GLAECONOMICS

Projections of demand and supply for visitor accommodation in London to 2050

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Contents

Executive summary

Visitors to London have increased over the past decade reaching **31.5 million overnight visitors in 2015**, of which 12.9 million were overnight domestic visitors, and 18.6 million were international visitors. Since 2006, international visitors have on average comprised 58.2 per cent of all overnight visits to London, compared to 41.8 per cent for domestic overnight visitors. International visitors tend to stay longer, accounting for 78.9 per cent of visitor nights over this period, compared to 21.1 per cent by domestic tourists.

London's supply of serviced accommodation (ie, hotels, hostels, B&Bs and guest houses) **in 2015 was 145,737 rooms**. Most of this was located in central London, with over a quarter of rooms located in the borough of Westminster alone. However, more recently development has been taking place in other parts of London, with Southwark, the City of London, and Newham adding the most rooms to the supply between 2011 and 2015. This is part of a longer-term trend where other London boroughs, beyond the boroughs of Westminster and Kensington and Chelsea, have been accounting for an increasing share of serviced accommodation in London.

The current supply of serviced accommodation in London is tight, with **the Capital having the highest occupancy rate across major European cities, and the fourth highest prices for hotel rooms.** Both occupancy rates and the price of serviced rooms are notably higher than the rest of the UK. Alternative forms of accommodation such as Airbnb and student halls have helped alleviate some of the tightness in the market, particularly during periods where demand is high. However, there are concerns to ensure that short-term let provision does not compromise the supply of conventional housing and additional concerns around the impact such provision can have on traditionally residential areas.

Demand for London accommodation is projected **to reach 196.4 million nights by 2041** from 138.5 million visitor nights in 2015. This is driven by a 42.9 million increase in international visitor nights, and a 15.0 million increase in domestic visitor nights.

Based on these demand projections it is estimated that London will **need to add an additional 58,140 rooms to the serviced accommodation supply by 2041, at an average of 2,236 rooms per annum**. This is below the projections for the increase in supply, so it is, tentatively, expected that sufficient rooms will be delivered over this period. In terms of the number of new serviced accommodation rooms that will need to be delivered (ie, accounting for closures), it is projected that 77,019 new rooms will need to be provided, at an average of 2,962 per annum.

Introduction

Tourism is an important sector for London's economy. London is the second most visited city in the world for international tourism, with an estimated 18.6 million international visitors in 2015[1], estimated to have spent around £12 billion in the Capital for the year. People from other parts of the UK bring the total number of overnight visitors to the Capital to 31.5 million in 2015, not including day visitors to London which are also an important part of the tourism industry.

Given the importance of tourism to London's economy, London needs to ensure that it is able to meet the demands of tourists that want to visit the Capital, and a most important aspect of that is to provide suitable accommodation for those that wish to visit. However, currently the supply of serviced rooms[2] is tight and the cost of accommodation expensive. In 2015 London had the highest occupancy rate of all European cities, and the fourth highest average daily rate, behind Zurich, Paris and Geneva.[3] The occupancy rate in London was 81 per cent in 2015 compared to 70 per cent across England,[4] whilst the average daily rate for serviced accommodation in the Capital was more than double the rate for England as a whole.[5]

Given the importance of the supply of accommodation to London's tourism sector, the London Plan has traditionally set a 'benchmark target' for the provision of net additional hotel bedroom supply. In order to understand the future need for visitor accommodation in London it is necessary to come to a view on the likely future demand.

GLA Economics was asked by the Greater London Authority (GLA) London Plan team to update work surrounding the demand for serviced visitor accommodation to inform the target for the next London Plan.

This report examines the current supply and demand conditions in the London visitor accommodation market. It then sets out projections for the supply and demand of serviced visitor accommodation between 2015 through to 2041 (the time horizon for the London Plan), and beyond to 2050 (the timescale for the London Infrastructure Plan). This then leads to the estimation of the number of rooms expected to be needed based on the demand projections, which will be used to inform the target in the new London Plan.

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[1] International Passenger Survey, Office for National Statistics
[2] Traditional hotels, B&Bs, guest houses and hostels would be considered as 'serviced accommodation', where services such as catering and cleaning are provided to guests.
[3] PWC European cities hotel forecast for 2016 and 2017, measured in Euros
[4] Visit Britain England Occupancy Survey
[5] PWC UK hotels forecast update for 2016 and 2017

Demand and supply for London accommodation

Visitors to London have increased over the past decade reaching 31.5 million overnight visitors in 2015, of which 12.9 million were overnight domestic visitors, and 18.6 million were international visitors. The growth in international visitors has been strong since 1997 (12.3 million visitors) – increasing of over 50 per cent to 2015.

On the supply side, after around two decades of little growth from the mid-1970s, the supply of serviced accommodation in London has grown strongly since the late 1990s. Most of London's serviced rooms are located in central London, with over a quarter of rooms located in the borough of Westminster alone. However, more recently development has been taking place in other parts of London, with Southwark, the City of London, and Newham adding the most rooms to the supply between 2011 and 2015. This is part of a longer-term trend where other London boroughs, beyond the boroughs of Westminster and Kensington and Chelsea, have been accounting for an increasing share of serviced accommodation in London. Indeed, Westminster and Kensington and Chelsea's share of all serviced rooms in London fell from over three-fifths in 1971 to under two-fifths in 2015 (despite the absolute number of rooms growing in the two boroughs over this time period). Over the same time period the share of serviced rooms located in outer London grew from 15 per cent to 23 per cent.

Demand for visitor accommodation in London
Looking at data on visitor numbers to London over the longer term, since 2006, international visitors comprised 58.2 per cent of all overnight visits to London, compared to 41.8 per cent for domestic overnight visitors. International visitors tend to stay longer, accounting for 78.9 per cent of visitor nights over this period, compared to 21.1 per cent by domestic tourists.

The growth in international visitors has been strong since 1997, increasing from 12.3 million visitors – an increase of just over 50 per cent to 2015. However international visitors recently have been spending fewer nights per visit to London, subduing the growth in overall visitor nights. Visitors from the United States are the most common, accounting for 11.5 per cent of total international visitor nights in the Capital in 2015. There has also been a strong increase in overnight domestic tourists over the past decade, increasing by 20.3 per cent from 10.8 million in 2006 to 12.9 million in 2015.

Total visitors
Complete time series data on the number of visitors that stay overnight in London is only available back to 2006. In 2006 there were 26.3 million overnight visits to the Capital, of which 10.8 million were domestic visits and 15.6 million were from international visitors. The lowest number of visits in the past decade was in 2009 following the global financial crisis where there were 24.9 million visits, comprising 10.7 million domestic visitors and 14.2 million international visitors.

Since that time, the number of overnight visitors to London has increased in most years, peaking at 31.5 million visitors in 2015, with 12.9 million domestic visits and 18.6 million international visits (Figure 1). This reflects a 26.5 per cent increase in visits from the bottom in 2009 to the peak in 2015. Since 2006, international visitors comprised 58.2 per cent of all overnight visits to London, with domestic visitors accounting for 41.8 per cent of overnight visits.

Figure 1: Total number of visitors, London
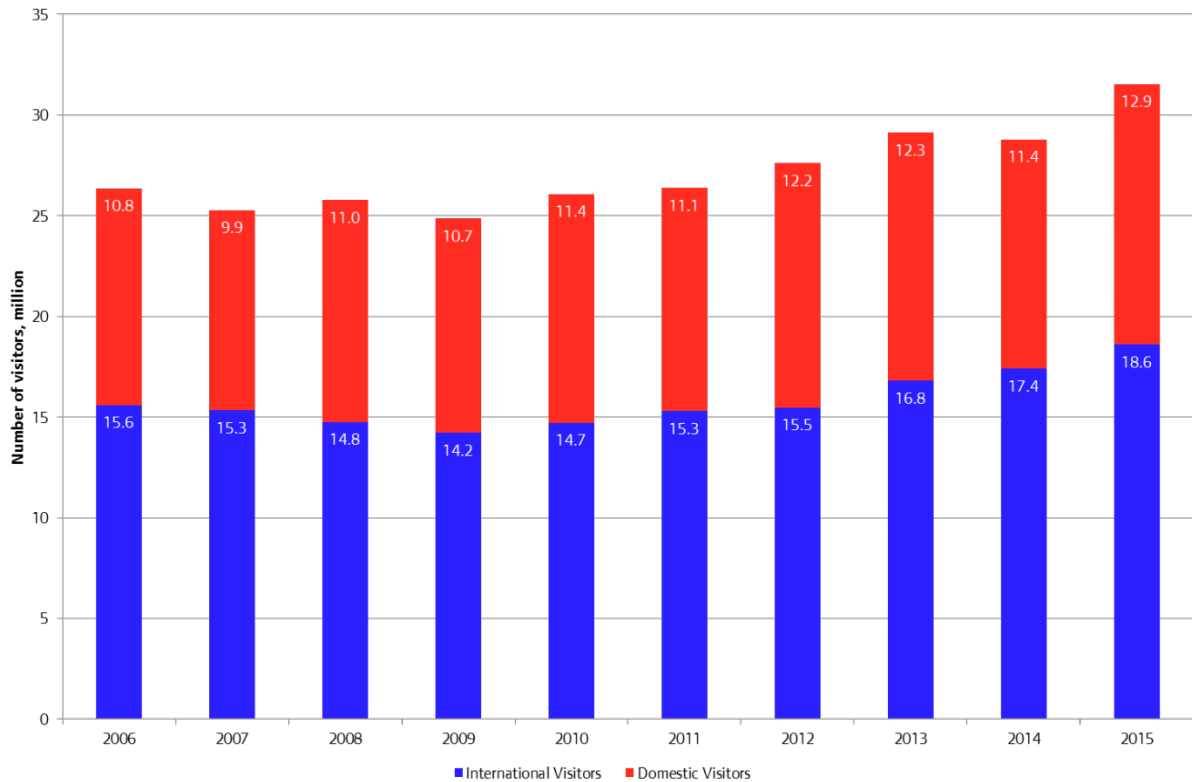
Source: International Passenger Survey, Great Britain Tourism Survey

What is more important in terms of demand for accommodation is the number of nights that visitors stay for in London. In 2006 there were 125.0 million visitor nights in London, of which 101.1 million were from international visitors, and 24.0 million from UK domestic visitors. Like visits, the number of visitor nights was lowest over this period in 2009 when there were 109.1 million visitor nights, 85.7 million of which were from international visitors, and 23.4 million were domestic visitor nights. The number of visitor nights has increased every year since 2009 to reach 138.5 million in 2015, with 108.3 million international nights and 30.2 million domestic nights spent in London for this year (Figure 2).

Figure 2: Total number of visitor nights, London
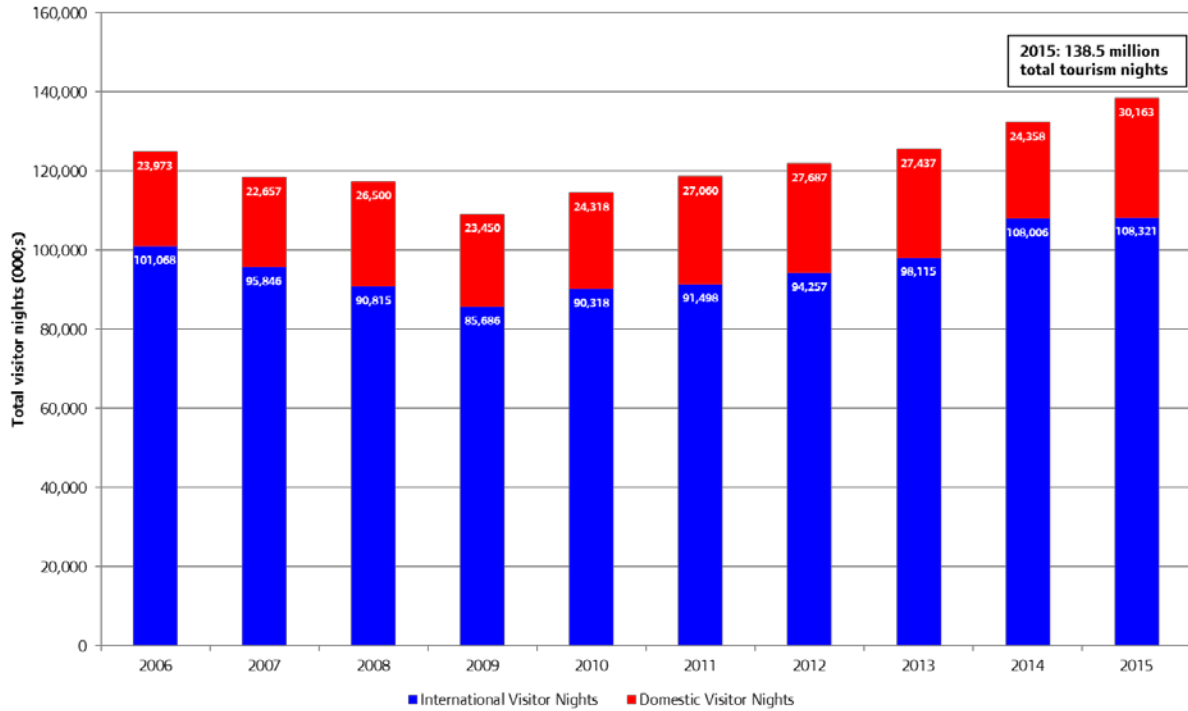
Source: International Passenger Survey, Great Britain Tourism Survey

Over this period 78.9 per cent of visitor nights were from international visitors, with 21.1 per cent of nights spent in London by domestic tourists. The share of international visitors for nights spent in London is higher relative to the number of visits because international tourists tend to spend more time in London than domestic tourists. Over the past decade, international tourists spent on average 6.10 nights in London when they visited, compared to 2.27 nights per visit for domestic tourists (Figure 3).

Figure 3: Average nights per visit, London
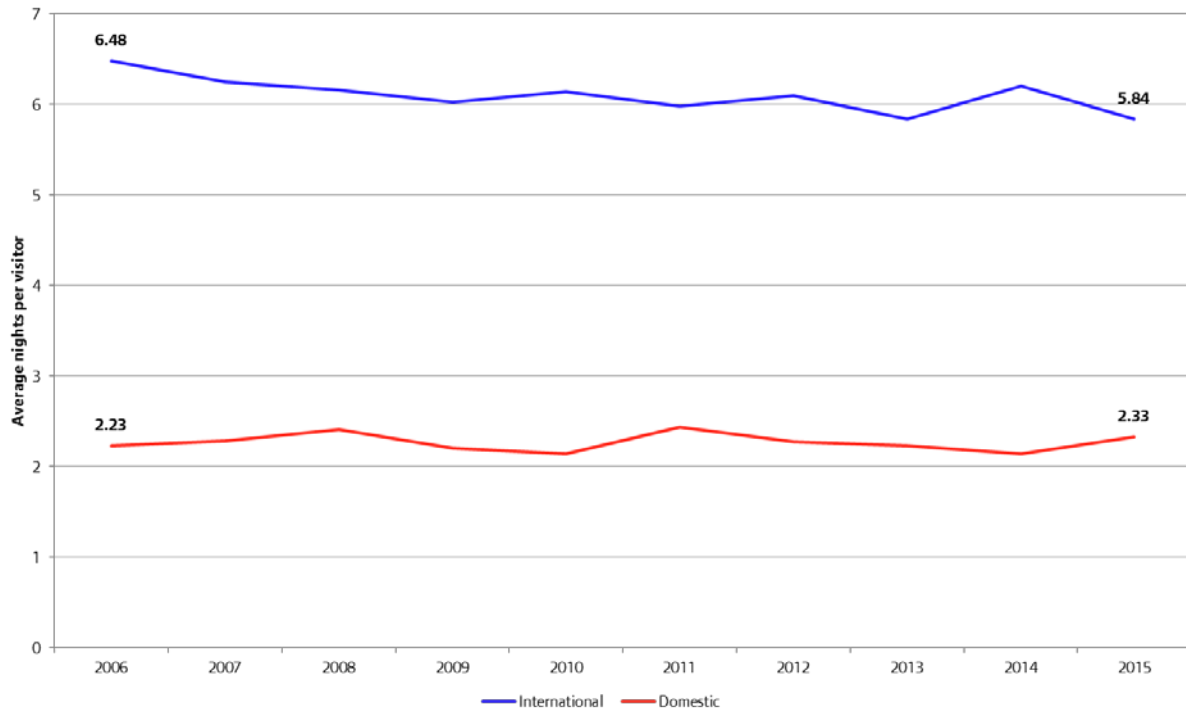
Source: International Passenger Survey, Great Britain Tourism Survey

International visitors

As international visitors need to pass through UK borders to enter the country, there is more data available on international visitors, including a longer time series.

The total number of international visitors has increased from 12.3 million in 1997 to 18.6 million in 2015, a 51.3 per cent increase. Business visits, which comprised 21.3 per cent of all international visits over this period, increased from 2.5 million in 1997 to 3.7 million in 2015, an increase of 45.8 per cent. Visits for other purposes (such as leisure, visiting family) accounted for the other 78.7 per cent of visits, increasing by 52.7 per cent from 9.7 million to 14.9 million over this 18-year period (Figure 4).

Figure 4: International visits by type, London
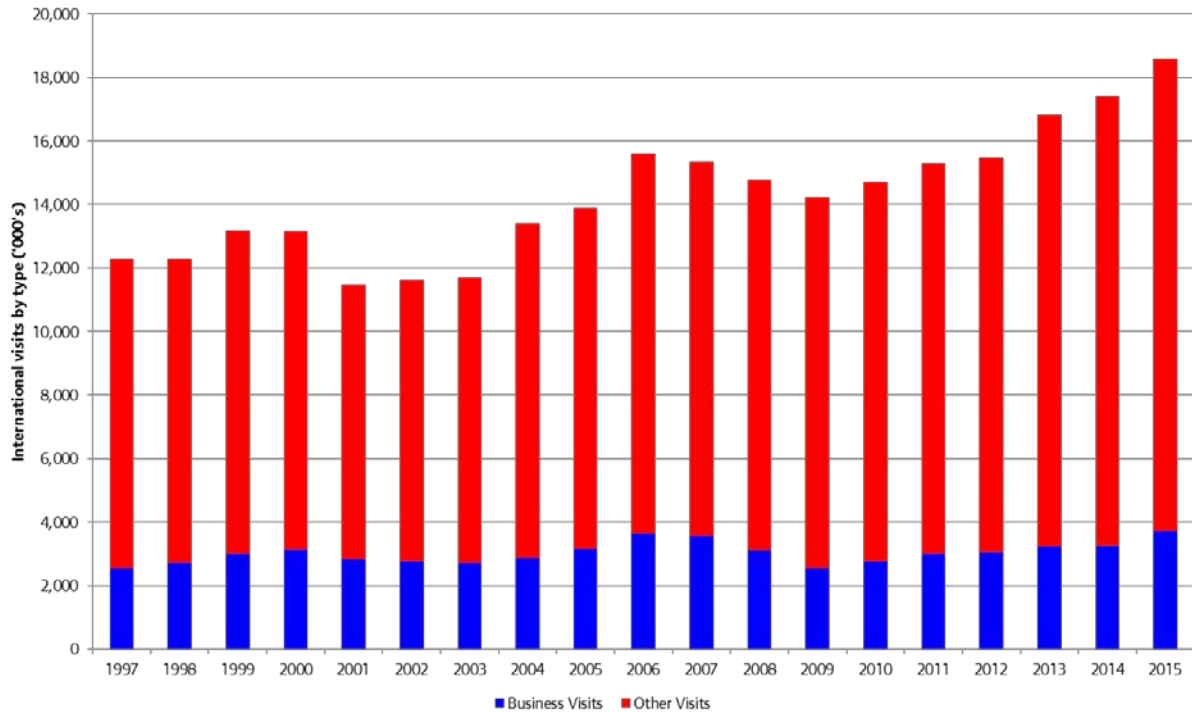
Source: International Passenger Survey

In line with the increase in international visitors, the number of international visitor nights spent in London has increased from 79.1 million in 1997 to 108.3 million in 2015, a 36.9 per cent increase.

Business nights spent in London over the period rose by 52.8 per cent from 10.8 million in 1997 to 16.5 million in 2015, whilst other visitor nights increased by 34.4 per cent from 68.3 million to 91.8 million. In 2015, there was only a small increase in the total number of nights spent in London by international visitors, despite a large increase in the number of visitors, therefore implying the fall in nights per visit. There was a fall in the number of nights from non-business visits, which was more than offset by the increase in nights from business visits (increasing from 13.8 million in 2014 to 16.5 million nights in 2015).

Figure 5: International visitor nights by type, London
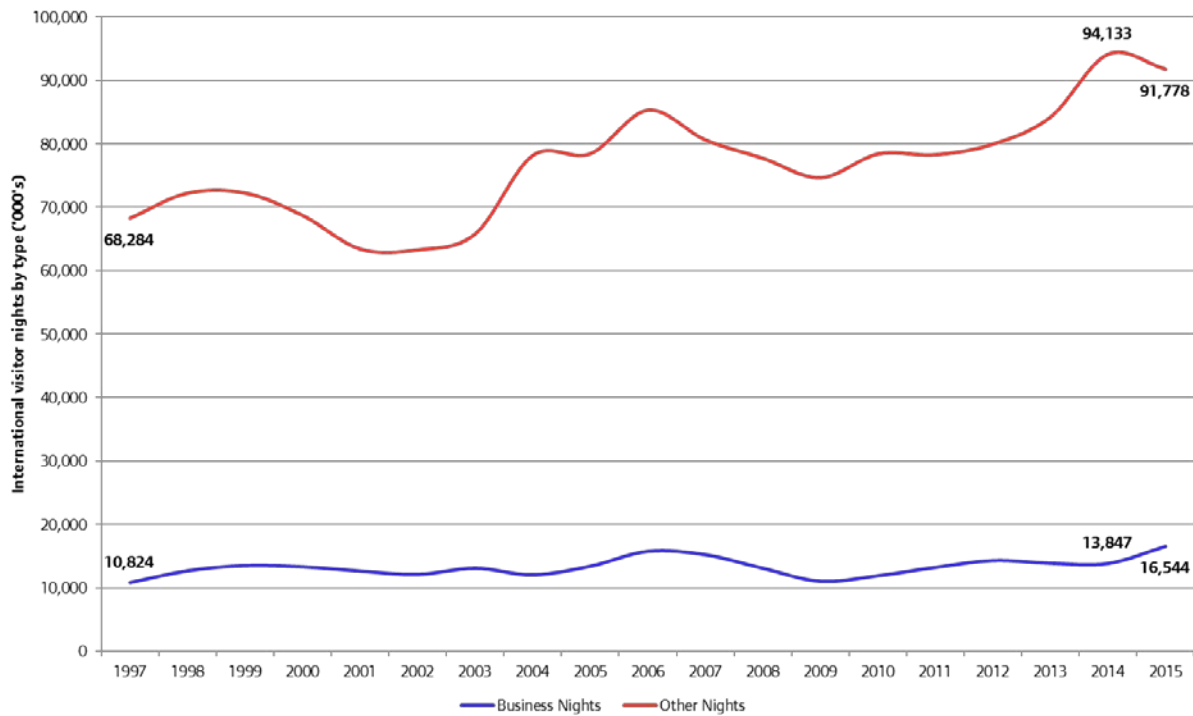
Source: International Passenger Survey

The trend in recent times has been that the nights spent per visit has declined. The growth therefore in total visitor numbers is greater than growth in total visitor nights. A variety of reasons as to why nights per visit are decreasing can be put forward; such as the increased connectivity between destinations, as well as the emergence of new tourism markets, leading to tourists being more willing to go to a number of locations on their trip, or taking more frequent and shorter trips. The trends in nights per visit are shown in Figure 6, and highlights the differences between business visits (where nights per visit have stayed reasonably constant) and all other visits.

Figure 6: Average number of nights per visit for international tourists, London
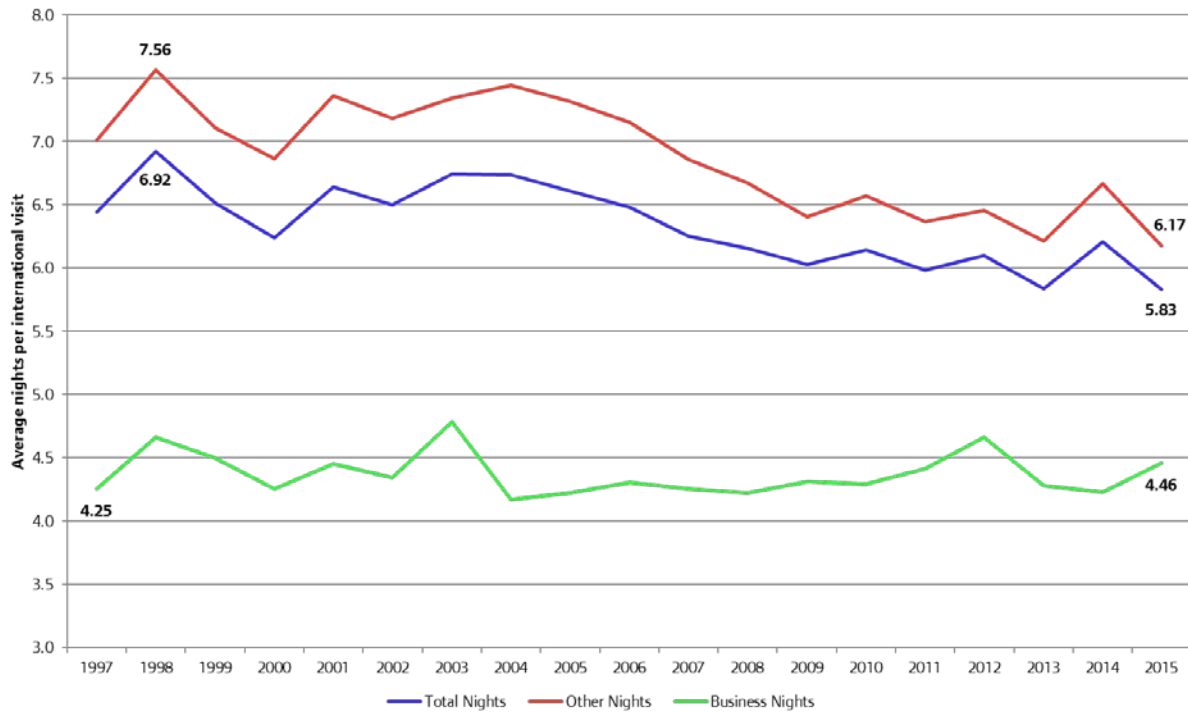
Source: International Passenger Survey

International visitor nights by origin

In terms of the origin of visitors to London, in 2015 the United States of America (USA) was where most visitors came from, accounting for 11.5 per cent of visits, and 10.9 per cent of visitor nights which totalled 11.8 million for the year. This represents a decline from total visitor nights in 1997 of 13.7 million from the USA, which accounted for 17.3 per cent of visitor nights to London back in 1997 (Table 1).

The next seven ranked countries in terms of visitor nights have increased the number of nights spent in London over this period, in-line with overall tourism growth in London. Visitors from France were the second most common visitors to the Capital in 2015, spending 8.9 million nights in London, up from 5.5 million nights in 1997, followed by Italy, Germany and Spain.

Table 1: International visitor nights by country of origin, London 1997 and 2015

	1997		2015	
	Nights	**%**	**Nights**	**%**
United States of America	13,661	17.3	11,832	10.9
France	5,548	7.0	8,876	8.2
Italy	4,336	5.5	6,537	6.0
Germany	5,874	7.4	6,022	5.6
Spain	2,922	3.7	6,017	5.6
Australia	3,914	4.9	5,150	4.8
Poland	1,689	2.1	4,074	3.8
India	1,524	1.9	3,769	3.5
All other countries	39,640	50.1	53,638	51.7
Total	**79,108**		**108,321**	

Source: International Passenger Survey

Figure 7: International visitor nights by country of origin, London 2015
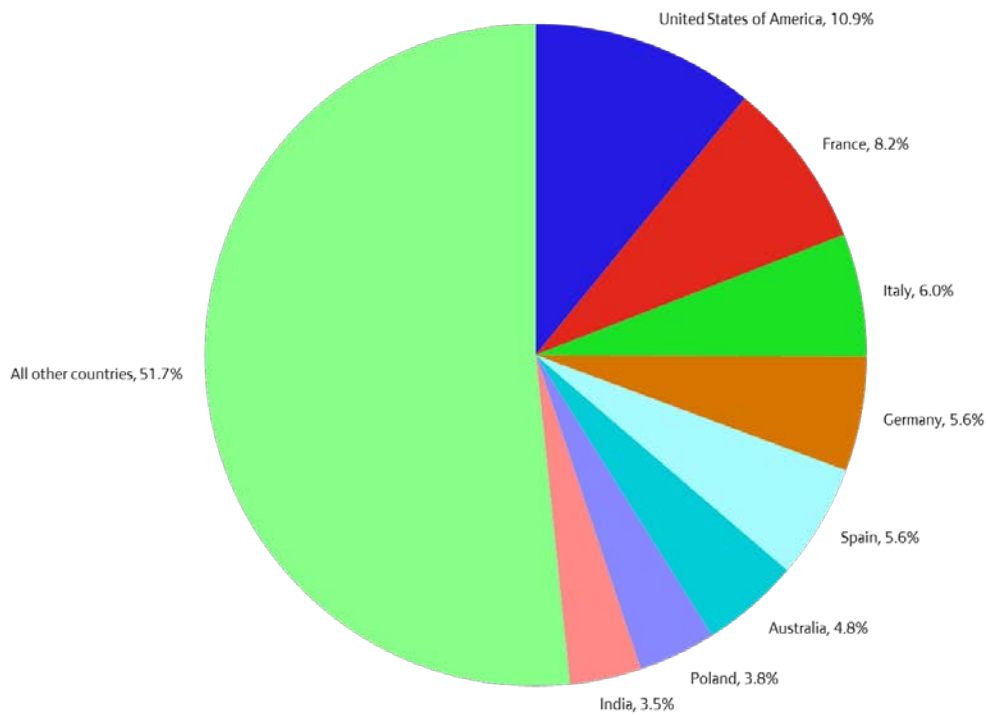
Source: International Passenger Survey

Figure 8: International visitor nights by country of origin, London 1997
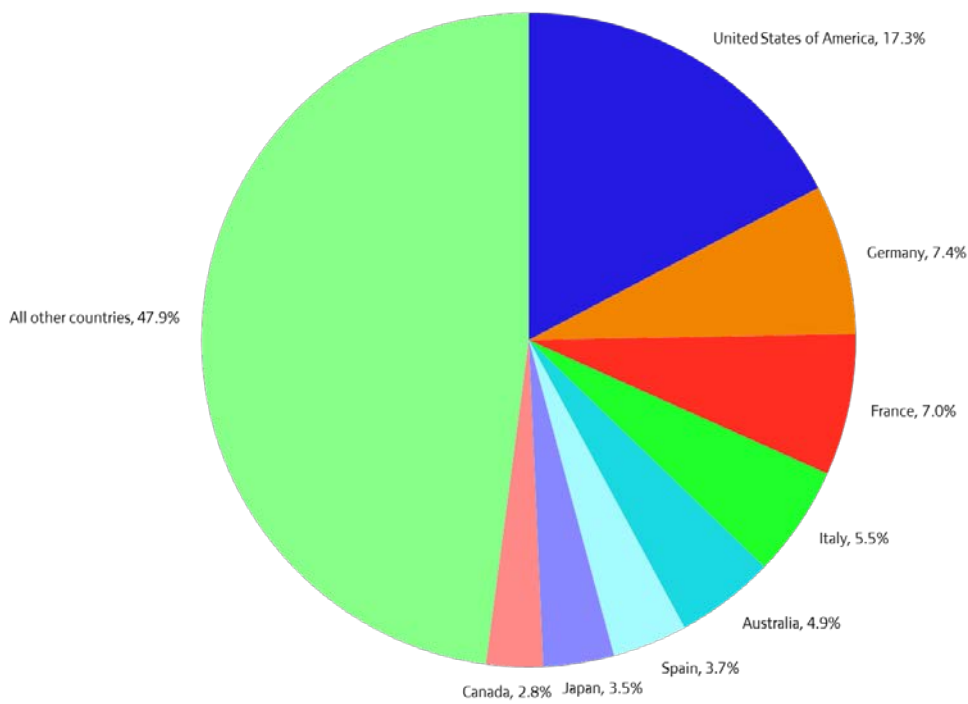
Source: International Passenger Survey

Domestic visitors

The number of domestic overnight visitors to London has increased by 20.3 per cent from 2006 to 2015, from 10.8 million to 12.9 million. However this trend can be somewhat volatile, with falls in the number of domestic overnight visitors seen in four of the past ten years.

Table 2: Number of overnight domestic visitors and visitor nights, London

Year	Visits ('000's)	Nights ('000's)
2006	10,759	23,973
2007	9,940	22,657
2008	11,020	26,500
2009	10,653	23,450
2010	11,373	24,318
2011	11,093	27,060
2012	12,152	27,687
2013	12,310	27,437
2014	11,376	24,358
2015	12,938	30,163

Source: Great Britain Tourism Survey

Over this period domestic visitors have spent on average 2.27 nights per visit, as many as 2.44 nights in 2011, and as little as 2.14 nights in both 2010 and 2014. The increase in nights per visit from 2.14 in 2014 to 2.33 in 2015 has been a key driver in the 23.8 per cent increase in domestic visitor nights spent in London in 2015 from 24.3 million to 30.2 million (Figure 9).

Figure 9: Number of overnight domestic visitors and visitor nights, London
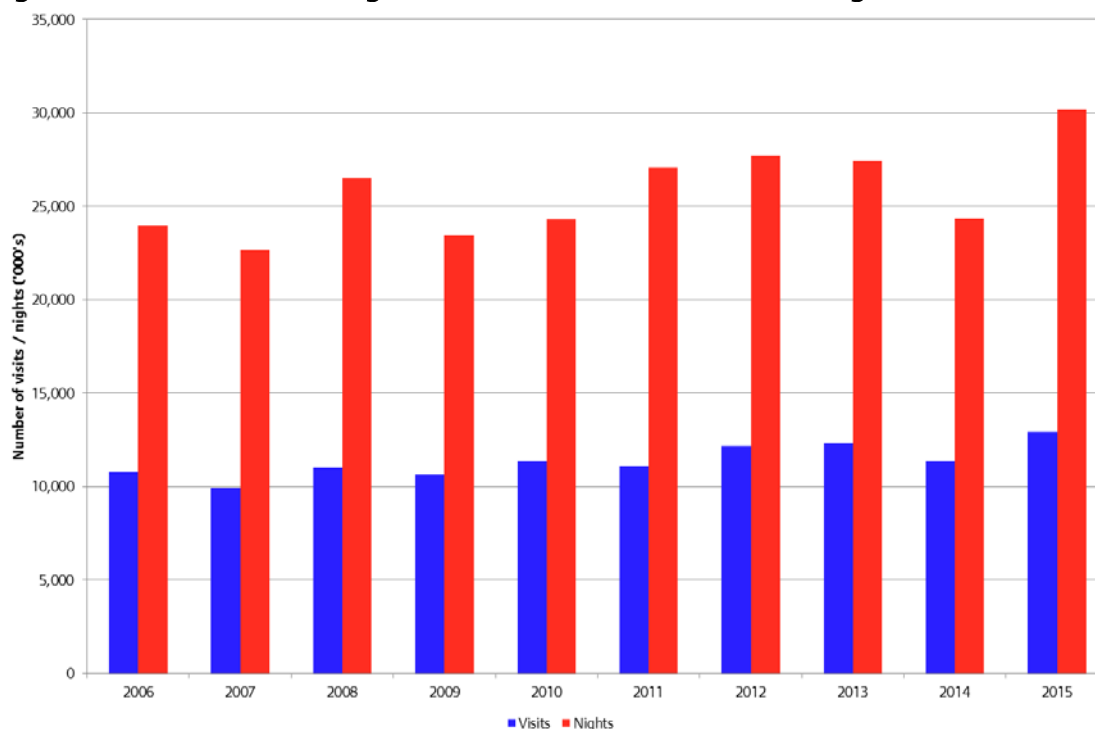
Source: Great Britain Tourism Survey

Supply of visitor accommodation in London

Changes in the supply of serviced visitor accommodation in London have gone through a number of cycles. After exhibiting steady growth during the 1960s, there was a large increase in

the supply of rooms in the early 1970s. This strong increase in new accommodation was due to the introduction of the Hotel Development Incentive Scheme by the Government in response to increased tourism to the UK, with over 50,000 rooms constructed across the UK whilst the scheme was in place.[6] Following this surge in construction the supply of serviced accommodation in London remained relatively flat for over a decade, before starting to slowly increase during the 1990s. Towards the late 1990s growth in accommodation increased significantly in response to strong growth in tourism to London, and has been growing strongly ever since (Figure 10).

