The private rented sector and anti-social behaviour
Gainsborough, West Lindsey District Council, Lincolnshire

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neighbourhood knowledge management

Executive Summary

Gainsborough is a town in the West Lindsey district of Lincolnshire. It is situated 18 miles (29 km) north-west from the city and county town of Lincoln, and on the River Trent. Its population of less than 20,000 at the last Census is divided into three Wards: East, North and South West.

Of the three wards, South West Ward is considered a priority neighbourhood for West Lindsey Council due to high levels of deprivation and poor housing standards. South West Ward scores significantly worse on many health and socio-economic indicators, including unemployment, deaths from all causes, pensioner poverty and obesity.[1]

South West Ward is also heavily affected by different forms of anti-social behaviour (ASB) from noise complaints and animal nuisance to dilapidated housing and fly-tipping. The combination of the poor health of its residents, nuisance caused by ASB plus a high crime rate therefore puts South West Ward in an unenviable position vis a vis the rest of the Council.

This report considers the case for Selective Licensing of private landlords as one of the tools available to the Council for making much needed improvements to the area. If introduced Selective Licensing means that all privately rented properties within a designated area have to be licensed, regardless of whether or not the property is an HMO.

This process should be accompanied by a high level of proof that the private rented sector (PRS) is responsible in part for ASB in an area especially where this can be linked to individual properties or the immediate environs. In recent guidance issued by DCLG the conditions have been expanded to include areas experiencing poor property conditions and deprivation so making this report very timely.

Accompanying aims of the study include estimating the probable size and location of the private rented sector within Gainsborough and secondly demonstrating that the private rented sector is in large part responsible for the problems observed at both neighbourhood and property level.

The report notes that the total size of the private rented sector or PRS has grown by over 60% since 2001. It further shows that the size today is similar to that published in the 2011 Census but using a completely different methodology. This methodology uses factors such as benefit status and property and person turnover by address to risk assess whether every individual property is privately rented or not.

It estimates that there are 1,628 private rented properties out of a total 7,999 in the private sector in Gainsborough and that of these 795 are situated within South West Ward. It notes that there is little difference between levels of ASB in private or social housing, but when other factors are included such as housing dilapidations, ASB occurrence rises significantly.

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[1] Source: Public Health England

In every category of ASB analyzed ASB levels are higher in South West Ward and higher than the all-ward average. Furthermore these problems are persistent over a long period of time including within the three-year period for which data were provided. This includes noise complaints, enviro-crime such as litter and fly-tipping and also housing dilapidations.

Where ASB can be directly ascribed to a property it finds that in private rented properties levels of ASB are two to three times higher. In addition its finds that repeat incidents are more likely in South West Ward than in other wards. A spatial analysis using the location of every single household reveals that nearly every single property in South West Ward has been impacted by ASB and in one or two areas in particular by more than three reported incidents in the time frame.

Although some concentrations of ASB are found in adjoining wards these are at a fraction of the scale observed in South West Ward and are also more localized. However, in the north of South West Ward some of this overspills into North Ward.

In order to ensure that only the most problematic areas are targeted, DCLG's latest guidance states that Selective Licensing can be introduced without reference to the Secretary of State as long as the scheme does not cover more than 20% of their geographical area or would affect more than 20% of all privately rented homes. South West Ward meets both of these criteria.

The report is accompanied by a database risk assessing each property and can be used once a scheme is up and running to identify probable rented properties that have not applied for a licence.

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1. Introduction

1.1 Background

Gainsborough is a town in the West Lindsey district of Lincolnshire. It is situated 18 miles (29 km) north-west from the city and county town of Lincoln, and on the River Trent. Its population of less than 20,000 at the last Census is divided into three Wards: East, North and South West.

Of the three wards, South West Ward is considered a priority neighbourhood for West Lindsey Council due to high levels of deprivation and poor housing standards. Housing demand is low, evidenced by high occupancy turnover, a large private rented sector, density of empty homes and low house prices.

It is already accepted that the Ward has high anti-social behaviour rates, especially youth ASB, and residents feel unsafe at night and that anti-social behaviour causes blight on the local visual environment but there is a new determination that these problems should be tackled using the most appropriate tools available.

Part 3 of the Housing Act 2004 gives local housing authorities the power to designate an area of the District as subject to Selective Licensing of all privately rented housing, where the area has low demand or is experiencing significant and persistent anti-social behaviour. It is the view of Council officers, that the South West Ward of Gainsborough meets both of these criteria.

Such problems, which are usually created by just a few landlords or tenants, can have a significant impact in an area and Selective Licensing is intended to help improve them. If introduced Selective Licensing means that all privately rented properties within a designated area have to be licensed, regardless of whether or not the property is an HMO.

However, the Council needs to go through several stages before it can introduce such a scheme. In particular, it must consult local landlords before introducing selective licensing in an area. In addition, the Council has to be satisfied it is in an area which is experiencing a significant and persistent problem caused by anti-social behaviour.

Specifically, it needs to show that some or all of the private sector landlords who have let premises in the area are failing to take action as a result of ASB[2]. The challenge for the Council in the coming months is to be sufficiently satisfied in the evidence linking ASB incidents to the PRS and that this evidence will withstand any legal challenge.

DCLG's latest guidance states that Selective Licensing can be introduced without reference to the Secretary of State as long as the scheme does not cover more than 20% of their geographical area or would affect more than 20% of all privately rented

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[2] From April this year the conditions have been extended to include areas experiencing poor property conditions, crime, deprivation and high levels of immigration.

homes. This to ensure that only the most problematic areas are targeted. The evidence of this report is that South West Ward meets both of these criteria.

The risk of the Council facing a legal challenge can be mitigated by a genuine and thorough consultation process of landlords, tenants, residents and stakeholders and consideration of any objections raised, a process that should last for a minimum of 10 weeks.

This process should be accompanied by a high level of proof that the PRS is responsible, in part for ASB in an area especially where this can be linked to individual properties or the immediate environs. Establishing whether this proof exists is one of the main aims of this report.

A licence lasts for 5 years and has conditions relating to management and anti-social behaviour, the use and occupation of the house, safety provisions, written tenancy terms, tenant referencing, and to be a fit and proper person. The scheme would require private sector landlords in the area to obtain a license at their expense, allowing them to let their property and in doing so sign up to certain conditions.

Some examples of these conditions are as follows:

- Supply the occupier with a written statement of the terms of occupation
- Demand references from persons wishing to occupy the house
- Complete and satisfy a fit and proper persons test
- Ensure that the external areas of the property, such as gardens or yards are free from rubbish and debris
- Ensuring that appropriate rubbish and recycling disposal receptacles are available.

Other key responsibilities include: presenting a gas safety certificate annually, if gas is supplied to the house; keeping electrical appliances and furniture (supplied under the tenancy) in a safe condition; keeping smoke alarms in proper working order.

In the case where the Council does not grant a licence, revokes a licence, or the landlord refuses to apply, the Council must take over the management of the property for a 12 month period under a Final Management Order (FMO). Under this arrangement, the management of the house is transferred to the local housing authority for the duration of the order.

If necessary the Council is enabled to spend monies received through rents and other charges for carrying out its management responsibility and to create new tenancies (without the consent of the landlord), so in effect the Council assumes substantial powers over properties whose landlords are not complying with the terms of the licence.

1.2 South West Ward

The Council wishes to explore whether the evidence available provides a compelling case to introduce selective licensing in Gainsborough. These include broken windows, stolen copper, fly-tipped waste and discarded beer cans etc.

According to the local ASB team and the Neighbourhood Policing Team, one of the causes is the prevalence of absentee landlords, with a number of tenants having no contact at all with their landlord and no written tenancy agreement or contact details.

The Council believes that the licensing of all privately rented accommodation in the Ward would provide information including contact details of landlords and property managers, thereby enabling enforcement officers and their partners to use their existing powers in a more effective manner.

In summary, the argument for Selective Licensing in South West Ward is that it is the only tool available that will cover every landlord, including those unwilling to comply and those whose tenants do not feel able to inform the authorities in regards to any issues they have for fear of reprisals.

1.3 Aims of this report

The possibility of a negative response to the consultation can be mitigated by a thorough study of the problem and establishing an evidence base that directly links higher levels of ASB with the PRS. In this regard, Gainsborough has already done some limited work into the incidence of anti-social behaviour in South West Ward.

However, it was decided that this work needed to be independently validated and extended in order to provide a more in depth evidence base linking ASB to the private rented sector. This is not as straightforward as it would appear.

