Brighton & Hove City Council

Private Rented Sector: Housing Stock Condition and Stressors Report

March 2023

Executive Summary

Metastreet were commissioned by Brighton &Hove City Council to review housing stock in the city and assess housing stressors related to key tenures, particularly the private rented sector (PRS) and Houses in Multiple Occupation (HMO).

The detailed housing stock information provided in this report will facilitate the development and delivery of Brighton & Hove 's housing strategy and enable a targeted approach to tackling poor housing.

The main aim of this review was to investigate and provide accurate estimates of:

- Current levels of private rented sector (PRS) properties and tenure change over time
- Levels of serious hazards that might amount to a Category 1 hazard (Housing Health & Safety Rating System (HHSRS))
- Other housing related stressors, including antisocial behaviour (ASB), service demand, population and deprivation linked to the PRS
- Assist the council to make policy decisions, including the possible introduction of property licensing schemes under Part 2 and Part 3 of Housing Act 2004

Metastreet has developed a stock-modelling approach based on metadata and machine learning to provide insights about the prevalence and distribution of a range of housing factors. This approach has been used by a wide range of housing authorities to understand their housing stock and relationships with key social, environmental and economic stressors.

The models are developed using unique property reference numbers (UPRN) and a large range of council held and open-source data, which when combined, provide detailed analysis at the property level.

Data records used to form the foundation of this report include:

Council tax	Electoral register	Other council interventions records	Tenancy deposit data
Housing benefit	Private housing complaints and interventions records	ASB complaints and interventions records	Energy Performance data

Key Findings

- Brighton & Hove 's private rented sector has grown considerably in recent years, from 29.6% (2011) to 35.8% (2023)
- There are a total of 134,717 residential dwellings in Brighton & Hove , 48,206 of which are privately rented
- The private rented sector in Brighton & Hove is distributed across all 23 wards
- 20 out of 23 Brighton & Hove wards have a higher percentage PRS than the national average in 2021 (19%) and Census 21 (20.3%)
- Brighton & Hove has a mixture of high and low deprivation wards, 16 of 23 wards has aggregated IMD rankings below the national average
- The city has below national average rented property possession rates, with 27.8 claims per 10,000 households in 2023
- It also has a lower proportion in fuel poverty (10.5%) than the national average (13.4%)
- 8,869 private rented properties in Brighton & Hove are likely to have at least 1 serious housing hazard (Category 1 and high scoring Category 2, HHSRS)
- The authority received 4,550 complaints and service requests from private tenants and others linked to PRS properties over a 5-year period
- It has been calculated using the matched addresses that 17.3% of PRS properties in Brighton & Hove have an E, F, and G energy performance rating (EPC)
- 2.1% of PRS properties have an F and G rating, extrapolated to the entire PRS, 923 PRS properties are likely to fail the MEES statutory requirement for energy efficiency
- Over a 5-year period, 2,078 noise ASB incidents have been recorded by the authority
- The total number of known HMOs across 23 wards is 4,208 properties
- Analysis shows that 2,144 of 4,208 HMOs in Brighton & Hove are predicted to have at least one serious hazard (Category 1 and 2, HHSRS)
- 576 noise ASB incidents have been linked to HMOs over the last 5 years, noise ASB incidents are distributed across nearly all wards

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Introduction & Project Objectives

Metastreet were commissioned by Brighton & Hove City Council to review its housing stock with a focus on the following key areas:

- Residential property tenure changes
- Distribution of the PRS and HMO
- Condition of housing stock in the PRS
- Housing related stressors, including Noise Anti-Social Behaviour (ASB), regulatory interventions and deprivation.

The report provides the council with the evidence base for developing housing policy and service interventions. The report also helps satisfy the council's responsibility to review its housing stock as set out under Part 1, Section 3 of the Housing Act 2004.

The second section of the report details the findings of the stock and tenure modelling, including an introduction to the methodology. A combination of Brighton & Hove 's data warehouse, machine learning, and modelling techniques have been used to pinpoint tenure and predict property conditions within its PRS housing stock. An advanced property level data warehouse has been developed to underpin the process.

For the purposes of this review, it was decided that a ward-level summary is the most appropriate basis to assess housing conditions across Brighton and Hove, built up from property level data. To support future analysis the report has used the May 2023 ward boundaries (23).

Three separate predictive tenure models (Ti) have been developed as part of this project which are unique to Brighton & Hove , they include:

- Private rented sector (PRS)
- Owner occupiers
- Serious PRS housing hazards (Category 1 & high Category 2, HHSRS)

The appendices to the report contain a summary of the data and a more detailed report methodology.

1 Brighton & Hove overview

Brighton & Hove is a city with unitary authority status in East Sussex, England. There are multiple villages alongside the seaside resorts of Brighton & Hove and it covers an area of 33.8km². It is administered by Brighton & Hove City Council. [1]

1.1 Population

The Office of National Statistics (ONS) Census 2021 population estimates for Brighton & Hove was 277,200 (Figure 1)[2] .

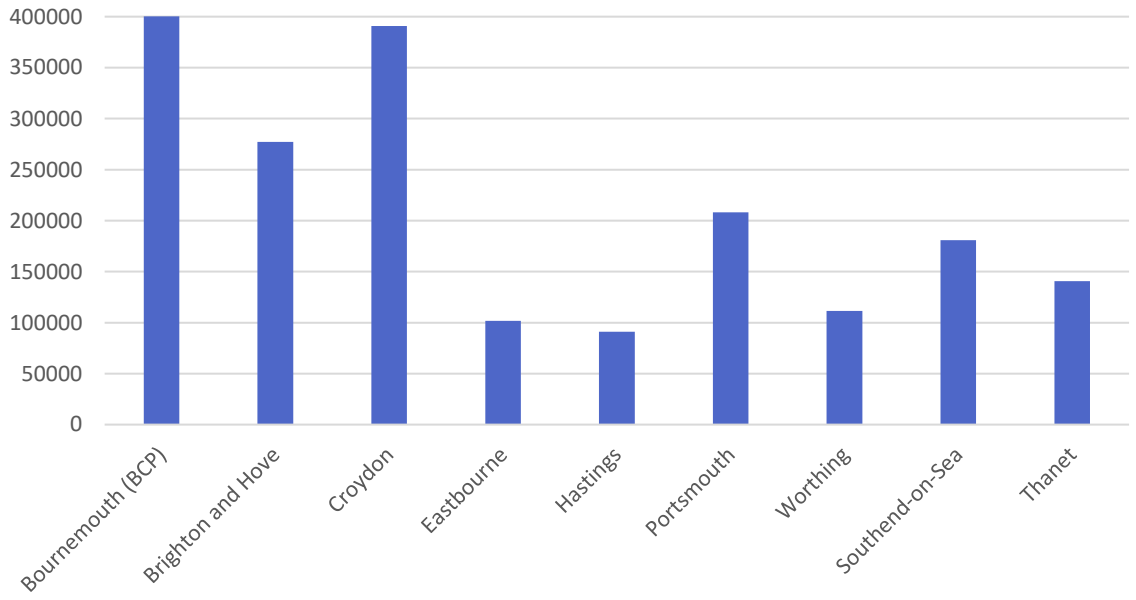


Figure 1. Population by selected comparable authorities (Source: Census 2021).

Brighton & Hove have been compared to a number of comparable authorities and the national average where appropriate.

1.2 Household size

Household size (all tenures) provides an insight into how dwellings are occupied (Figure 2) [3].

[1] Wikipedia, February 2023, https://en.wikipedia.org/wiki/Brighton_and_Hove_City_Council
[2] Office for National Statistics – Census 2021, https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationandhouseholdestimatesenglandandwales/census2021
[3] Office for National Statistics – Census 2021, https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationandhouseholdestimatesenglandandwales/census2021

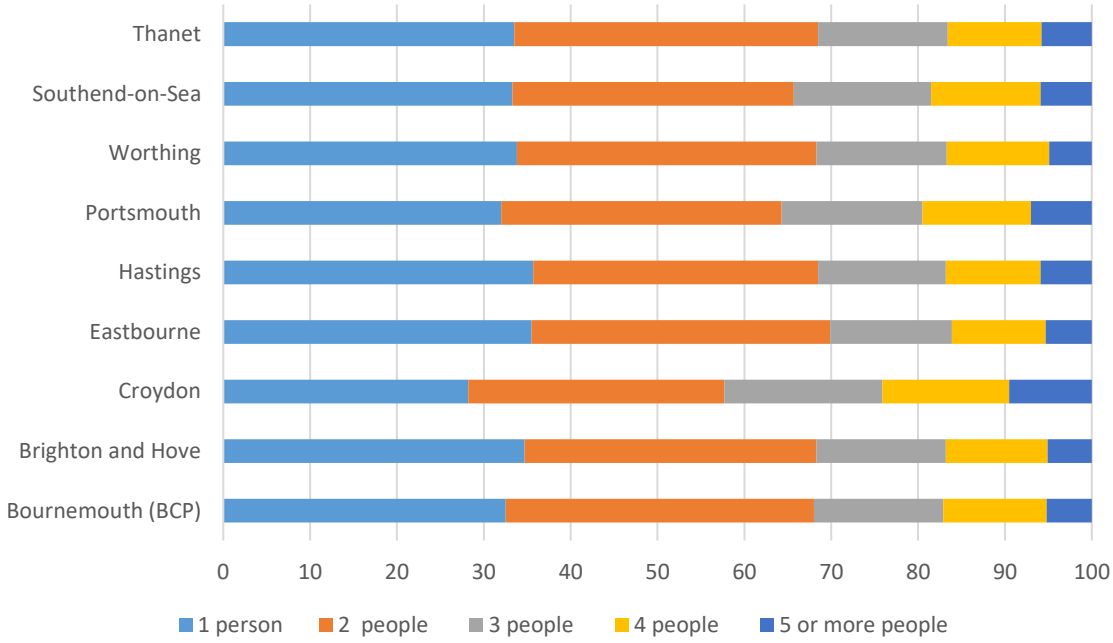


Figure 2. Household size (all tenures) by selected comparable authorities (Source: Census 2021).

1.3 Deprivation

The Indices of Multiple Deprivation 2019 (IMD 2019) provide a set of relative measures of deprivation for LSOAs (Lower-layer super output areas) across England, based on seven domains of deprivation[4].

To produce the ward level data, LSOAs have been matched to new wards using an Open Geoportal lookup table. It should be noted that LSOA areas that fit all or part in the new wards have been included in that ward. Therefore, some LSOAs have been included within more than one ward due to the poor match between LSOA and new ward areas. An average decile of LSOAs linked to new wards is then calculated. Average IMD 2019 decile aggregated at ward level reveals a clear picture of ward level deprivation (Figure 4 & Map 1). 1.0 on the graph represents the most deprived 10% areas and 5.0 represents 50% most deprived.

Brighton & Hove has a mixture of high and low deprivation wards. 9 of 23 wards have aggregated IMD rankings below the national average (Figure 4).

[4] ONS 2019 https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019,

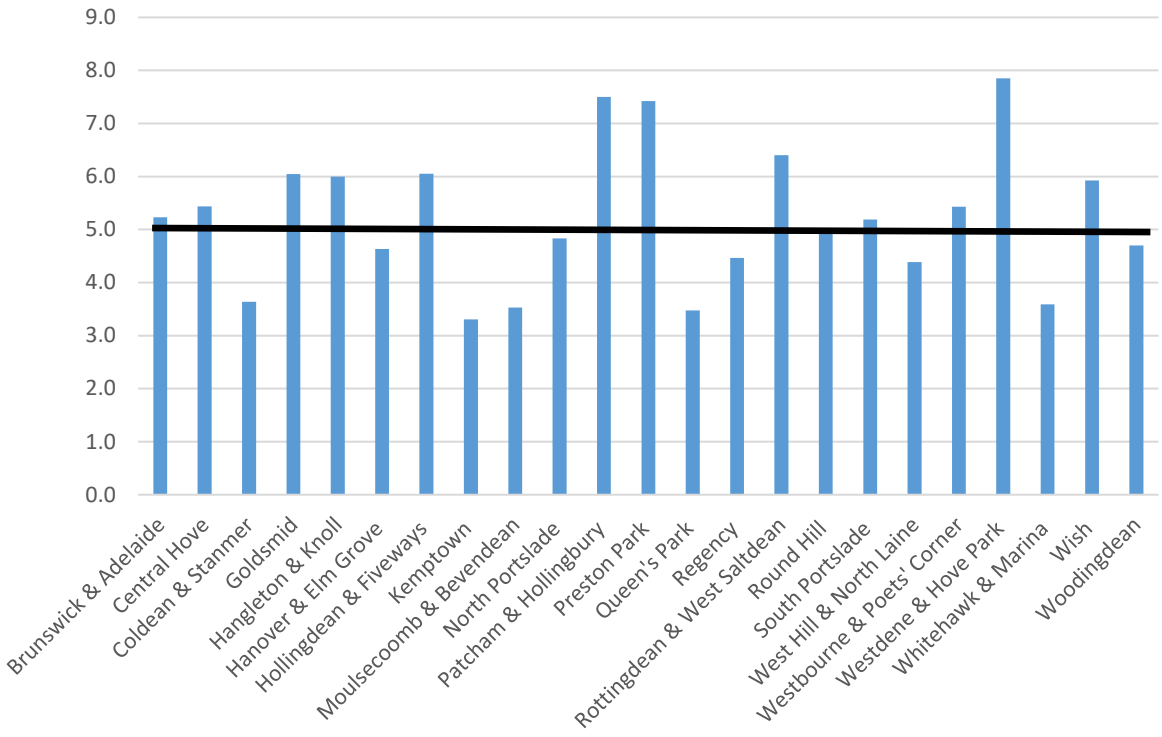
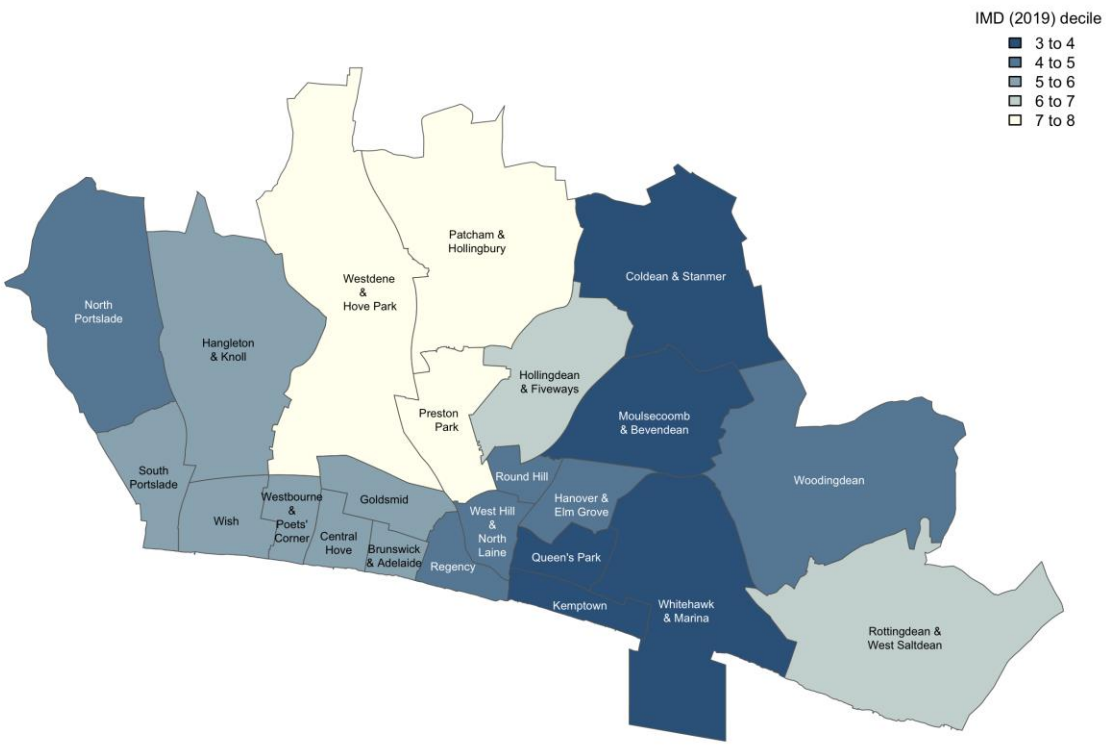


Figure 3. Average IMD (2019) decile by ward (Source: IMD 2019). Horizontal line shows the national average (5)



Map 1. ***Distribution of Average IMD (2019) decile by ward (Source: ONS 2019, Map by Metastreet).***

1.4 Fuel Poverty

Fuel poverty is defined by the Warm Homes and Energy Conservation Act. A household is considered to be fuel poor if they have required fuel costs that are above average (the national median level); and, were they to spend that amount, they would be left with a residual income below the official poverty line.

