LONDON BOROUGHS AND CRIME

COURSERA CAPSTONE PROJECT

INTRODUCTION

- London, the largest of England, has diverse range of people and cultures. London has 32 districts, commonly known as London Boroughs. As a resident of this city, I decided to use London in my project.

- In this project, I explore the different boroughs and the total crimes in the areas. Such information is always useful for people looking to relocate to London. We always tend to see the safer areas to raise our family.

- Further I explore the neighborhoods in the safest borough and cluster the neighborhoods using K-means clustering.

QUESTIONS TO ANSWER

- What is the safest borough?

- What are the neighbourhoods in the safest borough?

- These questions are important for those moving to London and looking for areas that are safe for their family, especially their kids.

DATA

- I have used the data from https://data.london.gov.uk/dataset/recorded_crime_summary. The data provides the number of crimes in each borough and the various crime categories between June 2017 to May 2019. A csv file was provided in the website.

- I have scraped the geographical co-ordinates of the London Boroughs from https://en.wikipedia.org/wiki/List_of_London_boroughs using Beautiful soup.

- I used Foursquare API to get the most common venues of the safest borough of London.
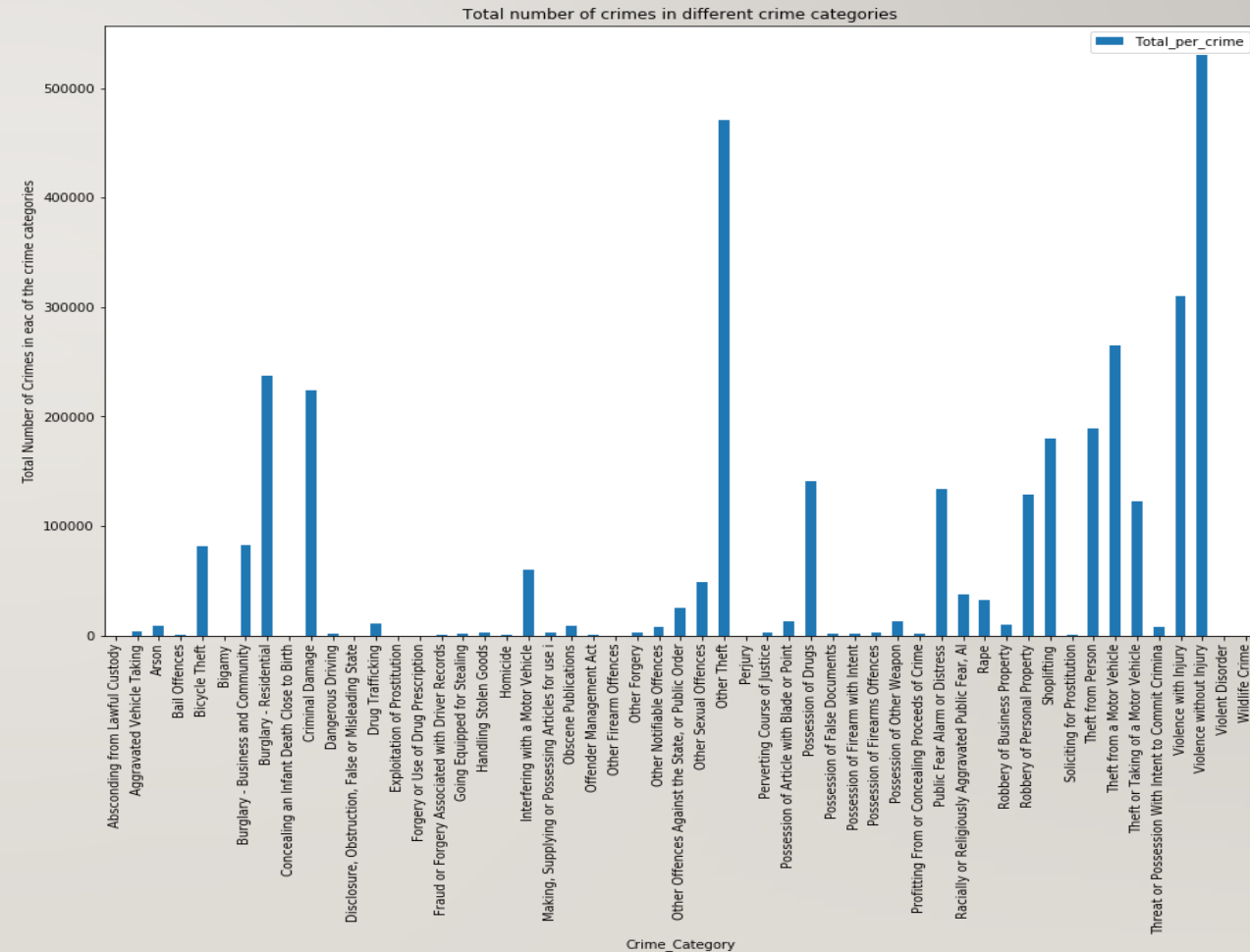
CRIMES IN THE BOROUGHS (JUNE 2017 – MAY 2019

