

Crime in London

1. Background

London is one of the world's most important economic hubs. Every year, thousands of people move to the UK's capital to live and work. However, there is a perception that it is a dangerous city to live in due to violence. To what extent is this true?

In this study, I investigate crime across the city's 32 boroughs. I also examine some of the potential causes of crime difference across London.

The insights generated in this report could be used:

- City administrators and policymakers looking to prevent crime.
- Individuals deciding where to buy property in the capital.
- By multinational companies contemplating moving their offices to the city and advising their employees where to move in London.

2. Data

Data for crime in London can be found in several places:

- The main source of information will be taken from [Data.Police](#), from the [Met Police](#) website and [Finder.com](#).

These sources provide sufficient detail of the location, and types of crime that have been committed in London between 2014 and 2019. Other important information such as population in each borough can be obtained from "[City Population DE](#)".

3. Methodology

A variety of data science methods were utilised to explore crime across London. These include:

- Scatterplots.
- Boxplots.
- Mapping.

Map techniques provided the most insight. This is because it revealed geographical patterns within the crime data. These geographical insights are important to the target audience. As we are investigating the most attractive parts of capital to live in, it is important to understand the wider context in which a particular case occurs. For example, a small borough with little crime may be surrounded by larger, more violent areas. This may not be as attractive a place to live as a borough which is bordered by other non-violent areas.

4. Results and Discussion

Explanatory Data Analysis

Some initial explanatory data analysis helped refine the data to be used. Figure 1 examined the total number of all crimes across London:

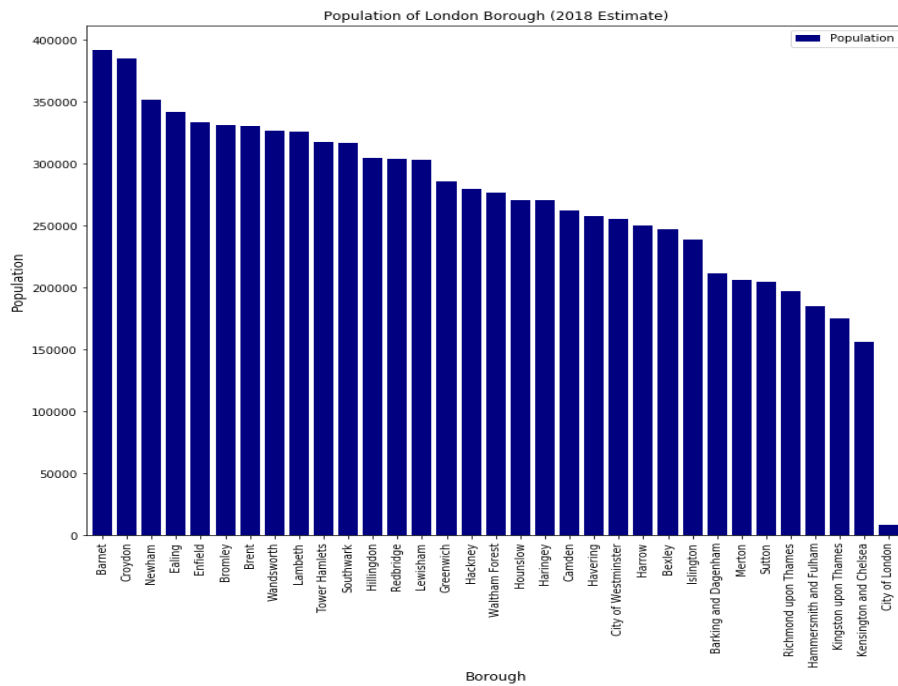


Figure 1 – London Borough by Population

The 'City of London' Borough is London's historical financial district and has an extremely small population. It was therefore decided to exclude it from subsequent analysis. Turning to crime statistics, I initially examined for outliers.

