

Battle of the Neighbourhoods New York vs Dublin

Coursera IBM Applied Data Science Capstone

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Business Problem

- A New York based company is opening its European HQ in Dublin, Ireland.
- Prior to its opening, new employees will have to relocate to New York for job training for several months.



- The goal is to find the Manhattan neighbourhoods with the most affordable monthly one bedroom apartment rent, which are similar to Dublin neighbourhoods.

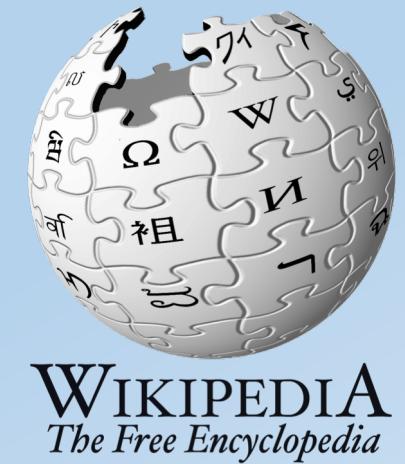
Data Sources

Data for this analysis is acquired from a number of sources.



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Phríomh-Oifig
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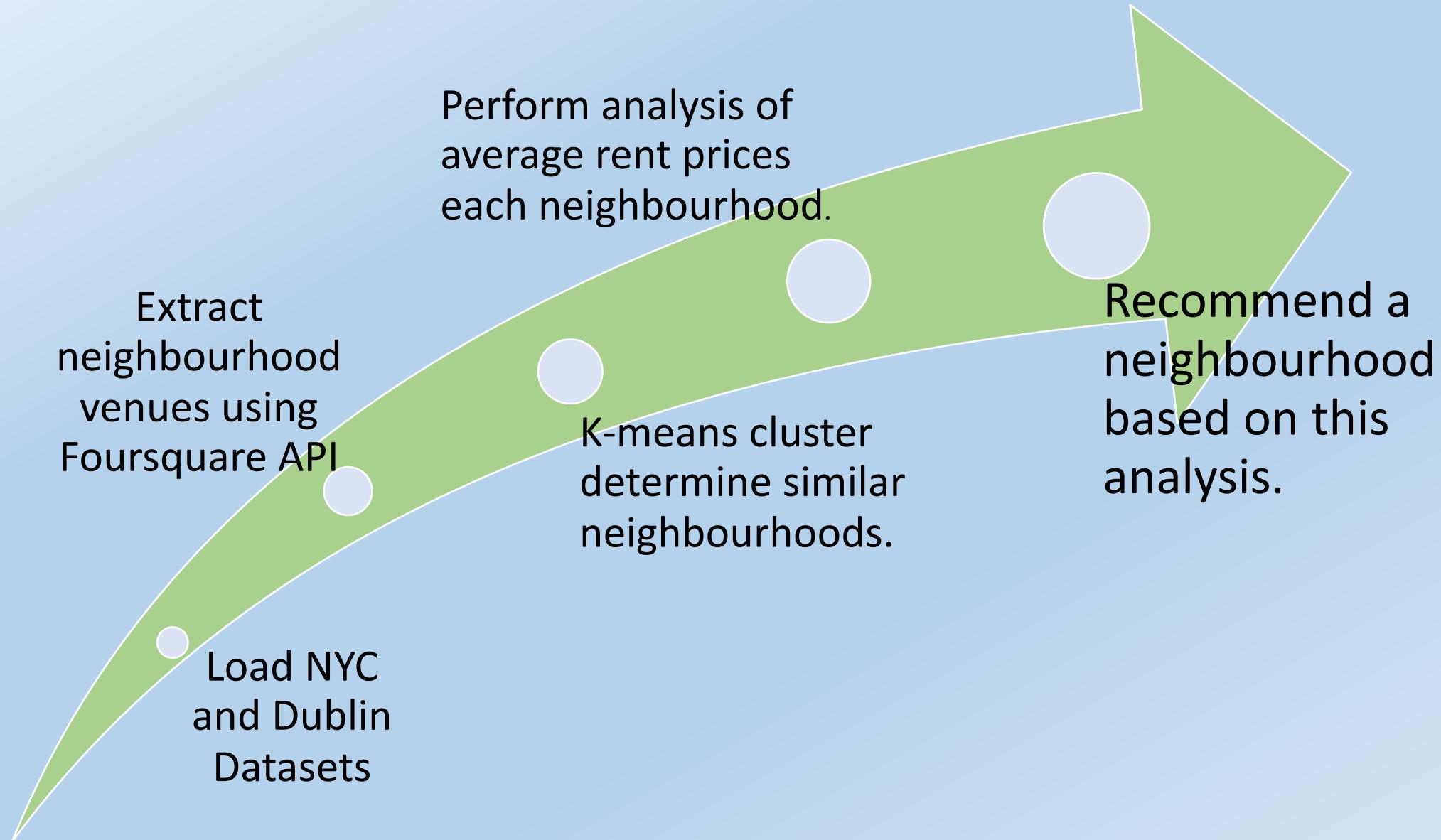
Central
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StreetEasy

