

CRIME AND NEIGHBOURHOODS GOSPORT, HAMPSHIRE, UK

IBM DATA SCIENCE PROFESSIONAL CERTIFICATION

COURSE 9 WEEK 5

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An aerial photograph of Gosport, a coastal town in Hampshire, England. The image shows the town's layout, including residential areas, industrial buildings, and a large port facility with numerous shipping containers and cranes. The town is situated on a peninsula, with the Solent sea to the west and the English Channel to the east. The sky is overcast, and several large, semi-transparent bubbles of varying sizes are overlaid on the image, particularly in the upper left and lower right corners.

GOSPORT

LOCALLY KNOW AS GOS VEGAS

GOSPORT, HAMPSHIRE, UNITED KINGDOM



Gosport is a town in Hampshire on the south coast of the United Kingdom. At the 2011 Census, its population was 82,622.



It is situated on a peninsula on the western side of Portsmouth Harbour.



Until the last quarter of the 20th century, Gosport was a major naval town associated with the defence and supply infrastructure of Her Majesty's Naval Base (HMNB) Portsmouth.

THE PROBLEM



City planners / councillors along with homeowners, residents and families that are interested in relocating to Gosport, will have an interest in the answers to the following questions to help decide which neighbourhood to live in.



What neighbourhoods have the highest rates?



Is there a relation between crime rate and house price?



Are there any areas that are vulnerable to burglaries / vehicle thefts?



How well is the area served regard to entertainment venues?



How does house price, crimes, venues, population number relate to the neighbourhoods?

DATA ACQUISITION AND CLEANING

GEOLOCATION DATA FOR NEIGHBOURHOODS. ([HTTPS://GEOPORTAL.STATISTICS.GOV.UK/](https://geoportal.statistics.gov.uk/))

- IN THE UNITED KINGDOM, NEIGHBOURHOODS ARE CALLED WARDS. THE DATA WILL REFLECT THIS BUT BE ALTERED TO KEEP A CONSISTENT THEME. THIS DATA WAS DOWNLOADED FROM THE OFFICE OF NATIONAL STATISTICS (ONS) AT THEIR OPEN GEOGRAPHY PORTAL (OGP).

CRIME DATA FOR JULY 2018 TO JULY 2019. ([HTTPS://DATA.POLICE.UK/](https://data.police.uk/))

- THE CRIME DATA IS DOWNLOADED FROM DATA POLICE UK. A SITE FOR OPEN DATA ABOUT CRIME AND POLICING IN ENGLAND, WALES AND NORTHERN IRELAND. .

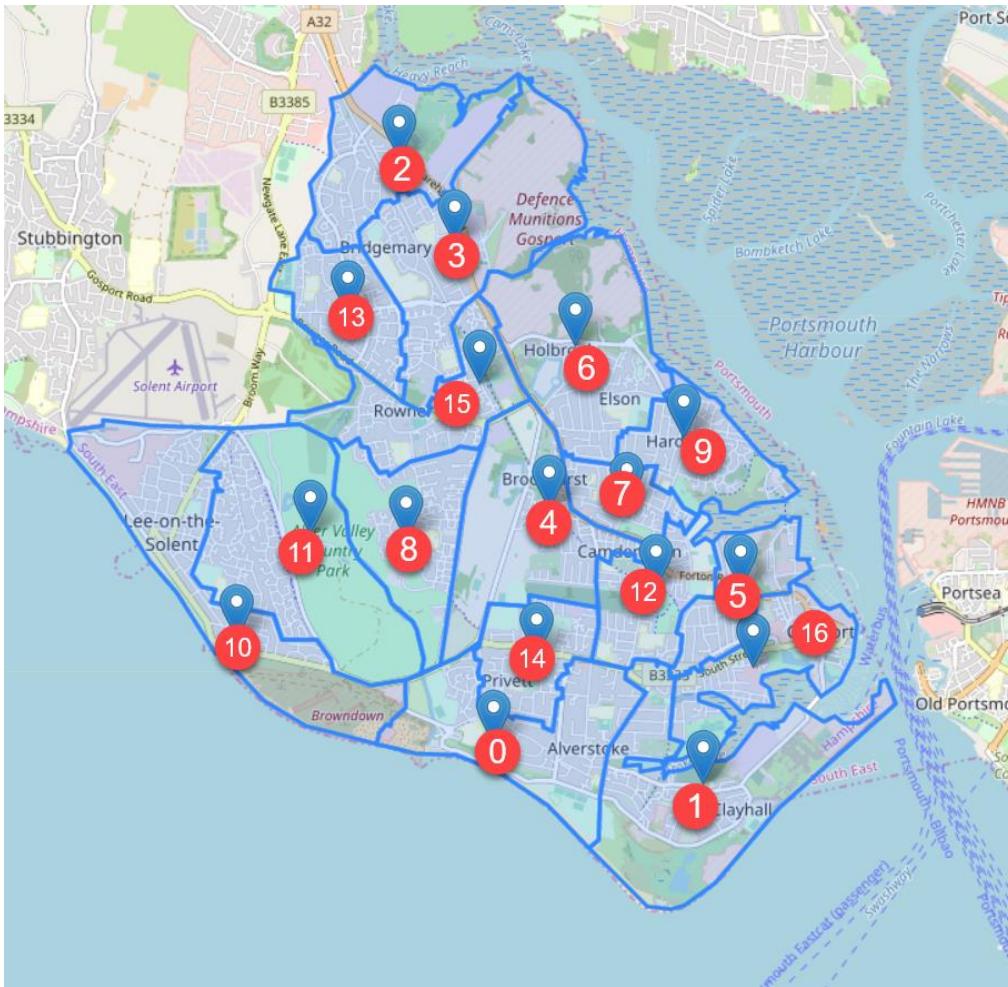
THE NEIGHBOURHOOD NAMES FOR CRIME DATA. THIS WAS DOWNLOADED FROM THE ONS OGP. ([HTTPS://GEOPORTAL.STATISTICS.GOV.UK/](https://geoportal.statistics.gov.uk/))