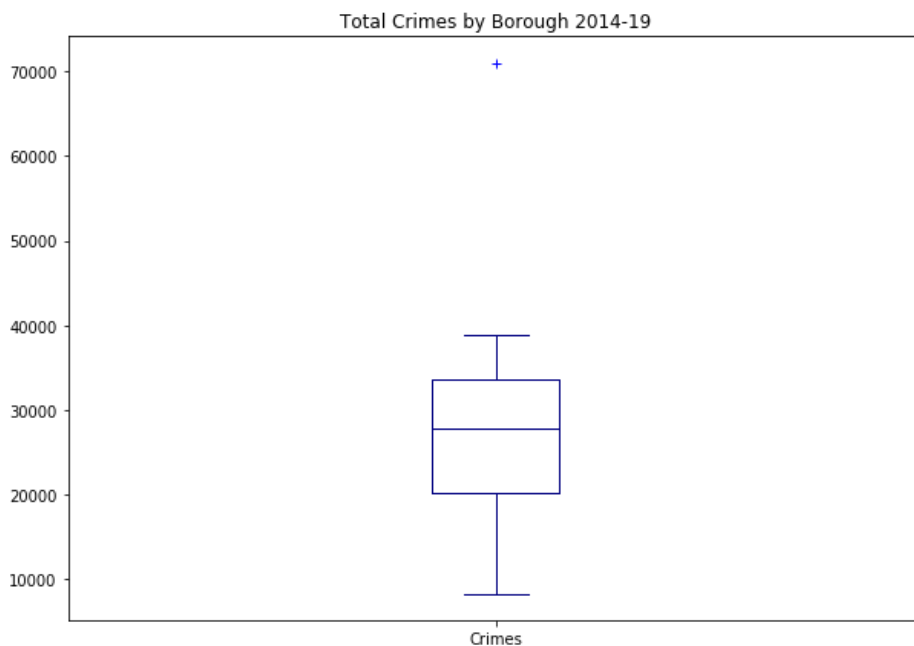


Figure 2 – Boxplot of total crime per borough, 2014-19

Inspecting the data in figure 3 revealed that Westminster is an outlier. Westminster 'enjoys the title of being Europe's largest night time economy, but also has the capital's highest crime rates, somewhat due to tourist activity, thereby boosting petty-crime rates.'¹ I am focussing on violent

¹ <https://www.verisure.co.uk/advice-and-help/crime-statistics/westminster-crime-rates>

crime and am therefore going to exclude Westminster from analysis, for purposes of comparing crime rates across Europe.

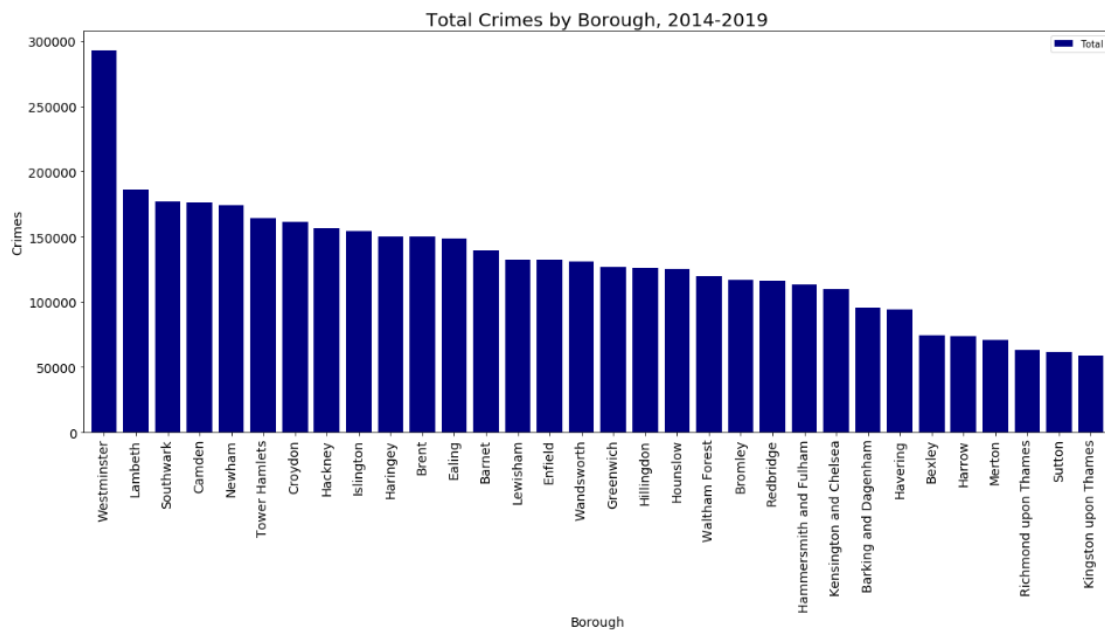


Figure 3 – Total number of crimes by Borough (2014-2019)

Data Analysis

Turning to the question of where the most violent crime in London occurs.

