

The background features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic visual effect.

Selecting the Best Neighborhood to Open a Smoothie Shop in New York City

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Opening a Smoothie Shop

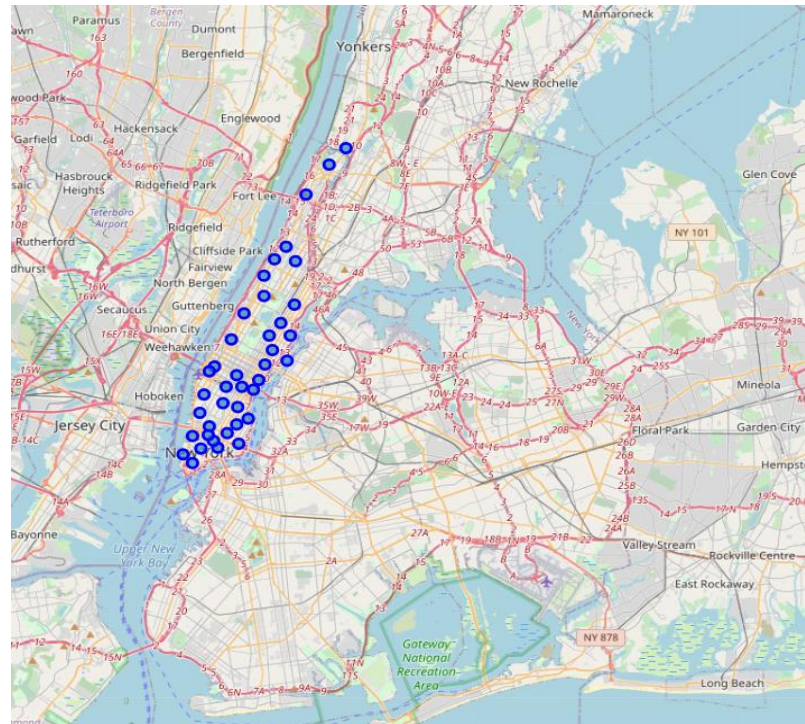
- ▶ Smoothie Shops can provide a quick, healthy option for a snack, meal, or dessert
- ▶ Ideal neighborhoods for a Smoothie Shop would have the following:
 - ▶ Traffic: a large number of people (locals or tourists)
 - ▶ Healthy Options: healthy restaurants or places like gyms and fitness centers
 - ▶ Alternative Options: other places that have drinks, snacks, or desserts
- ▶ The following analysis is targeted towards:
 - ▶ Business owners and entrepreneurs
 - ▶ Potential investors and developers
 - ▶ Potential suppliers

Data Description

- ▶ We will utilize data from the Foursquare API to analyze the neighborhoods in New York City
 - ▶ https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-DS0701EN-SkillsNetwork/labs/newyork_data.json
- ▶ This data allows us to access a desired location and surrounding restaurants, facilities, and other points of interest