Figure 10: Supply of serviced accommodation, London
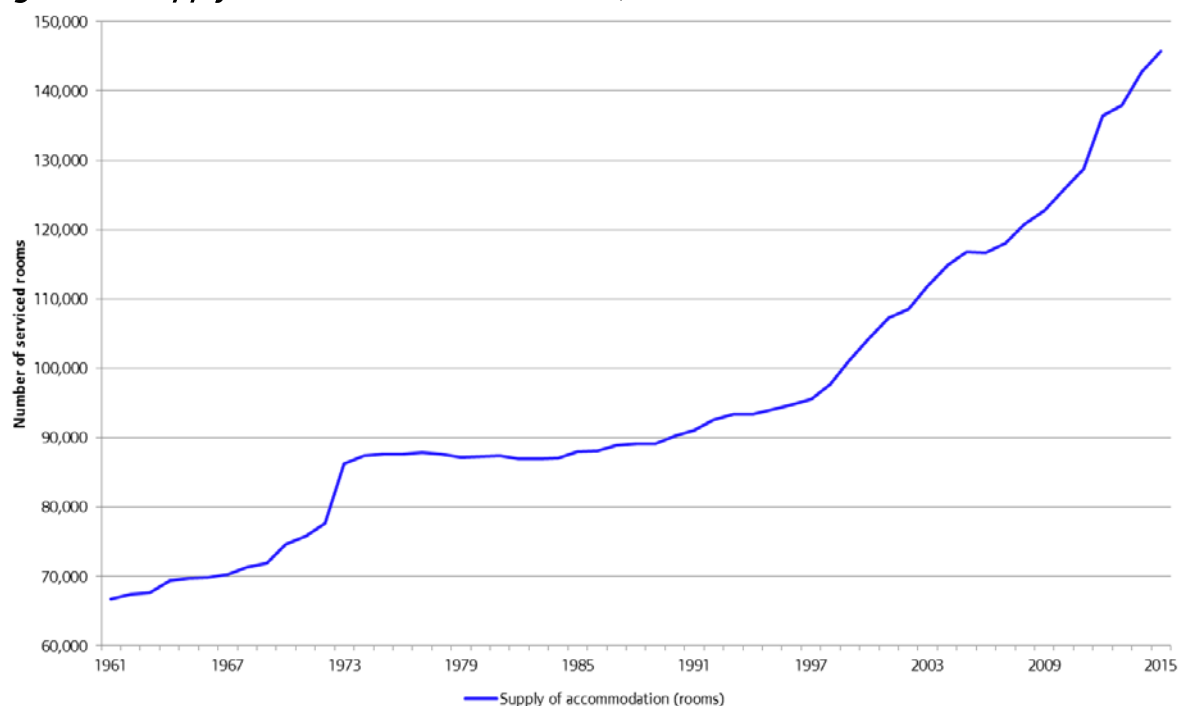
Source: AMPM Database, GLA Economics analysis

Current supply of visitor accommodation in London

The current supply of London serviced accommodation has been estimated for this paper using the AMPM database of serviced accommodation for London. The AMPM database is based on planning applications, construction activity, monitoring of media coverage of new developments, and periodic verification of the status of entries in the database. This database, along with desk research to identify smaller accommodation that isn't included in the database (usually bed and breakfast accommodation) has been used as the total estimate for London accommodation.[7] This approach has identified an increased number of rooms than were identified in the previous version of this analysis by around 4,800 rooms (see Appendix B). The supply estimates include serviced accommodation only, and do not include non-serviced accommodation such as apartments or student halls (see Box 1).

The database consolidated by GLA Economics estimates that there were 145,700 rooms available as serviced accommodation in London as of December 2015 across 2,070 different

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[6] Horwath book of Tourism, 1990

[7] For the historical series, the same proportion of accommodation not included in the database has been assumed to be present in previous years.

establishments, an average of 70 rooms per establishment. Table 3 provides detail of the numbers of establishments and rooms in London by accommodation type.

Table 3: Visitor accommodation in London, 2015, by accommodation type

Type	Establishments	Rooms	Average rooms/establishment
Apartments	248	10,467	42
B&B	505	4,512	9
Hotel	1,253	127,975	102
Hostel	64	2,783	43
TOTAL	**2,070**	**145,737**	**70**

Source: AMPM Database and GLA Economics research

Supply of serviced accommodation by borough

The distribution of serviced accommodation across London is concentrated within central London, with 111,700 rooms or 76.6 per cent of all serviced accommodation located in central London boroughs, with just 34,000 or 23.4 per cent of accommodation located in outer London. As noted earlier, the share of serviced accommodation in outer London has increased from 15 per cent in 1971 – with around half of the increase over that time period attributable to the boroughs of Hounslow and Hillingdon.

Map 1: Distribution of room supply by London Borough, December 2015
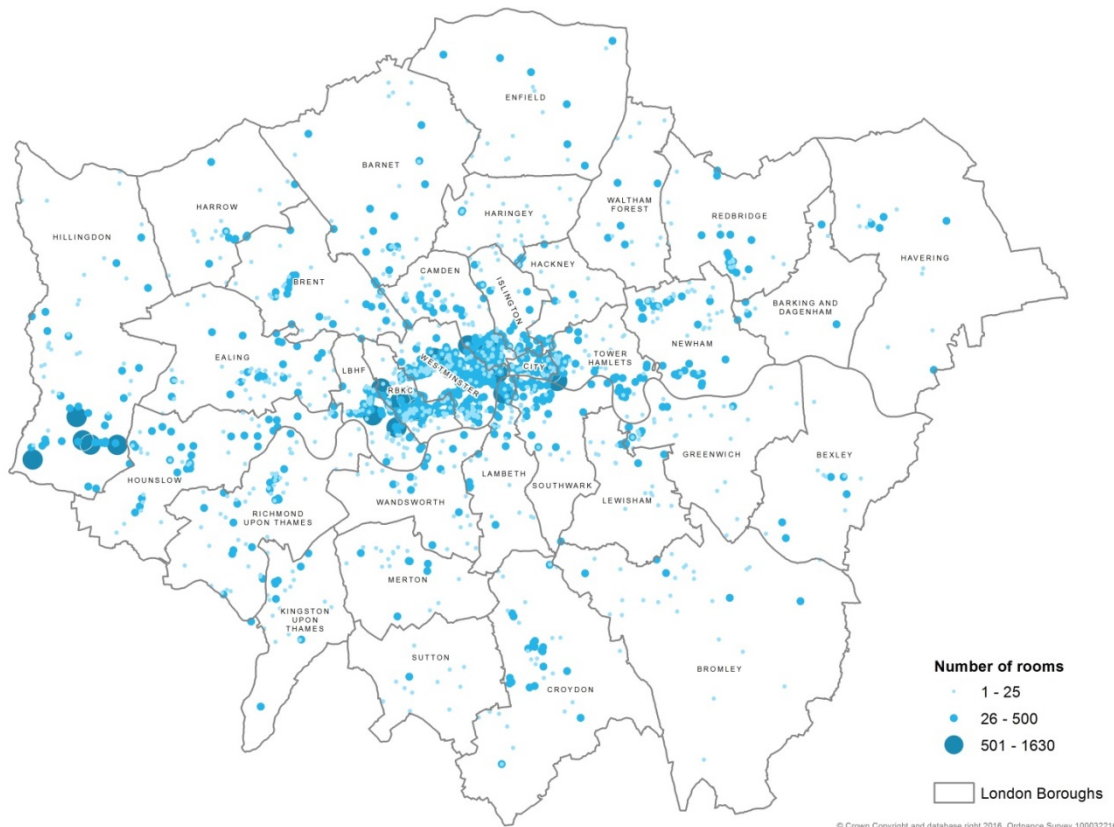
Source: AMPM Database, GLA Economics analysis

In outer London, almost one third of the serviced accommodation rooms are located in Hillingdon to service Heathrow airport, leaving just 16.6 per cent of London's total supply of

serviced accommodation in the remaining outer London boroughs. For inner London, the majority of serviced accommodation rooms are located in Westminster, Camden, and Kensington and Chelsea, with these three boroughs accounting for 64.2 per cent of accommodation in inner London, and over a third of all inner London serviced rooms located in Westminster alone.

Table 4: Serviced accommodation room supply by London borough, December 2015

Borough	Number of bedrooms	Share of London
Westminster	38,480	26.4%
Camden	18,038	12.4%
Kensington and Chelsea	15,151	10.4%
Hillingdon	9,885	6.8%
Tower Hamlets	6,757	4.6%
City of London	6,064	4.2%
Southwark	5,802	4.0%
Newham	4,810	3.3%
Hammersmith and Fulham	4,590	3.1%
Lambeth	4,269	2.9%
Hounslow	3,915	2.7%
Islington	3,633	2.5%
Croydon	2,574	1.8%
Brent	2,417	1.7%
Ealing	2,275	1.6%
Greenwich	2,048	1.4%
Hackney	1,929	1.3%
Richmond-upon-Thames	1,719	1.2%
Barnet	1,485	1.0%
Wandsworth	1,393	1.0%
Redbridge	1,299	0.9%
Kingston-upon-Thames	1,218	0.8%
Enfield	791	0.5%
Harrow	718	0.5%
Waltham Forest	614	0.4%
Merton	578	0.4%
Havering	576	0.4%
Bexley	571	0.4%
Bromley	564	0.4%
Barking and Dagenham	562	0.4%
Lewisham	448	0.3%
Haringey	329	0.2%
Sutton	235	0.2%
Greater London	**145,737**	

Source: AMPM database, GLA Economics analysis

Recent changes in the supply of accommodation

The addition of new accommodation over the past five years has been distributed differently to the total accommodation supply. Southwark was the London borough that added the greatest amount of hotel rooms over this period, with 1,951 rooms added between 2011 and 2015 (Table 5), accounting for 10.2 per cent of the increase in London's accommodation supply despite the borough containing just 4.0 per cent of the city's total supply in 2015.

Table 5: Net change in accommodation room supply by London borough, 2011-2015

Borough	Net change in supply: 2011-2015	% of London change in supply
Southwark	1,951	10.2%
City of London	1,880	9.8%
Newham	1,689	8.8%
Tower Hamlets	1,552	8.1%
Camden	1,391	7.3%
Westminster	1,386	7.2%
Greenwich	1,283	6.7%
Hounslow	1,059	5.5%
Brent	782	4.1%
Lambeth	766	4.0%
Hackney	732	3.8%
Hillingdon	560	2.9%
Wandsworth	539	2.8%
Hammersmith & Fulham	512	2.7%
Islington	463	2.4%
Croydon	385	2.0%
Redbridge	335	1.7%
Richmond-upon-Thames	330	1.7%
Ealing	328	1.7%
Enfield	288	1.5%
Kingston-upon-Thames	229	1.2%
Barnet	199	1.0%
Bexley	176	0.9%
Bromley	146	0.8%
Lewisham	141	0.7%
Waltham Forest	125	0.7%
Barking & Dagenham	80	0.4%
Merton	17	0.1%
Havering	12	0.1%
Haringey	9	0.0%
Sutton	0	0.0%
Kensington & Chelsea	-28	-0.1%
Harrow	-169	-0.9%
Greater London	**19,148**	

Source: AMPM database, GLA Economics analysis

Other boroughs which added most of London's supply over this period included the City of London, Newham and Tower Hamlets, all of which added over 8.0 per cent of the new supply in London each. Westminster, which has the greatest supply of hotel rooms, still accounted for 7.2 per cent of new supply in the Capital, but this is well below its current share of 26.4 per cent of the total supply of serviced accommodation in 2015. Kensington and Chelsea, meanwhile, which currently holds 10.4 per cent of London's total supply of serviced accommodation saw a net reduction in the number of rooms between 2011 and 2015.

Map 2: Net change in serviced room supply by London borough, 2011-2015

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Source: AMPM Database, GLA Economics analysis

Supply of accessible rooms

There is currently no existing data source with information on accessible rooms[8] across all types of accommodation or comprehensively covering all boroughs.

Limited information is available for some hotels in central London via specific online access guides. Establishments themselves tend not to provide information on the number of accessible rooms available nor do they tend to provide comprehensive information on the design of facilities within bedrooms and bathrooms – information which is essential for many disabled people making decisions about where it is physically possible for them to stay.

The GLA's Town Centres Supplementary Planning Guidance (SPG)[9], Appendix B highlights some of the difficulties facing disabled people as:

"Disabled hotel users and inclusion professionals have raised a number of issues which, if addressed, will greatly facilitate and improve the visitor experience. These can be summarised as:

- Hotels should have sufficient provision for disabled people to exercise consumer choice, similarly to any other customer, and choose accommodation on the basis of

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[8] A room which is 'accessible' is defined as one which minimises barriers to use for as many people as possible. It is a wider definition than a room being wheelchair accessible as it allows use by a range of disabled people.

[9] Town Centres Supplementary Planning Guidance available here

good service, location, appropriate price, comfort and a dignified experience, which does not set the guest apart.

- Disabled visitors have also highlighted the importance of good management policies (such as availability of accurate information at booking) and provision of equipment (such as shower seats or vibrating alarms) to make their hotel experience a comfortable and successful one."[10]

There are also issues around a consistent definition of a 'wheelchair accessible' hotel room. The GLA's Town Centres SPG (Annex B. B6.) provides the following clarification, stating that developers should:

- "use and reference current best practice guidance such as BS8300:2009 + A1:2010 Design of buildings and their approaches to meet the needs of disabled people – code of practice; and Publicly Available Specification PAS 88:2008 Guidance on accessibility of large hotel premises and hotel chains.
- consider the provisions in Part M of the Building Regulations as minimum standards and aim to achieve the highest standards of accessible and inclusive design, as required by London Plan Policy 7.2."[11]

Part M of the Building Regulations has required new hotel developments (whether new build or created via a change of use application) achieve a level of at least 5 per cent or 1 in 20 of their rooms that are wheelchair accessible since 2004.

In 2010 the GLA report 'Accessible Hotels in London' identified a clear gap between demand for and supply of accessible rooms, explaining that:

"Going forward, demand for accessible rooms in London is likely to increase substantially for two reasons. Firstly, latent demand is likely to be realised as barriers disappear and/or are removed (eg, improvements in travel by tube in London). Secondly, ageing demographics mean that the proportion of disabled people is likely to rise, as impairment is linked to age.

There are uncertainties in any forecast beyond 2-3 years, but for planning purposes, our central scenario suggests that demand:

- for accessible rooms in London will increase from 4% to 7.5% of the total over the 2010 to 2031 period
- by wheelchair users will increase from around 1% to 3.5% of the total over the 2010 to 2031 period"[12]

The report therefore recommended the number of accessible rooms in each newly developed hotel be increased to 10 per cent to close the gap between supply and demand, stating: "Under the requirement that 10% of new hotel rooms are accessible rooms, then the total stock of accessible rooms would reach 4.5% by 2031 (just over 6,000 rooms)".

This requirement was introduced into the London Plan as planning policy in 2011.

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[10] Town Centres Supplementary Planning Guidance (SPG). Greater London Authority. July 2014
[11] ibid
[12] Accessible Hotels in London. Greater London Authority. March 2010

The GLA will be introducing the monitoring of the number of wheelchair accessible hotel rooms created via planning consents in London via the London Development Database in 2017. This will provide a London wide and accurate insight as to how many wheelchair accessible hotel rooms are being created via London Plan Policy 4.5; to assist in the calculation of future need and demand.

Box 1: The growing impact of non-serviced accommodation

A recent trend in tourism has been the growth of non-serviced accommodation. Traditional hotels, B&Bs, guest houses and hostels would be considered as serviced accommodation, where services such as catering and cleaning are provided to guests; however non-serviced accommodation are such where the visitor must provide for themselves, such as in cooking and cleaning.

Non-serviced accommodation is typically that in which private properties are rented to visitors, however it also includes accommodation in holiday parks. Most notably, the rise of Airbnb as a service enabling homeowners to rent out all or part of their property provides visitors with a different option to traditional hotels when visiting a city or location. From a homeowner perspective, Airbnb is lightly regulated, reflecting the nascent nature of this type of accommodation service; which provides opportunity to earn extra income from their property (set upon the backdrop of rising costs of living and worsening housing affordability). Therefore, an increased demand from visitors looking to have different and more local experiences whilst visiting a location, combined with the increased supply of non-serviced accommodation has meant that services such as Airbnb have grown strongly in recent years. However, there are concerns about the impact of the growth in Airbnb, and similar non-serviced accommodation providers, which are considered later in this box.

The most recent research on Airbnb hosting within London found that 7.6 per cent of overnight stays in London were in Airbnb homes in December 2015, up from 2.8 per cent in January 2015.[13] The research led by Colliers International found there were a total of 2 million overnight stays in Airbnb homes in London in 2015, and that a snapshot of data for January 2016 found that, year-on-year, Airbnb saw 182 per cent growth in revenues, 126 per cent growth in occupancy, and a 206 per cent increase in demand.[14]

Such findings on the growth of services such as Airbnb can lead to a couple of potential assertions; firstly that for a proportion of tourists, non-serviced accommodation is substituting previous demand for hotels, ie, visitors may still spend a proportion of their visit in a hotel, but may wish to have wider experiences for some part of their visit. However, it is also possible that for some visitors there may be complete substitution from hotels to non-serviced accommodation.

Following the publication of the Colliers International research, the notion of substitution between hotel and non-serviced accommodation was raised, with an author of the report stating that "the hotels sector in London is strong, yet there's no doubt that the continued growth of Airbnb presents a threat" continuing that "Airbnb does not seem to be impacted by seasonality

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[13] Financial Times, "Airbnb's share of London lets triples in a year", 8 November 2016
[14] Hotel Analyst, " Airbnb hits London", 28 November 2016.

in the market place, which gives it a distinct advantage as this is not something that we are seeing as much in the hotels sector".[15]

In a spatial context, the research found that five boroughs (Westminster, Tower Hamlets, Camden, Kensington & Chelsea, and Hackney) accounted for half of all overnight Airbnb bookings (and the majority of London's Airbnb listings. The report found that there were 42,559 homes rented out by a landlord with multiple properties (however, Airbnb claimed that data scraped from the AirDNA website was inaccurate).

The future trends in the growth of non-serviced accommodation are unclear, particularly as it pertains to the regulation of the sector. As with many new emerging sectors or industries, regulation may be light touch in their infancy, with greater regulation subsequently put in place which may change behaviours of potential hosts or guests. One particular argument for further regulation relates to whether non-serviced accommodation breaks laws on planning and lettings.

In response to the growth of the service, the British Hospitality Association question whether hosts using the Airbnb service are in breach of regulations, citing industry research which estimates that 40 per cent of all home-exchange websites are 'professional landlords' running unregulated 'pseudo hotels'; half of all home-exchange listings are entire properties rather than rooms in the host's own homes; and that London is particularly affected, with 40 per cent of all listings being from multiple property owners renting accommodation on a short-term basis year-round.[16] There is also an impact on the local area, which in many instances may be traditionally residential and so not as well equipped to meet the needs of tourists as areas more traditionally favoured by hotels or other serviced accommodation providers.

Planning rules currently state that home-owners are able to rent out part or all of their property for up to 90 nights a year[17], without needing to request planning permission to change use from residential accommodation to hotels. Recent analysis from AllTheRooms, an accommodation search engine, and analysis from the FT, estimate the potential costs of enforcement of the 90 night rental limit mean that Airbnb could lose around $400 million in booking revenue, however the findings of this research are disputed by Airbnb themselves.[18]

The rise of services such as Airbnb is reflective of a similar recent growth in the sharing economy (where people can market privately held goods and services to others, typically done easily and at low cost through online services). It is not certain how the service will continue to grow or evolve into the future, and how regulation will impact upon the use of such services going forward. It is also not certain whether consumer preferences for tourism will shift, therefore our modelling in this paper has not been adjusted to account for recent growth in non-serviced accommodation.

[15] Colliers International, "More than half of all Airbnb trade is concentrated in just five areas of London", 9 November 2016
[16] http://www.bha.org.uk/bha_news/bha-goes-head-to-head-with-airbnb/
[17] https://www.airbnb.co.uk/help/article/1340/i-rent-out-my-home-in-london--what-short-term-rental-laws-apply
[18] Financial Times, "Airbnb faces $400m lost bookings in London crackdown", 2 January 2017

Balance of the London accommodation market

In terms of the balance of supply and demand for serviced accommodation in London, the occupancy rate and price of accommodation provide good indicators of the state of the market. Available data suggests that the supply of accommodation in London is tight, with high occupancy rates and expensive prices.

Occupancy rates

In annual terms, occupancy rates increased from 80 per cent in 2012 to 82 per cent in 2013 and 2014, before falling back to 81 per cent in 2015. London's occupancy rate is high by international standards and is the highest across major European cities ahead of Dublin, Edinburgh, Amsterdam and Paris.[19] It is also notably higher than for England as a whole which has ranged between 66–70 per cent between 2011 and 2015.[20]

Table 6: Serviced accommodation occupancy rate, London

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Occupancy Rate	79%	79%	78%	79%	82%	80%	82%	82%	81%

Source: Visit Britain England Occupancy Survey

Whilst the approach in this paper is based on annual average levels, there is much seasonality in the serviced accommodation market that occurs throughout the year. September is the month of the year where accommodation is most in demand, with an average occupancy rate of 89 per cent between 2012 and 2015. January is the month where London accommodation is in the least demand, with an average occupancy rate of 67 per cent over the same period (Figure 11).

Figure 11: Accommodation occupancy rates, London 2012 – 2015
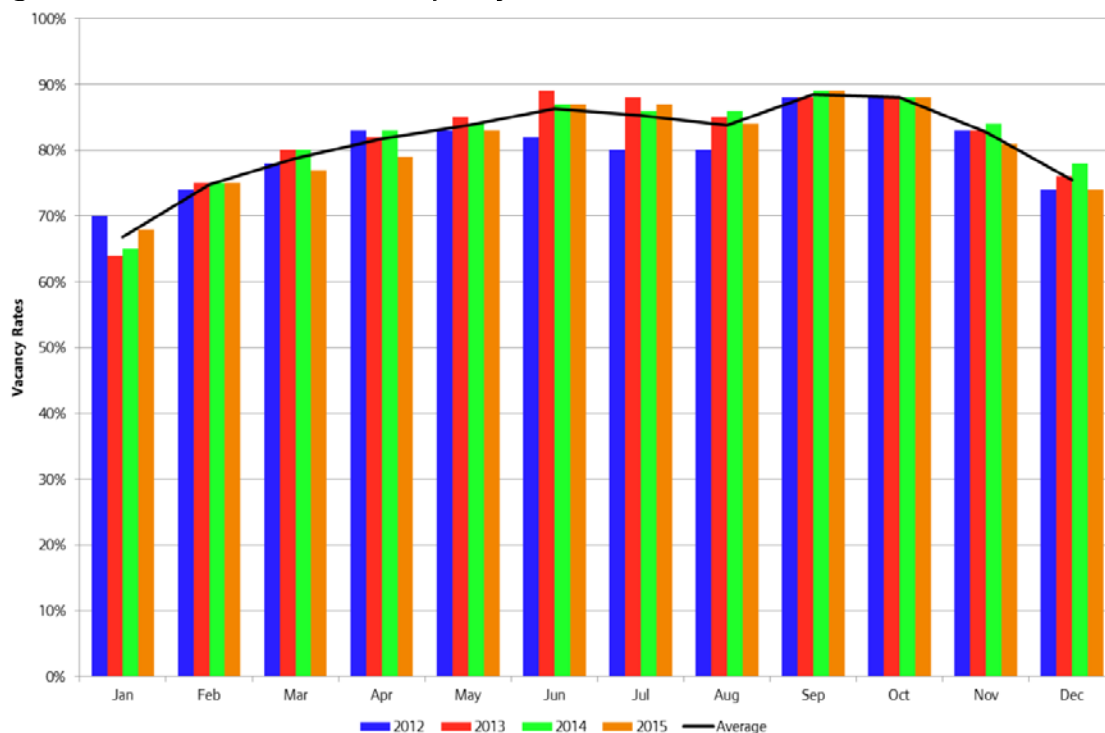
Source: Visit Britain England Occupancy Survey

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[19] PWC European cities hotel forecast for 2016 and 2017
[20] Visit Britain England Occupancy Survey

Room prices

The tightness of London's serviced accommodation market is also reflected in prices, with London ranked the fourth most expensive city in Europe in terms of the average daily rate for accommodation behind Geneva, Paris and Zurich (Table 7). It however should be noted that the weakening of sterling in the second half of 2016 will mean that London as a destination would become more attractive to international visitors, and the average daily rate will be comparatively lower than it appears in Table 7.

Table 7: Average daily rate for accommodation in major European cities

City	Average Daily Rate 2015 (Euro)
Geneva	252.50
Paris	252.10
Zurich	218.00
London	**194.40**
Milan	151.90
Rome	148.50
Amsterdam	131.20
Frankfurt	125.90
Barcelona	125.10
Edinburgh	116.60
Dublin	111.10
Brussels	108.80
Vienna	99.60
Berlin	93.30
Madrid	93.00
Lisbon	90.70
Prague	78.20
Porto	71.40
Moscow	68.00

Source: PWC European cities hotels forecast for 2016 and 2017

Projections of demand and supply for London accommodation

Demand for London accommodation is projected to increase from 138.4 million visitor nights in 2015 to reach 196.4 million nights by 2041. This is driven by a 42.9 million increase in international visitor nights, and a 15.0 million increase in domestic visitor nights.

Based on these demand projections it is estimated that London will need to deliver an additional 58,140 rooms by 2041. In terms of the number of new serviced accommodation rooms that will need to be delivered (ie, accounting for closures), it is projected that 69,170 new rooms will need to be provided.

Serviced accommodation supply is projected to increase to reach 209,908 rooms by 2041, an increase of 64,171rooms on the 2015 supply of 145,737. Of this increase, 15,912 rooms are expected to be added between 2016 and 2018 based on the current development pipeline. Of the projected increase in rooms, most are expected to be delivered in Westminster, followed by Tower Hamlets, Hillingdon, and Hounslow.

Demand projections

Future demand for accommodation nights has been projected using two different components – international visitor nights and domestic visitor nights. These two components are then combined to provide the total number of visitor nights projected. Each of these components is estimated in a two-stage process. The first stage is to project the total number of visits made by overnight tourists, whilst the second stage is to then estimate the average number of nights spent in London by these tourists to determine the total number of visitor nights.

International visitor nights

The projections for international visitor nights have been based on a time series of international passenger data published by the Civil Aviation Authority (CAA), and forecasts published by the Airports Commission (the Commission) in its report to recommend on expansion at either Heathrow or Gatwick Airports. The CAA time series has been modelled against the number of international visits to London published in the International Passenger Survey from the ONS. The relationship between these two variables was significant[21], which has allowed for the Commission's forecast to be used as the basis for future projections of international visitors to London.

The forecast number of visitors to London, based on the Commission's model, are lower than the current number of visitors that came to the Capital in 2015. This is most likely due to the extremely strong growth in international visitors to London in recent years rising above the trend identified in the model. Nevertheless, the model has informed the expected path of international visitors through to 2050. In effect, a straight line path from 2016 – 2050 for international visitor nights has been used to inform the demand for visitor accommodation in the future.

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[21] The ordinary least squares regression had an adjusted R-squared of 0.93

It is projected that total international visitors will increase from 18.6 million in 2015 to 19.0 million in 2016. Beyond that, it is projected that international visitor numbers will rise to 27.3 million by 2050 (Table 8).

Table 8: International visitor projections to 2050, London

Year	International visitors ('000's)
2015	18,581
2020	19,992
2025	21,215
2030	22,439
2036	23,907
2041	**25,130**
2050	27,332

Source: International Passenger Survey, GLA Economics modelling based on CAA/Airports Commission passenger forecasts

Figure 12: International visitor projections to 2050, London ('000s)
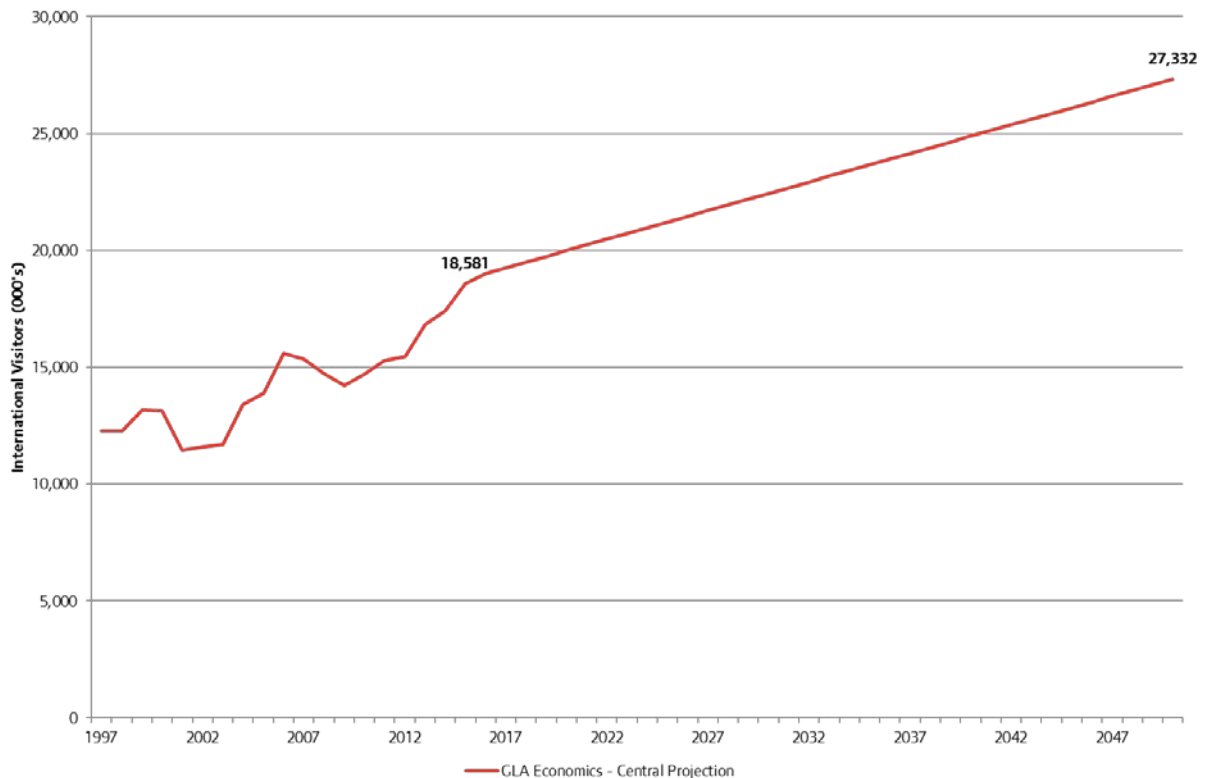
Source: International Passenger Survey, GLA Economics modelling based on CAA/Airports Commission passenger forecasts

Box 2: Airports Commission Report

The Airports Commission (the Commission) released its final report on its recommendation for expansion of one of London's airports in July 2015.[22] As a part of its report, the Commission released economic modelling of a number of different scenarios using the Department for Transport's aviation forecasting models, namely the National Air Passenger Demand Model and the National Air Passenger Allocation Model. These models forecast the total number of passengers that will enter the UK, and how these passengers would be allocated amongst different UK airports.

These models have been used to publish a number of different scenarios, which reflect different variables including different runway expansion options, cases which treat carbon emissions differently, and different scenarios for global economic and aviation industry conditions. Further detail on the different scenarios modelled by the commission is outlined below.

Runway expansion options

The Commission modelled four different scenarios for runway expansion at London airports:

- the **'do minimum'** case where no new runway capacity is added;
- **Gatwick Airport Second Runway** doubling the airport capacity from 280,000 to 560,000 air transport movements (ATMs) per annum from 2025;
- **Heathrow Airport Northwest Runway** increasing the airport capacity from 480,000 to 740,000 ATMs per annum from 2026;
- **Heathrow Airport Extended Northern Runway** permitting simultaneous take-offs and landings and increasing the airport capacity from 480,000 to 700,000 ATMs per annum from 2026.

For the purposes of the projections in this paper, GLA Economics has modelled both Gatwick and Heathrow expansion options – including the various additional (economic and aviation industry) scenarios run by the CAA within each of these airport expansion options. That analysis suggested that, for the purposes of estimating future hotel accommodation, the choice of airport expansion was not a significant factor. That is, the outcome on future hotel requirements was broadly comparable when considering either the Gatwick or Heathrow airport expansion option. However, given the government's recent statements on the findings from the Commission and the need for this report to have a 'central scenario', in what follows the report uses the **Heathrow Airport Northwest Runway** scenario as its central case.

Carbon case

The Commission modelled two different carbon cases for its forecasts:

- the **carbon-traded** case, where carbon prices are based on the recommended traded values provided by DECC for use in policy appraisals. As described above, it is assumed that the CO_2 emissions from flights to and from the UK would be covered by the EU ETS until at least 2030 and covered by a global carbon market beyond then; and
- the **carbon-capped** case, where the target emissions level (37.5Mt CO_2 in 2050 from departing flights) is assumed to be met solely by increasing fares and reducing demand until the carbon cap is met. This is implemented by increasing the carbon price over and above

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[22] "Airports Commission, Final Report", Airports Commission, July 2015.

that assumed in the carbon-traded case. It is assumed, consistent with a global carbon trading scheme, that all airports including overseas hubs face, the same carbon price.

GLA Economics has adopted the **carbon-traded** case for the projections in this paper.

Scenarios of economic and aviation industry conditions
The Commission modelled five different scenarios reflecting different economic and aviation industry conditions:

- the **Assessment of Need** scenario uses inputs sourced from the Office for Budgetary Responsibility, OECD and IMF. However some inputs remain judgment-based, such as those reflecting market maturity;
- the **Global Growth** scenario which sees higher passenger demand from all world regions, coupled with lower operating costs;
- the **Relative Decline of Europe** scenario which sees higher growth of passenger demand in emerging economies, and a strengthened position of Far and Middle Eastern aviation hubs and airlines;
- the **Low Cost is King** scenario which sees the low cost carrier model expanding into new markets, which could include long-haul. It also sees higher passenger demand from all world regions; and
- the **Global Fragmentation** scenario which sees a reversal of globalisation trends as economies close themselves off by adopting more interventionist national policy models. As a result, there is a decline in passenger demand from all world regions, coupled with higher operating costs for airlines and the UK introducing a stand-alone carbon price, or stand-alone carbon cap as no global carbon agreement is reached.

GLA Economics has adopted the **Assessment of Need** scenario as its central case for the projections in this paper, however all five scenarios are included in Appendix A to understand the sensitivity of the projections to these different scenarios.

For each of the above scenarios the Commission has published outputs which include the total number of passengers by airport for every year up to 2050. Through a freedom of information request, GLA Economics has obtained the number of passengers by type for London airports for every five years between 2015 and 2050 for all five scenarios, and the adopted expansion option and carbon case for this analysis.

GLA Economics has used the available published information to interpolate the number of international passenger journeys that will be made through London airports every year out to 2050, to form the basis of the projections of the number of international visitors to the Capital.

Further information on the Department for Transport models, and the assumptions used in these different expansion options, carbon cases, and scenarios can be found in the Commission's *Strategic Fit* report.[23]

The second step is to estimate the average number of nights spent by international visitors when they visit London, in order to determine the total number of visitor nights spent in the Capital. Between 1997 and 2015 the number of nights spent by tourists has averaged 6.33

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[23] Airports Commission, Strategic Fit: Forecasts

nights per visit. However, the length of time spent by tourists over this period has varied from year to year, reaching as many as 6.92 nights per visit in 1998 to as low as 5.83 nights per visit in 2015.

There is also a clear trend that international tourists have been spending less time per visit in recent years, with the average number of nights spent per visit not exceeding the average historical average of 6.33 nights per visit since 2006 (Figure 13). This decline in nights per visit could be due to a number of factors, such as the mix of where visitors come from, increases in the cost of accommodation in London, or falls in the cost of airfares.

Figure 13: Average international visitor nights per visit, London

Source: International Passenger Survey

In order to project the total number of international visitor nights an assumption has been made around the average number of nights per visit into the future. Various options were considered. Firstly, that average nights per visit would not significantly deviate from the historic trend of 6.33 nights per visit; another option would be to use a linear trend for future years (therefore asserting that nights per visit could fall to as low as 4.33 by 2050); and finally that the trend for the period post the recession might be a good indicator of average duration of visit over the period considered. This final option was selected on the basis that the longer-term average (6.33) looked too high by recent standards and trends but that the trended option (4.33 by 2050) looked too extreme. As a result the average nights per visit for the projection period of 2016 – 2050 is assumed to hold constant at an average of 6.02 nights per visit.

Figure 14: Average international visitor nights per visit projection, London[24]

Source: International Passenger Survey, GLA Economics analysis

The total number of international visitor nights can now be projected using estimates for the number of international visitors and the average number of nights these visitors stay out to 2050. International visitor nights are then expected to increase each year over the projections period, reaching 151.2 million nights by 2041 (Table 9).