MEDIAN HOUSE PRICE FOR 2018 FOR NEIGHBOURHOODS. ([HTTPS://WWW.ONS.GOV.UK/](https://www.ons.gov.uk/))

POPULATION NUMBERS FOR EACH NEIGHBOURHOOD. ([HTTPS://WWW.ONS.GOV.UK/](https://www.ons.gov.uk/))

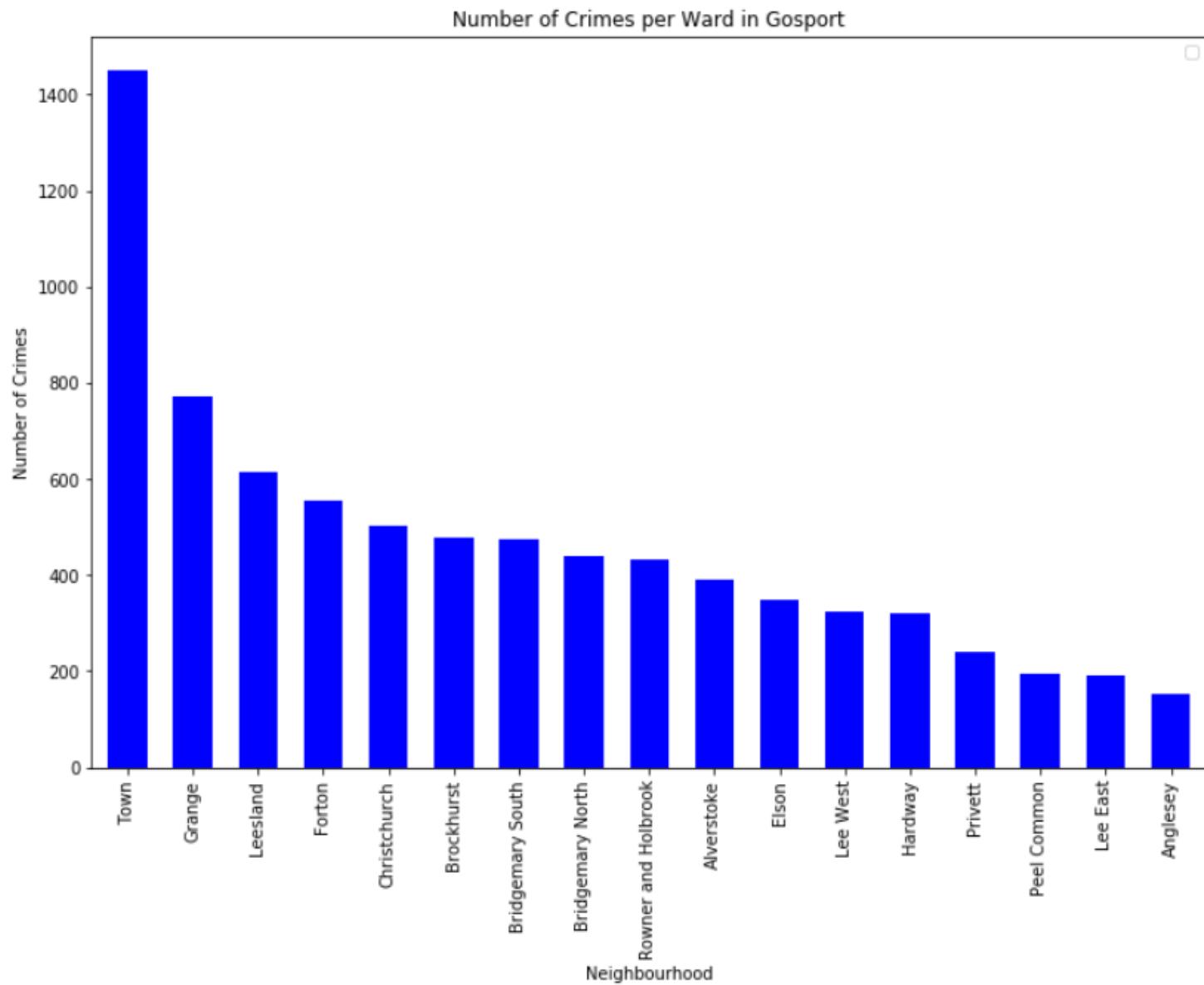
FOURSQUARE API WILL PROVIDE VENUES AND LOCATION DATASETS FOR OUR CHOSEN LOCATIONS. ([HTTPS://FOURSQUARE.COM/](https://foursquare.com/))

