CAPSTONE PROJECT THE BATTLE OF NEIGHBORHOODS

PRESENTATION

Thiviyaa Kshatriyar

INTRODUCTION

BACK GROUND:

◦ Do individuals move until they discover a spot to settle down where they really feel upbeat, or then again do our needs and needs change after some time, inciting us to in the long run leave a town we when considered home for another zone that will bring us fulfilment?

◦ To limit the odds of this incident, we ought to consistently do legitimate research when arranging our best course of action throughout everyday life.

◦ Consider the accompanying elements when picking another spot to live so you don't wind up burning through your important time and lucrative a move, you'll end up lamenting.

◦ Wellbeing is a top concern when moving to another territory.

◦ On the off chance that you don't have a sense of security in your own house, you're not going to have the option to appreciate living there.

INTRODUCTION

PROBLEM:

◦ The wrongdoing measurements dataset of London found on Kaggle has violations in every ward of London from 2015 to 2016.

◦ The year 2016 we will considered and the information of that year which is really old data starting at now.

◦ The crime percentages in every precinct may have changed over time.

◦ This venture intends to choose the most secure district in London dependent on the all-out wrongdoings, investigate the areas of that ward to locate the 10 most regular settings in every area lastly group the areas utilizing k-mean clustering.

INTRODUCTION

INTEREST:

Expats who are considering to relocate to London will be interested to identify the safest borough in London and explore its neighborhoods and common venues around each neighborhood.

DATA ACQUISITION AND CLEANING

◦ DATA ACQUISTION

The information obtained for this venture is a blend of information from three sources. The main information wellspring of the task utilizes a London wrongdoing information that shows the wrongdoing per precinct in London. The dataset contains the accompanying segments:

● lsoa_code: code for Lower Super Output Area in Greater London.

● district: Common name for London precinct.

● major_category: High level arrangement of wrongdoing

● minor_category: Low level arrangement of wrongdoing inside significant class.

● esteem: month to month detailed include of all out wrongdoing in given district

● year: Year of detailed checks, 2015-2016

● month: Month of detailed checks, 1-12

The second wellspring of information is scratched from a Wikipedia page that contains the rundown of London wards. This page contains extra data about the wards, coming up next are the sections:

- Borough: The names of the 33 London wards.

- Inner: Categorizing the ward as an Inner London district or an Outer London Ward.

- Status: Categorizing the ward as Royal, City or other district.

- Local power: The neighborhood authority allocated to the precinct.

- Political control: The ideological group that control the precinct.

- Headquarters: Headquarters of the Boroughs.

- Area (sq mi): Area of the ward in square miles.

- Population (2016 est)[1]: The populace in the ward recorded during the year 2016.

- Co-ordinates: The scope and longitude of the wards.

- Nr. in map: The number allotted to every precinct to speak to outwardly on a guide.

The third information source is the rundown of Neighborhoods in the Royal Borough of Kingston upon Thames as found on a Wikipedia page. This dataset is made with the help of Foursquare location data and preparatory utilizing the rundown of neighborhood accessible on the site, coming up next are segments:

● Neighborhood: Name of the area in the Borough.

● Borough: Name of the Borough.

● Latitude: Latitude of the Borough.

● Longitude: Longitude of the Borough.

DATA ACQUISITION AND CLEANING

DATA CLEANING:

