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BUSINESS PROBLEM

- Finding a best area to live for a young white collar professional who wants to relocate
- Safe, Affordable
- Enjoyable – Facilities and Amenities

DATA

- London Borough List
 - Wikipedia - https://en.wikipedia.org/wiki/London_boroughs
- Crime Numbers by London Borough
 - <https://drive.google.com/file/d/1TTOhuQit4gkenrUizsUn9wloHalRffhE/view>
- Rental Prices by London Borough
 - <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/adhocs/11100private rental market in london january 2019 to december 2019>
- Foursquare API for venues

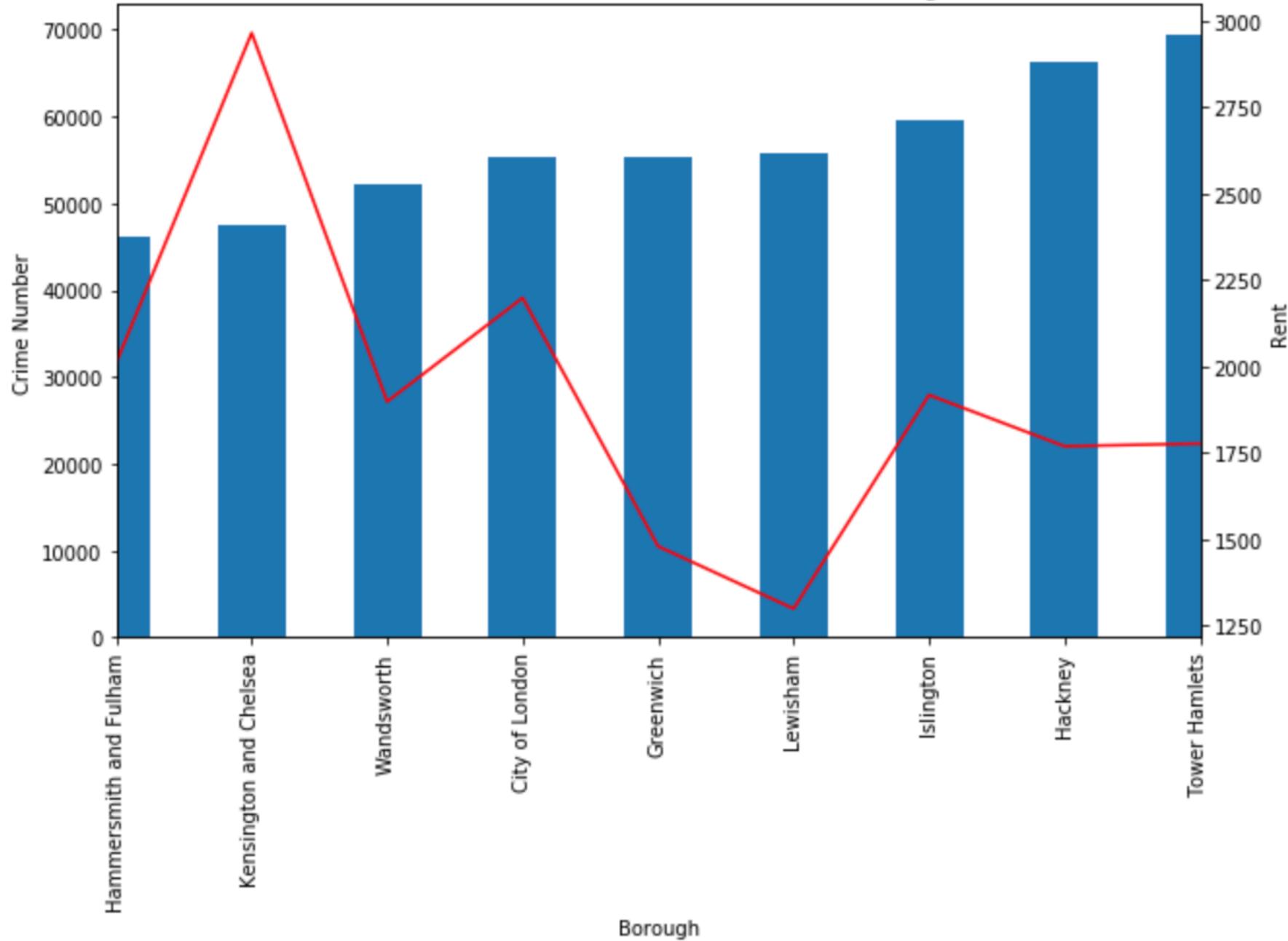
METHODOLOGY

- Exploratory Analysis
 - Sorting, filtering and comparing borough according to different criteria
- Modelling
 - K means clustering
 - 5 is predefined number of clusters