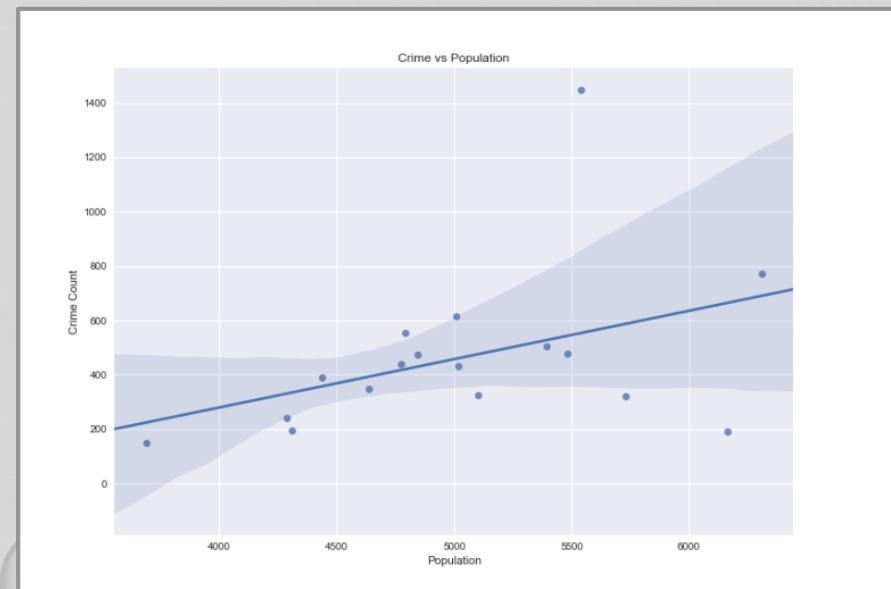
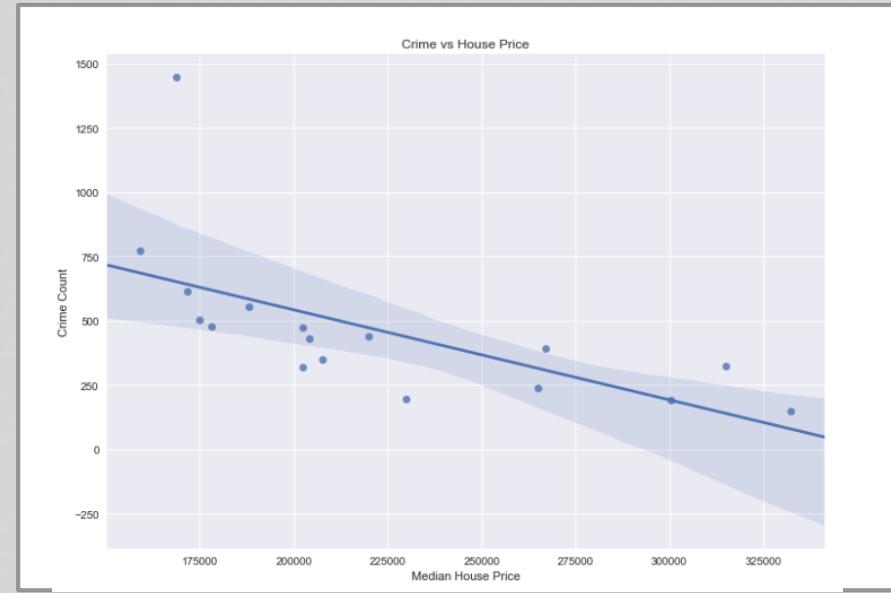
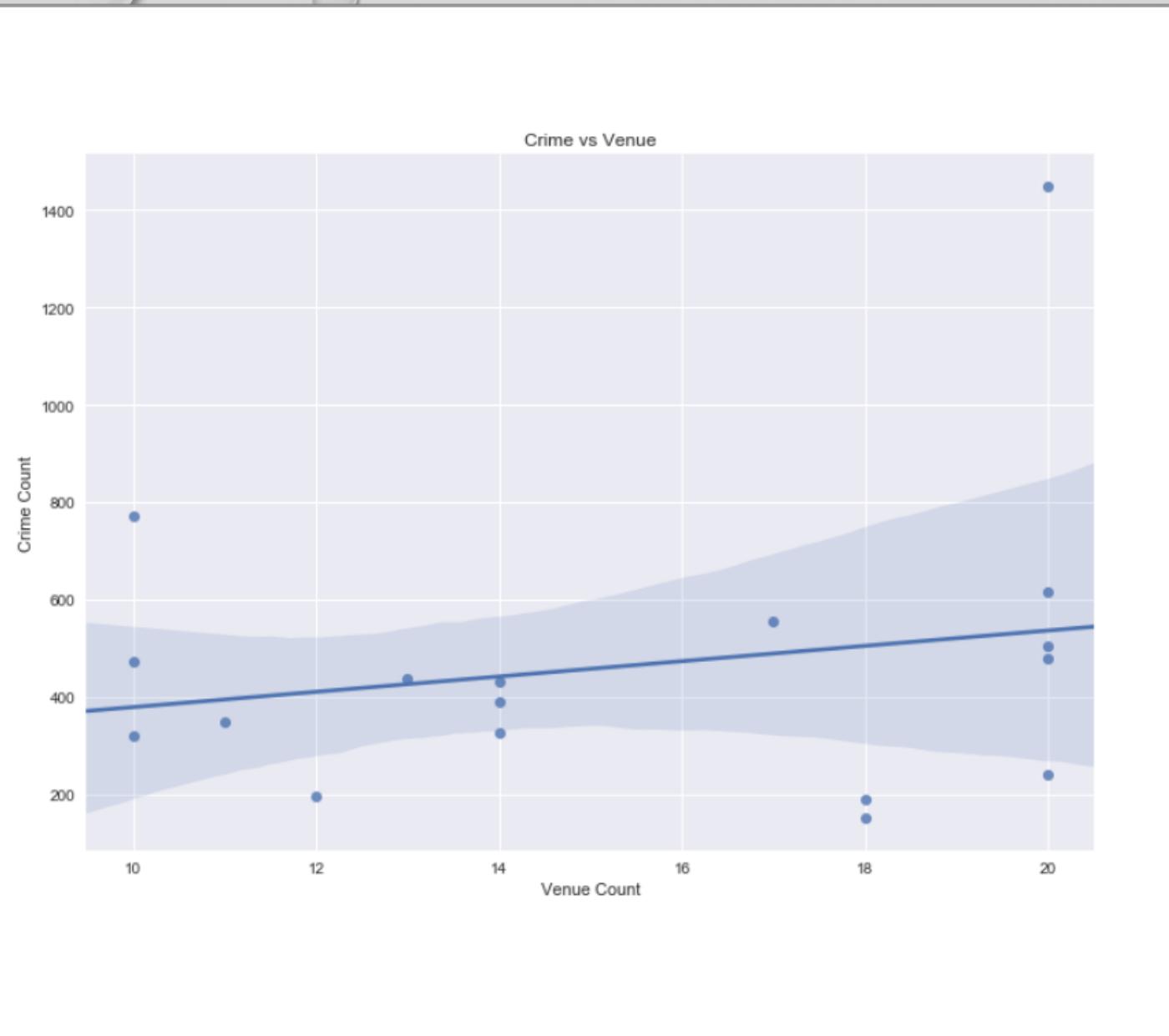
THIS DATA WAS CLEANED AND MERGED INTO ONE DATASET.



