

# FOOD STORE LOCATION HUNT

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# OUTLINE

1. Problem Statement
2. Data Acquisition & Preparation
3. Approach
4. Results
5. Our proposal
6. Next steps

## PROBLEM STATEMENT

- New York City has been the center of trade for quite a long time now. The city is cosmopolitan and hosts a wide range of ethnicities. Our business partners want to start a new Food Store outlet in NYC.
- The Food store specializes in providing food products such as Mediterranean, Greek, Middle Eastern, Asian, Indian, Vegetarian/Vegan and Seafood.
- The stakeholders finalize three boroughs in NYC viz. Manhattan, Brooklyn and Queens. The big question is to figure out the appropriate location for the stores that can attract more patrons that prefer such types of cuisines and food products.

## DATA ACQUISITION

- Location data from OpenCageData APIs
- Venue data from Foursquare APIs.
- Process the data from the above sources to match our target categories i.e. Mediterranean, Greek, Asian, Middle Eastern, Indian, Vegetarian, Vegan and Seafood
- Targeted acquired data contains data needed for our analysis

# PROCESS FLOW



Acquire Manhattan,  
Brooklyn and  
Queens geo data

Acquire all food  
places/restaurants in  
these boroughs

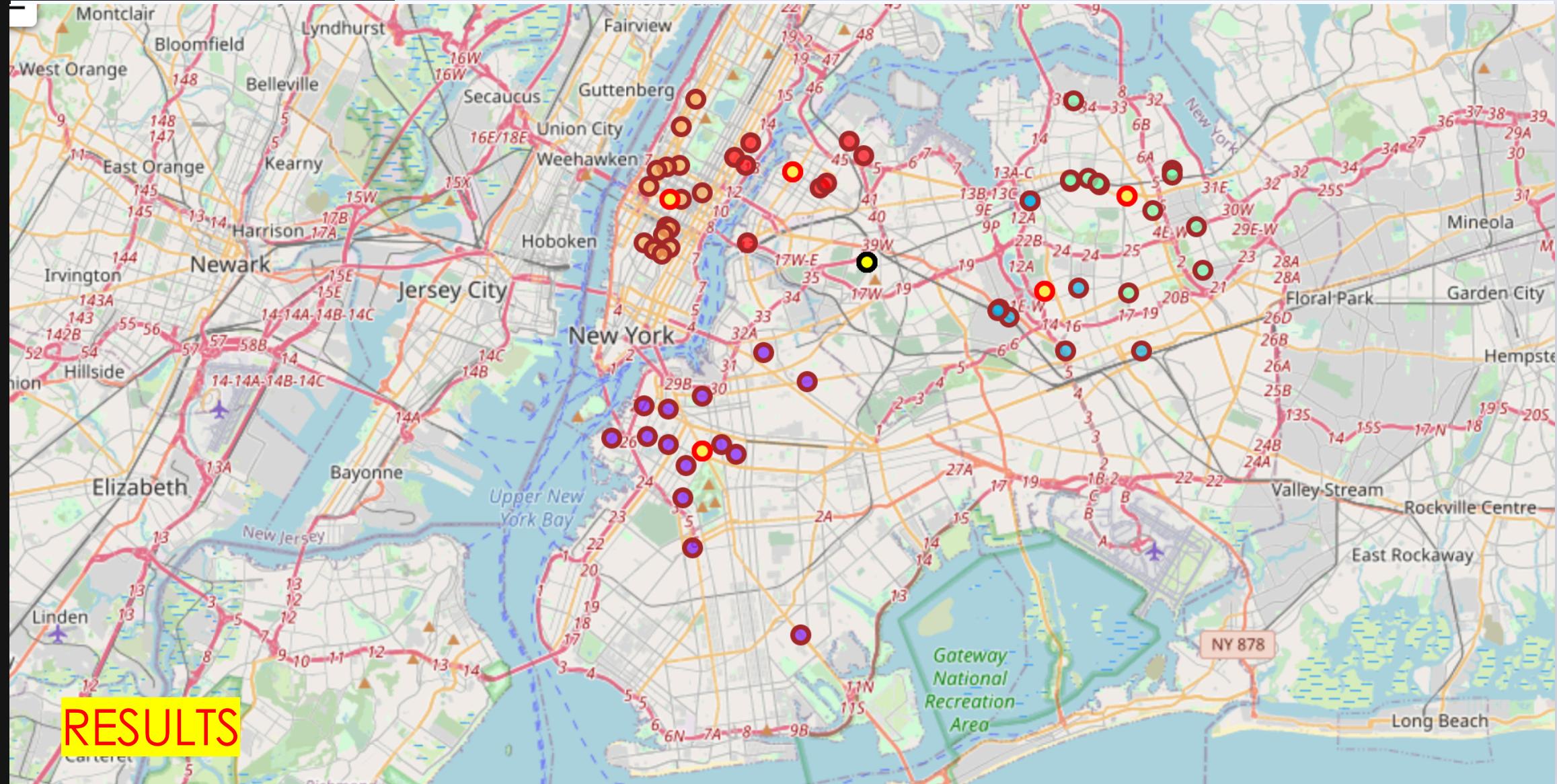
Process data to filter  
the list of restaurant  
type filters

K Means clustering  
to cluster restaurants  
and map hotspots

Derive centroids for each  
cluster and centroid of  
centroids as potential  
locations

## APPROACH – K MEANS CLUSTERING

- The need of the hour is to find popular locations in close proximity to these restaurants
- The processed data about restaurants is used to implement K means clustering
- K MEANS clustering is one way to achieve that.
- Iterate over various number of cluster values and create clusters for the best possible value of k
- Map the clusters for visualization
- Map centroids of each cluster
- Map centroid of centroids of each cluster



## CONCLUSION

- The results from the cluster analysis gives a clear picture about the hotspots in the three boroughs
- Ranking them per cluster size is a good way to start working on location
- If the business wants to set up only one outlet with close proximity to all these patrons, center of centroids is an ideal place to start with to hunt for a location
- If the business wants to set up multiple outlets, the clusters ranked best are the ones to start with.
- More factors such as leasing costs, infrastructure expenses, marketing, etc. must be considered before finalizing any location.
- Additional features such as demographics, leasing costs, etc. would provide better insights in decision making.