Linking ASB to a ward does not necessarily demonstrate that the PRS is directly responsible for that ASB. In addition there is no centrally available database to show whether a property is rented or not.

The challenge therefore is to find a means of identifying properties and showing that ASB is more prevalent and likely to occur across a range of accepted measures or markers of ASB.

This report is therefore designed to produce independent evidence that the PRS and ASB are linked. It has two main aims. These are firstly, to identify the probable size of the private rented market, and secondly to establish to what extent ASB is directly linked at both a property and ward level to rental status.

Specific priorities are therefore:
- Obtaining a better understanding of the location of the private rented sector within the town – broken down by HMOs and non-HMOs

- Identifying whether there is a clear link between private rented properties and incidents of ASB including whether concentrations are greater in South West Ward

- Exploring whether evidence exists to satisfy the requirements of the Housing Act for selective licensing

Accompanying this report is a database detailing all private sector properties and their likely rental status and other relevant data. The practical value of this database is in monitoring licence applications and identifying compliant and non-compliant properties after the scheme is introduced and for validating the actual rental status of individual properties compared with their predicted rental status.

1.4   Structure of the report

The remainder of the report is structured as follows:

- Section 2 describes the methodology and data sources used

- Section 3 analyses trends and spatial patterns in ASB by category and profiles households by risk factors

- Section 4 identifies the size of the private rented sector

- Section 5 undertakes a ward level and micro-spatial analysis

- Section 6 summarises the main findings and concludes

2.   Methodology and data sources

2.1 Changes in population and housing tenancy

We begin with a description of the methodology and data sources used for identifying rental status and the measurement of ASB. We start with a brief overview of change in the patterns of renting between 2001 and 2011.

Although it is now somewhat dated, the Census is useful because it is the only official source of data on tenure types and trends. It does not enable the specific linkage of ASB to individual properties but it does provide a window on the rapid growth in private sector renting and sets the scene for the more detailed analysis that follows.

Gainsborough's population is estimated to be 18,508 in 2011 and is divided into three administrative wards: East, North and South West. South West has the fewest resident with only 25% of the total, the remainder being shared equally among the other two wards.

The age structure of each ward is very similar although South West Ward has a slightly higher proportion of working age adults in the 20-64 age bracket and slightly

fewer younger people. There has been little change in population size since 2001 and is expected to remain roughly at current levels.

2.2 Tenancy

The Census breaks down households into three main tenure categories: owner occupied, social housing or private rented. Table 1 shows that the number of households rose by 15.5% from 7,115 to 8,216 units overall. However, the most noticeable difference between 2001 and 2011 has been the rise in the share of the PRS from 1,007 to 1,639 over the period or by 62.8%.

tenancy	2001	2011	% change
Owner occupied	4,313	4,631	7.4
Social housing	1,795	1,946	8.4
Private rented	1,007	1,639	62.8
Total	7,115	8,216	15.5

Table 1: Change in tenancy between 2001 and 2011 in Gainsborough

These changes may be compared with wider trends in West Lindsey, and elsewhere affecting the PRS. These show that the growth in the PRS in Gainsborough is higher than in West Lindsey Council where growth has been 40%, but comparable with the trend in Lincolnshire and England (58% and 63%).

At ward level, Census data shows that South West Ward has the highest percentage of private rented properties, at almost twice the Gainsborough average. Conversely less than 3% of the stock is social rented from the council and 7.7% registered social landlords.

In round numbers South West Ward is estimated to have around 787 private rented properties based on the 2011 Census out of a total of 2,981 households. It is also geographically the largest ward but a considerable amount of the area is taken up by non-residential use.

As may be seen in Table 2, the lowest percentage of private rented properties is in East Ward which also has highest percentages of council and RSL rented properties at 13.4% and 30.7% respectively.

Ward name	Area sq kms	number of households	owned	private rented	social rented council	social rented RSL
East Ward	2.90	2,981	47.2	8.7	13.4	30.7
North Ward	2.40	2,989	66.3	19.8	2.9	10.9
South West Ward	4.50	2,246	55.3	35.0	2.0	7.7
total	9.80	8,216	56.4	19.9	6.4	17.2

Table 2: Breakdown in tenancy types by ward and tenure in Gainsborough (%)

Figure 1 is a map covering the West Lindsey Council area. A grid is superimposed for easy identification of different areas. Gainsborough itself is a small enclave in the western edge of the Council in cells A5 and A6.
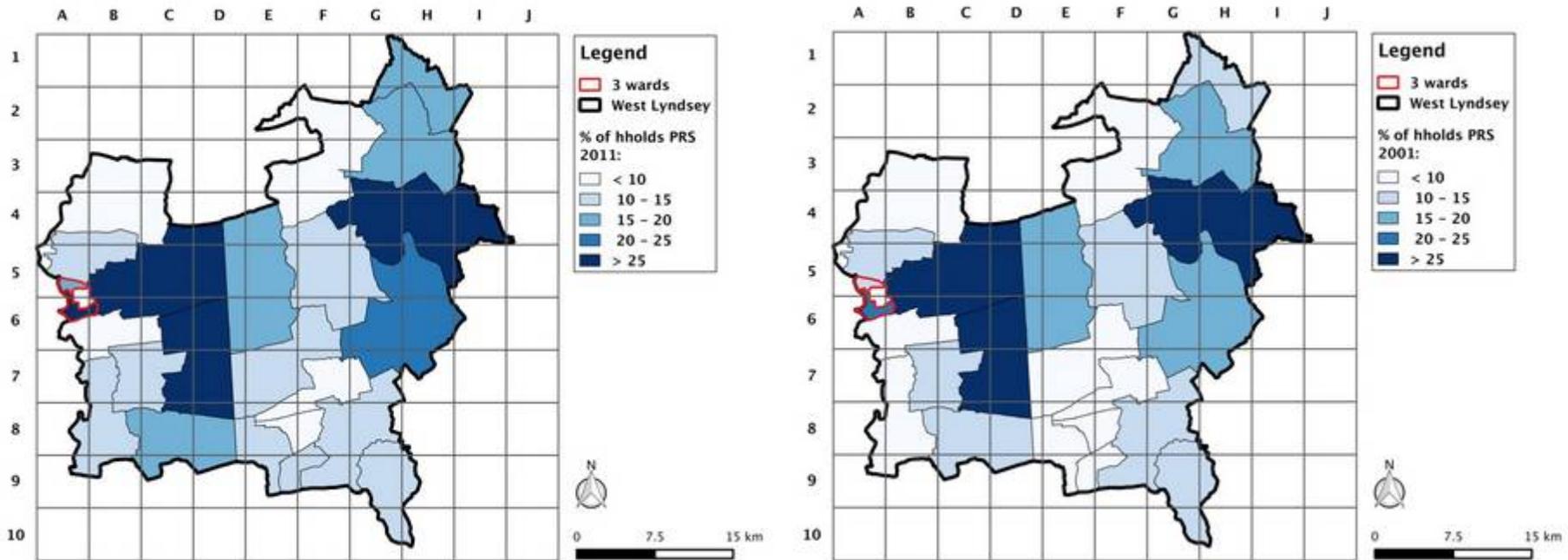
Figure 1: Map showing the relative size of the private rented sector in 2011 (a) and 2001 (b) in West Lindsey District Council. The cells circled in red (at A5 and A6) represent Gainsborough Town. (For larger scale maps of Gainsborough see later)

Each ward has been colour coded according to the percentage of households in the PRS in 2001 and 2011. As may be seen the PRS has become an increasingly important form of tenancy over the period with most wards experiencing a bigger percentage share (Note: Larger scale maps of Gainsborough are shown later. Those in Figure 1 are designed to position Gainsborough with regard to the whole of West Lindsey Council).

3. Anti-social behaviour in Gainsborough

3.1 Data on anti-social behaviour

DCLG guidance advises that ASB is deemed to occur when it falls into one of three categories:

- **Crime**: Tenants not respecting the property in which they live, including vandalism, criminal damage, robbery/theft or car crime

- **Nuisance neighbours**: Noise, nuisance behaviour, animal-related problems, vehicle-related nuisance etc.

- **Environmental crime**: Graffiti, fly-posting, fly-tipping, litter around a property

Because anti-social behaviour takes numerous forms even within each category, it may be recorded for different purposes and in different ways and by different authorities. Sometimes the same incident may crop up in more than one reporting system but it is difficult to identify these cases for various reasons.

The data usually show the date and location of the occurrence and the nature of the complaint. Complaints that are sourced to residential addresses are domestic in origin and others originate from external sources.

