

IBM Data Science Professional Certificate

Coursera

Choose a place to run a food and restaurant business in Mexico City

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Food and Restaurant Business In Mexico City

- Mexican restaurants are very popular, with taco stands, and lunch counters on every street.
- Taco Place
- Seafood restaurants
- Burger Joints
- Bakeries
- Food Trucks
- Coffe Shops
- All kind of international cuisine



Mexico City

One of the most important cultural and financial centres in the world

- Altitude 7350 ft
- 16 Boroughs
- 1812 Neighborhoods.
- Population 8.855 Million Hab.

Social Development

Social development is uneven and Mexico presents a very marked social inequality that can be seen even within the same district.



What are the food and restaurant business opportunities in Mexico City?

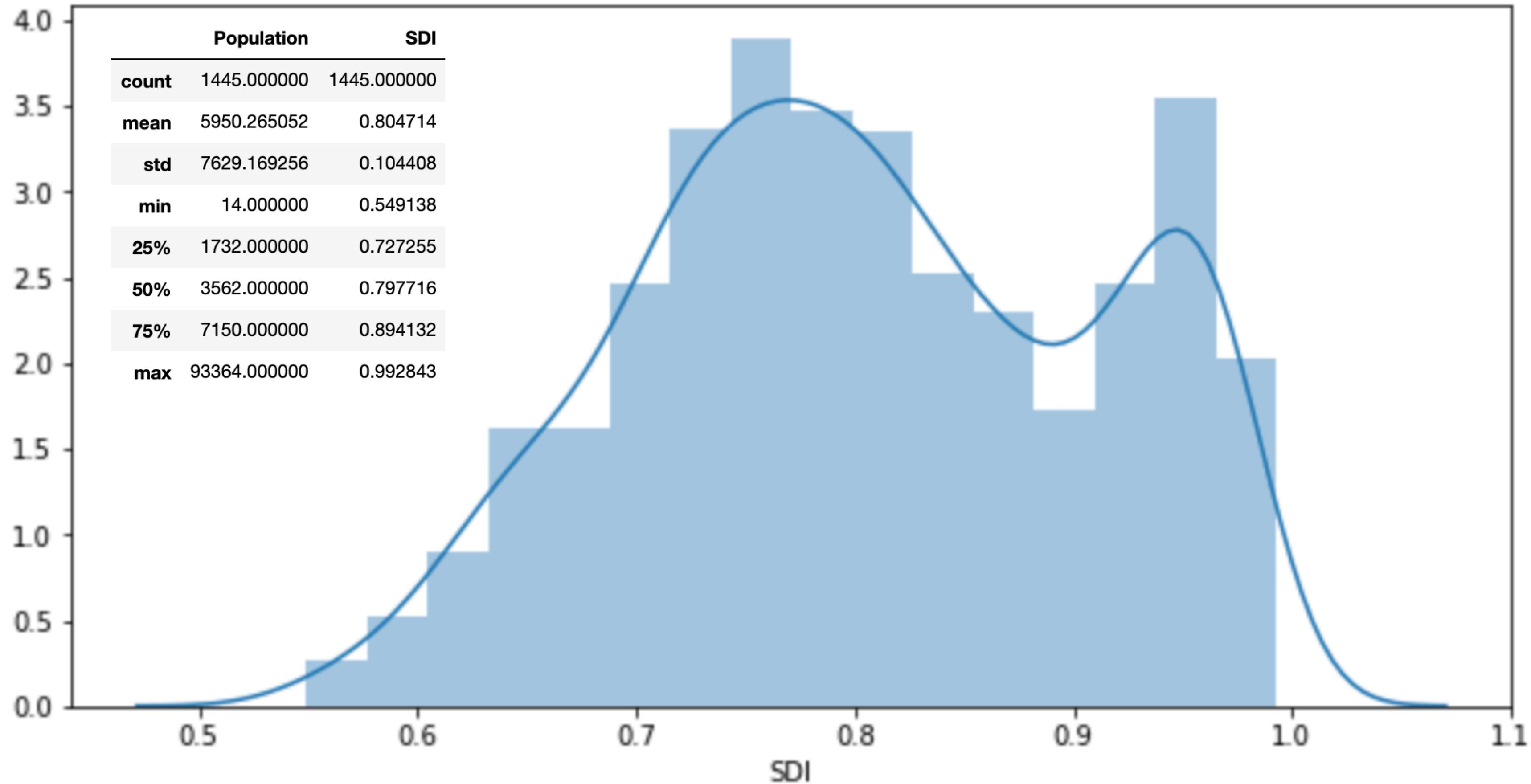
To answer this question? I will describe the neighborhoods that make up the city using data such as:

- Development index,
- Population density
- Most common food venues,
- Crime data grouped by neighborhood.