ANALYSIS

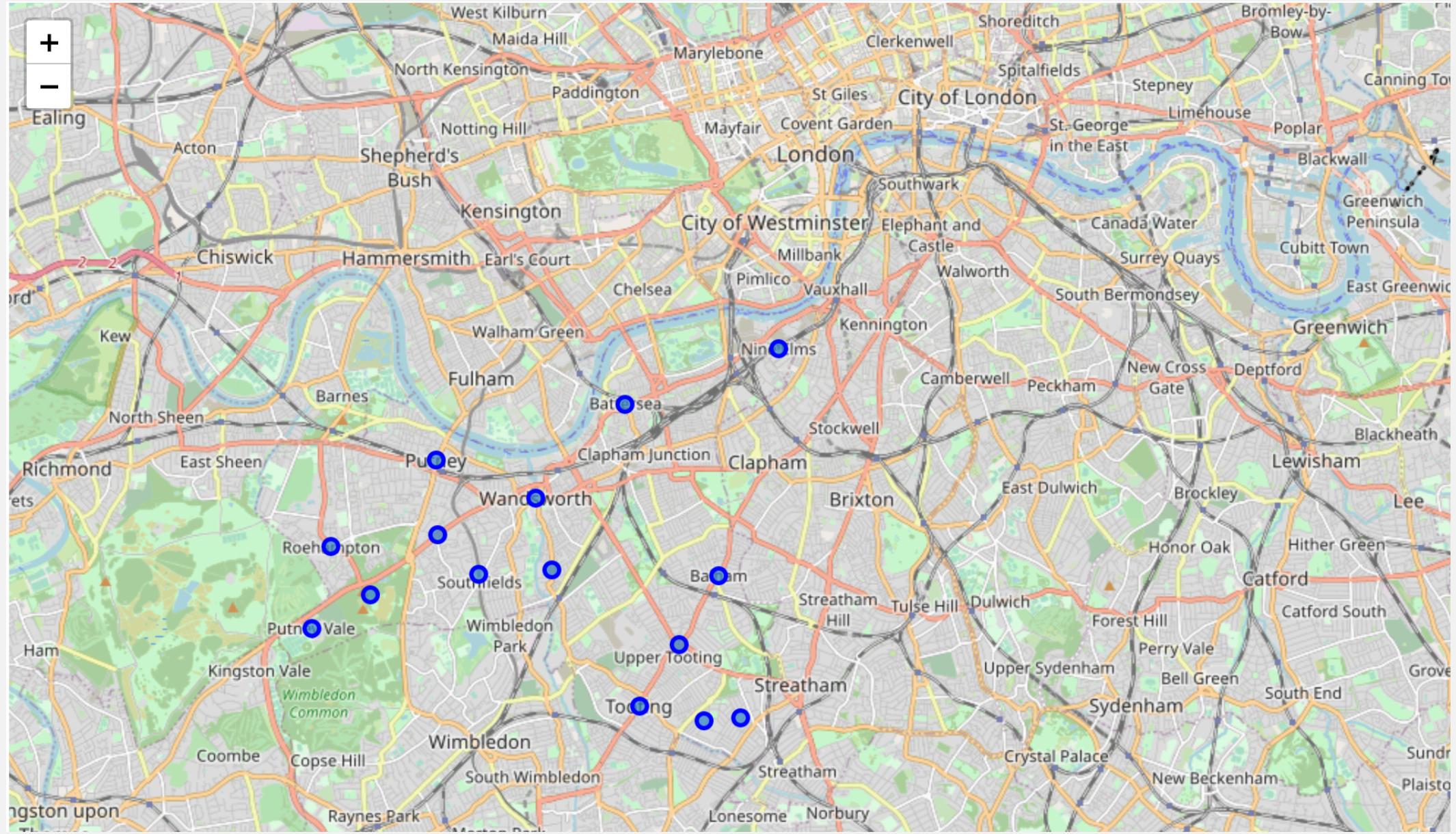
- Boroughs sorted by number of total crime number.
 - Most dangerous 25% are excluded
- 25% - 75% price band is extracted.
 - Cheapest and most expensive boroughs are ignored
- Wandsworth is selected as targeted borough
 - Neighbourhoods of borough listed.
 - Foursquare data collected

