London Borough of Havering

Private Rented Sector: Housing Stock Condition and Stressors Report

October 2024

Executive Summary

Metastreet were commissioned by London Borough of Havering to review the housing stock in the district and assess housing stressors related to key tenures, particularly the private rented sector (PRS).

The detailed housing stock information provided in this report will facilitate the development and delivery of Havering '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, including Houses in Multiple Occupation (HMO).
- Levels of serious hazards that might amount to a Category 1 and high scoring category 2 hazard (Housing Health & Safety Rating System (HHSRS)).
- Other housing related stressors, including 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 & 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 includes but are not limited to:

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

Key Findings

- PRS Share & Distribution:
    - PRS accounts for 19.3% of Havering's housing stock, distributed across all 20 wards.
    - Seven wards have PRS percentages equal to or above the 2024 national average (19%).
- IMD & Possession Claims:
    - Four wards rank below decile 5 in aggregated IMD scores.
    - Havering had 155 landlord possession claims in Q4 2023, below the London borough average (212).
- Rents & Crime:
    - Havering's average rent (£1,250) is below the London average (£1,625) but above the national average (£825).
    - Residential crime rate (4.7 per 1,000) is below the London average (6.4 per 1,000) for 2022-23.
- Property Types & Hazards:
    - Houses make up 47% of PRS properties; bungalows are the least common (4%).
    - 5,058 PRS properties likely have serious housing hazards (HHSRS Category 1 & high-scoring Category 2), distributed across all wards.
    - Inspections (2021-24) found 1,298 hazards in 150 properties.
- Complaints & Energy Efficiency:
    - 1,459 complaints/service requests (linked to 1,208 PRS properties) recorded over five years.
    - 2,399 PRS properties have EPC ratings of E, F, or G.
- Enforcement:
    - 535 housing/public health notices and 135 penalty notices/prosecutions issued (2019-24).
- HMO Population & Hazards:
    - Total HMO population: 864 (410 licensed HMOs; 454 predicted shared amenity HMOs).
    - 426 HMOs are predicted to have serious hazards, affecting all wards.
- Complaints & Inspections:
    - 240 complaints (linked to 172 HMOs) recorded over five years.
    - 323 inspections (2021-24) identified 1,254 hazards in 139 HMOs, excluding Upminster.

    - Heaton (257) and Havering-atte-Bower (115) recorded the most HMO hazards.
- Enforcement:
    - 89 HMO enforcement interventions conducted (2019-24).

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1 Introduction & Project Objectives

Metastreet were commissioned by London Borough of Havering to review its housing stock with a focus on the following key areas:

- Residential property tenure changes
- Distribution of the PRS
- Condition of housing stock in the PRS
- Housing related stressors, including environment factors, regulatory interventions and deprivation.
- Houses in Multiple Occupation (HMO) and related stressors

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 report details the findings of the stock and tenure modelling, including an introduction to the methodology. A combination of Havering '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 Havering , built up from property level data.

A number of bespoke predictive tenure models (Ti) have been developed as part of this project which are unique to Havering , they include:

- Private rented sector (PRS)
- Owner occupiers
- Serious PRS housing hazards (Category 1 and high scoring Category 2, HHSRS A-D)
- Houses in Multiple Occupation (shared amenities)

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

2 Havering overview

London Borough of Havering forms part of Outer London. It is the easternmost London borough. The neighbouring districts (clockwise from south) are the London boroughs of Bexley (across the River Thames), Barking and Dagenham and Redbridge, the Essex districts of Epping Forest and Brentwood, and the unitary authority of Thurrock. Havering covers an area of 112.3km² [1].

2.1 Population

The Office of National Statistics (ONS) Census 2021 population estimates for Havering was 262,000 (Figure 1)[2]. This represents a 10.4% increase over the last decade.

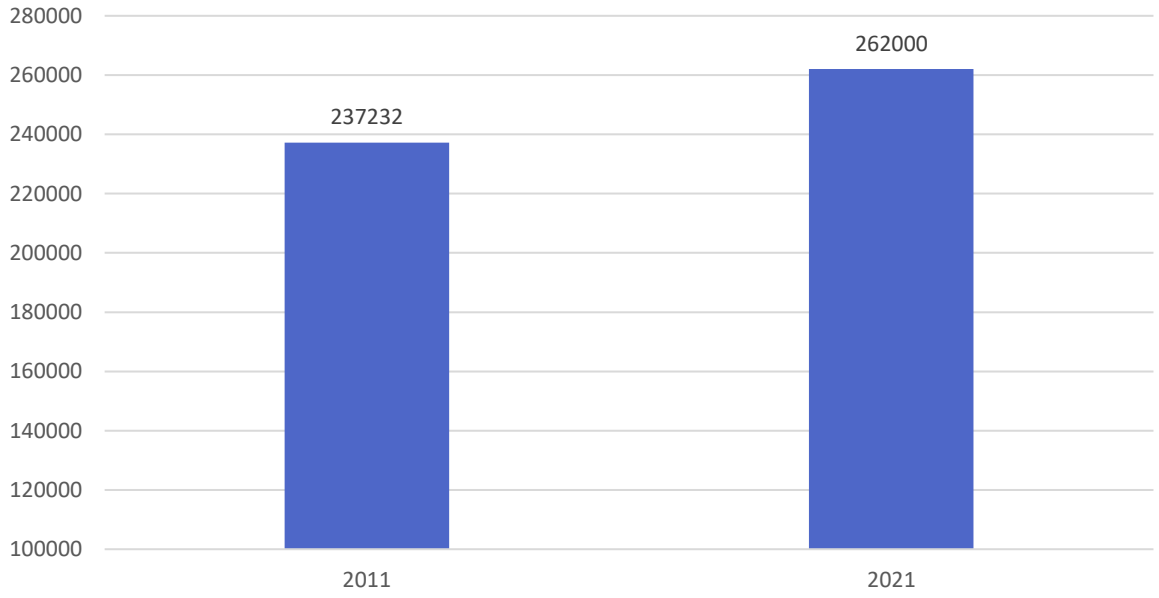


Figure 1. Population estimates, Census 2011 & 2021 (Source: Census ONS).

2.2 Household size

Household size (all tenures) provides an insight into how dwellings are occupied across the housing authority. One and two person households are most common in Havering. (Figure 2).[3]

[1] Wikipedia, September 2024, https://en.wikipedia.org/wiki/London_Borough_of_Havering
[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, Household size https://www.ons.gov.uk/datasets/TS017/editions/2021/versions/3

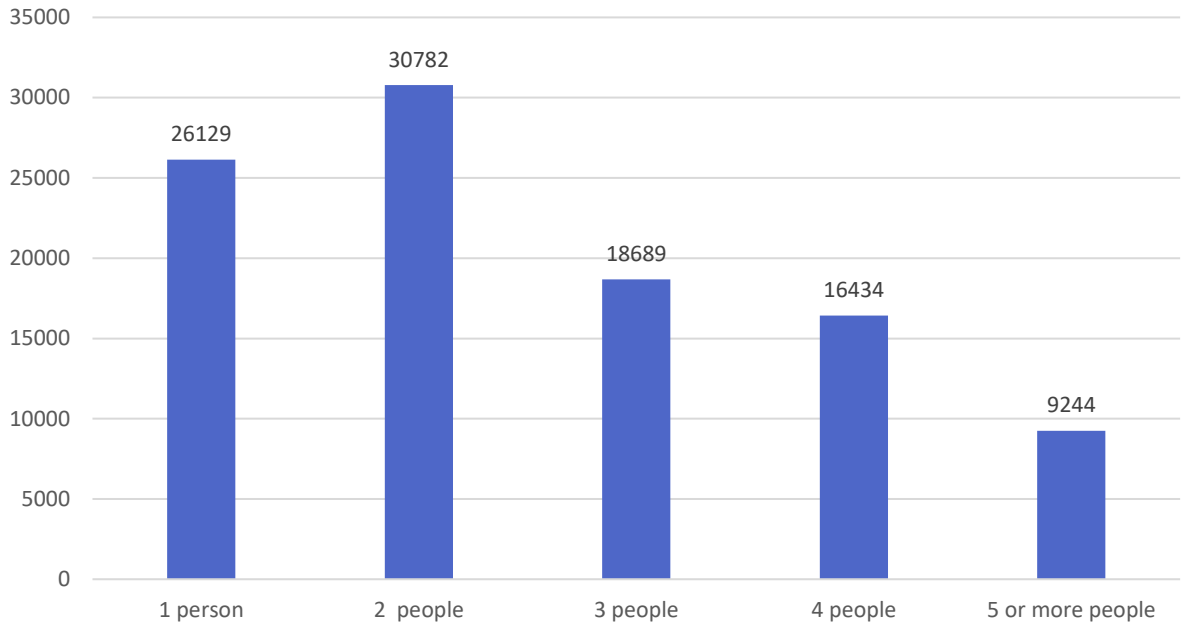


Figure 2. Havering household size (all tenures) (Source: Census 2021).

2.3 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].

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

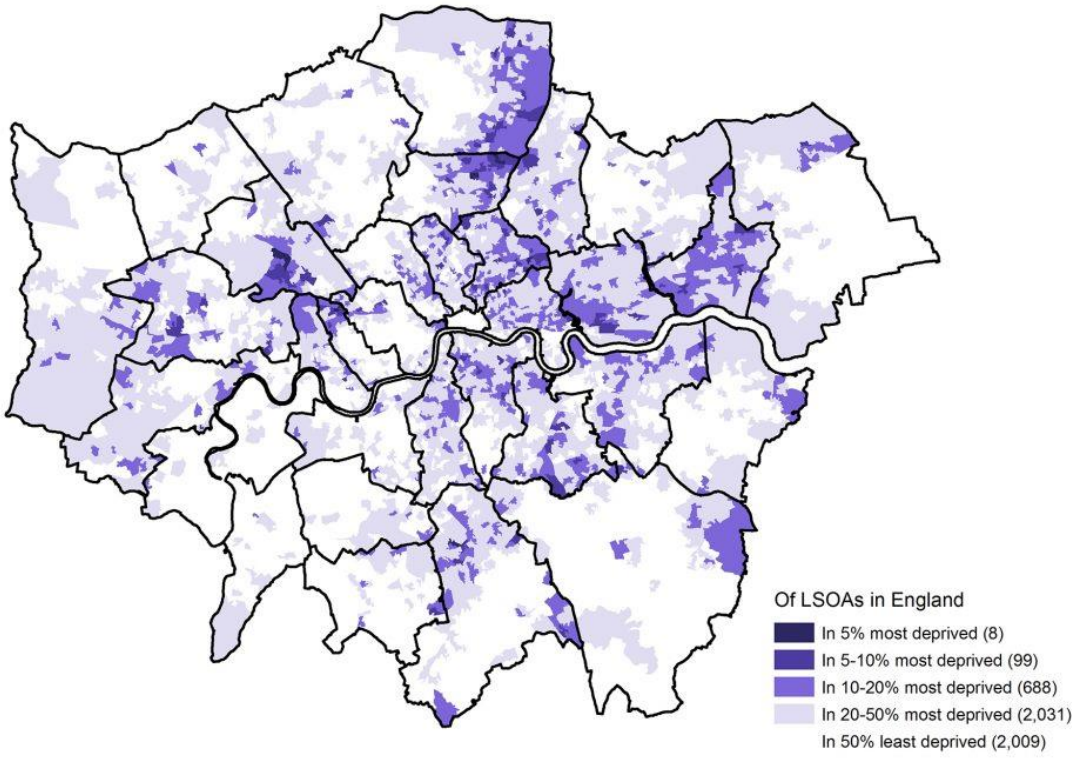


Figure 3. Distribution of deprivation across London (Source: London Datastore 2019, Map by London Datastore).

The darker shades are the most deprived areas. Havering ranks as the 179 (rank of average rank) most deprived borough in England out of 317.

To produce the ward level IMD 2019 data, government guidance and methodology to convert the data has been used[5]. LSOAs have been matched to wards using Open Geoportal lookup tables. IMD 2019 scores have been ranked (deciles) and weighted for population.

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 (national average).

Havering has a mixture of high and low deprivation wards. 4 of 20 wards have aggregated IMD rankings below decile 5 (national average) (Figure 4 & Map 1).

[5] MHCLG 2019 https://assets.publishing.service.gov.uk/media/5d8b364ced915d03709e3cf2/IoD2019_Research_Report.pdf

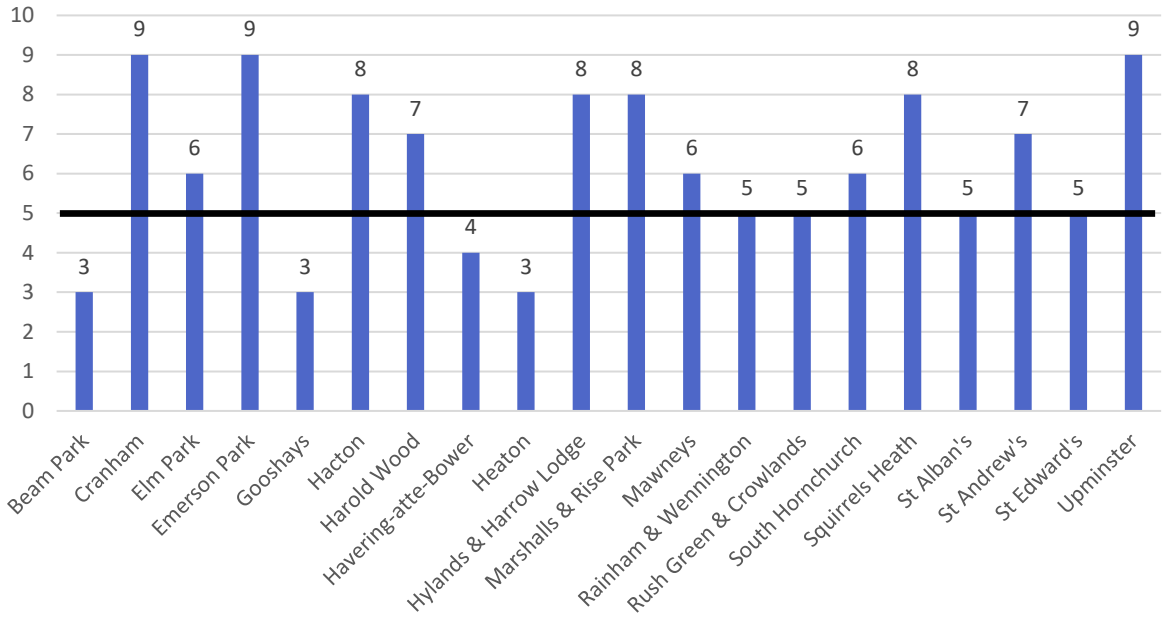
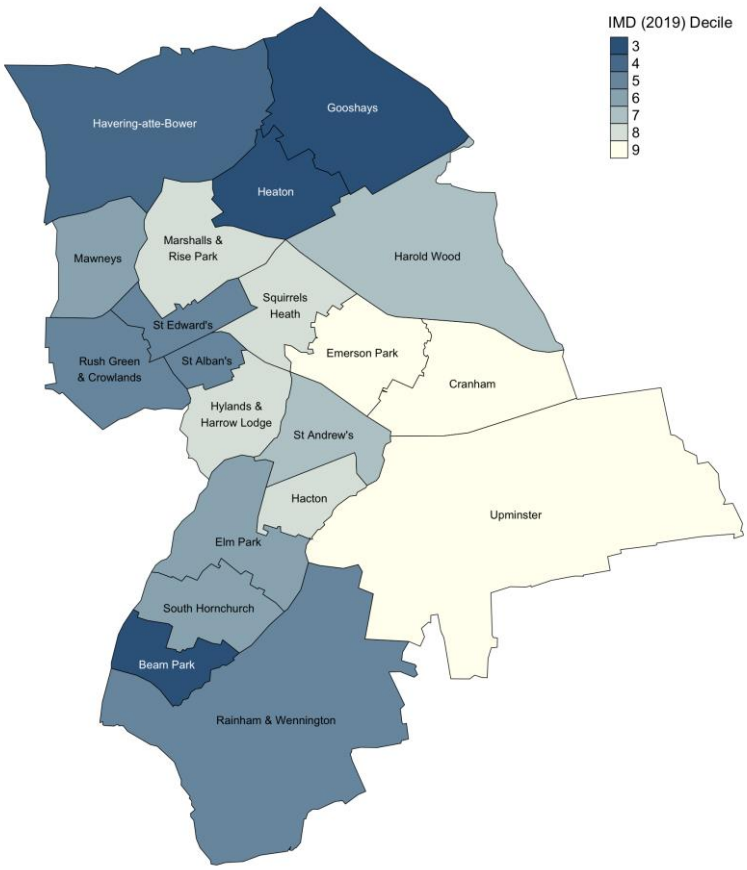


Figure 4. Average IMD (2019) decile by ward (Source: IMD 2019). Horizontal line shows the national average (decile 5).



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

2.4 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 coming years these figures are likely to change significantly because of acute fuel price increases during much of 2022/23. Notwithstanding this, Havering has a slightly lower proportion in fuel poverty (13.2%) than the national average (13.8%) (Figure 5) [6].