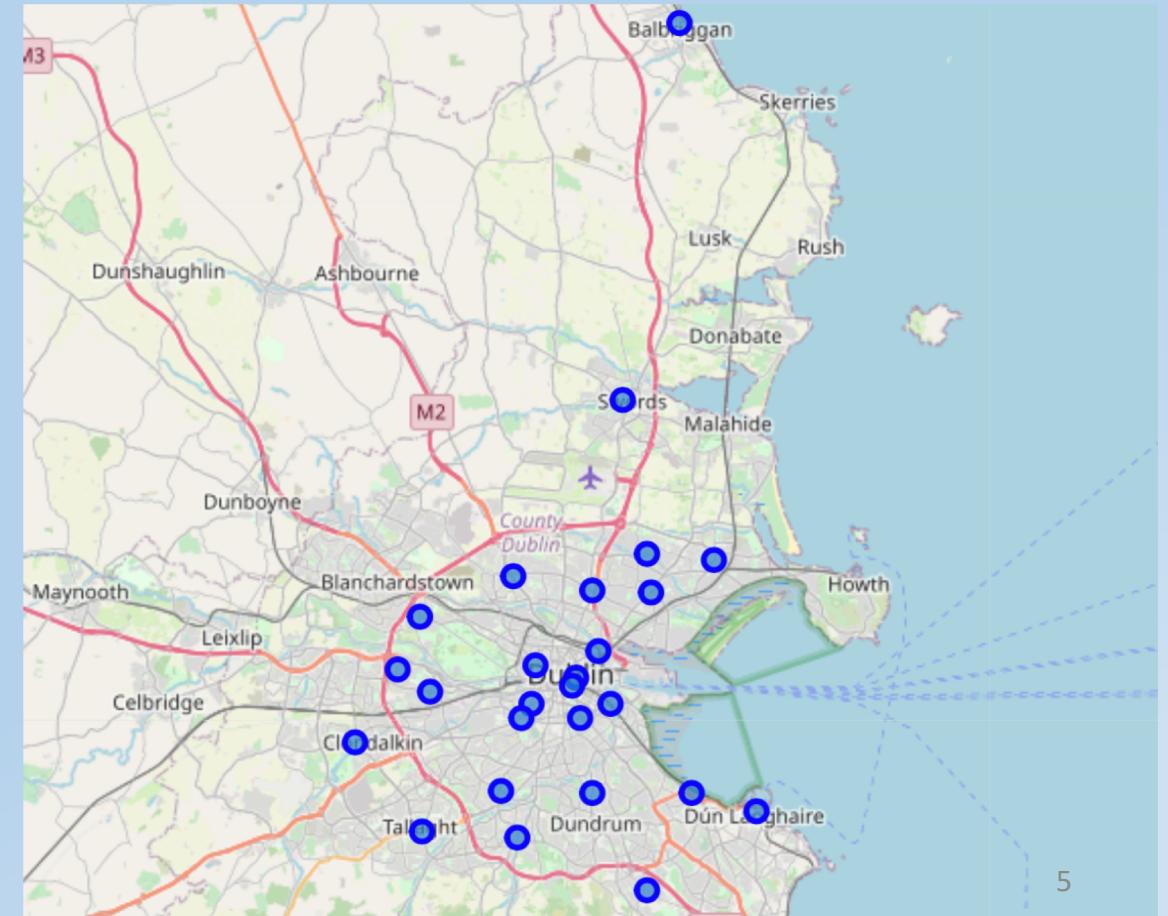