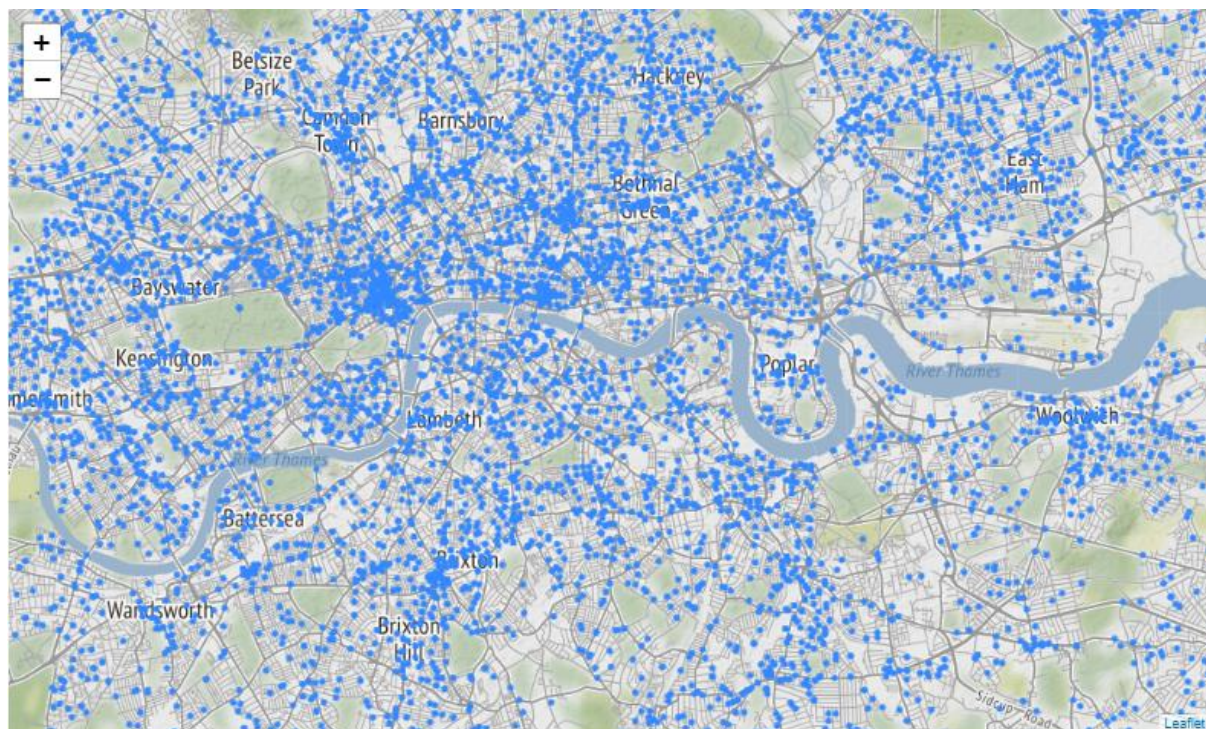


Figure 4 – Violent incidents across London (2019)

Figure 4 gives a sense of the scale of the violent incidents that occurred across the city. Leveraging the *Flourish* API, the density of violent crimes across London's boroughs (excluding the centrally located Westminster and City boroughs) can be observed.