- From the graph, it is seen that the least number of crimes is in London Heathrow and London City Airports. However, they cannot be considered for living.

- Kingston upon Thames is the safest borough with the least number of crimes.

- Westminster has the highest number of crimes.

London Boroughs with total number of crimes
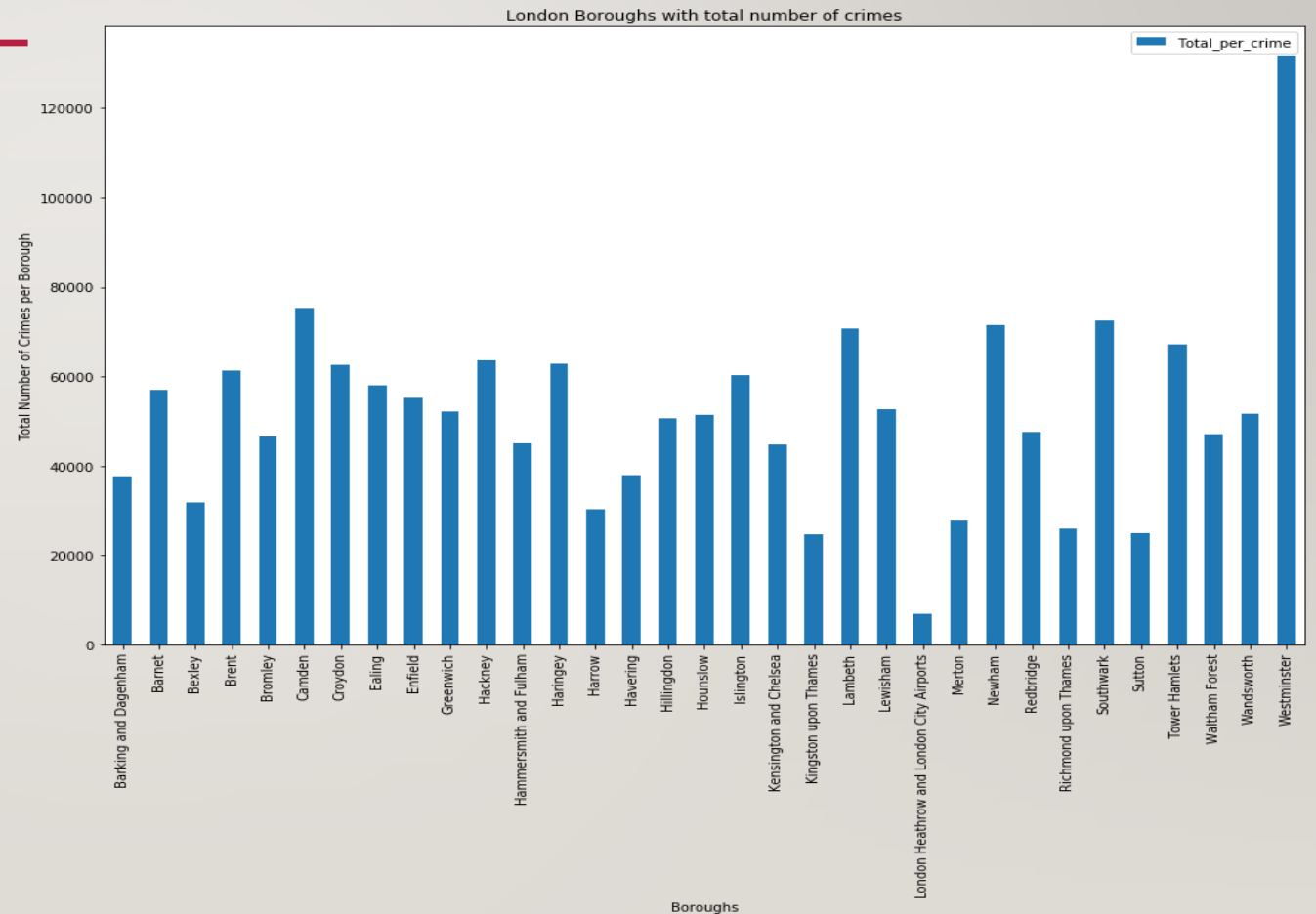