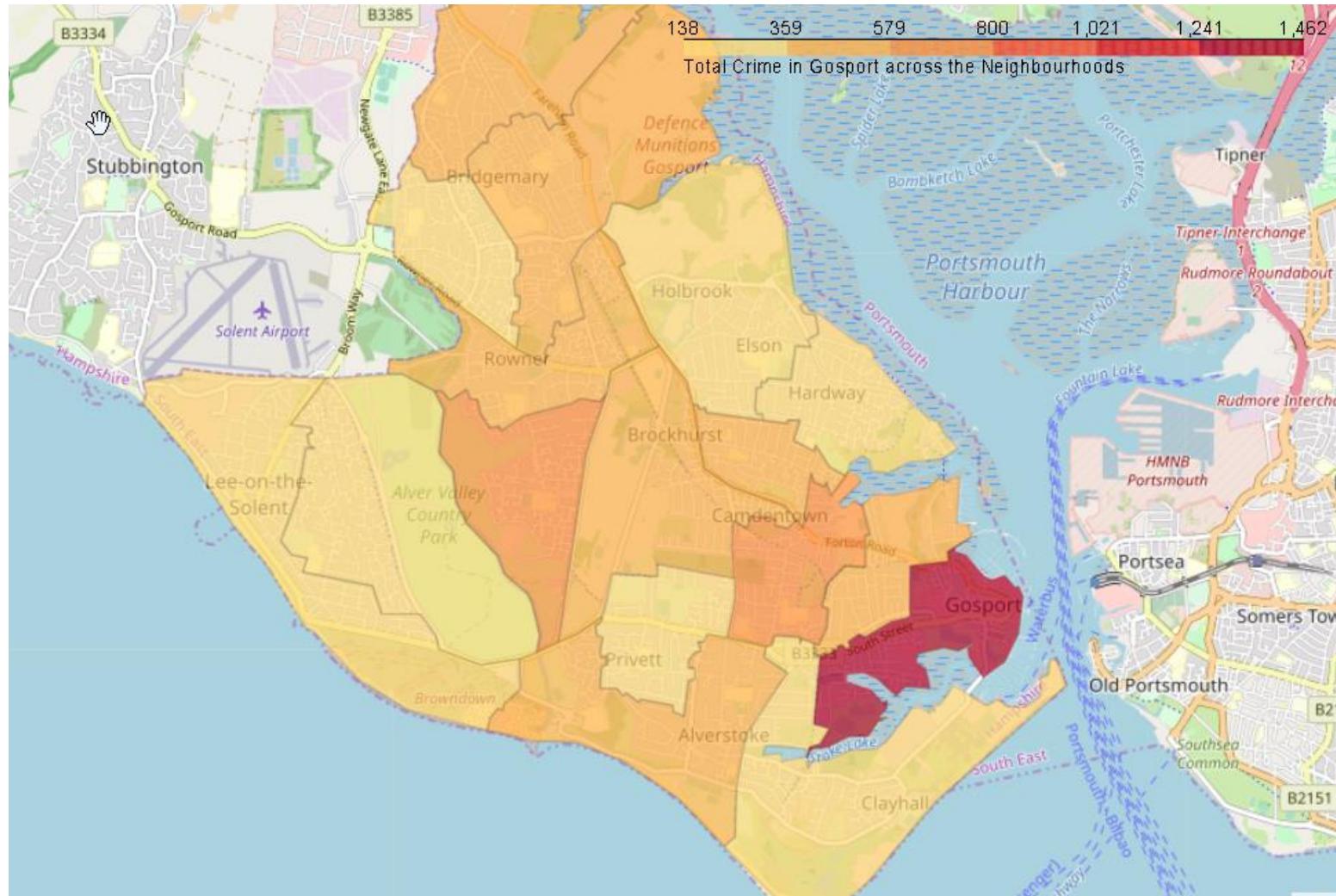
Neighbourhood

- 0 Alverstoke
- 1 Anglesey
- 2 Bridgemary North
- 3 Bridgemary South
- 4 Brockhurst
- 5 Christchurch
- 6 Elson
- 7 Forton
- 8 Grange
- 9 Hardway
- 10 Lee East
- 11 Lee West
- 12 Leesland
- 13 Peel Common
- 14 Privett
- 15 Rowner and Holbrook
- 16 Town

