

THE LONDON STRATEGIC HOUSING LAND AVAILABILITY ASSESSMENT 2013

Part of the evidence base for the Mayor's London Plan

COPYRIGHT

**Greater London Authority
January 2014**

Published by
Greater London Authority
City Hall
The Queen's Walk
More London
London SE1 2AA

www.london.gov.uk

enquiries 020 7983 4100

minicom 020 7983 4458

ISBN

Copies of this report are available
from www.london.gov.uk

CONTENTS

	Acknowledgements	4
1	INTRODUCTION AND CONTEXT	5
	Purpose of the 2013 Strategic Housing Land Availability Assessment	6
	The London SHLAA and the NPPF	7
	Future guidance	8
	Development of methodology	8
	Viability	10
	The need for additional housing	10
	Structure of report	11
2	METHODOLOGY	14
	Stage 1: planning the Assessment	15
	Stage 2: determining the sources of supply	15
	Stage 3: desktop review of existing information	17
	Stage 4: determining which sites to survey	18
	Stage 5: site surveying - the Large Sites Assessment	18
	Stage 6: assessing housing potential	21
	Stage 7: assessing when and whether sites are likely to be developed.	35
	Sources of capacity outside the large site system	37
3	RESULTS	45
	Identified large sites: phases one to five	46
	The target phases: phase two and three (2015-2025)	55
	Overcoming the constraints	66
	Sources of capacity outside the large site system	69
	Total housing capacity from all sources 2015-2025	77
	Comparison of targets and the DCLG household projections	82
	Comparison of SHLAA figures and past delivery	84
4	SCENARIOS	87
	Density Scenarios	89
	Allocation scenario	94
	Town centres and Opportunity Areas: target based scenario	98
	Notional capacity	99

	Scenario conclusions	101
5	CONCLUSION	102
	Further Alterations to the London Plan: Housing targets	104
	Delivery	105
	Contribution of SHLAA to Local Plan preparation	105
	Using the SHLAA data to inform specific site allocations	106
6	Appendixes	108
	Appendix 1: Overall capacity by source 2015-2025 phase 2-3	109
	Appendix 2: LLDC boroughs overall capacity by source 2015-2025.	110
	Appendix 3: Large site capacity by borough by phase 2013-2036	111
	Appendix 4: Large sites with capacity in each borough by source	112
	Appendix 5: Large site capacity in each borough by source 2013-2036	113
	Appendix 6: Large site capacity by borough by source 2015-2025	114
	Appendix 7: Small site calculations	115
	Appendix 8: Allocated and approved site list by borough	116
	See separate PDF	

Acknowledgements

The 2013 Strategic Housing Land Availability Assessment was made possible by the contributions and co-operation of a wide range of stakeholders, in particular planning, housing and other officers from all the London boroughs, the City of London and the London Legacy Delivery Corporation and the Strategic Housing Market Partnership.

The London Strategic Housing Market Partnership

Gerry Ansell/ Sophie Donaldson- London Bough of Newham
Michael Bach- London Forum of Amenity & Civic Societies
Julia Bray – TFL
Lizzie Clifford – NHF
Dominic Curran – London Councils
Adam Dodgshon - Planning Advisory Service
Michal Edwards - Just Space
Peter Eversden - London Forum of Amenity & Civic Societies
Robert Farnsworth – London Borough of Camden
Emma Fenton - London Borough of Southwark
Sue Gaywood- Hyde Housing
James Gleeson- GLA
Neil Goldberg/ Edward Broadhead – LLDC
Lauran Gray/Peter Hall - London Borough of Havering
Sakiba Gurda – London Borough of Islington
Bill Harris – Environment Agency
Martin Howell/ Daniel Crawford- London Borough of Wandsworth
Georgiana Hibberd – RICS
Ron Hollis - Lambeth Tenants Association
Justin Kenworthy/ Neil Goldberg – Barton Wilmore
Richard Lee - Just Space
Nick Lynch – London Borough of Barnet
Clodagh McGuirk - London Borough of Haringey
Dominick Mennie – London Borough of Croydon
Dale Meredith – Southern Housing
Sheree Aitkin – Royal Borough of Kingston upon Thames
Mathew Paterson – London Borough of Harrow
Lisa Russell/ Peter Shadbolt - City Corporation
Graham Saunders – English Heritage
James Stevens - Home Builders Federation
Mark White – Hyde Group

Greater London Authority Project Team

Jennifer Peters
Mike Newitt
John Lett

Additional Thanks to:

Duminda Baddevithana (GLA), Chris Woollard (GLA), Chris Mein (Open IQ), Scott Day (GLA), Jonathan Finch (GLA), Andrew Pain (GLA), Jonathan Brooker (GLA).

1 INTRODUCTION AND CONTEXT

Purpose of the 2013 Strategic Housing Land Availability Assessment

- 1.1. The London Strategic Housing Land Availability Assessment (SHLAA) identifies London's housing capacity and is an essential component of the evidence base required for the London Plan and borough Local Plans. Along with the new Strategic Housing Market Assessment (SHMA), which sets out an estimate of London's current and future housing requirements, the SHLAA forms the foundation for the housing targets in the Further Alterations to the London Plan (FALP) and Local Plans. Together they provide the basis for addressing the National Planning Policy Framework's¹ (NPPF) needs driven requirement to boost supply significantly housing supply in the unique circumstances of London. This SHLAA and the FALP also fulfil a commitment in the 2011 London Plan to review current housing targets by 2015/16.
- 1.2. In London the SHLAA is carried out in partnership between the GLA, the London Boroughs, the City Corporation and the London Legacy Development Corporation². The last SHLAA/ Housing Capacity Study was undertaken in 2009. The approach to the 2013 SHLAA develops that of the 2009 study, which was found to be robust at Examination in Public (EiP) as a refinement of national SHLAA guidance³, taking into account the unique circumstances of the London housing market area.
- 1.3. The 2011 Census found that the population of London was 8.17m, which means London's population is growing significantly faster than was projected when the 2011 London Plan was published. The most recent GLA projections suggest London's population could grow to 10.1 million by 2036, which will have significant implications for the numbers of new homes required. GLA projections suggest that household growth will be circa 40,000 homes per annum between now and 2036⁴. Shorter term DCLG projections are higher, projecting household growth of 53,000 a year in London between 2011 and 2021. Neither of these figures takes account of current (backlog) housing need, second homes or vacant units.
- 1.4. Alongside the SHLAA, the GLA has carried out a SHMA to provide an objective assessment of London's need for market and affordable housing⁵. The SHMA uses GLA's population and household projections and includes and an assessment of the number of households currently in need (backlog) as well as projected future growth. The SHMA estimates London's need for additional new homes is 49,000 homes a year, or as high as 62,000 if current housing need is met more quickly⁶.

¹ DCLG National Planning Policy Framework. 2012

² For the purposes of the SHLAA the LLDC and City Corporation are treated as boroughs, thus for ease within the document references to boroughs includes the LLDC and the City Corporation.

³ SHLAA practice guidance. DCLG. 2007

⁴ Mayor of London. The London Strategic Housing Market Assessment 2013 (SHMA). GLA 2014

⁵ *ibid*

⁶ *ibid*

- 1.5. This demonstrates that for London to meet its housing need, at least 49,000 additional homes need to be delivered each year between now and 2036, significantly more homes than the 32,210 per annum minimum provision target in the current London Plan.

The London SHLAA and the NPPF

- 1.6. The NPPF requires authorities to carry out a SHLAA (NPPF para 159) and to identify a five year supply of deliverable sites in years 0-5 and developable sites or broad locations in years 6-10 and if possible 11-15 (NPPF para 47). The NPPF notes that once completed a SHLAA is an important evidence base for planning making. However, it does not allocate housing, nor should it pre-empt or prejudice any future decisions a planning authority (including, in London the Mayor) may make on any particular site or planning application.
- 1.7. Though government has prepared 'Beta' guidance on compiling the evidence base for plans, its 2007 Strategic Housing Land Availability Assessment practice guidance remains extant. This guidance strongly encourages joint working between local planning authorities and other key stakeholders to undertake assessments to ensure a joined up and robust approach to SHLAA.
- 1.8. Previous London Plan EiPs have recognised that London's housing market has little regard to borough boundaries, and unlike most of the country, the market for housing in London covers the whole region, even though there are many local variations within this broad area. For local planning purposes, both supply and demand for housing are most effectively addressed and coordinated at the London wide level. Doing this requires close partnership working, building on boroughs' long experience of pan London, collaborative and cost effective work.
- 1.9. National guidance on carrying out a SHLAA provides flexibility to take account of local circumstances. This study was driven by the nationally set requirement to identify sufficient developable sites for the first 5 years of a plan, minimising the reliance on windfall as far as possible; deliverable sites or broad locations for development for years 6-10 and where possible for years 11-15. In line with national guidance, the study recognises it is not possible to accurately identify sufficient sites in London for the whole of the plan period. Thus, the study provides the evidence base to support judgements around whether broad locations should be identified and/or whether there are genuine local circumstances that mean a windfall allowance is justified.
- 1.10 Like previous London Plans, the FALP includes a ten year housing target. The nature of London's land market and the importance of sites currently in other uses in delivering housing capacity mean it is challenging to provide an authoritative estimate of capacity which will come forward in the longer term. Therefore, the SHLAA only provides detailed capacity estimates for 2015-2025⁷.

⁷ The SHLAA is based on financial years. For example, where the SHLAA refers to 2015-2025 it is referring to April 2015 to March 2025.

Future guidance

- 1.11. The Taylor Review of planning guidance identified SHLAA guidance as a priority for updating and the Government has recently consulted on its National Planning Policy Guidance Beta website, which includes guidance on all necessary aspects of the NPPF. The section on 'Assessing land availability' suggests an updated approach to SHLAAs, recommending that they should be carried out alongside an assessment of employment land needs. The guidance also suggests that windfall assumptions should only be used in the first five years of housing supply as the NPPF gives the flexibility to identify broad areas in later years. In responding to the guidance the GLA underscored the distinct nature of London's housing market, and to address this, how London has sought to refine the national methodology to maximise housing output rather than following all the detail of the national assessment methodologies. While the 2013 SHLAA has been carried out within the requirements of the current SHLAA guidance note, the approach is in line with the NPPF.

Development of methodology

- 1.12. The SHLAA methodology has built on the experience of previous pan London SHLAAs, in particular the last study undertaken in 2009, ensuring that it meets the requirements of the NPPF and reflects the significant housing challenge London is facing. The SHLAA objective was to provide a robust indication of London wide housing capacity at borough level, built up from a range of sources and assumptions on individual site capacity, including large sites (0.25ha or larger), small sites (below 0.25ha), non-self-contained units and vacants returning into use.
- 1.13. In line with national guidance, London's Strategic Housing Market Partnership acted as a steering group for the study. The group included representatives from the boroughs, voluntary and private sectors, as well as GLA officers from relevant departments (see Acknowledgments for list of members). This group contributed to the development of the methodology along with all the London Boroughs. In addition, a Technical sub group was convened to advise on the development of the SHLAA computer system and detailed refinements to the methodology.
- 1.14. A key part of the London SHLAA approach is the assessment of the notional housing capacity, and probability of housing development, identifying the constrained capacity of a large number of sites across London; including those with planning permission and sites identified in borough development plans together with other potential housing sites. Given London's land market, potential housing sites, often currently in a different use, play an important role in boroughs housing land supply; the probability approach adopted in the London SHLAA provides a robust as possible understanding of the potential capacity and phasing of such sites. This approach ensures that the most accurate understanding of capacity can be gauged in order to inform London Plan housing targets and borough site allocations.

Table 1.1 below demonstrates how the London SHLAA meets the requirements of the SHLAA guidance.

Table 1.1 – Core outputs and 2013 SHLAA approach.

Government’s SHLAA core outputs	2013 London SHLAA approach
1. A list of sites, cross referenced to maps showing locations and boundaries of specific sites (and showing broad locations where necessary)	A list of publicly identified sites is set out in Appendix eight (approvals and allocations) Boundaries of all identified sites have been shared with the boroughs to inform the development of their Local Plan Documents.
2. Assessment of whether a site is deliverable or developable (i.e. in terms of its suitability, availability and achievability) to determine when an identified site is realistically expected to be developed.	The London SHLAA uses a probability approach to assessing if a site is deliverable or developable as detailed in the methodology section of this report, with the results detailed in section three.
3. Potential quantity of housing that could be delivered on each identified site or within each identified broad location (where necessary) or on windfall sites (where justified)	The potential quantity of housing from each source is summarised in Section three of the report.
4. Constraints on delivery of identified sites	The large sites study system is designed to consider a number of broad constraints in the delivery of identified housing sites as part of the probability based approach. The broad constraints on delivery are determined by GIS information and local knowledge and are set out in section two.
5. Recommendations on how these constraints could be overcome	The potential approach identifies constraints and allows the assessment of, if, and when that constraint could be overcome and reflect this through the adjustment of the likely probability of a site coming forward. In addition, where constraints were identified which render a site unsuitable for development a range of broad actions to overcome these constraints in the future were provided for boroughs to consider (see section three).
Government’s SHLAA process checklist	2013 SHLAA approach
1. Survey and Assessment should involve key stakeholders including house builders, social landlords, local property agents and local communities and other relevant agencies.	The Assessment was overseen by the Strategic Housing Market Partnership covering representatives of all government’s suggested stakeholders (see acknowledgments). In addition a public call for sites was undertaken.
2. The methods, assumptions, judgements and findings should be discussed and agreed upon throughout the process in an open and transparent way, and explained in the assessment report. The report should include an explanation as to why particular sites or areas have been excluded from the Assessment.	The method, assumptions and judgements used in the study are set out in section two. They were developed with the Strategic Housing Market Partnership and London boroughs. This also explains why sites or areas have been excluded from the Assessment, with detailed results in section three.

Viability

- 1.15 The viability of a scheme is important to understanding if a site is deliverable or developable as set out in the NPPF. To some extent viability is taken into account by boroughs in their assessment of sites, but the level of knowledge about site viability will differ on a site by site basis and between boroughs. Therefore, to provide a consistent understanding of viability, a separate viability study has been commissioned⁸. The study includes an understanding of the overall housing market and its direction of travel according to various industry experts. It also assesses the viability of a hypothetical site in each London borough and has carried out detailed viability assessments on 40 sample SHLAA sites. The site samples have been drawn from boroughs which have identified significant housing capacity and also are considered the most likely to have viability issues, with some adjustments to ensure a range of geographical coverage. In addition, the London SHMA provides an overview of housing market trends which will impact current and future housing delivery⁹.

The need for additional housing

- 1.16 London's population has grown every year since 1988, even during the severe economic downturn of the early 1990s; indeed, growth accelerated then. It has accelerated again, and to a much greater extent than was anticipated in the 2011 London Plan. Informed by projections that average growth between 2001 and 2011 would be in the order of 46,000 pa, that Plan was based on the assumption that London would grow by an average of 51,000pa in the two decades to 2031. However, the 2011 Census showed that during this decade London grew at a much more substantial rate, by an average of 83,000 per annum to 8.2 million in 2011 rather than the 7.8 million expected by the 2011 plan.
- 1.17 The GLA has developed a range of population and household growth scenarios. The central scenario suggests that households are likely to grow by 40,000 homes a year between now and 2036. However, there is uncertainty about future population growth, as the growth could be part of an economic cycle which has seen London perform better than the rest of the country through the recession, thus attracting more domestic immigration and having a reduced level of out migration. Once the economy in the rest of the UK improves, this trend may be reduced or reversed. An alternative scenario could be predicated on population growth being a result of structural change and therefore long term. There is also uncertainty as to the size and number of future households. Despite long term predictions of household size falling, the 2011 census saw a rise in average household size in London to 2.47 people. This could be caused by the constrained housing supply, lifestyle choice or a combination of the two. In line with the DCLG's figures, the GLA's central assumption is predicated on average household size falling from 2.47 in 2011 to 2.34 people in 2036. Under this assumption, the number of households in London could rise by 1 million¹⁰.

⁸ London SHLAA viability assessment – forthcoming

⁹ Mayor of London. SHLAA 2014 op cit

¹⁰Ibid

1.18 Using the assumption of household growth of 40,000 homes a year the SHMA indicates that London's housing need is between 49,000 and 62,000 a year. The difference is dependent on the timespan chosen as this impacts both the average household growth (as household growth starts to slow from 2027) and the amount of homes that need to be built per year to address current identified need (backlog). The Further Alterations to the London Plan are based on an understanding that housing need in London is at least 49,000 homes a year, and thus requires a significant increase in its housing supply above the 32,000 target in the 2011 London Plan.

Structure of report

- Section two explains the methodology employed by the London SHLAA. This section is essential to understanding the approach and results of the London SHLAA.
- Section three presents the results of each component of the study: large sites, small sites, non-self-contained and vacants returning into use.
- Section four sets out the results of a number of different scenarios. This aims to provide an understanding of potential extra capacity beyond that identified by the base SHLAA findings and to test the sensitivity of the assumptions that underpin the SHLAA.

1.19 The results of this study are outlined in this report by the components of capacity at a regional, sub regional and borough level as appropriate. Tables and figures are presented throughout with a commentary on the results and their implications. Figures 1.1 and 1.2 below show the locations of the London boroughs, the sub regions they form and their location in inner or outer London. Figure 1.3 is a map of the London Boroughs, the LLDC and the City of London.

Figure 1.1 London's sub regions.



Figure 1.2 Inner and outer London.

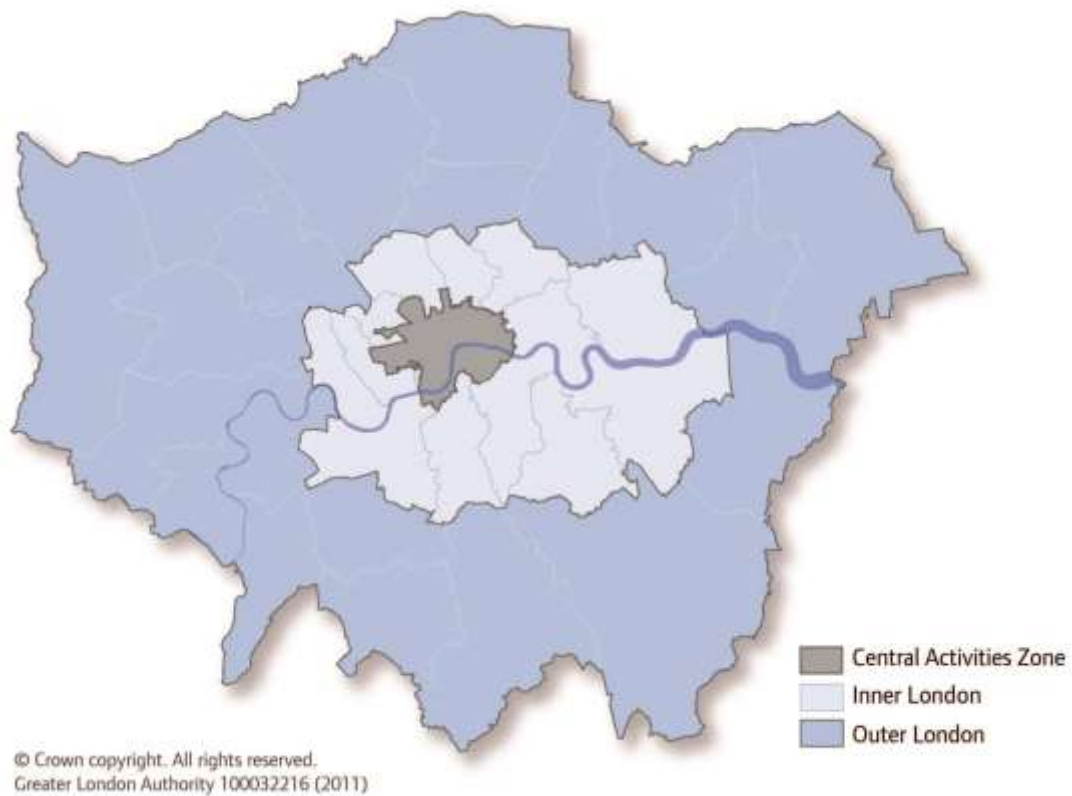


Figure 1.3 London Boroughs



2 METHODOLOGY

The approach

- 2.1. The SHLAA establishes housing capacity in London by identifying sites with planning permission for housing development, and considering site constraints and probability of development of other large housing sites, and the potential housing capacity of small sites, non-self-contained units and vacants returning to use. The SHLAA is designed to provide a robust indication of aggregate housing capacity at borough level across London. It is not designed to provide a comprehensive list of all the housing sites which may come forward over the term of the London Plan; in the unique circumstance of the London land market that is neither feasible nor realistic.

Stage 1: planning the Assessment

- 2.2. The 2013 methodology built on the 2009 approach and was informed by a review of the sites identified in the last two SHLAAs, responses to the SHLAA methodology scoping paper and input from the Strategic Housing Market Partnership, London boroughs and Technical sub group. The study approach was also informed by the Government's SHLAA Practice Guidance¹¹. The process follows the stages set out in the guidance, but has been adapted in some respects to better reflect the particular housing circumstances in London.

Stage 2: determining the sources of supply

The study used four key sources of housing capacity to inform the understanding of London's overall housing capacity;

- sites 0.25 ha or larger with planning approval for housing (approvals).
 - sites 0.25 ha or larger publicly identified in published or emerging development plans as sites with housing capacity (allocations)
 - other sites 0.25 ha or larger, not in the public domain, which have potential to contribute to strategic and local housing targets (potentials). Though these sites are identified individually, their contribution to future supply is defined in terms of probabilities and expressed only in terms of aggregate capacity. Information on them is collected solely for the purposes of this study and has no other status. In view of possible misapplication of this information, the GLA does not publish individual details of potential sites.
 - assumptions on the capacity of sites of less than 0.25 ha (small sites), including new build, conversions and change of use and capacity from non-self-contained accommodation and vacant dwellings returning to active housing use.
- 2.3. For large sites (0.25ha and above) a bespoke SHLAA system was developed to assess the capacity of each site. The system estimates housing capacity by identifying sites confirmed to have housing capacity (approvals) and assessing all other large sites

¹¹ DCLG. SHLAA practice guidance CLG. 2007

(allocations and potentials) based on the probability of them coming forward for housing. For approved sites the system uses information from the London Development Database on the number of units approved to identify the capacity of the site. For sites identified as allocations or potentials the system provides a notional capacity; the potential housing yield from the site should it come forward for development. The notional capacity is based on the site area (adjusted to reflect the proportion of a site anticipated to deliver residential development) and system default densities. The constrained capacity based on the probability of a site coming forward for development, derived from an assessment of the constraints impacting the site. Boroughs were able to refine both the notional and constrained calculation in light of local knowledge. This capacity is divided into four periods for delivery between 2015 and 2036 and a preliminary phase for sites that are to be developed from 2013-2015¹².

- 2.4. This “constraints model” approach is the same as that used in the 2009 SHLAA. Given London’s highly pressurised land market where the vast majority of housing provision comes from formerly used sites, often in existing uses, this is considered to be the most appropriate approach to identifying such an important source of future capacity and is considerably more robust than traditional ‘windfall’ assumptions. It effectively aims to include within the ambit of the SHLAA all potential housing sites across London above the size threshold and provides an understanding of why some of those sites will not come forward wholly or partly for housing development.
- 2.5. One of the salient features and strengths of the probability based element of the methodology is in recognising that not all identified sites will come forward for housing. The constraints built into the system and the partnership based approach to the study which provides scope for initial estimates to be refined and made more realistic in light of local knowledge provides the best way of understanding London’s overall housing capacity. When the probability based results for all potential and allocated sites are added together they provide an aggregate estimate of the contribution of this source which is robust at borough, sub-regional and regional levels.
- 2.6. Due to the probability approach to assessing potential sites, information on individual ‘potential’ sites is confidential; the SHLAA uses the assessment of potential sites to provide an aggregate, probability based estimate of the future contribution from this source at a borough level, not as an indication of the capacity of individual potential sites. The release of detailed information on these sites could lead to misunderstanding as to its status and to its misapplication. This in turn might undermine current uses, pre-empt the statutory planning decision process and affect land values. Consequent increases in land value and speculative disposals and purchases would not necessarily support optimum housing development outcomes and could compromise wider planning objectives.
- 2.7. Appendix eight includes information about sites with planning approval or which are otherwise publicly identified as suitable for housing e.g. as published or emerging Local

¹² The SHLAA is based on financial years. For example, where the SHLAA refers to 2015-2036 it is referring to April 2015 to March 2036.

Plan allocations. Boroughs are likely to bring forward 'potential' sites as appropriate for development in their Local Plan process, allowing them to identify sufficient land to meet London Plan targets and address the requirements of the NPPF. It is for each borough to determine whether it wishes to make this information publicly available at site level.

Stage 3: desktop review of existing information

Large sites

- 2.8. Large sites (0.25ha or over) form a key component for the study. Given the number of sites to assess, the GLA developed a bespoke system for the 2013 SHLAA. The system performed many of the same functions of the 2009 system, but was designed to be more user friendly and more importantly, provide a system that boroughs would find useful for the long term. The system showed information on all sources of capacity and provide a capacity running total reporting dashboard for the boroughs so they could understand the implications of individual site assessments on overall capacity. It also included a scenario testing area, which allowed boroughs to test site capacities and run alternative scenarios to understand how the different scenarios would impact their figures. These improvements were introduced to help ensure understanding and ownership of the figures and were developed with input from the boroughs through the Technical Sub Group.
- 2.9. This system provides the basis for collating information on all large housing sites with planning permission, those identified in borough development plans and all other potential housing sites across London. Just over 9,000 separate digital boundary polygons were uploaded into the system, including both residential and non-residential sites and buildings

The large site boundaries were sourced from;

- The London Development Database (LDD)
- Sites identified through the call for sites
- 2009 sites (updated where planning permission has been granted, lapsed or developments completed).
- Site boundaries identified by the GLA group
- Sites identified by boroughs, including development sites allocated in published or emerging LDFs/Local plans and other relevant documents. In 2013 significantly more site Development Plan Documents had been adopted than at the time of the 2009 study.

Call for sites

- 2.10. To ensure the SHLAA captured all potential sites, the GLA carried out a London wide call for sites, jointly with boroughs. The call was advertised on the GLA website, through boroughs' websites and direct mail outs as well as coverage in numerous planning related newsletters. 345 sites were submitted through the call for sites, helping to ensure that all sites with housing potential are assessed as part of the SHLAA. The exercise also provided an appreciation of land owners and developers aspirations for those sites and their views on deliverability.

Stage 4: determining which sites to survey

- 2.11. All sites identified above were included in the SHLAA system to be assessed for housing potential.

Stage 5: site surveying - the Large Sites Assessment

- 2.12. Following an initial check by boroughs, the identified sites were uploaded into the SHLAA system and the system 'went live' in April 2013. Boroughs were asked to assess every site, deciding if they agreed with the systems default assumptions and making amendments where necessary. Boroughs were encouraged to accept the default assumptions unless they had evidence to suggest that the assumptions were inappropriate on a site by site basis. In addition, boroughs were expected to upload any additional sites they identified as having housing potential.
- 2.13. The general approach to assessing the capacity of large sites requires classifying sites on the basis of:
- **Approved** housing sites (those with planning permission)
 - **Allocated** housing sites (sites in areas allocated for housing in borough development plan)
 - **Potential** housing site (all other sites 0.25 ha or larger, which may come forward for development at a specified point in time up to 2036).
- 2.14. The system automatically identified sites as being approved by linking with the LDD Database and populating the relevant fields. The approved planning permission provides the yield for these sites. Boroughs were encouraged to check the information for accuracy, particularly the phasing of the site (see phasing section).
- 2.15. For allocated and potential sites the system generated notional yields based on site size and default density (the notional capacity) and a probability calculation based on the identified constraints for a site based on GIS layers (the constrained capacity). Boroughs used their knowledge of each site to amend and update the system assumptions. The following sections detail the working of the system and the role of the boroughs in the site assessments.

Exclusions, deletions and low probability

- 2.16. Not all 'potential' sites loaded into the system have housing potential. The system automatically identifies some sites as unsuitable where policy, local or environmental constraints make them unsuitable for housing development¹³. In these circumstances the system assumes the site has a zero housing potential (see constraints section). Even when the system has accounted for constraints that render a site unsuitable it still includes a number of sites identified as potential housing sites that, for a variety of reasons, are actually very unlikely to come forward as housing sites in the study period. Therefore, the system allowed boroughs to specifically delete or exclude some sites from the study where they felt there was no potential for the site to deliver housing over the plan period.
- 2.17. If a site was deleted from the system, it would no longer appear in the borough's list of sites and would be deleted permanently from the assessment. Sites were only deleted from the system if the site did not meet the criteria for inclusion in the study; if it was below 0.25ha (although only sites sized 0.25ha or larger were loaded into the system, the redrawing of a site, for example, if it crossed a road could lead to the resultant site being under 0.25ha); it was outside London's boundaries or genuinely loaded in error e.g. if it is part of a larger site and needed to be redrawn. Sites were checked by the GLA before they were deleted to ensure that only sites that met these criteria were removed from the system.
- 2.18. The ability to delete sites was introduced in the 2013 SHLAA for two reasons; firstly to enable boroughs to ensure the most up-to-date site boundaries were reflected in the system; secondly to remove 'non sites' from the system and prevent them from appearing in future SHLAAs. The SHLAA database did include a number of polygons that could not be considered as 'sites' per se, for example, some polygons covered only roads. In previous studies these sites were excluded. As the 2013 study aimed to ensure all potential sources of housing capacity were explored, all previously excluded sites were included in the assessment. This meant that these 'non sites' appeared again in the study and had to be reassessed by boroughs. The delete function ensures that they have been removed from the database for future studies. The GLA checked to ensure that only 'non sites' or sites that would be redrawn as part of another site were deleted and did not delete any sites that, although not considered suitable for housing now, could be in the future.
- 2.19. The system allowed some sites to be excluded on the basis that they would not have capacity for housing within the study period; to exclude a site a reason for exclusion was required. Because the SHLAA system aims to include all sites, it is inevitable that a significant number of sites will be categorised as excluded or unsuitable. While assessing these sites has resource implications, it ensures that the SHLAA is robust and has assessed all possible potential sources of housing capacity, which is crucial given the current need for housing and the requirements of the NPPF.