External sources can be located by grid reference rather than by address. Domestic occurrences can be assigned a UPRN (Unique Property Reference Number) by matching addresses to the Local Land and Property Gazetteer which enables us to map or otherwise analyse the data with considerable precision.

We based our analysis on events recorded between April 2011 and December 2014 (where data sources allow). Some sources give the source of a complaint at address level or by grid reference. Address level data is preferred since we need, as far as possible, to link ASB data by tenancy type and in particular the PRS.

Police reported crime and ASB data are only reported by grid reference. Since grid references cannot be perfectly aligned with addresses, the data are less reliable for identifying the sources of crime or ASB as the PRS. Similarly, other ASB events such as fly-tipping may refer to a location rather than a property.

However, the information is valuable for identifying crime types and the number of incidents over time as they have the largest number of incidents of all the sources

investigated.

Data sets used included the following:

- Environmental Protection data – noise complaints and other forms of ASB
- Council reported ASB incidents
- Police reported ASB incidents
- Police reported crime
- Fly-tipping
- Housing disrepair
- Housing Notices (e.g. improvement, prohibition or demolition orders)
- Section 215 Notices (refers to untidy land)

In the following sections we analyse each of the above in turn. Since our primary focus of attention is South West Ward our approach is to compare the number of incidents over a period with the average for the whole of Gainsborough on a monthly basis.

In general we find that in each category South West Ward has much higher levels of ASB in every category considered and higher than the Gainsborough average. The overall pattern varies by month and in a few cases such as fly-tipping the trend is upward.

3.2 Trends in ASB

(i)   Environmental protection incidents – noise complaints
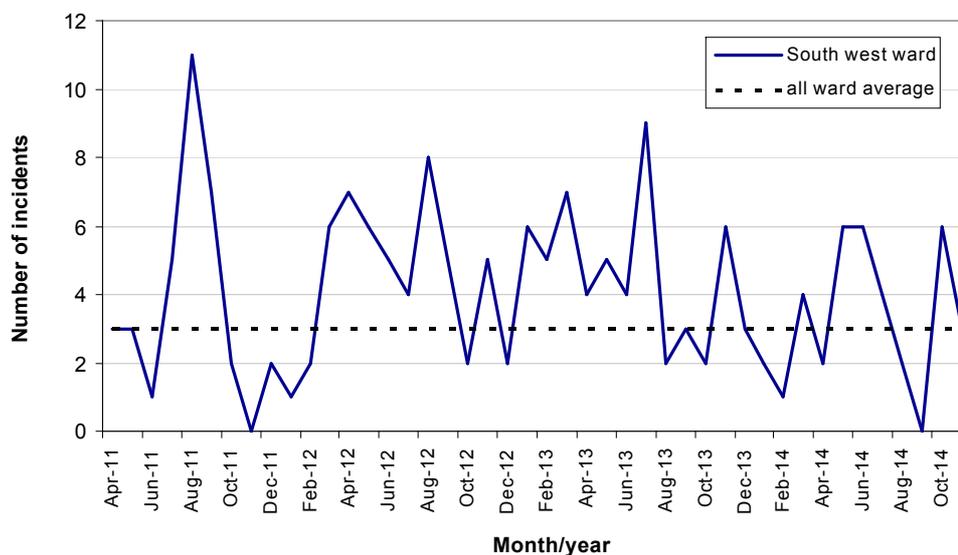
Figure 2: Monthly noise incident reports: South West Ward versus Gainsborough average: source Environmental Protection data

Figure 2 shows the monthly variations in noise reports using Environmental Protection data. Complaints can be categorised under four headings: agricultural, commercial, domestic and industrial.

As can be seen levels in South West Ward are generally higher than average. More noticeably, a majority of complaints refer to domestic sources despite the fact that South West Ward has a large commercial and industrial presence.

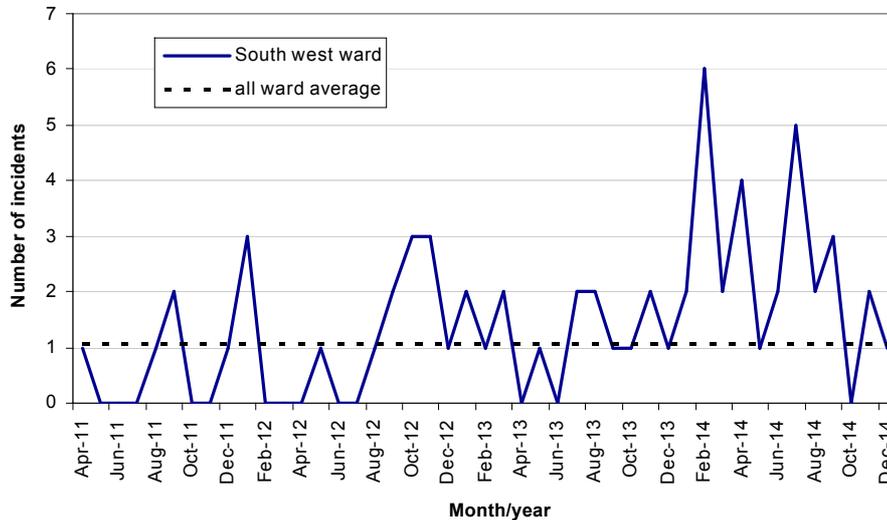*(ii)   Environmental protection incidents –' other'*

Figure 3: Monthly incident reports ('other'): South West Ward versus Gainsborough average: source Environmental Protection data

Figure 3 shows monthly incident reports in the 'other' category. Various descriptions are identified but the main examples include refuse, air quality, and pests and animals.

As is seen reports of incidents have increased in recent months and are above the Gainsborough average. Although numbers are generally small, South West Ward scores higher than other wards especially on pests and nuisance animals.

(iii)   Council reported ASB
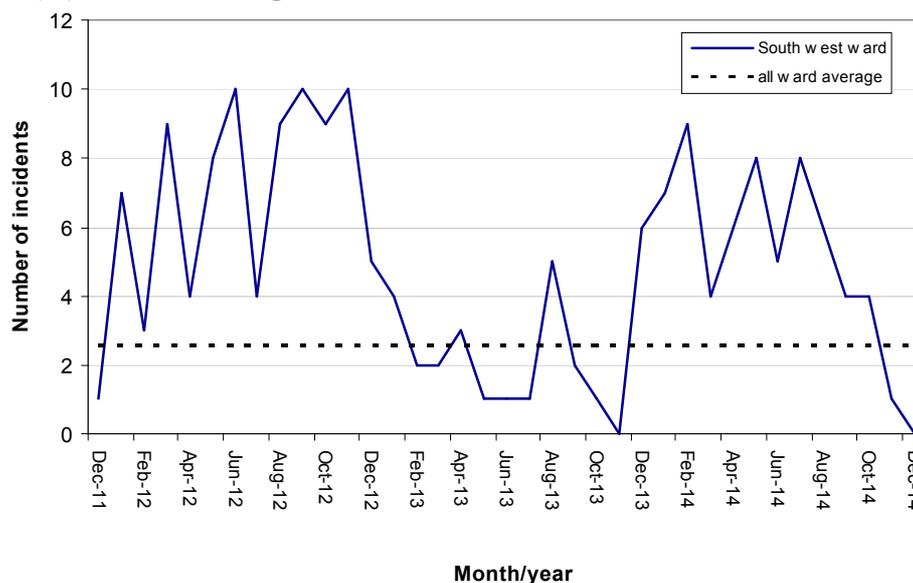
Figure 4: Monthly Council reported ASB incidents: South West Ward versus Gainsborough average: source Council

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As shown in Figure 4 the pattern of Council reported ASB incidents since December 2011 finds that levels are higher in South West Ward than for the Gainsborough average. South West Ward accounts for well over half of all the nearly 300 incidents in the period.

South West Ward has the highest incidence of litter and fly tipping, noise complaints, animal related incidents and rowdy incidents (including drunken, behaviour and verbal abuse), although not all is ascribable to residential addresses.

> *(iv)   Police reported ASB and crime*

Police reported ASB is only available for South West Ward. The number of complaints is higher than for any of the previous categories at around 35 per month. There are no particular monthly trends which can be described as persistent and continuing.

Of the 1,410 incidents reviewed three-quarters can be ascribed to inconsiderate behaviour including drunkenness and 15% to noise related incidents. For reasons previously given it is not possible to say how many incidents occurred in a public place or in homes.