The information groundwork for every one of the three wellsprings of information is done independently. From the London wrongdoing information, the violations during the recent years are just chosen. The significant classes of wrongdoing are turned to get the complete violations per the districts for each significant class.
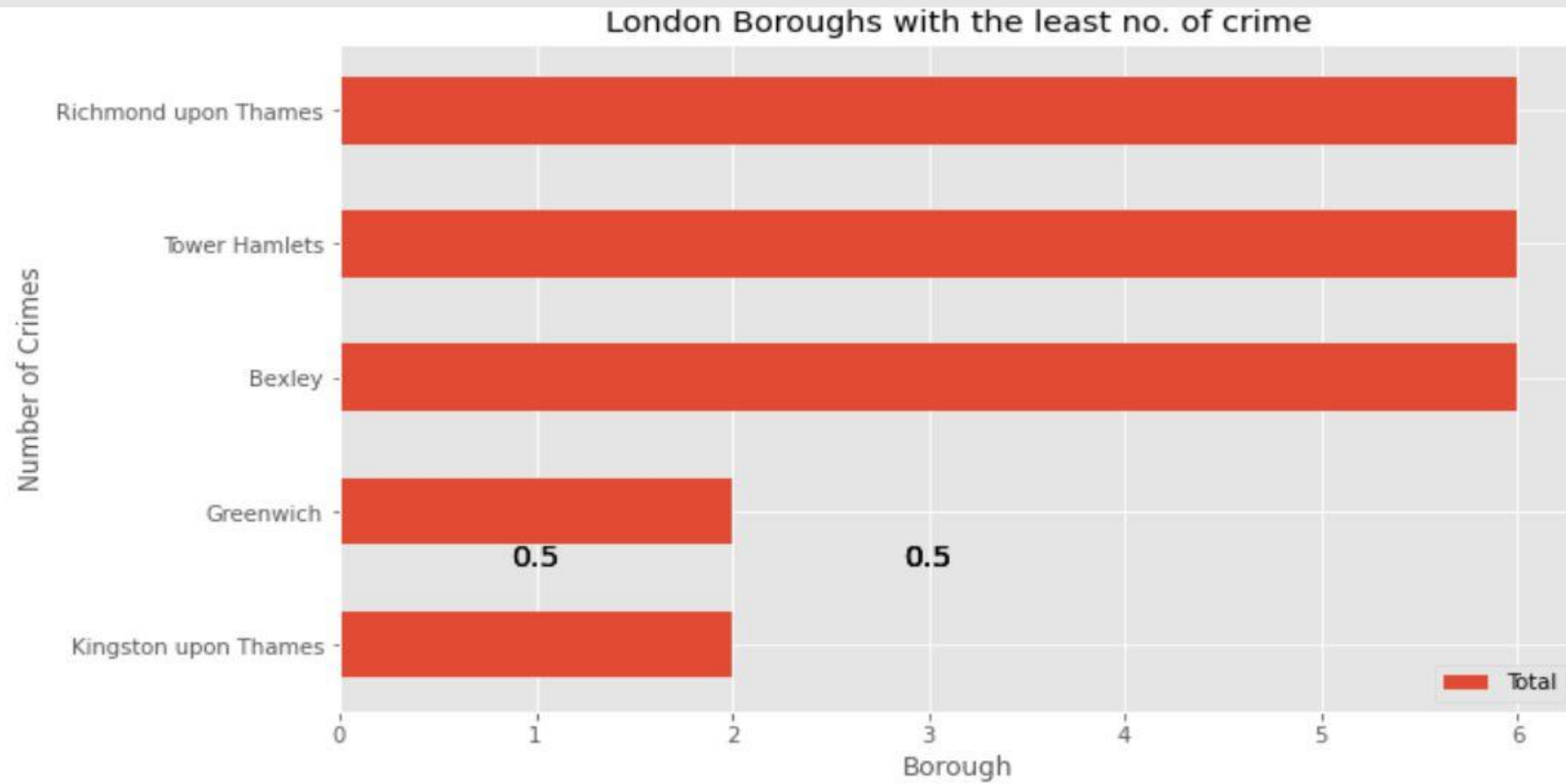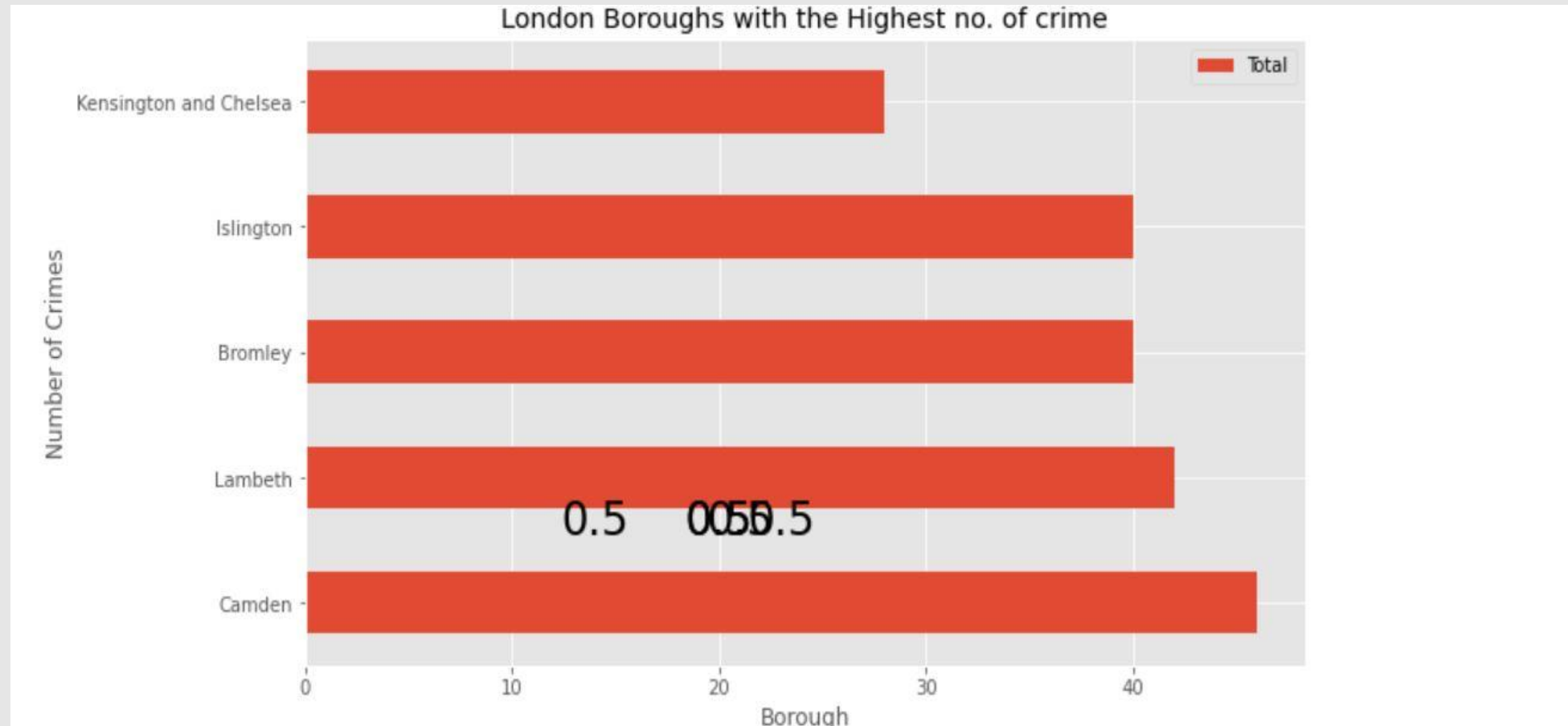
METHODOLOGY