Table 9: International visitor night projections to 2050, London

Year	International visitor nights ('000s)
2015	108,321
2020	120,272
2025	127,631
2030	134,991
2036	143,822
2041	**151,182**
2050	164,429

Source: International Passenger Survey, GLA Economics analysis

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[24] 2015 nights per visit is estimated based on data for the year to September 2015

Figure 15: International visitor night projections to 2050, London
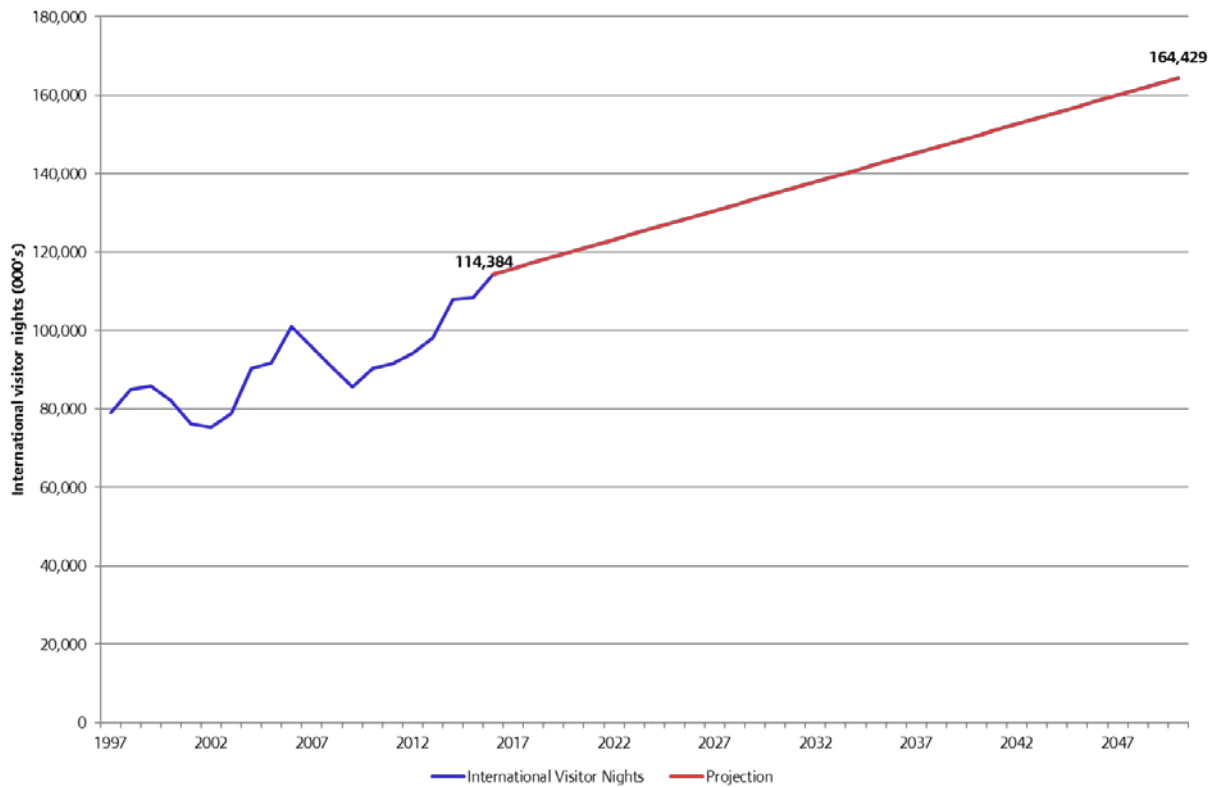
Domestic visitor nights

Domestic visitor nights are projected in much the same way as international visitor nights, by first estimating the total number of overnight domestic visits, then multiplying these visits by the number of nights projected per visit to determine the total number of visitor nights.

In order to project the total number of overnight domestic visits, the historical series of visitor numbers has been modelled against the total population of the rest of the UK excluding London. The theory behind this is that as the population in the rest of the UK grows, so will the number of visits people in the rest of the UK make to London. These two variables were found to have a significant relationship.[25] This relationship was used to forecast the number of overnight domestic visits, with the future population of the UK excluding London based on population projections for the UK from the ONS less the population projections for London published by the Greater London Authority.

Overnight domestic visits are projected to increase from 12.9 million visits in 2015[26] to 19.9 million by 2041, an overall increase of 54.0 per cent over this period (Table 9 and Figure 16).

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[25] The ordinary least squares regression had an adjusted R-squared of 0.89.
[26] Great Britain Tourism Survey

Table 10: Overnight domestic visits to 2050, London

Year	Overnight domestic visits ('000's)
2015	12,938
2020	13,964
2025	15,451
2030	16,938
2036	18,598
2041	**19,928**
2050	22,413

Source: Great Britain Tourism Survey, GLA Economics analysis

Figure 16: Overnight domestic visits to 2050, London ('000s)
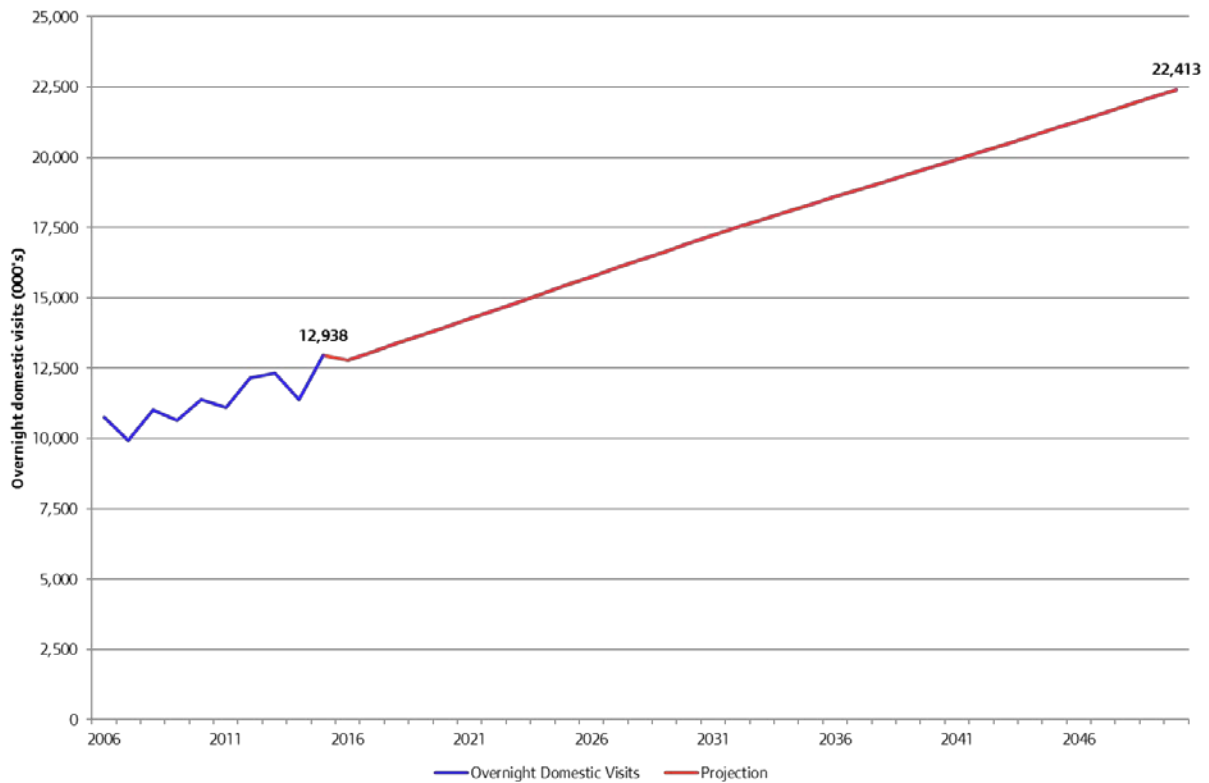
Source: Great Britain Tourism Survey, GLA Economics analysis

The second step is to project the average number of nights per visit. Unlike for international visitors, the average length of stay for domestic visitors has been relatively stable over time. Over the period where data is available since 2006, domestic overnight visitors to London have spent on average 2.27 nights per visit, with a peak of 2.44 nights per visit in 2011, and a low of 2.14 nights per visit in 2014 (Figure 17). Therefore given the relative stability of nights per visit for domestic tourists, the historical average since 2006 of 2.27 nights per visit is adopted for the projections out to 2050.

Figure 17: Average domestic visitor nights per visit, London
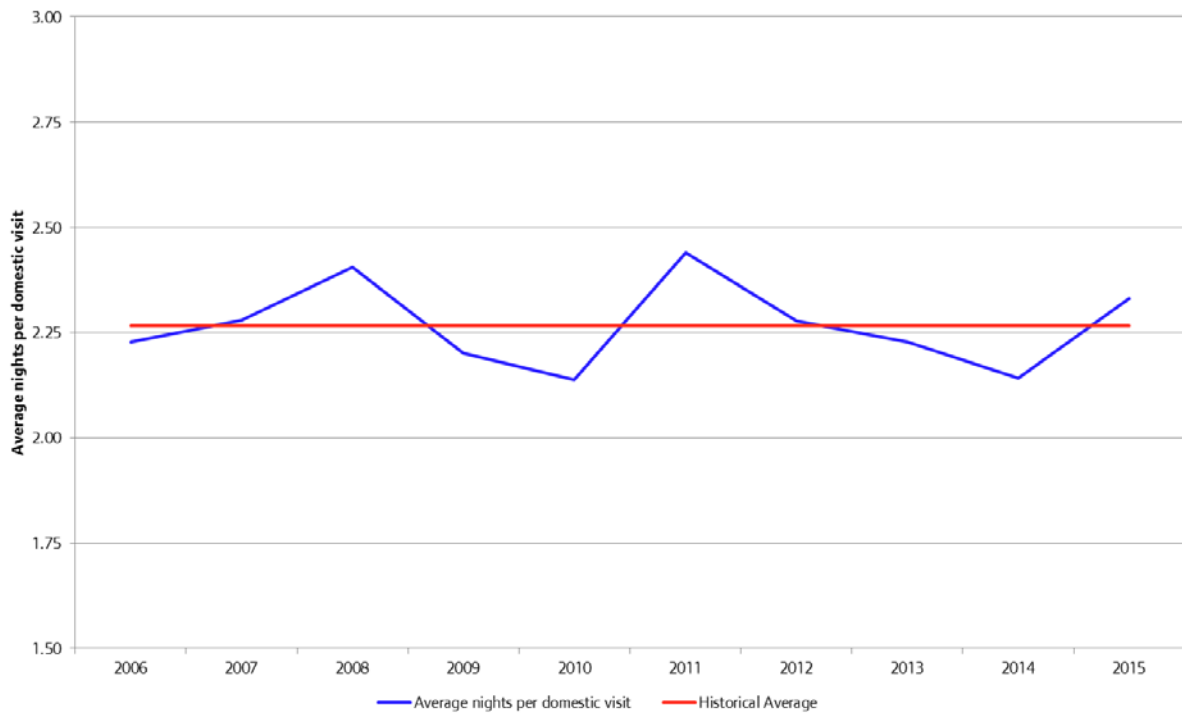
Based on the projected number of overnight domestic visits and the average number of nights per stay, the number of domestic visitor nights is expected to increase from 30.2 million in 2015 to reach 45.2 million by 2041 (Table 11).

Table 11: Projected number of domestic visitor nights, London

Year	Domestic visitor nights ('000's)
2015	30,163
2020	31,657
2025	35,030
2030	38,401
2036	42,163
2041	**45,178**
2050	50,811

Figure 18: Projected number of domestic visitor nights, London
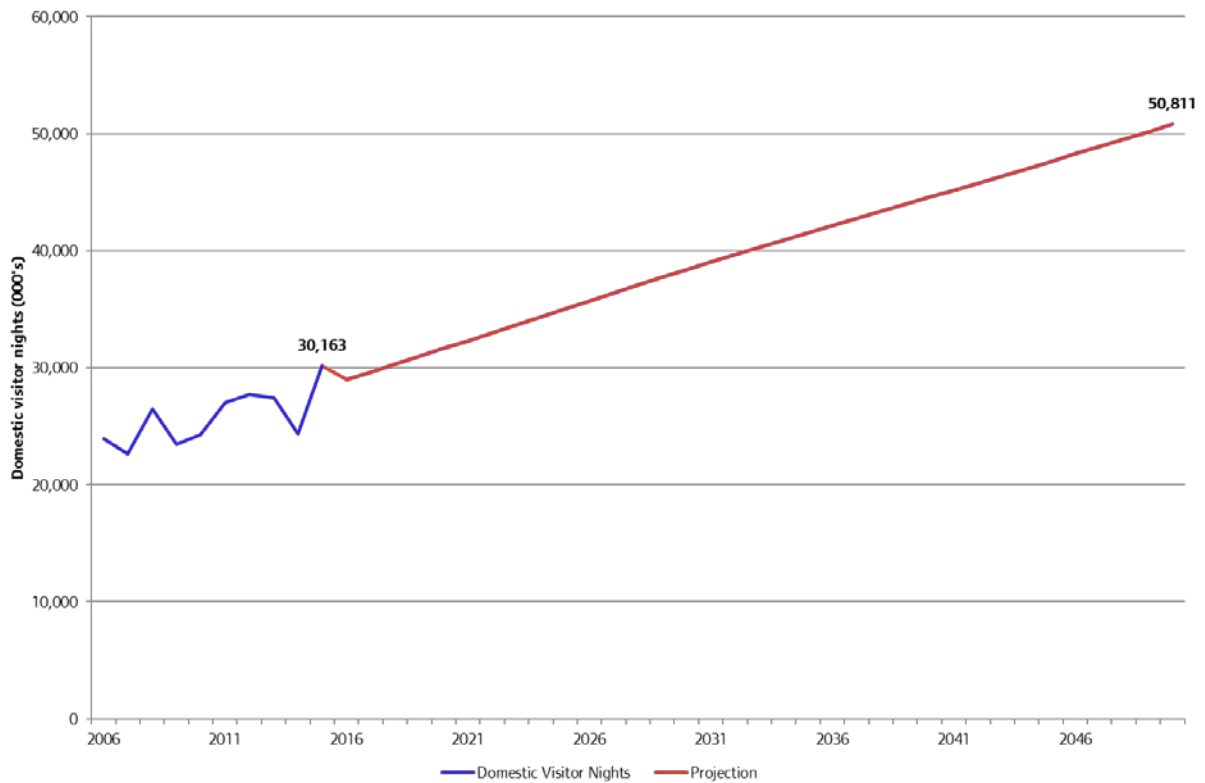
Source: Great Britain Tourism Survey, GLA Economics analysis

Total visitor nights

Total visitor nights to London combines the projections for domestic and international visitors. Total visitor nights are projected to increase from 138.5 million in 2015 to reach 196.4 million by 2041 (Table 12). These projections are slightly higher than those from the previous set of these projections, with an estimate of 186.0 million visitor nights by 2036 compared to 183.6 million nights that was estimated in 2013 (see Appendix B).

Table 12: Projected number of total visitor nights, London

Year	Projected total visitor nights ('000's)
2015	138,484
2020	151,929
2025	162,661
2030	173,392
2036	185,985
2041	**196,360**
2050	215,240

Source: GLA Economics analysis

Figure 19: Projected number of total visitor nights ('000's), London
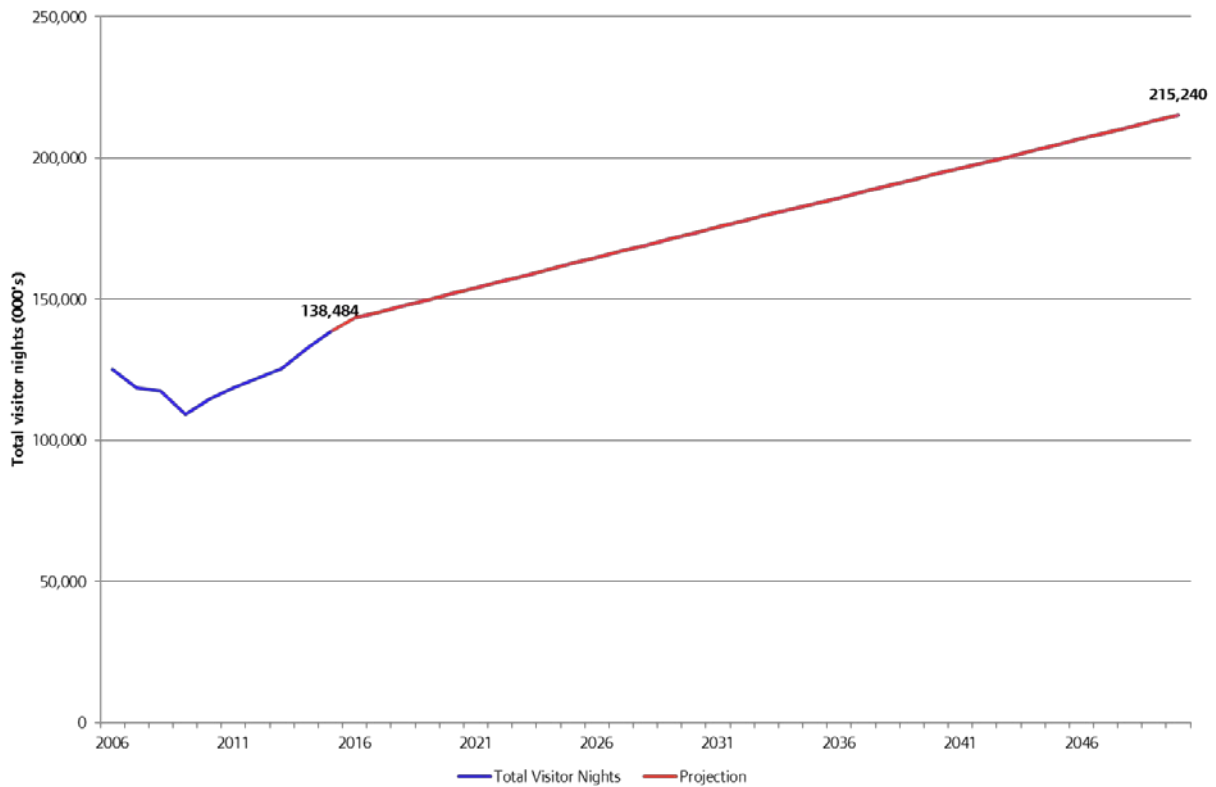
Source: GLA Economics analysis

Projected room requirement

In order to estimate the number of rooms required by 2041, the ratio of the number of room nights to the number of visitor nights on a historical basis has been used. This assumes that the historic supply of rooms in London has been adequate to cope with the existing number of visitor nights, but also assumes that there is no serious excess supply of accommodation. Based on the available historic data, and previous GLA Economics modelling of a further back history,[27] the ratio of visitor nights to room nights averaged 2.64 over the period from 1991 to 2015 (Figure 20).

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[27] Working Paper 58: Understanding the demand for and supply of visitor accommodation in London to 2036

Figure 20: Ratio of visitor nights to room nights, London
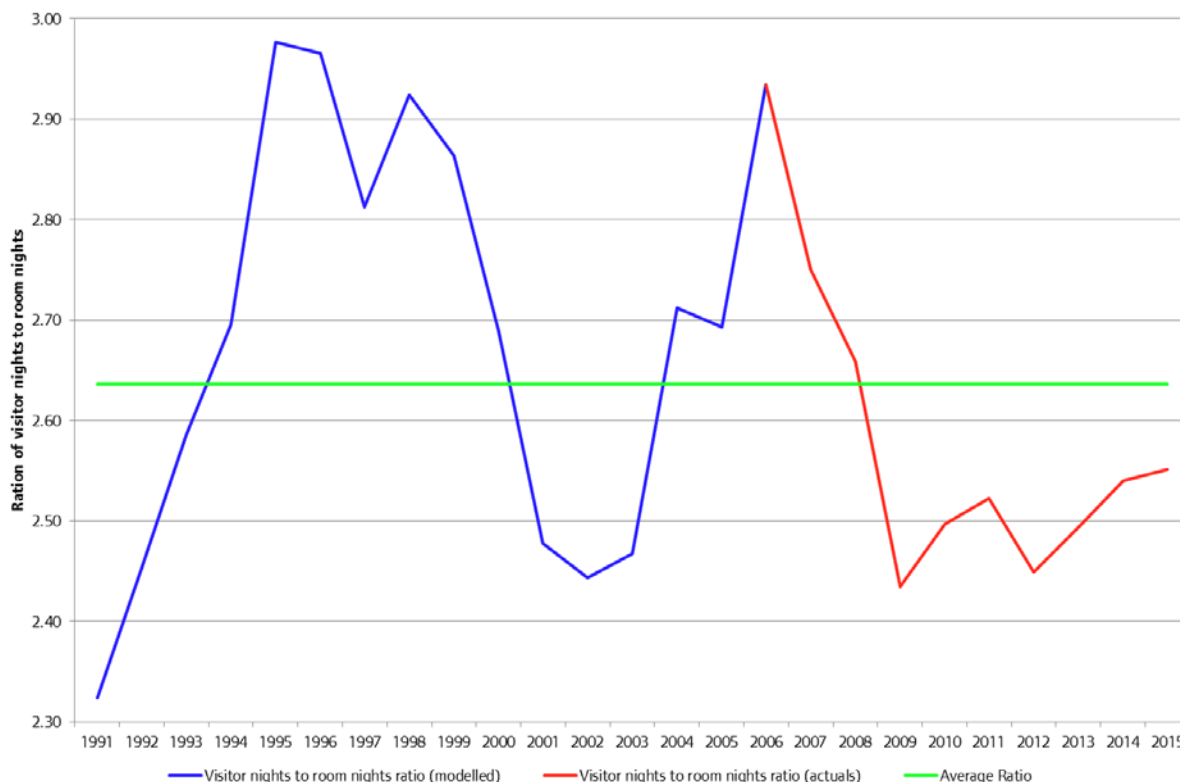
Source: International Passenger Survey, Great Britain Tourism Survey, AMPM database, GLA Economics analysis

Based on this ratio it is projected that London will require an additional 58,140 serviced accommodation rooms by 2041 from the 2015 stock levels. However, this is the number of net additional rooms required. This is the equivalent to 2,236 net additional rooms per year. This projection of the number of rooms needed is below the projection for the net number of rooms that will be added to the supply by 2041 of 64,171, indicating that it is projected that supply will keep up with demand over this period.

Assuming that 0.4 per cent of the stock is closed each year[28], then 77,019 additional rooms will need to be added to the stock to meet the projected need by 2041. This is the equivalent to 2,962 new serviced accommodation rooms opening each year (Table 13).

Table 13: Projected number of additional rooms required in London (demand projection)

2041	Total	Average per year
Net additional	58,140	2,236
Gross additional	77,019	2,962
2050	Total	Average per year
Net additional	77,743	2,221
Gross additional	104,326	2,981

Source: GLA Economics calculations

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[28] This is based on the average share of the total serviced rooms supply that has closed over the past five years according the AMPM database.

Worked examples of these calculations are provided in Appendix C.

Risks to the serviced accommodation room requirement projection
There are both downside and upside risks to the projected number of rooms required for London.

There is some downside risk to the visitor night projections given the assumption of the recent trend in nights per visit will hold. If nights per visit fall further than the post-recession average, then the central projections for visitor nights are currently overstated, which would also result in the room requirement being overstated. The emergence of alternatives to serviced accommodation for visitors to London such as Airbnb may also mean that the projected number of rooms is overstated as these alternative forms of accommodation substitute the need for serviced accommodation into the future.

On risks to the upside, the growth in the number of international visitors is projected to slow slightly from the strong growth rates experienced over the past few years. If this strong growth in visitor numbers above trend continues then the projections may understate the number of serviced accommodation rooms required.

Distribution of demand projection by borough
Based on the London projected demand for rooms in serviced accommodation, and the borough shares of total pipeline development, it is estimated that Westminster would provide the largest increase in the net supply of serviced accommodation, providing 5,559 by 2041, 9.7 per cent of the total increase in supply. Tower Hamlets would also provide more than 5,000 rooms and Hillingdon, City of London and Hounslow are all estimated to provide over 4,000 additional rooms by 2041 (Table 14). Looking at the requirement for new rooms to be delivered (gross supply), Westminster would then be anticipated to deliver around 7,365 additional rooms by 2041, with Tower Hamlets, Hillingdon, Hounslow and the City of London anticipated to deliver at least 5,000 rooms each by 2041.

Table 14: Projected demand for serviced accommodation rooms in London to 2041, by borough

Borough	Total change net room demand: 2015-2041	Share of change in net room demand: 2015-2041	Total change in gross room demand: 2015-2041	Share of change in gross room demand: 2015-2041
Westminster	5,559	9.6%	7,365	9.6%
Tower Hamlets	5,158	8.9%	6,832	8.9%
Hillingdon	4,947	8.5%	6,554	8.5%
Hounslow	4,463	7.7%	5,912	7.7%
City of London	4,096	7.0%	5,426	7.0%
Hackney	3,382	5.8%	4,480	5.8%
Lambeth	3,051	5.2%	4,042	5.2%
Newham	3,031	5.2%	4,015	5.2%
Brent	2,622	4.5%	3,474	4.5%
Islington	2,431	4.2%	3,221	4.2%
Croydon	2,243	3.9%	2,971	3.9%
Greenwich	2,233	3.8%	2,958	3.8%
Ealing	2,024	3.5%	2,681	3.5%
Southwark	1,795	3.1%	2,378	3.1%
Camden	1,595	2.7%	2,113	2.7%
Hammersmith & Fulham	1,295	2.2%	1,716	2.2%
Lewisham	1,100	1.9%	1,457	1.9%
Redbridge	990	1.7%	1,312	1.7%
Haringey	879	1.5%	1,165	1.5%
Barnet	767	1.3%	1,017	1.3%
Kingston-upon-Thames	700	1.2%	927	1.2%
Wandsworth	688	1.2%	912	1.2%
Bromley	510	0.9%	675	0.9%
Harrow	347	0.6%	460	0.6%
Merton	345	0.6%	456	0.6%
Havering	342	0.6%	453	0.6%
Bexley	286	0.5%	379	0.5%
Enfield	280	0.5%	371	0.5%
Sutton	280	0.5%	371	0.5%
Waltham Forest	254	0.4%	336	0.4%
Barking & Dagenham	153	0.3%	203	0.3%
Kensington & Chelsea	150	0.3%	199	0.3%
Richmond-upon-Thames	143	0.2%	189	0.2%
Total London	**58,140**		**77,019**	

Source: AMPM database, GLA Economics analysis

These estimates are sensitive to the assumptions that have been adopted for the projections. Further estimates that project what this estimate would be using different assumptions are outlined in Appendix D.

Supply projections

In the short term the future supply of rooms has been projected based on the development pipeline of hotel rooms identified in the AMPM database, which is available to 2018. This pipeline is based on announced plans and planning permission requests to identify hotel rooms that are in the development pipeline. However, whilst this pipeline is useful, there remains much uncertainty as to when these hotel rooms will actually be delivered, as often the delivery of these rooms can be delayed and not take place as expected. Furthermore, the further out the pipeline goes, the greater the potential for rooms to be added to the construction pipeline that are yet to be identified.

For these reasons, GLA Economics has analysed the AMPM development pipeline from previous years to understand the relationship between the rooms identified in the pipeline, compared to what is actually delivered. These 'realisation ratios' allow an adjustment to the current pipeline to provide an estimate of how many rooms will actually be delivered based on the current pipeline.

In the two full years of which pipeline data from AMPM is available, and the final number of rooms that have been delivered is available, this analysis revealed that on average the number of rooms delivered over the three year period was 7.2 per cent higher than the number included in the pipeline. Therefore the AMPM pipeline over the next three years has been adjusted upwards by 7.2 per cent in total.

The next step of this process is to analyse the timing of when these hotel rooms are delivered during the three year period. The realisation ratio analysis found that between 2012 and 2015 that 65.5 per cent of rooms identified in the first year of the pipeline were delivered, 77.5 per cent identified were delivered in the second year, and 9.5 times the amount (948 per cent) identified in the third year were delivered. Using these realisation ratios and constraining them to the 7.2 per cent increase over the three year period, results in the estimates outlined in Table 15.

Table 15: Hotel room development pipeline, 2016–2018

Year	AMPM Active Pipeline	Adjusted Pipeline	Net additions	Net additions adjusted
2016	7,120	5,329	4,765	4,964
2017	5,568	7,328	6,745	7,025
2018	3,201	4,376	3,766	3,923
Total	**15,889**	**17,033**	**15,276**	**15,912**

Source: AMPM Database, GLA Economics analysis

Relative to the AMPM pipeline, these result in a lower number of hotel rooms delivered in 2016, with higher numbers of hotel rooms to be delivered in 2017 and 2018. In terms of net additions to the stock, it is assumed that the percentage of closures from the total supply will be the same

as the average over the past five years of 0.4 per cent[29], to determine how many rooms are added to the stock in net terms. Finally, these numbers are adjusted to reflect the small percentage of the stock identified that is not in the AMPM database[30], to determine the total net additions for each year.

Comparison between different sources of data on pipeline development
This paper utilises the AMPM database as the source for accommodation stock and projections. By using one data source that can allow a long run timeseries of visitor accommodation stock to be developed, it enables the projections made in this paper to be stronger, when compared to utilising different or incomplete data sources. It is for this reason that the AMPM pipeline development data has been used as part of the projections.

There is however another major source of pipeline visitor accommodation available, the London Development Database (LDD)[31]. The LDD is the system used by the Mayor to monitor planning permissions and completions across London and contains details of all planning permissions agreed with London boroughs, including:

- any new build residential units or any loss or gain of residential units through change of use or conversion of existing dwellings
- $1,000m^2$ or more of floor space changing from one use class to another or created through new build or extension in all other non-residential categories
- the loss or gain or change of use of open space

but more pertinently with reference to this research:
- seven or more new bedrooms for hotels, hostels, student housing or residential homes through new build or change of use

The London Plan team within the GLA have provided an extract of data from the LDD, correct as of 31 March 2016. The data provides detail on C1 hotel bedrooms lost and gained in permissions, both those developments not started or under construction. The following table provide data on potential increase in hotel bedrooms:

Table 16: LDD extract (31st March 2016) for the increase in hotel rooms

Type	Existing C1 hotel bedrooms	Proposed C1 hotel bedrooms	Net C1 hotel bedrooms
Under construction	3,261	17,925	14,664
Not started	8,549	13,089	4,540

Source: London Development Database

The AMPM Hotel Pipeline Database contains "details of construction related projects that could lead to a future increase in hotel bedroom supply." The database includes the construction of new hotels, conversions of use and new trading hotels. More pipeline projects are added "from the stage at which sufficient detail exists to identify where the project is located and the material substance of the proposed project".

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[29] This is based on the average share of the total serviced rooms supply that has closed over the past five years, according the AMPM database.
[30] This supply was identified through online desk research undertaken by GLA Economics, and comprises 4 per cent of the total supply of serviced accommodation.
[31] Further details on the LDD is available here, with data available to download on the London Datastore

Importantly though it is also states that it "can include projects from a very early stage where a public consultation has been held prior to submitting a planning application, all the way through to projects that are in the planning process or have been refused or granted outline or full consent to undertake the proposed development. These pipeline projects are collectively categorised by AMPM as 'Speculative'". For the purposes of projections within this study, these speculative projects are not included

However, pipeline projects where construction is either underway or due to commence shortly and are expected with reasonable certainty to complete in the next three years are categorised as 'Active', and only these active projects are incorporated into our projections. This said it could be reasonably expected that the AMPM would have a greater number of potential room additions compared to those that have planning permissions and are under construction. This is evidenced when looking at total data from the AMPM active pipeline compared to LDD permissions:

Table 17: Comparison of LDD and AMPM data for potential increase in hotel rooms

Source	Total additional rooms
AMPM – Total active pipeline (2016 – 2018)	15,889
LDD – Net C1 hotel bedroom additions	14,664

Source: AMPM database and London Development Database

When looking at the two sources on a spatial level, although the overall difference between the two data sources are relatively small (less than 10 per cent different), there are some noticeable difference at the borough level. Most notably is Hillingdon, which is much higher on the AMPM dataset. Another significant difference is in Hammersmith & Fulham, however this can be explained by one hotel development seeing a significant reduction in rooms due to redevelopment. The City of London also sees a figure around 25 per cent lower in the LDD than compared to the AMPM active pipeline.

Table: 18: Comparison between AMPM active pipeline and LDD net hotel bedroom additions by borough

Local Authority	AMPM Total active pipeline	LDD – Net C1 hotel bedroom additions	Difference: AMPM compared to LDD
Barking and Dagenham	78	120	-42
Barnet	128	62	66
Bexley	158	169	-11
Brent	0	400	-400
Bromley	191	222	-31
Camden	305	166	139
City of London	2,570	1,880	690
Westminster	1,841	2,173	-332
Croydon	0	165	-165
Ealing	288	207	81
Enfield	21	80	-59
Greenwich	133	575	-442
Hackney	1,522	1,102	420
Hammersmith and Fulham	47	-1,239	1,286
Haringey	91	0	91
Harrow	144	85	59
Havering	0	0	0
Hillingdon	1,867	392	1,475
Hounslow	81	449	-368
Islington	1,208	1,298	-90
Kensington and Chelsea	40	-85	125
Kingston upon Thames	146	272	-126
Lambeth	1,068	1,012	56
Lewisham	0	267	-267
Merton	86	69	17
Newham	818	1,098	-280
Redbridge	0	349	-349
Richmond-upon-Thames	0	0	0
Southwark	618	275	343
Sutton	266	242	24
Tower Hamlets	1,987	2,148	-161
Waltham Forest	0	72	-72
Wandsworth	187	639	-452
TOTAL	**15,889**	**14,664**	**1,225**

Source: AMPM database and London Development Database

This data does show that there is quite a bit of variance between the two data sources and this would have implications for projecting future hotel supply and demand at a spatial level. The modelling used in this paper looks at various scenarios of historical growth in room supply alongside the pipeline to create the borough level projections and these are presented in Appendix D. While it is important to use the pipeline as a means of projecting where future demand for visitor accommodation may be (and is the basis for our central projection), the historical trends can provide alternative projections as to the spatial provision of serviced accommodation.

Calculation of supply projections

Beyond this short-term forecast, the longer-term projections are based on the historical rates of net-additions to the serviced accommodation supply based on the AMPM historical time series. The rates over a number of different time periods were analysed to determine which rate was most appropriate for the projections.

After analysing the results of the different scenarios, the scenario reflecting the period between 1989 and 2015 was chosen to be adopted as the central case scenario for projected increases in accommodation supply. This scenario was adopted for a number of reasons. This period of time provides balance between the slower rate of growth of the early 1990's and the stronger increases in serviced rooms observed in recent years. It balances the risk of continued strong growth in serviced accommodation supply, against both a slowdown that may occur following this strong period of growth, and an environment where alternative accommodation options such as Airbnb are expanding to meet some of the visitor demand for accommodation. Furthermore the scenario lies broadly in the middle of the five most plausible scenarios.

This scenario also fits well with the expected slight moderation in visitor nights growth over the same period following the strong increases in visitors in recent times (see demand projections for more detail). Finally, in terms of London's economy this time period covers the best part of two full cycles of economic activity, whilst the 26 year period that is used is the same length of time the projections going forward are made over. Further detail on the results of this analysis and the alternative scenarios are included in Appendix A.

Table 19: Projected serviced accommodation supply to 2050, London

Year	Total Supply
2015	145,737
2020	165,845
2025	176,337
2030	186,828
2036	199,417
2041	**209,908**
2050	228,793

Source: AMPM database, GLA Economics analysis

Based on the adopted assumptions, it is assumed that beyond 2019, 2,098 serviced rooms will be added to the accommodation supply per year. This results in the total number of serviced accommodation rooms by 2041 to reach 209,908; an increase of 64,171 on 2015 levels (Table 19). This is a stronger outlook for the supply of accommodation when compared to the previous release of these projections, with the supply of rooms now expected to reach 199,417 by 2036

compared to 173,668 previously (see Appendix B for detailed comparison to previous projections).

