A decorative graphic on the left side of the slide consisting of overlapping geometric shapes. It includes a blue parallelogram, a light green parallelogram, and a dark grey parallelogram, all with thin black outlines.

# The Battle of Neighborhoods

By:-Mayur Chilamwar

# Motivation

Suppose a person wants to move from New York to Toronto for a job. This person does not know anything about Toronto and he would like to move into a place similar to the place where he lives now.

Is it possible to create a system that can help our user showing to him the similarities between this two countries?

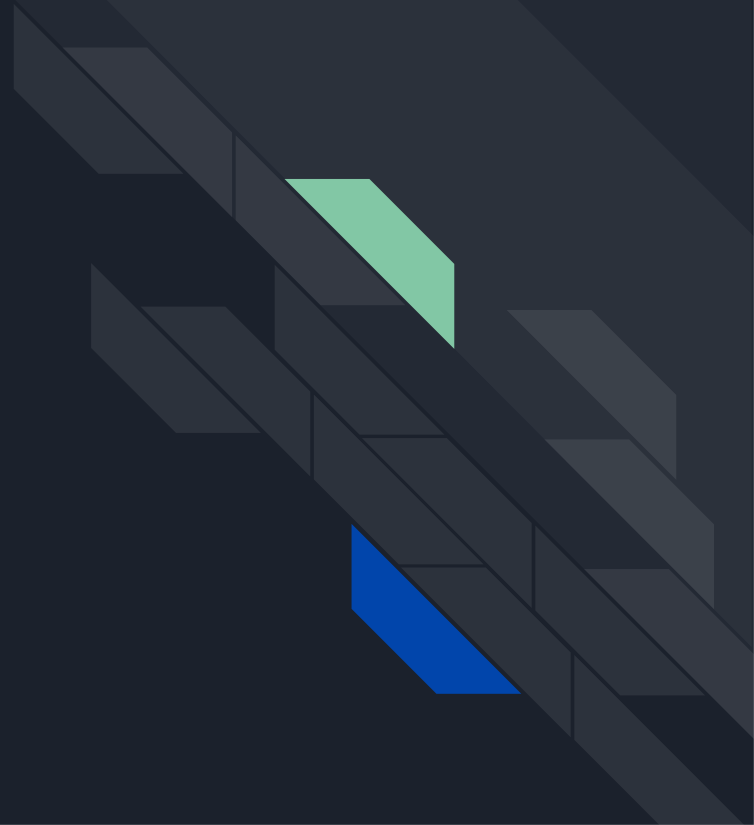


# Objectives

Develop a system able to show similarities in terms of neighborhoods in order to help a user decide whether to move near the center of Toronto or not.

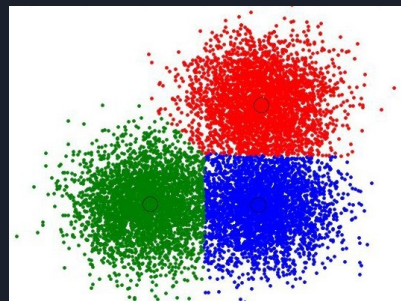
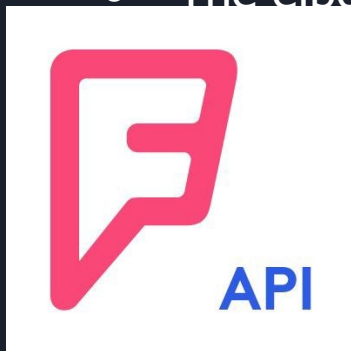