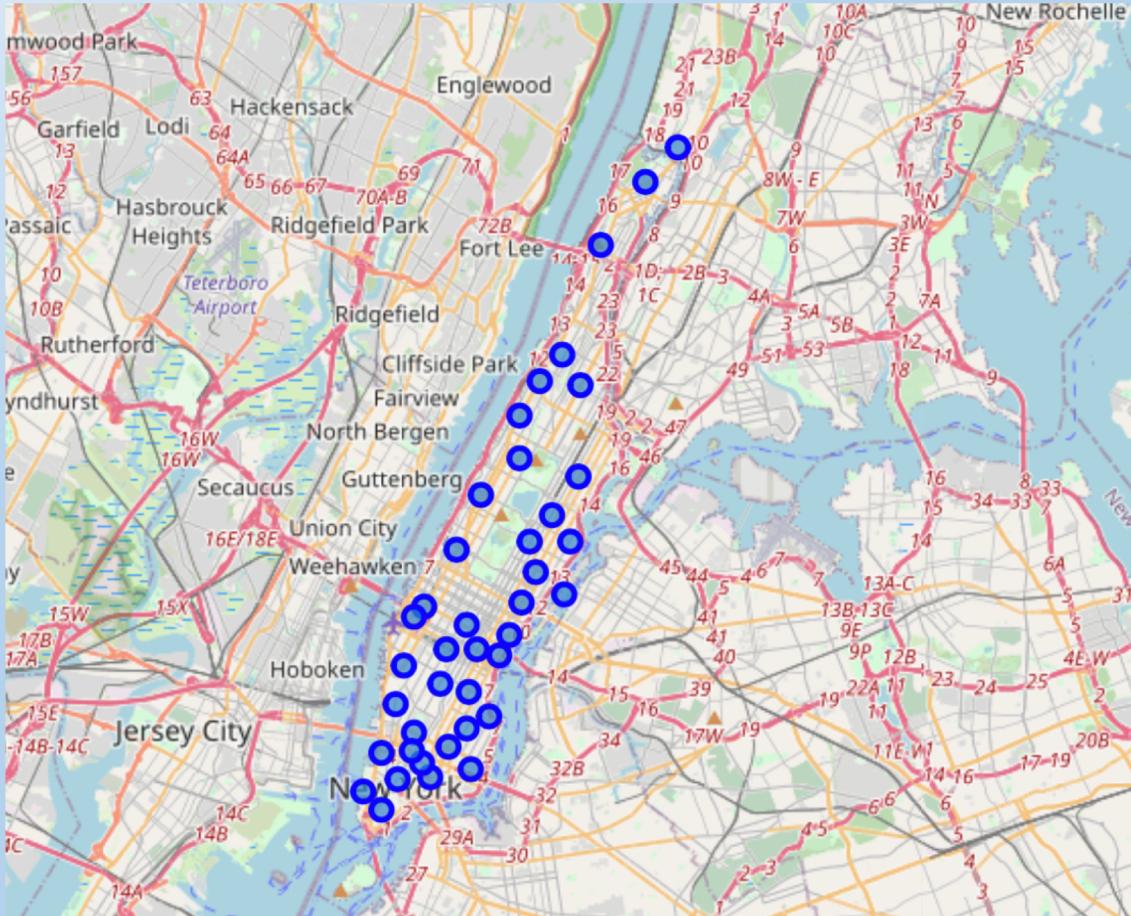