Figure 21: Projected serviced accommodation supply to 2050, London
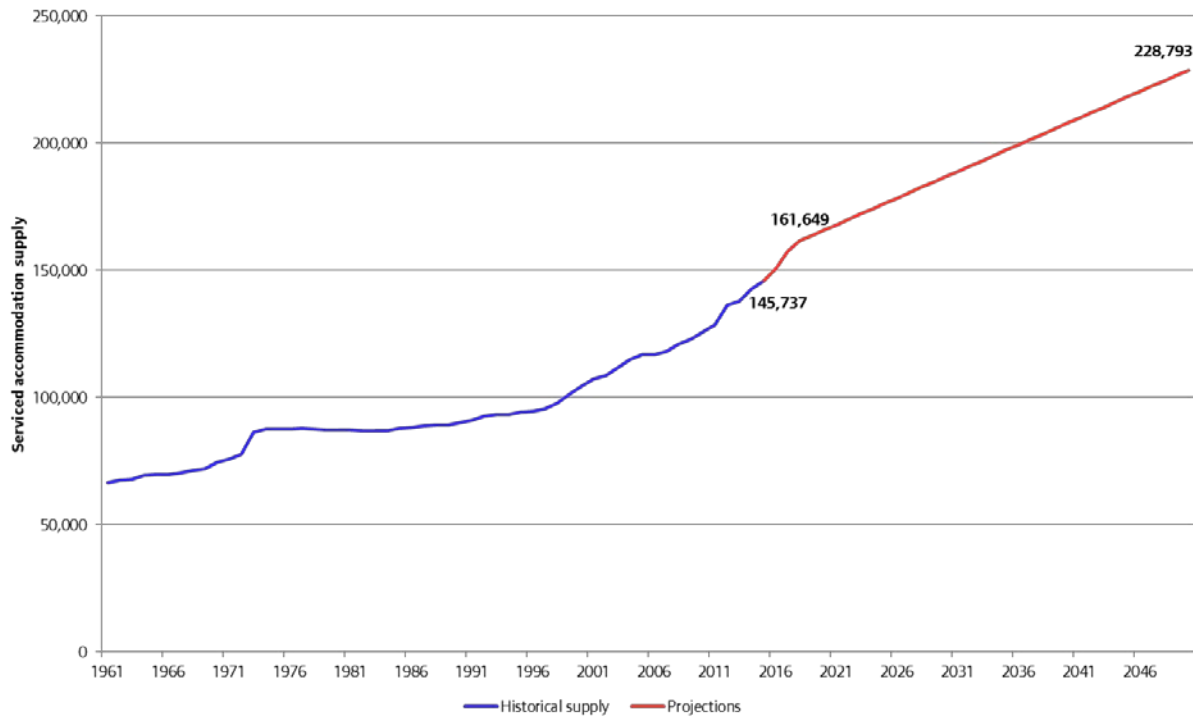
Source: AMPM database, GLA Economics analysis. Note: 161,649 rooms are the total supply expected in 2018, at the end of the AMPM database pipeline data.

Distribution of projected supply by borough

In order to estimate the number of serviced accommodation rooms that might be expected to be supplied by each London borough, the shares of rooms in the total pipeline from AMPM have been applied to the total estimated number of rooms to be delivered in London by 2041 (supply projection). Arguably the use of the shares from the pipeline is the most appropriate way to distribute the number of rooms across London, as this is an indicator of future increases of supply, rather than the distribution of the current stock.

Table 20: Projected net additions to supply by borough to 2041, London (based on shares of the London supply projection)

Borough	Total change net supply: 2015-2041	Share of change in net supply: 2015-2041
Westminster	6,136	9.6%
Tower Hamlets	5,693	8.9%
Hillingdon	5,461	8.5%
Hounslow	4,926	7.7%
City of London	4,521	7.0%
Hackney	3,733	5.8%
Lambeth	3,368	5.2%
Newham	3,345	5.2%
Brent	2,894	4.5%
Islington	2,684	4.2%
Croydon	2,476	3.9%
Greenwich	2,464	3.8%
Ealing	2,234	3.5%
Southwark	1,981	3.1%
Camden	1,760	2.7%
Hammersmith & Fulham	1,430	2.2%
Lewisham	1,214	1.9%
Redbridge	1,093	1.7%
Haringey	970	1.5%
Barnet	847	1.3%
Kingston-upon-Thames	772	1.2%
Wandsworth	760	1.2%
Bromley	562	0.9%
Harrow	383	0.6%
Merton	380	0.6%
Havering	378	0.6%
Bexley	316	0.5%
Enfield	309	0.5%
Sutton	309	0.5%
Waltham Forest	280	0.4%
Barking & Dagenham	169	0.3%
Kensington & Chelsea	166	0.3%
Richmond-upon-Thames	157	0.2%
Total London	**64,171**	

Source: AMPM database, GLA Economics analysis

As demonstrated in Table 20, the majority of new hotel rooms are anticipated to be delivered in inner London boroughs and out near Heathrow Airport, with Westminster, Tower Hamlets, Hillingdon and Hounslow set to bring in the most hotel rooms into the supply.

Appendix A: Scenario Analysis

Demand projections

There are two aspects to the demand projections for which different scenarios have been analysed. The first set of scenarios analyses different numbers of international visitors to London. These scenarios are based on different global economic conditions and circumstances in the aviation industry, as set out in the Airports Commission report. The second sensitivity of the projections is the number of nights spent by visitors when they do visit London.

The projected number of visitors to London are based on a number of different scenarios modelled by the Airports Commission for international visitors (see Box 2). The *Assessment of Need* scenario was adopted as the scenario to be used for these projections, but the alternative scenarios analysed set out that total visitor numbers could be higher or lower than these estimates under the different scenarios. The following table outlines the projections for total visitor nights for the selected model, using the different Airport Commission industry scenarios for the Heathrow Northwest Runway expansion.

Table A1: Projected number of total visitor nights, London

	Assessment of Need (central case)	Decline of Europe	Global Fragmentation	Global Growth	Low Cost is King
2015	**138,484**	138,484	138,484	138,484	138,484
2020	**151,929**	153,642	150,986	154,041	154,246
2025	**162,661**	166,516	160,541	167,415	167,874
2030	**173,392**	179,389	170,094	180,787	181,502
2036	**185,985**	194,552	181,274	196,549	197,571
2041	**196,360**	**207,069**	**190,472**	**209,565**	**210,842**
2050	**215,240**	229,804	207,232	233,199	234,936

Source: GLA Economics analysis

Under the different scenarios analysed, the projection of total visitor nights is lowest under the *Global Fragmentation* scenario with 190.5 million visitors by 2041, with the 210.8 million visitors projected under the *Low Cost is King* scenario the most out of all the scenarios, this gives an understanding of the sensitivity of tourist demand based on a range of global economic and aviation industry conditions.

Figure A1: Projected number of total visitor nights scenario analysis, London
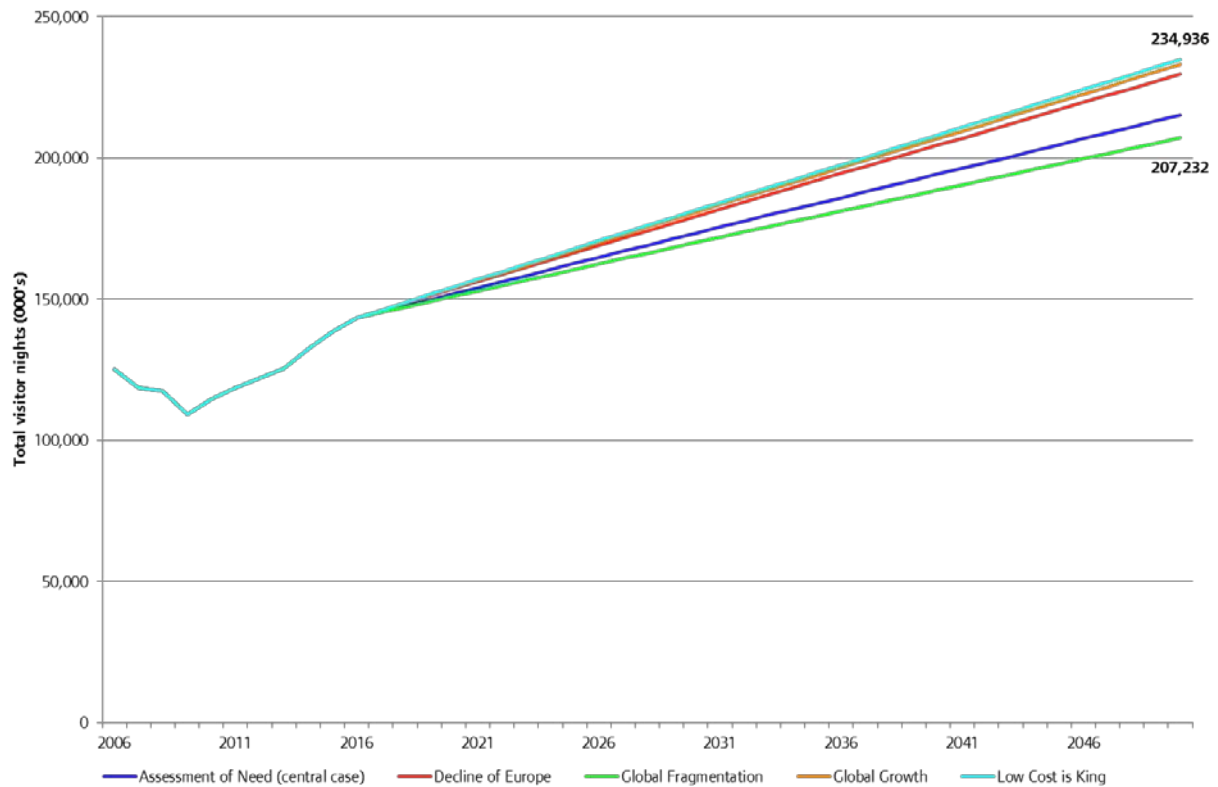
Source: GLA Economics analysis

The projections are also sensitive to the average length of stay for international visitors in London. There has been a trend that international visitors have been making shorter trips in recent years compared to the long run series average. Within the modelling, various options were considered, including:

- Average nights per visit for 2010 – 2015 (central case): 6.02 nights/visit
- Average nights per visit for 2015 holds into the future: 5.83 nights/visit
- Average nights per visit for 1997 – 2015: 6.33 nights per visit
- A trend fall in average nights per visit through to 2050

Under this final sensitivity, international nights per visit would fall to 4.33 nights per visit by 2050.

The potential range for the Assessment of Need scenario adopted for the central projection ranges from 163.9 million to 204.4 million in 2041.

Table A2 outlines the impact that this different nights per visit assumption would make on total visitor nights through to 2050.

Table A2: Assessment of Need scenario sensitivity to nights per visit, total visitor nights ('000's)

	Central Case (6.02)	2015 Nights per visit holds (5.83)	1997 – 2015 average (6.33)	Trend fall in nights per visit
2015	138,484	138,484	138,484	138,484
2020	151,929	148,203	158,301	144,669
2025	162,661	158,707	169,423	150,270
2030	173,392	169,210	180,544	155,329
2036	185,985	181,530	193,605	160,401
2041	**196,360**	**191,677**	**204,370**	**163,915**
2050	215,240	210,147	223,952	169,082

Source: GLA Economics analysis

The central case lies towards the higher end of the sensitivity band, however the scenario where nights per visit falls on a trend basis leads to significantly lower total visitor nights than the other scenarios.

Figure A2: Assessment of Need scenario sensitivity to nights per visit, total visitor nights ('000's)
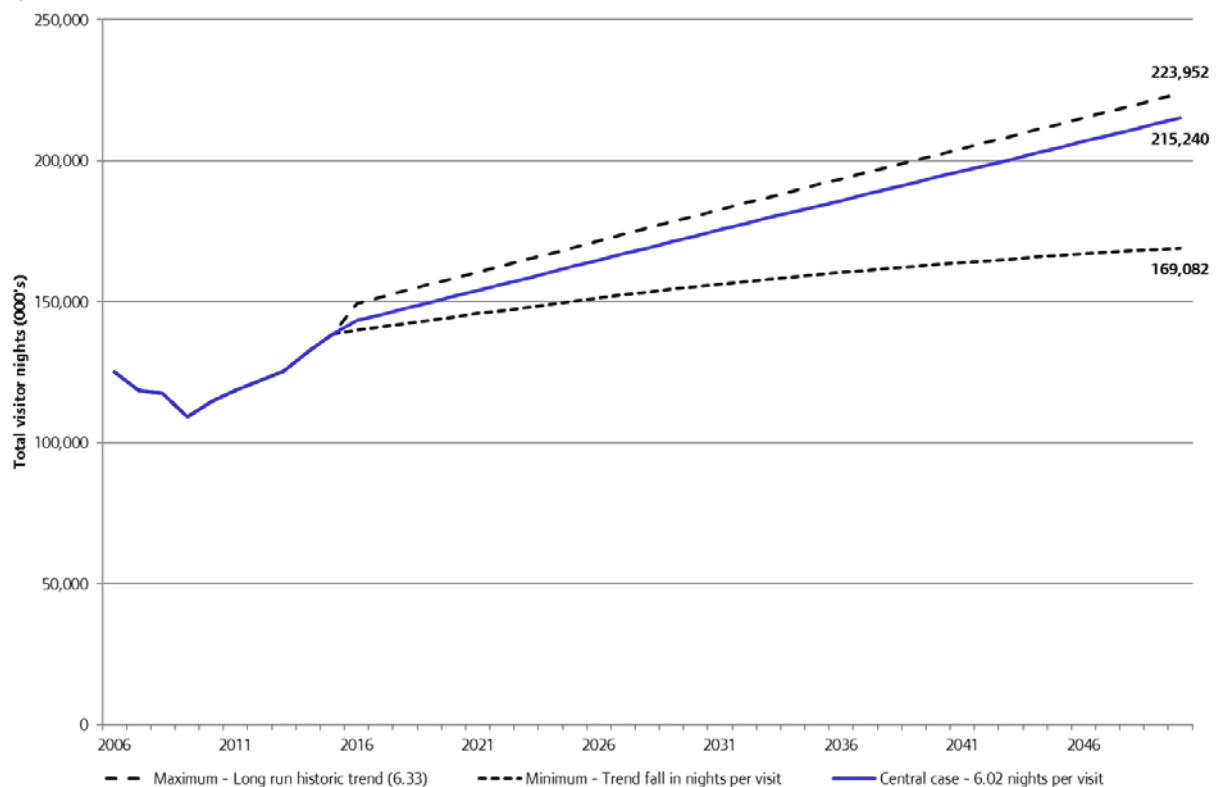
Source: GLA Economics analysis

For further sensitivity analysis, the potential range covering all five scenarios from the Airports Commission has been estimated. By 2041 the total number of visitor nights projected ranges between 159.3 million and 219.6 million across all five scenarios.

Table A3: All scenarios sensitivity to nights per visit, total visitor nights ('000's)

	Central Case - 6.02 nights per visit	Maximum - Long run average nights per visit; Low Cost is King	Minimum - Trend fall in nights per visit; Global Fragmentation
2015	138,484	138,484	138,484
2020	151,929	160,741	143,784
2025	162,661	174,912	148,356
2030	173,392	189,083	152,472
2036	185,985	205,804	156,529
2041	**196,360**	**219,619**	**159,290**
2050	215,240	244,691	163,322

Source: GLA Economics analysis

Figure A3: All scenarios sensitivity to nights per visit, total visitor nights ('000's)
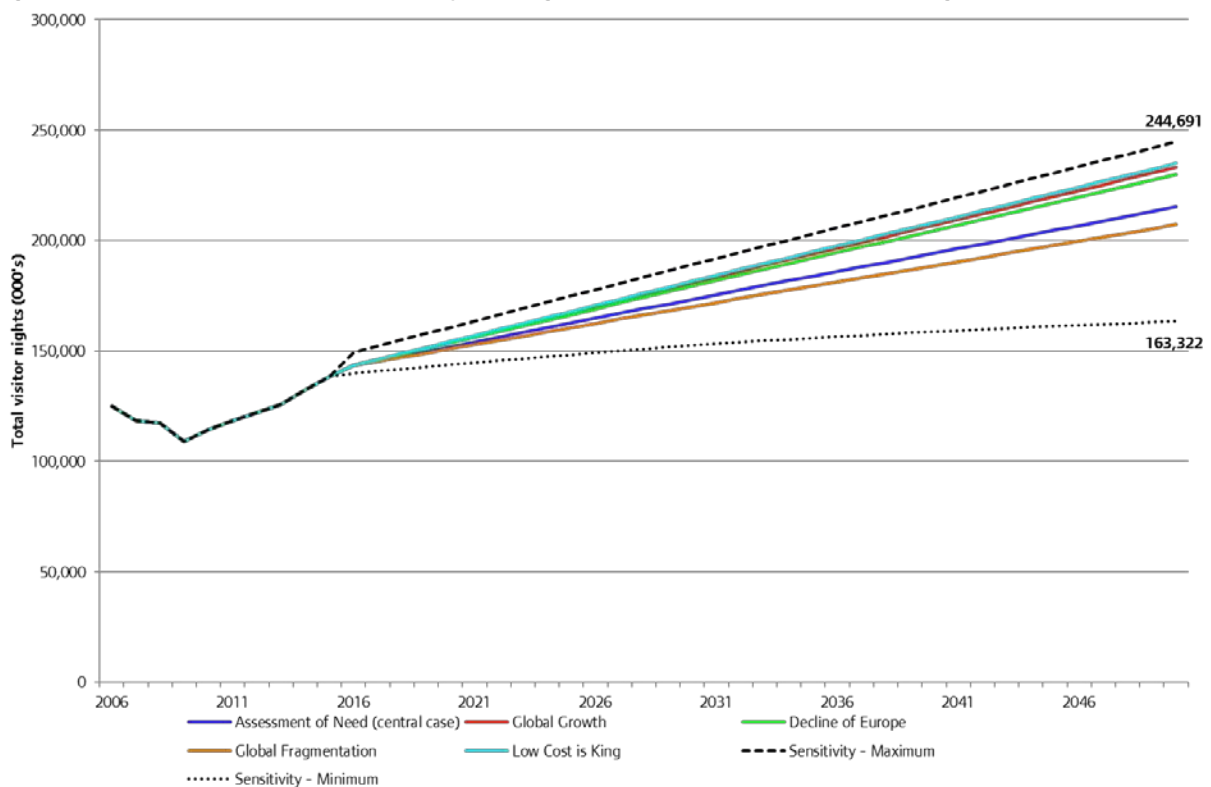
No sensitivity analysis of domestic visitor nights has been undertaken as it appears to be of lower projection risk, given the lower proportion of visitor nights from domestic visitors, and the fact that the number of nights per visits has remained relatively stable over time.

Projected room requirement

In order to understand the sensitivity of the projections for the number of rooms required (based on our central nights assumption), estimates have been calculated using the highest (2.98) and lowest (2.32) ratios of total visitor nights to total room nights observed in the historic series, as well as the average have been projected. The following analysis has been done for both the Heathrow Airport Northwest Runway, and the Gatwick Airport Second Runway, and shows that projected room requirements are similar for both airports, however lower for Gatwick.

Heathrow Airport Northwest Runway

The number of net additional rooms needed in 2041 lies within the range of 34,982 and 85,720 rooms based on the minimum and maximum visitor nights to room nights ratios. Using the average ratio of nights to room nights, the estimated addition of rooms is lowest under the *Global Fragmentation* scenario which projects an additional 52,026 rooms are required, whilst the *Low Cost is King* scenario estimates that an additional 73,176 rooms will be required, compared to the central case projection of 58,140 additional rooms by 2041.

Using the average ratio of nights to rooms, the *Low Cost is King*, *Global Growth and the Decline of Europe* scenarios project that the number of rooms required will exceed the projected increase in supply of 64,171 out to 2041. However, using the maximum ratio shows that the number of rooms required would exceed the projected supply across all scenarios, with the only exception of the *Global Fragmentation* scenario.

Table A4: Total number of net additional rooms required in 2041, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**58,140**	**34,982**	**85,720**
Decline of Europe	69,258	44,838	98,342
Global Fragmentation	52,026	29,563	78,779
Global Growth	71,850	47,135	101,285
Low Cost is King	73,176	48,311	102,790

Source: GLA Economics analysis

Table A5: Average number of net additional rooms required per year, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**2,236**	**1,345**	**3,297**
Decline of Europe	2,664	1,725	3,782
Global Fragmentation	2,001	1,137	3,030
Global Growth	2,763	1,813	3,896
Low Cost is King	2,814	1,858	3,953

Source: GLA Economics analysis

The number of gross additional rooms required by 2041 lies within the range of 46,899 and 124,081 rooms, with the central case scenario projected a need of 77,019 new rooms by 2041. This is the equivalent of anywhere between 1,804 and 4,772 rooms based on the outlined assumptions.

Table A6: Total number of gross additional rooms required in 2041, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**77,019**	**52,611**	**106,088**
Decline of Europe	88,738	62,999	119,392
Global Fragmentation	70,575	46,899	98,772
Global Growth	91,470	65,420	122,494
Low Cost is King	92,868	66,659	124,081

Source: GLA Economics analysis

Table A7: Average number of gross additional rooms required per year, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**2,962**	**2,023**	**4,080**
Decline of Europe	3,413	2,423	4,592
Global Fragmentation	2,714	1,804	3,799
Global Growth	3,518	2,516	4,711
Low Cost is King	3,572	2,564	4,772

Source: GLA Economics analysis

Gatwick Airport Second Runway

Table A8: Total number of net additional rooms required in 2041, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**50,693**	**28,382**	**77,266**
Decline of Europe	65,212	41,251	93,748
Global Fragmentation	49,856	27,639	76,315
Global Growth	71,753	47,049	101,174
Low Cost is King	71,648	46,956	101,055

Table A9: Average number of net additional rooms required per year, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**1,950**	**1,092**	**2,972**
Decline of Europe	2,508	1,587	3,606
Global Fragmentation	1,918	1,063	2,935
Global Growth	2,760	1,810	3,891
Low Cost is King	2,756	1,806	3,887

Table A10: Total number of gross additional rooms required in 2041, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**69,170**	**45,654**	**97,178**
Decline of Europe	84,473	59,218	114,550
Global Fragmentation	68,288	44,871	96,176
Global Growth	91,367	65,329	122,377
Low Cost is King	91,256	65,231	122,251

Table A11: Average number of gross additional rooms required per year, London

Scenario	Average Ratio	Minimum Ratio	Maximum Ratio
Assessment of Need (central case)	**2,660**	**1,756**	**3,738**
Decline of Europe	3,249	2,278	4,406
Global Fragmentation	2,626	1,726	3,699
Global Growth	3,514	2,513	4,707
Low Cost is King	3,510	2,509	4,702

Source: GLA Economics analysis

Supply projections

Scenario analysis for the supply projections has looked at the rate of net additions to the serviced accommodation supply over different periods of time. As the period of time used is shortened the average number of rooms increases, as increases in supply have been much stronger in recent times. For example, the average number of rooms added between 1961 and 2015 was 1,464 rooms per year, but more recently since 2007, 3,222 rooms were added per year. Whilst between 1974 and 1989, the period following the boom in hotel development in the early 1970's, the average number of rooms added per year was low at an average of 185 rooms per year (Table A12). As outlined previously, the period of 1989 to 2015 was chosen for the central projection of potential serviced accommodation supply.

Table A12: Additions to serviced accommodation supply over selected periods, London

Period	Additions to supply per year
1961–2015	1,464
1974–2015	1,417
1989–2015 (central case)	**2,098**
1998–2015	2,905
2007–2015	3,222
1974–1989	185

Source: AMPM database, GLA Economics analysis

In terms of scenario analysis, the short-term projections based on the AMPM database pipeline have been used for the estimates to 2018 for all scenarios. Projections from 2019 out to 2050 based on these rates of additions to the serviced accommodation supply show that the net additions to the supply out to 2041 ranged from 165,908 to 235,762 (Table A13).

Table A13: Additions to serviced accommodation supply over selected periods, London

Scenario Period	Supply of rooms in 2041	Addition to supply: 2015 - 2041
1961–2015	195,318	49,581
1974–2015	194,248	48,511
1989–2015 (central case)	**209,908**	**64,171**
1998–2015	228,469	82,732
2007–2015	235,762	90,025
1974–1989	165,908	20,171

Source: GLA Economics analysis

If the increase in supply of hotel rooms were to soften toward the long-run average between 1961 and 2015 then 49,581 rooms would be added to the supply. Or if a stronger slowdown took place – such as the period of oversupply of accommodation in the 1970's and 1980's, then as few as 20,171 additional serviced accommodation rooms would be added to the supply.

Figure A4: Serviced accommodation supply projected scenarios to 2050, London
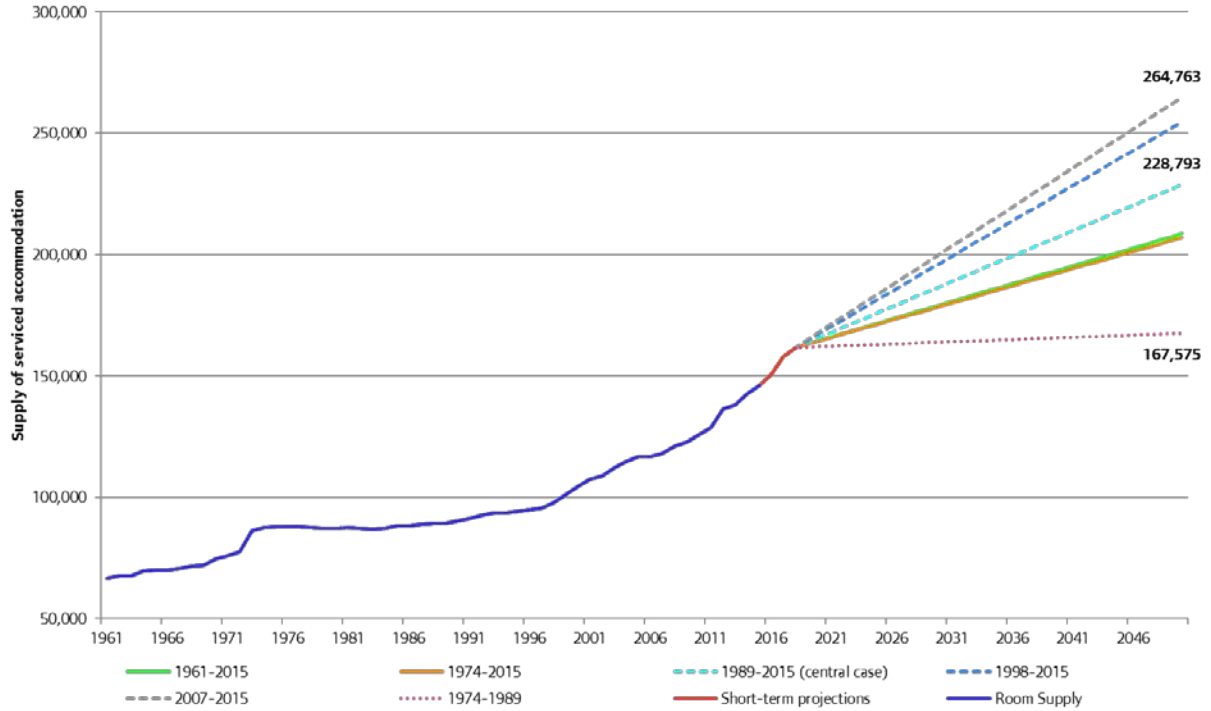
Appendix B: Comparison to previous projections

This working paper is an update from the previous estimates released by GLA Economics in 2013. This section outlines the differences in both the approach and results from the previous publication.

Demand projections

The process of formulating the demand projections in this paper has changed significantly from the last working paper projecting visitors to London. In that paper, eleven different models were used to project international visitor nights and a further four models to project domestic visitor nights. These models were based on various indicators including projected changes in GDP for various countries, extrapolation based on previous data, and estimates based on modelling from London and Partners. They also reflected different assumptions around average nights spent in London per visitor, different income elasticities, and varying trends derived over different period. To form the central case for these projections, an average of the various models was used.

For this current working paper a different approach has been used and the number of international tourism nights has been forecast based on the projections for international visitor flights to London airports from the Airports Commission. The central case for the number of international visitors is based on the *Assessment of Need* scenario from the Airport Commission report, which is then multiplied by the average of nights per stay between 2010 and 2015. Domestic visitor nights have been forecast based on population growth for the UK excluding London, based on ONS and GLA population projections, and the historical average of nights per visit between 2006 and 2015.

The central case estimates for this report are broadly in-line with the previous estimates released in 2013. Recent growth in visitor nights has been stronger since the previous report, with a total of 138.5 million visitor nights spent in London in 2015, compared to the previous projection of 128.9 million. However it is expected that visitor nights will converge towards the previous projections, due to the nights per visit assumption used being lower than the long run trend (6.33 nights per visit average for 1997 – 2015). It is projected that in 2036, total visitor nights would be 186.0 million, compared to 183.6 million that were projected in the previous report (Table B1)

Table B1: Total visitor nights central case projections, current and previous working papers

Year	Central case - 2013	Central case - 2015
2012	121,146	121,944
2015	128,906	138,484
2020	141,841	151,929
2025	154,775	162,661
2030	167,710	173,392
2035	180,644	183,906
2036	183,628	185,985

Source: GLA Economics Working Paper 58, GLA Economics analysis

The sensitivity analysis of this working paper has narrowed the expected range in which visitor numbers could lie, with the sensitivity tests of the different scenarios modelled by the Airports Commission, and the number of nights per visit for international visitors based upon the long

run average nights per visit (for 1997 – 2015), as well as a sensitivity using a trend fall in nights per visit over time. This results in a narrower band in which total visitor nights are expected to fall within between now and 2036. By 2036 total visitor nights are expected to fall within the range of 162.2 million and 205.8 million, which is narrower than the range from the previous working paper of 132.3 million and 257.9 million (Table B2).

Table B2: Projected range of total visitor nights, current and previous working papers

Year	Range - 2013		Range - 2015	
	Min	Max	Min	Max
2015	120,759	140,839	138,484	138,484
2020	123,509	168,689	143,784	160,741
2025	126,259	196,539	148,356	174,912
2030	129,009	224,389	152,472	189,083
2035	131,759	252,239	155,918	203,037
2036	132,309	257,859	156,529	205,804

Figure B1: Comparison of central case and range for total visitor nights, current and previous working papers
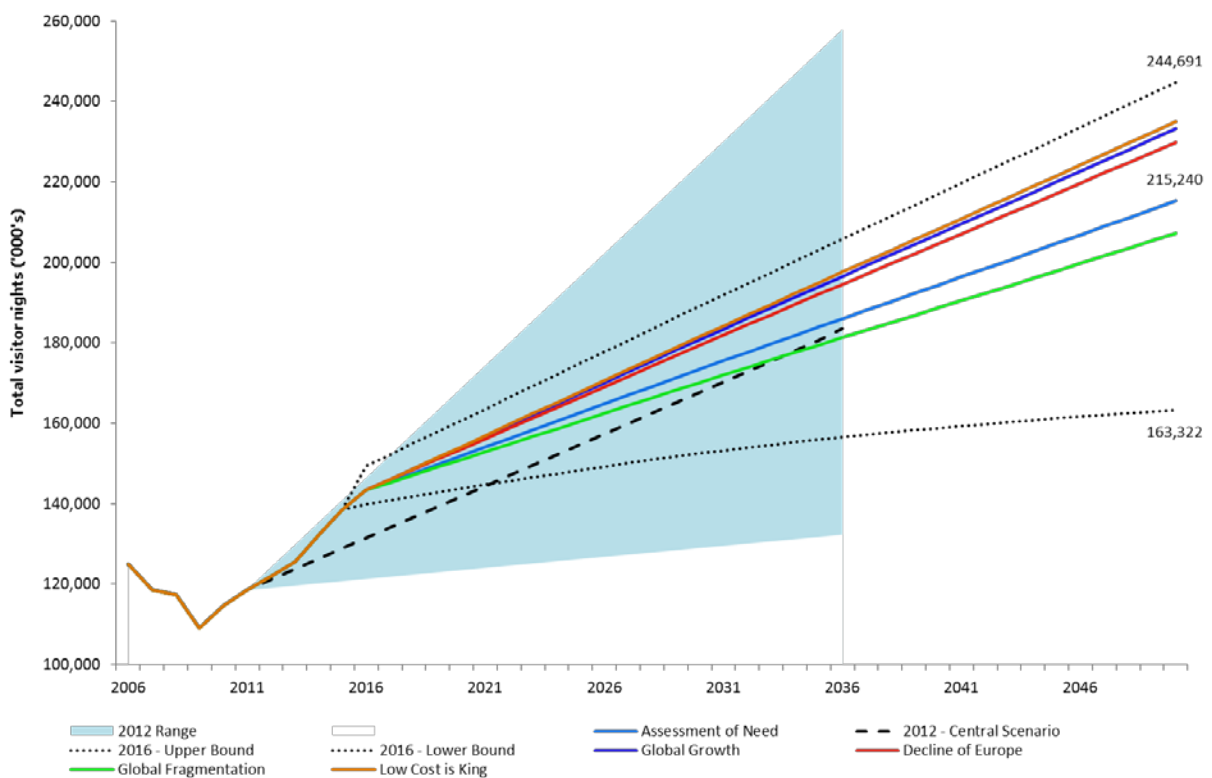
Projected room requirement

Firstly, this paper projects two different numbers for additional rooms required. The first is the same as the previous paper and is the net additional number of rooms required based on the demand projections. The second is the gross number of rooms required, which projects the number of additional new rooms that are projected to be required when closures of rooms are taken into account.

The gross number of rooms required was not estimated in the previous working paper, however the net number of rooms required was. The new projections estimate that 58,140 rooms will be required to meet demand by 2041, compared to 42,900 required by 2036 in the previous working paper. Whilst some of this difference can be attributed to the slightly longer time horizon that this set of projections covers, the majority of the difference is due to the revised time series of hotel accommodation in London, with an additional 400 rooms per year required on average (Table B3).

Table B3: Projected number of net additional rooms required , London

	Total	Average per year
Current projection (2015-2041)	58,140	2,236
Previous projection (2012-2036)	42,900	1,788

Source: Working Paper 58, GLA Economics Analysis

As outlined previously the AMPM database shows that the supply of serviced accommodation was higher than the previously interpolated during the 1990's and 2000's. As this was underestimated previously, this reduced the determined amount of accommodation required to service any number of visitors, as the accommodation requirement was based on a ratio of overnight visits to the stock available at the time. Based on the AMPM database, historically this ratio has changed, pushing up the number of rooms required to meet any given number of visitors, despite the projections for visitor numbers being very similar to those within our previous projections.

Supply projections

The first notable difference is that the previous paper provided projections for both serviced and unserviced accommodation in London. For this update, unserviced accommodation has not been included for a number of reasons, including that unserviced accommodation is not necessarily available for use by visitors all year round, for example student halls. The previous paper also ignored non-serviced accommodation when calculating the additional rooms that would be required for London out to 2036. Finally, the AMPM database used for this working paper does not include unserviced accommodation, therefore it was not included in this paper for given the resource required to add this information to the findings would not have a significant impact on the findings of this research.

One difference on the supply side between the two papers is the time-series of serviced accommodation in London. Whilst the start and end points used in the previous analysis (1981 and 2012) are similar, it's the path in between that differs between the two reports. Whilst the previous report estimated the supply over this period, this working paper uses the AMPM database year by year historic series as the basis for the history of accommodation supply.

The AMPM database is preferred as this is based on actual data collected by AMPM, compared to the previous report which interpolated the back series using various sources to determine the supply of serviced accommodation at different points in time. The AMPM database appears to be more comprehensive than the supply of accommodation identified in the previous report, as the database in the previous report identified 131,600 serviced rooms in 2012 including bed and breakfast accommodation, compared to the AMPM database which identified 131,000 excluding bed and breakfast accommodation. It is estimated that this new approach would have identified around 4,800 more rooms in the serviced accommodation supply in 2012.

Another key difference is the projection forecasts for supply, which are higher in this working paper than the previous one. This is due to the different assumptions used for the future supply projections. Both papers have used the accommodation identified in the development pipeline to inform the near-term forecasts, and a long-run average of additions to the stock for the projections beyond this period. As the current pipeline remains strong, and the pipeline previously estimated has broadly been delivered, this pushes up the near-term projections of room supply, with an additional 13,009 rooms to be delivered by 2020 than was previously estimated.

In terms of projections beyond the short-term pipeline, the previous paper used the average number of serviced accommodation added to the stock per year between 1991 and 2010 as the basis for the long-run projections – a period which based on the previous supply estimates the number of serviced accommodation rooms increased by 1,302 rooms per year on average. Similarly, this paper uses the average number of rooms added between 1989 and 2015 to inform its central case projections, but the rate of change over this period based on the preferred AMPM database is 2,098 rooms per year.

This difference, combined with the higher short-run projections is what has driven the higher projections of supply in this working paper compared to the previous release, with the estimate in 2036 for supply 25,749 rooms higher in this working paper compared to the previous one. Figures comparing the two projections are outlined in Table B4 and Figure B2.