# PROPOSAL

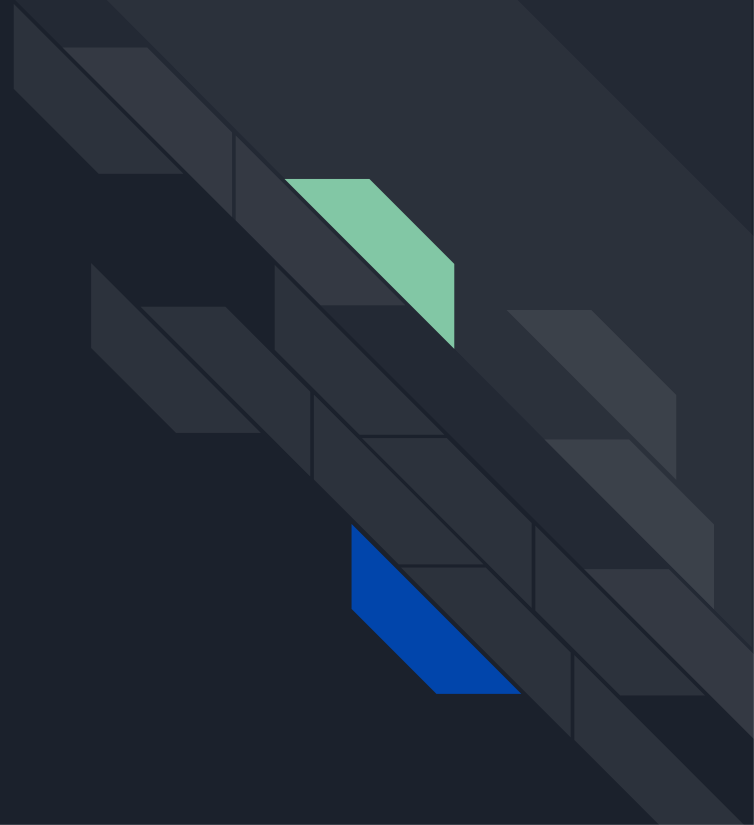


# Approach

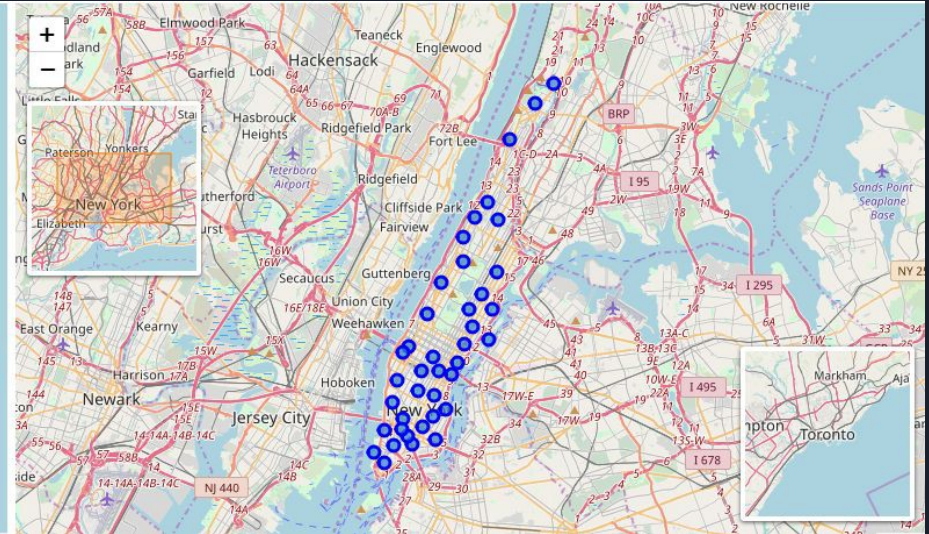
- Neighborhoods are downloaded
- Venues are requested using Foursquare API
- The categories of venues are encoded using One Hot
- K-means algorithm is used for finding similarities
- The elbow method is used for select K



