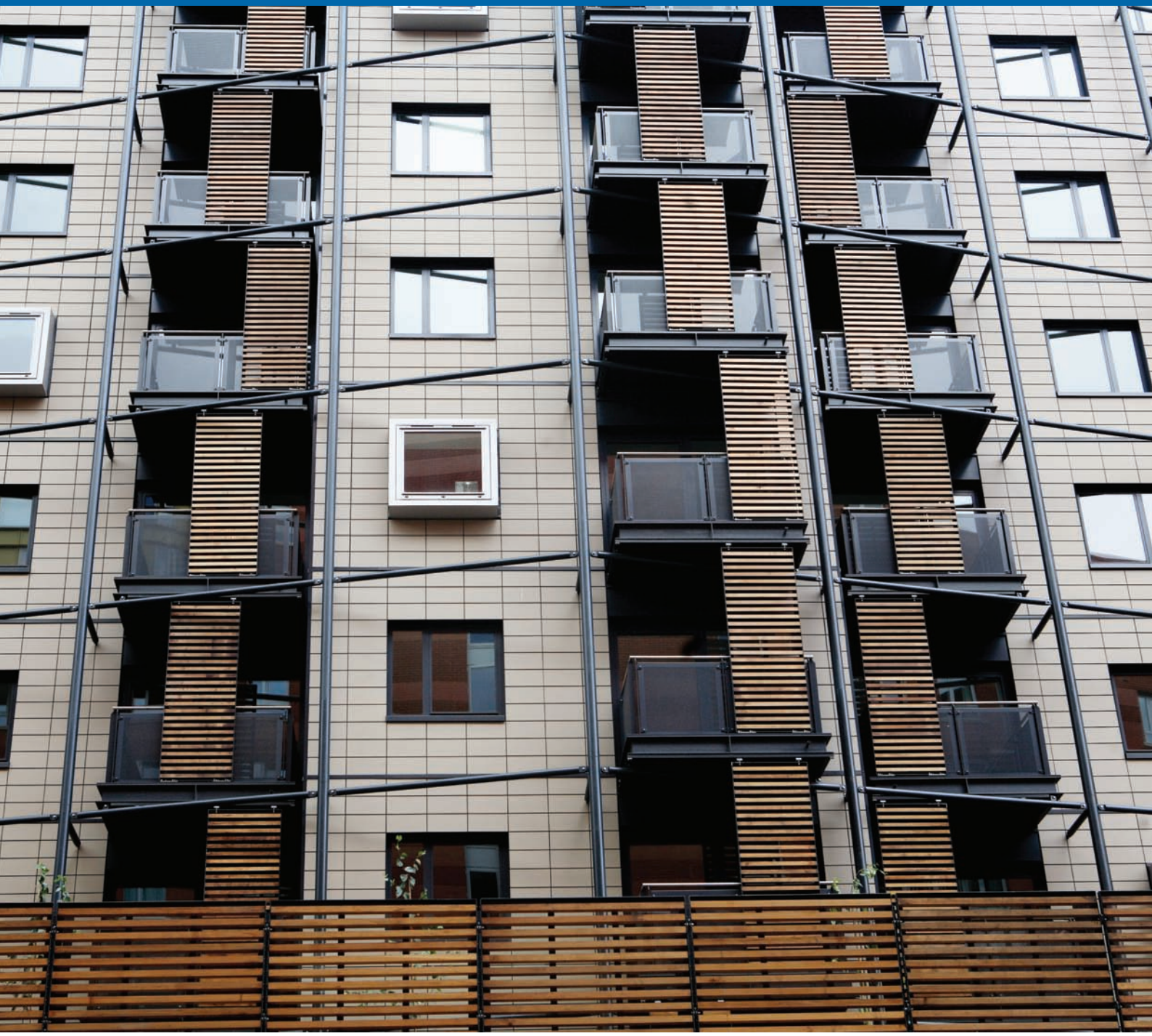
October 2009

The London Strategic Housing Land Availability Assessment and Housing Capacity Study 2009



MAYOR OF LONDON

October 2009

The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS) 2009

MAYOR OF LONDON

Copyright

Published by
Greater London Authority
City Hall
The Queen's Walk
London SE1 2AA
www.london.gov.uk
enquiries: 020 7983 4100
minicom: 020 7983 4458

ISBN 978-1-84781-309-1

Cover photograph credit – Belinda Lawley

This publication is printed on recycled paper

Further copies of this report are available from www.london.gov.uk or by calling 020 7983 4100.

Content

Acknowledgements

The 2009 Strategic Housing Land Availability Assessment and Housing Capacity Study was made possible by the contributions and co-operation of a wide range of stakeholders and in particular planning, housing and other officers from all the London boroughs.

The Project Steering Group played a key role in this work, overseeing the study from inception to implementation.

The London Strategic Housing Land Availability Assessment and Housing Capacity Study Steering Group / Housing Market Partnership

Alan Austin – London Borough of Barking and Dagenham
Andrew Barry-Purssell – Greater London Authority (GLA)
Andy Black – Cala Homes
Christina Forrest – National Housing and Planning Advice Unit (NHPAU)
Christine Cook – London Borough of Wandsworth
David Smith – Government Office for London
Dino Patel – National Housing Federation – London
Emma Peters – Homes and Communities Agency (HCA)
Eoin O'Neill – Environment Agency
Geoff Raw - London Development Agency (LDA)
Georgina Hibberd – RICS
Gerard McInerney – London Borough of Camden
James Gleeson – Greater London Authority (GLA)
James Stevens – Home Builders Federation (HBF)
Jo Shockley - RICS
John Kaye – London Development Agency (LDA)
Julia Bray – Transport for London (TfL)
Kate Graham – London Borough of Wandsworth
Katharina Chan – London Borough of Barking and Dagenham
Kuheli Mookerjee – London Councils
Liz Bartlett – London Councils
Michael Bach – London Forum
Nick Lynch – London Borough of Barnet
Peter Eversden - London Forum
Ruth Bradshaw – London Councils
Simon Cooper – Transport for London (TfL)

Greater London Authority Project Team
John Lett
Neil Goldberg
Mike Newitt
David Taylor-Valiant
Chris Poulton (until January 2009)

Additional Thanks to:
Gwyneth Deakins – Health and Safety Executive (HSE), Graham Saunders - English Heritage, Adina Brown – English Heritage, Zhuoya Ling (GLA), Duminda Baddevithana (GLA), Alex Green (GLA), Jonathan Brooker (GLA) and Kevin Reid (GLA).

Section One: Introduction

Purpose of a Strategic Housing Land Availability Assessment (SHLAA)

1.1 The requirement for Strategic Housing Land Availability Assessments (SHLAAs) is set out in Planning Policy Statement 3[1] (PPS3) as a proactive approach to identifying housing land supply. The primary role of a SHLAA is to identify sites with potential for housing; consider their housing potential; and assess when they are likely to be developed.

1.2 PPS3 sets out the national requirement for Local Development Frameworks (LDFs) to demonstrate a 15-year supply of land for housing from the date of adoption. This should be based on information from a SHLAA and/or other relevant evidence to identify deliverable sites for the first five years, developable sites for years 6-10 and where possible, potential housing sites for years 11-15.

1.3 Once completed, a SHLAA is an important evidence base for plan making. However, it does not allocate housing, nor should it pre-empt or prejudge any future decisions by a planning authority (including, in London the Mayor) may make on any particular site or planning application.

London's unique circumstances – the regional approach

1.4 PPS3 and, to a greater extent, its associated guidance[2] strongly encourages joint work between regional planning bodies and local planning authorities, and other key stakeholders, to undertake assessments to ensure a joined up and robust approach to SHLAA. The guidance states that assessments should preferably be carried out at the sub regional level, for separate housing markets.

1.5 Previous London Plan Examinations in Public have recognised that unlike most of the country, the market for housing in London covers the whole region and effectively constitutes a sub-region in the sense of PPS3. For local planning purposes, both supply and demand for housing are most effectively addressed and coordinated at the regional level. Doing this requires close partnership working, building on boroughs' long experience of pan London, collaborative and cost effect work. In London the housing market has little regard to borough boundaries and unlike the rest of the country, over 96% of housing comes from brownfield sources.

1.6 National guidance on carrying out SHLAA provides flexibility in applying PPS3 in light of local circumstances. The challenge for this study was to address PPS3 policy and the principles of national SHLAA guidance in the very distinct circumstances of London. This study has addressed these requirements and gone further than the PPS3 requirement to outline regional provision through a broadly illustrated housing delivery trajectory. The approach employed for London has addressed national requirements for:

a. An assessment which is based as far as is possible on specific sites with housing potential, on minimal dependence on 'windfall assumptions',
b. An assessment of the housing potential of these sites, and

[1] CLG. Planning Policy Statement 3: Housing. CLG 2006
[2] CLG. Strategic Housing Land Availability Assessments. Practice Guidance. CLG, 2007

c. Realistic phasing of the development.

The pan-London SHLAA/HCS

1.7 This study was driven by the nationally set requirement to identify sufficient sites for at least the first 10 years of an LDF and where possible for longer than the whole 15 year plan period. In line with national guidance, the study recognises it is not possible to accurately identify sufficient sites in London for the whole of the life of an LDF. 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 may be justified in the first 10 years of the plan.

1.8 The study's methodology has built on the experience of four previous pan-London Housing Capacity Studies (HCS), in particular the last study undertaken in 2004 which had many of the characteristics of what is now a SHLAA. The 2004 study provided the basis for the housing targets in the 2008 London Plan and was commended by the EiP Panel that examined them. This is why the present approach is termed a 'SHLAA/HCS'.

1.9 Boroughs considered the output from the study's site database ('the study system') and the assumptions for small sites and other sources of provision prepared by the GLA using borough data. Borough responses were then subject to evaluation by a GLA Project Group on the basis of the SHLAA/HCS methodology.

1.10 This methodology was reviewed and agreed by stakeholders in the study through a representative Steering Group to which the Study's Project Group reported progress and sought advice on emerging issues. It was recognised that for the output of the study to be authoritative, the methodology had to be administered with consistency. The Steering Group effectively took on the role of a provisional, strategic housing market partnership over the course of the study. Borough engagement meetings coordinated by London Councils, also enabled wider discussion of the methodology.

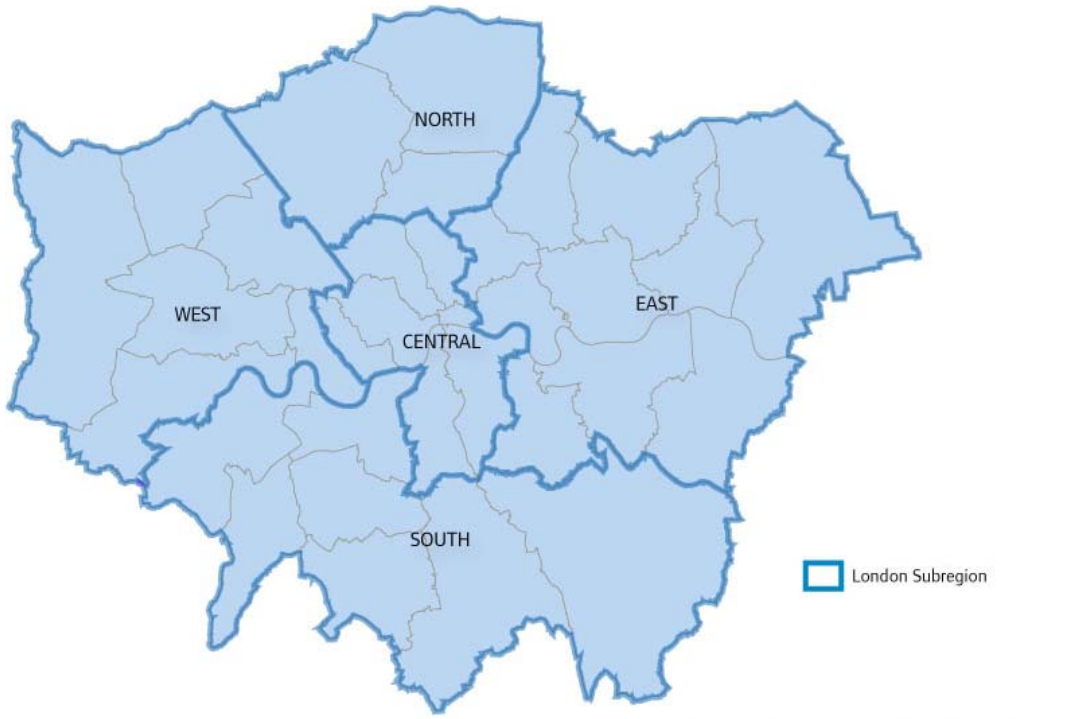
1.11 In terms of process, the relationship between the SHLAA/HCS methodology and the core outputs and process sought by government from SHLAAs nationally are outlined schematically in Annex 5. A more specific explanation of the way in which the study addressed government's outputs and process in terms of the stages specified in its guidance are outlined in Section 3 of this report. These are summarised below in Figure 1.1

Figure 1.1: The SHLAA core outputs and processes, in relation to the London SHLAA/HCS

Government's SHLAA core outputs	**2009 London SHLAA/HCS 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 1. Boundaries of these locations have been provided to relevant boroughs to support their LDFs.
2. Assessment of the deliverability/developability of each identified site (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/HCS methodology set out the anticipated phasing of development of all identified sites of more than 0.25 ha in five periods to 2031. The full methodology report sets out how it addresses deliverability/developability and phasing. This process is summarised in Section 3 of the present report.
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 including windfalls is summarised in Section 4 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. The broad constraints on delivery are determined by GIS and local knowledge and set out in Annex 6.
5. Recommendations on how these constraints could be overcome	Where constraints are identified, a range of broad actions to overcome these constraints is considered by boroughs using the large site system. A summary of the actions identified to overcome the constraints is set out in Section 4 of the report.
Government's SHLAA process checklist	
1. Survey and Assessment should involve key stakeholders including housebuilders, social landlords, local property agents and local communities. Other relevant agencies may include the Housing Corporation and English Partnerships (a requirement in areas where they are particularly active),	The Assessment was overseen by a Steering Group covering representatives of all government's suggested stakeholders (see list on page 4). In addition a public call for sites was undertaken which generated 138 responses covering 323 sites.
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 3. This also explains why sites or areas have been excluded from the Assessment. The results are set out in Section 4.

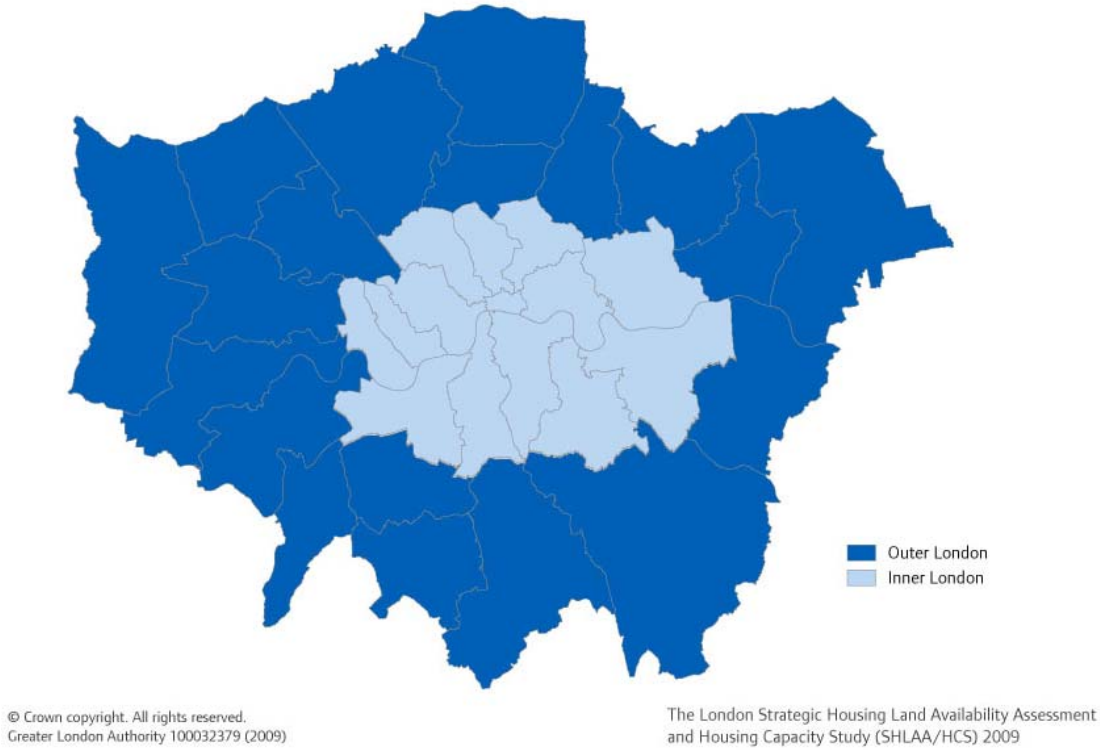
1.12 The results of the study are outlined in this report by the components of capacity at regional and borough level, and where appropriate sub regional level. Tables and graphs are presented throughout, together with a brief commentary on the results. Figures 1.1 and 1.2 below show the location of the 33 London boroughs, the sub regions they form and their location in either inner or outer London. In order to maximise the value of the study in supporting work on the replacement London Plan, the sub regional boundaries proposed in the draft Plan have been used.