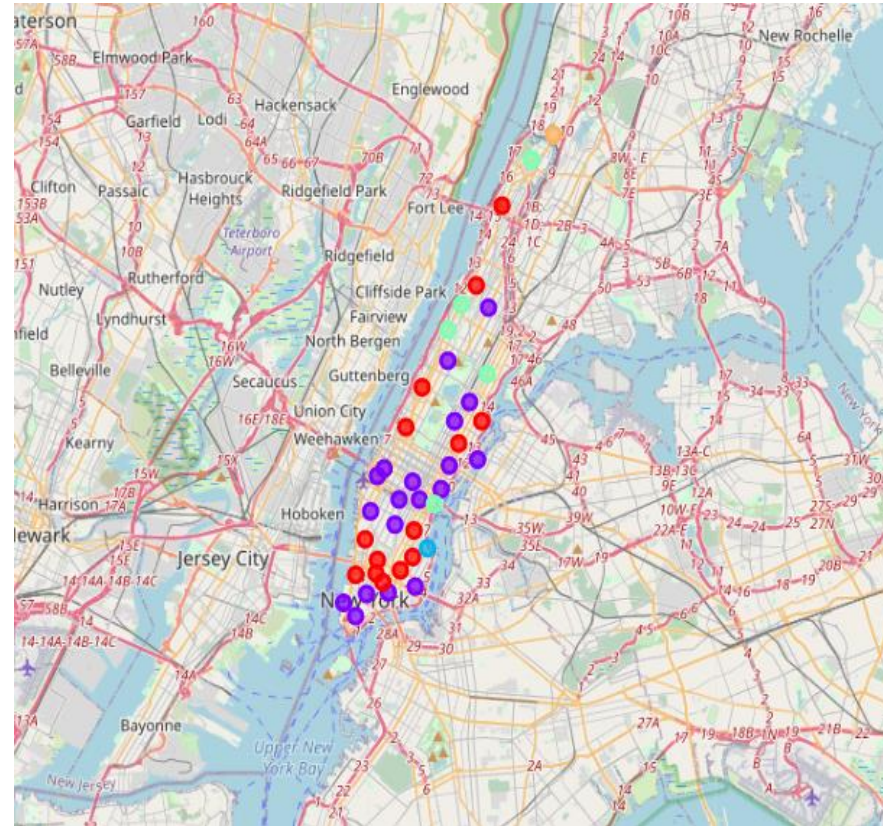
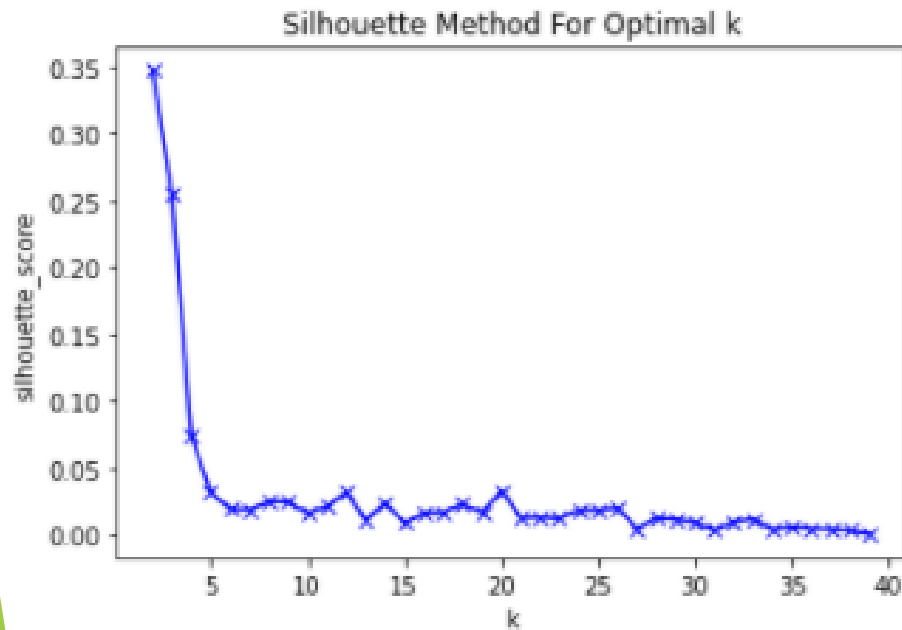
Map of New York City w/ Neighborhood Markers