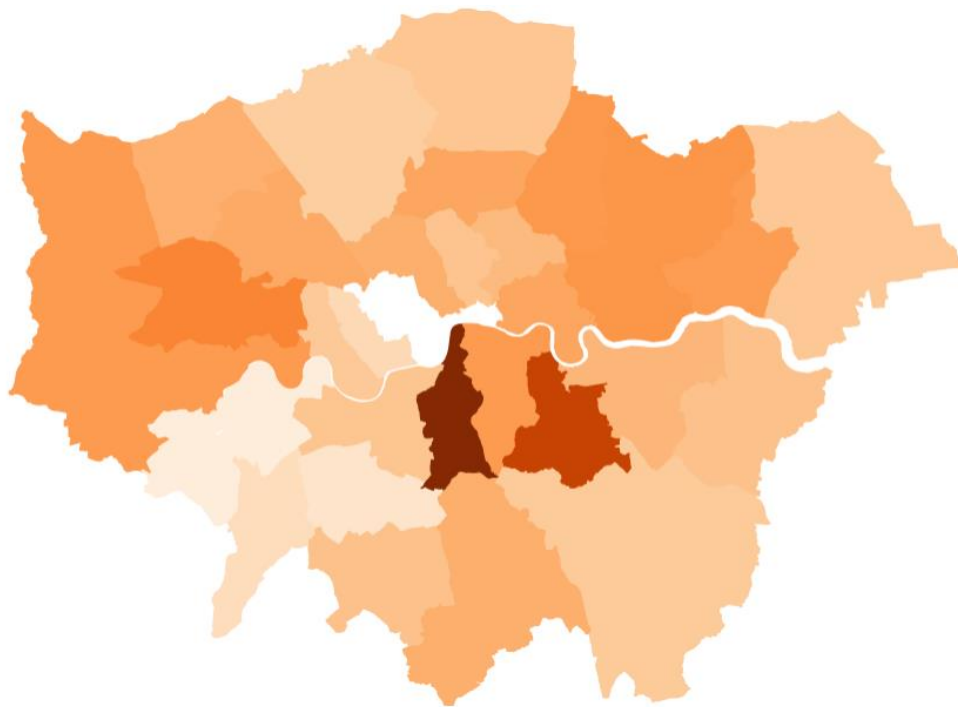


Figure 5 – Density of Violence across London Boroughs

This is a useful way of analysing the data because it reveals some geographical trends. For example, there are dense clusters in the south-centre region, as well as in the west and north-east.

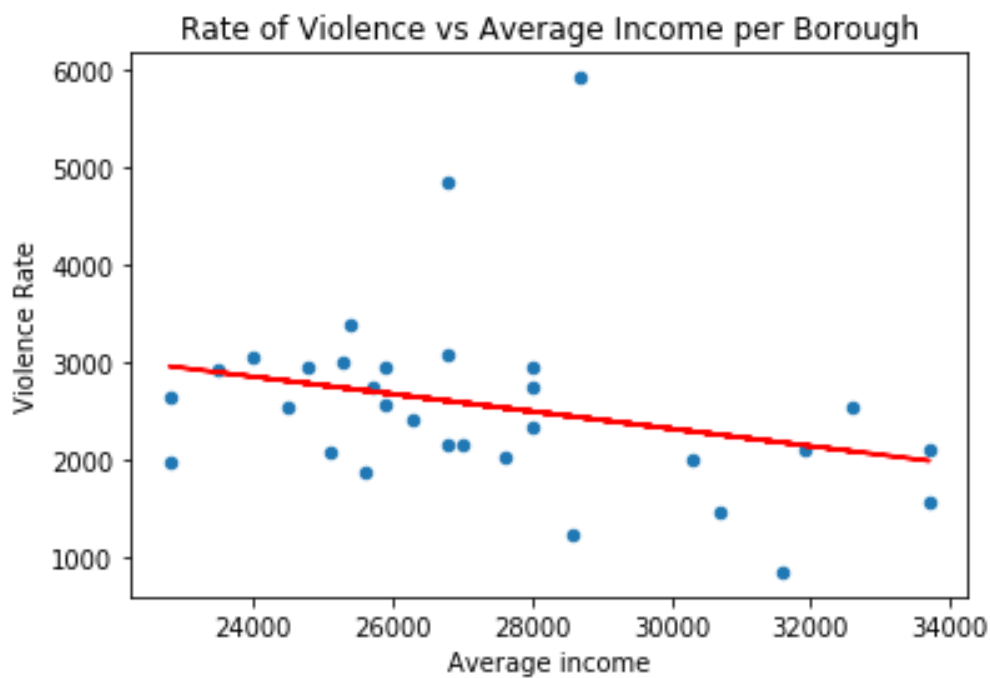


Figure 6 – Scatterplot of the Rate of Violence vs the Average Income in a Borough.