Figure 1.2: London's sub regions



The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS) 2009

Figure 1.3: Inner and Outer London



The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS) 2009

Structure of the report

1.13 The next section (2) outlines the study's context and some trends relating to housing provision in London. Evidence from this section feeds into Section 6 of the report, which considers recent economic conditions and future prospects for the delivery of housing in London.

1.14 Section 3 explains the methodology employed in this study. This section is essential to understanding the approach taken in the SHLAA/HCS.

1.15 Section 4 presents the results of the study for each component of supply, which include large sites, small sites and capacity from non-self contained and vacants returning to use.

1.16 Section 5 outlines the process undertaken to test the capacity estimates. This aims to validate the policy assumptions and to look at sensitivities that go beyond current London Plan policy. It also assesses the effect of other constraints that were not included in the original methodology.

1.17 Section 6 provides a broad market analysis to inform views on the deliverability of the identified housing sites.

1.18 Section 7 presents the conclusions of the study. It discusses the translation of the SHLAA/HCS capacity figures into housing provision targets for the draft replacement London Plan.

1.19 Finally, Section 8 provides boroughs with guidance on how the SHLAA/HCS outputs should contribute to Local Development Frameworks and how to use the study system to inform specific site allocations.

1.20 A series of annexes and appendices are provided, containing detailed information to support and where necessary, include additional information and explanation to the content of the sections above.

Section Two: Context

The SHLAA/HCS and the London Plan

2.1 The Mayor is required to produce a Spatial Development Strategy for London, in which he must set strategic housing targets for the region. He is also obliged to keep these targets up to date. The Mayor is committed to seeing the highest reasonable delivery of housing compatible with the principles of sustainable development. In line with PPS3 the Mayor seeks to maximise housing output across London through the optimisation of available and potential housing sites.

2.2 The existing 2008 London Plan target of 30,500 homes a year was based on the last London Housing Capacity Study (LHCS), which was undertaken in 2004. Strategic Housing Land Availability Assessments supersede Housing Capacity Studies (HCSs) and go beyond them by asking whether sites are deliverable now or developable in the future, once identified constraints have been overcome.

2.3 The SHLAA/HCS results will form the basis of the new proposed housing monitoring target in the draft replacement London Plan.

The need for additional housing

2.4 Evidence suggests London's population is likely to grow over the period to 2031. With population projections suggesting an increase of 1.4 million in the 22 years to 2031, and average household size declining from 2.34 persons/household to 2.19, the number of households in London could rise by 0.9 million[3]. This growth needs to be accommodated and supported in a sustainable way to avoid adverse impact on the capital, its people and environment.

2.5 Since at least 1986, housing provision targets in London have not exceeded identified housing needs. This situation has now reversed, providing a different dimension to testing the relationship between need, supply and affordability. At least in the short term this will be complicated further by the economic conditions and the downturn in the house building industry.

2.6 The National Housing and Planning Advice Unit (NHPAU) has suggested that affordability has not been addressed, as some predicted it might, by the market downturn. It suggests that the longer it takes for house building to recover, the higher the build rate will need to settle at if affordability is to be stabilised.

2.7 NHPAU has identified a housing supply range for London of between 33,100 and 44,700 units per annum. It considers that the top end of the range would address both the backlog of need and stabilisation of affordability at 2007 levels by 2026. The lower end of the range would address only the needs arising from population growth and not the backlog. The GLA's 2008 Strategic Housing Market Assessment (SHMA), which informs both the London Plan and the Mayor's Housing Strategy, identified a need for 32,600 additional homes per years over a 10-year period up until 2017. This study will compare the SHLAA/HCS outputs and resulting London Plan housing provision target against the NHPAU supply ranges (Appendix 3) and the London wide SHMA.

[3] GLA Economics. Joint Strategy Evidence Base. GLA, 2009

Housing provision in London

2.8 Using the London Plan 2006 annual housing target of 30,500 and the original (2004) London Plan target of 22,930 units as benchmarks, the net housing completions (including non self contained completions and long term vacant properties returning to use) recorded by the London Development Database (LDD) since 2004 are set out in Table 2.1

Table 2.1 Total net housing completions in London 2003/04-2007/08

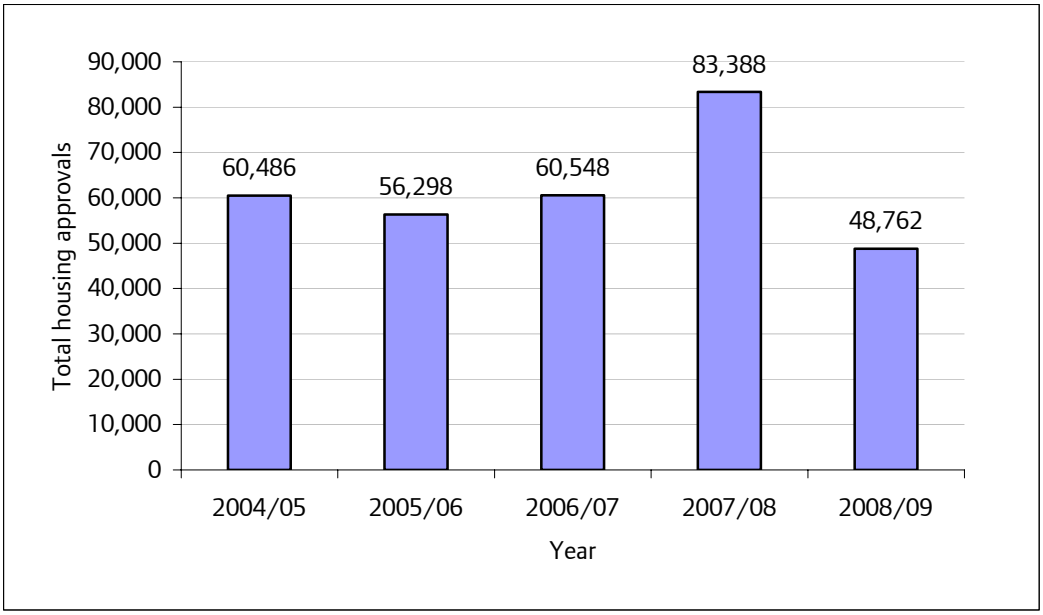
Year	London Plan Target	Total net completions
2004	22930	**24608**
2004/05	22930	**27364**
2005/06	22930	**28309**
2006/07	22930	**31432**
2007/08	30500 (2008 LP Target)	**28199**
2008/09 (provisional)	30500 (2008 LP Target)	**29937**

2.9 Average output, according to the data above, from 2003/04-2007/08 was approximately 28,000. The data shows a general trend of gradual increases from 2003/04 to 2006/07 in net total completions. Total net completions in 2007/08 fell slightly by 3,233 units from the previous year. Each year from 2003/04-2006/07, the London housing provision targets were significantly exceeded, however unlike the year before, the new target set in 2007/08 was not achieved.

2.10 Provisional returns suggest total housing completions in London for 2008/09 (including non self-contained units and vacant properties returning to use) are not expected to have fallen below the past four-year average. Emerging LDD information suggests total housing completions could be some 29,000 – 30,000 for 2008/09. This information is based on current returns from boroughs, which is yet to be checked by the GLA.

2.11 Figure 2.2 below shows a fall in housing approvals in 2008/09. This is in line with borough reports that the number of planning applications has fallen in the last year. The approvals data includes non self-contained approvals. The most recent figures in the LDD suggest approvals for 2008/09 have fallen 25% from the yearly average for 2004-2007.

Figure 2.2 Housing Approvals in London 2004/05-2008/09



2.12 A further broad assessment of the housing market and the impact of the broader economic conditions on the deliverability of provision are discussed in greater detail in Section 6 of this report.

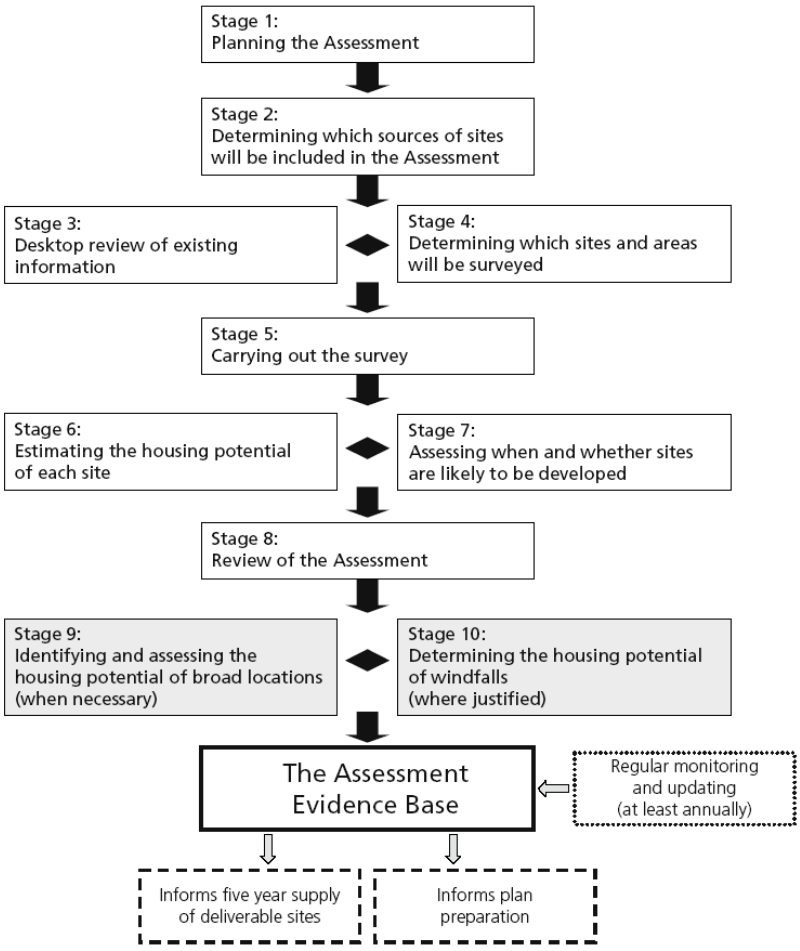
Section Three: Methodology

The Approach

3.1 This study identifies housing capacity in London, considering theoretical constraints and probability of development of large housing sites. Capacity for housing from small sites, non-self contained units and vacants returning to use is also considered. As mentioned in the introduction, this study builds on the 2004 approach to meet the agreed requirements for the pan-London SHLAA/HCS. In several respects the 2004 approach anticipated government's more recent requirements for SHLAAs.

3.2 Figure 3.1 outlines the relevant stages of the SHLAA process published in the CLG Practice Guidance 'Strategic Housing Land Availability Assessment' 2007. These have been followed in this study and refined for the purpose of carrying out a London wide study. The way in which this refinement has been made is outlined in Annex 5. The Annex shows how the core outputs of the London wide SHLAA/HCS respond to the Government's national requirements for carrying out a SHLAA.

Figure 3.1 The SHLAA process and outputs



3.3 The following explains the SHLAA/HCS methodology in accordance with the stages outlined in figure 3.1.

STAGE 1: Planning the Assessment

3.4 The new study builds on the database developed for the 2004 LHCS that identified, assessed and collated information on individual large sites.

3.5 The study objective was to provide a robust indication of London wide housing capacity at borough level across London, built up from a range of sources and assumptions on individual site capacity, including small sites (<0.25ha), non self contained units and vacants. The system used provided a notional capacity (the potential housing yield from the site, should it come forward for development) for identified large sites (>0.25ha) and boroughs were able to refine this to provide an assessment of the potential capacity of each site. This capacity was then divided into four periods for delivery between 2011 and 2031, including a preliminary phase for sites that to be developed from 2009-2011.

3.6 In the context of London's highly pressurised land market where 96% of housing provision comes from brownfield sites, potential sites are an increasingly important element of the methodology, particularly for later years, and provides the most robust and longest possible timeframe for potential capacity.

3.7 To ensure that local planning authorities were agreeable to the assessment of the potential capacity from these sites, the GLA entered into a confidentiality agreement with each borough to not make them public through the SHLAA/HCS report. The release of potential housing site information could not only pre-empt the statutory planning decision process, but also generate increases in land value and speculative disposals and purchases that would not necessarily support optimum housing development outcomes and could compromise wider planning objectives.

3.8 The study therefore only publishes information about sites with approval or which are allocated in local plans. Boroughs wishing to make all sites public can do so by bringing them forward as appropriate for development in their Local Development Framework process, allowing them to identify sufficient land to meet London Plan targets and address PPS3 requirements. A list of sites in the public domain (i.e. those with planning permission, allocated in development plans or otherwise publicly identified by boroughs) is provided in Appendix 1.

STAGE 2: Determining sources of supply

3.9 The methodology divides potential housing capacity into four sources:

- sites of more that 0.25 ha with planning approval for housing – to more effectively address national SHLAA requirements, the threshold for all specific sites was reduced from the 0.5 ha used in the 2004 study.
- sites of more than 0.25 ha publicly identified in development and other plans for housing

- other sites of more than 0.25 ha, not in the public domain, which have potential to contribute to strategic and local housing targets. These sites contribute to aggregate capacity and are solely for the purposes of the study and not for other planning purposes. The GLA therefore does not intend to publish individual details these sites.
- trend based assumptions on the contributions to targets of sites of less than 0.25 ha, non-self contained accommodation and vacant dwellings returning to active housing use.

STAGE 3 – Desktop review of existing information

Large sites

3.10 Housing capacity from large sites forms the key component of the study. All sites above 0.25 ha were assessed. The study system used for the 2004 study was adapted to address PPS3 requirements, building on responses to a draft methodology statement. Geographic information system (GIS) technology was utilised to store details of, and analyse, all the large sites. The study system was also designed with the functionality of an online database accessible by users over the Internet.

3.11 The GLA identified and produced digital boundary polygons for over 9,000 separate potential housing sites through a GIS. These included residential and non-residential sites and buildings, as housing is likely to come from both sources over the next 20 years. Boroughs were also encouraged to identify additional sites with potential for housing development, in line with PPS3 requirements.

3.12 A range of datasets were used to identify sites for inclusion in the study. The hierarchy of sources for site identification was:

- Sites from London Development Database
- Development sites from latest LDF or UDP designations
- GLA-issued Call for Sites
- LDA Brownfield Sites Database
- 2004 Housing Capacity Study sites
- Olympic Legacy Masterplan boundaries, where appropriate
- Site boundaries identified by the GLA from land use data

3.13 As an improvement on the 2004 study, a call for sites was undertaken as an opportunity for developers, landowners and consultancies to propose sites for inclusion in the study. The call was issued through:

- Direct contact with 92 companies and agencies
- A cascaded message via Key stakeholders
- Publication of information in the SHLAA newsletter
- Publication on the GLA website http://www.london.gov.uk/mayor/planning/housing-capacity/index.jsp - call

3.14 There was a positive response - 138 responses were received covering 323 additional sites.

STAGE 4 and 5 – Site surveying

The Large Sites Assessment – The Study System

3.15 All identified large sites were loaded into the study system for boroughs to confirm. Boroughs were asked to assess each site using online extranet-based survey forms developed by the GLA. The purpose of the system was to encourage users to think about and test the defaults determined by the strategic inputs to the study, and not to predetermine appropriate housing output on individual sites.

3.16 The general approach to assessing the capacity of large sites first requires the identification of which classification the site falls within:

- **Approved** housing sites (those with planning permission)
- **Allocated** housing sites (those allocated in borough development or other public plans)
- **Potential** housing sites (all other sites over 0.25 Ha which may come forward for development at a specified point in time up to 2031).

3.17 Boroughs were then asked to select the development status of each site. Approved sites (those already in the planning process with permission for development) were automatically classified by the system as 'planned development' status. These have reasonable prospect that housing will be delivered on the site within the next five years. These 'planned development' sites are assessed using information from the London Development Database to confirm the approved housing yield of a site.

3.18 For potential housing sites, and sites identified in borough development plans (allocated sites), a series of questions are asked to enable boroughs to classify them as having a deliverable or developable status. Deliverable sites are sites that have a reasonable prospect that housing will be delivered on the sites within the study period of the assessment.