The fuel poverty score was produced by the Department for Business, Energy & Industrial Strategy using 2019 data and published in 2021. Over the next 12 months these figures are likely to change significantly as a result of acute fuel price increases. Notwithstanding this, Brighton & Hove has a lower proportion in fuel poverty (10.5%) than the national average (13.4%) (Figure 4) [5].

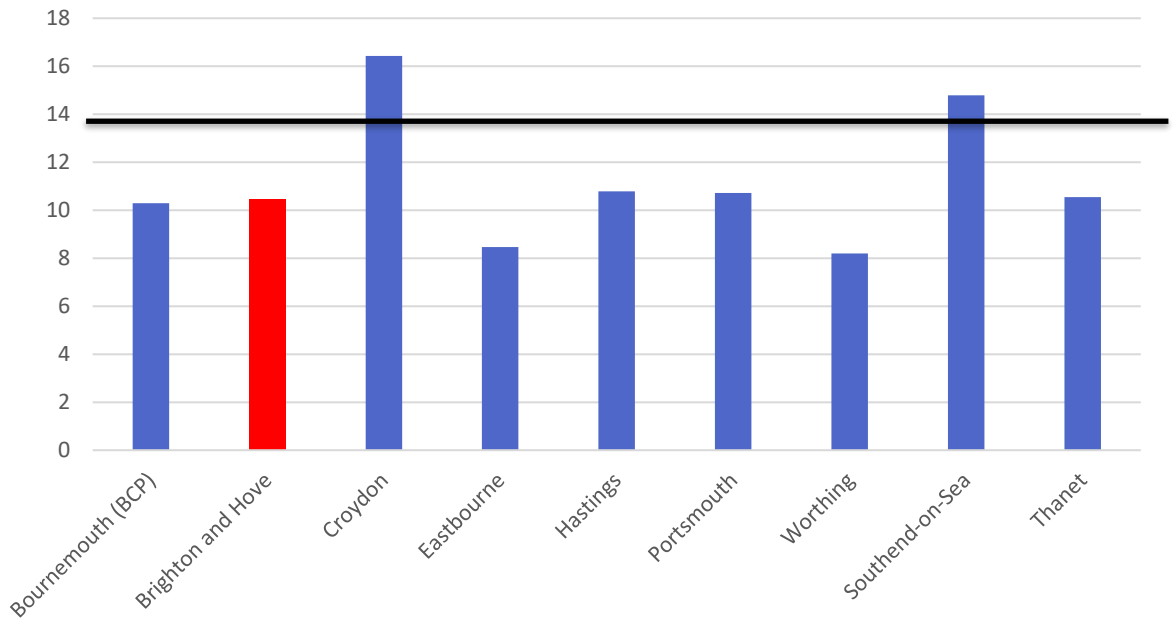


Figure 4. Proportion of households in fuel poverty (%) by selected comparable authorities (BEIS 2019). Horizontal line shows England average (13.4%).

[5] Department for Business, Energy & Industrial Strategy 2021 https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-data-2021

1.5 Rented property possession claim rates

Brighton & Hove have a below average rented property possession rate nationally, with 27.8 claims per 10,000 households in 2023[6] (Figure 6). The average number of claims for authorities in England was 36.6 per 10,000.

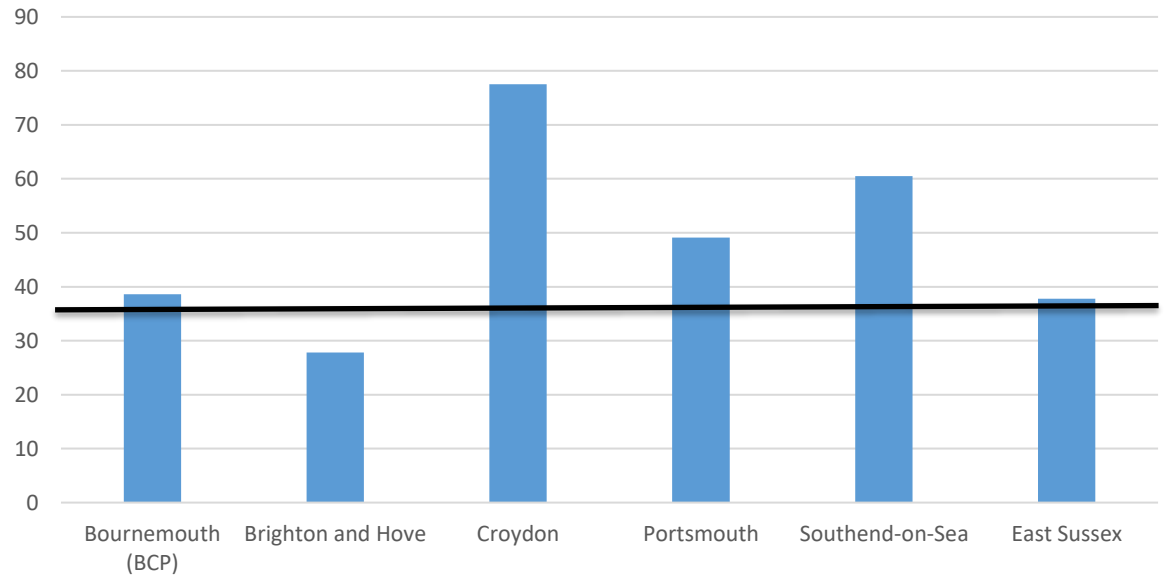


Figure 5. Number of possession claims issued by landlords per 10,000 households (selected comparable authorities) 2022/23 (MOJ 2023) Black line equals English authorities mean average 36.6 per 10,000 households.

[6] MOJ Possession claims by local authority (2023) https://lginform.local.gov.uk/reports/lgastandard?mod-metric=3498&mod-area=E06000031&mod-group=AllSingleTierAndCountyLaInCountry_England&mod-type=namedComparisonGroup

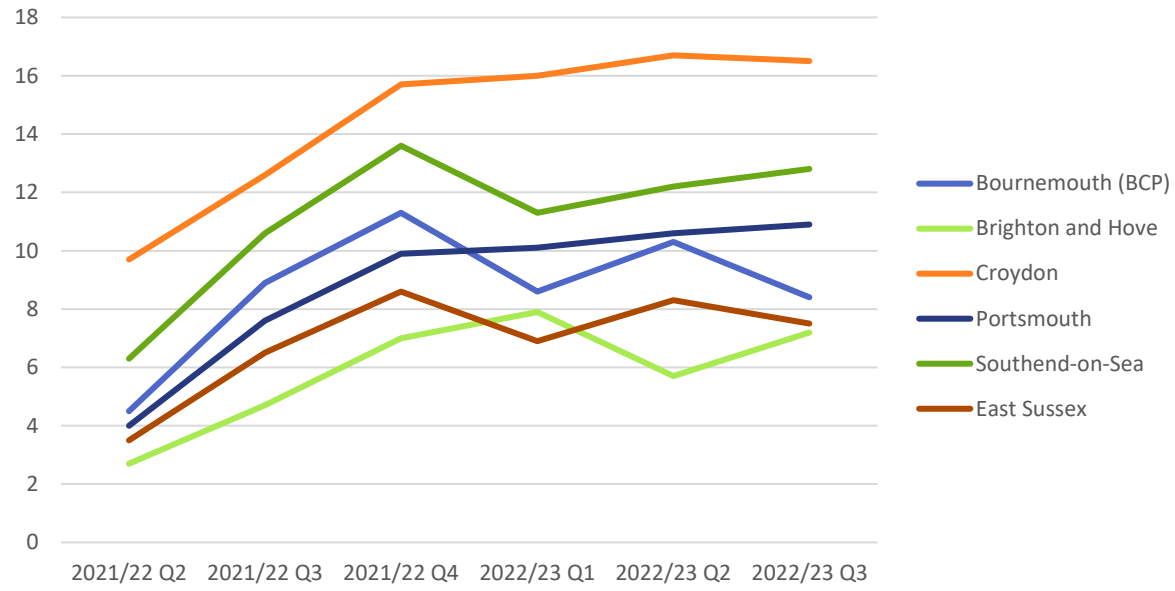


Figure 6. Number of possession claims issued by landlords per 10,000 households (selected comparable authorities) Q2 2/22 to Q3 2022/23 (MOJ 2023) No data for Hastings or Worthing.

1.6 Homelessness

Local authorities are required by law to either provide accommodation to homeless households (the main homelessness duty), work to stop households becoming homeless (the homelessness prevention duty) or relieve homelessness when it does occur (the homelessness relief duty).

424 households were owed a prevention or relief duty July to September 2022 (Figure 7). The homelessness prevention or relief duty rates (July to September 2022) per 10,000 population are 15.3 [7].

[7] Department for Levelling Up, Housing and Communities, Homelessness, https://www.gov.uk/government/statistical-data-sets/live-tables-on-homelessness https://data.london.gov.uk/dataset/homelessness

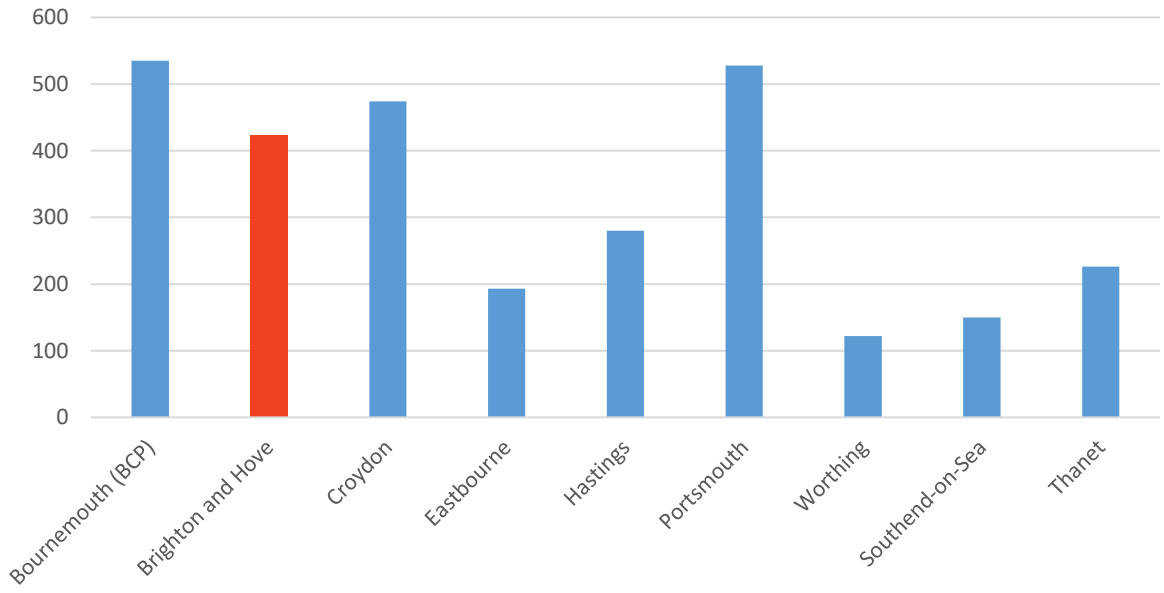


Figure 7. Households owed a prevention or relief duty July to September 2022 (selected comparable authorities)

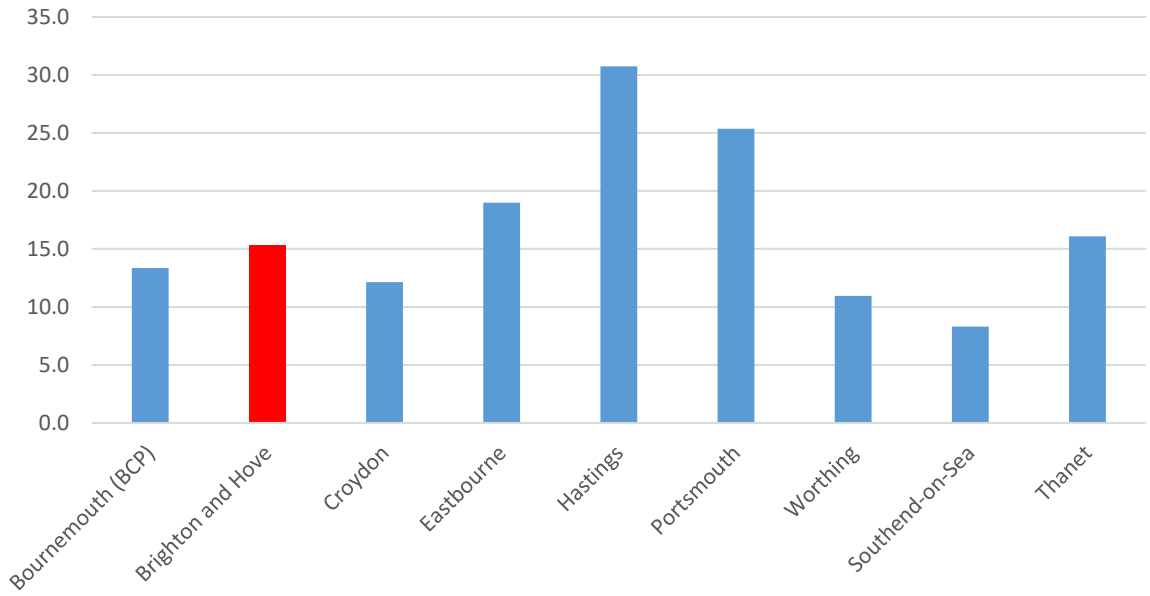


Figure 8. Homelessness prevention or relief duty rates (July to September 2022) per 10,000 population (selected comparable authorities)

1.7 Rents and affordability

Private rents vary by area. As this report is concerned with housing conditions and other housing stressors, we have looked at the average (median) rents for all dwellings. Brighton & Hove has above average rents for England (£1100), (Figure 9)[8]. The national average is £795.

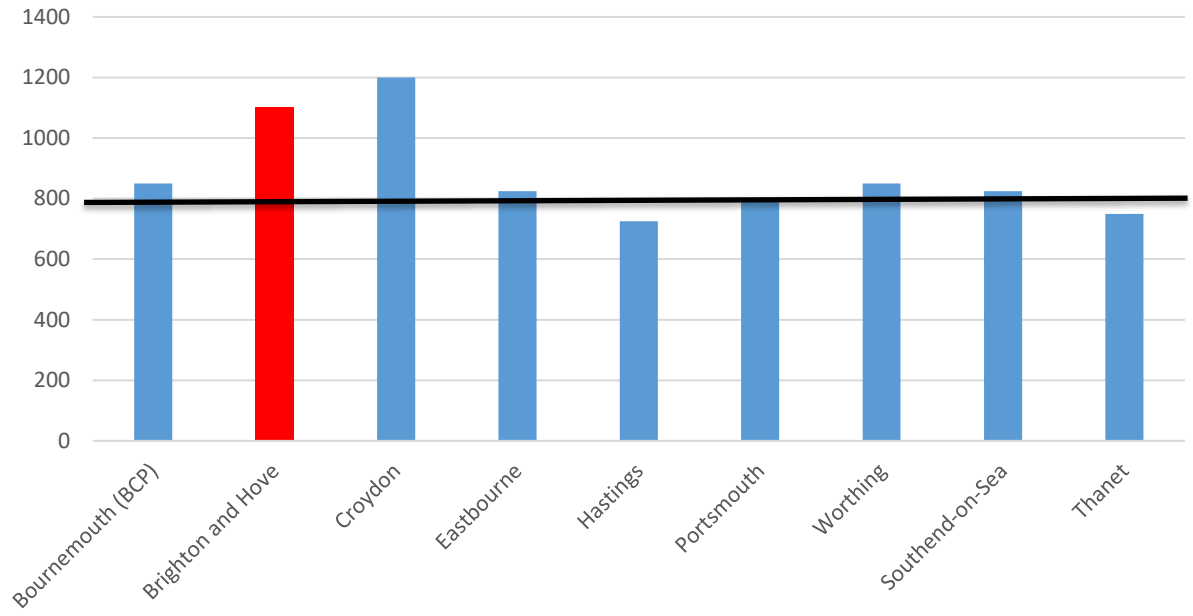


Figure 9. Median monthly rents (all dwelling types) (Source: VOA 2022). ***Horizontal black line shows national average (£795)***

[8] ONS 2022 Private rental market summary statistics
https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/privaterentalmarketsummarystatisticsinengland/april2021tomarch2022#rental-prices-by-region

2 Results of housing stock and stressor modelling

2.1 Methodology

Tenure Intelligence (Ti) uses council held and publicly available data to identify tenure and analyse property stressors, including property conditions and ASB.

Data trends at the property level are analysed using machine learning to help predict the tenure of individual properties where they are not already known. Metastreet has worked with the council to create a residential property data warehouse. This has included linking millions of cells of council and externally held data to 134,717 unique property references (UPRN), excluding parent and non-dwellings.