- For simplicity, we limit the data to the Borough of Manhattan



Use k-means to Determine the Optimal Number of Clusters

- The optimal number of clusters is $k=5$



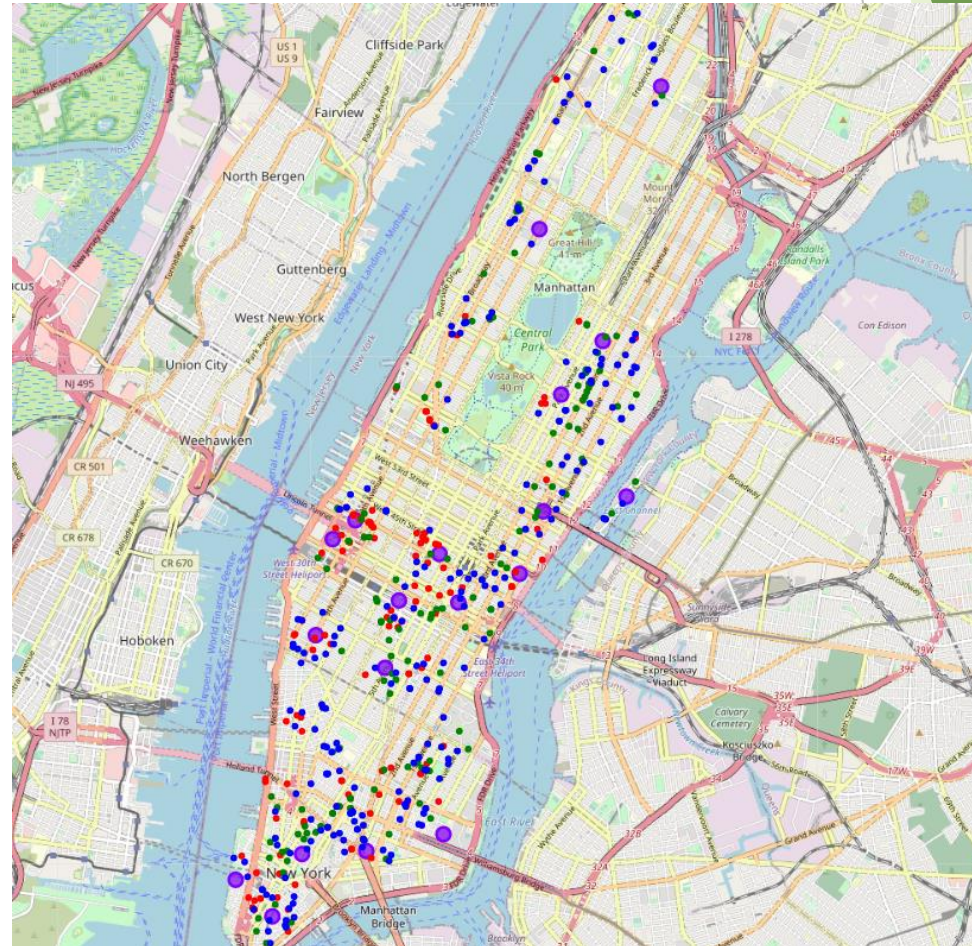
Analyze Each Cluster

- ▶ Cluster 1: appears to be a residential area
 - ▶ Not the best choice
- ▶ Cluster 2: has many top venues that fit the desired criteria
 - ▶ Good option
- ▶ Cluster 3: has only one neighborhood and seems to be a residential area
 - ▶ Not a good option
- ▶ Cluster 4: is similar to Cluster 1 and appears to be a residential area
 - ▶ Not the best choice
- ▶ Cluster 5: has only one neighborhood and appears to be a residential area
 - ▶ Not a good option

Cluster 2 is the best option and therefore is the cluster we will continue to analyze

Analyzing Neighborhoods in Cluster 2

- ▶ Purple markers are for Neighborhoods in Cluster 2
- ▶ Red markers are for high traffic indicators
- ▶ Green markers are for healthy options
- ▶ Blue markers are for alternative options



Comparing Top Candidates

- ▶ The top candidates that appear to meet the desired criteria for opening a Smoothie Shop are Clinton, Murray Hill, Midtown, Midtown South, Financial District, and Chelsea

----Clinton----

	venue	freq
0	Theater	0.07
1	Gym	0.05
2	American Restaurant	0.05
3	Gym / Fitness Center	0.05
4	Coffee Shop	0.04

----Midtown----

	venue	freq
0	Hotel	0.06
1	Coffee Shop	0.06
2	Clothing Store	0.05
3	Bakery	0.05
4	Theater	0.04

----Financial District----

	venue	freq
0	Coffee Shop	0.10
1	Pizza Place	0.05
2	Cocktail Bar	0.04
3	American Restaurant	0.04
4	Park	0.03

----Murray Hill----

	venue	freq
0	Japanese Restaurant	0.04
1	Sandwich Place	0.04
2	Coffee Shop	0.04
3	American Restaurant	0.04
4	Hotel	0.04

----Midtown South----

	venue	freq
0	Korean Restaurant	0.18
1	Hotel	0.06
2	Japanese Restaurant	0.04
3	Cosmetics Shop	0.04
4	Bakery	0.03

----Chelsea----

	venue	freq
0	Coffee Shop	0.09
1	Art Gallery	0.05
2	Bakery	0.04
3	American Restaurant	0.04
4	Ice Cream Shop	0.03

- ▶ By comparing the top 5 venues of each of the top candidates, we can see that 4 out of 5 of Clinton's top 5 venues meet the criteria for high traffic indicators, healthy options, or alternative options
 - ▶ That is the most out of all the top candidates
- ▶ Based on this analysis, **Clinton** would be the best neighborhood to open a Smoothie Shop

Discussion and Conclusion

- ▶ Results of this analysis are satisfactory
- ▶ Other key considerations that could apply:
 - ▶ Rent prices
 - ▶ Suppliers
 - ▶ Demographics
 - ▶ Including other Boroughs
 - ▶ Or limiting the search to other specific Boroughs

Utilizing this type of data analysis can be informative and consequential for the business owner and be crucial to the success of the business.