Table B4: Previous and current serviced accommodation supply projections

Year	Previous working paper	Current working paper
2012	131,598	136,412
2015	146,326	145,737
2020	152,836	165,845
2025	159,346	176,337
2030	165,856	186,828
2035	172,366	197,319
2036	**173,668**	**199,417**

Source: GLA Economics Working Paper 58, GLA Economics analysis

Figure B2: Previous and current serviced accommodation supply projections
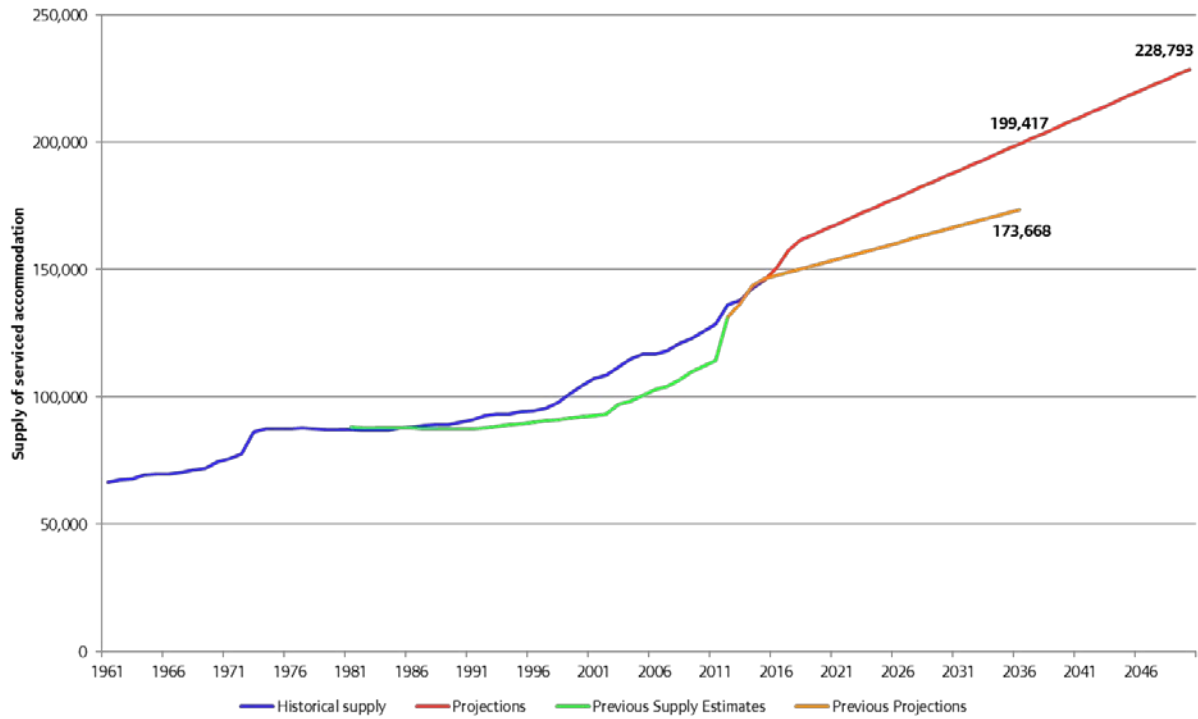
Source: GLA Economics Working Paper 58, GLA Economics analysis

Appendix C: Derivation of projected room requirements

The following appendix outlines the calculation steps used to derive the total rooms required to meet visitor demand. The calculation steps are different to those used within Working Paper 58, however will be shown to be mathematically identical.

The methodology used to derive projected room demand is based on the premise that room supply in the past has been broadly able to meet demand. The ratio between the total number of visitor nights passed in London in any given year and the supply of rooms available in that year has varied but historical analysis suggests that the ratio has moved within relatively fixed bounds.

Box 3: Calculation steps for deriving projected room demand in 2041

1) Calculating total number of visitor nights (drawn directly from the Airports Commission/GLA Economics modelling)

2) Calculating the total number of room nights in any one year (drawn from the AMPM database of historical supply, projected forward using the long term trend growth rate in supply from 1989 – 2015)

3) Calculation of the average visits to room nights ratio, drawn from International Passenger Survey data on total visitor night, and the AMPM database on total hotel room supply

4) Division of total visitor nights by the visits to room nights ratio. Dividing this by 365 leads to the estimate of the total rooms needed to meet demand on any one day

5) Subtracting the total rooms needed by the total room supply gives the additional rooms required to meet demand

To derive the gross rooms demand (i.e. to account for closures):

6) Calculation of the expected annual number of closures for each year, given by an assumed closure rate of 0.4 per cent per annum

7) Addition of the total number of closures through to 2041, to the net estimate of rooms required in 2041

Worked example of calculation for the central scenario for this study:

A	Total number of visitor nights, 2041 Assessment of Need scenario, London Heathrow Northwest Runway	196,360,203
B	Room nights, 2041	Projected Supply * 365 = 76,616,586
C	Average Visits to room nights ratio (based on actual 1991 – 2015 data)	2.64
D	Total visitor room nights	= A / C = 74,415,019
E	Total rooms required on any one day, 2041	= D / 365 = 203,877
F	Total room supply in 2015	145,737
G	**Net additional rooms required**	**= E – F = 58,140**
H	**Net annual additional rooms required**	**= G / (2041 – 2015) = 2,236**

Gross room requirement calculation:

A	Assumed annual closure rate	0.4%
B	Total room supply in 2015	145,737
C	Assumed room closures during 2015	= A * B = 583
D	Sum of total rooms closing each year, 2015 – 2041 Calculated as 0.4% * (Previous year supply + Annual net addition average)	18,879
E	Modelled room supply in 2041	201,641
F	Total room supply in 2015	145,737
G	**Gross rooms required in 2041**	**= E + D = 222,756**
H	**Gross additional rooms required**	**= G – F = 77,019**
I	**Gross annual rooms required**	**= I / (2041 – 2015) = 2,962**

Comparison to Working Paper 58 calculation of projected room requirement

As previously mentioned, the terminology and calculation steps used in this paper are different to our previous reporting, however the calculations derive an identical result. This is because our previous paper used solely the ratio of visitor nights to total rooms (rather than total room nights). The use of visitor nights to room nights was calculated and modelled as part of the process of methodology development for projecting future room requirement. More specifically, econometric forecasting of the future visitor night to room night ratio was considered as a means of determining future room requirement as well as providing a sense check to the validity of the econometric model that was developed for this work.

Figure C1 outlines how these ratios were calculated, and then the following tables outline how the estimates of net room requirements are identical using either method.

Table C1: Historic data on visitor nights and room requirements

Year	Total International Visitor Nights	Room Supply	Total room nights	Ratio of visitor nights to room nights	Ratio of visitor nights to rooms
1991	77,254,973	91,063	33,238,031	2.32	848
1992	82,807,597	92,518	33,769,162	2.45	895
1993	88,068,482	93,332	34,066,093	2.59	944
1994	91,909,744	93,422	34,099,170	2.70	984
1995	102,240,256	94,096	34,345,155	2.98	1,087
1996	102,532,355	94,722	34,573,651	2.97	1,082
1997	98,063,000	95,533	34,869,441	2.81	1,026
1998	104,351,000	97,757	35,681,154	2.92	1,067
1999	105,702,000	101,137	36,914,882	2.86	1,045
2000	102,483,000	104,445	38,122,377	2.69	981
2001	97,000,000	107,260	39,150,039	2.48	904
2002	96,837,000	108,587	39,634,406	2.44	892
2003	100,809,000	111,921	40,851,025	2.47	901
2004	113,647,000	114,794	41,899,979	2.71	990
2005	114,766,000	116,750	42,613,602	2.69	983
2006	125,040,637	116,736	42,608,659	2.93	1,071
2007	118,503,143	118,054	43,089,604	2.75	1,004
2008	117,314,921	120,868	44,116,887	2.66	971
2009	109,135,732	122,791	44,818,724	2.44	889
2010	114,635,915	125,792	45,914,061	2.50	911
2011	118,558,422	128,748	46,993,050	2.52	921
2012	121,944,169	136,412	49,790,513	2.45	894
2013	125,552,405	137,936	50,346,736	2.49	910
2014	132,364,479	142,726	52,094,866	2.54	927
2015	138,484,433	145,737	53,194,005	2.60	950
			AVERAGE (1991 – 2015)	2.64	963
			Maximum (1991 – 2015)	2.98	1,087
			Minimum (1991 – 2015)	2.32	848

Figure C1: Visitor nights to room (nights) ratio, 1991 – 2015
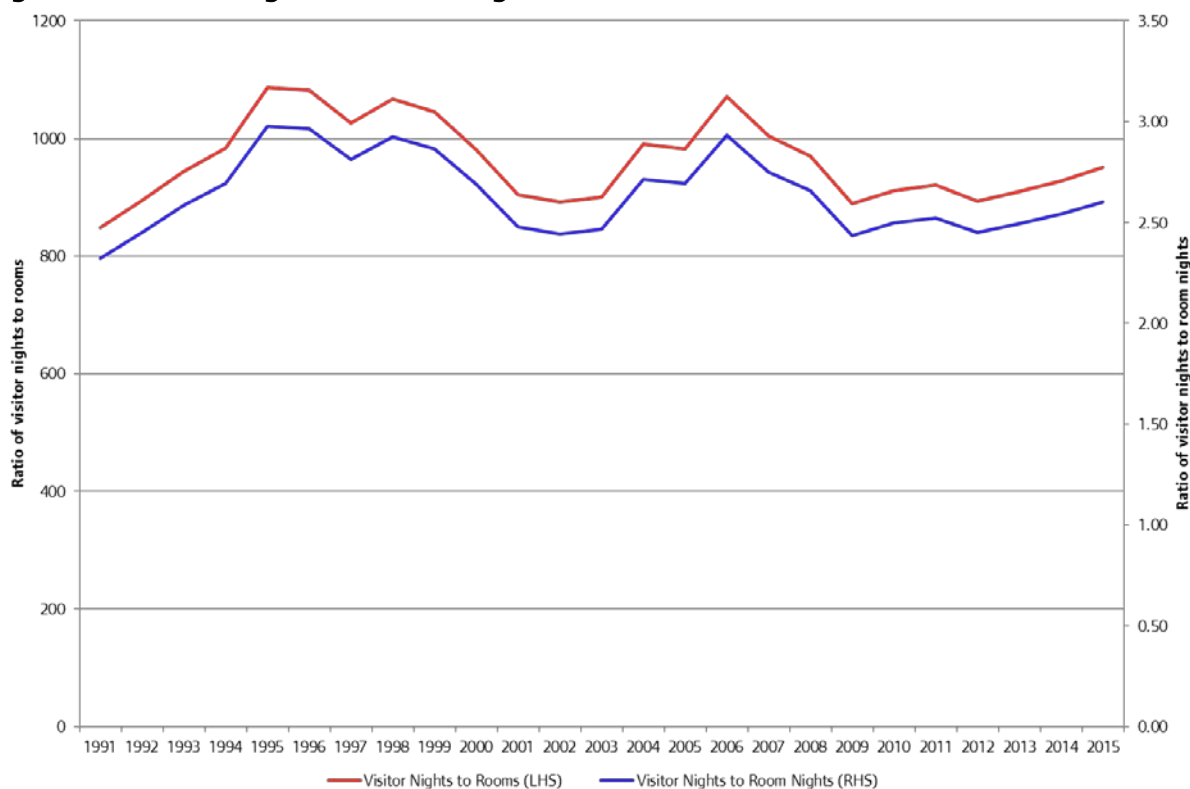
Source: IPS, AMPM database, GLA Economics calculations

Table C2: Calculation of net rooms required in 2041 using ratio of visitor nights to rooms

A	Total number of visitor nights, 2041 Assessment of Need scenario, London Heathrow Northwest Runway	196,360,203
B	Average visitor nights to rooms ratio (1991 – 2015)	963.13
C	Total rooms required on any one day, 2041	= A / B = 203,877
D	Total room supply in 2015	145,737
E	**Net additional rooms required**	**= C – D = 58,140**

Appendix D: Alternative models to derive borough level projections

This appendix outlines the calculation of alternative models to project the future supply and demand of visitor accommodation by borough. The central scenario uses data from the AMPM database pipeline to project forward the likely supply increases by borough. However there are potentially other means of projecting forward, and this appendix outlines potential potential alternatives.

Central method used to calculate borough level shares of London projections
The central scenario outlined in the main body of the paper is based upon pipeline information from within the AMPM database. For the 2016 – 2018 period, data on the active pipeline is used to inform the share of pipeline supply increase by borough. For the 2019 – 2041, data on the potential pipeline by borough is used to inform supply increase, which are constrained to the total supply increase for the 2019 – 2041 period as informed by the long run trend in supply increase for 1989 – 2015.

Step 1: Active Pipeline data for 2016 – 2018

Local Authority	Share of London active pipeline	Net supply change 2016 - 2018
Westminster	11.6%	1,844
Tower Hamlets	12.5%	1,990
Hillingdon	11.8%	1,870
City of London	16.2%	2,574
Hounslow	0.5%	81
Hackney	9.6%	1,524
Lambeth	6.7%	1,070
Newham	5.1%	819
Islington	7.6%	1,210
Brent	0.0%	0
Greenwich	0.8%	133
Croydon	0.0%	0
Ealing	1.8%	288
Southwark	3.9%	619
Camden	1.9%	305
Hammersmith & Fulham	0.3%	47
Lewisham	0.0%	0
Redbridge	0.0%	0
Haringey	0.6%	91
Barnet	0.8%	128
Wandsworth	1.2%	187
Kingston-upon-Thames	0.9%	146
Bromley	1.2%	191
Harrow	0.9%	144
Sutton	1.7%	266
Merton	0.5%	86
Bexley	1.0%	158
Havering	0.0%	0
Enfield	0.1%	21
Waltham Forest	0.0%	0
Barking & Dagenham	0.5%	78
Kensington & Chelsea	0.3%	40
Richmond-upon-Thames	0.0%	0
LONDON		**15,912**

Step 2: Potential pipeline change, to inform 2019 – 2041

Total Projected Supply increase, 2015 – 2041 (acting as the total constraint: 64,171)
Active Pipeline, 2016 – 2018: 15,912
Net Supply change, 2019 – 2041: 48,259

Local Authority	Share of London potential pipeline	Net supply change 2019 - 2041
Westminster	8.9%	4,293
Tower Hamlets	7.7%	3,703
Hillingdon	7.4%	3,591
City of London	4.0%	1,947
Hounslow	10.0%	4,845
Hackney	4.6%	2,208
Lambeth	4.8%	2,298
Newham	5.2%	2,526
Islington	3.1%	1,474
Brent	6.0%	2,894
Greenwich	4.8%	2,331
Croydon	5.1%	2,476
Ealing	4.0%	1,946
Southwark	2.8%	1,362
Camden	3.0%	1,455
Hammersmith & Fulham	2.9%	1,383
Lewisham	2.5%	1,214
Redbridge	2.3%	1,093
Haringey	1.8%	879
Barnet	1.5%	719
Wandsworth	1.2%	573
Kingston-upon-Thames	1.3%	626
Bromley	0.8%	371
Harrow	0.5%	239
Sutton	0.1%	42
Merton	0.6%	294
Bexley	0.3%	157
Havering	0.8%	378
Enfield	0.6%	288
Waltham Forest	0.6%	280
Barking & Dagenham	0.2%	91
Kensington & Chelsea	0.3%	126
Richmond-upon-Thames	0.3%	157
LONDON		**48,259**

Calculation: Total supply increase, 2016 – 2041, by local authority

Local authority	Net supply increase 2016 – 2018	Net supply increase 2019 – 2041	Total net supply increase: 2016 – 2041	Share of total London increase: 2016 – 2041
Westminster	1,844	4,293	6,136	9.6%
Tower Hamlets	1,990	3,703	5,693	8.9%
Hillingdon	1,870	3,591	5,461	8.5%
City of London	2,574	1,947	4,521	7.0%
Hounslow	81	4,845	4,926	7.7%
Hackney	1,524	2,208	3,733	5.8%
Lambeth	1,070	2,298	3,368	5.2%
Newham	819	2,526	3,345	5.2%
Islington	1,210	1,474	2,684	4.2%
Brent	0	2,894	2,894	4.5%
Greenwich	133	2,331	2,464	3.8%
Croydon	0	2,476	2,476	3.9%
Ealing	288	1,946	2,234	3.5%
Southwark	619	1,362	1,981	3.1%
Camden	305	1,455	1,760	2.7%
Hammersmith & Fulham	47	1,383	1,430	2.2%
Lewisham	0	1,214	1,214	1.9%
Redbridge	0	1,093	1,093	1.7%
Haringey	91	879	970	1.5%
Barnet	128	719	847	1.3%
Wandsworth	187	573	760	1.2%
Kingston-upon-Thames	146	626	772	1.2%
Bromley	191	371	562	0.9%
Harrow	144	239	383	0.6%
Sutton	266	42	309	0.5%
Merton	86	294	380	0.6%
Bexley	158	157	316	0.5%
Havering	0	378	378	0.6%
Enfield	21	288	309	0.5%
Waltham Forest	0	280	280	0.4%
Barking & Dagenham	78	91	169	0.3%
Kensington & Chelsea	40	126	166	0.3%
Richmond-upon-Thames	0	157	157	0.2%
LONDON	**15,912**	**48,259**	**64,171**	

Alternative methods at undertaking borough level projections

While looking at the pipeline of future gives an indication as to likely supply requirements at a spatial level, it can be argued that looking at the historical placement of hotels could inform the placement of subsequent hotels. It should be mentioned however that going forward, available space to develop hotels in certain areas would be constrained by past development, therefore

using the historical placement to project the future may not be the most appropriate method. Therefore, the models model should be considered as sensitivity estimates.

Model 2: Actual AMPM supply changes: 2010 – 2015

This model uses the past five years of data on hotel room stock (solely from the AMPM database) as the means of informing the placement of future visitor accommodation. The value for 2015 total stock is lower than the headline figure of 145,737 due to the exclusion of Trip Advisor sourced visitor accommodation stock not observed within the AMPM database.

Local Authority	AMPM stock estimate: 2010	AMPM stock estimate: 2015	Change: 2010 – 2015	Proportion of total London stock change
Southwark	3,788	5,739	1,951	10.2%
City of London	4,184	6,064	1,880	9.8%
Newham	2,877	4,566	1,689	8.8%
Tower Hamlets	4,917	6,469	1,552	8.1%
Camden	16,098	17,489	1,391	7.3%
Westminster	36,184	37,570	1,386	7.2%
Greenwich	654	1,937	1,283	6.7%
Hounslow	2,457	3,516	1,059	5.5%
Brent	1,402	2,184	782	4.1%
Lambeth	3,417	4,183	766	4.0%
Hackney	1,121	1,853	732	3.8%
Hillingdon	8,950	9,510	560	2.9%
Wandsworth	821	1,360	539	2.8%
Hammersmith & Fulham	3,804	4,316	512	2.7%
Islington	2,900	3,363	463	2.4%
Croydon	2,046	2,431	385	2.0%
Ealing	1,600	1,928	328	1.7%
Redbridge	845	1,180	335	1.7%
Richmond-upon-Thames	1,216	1,546	330	1.7%
Enfield	461	749	288	1.5%
Kingston-upon-Thames	907	1,136	229	1.2%
Barnet	1,154	1,353	199	1.0%
Bexley	258	434	176	0.9%
Bromley	318	464	146	0.8%
Lewisham	250	391	141	0.7%
Waltham Forest	444	569	125	0.7%
Barking & Dagenham	447	527	80	0.4%
Havering	538	550	12	0.1%
Merton	482	499	17	0.1%
Haringey	228	237	9	0.0%
Sutton	188	188	0	0.0%
Kensington & Chelsea	15,027	14,999	-28	-0.1%
Harrow	787	618	-169	-0.9%
London	**120,765**	**139,913**	**19,148**	

Projected supply change in 2041, by local authority

Local authority	Proportion of total London stock change	Total stock change: 2016 – 2041
Southwark	10.2%	6,538
City of London	9.8%	6,300
Newham	8.8%	5,660
Tower Hamlets	8.1%	5,201
Camden	7.3%	4,662
Westminster	7.2%	4,645
Greenwich	6.7%	4,300
Hounslow	5.5%	3,549
Brent	4.1%	2,621
Lambeth	4.0%	2,567
Hackney	3.8%	2,453
Hillingdon	2.9%	1,877
Wandsworth	2.8%	1,806
Hammersmith & Fulham	2.7%	1,716
Islington	2.4%	1,552
Croydon	2.0%	1,290
Redbridge	1.7%	1,123
Richmond-upon-Thames	1.7%	1,106
Ealing	1.7%	1,099
Enfield	1.5%	965
Kingston-upon-Thames	1.2%	767
Barnet	1.0%	667
Bexley	0.9%	590
Bromley	0.8%	489
Lewisham	0.7%	473
Waltham Forest	0.7%	419
Barking & Dagenham	0.4%	268
Merton	0.1%	57
Havering	0.1%	40
Haringey	0.0%	30
Sutton	0.0%	0
Kensington & Chelsea	-0.1%	-94
Harrow	-0.9%	-566
London		**64,171**

Model 3: Actual AMPM supply changes: 2000 – 2015
This model uses the past fifteen years of data on hotel room stock as the means of informing the placement of future visitor accommodation.

Local Authority	AMPM stock estimate: 2000	AMPM stock estimate: 2015	Change: 2000 – 2015	Proportion of total London stock change
City of London	1,680	6,064	4,384	11.1%
Southwark	1,797	5,739	3,942	9.9%
Newham	811	4,566	3,755	9.5%
Tower Hamlets	2,818	6,469	3,651	9.2%
Lambeth	1,521	4,183	2,662	6.7%
Hillingdon	6,929	9,510	2,581	6.5%
Hounslow	1,174	3,516	2,342	5.9%
Camden	15,350	17,489	2,139	5.4%
Westminster	35,763	37,570	1,807	4.6%
Greenwich	573	1,937	1,364	3.4%
Islington	2,071	3,363	1,292	3.3%
Hammersmith & Fulham	3,031	4,316	1,285	3.2%
Hackney	694	1,853	1,159	2.9%
Wandsworth	425	1,360	935	2.4%
Brent	1,247	2,184	937	2.4%
Croydon	1,468	2,431	963	2.4%
Ealing	1,063	1,928	865	2.2%
Kingston-upon-Thames	315	1,136	821	2.1%
Barnet	571	1,353	782	2.0%
Redbridge	628	1,180	552	1.4%
Enfield	245	749	504	1.3%
Richmond-upon-Thames	1,039	1,546	507	1.3%
Waltham Forest	342	569	227	0.6%
Barking & Dagenham	381	527	146	0.4%
Bexley	258	434	176	0.4%
Havering	376	550	174	0.4%
Merton	335	499	164	0.4%
Lewisham	267	391	124	0.3%
Bromley	332	464	132	0.3%
Haringey	228	237	9	0.0%
Harrow	630	618	-12	0.0%
Sutton	198	188	-10	0.0%
Kensington & Chelsea	15,716	14,999	-717	-1.8%
London	**100,271**	**139,913**	**39,642**	

Projected supply change in 2041, by local authority

Local authority	Proportion of total London stock change	Total stock change: 2016 – 2041
City of London	11.1%	7,097
Southwark	9.9%	6,381
Newham	9.5%	6,078
Tower Hamlets	9.2%	5,910
Lambeth	6.7%	4,309
Hillingdon	6.5%	4,178
Hounslow	5.9%	3,791
Camden	5.4%	3,463
Westminster	4.6%	2,925
Greenwich	3.4%	2,208
Islington	3.3%	2,091
Hammersmith & Fulham	3.2%	2,080
Hackney	2.9%	1,876
Croydon	2.4%	1,559
Brent	2.4%	1,517
Wandsworth	2.4%	1,514
Ealing	2.2%	1,400
Kingston-upon-Thames	2.1%	1,329
Barnet	2.0%	1,266
Redbridge	1.4%	894
Richmond-upon-Thames	1.3%	821
Enfield	1.3%	816
Waltham Forest	0.6%	367
Bexley	0.4%	285
Havering	0.4%	282
Merton	0.4%	265
Barking & Dagenham	0.4%	236
Bromley	0.3%	214
Lewisham	0.3%	201
Haringey	0.0%	15
Sutton	0.0%	-16
Harrow	0.0%	-19
Kensington & Chelsea	-1.8%	-1,161
London		**64,171**

Model 4: Actual AMPM supply changes: 1989 – 2015

This model uses the same timescale as that used for projecting overall serviced accommodation supply as the means of informing the placement of future visitor accommodation.

Local Authority	AMPM stock estimate: 1989	AMPM stock estimate: 2015	Change: 1989 – 2015	Proportion of total London stock change
City of London	1,009	6,064	5,055	9.4%
Southwark	680	5,739	5,059	9.4%
Tower Hamlets	1,743	6,469	4,726	8.8%
Camden	12,853	17,489	4,636	8.6%
Hillingdon	5,294	9,510	4,216	7.8%
Newham	471	4,566	4,095	7.6%
Lambeth	526	4,183	3,657	6.8%
Hounslow	719	3,516	2,797	5.2%
Westminster	35,092	37,570	2,478	4.6%
Hammersmith & Fulham	2,307	4,316	2,009	3.7%
Islington	1,459	3,363	1,904	3.5%
Greenwich	351	1,937	1,586	2.9%
Hackney	470	1,853	1,383	2.6%
Ealing	664	1,928	1,264	2.3%
Wandsworth	156	1,360	1,204	2.2%
Brent	994	2,184	1,190	2.2%
Croydon	1,381	2,431	1,050	1.9%
Barnet	364	1,353	989	1.8%
Kingston-upon-Thames	253	1,136	883	1.6%
Richmond-upon-Thames	829	1,546	717	1.3%
Redbridge	552	1,180	628	1.2%
Barking & Dagenham	33	527	494	0.9%
Enfield	245	749	504	0.9%
Merton	140	499	359	0.7%
Bexley	116	434	318	0.6%
Havering	283	550	267	0.5%
Waltham Forest	342	569	227	0.4%
Harrow	453	618	165	0.3%
Lewisham	281	391	110	0.2%
Bromley	372	464	92	0.2%
Sutton	79	188	109	0.2%
Haringey	239	237	-2	0.0%
Kensington & Chelsea	15,290	14,999	-291	-0.5%
London	**86,035**	**139,913**	**53,878**	

Projected supply change in 2041, by local authority

Local authority	Proportion of total London stock change	Total stock change: 2016 – 2041
Southwark	9.4%	6,025
City of London	9.4%	6,021
Tower Hamlets	8.8%	5,629
Camden	8.6%	5,522
Hillingdon	7.8%	5,021
Newham	7.6%	4,877
Lambeth	6.8%	4,356
Hounslow	5.2%	3,331
Westminster	4.6%	2,951
Hammersmith & Fulham	3.7%	2,393
Islington	3.5%	2,268
Greenwich	2.9%	1,889
Hackney	2.6%	1,647
Ealing	2.3%	1,505
Wandsworth	2.2%	1,434
Brent	2.2%	1,417
Croydon	1.9%	1,251
Barnet	1.8%	1,178
Kingston-upon-Thames	1.6%	1,052
Richmond-upon-Thames	1.3%	854
Redbridge	1.2%	748
Enfield	0.9%	600
Barking & Dagenham	0.9%	588
Merton	0.7%	428
Bexley	0.6%	379
Havering	0.5%	318
Waltham Forest	0.4%	270
Harrow	0.3%	197
Lewisham	0.2%	131
Sutton	0.2%	130
Bromley	0.2%	110
Haringey	0.0%	-2
Kensington & Chelsea	-0.5%	-347
London		**64,171**

Model 5: Actual AMPM supply changes: 2010 – 2015, plus total AMPM pipeline

For this model, the recent change in supply over the past five years as well as the upcoming pipeline have been incorporated to project future supply to boroughs.

Local Authority	AMPM stock estimate: 2010	AMPM stock estimate: 2015 plus total pipeline	Change: 2010 – current+pipeline	Proportion of total London stock change
Westminster	36,184	42,140	5,956	9.1%
Tower Hamlets	4,917	10,810	5,893	9.0%
City of London	4,184	9,872	5,688	8.7%
Hillingdon	8,950	13,660	4,710	7.2%
Hounslow	2,457	6,677	4,220	6.4%
Newham	2,877	6,990	4,113	6.3%
Hackney	1,121	4,779	3,658	5.6%
Southwark	3,788	7,223	3,435	5.2%
Lambeth	3,417	6,712	3,295	5.0%
Greenwich	654	3,552	2,898	4.4%
Camden	16,098	18,719	2,621	4.0%
Islington	2,900	5,508	2,608	4.0%
Brent	1,402	4,024	2,622	4.0%
Croydon	2,046	4,005	1,959	3.0%
Ealing	1,600	3,453	1,853	2.8%
Hammersmith & Fulham	3,804	5,242	1,438	2.2%
Wandsworth	821	1,911	1,090	1.7%
Redbridge	845	1,875	1,030	1.6%
Lewisham	250	1,163	913	1.4%
Barnet	1,154	1,938	784	1.2%
Kingston-upon-Thames	907	1,680	773	1.2%
Haringey	228	887	659	1.0%
Bromley	318	891	573	0.9%
Bexley	258	692	434	0.7%
Enfield	461	953	492	0.7%
Richmond-upon-Thames	1,216	1,646	430	0.7%
Waltham Forest	444	747	303	0.5%
Havering	538	790	252	0.4%
Merton	482	772	290	0.4%
Sutton	188	481	293	0.4%
Barking & Dagenham	447	663	216	0.3%
Harrow	787	914	127	0.2%
Kensington & Chelsea	15,027	15,119	92	0.1%
London	**120,765**	**186,483**	**65,718**	

Projected supply change in 2041, by local authority

Local authority	Proportion of total London stock change	Total stock change: 2016 – 2041
Westminster	9.1%	5,816
Tower Hamlets	9.0%	5,754
City of London	8.7%	5,554
Hillingdon	7.2%	4,599
Hounslow	6.4%	4,121
Newham	6.3%	4,016
Hackney	5.6%	3,572
Southwark	5.2%	3,354
Lambeth	5.0%	3,217
Greenwich	4.4%	2,830
Brent	4.0%	2,560
Camden	4.0%	2,559
Islington	4.0%	2,547
Croydon	3.0%	1,913
Ealing	2.8%	1,809
Hammersmith & Fulham	2.2%	1,404
Wandsworth	1.7%	1,064
Redbridge	1.6%	1,006
Lewisham	1.4%	892
Barnet	1.2%	766
Kingston-upon-Thames	1.2%	755
Haringey	1.0%	643
Bromley	0.9%	560
Enfield	0.7%	480
Bexley	0.7%	424
Richmond-upon-Thames	0.7%	420
Waltham Forest	0.5%	296
Sutton	0.4%	286
Merton	0.4%	283
Havering	0.4%	246
Barking & Dagenham	0.3%	211
Harrow	0.2%	124
Kensington & Chelsea	0.1%	90
London		**64,171**

Model 6: Actual AMPM supply changes: 1989 – 2015, plus total AMPM pipeline

For this model, the change in supply from 1989 as well as the upcoming pipeline have been incorporated to project future supply to boroughs.

Local Authority	AMPM stock estimate: 1989	AMPM stock estimate: 2015 plus total pipeline	Change: 1989 – current+pipeline	Proportion of total London stock change
Tower Hamlets	1,743	10,810	9,067	9.0%
City of London	1,009	9,872	8,863	8.8%
Hillingdon	5,294	13,660	8,366	8.3%
Westminster	35,092	42,140	7,048	7.0%
Newham	471	6,990	6,519	6.5%
Southwark	680	7,223	6,543	6.5%
Lambeth	526	6,712	6,186	6.2%
Hounslow	719	6,677	5,958	5.9%
Camden	12,853	18,719	5,866	5.8%
Hackney	470	4,779	4,309	4.3%
Islington	1,459	5,508	4,049	4.0%
Greenwich	351	3,552	3,201	3.2%
Brent	994	4,024	3,030	3.0%
Hammersmith & Fulham	2,307	5,242	2,935	2.9%
Ealing	664	3,453	2,789	2.8%
Croydon	1,381	4,005	2,624	2.6%
Wandsworth	156	1,911	1,755	1.7%
Barnet	364	1,938	1,574	1.6%
Kingston-upon-Thames	253	1,680	1,427	1.4%
Redbridge	552	1,875	1,323	1.3%
Lewisham	281	1,163	882	0.9%
Richmond-upon-Thames	829	1,646	817	0.8%
Enfield	245	953	708	0.7%
Haringey	239	887	648	0.6%
Barking & Dagenham	33	663	630	0.6%
Bexley	116	692	576	0.6%
Merton	140	772	632	0.6%
Bromley	372	891	519	0.5%
Harrow	453	914	461	0.5%
Havering	283	790	507	0.5%
Sutton	79	481	402	0.4%
Waltham Forest	342	747	405	0.4%
Kensington & Chelsea	15,290	15,119	-171	-0.2%
London	**86,035**	**186,483**	**100,448**	

Projected supply change in 2041, by local authority

Local authority	Proportion of total London stock change	Total stock change: 2016 – 2041
Tower Hamlets	9.0%	5,792
City of London	8.8%	5,662
Hillingdon	8.3%	5,345
Westminster	7.0%	4,503
Southwark	6.5%	4,180
Newham	6.5%	4,165
Lambeth	6.2%	3,952
Hounslow	5.9%	3,806
Camden	5.8%	3,747
Hackney	4.3%	2,753
Islington	4.0%	2,587
Greenwich	3.2%	2,045
Brent	3.0%	1,936
Hammersmith & Fulham	2.9%	1,875
Ealing	2.8%	1,782
Croydon	2.6%	1,676
Wandsworth	1.7%	1,121
Barnet	1.6%	1,006
Kingston-upon-Thames	1.4%	912
Redbridge	1.3%	845
Lewisham	0.9%	563
Richmond-upon-Thames	0.8%	522
Enfield	0.7%	452
Haringey	0.6%	414
Merton	0.6%	404
Barking & Dagenham	0.6%	402
Bexley	0.6%	368
Bromley	0.5%	332
Havering	0.5%	324
Harrow	0.5%	295
Waltham Forest	0.4%	259
Sutton	0.4%	257
Kensington & Chelsea	-0.2%	-109
London		**64,171**

Comparison between alternate methods of projecting borough level supply

The following table outlines the variances between different methods of projecting future supply needs based upon the use of either pipeline or historical data on visitor accommodation stock, sorted in descending order based upon the central scenario.

Proportion of London stock increase, 2016 – 2041

Projection Method	Pipeline Increase	Historic Stock Increase			Historic and Pipeline	
	Central Scenario	Model: 2010 – 2015	Model: 2000 – 2015	Model: 1989 – 2015	Model: 2010 – 2015, plus total pipeline	Model: 1989 – 2015, plus total pipeline
Westminster	9.6%	7.2%	4.6%	4.6%	9.1%	7.0%
Tower Hamlets	8.9%	8.1%	9.2%	8.8%	9.0%	9.0%
Hillingdon	8.5%	2.9%	6.5%	7.8%	7.2%	8.3%
Hounslow	7.7%	5.5%	5.9%	5.2%	6.4%	5.9%
City of London	7.0%	9.8%	11.1%	9.4%	8.7%	8.8%
Hackney	5.8%	3.8%	2.9%	2.6%	5.6%	4.3%
Lambeth	5.2%	4.0%	6.7%	6.8%	5.0%	6.2%
Newham	5.2%	8.8%	9.5%	7.6%	6.3%	6.5%
Brent	4.5%	4.1%	2.4%	2.2%	4.0%	3.0%
Islington	4.2%	2.4%	3.3%	3.5%	4.0%	4.0%
Croydon	3.9%	2.0%	2.4%	1.9%	3.0%	2.6%
Greenwich	3.8%	6.7%	3.4%	2.9%	4.4%	3.2%
Ealing	3.5%	1.7%	2.2%	2.3%	2.8%	2.8%
Southwark	3.1%	10.2%	9.9%	9.4%	5.2%	6.5%
Camden	2.7%	7.3%	5.4%	8.6%	4.0%	5.8%
Hammersmith & Fulham	2.2%	2.7%	3.2%	3.7%	2.2%	2.9%
Lewisham	1.9%	0.7%	0.3%	0.2%	1.4%	0.9%
Redbridge	1.7%	1.7%	1.4%	1.2%	1.6%	1.3%
Haringey	1.5%	0.0%	0.0%	0.0%	1.0%	0.6%
Barnet	1.3%	1.0%	2.0%	1.8%	1.2%	1.6%
Wandsworth	1.2%	2.8%	2.4%	2.2%	1.7%	1.7%
Kingston-upon-Thames	1.2%	1.2%	2.1%	1.6%	1.2%	1.4%
Bromley	0.9%	0.8%	0.3%	0.2%	0.9%	0.5%
Harrow	0.6%	-0.9%	0.0%	0.3%	0.2%	0.5%
Havering	0.6%	0.1%	0.4%	0.5%	0.4%	0.5%
Merton	0.6%	0.1%	0.4%	0.7%	0.4%	0.6%
Bexley	0.5%	0.9%	0.4%	0.6%	0.7%	0.6%
Enfield	0.5%	1.5%	1.3%	0.9%	0.7%	0.7%
Sutton	0.5%	0.0%	0.0%	0.2%	0.4%	0.4%
Waltham Forest	0.4%	0.7%	0.6%	0.4%	0.5%	0.4%
Kensington & Chelsea	0.3%	-0.1%	-1.8%	-0.5%	0.1%	-0.2%
Barking & Dagenham	0.3%	0.4%	0.4%	0.9%	0.3%	0.6%
Richmond-upon-Thames	0.2%	1.7%	1.3%	1.3%	0.7%	0.8%

Total stock increase, 2015 – 2041

Projection Method	Pipeline Increase	Historic Stock Increase			Historic and Pipeline	
	Central Scenario	Model: 2010 – 2015	Model: 2000 – 2015	Model: 1989 – 2015	Model: 2010 – 2015, plus total pipeline	Model: 1989 – 2015, plus total pipeline
Westminster	6,136	4,645	2,925	2,951	5,816	4,503
Tower Hamlets	5,693	5,201	5,910	5,629	5,754	5,792
Hillingdon	5,461	1,877	4,178	5,021	4,599	5,345
Hounslow	4,926	3,549	3,791	3,331	4,121	3,806
City of London	4,521	6,300	7,097	6,021	5,554	5,662
Hackney	3,733	2,453	1,876	1,647	3,572	2,753
Lambeth	3,368	2,567	4,309	4,356	3,217	3,952
Newham	3,345	5,660	6,078	4,877	4,016	4,165
Brent	2,894	2,621	1,517	1,417	2,560	1,936
Islington	2,684	1,552	2,091	2,268	2,547	2,587
Croydon	2,476	1,290	1,559	1,251	1,913	1,676
Greenwich	2,464	4,300	2,208	1,889	2,830	2,045
Ealing	2,234	1,099	1,400	1,505	1,809	1,782
Southwark	1,981	6,538	6,381	6,025	3,354	4,180
Camden	1,760	4,662	3,463	5,522	2,559	3,747
Hammersmith & Fulham	1,430	1,716	2,080	2,393	1,404	1,875
Lewisham	1,214	473	201	131	892	563
Redbridge	1,093	1,123	894	748	1,006	845
Haringey	970	30	15	-2	643	414
Barnet	847	667	1,266	1,178	766	1,006
Kingston-upon-Thames	772	767	1,329	1,052	755	912
Wandsworth	760	1,806	1,514	1,434	1,064	1,121
Bromley	562	489	214	110	560	332
Harrow	383	-566	-19	197	124	295
Merton	380	57	265	428	283	404
Havering	378	40	282	318	246	324
Bexley	316	590	285	379	424	368
Enfield	309	965	816	600	480	452
Sutton	309	0	-16	130	286	257
Waltham Forest	280	419	367	270	296	259
Barking & Dagenham	169	268	236	588	211	402
Kensington & Chelsea	166	-94	-1,161	-347	90	-109
Richmond-upon-Thames	157	1,106	821	854	420	522
TOTAL	**64,171**	**64,171**	**64,171**	**64,171**	**64,171**	**64,171**

Borough demand level projections

As a sensitivity to the borough level projections, based on the active and potential pipeline, similar scenarios incorporating the historic series can be used to given an alternative assessment of the likely spatial demand for visitor accommodation. The following table outlines the net and gross demand projections by borough, based on both the pipeline and the historic + pipeline series (1989 – 2015).