Machine learning is used to make predictions for each tenure and property condition based on a sample of known tenures and outcomes. Results are analysed to produce a summary of housing stock, predictions of Category 1 hazards (HHSRS) and other stressors. To achieve the maximum accuracy, unique models are built for each council and tenure, incorporating individual authority data and using local known outcomes to train predictive models. Where a tenure or outcome is already known by the authority, this will be added to the final model.

Once the data warehouse was created, statistical modelling was used to determine tenure using the methodology outlined below. All specified and requested council held longitudinal data is 5 consecutive years, from April 2017 – March 2022.

Different combinations of risk factors were systematically analysed for their predictive power in terms of key outcomes. Risk factors that duplicated other risk factors but were weaker in their predictive effect were systematically eliminated. Risk factors that were not statistically significant were also excluded through the same processes of elimination.

For each UPRN a risk score was calculated using logistic regression. The selected risk factors have a better or worse than evens chance of being predictive. A decision tree model is then used to allocate properties to predefined outcomes.

A number of predictive models have been developed as part of this project which are unique to Brighton and Hove. Known stressors linked to individual properties have been modelled to calculate population level incidences and rates.

It is important to note that this approach can never be 100% accurate as all large datasets and statistical models include some level of error. A more detailed description of the methodology and the specific factors selected to build predictive models for this project can be found in Appendix 2.

Metastreet was asked to exclude HMOs that have been licenced under part 2 of the Housing Act 2004 from the PRS stressors results, including housing conditions, ASB, service requests and council interventions. This resulted in the removal of 4,208 known HMO properties from the master PRS dataset. However, all PRS dwellings have been accounted for in the population and distribution section to enable the council to compare data with other authorities and government statistics.

2.2 Results - Private rented sector

2.2.1 Population and distribution

The private rented sector (PRS) in Brighton & Hove has grown steadily since 2011 [9].

Based on tenure modelling (2023), Brighton & Hove 's PRS is now calculated to be 35.8% of all housing stock (Figure 10). The 2021 Census reports the PRS in Brighton & Hove to be 32.7%. The difference is likely to be a result of absent student households (national & international) and migrant worker households as a result of the March 2021 government-imposed coronavirus lockdown measures [10]. Further details of the differences between the Census 2021 and Ti 2023 results can be found in Appendix 2.

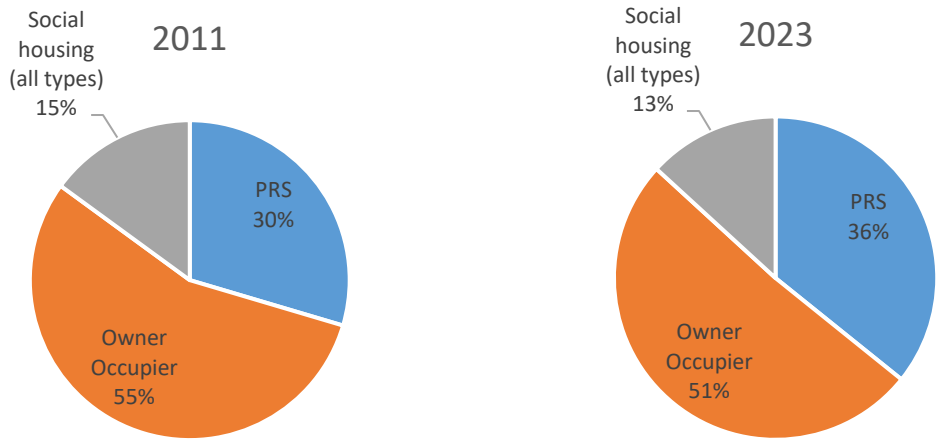


Figure 10. Tenure profile 2011 & 2023 (Source: ONS & Metastreet Ti model).

[9]https://data.london.gov.uk/dataset/census-2001-key-statistics-18-tenure https://data.london.gov.uk/dataset/2011-census-housing
[10]Timeline of UK government coronavirus lockdowns and restrictions, https://www.instituteforgovernment.org.uk/data-visualisation/timeline-coronavirus-lockdowns

Tenure percentage change over the last two decades in Brighton & Hove has been consistent with the national trend, owner occupation decreasing while private renting increasing.

This PRS increase is part of a long term nationwide and regional trend. The PRS in the UK has grown from 9.4% of housing stock in 2000 [11] to 19% of households 2021 [12]. The 2021 census suggests the PRS is now at least 20%. The PRS remains the second largest housing tenure in England. [13] .

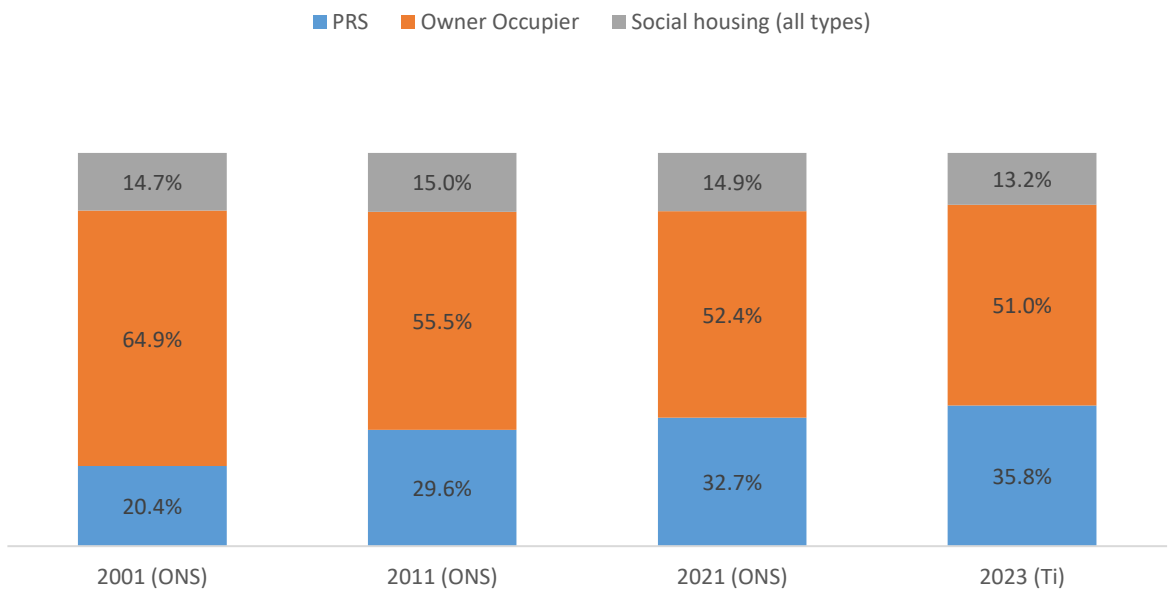


Figure 11. Brighton & Hove tenure change and total housing stock, 2001, 2011, 2021 & 2023 (Source: ONS & Ti).

	2011 (ONS- *households)*	2021 (ONS- *households*)	2023 (Ti -*dwellings*)
PRS	35,959	39,684	48,206
Owner occupier	67,394	63,667	68,741
Social housing	18,187	18,051	17,770
Total	**12,1540**	**121,402**	**134,717**

Table 1. Number of households & dwellings by tenure 2011, 2021 & 2023 dwellings by ward (Source: ONS & Ti 2023).

[11] The profile of UK private landlords Scanlon K & Woodhead C CML research. LSE London. December 2017 www.cml.org.uk
[12] EHS Headline 2021-2022, https://www.gov.uk/government/statistics/english-housing-survey-2021-to-2022-headline-report/english-housing-survey-2021-to-2022-headline-report#section-2-housing-stock
[13] EHS Headline 2021-2022, https://www.gov.uk/government/statistics/english-housing-survey-2021-to-2022-headline-report/english-housing-survey-2021-to-2022-headline-report#section-2-housing-stock

The data in Table 1 show a clear discrepancy between Census recorded households (2021) and the number of known dwellings (Ti 2023), with at least 13,315 households missing from the Census data.

The PRS in Brighton & Hove is distributed across all 23 wards (Figure 12). The number of PRS dwellings per ward ranges from 4,000 (Brunswick & Adelaide) to 591 (Coldean & Stanmer).

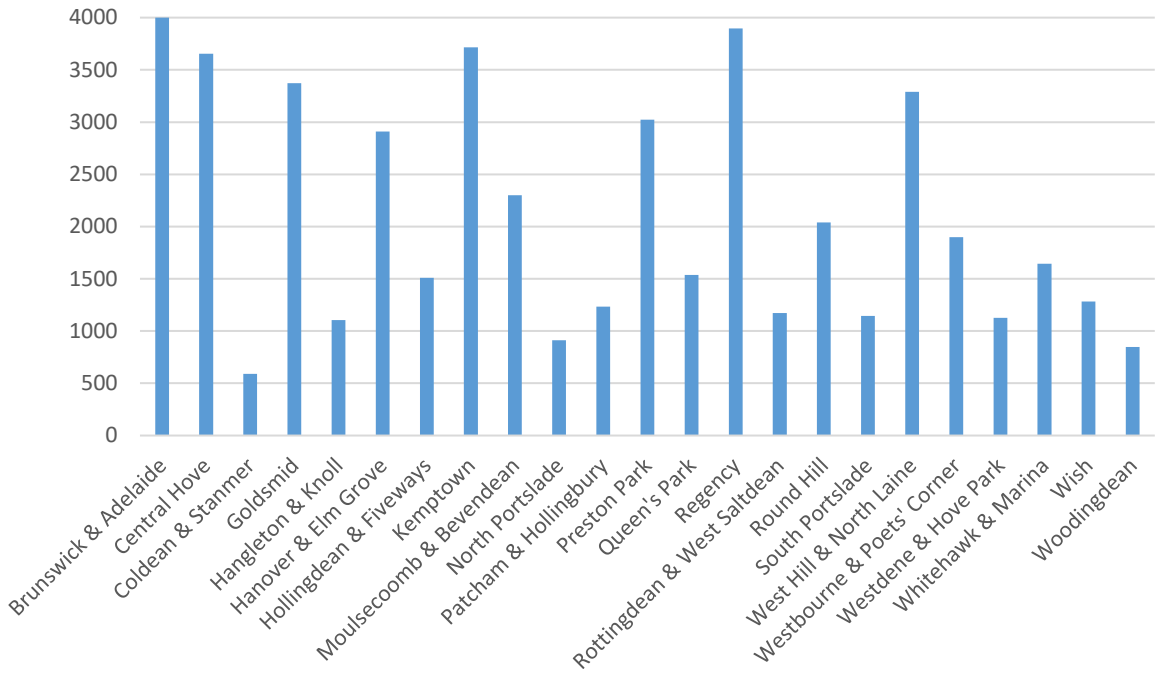


Figure 12. Number of PRS dwellings by ward (Source: Ti 2023).

The percentage of PRS properties in each ward ranges between 59.8% (Brunswick & Adelaide) and 17.7% (Hangleton & Knoll) (Figure 13). Therefore, 20 out of 23 Brighton & Hove have a higher percentage PRS than the national average in 2022 (19%)[14].

[14] EHS Headline 2021-2022, https://www.gov.uk/government/statistics/english-housing-survey-2021-to-2022-headline-report/english-housing-survey-2021-to-2022-headline-report#section-2-housing-stock

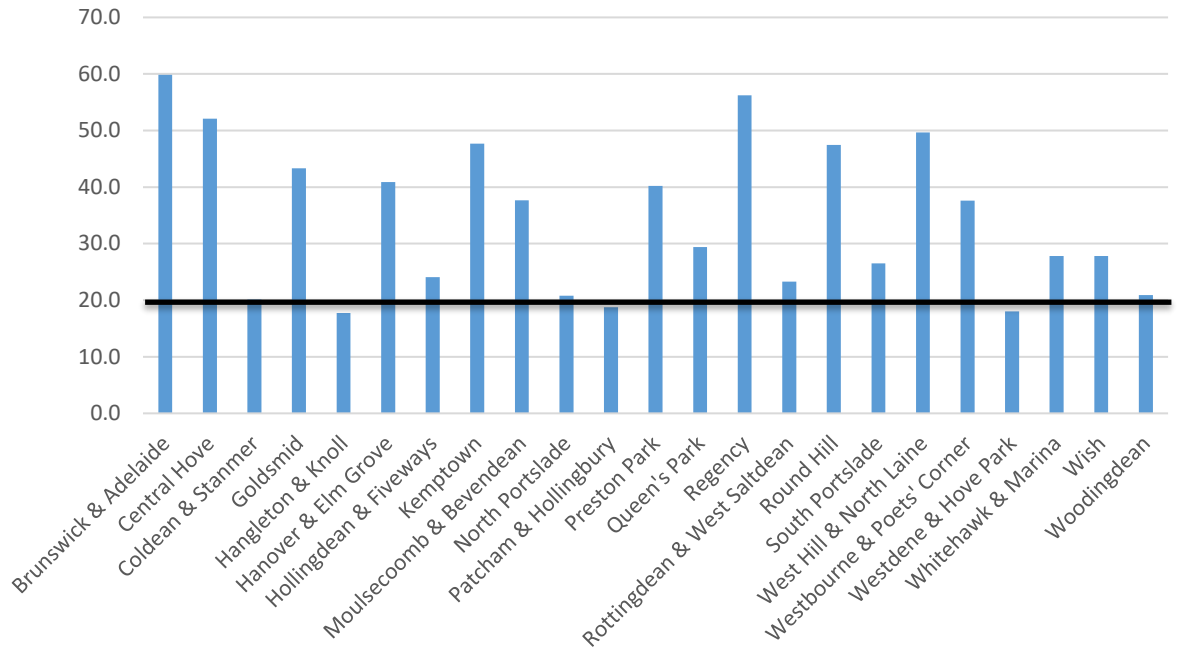


Figure 13. Percentage of PRS dwellings by each ward (Source Ti 2023). ***Horizontal black line shows national average 2021 (20%)***

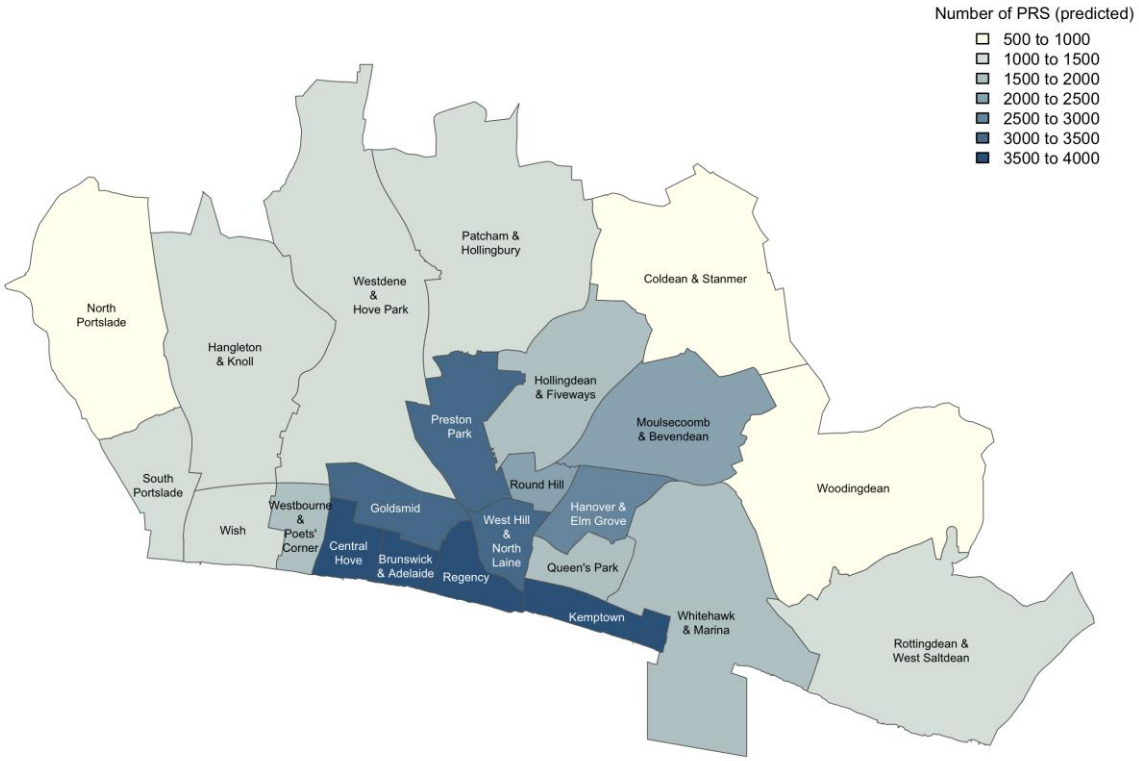
The table below shows the total PRS dwellings in each ward and the percentage PRS compared to the total housing stock.