Crime Numbers - Rental Prices vs London Borough



ANALYSIS 2

- K means clustering is applied to the neighbourhoods of selected borough.
- 5 clusters with slightly different characteristics by categories of 10 most common venues in each neighbourhood.



RESULTS

	Neighbourhood	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
0	Balham	0	Pub	Coffee Shop	Italian Restaurant	Bakery	Bar	Pizza Place	Beer Store	Café	English Restaurant	Farmers Market
1	Battersea	0	Pub	Bakery	Hotel	Italian Restaurant	Grocery Store	Plaza	Pet Store	Japanese Restaurant	Heliport	Harbor / Marina
2	Earlsfield	0	Grocery Store	Thai Restaurant	Pub	Italian Restaurant	Café	Indoor Play Area	Gym	Lounge	Gastropub	Music Venue
4	Nine Elms	0	Grocery Store	Bar	Coffee Shop	Gym / Fitness Center	Indian Restaurant	Pizza Place	Fish & Chips Shop	Restaurant	Café	Bus Stop
5	Putney	0	Japanese Restaurant	Café	Burger Joint	Pub	Coffee Shop	Gastropub	Pizza Place	Pie Shop	Ice Cream Shop	Gym / Fitness Center
9	Southfields	0	Coffee Shop	Grocery Store	Pub	Italian Restaurant	Bus Stop	Gym	Lebanese Restaurant	Flea Market	Park	Pharmacy
11	Tooting	0	Pub	Indian Restaurant	Bar	Market	Coffee Shop	Asian Restaurant	Café	Juice Bar	Lebanese Restaurant	Middle Eastern Restaurant
12	Tooting Bec/Upper Tooting	0	Coffee Shop	Indian Restaurant	Bakery	Pub	Italian Restaurant	Restaurant	Bar	Burger Joint	Convenience Store	Gas Station
13	Wandsworth	0	Pub	Asian Restaurant	Supermarket	Coffee Shop	Clothing Store	Restaurant	Portuguese Restaurant	Chocolate Shop	Gym / Fitness Center	Pharmacy

Cluster I

Neighbourhood	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	
6	Putney Heath	1	Park	Baseball Field	Yoga Studio	Gastropub	Fast Food Restaurant	Fish & Chips Shop	Flea Market	Food Truck	Fried Chicken Joint	Garden Center

Cluster 2

Neighbourhood	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	
3	Furzedown	2	Italian Restaurant	Convenience Store	Park	Chinese Restaurant	Café	Pizza Place	Gas Station	Fish & Chips Shop	Flea Market	Food Truck
10	Streatham Park	2	Convenience Store	Pub	Park	Grocery Store	Café	Yoga Studio	Gas Station	Fish & Chips Shop	Flea Market	Food Truck

Cluster 3

Neighbourhood	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
7	Putney Vale	3	Bus Stop	Gas Station	Grocery Store	Supermarket	Outdoors & Recreation	Café	Yoga Studio	Fish & Chips Shop	Flea Market
8	Roehampton	3	Café	Bus Stop	Bakery	Bar	Wine Shop	Paper / Office Supplies Store	Supermarket	Pub	Grocery Store

Cluster 4

Neighbourhood	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
14	West Hill	4	Gym	Park	Bus Stop	Wine Shop	Pub	Scenic Lookout	Bus Station	Music Venue	Gas Station

Cluster 5

DISCUSSION

- Cluster I
 - Restaurants, Pubs, Café and Coffee Shops, Gyms, Grocery Stores, Bus Stops
- Other clusters are almost same with small distinctions
- Depending on person's choice other clusters may also be good options

CONCLUSION AND FURTHER STUDIES

- Clustering neighbourhoods to find the best place for different tastes
- Data-driven decision making
- Different factors
 - Additional data sources
 - Additional metrics
 - Extensive data
 - Comprehensive analysis