Of the 1,778 incidents of crime reviewed, around 20% were concerned with burglary and 27% with criminal damage. Other substantial categories included robbery, or theft including vehicle related crime (27%). Interestingly there were 27 incidents of arson in the period.
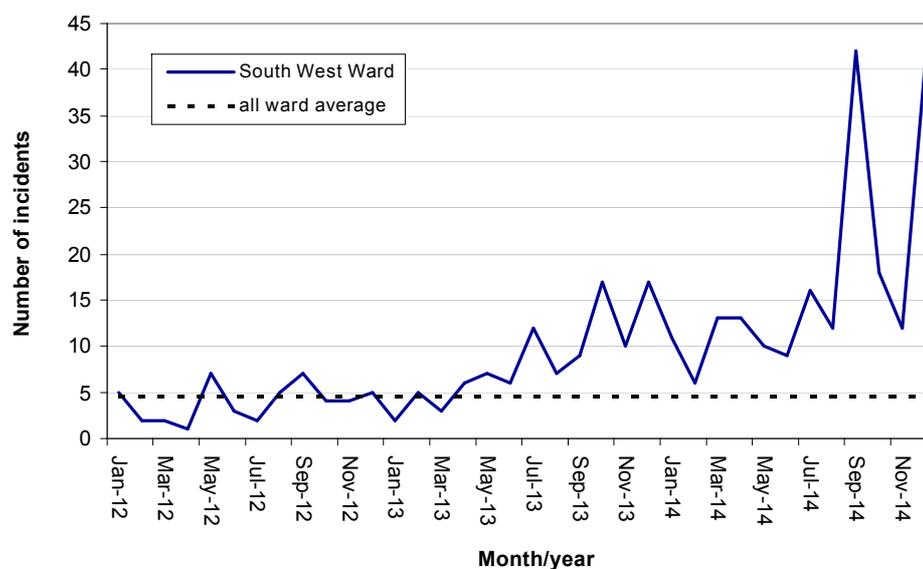
> *(v)   Fly-tipping*

Figure 5: Monthly Council reported fly-tipping incidents: South West Ward versus Gainsborough average: source Council

As is seen in Figure 5, fly-tipping incidents have been increasing since January 2013 with the number reaching a peak of 46 in September 2014. Of the various categories of ASB reviewed this has shown the strongest upward trend.
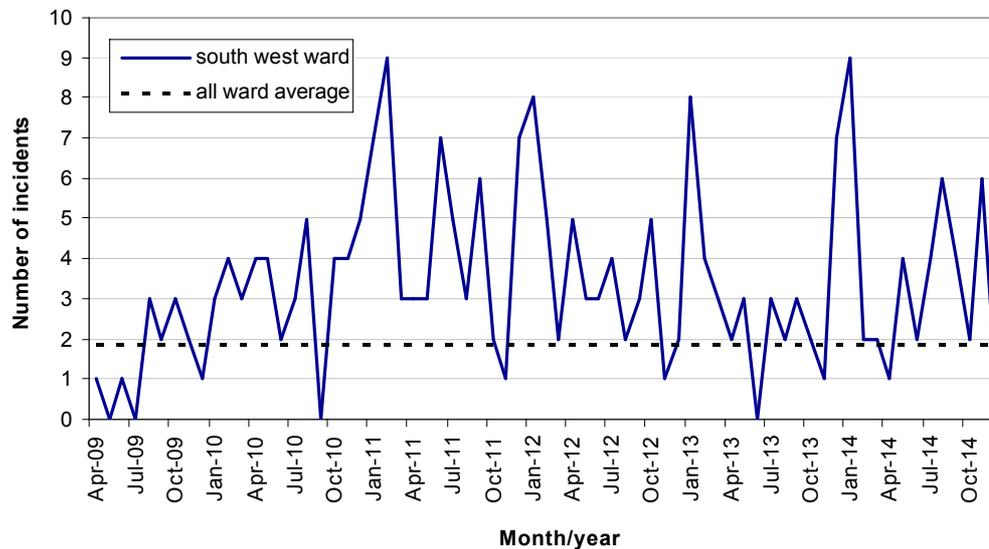
(vi)   *Housing disrepairs*

Figure 6: Monthly reported housing disrepairs in South West Ward compared with the all ward average

Reports of housing disrepairs are consistently higher in South West Ward than is the case for the whole of Gainsborough. In part this could be partly attributed to the relatively higher age of the housing stock. However, as is seen in Figure 6, this is unlikely to be the only reason with levels in some months up to four times the all ward average.

(vii)   *Housing notices and section 215*

Housing notices covering improvements, prohibition or demolition orders are small in number (up to 5 per month) but a consistent majority concern property in South West Ward.

Section 215 notices for untidy land occur with greater frequency. In 2009/10 only 3 were issued but in 2014/15 to date there have been 31, the great majority of which apply to South West Ward.

3.3 Property level profiling of ASB risk factors

Previously we have conjectured that the PRS is responsible for higher levels of ASB than other types of tenancy. This is founded on the observation that ASB is more prevalent in South West Ward which has a higher percentage of privately rented

properties. However, a stronger level of proof is demonstrable if ASB can be directly linked at property level.

In this section, we develop the concept of a risk ladder to quantify the association between specific risk factors and ASB at an individual property level rather than a ward or neighbourhood level. A risk ladder is a table that enumerates all possible combinations of risk factors, quantifies the number of households exposed to each risk factor combination, and models the associated rates of ASB in each case.

For the purposes of this analysis ASB is defined as there being at least one ASB event at an address over the period of the data. We find that the risk factors used are predictive of ASB, especially if they occur together (e.g. a noise complaint at the same address, a pest control call out or something else to do with the property).

How predictive these risk factors are of ASB depends on property characteristics and how many share these characteristics. The information is useful since it can result in a more targeted and joined up ASB reduction strategy to the extent that risk factors are modifiable in terms of local housing policy and regulation.

After some experimentation using potential risk factors taken from all address based data sources, a smaller number of the most predictive factors of ASB were selected and analysed in depth. A specific requirement is to be able to show that South West Ward is at greater risk than either East or North Ward and so this 'risk factor' is included in its own right.

The risk factors included in our example are as follows: whether a property is in the private sector or not (i.e. it is not social rented), its Housing Benefit status which is a proxy for low income and partly for private rental status, whether the property itself is located in South West Ward and finally any notification of housing disrepairs at an address.

The definition of ASB for this purpose is a combination of all categories analysed in section 3.2 for which an event could be ascribable to an address. This included all categories, but excludes police reported crime which was not available in addressable form.

In all, 9,690 properties were analysed whether occupied or not (including social housing). Column two of Table 3 lists the number of private sector properties exposed in each risk category; the next four columns show whether or not a risk factor applies in that risk category (denoted by 'Y'), and the final column shows the risk of ASB occurring based on the given risk factors expressed as percentage.

In theory there are 16 sub-categories altogether as defined by the presence or absence of each risk factor; however, in practice not all risk categories are represented in Gainsborough (i.e. in these cases there are no properties fitting the risk profile and so are omitted, leaving 11 risk categories altogether).

At the foot of each column is the total number of occurrences of each risk factor, so for example there were 7,999 properties in the private sector out of 9,690 of all tenancy types on the Local Land and Property Gazetteer.

Of the 9,690 there were 213 properties identified as being dilapidated, 2,951 as being located in South West Ward and 1,153 as being on Housing Benefit. The risk of ASB is ordered from categories at highest risk (row 1) to those at least risk (row 16).

The average risk of any ASB event across all properties is 5.6% and is shown in the bottom right hand corner of the table. At highest risk of ASB are 70 properties in the first row to which all risk factors apply, 37.1% of which had experienced at least one event over the period. This compares with 1,550 properties in row 11 with a 3.1% risk to which none of the risk factors applies.

Category	number in category	private property	housing benefit	located in South West Ward	housing disrepair	all ASB at least one incident per address
1	70	Y	Y	Y	Y	37.1
2	60	Y		Y	Y	30.0
3	34	Y	Y		Y	26.5
4	14				Y	21.4
5	33	Y			Y	15.2
6	517	Y	Y	Y		15.1
7	125			Y		12.8
8	532	Y	Y			10.9
9	2,177	Y		Y		6.0
10	4,576	Y				3.4
11	1,550					3.1
total	9,690	7,999	1,153	2,951	213	5.6

Table 3: Risk ladder showing the percentage of properties responsible for at least one ASB incident according to the risk factors given

Further analysis of the information in Table 3 shows the influence of each risk factor in turn on ASB. These four factors statistically explain 89% of the variation in ASB but it does not rule out other factors that may be correlated with these factors or with ASB.