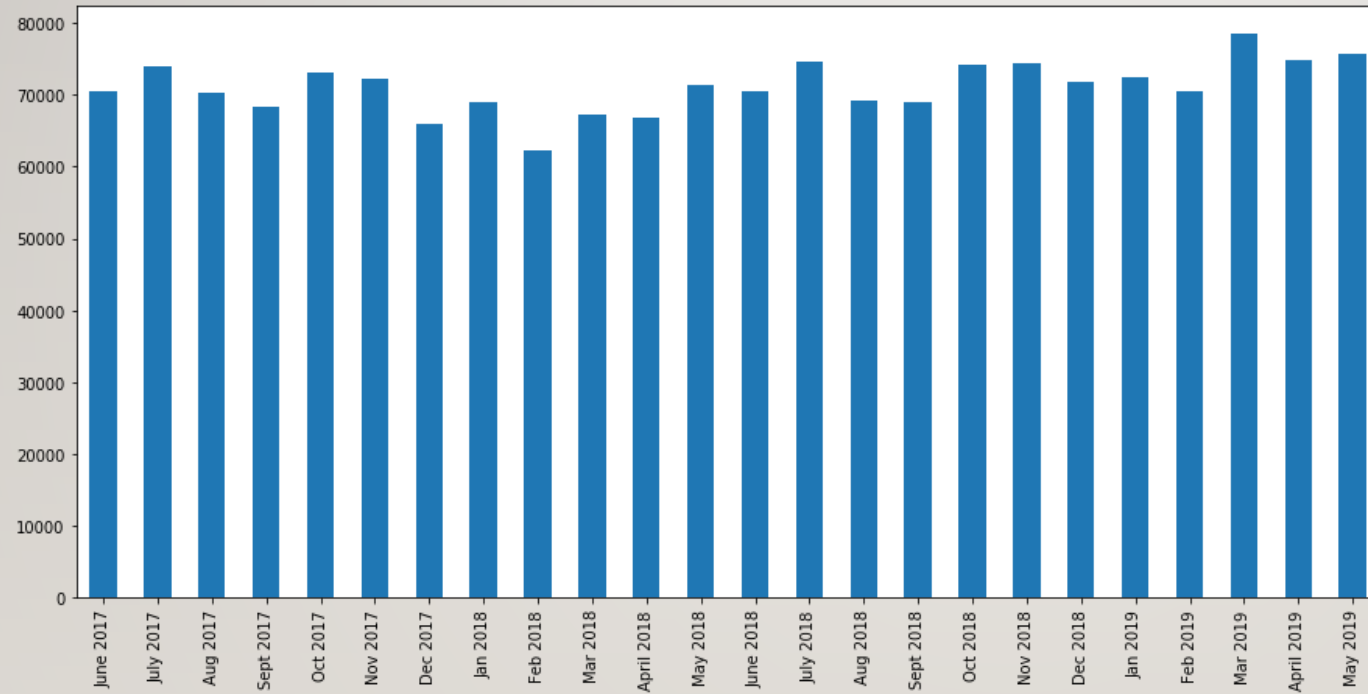# CRIME CATEGORIES (JUNE 2017 – MAY 2019

- Highest crimes are in the category of Violence without injury.

- Least number of crimes are in the category wildlife crime and violent disorder.

Total number of crimes in different crime categories

NUMBER OF CRIMES IN THE MONTHS JUNE 2017 TO MAY 2019

- Maximum number of crimes between June 2017 to May 2019 was reported in March 2019.