¹³ All approved schemes are assumed to be suitable for housing development.

- 2.20. The approach to exclusions was amended in the 2013 study to ensure that only those sites with no development capacity were excluded. As part of the work developing the 2013 methodology the GLA undertook a review of the number of excluded sites in the 2004 and 2009 SHLAAs that have since delivered housing. This review found that some sites that were excluded from the 2004 and 2009 study had come forward for housing development. Considering that these sites were delivered within seven years or less of the initial assessment, it can be assumed that over the life of the plan more excluded sites would come forward.
- 2.21. Assessing the propensity for sites excluded in the 2004 SHLAA to come forward for housing between 2004 and 2011 suggested that approximately 8% of sites which are excluded will deliver housing. Therefore, the methodology for the 2013 study was updated to ensure that it captured this development potential, while not generating unrealistic assumptions around development capacity; a new 'low probability' category was introduced and the categories for exclusion were amended.
- 2.22. Low probability sites were given an 8% probability of delivering housing, spread across phases three, four and five (2020-2036). Given that the London Plan targets are based on phase two and three (2015-2025), only a third of the assumed 8% capacity would be included in the target period. Sites were only classified as low probability when borough considered the likelihood of the site coming forward for housing was very limited and it met one of the criteria set out below:
- School or hospital with no planned redevelopment before 2036.
 - The site is an area of private/mixed tenure housing in multiple ownership with no known plans for redevelopment.
 - Social housing estate with no planned intensification programme up to 2036.
 - New build housing completed before 2003 where there is a low probability of additional housing development
 - A high value retail/leisure/office development completed before 2003 where there is a low probability of additional housing development
 - Boroughs were also allowed to add their own low probability reasons where necessary, although these were scrutinised by the GLA for suitability.
- 2.23. It is important to reiterate that a site that met one of these categories was not automatically identified as a low probability site; to be classified as such boroughs also needed to be sure that the site circumstances meant that the potential of the site delivering housing within the whole SHLAA period was limited.

Reasons to exclude sites

- 2.24. In addition to the introduction of the low probability sites, the reasons for exclusions were also refined to prevent sites with housing potential from being excluded. Crucial to this was the removal of the 'other' excluded category. In both the 2004 and 2009 SHLAAs the majority of excluded sites were excluded for 'other' reasons. This did not provide a clear understanding of why a site was perceived as having no housing potential. Therefore, in the 2013 SHLAA for a site to be excluded it needed to meet one of the criteria below have a zero or close to zero chance of coming forward for housing development;
- New build housing completed since 2003 where additional housing development is improbable.
 - A recently completed (completed in the last 10 years) high value retail, leisure or office development, which means redevelopment is improbable.
 - The site includes a listed building or scheduled monument where development or intensification is unlikely (boroughs were encouraged to take account of potential for enabling development around the site, and potential intensification 'behind the façade' before selecting this option).
 - The site is safeguarded for a strategic transport infrastructure project (e.g. Crossrail)
 - The site is in strategic operational use and is expected to continue to be in use over the plan period so redevelopment is considered improbable. This exclusion is for sites that contain strategic infrastructure such as airports, railways, sewerage treatment works, waste sites and associated depots that are in operational use and have no potential of becoming redundant over the plan period. Boroughs were advised not to include sites that had been proposed by a land owners as part of the call for sites in this category.
- 2.25. Unlike the 2009 study, protected open space was not included as a reason for exclusion; this is because such sites were assessed as unsuitable for housing due to the protection being a constraint on development, rather than being excluded. Both approaches give such sites a zero probability of coming forward (see constraints section).

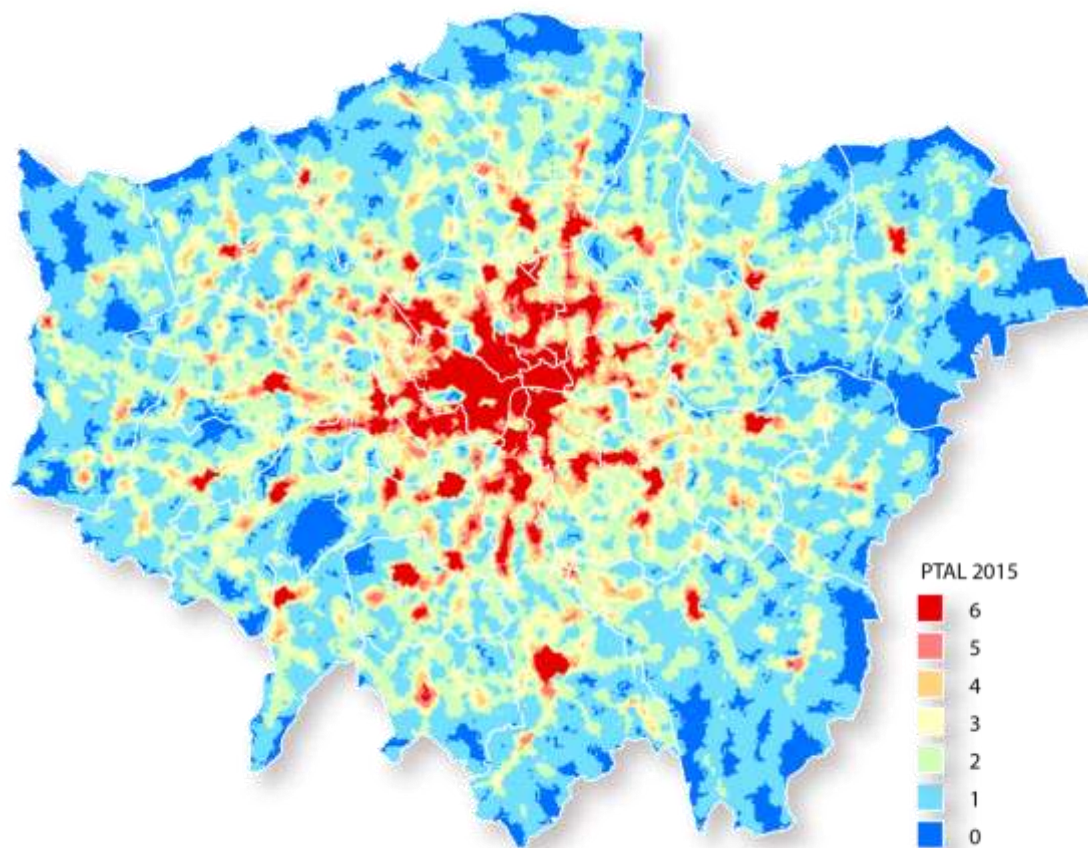
Stage 6: assessing housing potential

Notional capacity

- 2.26 The study system is designed to derive a 'notional' (unconstrained) capacity estimate for a potential/allocated site based on the size of the site and default density assumptions. The notional housing yield identifies the likely number of dwellings if a site is fully built out. The key assumption in calculating the 'notional' capacity is the density for each site which is derived from the London Plan Sustainable Residential Quality (SRQ) matrix. This is an initial assessment that boroughs then test and amend

where necessary; both through amending the density assumption and also through reflecting how much of the site is likely to be used for residential purposes.

Figure 2.1 PTAL map 2015-2019

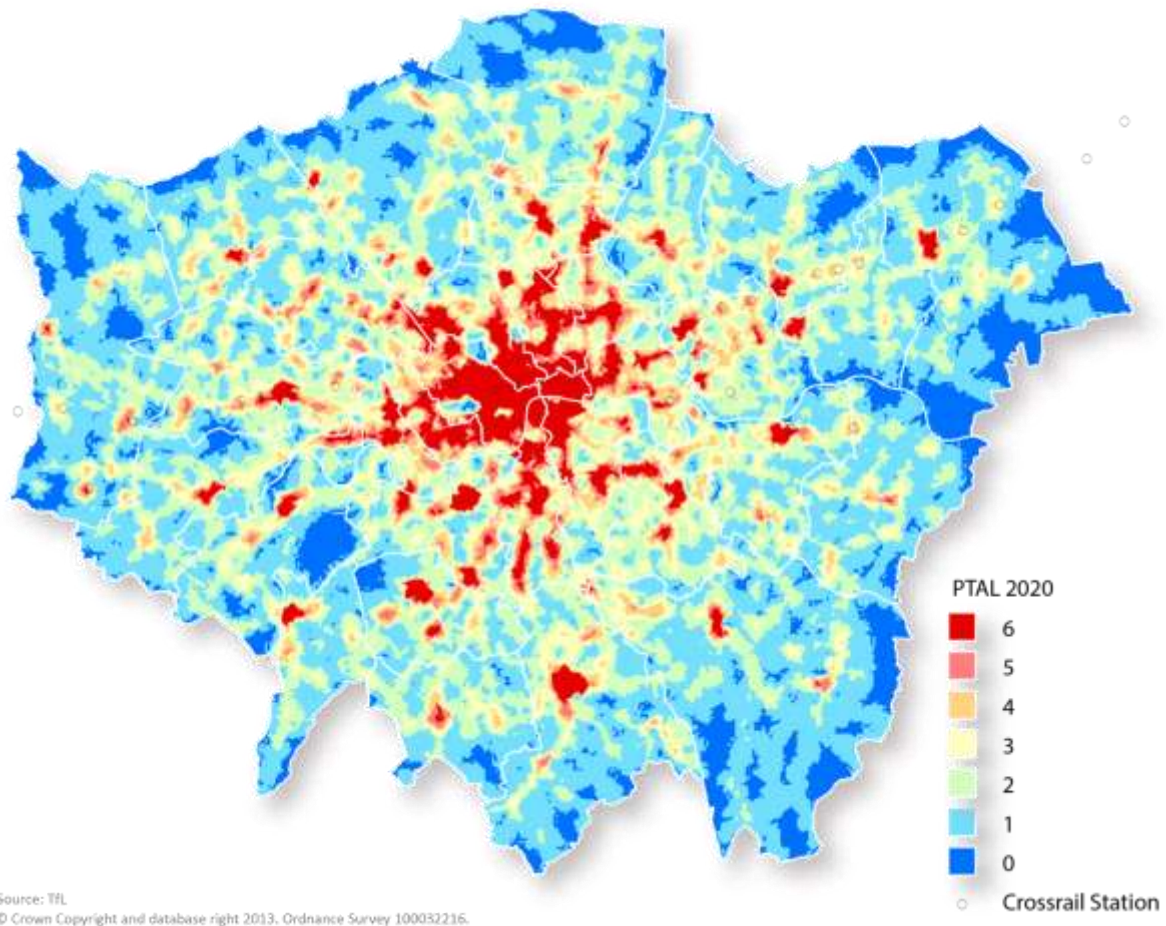


Source: TfL
 © Crown Copyright and database right 2013, Ordnance Survey 100032216.

- 2.27 The London Plan SRQ matrix is based on both the setting\character of an area and the Public Transport Accessibility Level (PTAL). In order to make an initial assessment of the appropriate density the system used two GIS layers¹⁴, one which details the PTAL and another that identifies the setting/character of an area.
- 2.28. The PTAL maps are supplied by Transport for London (TfL) and reflect changes in PTAL accessibility over the plan period. As the PTAL levels for some areas will change across the life of the study - reflecting changes and improvements in transport accessibility - two PTAL maps were used, one for 2015-2019 (figure 2.1) and one for 2020 to 2036 (figure 2.2). Therefore the assumed phasing of the site can also impact the notional capacity.

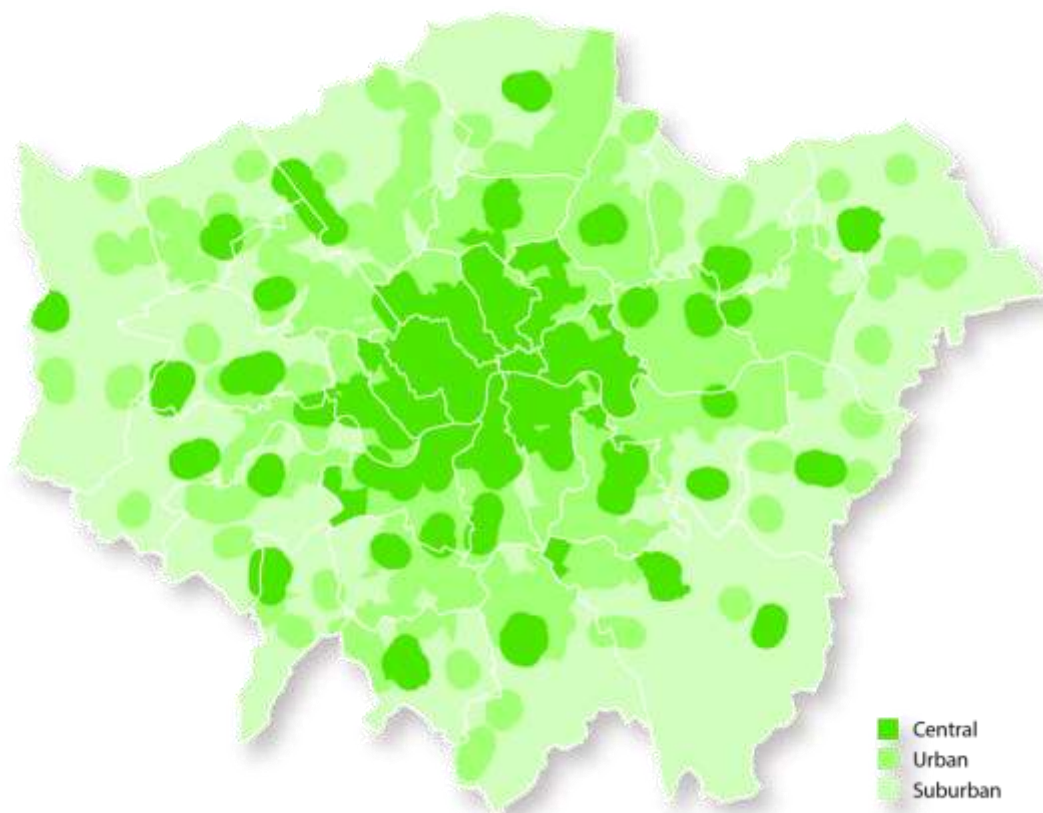
¹⁴ GIS layers' are a means of storing information [data] on a mapped or mapable basis so they can be interrogated by a GIS system spatially. The GIS system can then determine the information related to a specific locational point or area [polygon].

Figure 2.2 PTAL map 2020- 2036



2.29. The character map (figure 2.3) was based on a combination of 2001 census data at a neighbourhood level (super output area) and distance from town centre to address the definition in the London Plan (see figure 2.3 below). Neighbourhoods with more than 75% flats were designated 'central', those with more than 75% flats and terraced houses were designated 'urban' and the remainder were designated 'suburban'. Areas within 800 metres of a town centre boundary were superimposed over the neighbourhood and designated as central (International, Metropolitan and Major Centres, and also the Central Activities Zone) and urban (District Centres). As the map partly relies on 2001 census, there are inevitably areas that have changed in character; therefore boroughs were able to amend a site's setting. As with other borough changes to assumptions, these were subject to challenge by the GLA if they were considered inappropriate.

Figure 2.3 Character map



© Crown Copyright and database right 2013. Ordnance Survey 100032216.

Density Ranges

2.30. The SRQ matrix sets out density ranges for multiple PTAL levels (i.e. 0-1, 2-3 and 4-5) and for different habitable rooms per unit. Each character area is divided into three based on the range of habitable rooms per hectare; the SHLAA uses the mid-range - 3.1-3.7 habitable rooms per hectare - as the basis for standard density assumptions. See Table 2.1 below.

Table 2.1- London Plan table 3.2; sustainable residential quality (SRQ) density matrix (habitable rooms and dwellings per hectare)

Setting	Public Transport Accessibility Level (PTAL)		
	0 to 1	2 to 3	4 to 6
Suburban	150-200 hr/ha	150-250 hr/ha	200-350 hr/ha
3.8-4.6 hr/unit	35-55 u/ha	35-65 u/ha	45-90 u/ha
3.1-3.7 hr/unit	40-65 u/ha	40-80 u/ha	55-115 u/ha
2.7-3.0 hr/unit	50-75 u/ha	50-95 u/ha	70-130 u/ha
Urban	150-250 hr/ha	200-450 hr/ha	200-700 hr/ha
3.8-4.6 hr/unit	35-65 u/ha	45-120 u/ha	45-185 u/ha
3.1-3.7 hr/unit	40-80 u/ha	55-145 u/ha	55-225 u/ha
2.7-3.0 hr/unit	50-95 u/ha	70-170 u/ha	70-260 u/ha
Central	150-300 hr/ha	300-650 hr/ha	650-1100 hr/ha
3.8-4.6 hr/unit	35-80 u/ha	65-170 u/ha	140-290 u/ha
3.1-3.7 hr/unit	40-100 u/ha	80-210 u/ha	175-355 u/ha
2.7-3.0 hr/unit	50-110 u/hr	100-240 u/ha	215-405 u/ha

Notes to Table 3.2

Appropriate density ranges are related to setting in terms of location, existing building form and massing, and the index of public transport accessibility (PTAL). The settings can be defined as:

- central – areas with very dense development, a mix of different uses, large building footprints and typically buildings of four to six storeys, located within 800 metres walking distance of an International, Metropolitan or Major town centre.
- urban – areas with predominantly dense development such as, for example, terraced houses, mansion blocks, a mix of different uses, medium building footprints and typically buildings of two to four storeys, located within 800 metres walking distance of a District centre or, along main arterial routes
- suburban – areas with predominantly lower density development such as, for example, detached and semi-detached houses, predominantly residential, small building footprints and typically buildings of two to three storeys.

2.31. For the 2013 SHLAA, while keeping the standard density assumptions within this range (3.1- 3.7 habitable rooms per hectare), the assumptions within the range have been amended to take better account of the different densities and types of units that are sustainable and appropriate in different PTAL areas and different character areas, reflecting the role that increasing density can have in meeting pressing housing need. The 2013 defaults assume that areas with high PTALs in central and urban settings will deliver a greater number of one and two bed units and thus are set near the top of the

3.1-3.7 habitable rooms per ha range and areas in lower PTALs are assumed to deliver more family sized units and thus set nearer the lower end. For example the mid-range for a suburban location in PTALs 0-1 is 40-65 units per hectare; the default in the system for suburban PTAL 0 is 40 units per hectare. For a central location in PTAL 4-6 the mid-range is 175 -355 units per hectare; the default in the system for a central PTAL 5 is 301 and for PTAL 6 is 355, so to optimise densities in the most sustainable locations, while reflecting the type of units that are most appropriate. This approach assumes that a PTAL 4 location is likely to have a greater number of family units than a PTAL 6, and PTAL 3 would have more family units than PTAL 4 etc. The standard default densities are set out in Table 2.2 below. This approach reflects the Housing SPG¹⁵ which provides flexibility for lower density development in areas where the current character would be damaged by high density development (paras 1.3.42- 1.3.44) and the promotion of high density development in high PTAL areas to optimise potential (para 1.3.41).

Table 2.2 Standard default density assumptions

PTAL	Suburban	Urban	Central
0	40	46	46
1	40	56	64
2	56	91	132
3	64	109	158
4	76	123	238
5	97	174	301
6	115	225	355

- 2.32. In addition to the standard density assumption outlined above, the 2013 SHLAA introduced a separate density consideration for town centres. Town centres are important sources of housing capacity; they are sustainable development locations, suitable for high density development and as such they are key to meeting the needs of London's growing population. The town centre assumptions used a graduated point in the 2.7-3.0 habitable rooms per hectare range rather than the mid-range and increased the default point in the range for higher PTALs and settings, leading to PTAL 6 being set at the top of the range (405 units) See Table 2.3. This approach is justified on the assumption that firstly, town centres are sustainable locations for high density development and secondly, that the type of housing suited to town centres is one and two bedroom units rather than larger units.
- 2.33. The default assumptions are not designed to reflect local site circumstances or borough level policies about mix. Therefore, boroughs were able to amend the densities of sites based on local considerations to reflect the local character of individual areas. However,

¹⁵ Mayor of London. Housing SPG. 2012

boroughs were urged to understand the role higher densities can play in meeting housing need as required by the NPPF and thus not to artificially suppress density.

Table 2.3 Town centre density assumptions

PTAL	Suburban	Urban	Central
0	70	86	98
1	72.5	90.5	104
2	76	136	192
3	85.5	153	216
4	104	208	324
5	117	234	364.5
6	130	260	405

- 2.34. Analysis of past delivery helped inform the development of the defaults, but past development has not dictated the assumptions in the SHLAA. This is because firstly, analysis of past delivery often produced unreliable figures due to the low number of sites in some density categories. Secondly, average figures do not always represent actual on site density levels. Thirdly, the new SHLAA is not based on past trends; the population growth projected requires an increase in densities in sustainable locations to be able to contribute as much as possible to meeting housing need. Using past trends to underpin defaults would not have recognised this issue and would not necessarily assume the appropriate density in the most sustainable locations and thus would not contribute sufficiently to meeting need as required by the NPPF.

Mixed use

- 2.35. The notional housing output calculation is based on the net site area. Where a site is only partially suitable for housing or is to be a mixed use scheme, boroughs were asked to assess how much of the site should be used to calculate housing capacity. The boroughs considered a range of factors in determining the likely housing yield of a site. While this includes some of the issues that the system and boroughs may have already noted as 'constraints', boroughs also used their local knowledge to make adjustments to a site's net developable area for residential uses, which affects the site's notional capacity. This is important, as the system only uses constraint information to assess probability of the site coming forward, it does not impact the notional capacity of the site. Thus relying on the system constraints alone could overestimate the capacity of a site.

Constrained capacity

- 2.36. Once a potential/allocated site has been assessed for the notional housing capacity, the system generates a probability of housing being developed on the site based on the number of constraints affecting it; identified initially through a number of GIS-based layers and then further refined through the borough assessment process. The system then applies the calculated probability of a site coming forward for development to the notional housing capacity to generate a constrained housing capacity estimate. For example, if a site has a notional capacity of 150 units and an 80% probability of coming forward for development, the constrained capacity is 120 units.
- 2.37. This probability based approach has been developed to provide the best understanding of housing potential possible in the context of London's highly competitive land market. The SHLAA uses constraints to:
- determine the probability of potential and allocated sites being developed for housing,
 - when aggregated at a borough-wide level, determine the likely impact on the number of homes that will come forward over the target period (i.e. an estimate of housing capacity at the borough, sub-regional and regional levels which will inform the development of housing targets), and
 - provide an assessment of deliverability and developability of each site (determining whether a site is developable for housing, particularly in terms of its suitability and that it will be available, and could be developed, at a specific point in time). The degree of constraint also impacted the initial assessment of likely delivery phasing of the individual site.
- 2.38. As detailed above, the impact of identified constraints does not directly affect the notional housing yield of that site should it come forward for housing development, as derived by the study system. Constraints only impact the probability of development, and therefore only affect the constrained capacity estimate, not the notional capacity of the site should it be fully built out.
- 2.39. Some site constraints are so severe that the methodology automatically classifies the site as unsuitable for housing development. In other cases the constraint simply reduces the probability of the site coming forward for housing development within the plan period. Some constraints were automatically identified by the system through GIS constraint layers, others required input from boroughs. Boroughs also had the ability to amend system identified constraints. For example Boroughs could reclassify unsuitable sites as suitable if circumstances had changed or potential policy changes meant the site may become suitable for housing. However, it is important to note that the SHLAA is not an allocations exercise. Where boroughs seek to include a site currently protected for other uses such as open space or a Strategic Industrial Location (SIL) as part of their

land supply the usual process of de-designation through local plan policy will need to be carried out and the GLA consulted.

Policy constraints

Designated Open space

- 2.40. The SHLAA system automatically assigns sites formally identified as Green Belt, Metropolitan Open Land, Areas of Outstanding Natural Beauty, and Sites of Special Nature Conservation Interest as unsuitable and attaches a zero per cent probability to these sites. Boroughs then assessed if this was the correct categorisation and could choose a series of actions to make the site suitable for development where appropriate. Boroughs were also able to class any other protected Public or Private Open Space identified on a borough proposal map as unsuitable for housing development.

Protected Wharves

- 2.41 Protected wharves are treated in the same manner as open space.

Strategic Industrial Locations (SILs), Local Strategic Industrial Locations, (LSILs) and Non designated industrial sites which boroughs wish to retain.

- 2.42. As for open spaces, the SHLAA system automatically categorised potential sites identified as SIL as unsuitable for development but boroughs had the ability to address a SIL designation as a constraint and identify the site as suitable for housing where they considered the loss of SIL appropriate. When assessing the suitability of SIL sites for housing, boroughs were asked to carefully consider the impact of potential loss of SIL, and taking account of their industrial release benchmarks¹⁶.
- 2.43. Protected local industrial locations (LSILs) that are specifically identified in existing or emerging Local Plans but are not part of SILs were given a probability of delivering housing over the plan period, based on whether the London Plan categorises the borough as having a “restricted”, “limited” or “managed” approach to industrial land release¹⁷. Sites within a “restricted” borough received a 60% reduction relative to the notional capacity, those within “limited” boroughs received a 50% and those within “managed” boroughs received a 40% reduction.
- 2.44. Where boroughs felt the site could not be lost to housing in the early years of the plan and they had an up-to-date local evidence base such as an Employment Land Review to support this protection, the phasing of the site could be adjusted to move the potential housing capacity into a later phase. This acknowledged that the site’s protection as an

¹⁶ Link to bench marks;
<http://www.london.gov.uk/sites/default/files/SPG%20Land%20for%20Industry%20and%20Transport.pdf>

¹⁷ Link to bench marks;
<http://www.london.gov.uk/sites/default/files/SPG%20Land%20for%20Industry%20and%20Transport.pdf>

LSIS meant it was extremely unlikely to come forward for housing in the first SHLAA phases, while accepting that the need for the site to remain in its current use may change in the later years of the Plan.

2.45 For those sites that are not designated as SIL or LSIS, but are identified in boroughs local plans for retention as industrial sites, the initial constrained housing capacity was again based on the London Plan’s categorisation for industrial release. Sites within a “restricted” borough received an automatic reduction of 55%, those within “limited” boroughs 45% and for those within a “managed” borough 40%.

2.46 This approach was designed to reflect fairly the varying planning status of such industrial sites and is consistent with the approach used in 2009. Table 2.4 provides more detail on the system assumptions.

Table 2.4 Planning Policy constraints

Ref	Constraint	Source	Options	Default	Impact of yes	Impact of no	Borough editable
1	Designated open space	GLA, Borough designations, Local knowledge	Yes or no	Read from GIS	0% probability	none	Yes
2	SIL	GLA	Yes or no	Read from GIS	0% probability	none	Yes
3	Safeguarded Wharves	GLA	Yes or no	Read from GIS	0% probability	none	Yes
4	LSIS	Borough knowledge	Yes or no	No	Assumed probability: 40% 'Restricted' 50% 'Limited' 60% 'Managed'	none	Yes
5	Non LSIS or SIL industrial/warehousing site that borough’s Local policies wish to retain.	Borough Knowledge	Yes No	No	Assumed probability 45% 'Restricted' 55% 'Limited' 60% 'Managed'	none	Yes

Strategic/ Environmental constraints

2.47. GIS layers were also used to identify strategic/environmental constraints, such as air pollution, flood risk, noise pollution and pylons. These constraints are classified as low, medium or unsuitable. Strategic constraints that are classed as “low” do not affect a sites probability of coming forward and so have no impact on the constrained capacity

of the site. One “medium” constraint impacts a sites probability by reducing the capacity by at least 10%. This reduction graduates to 25%, 34% or 50% depending on how many “medium” constraints are present. An unsuitable constraint reduced the probability of a site coming forward to zero. Table 2.5 below shows the process in more detail. The approach is consistent with the one used in the 2009 SHLAA.

Figure 2.5 Strategic/Environmental constraints

Ref	Constraint	Source	Options	Default	Borough editable	Impact of “low” on probability	Impact of “medium” on probability	Impact of “unsuitable” on probability
6	Air Pollution (NO2 & PM10)	GLA GIS	Low Medium	Read from GIS	No	None	Cumulative reduction: 1“Medium” = 90% probability,	0% probability
7	Flood Risk (3B unsuitable, 3A Low, 3A higher risk medium)	Environment Agency and GLA GIS	Low- Medium Medium High- medium Unsuitable	Read from GIS	Yes	None.	2“Mediums” = 75% 3“Mediums” = 66%	0% probability
8	Noise Pollution (Aircraft) and (Road)	GLA GIS	Low, Medium, Unsuitable	Read from GIS	No	None	4“Mediums” =50%	0% probability
9	Pylons	GLA GIS	Low, Medium, Unsuitable	Read from GIS	Yes	None		0% probability.
10	Health and Safety executive consultation zones.	GLA GIS	Low (no HSE zone) Medium – middle zone and outer zone Unsuitable- inner zone	Read from GIS	Yes	None		0% probability
Sites that fall into flood risk categories medium and high have their probability reduced by a further 7% and 10% respectively.								