We find that ASB rates increase:

- Evens if a UPRN is a private property
- 2.8 times if a property is in receipt of Housing Benefit
- 1.9 times if it is located in South West Ward
- 4.3 times if the property is in disrepair

It can be seen for example that the strongest predictor of ASB is dilapidations. From Table 3 it can be seen that this risk factor occurs in the first 5 rows of the risk ladder. The risk factor odds are multiplicative so if all four risk factors occur the odds are 1.0 x 2.8 x 1.9 x 4.3 = 22.9, i.e. a property is 22.9 times more at risk of ASB than a property where none of these 4 risk factors applies.

3.4 Private versus social tenure and multiple ASB events at an address

We conclude from these results that there is a risk gradient with some types of household more likely to be associated with ASB than others. This analysis is based on the premise of there being at least one ASB event at an address.

However, plainly some addresses may have been reported more than once to the Council and the extent to which this occurs is of potential significance (e.g. where a small number of properties cause a disproportionate number of incidents).

We found little difference between ASB occurrences in private sector properties and social tenure in this regard (e.g. see rows 10 and 11 of Table 3). However, the propensity for ASB increases substantially as other risk factors come in to play; however, this conclusion does not take account the possibility of repeat events.

Overall we found that the incidence of repeat events is 7.7% in the case of private sector properties and 4.7% for social housing. If this is then broken down by ward we find that 12% of private properties can be associated with repeat ASB events in South West Ward and 14% of social housing (although the amount of social housing is very small in this ward).

In other words, not only is the level of ASB higher there is a greater risk that it is persistent as well as more concentrated in the private sector. If we then consider properties with two or more incidents ascribable then we find 2.4% of private properties overall rising to 4.1% in South West Ward. This compares with less than 1% of social housing rising to 1.6% in South West Ward.

4. Identifying the private sector rented stock

As previously stated, the problem is that there are no complete data on which properties among private sector housing are confirmed as rented or not although many will self-identify if for example Housing Benefit is claimed. Our analysis above identified the extent of ASB but did not draw the link with private rented status specifically, only a general stratification of properties at risk in the private and social housing sectors. This issue is now addressed.

The London Borough of Newham, the farthest progressed borough in terms of selective licensing, has been running a selective licensing scheme for over a year. In this time it has visited numerous properties which it believed to be at risk of rental status. In other words there was a high likelihood that the properties in question were being lived in by rent paying tenants. These properties were flagged either as HMOs or single family private rented dwellings.

Each property can be linked to risk factors such as benefit status and turnover and profiled to other properties that have not been visited. The factors themselves are generic and are combined in a database of all private sector rented properties by assigning a risk score to each property which is predictive of the likelihood of a private sector property being rented or not. We call properties with the highest likelihood of rental status as being most 'at risk' of being private sector rented.

Unvisited properties in Newham at high risk that have not registered under the scheme are selected and then visited on a systematic basis. Because the methodology is probabilistic, it does not give a definitive answer as to whether a property is privately rented or not but simply a probabilistic score. However, its use in practice has resulted in around a 90% accuracy of identification.

In previous work for Newham, different combinations of risk factors were systematically analysed for their predictive power in terms of any of the three outcomes. This process resulted in the creation of three binarised sets of risk factors, one for each outcome (i.e. a risk factor was either present at an address or not).

For each risk factor the odds were calculated using the model. Four risk factors with the best predictive power were used giving rise to 16 possible risk factor combinations per address for each outcome. Odds schedules were then tabulated and are explained in the results section below.

Although the identified risk factors are highly intuitive and plausible, the analysis is not without its limitations. The sample of visited properties is rich in information but relatively small in terms of sample size and it is also based on a London borough and not Gainsborough.

This has four possible effects on the analysis:

- First, although selected risk factors are generally statistically significantly different from zero at the 95% level of confidence, confidence intervals tend to be wide

- Second, not all possible risk factor combinations are observed in the Newham data collected during visits. This means that the reported odds of them being in either category are based on the extrapolation of risk factors present in other categories which had been visited

- Third, some risk factors may overstate the effect in some cases where prior selection criteria had been used to identify a particular property. e.g. where housing officers had prior intelligence they could use

- Fourth, risk factor weights in LB Newham may not be identical to weights in Gainsborough which means that risk scores could vary between the areas and of course Gainsborough is small in size with a far smaller residential housing stock.

4.1 Results

In this section we use the linked data sets to identify HMOs and single family rented properties in Gainsborough so as to distinguish between them as far as possible, based as closely as possible on Newham risk factor profiles. We begin with HMOs.

(a) HMOs

The risk factors for identifying HMOs are as follows:

- No current CTRS (Council Tax Reduction Scheme[3]) recipient at address: A property not receiving CTRS is estimated to be 3.1 (1.1 to 9.1, p=95%) times more likely to be HMO status than a property receiving CTRS. A possible explanation for this is that properties receiving CTRS tend to be older person households or owner occupied rather than a landlord.

- The start date of the latest Council Tax liable account was registered in the last 24 months if it was not a new build: This is proxy for ownership turnover (normally we would use a measure based on change in owners, but this was not available to us). This measure is 1.1 (0.48 to 2.6, p=95%) times more likely to be a HMO.

- At least one change in electoral roll registrants in last 12 months: Properties in which the surnames of at least one current registrant at an address were not present the previous year were estimated to be 2.1 (0.9 to 4.5, p=95%) times more likely to be HMOs than properties where there had been no changes.

- More than three surnames on the Electoral Roll at address in last 36 months: Properties with three or more surnames registered at the address over the previous 36 months is estimated to be 6.9 (2.9 to 16.5, p=95%) times more likely to be HMOs than properties with three or fewer. This is the most predictive of all the risk factors selected

Table 4 shows the number and proportion of properties impacted by each risk factor combination ranked from highest to lowest risk. The risk scores are obtained by multiplying the risk factor weights at the foot of the table under each risk factor. A risk score of say 23.6 in row 3 means for example that the outcome is 23.6 times more likely than if none of the risk factors were present as in row 16.

The table also suggests there are about 1,153 properties at higher likelihood of being HMOs. This assessment is based on the first seven risk categories with the highest scores in which all share a high turnover of residents based on the electoral roll. All remaining properties are classed as low risk HMOs on this basis. By the same logic we find that 178 of the high risk HMOs are located in South West Ward.

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[3] CTRS = Council Tax Reduction Scheme. A benefit which provides low income households with financial support for paying their Council Tax

As an example of the risk assessment process, a property in row 1 in which 216 properties are identified as having all four risk factors is nearly 49 times more likely to be PRS than one in row 16 which has none of the given risk factors for which there are 1,056 properties identified. This risk is obtained by multiplying the figure at the foot of each risk factor column together, each figure being the risk multiple for a particular risk factor – in this case 3.06 x 1.11 x 2.07 x 6.92 = 48.8.

A key finding is that if we take all private properties as a group whether rented or not the incidence of all occurrences of ASB attributable to noise complaints at individual addresses is 5.5% in the 'top' seven HMO risk categories for noise and only 2.9% in the nine 'low' risk categories.

If we do the same for other types of ASB, we find: 4.6% versus 2.5% for council reported ASB and 8.2% versus 2.1% for housing disrepair. However, if we restrict our focus to South West Ward, we find for example 9% versus 2% for Council reported ASB and 8.2% versus 2.1% for housing disrepairs so the difference in South West Ward is more extreme.

Category	private sector UPRN (No.)	% of private sector	No Recipient of Council Tax Reduction at address	Council Tax account start date in last 24 months if not new build	Any change in electoral roll registrants in last 12 months	Three plus names on electoral register in last 36 months	Risk score
1	216	2.7	Y	Y	Y	Y	48.8
2	50	0.6	Y		Y	Y	43.8
3	16	0.2	Y	Y		Y	23.6
4	27	0.3	Y			Y	21.2
5	139	1.7		Y	Y	Y	15.9
6	23	0.3			Y	Y	14.3
7	4	0.1		Y		Y	7.7
8	699	8.7	Y	Y	Y		7.1
9	9	0.1				Y	6.9
10	599	7.5	Y		Y		6.3
11	493	6.2	Y	Y			3.4
12	3,720	46.5	Y				3.1
13	503	6.3		Y	Y		2.3
14	210	2.6			Y		2.1
15	235	2.9		Y			1.1
16	1,056	13.2					1.0
total	7,999	100.0	3.06	1.11	2.07	6.92	

Table 4: Risk ladder showing the relative risk of a private property being a private sector HMO

(b) <u>Single family rented properties</u>

The risk factors for single family rented properties are as follows:

•   No CTRS recipient at address: A single family privately rented household is less likely to receive CTRS but more likely to receive Housing Benefit (see below). Not in receipt of CTRS increases the odds of private rented status 1.6 times 1.6 (0.9 to 4, p=95%) times.

