

Report for HMO Cabinet Working Group: Identifying Possible HMOs Using Data Analysis

Purpose

To proactively identify properties likely to operating as HMOs that are currently unknown or unregistered, supporting better housing management, enforcement, and community wellbeing.

This document sets out our proposal to achieve the above.

Officers have identified two possible approaches:

OPTION 1 – Data Analysis by NELC Insights team

Using a combination of local and national datasets, and local intelligence:

- Apply data analysis and science to overlay and interpret these datasets, creating a clear, actionable list of possible HMOs for further investigation.

How Will We Do It?

- Gather available datasets
- Combine data sets
- Use data science approaches to help us to identify potential HMOs by scoring indicators that may identify multiple occupation.

1) Possible Datasets:

- **Royal Mail Multiple Residence Dataset:** Identifies properties with multiple households behind a single delivery point, useful for spotting subdivided houses or flats that may be hidden HMOs. (NELC has a license to access this data)
- **ONS Census Data:** Provides estimates of small and large HMOs/communal establishments by accommodation type and geography, allowing us to compare known licensed HMOs with census estimates to spot gaps. (Freely available data)
- **Local Authority Licensing Registers:** North East Lincolnshire Council's public register of licensed HMOs, which can be compared with other datasets to identify unlicensed properties. (NELC data)
- **Utility, Credit:** Properties with multiple names on utility bills, or unusual credit activity. (NAFN credit data, NELC has a license already)
- **Complaints, enforcement and reports:** Reports from residents, environmental health, housing enforcement, parking, antisocial behaviour, excessive waste reports and community feedback can flag suspicious properties. (NELC data)
- **'Known' Supported Accommodations:** There are approx. 120 properties that are being used as supported housing for residents who need support before they move into independent living. Understanding these alongside local data will help to identify if they are included in community reports. (NELC data)
- **Council Tax Category 'C' Households:** There are approximately 1900 properties which are 'billed to owner' establishments. Understanding their locations alongside other data sets is important. (NELC data)

- **Planning data:** property conversions (NELC data)
- **Electoral role** (NELC data, but need to explore data use/data protection)

Where possible, use a unique property identifier (UPRN) or geocoding to link and normalise addresses across datasets, ensuring consistent and accurate joins. Some national/census data sets are not available below 'area' level so we will use these as a guide at ward or LSOA level.

2) Spotting the Factors

- Create indicators that signal potential HMOs, such as:
 - More than one family or group living at a property
 - High waste output
 - Multiple names on bills
 - Frequent tenant turnover
 - Planning history (e.g., conversions)
 - Reports of antisocial behaviour or enforcement actions
 - Council tax category 'C'
 - Supported accommodation status
 - Credit reference anomalies

3) Scoring the Factors

Each property will be given a score based on how many indicators point to a possible HMO. The more indicators, the higher the score. For more advanced checking, we might use computer models that learn from known HMOs to spot new ones.

4) Validation

Once we understand the scale of the issue, then a decision will need to be made in terms of what we might like to do to validate the list. This could include engaging an external provider or using housing teams to make checks on the identified properties in a proportionate way. If checked properties are found to be incorrect, we could adjust the system to ensure that we improve it over time and provide a refined list to the housing team.

What Will This Achieve?

- **Proactive Identification:** Enables the council to find and investigate possible HMOs.
- **Efficient Use of Resources:** Ensures inspections and outreach prioritise the most likely properties based on risk, making best use of council capacity.
- **Data-Driven Decisions:** Ensures decisions are based on facts and robust evidence, not guesswork
- **Community Impact:** Supports safer, better-managed housing and addresses concerns raised by residents and elected members.

OPTION 2 – Commission BRE Group to deliver a stock modelling survey.

In 2020 Leicester City Council commissioned BRE Group to create an Integrated Dwelling-Level Housing Stock Model and Database. As part of that work, they used a combination of local authority data and modelling/data science techniques to identify possible HMOs.

1. Local Authority Data

- **Mandatory HMO Licensing Records:** BRE used the council's register of licensable HMOs.
 - **Council Tax Records**
 - **Tenancy Deposit Scheme Data:** Multiple deposits linked to one address can signal shared accommodation.
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2. Modelling/Data Science I

BRE applied predictive modelling based on:

- **Property Size and Type:** Larger dwellings or converted flats are more likely to be HMOs.
 - **Occupancy Patterns:** High turnover or multiple surnames in datasets (e.g., electoral roll, benefits data).
 - **Private Rented Sector Concentration:** Areas with high private renting and student populations were flagged.
 - **Neighbourhood Characteristics:** Wards with known concentrations of HMOs were weighted higher.
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3. Cross-Referencing

- Combined local datasets with national sources (e.g., English Housing Survey benchmarks) to estimate unlicensed HMOs.
 - Applied statistical modelling to fill gaps where direct data was unavailable.
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Outcome

Leicester City Council used the evidence presented in the BRE report to introduce a new approach. Whereby they:

- Estimated 9,649 HMOs in Leicester, of which 2,249 were licensable under mandatory rules. This was far more than the Council were previously aware of.
- Identified hotspots for HMOs and licensable HMOs for targeted enforcement.
- Assessed housing conditions and energy efficiency.
- Supported housing strategy, enforcement, and targeted interventions.
- Added to the evidence base for Selective Licensing in some wards, which covers HMOs with under 5 residents.

There is no published data on the total cost of the BRE survey, but for similar projects costs often range from £20,000 to £60,000.

Leicester (https://consultations.leicester.gov.uk/comms/landlord-licensing/supporting_documents/BRE%20Housing%20Survey%20Report%20Final%20Version.pdf) :

Recommendations

We proceed with Option 1, leveraging the expertise of the NELC Insights team to proactively identify possible HMOs using local and national datasets, data science, and local intelligence.

This approach mirrors the methodology previously used by BRE Group for Leicester City Council, where predictive modelling and cross-referencing of datasets successfully identified HMO hotspots and supported targeted enforcement. However, commissioning BRE for such work typically incurs substantial costs (£20,000–£60,000), whereas Data Insights Team can deliver a comparable outcome in-house, ensuring efficient use of resources and enabling us to refine our approach over time. This will allow us to make data-driven decisions, prioritise council capacity, and maximise community impact without the additional financial burden of external consultancy.

Next Steps

- 1. **Confirm access to datasets.**
- 2. **Combine datasets**
- 3. **Develop and test the scoring model.**
- 4. **Report findings and recommendations for targeted action.**