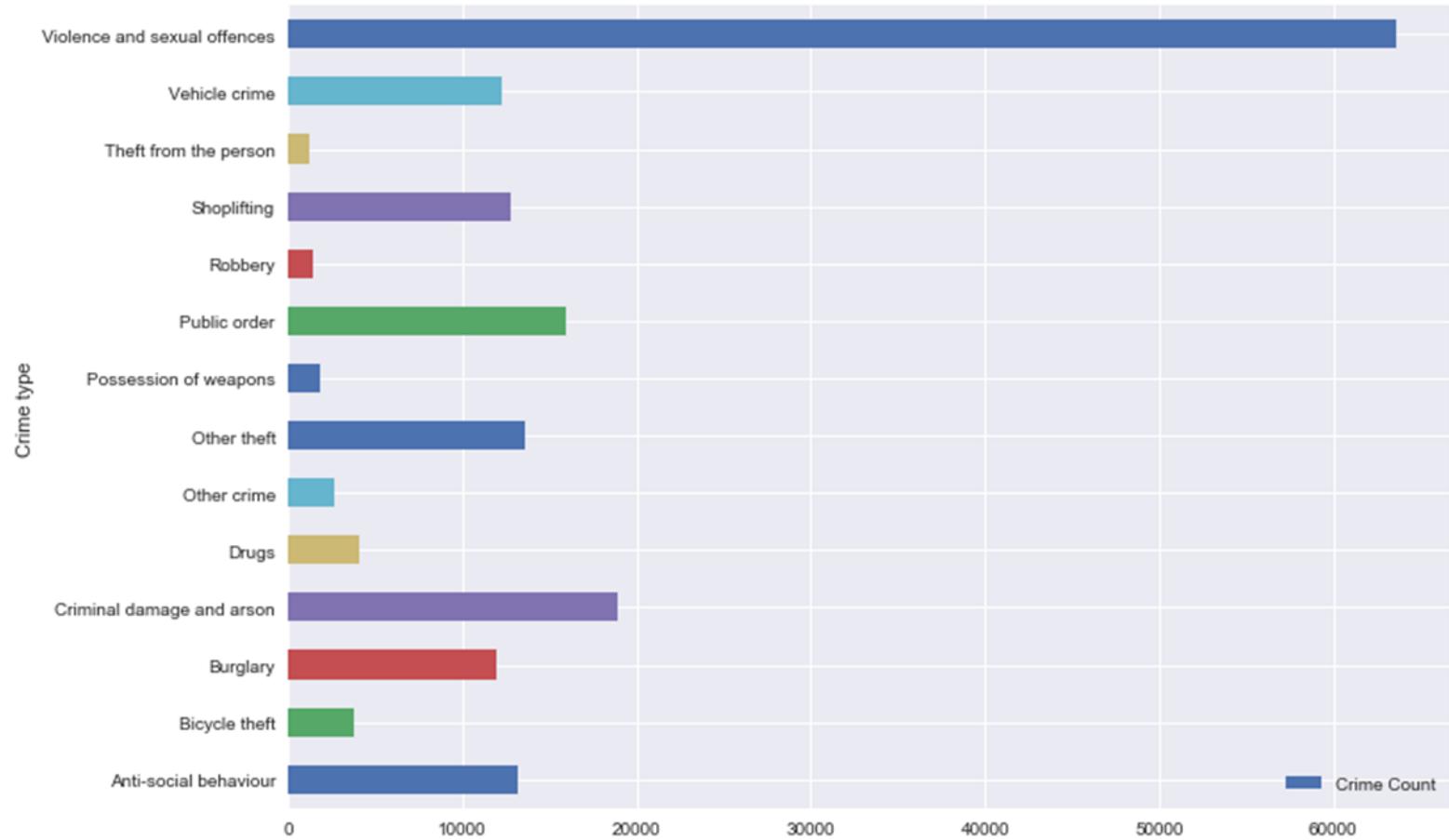




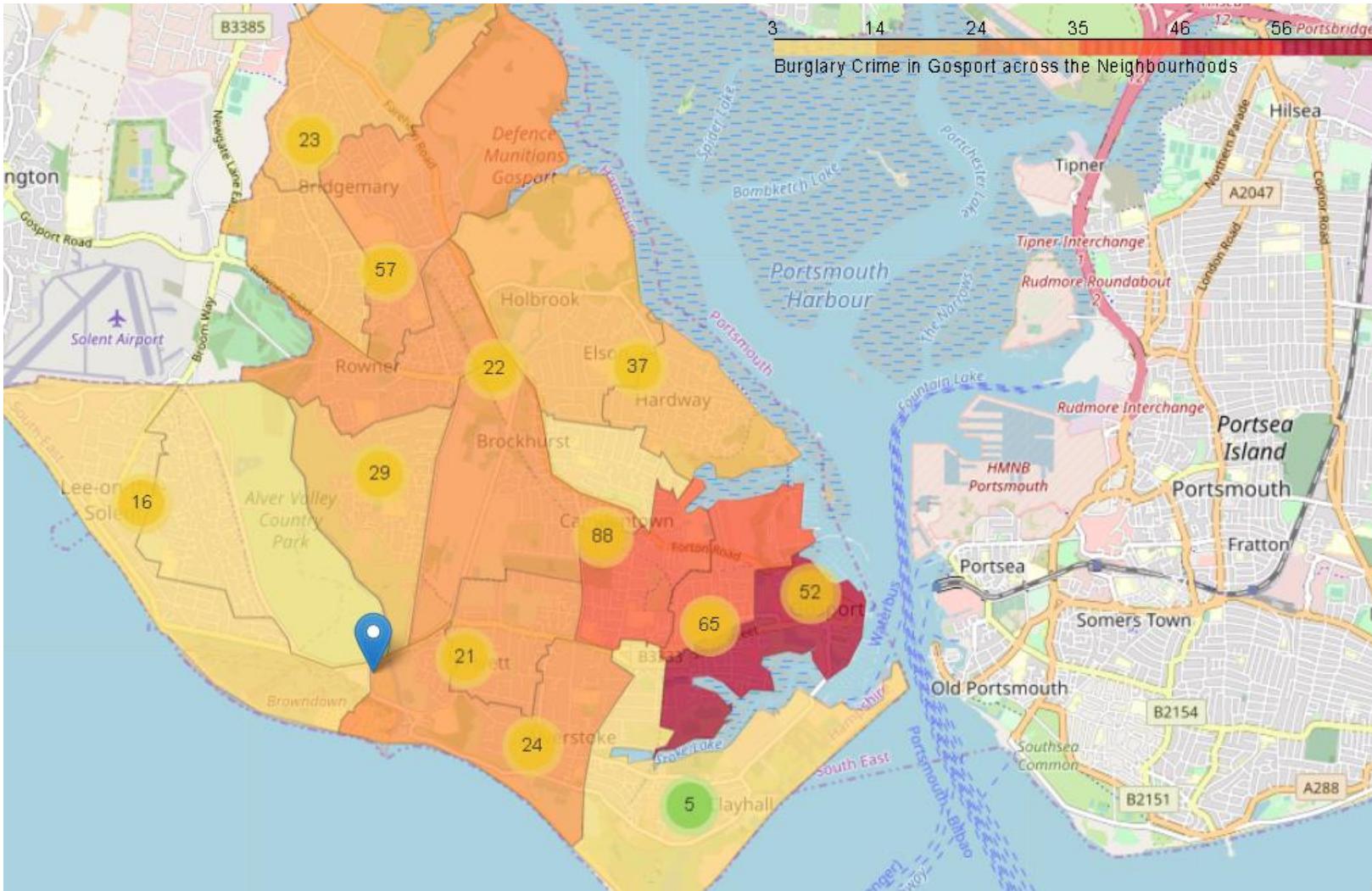
TOTAL CRIME BY NEIGHBOURHOOD



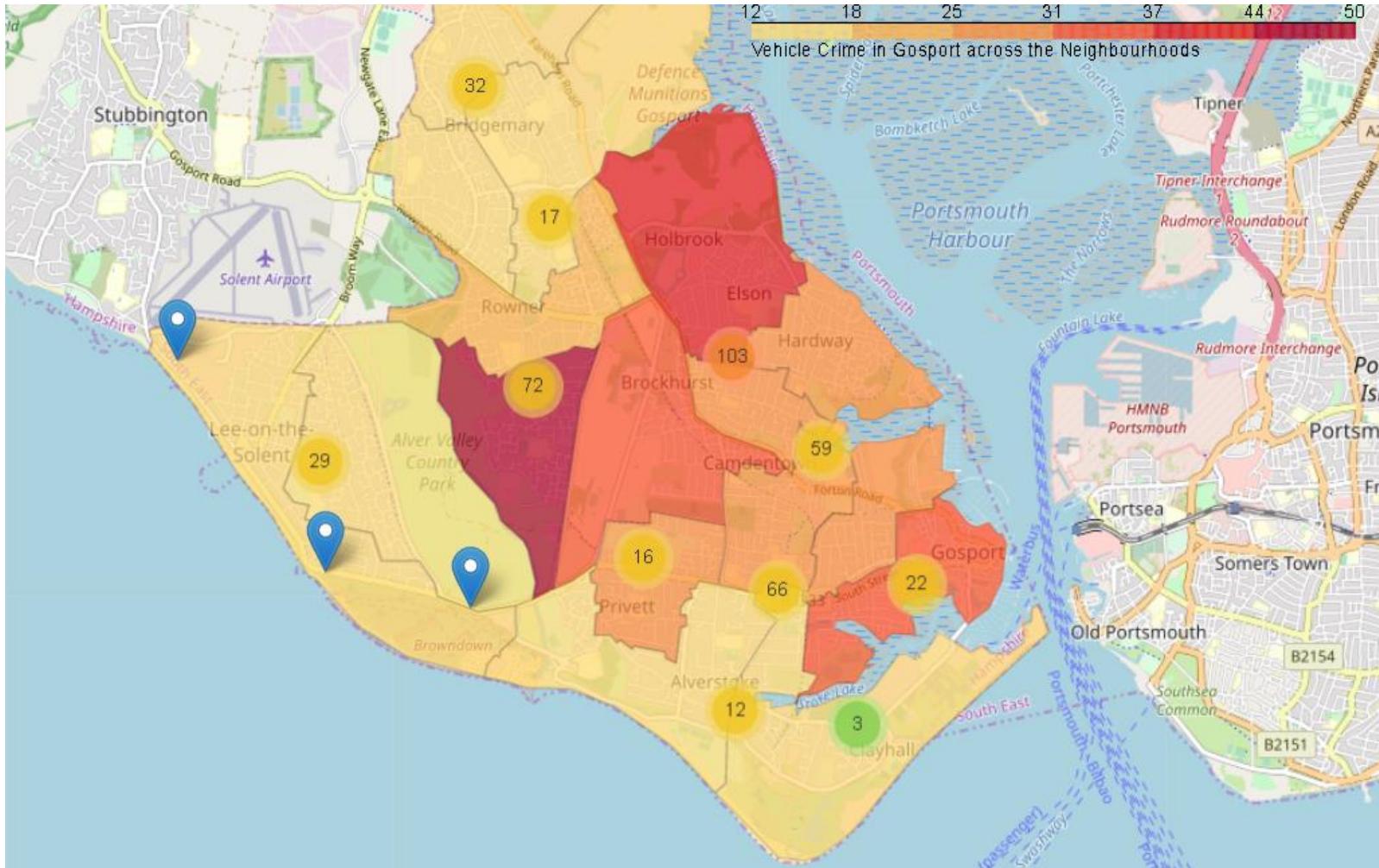
BREAKDOWN OF CRIME TYPE



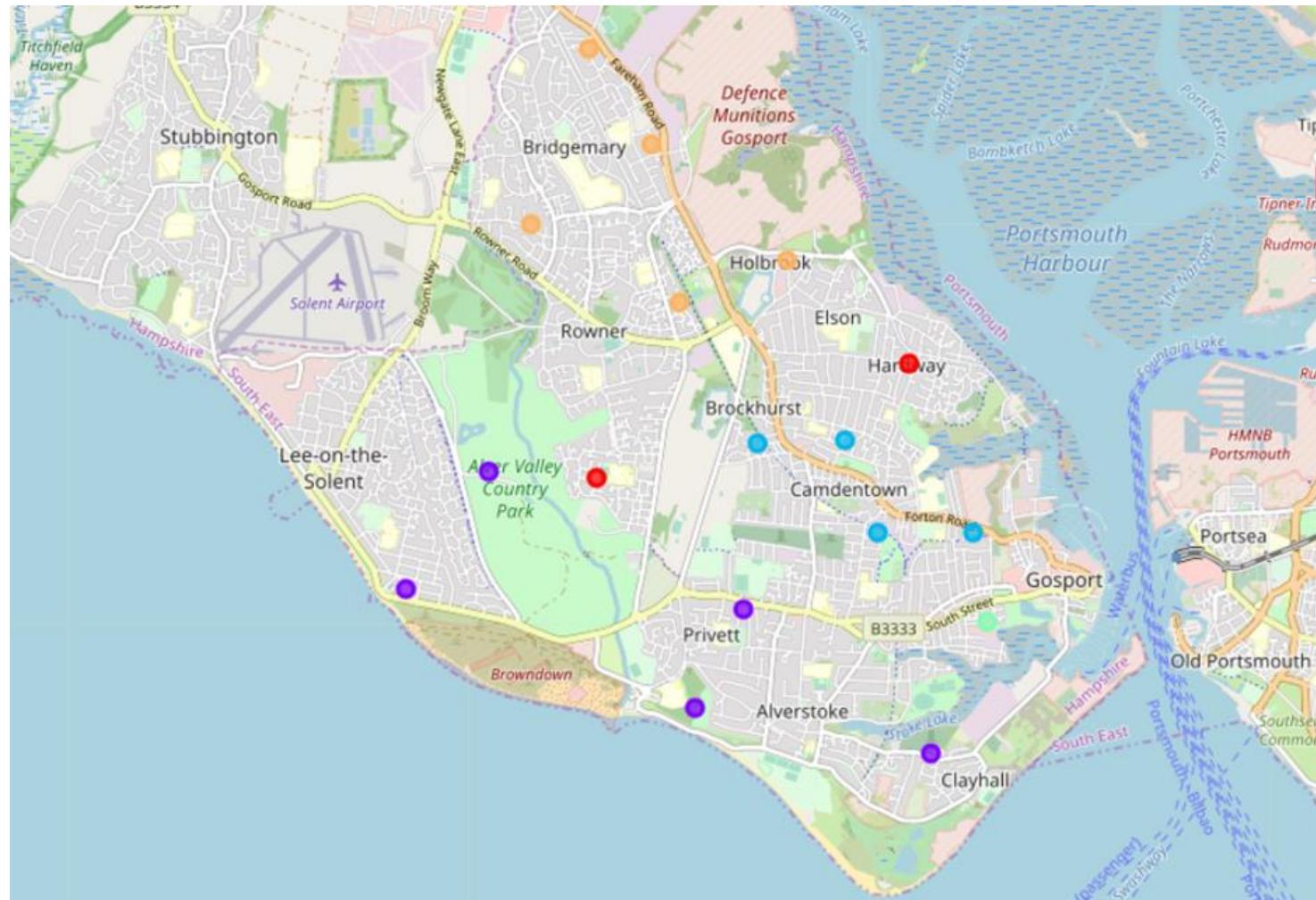
BURGLARY BY NEIGHBOURHOOD



VEHICLE CRIME BY NEIGHBOURHOOD



NEIGHBOURHOODS CLUSTERED



CLUSTER 1 – RED

Neighbourhood	Cluster Labels	Crime Count	Median House Price	Venue Count	Population	
8	Grange	0	771	159000	10	6309
9	Hardway	0	320	202250	10	5731

This is a high population with below average house price, low venue count and average to high crime count.