•   The start date of the latest Council Tax liable account registered in the last 24 months if not a new build: This is proxy for ownership turnover (as before, normally we would have used a measure based on change in owners, but this was not available to us). This measure is 1.1 (0.48 to 2.6, p=95%) times more likely to be an HMO.

•   Two or less adults at address: Two or less adults at an address are predictive of single family status rather than HMO status. It is estimated that this factor increases the odds of private family rented status 1.2 times (0.74 to 1.95, p=95%) times.

•   Housing Benefit recipient at address: Rented single family households can be identified by their Housing Benefit status. This is by far the strongest of the four predictive risk factors, increasing the odds of identification 4.7 (2.63 to 8.00, p =95%) times.

Table 5 shows the number and proportion of properties impacted by each risk factor combination and the comparable proportion of households in each category. The column to the right shows the relative risk or likelihood score with risk categories ranked from high to low.

As previously, these are obtained by multiplying the risk factor weights at the foot of the table under each risk factor. A risk score of say 9.1 in row 3 means that the outcome is 9.1 times more likely than if none of the risk factors were present as in row 16. The contribution of each risk factor to the odds of private rental status is shown in the bottom row.

Category	private sector UPRN (No.)	% of private sector	No Recipient of Council Tax Reduction at address	Council Tax account start date in last 24 months if not new build	Two or less adults at address based on	Any recipient of Housing Benefit at address	Risk score
1	38	0.5	Y	Y	Y	Y	14.3
2	11	0.1	Y	Y		Y	11.9
3	30	0.4	Y		Y	Y	9.1
4	539	6.7		Y	Y	Y	8.8
5	7	0.1	Y			Y	7.6
6	75	0.9		Y		Y	7.3
7	419	5.2			Y	Y	5.6
8	34	0.4				Y	4.7
9	1105	13.8	Y	Y	Y		3.1
10	270	3.4	Y	Y			2.6
11	3233	40.4	Y		Y		2.0
12	237	3.0		Y	Y		1.9
13	1126	14.1	Y				1.6
14	30	0.4		Y			1.6
15	776	9.7			Y		1.2
16	69	0.9					1.0
total	7,999	100.0	1.63	1.57	1.20	4.65	

Table 5: Risk ladder showing the relative risk of a property being a private sector single family rented household

It is noteworthy that Housing Benefit has the most influence amongst these. It increases the odds of private rental status 4.65 times and appears in each of the top eight risk categories. Other risk factors make smaller contributions whilst the final column is obtained by multiplying the odds together to derive an overall risk score.

To put a scale on the findings the results suggest that there are 1,153 properties in the top eight risk categories all of which claim Housing Benefit and the remainder in the bottom eight 'low' risk categories. Based on the same logic 587 of these properties are in South West Ward, and so this implies that a majority of the rented properties in South West Ward fall into the 'single family' category.

Restricting our analysis to high risk suspected single family rented properties in rows 1 to 8 we find that the incidence of noise incidents is 7.8% as compared with 2.3% in the remaining low risk categories. Council reported ASB is 7.4% versus 1.8% and housing disrepair is 9% versus 1.4%. If we restrict our analysis to just South West Ward the gap is similar but if we just take housing disrepair it is 11.9% versus 2.7% i.e. more extreme.

The above analysis provides strong confirmation the ASB is more prevalent in private rented properties than in owner occupied properties and that it also appears to be slightly more prevalent in 'single family properties' than suspected HMOs. Based on

our analysis, we estimate that the total number of private rented properties in Gainsborough altogether to be 1,628 but this is probably a maximum.

Of this up to 765 private rented are estimated to be located in South West Ward based on the same methodology. As comparison, the 2011 Census reported 1,639 private rented properties in the whole of Gainsborough and so the figures appear to be very comparable. In the next section we analyse the spatial distribution of ASB at household level and the corresponding relationship with the PRS.

5. Geographical association between ASB and private renting

As part of the project we will provide West Lindsey Council with a database of private sector properties providing the risk score of whether a property is more likely to be an HMO or single family rented property plus other attributes of each UPRN such as an ASB event, benefits status, dilapidations etc.

If a licensing scheme is introduced this database can be compared with licence applicants and used appropriately to follow-up potential non-applicants as other councils have done.

In this section we analyse the geographical correlation between private renting and the ASB and demonstrate that they are strongly coincident. The extent and intensity of ASB can be mapped in different ways and two examples are given in this section.

The most important dimensions are the spread or reach of ASB and its intensity. Spread refers to the properties that have been affected either directly or by proximity; intensity refers to the density of incidents per unit of area.

Our analysis strongly leads to the conclusion that ASB is highly concentrated in certain areas of the town and our analysis identifies a small number of significant hotspots where problems are especially acute.

Figure 7 is a map of all residential properties in the town. Each coloured symbol is a residential property based on the Local Land and Property Gazetteer. Each property is colour coded according to its exposure to ASB. A property is coloured yellow if there have been no incidents within 50 metres over the time period; green if one ASB; light blue if two incidents and dark blue if three-plus incidents.

The highest concentrations of ASB is clearly identifiable in South West Ward in cells C5 and C6 but ASB is also prevalent in a north south strip from B11 to C6 some of which are in North Ward. Outside these areas the problems are fewer and a majority of the population live in ASB-unaffected households.
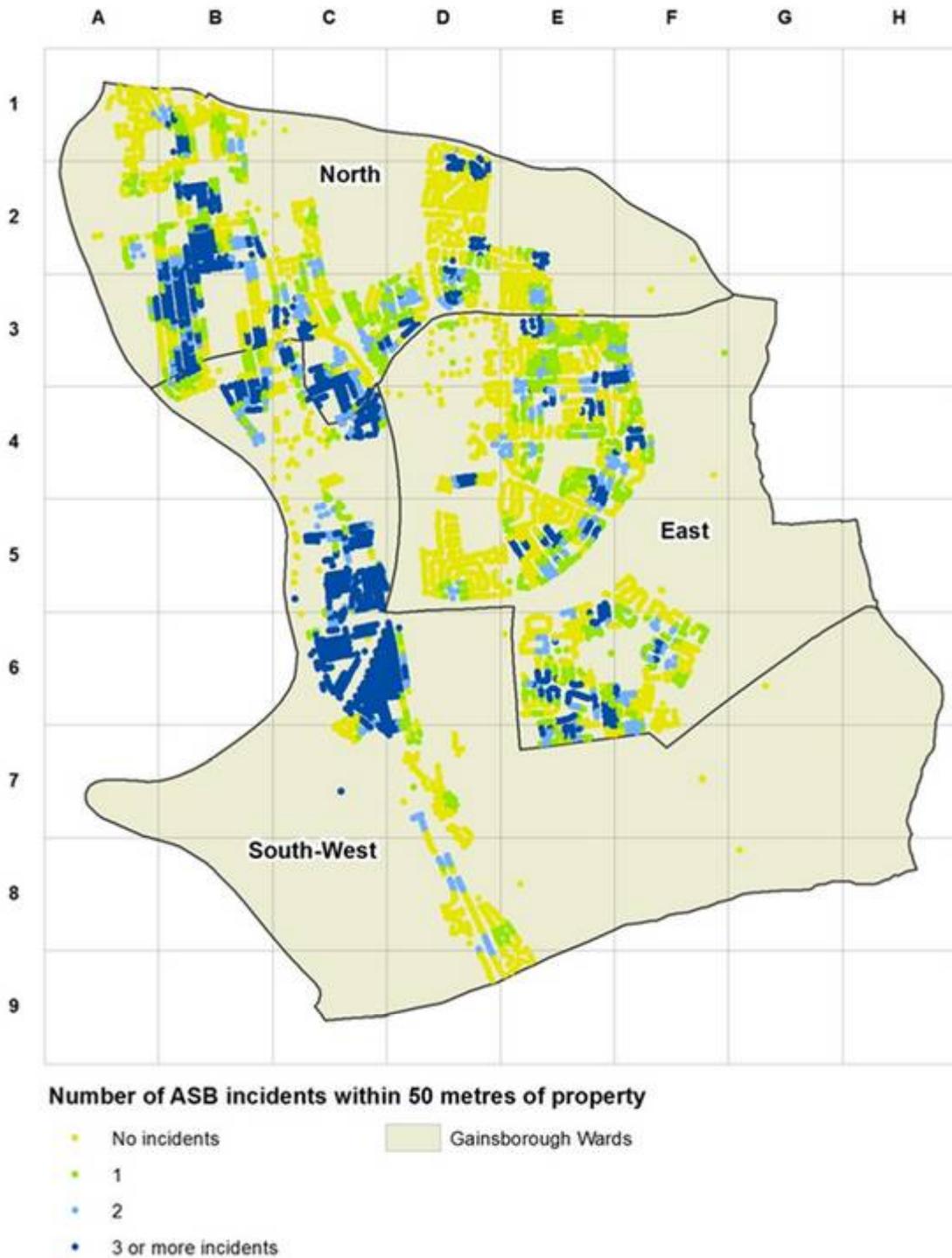
Figure 7: Ward map showing for each residential property in Gainsborough the number of reported ASB incidents. Properties are colour coded according to whether a property with 50 metres of the ASB source has been exposed to zero, 1, 2, 3+ incidents over the period

Table 6 shows the number of properties affected by ASB using the information in the map. Its shows that, of the properties affected by three or more incidents, 13% are in East Ward, 35% in North Ward and 52% in South West Ward. Of all properties that have been affected by at least one incident 53% are in East Ward, 61% in North Ward and 77% in South West Ward.