2.48. Following the same process as for policy constraints, boroughs had the ability to amend Strategic/Environmental constraints to make a site suitable where appropriate; the only constraints that could not be amended were noise and air pollution. Therefore, where

boroughs considered an existing constraint might be mitigated or removed in the future they could adjust the probability level accordingly. For example, a number of sites that were constrained due to being within HSE consultation zones were amended by boroughs to remove or mitigate that constraint based on local knowledge around the time scale for gas site decommissioning, with the phasing of the site amended to reflect when the site was expected to become suitable.

Local constraints

2.49. For all potential and allocated sites, boroughs were able to use local knowledge to identify local constraints such as ownership, local infrastructure, contamination and environmental constraints that will reduce the probability of a site coming forward. The impact of local constraints is as follows; “low” had no impact on probability, “medium” reduced probability by 10% for each “medium” constraint (four mediums = 60% probability) and “unsuitable” reduced the probability to zero. This approach is consistent with the 2009 SHLAA. Table 2.6 below shows how this works in more detail.

Table 2.6 Local constraints

Ref	Constraint	Source	Options	Default	Borough editable	Impact of Low	Impact of medium	Impact of unsuitable
11	Ownership	Borough Knowledge	Low, medium, unsuitable	Low	Yes	None	10% reduction	0 % probability
12	Local Infrastructure	Borough Knowledge	Low, medium, unsuitable	Low	Yes	None	10% reduction	0 % probability
13	Environmental Setting	Borough Knowledge	Low, medium, unsuitable	Low	Yes	None	10% reduction	0 % probability
14	Contamination	Borough Knowledge	Low, medium, unsuitable	Low	Yes	None	10% reduction	0 % probability
Cumulative impact; 4 Mediums = 60% probability, 3 Mediums =70% probability, 2 mediums 80% probability, 1 medium 90% probability.								

Final probability calculation: constrained capacity

2.50. The system used these assessments to calculate a probability for the three types of constraints (Policy, Strategic, and Local) on a site and then applied the lowest of these to the notional capacity to generate the site’s final constrained capacity (see table 2.7). Thus if a site generates a 0% probability in any of the categories, the site was assigned

a 0% probability of development by the system. If the site has strategic constraints that reduce the probability of development coming forward from 100% to 66% and local constraint that reduce it from 100% to 80%, the lower 66% probability is applied to the notional capacity (a 44% reduction) to give the constrained yield. Where a site has no constraints it has 100% probability of development and the notional capacity is used.

Figure 2.7 Final probability calculations

Ref	Constraint	Probability source	options	default
15	Planning Policy Constraints	Lowest of 1,2,3,4,5	System Generated	System Generated
16	Strategic Constraints	Lowest of 6, 7, 8,9	System Generated	System Generated
17	Local Constraints	Lowest of 11,12,13, 14	System Generated	System Generated
18	Final Constrained Housing Capacity	Lowest of 15, 16, & 17	System Generated	System Generated

2.51. This overall approach provides London wide consistency while allowing informed discussions on individual sites, and also reflects the industrial policies and SIL framework outlined in the London Plan.

Overcoming constraints

2.52. The SHLAA Practice Guidance requires consideration of how any constraints could be overcome (Para 42):

- *Where constraints have been identified, the Assessment should consider what action would be needed to remove them. Actions might include the need for investment in new infrastructure, dealing with fragmented land ownership, environmental improvement, or a need to amend planning policy which is currently constraining housing development.*

2.53. The SHLAAs probability based approach to potential and allocated sites means that boroughs are already encouraged to assess the potential for overcoming constraints as part of the site assessment. For sites with capacity, the probability based approach implicitly allows boroughs to takes account of the likelihood of the constraints being overcome through adjusting the probability and adjusting the net site area if overcoming that constraint would reduce the net site area available for residential development. For sites where the constraint rendered them unsuitable, boroughs could remove the constraint if there was some possibility that the constraint would be

overcome over the life of the plan and if overcome, the site would have housing potential.

2.54. In addition, to provide further information about the possible ways to increase housing capacity, for all sites with constraints, boroughs were given a series of options as to how each particular constraint could be overcome. The borough could select none or one or more of the available options. Boroughs were encouraged to only select an option when they felt overcoming the constraint(s) would deliver a suitable housing site.

2.55. It is important to note that the overcoming constraints options were to help boroughs consider how the constraints could be overcome in the future and inform the GLA of possible future capacity, but it did not affect a site’s probability of coming forward or impact the capacity figures. Identifying opportunities to overcome constraints did not imply that these actions alone would enable delivery of housing; however they identified actions that would be required to overcome the identified constraint.

2.56. The constraints and options for overcoming them are set out below in Table 2.8 below.

Table 2.8 Policy constraints

Policy Constraints	Overcoming constraints
Designated open space	<ul style="list-style-type: none"> • De-designate open space. • Re-provide open space elsewhere. • Allow enabling development to improve designated open space
Strategic Industrial Location	<ul style="list-style-type: none"> • De-designate SIL (where justified by other circumstances) • Allow mixed-use development
Locally significant industrial site	<ul style="list-style-type: none"> • De-designate LSIL (where justified by other circumstances) • Allow mixed-use development
Other protected industrial site	<ul style="list-style-type: none"> • De-designate protected site (where justified by other circumstances) • Allow mixed-use development
Strategic/ Environmental Constraints	
Air Pollution (low/med/unsuitable)	<ul style="list-style-type: none"> • Design mitigation measures for proposed residential development (e.g. set-back, location of habitable rooms etc.) • Reduce air pollution through road network management
Noise Pollution	<ul style="list-style-type: none"> • Design mitigation measures for proposed residential development (e.g. set-back, location of habitable rooms etc.) • Reduce noise pollution through road network management
Flood Risk	<ul style="list-style-type: none"> • Provide set-back on-site Provide on-site SUDS Provide other flood mitigation measures on-site • Reduce density (no ground floor provision) • Provide other off-site flood mitigation

Pylons	<ul style="list-style-type: none"> • Pylon undergrounding (funded by development) • Pylon undergrounding (not able to be funded by development) • Pylon re-routing
Local Constraints	
Ownership	Developer land purchase/dealing with fragmented ownership <ul style="list-style-type: none"> • Compulsory borough/GLA purchase of site • Relocation of existing user to transfer ownership
Social Infrastructure	<ul style="list-style-type: none"> • Provide public transport infrastructure • Minor changes to local road network • Provide additional utilities services • Require contribution to social infrastructure provision
Environmental Setting	<ul style="list-style-type: none"> • Closure/removal of neighbouring uses • Change to surrounding area through comprehensive redevelopment • Improvement of air/noise pollution in surrounding area
Contamination	<ul style="list-style-type: none"> • Decontaminate land (funded by development) • Decontaminate land (may require funding) • Develop only part of site

2.57. This section of the system also recorded the reason for changing constraints that either rendered a potential site unsuitable or gave an unsuitable site capacity.

Stage 7: assessing when and whether sites are likely to be developed.

Phasing of sites

2.58. The phasing of a site is informed by the status of development (approval, allocated, potential etc) its size and type and judgements around the feasibility and viability of the site.

2.59. This study is divided into 5 phases; phase one is the preliminary phase; from the date of the study (2013) to the year the Further Alterations are expected to be adopted (2015), phase 2, 3 and 4 are five year phases, with the final phase a six year phase to take the assessment to the end of the plan period.

Table 2.9 the SHLAA phases; 2013-2036

Phase	One	Two	Three	Four	Five
Start	April 2013	April 2015	April 2020	April 2025	April 2030
Finnish	March 2015	March 2020	March 2025	March 2030	March 2036

- 2.60. The system generated default phasing based on the status of the site and the site's probability for development. Thus changing a site's constraints also changed the assumed phasing of the site. Boroughs were asked to check the phasing of every site (including approvals). This was because the system defaults were based on broad assumptions which required refinement based on the site size, the type of development and local insight into the feasibility and viability of the site and surrounding land uses which could have implications for the phasing of the site. The defaults in the system were:
- Approved sites on which development had started were allocated to phase one; all others with planning permission were allocated to phase two
 - Potential/allocated sites that have a 100% probability of development were allocated to phase 2
 - Potential/allocated sites with probability of less than 100% but greater or equal to 60% were allocated to phases 3
 - Potential/allocated sites with probability less than 60% were split between phase 3 and 4
 - Low probability site capacity was split between phase 3, 4 and 5
- 2.61. Boroughs were encouraged to check the phasing of all schemes to ensure the system reflected an ambitious but realistic phasing of sites. Sites that were complete or very close to completion at the time of the assessment were excluded or recorded as complete in phase one.
- 2.63. While the for large sites the SHLAA covers the period 2013–2036, the nature of London's land market and the importance for making provision of sites currently in other uses, means it is challenging to provide an authoritative estimate of capacity which will come forward in the longer term. Therefore, the average of phases 2 and 3 is used to underpin the housing targets in further alterations to the London Plan. This approach was also taken in the 2004 and 2009 SHLAA.

Deliverable or developable and viability

- 2.64. The NPPF requires sites in the first 5 years of supply to be deliverable¹⁸ and sites or broad locations in years 6–10 should be developable¹⁹. London's housing market, which involves the recycling of land in existing uses, makes an exact site by site understanding of whether a site is deliverable or developable problematic. The probability based approach addresses this by assigning probabilities and phasing to sites, which on

¹⁸ To be considered deliverable, sites should be available now, offer a suitable location for development now, and be achievable with a realistic prospect that housing will be delivered on the site within five years and in particular that development of the site is viable. Sites with planning permission should be considered deliverable until permission expires, unless there is clear evidence that schemes will not be implemented within five years, for example they will not be viable, there is no longer a demand for the type of units or sites have long term phasing plans.

¹⁹ To be considered developable, sites should be in a suitable location for housing development and there should be a reasonable prospect that the site is available and could be viably developed at the point envisaged.
Office to residential

aggregate provide an authoritative indication of the potential deliverable and developable housing capacity across the phases. Taking account of probability calculations, sites with a zero probability of coming forward are classified as not currently developable and all sites in phase 5 are classified as not currently developable. Approved sites are considered deliverable and other sites with the majority of delivery in phase one and two and 100% probability of development are considered deliverable. All other sites in phase 1-4 are considered developable. .

Viability

- 2.65 The NPPF places an increased emphasis on viability both in terms of assessing if sites can be considered as deliverable or developable and in terms of the viability of overall plans. The NPPF's definition of deliverable and developable requires an appreciation that a site is viable for housing development or will be at the point in time envisaged. Through their local assessments of sites, boroughs will have included their own knowledge about the sites' viability, amending the phasing and probability accordingly. However, the level of that understanding will differ on a site by site basis and between boroughs; for example, boroughs that have carried out detailed work to inform their Community Infrastructure Levy will have comprehensive viability information on some sites. Boroughs also have a good viability overview of allocated sites. However, appreciation of the viability of potential sites is usually less developed.
- 2.66. The large scale nature of the pan London SHLAA and the complexity and pressures of the London land market means that this SHLAA includes potential sites as well as sites already identified for housing. Thus, detailed viability testing of all sites is not possible – a point recognised by Harman²⁰ in his support for a sample based approach to inform planning policy.
- 2.67. However, to ensure that the housing targets in the London Plan are informed by a consistent understanding of viability a separate viability study has been carried out as part of the SHLAA. This provides an appreciation of the overall housing market and its direction of travel according to various industry experts. It also assesses the viability of a "notional" site in each London borough and includes viability assessments on a sample of 40 specific SHLAA sites. The site samples have been drawn from boroughs which have significant housing capacity and which are also considered the most likely to have viability issues, with some adjustments to ensure a range of geographical coverage²¹.

Sources of capacity outside the large site system

- 2.68. As well as large sites, the SHLAA also takes account of other sources of capacity, calculated through a range of measures. These additional sources of supply include small sites (sites under 0.25ha, including new build, conversions and change of use), non-self-contained accommodation and supply from bringing vacant stock back into

²⁰ Viability Testing Local Plans –advice for planning practitioners. Local Housing Delivery Group, chaired by Sir John Harman. June 2012

²¹ Three Dragons, David Lock Associates, Housing Futures. London SHLAA viability assessment 2013

use. In the unique circumstances of London these source of housing supply have historically been important in addressing housing need.

Small sites

- 2.69. Small sites are those below 0.25ha. They make a significant contribution to housing delivery in London. The approach to assessing future housing yield from small sites is based on extrapolating historic trends drawing on data from the LDD on housing completions from 2004/05-2011/12 forward. The time series of 2004-2012 provides a robust basis for such a trend as it covers a full market cycle, providing a realistic average for the plan period. The sources of supply from small sites includes change of use, new build, and conversion, thereby reflecting trends such as conversions of houses into flats and infill development.
- 2.70. Historically, some small site development has been delivered on garden land; though the NPPF is clear that garden land should not be included in any windfall assumptions, the 2009 SHLAA anticipated this national policy change. It included an amendment to the small site figures to reduce the small site capacity from garden land to take account for the then forthcoming 2011 London Plan which allowed boroughs, where the evidence justified it, to introduce policies to restrict development on garden land. This amendment removed 90% of garden land sites from the small site trend assumption. The rationale for not removing a 100% of this contribution is that the measure used to identify garden land in the LDD is only a proxy measure. Therefore, development that is not taking up garden land in a traditional sense (it is part of a site that has an existing residential unit but is not 'garden' per se;) will also be included in the garden land numbers. Using a 90% reduction rather than 100% reflects the fact that prevention of this sort of development is a matter for local policy and some is likely to continue. However, it is in keeping with the NPPF as it effectively removes any assumptions about capacity coming from garden land as a result of a windfall assumption. Therefore this approach was maintained in the 2013 SHLAA.
- 2.71. In consultation on the small site approach, some boroughs felt that a simple average across 2004/05- 2011/12 would not reflect the impact of proposed or recently introduced local policies to constrain "small" site development. However, there was not sufficient evidence to demonstrate that these policies are significantly reducing the number of units coming forward. Some boroughs pointed to decreased output in 2009-2010, but this might also be attributed to the impacts of the recession. In addition, there are also arguments to assume that the 2004-12 trend will in fact under estimate future delivery, in particular due to; the tendency for densities to increase over time, the office to residential permitted development rights and the proposed retail to residential permitted development rights, which are all likely to lead to an increase in housing numbers from small sites.
- 2.72. The methodology did raise the possibility of adjustments being made to take account of these potential increases in small site provision. However, given the uncertainty around the implications of office to residential, including its potential to actually reduce

capacity where sites were identified for redevelopment rather than conversion (see office to residential section) and the robust justification for using a past trend approach, no adjustments were made. All small site data was supplied to boroughs in order for them to check the data for accuracy and anomalies.

Long term vacants returning into use

- 2.73. The London Plan aims to reduce the number of long term empty properties down to 1% of the housing stock. Previous SHLAAs have been based on the premise that London will aim to reduce private sector long term vacants to 1% of the private sector stock in each borough over ten years. Data is now available for long term vacants for all tenures, but is no longer broken down by tenure. The data is sourced from council tax records and is available from DCLG.
- 2.74. The data shows that there has been a decrease in long term vacants in London as a whole from 42,600 in 2004 to 29,540 in 2011 (see Table 2.10). This could be due to a number of reasons, including the increased pressure on the housing stock in London and the New Homes Bonus as an incentive for Local Authorities to bring properties back into use. However, there have also been changes to council tax over this time and a number of Local Authorities have reduced or removed the discount available to empty properties, which may have reduced the numbers of people declaring/registering that their homes are empty.
- 2.75. While cross tenure data on long term empty properties provides a fuller picture of long term vacants in each borough, it requires a new approach to assessing the numbers of vacants expected to be returned back into use over the plan period. The addition of affordable housing into the data set reduces the number of vacants as a per cent of the overall stock. This is probably due to social housing having a managed turnover and, given the current pressure for social and affordable rented dwellings, it is unlikely that these units will be empty for longer than 6 months unless they are earmarked for demolition. Therefore the 1% of stock as vacants criterion is not appropriate reduction benchmark for the SHLAA when looking at the whole stock rather than just the private sector.
- 2.76. To address this, two options were considered in the methodology for the 2013 SHLAA; a target based on reducing the proportion of long term vacants to 0.75% of total stock or a target based on reducing long term vacants to 0.50% of total stock – see Table 2.10.

Table 2.10 Vacant potential approaches

	Current London Plan target	2004-2011 annual average Vacants brought back into use	Current total stock (2011) *	Long term vacants (2011)**	Option one: reduce vacants to 1% of total stock -annual target	Option two: reduce vacants to 0.75% of stock -annual target	Option three: reduce vacants to 0.5% of stock -annual target
Barking and Dagenham		-5	72,070	468			11
Barnet	79	38	138,610	1390	0	35	70
Bexley		17	94,330	779	0	7	31
Brent	61	95	109,320	629	0	0	8
Bromley		95	134,310	840	0	0	17
Camden		64	98,350	1053	7	32	56
City of London		11	6,000	45	0	0	2
Croydon	91	237	150,820	1321	0	19	57
Ealing	47	80	126,970	656	0	0	2
Enfield	22	256	118,600	1057	0	17	46
Greenwich	65	-44	107,760	1620	54	81	108
Hackney	31	35	99,000	2023	103	128	153
Hammersmith and Fulham	30	97	82,080	757	0	14	35
Haringey	28	64	98,230	649	0	0	16
Harrow	0	28	85,620	210	0	0	
Havering		11	98,290	996	1	26	50
Hillingdon		13	102,940	693	0	0	18
Hounslow		139	93,580	19	0	0	
Islington		41	96,280	944	0	22	46
Kensington and Chelsea	45	21	86,060	1107	25	46	68
Kingston upon Thames		105	65,440	797	14	31	47
Lambeth	46	40	130,050	1676	38	70	103
Lewisham		-134	114,820	940	0	8	37
Merton		-13	85,000	538	0	0	11
Newham		11	103,400	1252	22	48	74
Redbridge	11	-29	101,340	693	0	0	19
Richmond upon Thames		33	82,020	387	0	0	
Southwark		148	119,050	1157	0	26	56
Sutton		59	81,080	817	1	21	41
Tower Hamlets	43	-78	99,640	939	0	19	44
Waltham Forest	69	39	95,930	670	0	0	19
Wandsworth	0	356	132,090	549	0	0	
Westminster	81	34	109,190	1869	78	105	132
Total	749	1,864	3,318,270	29,540	343	755	1375

* Stock data was sourced from DCLG live table 125 in February 2013. Since then stock data has been updated to take account of the census, therefore the figure above may not be consistent with the updated table 125. However, this data was consulted on as part of the methodology thus it is being retained for consistency.

** Long term vacant data is sourced from DCLG live table 615 and relates to long term vacants at 3rd of October 2011

- 2.77. Trend data demonstrates that the number of vacants has reduced in many boroughs, even those boroughs that already have less than 1% of their private rented stock vacant. Figure 2.10 above compares the implication of introducing a 0.75% of total stock target and a 0.5% target for each borough, comparing it with current trends and the current London Plan target. It demonstrates the decreasing relevance of the 1% target for most boroughs.
- 2.78 The 0.75% benchmark was adopted because it provides numbers that are realistic in comparison to past delivery. However, it is also conservative enough to reflect the possibility that the recent scale of reductions in numbers of long term empty properties could be from a combination of less people declaring empty properties, and an improvement in the quality of council tax data rather than actual properties coming back into use.
- 2.79. While this does represent a change to the approach set out in the London Plan, it is justified given the data available and the on-going commitment to bring empty properties back into use.

Non-self-contained units

- 2.80. Predominantly non self-contained accommodation in London is delivered in the form of student housing. Previous SHLAAs used development data over a period of time to establish a trend to project forward for future student accommodation. However, a number of boroughs have raised issues with this approach, particularly where they have seen significant student housing development and are concerned about its impact on their ability to meet conventional housing need, as well as the implications of concentrations of student housing on surrounding neighbourhoods. Moreover, the historic approach assumed that new student housing developments would not be delivered on sites that had been counted in the SHLAA as potential housing sites. However, student housing has become relatively profitable, to the extent that it was one of the few housing sectors that delivered consistently through the recession. While in the past, when student housing was a lower value investment, sites that were not considered to be suitable for housing were often utilised for this form of accommodation, more recently, student accommodation can compete with conventional residential for land. Therefore, it is often built on land identified in the SHLAA as having potential for conventional housing in the SHLAA. Thus it would be double counting to add a student trend to the conventional housing targets. Moreover, such an approach would reinforce concentrations of student development.

- 2.81. The Mayors Academic Forum, the findings from which were presented to the Mayor to inform the FALP²², explored alternative ways to address student housing needs. These included: developing a needs based target on a borough by borough basis; developing a needs based target to be distributed by reasonable travelling times to universities; or a needs based target distributed uniformly across London. An alternative approach entails incentivising greater dispersal by ensuring boroughs, universities and the student housing sector work more closely together. Of these options the latter was found to be the most workable. There were considerable practical difficulties associated with developing targets on a borough level. For example, using reasonable travelling distances would reinforce current patterns. Splitting provision across all boroughs is not practical as many outer London boroughs do not have interest from universities or private student accommodation providers and thus they would be unlikely to be able to deliver their share of the target, which would have implications for the overall supply of student housing. The Academic Forum therefore recommended that the FALP should set out the overall need for purpose built student accommodation and that each borough should aim to help meet both local and strategic need, with a particular focus on encouraging a dispersed distribution away from the areas of greatest concentration in central London. This would be encouraged through more positive engagement between the universities, boroughs and private sector housing providers.
- 2.82. For SHLAA purposes the capacity from student bed spaces is based on the pipeline of student housing development in each borough. This has been collated in much the same way as is allocations and approvals information for conventional housing. In addition, boroughs were asked to provide information on any other student pipeline sites of which they were aware. The pipeline figure for the SHLAA was then established by removing any schemes that have an anticipated completion date of before April 2015. This approach captures the additional capacity from student accommodation without double counting. Student provision beyond this point will have to be balanced with need for conventional housing supply on potential housing sites and through identifying additional sites that may be suitable for student housing. In particular high density development in town centres should be considered as having potential to meet this need, which would not only deliver sustainable housing development but also help revitalise town centres.

Specialist housing uses

- 2.83. Although the SHLAA is predominantly focused on identifying sites for conventional housing, boroughs were also encouraged to use the SHLAA process as a way of identifying which sites that have potential to meet specific housing needs; particularly the potential for sites to meet the needs of older people, 'self-build' and gypsies and travellers. Where a site was considered particularly appropriate for these uses, densities could be amended in the system to reflect this.

²² Mayor's Academic Forum: Strategic planning issues for student housing in London. Recommendations. GLA 2014

Office to residential

- 2.84. The London Plan has always had a liberal approach to applications to change offices to residential and provides explicit encouragement for the managed release of surplus office space, especially outside the CAS and the Isle of Dogs. The SHLAA has reflected this by attaching no protection specifically to offices, although the probability of development will be affected by constraints in the same way as other sites. In January 2013 the government announced a change to permitted development rights which would allow the conversion from office to residential without planning permission for three years. There was an option to exempt areas where there is a robust case to do so. The GLA worked with relevant boroughs to seek the exclusion of the CAZ and other particularly significant central London office locations from the permitted development rights. Those who were successful in gaining an exception were announced on the 9th of May.
- 2.85. When assessing current office sites, boroughs were encouraged to take account of the new PD rights and make assumptions about the impact of this on the probability of housing coming forward on a particular site. Because this is a step change in planning policy, there is limited past information that can be drawn on to inform a judgement about the potential impact. Information on past trends on housing capacity arising from changes of use from offices does exist and it shows that over the last four years up to the introduction of the new PD rights, some 4,000 residential units per annum have been delivered on former office sites, backed by a significant pipeline. There is uncertainty as to how the new PD rights will bear on this level of provision. In taking this into account when considering the yield of potential sites currently in office use, it should be noted that the London Office Policy Review (LOPR)²³ found that office conversions delivered lower levels of units than office redevelopments. For office sites where conversion is more likely than redevelopment, boroughs were advised to amend the density assumptions to take account of the actual office building and estimate a housing capacity based on that.
- 2.86. The office to residential PD rights are currently time limited to three years and would only be in operation for one year of the plan period and thus the impact on capacity across the ten year target may not be significant. However, some boroughs have already noticed that current office sites identified as having a large capacity as potential housing sites through redevelopment are seeing PD applications. Given that conversions often deliver fewer units than redevelopment, this could reduce the numbers of units delivered on such sites. On the other hand, many small offices are also being converted to residential which could suggest an underestimation of capacity in the small sites trends reported in this SHLAA.

Stakeholder involvement

- 2.87. Consultation on the SHLAA methodology covered the assessment's approach to all the constituent elements of London's housing capacity. All boroughs and the SHMP were

²³ London Office Policy Review 2012. GLA

invited to be involved in shaping the methodology. The approach to non-self-contained (NSC), which is concerned primarily with specialist provision for students, was taken forward by the Mayor's Academic Forum which included borough representatives.

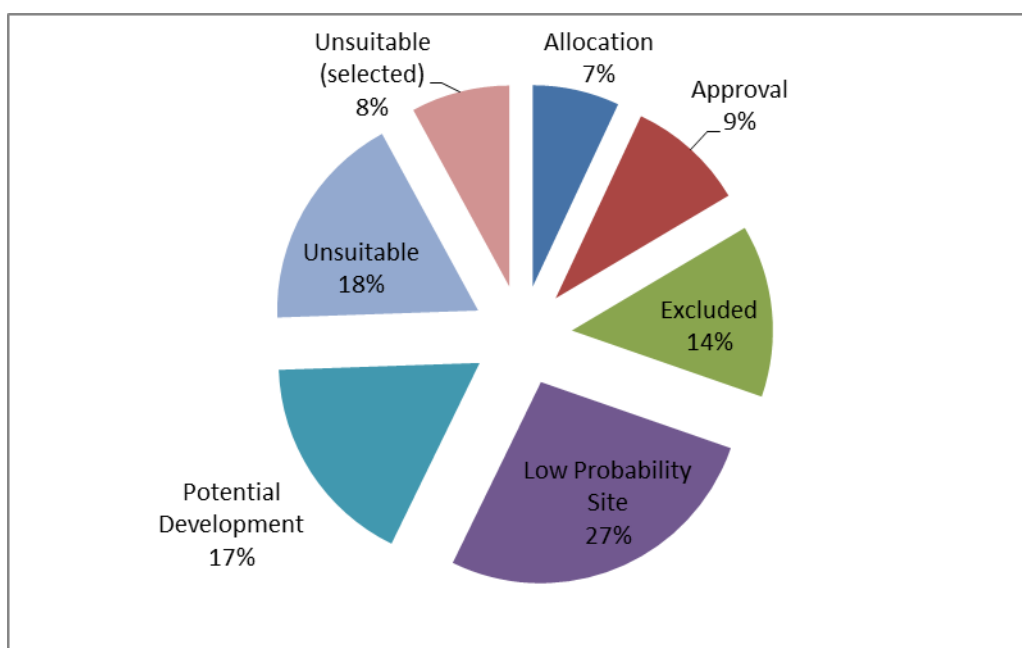
- 2.88. The SHLAA system was designed to provide boroughs with a running total of potential capacity while they carried out their assessment, including the small site assumptions and assumptions about the number of vacants coming back into use. This ensured that boroughs were clear about their overall figures (excluding NSC which was addressed separately) and thus were in a position to understand the impact of each large site assessment on their total capacity figure.
- 2.89. To provide a consistent basis for site assessments and understanding of emerging results, the GLA held a meeting with each borough following submission of individual site assessments. The GLA developed a proforma to ensure each borough's figures were scrutinised on a consistent basis. At the time the SHLAA was being carried out, household projections and the London wide SHMA were still being developed. As an interim measure the DCLG 2011 household projections were used as starting point for understanding housing need to inform the discussions with the boroughs. In particular, boroughs were encouraged to identify capacity that would meet their household projections to help London meet its needs within the context of the NPPF.

3 RESULTS

- 3.1. This section presents the capacity results of the 2013 SHLAA. They are presented by source: large sites, small sites, non-self-contained units and targets for long-term vacant properties returning into use. Capacity is given at the London wide, sub regional and where appropriate borough level. The commentary seeks to highlight the patterns in distribution of each component of supply across the capital.
- 3.2. It is important to re-iterate that the calculations of capacity for large potential housing sites are based on borough aggregates, using the identified constrained capacities from individual sites. They are not intended to imply that a site will achieve a specific housing output, but when aggregated to borough level are considered to provide valid estimates of potential capacity from all identified housing sites. As potential and low probability housing sites are identified purely for the purposes of this study, site level information on sites which fall into these categories is not identified in this report. Site level information is only provided on sites identified as allocations and approvals - see Appendix eight.

Identified large sites: phases one to five

- 3.3. 9,210 large sites (0.25ha and larger) sites were identified and initially loaded into the study system by the GLA, 339 of which were identified through the call for sites. Notional and constrained housing capacities were initially calculated for each site using the parameters of the SHLAA system detailed in the methodology (Section two). Once the sites had been loaded in the system, boroughs were able to log into the system and make amendments to the assumptions using local knowledge of the sites. Through this process sites were classified in terms of their housing potential.
- 3.4. A number of sites were identified by boroughs as needing to be deleted from the system. Often these were removed to enable a site to be amalgamated or redrawn (therefore a reduction in site numbers may not necessarily mean a reduction in site area overall). On a small number of occasions borough's identified 'non sites': sites that covered solely or mainly roads, or sites that once a correct boundary was drawn were under 0.25ha. These sites were deleted from the system if the GLA agreed with the assessment. Borough users added 387 sites to account for sites that were not originally captured by the GLA dataset or as part of redrawing more appropriate or amalgamated site boundaries.
- 3.5. Following the removal of deleted sites and inclusion of extra sites by the boroughs, 9,351 sites were contained in the large site system. The system initially identified 494 sites as being allocated for housing, 789 as having planning permission for development which includes housing, 2,619 were identified by the system as being unsuitable for housing and 5,449 were identified as potential housing sites.
- 3.6. Following borough assessments the 9,351 sites were classified as detailed in the figure 3.1 below.