Data Description

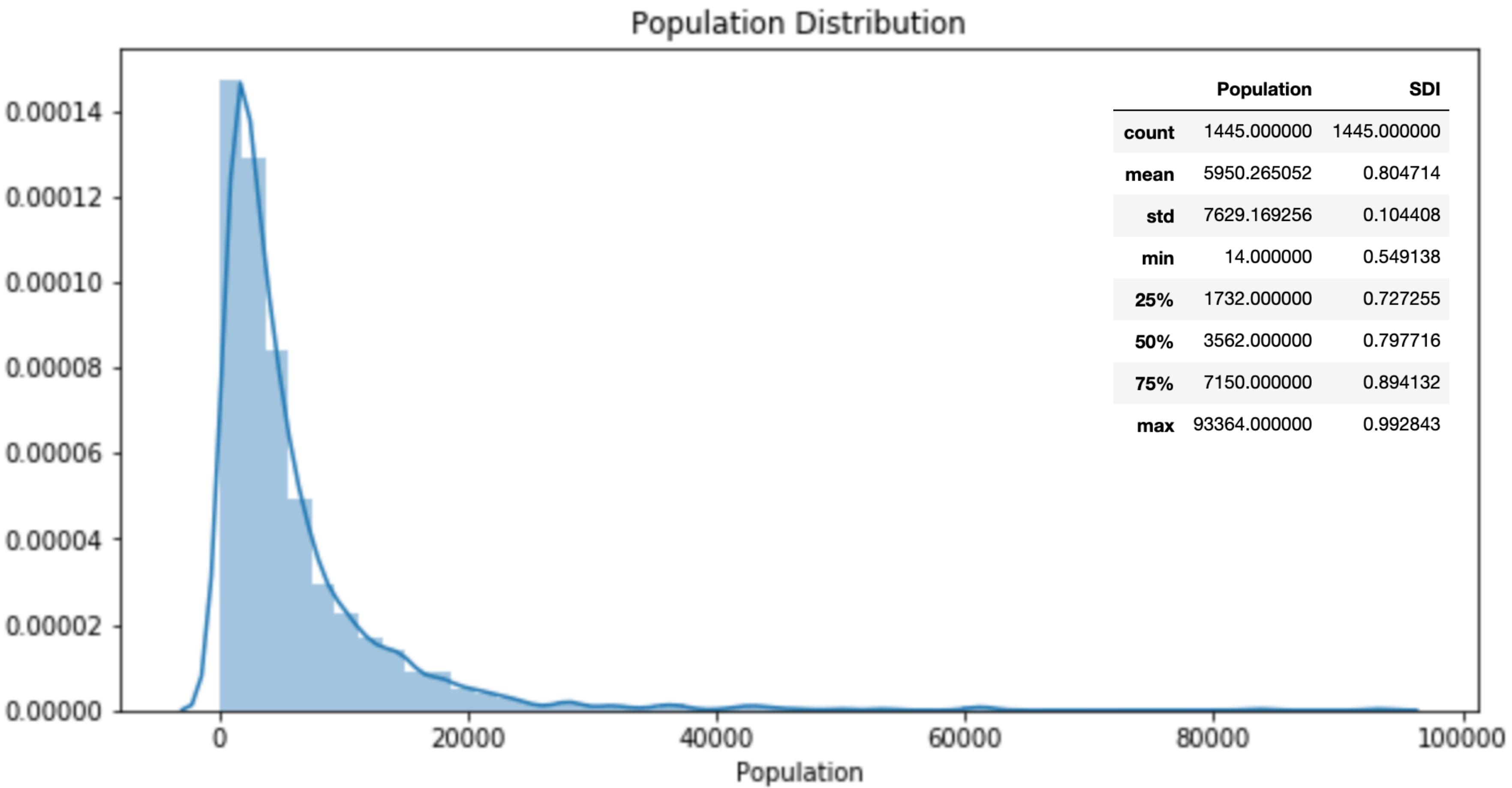
**SDI Social Development
Index for all of Mexico
City.**