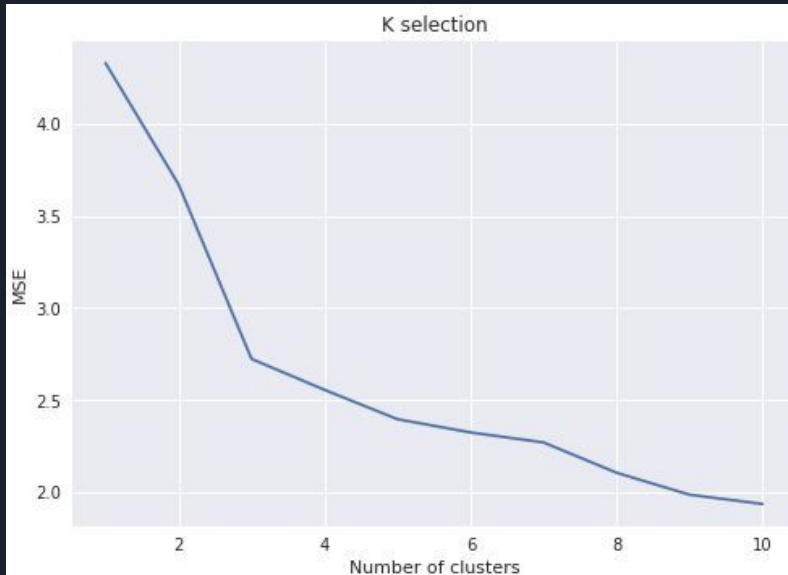
# RESULTS



# Geographical Location



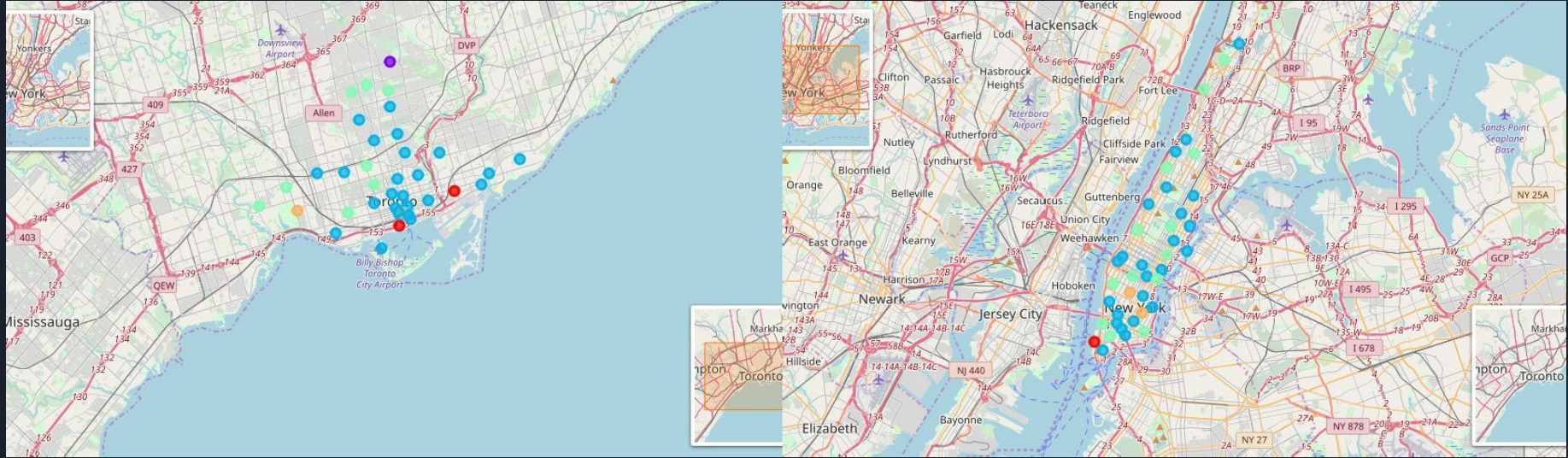
# Selection of K



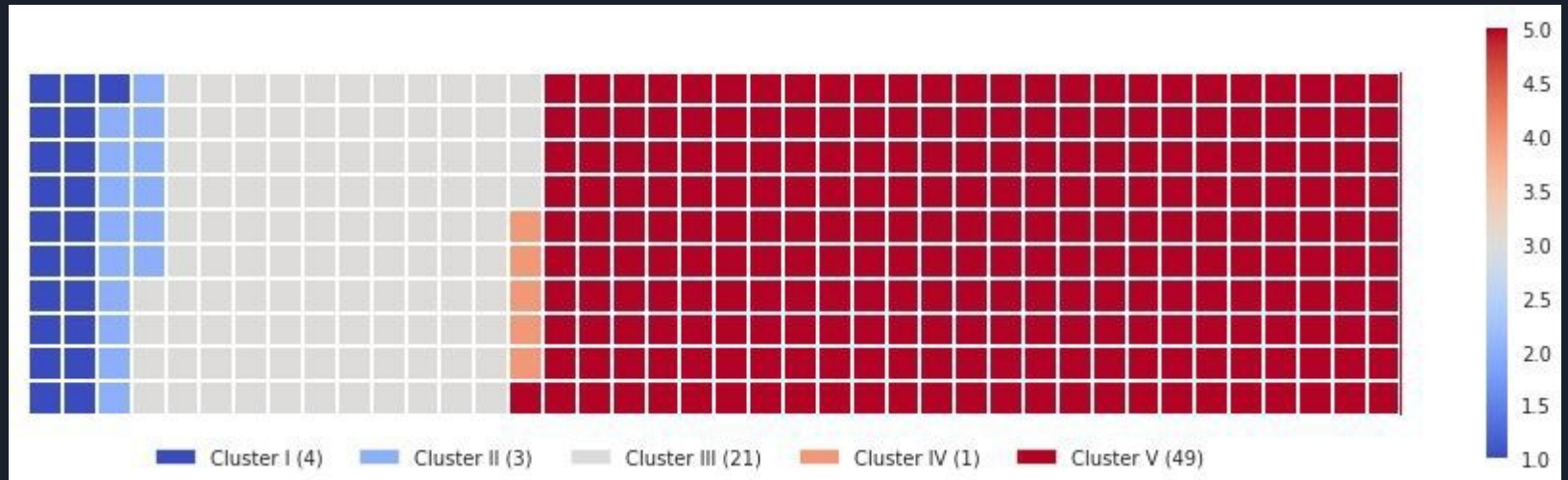
