

Predicting the best location for a second office

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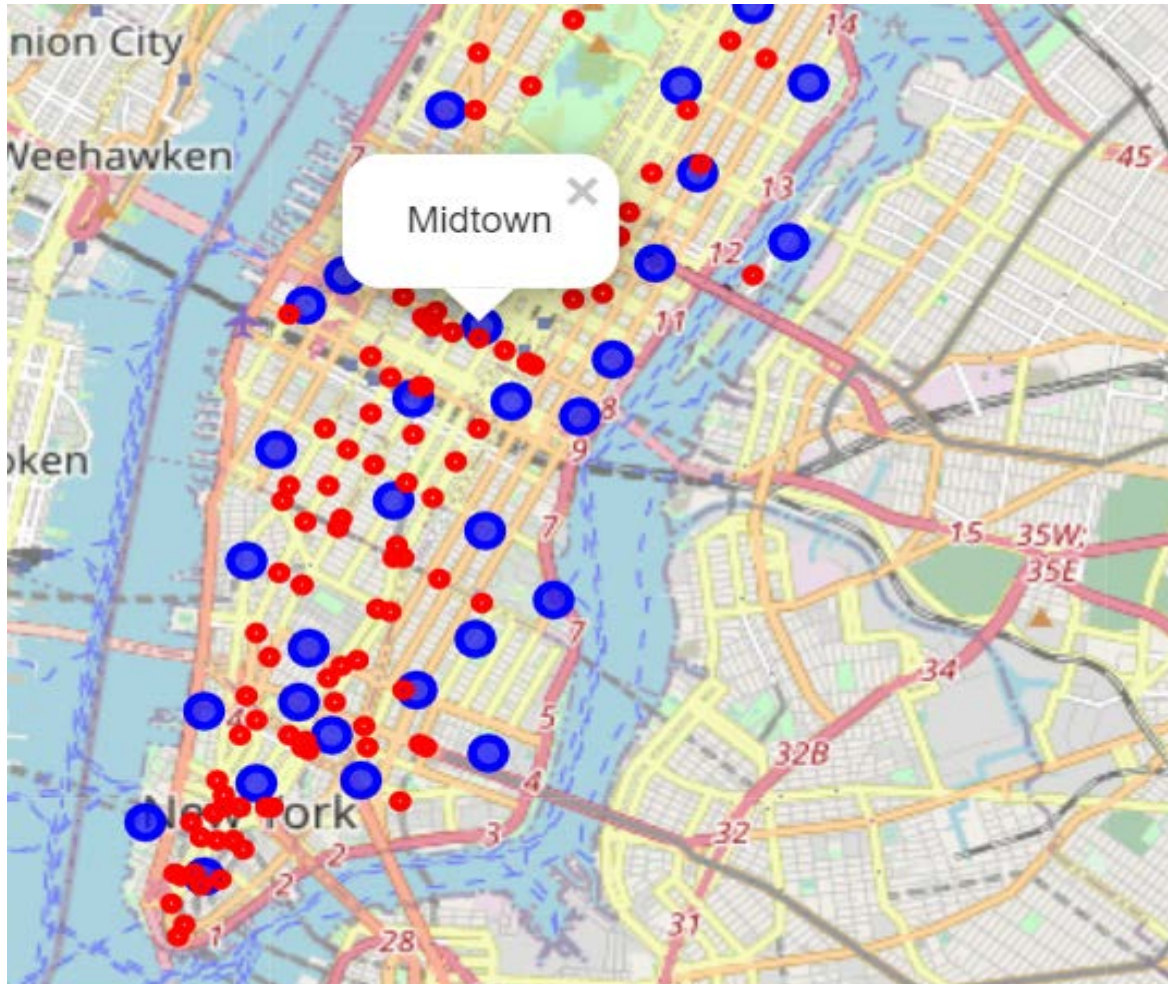
Predicting the best location for a second office

- ▶ Objective: To identify a candidate for future possible office in Manhattan, New York City
- ▶ Using New York location data, New York City Subway data and Foursquare API for popular venues
- ▶ Apply k-means clustering to Manhattan neighborhood data
- ▶ Analyze results from the cluster containing the existing office location
- ▶ Recommend a location for a potential future second office based on similarities of possible options to the existing location

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Current Office Location in Manhattan, NYC