Social Development Index Distribution



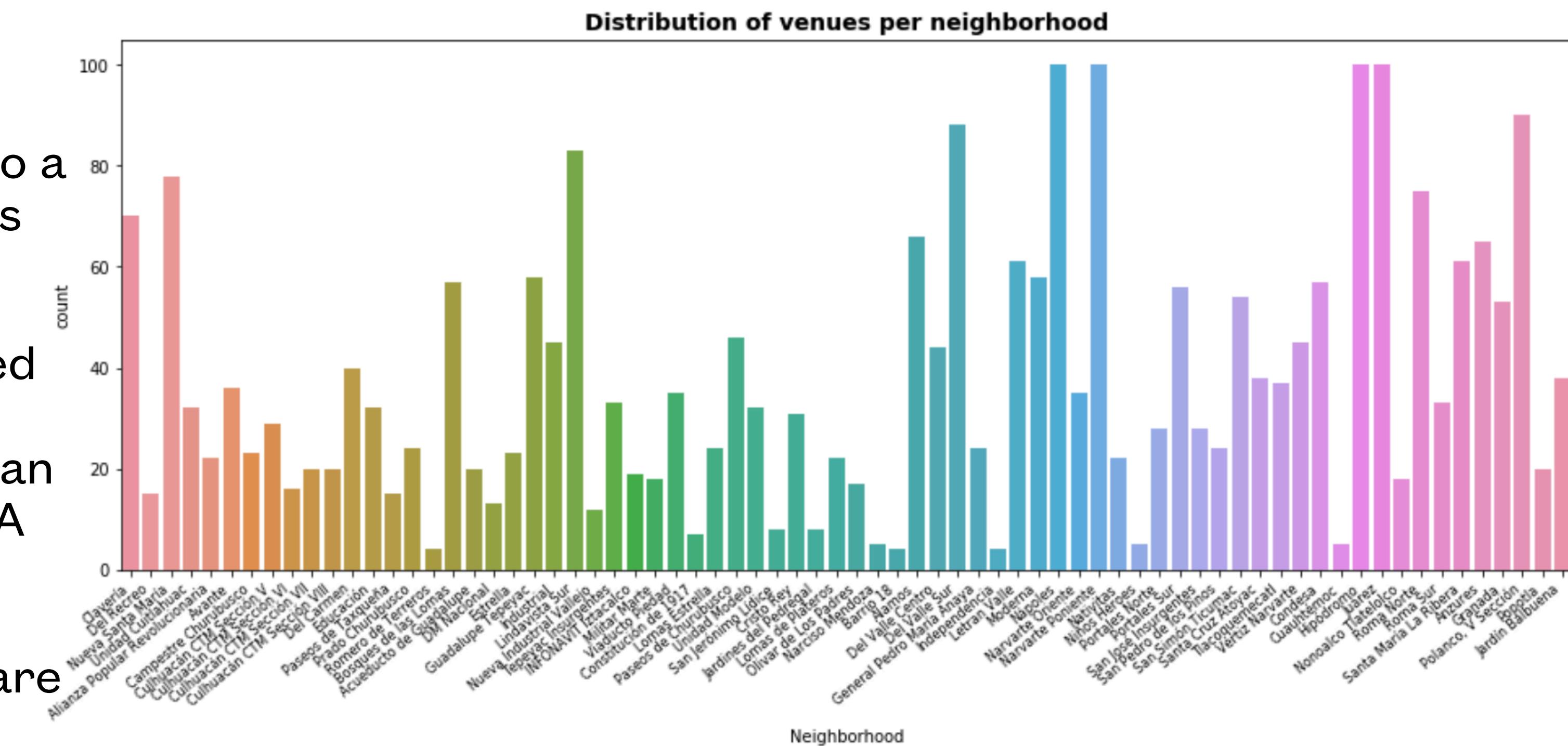
Data Description

Population of each neighborhood of Mexico City



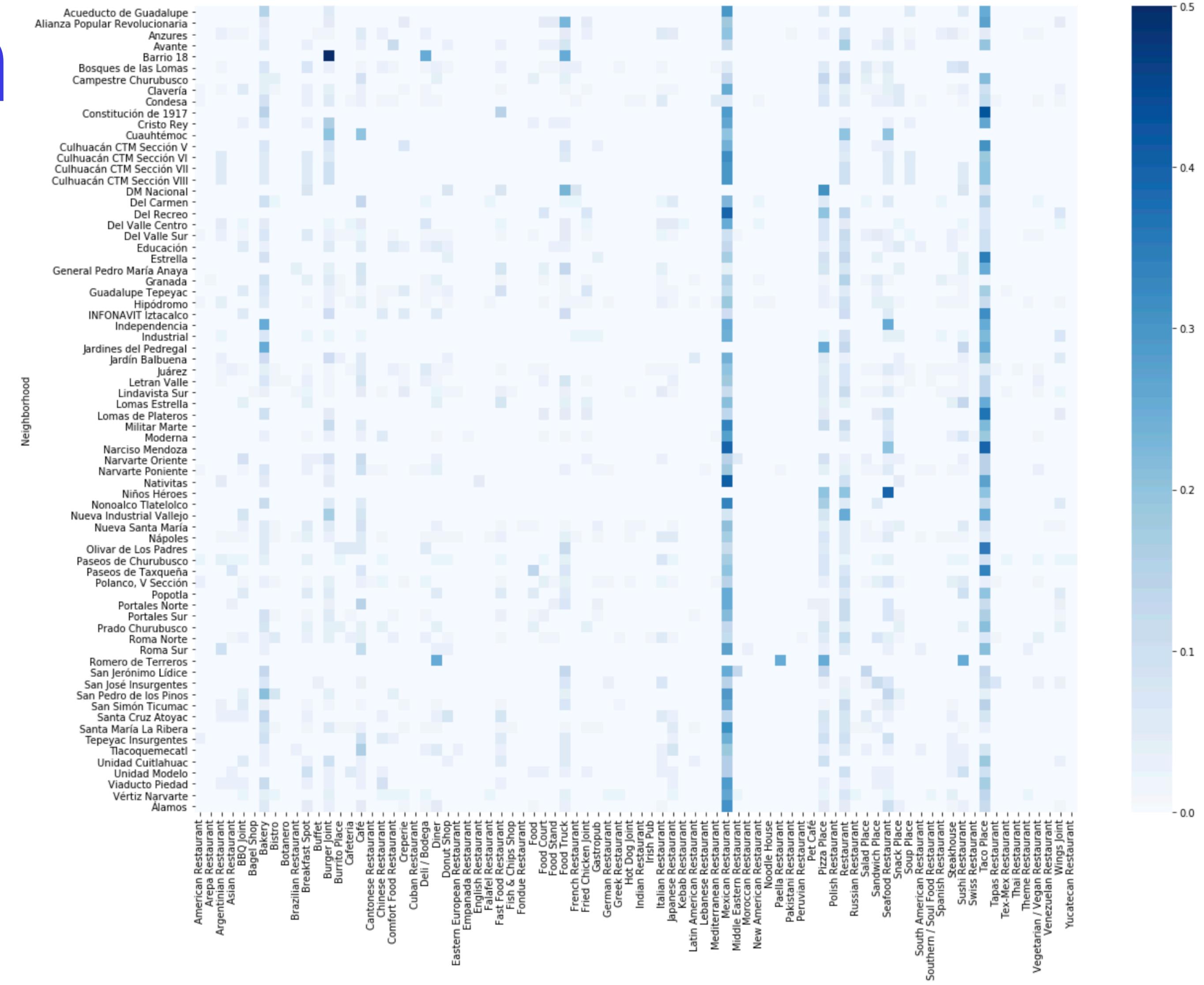
Data Description

- Foursquare API were used to obtain most common venues grouped by Neighborhood. Only Food and Restaurant Venues were included. Also a 100 venue limit and a 500m radius was appointed for each Neighborhood.
- All the Neighborhoods were segmented by strata and Population. SDI geather than 0.9 and a Population greather than the mean ie 5950.265052 were used. A data set with 95 neighborhoods was obtained after this filter. It was segmented to be able to use Foursquare and Geocoder free accounts