Wards (May 2023)	No. PRS (predicted)	% PRS (%)
Brunswick & Adelaide	4,000	59.8
Central Hove	3,655	52.1
Coldean & Stanmer	591	20.1
Goldsmid	3,372	43.3
Hangleton & Knoll	1,104	17.7
Hanover & Elm Grove	2,910	40.9
Hollingdean & Fiveways	,1510	24.1
Kemptown	3,714	47.7
Moulsecoomb & Bevendean	2,301	37.7
North Portslade	911	20.8
Patcham & Hollingbury	1,233	18.8
Preston Park	3,024	40.2
Queen's Park	1,536	29.4
Regency	3,897	56.2
Rottingdean & West Saltdean	1,173	23.3
Round Hill	2,040	47.5
South Portslade	1,144	26.5
West Hill & North Laine	3,289	49.7

Westbourne & Poets' Corner	1,899	37.6
Westdene & Hove Park	1,127	18.1
Whitehawk & Marina	1,643	27.8
Wish	1,284	27.8
Woodingdean	849	20.9

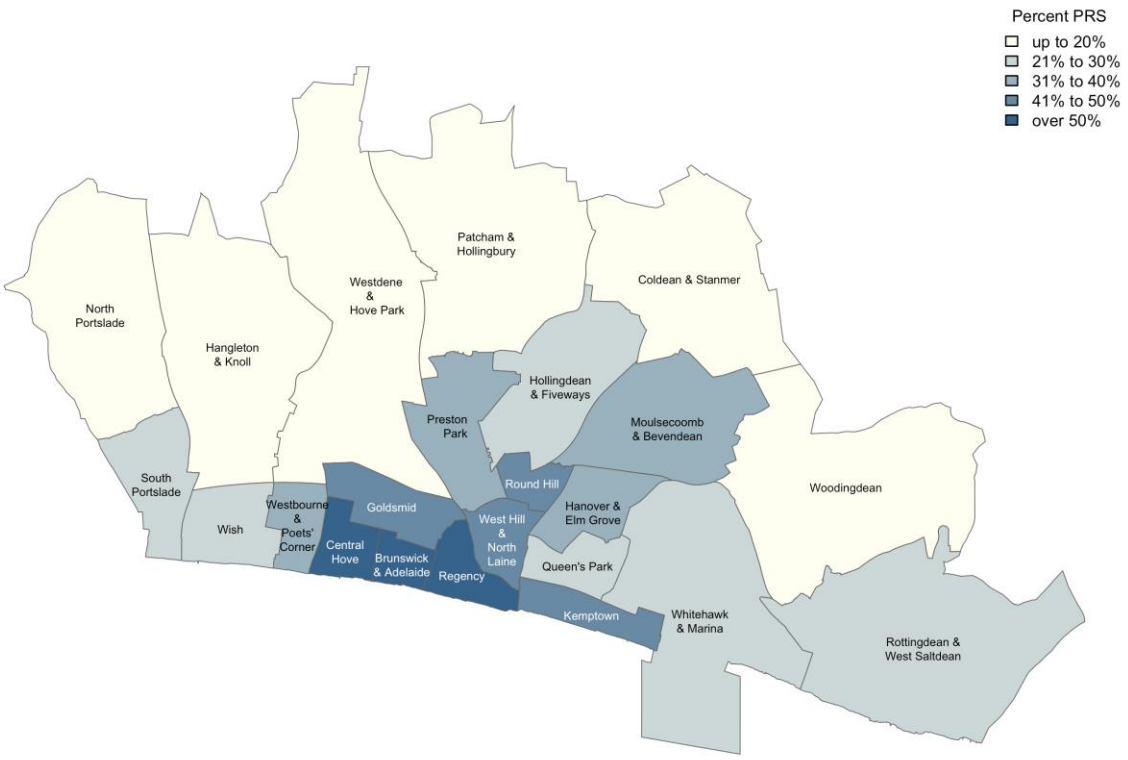
Table 2. Number and percentage of PRS properties by ward (Source Ti 2023).

PRS properties are distributed across the city (Map 2 & 3). There is a clear concentration of PRS dwellings in the central seafront wards.



Map 2. Number of PRS properties in Brighton & Hove (Source: Ti 2023, Map by Metastreet).

Brunswick & Adelaide has the highest percent PRS (59.8%) and Hangleton & Knoll has the lowest concentration (17.7%) (Map 3).



Map 3. PRS properties as percentage of dwellings in Brighton & Hove (Source: Ti 2023, Map by Metastreet).

2.2.2 Housing conditions (excluding known HMOs)

Housing conditions are affected by the level of maintenance and quality of repair, the age of the property, thermal efficiency, and type of construction. Category 1 (HHSRS) hazards have a physiological or psychological impact on the occupant and may result in medical treatment. [15] There is also serious impact on public services, hazardous conditions in the PRS cost the NHS around £340 million a year. [16]

[15] Housing Health and Rating System, Operation Guidance, 2006, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/15810/142631.pdf

[16] House of Commons Committee of Public Accounts: https://committees.parliament.uk/committee/127/public-accounts-committee/news/165326/pac-private-rented-housing-failing-far-too-often-to-provide-safe-and-secure-homes/

In 2022, 14% of private rented dwellings in England had at least one Category 1 hazard; this was a higher proportion than the average for the total housing stock (10%). Furthermore, the private rented sector had the highest proportion of non-decent homes (23%)[17]. It is notable that there is a gradient of risk with age of the property, the risk being greatest in dwellings built before 1900, and lowest in the more energy efficient dwellings built after 1980[18].

A local authority's property age profile can have an impact on housing conditions. Brighton & Hove has a high number of residential properties (57.8%) built pre-Second World War (Figure 14) [19].

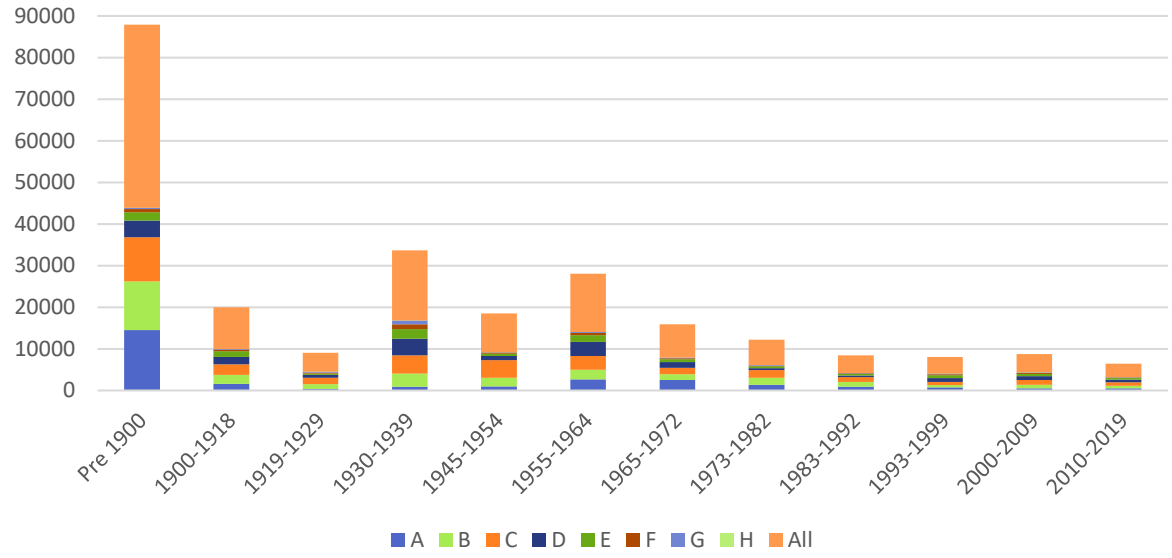


Figure 14. Housing Stock Age Profile and Council Tax band (Source: VOA 2019).

A city's property type profile offers an indication of housing density, construction type and other population factors. The most common private rented property type in Brighton & Hove are flats (66%), while bungalow is the least common property type (3%) (Figure 15).

[17] EHS Headline 2021-2022, https://www.gov.uk/government/statistics/english-housing-survey-2021-to-2022-headline-report/english-housing-survey-2021-to-2022-headline-report#section-2-housing-stock
[18] Housing Health and Rating System, Operation Guidance, 2006, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/15810/142631.pdf
[19] VOA 2019 https://www.gov.uk/government/statistics/council-tax-stock-of-properties-2019

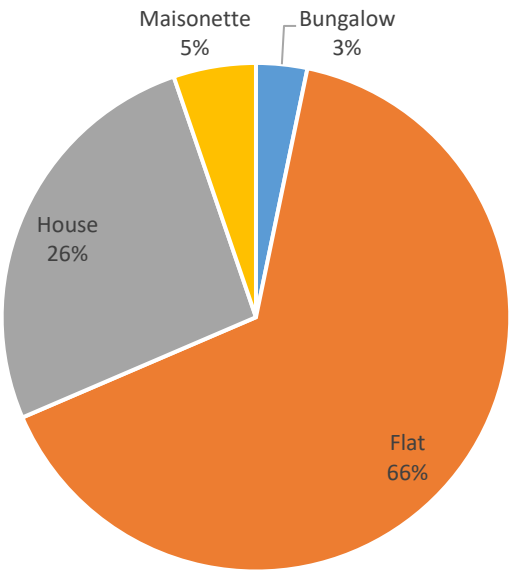


Figure 15. Private rented property type as a percent of total (Source: BHCC matched EPC records 2023).

Using a training sample of properties that are known to have at least one serious housing hazard (Category 1 and high scoring Category 2, HHSRS), it is possible to predict the number of PRS properties with at least one serious hazard across the city (Figure 16), further details of the methodology can be found in Appendix 2.

There are 8,869 private rented properties in Brighton & Hove that are likely to have at least 1 serious housing hazard (Category 1 and high scoring Category 2, HHSRS). PRS properties with serious hazards are distributed across the city. Regency (891) and Brunswick & Adelaide (849) have the highest number of properties with at least one Category 1 hazard (Figure 16 & Map 4).

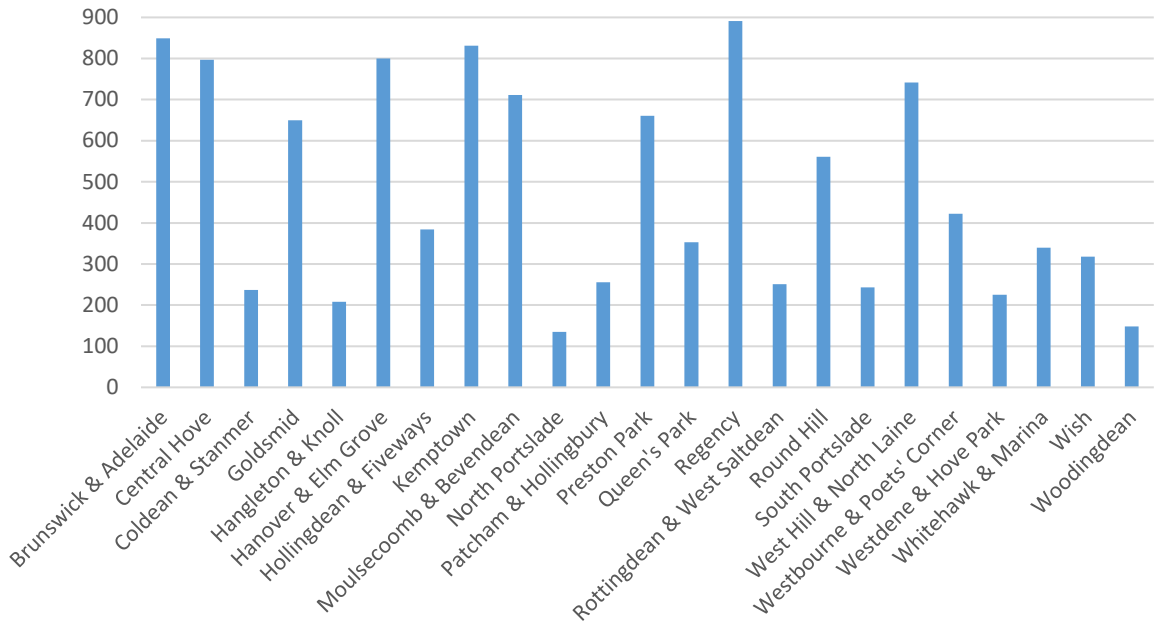
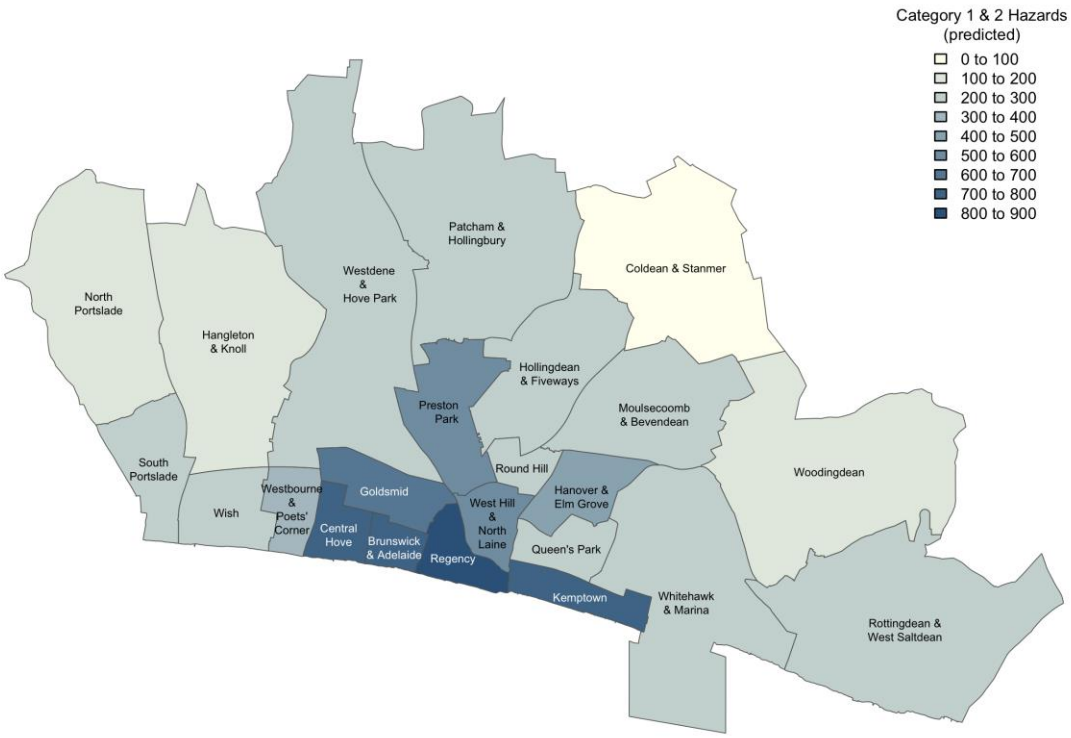


Figure 16. Predicted number of dwellings with serious hazards by ward (Source: Ti 2023).

Category 1 hazards in the PRS are distributed across the whole city.



Map 4. Distribution of PRS dwellings with Category 1 & 2 hazards (HHSRS) (Source: Ti 2023, map by Metastreet).

The rates of serious hazards per 100 PRS properties reveals a wide distribution across Brighton & Hove (Figure 17).