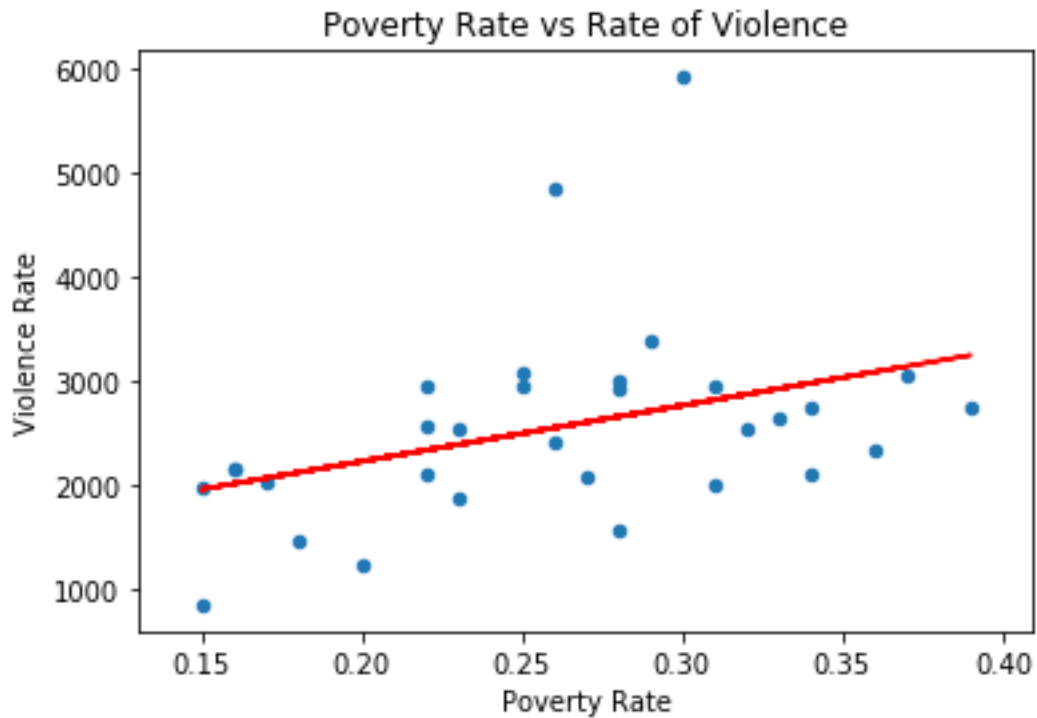


Figure 7 – Poverty Rate versus Rate of Violence

Figures 6 and 7 reveal that there is a weak relationship between average income/poverty in an area and the rate of violence within that borough. We can therefore mostly reject simple socio-economic explanations for violence within London, although investigating the effects of poverty may provide more answers.