Figure 3.1: status of sites following borough assessments

Unsuitable sites

- 3.7. As discussed in Section two, the system automatically identified some sites as unsuitable due to the constraints on the sites. In all cases boroughs were asked to verify that the site should be identified as unsuitable. Of the 2,619 unsuitable sites the system identified, 170 were amended from 'unsuitable' to 'excluded' by boroughs. 614 were amended by boroughs as being suitable for development. There were a variety of reasons for this; mitigation of constraints, de-designation of protections, or rectifying errors in the system's base information (for example some sites had been identified as SIL sites but actually had already been de-designated). Of the unsuitable sites that boroughs reclassified as suitable, the majority were reclassified as low probability sites (320), reflecting that the sites retained significant barriers to actually coming forward as housing sites.
- 3.8. 549 additional sites were identified by boroughs as unsuitable (identified in the system and figure 3.1 above as "unsuitable selected"). Of these, 192 sites were identified as unsuitable due to being allocated protected local open space, which reflects the fact that the system did not automatically identify local open space designations. The majority of sites that were identified by boroughs as unsuitable were unsuitable due to local constraints, in particular, ownership constraints. This was especially prevalent for sites in town centres, where the sites loaded into the system covered a number of buildings in multiple ownership. Without a comprehensive regeneration programme it is unlikely that such areas would come forward as one site and thus boroughs identified these sites as unsuitable. In reality housing is delivered in such locations and to some

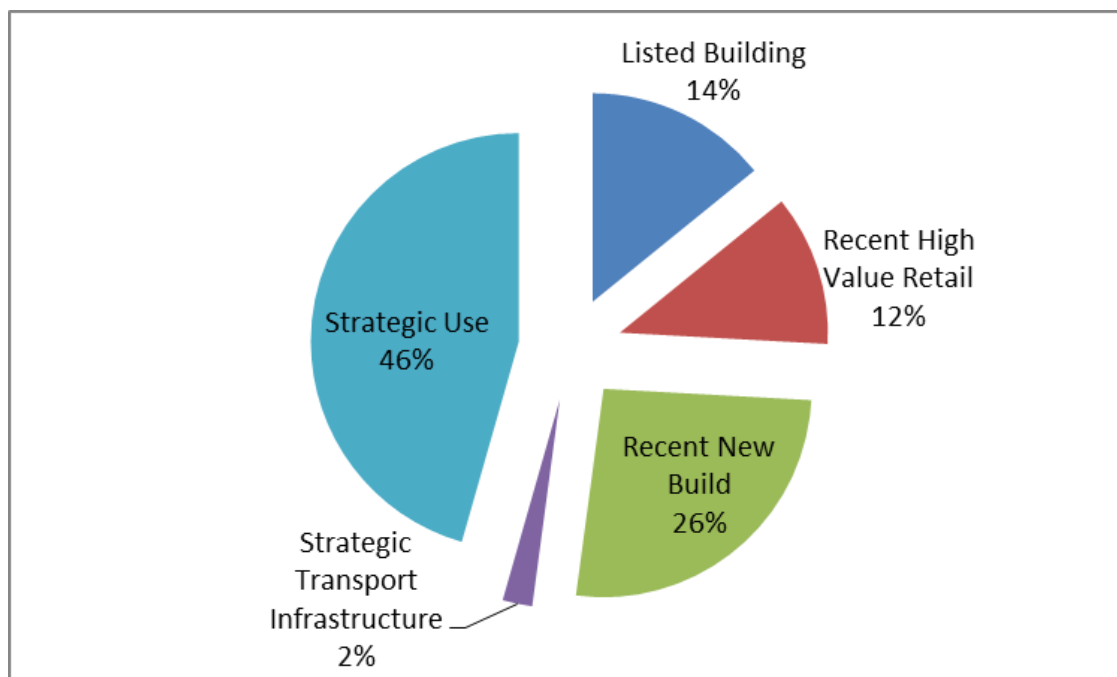
extent this is captured in the small site trend data. However, as discussed in Section four, these sites could provide significant opportunities for high density development and could particularly boost the housing capacity of outer London boroughs. Thus it should be recognised that the SHLAA may underestimate the potential capacity of such locations.

- 3.9. Following the borough assessments, a total of 2,389 sites were classified as unsuitable, The main reason for sites being classified as unsuitable was policy constraints (83%), in particular, open space (1194 sites) and SIL designations (834 sites).

Excluded sites

- 3.10. 1,296 sites were excluded from the study. As discussed in Section two, the 2013 methodology differed from the 2009 SHLAA in respect of excluded sites to reflect the fact that some excluded sites do come forward with housing (para 2.20 -2.21). The new approach in the 2013 SHLAA has led to a significant decrease in the number of sites that have been excluded; from 5,577 sites in the 2009 study to 1,296 in the 2013 study. Sites could be excluded only for the five reasons detailed in para 2.24. Figure 3.2 shows that the largest proportion of excluded sites is those within the ‘strategic use’ category (46%). While the initial intention of this category was to identify strategic uses such as waste disposal, sewerage, water etc., the results suggest that this category was used to exclude sites in a far wider range of uses.

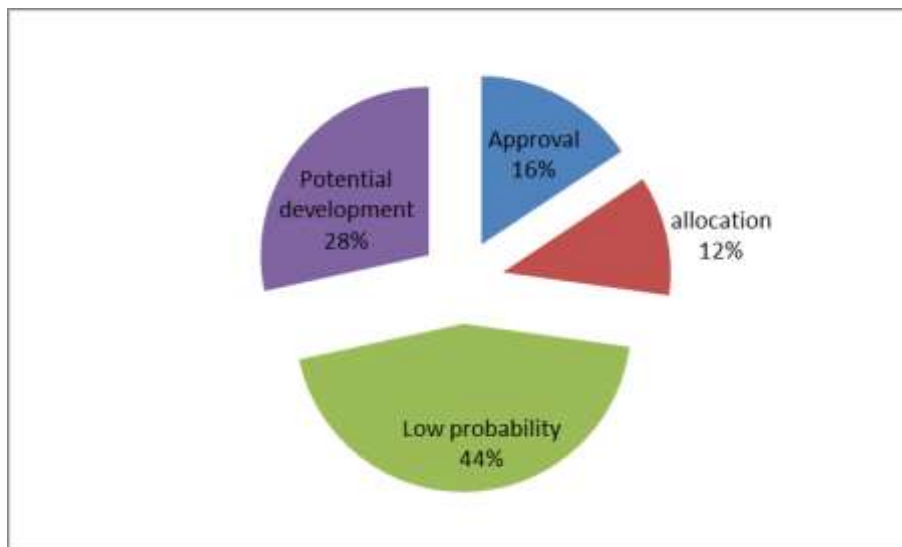
Figure 3.2 Reasons for site exclusion



Large site capacity

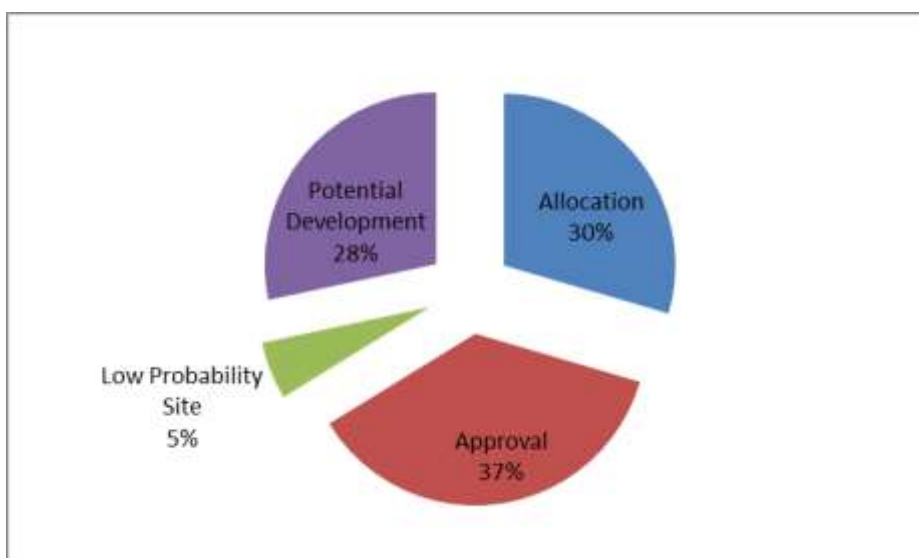
3.11. Following the borough assessment, of the 5665 large sites identified as suitable for housing (all phases), 16% (888) were classified as approval sites, 12% (653) as allocation sites and 28% (1610) as potential housing sites and 44% (2515) as low probability sites. See Figure 3.3 and for borough level detail see appendix four.

Figure 3.3 sites with capacity 2013-2036



3.12. The overall unit capacity from these sites is 471,773 units. The actual unit contribution to large site capacity from these sources is 37% from approval sites, 30% from allocation sites and 28% from potential housing sites and 5% from low probability sites (Figure 3.4).

Figure 3.4 Source of capacity 2013-2036



Large site summary 2015-2036

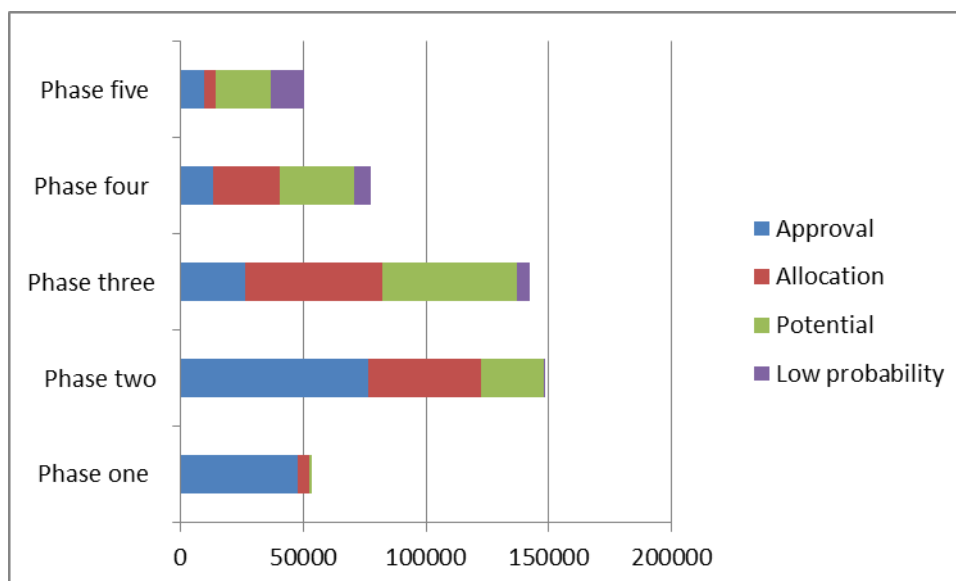
3.13. Of the large identified sites with potential:

- 36% were classified as being 'central' in character, 42% as 'urban' and 22% as 'suburban'
- 27% of sites are mixed use.
- 3% of sites had total constrained capacity for 500 units or more, accounting for 40% of overall capacity across the phases. 5% of all sites with capacity have a notional capacity of over 500 units.
- 18% of sites are in Town Centres, accounting for 27% of large site constrained capacity (251,912)
- 23% of sites are in Opportunity Areas accounting for 53% of large site constrained capacity (127,542)
- 1% of sites are in Areas of Intensification, accounting for 3% of large site constrained capacity (12,970).

3.14. 210 sites identified as suitable for housing had either a zero net additions or a net loss. 97 of these are approvals: this is generally explained by redevelopment of a single dwelling on a large plot or estate renewal schemes which result in a loss of housing. Two of them are allocations and 56 are low probability, where the application of the 8% to the site means no units would actually come forward (for example schemes where the notional capacity is 12 units or less). These sites are included in the following sections as the aggregate figures provide an understanding of overall net capacity.

3.15. Figure 3.5 shows the breakdown of large site unit capacity by phase and status. It demonstrates that phase one (2013-2015) is predominantly made up of approvals and the level of approvals reduces over the phases as potential sites become more important.

Figure 3.5 Phasing of all large sites with capacity 2013-2036 by category

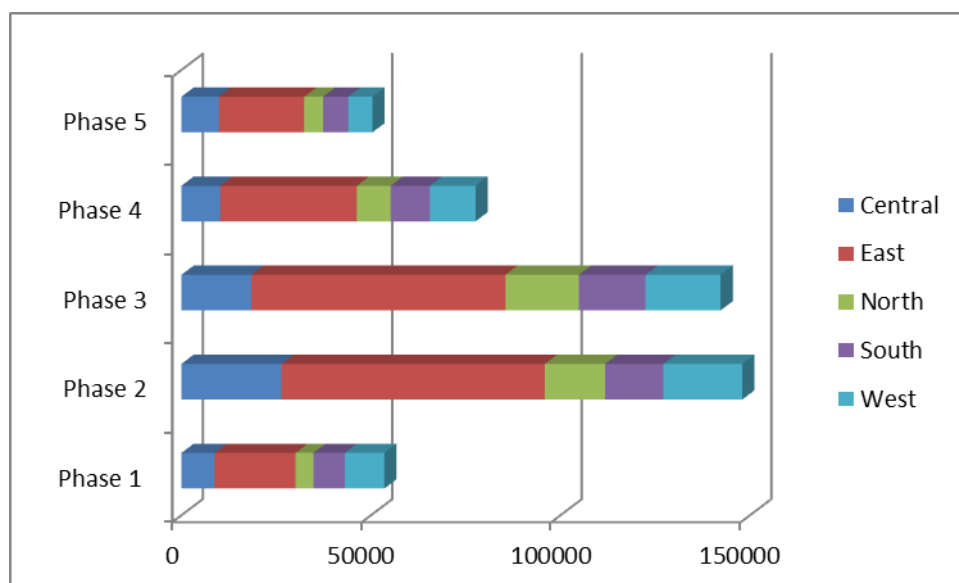


3.16. Phase one is only a two year phase, as it covers the time from the SHLAA study (2013) to the publication of the further alterations in 2015. Phase five is a six year phase (taking the study to 2036); phase four and five both identify much less capacity than phases 2 and 3 because most of the ‘known’ sites are expected to have been delivered by then. As detailed in section two, given London’s land market, phases four and five cannot provide a true picture of capacity and thus are not used to inform the benchmarks in the London Plan. However, the later phases can still provide an understanding of some of the capacity that may be available in the future and can help boroughs identify their land supply for years 10-15. Figure 3.6 provides a breakdown of large site capacity by phase and sub region, Appendix three provides the breakdown of large site capacity by phase for each borough.

3.17. The total number of approved and allocated sites that contributed to capacity over phases 1 to 5 is 1,541. A site list providing details of identified approved and allocated sites can be found in Appendix eight. The boroughs with the greatest number of sites with approval are: Bromley (74 sites), Barnet (67 sites) and Tower Hamlets (56). The lowest numbers of sites with approval are in the City of London (6), Redbridge (9) and Haringey (10). Redbridge (76) Wandsworth (45) and Ealing had the largest number of allocated sites (38).

3.18. The phasing of the unit contribution of these 1,541 approved and allocated sites is as follows, 17% is in phase 1, 39% is in phase 2, 26% is in phase 3, 13 % is in phase 4 and 5% in phase 5. 407 sites with approval had already started on site at the time of the assessment and 84 sites had already been completed.

Figure 3.6 Large site capacities by phase and sub region.



Low probability

3.19. As detailed in section two the low probability category was introduced to provide a better understanding of London’s true housing capacity. 2,515 sites were identified as low probability.

Table 3.1 Reasons for sites being categorised as Low probability

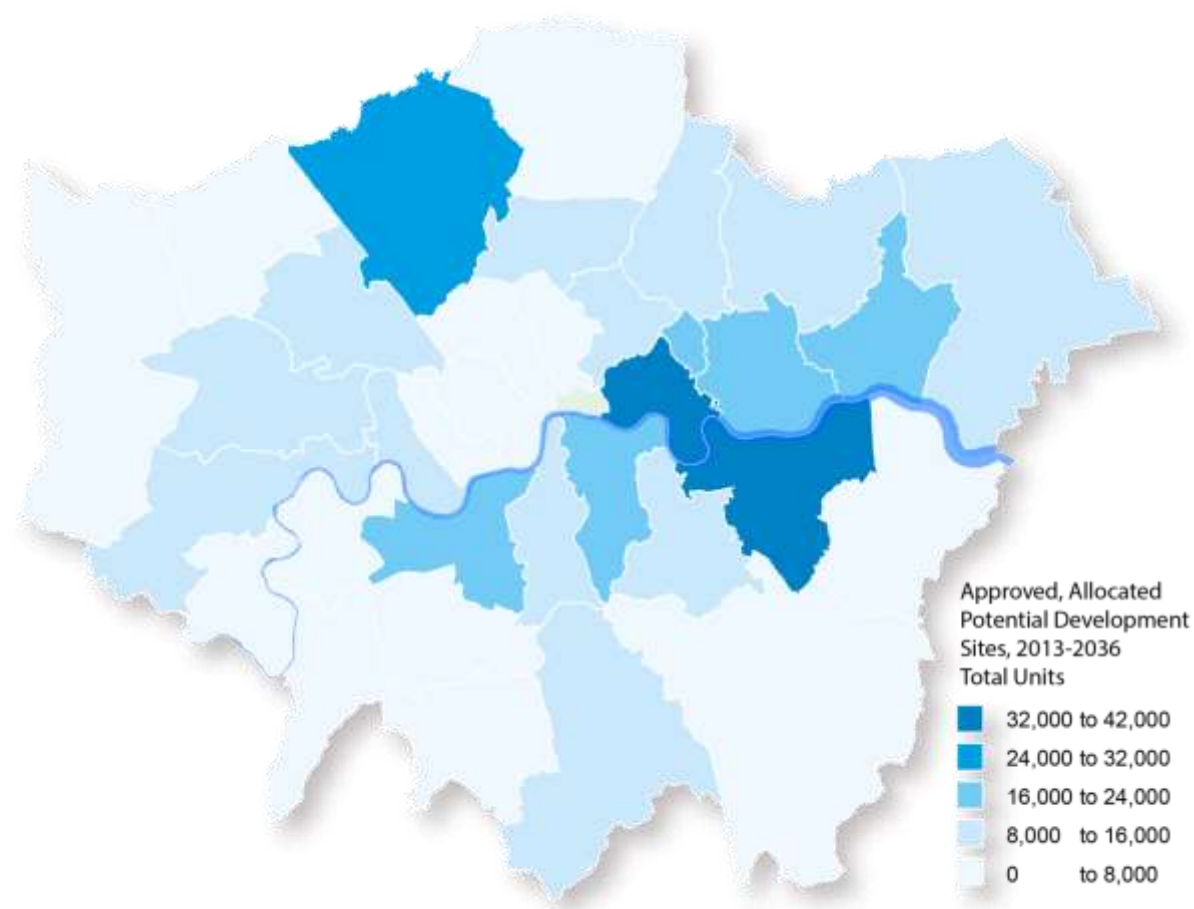
Low probability	Sites
School or hospital and other educational uses	1385
Housing in multiple ownership	248
Social housing estate	103
New build housing	156
High value retail/office/leisure	334
Other	289
Total	2515

3.20. Table 3.1 demonstrates that school or hospital sites and other sites in educational use have the largest number of sites categorised as low probability. During the site assessments and borough meetings, significant concern was raised about the number of school sites falling into the low probability category. Most boroughs are experiencing increased need for school places due to population growth and fertility rates and felt that school sites would not deliver housing in the foreseeable future. However, innovative solutions to delivering increased school capacity have included the addition of residential units on school sites. Moreover, the low probability assumption is set at 8% of a sites capacity and, like potential sites, should only be taken account of at the

borough wide level. There are 2,515 low probability sites in the system contributing to 5% of the overall capacity 2013-2036 (25,632 units) and less than 2% (5,061 units) of the capacity in phase two and three. Of the total 2,515 sites 1,411 are identified as being a school or hospital site or in other educational use.

3.21. Potentials, approvals and allocations contribute the most to housing capacity, accounting for 446,141 units 2013-2036 (95% of capacity –see figure 3.4). Figure 3.7 shows the spatial distribution of this capacity.

Figure 3.7 Spatial distribution of allocated, approved and potential sites by borough 2013-2036.

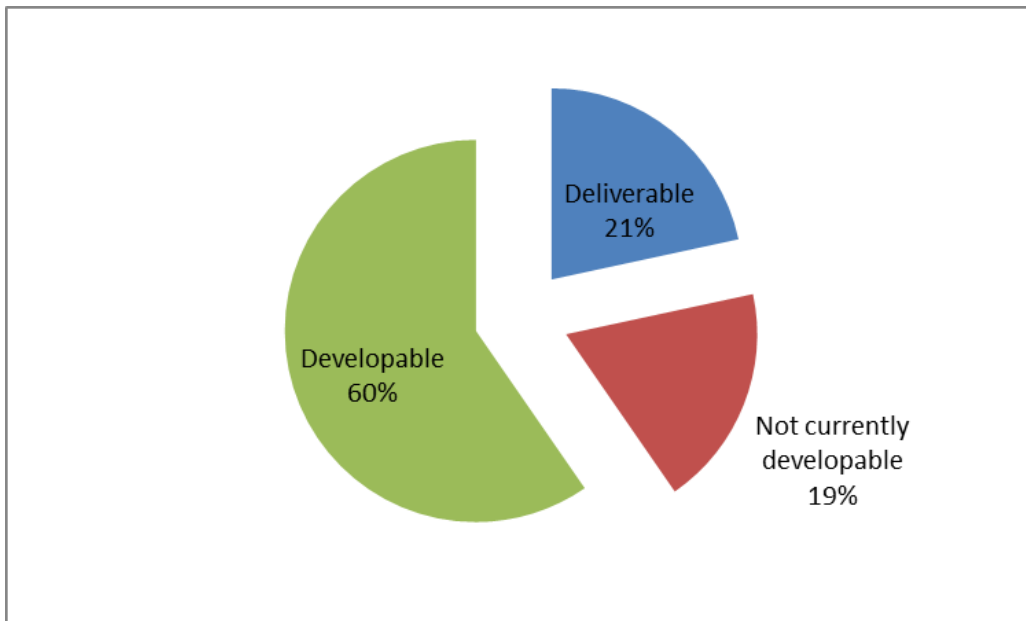


© Crown Copyright and database right 2013. Ordnance Survey 100032216.

Deliverable or Developable

3.22. As discussed in Section two, a site was identified as deliverable if it had approval for housing or has a 100% probability and a significant proportion of its housing capacity phased to be delivered in phase one or two. Developable sites are the remainder of sites with capacity in phases 1-4. Sites with capacity in phase 5 only were considered not currently developable.

Figure 3.8 deliverable or developable status of sites with capacity 2013-2036.



The target phases: phase two and three (2015-2025)

- 3.23. As discussed in Section two, London's land market dictates that the most robust capacity data to use to underpin the plan's housing targets is phases two and three (2015-2025). Capacity identified in phase one should be completed by the time the Further Alterations are adopted and phases four and five are unreliable because of the uncertainty around future land availability. The total constrained capacity for net additional dwellings, from large identified sites has been estimated at 290,244 between 2015 and 2025. This is generated by 3,592 sites from the main large site dataset. It includes 22 sites that have a negative capacity, because proposed redevelopments on the sites provide a net loss in unit terms.

Table 3.2 Total capacity from large sites by sub region phases two and three (2015-2025).

Sub region	2015-2025 total	Percentage
North	35,334	12%
East	136,533	47%
South	32,929	11%
West	40,645	14%
Central	44,803	15%
Total	290,244	100%

- 3.24. As Table 3.2 shows, the greatest contributor of future capacity from large sites is the East sub region (47%). This demonstrates the significant contribution to London's growth arising from East London, particularly associated with the Thames Gateway area. The next highest contributor is the Central sub region (15%) followed by the West (14%), North (12%) and the South (11%). This distribution partly reflects the type of boroughs in each sub region, with the South predominantly made up of outer boroughs, which will generally have lower PTALs and are more suburban in character than the inner London boroughs. In addition, the East sub region has the largest number of boroughs of all the sub regions.
- 3.25. However, as discussed later in this section, the pressure for housing growth has not been taken into account by all boroughs in their assessment. The numbers in the SHLAA and the subsequent discussions with boroughs has demonstrated that the East sub region in particular has grasped the importance of growth and meeting both local and strategic need, while other boroughs, particularly in the South sub region have not embraced growth to the same extent. The implications of this in terms of both DCLG household projections and within the context of London's needs projections set out in GLA's London wide SHMA²⁴ is discussed later in this section.

²⁴ Mayor of London. The London Strategic Housing Market Assessment 2013. GLA. 2014.

3.26. Of the large sites that contribute to capacity in phase two and three, figure 3.9 demonstrates that 44% of sites were classed by the boroughs as low probability sites. In previous studies many of these sites would have been excluded. However, as explained in section two, the low probability category was introduced to reflect the fact that some of these sites will still come forward for housing. Given that the probability approach assumes that only a few of these sites will actually come forward, a better understanding of the sources of future housing capacity is provided by figure 3.10.

Figure 3.9 Identified large sites, by classification, with capacity in phases 2 and 3 (2015-2025)

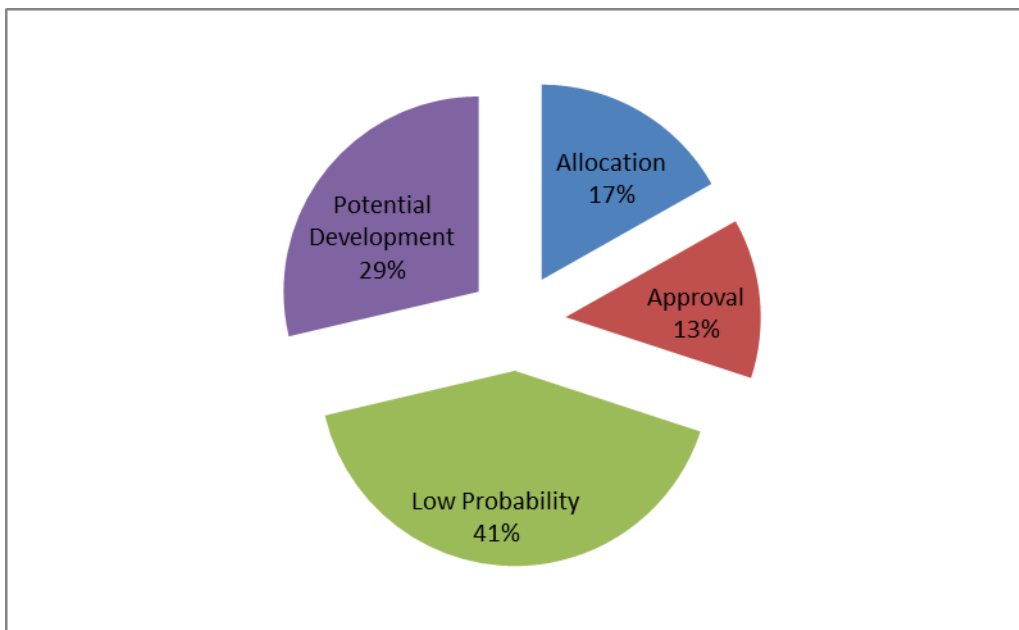
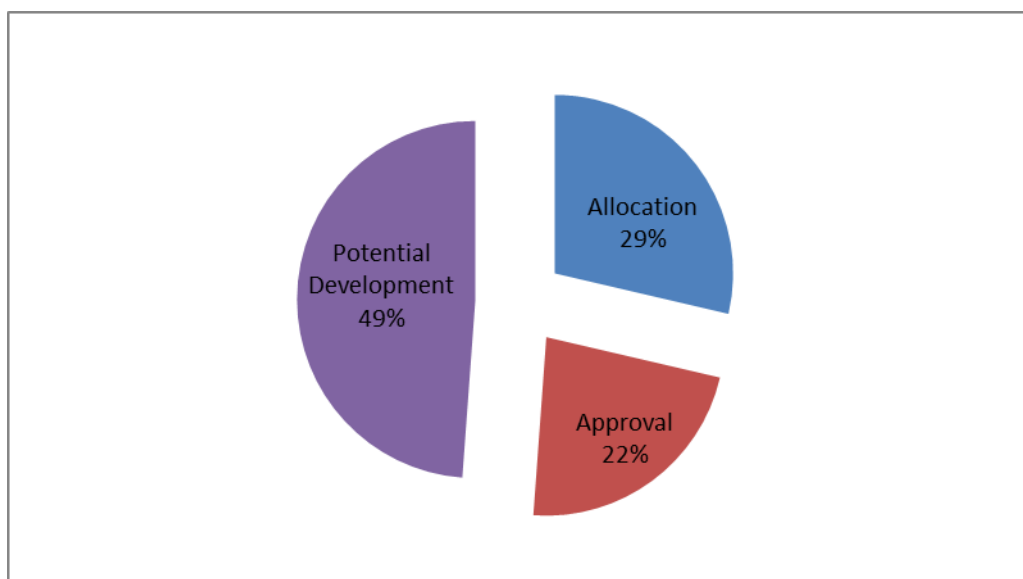
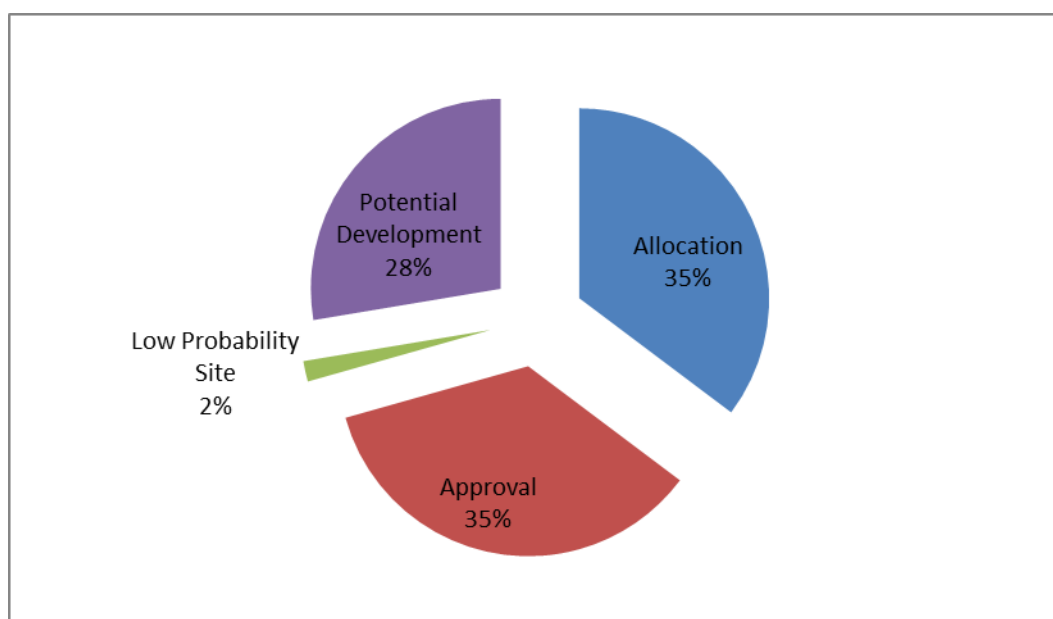


Figure 3.10 Identified large sites, by classification (excluding Low probability), with capacity in phases 2 and 3 (2015-2025)



3.27. Figure 3.11 demonstrates that in terms of unit capacity of large sites in phases 2 and 3, approvals accounted for 35%, allocations for 35%, potential development sites for 28% and low probability sites only 2%. This demonstrates the underlying assumption of the SHLAA methodology that only a few low probability sites will come forward. It also shows the reliance in phase two and three on sites that have already been identified in the planning system through having approval for planning permission or being allocated for housing.