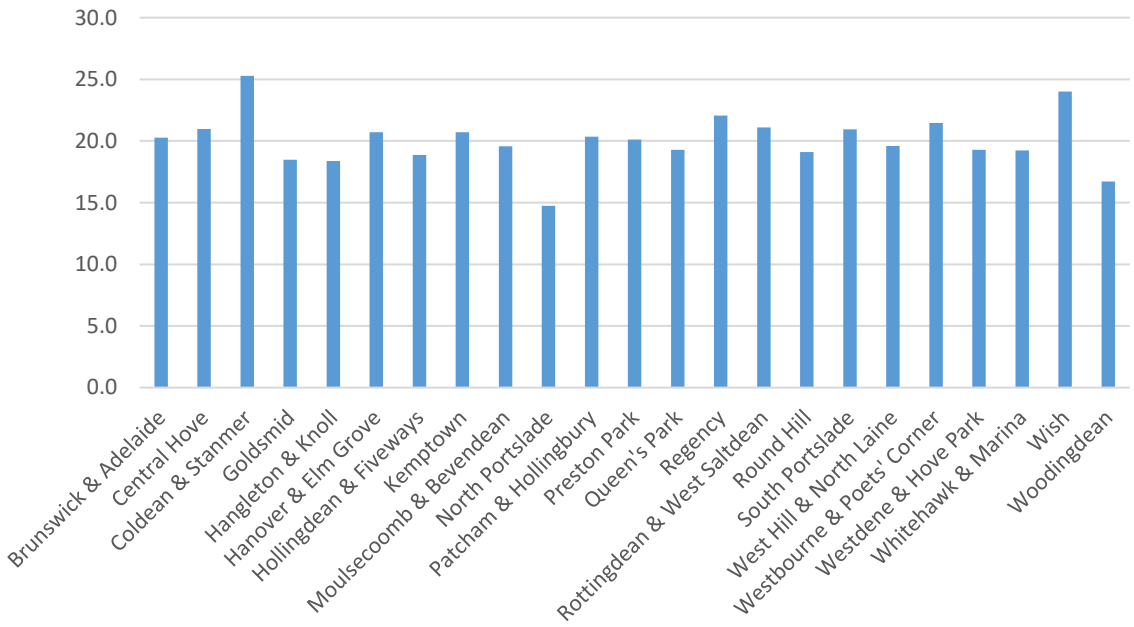
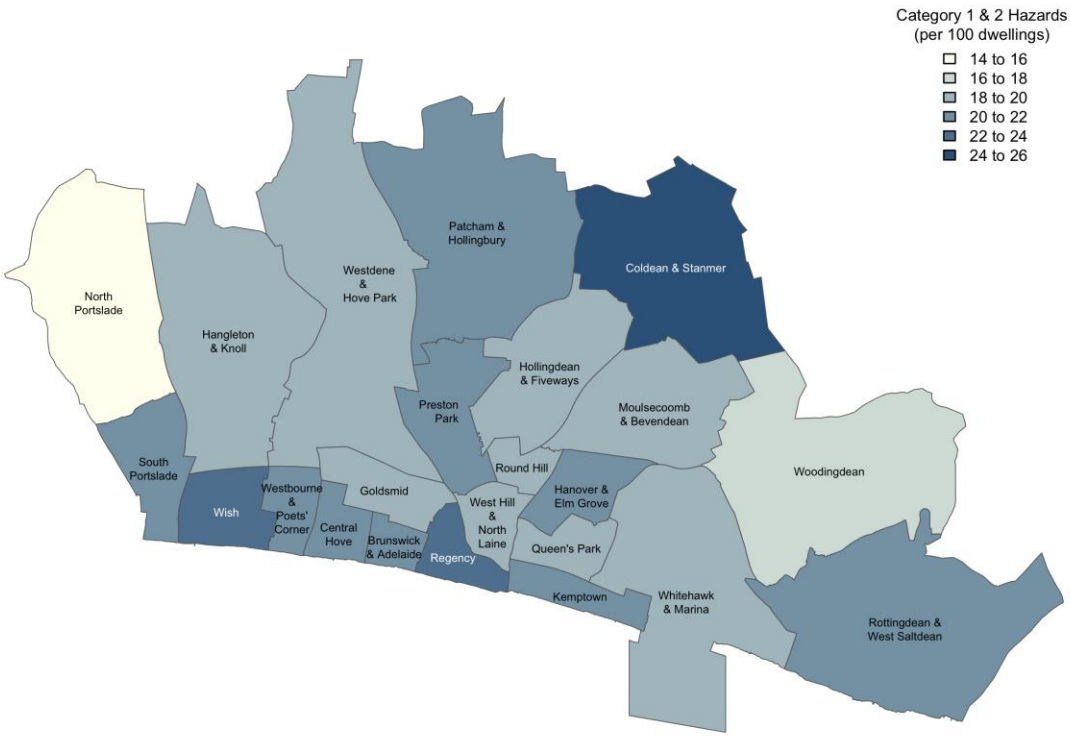


Figure 17. Rates per 100 PRS dwellings with predicted Category 1 & 2 by ward (Source: Ti 2023).



Map 5. Rates per 100 PRS dwellings with predicted Category 1 & 2 hazards by ward (Source: Ti 2023, map by Metastreet).

Complaints and service requests made by PRS tenants to the council about poor property conditions and inadequate property management are a direct indicator of low quality PRS. Brighton & Hove recorded 4,550 complaints and service requests from private tenants and others linked to PRS properties over a 5-year period (Figure 18).

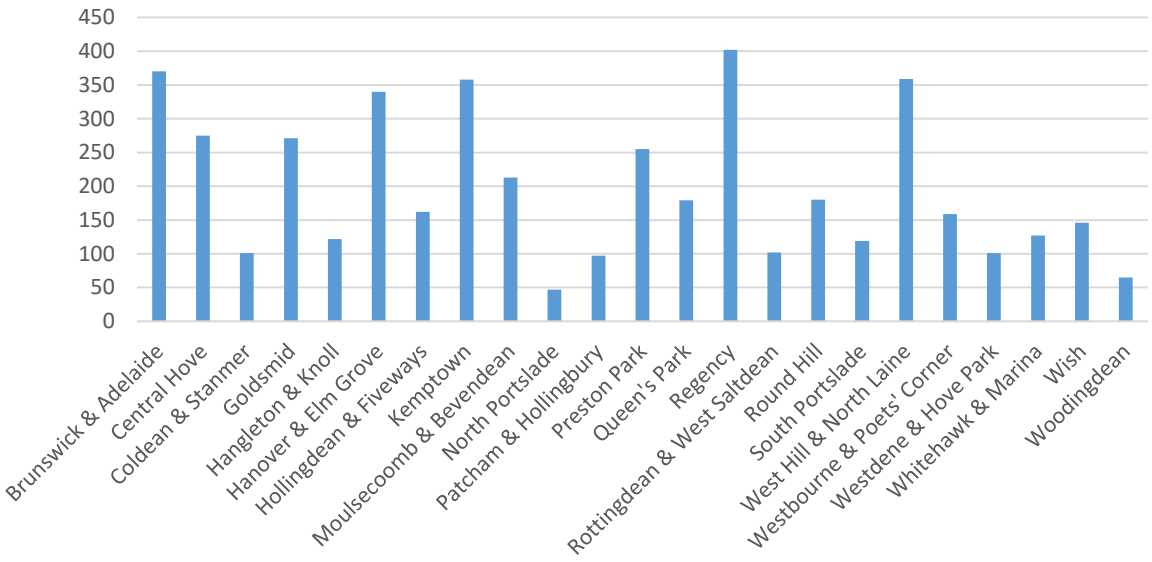
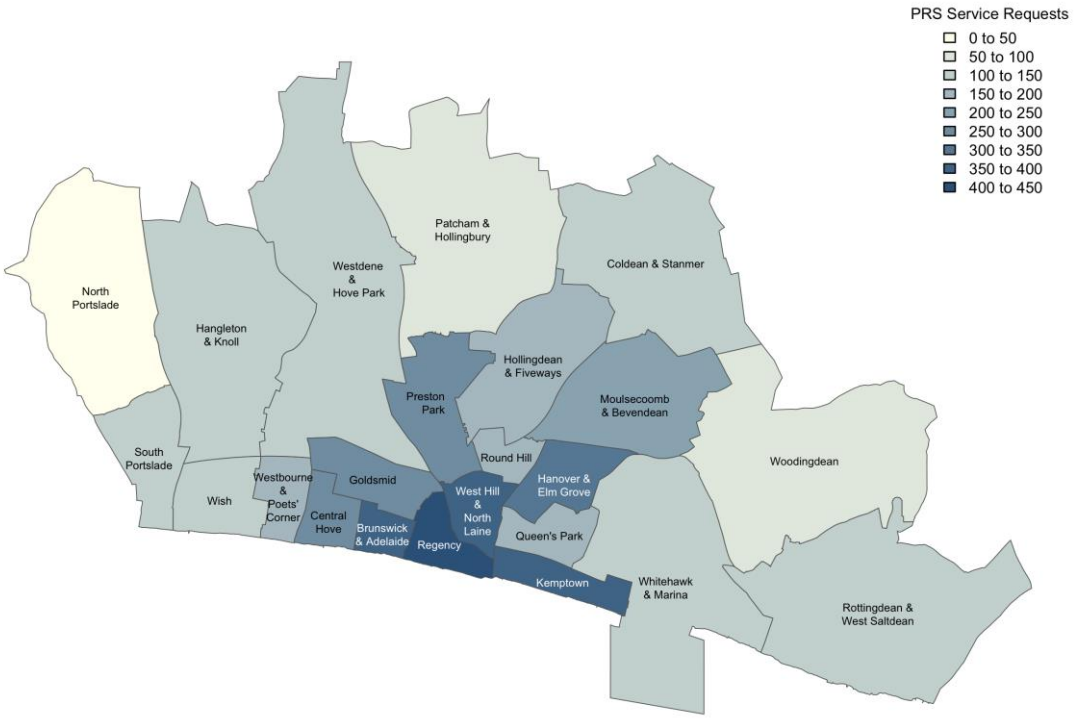


Figure 18. PRS complaints and service requests made by private tenants and others to the Council (Source Ti 2023)

Regency (402) and Brunswick & Adelaide (370) received most private tenant service requests and complaints by private tenants and others to the Council (Map 6).



Map 6. Distribution of PRS service requests and tenant complaints (Source: Ti 2023, Map by Metastreet).

An EPC rating is an assessment of a property's energy efficiency. It's primarily used by buyers or renters of residential properties to assess the energy costs associated with heating a house or flat. The rating is from A to G. A indicates a highly efficient property, G indicates low efficiency.

The energy efficiency of a dwelling depends on the thermal insulation of the structure, on the fuel type, and the size and design of the means of heating and ventilation. Any disrepair or dampness to the dwelling and any disrepair to the heating system may affect efficiency. The exposure and orientation of the dwelling are also relevant.

As part of this project **37,818** EPC ratings were matched to PRS properties (Figure 19). All figures have been modelled from this group.

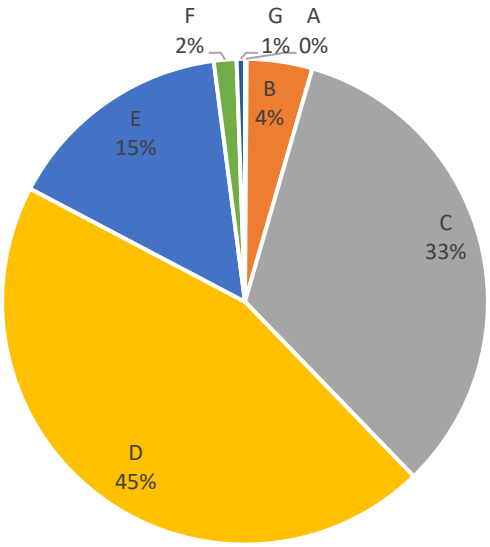


Figure 19. Distribution of Energy Performance Certificate ratings in PRS (Rating A-G) (Source: Ti 2023).

The Minimum Energy Efficiency Standard (MEES) came into force in England and Wales on 1 April 2018. The regulation applies to PRS properties and mandates that all dwellings must have an EPC rating of E and above to be compliant. It has been calculated using the matched addresses that 17.3% of PRS properties in Brighton & Hove have an E, F, and G rating. 2.1% of PRS properties have

an F and G rating (Figure 19). Extrapolated to the entire PRS, 923 PRS properties are likely to fail the MEES statutory requirement.

The statistical evidence shows that there is a continuous relationship between indoor temperature and vulnerability to cold-related death [20]. The colder the dwelling, the greater the risk. The percentage rise in deaths in winter is greater in dwellings with low energy efficiency ratings. Children in cold homes are twice as likely to suffer from a variety of respiratory problems [21]. There is a gradient of risk with age of the property, the risk being greatest in dwellings built before 1850, and lowest in the more energy efficient dwellings built after 1980[22]. Therefore, the F and G properties present a serious risk to the occupants' health, particularly if over the age of 65 (Figure 19 & 20).

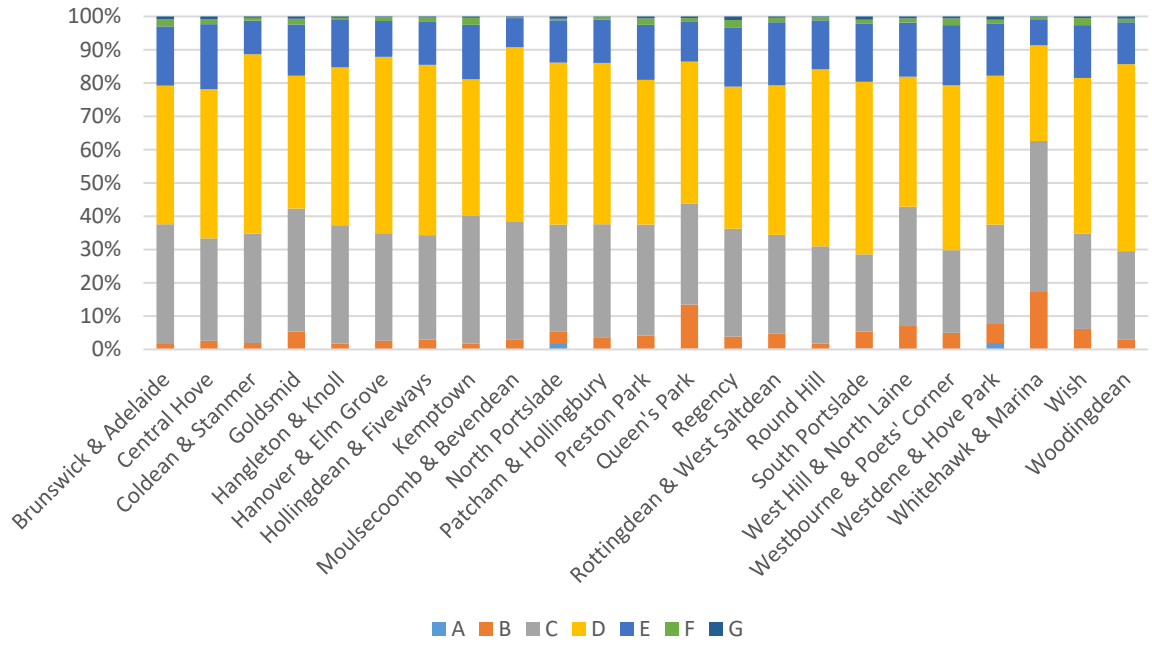


Figure 20. Energy Performance Certificate ratings in PRS by ward (Rating A-G) (Source: Ti 2023).

The difference between the current and potential energy performance score (EPC) helps owners of residential property understand what practicable improvements can be made to improve a properties energy performance. The gap between current and potential EPC scores represents the

[20] Housing Health and Rating System, Operation Guidance, 2006
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/15810/142631.pdf
[21] Health Equity in England: The Marmot Review 10 Years On, 2020 https://www.health.org.uk/publications/reports/the-marmot-review-10-years-on

[22] Housing Health and Rating System, Operation Guidance, 2006
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/15810/142631.pdf

opportunity to improve energy performance within a reasonable economic envelope (Figure 21 & 22).

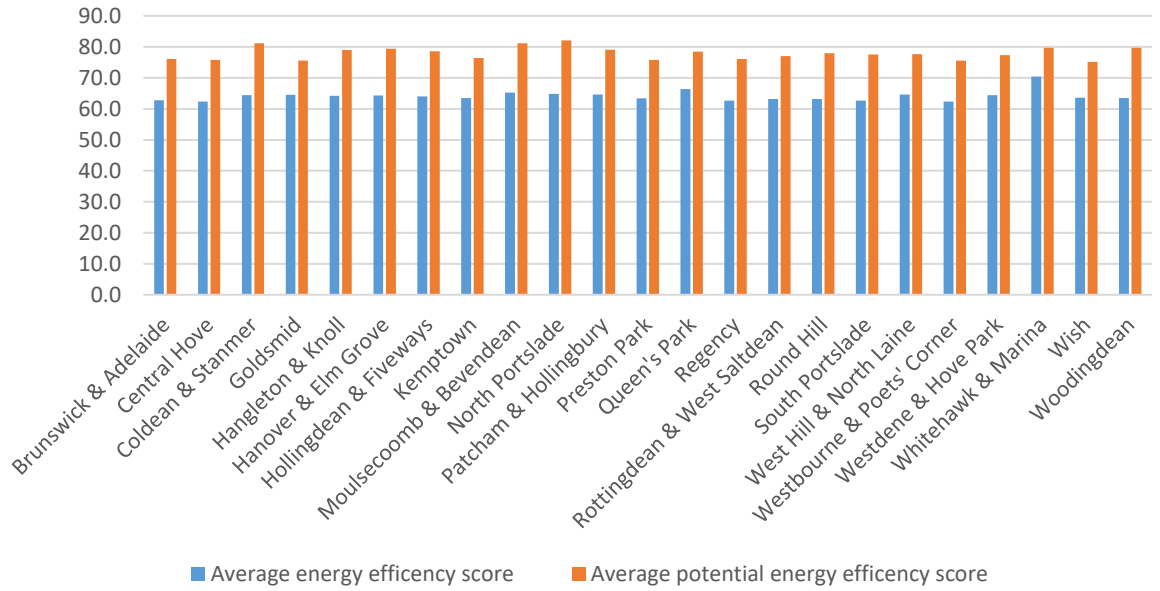


Figure 21. Current and Potential Energy Performance Certificate score (mean average) in PRS by ward (Source: Ti 2023).