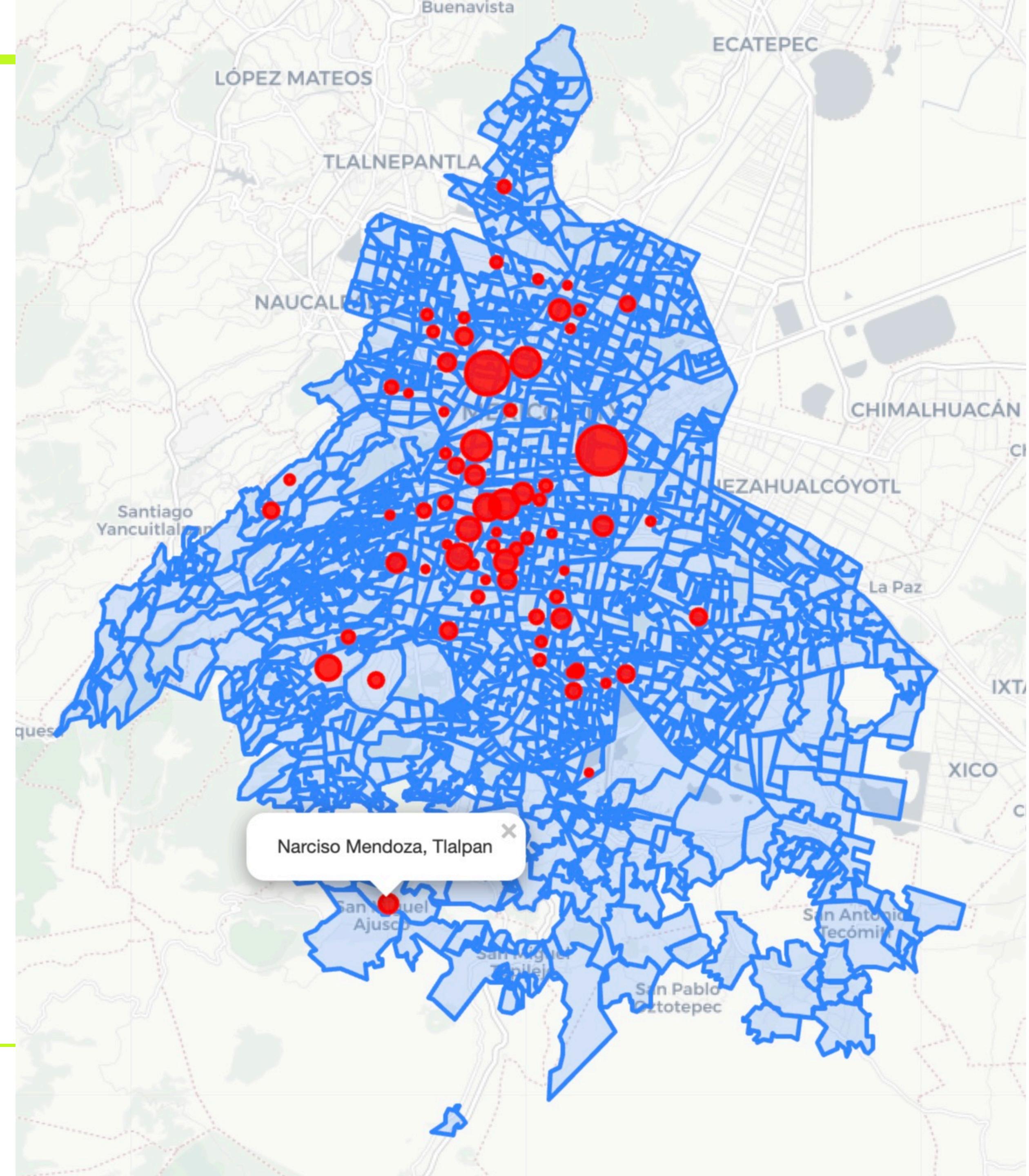
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