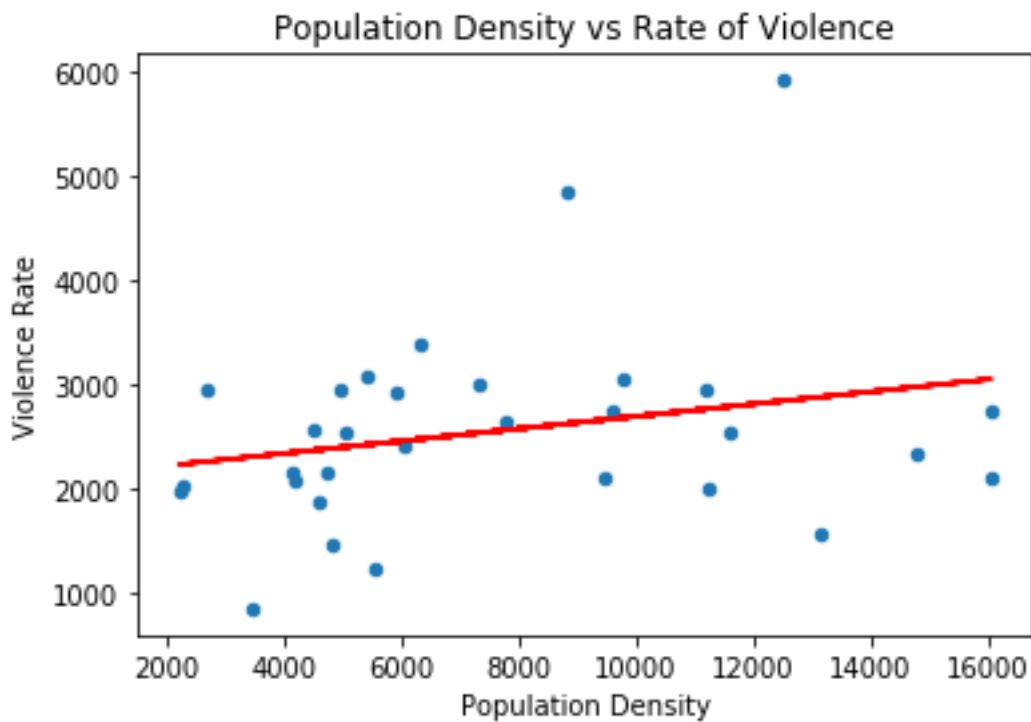


Figure 8 – Population Density within a Borough vs Rate of Violence

Population density appears to have little effect on the rate of violence within a particular borough. The final explanation to be examined is number of police officers per 100,000. This relationship can be seen in figure 9.

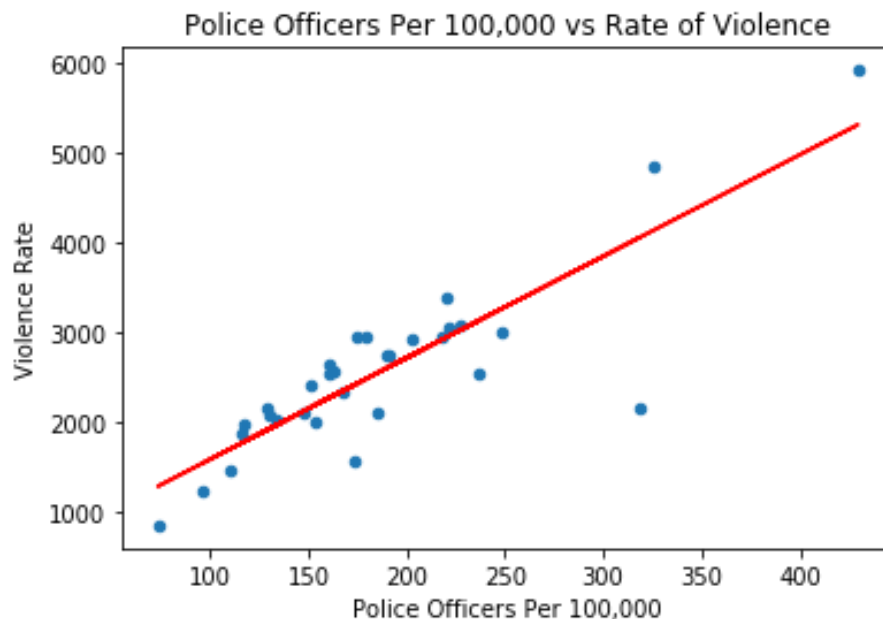


Figure 9 – Police Officers per 100,000 versus Rate of Violence

A strong, positive relationship between the number of police officers and the rate of violence was observed. Since it seems unlikely that more police officers cause the violence, this suggests that the amount of police resources deployed to a borough is a 'trailing factor'. Policymakers react to higher rates of violence by using more police resources in area with greater violence. Unfortunately, this does not tell us much about the *causes of the violence itself*.

5. Conclusion

5.1 Insights

The results of this investigation posed more questions than answers. However, questions that require a descriptive answer can be answered. For example, an individual looking to move to London would be safest in the south-west of London. The places to avoid include southern-central and eastern parts of London.

However, investigating the causes of violence, which would be of interest to city administrators, did not reveal any simple answers. There was no straightforward relationship between socio-economic factors and the rate of violence, although the rate of poverty within a borough may offer the best path for future analysis.

5.2 Scope for Further Research

One recommendation would be to repeat the same exercise, but over time to see how the recent decline in police officers, demographic and economic changes are linked to the rate of violence. It is possible that small changes in these factors leads to a big (but possibly temporary) spike in violence. Using a single year as a snapshot may also lead to misleading results.