3.19 For a site to be considered developable it should be in a suitable location for housing development, and there should be a reasonable prospect that it will be available for and could be developed at a specific point in time. The questions asked are as follows:

- General questions regarding the site including address, site size and existing land uses
- An assessment of the suitability of the site for housing development and likelihood of development for housing based on a set of policy, general/strategic environmental and local constraints on development
- Any actions, which may be required to overcome constraints and bring the site forward for development. Any impact which actions to overcome constraints will have on the net developable residential area of the site.

- An assessment of the likely 'phasing' of housing delivery on the site and determination of developability or deliverability. The initial assessment (based on potential constraints to delivery) is refined by boroughs based on local knowledge of individual sites.
- An assessment of how much housing could reasonably be expected to come forward on the site. The initial assessment (based on policy parameters of public transport accessibility and site location determining an appropriate density) is refined where necessary by boroughs' local knowledge of individual sites. Further details on initial assessment of appropriate housing densities are provided in Annex 7.

3.20 A number of the individual questions were subject to 'defaults' determined by the system based on GLA parameters and answers to previous questions in the survey.

3.21 The system allowed boroughs to exclude some sites from the study as not suitable for housing development**.** These were not surveyed in the same detail as those that do have housing capacity and no housing was assumed to come from these sites.

3.22 Any exclusion had to be justified. The reasons built into the system which boroughs were required to select from are:

- The site is a listed building or scheduled monument where redevelopment is unlikely
- The site is a hospital or school site with no planned redevelopment programme up to 2031
- The site is an area of private housing in multiple ownership with no known plans for redevelopment and where significant additional housing development is therefore unlikely
- The site is a social housing estate with no planned intensification programme up to 2031 and where significant additional housing development is therefore unlikely
- The site is a recently completed high value development (e.g. office or retail) which would make redevelopment for housing unlikely to be viable
- The site is less than 0.25 Hectares
- The site was loaded in error (as the study aimed to assess all potential housing sites, it was made clear that this category should only be used for sites genuinely loaded into the system in error)

3.23 The exclusion of these sites was in addition to any sites which were deemed unsuitable and not currently developable for housing development by other constraints (including land ownership, flooding, noise and air pollution, open space) until such a time when their constraints can realistically be overcome. The constraints on capacity are discussed below.

STAGE 6 - Assessing housing potential

3.24 The study system has been designed to derive a 'notional' (unconstrained) capacity estimate for a site based on density assumptions. The notional housing yield identifies the likely number of dwellings if a site is fully built out. The key assumption to calculating the 'notional' capacity is the density calculation for each site. The study makes an initial broad assessment of housing capacity based on table 3A.2 of the London Plan – the Sustainable Residential Quality Density Matrix (SRQ matrix).

3.25 For Potential Housing Sites, the study system uses the mid-point of the density ranges in the SRQ matrix to generate a default density for each site. This is based on the site area, the PTAL and the Setting of the site. Annex 7: PTAL Map of London and Character Map of London provide a graphical representation of these. The site area is automatically calculated by the study system based on the GIS polygon for each site. Where a site is designated as a mixed-use site, the system only counts the percentage of the site area allocated to housing. Where the residential proportion of mixed use is not known, the default value is set at 50%.

3.26 Setting is derived from a spatial GIS layer developed by the GLA specifically for this project based on neighbourhood level analysis (grouped census output areas) of 2001 Census returns. Three different PTAL layers have been supplied by Transport for London (TfL) for use in the assessment. These layers cover the period 2009-2026 (See Annex 7). The system reads spatial information from the appropriate PTAL layer depending on which development phase has been selected. This allows the system to take account of the potential for increased densities based on major public transport projects.

Application of constraints

3.27 There are a number of constraints, which can impact the potential housing output of a site. Constraints which impact on the deliverability and future provision of housing on a site are a key input in this assessment and a key Core Output of the SHLAA guidance.

3.28 For potential housing sites, the study system is designed to generate a housing probability based on the number of constraints that might affect a site being developed for housing. The system then combines the calculated capacity with the probability of site being developed for housing, to generate the assumed 'Constrained' housing capacity for the site. On aggregate these identified constrained capacities provide estimates of large site housing capacity at borough, sub-regional and regional levels.

3.29 The constraints are grouped under three main classifications: Planning Policy Constraints, Strategic Constraints and Local Constraints.

Planning Policy Constraints

– Designated Open space

3.30 The study system's software has been designed to exclude any site formally identified as a protected Open Space by the London Plan or a Local Development Document. Thus the system does not seek or predict any potential housing capacity from Green Belt, Metropolitan Open Land, Areas of

Outstanding Natural Beauty, Sites of Special Nature Conservation Interest, or any Public or Private Open Space identified on a borough proposal map. However, boroughs could propose capacity on open space if they feel that would be appropriate for local circumstances.

3.31 Given the study relies on all open space being depicted on borough LDF maps the functionality was also provided for boroughs that have not specifically identified such designations in their plans to manually exclude sites from the system that fall on open space.

- Strategic Industrial Locations (SILs)
- Employment sites protected by borough policies (LSILs)
- Non designated employment sites which boroughs wish to retain

3.32 During the consultation on the study methodology a number of boroughs expressed concerns that sites currently protected for employment use should not be given an assumed housing capacity. Whilst the GLA recognises these concerns and acknowledges that many sites provide much needed and varied employment opportunities, the GLA believes it would be unreasonable and inappropriate to preclude all such sites, as historically these sites have accounted for a significant amount of London's new housing as the Capital's manufacturing and economic base has changed.

3.33 The approach followed by the study therefore reflects the degree of protection these sites have within London's planning framework. This approach can be summarised as follows:

3.34 Firstly, the study system automatically excluded any site in the general locations indicated by the London Plan as a Strategic Industrial Locations (SIL). Secondly protected industrial locations that were specifically identified on existing UDP or LDF maps but are not part of SILs were given an automatic potential nomination based on the individual policy approach of a borough. The boroughs were divided into three categories, 'Restricted', 'Limited' and 'Managed' industrial capacity. These protected locations were subject to a 60% reduction if the borough had a restricted approach to industrial release, 50% if a limited approach and 40% if a managed approach.

3.35 This nominal capacity could be further refined by indicating that such a site would only be suitable for mixed-use redevelopment, and the resultant housing assumptions assessed. If at that stage a borough felt that such a site would still be unlikely to come forward for housing within the first three phases of the study (up to 2021), it could be placed in the fourth or fifth phases (2021/22 – 2030/2031) or excluded, and the site would not be assigned any housing capacity in the main study.

3.36 The next level of employment protection is for those sites that are protected only by borough policies. As these sites were not individually identified, it was assumed that they would generally have a lower level of planning protection than the two proceeding types of sites. Their initial nominal housing capacity was determined using a similar approach to the second tier of industrial sites. Sites within a restricted borough received an automatic reduction of 55%, 45% for limited boroughs and 40% for managed boroughs. As with formally

identified sites, boroughs could input their own estimate of future housing potential, and also apply local knowledge to indicate residential constraints (for example, contamination, site assembly difficulties, or poor residential environment).

3.37 This approach was designed to reflect fairly the varying planning status of such industrial sites, and to respond appropriately to borough concerns that final housing assumptions should reflect LDF policies.

3.38 Annex 6: The Impacts of Constraints on large site capacity details how these policy constraints impact on assumed housing capacities. Importantly though, this approach still maintains a London wide consistency, allowing informed discussions on individual sites, and also accords with the industrial policies and SIL framework outlined in the London Plan.

Strategic Constraints

- Air pollution
- Flood Risk
- Noise pollution; and pylons

3.39 The system identified the effect of these constraints on each site using spatial analysis. The sites either fell into a Low, Medium or Unsuitable banding, depending on the constraint. Please note not all constraints had unsuitable classifications.

3.40 Strategic constraints that were Low did not have an effect on a site's capacity. However, at least one Medium constraint would drop a site's capacity by a minimum of 10%. This reduction would graduate to 25%, 34% or 50% depending on how many other Medium constraints were present. If a site was deemed to be Unsuitable for a given constraint the housing yield for that site was reduced to zero (see Annex 6 for further information).

Local Constraints

- Ownership constraints
- Local infrastructure constraints
- Environmental setting constraints
- Contamination constraints

3.41 Borough users were able to classify if a site had Low or Medium constraints due to the above factors, or whether a site was entirely unsuitable due to one or more of these constraints. A Medium constraint would drop a site's capacity by a minimum of 10%. This would graduate to a reduction of 20%, 30% or 40%. Constraints within this 'local' category provided the largest reduction in capacity than the other two categories.

3.42 All unsuitable sites were again reduced to zero (see Annex 6 for further information).

STAGE 7 - Overcoming the constraints

3.43 The SHLAA guidance requires consideration of how any identified constraints could be overcome. As the study categorises what the constraints may be, and the severity of constraints (whether it is low, medium or makes the site unsuitable for housing development), a series of options are provided (for each constraint which a borough may identify on a site) to suggest how that constraint could be overcome. The borough could select none, one or more of the available options. These provide information for boroughs when considering how and when a site can be brought forward for development in their LDFs and do not have any impact on the identified capacity. This information informed the boroughs development phasing decision. Phasing is discussed later in this section.

3.44 The constraints and options for overcoming them are set out below in table 3.1. Table 4.4 of the results section provides the results of this exercise.

Table 3.1 The Study System site constraints and options for overcoming them

Policy Constraints	Mitigation/avoidance measures
Designated open space	– De designate open space – Re-provide open space elsewhere – Allow enabling development to improve designated open space
Strategic Employment Location (SIL)	– De-designate SIL (where justified by other circumstances) – Allow mixed-use development
Locally significant industrial site (LSIL)	– De designate LSIL (where justified by other circumstances) – Allow mixed-use development
Other Protected Industrial Site	– De designate protected site (where justified by other circumstances) – Allow mixed-use development
General Constraints	
Air Pollution (low/med/unsuitable)	– 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	– 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	– 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	– Pylon under grounding (funded by development) – Pylon under grounding (not able to be funded by development) – Pylon re-routing
'Local' Constraints	
Ownership	– Developer land purchase/dealing with fragmented ownership – Compulsory borough/HCA/LDA purchase of site – Relocation of existing user to transfer ownership
Local Infrastructure	– Provide public transport infrastructure – Minor changes to local road network – Provide additional utilities services – Require contribution to social infrastructure provision
Environmental Setting	– Closure/removal of neighbouring uses – Change to surrounding area through comprehensive redevelopment – Improvement of air/noise pollution in surrounding area
Contamination	– Decontaminate land (funded by development) – Decontaminate land (may require funding) – Develop only part of site

Phasing capacity

3.45 The phasing of the capacity of all identified housing sites is important to establishing valid housing capacity estimates. The phasing assessment allows conclusions to be reached about the period in time the site is likely to be developed based on judgements of feasibility and market viability. Allocating a site to a particular phase also allows the relevant PTAL layer to be used to generate the default capacity.

3.46 This study is divided into four five-year periods between 2011-2031 and a preliminary phase for sites, which will be delivered 2009-2011 (2004 LHCS used 2 five year phases, an initial three year phase and a final 10 year phase). The potential start date for new housing provision targets in the draft replacement London Plan is 2011, which aligns with the start of phase 2.

Table 3.2 SHLAA/HCS 2009 phasing periods

Phase	1	2	3	4	5
Start	April 2009	April 2011	April 2016	April 2021	April 2026
Finish	March 2011	March 2016	March 2021	March 2026	March 2031

3.47 A site will not count in any phase if building on it was substantially complete (ready for occupation) by June 2009. Phasing is derived in the study as follows:

Phases 1-3

- All implemented but not occupied schemes are allocated to Phase 1.
- All unimplemented permissions with completion dates between 2011 and 2021.

The predicted output from Phases 1-3 comprises four elements:

1. All sites with a 100% probability.
2. Sites with less than 100% probability but which are not dependent on the future provision of transport infrastructure.
3. Sites with less than 100% probability but which are dependent on the future provision of infrastructure (but with a programme to deliver before 2021).
4. Small sites and non-self contained components projected forward to 2021 and a contribution from long term vacants returning to use.

Phase 4 and 5

- All remaining housing yields were assigned to Phases 4 and 5 (2021-2031).
- Any site with less than 100% probability, dependent on an unplanned infrastructure project was also assigned to Phases 4 and 5
- Finally, a further 10-year supply of small sites, non self contained units and vacants returning to use are added to give a complete picture of what potential capacity might exist.

3.48 Where a housing site was likely to be developed in two or more phases, the capacity was split between phases based on the percentage of capacity expected in each phase.

3.49 For the purposes of this study only the capacity that is identified in Phases 2 and 3 is used to inform the London Plan regional, sub regional and borough housing provision targets.

STAGE 10: Assessing capacity from Windfall or unidentified sites

3.50 In addition to the large sites, there are other sources of capacity that are calculated by an allowance based on past trends. These additional sources of supply include small sites (<0.25ha), non-self contained units and supply from bringing vacant stock back into use. In the unique circumstances of London these sources of housing supply have historically been important in addressing housing need.

Small site capacity

3.51 The approach to assessing housing yield from small sites is based on the most recent net housing completions data from 2004-2007, which enabled the identification of a development trend. The sources of supply from conventional

small sites include offices (change of use), town centre based capacity and, retail (flats above shops). Borough inputs to the London Development Database have been key in identifying the small sites trends.

3.52 Unlike the 2004 study, no small site uplift has been used in this study because boroughs are now applying the London Plan density policies consistently across the capital, which was a concern in the previous study. The small sites data in the 2004 LHCS was based on completions, which pre-dated the 2004 London Plan policy approach to density. The comprehensive capture of data in the LDD has allowed for a fuller analysis of all housing completions on sites below 0.25ha since 2004, than the old London Development Monitoring System, which was used in the last study.

3.53 The capacity estimated from small garden land sites has been reduced in light of strategic support for local presumptions against garden land development proposals in the draft replacement London Plan. An individual borough reduction of 90% of total garden land development from 2004-2007 ('core' and 'possible') was chosen to reflect fully the possible impact of this policy. 'Possible' garden land completions are replacement schemes resulting in a net gain of units and loss of garden land and 'core' garden land completions are on sites which would be clearly defined as garden land. All boroughs were asked at their site discussion meetings whether the loss of garden land was a concern in their respective boroughs. Although the concentration of garden land loss is variable across the boroughs, widespread concern was expressed. Annex 3 outlines the reduction for each borough.

Non self-contained units

3.54 The component from non self-contained units (largely but not totally student hall/hostels) is calculated using the development trend of residential units which do not fall within the C3 planning use class (dwelling houses). Non-self contained accommodation is an important component of housing capacity and assists in free-ing up homes in multiple occupation. Data from the LDD (2004-2007) has been used to assess an average annual allowance from this source, which is assumed to continue at a constant rate. As with the 2004 LHCS, this trend data has been adjusted to take account of anomalies such as one large scheme in one of the four financial years, which is provided for in the agreed methodology. Annex 1 outlines and estimates individual borough capacities from non self-contained units.

Long-term vacant properties returning to use

3.55 The estimate of vacant dwellings brought back into use is not derived from past trends. Following consultation with boroughs and discussions at the project steering group, it was decided to maintain the 2004 HCS approach, to reduce the number of private sector dwellings vacant for longer than six months to 1% of the total private sector housing stock over a 10 year period.

3.56 The Local annual Housing Improvement Programme (HIP) returns to CLG (from the Housing Strategy Statistical Appendix (HSSA), Section A) provided the information on private sector long-term vacants. In the past data for Best Value Indicator 64 was used for monitoring contribution of former vacant properties into supply. However it has not proved to be a sufficiently reliable indicator from

which to calculate, as it does not relate to net changes in total long-term vacancies, but only to vacant properties brought back into use through local authority intervention.

3.57 Data on changes in vacant borough and housing association stock have not been used to calculate vacants returning to use. This is because this information is often unreliable, and does not distinguish between reduction in vacants due to return to use and reductions due to demolition.

3.59 Boroughs where the existing level of private sector vacancy is below 1% have a zero contribution from this source. It is recognised that borough returns are not always completely accurate, so monitoring will be dependant on more effective recording by boroughs of vacant properties, and more reliable HSSA returns, which should be possible with the authorised use of council tax records. A table showing the calculation of the target for each borough is shown in Annex 2.

Borough Housing Capacity

3.60 The final stage of the methodology is to combine all of the deliverable and developable large housing sites with small sites, non-self contained and vacant sources of housing capacity to derive an estimated supply of housing for each source. The GLA undertook meetings with each borough to test their initial capacity estimates. This resulted in a number of actions and amendments to ensure the large site dataset was complete and robust. The small site component, non-self contained and vacants were also validated with the input of the boroughs.

3.61 Once each of the sources of capacity were considered to be valid and it was confirmed that the policy assumptions used were appropriate, the final figures were aggregated to produce borough, sub-regional and London wide housing capacity figures (see Section 5).

3.62 A final broad market assessment was used to determine the deliverability of the estimates (Section 6) and the results were compared to the NHPAU 2009 supply ranges (Appendix 3). This was to ensure the identified housing supply is realistic and robust.