	Number of ASB incidents within 50m of a property				
Ward	0	1	2	3 or more	Total
East Ward	1,530	911	369	416	3,226
North Ward	1,371	634	387	1,121	3,513
South-West Ward	673	322	291	1,665	2,951
Total	3,574	1,867	1,047	3,202	9,690

Table 6: Number of properties in each ward that have been affected by 0, 1, 2, 3+ ASB incidents in the time period

Figure 8 is a contour map showing the intensity of incidents per square kilometre. Contour labels show the level of intensity in each location of the town. As can be seen the intensity is several-fold higher in cells C5 and C6 than anywhere else in the town. In addition the area affected is strongly demarcated as shown by the close proximity of the contours in this location which indicate a sudden and steep rise in occurrences.

It is also noteworthy that there are further concentrations in the north of South West Ward in cell C3 and also in North Ward especially cells B2 and B3. However, contour values are two to three times lower than in cells C5 and C6. Even lower values are found in small concentrations in East Ward e.g. see cells E3 to E6.

Both previous maps show that ASB is highly localised but they do not explicitly identify a link to the private rented sector. This can be seen in Figure 9 in which ASB contours have been overlaid with a 'hot spot' map showing the density of properties identified as being most likely to be in private rented sector based on the analysis in section 4.1 and Tables 4 and 5.

Darker shaded areas corresponds with property locales which have been identified as containing higher numbers of private rented sector properties – either HMOs or 'single family' rented properties. It is plain to see that these darker patches overlay fairly concisely the areas circumscribed by the contours identifying the main concentrations of ASB.

This finding is important because it is fully in accordance with the previous property level analysis that found that there was significantly higher level of ASB in properties most likely to be private rented sector derived from Tables 4 and 5. For a more detailed map showing the streets and properties most affected see Annex A. This map, containing most of South West Ward, covers the area contained in cells A2 to D6 in the map above.
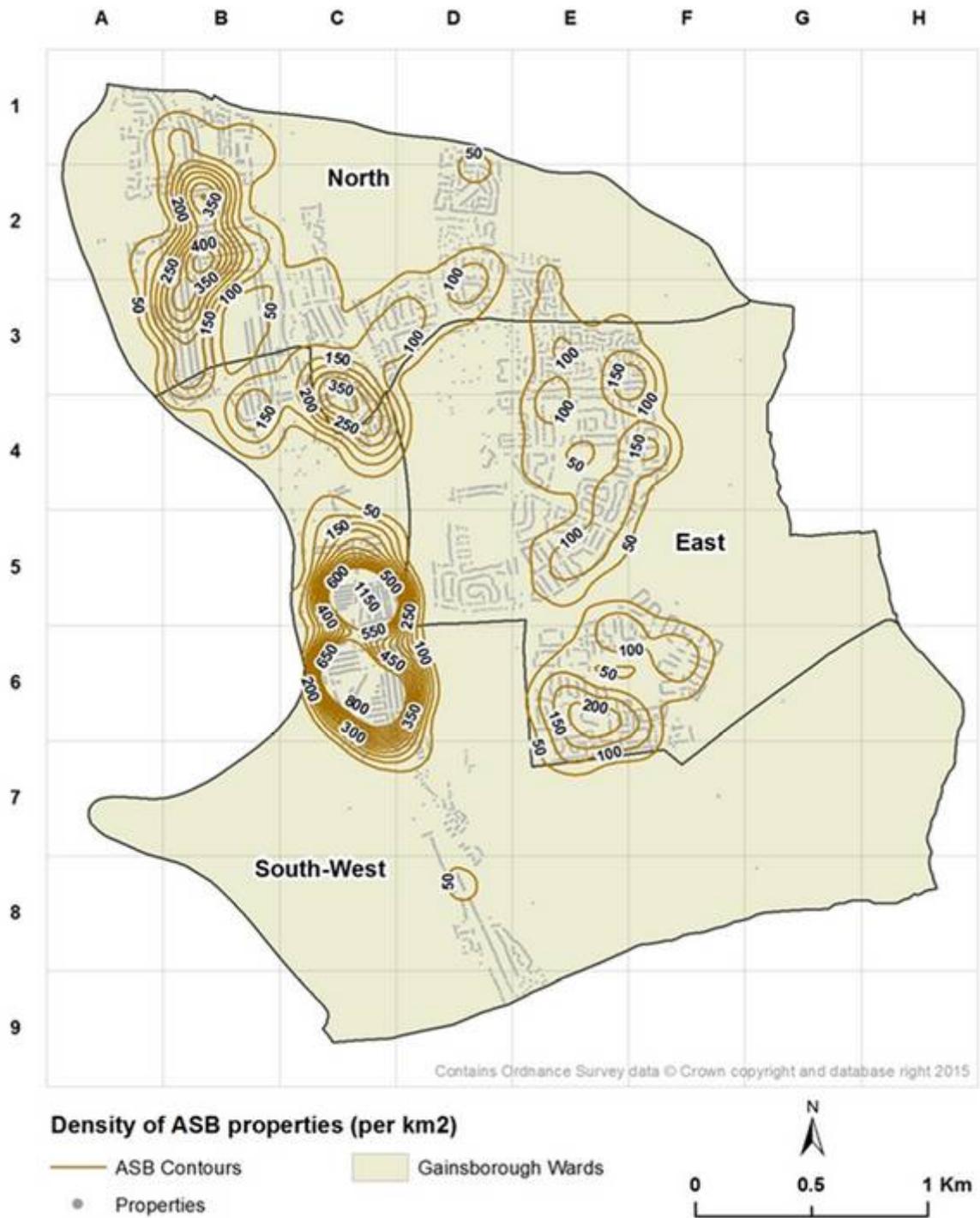
Figure 8: Ward map showing for each residential property in Gainsborough the intensity of reported ASB incidents. Note: Contour values are based on number of incidents per square kilometre
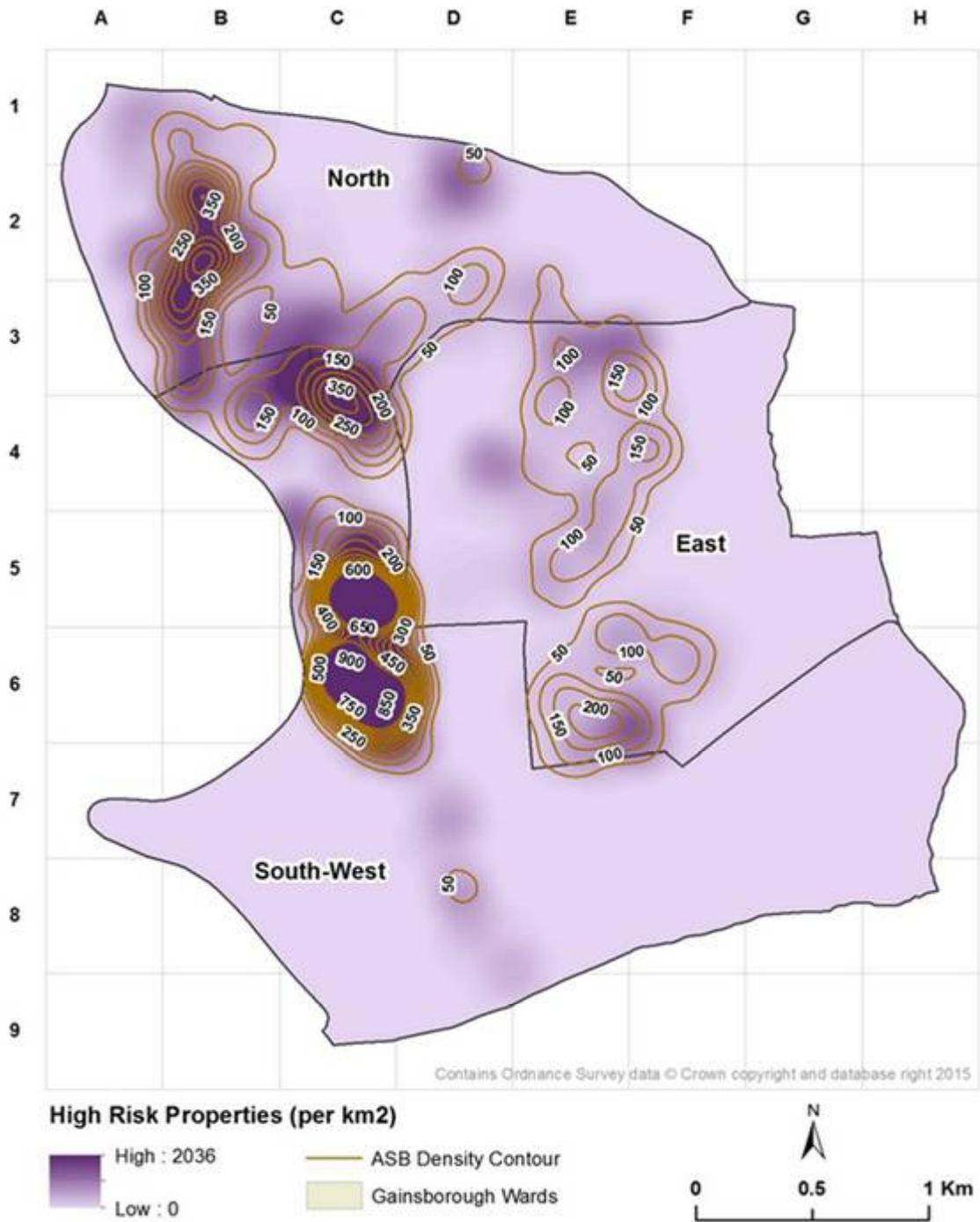
Figure 9: Ward map showing the intensity of reported ASB incidents overlaid by a hotspot map showing the density of the most probable private sector rented properties. Note: Contour values and private rented properties based on number of incidents/properties per square kilometre