Methodology



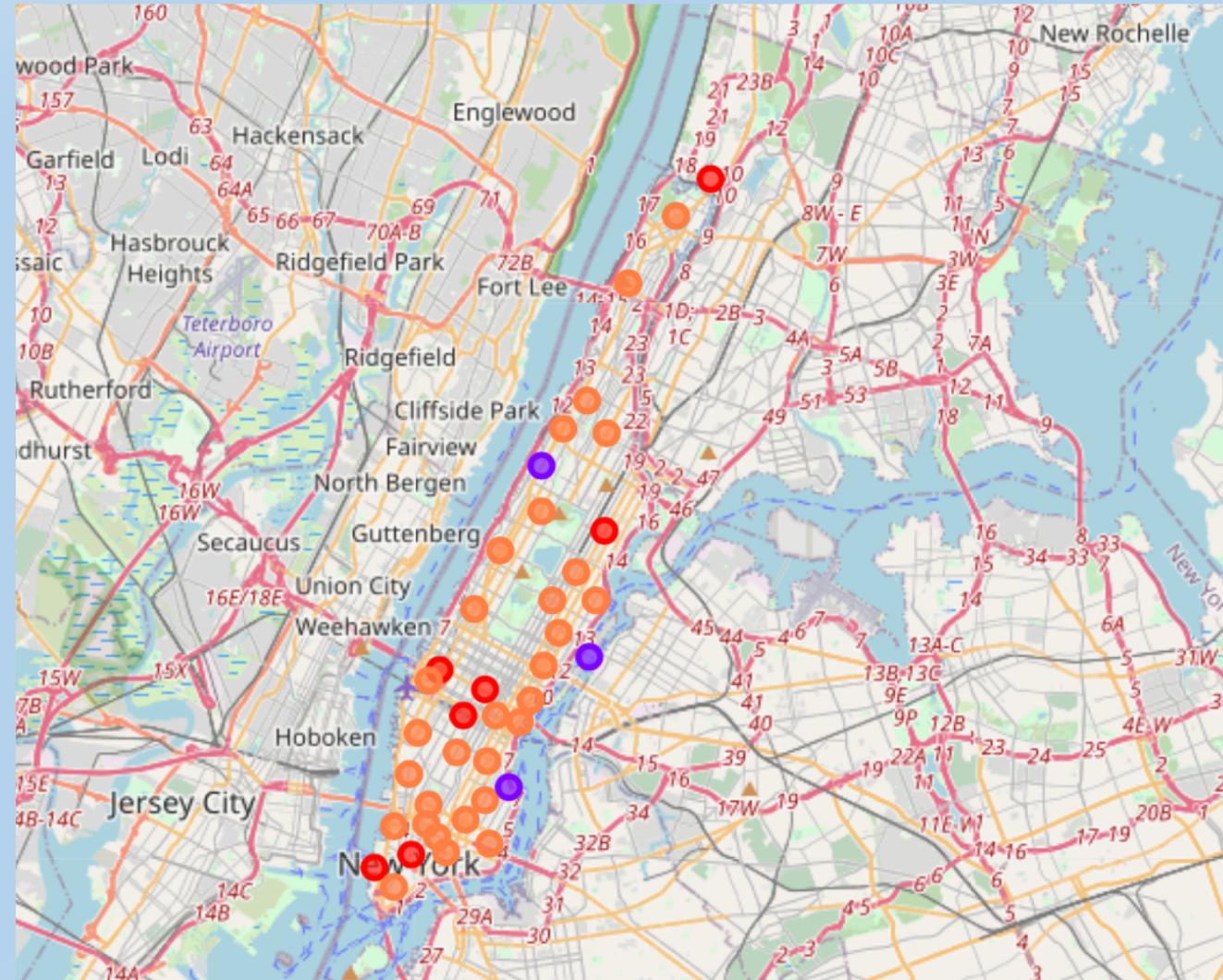
Dublin and Manhattan Neighbourhoods

The Dublin and New York neighbourhoods of interest were plotted using the Folium Library.