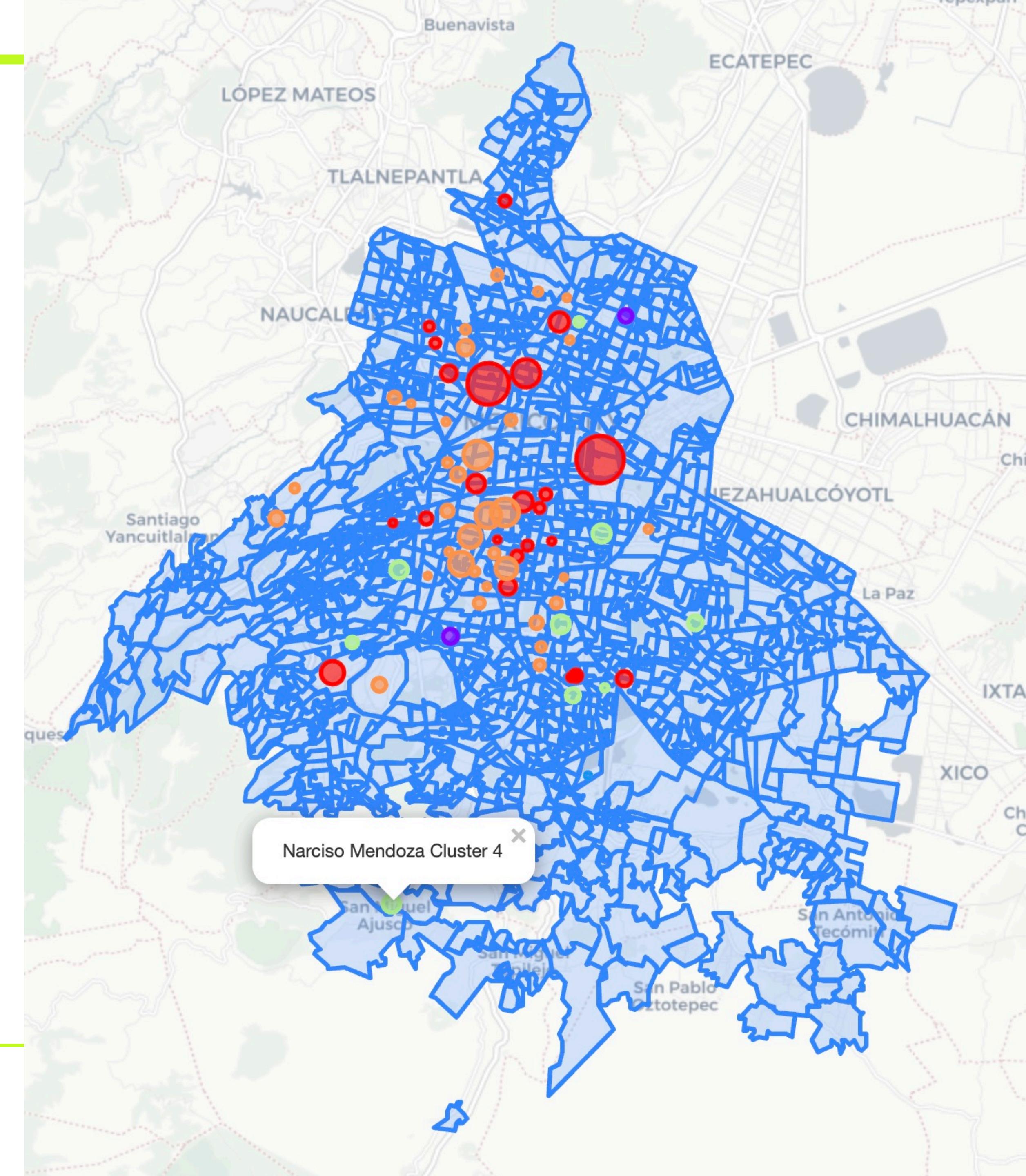
The work done