3.63 The SHLAA/HCS is part of the evidence for the review of the London Plan, which will help inform the setting of new housing provision targets for the boroughs. Figure 3.2 below illustrates how these components come together to form an estimate of total potential housing supply and inform the London Plan borough housing provision targets. Further guidance on how boroughs can use the SHLAA/HCS outputs for local plan preparation is contained in Section 8 of this report.

Figure 3.2 The SHLAA/HCS 2009 approach

Known housing capacity from 'planned' housing sites over 0.25ha
+
Estimated housing yield from deliverable and developable housing sites over 0.25ha
+
Projected housing yields from all sites below 0.25ha
+
Non self-contained household spaces
+
Long term vacants returning to permanent use
=
Total potential housing CAPACITY
+
Broad assessment of market delivery of potential housing yield
=
BOROUGH HOUSING PROVISION TARGET

Section Four: Results

Introduction

4.1 This section presents the capacity results of the study. They are presented by component, beginning with the identified large sites, small sites, non-self contained units and targets for long-term vacant properties returning to use.

4.2 Capacity is given from all identified housing sites at the regional, sub regional and borough level. Following sections of the report assess the deliverability of these sites. The commentary seeks to highlight the patterns in distribution of each component of supply across the capital.

4.3 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 housing sites are identified purely for the purposes of this study, individual potential housing sites are not identified in this report.

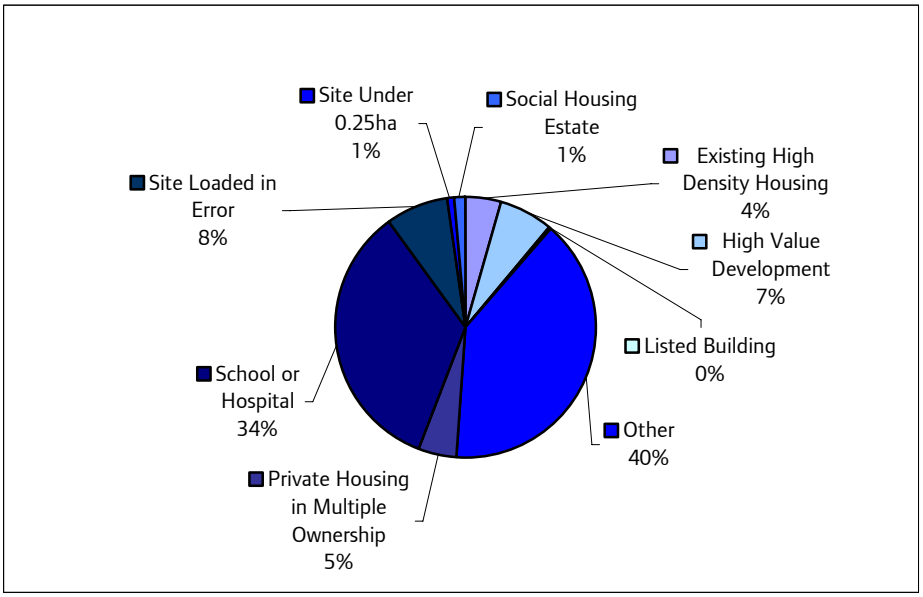
Identified Large sites

4.4 A total of 9,898 large (<0.25ha) sites were identified and loaded into the study system by the GLA. 323 of which were identified through the call for sites. Initial housing yields were initially calculated for each site using the parameters of the study system. The sites were then made available to boroughs over the study system and were open to amendments using the local knowledge of the borough users. Through this process sites were classified in terms of their housing potential. A large number of sites were excluded from the capacity assessment for various reasons.

4.5 Borough users added 347 sites to account for sites that were not originally captured by the original GLA dataset. In total 10,245 sites are now contained on the system, either loaded by the GLA or added by the boroughs. Of these 4,668 (46%) sites were included in the study, whilst the boroughs excluded 5,577 (54%) sites. From the 4,668 included, 2,494 sites contributed to the large site capacity in all phases whilst 2,174 sites were considered to have such high constraints that no capacity was assumed from these sites.

4.6 Sites were excluded by boroughs for a number of reasons, as illustrated by Figure 4.1. The largest proportion falls within the 'Other' category (40%). In these cases the borough user was asked by the system for an explanation. The reasons given varied but a majority concerned specific borough policies to safeguard particular land uses such as industrial land and open space, conservation areas, already developed land, and avoiding double counting.

Figure 4.1 Reasons for site exclusion



4.7 Of the large identified sites with potential capacity (all phases), 27% (680) were classified by the boroughs as approval sites, 25% (626) as allocation sites and 48% (1188) as potential housing sites (Figure 4.2). The actual unit contribution to large site capacity from these classifications is 38% from approval sites, 32% from allocation sites and 30% from potential housing sites.

4.8 Unit contribution to capacity from these sites is phased as follows; 11% in Phase 1, 36% in Phase 2, 26% in Phase 3, 18% in Phase 4 and 9% in phase 5. Figure 4.3 below shows these proportions.

Figure 4.2 Classifications of all large sites with capacity 2009-2031

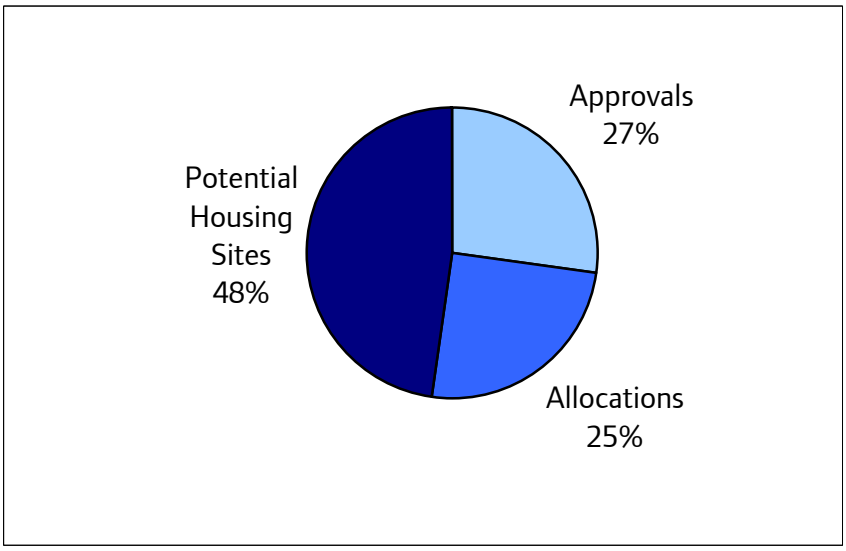
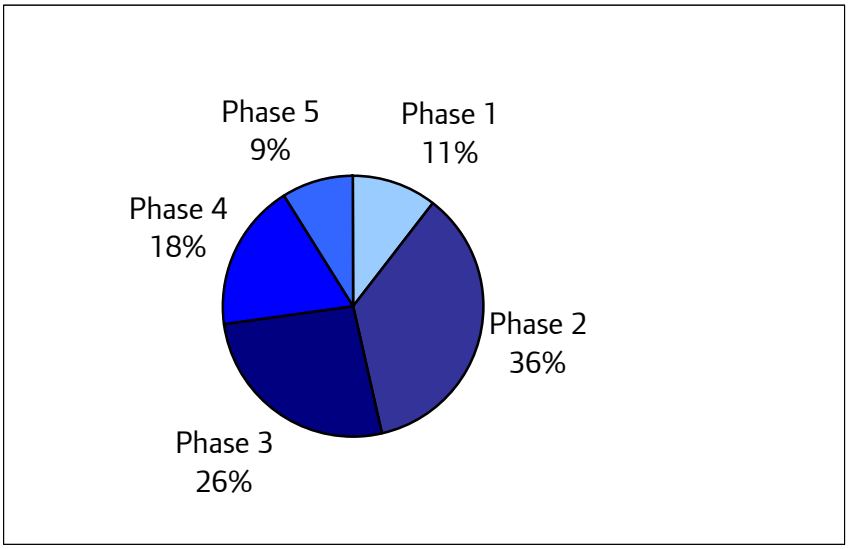


Figure 4.3 Phasing of all large sites with capacity 2009-2031



4.9 Of the large identified sites that were included in the study:

- 39% were classified as central, 41% urban and 20% suburban.
- 31% of sites were mixed use and 69% were purely residential sites.
- 5.6% of sites had total capacity of 500 units or over, accounting for 45% of overall large site capacity across all phases.

4.10 The total number of approved and allocated sites that contributed to capacity over phases 1 to 5 is 1300. A site list providing the details of identified approved and allocated sites can be found in Appendix 1.

4.11 The spread of sites in each borough is variable. There is however, a clear concentration in inner London (particularly towards the east). The five boroughs with the greatest number of approved or allocated sites accounted for 32% of the total sites. In descending order these are Tower Hamlets (which accounted for 8% in total), Lambeth (7%), Barnet (6%), Brent (6%) and Havering (5%).

4.12 The five boroughs with the least number of approved or allocated sites accounted for 4% of the total. In ascending order these are City (0%), Hammersmith and Fulham (1%), Sutton (1%), Enfield (1%) and Waltham Forest (1%).

4.13 The phasing of the unit contribution of these 1300 sites is as follows, 15% is in phase 1, 42% is in phase 2, 25% is in phase 3, 14 % is in phase 4 and 4% in phase 5.

Large Site Capacity

4.14 In this study, only the large site capacity for phases 2 and 3 is used in the capacity estimates to support new housing targets. The total capacity for net additional dwellings, between 2011 and 2021, from large identified sites has been estimated at 234,266. This is generated from a contribution of 1,501 sites

from the main large site dataset. This total capacity is shown in table 4.1 below, including the actual 10-year capacity figures for each sub region.

Table 4.1 Total capacity from large sites by sub region

Sub region	Total capacity from identified large sites 2011-2021	% Share of large sites capacity
North	27,505	12
South	26,752	11
East	118,929	51
West	28,626	12
Central	32,454	14
Total	**234,266**	100

4.15 The greatest contributor of future capacity from large sites is the East sub region (51%). This demonstrates a significant contribution to London's growth arising from East London, partly associated with the Thames Gateway area. The next highest contributor is the Central sub region (14%) followed by the North and West (12% each) and the South (11%)

4.16 Of the large identified sites that contribute to capacity in phases 2 and 3, 26% (394) were classified by the boroughs as approval sites, 30% (453) as allocation sites and 44% (654) as potential housing sites. All approvals with capacity in phases 2 and 3 are classified in this study as planned development, 84% of allocations with capacity in phases 2 and 3 have a 'developable' status and 16% 'deliverable' status and 86% of potential housing sites with capacity in phases 2 and 3 are considered to be 'developable' and 14% 'deliverable'. Figure 4.4 and 4.5 show these proportions.

4.17 The actual unit contribution to large site capacity from these classifications is 39% from approval sites, 36% from allocation sites and 25% from potential housing sites (See figure 4.6). This highlights the reliance on sites that have already been identified for development and their significant contribution to capacity, approximately 75% of the total. This also demonstrates the progress boroughs have made to identify a supply of housing sites in accordance with PPS3.

Figure 4.4 Identified large sites, by classification, with capacity in phases 2 and 3

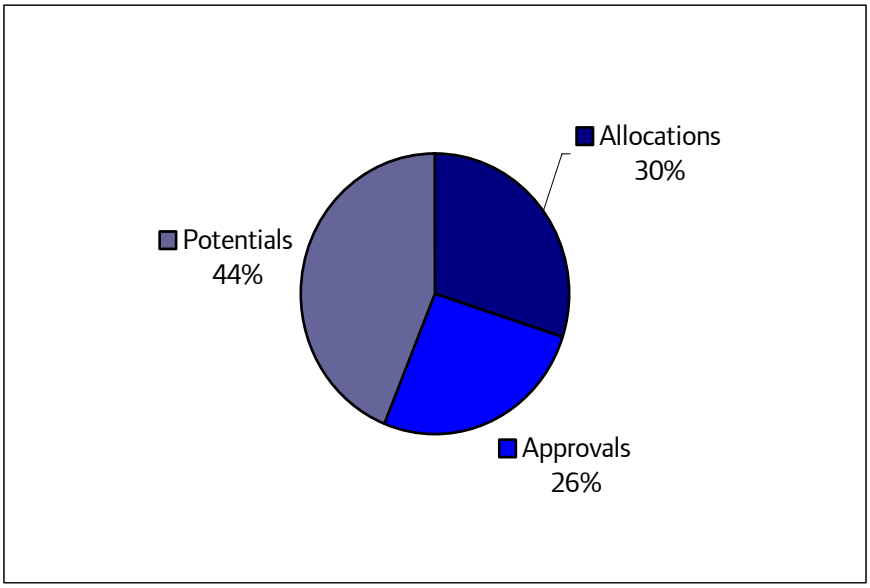


Figure 4.5 Development statuses of large sites with capacity in phases 2 and 3

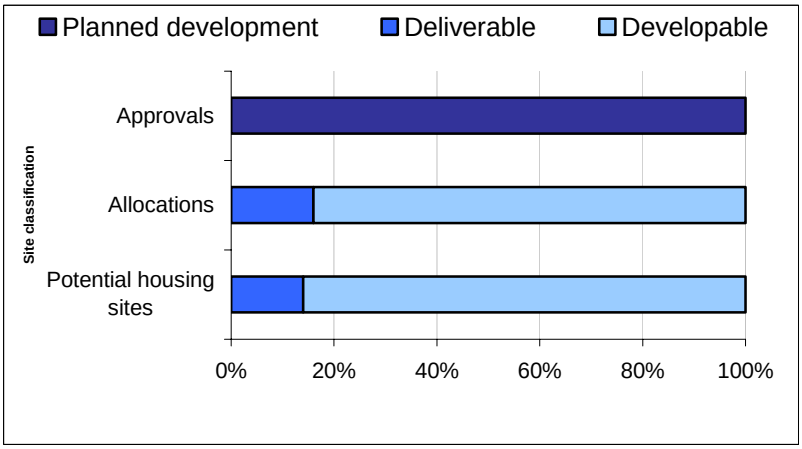
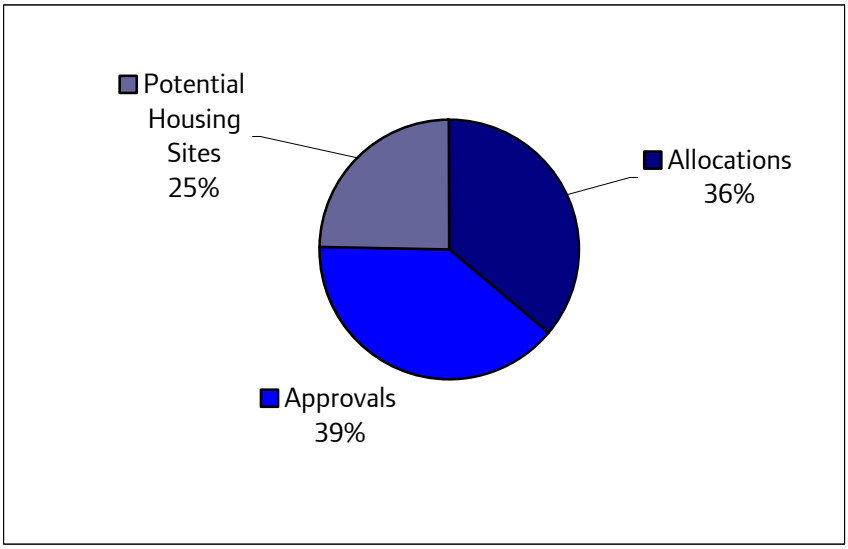


Figure 4.6 Identified housing capacity in phases 2 and 3 by site classification



4.18 The distribution of large site capacity by borough is outlined in table 4.3. The table shows the distribution of the actual figures and how contributions from the boroughs individually make up the total large site capacity of 234,266. Figure 4.7 disaggregates the large site data to show, the distribution of large site capacity spatially.