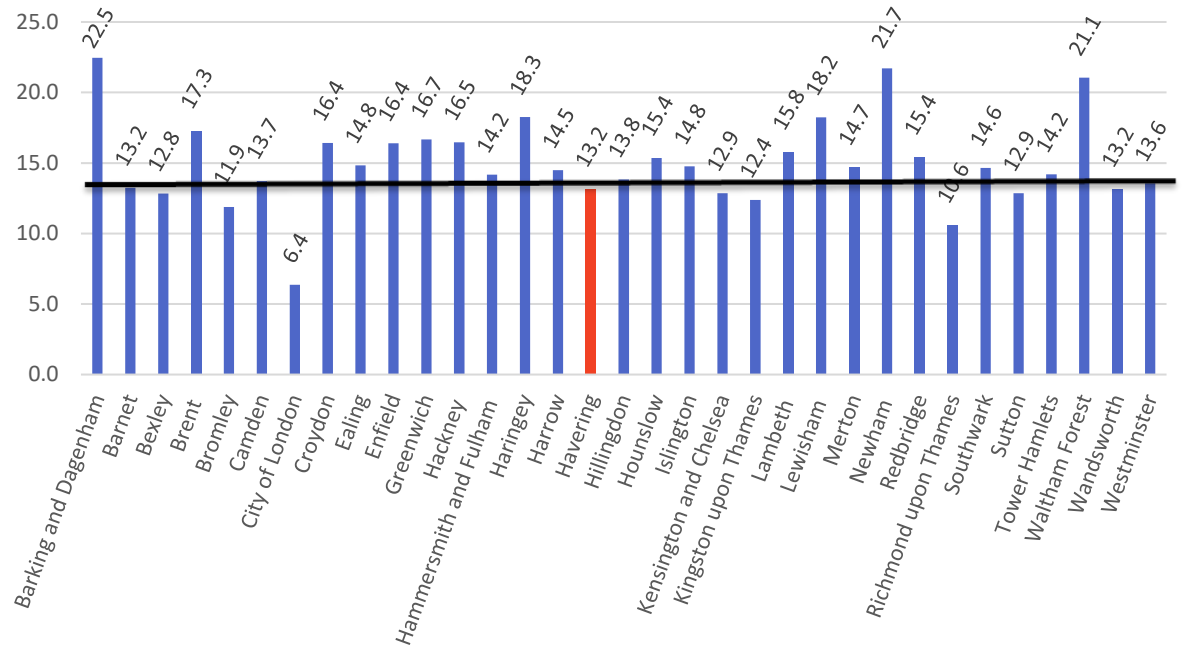


Figure 5. Proportion of households in fuel poverty (%) by selected comparable areas (BEIS 2019). Horizontal black line shows England average (13.4%).

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

2.5 Rented property possession claim rates

Havering has a below average number of landlord possession claims for London, with 155 in 2023 Q4 (Figure 6). The average number of claims for London boroughs during this period was 212. [7]

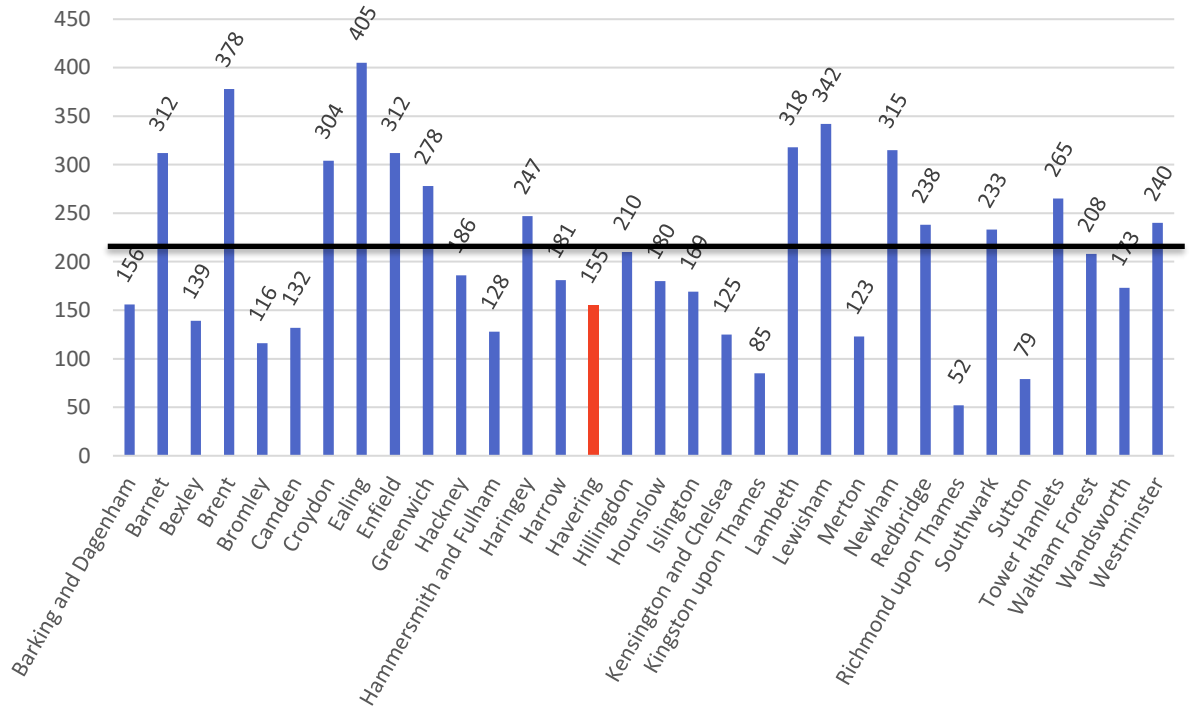


Figure 6. Number of possession claims issued by landlords (2022/23 Q4) for All London Boroughs (excluding City) (MOJ 2023) Horizontal black line shows London average (212).

2.6 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 dwelling types (all categories). Overall Havering has below average rents (all categories) for London (£1,250) (Figure 7). The national average is £825, and the London average is £1,625. [8]

[7] MOJ Possession claims by local authority (2023) https://lginform.local.gov.uk/reports/lgastandard?mod-area=E09000023&mod-group=AllBoroughInRegion_London&mod-metric=3497&mod-period=4&mod-type=namedComparisonGroup&mod-groupType=namedComparisonGroup

[8] ONS Private rental market summary statistics in England: April 2022 to March 2023 https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/privaterentalmarketsummarystatisticsinengland/october2022toseptember2023

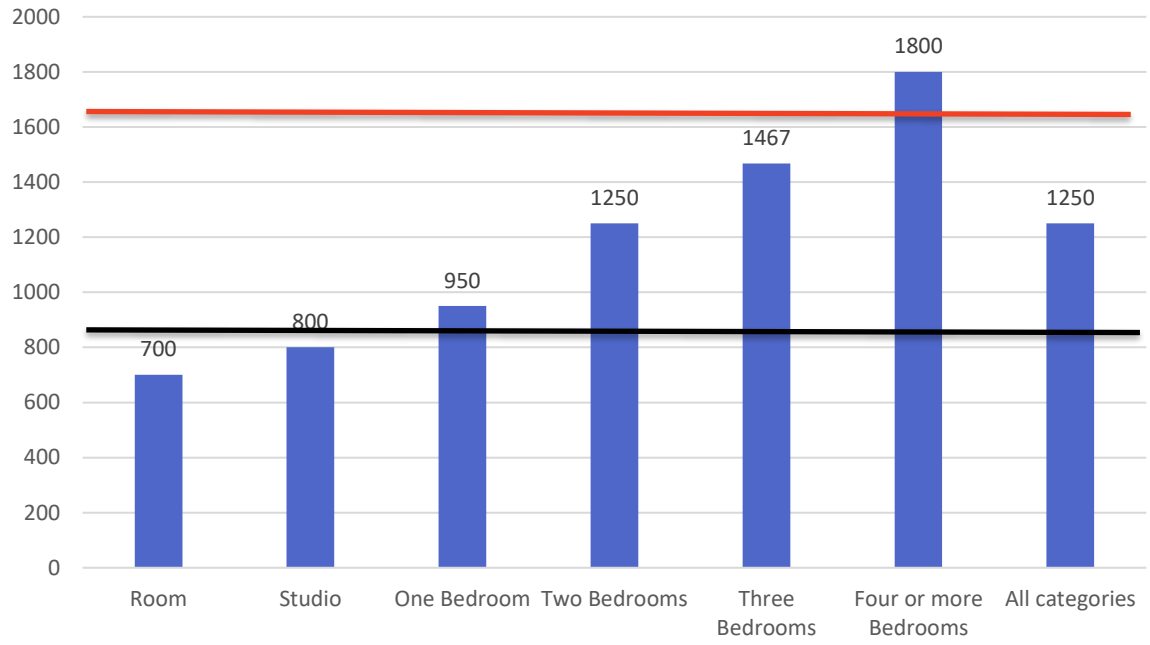


Figure 7. Median monthly rents (£) (1 April 2022 to 31 March 2023) (all categories) (Source: VOA 2024). Horizontal black line shows national average (£825). Horizontal red line shows London average (£1,625).

2.7 Residential property crime (burglary)

Havering (4.7 per 1,000) has a below average residential crime (burglary) rate over a twelve-month period (2022-2023) when compared to other London boroughs (Figure 8). When compared to other London boroughs, Havering has the 24th highest number of burglaries in London (Figure 8). [9]

[9] London Datastore September 2024 https://data.london.gov.uk/dataset/recorded_crime_summary

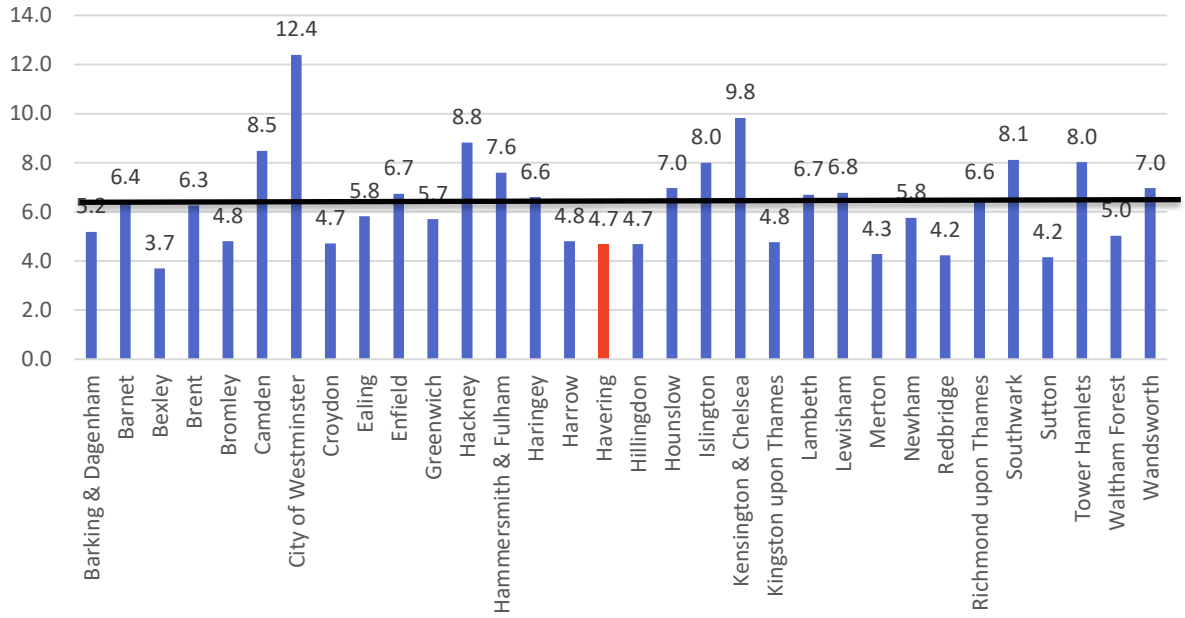


Figure 8. Residential property crime (burglary) rates per 1,000 population by London borough . Horizontal black line shows London average (6.4 per 1,000 population).

Over a one-year period, 859 burglaries were reported to the Metropolitan Police in Havering between January 2023 – December 2023. Heaton (104) and Gooshays (90) wards had the highest numbers of burglaries (Figure 9) [10].

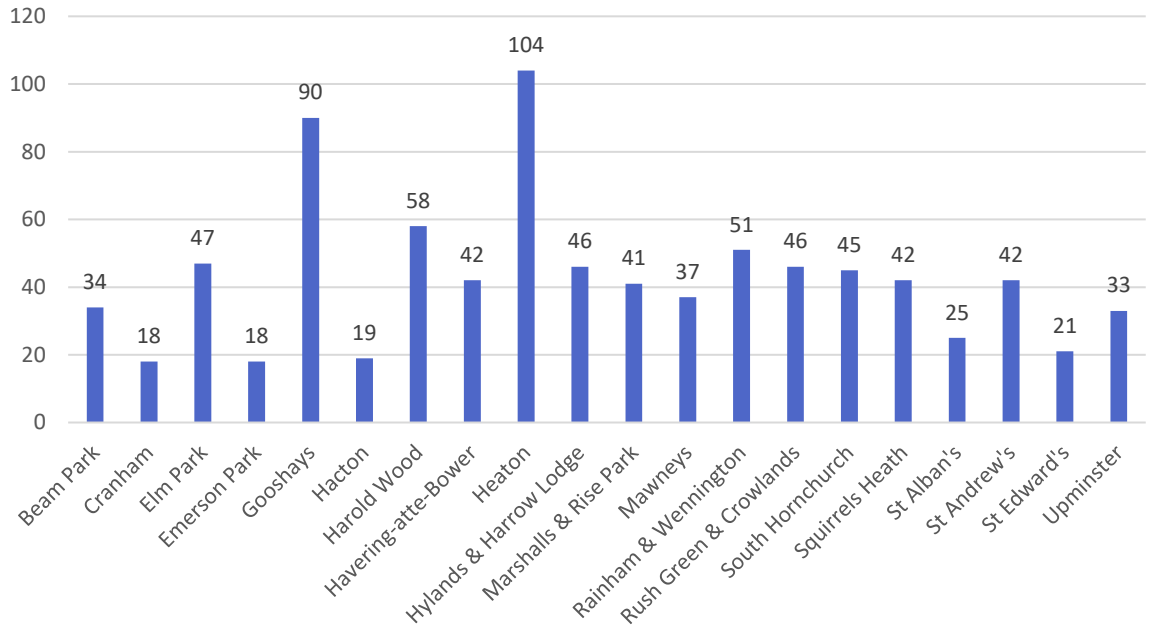


Figure 9. Residential Property Crime (burglary) by ward (2023).

[10] London Datastore September 2024 https://data.london.gov.uk/dataset/recorded_crime_summary

3 Results of housing stock and stressor modelling

3.1 Methodology

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

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 109,048 unique property references (UPRN), excluding parent (shell properties) and non-dwellings. Therefore, only properties that are dwellings have been included in this study, common parts and ancillary properties have been excluded.

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 serious 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 five consecutive years, from April 2019 – March 2024.

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 Havering . 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.

3.2 Results - Private rented sector

3.2.1 PRS Population and distribution

The private rented sector (PRS) in Havering has grown significantly since 2011 [11].

Based on tenure modelling (2024), Havering 's PRS is now calculated to be 19.3% of all housing stock (Figure 10). The 2021 Census reports the PRS in Havering to be 15.9% and 11.5% in 2011.

The difference is likely to be a result of distorted response rates in the PRS from the Census data, in part as a result of the March 2021 government-imposed coronavirus lockdown measures[12,13]. Further details of the differences between the Census 2021 and Ti 2024 results can be found in Appendix 2. It's important to note that Census tenure data is based on self-reported households, while Ti data is based on known dwellings within a local authority area. Some dwellings have multiple households. Therefore, the number of households should normally exceed the number of known dwellings (Table 9).

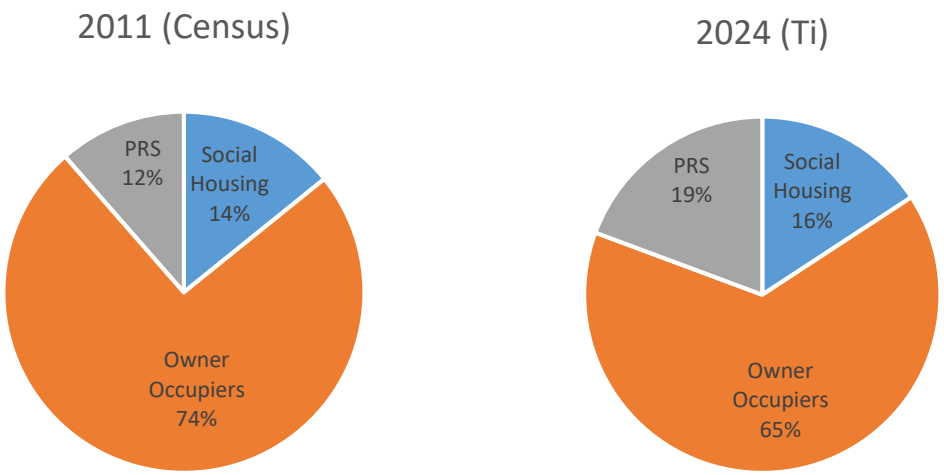


Figure 10. Tenure profile 2011 & 2024 (Source: ONS & Metastreet Ti model).

[11]Census 2021 https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates
[12]Timeline of UK government coronavirus lockdowns and restrictions, https://www.instituteforgovernment.org.uk/data-visualisation/timeline-coronavirus-lockdowns
[13]Onlondon Article (July 2022) https://www.onlondon.co.uk/london-councils-briefing-warns-that-census-may-have-significantly-undercounted-capitals-population/

Tenure percentage change over the last two decades in Havering has been in line with the national trend (Figure 11), however the gradual 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 [14] to 19% of households 2023 [15]. The PRS remains the second largest housing tenure in England. [16] .

