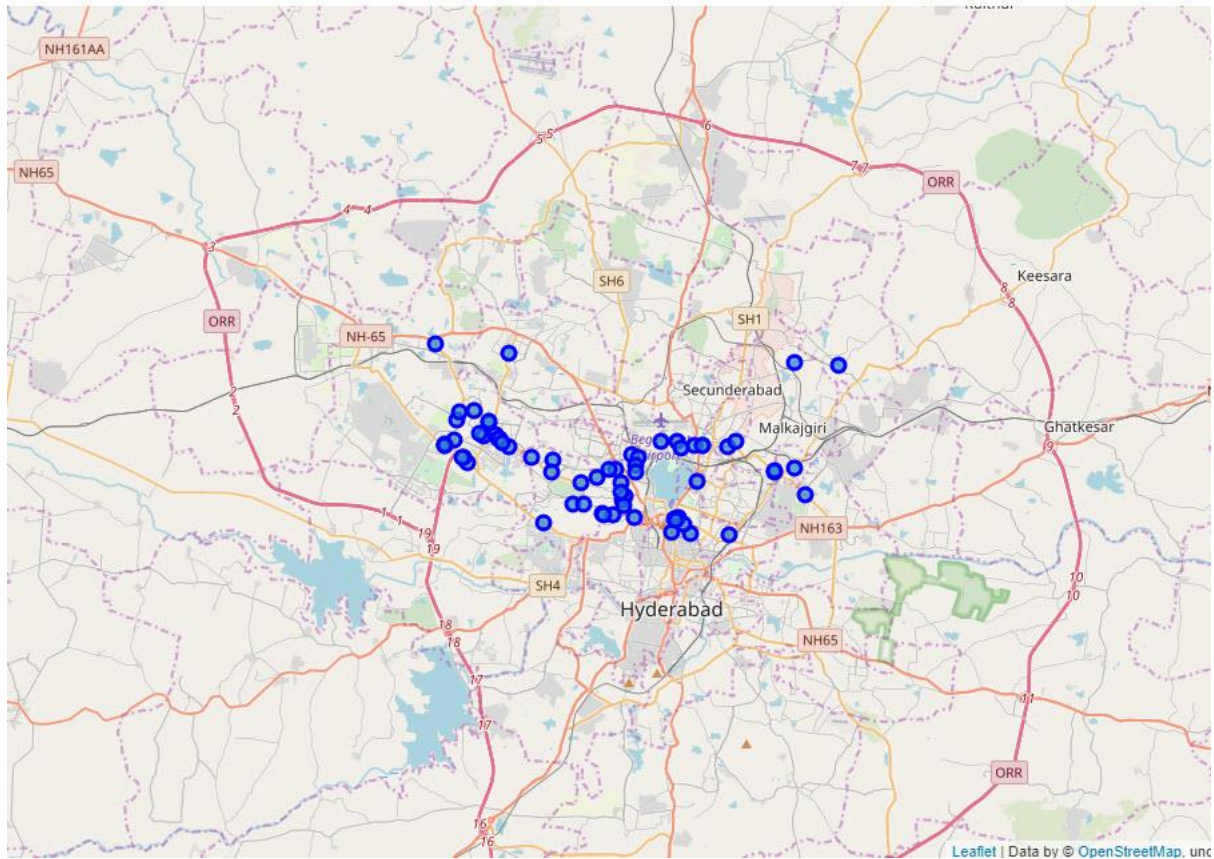
Bangalore City:



Pune City:



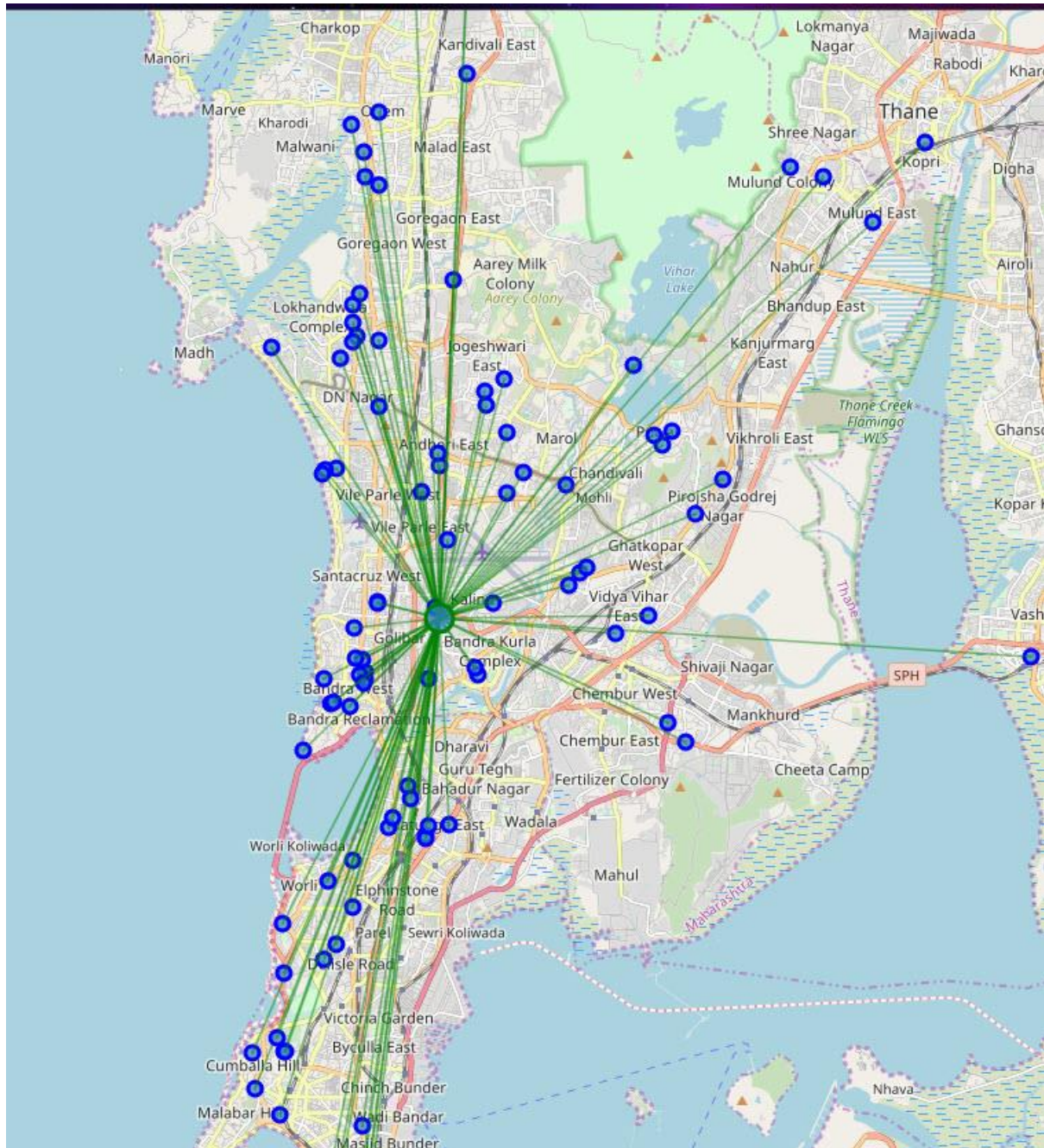
Hyderabad City:



Discussion:

The analysis was carried out with an intent to find out the total number of similar restaurants with chinese as food choice within each metro cities of India. After capturing and visualising the total number of places across each city then we have calculated the mean distance from mean coordinates geographically in each city.

For example lets observe the Mumbai city which has highest number of chinese food restaurants with visual representation of the mean distance from mean coordinates:



Mean Distance from Mean coordinates for each city :

- Mumbai ,IN: 0.07357908627583495
- Chennai, IN: 0.04486836549643834
- Delhi, IN: 0.06398000017914975
- Bangalore, IN: 0.040402975946872255
- Pune, IN : 0.05686352044921111
- Hyderabad, IN: 0.05115826459931344

Conclusion:

Nevertheless, location data can be used to solve a lot of complex problems by providing better solution that can help the people make informed decisions, be it starting a new business, visiting a new place by finding interesting venues or relocate within a city or across different places in a country. The analysis provided in this report, data was used to understand the best place for a Chinese tourist to visit and stay in India with food choice as Chinese.

References:

Data source reference using Foursquare

API: <https://developer.foursquare.com/docs/api/>