10 BOROUGHS WITH LEAST NUMBER OF CRIMES

Borough	Total_per_crime
London Heathrow and London City Airports	6933
Kingston upon Thames	24671
Sutton	24967
Richmond upon Thames	26007
Merton	27810
Harrow	30135
Bexley	31734
Barking and Dagenham	37657
Havering	37828
Kensington and Chelsea	44647

10 BOROUGHS WITH MAXIMUM NUMBER OF CRIMES

Borough	Total_per_crime
Westminster	131737
Camden	75318
Southwark	72467
Newham	71452
Lambeth	70779
Tower Hamlets	67179
Hackney	63489
Haringey	62709
Croydon	62458
Brent	61230

10 MOST COMMONLY OCCURRING CRIMES

Crime_Category	Total per crime
Violence without Injury	265110
Other Theft	235221
Violence with Injury	155162
Theft from a Motor Vehicle	132708
Burglary - Residential	118801
Criminal Damage	112206
Theft from Person	94864
Shoplifting	89888
Possession of Drugs	70456
Public Fear Alarm or Distress	67074

10 LEAST COMMONLY OCCURRING CRIMES

Crime_Category	Total per crime
Concealing an Infant Death Close to Birth	1
Wildlife Crime	29
Other Firearm Offences	33
Bigamy	42
Perjury	44
Exploitation of Prostitution	56
Absconding from Lawful Custody	71
Forgery or Use of Drug Prescription	105
Violent Disorder	116
Disclosure, Obstruction, False or Misleading S...	128

Neighborhood	Latitude	Longitude
Berrylands	51.401812	-0.225941
Canbury	51.417499	-0.305553
Chessington	51.358336	-0.298622
Coombe	51.419450	-0.265398
Kingston upon Thames	51.409627	-0.306262
Kingston Vale	51.431850	-0.258138
Malden Rushett	51.341052	-0.319076
Motspur Park	51.390985	-0.248898
New Malden	51.405335	-0.263407
Norbiton	51.409999	-0.287396
Old Malden	51.382484	-0.259090
Surbiton	51.393756	-0.303310
Tolworth	51.378876	-0.282860
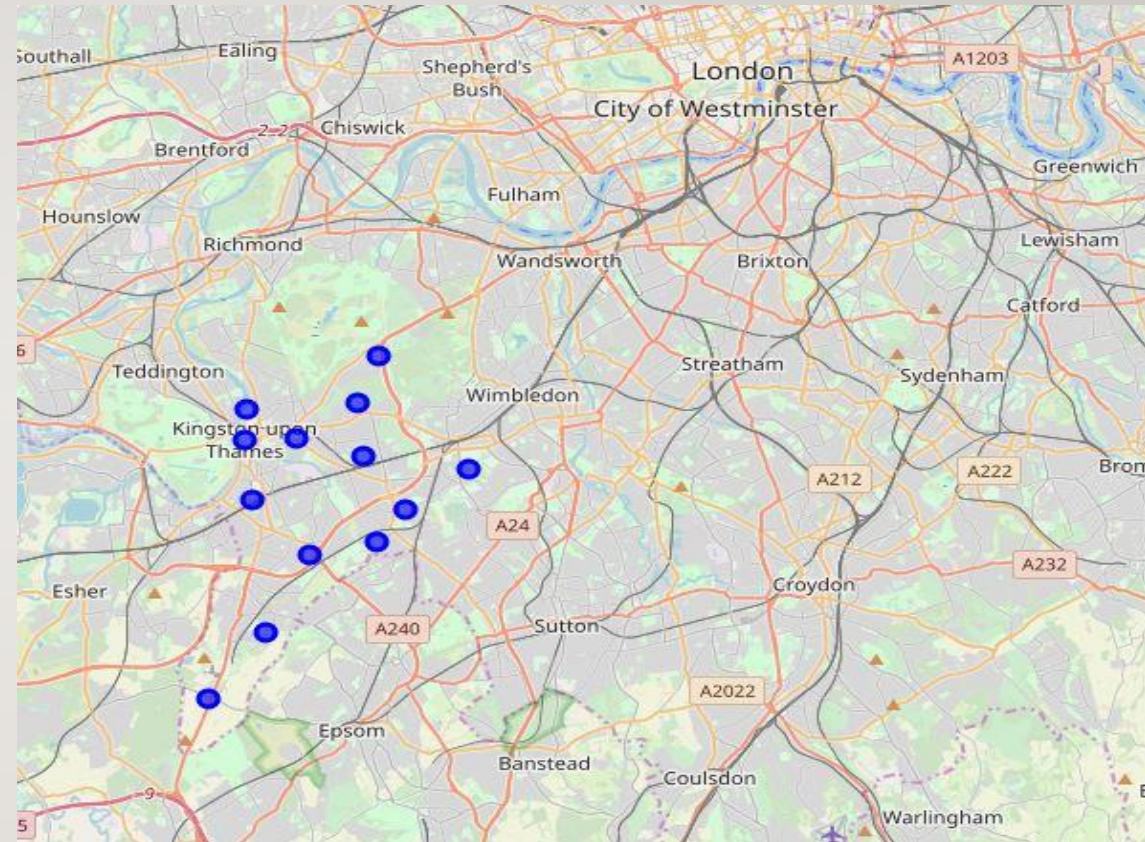
NEIGHBORHOODS OF KINGSTON UPON THAMES (THE SAFEST BOROUGH)