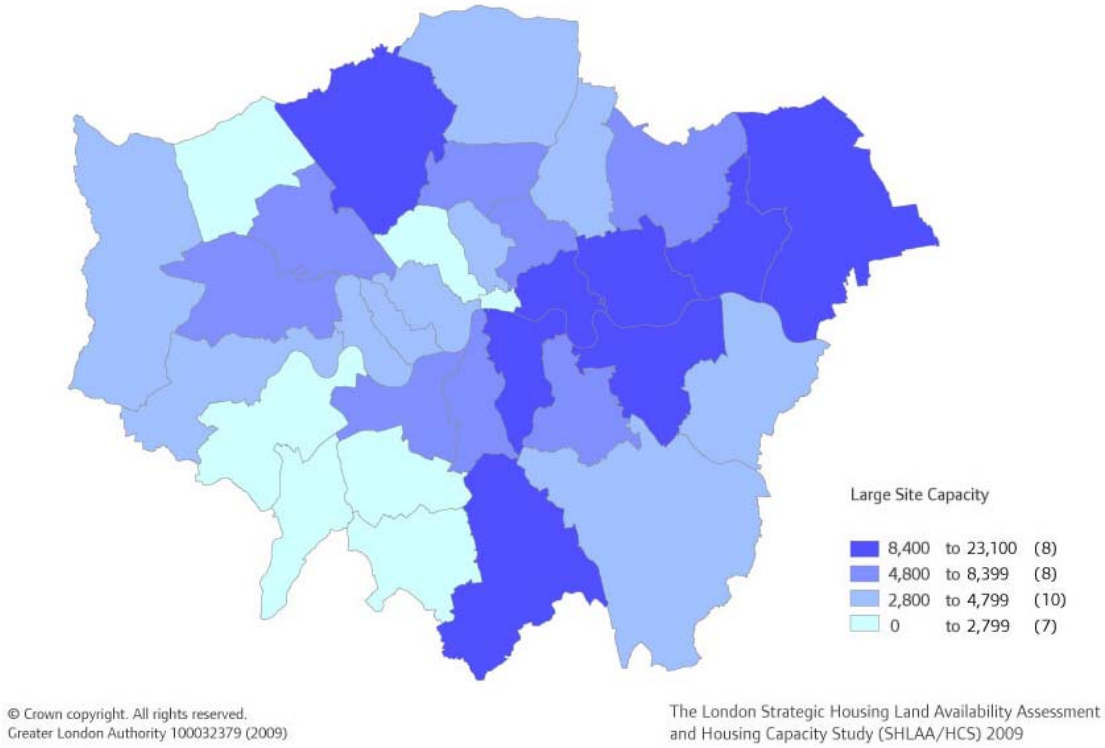
Table 4.3 Large site capacity by borough

BOROUGH	Sub region	Large site capacity 2011-2021
Barking & Dagenham	East	14,238
Barnet	North	18,526
Bexley	East	2,846
Brent	West	8,366
Bromley	South	3,708
Camden	Central	2,798
City of London	Central	406
Croydon	South	8,950
Ealing	West	6,739
Enfield	North	3,666
Greenwich	East	22,971
Hackney	East	5,879
Hammersmith & Fulham	West	4,662
Haringey	North	5,313
Harrow	West	1,762
Havering	East	11,098
Hillingdon	West	3,446
Hounslow	West	3,651
Islington	Central	3,777
Kensington & Chelsea	Central	4,191
Kingston	South	1,925
Lambeth	Central	6,245
Lewisham	East	7,708
Merton	South	1,618
Newham	East	23,075
Redbridge	East	6,257
Richmond	South	1,138
Southwark	Central	12,190
Sutton	South	1,364
Tower Hamlets	East	20,064
Waltham Forest	East	4,793
Wandsworth	South	8,049
Westminster	Central	2,847
Total		**234,266**

4.19 The pattern of capacity shows a clear concentration in eastern boroughs, particularly Tower Hamlets, Greenwich, Newham and Redbridge. A number of other boroughs contribute a significant amount of capacity, in particular Barnet, Brent and Ealing in the north and west, and Lambeth and Croydon in the south.

4.20 A number of the outer London boroughs, particularly in the south each show much lower concentrations of large site capacity, in particular Sutton, Richmond and Merton. Other boroughs with a low amount of large site capacity include Enfield, Kensington and Chelsea, Camden and Bexley.

Figure 4.7 Large site capacity by borough

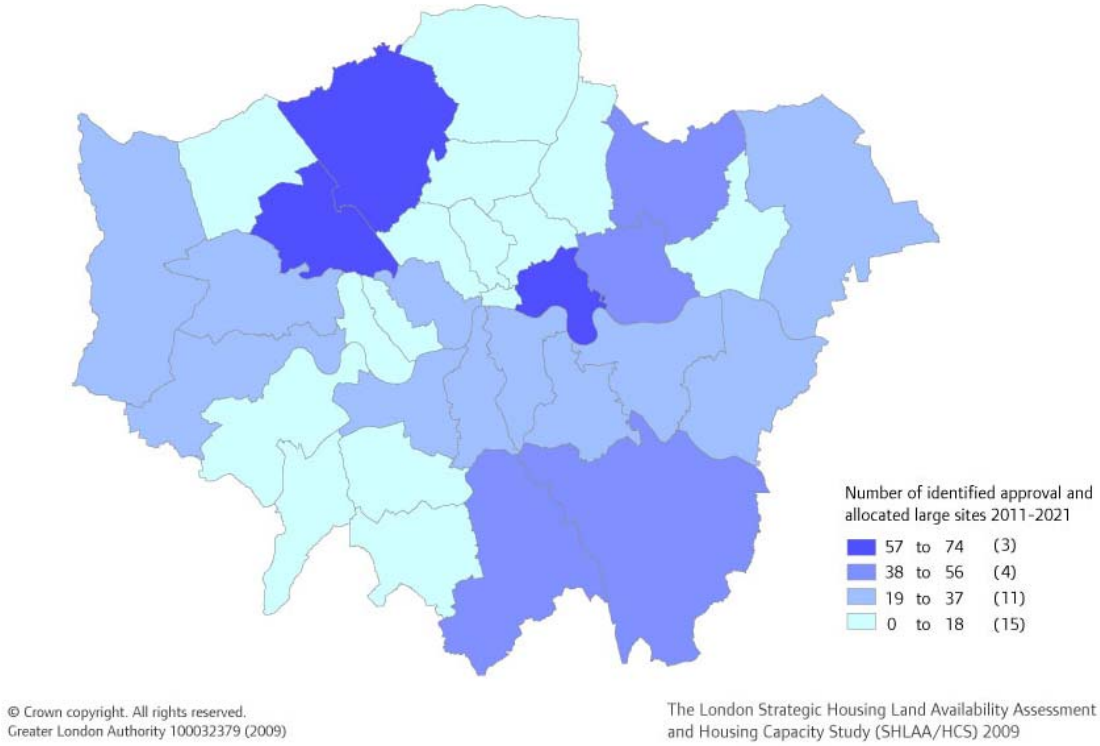


4.21 As shown in Table 4.3 above, the boroughs providing the greatest amount of large site capacity are Newham (23,075), Greenwich (22,971) and Tower Hamlets (20,064).

4.22 The boroughs that provide the least amount of large site capacity are City of London (406), Richmond upon Thames (1,138) and Sutton (1,364).

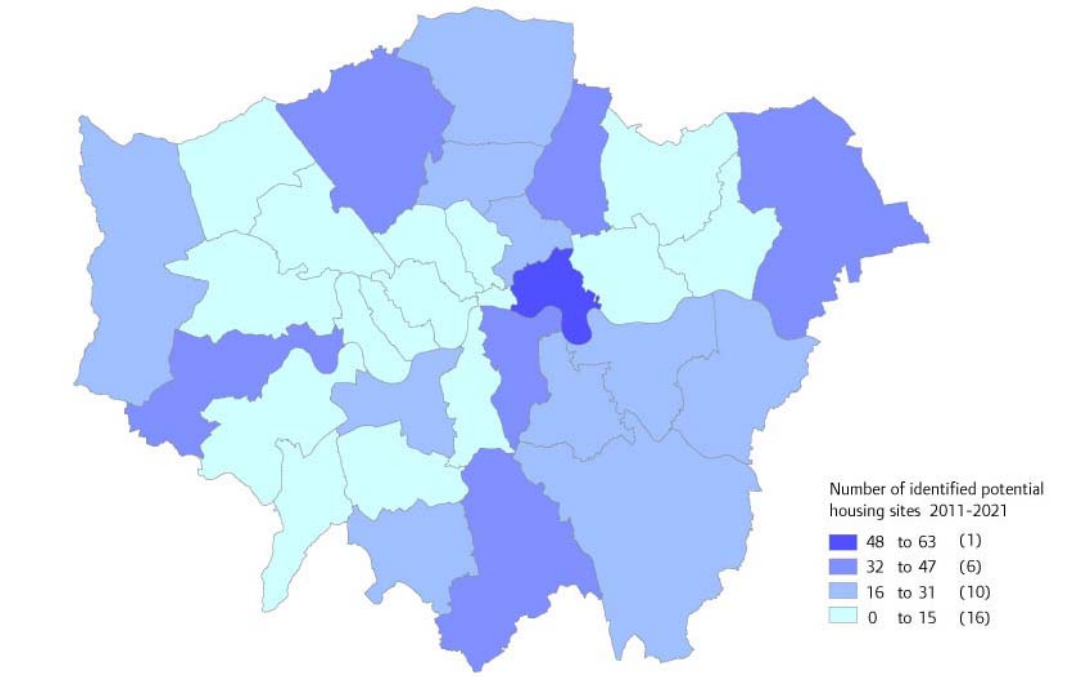
4.23 The distribution of allocated, approved and potential housing sites varies between boroughs. As shown in Figure 4.8, the capacity for phases 2 and 3 from allocated and approved sites is greatest in Tower Hamlets, Barnet, Brent, Newham and Redbridge. Figure 4.7 below shows that the capacity for phases 2 and 3 from potential sites is greatest in Tower Hamlets, Croydon, Waltham Forest and Barnet. It is important to note that figures 4.8 and 4.9 show number of sites not capacity. For example, Barking and Dagenham have identified few sites with significant capacity.

Figure 4.8 Allocations and Approval sites distribution by borough



The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS) 2009

Figure 4.9 Potential Housing sites distribution by borough

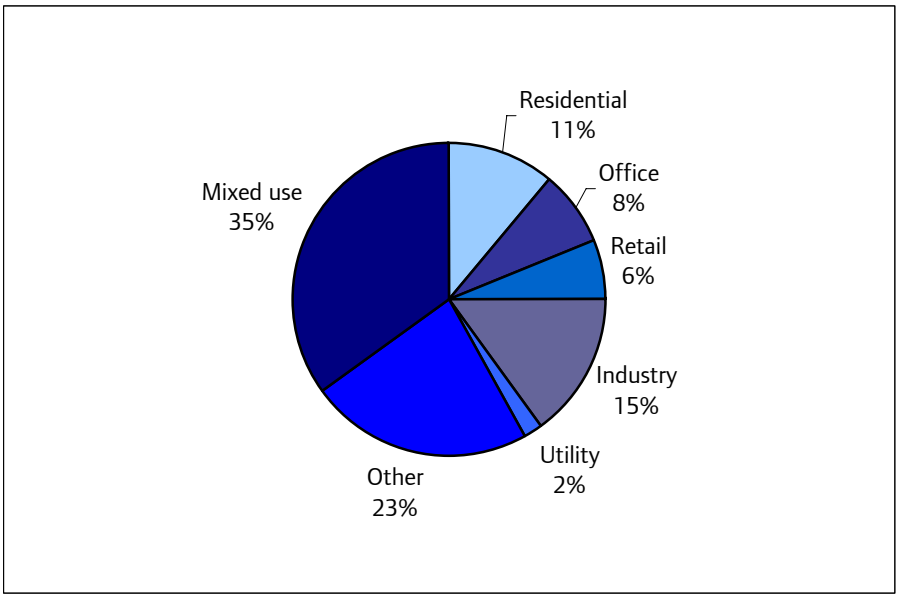


The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS) 2009

4.24 The sources of large site capacity, in terms of an existing use classification are shown in figure 4.10.

4.25 Borough users completed this information when assessing individual sites in the study system. A quarter of large site capacity is from the 'other' category and just over a third of all land is coming from 'mixed use' sites. The 'other use' is an alternative category for sites that did not fit within the other broad land uses. (Figure 4.10)

Figure 4.10 Sources of land supply for large sites



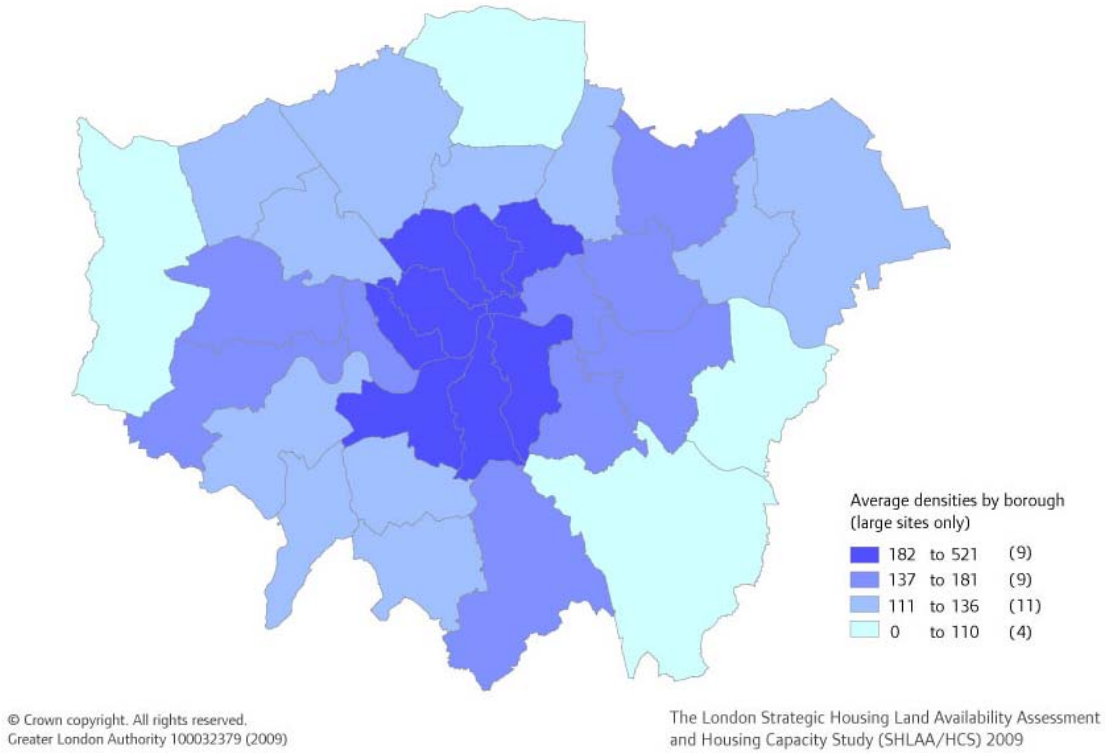
Density

4.26 The capacity from 'potential' housing sites was calculated using the mid point of the London Plan SRQ density matrix to ensure that potential large site capacity was not over ambitious. Boroughs were able to amend the densities based on local considerations to reflect the local character of individual areas.

4.27 Figure 4.11 below illustrates the average density for large site capacity derived in this study. City of London, Westminster, Lambeth and Islington have the highest average density, and Hillingdon, Enfield and Bromley the lowest. All Inner London boroughs are ranked higher than outer London, with the exception of Greenwich. These averages are consistent with residential densities of completed schemes in financial year 2007/08[4].

[4] London Development Database, GLA October 2009

Figure 4.11 Average Density by Borough (large sites only)



Overcoming the constraints

4.28 As previously mentioned, the study excluded 2,174 large sites with high constraints, reducing their probability of housing development to zero. 2,494 sites were included with capacity across all 5 phases, 1,354 of which were constrained by an identified constraint. Of the 2,494 sites, 1,140 were included in the study with no identified constraints.

4.29 The analysis of potential means of overcoming constraints looked at:
- All the sites contributing to the study results with a constrained capacity and
- All the sites included in the study, which were reduced to a probability of zero as a result of identified high constraints.
- Sites that were excluded automatically by the system or by the boroughs as unsuitable for housing development have not been assessed.

4.30 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 LDFs and do not have any impact on the identified capacity. The results have not taken into account the selection of more than one mitigation measure for each constraint. Details of the available options and the method followed can be found in Section 3.

4.31 The results are separated by each constraint in table 4.4 below. The figures outline the percentage of sites with an identified constraint that could be overcome by a suitable mitigation measure. The mitigation measures are

separated into the following categories: air pollution, noise, flood risk, pylons, ownership, local infrastructure, local environment and contamination.

Table 4.4 Overcoming the constraints

Identified Constraint	Suitable mitigation measure	% Sites with an identified constraint which could be overcome by a suitable mitigation measure
Air pollution	Re-design mitigation measures	91
	Road network management	9
Flood Risk	Provide set back on site	20
	Provide on site SUDS	45
	Other flood mitigation measure	25
	Reduce density - no ground floor	9
	Other off site flood mitigation	1
Noise pollution	Design mitigation measures	86
	Road network management	14
Ownership	Developer land purchase/dealing with fragmented ownership	23
	Compulsory purchase	32
	Relocation of existing user - transfer	45
Local infrastructure	Provide public transport	20
	Minor changes to the road network	13
	Provide additional utility services	68
	Require contribution to social infrastructure	0
Local environment	Closure/removal of neighbouring uses	22
	Change to surrounding area through comprehensive redevelopment	19
	Improvement of air/noise pollution	59
Contamination	Decontaminate land (funded by development)	12
	Decontaminate land (may need funding)	4
	Develop only part of the site	84

Pylons	Pylon undergrounding (funded by development)	22
	Pylon undergrounding (not able to fund by development)	22
	Re-routing	56

Small Sites Capacity

4.32 The SHLAA/HCS 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 the methodology section of this report.

4.33 For the small site component the capacity for net additional dwellings between 2011 and 2021 has been estimated at 110,558. Table 4.5 below shows this capacity.