The best number of cluster is 5. That is, where the elbow is located. After that, the mean squared error decrease without big changes.



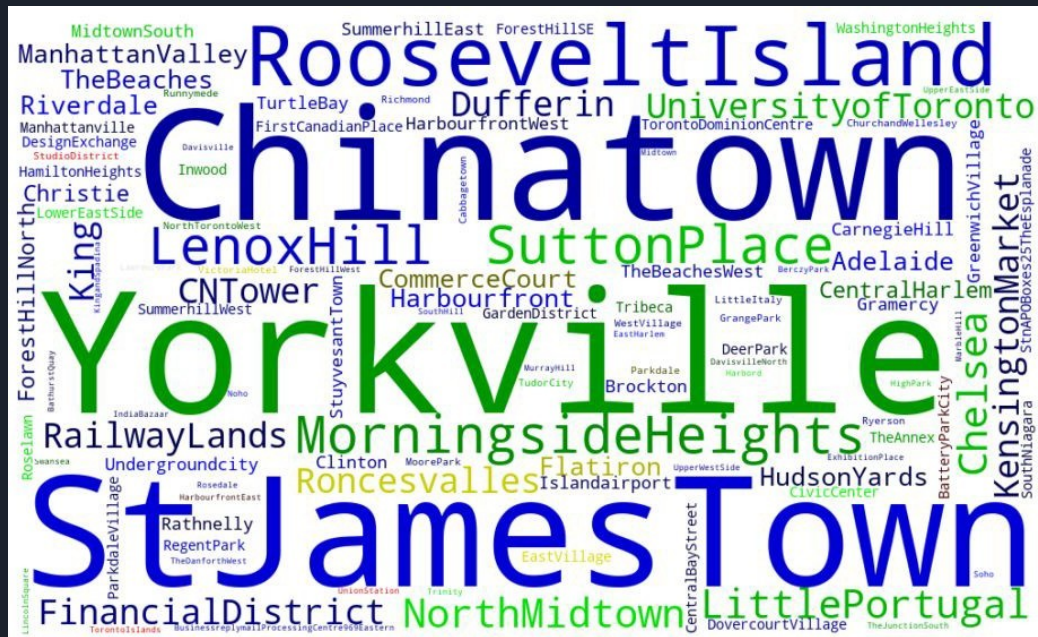
# Geographical Location (Clustered)