North Portslade (17.2) PRS stock has the largest difference between current and potential energy efficiency score (Figure 22).

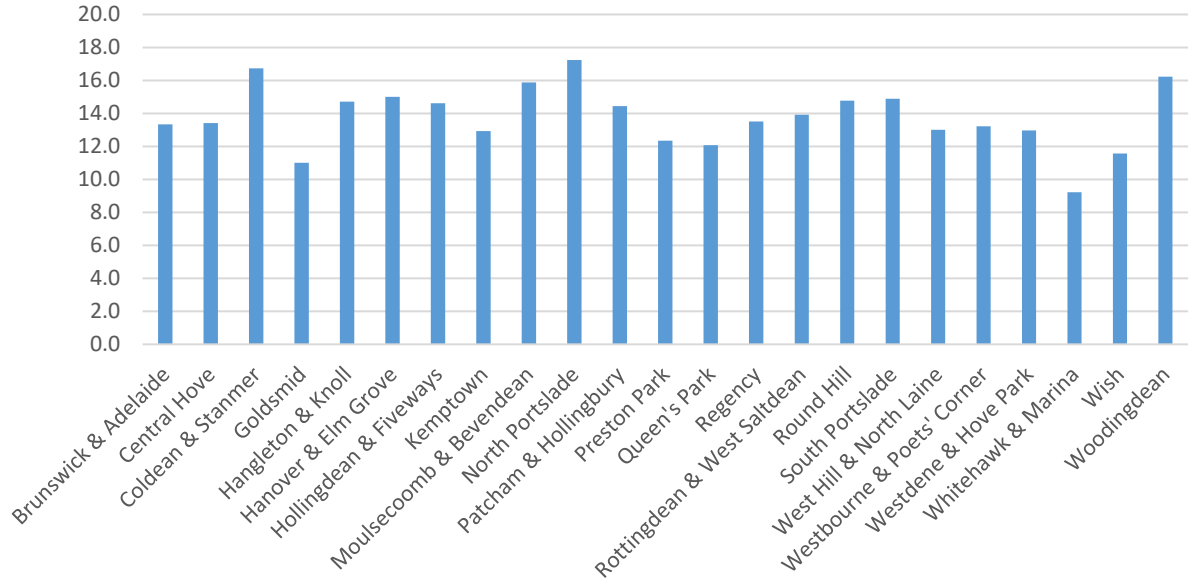


Figure 22. Difference between Current and Potential Energy Performance Certificate score (mean average) in PRS by ward (Source: Ti 2023).

2.2.3 PRS enforcement and regulation interventions (excluding known HMOs)

Brighton & Hove uses a range of statutory housing and public health notices to address poor housing standards in the PRS. Interventions can be a result of a complaint being made by a tenant about their accommodation or as a result of a proactive inspection. Over a 5-year period (2017-22) Brighton & Hove served 84 housing and public health notices (Figure 23).

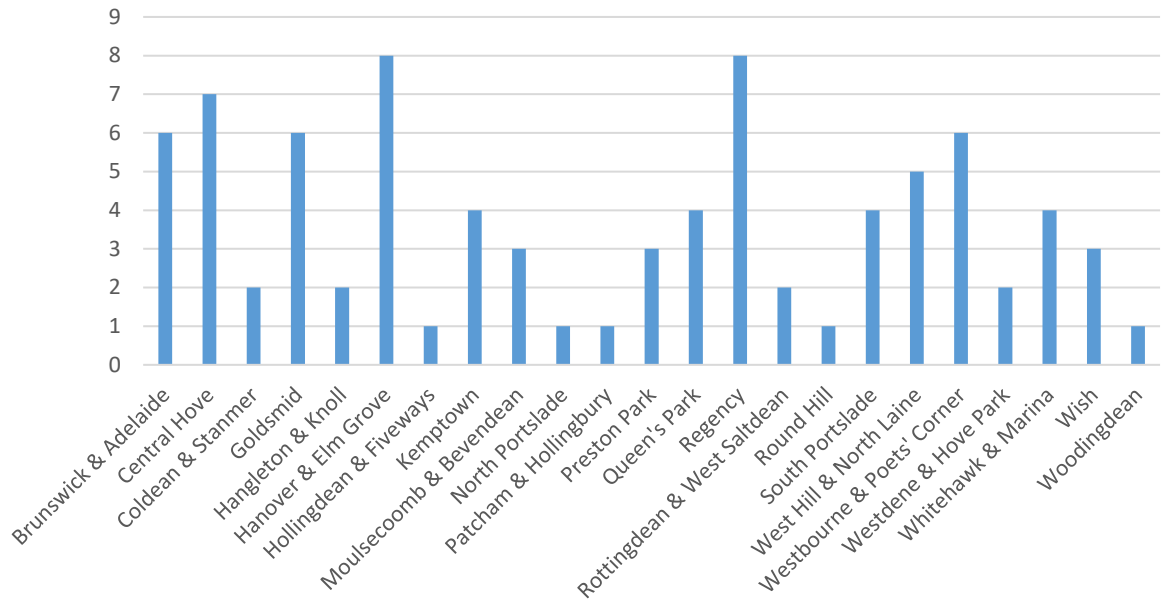


Figure 23. Statutory housing notices served on PRS properties (Source: Ti 2023).

Hanover & Elm Grove (8) and Regency (8) received the highest number of statutory notices for housing and public health related issues (Figure 23).

2.2.4 Anti-social behaviour (ASB) (excluding known HMOs)

The number of ASB incidents, primarily noise nuisance, recorded by the council over the last 5 years, are shown below. They relate to ASB associated with residential premises only. For example, ASB incidents investigated on a street corner that cannot be linked to a residential property are excluded

from the study (Figure 24). Records show the main types of noise ASB are; shouting and music (95%) and vehicle (5%).

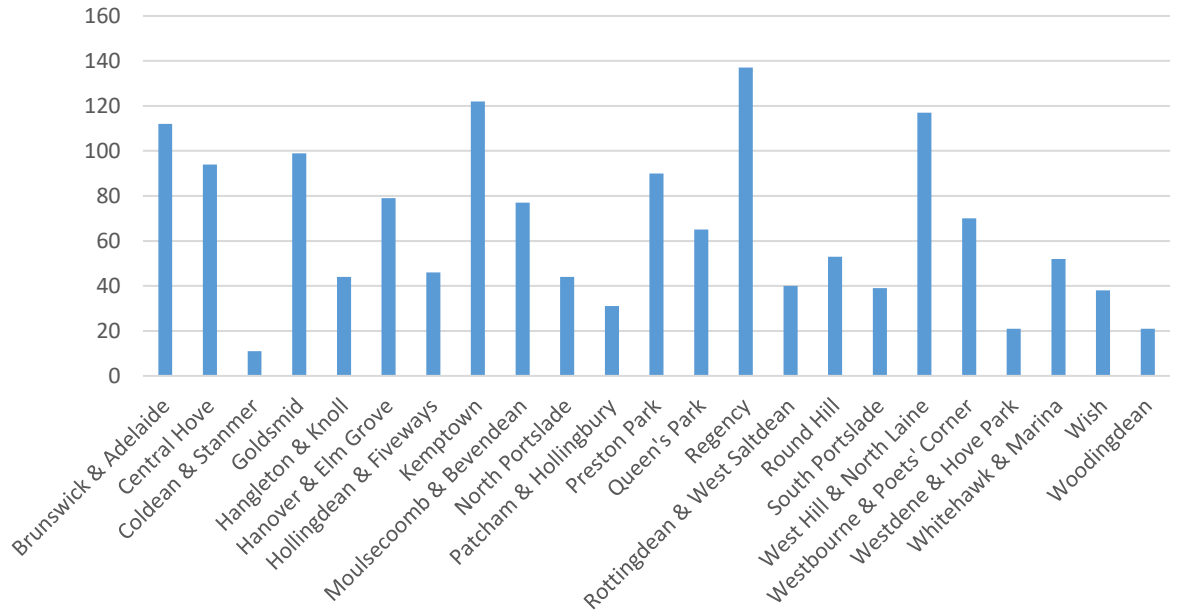


Figure 24. Number of noise ASB incidents linked to PRS by ward (Source Ti 2023).

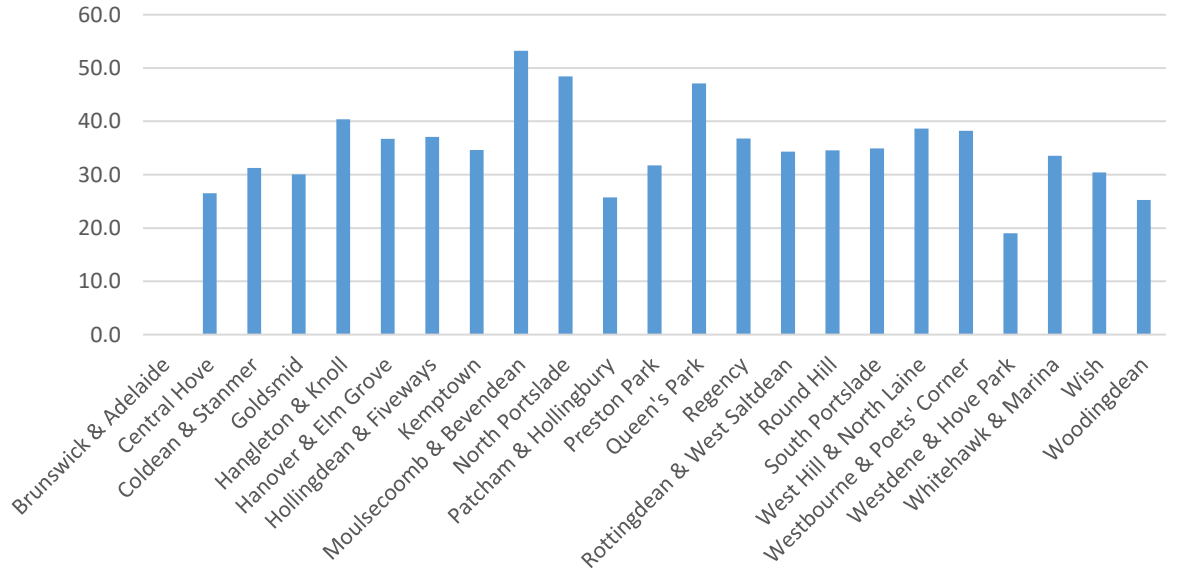
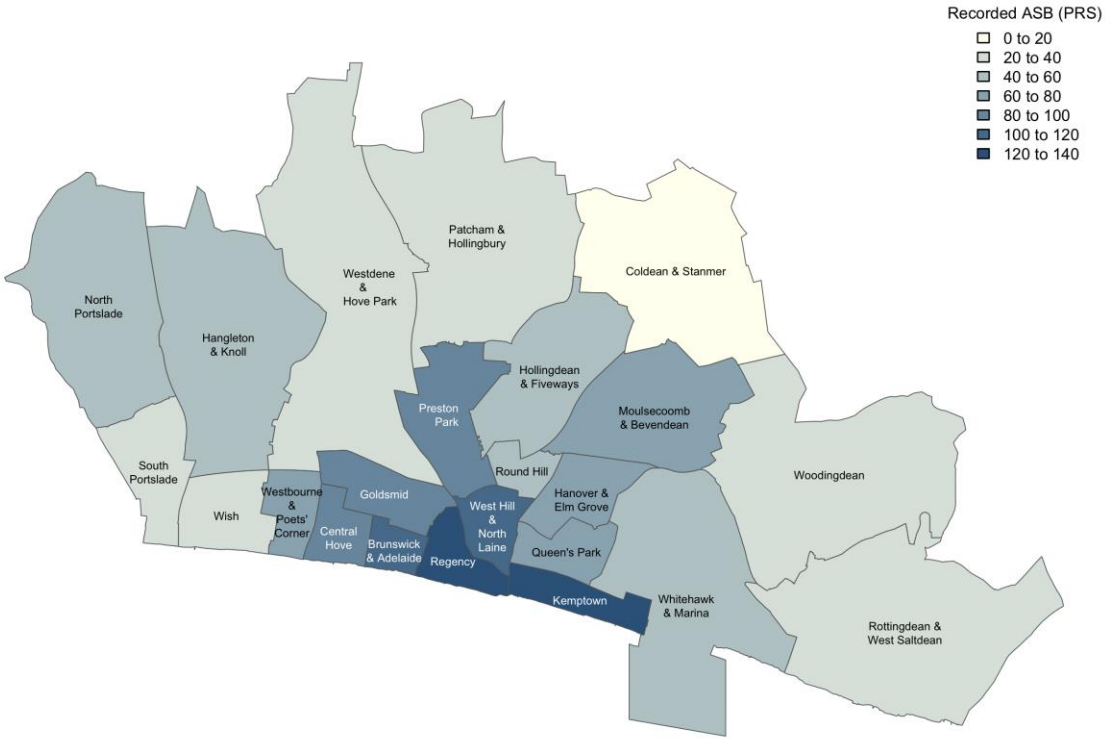


Figure 25. Rates of noise ASB incidents linked to PRS per 1000 PRS dwellings by ward (Source Ti 2023).

Regency (137) has the highest levels of PRS ASB incidents and Coldean & Stanmer (11) has the lowest (Figure 25 & Map 7).



Map 7. Distribution of ASB linked to PRS properties (Source: Ti 2023, Map by Metastreet).

2.3 Results - Houses in Multiple Occupation (HMO)

HMOs identified as part of this study are known HMOs that have been licensed by the authority under the Housing Act 2004, Part 2.

2.3.1 Population and distribution

The total number of known HMOs across 23 wards is 4,208 properties (Figure 26). Moulsecoomb & Bevendean has the highest number of HMOs (855) and North Portslade (18) has the lowest.

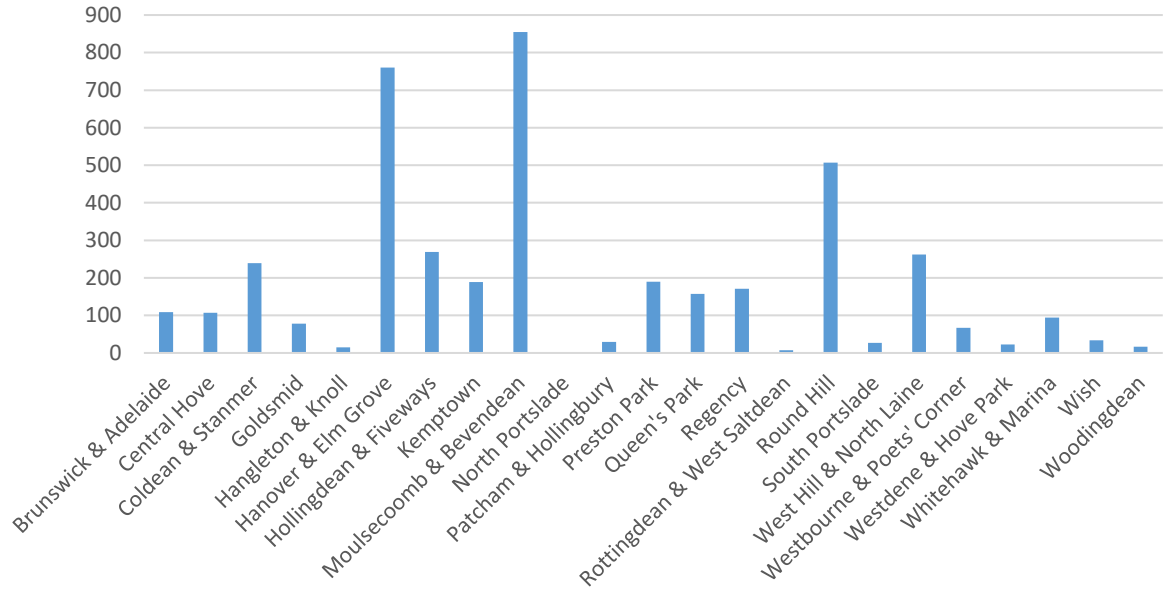
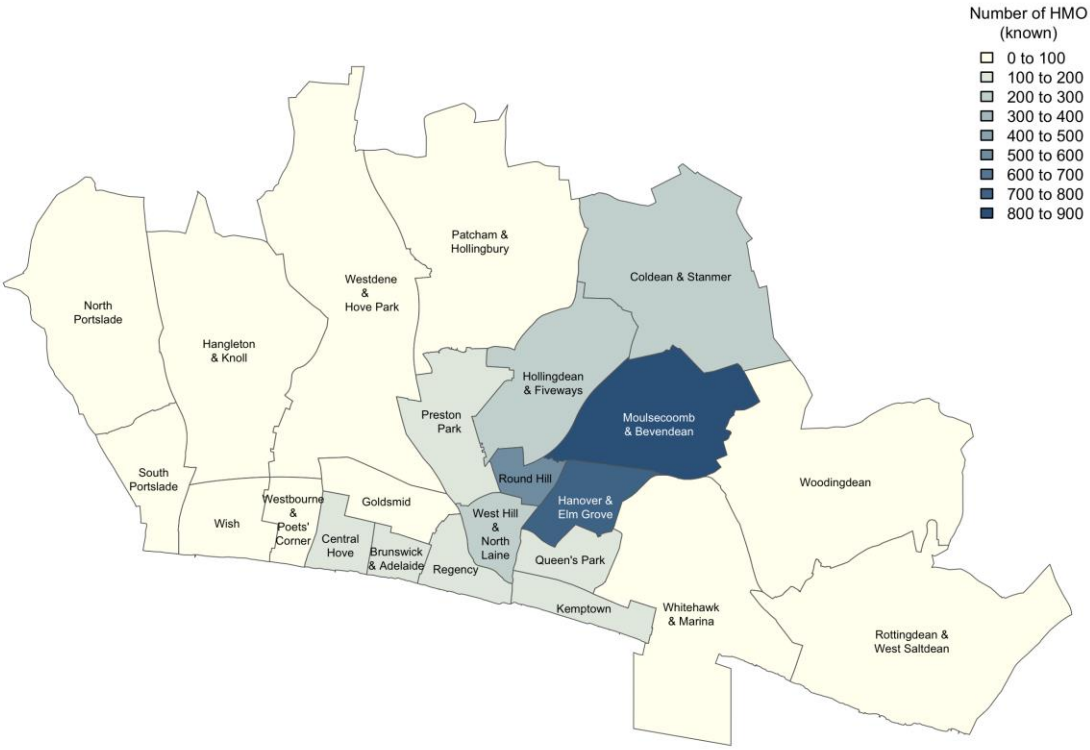


Figure 26. Number of known HMOs by ward (Source Ti 2023)



Map 8: Distribution of HMOs (Source Ti 2023, Map by Metastreet)

Shared HMOs tend to be the cheapest form of private housing per unit and have traditionally been occupied by single adults, however in recent years many more couples and children reside in HMOs. Pressure on affordable housing and higher rates of homelessness has driven demand for this type of dwelling. [23]

2.3.2 HMO & housing conditions

HMOs have some of the poorest housing conditions of any tenure. Analysis shows that 2,144 of 4,208 HMOs in Brighton & Hove are predicted to have at least one serious hazard (Category 1 and 2, HHSRS).