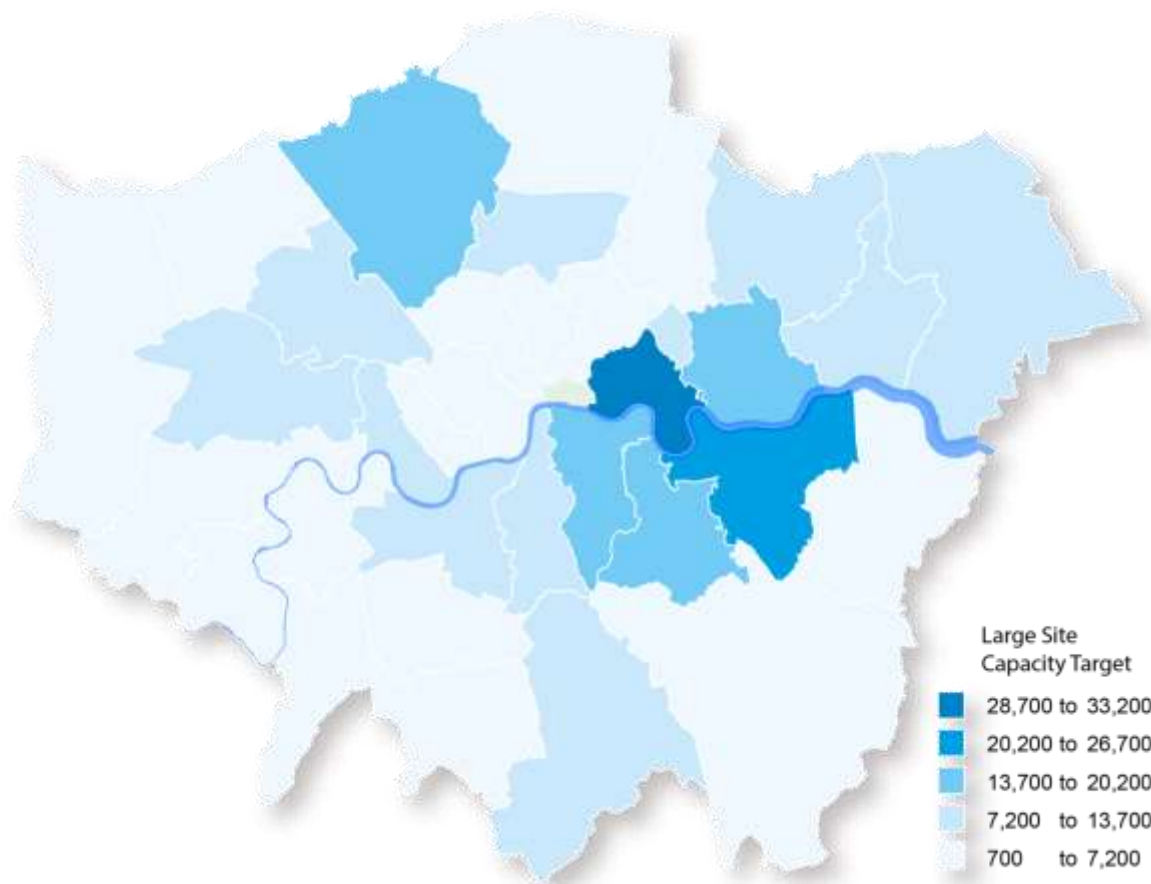
Figure 3.11 Identified housing capacity in phases 2 and 3 (2015-2025) by site classification



3.28. The distribution of large site capacity by borough is outlined in Table 3.3. The table shows the distribution of the figures and how contributions from the boroughs individually make up the total large site capacity of 290,244. Figure 3.13 shows the spatial distribution of the large site capacity.

Table 3.3 Large site capacity by borough phase 2 and 3 (2015-2025)

Borough	Sub region	2013 SHLAA Large site capacity 2015-2025
Barking and Dagenham	East	11388
Barnet	North	18565
Bexley	East	3300
Brent	West	10449
Bromley	South	2892
Camden	Central	3935
City of London	Central	764
Croydon	South	8235
Ealing	West	8976
Enfield	North	5219
Greenwich	East	22274
Hackney	East	5719
Hammersmith and Fulham	West	7554
Haringey	North	11550
Harrow	West	3202
Havering	East	9936
Hillingdon	West	3853
Hounslow	West	6611
Islington	Central	3610
Kensington and Chelsea	Central	5259
Kingston upon Thames	South	4144
Lambeth	Central	7781
Lewisham	East	8915
LLDC	East	12669
Merton	South	1995
Newham	East	15855
Redbridge	East	8535
Richmond upon Thames	South	1396
Southwark	Central	18494
Sutton	South	1755
Tower Hamlets	East	33172
Waltham Forest	East	4770
Wandsworth	South	12512
Westminster	Central	4960
London		290,244

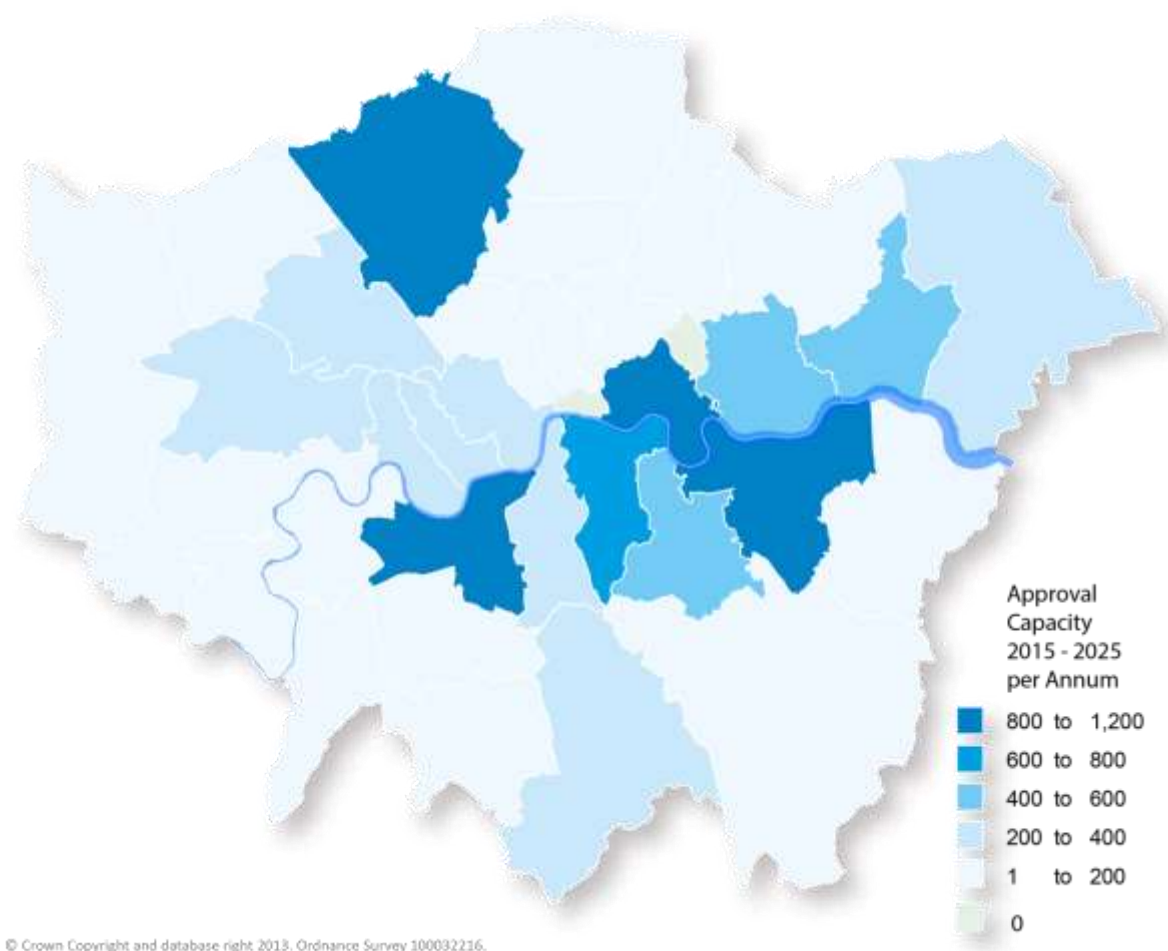
Figure 3.12 Large site capacity by borough 2015-2025

Crown Copyright and database rights 2013. Ordnance survey 100032216

- 3.29. As shown in figure 3.12 and table 3.3, the borough providing the greatest amount of large site capacity is Tower Hamlets (33,172) which accounts for 11% of total capacity. This is followed by Greenwich (22,274), Barnet (18,565), and Southwark (18,494). It is worth noting that the creation of the new planning authority - the LLDC - has reduced the contribution coming from Newham in particular as many of its development sites are now in the LLDC (appendix two details the totals for the LLDC constituent boroughs using their pre LLDC geographical boundaries for comparison and monitoring purposes). Both the LLDC and Newham contribute a significant amount of capacity in the East, as do Haringey in the North and Wandsworth in the South.
- 3.30. A number of the outer London boroughs, particularly in the South, have a low level of large site capacity; in particular Richmond (1,396), Sutton (1,755) and Merton (1,995). Other boroughs with a low amount of large site capacity include City of London, Harrow, Bromley, Bexley and Islington. A number of boroughs have seen a reduction in their large site capacity since the 2009 study, including Barking and Dagenham, Bromley and Havering.

- 3.31. Opportunity Areas account for 57% of the identified capacity in phases two and three, demonstrating the crucial role they play in housing delivery in London. As discussed in the methodology (section two) the 2013 SHLAA increased the assumed densities in town centre locations: 29% of phase two and three capacity is in town centre locations, some of which are located in opportunity areas. Intensification Areas account for 3% of overall capacity.
- 3.32. 134 sites with capacity between 2015 and 2025 have a constrained capacity for 500 units or more, accounting for 119,173 units, 40% of total 2015-2025 capacity, demonstrating the importance of these large sites in the delivery of homes. If using the notional capacity of sites (based on the assumption that if a site is built out it will deliver its notional capacity rather than its constrained capacity); 415 sites have a notional capacity of over 500 units with some delivery phased between 2015 and 2025, potentially delivering a total of 307,915 units in this period.

Figure 3.13 Approval capacity distribution by borough ²⁵



²⁵ The LLDC's approvals have been recorded in the SHLAA system as allocations.

3.33. Figures 3.13 - 3.15 show how the distribution of approvals (fig 3.13), allocations (fig 3.16) and potentials (fig 3.17) varies between boroughs depending on variants in local circumstances, including the nature of sites in each borough and the stage the borough is at in developing their local development framework. For example, 82% of Sutton’s identified capacity is from allocated sites, whereas Enfield, Haringey, Hillingdon and Waltham Forrest have no allocated sites; 84% of Wandsworth’s capacity already has planning approval as opposed to Kingston which only has 5 units with planning approval in phases two and three; 95% of Enfield’s capacity is from potential housing sites whereas Lewisham has no potential housing sites in phase 2 or 3.

Figure 3.14 Allocations capacity distribution by borough

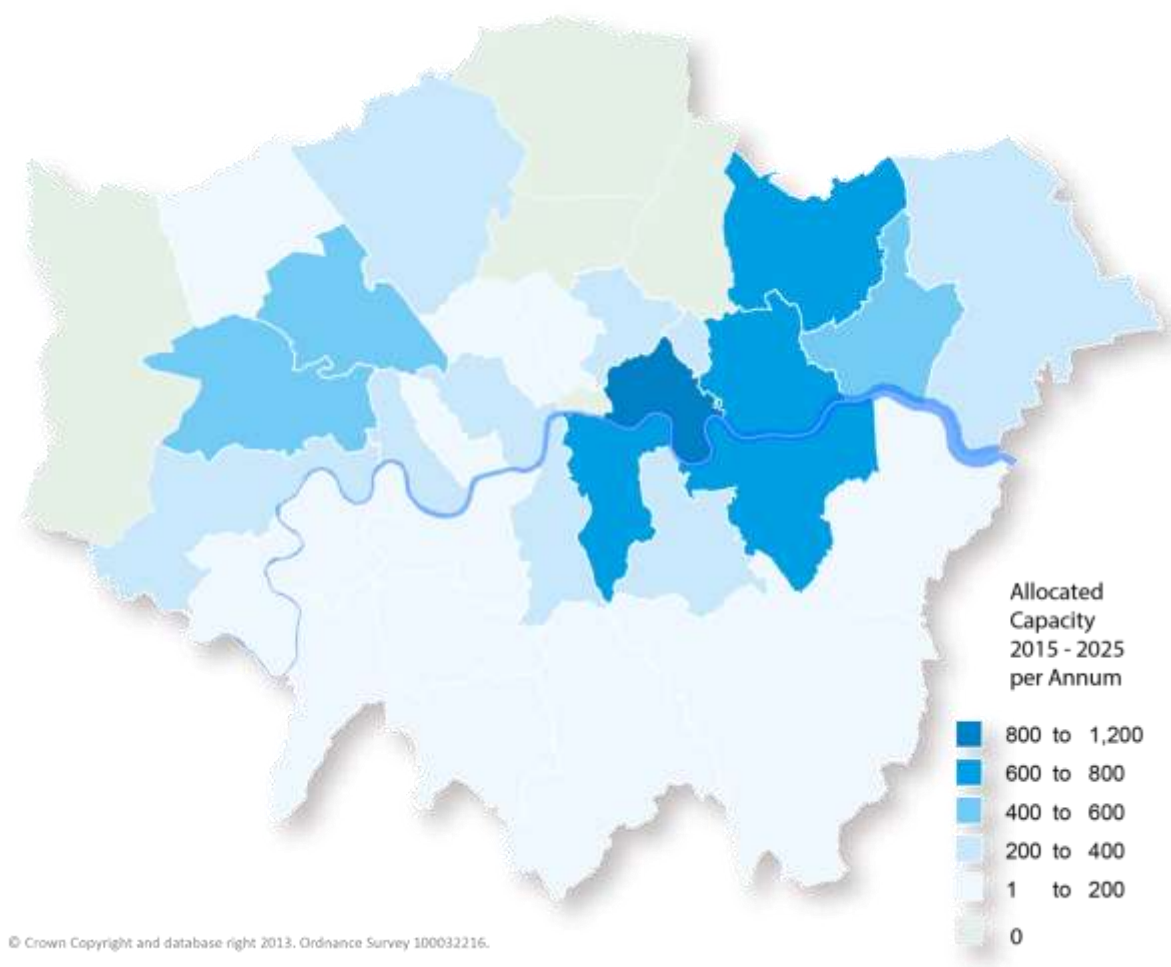
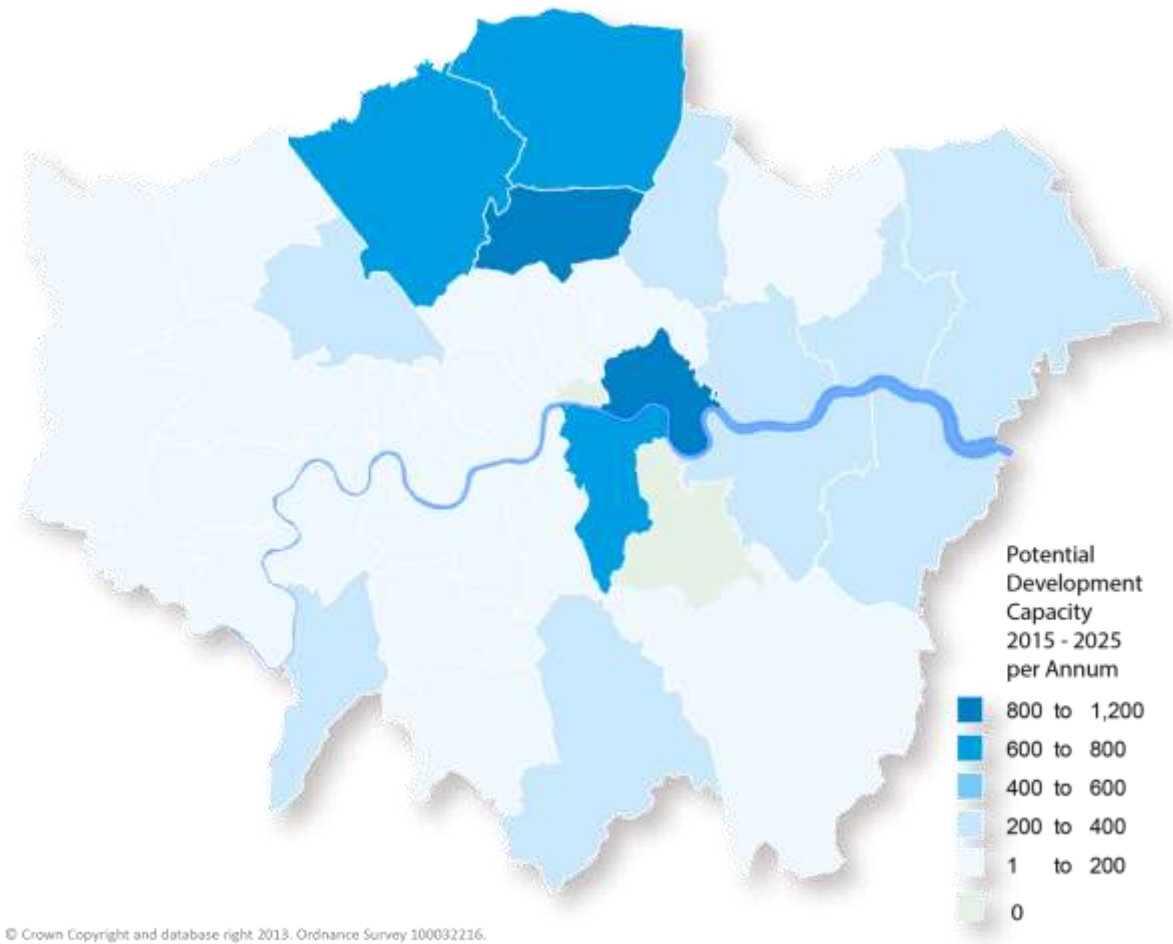


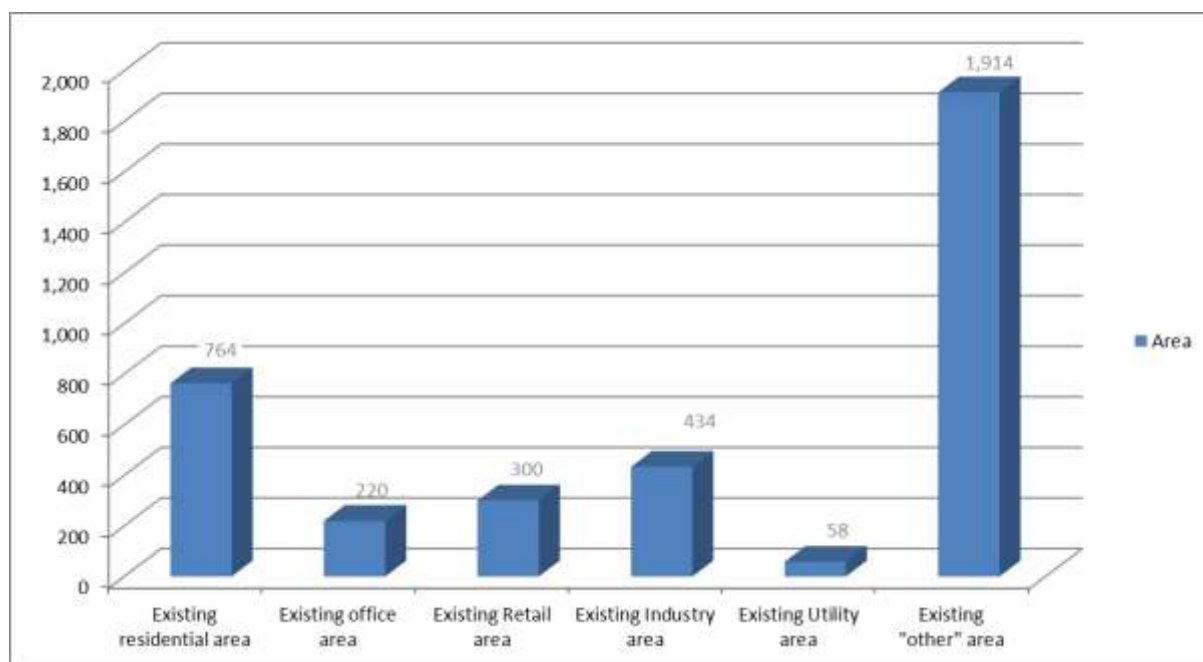
Figure 3.15 Potentials capacity distribution by borough



Existing use

3.34. The sources of large site capacity in terms of an existing use classification are shown in figure 3.16. Not all sites had information inputted into the system about their current use and many sites are currently in more than one use. Figure 3.16 details the existing use where it was recorded for sites with capacity in phase two and three (2015-2025).

Figure 3.16 Sources of land supply for large sites with capacity (ha)



Density

3.35. As discussed in the methodology section, the notional capacity of sites was calculated using default densities from the SRQ matrix. The default densities were chosen to reflect the type of development envisaged to come forward from each PTAL and Setting. The boroughs checked the density assumptions on a site by site basis making amendments to the default densities where their local knowledge suggested amendments where necessary. These were then checked by the GLA.

3.36. The system automatically calculates the density of approved sites based on the information in LDD, so these generally were not aligned with the defaults in the system. Removing approvals from the figures, of the remaining sites with capacity in phase two and three (3117), 1002 had their densities amended; 708 sites had their densities reduced, and 294 had their densities increased. A large number of the changes in densities are a result of boroughs amending the setting of the location. Excluding approvals, of the sites with capacity as originally identified by the system: 599 were identified as "central", 329 as "urban" and 73 as "suburban". Following the site

assessments only 209 sites were categorised as “central”, 548 as “urban” and 245 as “suburban”.

3.37. Table 3.4 below details the average density by PTAL and setting for allocated and potential sites with capacity in phase 2 and 3. This is based on the average density of each scheme (rather than the average density across all sites). Compared to the default densities in the system, the outcome is close to the average of the standard and town centre defaults, which is to be expected given many of the density changes were made by changing the setting, which uses an existing default rather than introducing a new density.

Table 3.4 Average density (dph): allocated and potential sites (with capacity in phase 2 and 3)

PTAL	0	1	2	3	4	5	6	Average
Central		103	152	207	283	310	393	302
Urban		79	120	138	167	203	240	152
Suburban	38	43	63	66	100	107	130	59

3.38. The table below (table 3.5) shows the average density of completions on sites of 0.25ha and above between 2004 and 2013. It demonstrates that generally the SHLAA densities are higher than the average delivered in the past, although there are specific setting and PTAL’s that have seen much higher densities delivered (such a suburban PTAL 5 and Urban PTAL 4). Comparing the tables demonstrates that overall the SHLAA is more ambitious in terms of densities that past delivery while keeping average densities well within the ranges set out in the SRQ matrix.

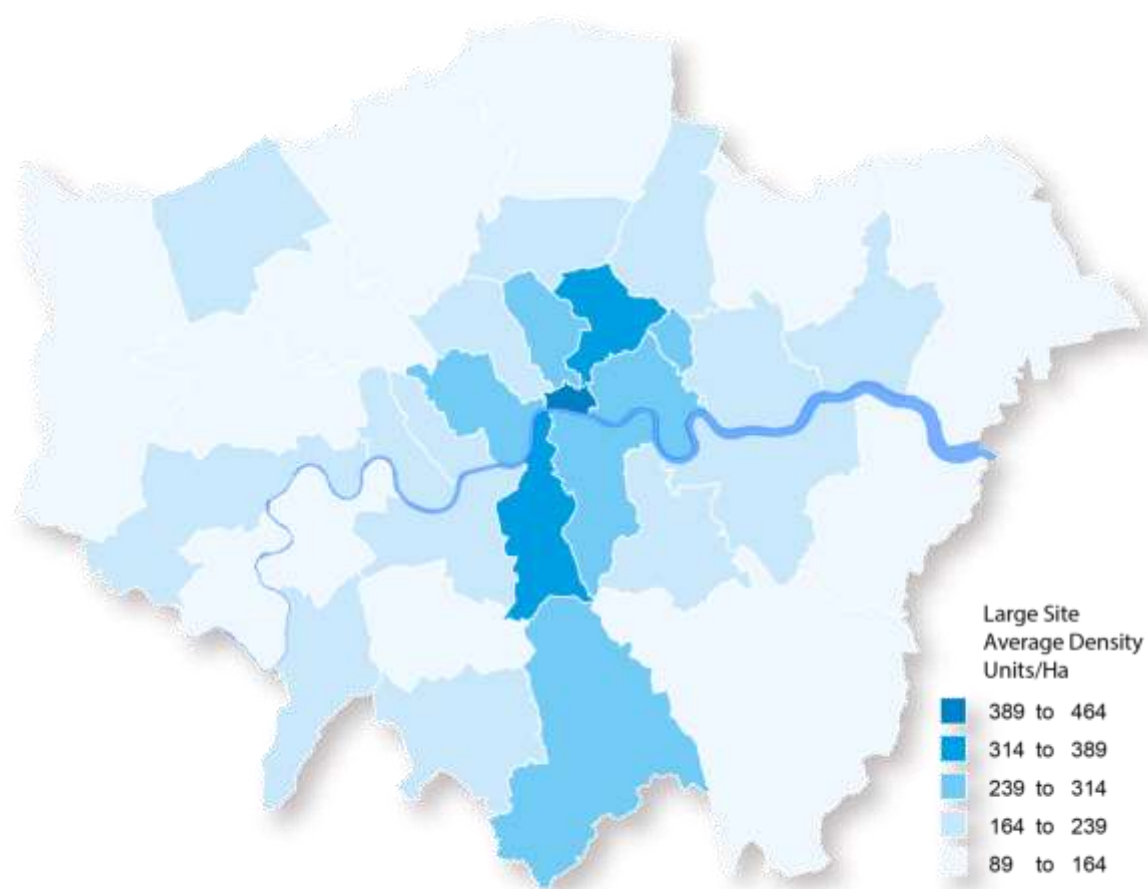
Table 3.5 Average density (dph) completions 2004-2013 sites 0.25ha and above.

PTAL	0	1	2	3	4	5	6	Average
Central	5	131	212	232	200	313	328	156
Urban	11	73	118	137	183	210	274	126
Suburban	12	38	69	128	75	351		54

3.39 Table 3.6 shows the average densities of approvals in the system by character area. This demonstrates that approvals in the system follow a similar pattern to allocations and potentials.

Table 3.6 Average density of approvals (with capacity in phase two and three).

Setting	
Central	302
Urban	128
Suburban	50

Figure 3.17 Average Density by Borough of large sites with capacity in phase 2 and 3.

© Crown Copyright and database right 2013. Ordnance Survey 100032216.

- 3.40. Figure 3.17 shows the average density per borough based on the average site density on allocated and potential sites. Density generally reduces moving out of the centre of London as expected. The lowest average densities are in Hillingdon, Enfield, Bexley, Richmond and Bromley. The highest are in City of London, Lambeth, Hackney and Islington. It is important to remember that scheme averages will be skewed by sites with very high or very low densities and it is likely that a range of densities will actually be delivered across each borough; with higher densities in the most accessible locations.

Mixed use

- 3.41. The system also asked boroughs to indicate if the site would be for a mix of uses and if so, how much of the site would be used for residential development. Of the sites assessed to have housing potential (but excluding low probability sites) across all phases, approximately 40% are expected to deliver mixed use development. On 11% of sites residential accounts for less than 50% of the site.