6. Conclusions

It is already accepted that South West Ward has high anti-social behaviour rates, over a spectrum of different types of ASB. As a result residents feel unsafe at night and in addition ASB causes blight on the local visual environment. This report, based on a detailed property level analysis of all available data, strongly confirms that perception in which reported incidents of ASB were linked to individual properties.

The analysis further confirms that the size of the private rented sector based on a completely different methodology matches closely the findings in the 2011 Census. The methodology does not tell us unequivocally whether a property is privately rented on not but it does provide a risk score that can identify using a scale which is much more likely to be private rented than not.

When this likelihood is compared to levels of ASB reported in different sources over a three year period the results show that the incidence of ASB is much higher in properties identified as being most likely to be private rented. At a ward level the analysis shows that South West Ward stands out among the other wards as being by far the most affected and that it is especially concentrated in one or two relatively small areas.

Concentrations of ASB are found in neighbouring North Ward but these are less intense and are spread over a wider area. If the occurrences of ASB are broken down by category, for example noise, enviro-crime and so on, South West Ward scores higher on every measure as compared with the all-ward average. In each case the pattern is persistent and in some cases increasing over time e.g. fly-tipping.

In answer to the objectives of this study set out in section 1.3 of the report, we believe that the evidence provides West Lindsey Council with a much clearer understanding of the nature and occurrence of ASB in the town, particularly that which affects residential properties and neighbourhoods. Secondly, it demonstrates confirmation of a link between private sector rented properties and ASB in the areas most affected.

Ultimately it is a matter for the Council to decide whether the evidence presented in this report satisfies the requirements of the Housing Act to introduce Selective Licensing, but in our opinion the evidence is both robust and broad based. For example, the most recent guidance from DCLG issued as this study was being completed extends the conditions to cover poor housing conditions and deprivation. We believe our report finds evidence that also concurs with these conditions.

This report is accompanied by a database risk assessing each property and can be used once a scheme is up and running to identify probable rented properties that have not applied for a licence – assuming that the scheme goes ahead. As data for each licence applicant is processed the database can be updated by the most recent information about each property.

Annex A
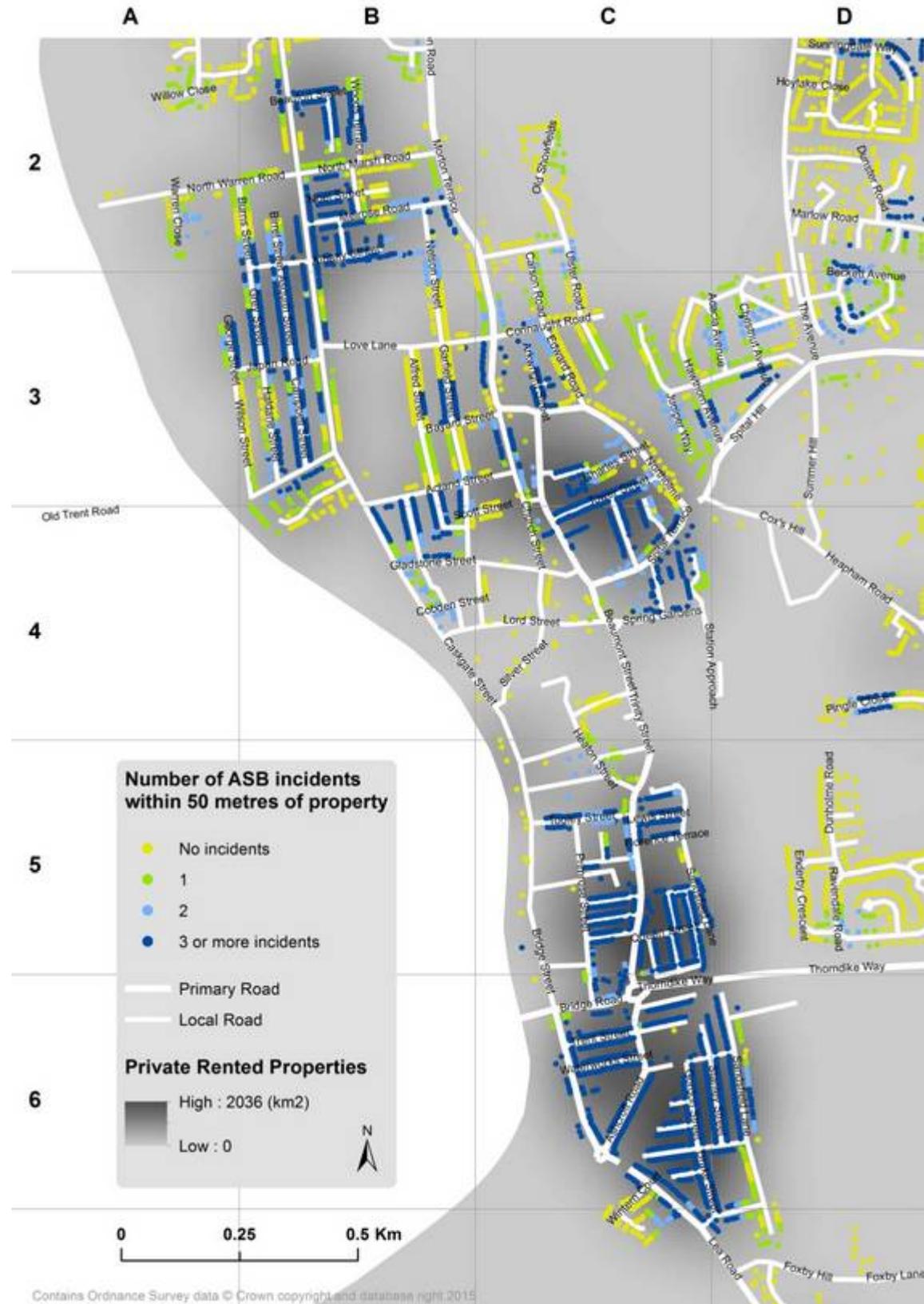
Map showing detail of properties and roads affected based on Figures 7 and 8 in the main text including grid overlay. Darker shaded areas indicate areas with higher concentrations of private rented properties