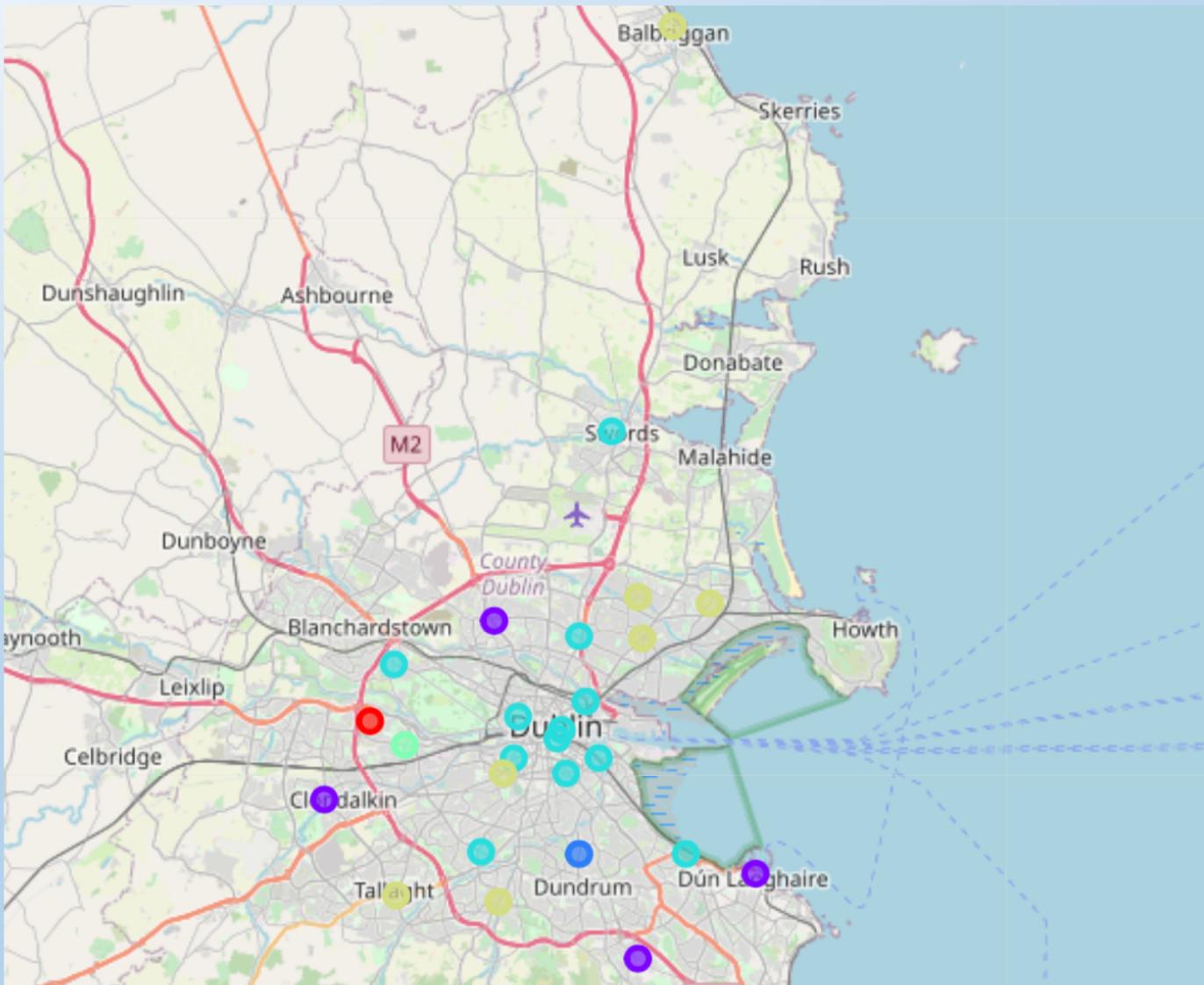


New York Clustered Neighbourhoods

- Foursquare API used to extract the venues in each neighbourhood.
- Six primary types of neighbourhood in New York.
- Majority labelled as cluster 6 (orange)
- Seven labelled as cluster 0 (red)
- Three labelled as cluster 1 (purple)