Overcoming the constraints

- 3.42. As previously mentioned, 2,389 large sites were identified as having constraints of such a high level that the probability of the site coming forward was zero. 3,150 sites were included in the SHLAA phase 1-5 as approvals, allocations or potentials, 1,514 of which were constrained by an identified constraint. For sites with capacity, the probability based approach implicitly takes account of the likelihood of the constraints being overcome and the impact on the size of the site by reducing the probability and net site area accordingly.
- 3.43. Of the unsuitable sites, 59 were unsuitable due to Environmental/Strategic constraints, 403 due to local constraints and 1,986 due to Policy constraints. Table 3.7 breaks this down further: it demonstrates that most sites were unsuitable due to SIL or protected open space designations. Where sites were classed as unsuitable, analysis of potential measures to overcome the constraints allows a judgement to be made as to whether there is the possibility of unlocking potential housing capacity. Such constraints could be overcome by de-designation. Where boroughs felt this was likely; they amended the constraints to make the site suitable and adjusted the probability accordingly. However, it should be noted that amending the site designation in the SHLAA system does not constitute a de-designation because a site can only be de-designated via the process of a local plan review.

Table 3.7 unsuitable sites per constraint.

Constraint	Unsuitable sites
Flood Risk	3
Health and safety consultation zones	33
Noise	24
Ownership	360
Local infrastructure	17
Local environment	23
Local contamination	9
SIL	834
Open space	1194
Protected Wharf	17
Total *	2514

* It's possible for a site be unsuitable in more than one category

- 3.44. The same probability approach was applied to Local and Environmental constraints, ensuring that any potential capacity was captured even if the site was constrained.
- 3.45. For sites which remained as unsuitable, the system gave users a number of options for overcoming the constraints and asked them to record if overcoming the constraint would have any impact on the site area if the site were to come forward. Boroughs could select none, one, or more of the available mitigation options in the system. The selections only provide information for boroughs when considering how and when a site

can be brought forward for development in their Local Plans and do not have any impact on the identified capacity. Details of the available options and the methodology followed can be found in Section three.

- 3.46. For many sites that had local constraints, boroughs identified a way of overcoming those constraints which could lead to the site coming forward for development. However, all of the ways of overcoming constraints require significant investment; for example, a way of overcoming the constraint of fractured ownership of a site is for the council to CPO the site for regeneration, which is only likely to be feasible in specific circumstances. A developer may also buy up the elements of the sites for redevelopment, but the planning system has little direct role in encouraging such an approach. However, town centre redevelopment could be a way of helping meet London's pressing housing need while also helping to rejuvenate town centres; the role town centres may play is set out in the Further Alterations to the London Plan.
- 3.47. 33 sites were identified as unsuitable due to the site housing gas works or a gas holder (Health and Safety Consultation Zones). There is a programme of decommissioning gas works in London which may open up some of these sites in the future. However, the probability approach means that sites where there is a known timetable for decommission generally will be picked up as potential development -either at a reduced probability, or later in the phasing to reflect the likelihood and timetable of the sites coming forward. Many of the remaining 33 sites have other constraints which make the site unsuitable, thus the removal of the gas holder will not necessarily lead to housing potential.

Industrial capacity

- 3.48. London Plan policy supports the need to manage, promote and, where appropriate, protect strategic industrial locations (SILs) as London's strategic industrial development capacity. A cautious but flexible approach was taken to industrial land in this assessment. The system automatically identified SILs as unsuitable for housing, giving them a zero percent chance of delivering housing. Local Strategic Industrial Sites and other industrial sites boroughs sought to protect through policy, were given a probability based on the London Plan industrial release designation (see section three). Boroughs were able to amend these assumptions on a site by site basis, which included identifying SIL sites as having housing potential. Table 3.8 shows by source the potential loss of industrial capacity over phase 2 and 3. The table is divided between potential housing capacity (low probability and potential sites combined) and allocated and approved sites. However, these figures could potentially be over-inflating the potential loss as some sites in the system were incorrectly identified as SIL because they had already been de-allocated, which means their loss would have already been accounted for.

Table 3.8 Potential loss of industrial capacity by source phase 2 and 3 (2015-2025)

	SIL Land with potential housing capacity	LSIS Land with potential housing capacity	Other industrial land with potential housing capacity	SIL land approved or allocated for housing	LSIS land approved or allocated for housing	Other industrial sites approved or allocated for housing	Total
Potential loss of industrial land ha	46	74	146	139	107	196	709

3.49. The industrial land release benchmark for London as a whole is 36.7 ha per year from 2010. The SHLAA therefore represents a significant increase on the benchmark level at 71 ha per year if taken in total. Moreover, industrial land may also be lost to other land uses, so the overall loss across the period could be higher than identified in the SHLAA. However, this figure is actually below the average industrial land released each year; between 2006 and 2011 the average loss was 83 ha per year.

3.50. The sub regional breakdown (Table 3.9) below demonstrates that in absolute terms the East is assumed to deliver the largest amount of industrial land for housing. However, in relation to the capacity benchmark the North appears to be under particular pressure to release industrial land, with the SHLAA identifying almost three times the amount land than set out in the benchmark.

Table 3.9 sub-regional break down of industrial land identified as having housing capacity in the SHLAA.

Sub region	2015-2025 SHLAA assumed industrial release	Industrial release benchmarks 2015-2025
North	97.56	34
East	335.94	194
South	63.62	44
West	160.44	72
Central	51.54	23
Total	709.1	367

Sources of capacity outside the large site system

- 3.51 As well as large sites, the SHLAA also estimates the potential capacity from small sites (less than 0.25ha), vacants returning into use and non-self-contained accommodation over the period 2015–2025.

Small Sites Capacity

- 3.52. The SHLAA defines small sites as those with a gross site area of less than 0.25ha. The way in which the capacity is calculated for small sites is covered in Section two of this report. The small site label can be misleading, as sites under 0.25ha in London often do deliver large numbers of homes. The SHLAA estimates the capacity for net additional dwellings from small sites between 2015 and 2025 is 106,476. Table 3.10 below shows this capacity by sub region.

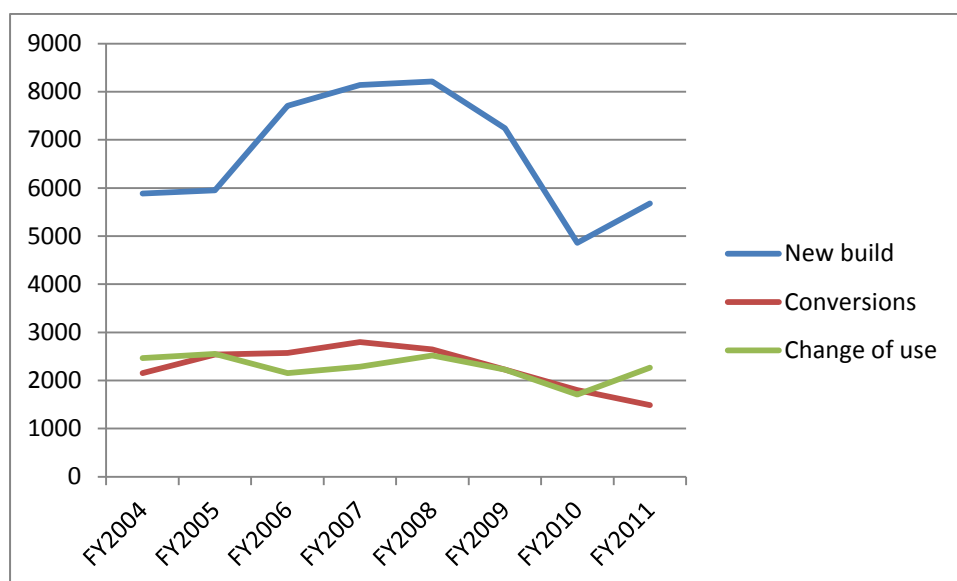
Table 3.10 Assumed Capacity from sites less than 0.25ha from 2015-2025

	Small sites 2015-2025	Proportion of total
North	9264	9%
South	21251	20%
East	31923	30%
West	13487	13%
central	30551	29%
Total	106476	100%

- 3.53. Table 3.10 shows that the East and Central sub region contribute most to the small site capacity. The distribution of assumed small site capacity by borough is shown in Table 3.11. This demonstrates that the largest amount of small site developments is likely to come from the inner boroughs of Southwark (7461), Hackney (7285), Islington (6624) and Lambeth (6147) with a significant contribution from only one outer borough, Croydon (5923). The boroughs that are assumed to have the least small site capacity are the LLDC (358), City of London (644) and Barking and Dagenham (967). For Barking and Dagenham in particular, this low figure is not likely to be due to a lack of physical capacity (unlike the City for example), instead it is likely to be due to the fact that the market has not previously brought forward small site development and the figures assume a continuation of this trend.
- 3.54. Small sites play a greater or lesser role in a borough's overall capacity depending on the location and constraints in a borough. For Islington, Bromley, Merton and Richmond small sites account for over 50% of their total capacity, whereas for Greenwich, Barking and Dagenham and the LLDC it accounts for less than 10%. This is explained by a combination of the availability of larger sites in boroughs and also the buoyancy of the sub markets in each borough.

Table 3.11 Assumed small sites capacity by borough 2015-2025

Borough	Sub region	2015-2025 small site capacity
Barking and Dagenham	East	967
Barnet	North	3272
Bexley	East	1087
Brent	West	2629
Bromley	South	3521
Camden	Central	3489
City of London	Central	644
Croydon	South	5923
Ealing	West	3014
Enfield	North	2587
Greenwich	East	2260
Hackney	East	7285
Hammersmith and Fulham	West	1988
Haringey	North	3405
Harrow	West	2505
Havering	East	1505
Hillingdon	West	1740
Hounslow	West	1611
Islington	Central	6624
Kensington and Chelsea	Central	1519
Kingston upon Thames	South	1548
Lambeth	Central	6147
Lewisham	East	4442
LLDC	East	332
Merton	South	2112
Newham	East	2908
Redbridge	East	2697
Richmond upon Thames	South	1754
Southwark	Central	7461
Sutton	South	1661
Tower Hamlets	East	5108
Waltham Forest	East	3331
Wandsworth	South	4734
Westminster	Central	4667
Total		106476

Figure 3.18 Historic small site completions by type 2004/05- 2011/12

Source LDD

3.55. Figure 3.18 above shows the historic small site delivery from 2004-2012 which the trend has been based on. The graph shows the split between new build, conversions and change of use. It demonstrates the significant drop in new build from 2008 following the credit crunch and the upturn in 2010/11. Change of use and conversions also showed a reduction following the credit crunch with change of use following a similar pattern to new build with an upturn in 2011. Conversions on the other hand, are continuing to fall. The new permitted development rights allowing offices to change of use to residential introduced by the government is likely to lead to an increase of change of use completions over the next three years. This could be further increased if the Government's proposal for retail to residential permitted development rights is also introduced. However, as discussed in section two this may not lead to an overall increase in housing completions as office conversions generally yield a lower number of units than redevelopment.

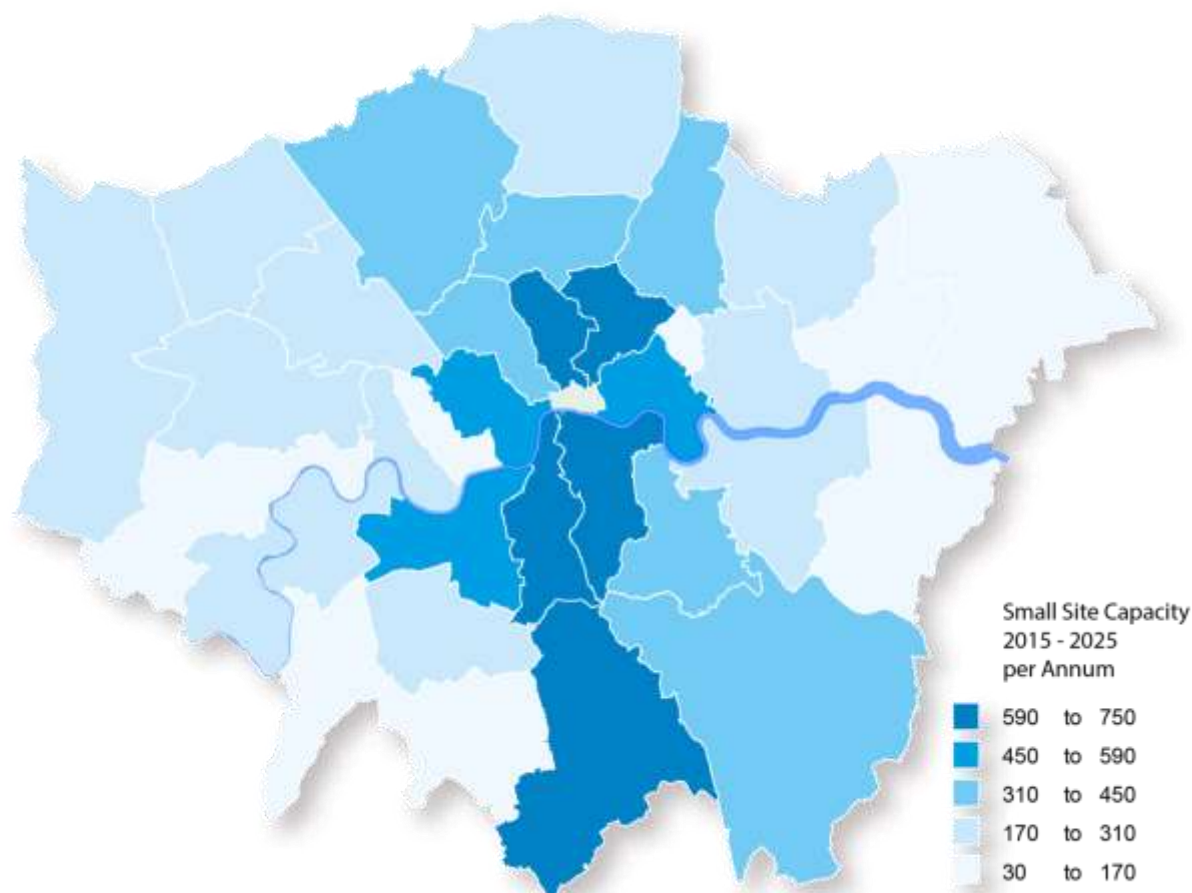
Garden land

3.56. As discussed in Section two, a reduction to the small site figures was applied to take account of the NPPF's stance on including garden land in windfall assumptions and to reflect the London Plan's approach to garden land development. The LDD has only recorded specifically if a development was on garden land since 2012 and thus the SHLAA has to rely on a proxy measure for identifying which sites have been delivered on garden land. This is done using the database to identify units completed in the selected financial years where the existing use is C3 but no existing units are lost, plus the development type is new build. Schemes with more than 14 proposed units are excluded as these are likely to be part of estate redevelopment rather than use of garden land. As discussed in Section two, limiting the reduction to 90% of such sites reflects that some sites identified have not led to a loss of garden land per se.

- 3.57. The garden land discount removed 4,418 units from the ten year trend based figures. Croydon and Bromley had the largest reduction as result of the reduction (383 and 295 units respectively). Appendix seven provides the details behind the small site assumptions by borough.

Comparison with the 2009 study

- 3.58. The small site figures in the 2013 study are higher than those for the 2009 study. There are a number of reasons for this; firstly the 2009 SHLAA initially used the time series for 2004/05-2007/08 which produced a figure of 99,819 for 2011-2021 (discounting for a 90% reduction for garden land development). However, due to concern over the time series being too short and covering predominantly “boom” years, it was later adjusted using 2000-2007 data. This data reduced the small site total to 73,572. There is a considerable draw backs with the 2000-2004 data as it is based on approvals rather than completions. However, in 2009 this was considered a more robust approach than relying on a short time series.
- 3.59. For the 2013 SHLAA, an 8 year time series was used 2004/05-2011/12. A number of boroughs raised concerns over the increase in the small site figures. However, this time series provides a broader spectrum of the cycle and thus provides a more robust basis for the small site trend. Some individual boroughs were concerned about certain elements of their trend based assumptions, particularly where they believe they had introduced policies that would reduce the number of small sites coming forward. However, there was limited evidence to distinguish the impact of policy and the impact of the recession on reduction in numbers. Therefore, a consistent approach based on the 2004/05-2011/12 trend with the 90% garden land adjustment was adopted with no individual borough amendments. Boroughs were however able to amend the base trend small site figures for errors (for example where a site was actually larger than 0.25 hectares).
- 3.60. Garden land developments have reduced from their peak in 2007, which may be due to a combination of factors, including policy changes but also the effects of the recession. The garden land adjustment in the 2013 compared to the 2009 study reflects this reduction in garden land development (the less garden land that is being built on, the less the adjustment for garden land development will be). Moreover, the technical approach to the 2013 study has sought to focus only on development that has led to a loss of garden land so as not to overestimate the garden land being lost.
- 3.61. Figure 3.19 below, shows the average annual spatial distribution of assumed small site capacity 2015-2025.

Figure 3.19 Distribution of assumed Small Site capacity per annum 2015-2025

© Crown Copyright and database right 2013. Ordnance Survey 100032216.

Vacant properties returning to use

- 3.62. In addition to the small site capacity, estimates of the number of vacant dwellings returning to use were included as contributors to overall capacity. Vacant properties returning into use have in the recent past been an increasingly important part of housing provision, accounting for 20 per cent of overall housing supply in 2010/11 and 2011/12.
- 3.63. The methodology sections explains that the number of vacants being brought back into use is based on reducing the number of long term vacants in every borough to 0.75% of total stock. The capacity from vacant properties returning into use between 2015 and 2025 has been estimated at 7,550 (table 3.12). The East and Central sub regions contain the greatest potential for long term vacant properties returning to use. The South has the lowest capacity with 2% share of the total capacity from vacants.
- 3.64 The contribution this makes to each borough's capacity figures is detailed in table 3.14 below. It shows that 42% of vacant capacity is assumed to come from three boroughs; Westminster, Hackney and Greenwich.

Table 3.12 Total capacity from long term vacants returning to use 2015-2025

Sub region	Assumed number of vacants returning into use 2015-2025	% share of capacity
North	520	7%
East	3170	42%
South	710	9%
West	140	2%
Central	3010	40%
Total	7550	100%

- 3.65 If the targets are met, the number of long term vacant properties across London would reduce to 0.66% of total stock because many boroughs already have long term vacant rates below 0.75%.
- 3.66. Since the methodology was developed and the data for vacants circulated to the boroughs, the 2012 updated figures were released. For most, 2012 saw another large reduction in long term vacants, which suggests that capacity for future vacants to be brought back into use may now be reduced. However, given that the assumed contribution from boroughs is smaller than the trend, and also to provide consistency with the agreed methodology, the 2011 figures have been retained.

Non self-contained accommodation

- 3.67. As discussed in Section two the approach to student accommodation in the 2013 SHLAA differs from previous SHLAAs, because it is based on student pipeline, rather than a historic development trend. It is important to note that the student pipeline should not be considered a target as it simply reflects the pipeline for student sites and is not linked to projected need. It is for this reason the FALP no longer includes a monitoring benchmark for non-self-contained accommodation. However, student accommodation will continue to be monitored separately from conventional housing.
- 3.68. The Mayor's Academic Forum²⁶ has identified a need for between 2,000 and 3,100 additional purpose built student bed spaces per year between now and 2026²⁷. The current pipeline in London can accommodate 19,617 student bed spaces. The pipeline information also suggests that between now and 2015 over 5,000 student beds spaces could be delivered, suggesting capacity for almost 25,000 student bed spaces from 2013.

²⁶ Mayor's Academic Forum: Strategic planning issues for student housing in London. Recommendations. 2014. GLA

²⁷ The London SHMA also provides detail on how the student projections have been calculated.

- 3.69. The sub regional distribution of NSC is shown in table 3.13. The East sub region has the greatest concentration of NSC capacity with 38%, followed by Central with 28%. The lowest are the North (7%) and South (7%). The bulk of the pipeline is concentrated in a few specific boroughs. Table 3.14 shows that in the East, the LLDC (1710) and Hackney (1704) have the biggest student pipeline, the Central sub region includes the borough with the largest student pipeline and biggest historical student delivery: Islington (2187). In the North, Barnet provides the largest contribution (1302), while in the South only Wandsworth and Kingston currently have a student pipeline.

Table 3.13 Total capacity from non-self-contained units 2015-2025

Sub region	Student pipeline	% share of capacity
North	1366	7%
East	7395	38%
South	1309	7%
West	4007	20%
Central	5540	28%
Total	19617	100%

- 3.70. There is a balance to be made between providing student accommodations and delivering conventional homes. However, increasing the stock of purpose built accommodation could play a role in freeing up conventional, often family stock. In addition, while student accommodation does compete for conventional housing land, there are locations which could accommodate student housing that would not necessarily be appropriate for conventional housing and can be delivered at high densities.

Table 3.14 Capacity from non-self-contained units and long term vacants returning to use by borough 2011-2021

Borough	Sub region	2015-2025 capacity from long term vacants returning to use *	2015-2025 student non self contained accommodation pipeline
Barking and Dagenham	East	0	0
Barnet	North	350	1302
Bexley	East	70	0
Brent	West	0	2175
Bromley	South	0	0
Camden	Central	320	1148
City of London	Central	0	0
Croydon	South	190	0
Ealing	West	0	982
Enfield	North	170	0
Greenwich	East	810	1506
Hackney	East	1280	1704
Hammersmith and Fulham	West	140	630
Haringey	North	0	64
Harrow	West	0	220
Havering	East	260	0
Hillingdon	West	0	0
Hounslow	West	0	0
Islington	Central	220	2187
Kensington and Chelsea	Central	460	92
Kingston upon Thames	South	310	432
Lambeth	Central	700	966
Lewisham	East	80	410
LLDC	East		1710
Merton	South	0	0
Newham	East	480	702
Redbridge	East	0	0
Richmond upon Thames	South	0	0
Southwark	Central	260	1147
Sutton	South	210	0
Tower Hamlets	East	190	844
Waltham Forest	East	0	519
Wandsworth	South	0	877
Westminster	Central	1050	0
Total		7550	19617

* Stock data was sourced from DCLG live table 125 in February 2013. Since then stock data has been updated to take account of the census, therefore the figure above may not be consistent with the updated table 125. However, it was this data which was consulted on as part of the methodology thus it is being retained for consistency. Long term vacant data is sourced from DCLG live table 615 and relates to long term vacants at 3rd of October 2011

Total housing capacity from all sources 2015-2025

- 3.71. The total housing capacity from all sources in London for net additional dwellings between 2015 and 2025 has been estimated at 423,887 (Table 3.15).

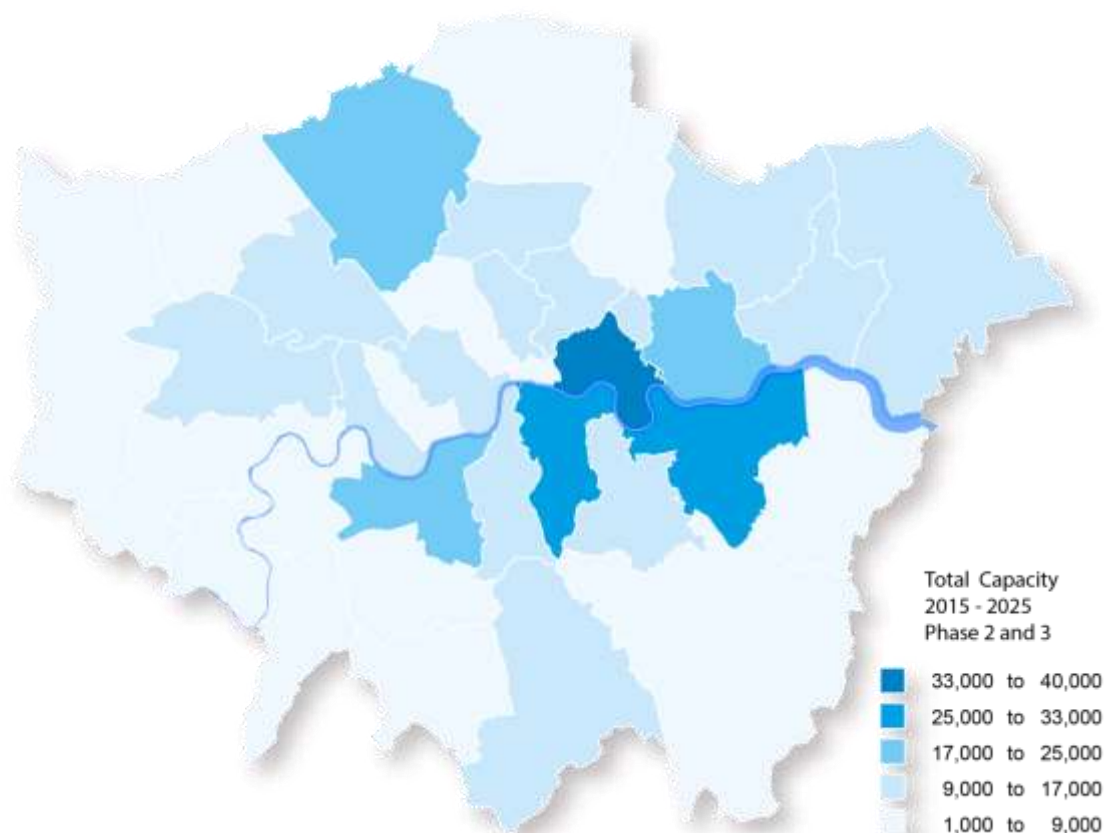
Table 3.15 Total capacity 2015-2025 by sub region

Sub region	Total Capacity 2015-2025	% share of total capacity
North	46484	11%
East	179021	42%
South	56199	13%
West	58279	14%
Central	83904	20%
Total	423887	100%

- 3.72. As shown above (Table 3.15) the East sub region yields the greatest contribution to capacity in the region as a whole, with 42% of all future capacity, equating to 179,021 new homes over the period 2015 to 2025. The next highest contributor to future capacity is the Central sub region with 20%. The South contributes 13% of future capacity and the West and North regions contribute 14% and 11% of future capacity respectively.
- 3.73 Figure 3.20 shows the spatial distribution of the total capacity identified by the SHLAA between 2015-2025 (phase 2 and 3) and Table 3.16 shows the same information in table form and gives the total capacity for each borough, for each of the various sources of capacity. It shows that Tower Hamlets is by far the biggest contributor to capacity (39,314), followed by Southwark (27,362), Greenwich (26,850), Barnet (23,489) Newham (19,945) and Wandsworth (18,123). Together these boroughs make up 37% of the total future housing capacity in London. Tower Hamlets alone accounts for 9% of the total.
- 3.74 Boroughs that have identified the least capacity include City of London (1,408), Richmond upon Thames (3,150), Sutton (3,626) and Merton (4,107). A number of other boroughs have identified low amounts of capacity including Bexley and Hillingdon.

Table 3.16 Total Capacity by Borough 2015-2025

Borough	Sub region	2013 SHLAA Large site capacity 2015-2025	Small site capacity 2015-2025	2015-2025 capacity from long term vacants returning to use.	2015-2025 student non-self-contained accommodation pipeline	Total
Barking and Dagenham	East	11388	967	0	0	12355
Barnet	North	18565	3272	350	1302	23489
Bexley	East	3300	1087	70	0	4457
Brent	West	10449	2629	0	2175	15253
Bromley	South	2892	3521	0	0	6413
Camden	Central	3935	3489	320	1148	8892
City of London	Central	764	644	0	0	1408
Croydon	South	8235	5923	190	0	14348
Ealing	West	8976	3014	0	982	12972
Enfield	North	5219	2587	170	0	7976
Greenwich	East	22274	2260	810	1506	26850
Hackney	East	5719	7285	1280	1704	15988
Hammersmith and Fulham	West	7554	1988	140	630	10312
Haringey	North	11550	3405	0	64	15019
Harrow	West	3202	2505	0	220	5927
Havering	East	9936	1505	260	0	11701
Hillingdon	West	3853	1740	0	0	5593
Hounslow	West	6611	1611	0	0	8222
Islington	Central	3610	6624	220	2187	12641
Kensington and Chelsea	Central	5259	1519	460	92	7330
Kingston upon Thames	South	4144	1548	310	432	6434
Lambeth	Central	7781	6147	700	966	15594
Lewisham	East	8915	4442	80	410	13847
LLDC	East	12669	332		1710	14711
Merton	South	1995	2112	0	0	4107
Newham	East	15855	2908	480	702	19945
Redbridge	East	8535	2697	0	0	11232
Richmond upon Thames	South	1396	1754	0	0	3150
Southwark	Central	18494	7461	260	1147	27362
Sutton	South	1755	1661	210	0	3626
Tower Hamlets	East	33172	5108	190	844	39314
Waltham Forest	East	4770	3331	0	519	8620
Wandsworth	South	12512	4734	0	877	18123
Westminster	Central	4960	4667	1050	0	10677
London		290244	106476	7550	19617	423,887

Figure 3.20 Total capacity 2015-2025 distribution by borough

© Crown Copyright and database right 2013. Ordnance Survey 100032216.

- 3.75. The substantial contribution from East London reflects both its development potential and the priority that the Mayor attaches to its regeneration. Much has been achieved already through the Olympics and its contribution to the regeneration of the wider East London area. The challenge will be to ensure that the social, environmental and physical infrastructure required is brought forward to ensure that growth of this scale is sustainable.
- 3.76. Accommodating growth in the outer sub regions raises a different set of planning issues. Not only is growth limited by extensive 'green' designation and an often constrained stock of surplus industrial land, but development opportunities are generally on a small scale. In order to close the gap between need and capacity, outer boroughs will need to focus on development in and around town centres where there is scope to deliver housing at higher densities.
- 3.77 Central London continues to be a significant contributor to overall provision. As well as the need for supporting infrastructure, a key issue here is managing growth in what is already London's most densely developed sub region.