[23] Regulating the Privately Rented Housing Sector, Evidence into Practice, Jill Stewart, Russell Moffatt (2022)

The number of predicted serious hazards is highest in HMOs in Moulsecoomb & Bevendean (428) & Hanover & Elm Grove (355) wards (Figure 27 & Map 9). All wards have HMOs with Category 1 & 2 hazards.

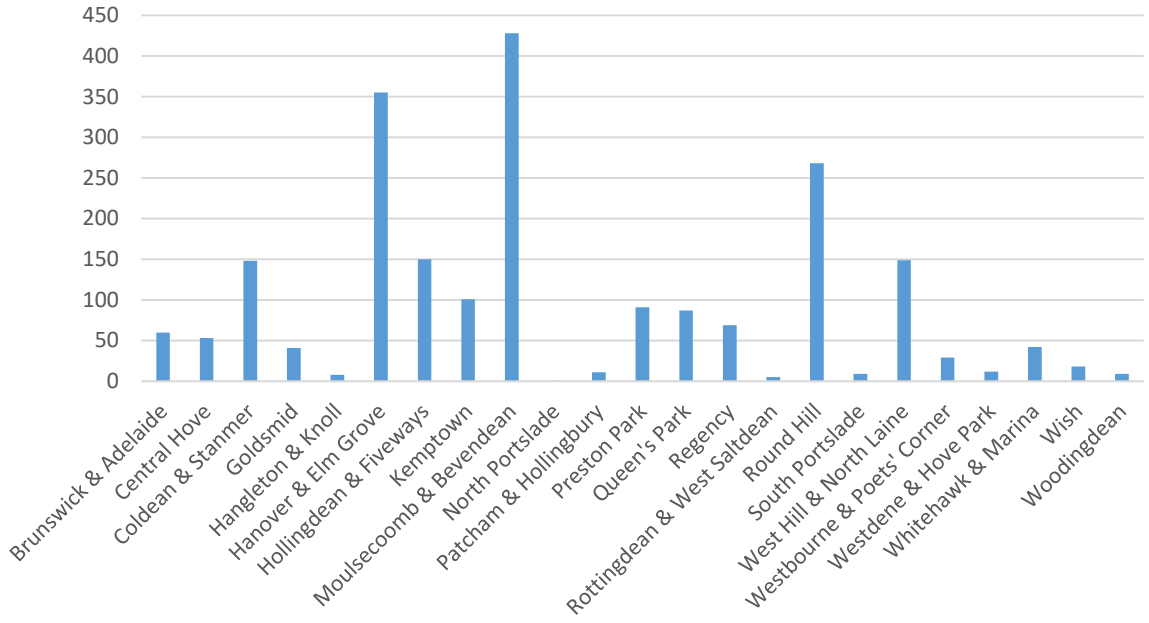
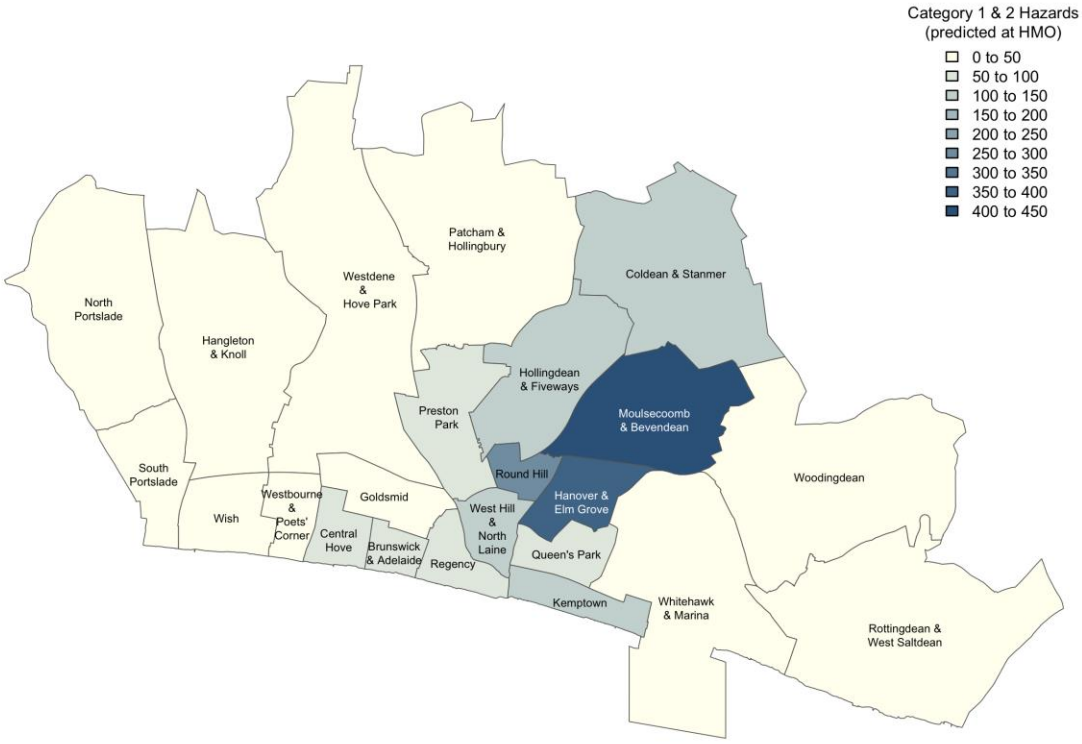


Figure 27. Number of known HMOs with Category 1 hazards by ward (Source Ti 2023).



Map 9: Distribution of HMO with Category 1 & 2 hazards by ward (Source Ti 2023, Map by Metastreet).

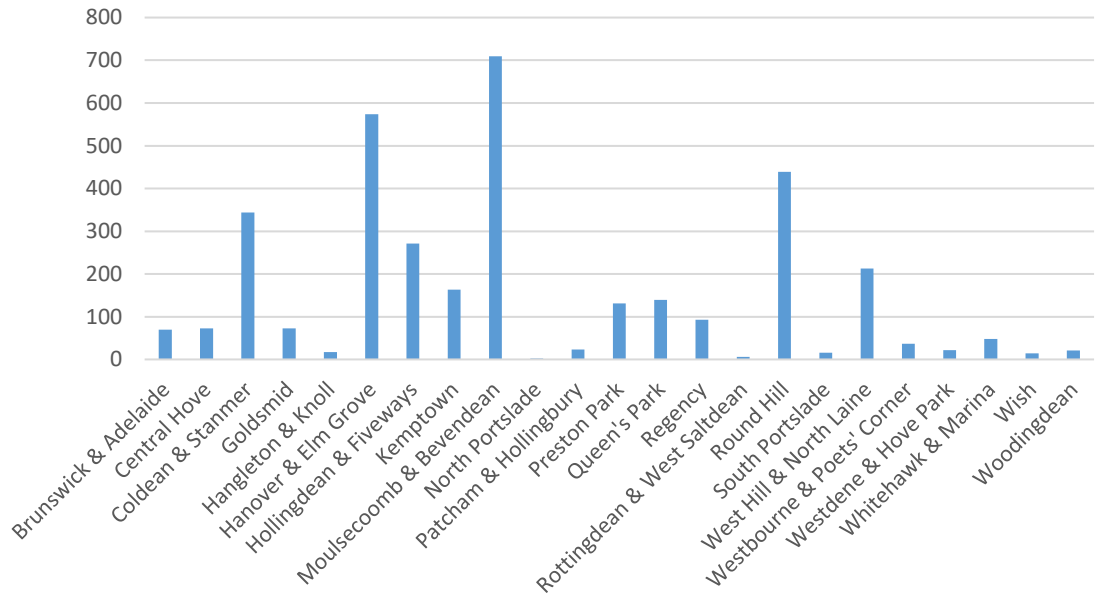
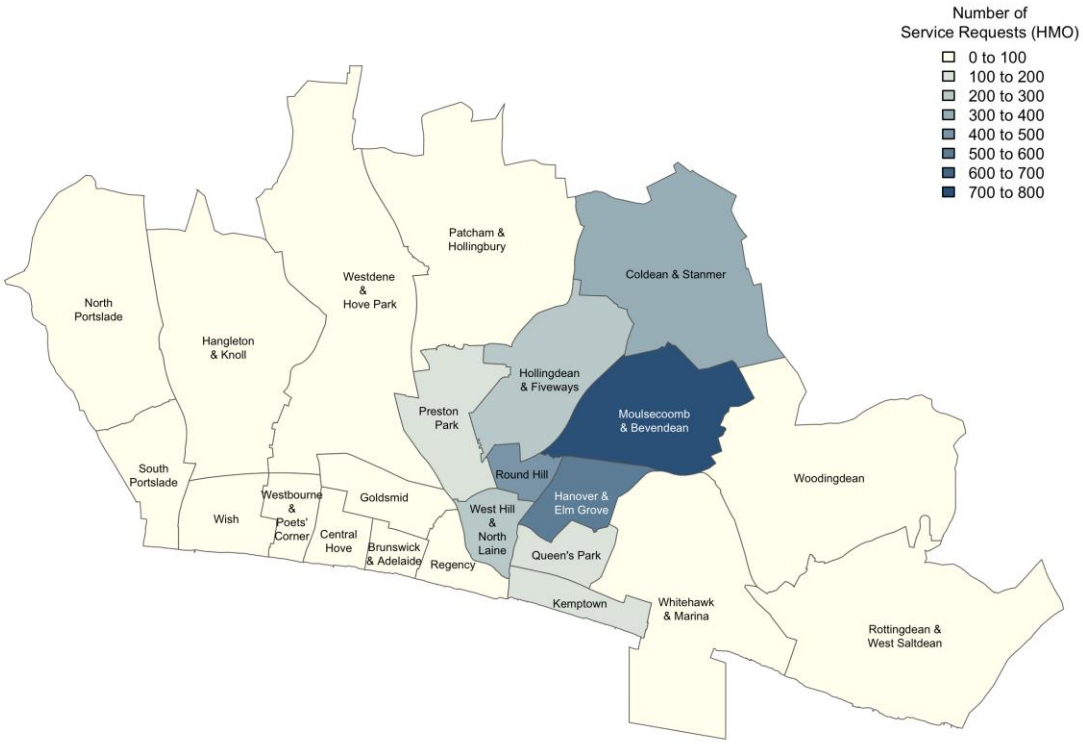


Figure 28. Number of HMOs service requests and complaints by ward (Source Ti 2023).



Map 10: Distribution of HMOs service requests and complaints by ward (Source Ti 2023, Map by Metastreet).

2.3.3 HMO & anti-social behaviour (ASB)

Over a 5 year period 576 ASB incidents have been linked to all HMOs in Brighton and Hove. ASB incidents are made up of noise incidents only. At the time of this study, it was not possible to access data linked to other type of ASB.

Figure 29 shows the number of noise ASB incidents associated with all HMO premises (commercial and ASB incidents not linked to residential premises are excluded from these figures).

ASB linked to HMOs is distributed across nearly all wards. Hanover & Elm Grove (120) and Round Hill (113) have the highest recorded ASB incidents linked to known HMOs.

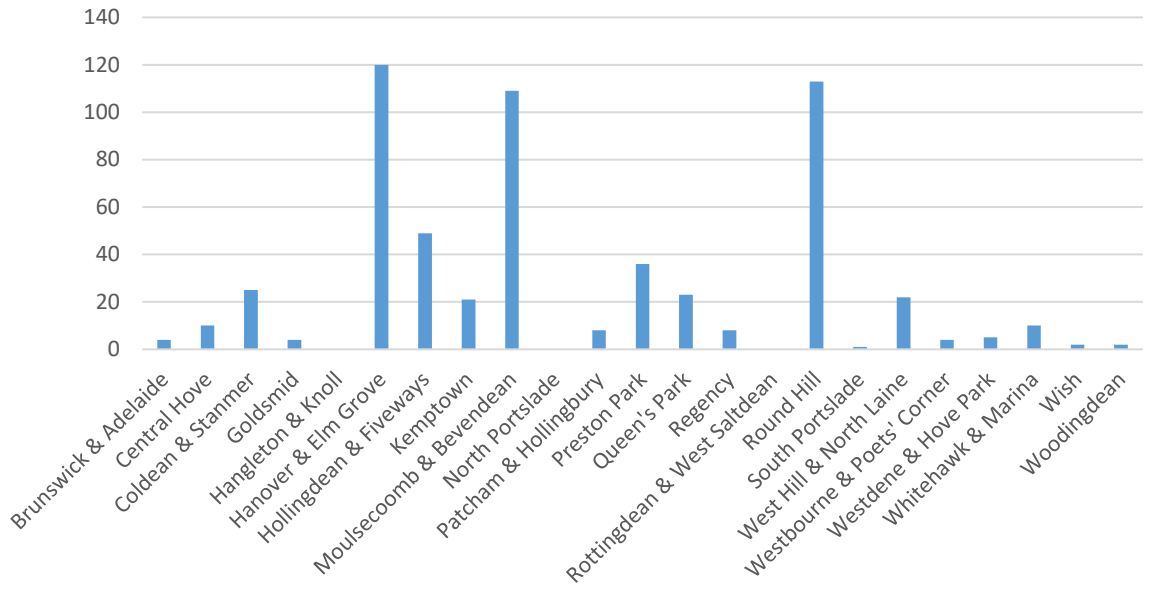
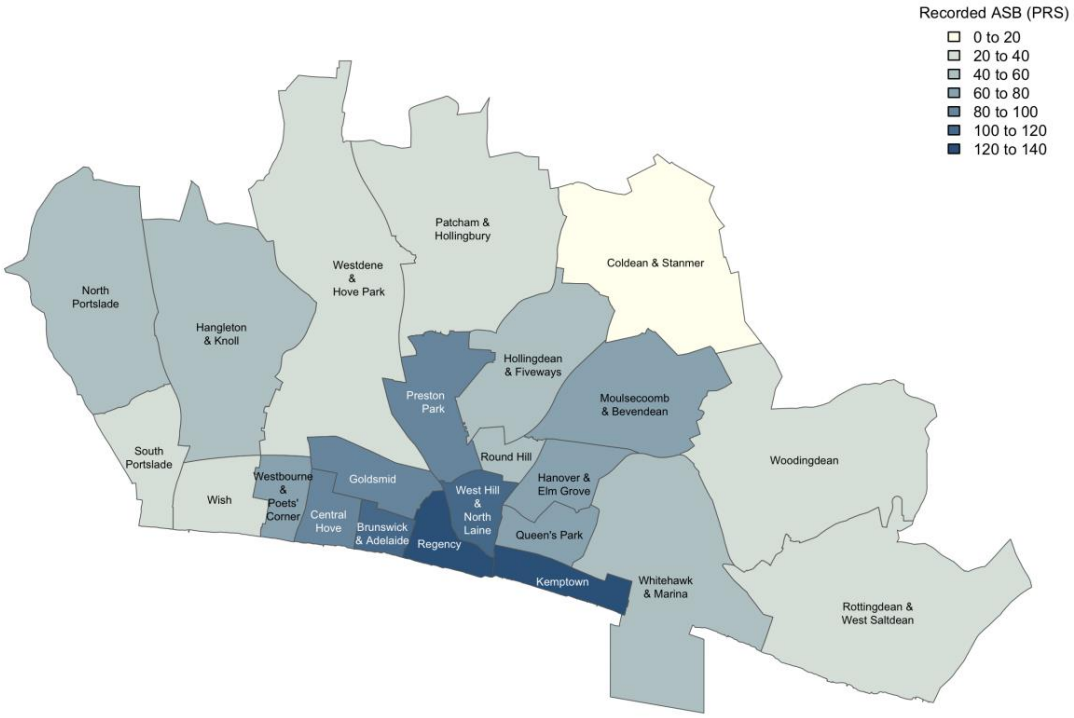


Figure 29. Number of ASB incidents linked to known HMOs by ward (Source Ti 2023).