◦ EXPLORATORY DATA ANALYSIS

STATISTICAL SUMMARY OF CRIMES

	Burglary	Criminal Damage	Drugs	Other Notifiable Offences	Robbery	Theft and Handling	Violence Against the Person	Total
count	32.000000	32.000000	32.000000	32.000000	32.000000	32.000000	32.000000	32.000000
mean	0.812500	0.968750	0.531250	0.281250	0.281250	3.687500	2.406250	17.937500
std	1.148281	1.447676	0.983226	0.812578	0.683179	4.895274	2.757504	11.387422
min	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	2.000000
25%	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	9.500000
50%	0.000000	0.500000	0.000000	0.000000	0.000000	1.500000	2.000000	16.000000
75%	1.000000	1.000000	1.000000	0.000000	0.000000	4.250000	3.000000	20.500000
max	4.000000	6.000000	4.000000	3.000000	3.000000	21.000000	12.000000	46.000000

METHODOLOGY

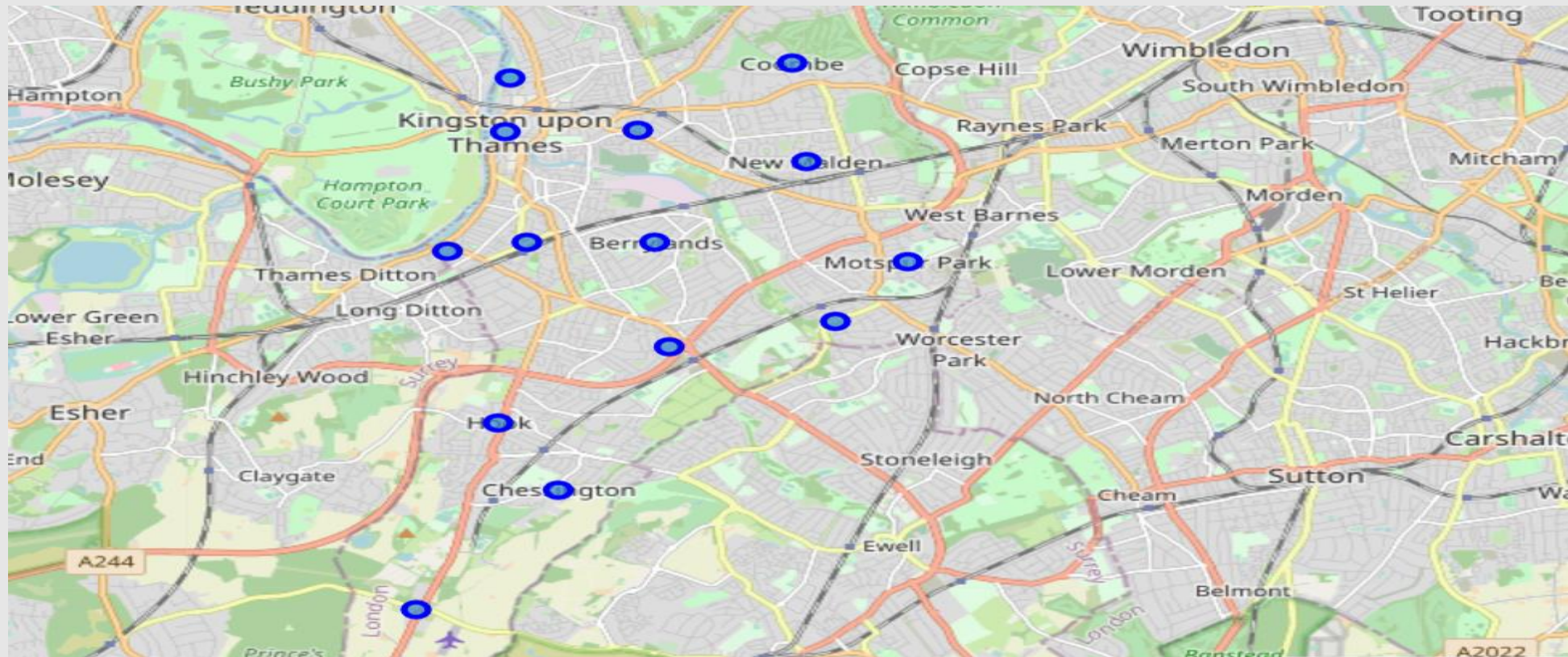London Boroughs with the least no. of crime

METHODOLOGY

METHODOLOGY
NEIGHBORHOODS IN KINGSTON UPON THAMES

RESULTS

The cluster one is the greatest bunch with 9 of the 15 neighborhoods in the precinct Kingston upon Thames. Upon intently looking at these areas we can see that the most basic settings in these areas are Restaurants, Pubs, Cafe, Supermarkets, furthermore, stores.