- Subway station
- Manhattan neighborhood

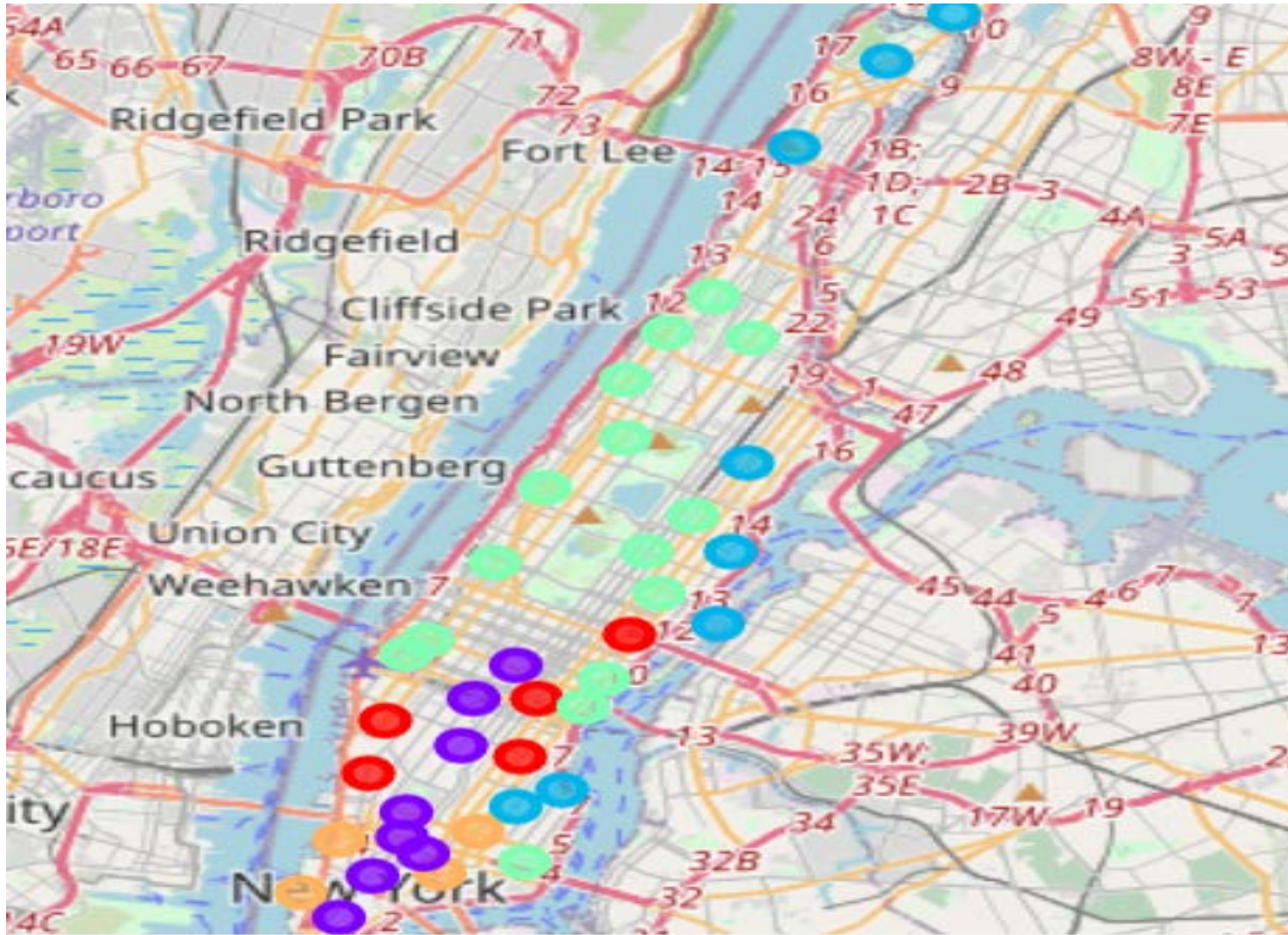
Data sources used

- ▶ New York neighborhood data file that contains the 5 boroughs in New York City and associated neighborhoods
- ▶ New York City subway station and subway line data from the New York Metropolitan Authority (MTA)
- ▶ The Foursquare API will be used to explore venues surrounding the New York neighborhoods

Methodology

- ▶ Use the Manhattan neighborhood data and the Foursquare location data to explore the most common venues in each neighborhood.
- ▶ Use the New York City subway data to identify the nearby subway stations and subway lines that are within 1 mile of each neighborhood.
- ▶ Apply k-means clustering to segment the neighborhoods into 5 clusters
- ▶ Explore the cluster of the current office to find suitable candidates

Results: 5 clusters



Cluster 2: For further analysis

- ▶ The following similarities were observed for neighborhoods in this cluster:
 - ▶ The neighborhoods are located close to the center of the Manhattan island when considered from a west to east position
 - ▶ Their central location means that several subway lines traverse through these neighborhood making them the most accessible from a public transit perspective:
 - ▶ Neighborhoods have an average of 15 lines accessible through 16 to 21 nearby stations
 - ▶ The neighborhoods have a wide variety of most popular venues which makes them suitable for catering for a wide range of needs

Recommendation & Conclusion

- ▶ The Civic Center was recommend as the second location based on the following factors:
 - ▶ The most comparable subway transportation access to the current Midtown office
 - ▶ The more economic neighborhood relative to other commercial district that are most similar to the Midtown location
 - ▶ This neighborhood is in Downtown Manhattan which gives is good separation from the current Midtown location and therefore achieves good area coverage
 - ▶ Similarity in common venues relative to the current office. For example 4 out of the top 10 venues are similar