4.34 As described in Section 3 of this report, an adjustment was carried out to take account of the draft London Plan's support for justified local presumptions against garden land development. For the purposes of the SHLAA/HCS it was considered prudent to assume that this support might be taken up extensively, so 90% of total garden land completions from 2004-2007 were removed from the assumed development trend for small sites. The adjustment for garden land has removed 10,739 units (1,074 units annually) from the small sites total. The actual ten year capacity figure for each sub region capacity, post adjustment, is also shown in Table 4.5.

Table 4.5 Assumed Capacity from sites <0.25ha from 2011-2021 (before and after adjustment for garden land)

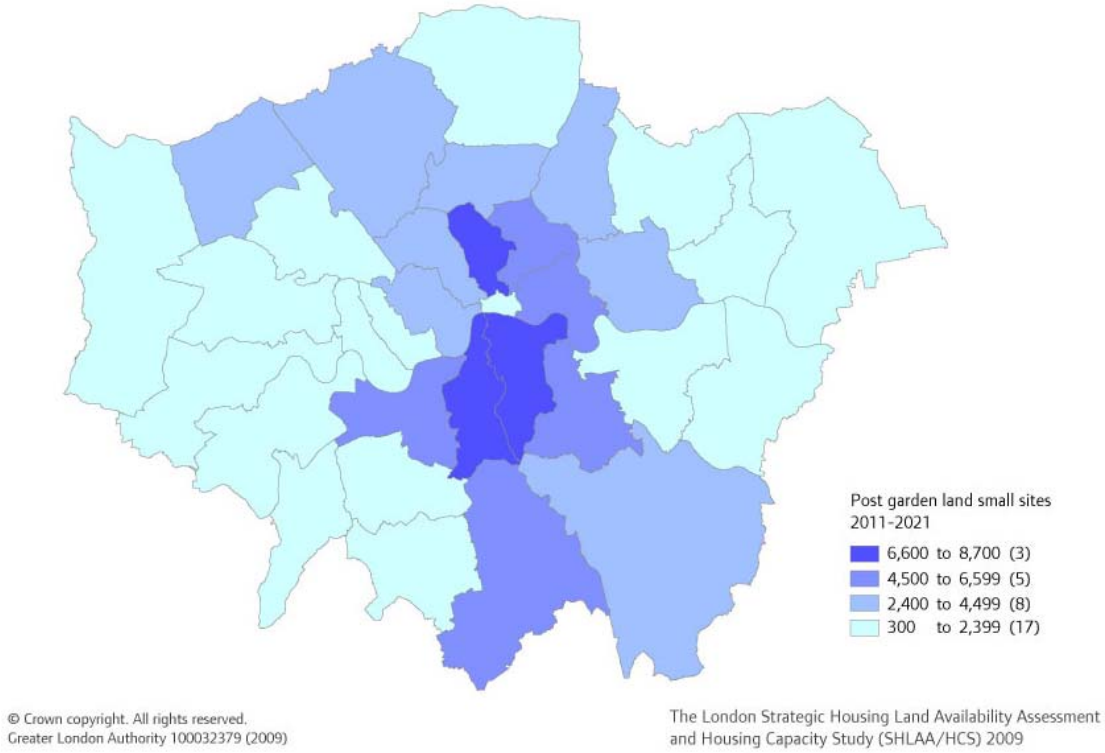
Sub region.	Small sites 2011-2021	Small sites 2011 - 2021 with Garden land adjustment	% Share of total allowance post garden land adjustment
North	9,827	8,666	9
South	24,294	19,783	20
East	31,417	29,074	29
West	12,157	10,407	10
Central	32,864	31,890	32
Total	**110,558**	**99,819**	100

4.35 The majority of the small site capacity is from the Central sub region (32%) with the East second (29%). The distribution by borough is shown in figure 4.12. The comparison between the initial small sites figure and the post garden land adjustment figure show little difference in the overall assumed distribution of small sites across London. The ranking of boroughs according to their small sites capacity total remains the same.

4.36 Table 4.6 shows the distribution by borough of the assumed small site capacity. The greatest concentration of small site development is likely to come from the inner boroughs of Southwark (8,625), Lambeth (7225) and Islington (6,970). The boroughs likely to provide the least number of units from small sites are City

of London (350), Bexley (812), Barking and Dagenham (884) and Hillingdon (1,200).

Figure 4.12 Distribution of assumed Small Site capacity



Non-self contained and long term vacant properties returning to use

4.37 In addition to the small site capacity, estimates of non self-contained dwellings and vacant dwellings returning to use were identified as contributors to overall capacity. Non self-contained units and vacant properties have in the recent past been a small but cumulatively important source of housing across the capital and in some boroughs of local significance. Assumptions from non self-contained units are based on a historic development trend, whilst vacants returning to use are based on the need to reduce the number of private sector dwellings vacant for longer than six months to 1% of the total private sector housing stock over a 10-year period. Details of these approaches are covered in the methodology section of this report.

Table 4.6 Assumed small sites capacity by borough 2011-2021

BOROUGH	Sub region	Small sites 2011-2021
Barking & Dagenham	East	884
Barnet	North	2,714
Bexley	East	812
Brent	West	1,904
Bromley	South	3,130
Camden	Central	3,360
City of London	Central	350
Croydon	South	5,110
Ealing	West	2,170
Enfield	North	2,340
Greenwich	East	1,598
Hackney	East	6,140
Hammersmith & Fulham	West	1,330
Haringey	North	3,613
Harrow	West	2,569
Havering	East	2,025
Hillingdon	West	1,200
Hounslow	West	1,234
Islington	Central	6,970
Kensington & Chelsea	Central	1,260
Kingston	South	1,705
Lambeth	Central	7,225
Lewisham	East	4,520
Merton	South	2,273
Newham	East	2,653
Redbridge	East	1,541
Richmond	South	1,330
Southwark	Central	8,625
Sutton	South	1,355
Tower Hamlets	East	5,663
Waltham Forest	East	3,240
Wandsworth	South	4,880
Westminster	Central	4,100
Total		**99,819**

4.38 The capacity for net additional dwellings between 2011-2021 from non-self contained units was estimated at 18,491. Sub regional distribution is shown in table 4.7 below. The Central sub region has the greatest concentration of non self-contained capacity with 40%, followed by the East with 29%. The lowest are the North (7%) and South (9%).

Table 4.7 Total capacity from non-self contained units 2011-2021

Sub region.	Non Self contained capacity 2011-2021	% Share of total capacity
North	1,342	7
South	1,612	9
East	5,308	29
West	2,795	15
Central	7,434	40
Total	**18,491**	100

4.39 For the vacants component the capacity for net additional dwellings between 2011 and 2021 has been estimated at 7,486 (see table 4.8 below). The East and Central sub regions contain the greatest potential for returning long term vacant properties to use. The South has the lowest capacity with 12% share of the total capacity from vacants.

Table 4.8 Total capacity from long term vacants returning to use 2011-2021

Sub region.	Vacants returning to use 2011-2021	% Share of total capacity
North	1,298	17
South	907	12
East	2,188	29
West	1,375	18
Central	1,718	23
Total	**7,486**	100

4.40 At the borough level these figures reveal a concentration of non-self contained capacity in inner London. Inner boroughs such as Greenwich, Tower Hamlets, Camden and Islington have the highest level of provision from the non-self contained component. Based on evidence from past trends, outer boroughs such as Bexley, Merton, Redbridge and Sutton have a nil target from non-self contained units. Figure 4.13 and table 4.9 show this distribution.

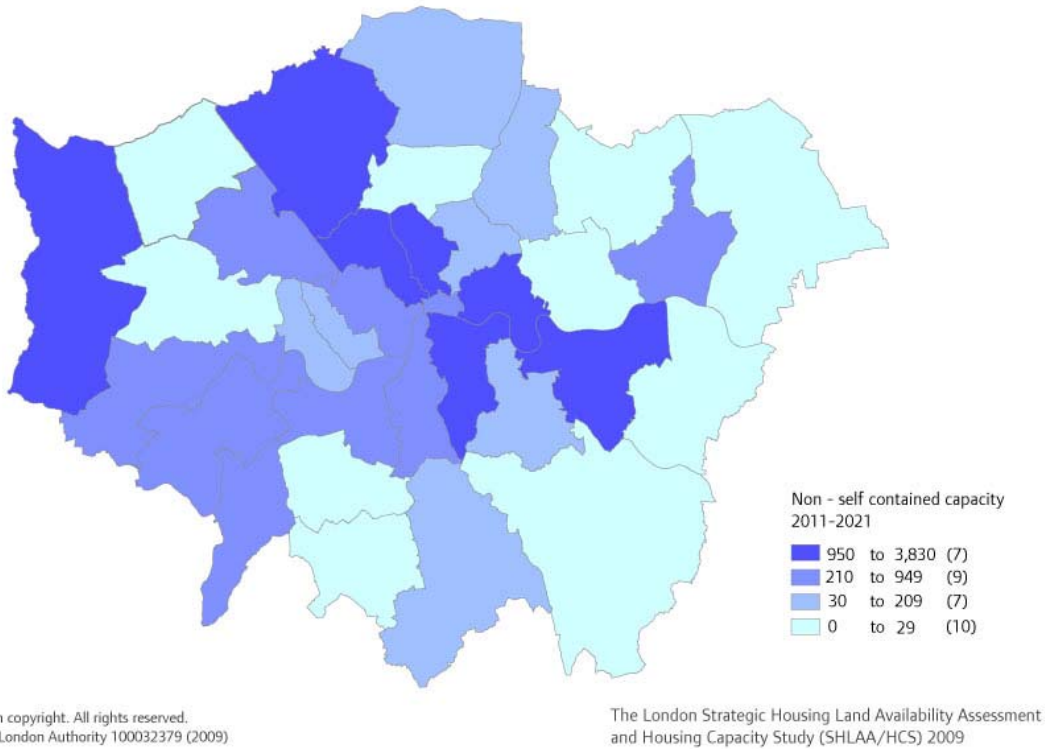
4.41 Ninety percent of all non self-contained development in London is student accommodation. The other 10 percent is hostel accommodation. The figures correlate with the 'university boroughs' of London, with over 70% of capacity in 6 or 7 boroughs in and around central London's cluster of universities. Historical low land values in the East of London are thought to be a contributing factor to the distribution of student accommodation in Tower Hamlets and other eastern boroughs.

Table 4.9 Capacity from non-self contained units and long term vacants returning to use by borough 2011-2021

BOROUGH	Sub region	Non- self contained capacity 2011-2021	Long term vacants returning to use 2011-2021
Barking & Dagenham	East	227	0
Barnet	North	1,272	794
Bexley	East	0	0
Brent	West	288	608
Bromley	South	0	0
Camden	Central	1,647	0
City of London	Central	275	0
Croydon	South	197	907
Ealing	West	0	470
Enfield	North	70	220
Greenwich	East	1,000	651
Hackney	East	30	310
Hammersmith & Fulham	West	200	297
Haringey	North	0	284
Harrow	West	25	0
Havering	East	0	0
Hillingdon	West	2,070	0
Hounslow	West	212	0
Islington	Central	2,500	0
Kensington & Chelsea	Central	87	451
Kingston	South	450	0
Lambeth	Central	680	460
Lewisham	East	172	0
Merton	South	0	0
Newham	East	20	0
Redbridge	East	0	112
Richmond	South	350	0
Southwark	Central	1,300	0
Sutton	South	0	0
Tower Hamlets	East	3,822	425
Waltham Forest	East	37	690
Wandsworth	South	615	0
Westminster	Central	945	807
Total		**18,491**	**7,486**

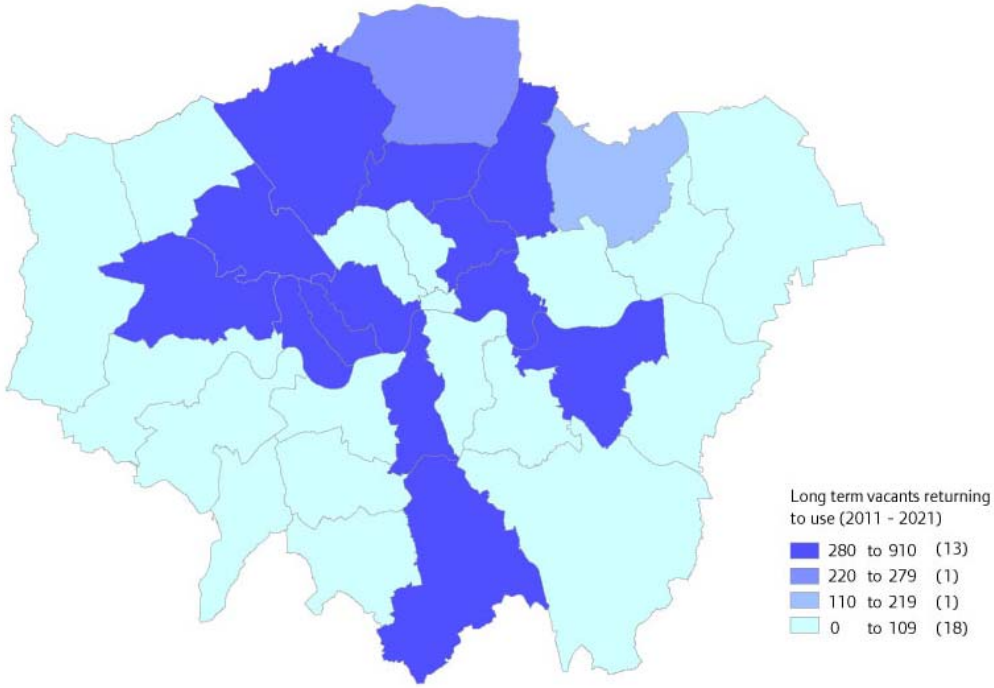
4.42 At borough level, the concentration of long-term vacant properties can be found predominantly in outer London. Croydon, Barnet, Brent and Waltham Forest are likely to be the highest providers, but Westminster, Greenwich, Tower Hamlets, Lambeth and Kensington and Chelsea are also significant providers. Just under half (15) of London's boroughs will have some capacity from vacant properties returning to use (See table 4.9 and figure 4.14).

Figure 4.13 Distribution of capacity from non-self contained units 2011-2021



The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS) 2009

Figure 4.14 Distribution of capacity from long-term vacant properties returning to use 2011-2021



The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS) 2009

Total housing capacity

4.43 The total housing capacity in London for net additional dwellings between 2011 and 2021 has been estimated at 360,062 (Table 4.10) net of the 90% reduction

for garden land. If the latter is not deducted the figure rises to 37,000. The distribution of total housing capacity without deducting for garden land is show in table 4.11. This is an aggregation of all of the components of capacity outlined in the sections above.

Table 4.10 Total capacity by sub region

Sub region.	Total capacity 2011-2021	% Share of total capacity
North	38,811	10.8
South	49,054	13.6
East	155,499	43.2
West	43,202	12.0
Central	73,496	20.4
Total	**360,062**	100.0

4.44 As shown above (Table 4.10) the East sub region yields the greatest contribution to capacity in the region as a whole, with 43% of all future capacity, equating to 155,499 new homes over the period 2011 to 2021. Much of this will be delivered through schemes in the Thames Gateway.