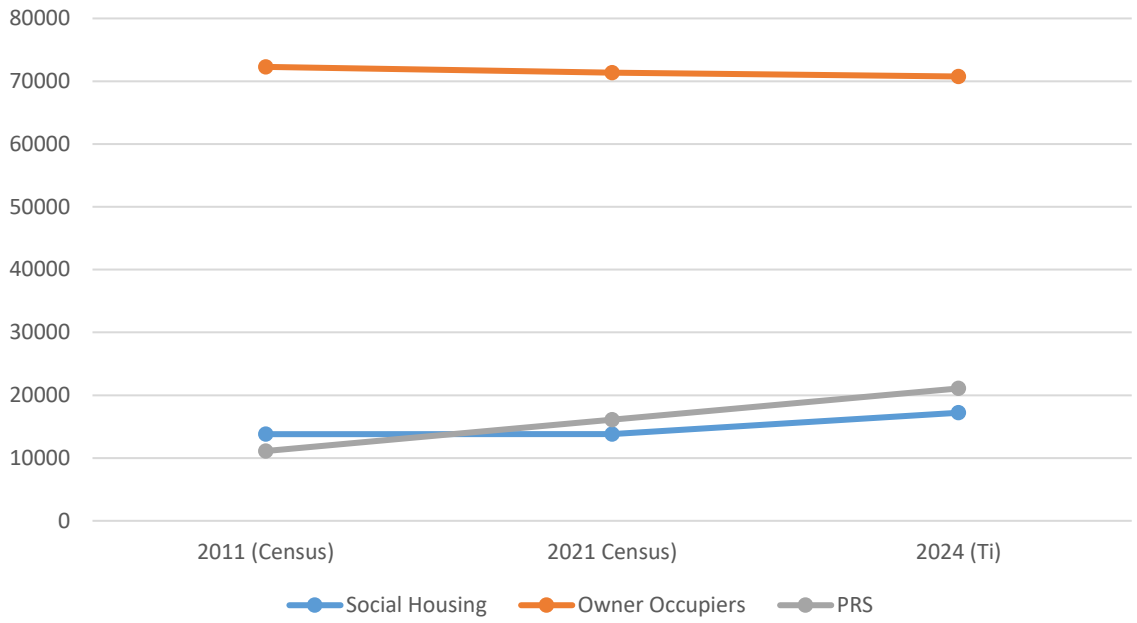


Figure 11.Havering tenure change and total households/dwelling stock, 2011, 2021 & 2024(Source: ONS & 2024 Ti).

Social rented housing stock has increased over the last decade; however, owner occupation has decreased (Figure 11 and Table 1).

[14] The profile of UK private landlords Scanlon K & Woodhead C CML research. LSE London. December 2017 www.cml.org.uk
[15] EHS Headline 2022-2023, https://www.gov.uk/government/statistics/chapters-for-english-housing-survey-2022-to-2024-headline-report
[16] EHS Headline 2022-2023, https://www.gov.uk/government/statistics/chapters-for-english-housing-survey-2022-to-2024-headline-report

Table 1. Number of households & dwellings by tenure 2011, 2021 & 2024 (Source: ONS & Ti 2024).

Tenure	2011 (Census)	2021 Census)	2024 (Ti)
Social Housing	13,799	13,807	17,211
Owner Occupiers	72,284	71,355	70,755
PRS	11,116	16,114	21,082
Total	97,119	101,276	109,048

The data in Table 1 shows a clear discrepancy between Census recorded households (2021) and the number of known dwellings (Ti 2024), with at least 7,772 households missing from the 2021 Census data when compared to known dwellings in 2024.

The PRS in Havering is distributed across all 20 wards (Figure 12). The number of PRS dwellings per ward ranges from 2,235 (Rush Green & Crowlands) to 387 (Emerson Park).

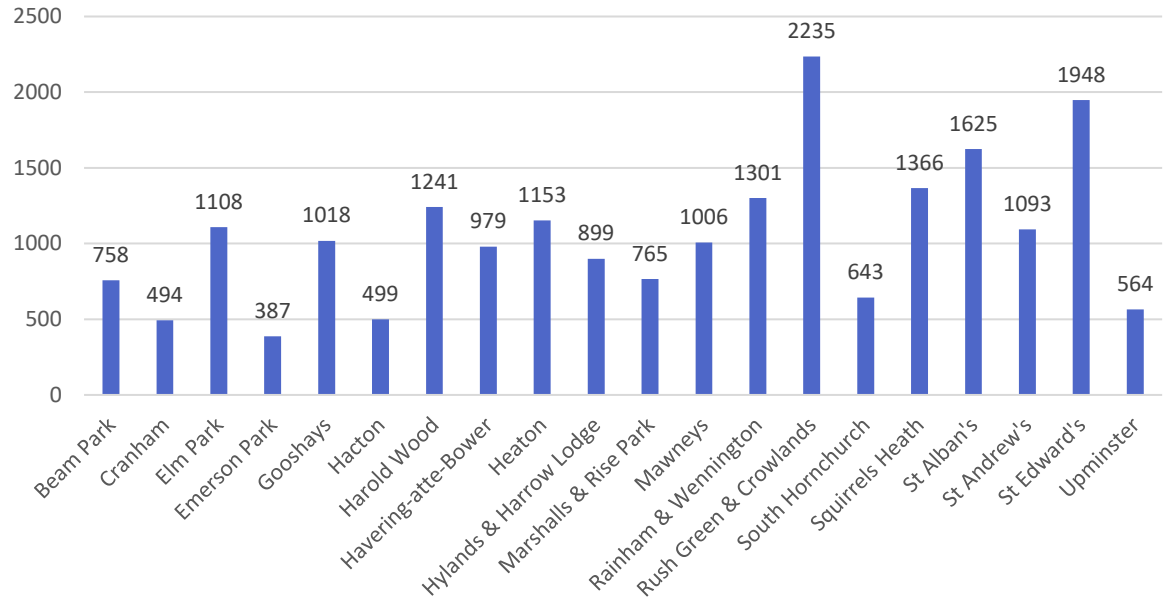


Figure 12. Number of PRS dwellings by ward (Source: Ti 2024).

The percentage of PRS properties in each ward ranges between 44.6% (St. Alban's) and 9.1% (Cranham) (Figure 13 & Table 2). Therefore, 7 out of 20 Havering wards have an equal or higher percentage PRS than the national average in 2024 (19%)[17].

[17] EHS Headline 2022-2023, https://www.gov.uk/government/statistics/chapters-for-english-housing-survey-2022-to-2024-headline-report

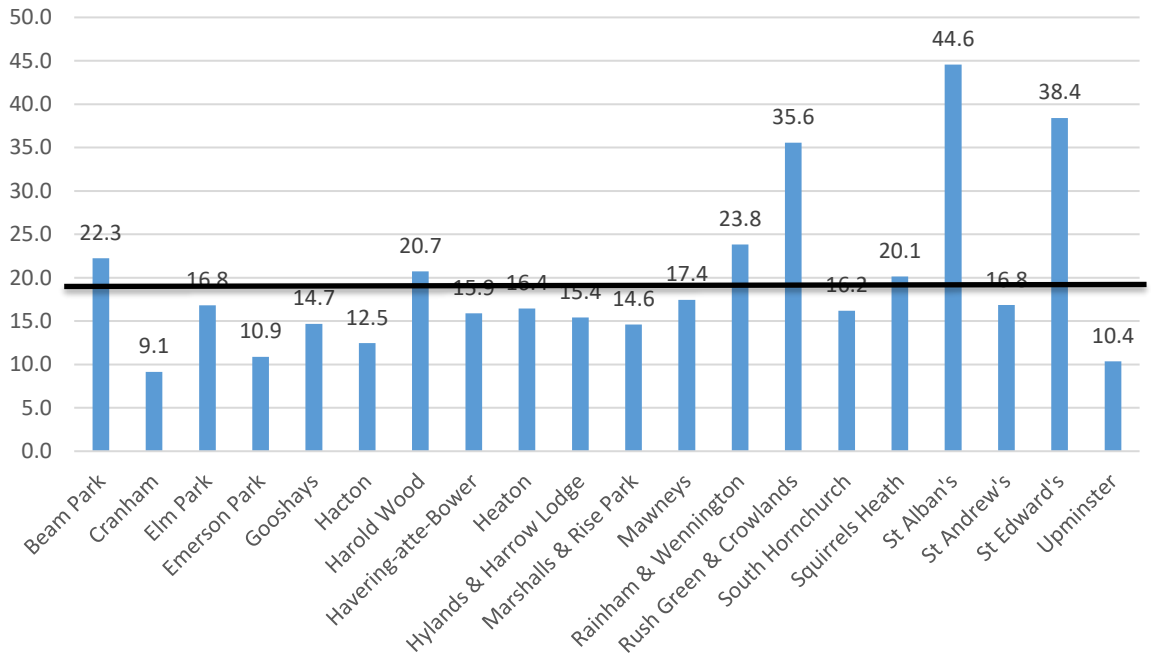


Figure 13. Percentage of PRS dwellings by each ward (Source Ti 2024). ***Horizontal black line shows national average 2024 (19%)***

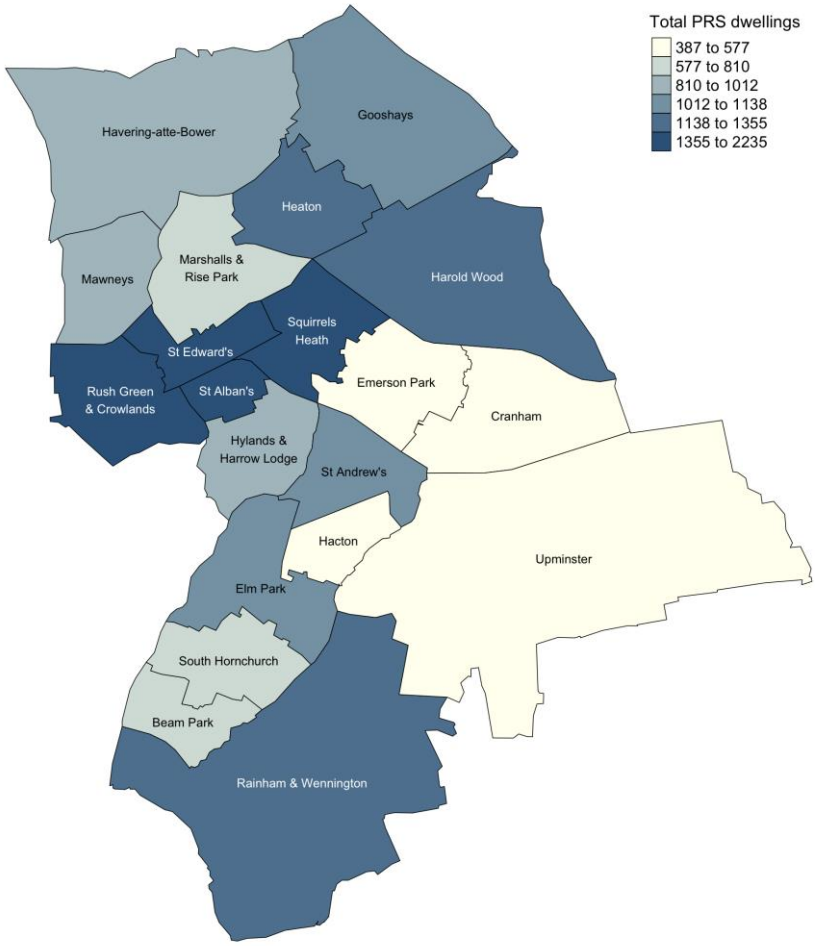
The table below shows the total PRS dwellings in each ward and the percentage PRS compared to the total housing stock (Table 2).

Table 2. Number and percentage of PRS properties by ward (Source Ti 2024).

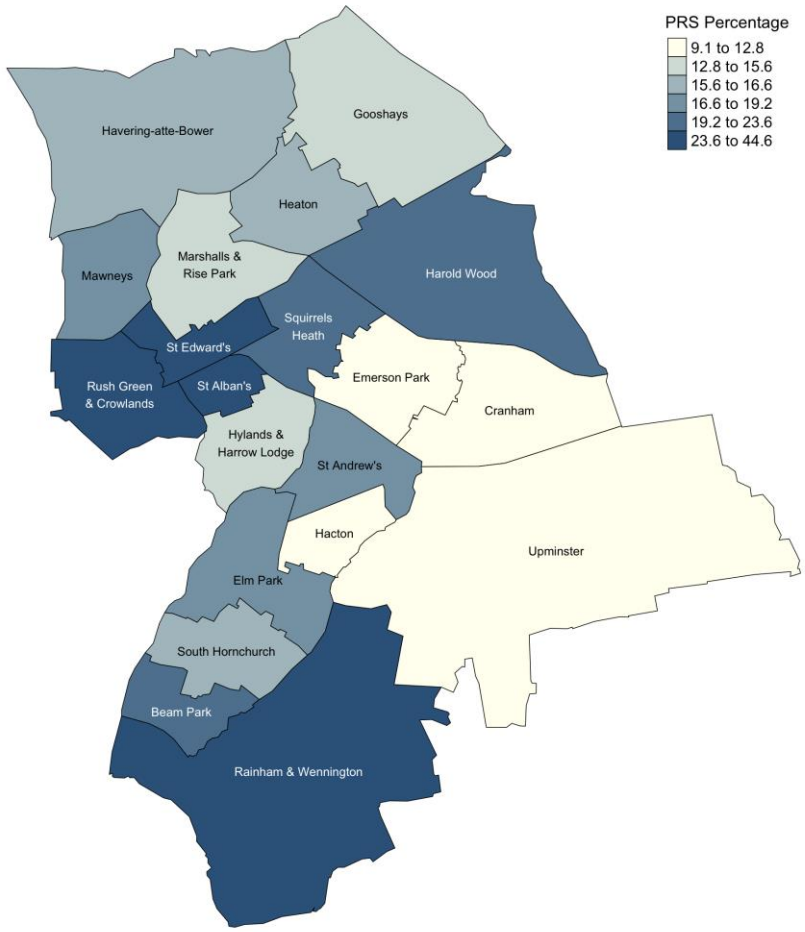
Ward	PRS dwellings	% PRS
Beam Park	758	22.3
Cranham	494	9.1
Elm Park	1,108	16.8
Emerson Park	387	10.9
Gooshays	1,018	14.7
Hacton	499	12.5
Harold Wood	1,241	20.7
Havering-atte-Bower	979	15.9
Heaton	1,153	16.4
Hylands & Harrow Lodge	899	15.4
Marshalls & Rise Park	765	14.6
Mawneys	1,006	17.4
Rainham & Wennington	1,301	23.8
Rush Green & Crowlands	2,235	35.6
South Hornchurch	643	16.2
Squirrels Heath	1,366	20.1

St Alban's	1,625	44.6
St Andrew's	1,093	16.8
St Edward's	1,948	38.4
Upminster	564	10.4

PRS properties are distributed across Havering (Maps 2 & 3).



Map 2. Number of PRS properties in Havering (Source: Ti 2024, Map by Metastreet).



Map 3. PRS properties as percentage of dwellings in Havering (Source: Ti 2024, Map by Metastreet).

3.2.2 Housing conditions

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 [18]. There is also a serious impact on public services: hazardous conditions in the PRS are estimated to cost the NHS £340 million a year [19].

[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] 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 2024, 12% 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 (8%), and significantly higher than owner occupied dwellings (9%) or social rented dwellings (4%). Furthermore, the private rented sector had the highest proportion of non-decent homes (21%)[20]. 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 [21].

A local authority's property age profile can have an impact on housing conditions. Havering has a significant number of residential properties (41.9%) built pre-Second World War [22]. The council tax band provides an indication of relative distribution of property value in each ward. (Figure 14).

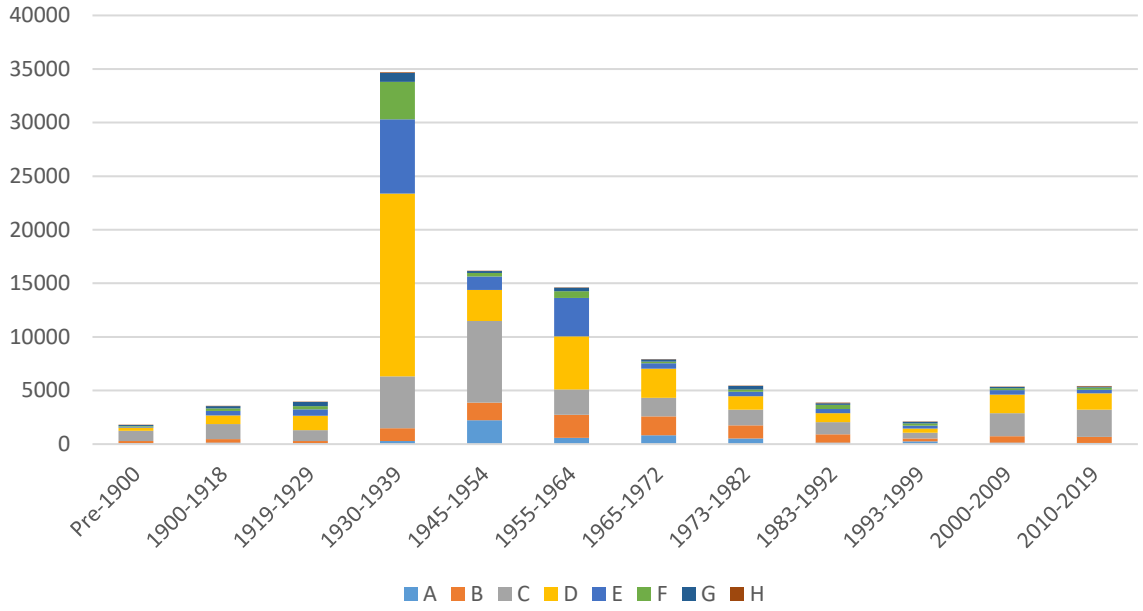


Figure 14. All housing stock age profile and council tax band (Source: VOA 2019).