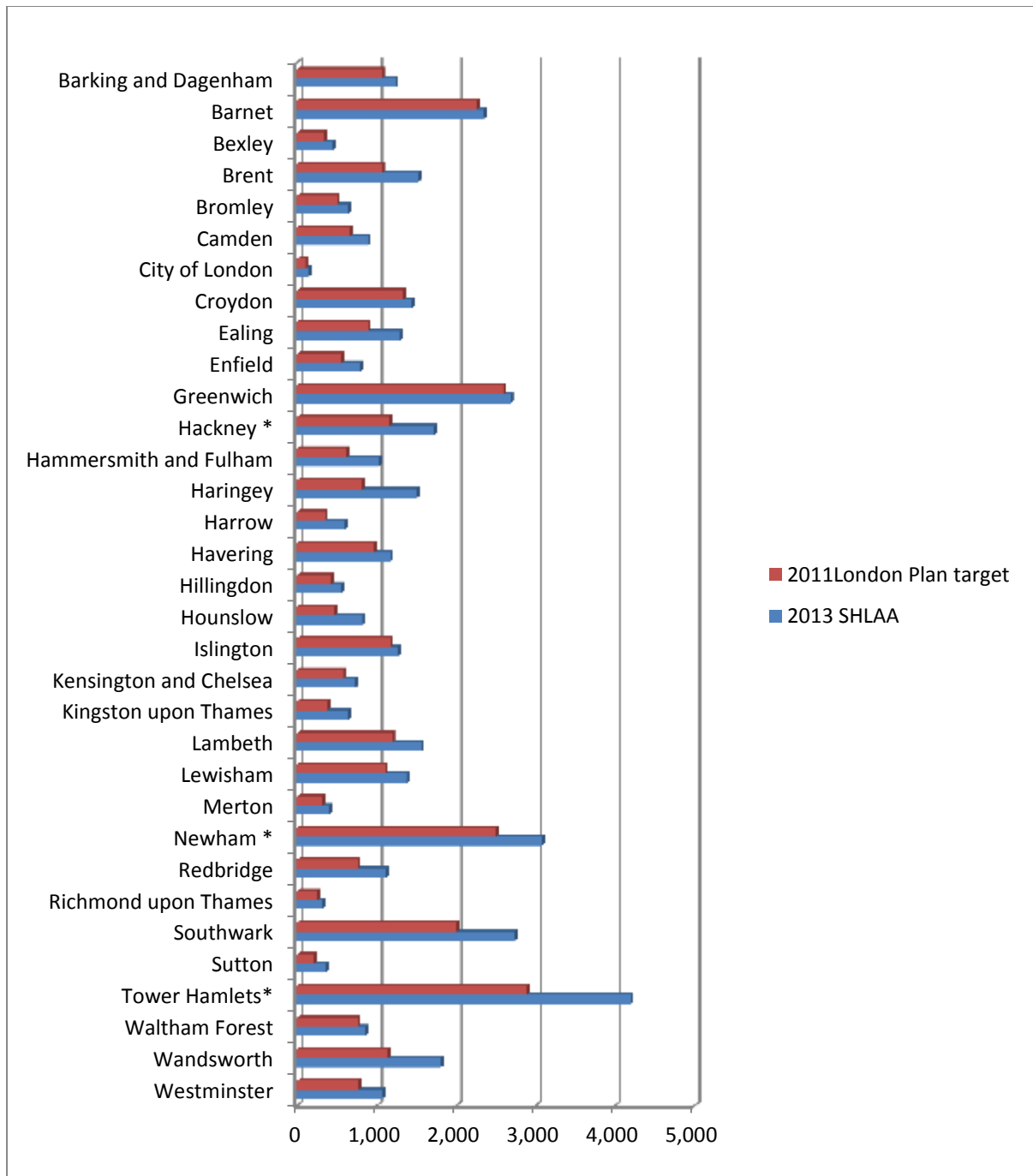
3.78. Table 3.17 compares the 2013 annualised capacity (2015-2025) figures with those from the last three London Housing Capacity Study/SHLAAs (undertaken in 1999, 2004 and 2009). This shows that there has been a continuing increase in capacity since the 1999 LHCS, with the 2013 SHLAA representing the largest increase (10,175 units a year).

Table 3.17 Comparison to the 1999, 2004 housing capacity study, the 2011 London Plan and the 2013 SHLAA (annual total capacity)

Housing Source	1999 LHCS	2004 LHCS	2011 London Plan	2013 SHLAA	Difference (2011 and 2013)
Conventional	19,048	28,554	29,832	39,673	9,841
Non Self-Contained	2,611	1,828	1,634	1,962	328
Vacants	1,236	1,151	749	755	6
London Total	22,895	31,533	32,215	42,390	10,175

3.80. Figure 3.21 below compares the annual capacity for each borough in the 2011 London Plan with the capacity identified in the 2013 SHLAA. For Hackney, Tower Hamlets and Newham the 2013 figure includes the contribution from the LLDC so it is directly comparable with the 2011 plan.

Figure 3.21 London Plan annualised capacity compared to 2013 SHLAA



* Figures for Tower Hamlets, Hackney and Newham include the capacity from the element of the LLDC in their previous borough boundary to be directly comparable with the 2011 Plan.

Comparison of targets and the DCLG household projections

- 3.81. As discussed in section two, at the time of the SHLAA assessments the GLA were also developing household projections and the SHMA which underpin the housing requirements in the FALP. In the absence of these figures to inform the SHLAA process, the GLA used the DCLG household projections as a starting point for understanding the potential need in each borough. However, it is important to note that household projections do not reflect full housing need as they do not include the need arising from existing households (backlog), only that from future households. In addition, the GLA has developed its own household projections. These run to 2036, a significantly longer timescale than DCLG's household projections which only run till 2021. The methodology underpinning the GLA projections is discussed in detail in the SHMA²⁸ and it is these projections and not DCLG's that the FALP and SHMA are based on. However, the DCLG household projections can be used as a starting point for understanding the gap between identified capacity and potential need.
- 3.82. Table 3.19 demonstrates that the majority of boroughs have not identified sufficient capacity to meet the DCLG household projection figures. The gap is the most marked in the outer London Boroughs of Merton (-1,555), Enfield (-1,415), Bromley (-1,100) and Redbridge (-1,056).
- 3.83. There are 9 boroughs where 2013 SHLAA capacity figures are greater than the DCLG household projections: Brent, Greenwich, Hackney, Hammersmith and Fulham, Kensington and Chelsea, Newham, Tower Hamlets, Wandsworth and Havering. On top of this, capacity in the LLDC can be considered to represent additional capacity. However, on aggregate across London, compared to the DCLG need figure, there is a shortfall of 10,200 units, which arises from outer London. This further highlights the importance of capturing the opportunities for high density development in and around town centres in the outer London boroughs as it is here that the shortfall is most marked.
- 3.84. To some extent the distribution of capacity is a product of the current London Plan SRQ matrix approach which the SHLAA methodology seeks to reflect and which focuses development in the most accessible places. As such, the higher the PTAL the higher the density assumption with lower density assumptions for the less connected outer London areas. In addition, the current prevailing character of an area is a key determinant of future housing densities in the SRQ matrix, which reinforces low density development in areas which are currently low density. However, the current pressure for new homes means that even outer London areas have to encourage higher density development to help meet their pressing needs. High density can be developed in a way that respects its surroundings as the GLA's Density study²⁹ demonstrates.

²⁸ The London Strategic Housing Market Assessment 2013. GLA 2014

²⁹ Housing Density Study. Maccreanor Lavington Architects, Emily Greeves Architects, Graham Harrington Planning Advice. August 2012

Table 3.19 2013 SHLAA compared to DCLG household projections (annualised)

Borough	DCLG 2012 Household projections, annualised	2013 SHLAA identified Capacity annualised	2013 SHLAA compared to DCLG's household projections annualised
Barking and Dagenham	1,471	1,235	-236
Barnet	2,837	2,348	-489
Bexley	1,067	446	-621
Brent	1,014	1,525	511
Bromley	1,741	641	-1,100
Camden	1,736	889	-847
City of London	257	139	-118
Croydon	1,838	1,434	-404
Ealing	1,777	1,296	-481
Enfield	2,212	797	-1,415
Greenwich	858	2,685	1,827
Hackney	1,295	1,598	303
Hammersmith and Fulham	376	1,031	655
Haringey	1,642	1,501	-141
Harrow	1,455	593	-862
Havering	1,164	1,170	6
Hillingdon	1,491	559	-932
Hounslow	1,749	822	-927
Islington	1,652	1,264	-388
Kensington and Chelsea	294	732	438
Kingston upon Thames	1,490	643	-847
Lambeth	1,727	1,560	-167
Lewisham	2,238	1,384	-854
LLDC	NA	1,470	NA
Merton	1,965	410	-1,555
Newham	1,408	1,993	585
Redbridge	2,179	1,123	-1,056
Richmond upon Thames	1,249	314	-935
Southwark	3,220	2,736	-484
Sutton	1,261	362	-899
Tower Hamlets	3,278	3,930	652
Waltham Forest	1,196	862	-334
Wandsworth	1,544	1,812	268
Westminster	1,892	1,068	-824
London	52,571	42,372	-10,200

Comparison of SHLAA figures and past delivery

- 3.85. Table 3.20 provides a comparison between the 2013 SHLAA figures and past completions and approvals. The 2004-2012 period is a useful time series as it provides a good indication of performance across an economic cycle. This shows that 12 boroughs have an average delivery above their 2011 conventional target; Bromley, Camden, Hackney, Harrow, Hillingdon, Hounslow, Islington, Merton, Richmond, Sutton, Wandsworth and Westminster.
- 3.86. A number of these outer boroughs had low targets in the 2011 Plan – in particular Richmond (210), Sutton (211), and Merton (318). Exceeding the target demonstrates one of two things; either a concerted effort to deliver homes beyond the historic minimum target, or it could mean that the original target was artificially low and the 2009 SHLAA failed to identify the borough's full housing capacity. It should be noted, that despite identifying significantly more housing potential in the 2013 study, Bromley, Hillingdon, Merton, Richmond and Sutton's capacity targets remain below their average delivery. There is some anecdotal evidence which might suggest that this higher than target delivery could paradoxically be a consequence of boroughs not allocating sufficient housing sites and thus losing planning appeals for development on unallocated sites.
- 3.87. At the other end of the spectrum are boroughs like Barking and Dagenham, Barnet, Greenwich and Newham which identified large amounts of capacity in the 2011 Plan, but have not yet seen that translated into delivery. It is not generally the lack of identified sites that is preventing delivery in these boroughs. To some extent, given the operation of the housing market, the areas with large amounts of housing capacity outside the prime residential Central London market will find it difficult to deliver large numbers of units over short periods of time. Particularly as much of the identified capacity in these locations is on large sites, often in relatively close proximity to each other, which will take a significant amount of time to be built out
- 3.88. However, given the key contribution these and other boroughs, such as Tower Hamlets, make to meeting need, ensuring delivery in these areas is crucial if London is to meet its 42,000 homes a year target. The Mayor has already started work looking at the barriers to housing delivery which will help unlock some of these sites. In addition, new initiatives such as encouraging institutional private rented sector investment may help bring forward additional capacity³⁰.
- 3.89. Average approvals over the same period have been 58,000 homes a year and table 3.20 shows that all boroughs exceeded their conventional 2011 target in terms of approvals, with Hillingdon, Sutton, Wandsworth, Harrow and Bromley all approving significantly more in proportionate terms than their target. In terms of the 2013 SHLAA conventional capacity target (39,673 homes a year) only five boroughs have an average approval rate below that of their target (Haringey, Redbridge, Kingston upon Thames, Kensington

³⁰ The Mayor of London. Homes for London. The London Housing Strategy. GLA. 2013

and Chelsea, and Havering). This suggests that a lack of planning approval is not the key issue in translating housing capacity into units.

- 3.90. However, table 3.19 does demonstrate that, for the majority of boroughs, meeting the 2013 supply targets will require a step change in delivery. Moreover, the targets are a minimum that all boroughs will need to seek to exceed; this should be easier for those boroughs that are already delivering at or near their target level, some of whom have a large gap between their identified capacity and their DCLG household projection figure.

Table 3.20 Average annual conventional capacity identified in the 2013 SHLAA compared to average annual conventional delivery and average annual conventional approvals.

	Completions average 2004-2012	Completions Average 2008-2012	2004-2012 average approvals	2008-12 average approvals	2011 London Plan conventional capacity	2013 SHLAA conventional capacity
Barking and Dagenham	476	431	2093	1010	1041	1,236
Barnet	969	1066	3495	3937	2048	2,184
Bexley	287	319	504	487	337	439
Brent	739	712	1899	1477	975	1,308
Bromley	694	621	1243	906	501	641
Camden	518	558	1172	949	500	743
City of London	47	59	183	167	81	140
Croydon	1055	1131	2359	2213	1221	1,416
Ealing	819	646	1550	1752	843	1,199
Enfield	489	390	837	509	530	781
Greenwich	1136	782	3973	3971	2429	2,453
Hackney	1243	1308	2331	2371	1124	1,301
Hammersmith and Fulham	554	549	1323	1561	564	954
Haringey	663	623	1060	941	792	1,495
Harrow	546	587	997	874	349	571
Havering	457	367	1109	1185	972	1,145
Hillingdon	665	842	1371	1141	375	559
Hounslow	774	584	1042	937	453	822
Islington	1306	1260	1779	1497	922	1,023
Kensington and Chelsea	186	186	534	584	530	678
Kingston upon Thames	294	194	391	339	329	569
Lambeth	1045	981	2040	1567	1142	1,393
Lewisham	912	1074	2234	2801	1088	1,336
LLDC						1,300
Merton	516	462	655	538	318	411
Newham	943	1024	5702	5778	2499	1,877
Redbridge	692	549	915	442	748	1,124
Richmond upon Thames	406	302	441	368	210	315
Southwark	1328	1225	2977	2806	1877	2,595
Sutton	430	364	704	667	211	342
Tower Hamlets	1981	1807	5400	4702	2462	3,828
Waltham Forest	535	459	849	726	688	810
Wandsworth	1188	1105	3519	4257	1081	1,724
Westminster	802	715	1483	1449	594	963
Total	24,694	23,281	58,167	54,911	29,835	39,673

4 SCENARIOS

Testing the system assumptions

- 4.1. The SHLAA system, which estimates capacity for large sites, is predicated on being London Plan compliant (i.e. the assumptions built into the system have been designed to reflect policies in the London Plan). Where a site does not have planning approval the SHLAA system estimates capacity based on the assumptions built into the system. Part of the scenario testing exercise is to assess the sensitivities around these capacity figures by looking at scenarios that differ from the study's agreed assumptions and potentially those that differ from London Plan policy.
- 4.2. These scenarios seek to assess the impact of changing the default assumptions initially used to derive a notional capacity for each site. The results of testing these scenarios provide variations on the final capacity for a site, and therefore capacity aggregates at both borough and London wide levels. The variations in capacity generated by the scenario testing indicates how sensitive the final capacity figures are to changes in the assumptions that underpin them, and what variations could be expected when the estimated capacity is realised through new development.
- 4.3. The scenario testing stage tested the following large site assumptions:
 - General density assumptions
 - Density assumptions in Town Centres and Opportunity Areas
 - Constraints on allocated sites
 - Notional capacity in Town Centres and Opportunity Areas
 - Increase in PTAL levels
 - Loss of industrial land
- 4.4. The SHLAA central scenario, as discussed in section three, has identified capacity for 420,000 homes 2015-2025. However, the GLA's London wide Strategic Housing Market Assessment has found that if London is to meet its need more capacity will be required.
- 4.5. The SHMA³¹ has found that London requires between 49,000 and 62,000 thousand homes a year if it is to meet need. The 49,000 figure is based on the life of the plan (2015-2036), while the higher 62,000 figure is based on 2015-2026. The reason for the differences in the yearly average is threefold; firstly the base population projections assume a reduction in population growth later in the period reducing the base household projections from 43,000 to 40,000 homes a year; secondly if current need (backlog) is addressed across the life of the plan, rather than in ten years this reduces the backlog requirement from around 13,000 a year to around 7,000 a year. Thirdly the SHMA's base year is 2011, but the plan will not be published until 2015; it cannot be assumed that the number of homes needed will be delivered between 2011 and 2015. In fact it is already clear that in 2011/12 and 2012/13 London did not reach current London Plan targets and thus an adjustment has been made to account for under

³¹ The London Strategic Housing Market Assessment 2013. GLA. 2014

delivery relative to housing need in years 2011–2015. Again this requires a greater yearly increment if addressed over a shorter timescale.

- 4.6. However, there is considerable uncertainty around London’s future population and household growth not least because the increased domestic in-migration and decreased domestic out migration could be a product of a cyclical change. This change may be born out of the economic climate in the rest of the UK compared to that of London and the impact of the credit crunch on the housing market and people’s ability to move to London’s hinterlands. Alternatively, it could represent a structural change, either in terms of the economic competitiveness of the rest of the UK relative to London or in terms of peoples preference for city living. To what extent the growth may be cyclical will only become clear once the trend has “bedded down”.
- 4.7. Because of the significant uncertainty around the future population growth of London, the Further Alterations to the London Plan are using the full Plan timescale as the basis for its household projections and assessment of housing need, while acknowledging that this is the minimum required, particularly in the early years of the Plan. However, as discussed in the preceding chapters, the SHLAA has only identified capacity for 42,000 dwellings a year - well short of the 49,000 a year minimum requirement identified in the SHMA. This section explores the further potential for increasing London’s housing capacity, focusing on the assumptions underpinning the assessments of the large sites. It aims to identify how boroughs could seek to address the gap between need and capacity.

Density Scenarios

- 4.8. Increasing the density of developments is one of the few ways that London can increase capacity without losing green spaces or an even greater amount of industrial land than already envisaged in the SHLAA. As discussed in section three, the system density defaults were based on the SRQ matrix; the standard assumptions were set within the mid-range of the density matrix, increasing in density within this range for higher PTAL areas and in the central and urban settings. For town centres the defaults followed a similar pattern, but were based on the higher range within the matrix. Following this approach meant that only areas in town centres in PTAL 6 central setting were assumed to deliver at the top of their density range. All others were below the top of the range by various degrees. This approach was taken so as not to overestimate the capacity from sites, in line with the optimising approach to housing capacity in the Plan. The role of the scenarios discussed below is to test out “what ifs” to provide some idea of the extra capacity that could be obtained if densities were increased and to what extent that could help London meet its housing needs.
- 4.9. Table 4.1 shows the impact of increasing allocated and potential sites in the large site system to the top of the relevant density range. Approvals and low probability sites are not included in this scenario because, for approvals we assume that the approved density will be built out and for low probability sites the uncertain nature of such sites means that assuming higher densities is unlikely to add to the understanding of the capacity of such sites. Sites that already exceed the density matrix are not adjusted.

Table 4.1 Impact of increasing all allocations and potentials to the top of the relevant density ranges. 2015-2025

Ref	Borough wide Capacity	Large site max SRQ density applied	Small site	Non-self contained	Vacants	Identified Capacity 2015-2025.
2	Barking and Dagenham	1,556	97	0	0	1,653
3	Barnet	2,149	327	130	35	2,642
4	Bexley	465	109	0	7	581
5	Brent	1,463	263	218	0	1,943
6	Bromley	415	352	0	0	767
7	Camden	436	349	115	32	932
1	City of London	76	64	0	0	141
8	Croydon	1,003	592	0	19	1,615
9	Ealing	1,054	301	98	0	1,453
10	Enfield	764	259	0	17	1,040
11	Greenwich	3,109	226	151	81	3,567
12	Hackney	673	729	170	128	1,700
13	Hammersmith and Fulham	858	199	63	14	1,133
14	Haringey	1,442	340	6	0	1,789
15	Harrow	463	251	22	0	735
16	Havering	1,310	151	0	26	1,487
17	Hillingdon	465	174	0	0	639
18	Hounslow	844	161	0	0	1,005
19	Islington	399	662	219	22	1,302
20	Kensington and Chelsea	611	152	9	46	818
21	Kingston upon Thames	507	155	43	31	736
22	Lambeth	948	615	97	70	1,729
23	Lewisham	1,017	444	41	8	1,511
50	London Legacy Development Corporation	1,471	33	171	0	1,675
24	Merton	270	211	0	0	482
25	Newham	1,884	291	70	48	2,293
26	Redbridge	1,521	270	0	0	1,790
27	Richmond upon Thames	219	175	0	0	395
28	Southwark	2,126	746	115	26	3,013
29	Sutton	255	166	0	21	443
30	Tower Hamlets	4,069	511	84	19	4,683
31	Waltham Forest	516	333	52	0	901
32	Wandsworth	1,335	473	88	0	1,896
33	Westminster	568	467	0	105	1,140
	London wide	36,263	10648	1,962	755	49,628

- 4.10 The scenario demonstrates that increasing densities to the top of the SRQ matrix increases the number of homes that can be delivered by just over 7,000 a year, suggesting London could have the capacity to meet the minimum 49,000 homes a year need requirement.
- 4.11. As detailed in section two, the defaults in the system were developed to maximise capacity in the most sustainable locations (higher PTALs were set at defaults nearer the top of the matrix, particularly those in town centres). The areas that are set at nearer the top of the density matrix will have less room proportionately to increase the capacity when uplifting to the top of the density matrix. In terms of a proportionate increase the difference is far starker in suburban areas (75% increase) than central areas (28% increase). However, in terms of actual numerical increase, using the top of the SRQ matrix produces the largest increase in capacity in urban areas with an increase of circa 3,500, suggesting that urban areas could be a focus for boroughs looking to increase capacity.
- 4.12. Those which proportionately gain the most through this scenario are Richmond (368% increase) and Enfield (279% increase).
- 4.13. However, increasing densities to the top of the matrix, in reality, is unlikely to be appropriate for all sites; some sites will be constrained in their ability to deliver more units due to physical site constraints, surrounding uses and access issues. However, the scenario does suggest that further capacity can be found by increasing densities within the SRQ matrix and thus the base SHLAA figures can be treated as a minimum. In order to reconcile capacity and need, boroughs will need to capitalise on this potential where ever possible.

Town centres and Opportunity Areas

- 4.14. As previously discussed, Opportunity Areas and town centres can provide a sustainable opportunity for increased housing potential through redevelopment and intensification. The table below (4.2) shows the potential increase if the above scenario is run only on town centres, Opportunity Areas and the total from both sources (town centres can also be within opportunity areas). This scenario suggests London has the capacity for 328,684 units on large sites (an increase of 38,440 on the central SHLAA assumptions of 290,244 -3,844 extra homes a year).

Table 4.2 Impact of increasing allocations and potentials to the top of the relevant density ranges, in Town Centres and Opportunity Areas only. 2015-2025

	System generated constrained capacity phase two and three (allocations and potential only)	Constrained capacity at maximum	% increase
Opportunity Areas	98,434	130,536	33%
Town centres	55,162	65,220	18%
Opportunity Areas and town centres total	129,581	168,021	30%
Extra capacity		38,440	

4.15. Table 4.3 below shows the distribution by borough of this town centre/Opportunity Area uplift. Greenwich and Barking and Dagenham have the largest proportionate increase through this scenario; both boroughs which have already identified significant capacity. However, a number of other boroughs also have potential for significant proportionate increases in capacity based on this scenario, such as Bexley, Enfield and Redbridge, which could help reduce the gap between need and capacity in these boroughs.

Table 4.3 Impact of increasing allocations and potentials to the top of the relevant density ranges, in town centres and Opportunity Areas on borough's total capacity.

Borough	2015-2025 TC/Opp areas extra capacity at top of SRQ matrix	Yearly increase on large site base figures	Total 2015-2025
Barking and Dagenham	3658	366	1,601
Barnet	1433	143	2,492
Bexley	1051	105	551
Brent	2774	277	1,803
Bromley	346	35	676
Camden	22	2	891
City of London	0	0	141
Croydon	185	19	1,453
Ealing	434	43	1,341
Enfield	1514	151	949
Greenwich	8524	852	3,537
Hackney	549	55	1,654
Hammersmith and Fulham	338	34	1,065
Haringey	755	75	1,577
Harrow	198	20	613
Havering	640	64	1,234
Hillingdon	129	13	572
Hounslow	218	22	844
Islington	2	0	1,264
Kensington and Chelsea	476	48	781
Kingston upon Thames	80	8	651
Lambeth	569	57	1,616
Lewisham	1223	122	1,507
London Legacy Development Corporation	1823	182	1,653
Merton	37	4	414
Newham	2392	239	2,234
Redbridge	2129	213	1,336
Richmond upon Thames	52	5	320
Southwark	369	37	2,773
Sutton	79	8	371
Tower Hamlets	5690	569	4,500
Waltham Forest	201	20	882
Wandsworth	299	30	1,842
Westminster	250	25	1,093
Total	38440	3844	46,233

Allocation scenario

- 4.16. The SHLAA is based on the assumption that not all sites identified will deliver housing due to a variety of reasons such as existing use, site constraints and competing land uses. Where a site was thought to be suitable for housing if it was not for these constraints, it is included in the system with a reduced probability to reflect the constraints on the site and the likelihood of it coming forward. Sites that have been allocated for housing use should have a greater degree of certainty around their ability to provide homes within a certain timescale; however, not all allocated sites were given 100% probability in the system.
- 4.17. Reflecting the greater certainty over these sites coming forward, the scenario below retains the densities in the system for all sites (retaining any changes boroughs may have made to those assumptions) but for allocated sites, assumes that all sites in phase 2 and 3 have a 100% probability of development attached. This increases the capacity by just over 19,000 units across the ten years, 1,900 a year. Table 4.4 provides the uplift by borough. Proportionately the adjustment increases capacity by 4%, but has a varied impact for individual boroughs; those that have no current allocations obviously are not affected by this scenario (City of London, Enfield, Haringey, Hillingdon and Waltham Forest). The boroughs with the biggest proportionate increase are Hammersmith and Fulham, Kensington and Chelsea and Newham). To some extent this will be due to large multi-phase allocations which may have some uncertainty attached around when the whole site will be delivered and how much will be residential. It should be noted that in some cases the constrained capacity (with reduced probability) may reflect the actual numbers of homes expected to be delivered on the site (with density changed to get the “correct” figure as detailed in an allocations document), which means assuming a 100% probability will actually artificially inflate the numbers that are likely to be delivered on the site.

Table 4.4 Allocations probability increased to 100%, impact by borough 2015-2025.

Borough	Increase if assume all allocations 100%	Assumed yearly average based on 100% allocations
Barking and Dagenham	554	1291
Barnet	110	2360
Bexley	155	461
Brent	778	1603
Bromley	81	649
Camden	163	906
City of London	0	141
Croydon	28	1438
Ealing	390	1336
Enfield	0	798
Greenwich	397	2725
Hackney	1007	1700
Hammersmith and Fulham	2867	1318
Haringey	0	1502
Harrow	43	597
Havering	923	1262
Hillingdon	0	559
Hounslow	297	852
Islington	195	1284
Kensington and Chelsea	1056	839
Kingston upon Thames	424	686
Lambeth	703	1630
Lewisham	916	1476
London Legacy Development Corporation	0	1471
Merton	35	414
Newham	2078	2202
Redbridge	579	1181
Richmond upon Thames	0	315
Southwark	1832	2919
Sutton	42	367
Tower Hamlets	2422	4174
Waltham Forest	503	912
Wandsworth	0	1812
Westminster	604	1128
Total	19,182	44,307

Increasing accessibility

- 4.18. The SRQ matrix uses the PTAL and setting of an area to determine the appropriate density range. The higher the PTAL the higher the density that is considered appropriate, therefore improving public transport accessibility should lead to increased capacity in many places. Table 4.5 demonstrates the potential impact on capacity of allocated and potential sites if all areas increased accessibility by one PTAL using the SHLAA system defaults, with the PTAL six defaults being the maximum (where a site is already higher than the new PTAL the original density is retained). It demonstrates that an extra 39,684 extra homes could be delivered based on the default densities in the system, or 3,968 a year. This number could be increased further if sites were delivered to the top of the density matrix ranges.
- 4.19. In reality transport improvements are not made to every area; generally they focus on particular locations where there is scope to deliver large amounts of housing or jobs. As well as increasing the potential housing capacity of an area, improving transport accessibility also improves the likelihood of a scheme actually being delivered, so transport improvements will be important to unlocking capacity and getting sites moving. Further work should be carried out to identify what targeted transport improvements would unlock the most amount of capacity.