Method >>>	Pipeline (Central Scenario)		Historic + Pipeline (Model 6)	
Local authority	Proportion of total London increase	Total demand increase: 2016–2041	Proportion of total London increase	Total demand increase: 2016 – 2041
Westminster	9.6%	5,559	7.0%	4,079
Tower Hamlets	8.9%	5,158	9.0%	5,248
Hillingdon	8.5%	4,947	8.3%	4,842
Hounslow	7.7%	4,463	5.9%	3,449
City of London	7.0%	4,096	8.8%	5,130
Hackney	5.8%	3,382	4.3%	2,494
Lambeth	5.2%	3,051	6.2%	3,580
Newham	5.2%	3,031	6.5%	3,773
Brent	4.5%	2,622	3.0%	1,754
Islington	4.2%	2,431	4.0%	2,344
Croydon	3.9%	2,243	2.6%	1,519
Greenwich	3.8%	2,233	3.2%	1,853
Ealing	3.5%	2,024	2.8%	1,614
Southwark	3.1%	1,795	6.5%	3,787
Camden	2.7%	1,595	5.8%	3,395
Hammersmith & Fulham	2.2%	1,295	2.9%	1,699
Lewisham	1.9%	1,100	0.9%	511
Redbridge	1.7%	990	1.3%	766
Haringey	1.5%	879	0.6%	375
Barnet	1.3%	767	1.6%	911
Wandsworth	1.2%	688	1.7%	1,016
Kingston-upon-Thames	1.2%	700	1.4%	826
Bromley	0.9%	510	0.5%	300
Harrow	0.6%	347	0.5%	267
Havering	0.6%	342	0.5%	293
Merton	0.6%	345	0.6%	366
Bexley	0.5%	286	0.6%	333
Enfield	0.5%	280	0.7%	410
Sutton	0.5%	280	0.4%	233
Waltham Forest	0.4%	254	0.4%	234
Kensington & Chelsea	0.3%	150	-0.2%	-99
Barking & Dagenham	0.3%	153	0.6%	365
Richmond-upon-Thames	0.2%	143	0.8%	473
TOTAL		58,140		58,140

Change in total gross demand by borough

Method >>>	Pipeline (Central Scenario)		Historic + Pipeline (Model 6)	
Local authority	Proportion of total London increase	Total demand increase: 2016 – 2041	Proportion of total London increase	Total demand increase: 2016 – 2041
Westminster	9.6%	7,365	7.0%	5,404
Tower Hamlets	8.9%	6,832	9.0%	6,952
Hillingdon	8.5%	6,554	8.3%	6,415
Hounslow	7.7%	5,912	5.9%	4,568
City of London	7.0%	5,426	8.8%	6,796
Hackney	5.8%	4,480	4.3%	3,304
Lambeth	5.2%	4,042	6.2%	4,743
Newham	5.2%	4,015	6.5%	4,998
Brent	4.5%	3,474	3.0%	2,323
Islington	4.2%	3,221	4.0%	3,105
Croydon	3.9%	2,971	2.6%	2,012
Greenwich	3.8%	2,958	3.2%	2,454
Ealing	3.5%	2,681	2.8%	2,138
Southwark	3.1%	2,378	6.5%	5,017
Camden	2.7%	2,113	5.8%	4,498
Hammersmith & Fulham	2.2%	1,716	2.9%	2,250
Lewisham	1.9%	1,457	0.9%	676
Redbridge	1.7%	1,312	1.3%	1,014
Haringey	1.5%	1,165	0.6%	497
Barnet	1.3%	1,017	1.6%	1,207
Wandsworth	1.2%	912	1.7%	1,346
Kingston-upon-Thames	1.2%	927	1.4%	1,094
Bromley	0.9%	675	0.5%	398
Harrow	0.6%	460	0.5%	353
Havering	0.6%	453	0.5%	389
Merton	0.6%	456	0.6%	485
Bexley	0.5%	379	0.6%	442
Enfield	0.5%	371	0.7%	543
Sutton	0.5%	371	0.4%	308
Waltham Forest	0.4%	336	0.4%	311
Kensington & Chelsea	0.3%	199	-0.2%	-131
Barking & Dagenham	0.3%	203	0.6%	483
Richmond-upon-Thames	0.2%	189	0.8%	626
TOTAL		77,019		77,019

Spatial comparison of projections: Pipeline compared to historic + pipeline

Local Authority	Inner/Outer London	Pipeline based projection: Proportion of total London increase	Historic + Pipeline based projection: Proportion of total London increase	Percentage point difference: Pipeline compared to historic + pipeline
Westminster	Inner	9.6%	7.0%	+2.6
Hounslow	Outer	7.7%	5.9%	+1.8
Hackney	Inner	5.8%	4.3%	+1.5
Brent	Outer	4.5%	3.0%	+1.5
Croydon	Outer	3.9%	2.6%	+1.3
Lewisham	Inner	1.9%	0.9%	+1.0
Haringey	Inner	1.5%	0.6%	+0.9
Ealing	Outer	3.5%	2.8%	+0.7
Greenwich	Inner	3.8%	3.2%	+0.6
Kensington & Chelsea	Inner	0.3%	-0.2%	+0.5
Redbridge	Outer	1.7%	1.3%	+0.4
Bromley	Outer	0.9%	0.5%	+0.4
Hillingdon	Outer	8.5%	8.3%	+0.2
Islington	Inner	4.2%	4.0%	+0.2
Harrow	Outer	0.6%	0.5%	+0.1
Havering	Outer	0.6%	0.5%	+0.1
Sutton	Outer	0.5%	0.4%	+0.1
Merton	Outer	0.6%	0.6%	0.0
Waltham Forest	Outer	0.4%	0.4%	0.0
Bexley	Outer	0.5%	0.6%	-0.1
Tower Hamlets	Inner	8.9%	9.0%	-0.1
Kingston-upon-Thames	Outer	1.2%	1.4%	-0.2
Enfield	Outer	0.5%	0.7%	-0.2
Barking & Dagenham	Outer	0.3%	0.6%	-0.3
Barnet	Outer	1.3%	1.6%	-0.3
Wandsworth	Inner	1.2%	1.7%	-0.5
Richmond-upon-Thames	Outer	0.2%	0.8%	-0.6
Hammersmith & Fulham	Inner	2.2%	2.9%	-0.7
Lambeth	Inner	5.2%	6.2%	-1.0
Newham	Inner	5.2%	6.5%	-1.3
City of London	Inner	7.0%	8.8%	-1.8
Camden	Inner	2.7%	5.8%	-3.1
Southwark	Inner	3.1%	6.5%	-3.4

Examining percentage point differences between solely using the active pipeline rather than using a comparison of the historical change in supply and the pipeline can enable a review of whether the pipeline of development may lead to a shift away from new developments being focussed solely on inner London; therefore a dispersal towards outer London. Evidence here is mixed, four of the top ten local authorities based on positive percentage point difference between the pipeline and the historic + pipeline are all in outer London. However the six local authorities with the largest negative percentage point difference are all in inner London.