A local authority's property type profile offers an indication of housing density, construction type and other population factors. The most common private rented property type in Havering are houses (47%), while bungalows are the least common property types (4%) (Figure 15).

[20] EHS Headline 2022-2023, https://www.gov.uk/government/statistics/chapters-for-english-housing-survey-2022-to-2024-headline-report
[21] Housing Health and Rating System, Operation Guidance, 2006, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/15810/142631.pdf
[22] VOA 2019 https://www.gov.uk/government/statistics/council-tax-stock-of-properties-2019

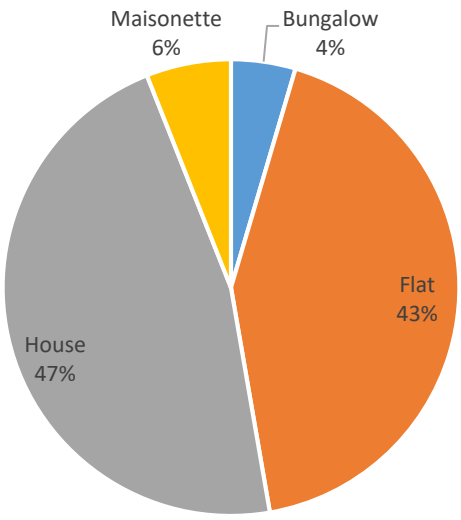


Figure 15. Private rented property type as a percent of total (Source: Havering matched EPC records 2024).

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 area. Further details of the method can be found in Appendix 2.

There are **5,058** private rented properties in Havering that are likely to have at least one serious housing hazard (Category 1 and high scoring Category 2, HHSRS). PRS properties with serious hazards are distributed across all wards. St Alban's (452) and Rush Green & Crowlands (432) have the highest number of properties with at least one Category 1 and/or high scoring Category 2 hazards (Figure 16 & Map 4).

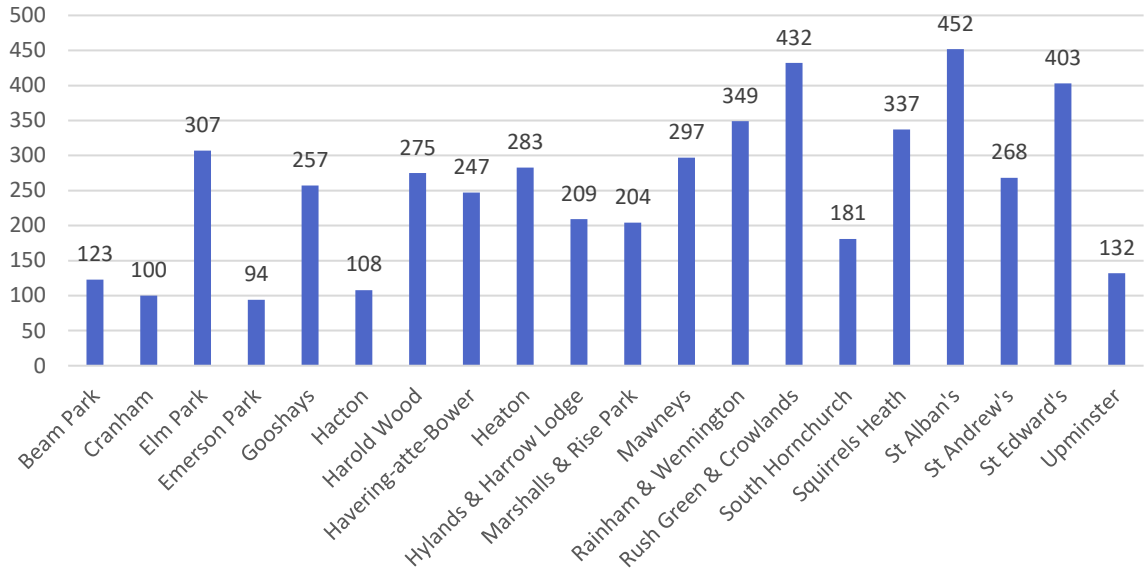
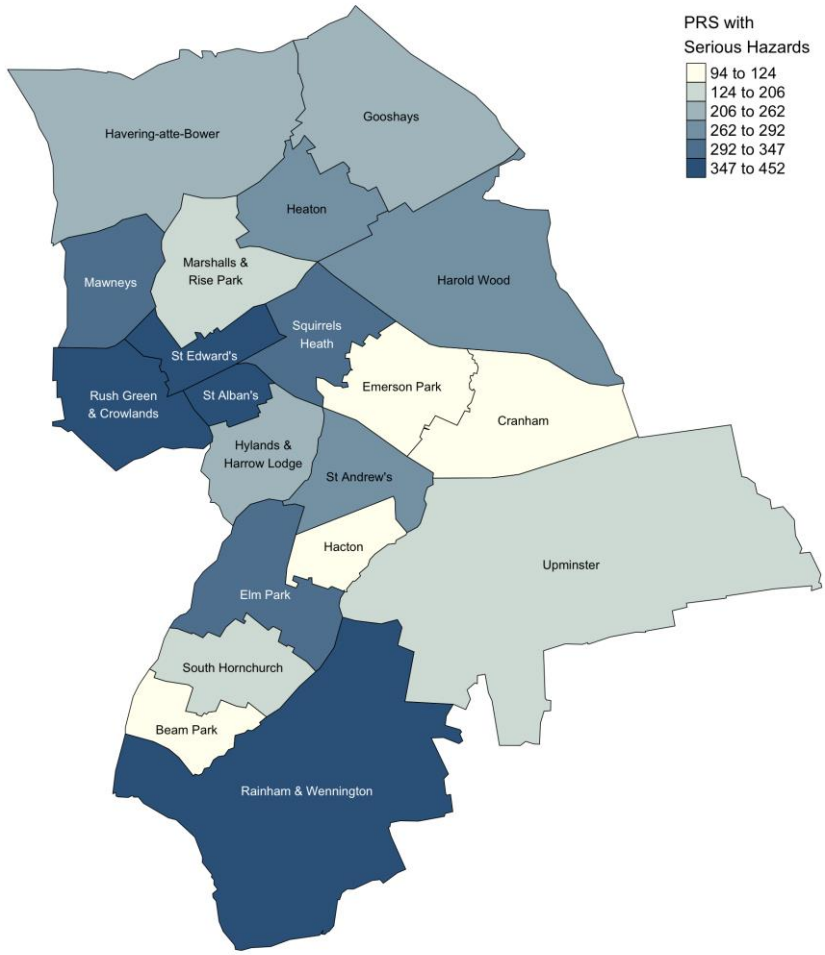


Figure 16. Predicted number of dwellings with serious hazards by ward (Source: Ti 2024).

Category 1 and/or high scoring Category 2 hazards in the PRS are distributed across Havering (Map 4).



Map 4. Distribution of PRS dwellings with predicted Category 1 and/or high scoring Category 2 hazards (HHSRS) (Source: Ti 2024, map by Metastreet).

The rates of Category 1 and/or high scoring Category 2 HHSRS hazards per 100 PRS properties reveals a wide distribution across Havering (Figure 17). Mawneys (29.5 per 100) has the highest rates of predicted PRS properties with serious hazards. The national average for category 1 hazards in the PRS is 12%[23].

[23] EHS Headline 2022-2023, https://www.gov.uk/government/statistics/chapters-for-english-housing-survey-2022-to-2023-headline-report/introduction-and-key-findings

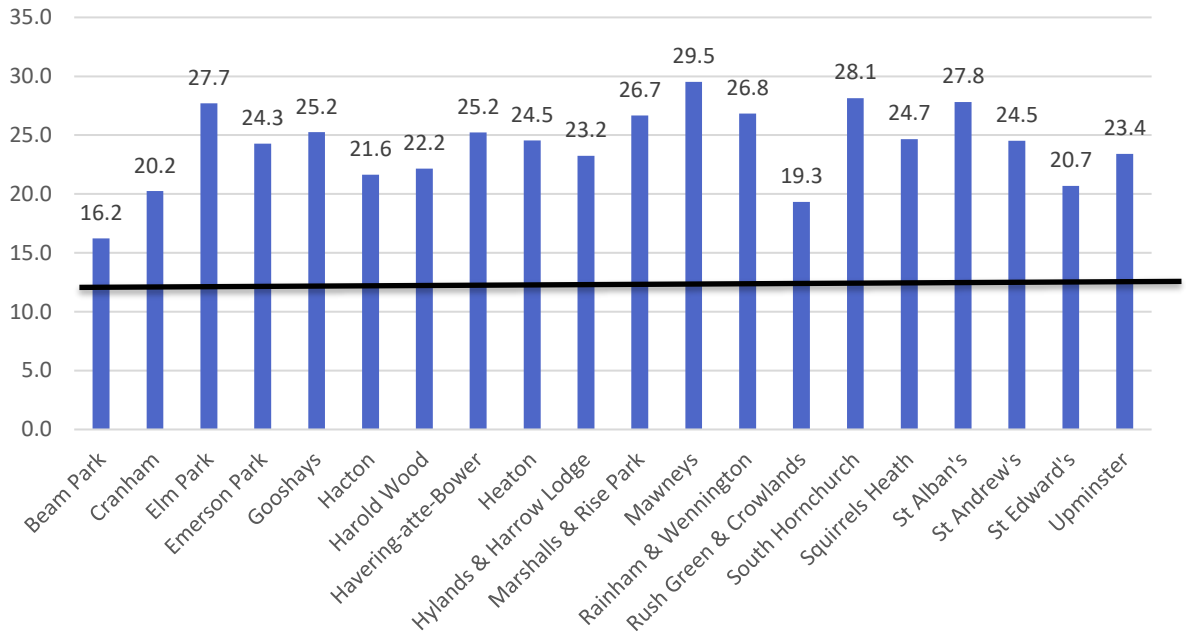


Figure 17. Rates per 100 PRS properties of predicted Category 1 and/or high scoring Category 2 HHSRS hazards by ward (Source: Ti 2024). Horizontal black line shows national average for Category 1, 2022 (12 per 100)

3.2.3 PRS Inspection results

Havering has an active inspection programme. Between 2021-2024 Havering officers undertook 388 property inspections.

The Housing Health and Safety Rating System (HHSRS) is a system for assessing housing conditions. A hazard is any risk of harm to the health or safety of an actual or potential occupier of accommodation that arises from a deficiency in the dwelling, building or land in the vicinity.

During officer inspections, 1298 hazards (Category 1 & 2, HHSRS) were identified across 150 properties. Therefore 38.6% of properties inspected were found to have at least 1 hazard (Category 1 & 2, HHSRS).

Hazards identified during officer inspections are distributed across all wards, except Upminster. New Heaton (257) and Havering-atte-Bower (155) have the highest number of identified hazards (Figure 18).

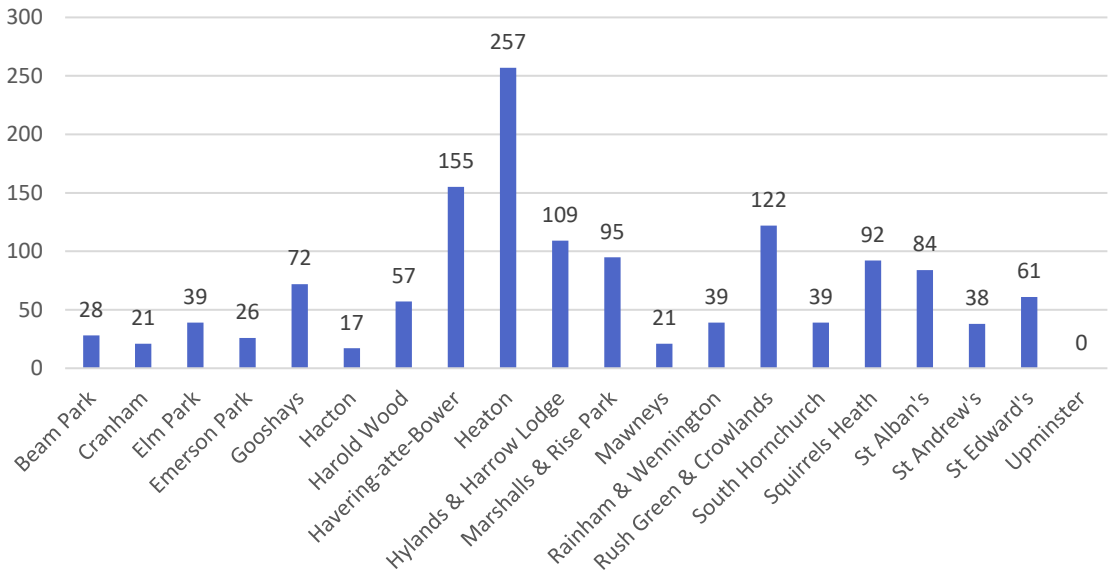
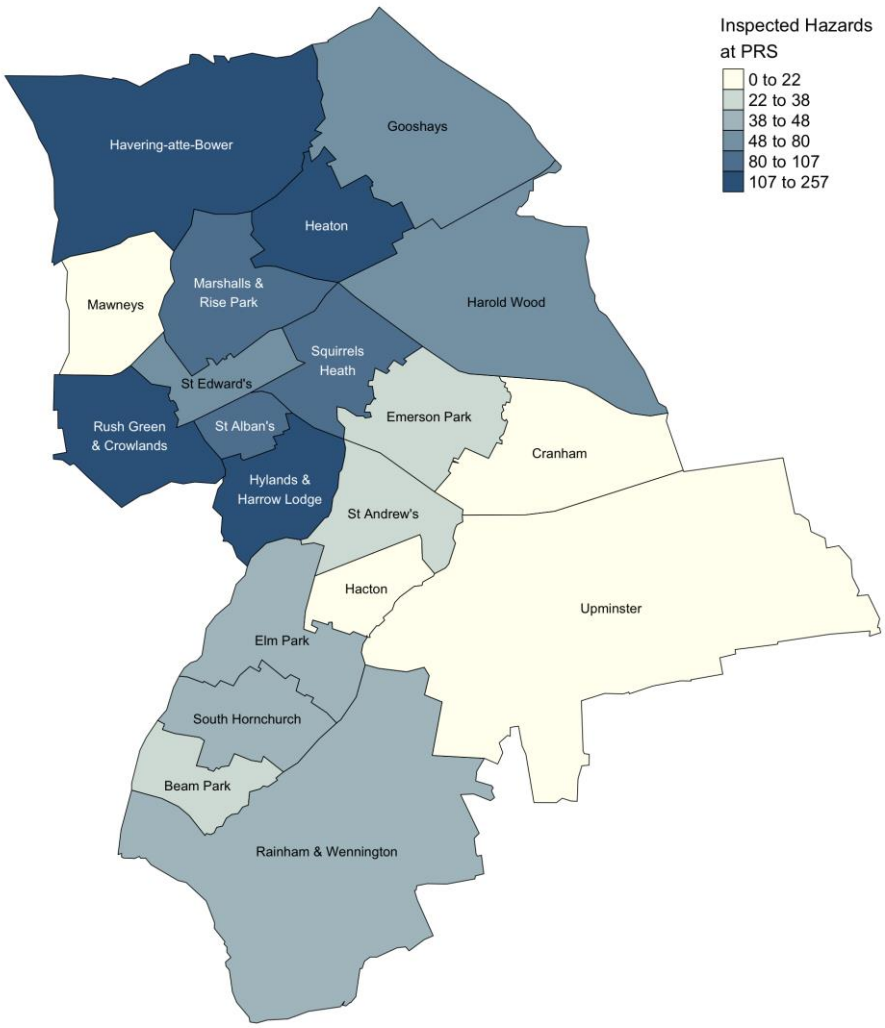


Figure 18. Hazards identified during inspections (2021-2024) (all PRS) by ward (Source: TI 2024).

Identified hazard are distributed across most of the borough. Concentrations of identified hazards are predominantly from the northern wards (Map 5).



Map 5. Hazards identified during inspections (2021-2024) (all PRS) (Source: TI 2024, Map by Metastreet).

3.2.4 PRS complaints and service requests

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. Havering recorded 1,459 complaints and service requests from private tenants and others linked to 1,208 PRS properties over a 5-year period. Rush Green & Crowlands (171) and St Alban's (150) had the highest number of complaints and service requests (Figure 19 & Map 6).