CLUSTER 2 – PURPLE

	Neighbourhood	Cluster Labels	Crime Count	Median House Price	Venue Count	Population
0	Alverstoke	1	391	267000	14	4436
1	Anglesey	1	151	332433	17	3688
10	Lee East	1	190	300500	18	6164
11	Lee West	1	325	315000	14	5102
14	Privett	1	240	265000	20	4287

This is low crime, above average house price, high venue count and a mix of low to high populations areas.

CLUSTER 3 – BLUE

	Neighbourhood	Cluster Labels	Crime Count	Median House Price	Venue Count	Population
4	Brockhurst	2	479	178000	20	5482
5	Christchurch	2	503	175000	20	5392
7	Forton	2	554	188118	17	4793
12	Leesland	2	615	171568	20	5008

This is a high crime area with cheap house prices and high venues with high population.

CLUSTER 4 – GREEN

Neighbourhood	Cluster Labels	Crime Count	Median House Price	Venue Count	Population
16	Town	3	1449	168600	20

The town has its' own cluster. It is highly population with maximum venues, extreme crime and cheap housing.

CLUSTER 5 – TAN

	Neighbourhood	Cluster Labels	Crime Count	Median House Price	Venue Count	Population
2	Bridgemary North	4	438	220000	13	4773
3	Bridgemary South	4	473	202250	10	4844
6	Elson	4	348	207500	11	4637
13	Peel Common	4	195	230000	11	4307
15	Rowner and Holbrook	4	433	204000	15	5018

This is low to average population, average crime, average house price, and average venue count.

CONCLUSION

- THE DATA HAS SHOWN THAT GOSPORT NEIGHBOURHOODS HAVE A VARYING MIXTURE OF CRIME COUNT, POPULATION, VENUE NUMBER AND MEDIAN HOUSE PRICE.
- THE DATA HAS ALSO SHOW THAT THESE FEATURES ARE RELATED TO THE NUMBER OF CRIMES, WHETHER POSITIVELY OR NEGATIVELY.
- IF ONE WANTS TO CHOOSE A LOW CRIME NEIGHBOURHOOD, THEN A HIGH HOUSE PRICE, LOW POPULATION, AND BELOW AVERAGE VENUE NUMBER ARE GOOD INDICATES OF WHAT THE CRIME NUMBERS WOULD BE FOR THE NEIGHBOURHOOD.