RESULTS

	Neighborhood	Borough	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
1	Canbury	Kingston upon Thames	51.417499	-0.305553	1	Pub	Shop & Service	Indian Restaurant	Hotel	Café	Plaza	Gym / Fitness Center	Park
4	Hook	Kingston upon Thames	51.367898	-0.307145	1	Bakery	Supermarket	Indian Restaurant	Fish & Chips Shop	Wine Shop	Fast Food Restaurant	Deli / Bodega	Department Store
5	Kingston upon Thames	Kingston upon Thames	51.409627	-0.306262	1	Coffee Shop	Café	Pub	Sushi Restaurant	Burger Joint	Asian Restaurant	French Restaurant	German Restaurant
9	New Malden	Kingston upon Thames	51.405335	-0.263407	1	Gastropub	Office	Gym	Sushi Restaurant	Supermarket	Bar	Chinese Restaurant	Korean Restaurant
10	Norbiton	Kingston upon Thames	51.409999	-0.287396	1	Pub	Food	Indian Restaurant	Italian Restaurant	Platform	Wine Shop	Dry Cleaner	Hardware Store
12	Seething Wells	Kingston upon Thames	51.392642	-0.314366	1	Indian Restaurant	Coffee Shop	Pub	Café	Italian Restaurant	Fast Food Restaurant	Chinese Restaurant	Restaurant
13	Surbiton	Kingston upon Thames	51.393756	-0.303310	1	Coffee Shop	Pub	Grocery Store	Italian Restaurant	Pharmacy	Breakfast Spot	Gastropub	Train Station

RESULTS

The subsequent bunch has one neighborhood which comprises of Venues, for example, Restaurants, Golf courses, and wine shops.

RESULTS

	Neighborhood	Borough	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 M Comm Ver
2	Chessington	Kingston upon Thames	51.358336	-0.298622	0	Construction & Landscaping	Convenience Store	Deli / Bodega	Department Store	Discount Store	Dry Cleaner	Electronics Store	Farmers Market	Fast F Restaur

RESULTS

The third bunch has one neighborhood which comprises of Venues, for example, Train stations, Restaurants, and Furniture shops.

RESULTS

	Neighborhood	Borough	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
0	Berrylands	Kingston upon Thames	51.393781	-0.284802	2	Gym / Fitness Center	Park	Bus Stop	Wine Shop	Fast Food Restaurant	Department Store	Discount Store	Dry Cleaner	Electronics Store
8	Motspur Park	Kingston upon Thames	51.390985	-0.248898	2	Gym	Park	Bus Stop	Soccer Field	Restaurant	Wine Shop	Electronics Store	Deli / Bodega	Department Store

RESULTS

The fourth bunch has two neighborhoods in it, these areas have basic scenes, for example, Parks, Gym/Fitness focuses, Bus Stops, Restaurants, Electronics Stores and Soccer fields and so forth.
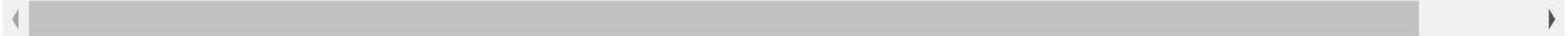
RESULTS

	Neighborhood	Borough	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	10' C(
6	Kingston Vale	Kingston upon Thames	51.43185	-0.258138	3	Grocery Store	Bar	Soccer Field	Sandwich Place	Fast Food Restaurant	Deli / Bodega	Department Store	Discount Store	Dry Cleaner	Ele