- Social Development dataset were complemented with the Nominat geocoder to add latitude and longitude information.
- We can show the results with the location neighborhood map. The circle size represents the population size.



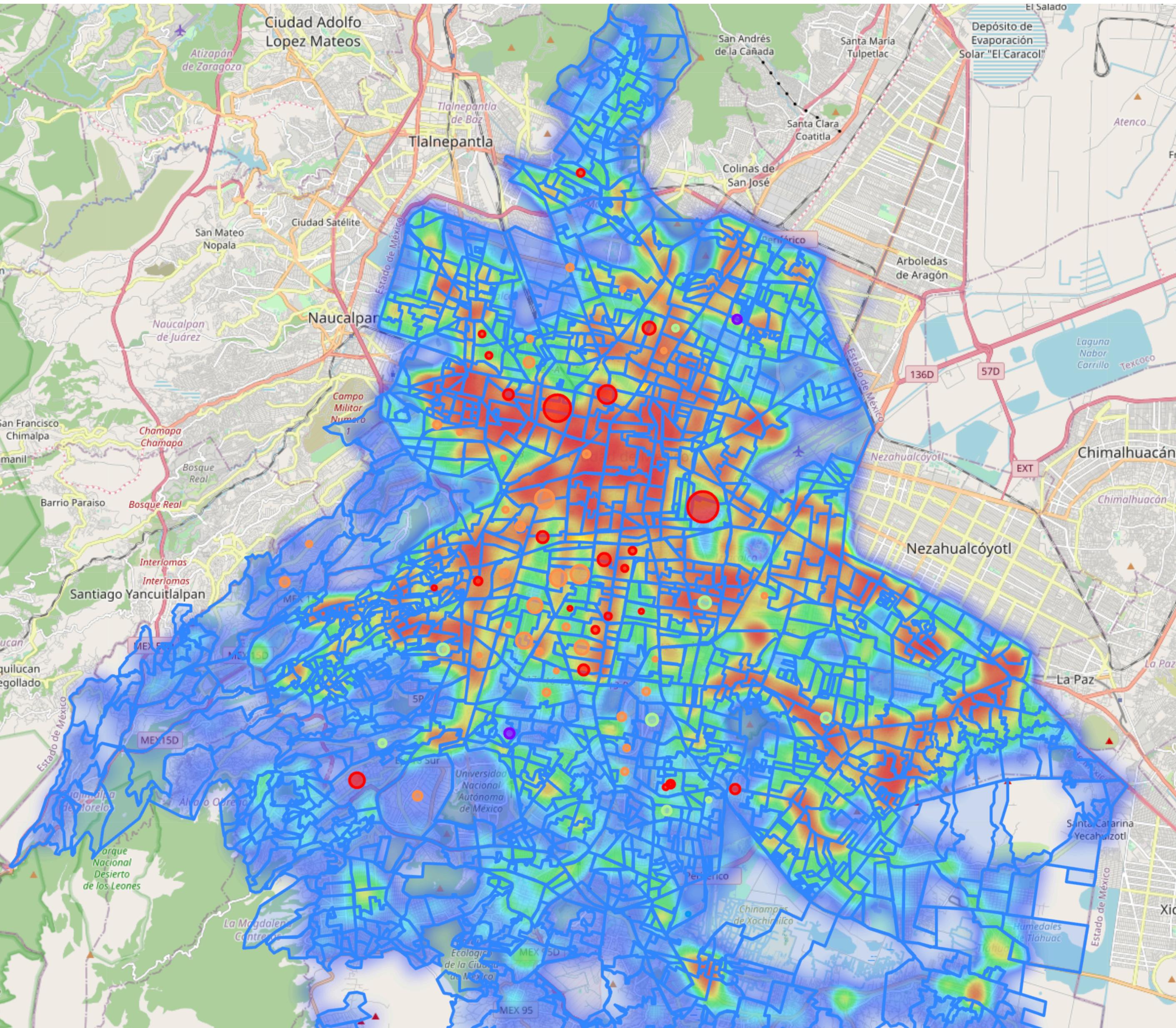
The work done

- Once the dataset were well suited and all the data wrangling, the venues were classified and grouped by Neighborhood using unsupervised learning K-means algorithm. The Number of groups were determinated by using the elbow technique commonly used in the K-Means algorithm cluster method. Resulting 6 Clusters.