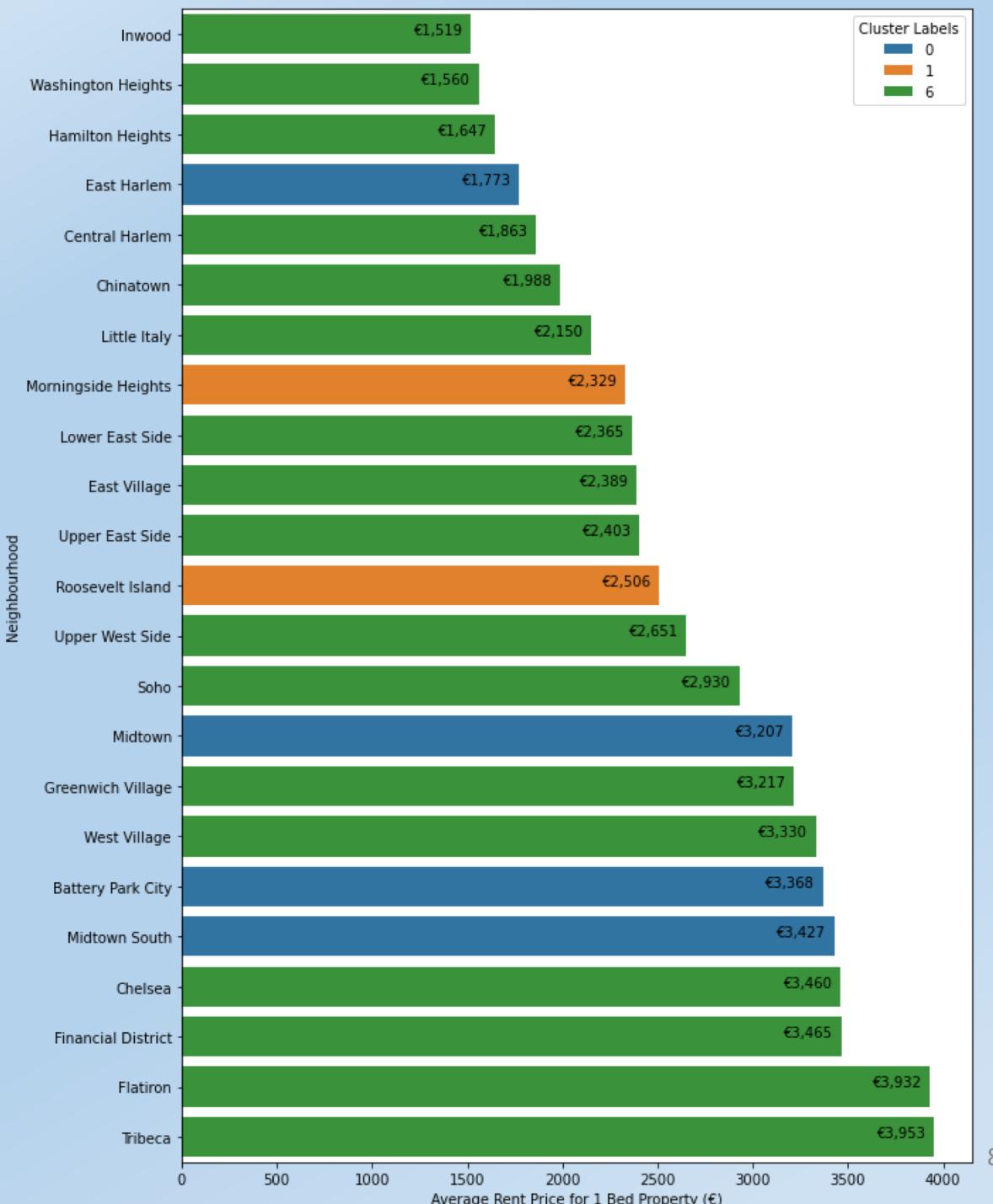
Dublin Clustered Neighbourhoods

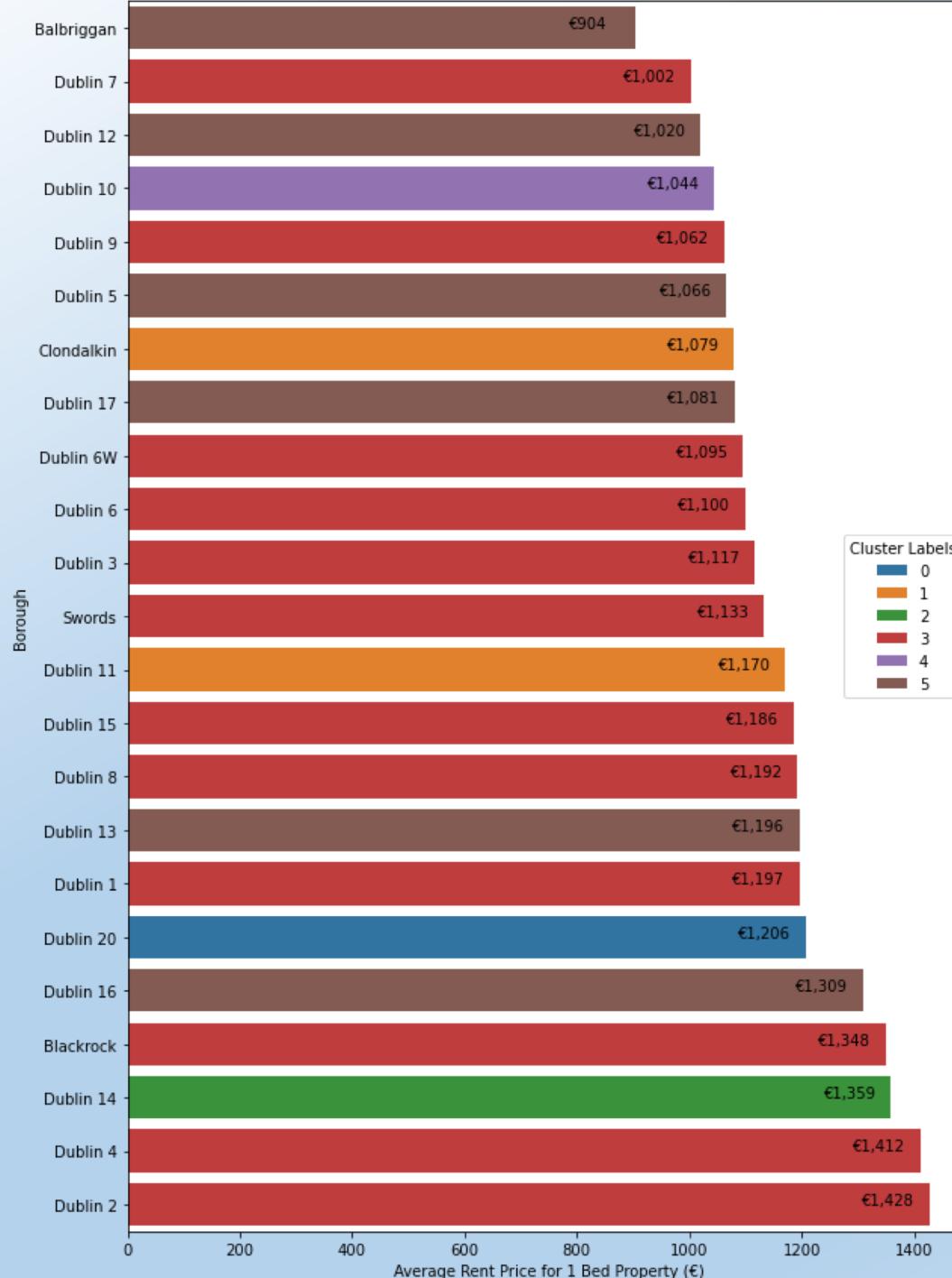


- Five Dublin neighbourhoods share similarities with neighbourhoods in New York.
- Clondalkin, Dun Laoghaire, Sandyford and Finglas (Cluster 1, purple) and Palmerstown (Cluster 0, red) are similar to those in New York.

New York Rents for a one bedroom property

- Rent ranges from €1519 in Inwood to €3953 in Tribeca.
- Cheapest rent for cluster 0 is €1773 in East Harlem.
- Cheapest rent for cluster 1 is €2329 in Morningside Heights.