RESULTS

The fifth group has one neighborhood which comprises of Venues, for example, Grocery shops, Bars, Restaurants, Furniture shops, and Department stores. We will investigate the areas in the fourth group.
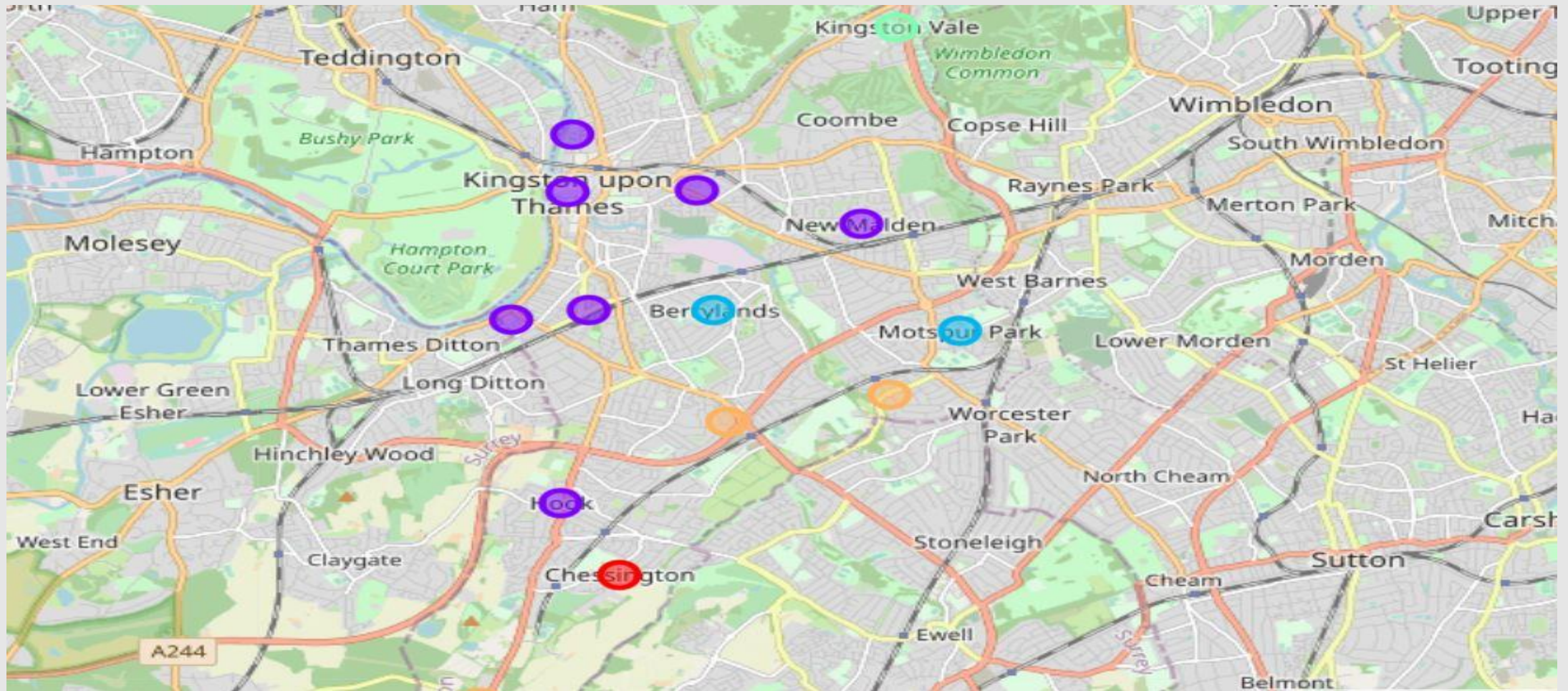
RESULTS

	Neighborhood	Borough	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
7	Malden Rushett	Kingston upon Thames	51.341052	-0.319076	4	Grocery Store	Garden Center	Pub	Restaurant	Electronics Store	Cosmetics Shop	Deli / Bodega	Department Store	Disco Sto
11	Old Malden	Kingston upon Thames	51.382484	-0.259090	4	Grocery Store	Train Station	Food	Construction & Landscaping	Bagel Shop	Deli / Bodega	German Restaurant	Gastropub	Gard Cen
14	Tolworth	Kingston upon Thames	51.378876	-0.282860	4	Grocery Store	Pharmacy	Sandwich Place	Coffee Shop	Pizza Place	Furniture / Home Store	Discount Store	Italian Restaurant	Ca

RESULTS

Visualizing the clustered neighborhoods on a map using the folium library

RESULTS

DISCUSSION

◦ help individuals who need to move to the most secure ward in London.

◦ if an individual is searching for an area with great availability and open transportation, we can see that Clusters 3 and 4 have Train stations also, Bus stops as the most widely recognized scenes.

◦ . For a family I feel that the areas in Cluster 4 are increasingly appropriate levy to the regular settings in that group, these areas have basic scenes, for example, Parks, Gym/Fitness focuses, Bus Stops, Restaurants, Electronics Stores and Soccer fields which is perfect for a family.

◦ The selections of neighborhoods may fluctuate from individual to individual.

CONCLUSION

- enables an individual to show signs of improvement comprehension of the areas as for the most widely recognized scenes in that area

- constantly useful to utilize innovation to remain one stride ahead for example discovering progressively about spots before moving into a neighborhood.

- recently accepted wellbeing as an essential worry to waitlist the most secure precinct of London.

- eventual fate of this venture incorporates taking different factors, for example, cost of living in the zones into thought to waitlist the precinct, for example, sifting territories based on a predefined spending plan