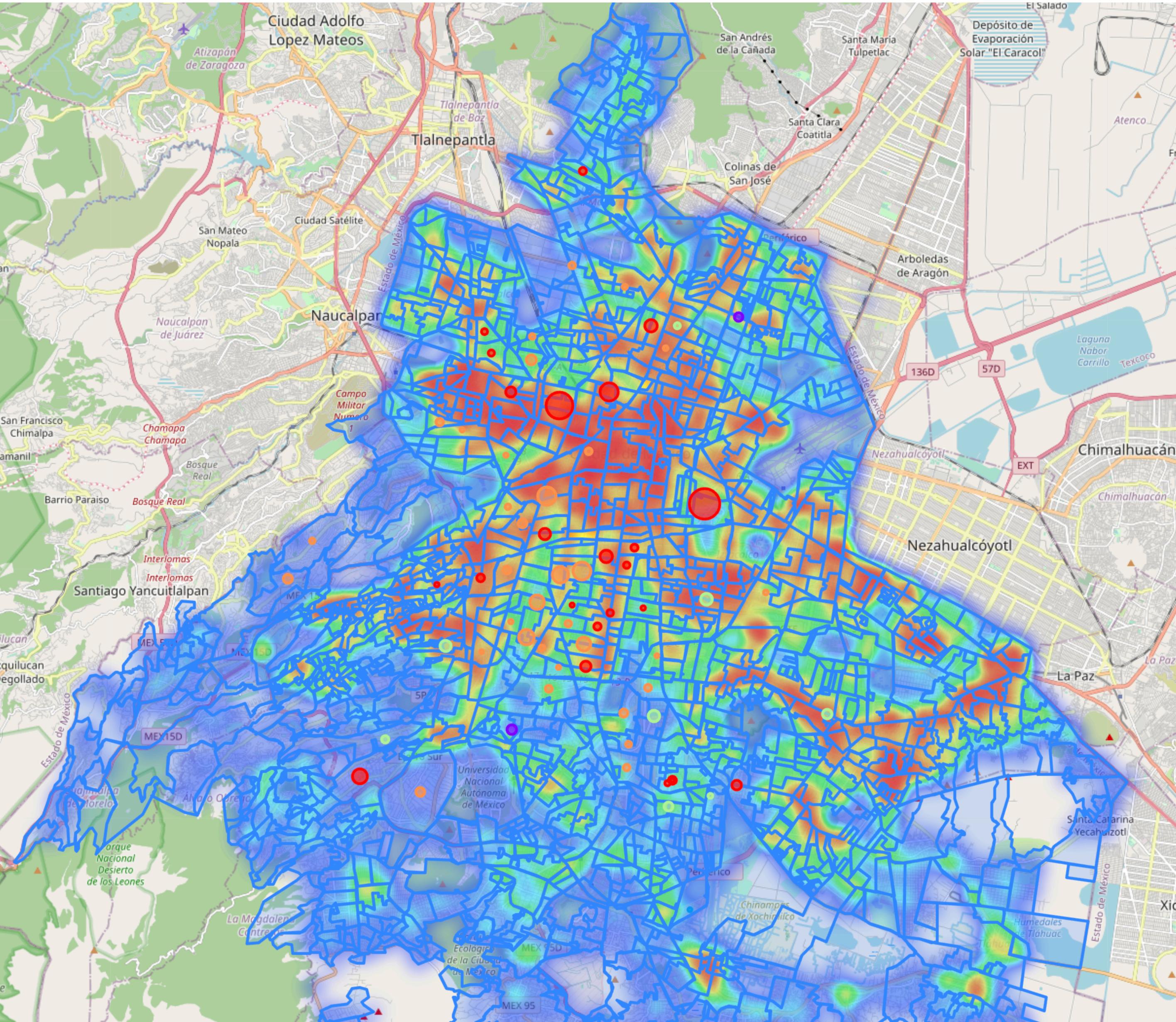
The work done

- Crime data of 1621 Neighborhoods with only high impact crimes were used to form a “heat map” of high Impact crime in Mexico City.
- Finally we can explore the data obtained from Foursquare through a map with the data clasified and gathered with the heat map crime .



Discussion

- There are more crimes on the main avenues.
- Ignacio Zaragoza, Ermita Iztapalapa. In the center, the first painting of Mexico City. Calzada de Tlalpan avenue, the area of Mixcoac, Revolución and Vasco de Quiroga and Mexico-Tacuba avenues.
- Having sources of danger at the subway exits throughout the city.
- Lower crime rate is shown in the southern part of the country's capital.



The crime heat map of Mexico City was successfully obtained, together with the classification of neighborhoods in Mexico City based on the restaurants and food businesses that operate in each locality. Depending on the needs of the reader, the map can be used to determine the place that best fits their needs. For example, some neighborhoods that are in low crime areas, with well-being populations and above-average populations can be highlighted. From the Cluster 0 the Neighborhoods: San Jerónimo Lídice, Militar Marte and Jardín Balbuena. Thus, the neighborhoods in Cluster 5 can also be highlighted: Avante, Educación and Prado Churubusco. In Cluster 4: Olivar de