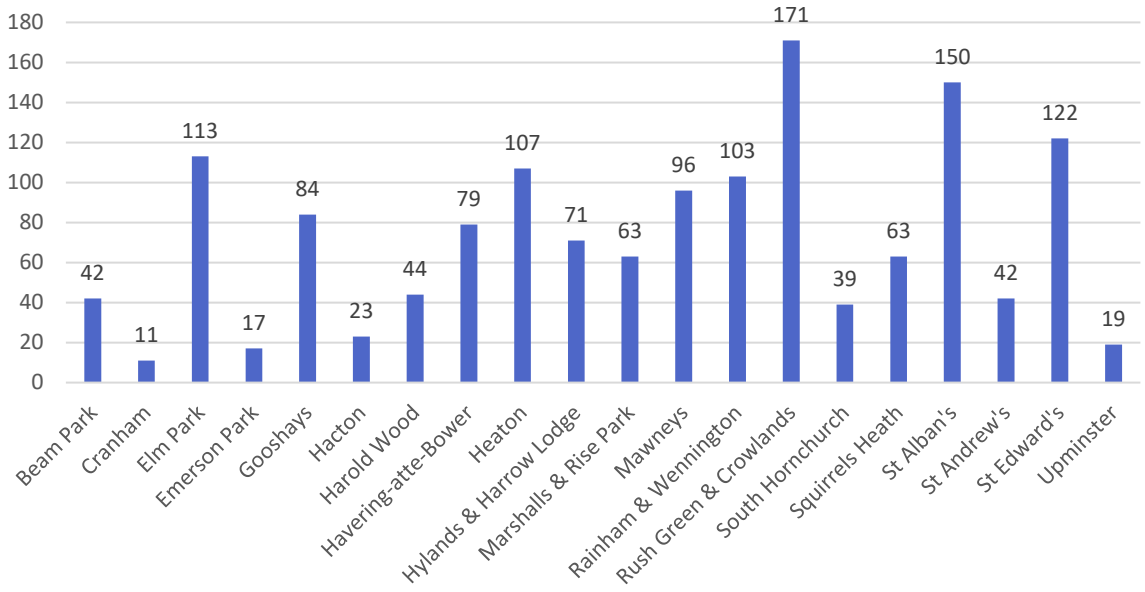
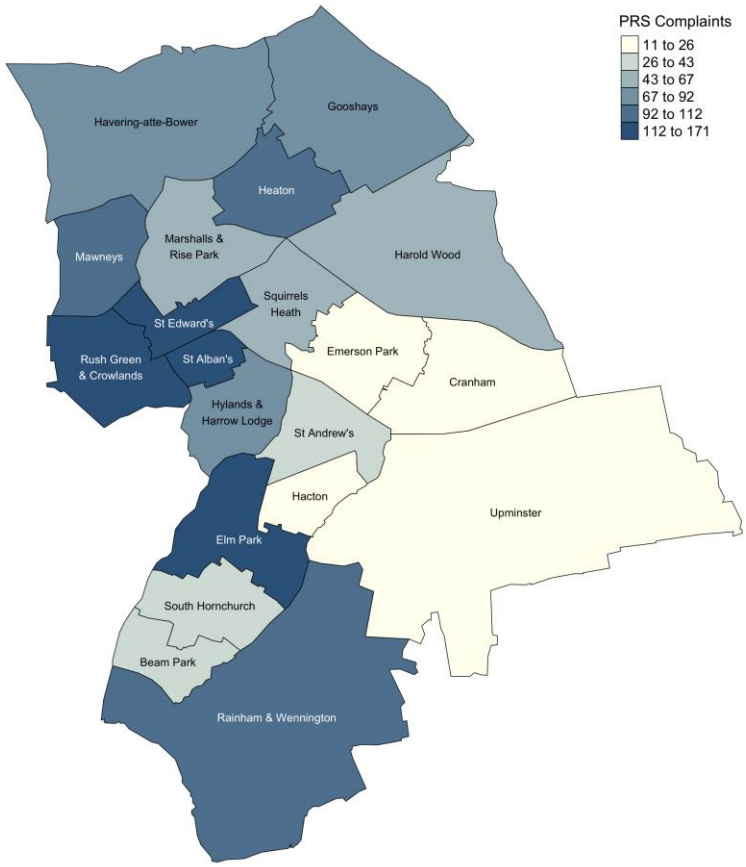


Figure 19. PRS complaints and service requests made by private tenants and others to the Council (Source Ti 2024)



Map 6. Distribution of PRS service requests and tenant complaints (Source: Ti 2024, 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 **17,261** EPC ratings were matched to PRS properties. All figures have been modelled from this group. In Havering most dwellings fall in band D (43%) (Figure 20).

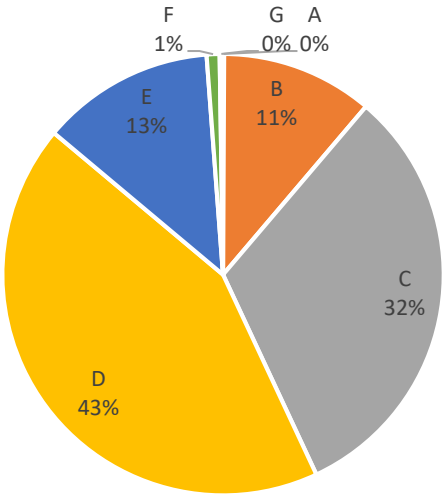


Figure 20. Distribution of Energy Performance Certificate ratings in PRS (Rating A-G) (Source: Ti 2024).

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 A-E to be compliant. It has been calculated using the matched addresses that 13.9% of PRS properties in Havering have an E, F, and G rating. 1.2% of PRS properties have an F and G rating (Figure 20). Extrapolated to the entire PRS, 252 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 [24]. 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 [25]. 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[26]. Therefore, the F and G properties present a serious risk to the occupants' health, particularly if over the age of 65 (Figure 20, 21 & 22).

Havering has 2,399 PRS EPC ratings that are E, F, & G. EPC ratings E, F, & G represent properties with the least energy efficiency. St Albans's(225) has the highest number of EPC rating E-G (Figure 21).

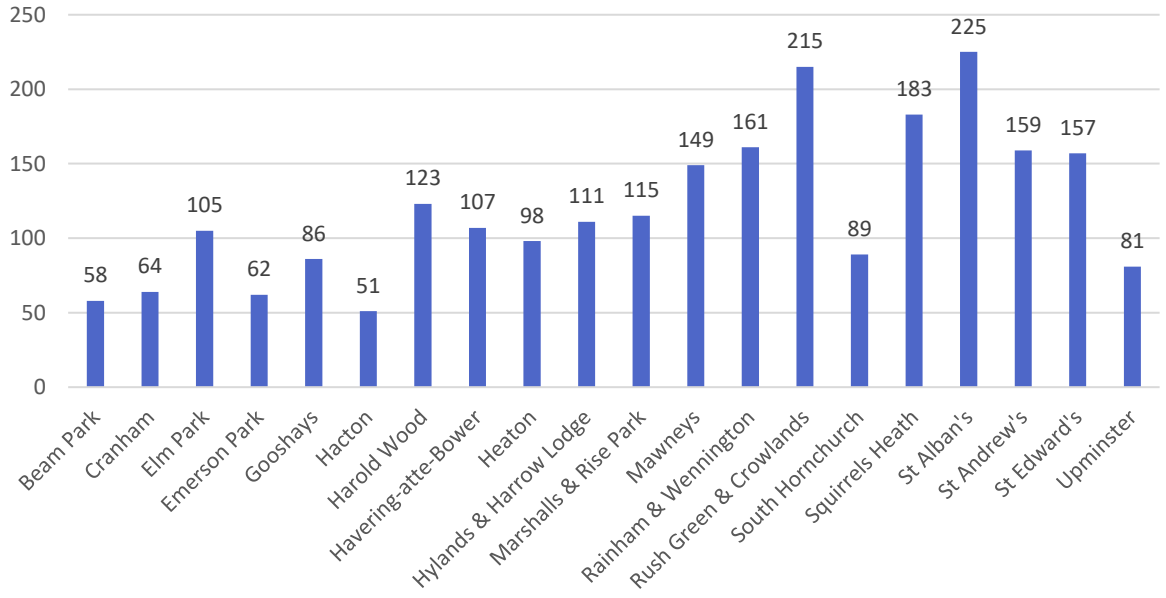


Figure 21. Energy Performance Certificate ratings in PRS by ward (Rating E, F & G) (Source: Ti 2024).

Havering has 206 PRS EPC ratings that are F, & G. St Andrew's (21) has the highest number of EPC rating E-G (Figure 22).

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

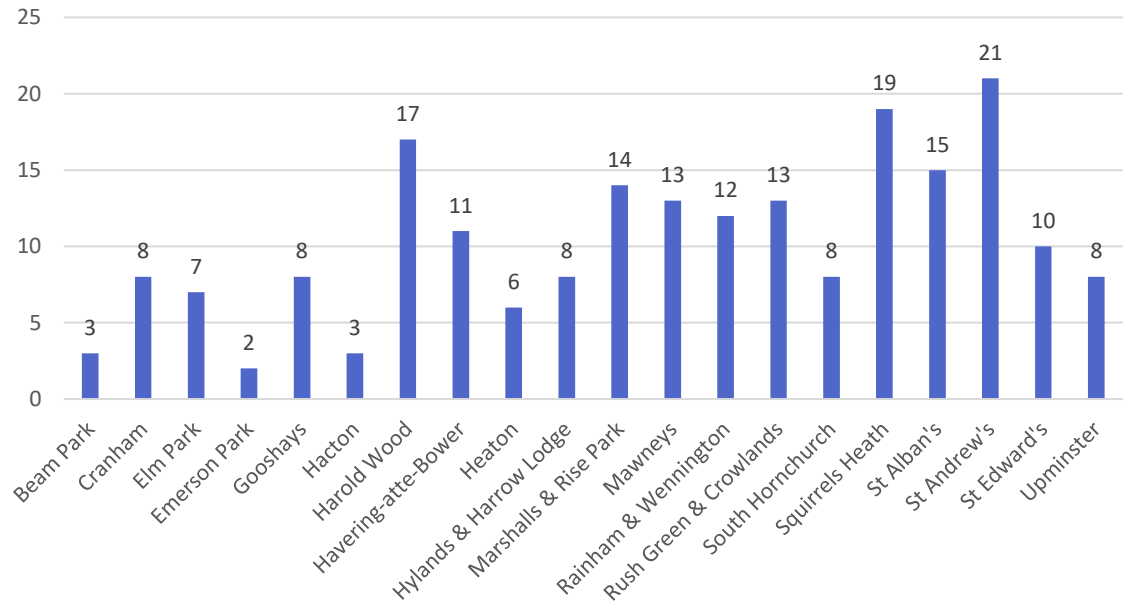


Figure 22. Energy Performance Certificate ratings in PRS by ward (Rating F & G) (Source: Ti 2024).

The difference between the current and potential energy performance score (EPC) helps owners of residential property understand what practical improvements can be made to improve a properties energy performance. The gap between current and potential EPC scores represents the opportunity to enhance energy performance within a reasonable economic envelope (Figure 23).

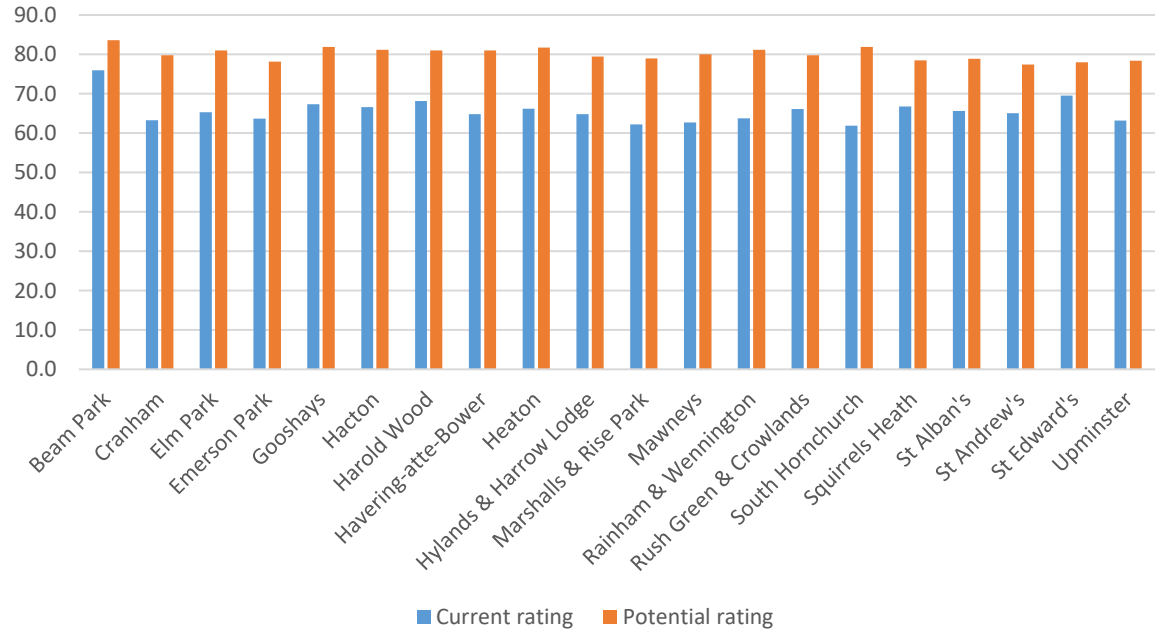


Figure 23. Current and Potential Energy Performance Certificate score (mean average) in PRS by ward (Source: Ti 2024).

3.2.5 PRS enforcement and regulation interventions

Havering 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 (2019-24) Havering served 535 housing and public health notices (Figure 24 & Map 7)). St Alban's (69) has the highest number of statutory notices.

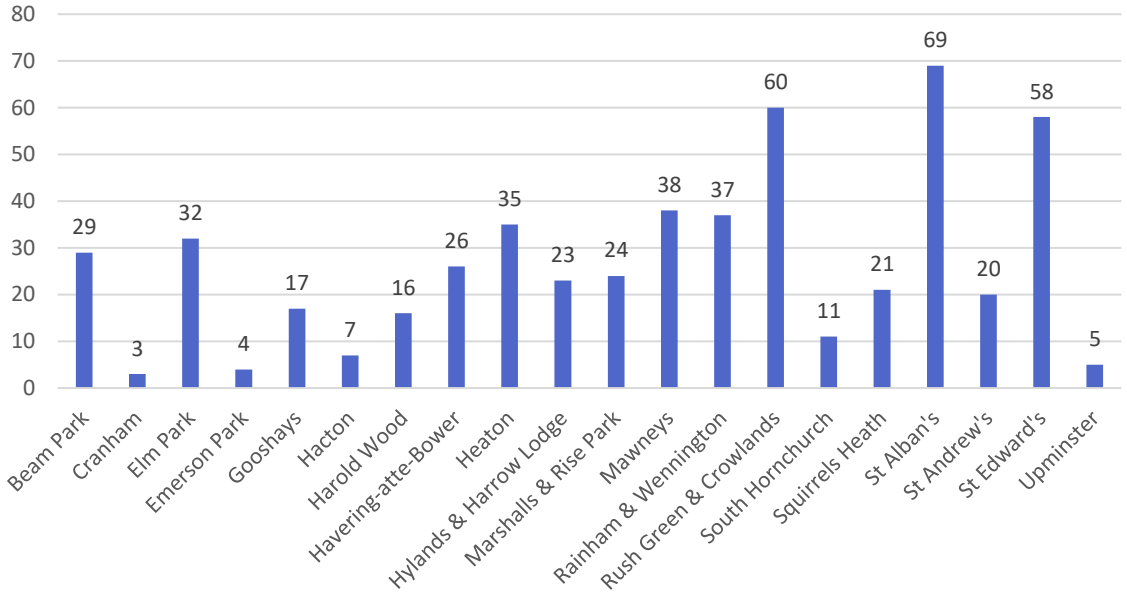
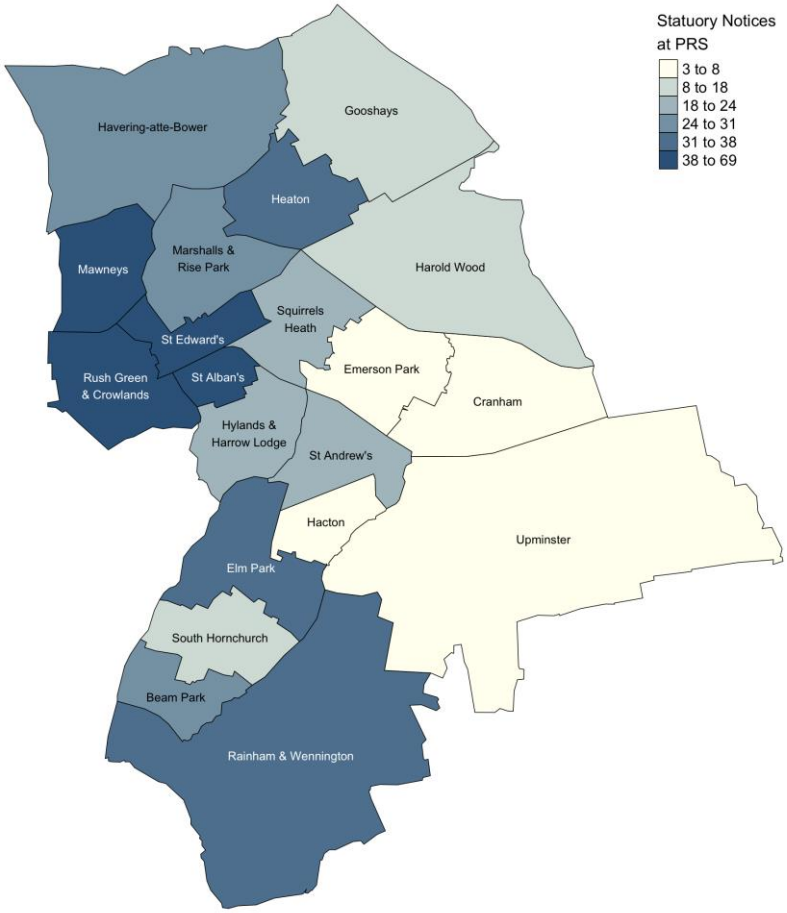


Figure 24. Statutory notices served on PRS properties (Source: Ti 2024).