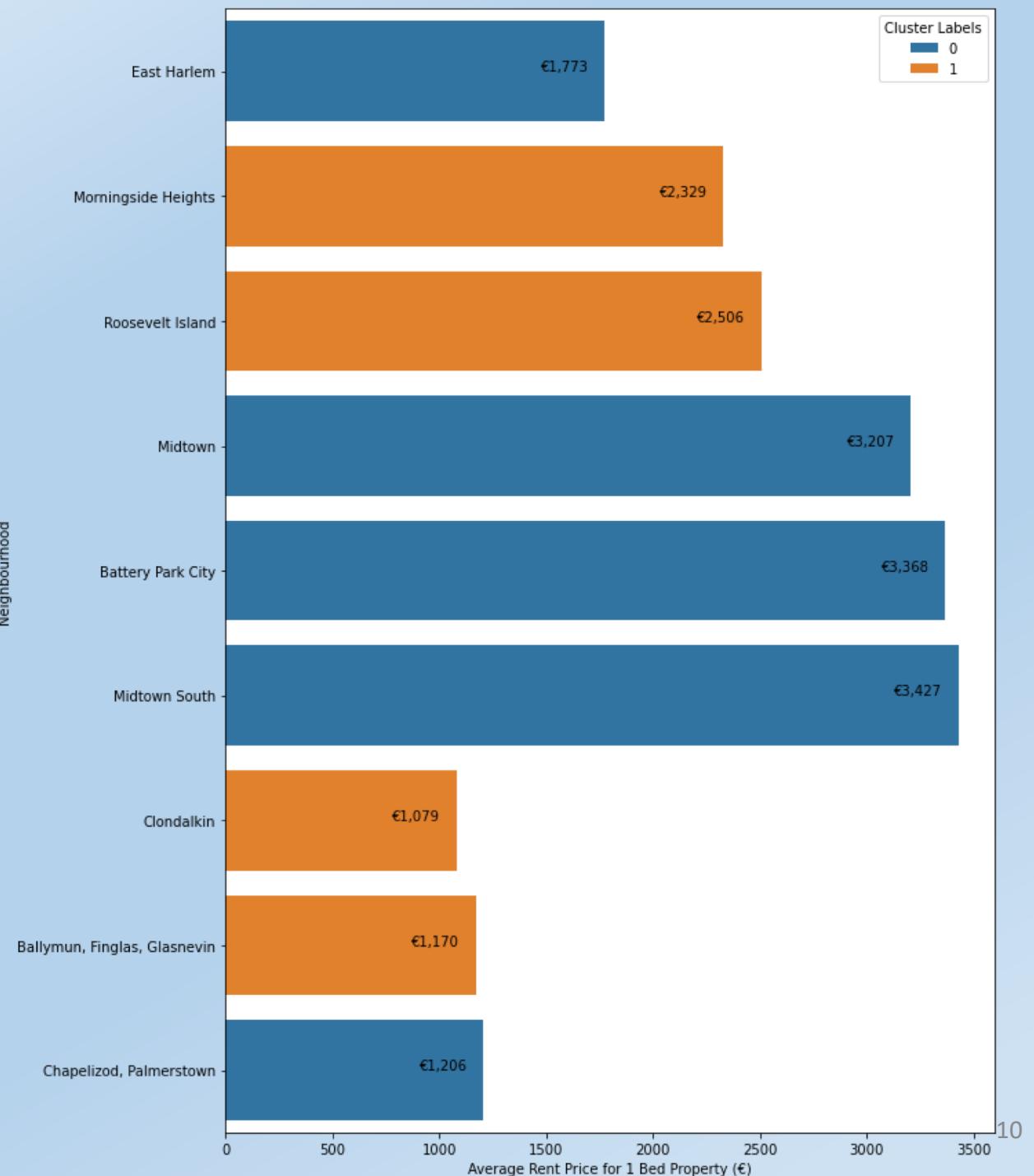


Dublin Rents for a one bedroom property

- Much narrower range of rent prices from €904 in Balbriggan to €1412 in Dublin 2.
- Cluster 0 rents are between €1079 to €1170 per month.
- Cluster 1 rent is €1206 per month.

Average Monthly Rent across Similar Neighbourhoods

- East Harlem is the cheapest neighbourhood in Manhattan that is similar to a Dublin neighbourhood.
- Morningside Heights is the cheapest in cluster 1, which is the cluster which had the largest number of similar neighbourhoods



Caveats

- Analysis does not factor in any demographic, infrastructure or economic information about each neighbourhood.
- Does not capture information on the cost of living in each city and typical salary expectations of the inhabitants of each city.



Conclusion

- K-Means clustering was used to group together neighbourhoods in New York and Dublin with similar venues.
- The average monthly rent price of a one bedroom property in each neighbourhood was analysed.
- East Harlem and Morningside Heights are the recommended neighbourhoods for new employees moving from Dublin to New York based on their similarity to Dublin neighbourhoods and relatively affordable rent prices.