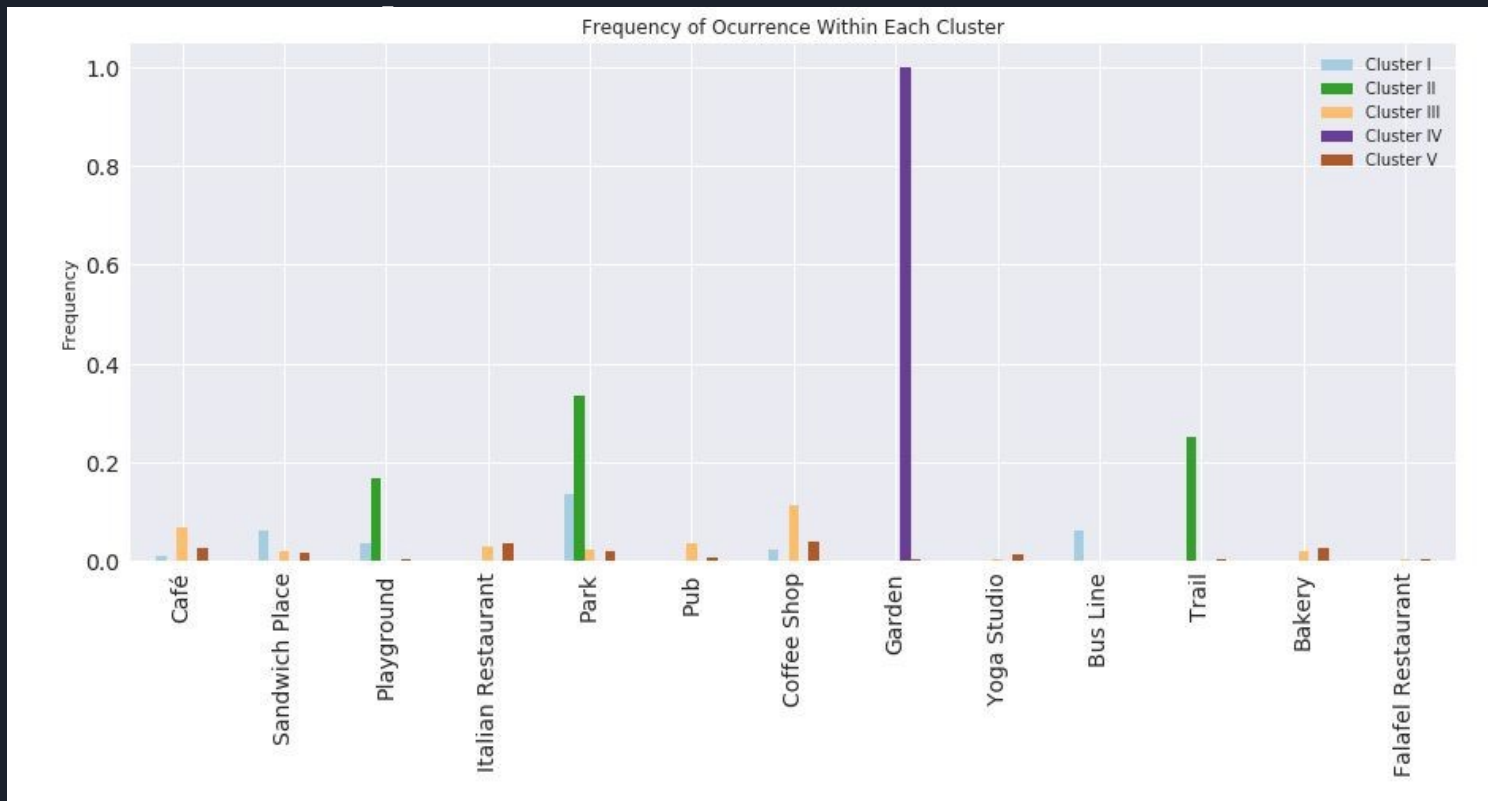
# Proportion of Data Segmented



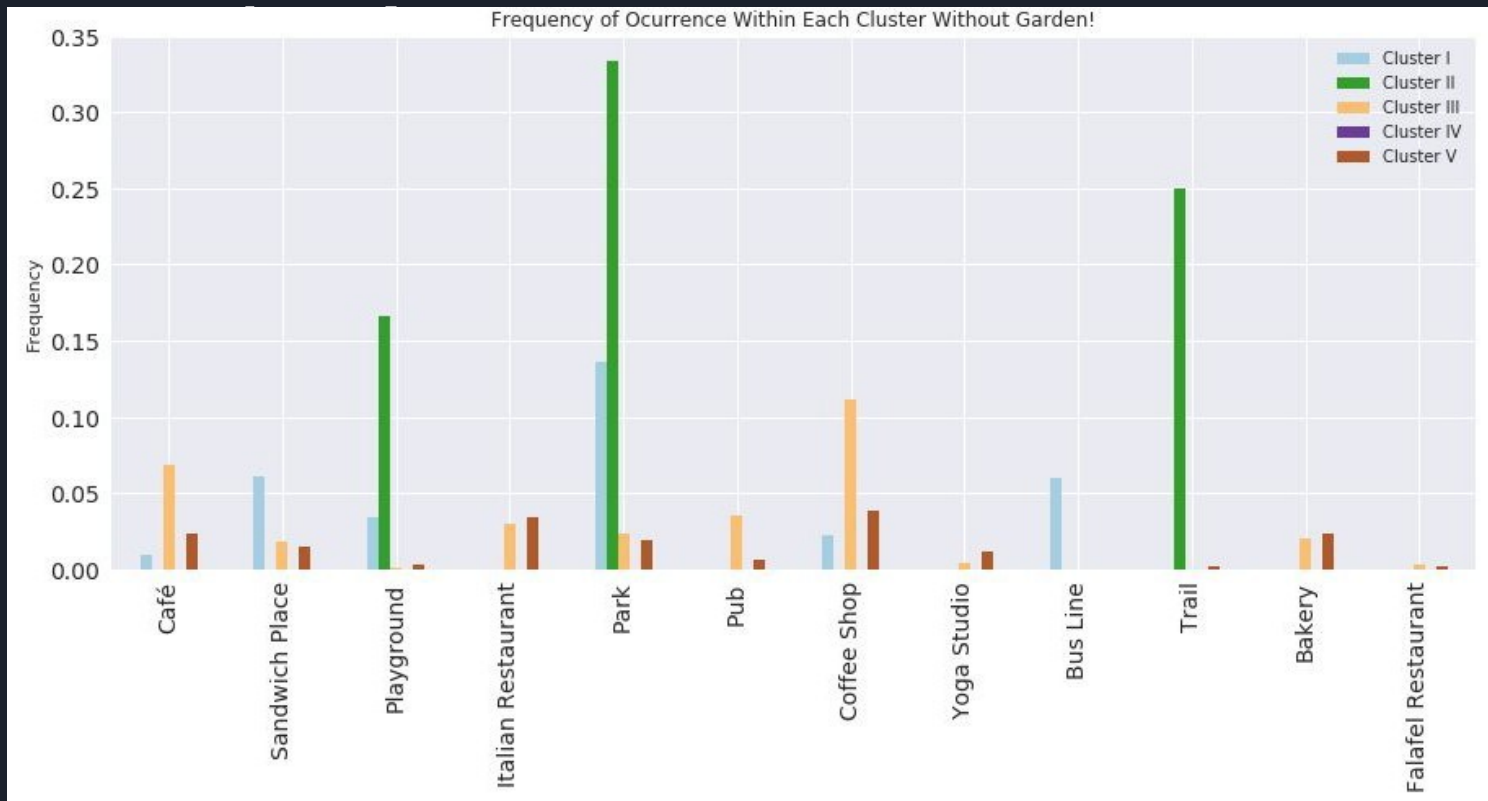
# Neighborhoods Segmented by Colors



# Bar Chart (Frequent



# Bar Chart (Without





# Conclusion

- I: Neighborhoods that have around parks, bus lines and sandwich places.
- II: Neighborhoods that have around parks, playgrounds and trails.
- III: Neighborhoods that have around coffee shops, pubs and italian restaurants.
- IV: Neighborhood that have around gardens.
- V: Neighborhoods that have around coffee shops, parks and bakeries.