Map 7. Statutory notices served on PRS properties (Source: Ti 2024, Map by Metastreet).

Enforcement includes using Housing Act and other public protection legislation to enforce standards and includes civil penalties and prosecutions. Over a 5-year period (2019-24), Havering issued 135 penalties and prosecutions to address housing offences (Figure 25 & Map 8).

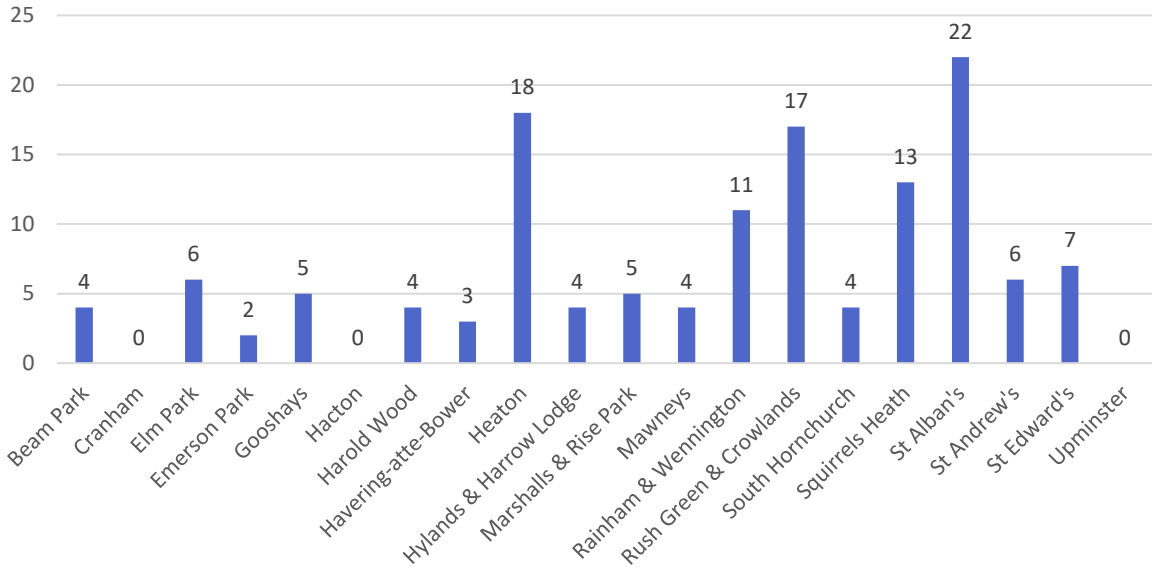
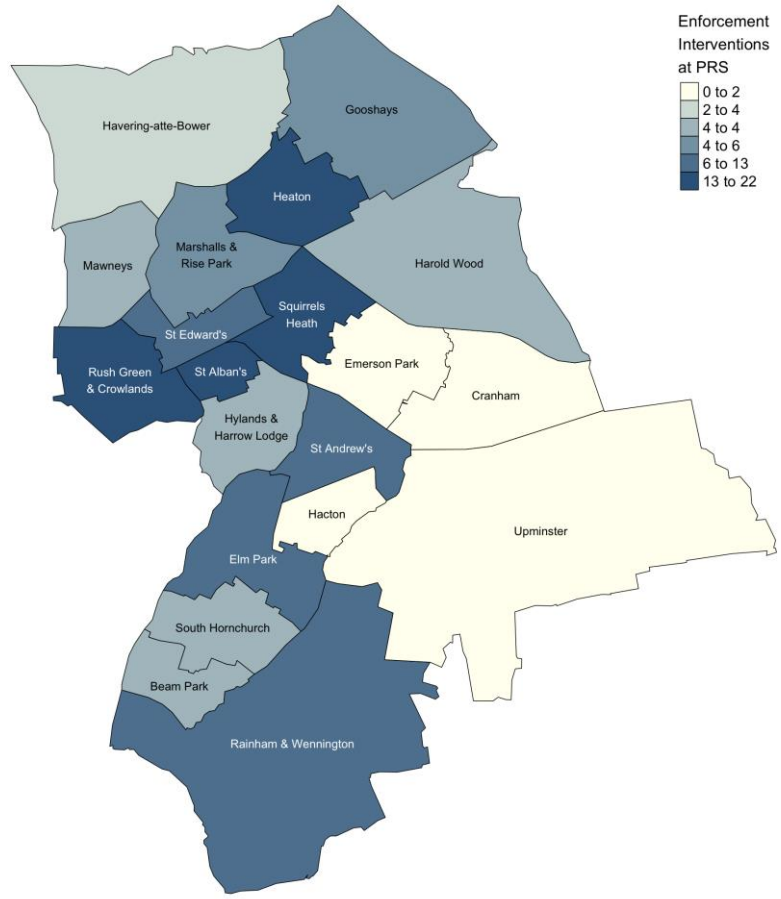


Figure 25. Enforcement interventions linked to PRS properties (Source: Ti 2024).



Map 8. Distribution of enforcement interventions linked to PRS properties (Source: Ti 2024, Map by Metastreet).

3.3 Results - Houses in Multiple Occupation (HMO)

For the purposes of this report, HMOs in Havering have been divided into two main groups, known HMOs (licensed by the authority under Part 2, Housing Act 2004,) and predicted HMOs (shared amenity HMOs with 3 or more occupants).

The known HMO group meet the following standards:

- Dwellings inhabited by either three (Additional) or five (Mandatory) or more occupiers, residing in two or more distinct households, and sharing common amenities like a kitchen or bathroom. This regulation applies irrespective of the number of floors.

The predicted HMO group are based on the following standard:

- Dwellings inhabited by three or more occupiers, residing in two or more distinct households, and sharing common amenities like a kitchen or bathroom. The property type is not considered.

3.3.1 Population and distribution

Havering 's HMO population is made up of known HMOs that share basic amenities (410) and predicted HMOs (454). The total HMO population in Havering is therefore calculated to be 864.

The HMO population is distributed across all wards. Rush Green & Crowlands (89) has the most HMOs (Figure 29 and Map 10).

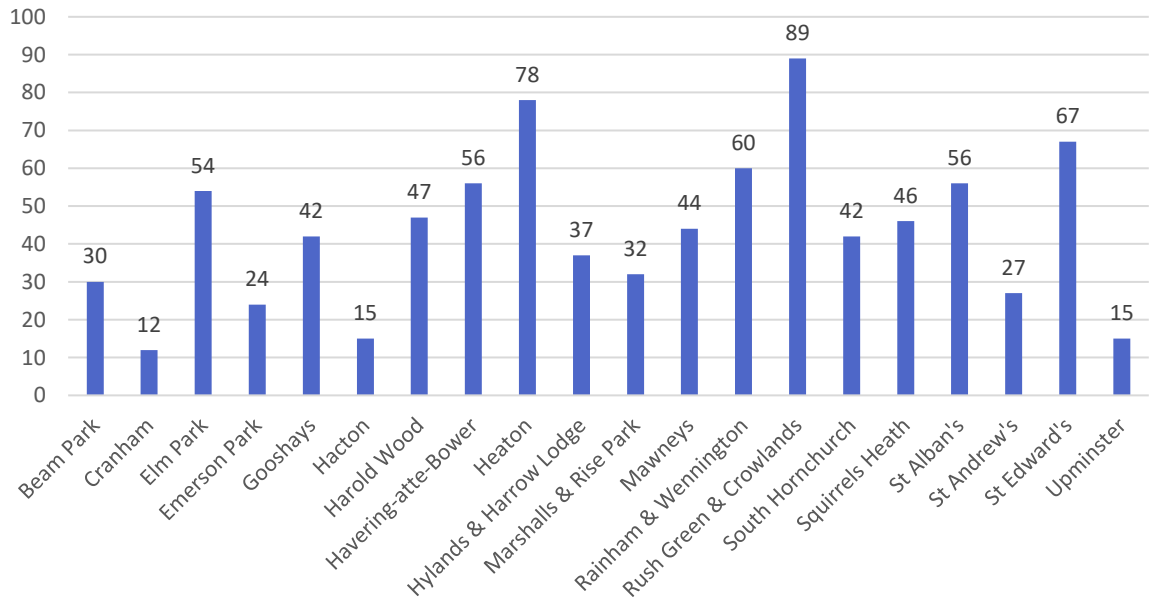
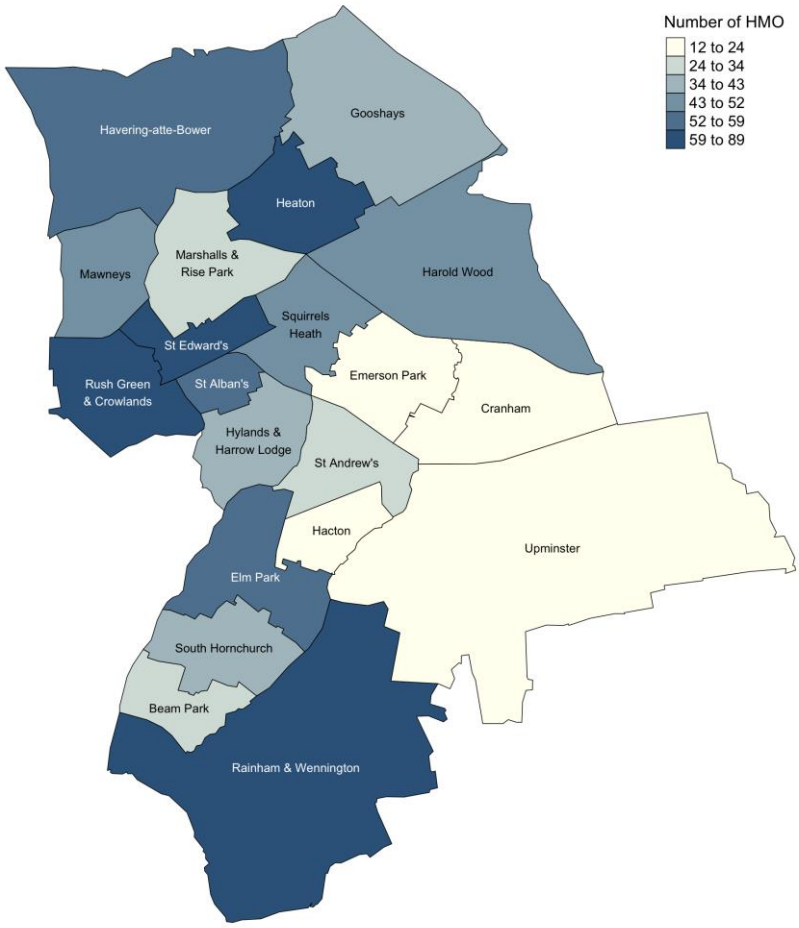


Figure 26. Number of HMOs by ward (known and predicted) (Source Ti 2024)



Map 9: Distribution of shared HMOs (known and predicted) (Source Ti 2024, map by Metastreet)

Shared HMOs tend to be the cheapest form of private housing available 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 homelessness has driven demand for this type of dwelling nationally [27].

HMOs are distributed across all wards; Heaton (49) has the most known HMOs (Figure 30).

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

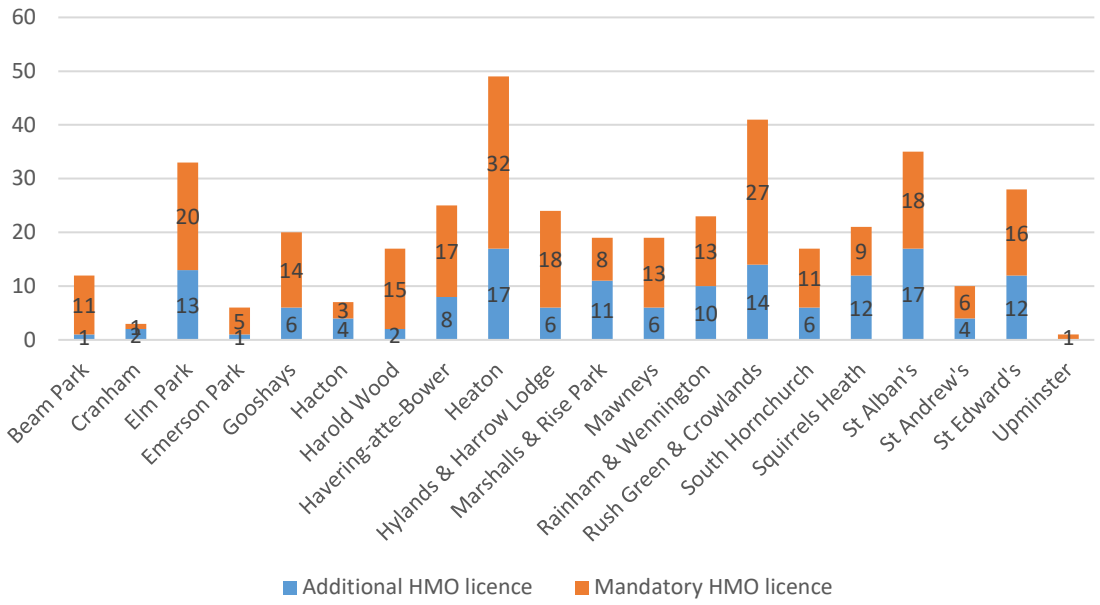


Figure 27. Number of known HMOs (Mandatory & Additional) by ward (Source Ti 2024).

Predicted HMOs are distributed across all wards; Rush Green& Crowlands (48) has most predicted HMOs (Figure 31).

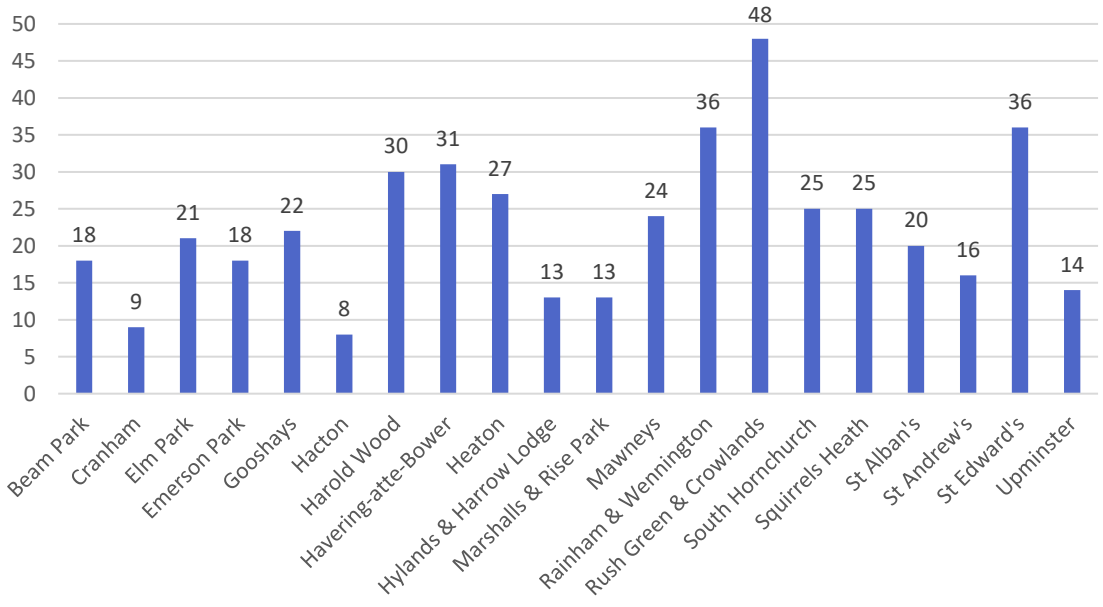


Figure 28. Number of predicted HMOs (shared amenities) by ward (Source Ti 2024).

3.3.2 HMO & housing conditions

Proper management of HMOs is necessary to safeguard the tenants and the wider community. The HMO Management Regulations require the manager to keep all parts of the HMO safe, clean and well maintained. They also place a duty on tenants of HMOs to cooperate with the manager and not damage any fire safety equipment [28].

Using a sample of properties that are known to have at least one serious housing hazard, it is possible to predict the number of HMOs (known & predicted) with at least one serious hazard (Category 1 and high scoring Category 2, HHSRS A-D) across the borough. Further details of the methodology can be found in Appendix 2.

Analysis shows that 426 of 864 shared amenities HMOs (known and predicted) in Havering are predicted to have at least one serious hazard. The number of Category 1 and high scoring Category 2, (HHSRS A-D) hazards is highest in Rush Green & Crowlands (41) (Figure 32 & Map 11). All wards have HMOs with predicted hazards.