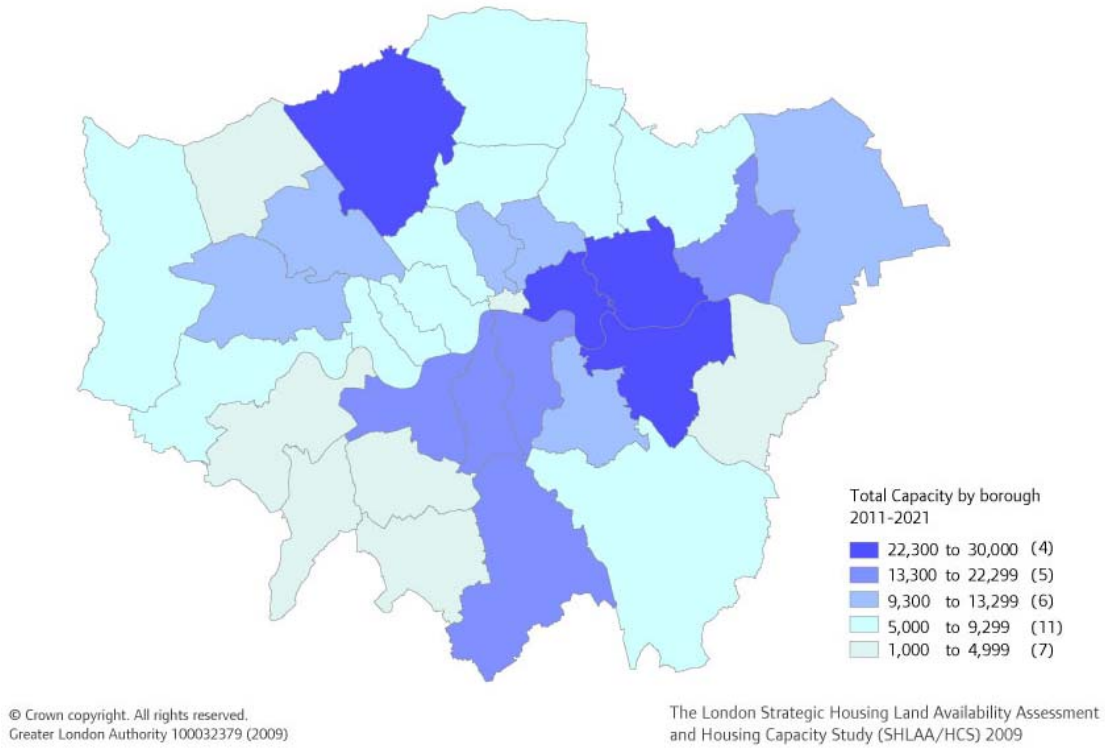
4.45 The next highest contributor to future capacity is the Central sub region at 20%. The South will contribute 13% of future capacity and the North and West regions will contribute 10% and 12% of future capacity respectively.

Table 4.11 Total capacity by sub region (not deducting for garden land)

Sub region.	Total capacity 2011-2021	% Share of total capacity
North	39,972	10.8
South	53,565	14.4
East	157,841	42.6
West	44,953	12.1
Central	74,470	20.1
Total	**370,801**	**100.0**

4.46 Figure 4.15 below illustrates the total capacity distribution by borough. Boroughs in the east contribute the highest amount of capacity. A number of southern boroughs also provide a significant contribution to future capacity, as do some in the North and West.

Figure 4.15 Total Capacity by Borough



4.47 Table 4.12 below gives the total capacity for each borough, based on the various sources of capacity and net of the garden land deduction.

4.48 The borough that makes the greatest contribution to overall capacity is Tower Hamlets at 29,973. This is followed by Greenwich with a capacity of 26,221 and Newham with a capacity of 25,748. Together these three boroughs alone make up 23% of the future housing capacity in London. This is a significant contribution to the growth of London and underscores the importance of East London as an area of future growth.

4.49 Other major contributions in the 2009 study are Barnet (23,035), Southwark (22,115) and Barking and Dagenham (15,348).

Table 4.12 Total capacity by borough

BOROUGH	Sub region	Large site capacity	small sites	Non- self contained	Vacants	Total Capacity
Barking & Dagenham	East	14,238	884	227	0	15,348
Barnet	North	18,526	2,714	1,272	794	23,305
Bexley	East	2,846	812	0	0	3,657
Brent	West	8,366	1,904	288	608	11,165
Bromley	South	3,708	3,130	0	0	6,838
Camden	Central	2,798	3,360	1,647	0	7,805
City of London	Central	406	350	275	0	1,031
Croydon	South	8,950	5,110	197	907	15,164
Ealing	West	6,739	2,170	0	470	9,379
Enfield	North	3,666	2,340	70	220	6,296
Greenwich	East	22,971	1,598	1,000	651	26,221
Hackney	East	5,879	6,140	30	310	12,359
Hammersmith & Fulham	West	4,662	1,330	200	297	6,489
Haringey	North	5,313	3,613	0	284	9,209
Harrow	West	1,762	2,569	25	0	4,356
Havering	East	11,098	2,025	0	0	13,123
Hillingdon	West	3,446	1,200	2,070	0	6,716
Hounslow	West	3,651	1,234	212	0	5,097
Islington	Central	3,777	6,970	2,500	0	13,247
Kensington & Chelsea	Central	4,191	1,260	87	451	5,989
Kingston	South	1,925	1,705	450	0	4,080
Lambeth	Central	6,245	7,225	680	460	14,610
Lewisham	East	7,708	4,520	172	0	12,400
Merton	South	1,618	2,273	0	0	3,891
Newham	East	23,075	2,653	20	0	25,748
Redbridge	East	6,257	1,541	0	112	7,910
Richmond	South	1,138	1,330	350	0	2,818
Southwark	Central	12,190	8,625	1,300	0	22,115
Sutton	South	1,364	1,355	0	0	2,719
Tower Hamlets	East	20,064	5,663	3,822	425	29,973
Waltham Forest	East	4,793	3,240	37	690	8,760
Wandsworth	South	8,049	4,880	615	0	13,544
Westminster	Central	2,847	4,100	945	807	8,699
Total		**234,266**	**99,819**	**18,491**	**7,486**	**360,062**

4.50 A large contribution to housing capacity also comes from Croydon (15,164), Lambeth (14,610), Wandsworth (13,544) and Islington (13,247)

4.51 Boroughs that provide the least capacity include City of London (1,031), Sutton (2,719), Richmond upon Thames (2,818), and Bexley (3,657). A number of other boroughs contribute low amounts of capacity including Kensington and Chelsea, Kingston and Harrow.

4.52 Table 4.13 compares the 2009 annualised capacity figures with those from the last two LHCSs (undertaken in 1999 and 2004) on an annualised basis. This shows that there has been a continuing increase in capacity since the 1999 LHCS. Increased capacity arises from both large and small site. Despite

amendments in methodology to address the requirements for carrying out a SHLAA and the Mayor's priorities, the increases have been fairly consistent across all sources.

Table 4.13 Comparison to the 1999 and 2004 LHCS (annual total capacity)

Housing Source	1999 LHCS	2004 LHCS	2009 SHLAA/HCS	Difference (2004 and 2009)
Large Sites	13,524	18,739	23,427	4,688
Small Sites	5,524	9,815	9,982	167
Non Self-Contained	2,611	1,828	1,849	21
Vacants	1,236	1,151	749	-402
London Total	**22,895**	**31,533**	**36,006**	**4,474**

4.53 Table 4.14 below illustrates the contribution of the sources of supply compared to the 1999 and 2004 LHCS. The distribution has changed slightly with large sites still contributing two-thirds of the total capacity. The main change is the fall in small sites in the 2009 study, which can be attributed partly to the reduced sites area threshold of 0.25ha. The increase in the large sites is considered to have recouped most of the lost small site capacity.

Table 4.14 Comparison to the 1999 and 2004 LHCS (Contributions to supply)

Housing Source	1999 LHCS	2004 LHCS	2009 SHLAA/HCS
Large Sites	*59.10%*	*59.40%*	*65.06%*
Small Sites	*24.10%*	*31.10%*	*27.72%*
Non Self-Contained	*11.40%*	*5.80%*	*5.13%*
Vacants	*5.40%*	*3.70%*	*2.08%*
Total	***100%***	***100%***	***100%***

Phasing of Capacity

4.54 As stated earlier in this report, the capacity of large sites was allocated to 5 phases. Assuming the small site estimates will come forward at a constant rate, the estimates can be allocated by phase. However, following the recommendation in the methodology for the 2004 study a 10% reduction in small site capacity is applied for the later phases. The estimates of non self-contained provision can also be extended to phase 4 and 5. The vacant component is a 10 year target as set out in the Mayor's Draft Housing Strategy 2009 and therefore it would be premature to assume the number of long term vacant properties beyond 2021 (See table 4.15).

Table 4.15 Estimated total capacity by phases

	Phase 1 2008/09-2010/11	Phase 2 2011/12 - 2015/16	Phase 3 2016/17-2020/21	Phase 4 2021/22-2025/26	Phase 5 2026/17-2030/31
Large sites	39,436	134,093	100,173	68,917	33,259
Small sites	29,946	49,910	49,910	48,912	48,912
NSC	5,547	9,245	9,245	9,245	9,245
Vacants	2,247	3,745	3,745	(No target)	(No target)
Total	77,176	196,993	163,073	127,074	91,416
% of total	12%	30%	25%	19%	14%
Annual average	**25,725 (3 years)**	**39,399 (5 years)**	**32,615 (5 years)**	**25,415 (5 years)**	**18,283 (5 years)**

4.55 Estimated annual capacity is higher for the second phase than for the third phase, with a fall off for the final phases. It is anticipated that capacity estimates for Phase 3 and Phase 4/5 will be updated through further Strategic Housing Land Availability Assessments and Housing Capacity Studies to be completed by 2016 and 2021.

Section Five: Scenario Testing

Introduction

5.1 The scenario testing stage of the study is broken down into four parts:

- Testing the sensitivities of the assumptions built into the study system (for potential large sites);
- Testing assumptions underlying the small site estimates;
- Testing the sensitivity of other potential policy considerations not originally built into the SHLAA/HCS methodology (on all of the identified capacity); and
- Reconciling the identified capacity on industrial sites with London Plan benchmarks for industrial land release.

Testing the study system assumptions

5.2 The study 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 or an allocation in a planning document the study system will estimate capacity based on the assumptions built into the system. Part of the scenario testing exercise is to assess the sensitivities of these capacity figures, and to look at policy implementation scenarios that differ from the study's agreed assumptions.

5.3 These scenarios seek to assess the impact of changing the default densities initially used to derive a notional capacity for each site, and the default constraints that affect the likelihood of a site's notional capacity coming forward for development. 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.

5.4 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. From the outset it was expected that any significant changes in the figures would indicate high degrees of sensitivity that would be important considerations when setting targets for the London Plan.

5.5 The scenario testing stage tested the following large site assumptions:

- Policy constraints (including*: Designated Open Space, Strategic Employment Locations, Locally Significant Industrial Sites, Other Protected Industrial Sites* and *Wharves*);
- Local constraints (including: *Ownership, Infrastructure, Environmental Setting* and *Contamination)*;
- Environmental constraints (including*: Air Pollution, Flood Risk, Noise Pollution* and *Pylons*);
- General density assumptions (increasing or decreasing the default densities);

- Density assumptions in town centres (increasing the default densities); and
- Public Transport Accessibility Levels (PTAL) assumptions (increasing or decreasing the default levels and their effect on density).

5.6 Many of the assumptions tested in the different scenarios, with the exception of those for small sites, were numeric variations to those that underpinned the study system. In general the relaxing of particular constraints realised a greater capacity, whilst increasing the effect of a constraint or the introduction of new constraints reduced the capacity estimates. For the purposes of this study the scenario testing provides the best indicator of the robustness of the final capacity figures against possible changes in policy implementation or potential variations in the way individual site capacity may be realised.

Large site constraints

5.7 The 'Policy' constraints built into the study system (see Annex 6) consider specific policy designations that either exclude sites or reduce the notional capacity of a site. The policy constraints that exclude capacity outright are 'Designated Open Space', 'Strategic Employment Locations', and 'Wharves'. 'Locally Significant Industrial Sites' reduce the capacity of a site by 50% and 'Other Protected Industrial Sites' reduce capacity by 25%. Scenarios explored the effect of increasing or decreasing the effect of these constraints, however, in general, the effect on overall capacity was minimal.

5.8 The 'Local' and 'Environmental' constraints built into the study system (see Annex 6) are other factors that may specifically limit the available capacity of a site, and the system defines them as low, medium or unsuitable. The study system reduces capacity for a site depending on whether one or more of the constraints is defined as medium, or if one of the constraints is deemed unsuitable, the site is completely excluded. Again, scenarios were used to examine the effect of increasing or decreasing the impact of these constraints, but if a constraint was originally defined as unsuitable it was left unaltered. Different scenarios where tested to increase or decrease the effect of these constraints, but only very minor changes to housing output resulted.

5.9 Further scenarios were used to explore combinations of changes to the constraint assumptions and again, the overall effect on total large site capacity was minimal. Table 5.1 below shows the aggregate results of example scenarios that increase and decrease the effect of the constraints on the site data. These examples show that by increasing the effect of the constraints, as indicated below, only decreased the overall large site capacity by 3.6%, whilst decreasing the effect of the constraints only increased the large site capacity by 2.2%. Again, any constraints deemed unsuitable were left unaltered.

Table 5.1 Large site constraints example

Constraints	Default	Increase	Decrease
Policy	***% value applied to notional capacity***		
1. Designated Open Space	0	0	25
2. Strategic Employment Locations	0	0	25
3. Locally Significant Industrial Sites	50	25	75
4. Other Protected Industrial Sites	75	50	100
5. Wharves	0	0	25
Environment	0 = 100	100	100
1. Air Pollution	1 = 90	75	100
2. Floodrisk	2 = 75	50	100
3. Noise Pollution	3 = 66	40	75
4. Pylons	4 = 50	30	50
Local	0 = 100	100	100
1. Ownership	1 = 90	75	100
2. Infrastructure	2 = 75	50	100
3. Environment Setting	3 = 70	40	75
4. Contamination	4 = 60	30	50
Total	**23,426**	**22,440**	**23,596**

5.10 The relatively low identified capacity of potential housing sites (25% of identified housing capacity from all identified large sites is from potential housing sites, see Section 4) is the main reason for these results. The scenarios are effectively testing a small number of sites that do not have significant constraints applied to them and therefore the capacities changed very little within the different scenarios that were assessed. However, the policy constraints emerge as a key reason for excluding a site from the overall capacity estimate.

Large site density

5.11 The scenario testing exercise also examined the effect of varying the densities applied to each potential large site. Overall this had a more significant impact on the capacity estimates than the constraints that were assessed above. The testing looked at the effects of using the top or the bottom of the density ranges (the London Plan density matrix) used to determine capacity for a site, the effect of varying the Public Transport Accessibility Levels (PTALs), and also capacities of sites within Town Centre locations.

5.12 As with the 2004 LHCS the effect of increasing or decreasing densities was predictable, however the quantum of change was much less given the lower proportion of identified capacity of potential sites in this study. Substituting the default densities with densities at the top of the SRQ ranges increased the overall large site capacity by 15.3%, whilst using the bottom of the ranges decreased overall large site capacity by 14.6%.

5.13 This analysis was then further spatially defined to see what would result if densities were increased in town centre locations. Potential large sites that were located in Town centres were specifically selected and the densities at the top of the density ranges were applied as appropriate. This had the effect of increasing the overall large site capacity by 3%. Interestingly this increase was mainly attributable to increases in the boroughs of Enfield, Hammersmith and

Fulham and Waltham Forest and generated little change to other borough totals.

5.14 The effect of altering the PTAL settings was also tested to assess the impact on housing capacity. An increase in the PTAL by one level increased the overall large site capacity by 4.4%, whilst decreasing the PTAL by one level decreased the overall large site capacity by 2.6%. Again the overall impact on large site capacity was minimal, and it appears this is mainly due to the limited proportion of capacity coming forward from potential large sites.

Conclusions

5.15 Overall, the scenario testing generated marginal changes to the large site capacity, which in part is related to the fact, that only 25% of the identified capacity was derived from potential housing sites in the large site database. The other 75% was fixed capacity that was from either approved or allocated sites and was therefore not subject to the scenario testing modelling. It appears that the overall elasticity of the capacity figures is low and that any changes to the assumed density, PTAL level and constraints applied to a site during delivery will not significantly alter the overall achievement of the capacity identified (notwithstanding annual variations in delivery). These conclusions help to demonstrate whether the capacity figures are robust and informs the GLA's approach to setting annual housing targets.

5.16 To summarise, the various results generated for total capacity for a selection of composite scenarios (combining variations in the large and small sites assessments) are presented in Annex 4. These results provide examples of possible high, medium and low scenarios in accordance with the assumptions assessed, around the default capacity identified for London. Although these examples show extremes in relation to the default capacity they do not produce significant variations on the overall capacity figures.

Small Site Assumptions

Garden Land

5.17 As mentioned in the methodology, the total small site capacity estimate has been reduced in light of the draft replacement London Plan's presumption against development on back gardens. This reduction approximated to a 90% reduction of the small site capacity derived from garden land development. In establishing this reduction a series of other possible scenarios were assessed. These are outlined below (Table 5.2), and illustrate the impact of different reductions to account for garden land development on the overall capacity.

Table 5.2 Garden Land Scenarios

Scenario	Annual completions on Garden Land in London FY2004-2007	Percentage reduction in yield from garden land %	Annual garden land completions in London applying 90 % reduction	Impact of reduction in garden land on total SHLAA/HCS capacity figure 2011-2021
1	1193	100	1193	35,887
2	1193	75	894	36,186
3	1193	50	597	36,483
4	1193	25	298	36,782
5	1193	0	0	37,080
SHLAA/HCS figure	**1193**	**90**	**1074**	**36,006**

5.18 The scenarios show the impact of reducing the small sites capacity estimate by either 100%, 75%, 50%, 25% and 0%. 90% was chosen as a suitable reduction in light of emerging policy, whilst 100% was not chosen because it is unrealistic to assume that absolutely no development will occur on garden land. Had a reduction not be used at all, the overall capacity figure would be 37,080 not 36,006 units per annum.