CLUSTERS OF KINGSTON UPON THAMES

Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Canbury	51.417499	-0.305553	0	Pub	Indian Restaurant	Park	Shop & Service	Café	Spa	Fish & Chips Shop	Supermarket	Plaza	Hotel
Kingston upon Thames	51.409627	-0.306262	0	Coffee Shop	Italian Restaurant	Café	Pub	Clothing Store	Department Store	Sushi Restaurant	Hotel	Ice Cream Shop	Bakery
Kingston Vale	51.431850	-0.258138	0	Grocery Store	Bar	Italian Restaurant	Soccer Field	Fast Food Restaurant	Dessert Shop	Discount Store	Donut Shop	Dry Cleaner	Electronics Store
Malden Rushett	51.341052	-0.319076	0	Convenience Store	Garden Center	Restaurant	Pub	Gastropub	German Restaurant	Deli / Bodega	Gift Shop	Department Store	Dessert Shop
New Malden	51.405335	-0.263407	0	Gym	Grocery Store	Gastropub	Bar	Indian Restaurant	Sushi Restaurant	Supermarket	Chinese Restaurant	Korean Restaurant	Farmers Market
Norbiton	51.409999	-0.287396	0	Food	Indian Restaurant	Italian Restaurant	Platform	Pub	Hardware Store	Seafood Restaurant	Grocery Store	Wine Shop	Hotel
Old Malden	51.382484	-0.259090	0	Train Station	Child Care Service	Food	Pub	Women's Store	Falafel Restaurant	Department Store	Dessert Shop	Discount Store	Donut Shop
Surbiton	51.393756	-0.303310	0	Coffee Shop	Pub	Italian Restaurant	Supermarket	Gastropub	Breakfast Spot	Pharmacy	Pizza Place	Deli / Bodega	Farmers Market
Tolworth	51.378876	-0.282860	0	Grocery Store	Soccer Field	Indian Restaurant	Pharmacy	Discount Store	Coffee Shop	Restaurant	Sandwich Place	Bus Stop	Pizza Place

CLUSTERS OF KINGSTON UPON THAMES

Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Chessington	51.358336	-0.298622	1	Fast Food Restaurant	Grocery Store	Women's Store	Department Store	Dessert Shop	Discount Store	Donut Shop	Dry Cleaner	Electronics Store	English Restaurant

Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Motspur Park	51.390985	-0.248898	2	Gym	Construction & Landscaping	Park	Soccer Field	Women's Store	Falafel Restaurant	Dessert Shop	Discount Store	Donut Shop	Dry Cleaner

Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Berrylands	51.401812	-0.225941	3	Gym / Fitness Center	Playground	Road	Soccer Field	Falafel Restaurant	Department Store	Dessert Shop	Discount Store	Donut Shop	Dry Cleaner

RESULTS AND CONCLUSIONS

This project will be useful for those considering to relocate to London. It will make it easy to choose the safest borough in London. For a family, cluster 0 with the train station, park seems to be appropriate. The clusters show the common venues in the neighborhood.

In this project, I have considered only the safety factors, but other factors such as the cost of living, the quality of schools and many more could be considered. I also feel probably developing a model or an app where you can enter the name of a borough and get all the information when you click on various tabs such as transport, schools, restaurants etc.