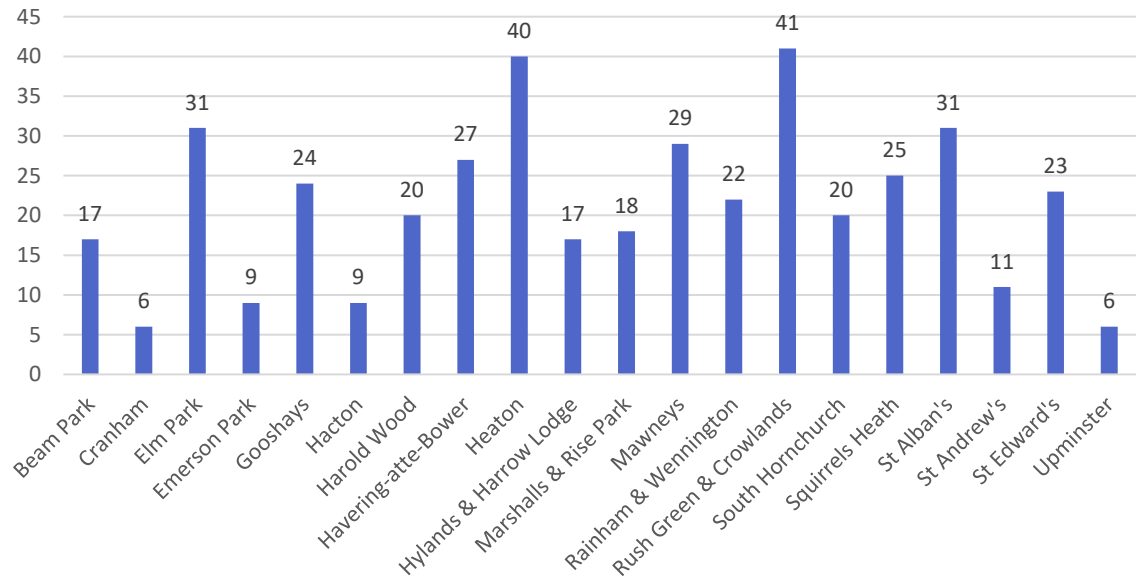
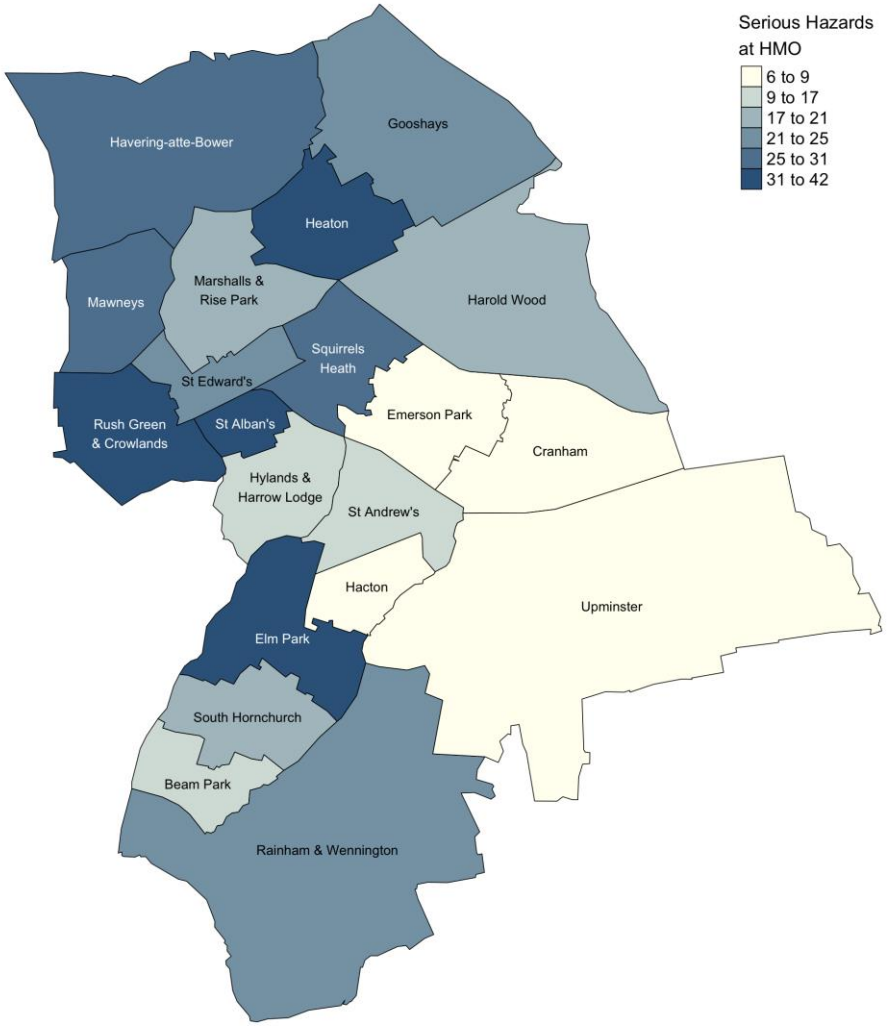


Figure 29. Number of HMO (known and predicted) with Category 1 and high scoring Category 2, (HHSRS A-D) by ward (Source Ti 2024).

[28] The Management of Houses in Multiple Occupation (England) Regulations 2006 (https://www.legislation.gov.uk/uksi/2006/372/contents/made)



Map 10: Distribution of HMO (known and predicted) with Category 1 and high scoring Category 2, (HHSRS A-D) by ward (Source Ti 2024, map by Metastreet).

Complaints made by tenants and others to Havering Council regarding poor property conditions, inadequate property management are a direct indicator of low quality and poorly managed HMOs. Havering recorded 240 complaints from tenants and others linked to 172 HMOs over a 5-year period (April 2019 – March 2024). Elm Park (29) and Mawneys (28) have the highest number of tenant and other complaints linked to HMO (Figure 33 and Map 12).

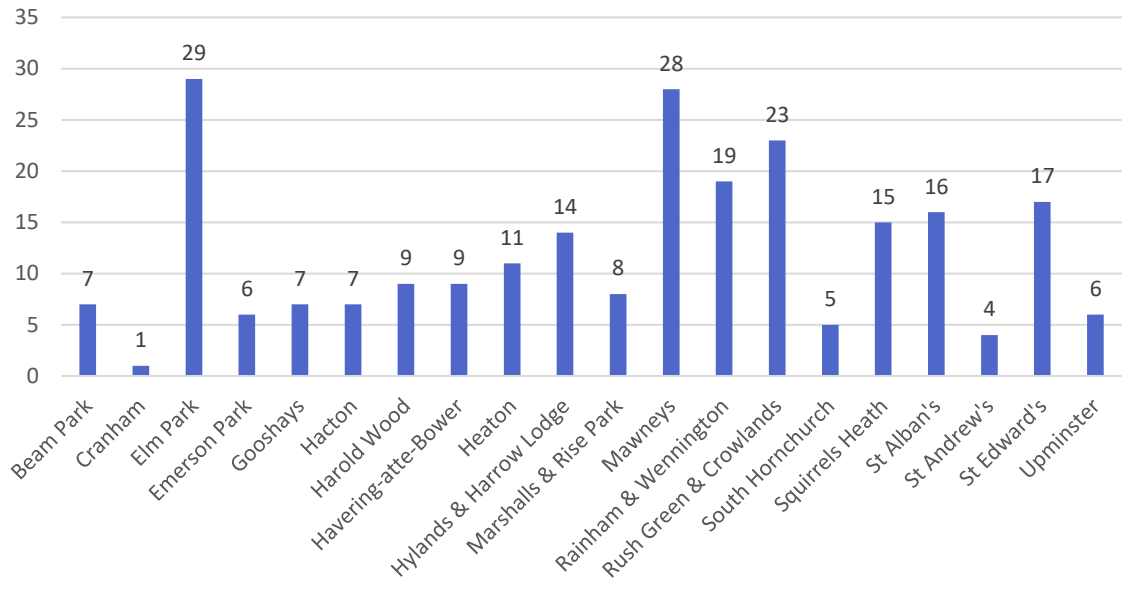
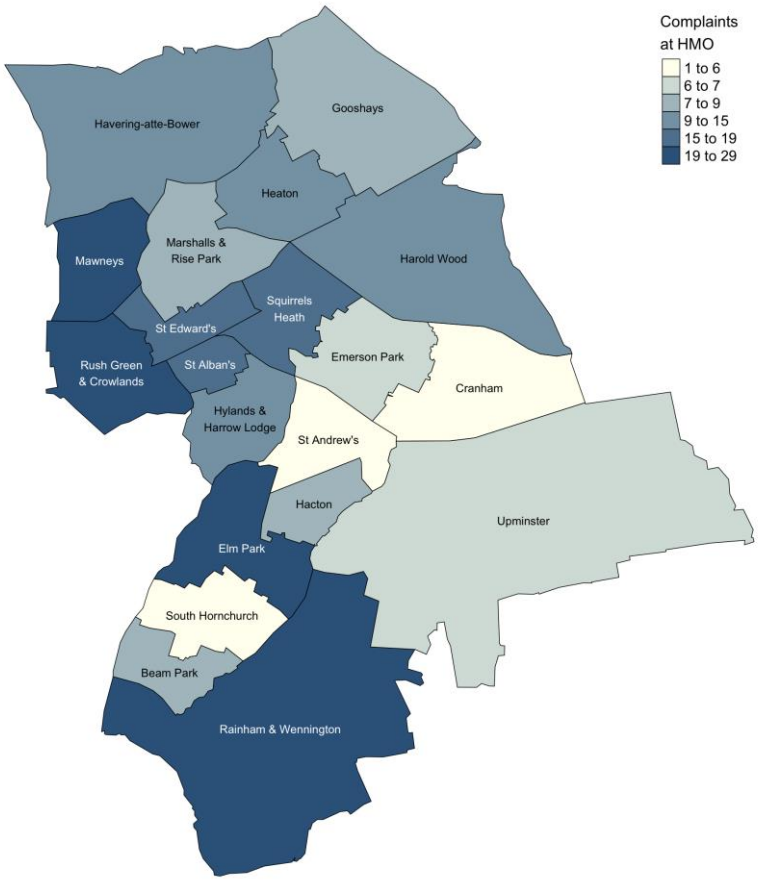


Figure 30. Number of tenant and other complaints linked to HMO by ward (Source Ti 2024)



Map 11: Distribution of tenant and other complaints linked to HMO by ward (Source Ti 2024, map by Metastreet).

3.3.3 HMO inspection results

Havering has an active HMO inspection programme. Between 2021-2024 Havering officers undertook 323 HMO property inspections.

The Housing Health and Safety Rating System (HHSRS) is a system for assessing housing conditions. A hazard is any risk of harm to the health or safety of an actual or potential occupier of accommodation that arises from a deficiency in the dwelling, building or land in the vicinity.

During officer HMO inspections, 1254 hazards (Category 1 & 2, HHSRS) were identified across 139 properties. Therefore 43% of HMOs inspected were found to have at least 1 hazard (Category 1 & 2, HHSRS).

Hazards identified during officer inspections are distributed across all wards, except Upminster. Heaton (257) and Havering-atte-Bower (115) have the highest number of HMO identified hazards (Figure 34).

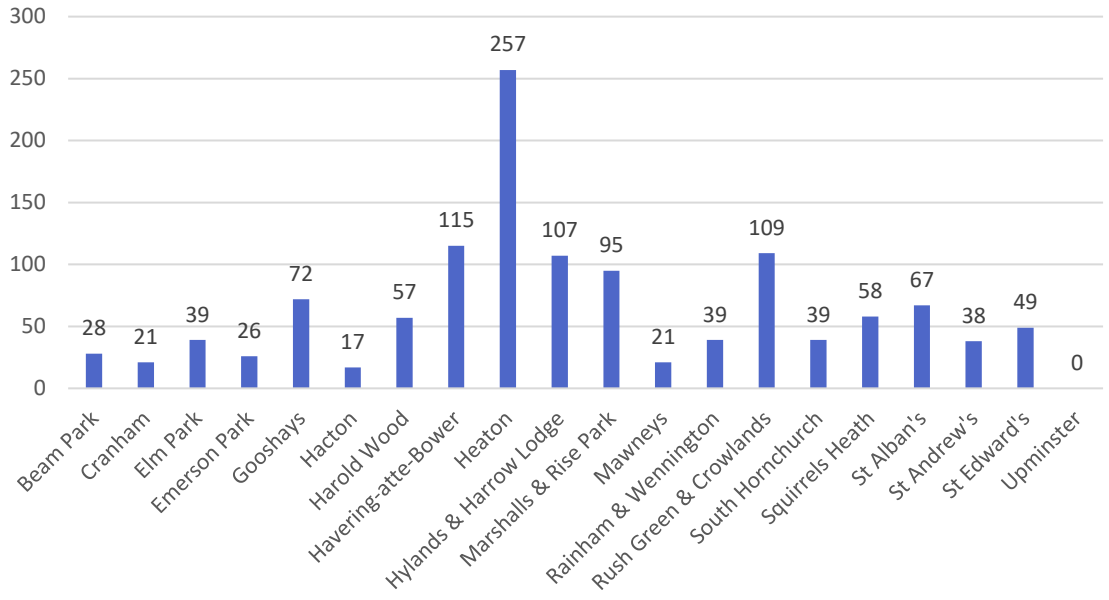
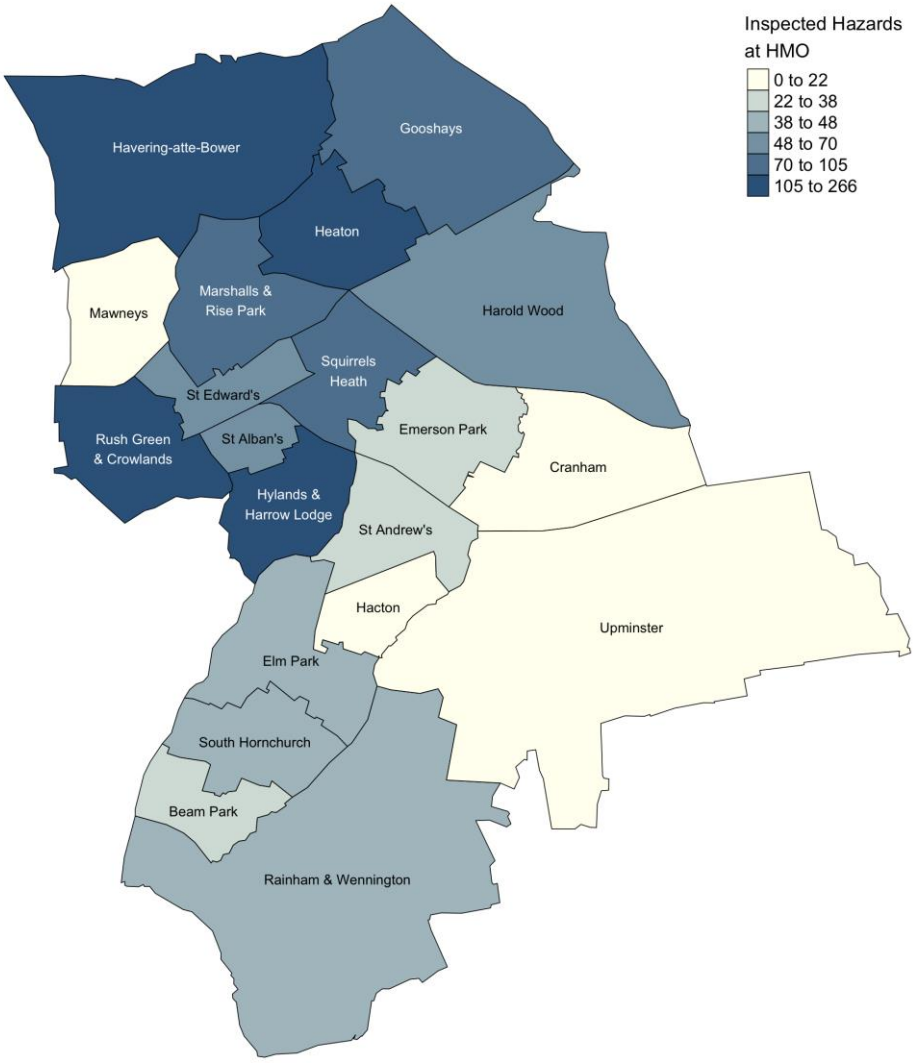


Figure 31. Hazards identified during inspections (2021-2024) (HMO) by ward (Source: TI 2024).

Identified hazard are distributed across most of the borough. Concentrations of identified hazards are predominantly from the northern wards (Map 8).



Map 12. Hazards identified during inspections (2021-2024) (HMO) (Source: TI 2024, Map by Metastreet).

3.3.4 HMO enforcement and regulation interventions

Havering 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 (2019-24) Havering served 167 housing and public health notices (Figure 35). St. Alban's (18) received the largest number of statutory notices.

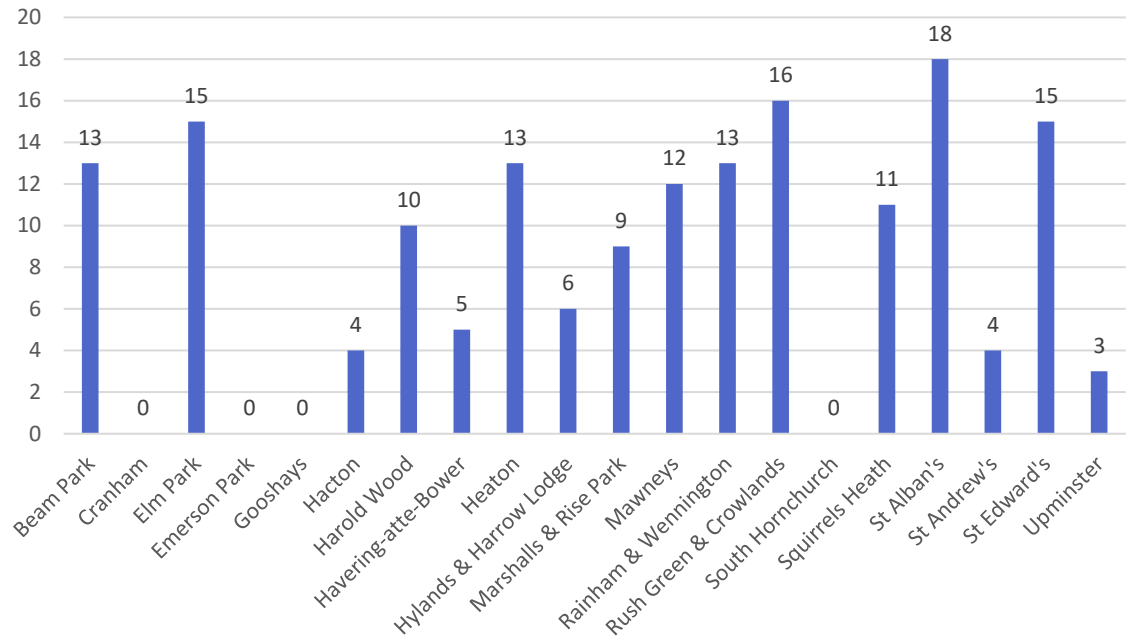


Figure 32. Statutory notices served on HMO properties (Source: Ti 2024).