Elevated levels of ASB can be an indicator of poor property management. HMO properties often have higher levels of transience which can result in higher waste production and ASB. [24]

[24] Regulating the Privately Rented Housing Sector, Evidence into Practice, Jill Stewart, Russell Moffatt (2022)



Map 11: Distribution of ASB linked to known HMOs (Source Ti 2023, Map by Metastreet)

HMO ASB incidence rates range between 27.6 per 100 (Patcham & Hollingbury) and 23.2 per 100 (Round Hill).

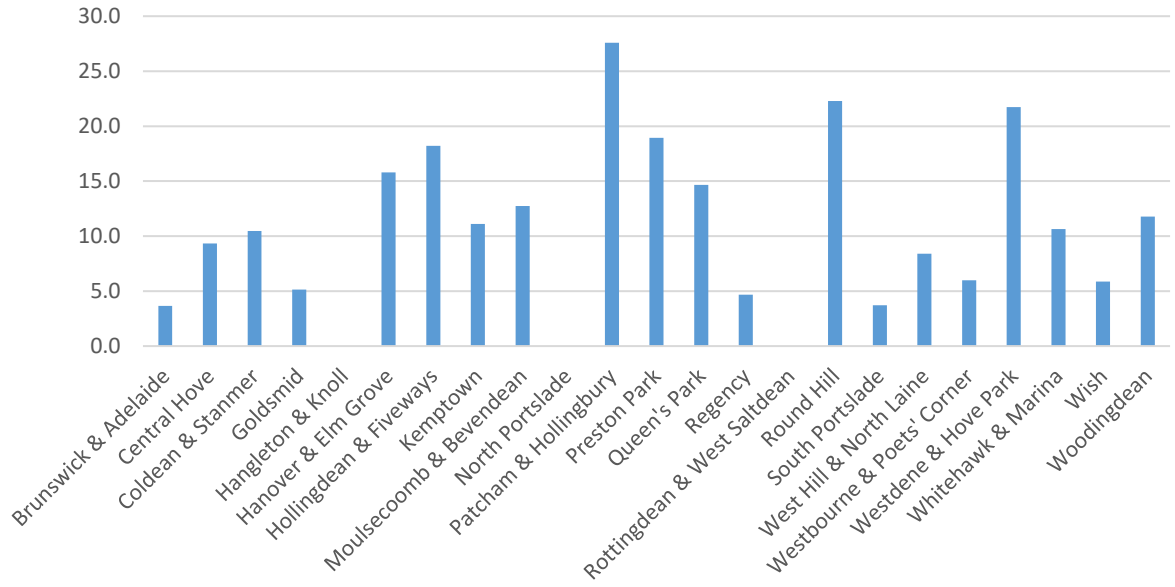


Figure 30. ASB linked to all HMOs per 100 properties by ward (Source Ti 2023).

3 Conclusions

Like many other English city's, Brighton & Hove 's private rented sector (PRS) has grown considerably in recent years, from 29.6% (2011) to 35.8% (2023) (Figure 10).

There are a total of 134,717 residential dwellings in Brighton & Hove , 48,206 of which are privately rented. The PRS is distributed across all 23 wards (Figure 12-13 & Map 2). The number of PRS dwellings per ward ranges from 4,000 (Brunswick & Adelaide) to 591 (Coldean & Stanmer). 20 out of 23 Brighton & Hove wards have a higher percentage PRS than the national average in 2022 (19%) and Census 21 (20%).

The Office of National Statistics (ONS) Census 2021 population estimates for Brighton & Hove was 277,200 (Figure 1). The city has a mixture of high and low deprivation wards. 9 of 23 wards have aggregated IMD rankings below the national average (Figure 4 & Map 1). The city also has above national average rents for England (£1,100) (Figure 9).

Brighton & Hove has below national average rented property possession rates, with 27.8 claims per 10,000 households in 2023 (Figure 5). It also has a lower proportion in fuel poverty (10.5%) than the national average (13.4%) (Figure 4). However these figures are likely to be subject to significant change as a result of recent acute fuel price increases.

There are 8,869 private rented properties in Brighton & Hove that are likely to have at least 1 serious housing hazard (Category 1 and high scoring Category 2, HHSRS). PRS properties with serious hazards are distributed across the city. Regency (891) and Brunswick & Adelaide (849) have the highest number of properties with at least one serious hazard (Figure 16 & Map 4).

Brighton & Hove recorded 4,550 complaints and service requests from private tenants linked to PRS properties over a 5-year period (Figure 18). Regency (402) and Brunswick & Adelaide (370) received most private tenant service requests and complaints by private tenants and others to the Council (Figure 18 & Map 6).

It has been calculated using the matched addresses that 17.3% of PRS properties in Brighton & Hove have an E, F, and G energy performance rating. 2.1% of PRS properties have an F and G rating (Figure 19). Extrapolated to the entire PRS, 923 PRS properties are likely to fail the MEES statutory requirement.

Noise ASB directly linked to PRS properties occurs across the city. Over a 5-year period, 2,078 ASB incidents have been recorded by the authority. Records show the main types of noise ASB are; shouting and music (95%) and vehicle (5%). Regency (137) has the highest levels of PRS ASB incidents and Coldean & Stanmer (11) has the lowest (Figure 24 & 25 & Map 7).

The total number of known HMOs across 23 wards is 4,208 properties (Figure 28). Moulsecoomb & Bevendean has the highest number of HMOs (855) and North Portslade (18) has the lowest. Analysis shows that 2,144 of 4,208 HMOs in Brighton & Hove are predicted to have at least one serious hazard (Category 1 and 2, HHSRS).

Over a 5-year period, 529 noise ASB incidents have been recorded by the authority. Noise ASB linked to HMOs are distributed across nearly all wards (Figure 29 & Map 11). Hanover & Elm Grove (120) and Round Hill (113) have the highest recorded ASB incidents linked to known HMOs. HMO ASB incidence rates range between 27.6 per 100 dwellings (Patcham & Hollingbury) and 23.2 per 100 dwellings (Round Hill) (Figure 30).

Appendix 1 – Ward summaries

Table 3. Ward PRS summary overview (Source Ti 2023) (Excluding known HMOs).

Wards (May 2023)	No. PRS (predicted)	% PRS (%)	No. Cat 1 & 2 hazards (predicted)
Brunswick & Adelaide	3891	58.2	789
Central Hove	3548	50.6	744
Coldean & Stanmer	352	12.0	89
Goldsmid	3294	42.3	609
Hangleton & Knoll	1089	17.5	200
Hanover & Elm Grove	2150	30.2	445
Hollingdean & Fiveways	1241	19.8	234
Kemptown	3525	45.3	730
Moulsecoomb & Bevendean	1446	23.7	283
North Portslade	909	20.8	134
Patcham & Hollingbury	1204	18.3	245
Preston Park	2834	37.7	570
Queen's Park	1379	26.4	266
Regency	3726	53.8	822
Rottingdean & West Saltdean	1166	23.2	246
Round Hill	1533	35.7	293
South Portslade	1117	25.9	234
West Hill & North Laine	3027	45.7	593
Westbourne & Poets' Corner	1832	36.3	393
Westdene & Hove Park	1104	17.7	213
Whitehawk & Marina	1549	26.2	298
Wish	1250	27.1	300
Woodingdean	832	20.5	139

Table 4. Known HMO summary overview (Source Ti 2023).

Wards (May 2023)	No. HMOs (known)	Recorded ASB	No. Cat 1 & 2 hazards (predicted)
Brunswick & Adelaide	281	11	192
Central Hove	227	18	140
Coldean & Stanmer	272	27	177
Goldsmid	218	9	128
Hangleton & Knoll	65	0	50
Hanover & Elm Grove	898	127	455
Hollingdean & Fiveways	349	50	208

Kemptown	427	31	224
Moulsecoomb & Bevendean	953	113	501
North Portslade	18	1	11
Patcham & Hollingbury	73	9	40
Preston Park	307	37	176
Queen's Park	247	28	145
Regency	363	18	207
Rottingdean & West Saltdean	61	0	44
Round Hill	598	118	325
South Portslade	71	2	43
West Hill & North Laine	449	35	267
Westbourne & Poets' Corner	148	8	85
Westdene & Hove Park	107	5	59
Whitehawk & Marina	146	20	77
Wish	105	6	74
Woodingdean	41	2	27

Appendix 2 - Tenure Intelligence (Ti) – stock modelling methodology

This Appendix explains at a summary level Metastreet's Tenure Intelligence (Ti) methodology (Figure 31).

Ti uses big data and machine learning in combination with expert housing knowledge to accurately predict a defined outcome at the property level.

Council and external data have been assembled as set out in Metastreet's data specification to create a property data warehouse comprising millions of cells of data.

Machine learning is used to make predictions of defined outcomes for each residential property, using known outcome data provided by the council.

Results are analysed by skilled practitioners to produce a summary of housing stock, predictions of levels of property hazards and other property stressors. The results of the analysis can be found in the report findings chapter.

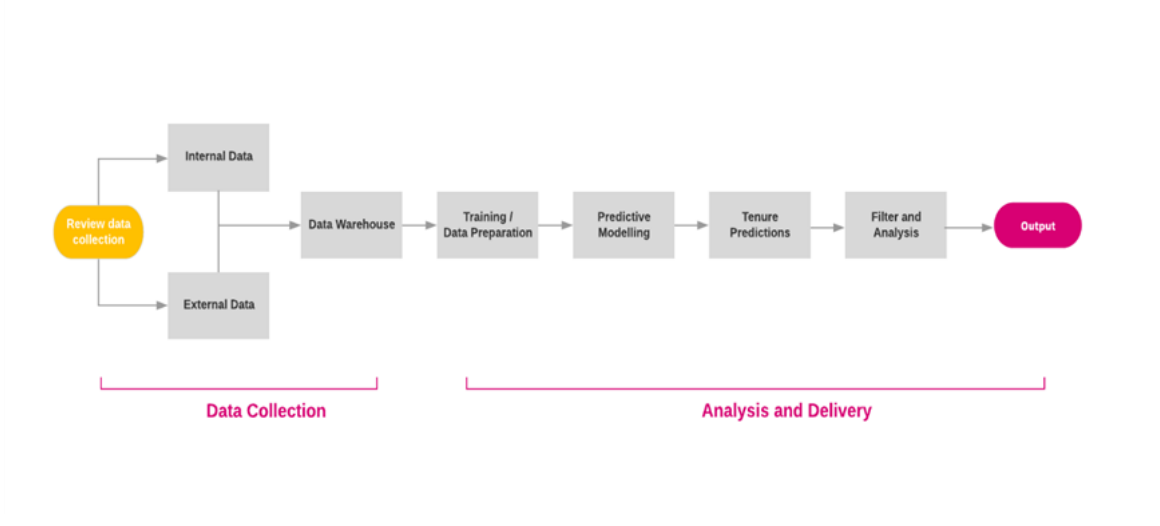


Figure 31. Summary of Metastreet Tenure Intelligence methodology.

Methodology

Metastreet has worked with Brighton & Hove City Council to create a residential property data warehouse based on a detailed specification. This has included linking millions of cells of data to 134,717 unique property references, including council and externally sourced data. All longitudinal data requested from council departments is 5 consecutive years, from April 2017 – March 2022

Once the property data warehouse was created, the Ti model was used to predict tenure and stock condition using the methodology outlined below.

Machine learning was utilised to develop predictive models using training data provided by the council. Predictive models were tested against all residential properties to calculate risk scores for each outcome. Scores were integrated back into the property data warehouse for analysis.

Many combinations of risk factors were systematically analysed for their predictive power using logistic regression. Risk factors that duplicated other risk factors but were weaker in their predictive effect were eliminated. Risk factors with low data volume or higher error are also eliminated. Risk factors that were not statistically significant are excluded through the same processes of elimination. The top 5 risk factors for each model have the strongest predictive combination.

Three predictive models have been developed as part of this project. Each model is unique to Brighton and Hove, they include:

- Owner occupiers
- Private rented sector (PRS)
- PRS housing hazards (HHSRS, Category 1 and high scoring Category 2)

Using a D^2 constant calculation it is possible to measure the theoretical quality of the model fit to the training data sample. This calculation has been completed for each model. The D^2 is a measure of "predictive capacity", with higher values indicating a better model.

Based on the modelling each residential property is allocated a probability score between 0-1. A probability score of 0 indicates a strong likelihood that the property tenure type is *not* present, whilst a score of 1 indicates a strong likelihood the tenure type *is* present.

Predictive scores are used in combination to sort, organise and allocate each property to one of 3 categories described above. Practitioner skill and experience with the data and subject matter is used to achieve the most accurate tenure split.

It is important to note that this approach cannot be 100% accurate as all mathematical models include error for a range of reasons. The D^2 value is one measure of model "effectiveness". The true test of predictions is field trials by the private housing service. However, error is kept to a minimum through detailed post analysis filtering and checking to keep errors to a minimum.

A continuous process of field testing and model development is the most effective way to develop accurate tenure predictions.

The following tables include detail of each selected risk factors for each model. Results of the null hypothesis test are also presented as shown by the Pr(>Chi) results. Values of <0.05 are generally considered to be statistically significant. All the models show values much smaller, indicating much stronger significance.

Owner occupier model

The owner occupier model shows each of the 5 model terms to be statistically significant, with the overall model showing a "predictive capacity" of around 88% (Table 5).

Table 5. Owner occupier predictive factors.

Risk factors selected	**Pr (>Chi)***
Ctax accs last 5 years	0.003949
Ctax band	2.2e-16
Tenure (EPC)	2.2e-16
Bens prop claim count	2.2e-16
Live Elector Count	2.2e-16
Training data, n= 1989	
D^2 test = 0.88**	

* Pr(>Chi) = Probability value/null hypothesis test, ** D^2 test = Measure of model fit

PRS predictive model

The PRS model shows that each of the 5 model terms is statistically significant, with the overall model having a "predictive capacity" of around 87% (Table 6).

Table 6. PRS predictive factors.

Risk factors selected	**Pr(>Chi)**
Ctax accs last 5 years	0.003949

Tenure (EPC)	2.2e-16
HB claims	2.2e-16
TDS	2.2e-16
PRS.SRs	0.0004034
Training data, n= 2257	
D^2 test = 0.87	

Category 1 (HHSRS) hazards model

Numerous properties where the local housing authority has recently taken action to address serious hazards were sampled for training data. Specifically, this included Housing Act 2004 Notices served on properties to address Category 1 & 2 hazards. The model results show that each of the model terms is statistically significant, with the overall model having a "predictive capacity" of around 91% (Table 7).

Table 7. Category 1 (HHSRS) hazard predictive factors.

Risk factors selected	**Pr (>Chi)**
PRS.SR	2.2e-16
CURRENT ENERGY EFFICIENCY	2.185e-07
HB claim count	2.2e-16
Liability Order	2.2e-16
ASB	1.708e-08
Training data, n= 1114	
D^2 test = 0.91	

Ti 2023 – Census 2021 data comparison

Table 8. Ti dwelling data compared to Census household data.

Brighton & Hove C. C.	**Ti predictions April 2017 – March 2022**		**Census 2021**		**Difference (Ti vs Census 2021)**
Tenure	No. dwellings	%	No. households	%	No. (dwellings - households)
Social Housing	17,770	13.20%	18,051	14.90%	-281
Owner occupiers	68,741	51.00%	63,667	52.40%	5,074
PRS	48,206	35.80%	39,684	32.70%	8,522
Totals	134,717		121,402		13,315

Version, Final March 2023

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