Table 4.5 assumed transport accessibility improvements – increased by one PTAL

Borough	Potential increase 2015-2025	Percentage increase 2015-2025	PTAL increase scenario total (all sources) 2015-2025
Barking and Dagenham	1,972	17%	14328
Barnet	2,156	12%	25646
Bexley	1,001	30%	5458
Brent	3,350	32%	18603
Bromley	895	31%	7308
Camden	145	4%	9037
City of London	0	0%	1408
Croydon	744	9%	15092
Ealing	716	8%	13688
Enfield	847	16%	8823
Greenwich	4,751	21%	31601
Hackney	762	13%	16750
Hammersmith and Fulham	644	9%	10956
Haringey	1,140	10%	16159
Harrow	801	25%	6728
Havering	1,714	17%	13416
Hillingdon	475	12%	6068
Hounslow	946	14%	9168
Islington	120	3%	12762
Kensington and Chelsea	488	9%	7818
Kingston upon Thames	552	13%	6986
Lambeth	1,281	16%	16875
Lewisham	982	11%	14829
LLDC	596	5%	15307
Merton	282	14%	4388
Newham	1,683	11%	21628
Redbridge	4,690	55%	15922
Richmond upon Thames	381	27%	3530
Southwark	569	3%	27931
Sutton	219	12%	3845
Tower Hamlets	3,756	11%	43071
Waltham Forest	225	5%	8845
Wandsworth	423	3%	18545
Westminster	376	8%	11053
Total	39,684	14%	463,570

Town centres and Opportunity Areas: target based scenario

- 4.20. The previous scenarios were based on amending the assumptions in the system to provide an indication of how different approaches to density and constraints would impact London's housing capacity. Of the three scenarios, increasing the density of all allocated and approved sites to the top of the relevant scale in the density matrix makes the most impact, increasing overall capacity to just over 49,000 a year- the minimum need figure identified by London's SHMA. However, as discussed, increasing densities on all sites is unlikely to be practical or desirable. Therefore the next scenario explores the increase in density required to meet the 49,000 homes a year requirement if the increase is only focused on town centres and Opportunity Areas.

Table 4.6 Target based scenario town centre and Opportunity Area uplift 2015-2025.

Current Figures	Houses
All large Sites	29,010
Small non-self/Vacants	13,362
Town Centres	5,516
Opportunity Area	9,843
Total TC/OA	12,958
Additional	Houses
Additional units needed for 49,000pa	6,628
% uplift applied to TC/OA sites only	51%
Total When Uplift is applied	49,000
SRQ uplift	
Addition units from town centres at SRQ max	3849
Additional units needed for 49,000pa	2,779
% uplift applied to TC/OA sites only	17%
Total when uplift to SRQ max is applied	49,078

- 4.21. Based on the densities in the system, a 51% increase in capacity is needed on potential and allocated sites in Town Centres and Opportunity Areas to meet the 49,000 a year target (table 4.6). To provide a better understanding of the implications of this in respect to the SRQ matrix, if all sites were already at the maximum of the SRQ matrix a 17% uplift on capacity would be needed to deliver 49,000 homes. This suggests that either a significant majority of identified sites in town centres and Opportunity Areas need to be delivered at densities above the density matrix or additional housing sites need to be identified in town centres and Opportunity Areas which can deliver densities at top of the matrix in order to increase capacity to meet need. As mentioned in section three a number of sites in town centres were classed as unsuitable due to multiple ownership constraints. However, these sites may be able deliver housing through programs to redevelop and intensify town centres. Moreover, certain types of housing,

such as student housing and older person housing would be well located in town centres, delivering high density development while helping to revitalise and renew the centres. This is an approach boroughs will need to explore in order to increase housing supply in their boroughs.

Notional capacity

- 4.21. The main SHLAA scenario and the scenarios above are based on the sites' constrained capacity, which is the notional capacity of a site (that is the actual capacity the site would deliver if fully built out) reduced due to constraints which affect the probability of the site coming forward. This approach assumes that not all sites in the SHLAA that have housing potential will be built out, reflecting the uncertainty in London's housing market where the majority of capacity is delivered by sites in existing uses. However, the notional capacity provides a better indication of the level of housing that would come forward if a site does deliver housing. Table 4.7 demonstrates what each boroughs capacity is if the notional capacity of town centre and Opportunity Area sites with capacity in phase two and three were built out.
- 4.22. This scenario increases the overall capacity by 2,599 homes a year. Proportionately this scenario impacts Hammersmith and Fulham the most, with their notional town centre and opportunity area capacity being 119% more than their constrained figure.

Table 4.7 Scenario assuming all town centres and Opportunity Areas deliver their notional capacity.

	Notional capacity TC and Opp areas- Yearly increase on large site base figures	Total capacity with notional TC and Opp areas notional figures
Barking and Dagenham	73	1308
Barnet	29	2378
Bexley	75	521
Brent	81	1606
Bromley	14	656
Camden	8	898
City of London	9	150
Croydon	58	1492
Ealing	34	1331
Enfield	3	800
Greenwich	99	2784
Hackney	94	1693
Hammersmith and Fulham	294	1325
Haringey	135	1637
Harrow	2	595
Havering	103	1273
Hillingdon	6	565
Hounslow	26	848
Islington	5	1269
Kensington and Chelsea	122	855
Kingston upon Thames	52	695
Lambeth	100	1660
Lewisham	92	1476
London Legacy Development Corporation	0	1471
Merton	3	414
Newham	282	2276
Redbridge	29	1152
Richmond upon Thames	1	316
Southwark	174	2910
Sutton	3	365
Tower Hamlets	450	4381
Waltham Forest	69	931
Wandsworth	37	1849
Westminster	38	1106
Total	2599	44987

- 4.23. If both the notional capacity scenario and the top of the SRQ matrix range scenario was applied to Opportunity Area and town centre sites (this assumes that all constraints are removed and all sites reach maximum densities), this would give a total figure of 48,930 a year, an increase of 6,541 on the base SHLAA scenario. This suggests that the numbers in the SHLAA for town centres and Opportunity Areas can be regarded as minima.

Scenario conclusions

- 4.24. Different assumptions and additional considerations were evaluated in the scenario testing to assess the robustness of the identified capacity and also to demonstrate if increased capacity could be delivered if different assumptions about density and constraints were made. The scenarios suggest that London could have the capacity to deliver more housing than the 42,000 homes a year base scenario. In particular, the scenarios identify the potential increased capacity above the SHLAA supply targets that town centres and Opportunity Areas could deliver. Boroughs should take account of this when seeking to reconcile the gap between need and supply and ensuring the London Plan minimum supply targets are exceeded.
- 4.25. Overall the scenarios also demonstrate that the figures in the system are a robust basis for the targets in the Further Alterations in the London Plan, as they do not assume maximum capacity will be delivered but do provide robust minimum estimates.

5 CONCLUSION

- 5.1. The SHLAA is a key part of the evidence base for the further alterations to the London Plan. The SHLAA base findings, along with the scenarios provide a robust understanding of London's housing capacity under current policy conditions, from now until 2025, with some understanding of capacity beyond, up to 2036. The fact that the SHLAA is carried out jointly with boroughs helps ensure the assessment provides as accurate and realistic as possible appreciation of London's housing capacity.
- 5.2. The assessment has considered all sites which may come forward for housing, categorising them as approved sites, allocation sites, potential housing sites and low probability housing sites, together with assumptions on supply from small sites, non self-contained accommodation and long term vacant homes returning to use, each of which have historically been important sources of housing supply in the capital.
- 5.3. The study has built on the experience of the 2009 SHLAA, tailoring the approach to reflect increasing housing need in London and the requirements of the NPPF and associated guidance. Two main changes were introduced to the methodology to ensure the 2013 SHLAA reflects London's housing capacity realistically. The default densities were increased to ensure that the opportunity for higher density development is optimised, while retaining a range that reflects the type of homes likely to be suitable in different locations. The changes to the handling of excluded sites, with the introduction of the new low probability category has helped ensure all potential capacity is captured, providing a more robust understanding of London's total potential housing capacity.
- 5.4. In addition, the new large site system was developed to have greater functionality than the previous system, including the ability for boroughs to see their capacity running total as they worked their way through the site assessments which allows them to understand their overall capacity and take ownership of the figures their assessment has produced. The system also included a detailed reporting dashboard and a scenario testing area. The scenario testing area allowed boroughs to test different figures for sites to explore different approaches without affecting the figures in the main SHLAA system. This gave boroughs the opportunity to explore of the impact of testing different policy approaches. The system was developed with the input of the technical steering group who helped ensure the system was user-friendly and fit for purpose.
- 5.5. Key to the achievement of this assessment has been the engagement and participation of the London boroughs and the Strategic Housing Market Partnership. Continuing the use of the agreed confidentiality approach of the 2009 study - which seeks to ensure that the GLA will not publish details on individual sites apart from those categorised as allocations and approvals - in the 2013 SHLAA allows boroughs to take into account with confidence the theoretical potential of sites currently in different uses to contribute to future housing provision.
- 5.6. The GLA analysis of borough assessments was also improved to ensure consistency and transparency and to ensure that any questions on boroughs assessments were circulated in advance of each borough meeting with the GLA.

Further Alterations to the London Plan: Housing targets

- 5.7. The findings of the 2013 SHLAA suggest that London has the capacity, under current policy conditions, to provide a minimum of 420,000 homes between 2015/16 and 2024/25, or an average of 42,000 homes a year. The SHLAA has been carried out in the context of the NPPF, which requires plans to meet their full objectively assessed needs. As discussed in section four, despite 42,000 units per annum representing an increase of 30% on the 2011 London Plan target, London's housing needs far outstrip housing capacity, with London's SHMA estimating the need requirement as being 49,000 homes a year, or as high as 62,000 homes a year if backlog need is cleared more quickly³².
- 5.8. To help meet this need, scenario testing, in the context of current London Plan policy, suggests that London's housing capacity could be significantly higher than the identified 42,000 homes a year if densities at the higher end of the SRQ matrix are achieved. Experience in developing Opportunity Area frameworks demonstrates that the SHLAA can underestimate the potential capacity from these areas. Therefore, for these areas, the higher density scenarios may provide a more realistic understanding of the capacity. Moreover, a concerted effort to revitalise and redevelop town centers, with high density residential uses playing a key role, could help boroughs deliver significantly above the 42,000 identified in the SHLAA.
- 5.9. The Further Alteration to the London Plan uses the SHLAA identified capacity for each borough between 2015 and 2025 as the basis for minimum housing supply targets. Taking into account local as well as strategic requirements, boroughs are required to seek to reduce the gap between housing need and capacity, in particular focusing on the role town centres and Opportunity Areas can play in delivering high density housing development. This approach provides the most appropriate balance between delivering housing to meet need and providing boroughs with realistic but ambitious minimum targets on which to base their Local Plans.
- 5.10. The targets in the FALP are supply targets based on the annualised average of the capacity identified in phase two and three of the SHLAA, across the 2015-25 period. As set out in Section two, the reason for only using the 2015-2025 period is the decreasing reliability of the data beyond this point. Using an annualised average is favored over that of a London wide housing trajectory as it allows boroughs flexibility in light of uncertainties in the housing market across the period and on specific individual sites. Boroughs' own housing trajectories will provide a more detailed understanding of the yearly phasing of the development. For the years beyond 2025, boroughs are advised to roll forward the ten year targets as an indicative target to be checked against any future revised targets in the London Plan. In line with the 'plan, monitor and manage' approach which is essential to address the unique circumstances of the London land market, the Mayor will update the SHLAA by 2019/20.

³² Mayor of London. The London Strategic Housing Market Assessment 2013. GLA. 2014

Delivery

- 5.11. Delivering a minimum of 42,000 homes a year will represent a significant step change in housing delivery. Since 2004 the average annual delivery has been circa 25,000 suggesting average delivery needs to increase by 68%.
- 5.12. The capacity identified in the SHLAA raises particular concerns around the concentration of a large part of London’s capacity in the East sub region, with many sites in close proximity to one and other. The Mayor is working with government, boroughs, the development sectors and others to address the concerns about the viability and deliverability of such sites.
- 5.13. With demand so acute for housing in London, it may seem counter intuitive that there are concerns over the viability of some sites. However they reflect the complexities of London’s housing market, the availability of mortgage and development finance and the mismatch between what those in need can afford and the cost of housing being developed. Therefore, this level of housing provision will only be possible with a concerted effort from all players in the sector – government at all levels, developers, housing associations and financiers. The Mayor has set out in his draft housing strategy³³ four key areas where change is needed in order to enable the level of housing development needed to reach at least 42,000 homes a year;
- Finance: the implementation of a long –term settlement for housing, with greater autonomy over property taxes.
 - Product: increase the offer of support to the working Londoners critical to economic growth.
 - Land: fully exploit the potential for increased levels of housing in highly accessible areas.
 - Quality: building to high and consistent design standards, while also improving the condition and environmental performance of London’s homes.
- 5.14. The Further Alterations to the London Plan set out the planning framework to deliver this level of growth for London.

Contribution of SHLAA to Local Plan preparation

- 5.15. Once adopted the Further Alterations to the London Plan will provide new housing targets for borough Local Plans and they will have to reflect these figures in order to be in general conformity with the London Plan. In addressing land supply for housing, boroughs will need to demonstrate that relevant Local Plan documents are based on evidence of capacity, which is deliverable and developable³⁴. The basis for this information is provided by this SHLAA, but over time it may require updating.

³³ Homes for London. The London Housing Strategy. Draft for consultation November 2013

³⁴ National Planning Policy Framework; DCLG para 47

Additional, local studies should not be required, but the SHLAA results may be supplemented by other relevant evidence available locally, particularly on viability.

- 5.16. In keeping with a key principle of government guidance on housing supply, boroughs are strongly advised, in presenting their evidence, to minimise dependence on 'windfall' capacity in order to meet their targets, and maximise use of evidence of capacity coming forward from identified sites. To inform plan preparation, boroughs may wish to supplement the information collected for the SHLAA with evidence of further identified capacity where available, for example, from some sites previously regarded as 'potential' and confidential during the SHLAA but which they now wish to make public. In the unique circumstances of London many boroughs are nevertheless likely, in varying degrees, also to have to draw on evidence of the contribution of windfalls. The NPPF does permit allowances for windfall in a five year supply if there is compelling evidence that such sites have consistently become available in the local area and will continue to provide a reliable source of housing. The London wide SHLAA should be used as a key part of the evidence in supporting the use of windfall allowances.
- 5.17. Boroughs will wish to consider how the SHLAA results impact on the preparation of their Local Plans. For all boroughs the 2013 SHLAA findings and resulting minimum housing targets have increased from those in the 2011 plan and for most they represent a sizeable increment in capacity. Borough's Local Plans should have regard to this new information and reflect the housing targets in the Further Alteration to the London Plan in their Local Plan documents.
- 5.18. Local Plan documents being developed following the publication of this SHLAA should take account of the new housing figures. Given the scale and importance of the new housing targets, where Local Plan documents are currently moving towards publication, and earlier public participation has already been completed, boroughs should seek to take account of the SHLAA outcomes where possible. Where this is not possible, supporting text should highlight the SHLAA findings/FALP targets and detail the implications of these for the Local Plan and the timescale for a further review to take account of the new figures.

Using the SHLAA data to inform specific site allocations

- 5.19. Information on individual sites in the public domain (approvals and allocations) has been published in Appendix eight of this report. Site information on all other sites in the SHLAA has been kept confidential by the GLA. In assessing their land supply, boroughs may wish to consider releasing information on 'potential' housing sites where they will contribute to their five and ten year housing supply as identified sites.
- 5.20. Boroughs may wish to draw on the SHLAA notional capacities to estimate yields from the individual potential housing sites, to provide a better understanding of the likely capacity a site would deliver if it was built out for housing.
- 5.21. While the minimum targets are expressed as annualised averages, the SHLAA system provides the likely delivery of sites in five phases, therefore boroughs can draw on this

phasing information to inform their five and ten year supply of deliverable and developable sites. In addition, information on later phases will help boroughs identify broad locations for growth in years 11-15 of their plans. All the data from the SHLAA study system is available to the boroughs including site boundary information (GIS layers) and site capacity information for all individual sites. In addition, the SHLAA system itself remains accessible to boroughs so they can download data to examine individual site records and use the reporting and scenario functions (although boroughs are unable to make changes to the data already in the system). This can assist boroughs in the preparation of their Local Plans.

6 Appendixes

Appendix 1: Overall capacity by source 2015-2025 phase 2-3

Borough	Large site capacity	Small site capacity	Capacity from long term vacants returning to use.	Student non self-contained accommodation pipeline (rooms)	Total 2015-2025	Annualised average
Barking and Dagenham	11388	967	0	0	12355	1236
Barnet	18565	3272	350	1302	23489	2349
Bexley	3300	1087	70	0	4457	446
Brent	10449	2629	0	2175	15253	1525
Bromley	2892	3521	0	0	6413	641
Camden	3935	3489	320	1148	8892	889
City of London	764	644	0	0	1408	141
Croydon	8235	5923	190	0	14348	1435
Ealing	8976	3014	0	982	12972	1297
Enfield	5219	2587	170	0	7976	798
Greenwich	22274	2260	810	1506	26850	2685
Hackney	5719	7285	1280	1704	15988	1599
Hammersmith and Fulham	7554	1988	140	630	10312	1031
Haringey	11550	3405	0	64	15019	1502
Harrow	3202	2505	0	220	5927	593
Havering	9936	1505	260	0	11701	1170
Hillingdon	3853	1740	0	0	5593	559
Hounslow	6611	1611	0	0	8222	822
Islington	3610	6624	220	2187	12641	1264
Kensington and Chelsea	5259	1519	460	92	7330	733
Kingston upon Thames	4144	1548	310	432	6434	643
Lambeth	7781	6147	700	966	15594	1559
Lewisham	8915	4442	80	410	13847	1385
LLDC	12669	332		1710	14711	1471
Merton	1995	2112	0	0	4107	411
Newham	15855	2908	480	702	19945	1995
Redbridge	8535	2697	0	0	11232	1123
Richmond upon Thames	1396	1754	0	0	3150	315
Southwark	18494	7461	260	1147	27362	2736
Sutton	1755	1661	210	0	3626	363
Tower Hamlets	33172	5108	190	844	39314	3931
Waltham Forest	4770	3331	0	519	8620	862
Wandsworth	12512	4734	0	877	18123	1812
Westminster	4960	4667	1050	0	10677	1068
London	290,244	106,476	7,550	19,617	423,887	42,389

Appendix 2: LLDC boroughs overall capacity by source 2015-2025.**Tower Hamlets, Hackney and Newham, including their constituent parts of the LLDC for monitoring purposes- 2015-2025 (phase 2-3).**

Borough	Large sites	Small sites	Vacants returning back into use	Non self contained (student)	2013 SHLAA identified Capacity	Annualised average
Hackney (including LLDC area)	6,940	7,328	1,280	1,704	17,252	1,725
Newham (including LLDC area)	24,711	3,157	480	2,412	30,760	3,076
Tower Hamlets (including LLDC area)	35,764	5,148	190	844	41,946	4,195
Total including LLDC area*	67,415	15,633	1,950	4,960	89,958	8,996

* Waltham Forrest does include part of the LLDC area; however this element of the LLDC has no housing capacity according to the SHLAA.

Appendix 3: Large site capacity by borough by phase 2013-2036

Borough	Phase one	phase two	Phase three	phase four	Phase five
Barking and Dagenham	1905	5627	5761	2782	7415
Barnet	2584	6911	11654	6216	3085
Bexley	1439	1356	1944	1300	578
Brent	633	5294	5155	2387	165
Bromley	974	1190	1702	647	343
Camden	808	2545	1390	3146	1258
City of London	87	501	263	10	8
Croydon	2197	3226	5009	2449	2334
Ealing	1819	4376	4600	2951	1812
Enfield	742	2611	2608	1074	979
Greenwich	2598	11679	10595	6711	1936
Hackney	3392	2155	3564	2520	1837
Hammersmith and Fulham	1517	4249	3305	2379	1668
Haringey	1394	6390	5160	1648	927
Harrow	1151	1582	1620	821	946
Havering	1807	4765	5171	1212	1183
Hillingdon	3619	2046	1807	1007	248
Hounslow	1719	3292	3319	2558	1526
Islington	2657	3189	421	150	676
Kensington and Chelsea	580	1529	3730	1620	72
Kingston upon Thames	512	2172	1972	938	1214
Lambeth	1953	4121	3660	2456	5243
Lewisham	2004	5520	3395	2535	926
LLDC	2958	5275	7394	5076	1141
Merton	445	999	996	554	318
Newham	773	7430	8425	5136	2686
Redbridge	182	4415	4120	2672	1247
Richmond upon Thames	763	659	737	350	305
Southwark	1641	11308	7186	2339	1274
Sutton	697	773	982	562	406
Tower Hamlets	3914	19025	14147	4171	1987
Waltham Forest	448	2235	2535	1927	1613
Wandsworth	2655	6334	6178	4784	1743
Westminster	963	3212	1748	496	1316
Total	53,530	147,991	142,253	77,584	50,415

Appendix 4: Large sites with capacity in each borough by source 2013-2036

Borough	Sites - allocations	Sites - approvals	Site -Low probability	Site - potentials	Sites -grand total
Barking and Dagenham	23	16	57	28	124
Barnet	26	67	113	101	307
Bexley	2	13	68	65	148
Brent	36	32	69	39	176
Bromley	5	74	49	60	188
Camden	16	23	111	35	185
City of London		6	2	3	11
Croydon	8	42	96	77	223
Ealing	38	27	76	61	202
Enfield		23	122	42	187
Greenwich	11	33	94	31	169
Hackney	37	19	83	50	189
Hammersmith and Fulham	9	25	64	20	118
Haringey		10	91	81	182
Harrow	17	30	20	26	93
Havering	17	35	78	63	193
Hillingdon		33	79	47	159
Hounslow	27	27	54	77	185
Islington	19	24	64	16	123
Kensington and Chelsea	3	23	31	20	77
Kingston upon Thames	10	13	53	56	132
Lambeth	20	27	109	97	253
Lewisham	25	23	74	17	139
LLDC**	19			14	33
Merton	21	14	57	33	125
Newham	35	11	101	73	220
Redbridge	76	9	107	9	201
Richmond upon Thames	1	16	49	28	94
Southwark	37	38	74	79	228
Sutton	15	14	43	8	80
Tower Hamlets	37	56	126	135	354
Waltham Forest		20	92	85	197
Wandsworth	45	36	86	29	196
Westminster	18	29	123	4	174
Total	653	888	2,515	1,609	5,665

*Although recorded as allocations in the SHLAA system, the allocated sites in the LLDC are actually sites with planning approval.

Appendix 5: Large site capacity in each borough by source 2013-2036 (phase 1-5)*

Borough	Allocation	Approval	Low Probability	Potential	Grand Total
Barking and Dagenham	5240	13140	727	4383	23490
Barnet	4367	17071	1056	7956	30450
Bexley	630	1520	625	3842	6617
Brent	6144	3478	536	3476	13634
Bromley	658	2162	349	1687	4856
Camden	3016	2794	1182	2155	9147
City of London		473	18	378	869
Croydon	1462	5390	666	7697	15215
Ealing	6049	6163	788	2558	15558
Enfield		987	1006	6021	8014
Greenwich	12754	14157	836	5772	33519
Hackney	4034	5796	988	2650	13468
Hammersmith and Fulham	4467	5969	1039	1643	13118
Haringey		2968	870	11681	15519
Harrow	1638	3093	199	1190	6120
Havering	3544	3899	1117	5578	14138
Hillingdon		5298	737	2692	8727
Hounslow	4176	2601	748	4889	12414
Islington	2023	3377	676	1017	7093
Kensington and Chelsea	3509	2855	118	1049	7531
Kingston upon Thames	1463	498	699	4148	6808
Lambeth	3327	5079	1449	7578	17433
Lewisham	5541	8428	273	138	14380
LLDC**	17649			4195	21844
Merton	846	817	286	1363	3312
Newham	8452	7153	1353	7492	24450
Redbridge	9192	1254	1115	1075	12636
Richmond upon Thames	24	993	280	1517	2814
Southwark	7944	7920	1392	6492	23748
Sutton	1829	683	272	636	3420
Tower Hamlets	12704	15901	1697	12942	43244
Waltham Forest		1906	465	6387	8758
Wandsworth	3843	16254	364	1233	21694
Westminster	2744	3100	1706	185	7735
	139,269	173,177	25,632	133,695	471,773

*Approval figures include some recently completed schemes.

**Although recorded as allocations in the SHLAA system, the allocated sites in the LLDC are sites with planning approval and not allocations.

Appendix 6: Large site capacity by borough by source 2015-2025 (phase 2 and 3)*

Borough	Allocation	Approval	Low Probability	Potential	Capacity Total
Barking and Dagenham	4483	4250	212	2443	11388
Barnet	3668	10413	317	4167	18565
Bexley	630	266	165	2239	3300
Brent	4748	2568	174	2959	10449
Bromley	658	1062	71	1101	2892
Camden	1260	1820	344	511	3935
City of London		386	0	378	764
Croydon	1462	3193	213	3367	8235
Ealing	5699	2100	231	946	8976
Enfield		243	13	4963	5219
Greenwich	7086	11153	96	3939	22274
Hackney	2730	1604	195	1190	5719
Hammersmith and Fulham	2512	3669	305	1068	7554
Haringey		1891	275	9384	11550
Harrow	1280	1631	25	266	3202
Havering	3524	2311	345	3756	9936
Hillingdon		1746	232	1875	3853
Hounslow	3836	924	144	1707	6611
Islington	1829	910	0	871	3610
Kensington and Chelsea	1925	2275	32	1027	5259
Kingston upon Thames	1463	5	103	2573	4144
Lambeth	3083	3170	1	1527	7781
Lewisham	3059	5847	9	0	8915
LLDC	10763			1906	12669
Merton	761	383	38	813	1995
Newham	6434	5109	344	3968	15855
Redbridge	6161	1072	351	951	8535
Richmond upon Thames	12	230	4	1150	1396
Southwark	6888	6368	427	4811	18494
Sutton	1534	28	0	193	1755
Tower Hamlets	10584	11994	240	10354	33172
Waltham Forest		1458	0	3312	4770
Wandsworth	1565	10449	121	377	12512
Westminster	2686	2128	34	112	4960
Total	102,323	102,656	5,061	80,204	290,244

* Approval figures include some recently completed schemes

*Although recorded as allocations in the SHLAA system, the allocated sites in the LLDC are sites with planning approval and not allocations.

Appendix 7: Small site calculations

Borough	Change of use net additions	New build net additions	Conversions net additions	Total 2004/05-2011/12	2004/05-2011/12 less garden land reduction	Yearly average	Ten year total
Barking and Dagenham	68	678	125	871	774	97	967
Barnet	295	1585	881	2761	2618	327	3272
Bexley	161	738	66	965	870	109	1087
Brent	518	1315	316	2149	2103	263	2629
Bromley	583	2136	393	3112	2817	352	3521
Camden	1137	1537	212	2886	2792	349	3489
City of London	404	104	7	515	515	64	644
Croydon	859	2831	1432	5122	4739	592	5923
Ealing	463	1302	828	2593	2411	301	3014
Enfield	366	1264	657	2287	2069	259	2587
Greenwich	644	945	282	1871	1808	226	2260
Hackney	1064	3841	1070	5936	5828	729	7285
Hammersmith and Fulham	390	683	549	1622	1591	199	1988
Haringey	383	1417	1003	2803	2724	340	3405
Harrow	370	1103	642	2115	2004	251	2505
Havering	95	1154	138	1387	1204	151	1505
Hillingdon	119	1365	159	1643	1392	174	1740
Hounslow	212	1056	169	1437	1289	161	1611
Islington	1415	2693	1223	5331	5300	662	6624
Kensington and Chelsea	673	421	130	1224	1215	152	1519
Kingston upon Thames	304	740	293	1337	1238	155	1548
Lambeth	852	2275	1956	5083	4917	615	6147
Lewisham	653	2029	1060	3742	3554	444	4442
LLDC	11	252	7	270	266	33	332
Merton	251	1223	433	1907	1689	211	2112
Newham	358	1708	405	2471	2326	291	2908
Redbridge	263	1714	367	2344	2158	270	2697
Richmond upon Thames	342	907	324	1573	1403	175	1754
Southwark	842	4770	443	6055	5969	746	7461
Sutton	164	1146	277	1587	1329	166	1661
Tower Hamlets	668	3305	181	4154	4087	511	5108
Waltham Forest	783	1107	920	2810	2665	333	3331
Wandsworth	665	2238	991	3894	3787	473	4734
Westminster	1728	1732	281	3741	3734	467	4667
Total	18,103	53,314	18,220	89,598	85,181	10,648	106,476

Appendix 8: Allocated and approved site list by borough

Other formats and languages

For a large print, Braille, disc, sign language video or audio-tape version of this document, please contact us at the address below:

Public Liaison Unit

Greater London Authority
City Hall
The Queen's Walk
More London
London SE1 2AA

Telephone **020 7983 4100**
Minicom **020 7983 4458**
www.london.gov.uk

You will need to supply your name, your postal address and state the format and title of the publication you require.

If you would like a summary of this document in your language, please phone the number or contact us at the address above.

Chinese

如果需要您母語版本的此文件，
請致電以下號碼或與下列地址聯絡

Hindi

यदि आप इस दस्तावेज की प्रति अपनी
भाषा में चाहते हैं, तो कृपया निम्नलिखित
नंबर पर फोन करें अथवा नीचे दिये गये
पते पर संपर्क करें

Vietnamese

Nếu bạn muốn có bản tài liệu
này bằng ngôn ngữ của mình, hãy
liên hệ theo số điện thoại hoặc địa
chỉ dưới đây.

Bengali

আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি
(কপি) চান, তা হলে নিচের ফোন নম্বরে
বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

Greek

Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος
εγγράφου στη δική σας γλώσσα, παρακαλείστε να
επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυ-
δρομικά στην παρακάτω διεύθυνση.

Urdu

اگر آپ اس دستاویز کی نقل اپنی زبان میں
چاہتے ہیں، تو براہ کرم نیچے دئے گئے نمبر
پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

Turkish

Bu belgenin kendi dilinizde
hazırlanmış bir nüshasını
edinmek için, lütfen aşağıdaki
telefon numarasını arayınız
veya adrese başvurunuz.

Arabic

إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى
الاتصال برقم الهاتف أو مراسلة العنوان
أدناه

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ
ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫੋਨ ਕਰੋ ਜਾਂ ਹੇਠ
ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં
જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર
ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.