Enforcement includes using Housing Act and other public protection legislation to enforce standards and includes civil penalties and prosecutions. Over a 5-year period (2019-24) Havering officers undertook 89 enforcement interventions. St. Alban's (14) had the largest number of enforcement cases.

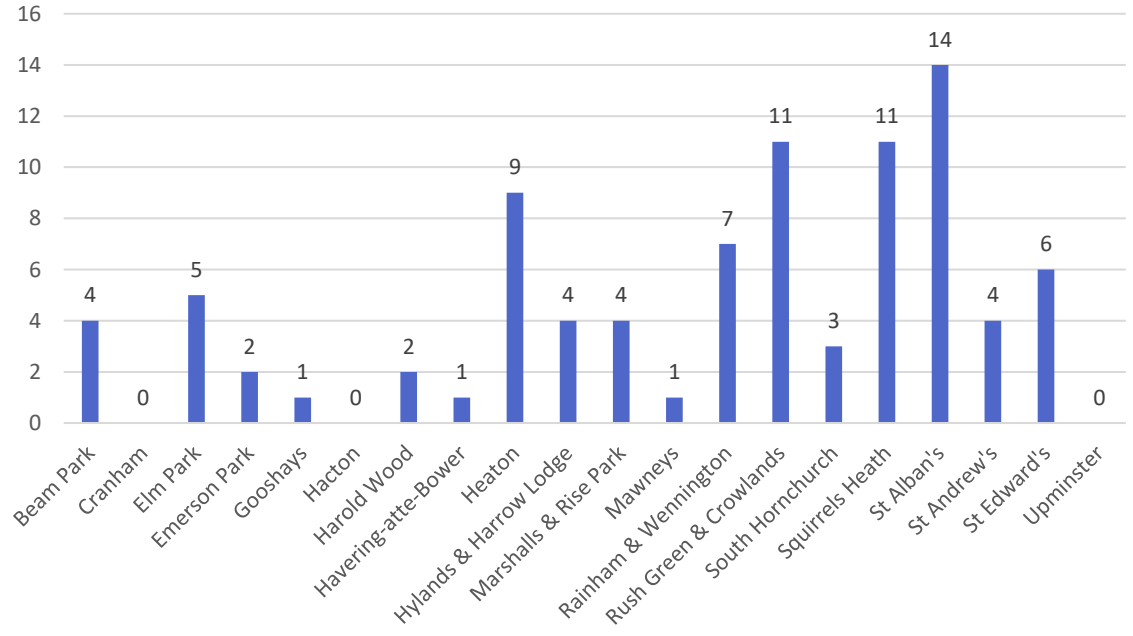
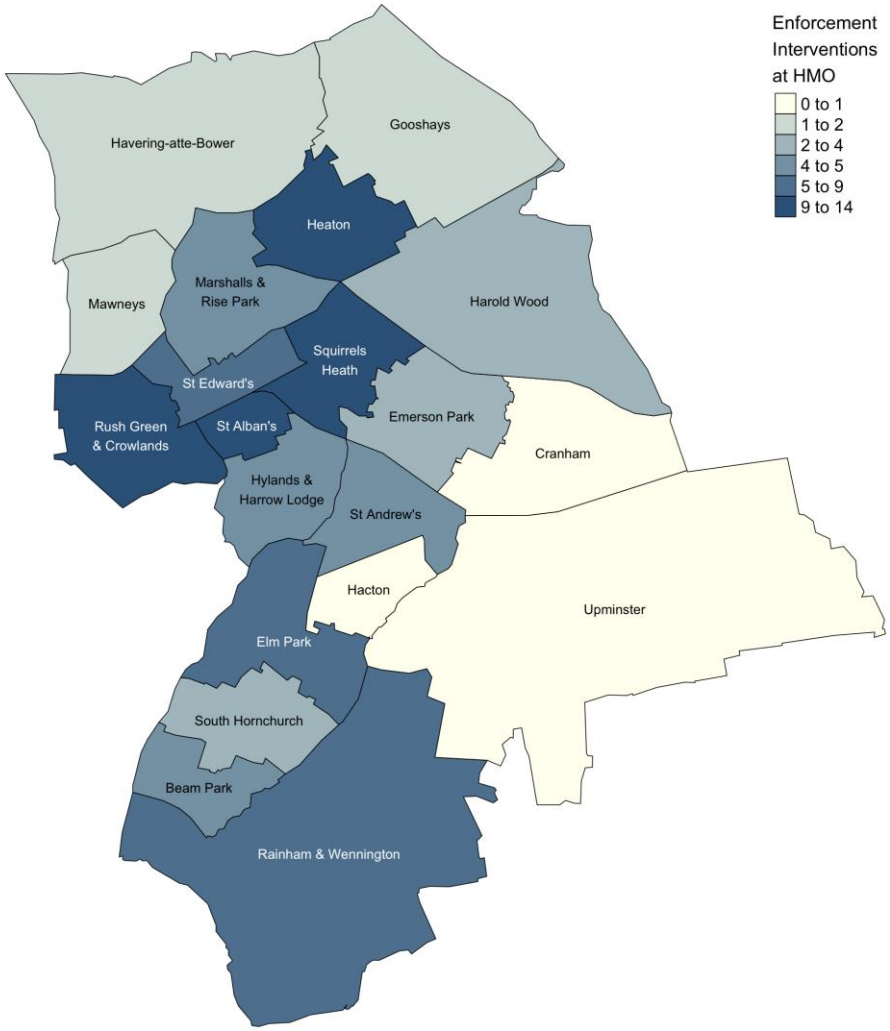


Figure 33. Enforcement interventions linked to HMOs properties (Source: Ti 2024).



Map 13. Distribution of enforcement interventions linked to HMOs (Source: Ti 2024, Map by Metastreet).

4 Conclusions

The private rented sector (PRS) in Havering has experienced significant growth since 2011. According to 2024 tenure modelling, the PRS now represents 19.3% of the borough's housing stock (Figure 10). This increase aligns with long-term national and regional trends (Figure 11).

PRS properties are distributed across all 20 wards (Figure 12). The number of dwellings per ward ranges from 2,235 in Rush Green & Crowlands to 387 in Emerson Park. The proportion of PRS properties varies between 44.6% in St. Alban's and 9.1% in Cranham (Figure 13 & Table 2). Notably, 7 out of 20 wards have a PRS percentage equal to or above the 2024 national average (19%).

Havering exhibits a mix of deprivation levels across wards, with four wards ranking below decile 5 in aggregated Index of Multiple Deprivation (IMD) scores (Figure 4 & Map 1). The borough recorded 155 landlord possession claims in Q4 2023, below the London average of 212 (Figure 6). Additionally, Havering's average rent of £1,250 is below the London average (£1,625) but above the national average (£825) (Figure 7).

Residential burglary rates in Havering (4.7 per 1,000 residents) are lower than the London borough average (6.4 per 1,000) for 2022-23. With 859 burglaries reported between January and December 2023, Havering ranks 24th among London boroughs (Figure 8). Heaton (104) and Gooshays (90) wards reported the highest burglary numbers (Figure 9).

The PRS in Havering is dominated by houses (47%), with bungalows being the least common property type (4%) (Figure 15). Approximately 5,058 PRS properties are estimated to have at least one serious housing hazard (Category 1 and high-scoring Category 2 under HHSRS). These hazards are distributed across all wards, with the highest numbers in St. Alban's (452) and Rush Green & Crowlands (432) (Figure 16 & Map 4).

The rate of PRS properties with serious hazards varies significantly across wards. Mawneys has the highest rate at 29.5 per 100 properties, compared to the national PRS average of 12% (Figure 17).

Havering maintains an active property inspection programme. Between 2021 and 2024, officers conducted 388 inspections, identifying 1,298 hazards across 150 properties, with 38.6% of inspected properties containing at least one hazard (Figure 18). Hazards were identified in all wards except Upminster, with Heaton (257) and Havering-atte-Bower (155) reporting the most.

Over five years, Havering received 1,459 complaints and service requests from PRS tenants regarding poor property conditions and management, linked to 1,208 properties. Rush Green & Crowlands (171) and St. Alban's (150) reported the most complaints (Figure 19 & Map 6).

Energy efficiency remains a concern, with 2,399 PRS properties holding EPC ratings of E, F, or G—the least energy-efficient categories. St. Alban's has the highest concentration of these properties (225) (Figures 21 & 22).

To address substandard housing, Havering issued 535 housing and public health notices between 2019 and 2024 (Figure 24 & Map 7). St. Alban's received the most notices (69). Over the same period, the borough issued 135 penalties and prosecutions for housing offences (Figure 25 & Map 8).

Houses in Multiple Occupation (HMOs)

Havering's HMO stock includes 410 licensed HMOs (under Part 2 of the Housing Act 2004) and 454 predicted shared amenity HMOs, totalling 864 properties. HMOs are distributed across all wards, with Rush Green & Crowlands having the highest number (89) (Figure 29 & Map 10).

Of these, 426 HMOs are predicted to have at least one serious hazard (Category 1 or high-scoring Category 2). All wards contain HMOs with predicted hazards, with the highest concentration in Rush Green & Crowlands (41) (Figure 32 & Map 11).

From April 2019 to March 2024, 240 complaints related to 172 HMOs were recorded. Elm Park (29) and Mawneys (28) reported the most complaints (Figure 33 & Map 12).

Havering also actively inspects HMOs, with 323 inspections conducted between 2021 and 2024. These inspections identified 1,254 hazards across 139 properties, with 43% of inspected HMOs found to have at least one hazard. Hazards were distributed across all wards except Upminster, with Heaton (257) and Havering-atte-Bower (115) having the most (Figure 34).

During the same period, Havering carried out 89 HMO enforcement interventions. St. Alban's accounted for the highest number of enforcement actions (14).

Key challenges include a high prevalence of serious housing hazards (5,058 PRS properties and 426 HMOs), substandard energy efficiency (2,399 PRS properties with EPC ratings E, F, or G), and persistent tenant complaints about property conditions and management. Despite this, Havering has a proactive inspection and enforcement programme, addressing poor standards through statutory notices, penalties, and prosecutions.

With below-average rents, low landlord possession claims, and a relatively low residential burglary rate, Havering's PRS offers some advantages. However, ongoing focus on hazard reduction, energy efficiency, and enforcement will be essential to ensure safe and sustainable private rental housing across the borough.

Appendix 1 – Ward summaries

Table 3. Ward PRS summary (Source Ti 2024)

Ward	PRS dwellings	% PRS	Dwellings with hazards
Beam Park	758	22.3	123
Cranham	494	9.1	100
Elm Park	1,108	16.8	307
Emerson Park	387	10.9	94
Gooshays	1,018	14.7	257
Hacton	499	12.5	108
Harold Wood	1,241	20.7	275
Havering-atte-Bower	979	15.9	247
Heaton	1,153	16.4	283
Hylands & Harrow Lodge	899	15.4	209
Marshalls & Rise Park	765	14.6	204
Mawneys	1,006	17.4	297
Rainham & Wennington	1,301	23.8	349
Rush Green & Crowlands	2,235	35.6	432
South Hornchurch	643	16.2	181
Squirrels Heath	1,366	20.1	337
St Alban's	1,625	44.6	452
St Andrew's	1,093	16.8	268
St Edward's	1,948	38.4	403
Upminster	564	10.4	132

Table 4. Ward HMO (known and predicted) summary (Source Ti 2024)

Ward	No. HMOs	HMOs with hazards	Complaints
Beam Park	30	17	7
Cranham	12	6	1
Elm Park	54	31	29
Emerson Park	24	9	6
Gooshays	42	24	7
Hacton	15	9	7
Harold Wood	47	20	9
Havering-atte-Bower	56	27	9
Heaton	76	40	11
Hylands & Harrow Lodge	37	17	14
Marshalls & Rise Park	32	18	8
Mawneys	43	29	28
Rainham & Wennington	59	22	19
Rush Green & Crowlands	89	41	23
South Hornchurch	42	20	5

Squirrels Heath	46	25	15
St Alban's	55	31	16
St Andrew's	26	11	4
St Edward's	64	23	16
Upminster	15	6	6

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

This Appendix explains at a summary level Metastreet's Tenure Intelligence (Ti) method (Figure 34).

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.

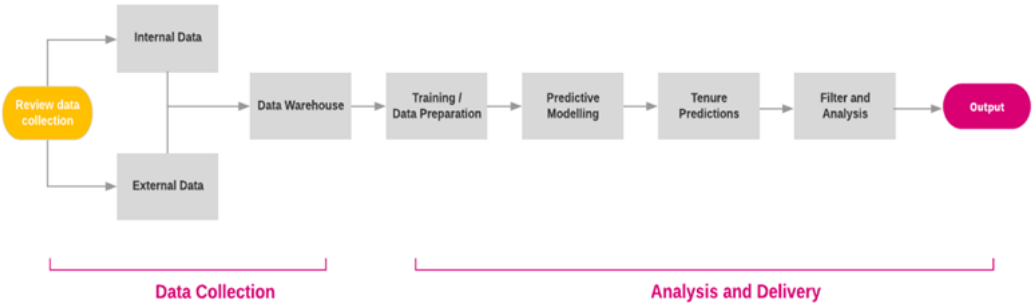


Figure 34. Summary of Metastreet Tenure Intelligence method.

Methodology

Metastreet has worked with London Borough of Havering to create a residential property data warehouse based on a detailed specification. This has included linking millions of cells of data to 109,048unique property references, including council and externally sourced data. All longitudinal data requested from council departments is 5 consecutive years, from April 2019 – March 2024

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

Four predictive models have been developed as part of this project. Each model is unique to Havering , they include:

- Owner occupiers
- Private rented sector (PRS)
- Houses in Multiple Occupation (HMO)
- PRS housing hazards (HHSRS, Category 1 and high scoring Category 2 A-D).

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 large data 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 a low as is possible through detailed post analysis filtering and validation.

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 75% (Table 5).

Table 5. Owner occupier predictive factors.

Risk factors selected	Pr (>Chi)*
CTAX.Count.of.Accounts.Over.Last.3.Years	2.2e-16
ER.Count.of.Current.Names	2.2e-16
ONS.Output.Area.Supergroup.Description	0.0001708
CTAX.Current.Balance.RealArrears.All.Accounts	2.2e-16
Environment.Total.Count	2.2e-16
Training data, n= 2001	
D^2 test = 0.75**	

* 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 78% (Table 6).

Table 6. PRS predictive factors.

Risk factors selected	Pr(>Chi)
CTAX.Count.of.Accounts.Over.Last.3.Years	2.2e-16
Benefits.Count.of.Current.Claims.Over.Last.3.Years	2.2e-16
Environment.Count	1.122e-09
TDS	2.2e-16
CTAX.Current.Balance.RealArrears.All.Accounts	2.2e-16
Training data, n= 2001	
D^2 test = 0.78	

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 hazards. It's important to note that due to the complex risk-based approach to HHSRS scoring model and assessment, predictions are likely to include both properties with Category 1 hazards and properties with high scoring Category 2 hazards. It is

reasonable to conclude that properties identified are likely to include hazards that would be scored A-D, using HHSRS scoring matrix and therefore be considered serious. The model results show that each of the model terms is statistically significant, with the overall model having a "predictive capacity" of around 66% (Table 7).

Table 7. Hazard (HHSRS) predictive factors.

Risk factors selected	**Pr (>Chi)**
Environment.Count	0.01561
CRM.Incidents.Landlord.Indicators.Last.3.Years.Count	0.04304
TDS	2.2e-16
Current _rating	2.2e-16
Benefits.Count.of.Current.Claims.Over.Last.3.Years	8.919e-07
Training data, n= 1069	
D^2 test = 0.66	

HMO (House in Multiple Occupation) model

This model predicts the likelihood that a UPRN will be an HMO (Table 8). Each of the 5 model terms is statistically significant and the overall model has a "predictive capacity" of around 60%.

Table 8. HMO predictive factors.

Risk factors selected	**Pr (>Chi)**
CTAX.Total.Surnames.Over.Last.3.Years	1.700e-10
Environment. Count	2.2e-16
Environment.Total.Count	2.2e-16
Benefits.Type	6.927e-10
CTAX.Current.Balance.Liabilities.Open.Accounts	2.321e-08
Training data, n= 1069	
D2 test = 0.60	

Ti 2024 – Census 2021 data comparison

Table 9. . Ti dwelling data compared to Census household data.

	Ti 2024		**Census 2021**	
Havering 2024	2019 –2024		21-Mar-21	
Tenure	No. dwellings	%	No. households	%
Social Housing	17,211	12.7%	13,807	13.6%
Owner occupiers	70,755	65.4%	71,355	70.5%
PRS	21,082	19.3%	16,114	15.9%
ToT	**109,048**		**101,276**	

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