Appendix E: Maps of serviced accommodation supply by borough

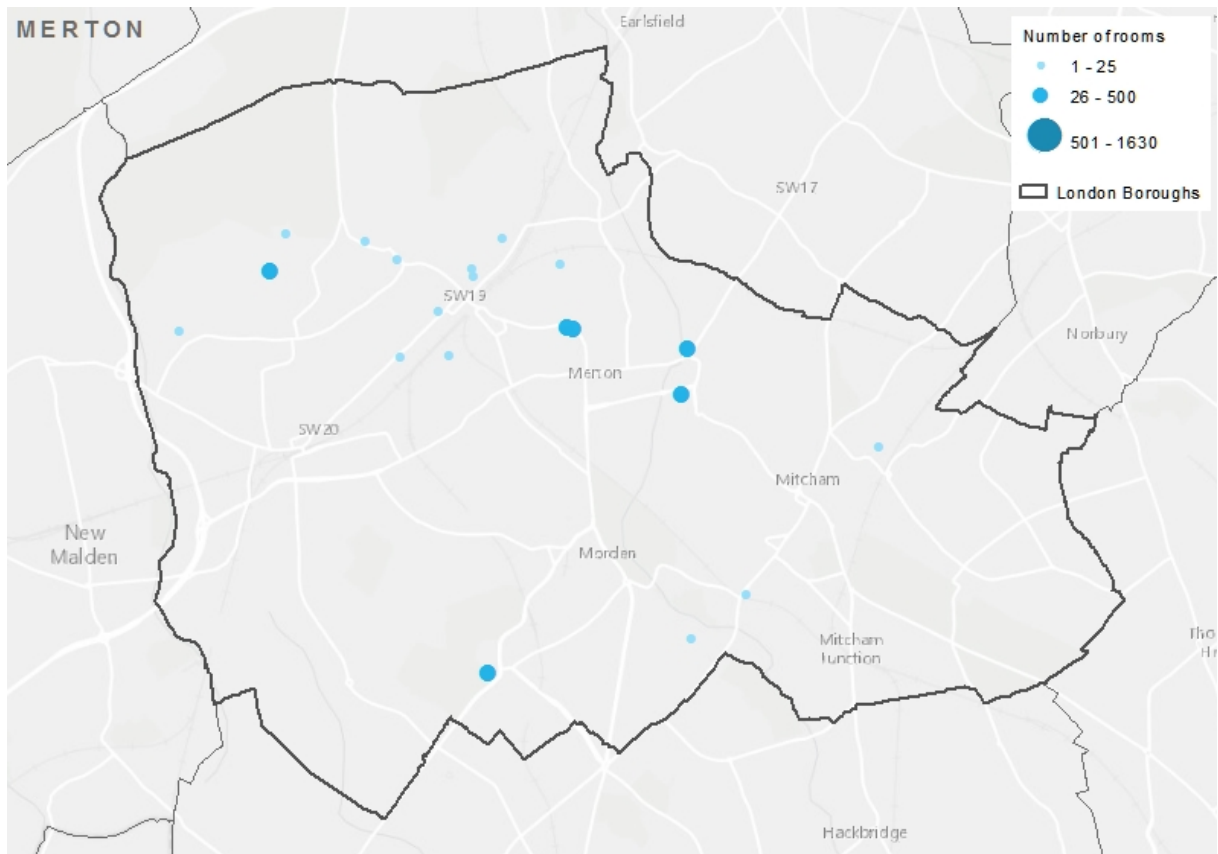This section contains maps of serviced accommodation for each London borough.
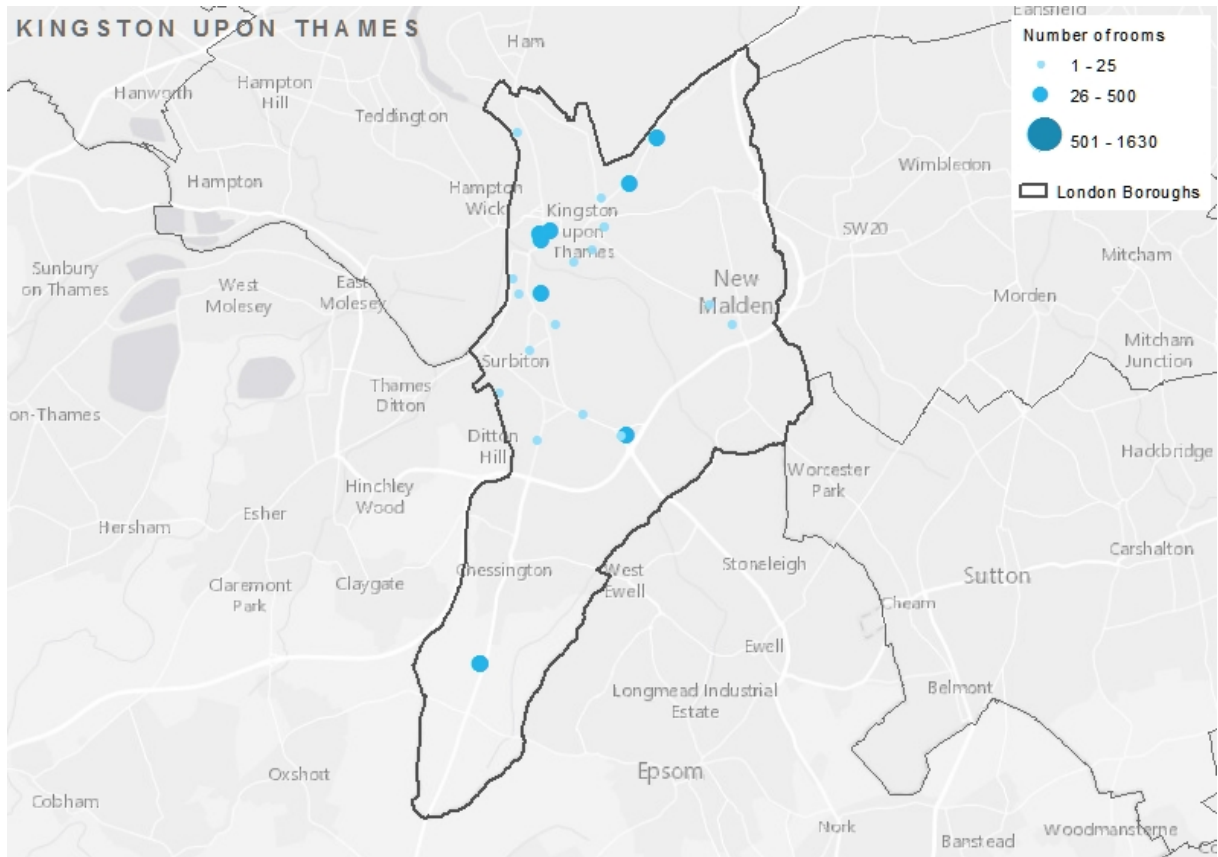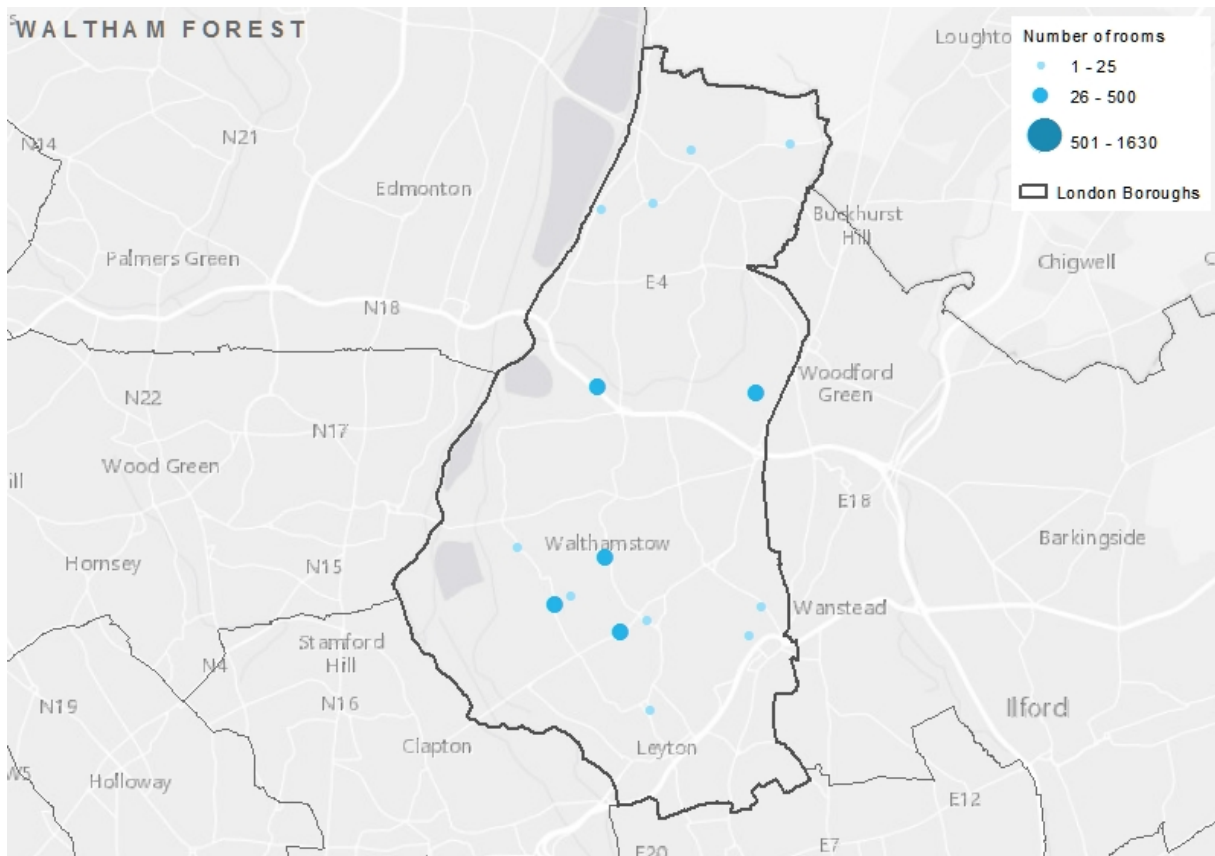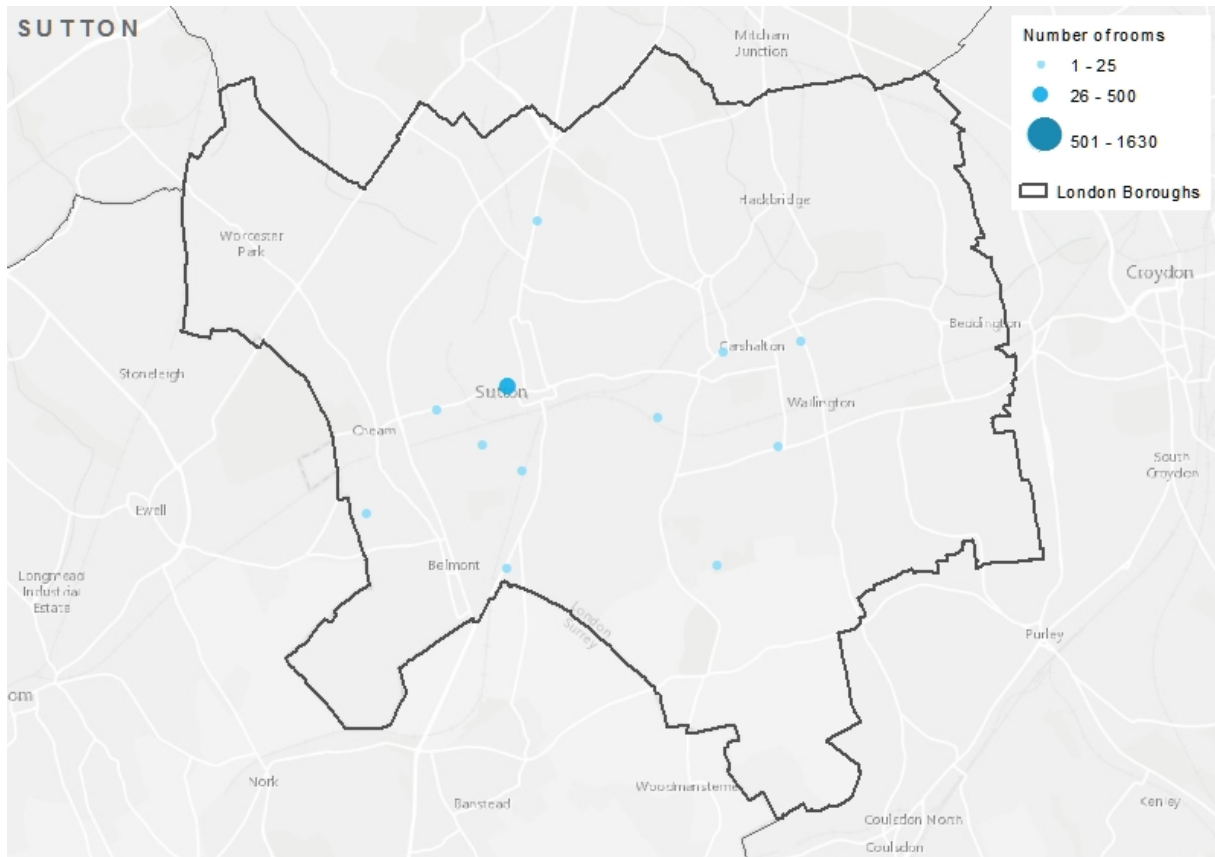
Inner London
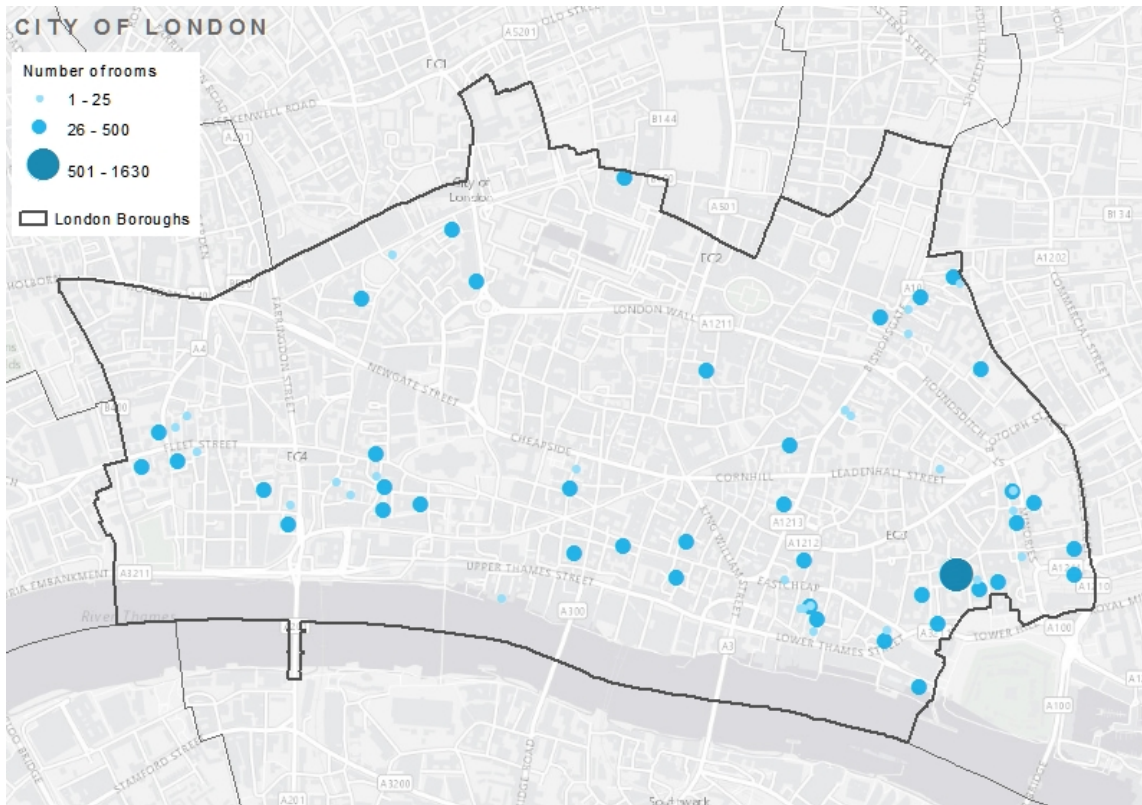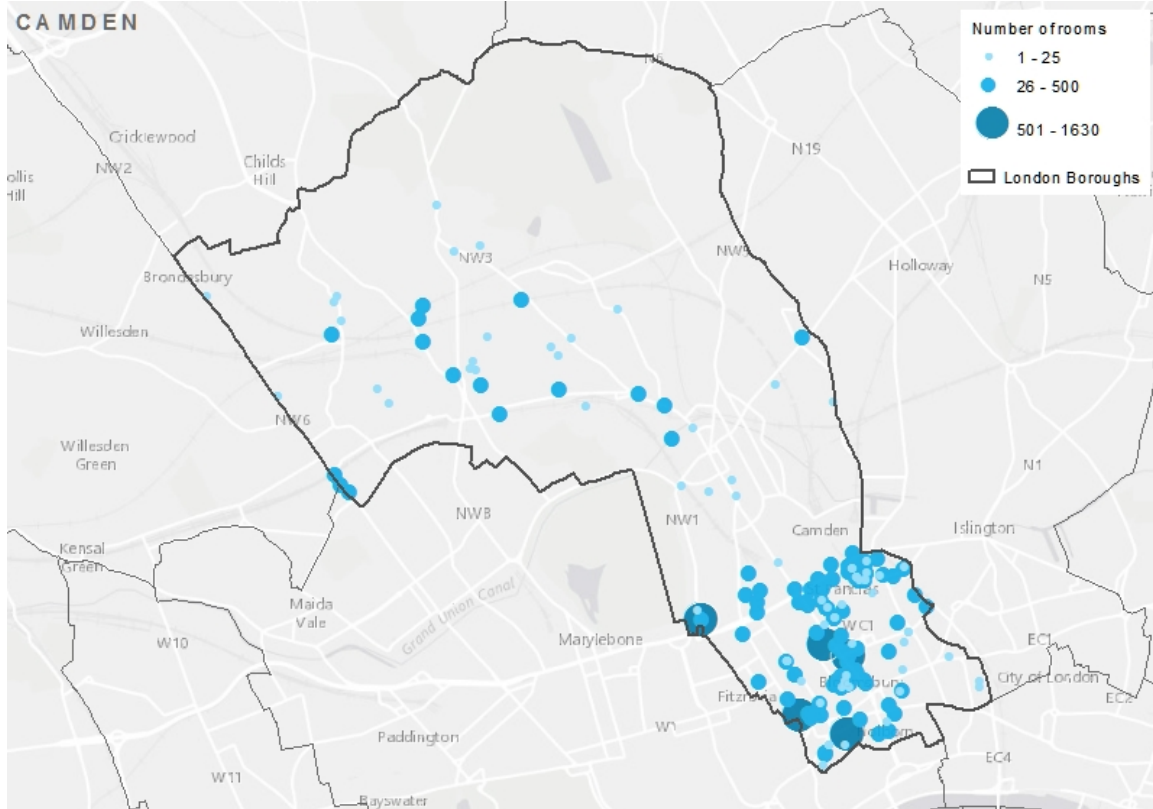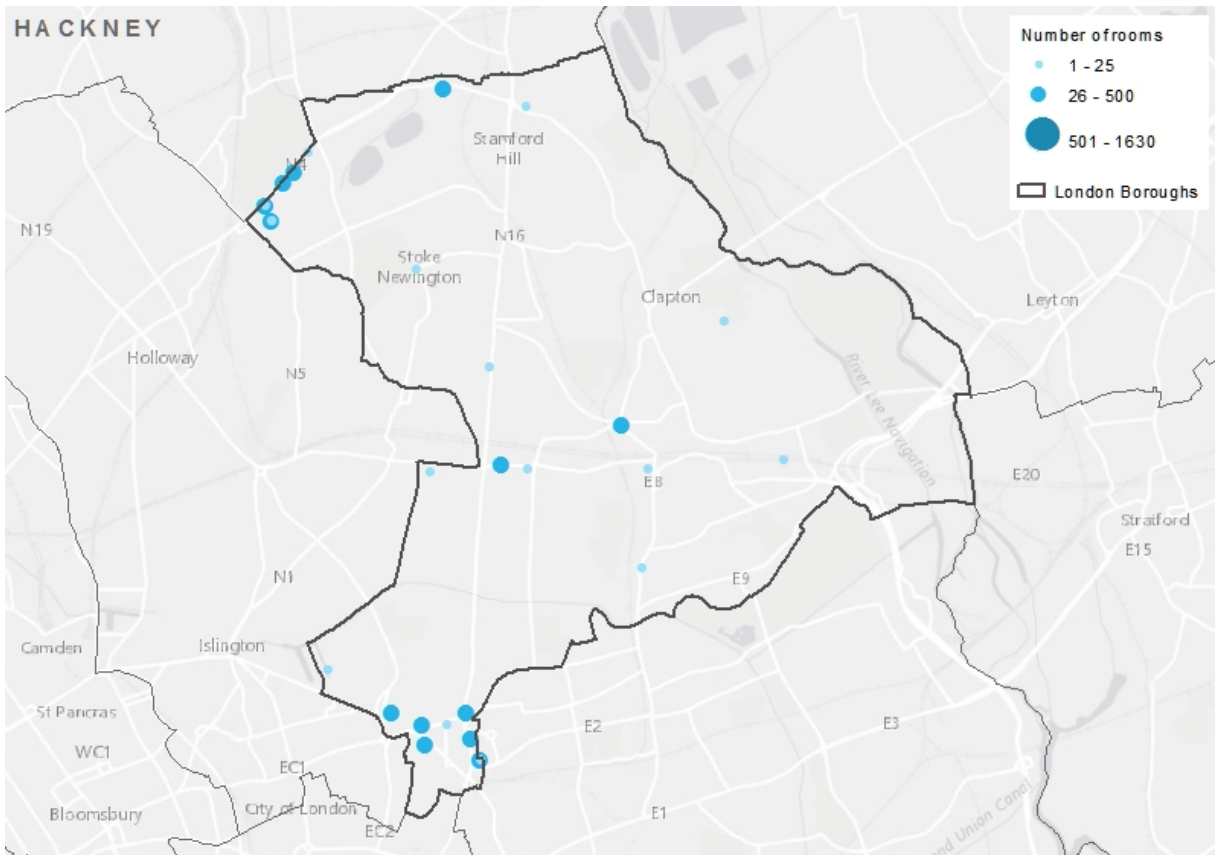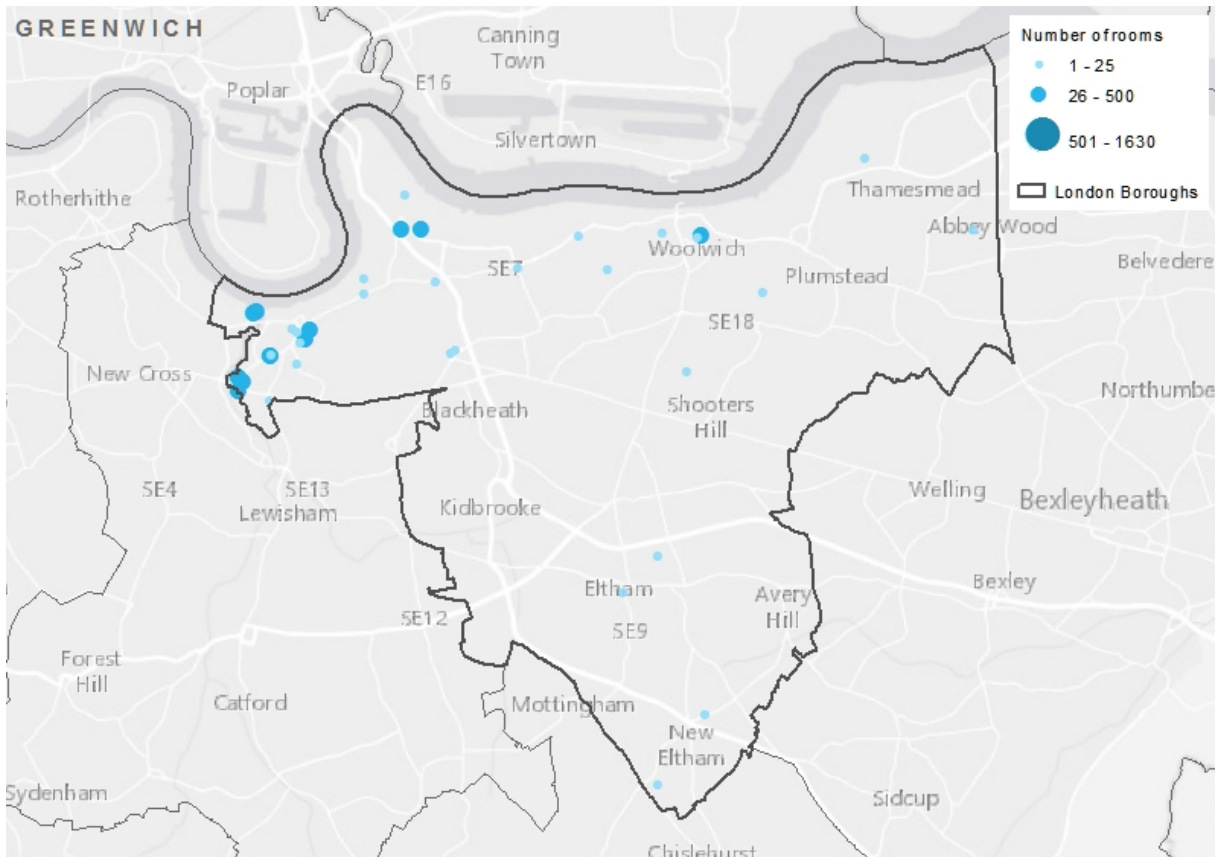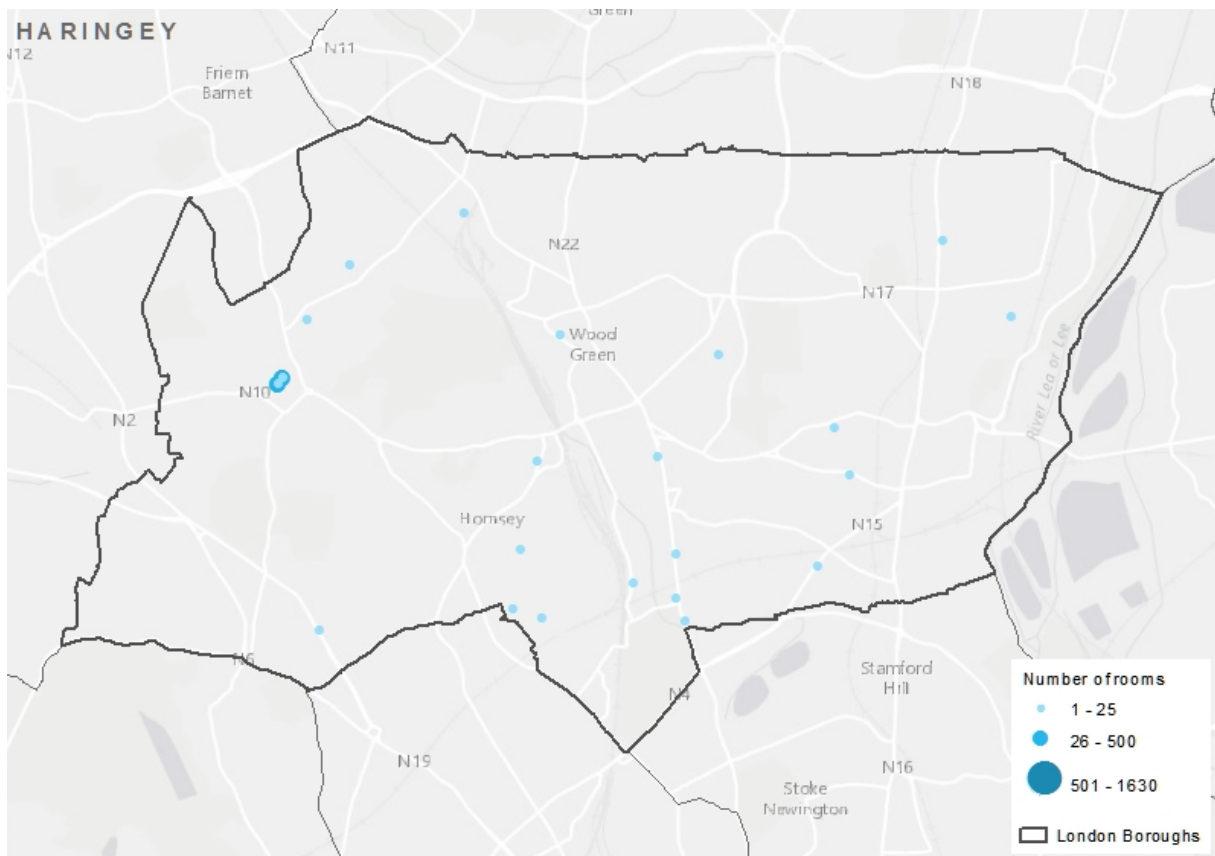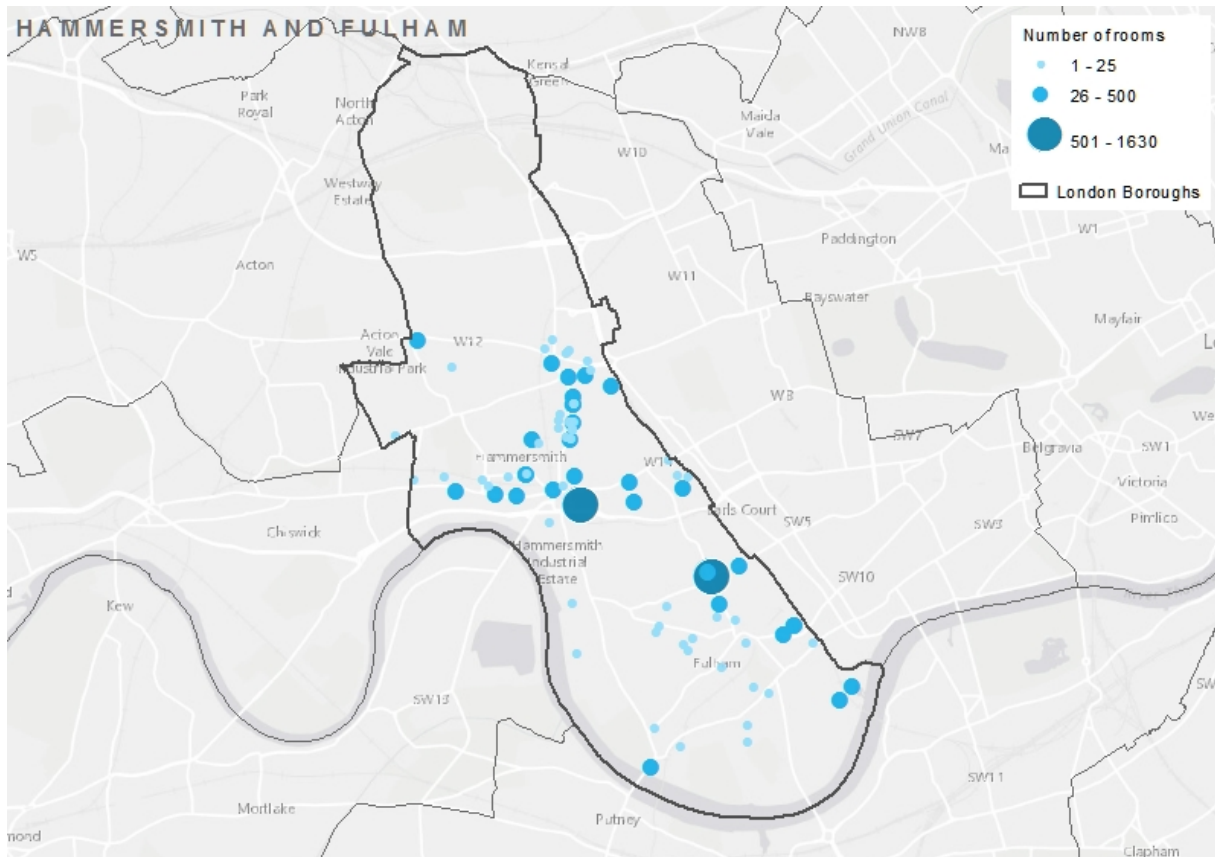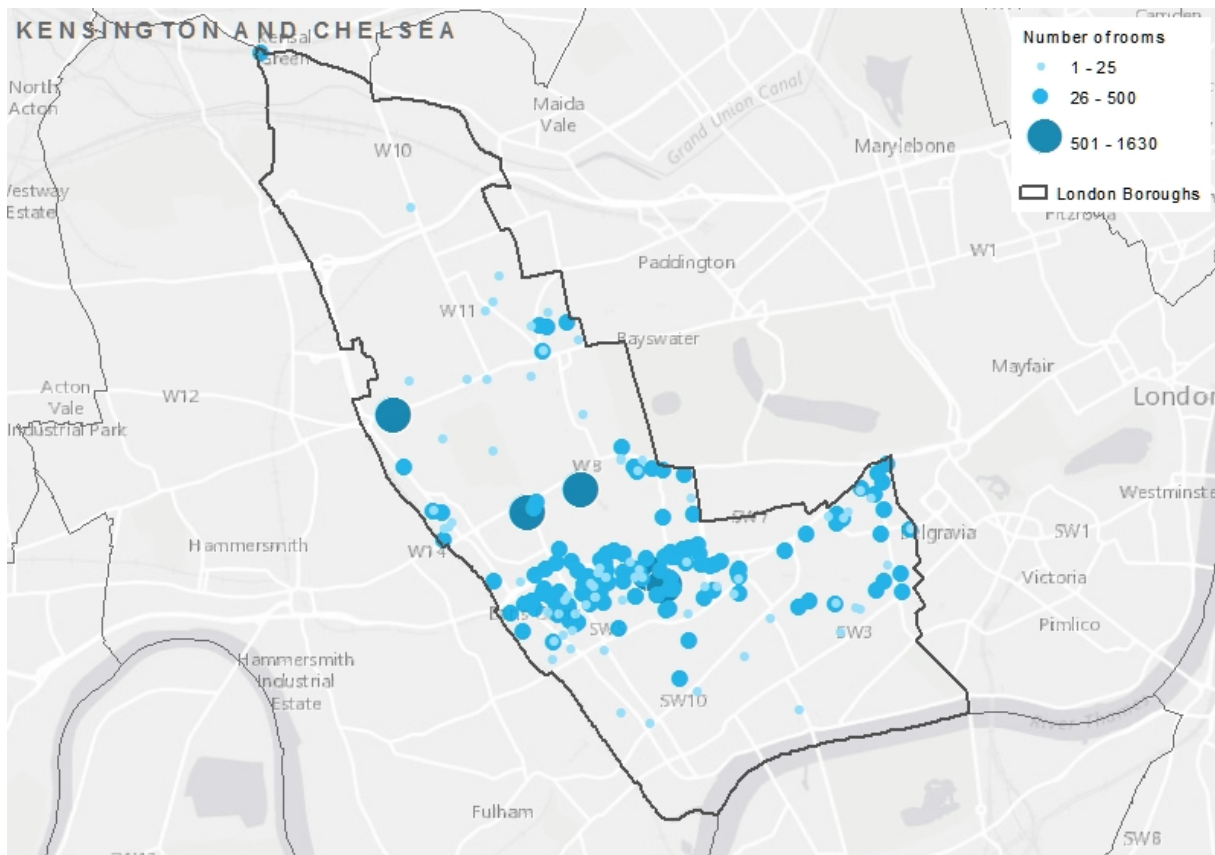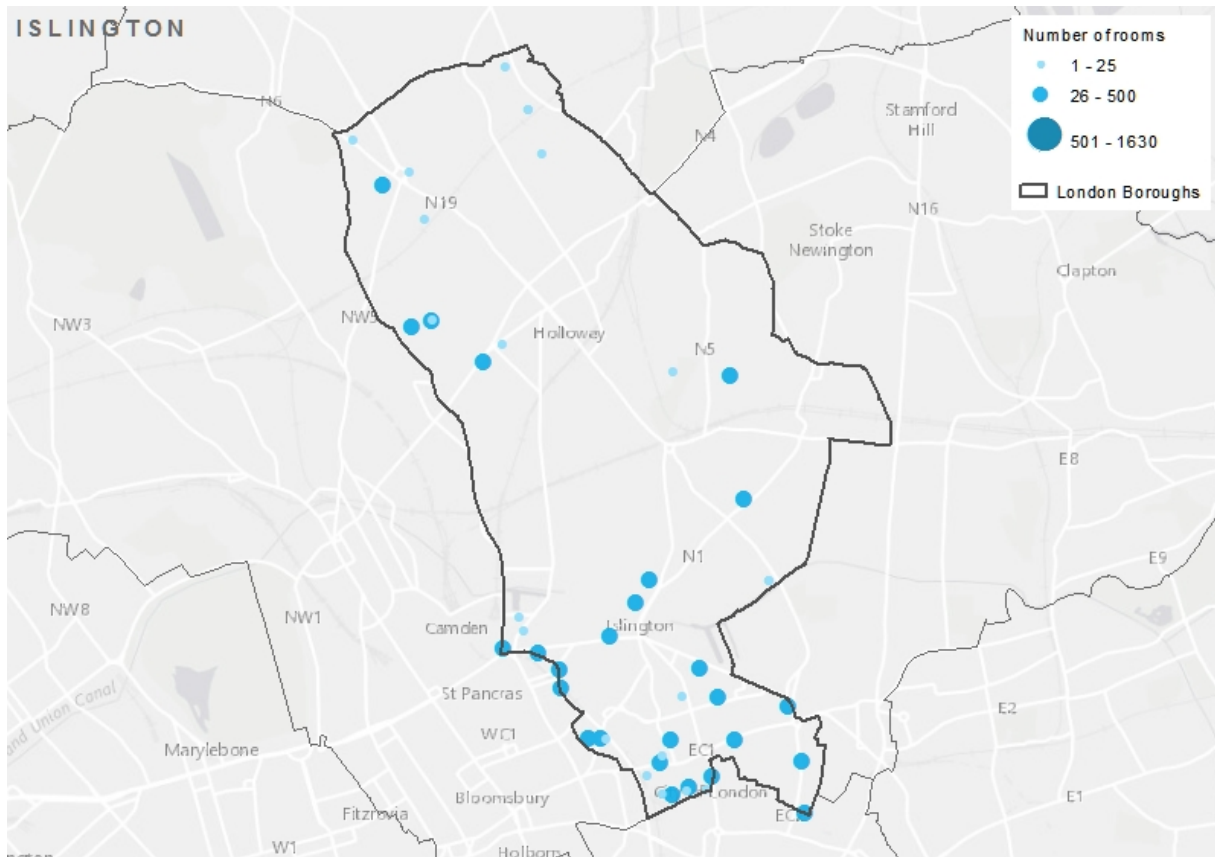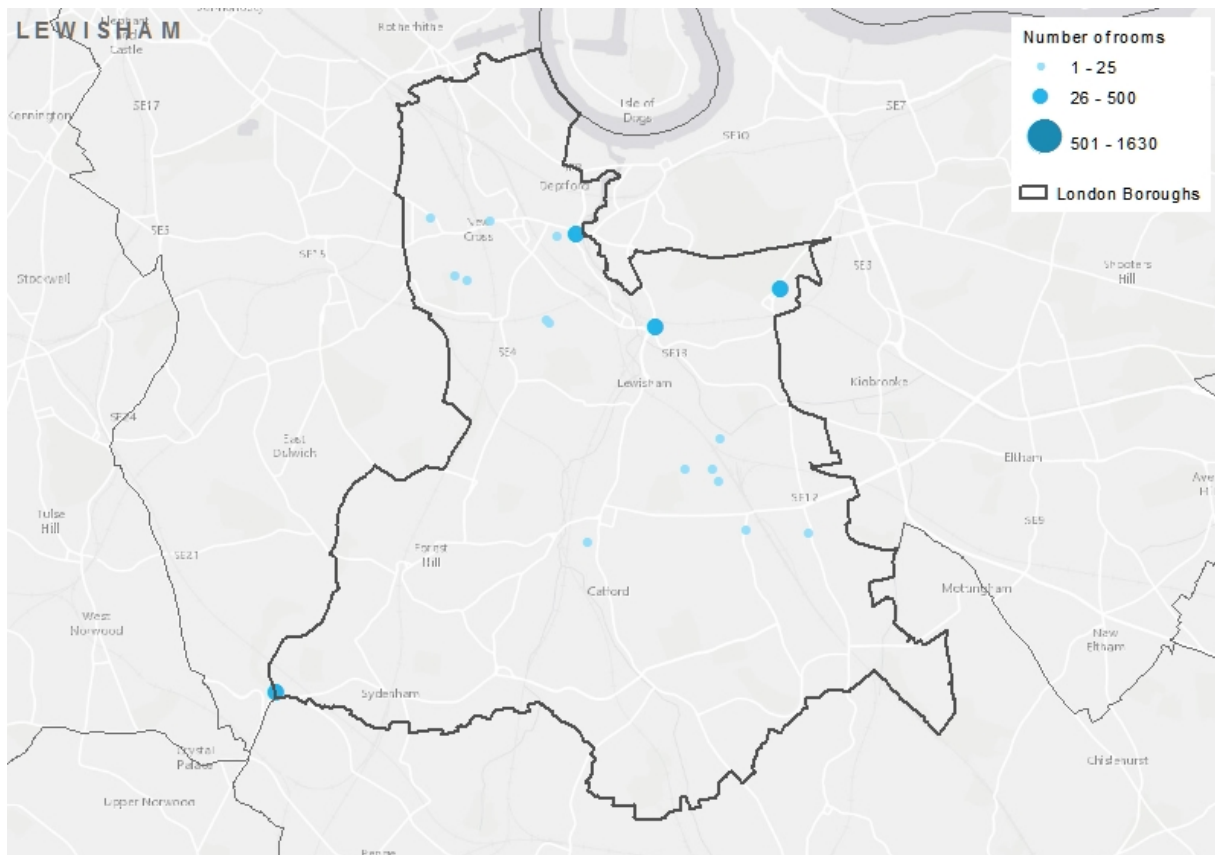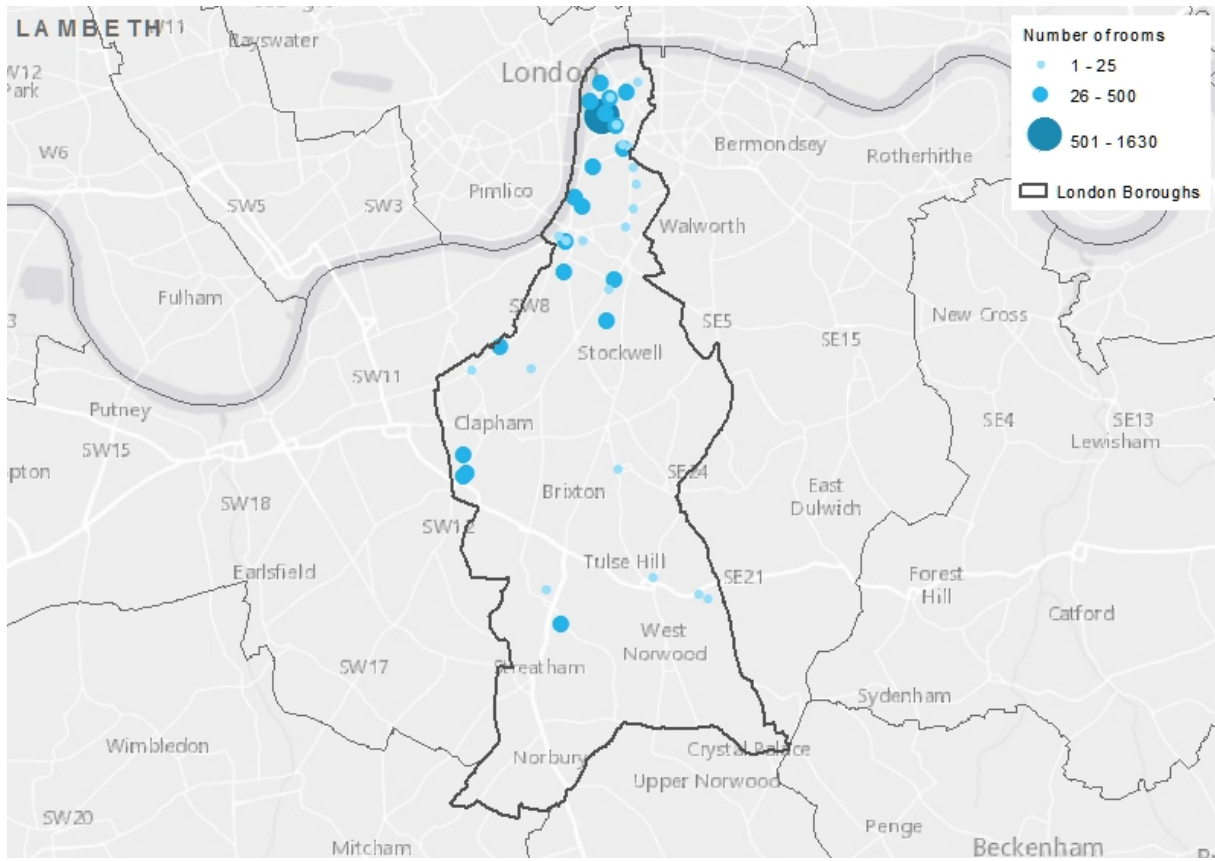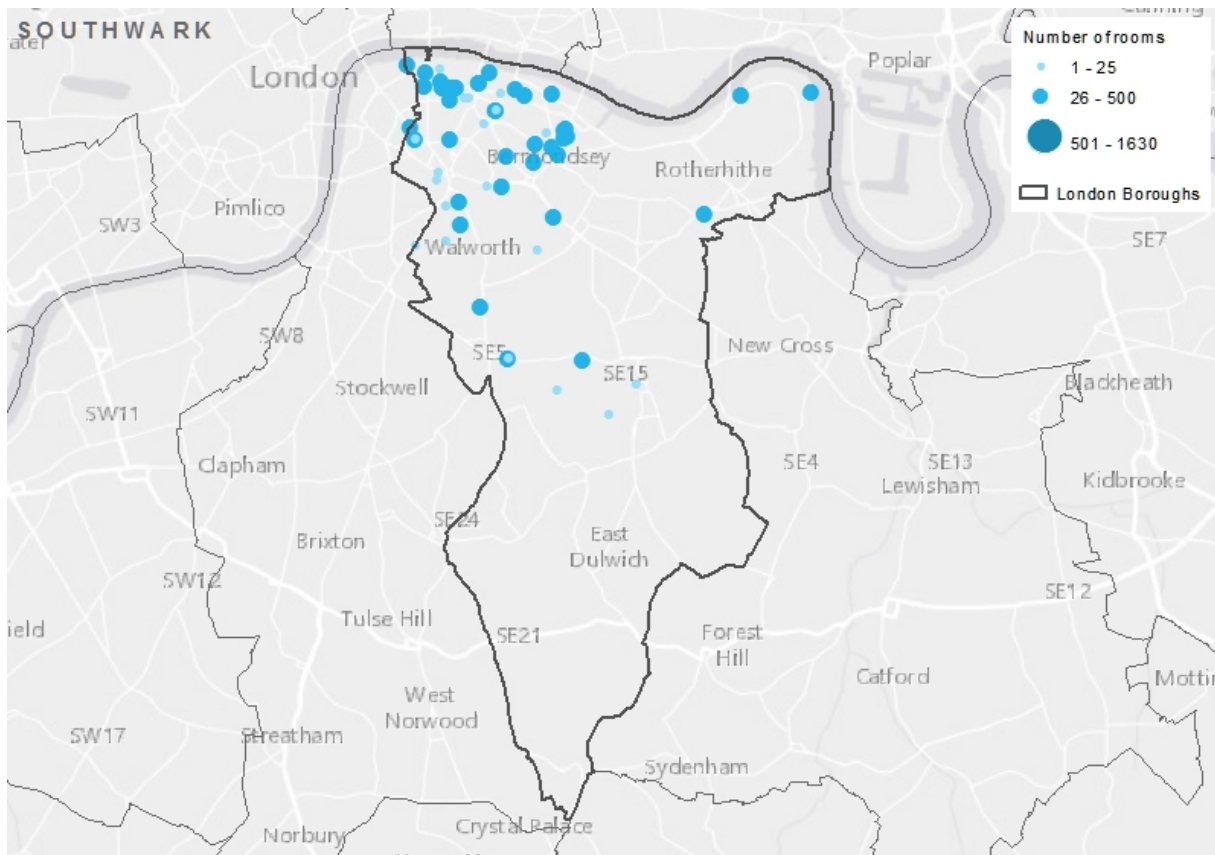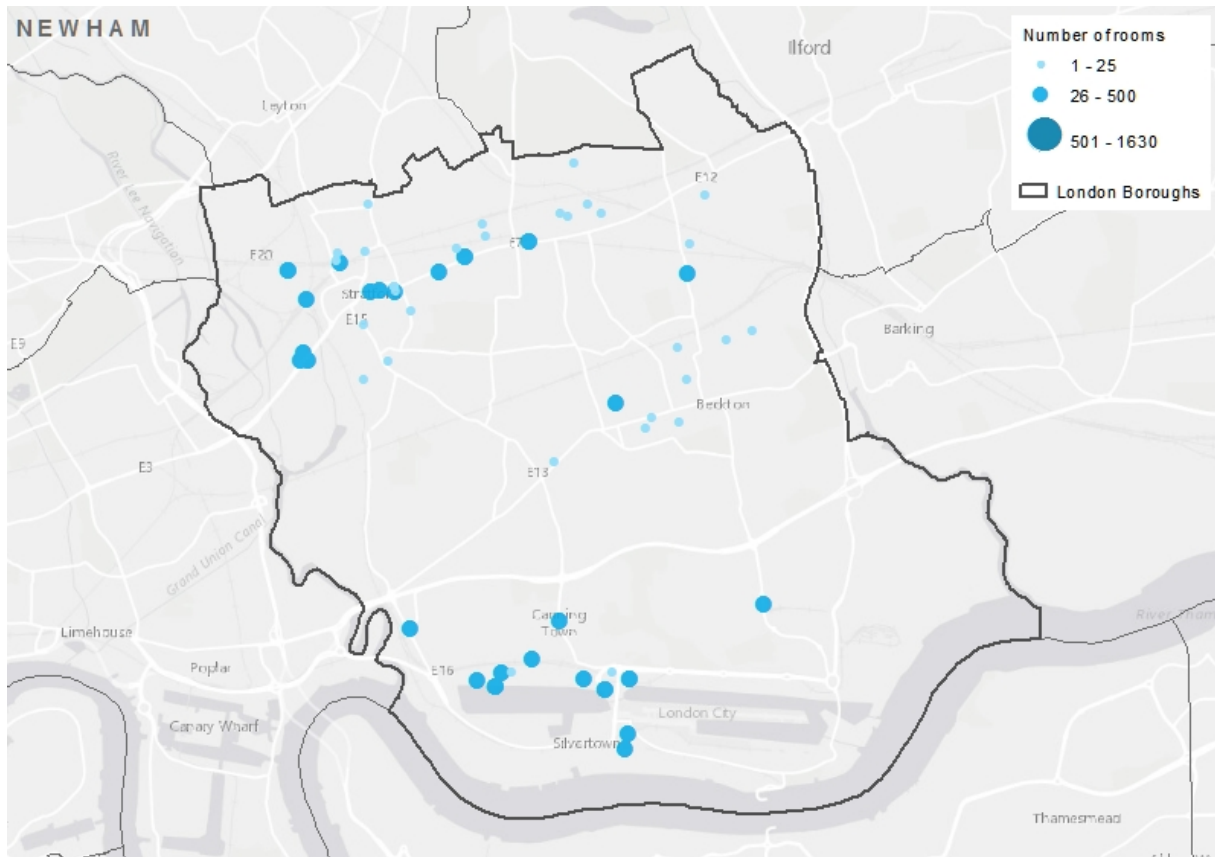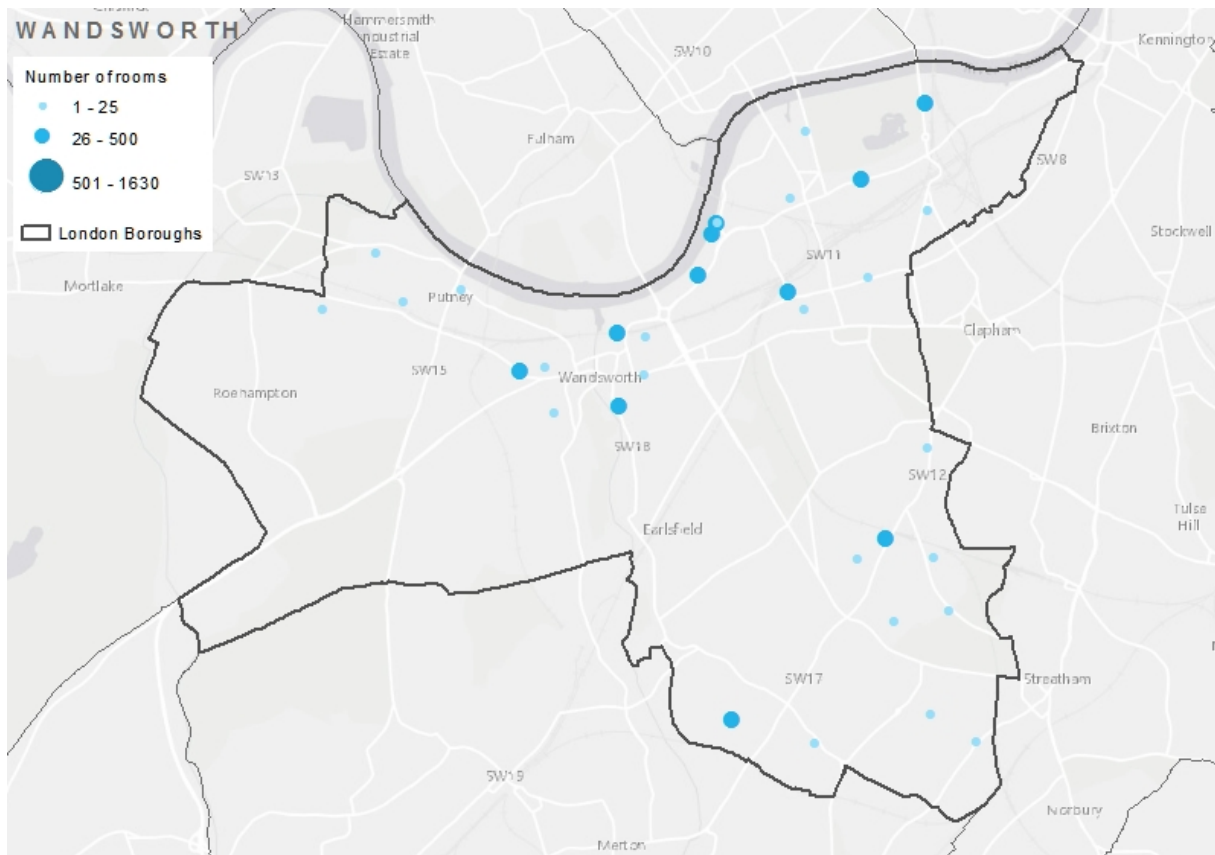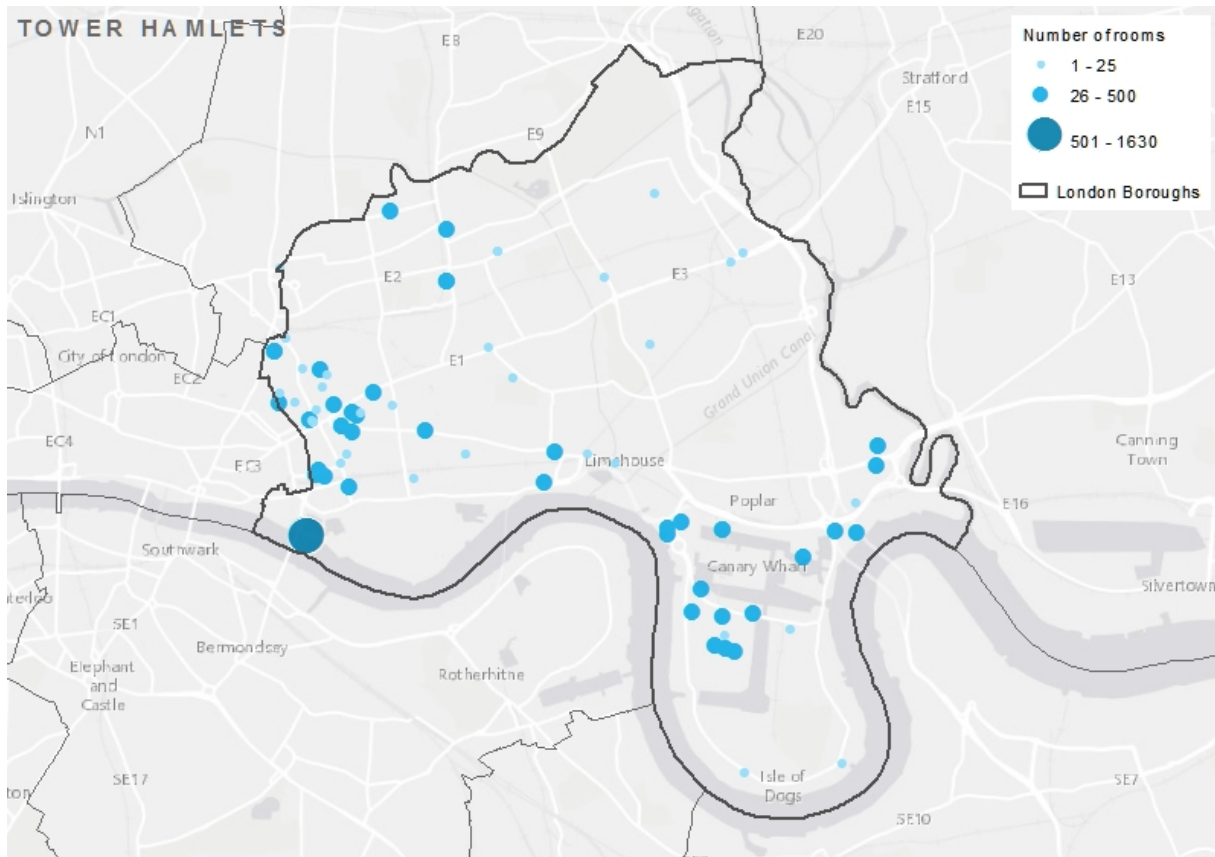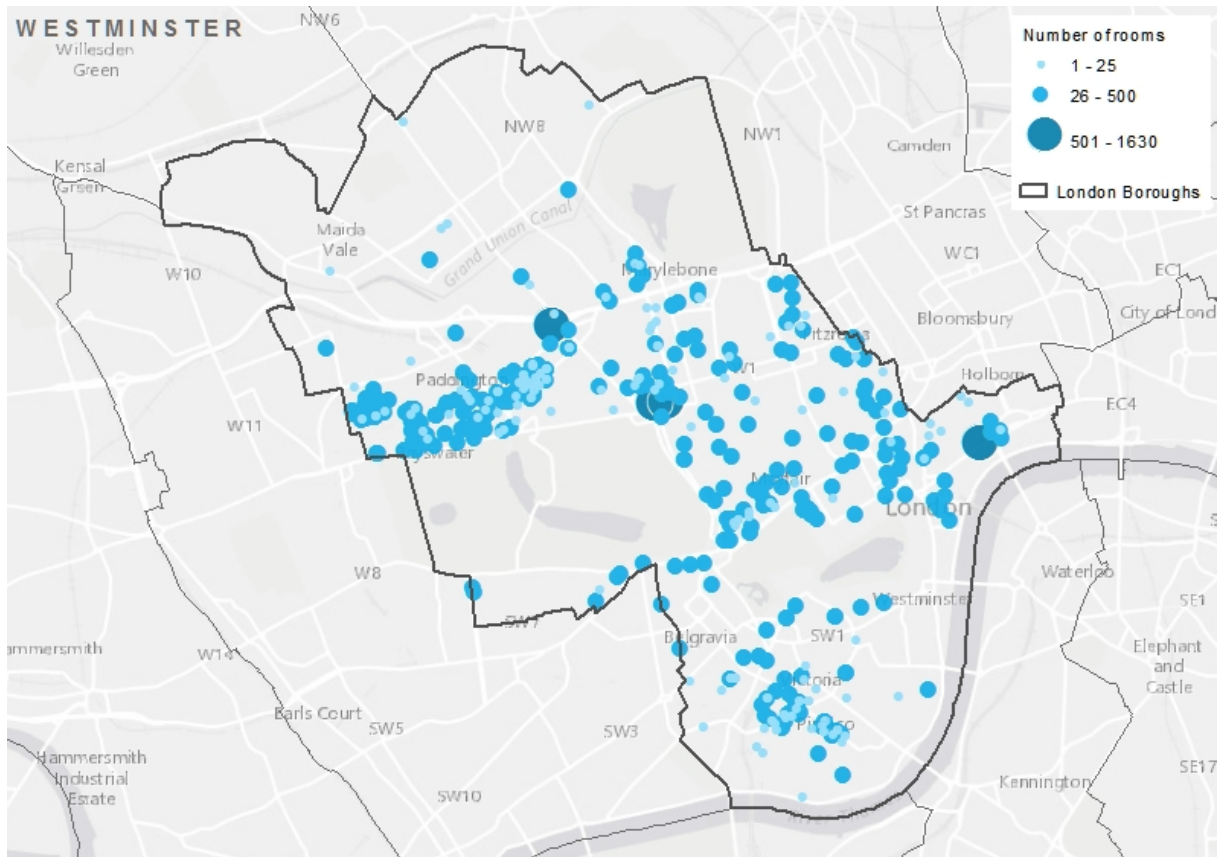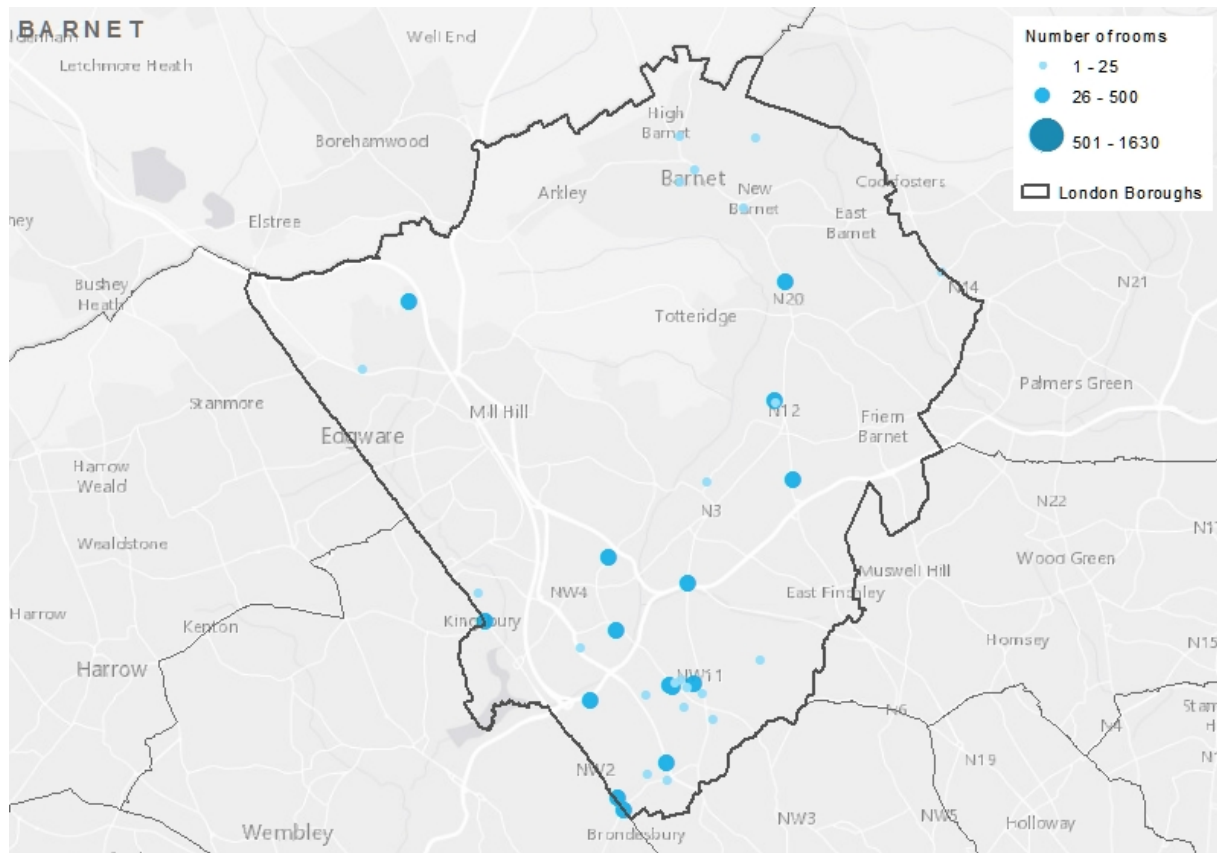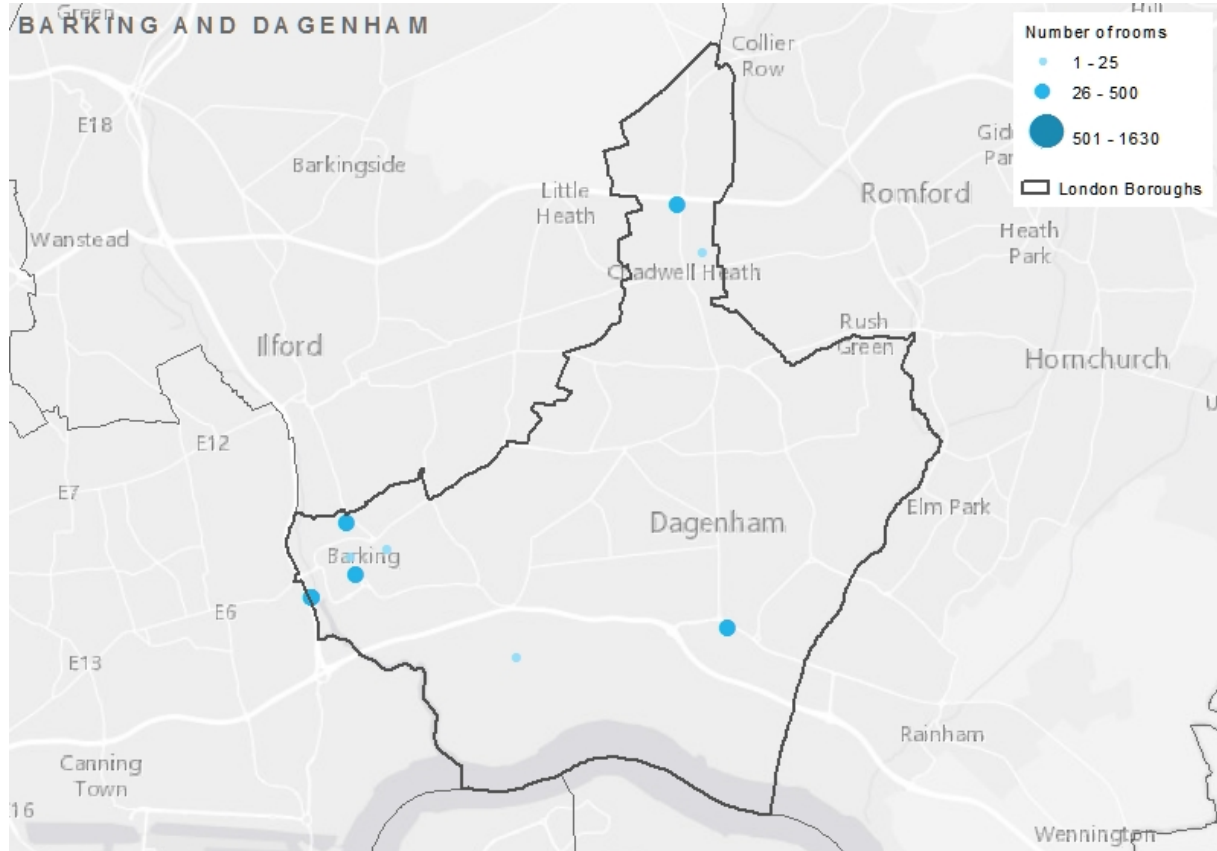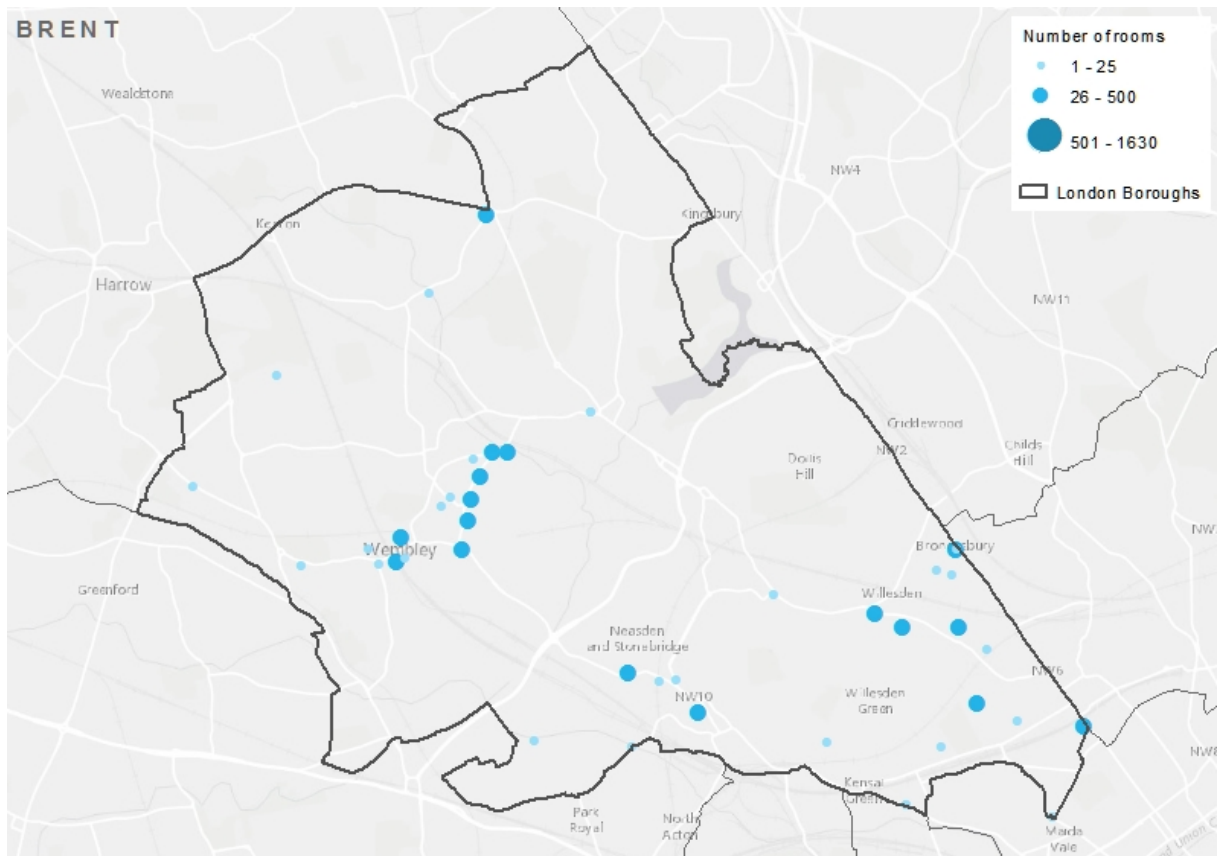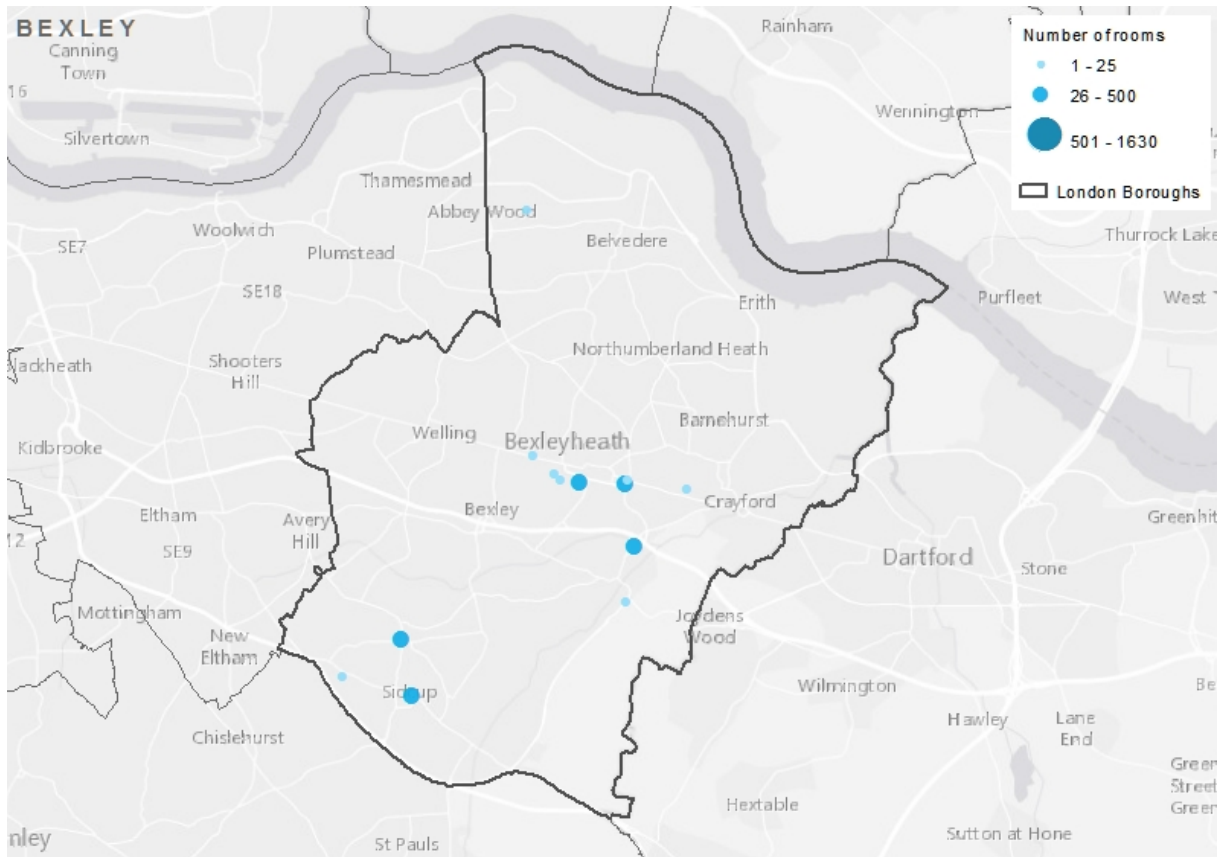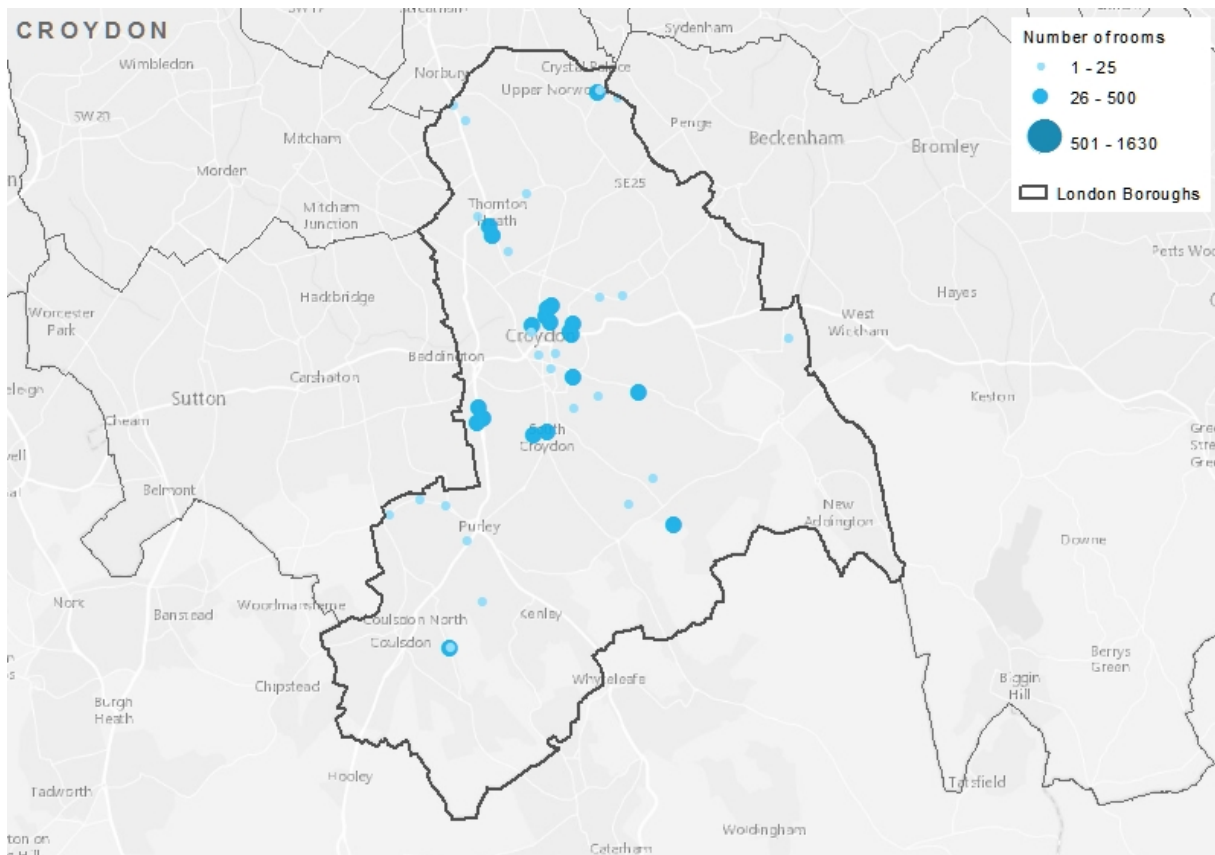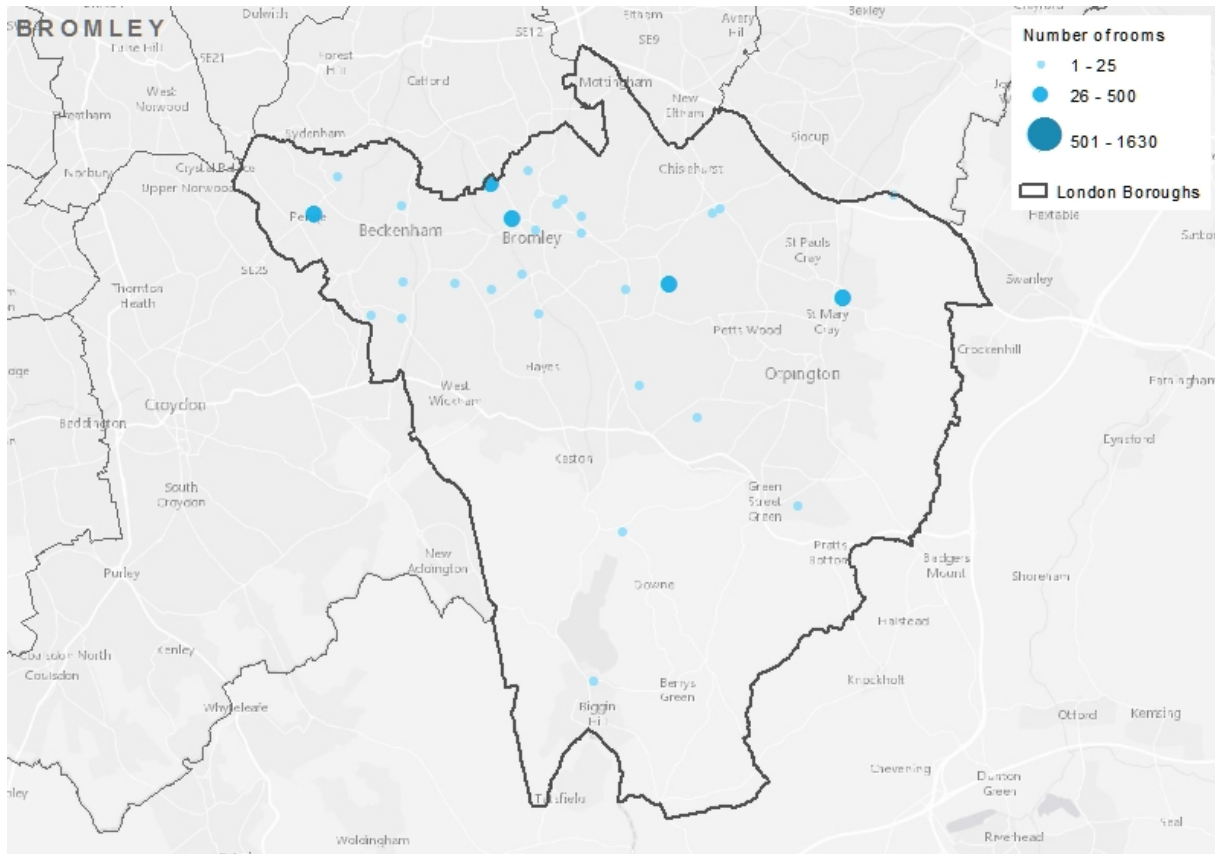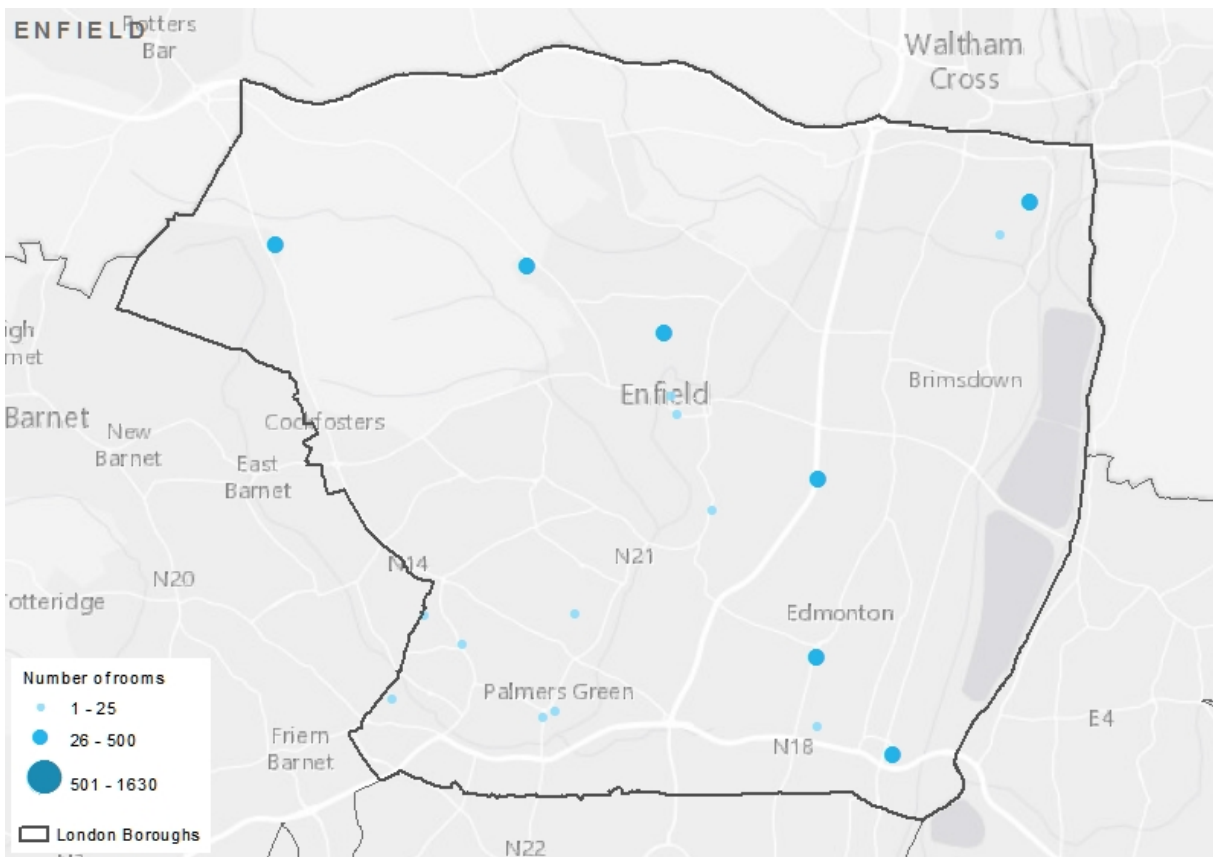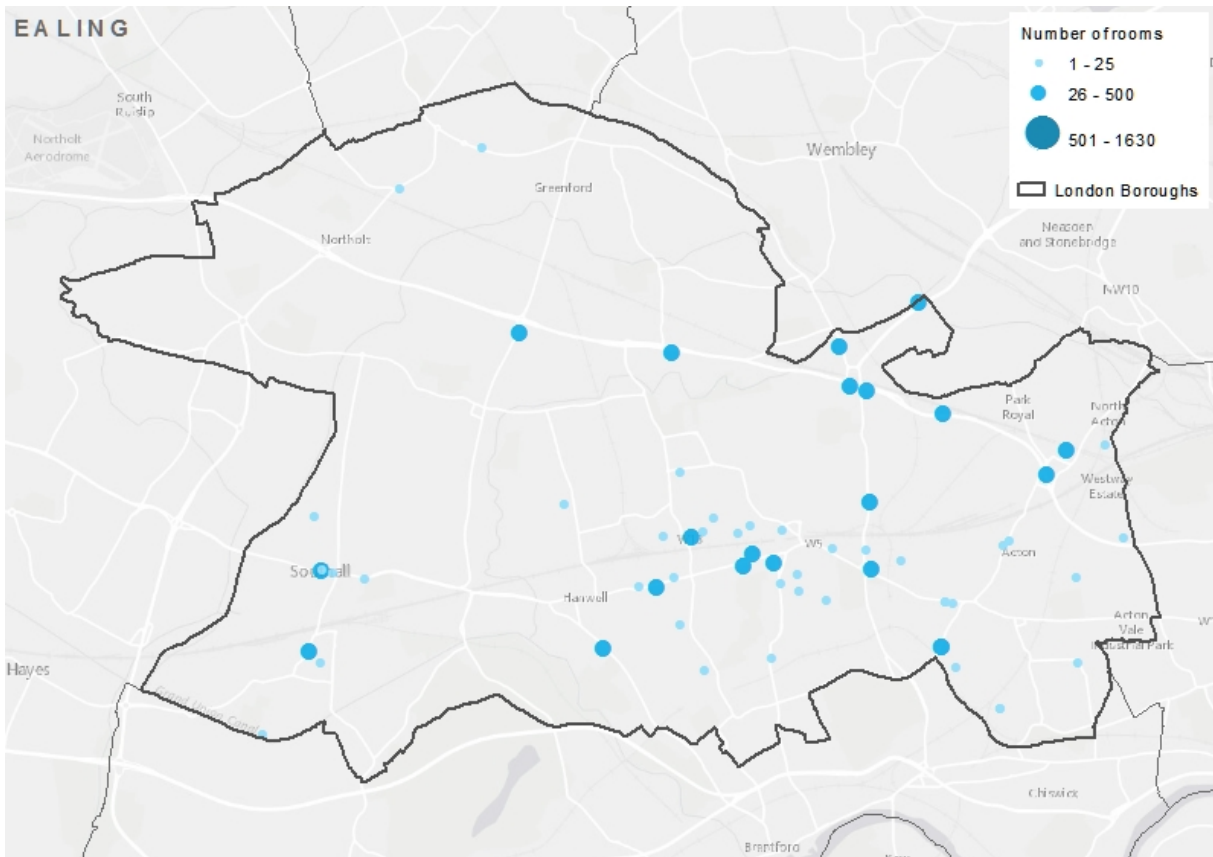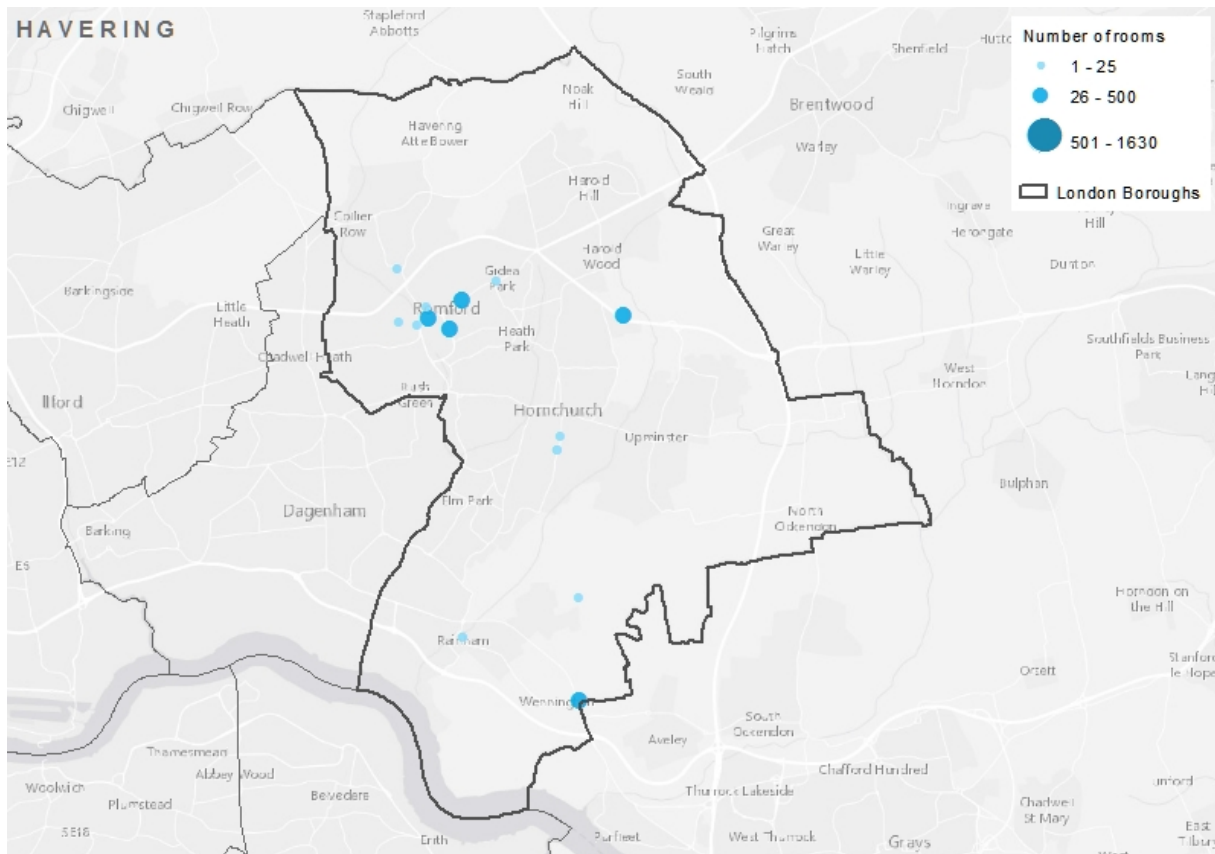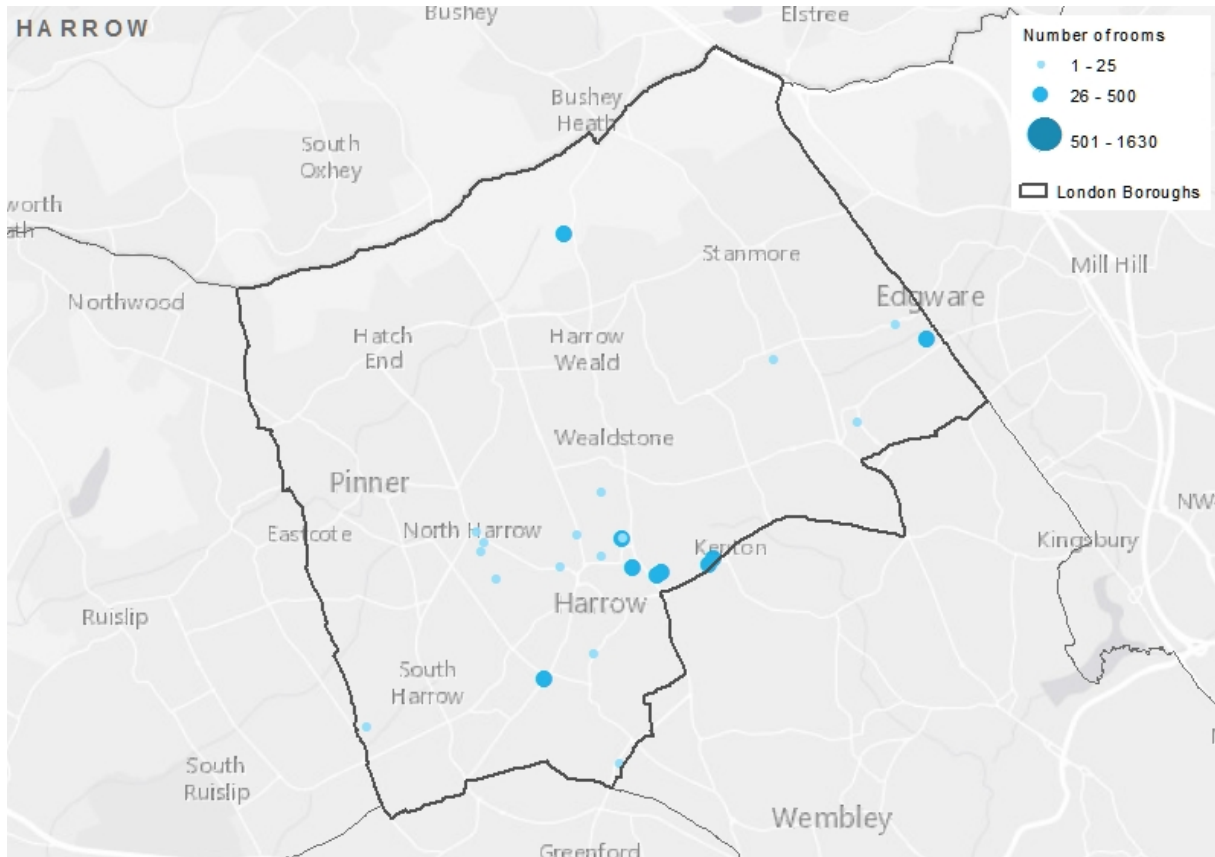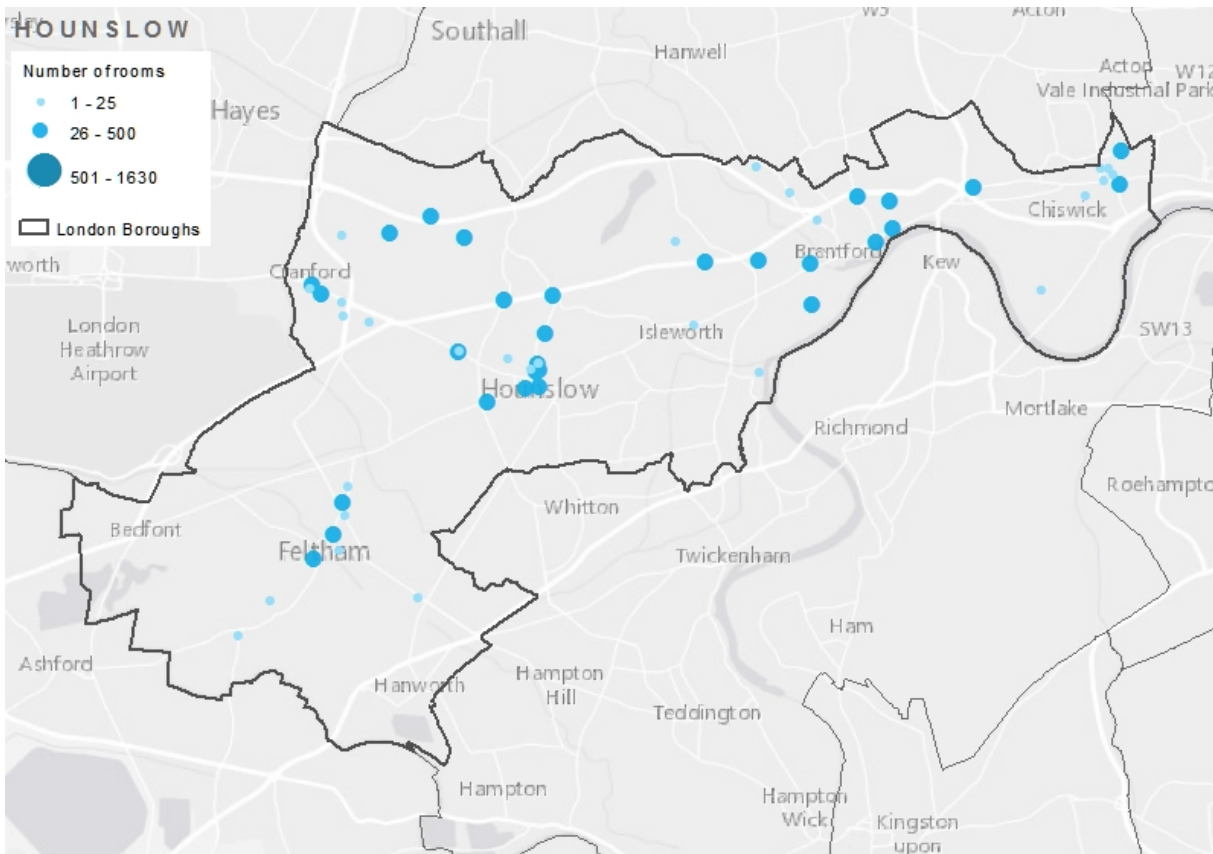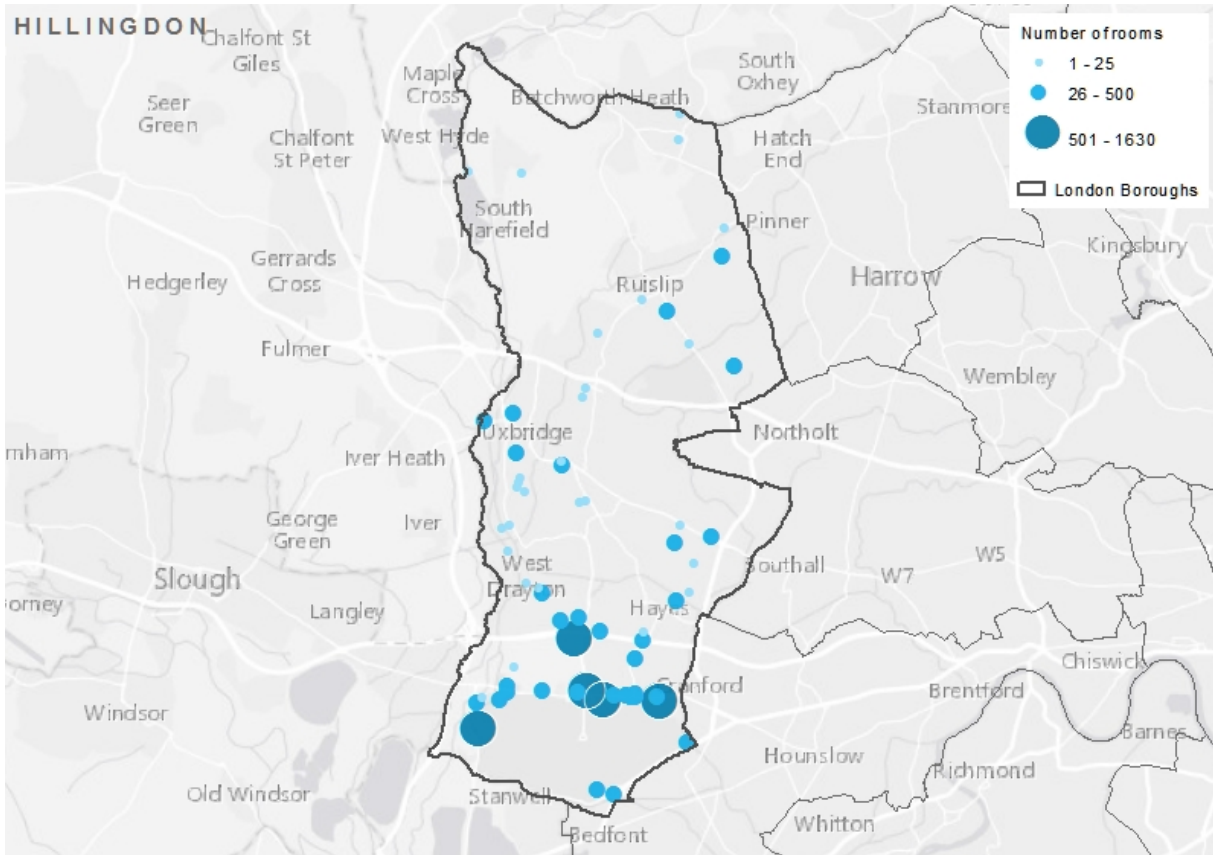
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