5.19 The scenario testing shows the effect of varying the reduction figure, and even though this does not have a significant impact on the overall capacity figure across London, it was deemed appropriate to maintain the 90% reduction to reflect the London Plan presumption. At the borough level the reductions have a varied impact depending on location, which highlights the different character of inner and outer London boroughs. Annex 3 provides the breakdown of the 90% reduction by borough.

Testing other potential policy constraints

5.20 Scenario testing provides the opportunity to assess the effect of other constraints that were not included in the original study system. In addition to the assessments above the scenario testing examined other considerations such as:

1. Heath and Safety Executive Consultation Zones
2. London Plan Protected Vistas
3. Draft London Housing Design Standards (reference only)

Heath and Safety Executive Consultation Zones for Hazardous Installations

5.21 In line with Policy 5.23 of the draft replacement London Plan, Boroughs, when assessing developments near hazardous installations, should take account of site specific circumstances and proposed mitigation measures and the risks should be balanced with the benefits of development. The Health and Safety Executive (HSE) have identified consultation areas for developments located within specified distances of particular hazardous installations. These zones are identified on a map with three risk contours representing defined levels of risk or harm, which any individual at a threat contour would be subject to.

5.22 The HSE's role in planning is advisory. It has no power to refuse planning applications, however the HSE will advise against insensitive development proposals. The consultation zones do not mean 'no' development although the risk or harm to an individual is greater the closer to the installation. Under specific circumstances a development proposal may be constrained by the advice of the HSE. Housing development is particularly sensitive. Depending on the number of persons connected with the development, their sensitivity (vulnerable populations such as children, old people) and the intensity of the development, the executive may or may not advise against the proposal.

5.23 A GLA/LDA joint report prepared in 2007[5], identified 71 hazardous installations and 119 hazardous pipelines across London in 2007. In addition, there are four major hazardous sites within the Greater London area. Of the 71 hazardous installations, 42 are gasholders. The map below (Figure 5.1) shows the gasholder and hazardous installation sites in London, their consultation zone and the sites identified in the SHLAA/HCS system.

5.24 The SHLAA/HCS has identified 116 future housing sites that lie within or partially within a consultation zone. These sites have a total probable constrained capacity of 9,767 or 977 units per annum. 1,414 units have been identified within an 'inner zone', 4,221 units within the 'middle zone' and 4,132 probable units within the 'outer zone'.

5.25 Although the HSE maintains a flexible approach to proposed development opportunities, some sites are high profile developments and regeneration opportunities and the existence of hazards could bear on the aspirations for the area. The potential yield from all sites within or partially within a consultation zone has been assessed to determine the effect on capacity if site yields are reduced to avoid potential impacts from hazardous installations (Table 5.5).

[5] Greater London Authority and London Development Agency. Heath and Safety Executive Policy Review. GLA and LDA 2007

The results show that sites within HSE consultation zones have a minimal impact on overall capacity in London. After engagement with HSE it was concluded that at this stage there is no justification to remove these sites in the study outright. The impacts of hazardous sites should be more properly considered at the more detailed planning stage when affected sites come forward for development.

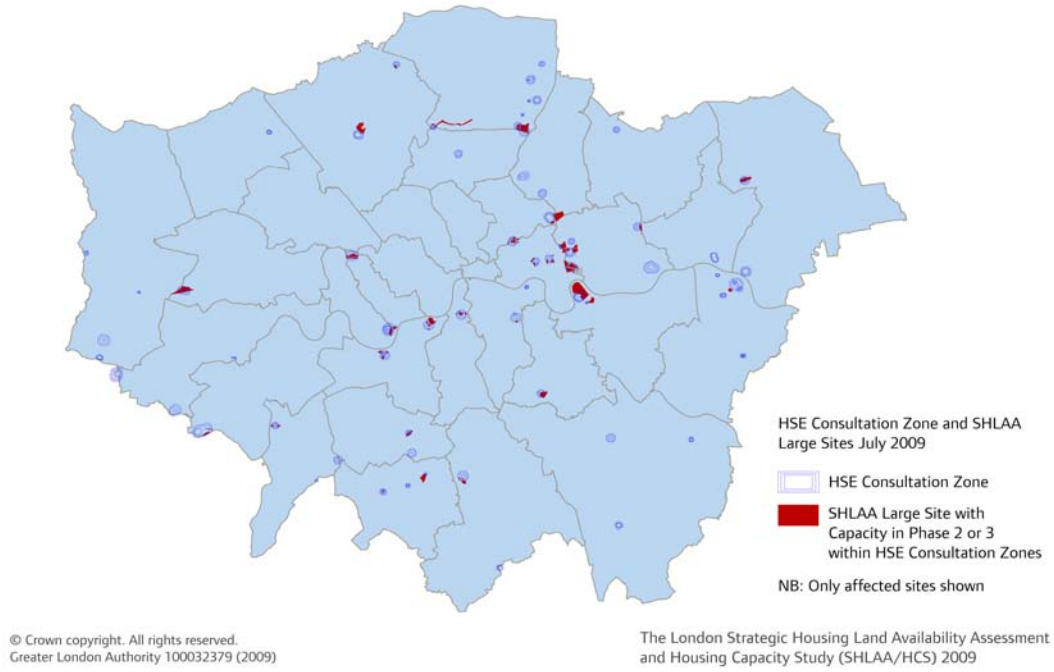
5.26 The scenarios chosen are:

- Scenario 1 - 100% reduction of yield in 'Inner' zone, 50% reduction from 'middle' zone and 25% reduction from 'outer' zone
- Scenario 2- 50% reduction of yield in 'Inner' zone, 25% reduction from 'middle' zone and 12.5% reduction from 'outer' zone
- Scenario 3- 25% reduction of yield in 'Inner' zone, 12.5% reduction from 'middle' zone and 6.25% reduction from 'outer' zone

Table 5.5 HSE consultation zones scenarios

Factor	Scenario 1	Scenario 2	Scenario 3	Total Capacity 2011-2021
Inner % Reduction =	100	50	25	0
Middle % Reduction =	50	25	12.5	0
Outer % Reduction =	25	12.5	6.25	0
Total loss of units 2011-2021=	4558	2279	1139	0
Total likely no of units 2011-2021=	5209	7488	8628	9767
Total annual no of units 2011-2021=	*521*	*749*	*863*	*977*
Impact of scenarios on total annual capacity	**35,485**	**35,257**	**35,143**	**36,006**

Figure 5.1 Map of HSE gasholder installations



London Plan Protected Vistas

'Protected Vistas' are geometrically defined corridors between the viewing place and key designated landmarks' [6]

5.27 The London Plan (Policy 7.11 in the draft replacement London Plan) sets out clear requirements and principles for assessing and managing the impact of development proposals on protected views. However, as with the HSE consultation zones, protected views do not mean 'no' development but rather that they should be a consideration at more detailed planning stages.

5.28 Protected views are not an automatic constraint in the study system. Boroughs were able to tick the protected views option in the system, which did not automatically constrain the capacity, but was added to the system to help inform boroughs decisions on density of the sites. The boroughs have identified 121 sites as being in a protective view. The potential annual yield from these sites is 1,974 units. Using the information provided by the boroughs, an assessment has been carried out to determine the consequence of simply reducing capacity for sites within the defined vistas (See Table 5.6).

5.29 The scenarios chosen are:

- Scenario 1 - Annual capacity 2011-2021 with 50% vista reduction
- Scenario 2 - Annual capacity 2011-2021 with 25% vista reduction
- Scenario 3 - Annual capacity 2011 - 2021 with 10% vista reduction

Table 5.6 Protected vista scenarios

Factors	Scenario 1	Scenario 2	Scenario 3	Total Capacity 2011-2021
Annual capacity on large sites within a protected vista 2011-2021	1,974	1,974	1,974	1,974
% Reduction of annual capacity on large sites within a protected vista 2011-2021	50	25	10	0
Impact of scenarios on total annual capacity	**35,019**	**35,513**	**35,809**	**36,006**

5.30 The results show the impact on future housing capacity in London if the capacity of sites within protected vistas is reduced to account for lower density development. For example, assuming a very conservative 50% reduction in capacity on affected sites, the overall annual capacity figure for London would be reduced by 987 units per annum.

5.31 As was intended, the inclusion of an option to select a vista site is considered to have prompted boroughs to amend the densities appropriately in the LHCS and no further amendment would be justified. The scenarios do show the impact policies could have if very high densities accommodated in tall buildings had been assumed over and above the assumption built into the study system.

[6] Mayor of London. Draft London View Management Framework (LVMF). GLA 2009

Draft London Housing Design Standards (reference only)

5.32 Policy 3.5 of the draft replacement London Plan proposes that all new housing developments and individual homes should be of the highest quality internally, externally and in relation to their context and to the environment. It sets out a series of design parameters that should be taken into account in all new developments and proposes a set of specific space standards for all new development. The Plan intends that implementation of this policy should be guided by Supplementary Planning Guidance (SPG) which will include details of these design parameters. The Plan cites the Mayor's draft London Housing Design Guide[7] as an example of one way these parameters might be detailed.

5.33 The draft Housing Design Guide applies only to housing development on land owned by the LDA and to affordable housing in receipt of public investment from 2011. While it provides a useful starting point in understanding what minimum standards for all tenures might cover in the future, it cannot be taken as a blueprint for the way the standards might be finalised. That will reflect the results of consultation on the draft Housing Design Guide, the draft SPG and, of course, on the draft replacement Plan, as well as independent evaluations of their implications for housing delivery and physical land take.

5.34 It should be borne in mind that the design standards have not been proposed in a vacuum - many different standards already exist. Early provisional results from the first independent evaluation suggests that they might bear particularly on the deliverability (in terms of costs) of smaller market homes, but it is not yet clear how they might affect land requirements for these, much less the costs and land requirements of larger homes and output across the affordable sector. Early consultation responses also indicate that suggested requirements for ceiling heights, dual aspect and dwellings per core may have particular implications for housing output, but these responses require further assessment.

5.35 In view of this uncertainty, it is not possible to specifically quantify and test the implications of the proposed standards for the results of the SHLAA/HCS. However, the possible effects of standards on deliverability and land take are factors which the Mayor should take into account in coming to a view on the draft housing targets in the London Plan (see Section 8 Conclusion of this report). Further work will be undertaken to assess the impact of proposed housing design standards on housing delivery in London to inform the London Plan Examination in Public scheduled for Summer 2010.

Industrial Capacity

'Industrial capacity is a general term referring to land, premises and other infrastructure in industrial and related uses'[8].

5.36 London Plan policy supports the need to manage, promote and, where appropriate, protect Strategic Industrial Locations (SILs) as London's strategic reservoir of industrial development capacity.

[7] Mayor of London. London Housing Design Guide. LDA, 2009
[8] Mayor of London. Industrial Capacity SPG. GLA 2008

5.37 A cautious but flexible approach has been taken in this assessment. Learning from the previous study, boroughs were asked only to include sites within Strategic Industrial Locations (SILs) that had been discussed with the GLA for potential future release. Sites not discussed with the GLA were excluded, together with those identified by boroughs as being 'locally significant' industrial sites in the terms of London Plan policy.

5.38 Tables 5.7 and 5.8 below show the total area in hectares of industrial land identified for potential housing development in the study. An assumed release of industrial land from small sites has been added to the equation. The figures are separated by the 2008 consolidated London Plan sub regions. The reason for this is that these regions separate the industrial land release benchmarks in the existing Industrial Capacity SPG. Table 5.8 also compares the potential release of land within the SHLAA/HCS and existing London Plan industrial land release benchmarks.

Table 5.7 Potential loss of industrial land per source 2011-2021 by source

	Locally Significant land with 'potential' capacity for housing	'Other' industrial sites with 'potential' capacity for housing	'Potential' housing capacity on SIL	Small sites with an assumed 'potential' housing capacity	Total
Potential loss of industrial land per source 2011-2021 (Ha)	16	18	95	127	255

Table 5.8 Comparison of the total London Plan industrial land release benchmark and the assumed loss of industrial land within the SHLAA/HCS

Sub regions	London Plan Industrial land release benchmark 2006-2026 (Ha)	Total Industrial land release from SHLAA/HCS 2011-2021 (Ha)	Percentage of total London Plan benchmark identified for housing in the SHLAA/HCS (%)
North	187	49	26
North East	366	61	17
South East	146	51	35
South West	63	36	57
West	52	58	112
Total	**814**	**255**	**31**

5.39 Overall the approach taken in the SHLAA/HCS has identified a total potential industrial land release figure well below the London Plan benchmarks[9]. However, on a sub regional basis the potential release figures show different results and patterns. Traditionally the East sub regions have been the largest source of release from industrial land. This remains the case in absolute terms but the West emerges as being under particular pressure for the release of industrial capacity for housing. The table above shows that the West will meet and exceed its 20-year benchmark by 6 ha within the 10-year period of the SHLAA/HCS. Although concern is expressed about the complete release before 2021, this is

[9] Mayor of London. Industrial Capacity SPG. GLA 2008

not an unreasonable or unrealistic assumption, particularly as the release is from one or two large strategic sites (i.e. White City Opportunity Area). Any significant industrial land release beyond the 20-year benchmark is likely to be restricted in accordance with the London Plan and the Mayor's Industrial Capacity SPG 2008.

Overall Conclusions

5.40 Different assumptions and additional considerations were evaluated in the scenario testing to assess the robustness of the identified capacity. As shown in the selection of composite scenarios presented in Annex Four, changes to the assumptions built into the SHLAA/HCS system produced different capacity estimates around the default capacity identified for London, but these are not significant variations on the overall capacity figures. Other considerations are also highlighted that should be taken into account when bringing forward certain sites for development, however, factors such as hazardous installations or the London Plan protected vistas do no appear to have a significant impact on the overall capacity identified.

5.41 The scenario testing has evaluated the robustness of the identified capacity, and has confirmed that the results of this study represent a realistic estimate of future housing capacity in London. This will be a key consideration for the proposal of a new housing provision target for the London Plan.

Section Six: Market Assessment

Introduction

6.1 This section provides views on the property market and the ability of the development industry to bring forward the identified housing capacity in London over the duration of the study. Particularly in the current economic conditions, the prospect of housing delivery over the period of the study remains uncertain. This broad analysis will provide a brief overview of the current state of the housing market, and establish whether sufficient account has been taken in the SHLAA/HCS methodology for economic viability and delivery. This section will draw upon evidence from various sources to determine the current state of the market and its future prospects.

Current state of the market

6.2 House prices in London began to drop in early 2008 and have now fallen around 12.2 per cent over the last 12 months, compared with an average of 12.4 per cent across England as a whole[10].

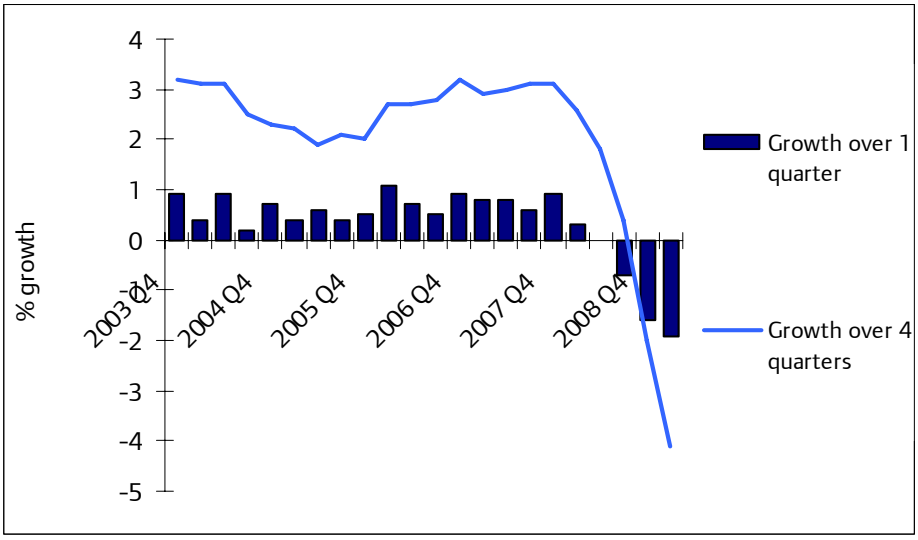
6.3 Sales volumes have fallen 61% nationally and by 65% in London, while construction starts and completions are thought to have reached record post war lows[11]. The Council for Mortgage lenders estimates that 45,000 homes were repossessed nationwide in 2008 and that 75,000 will be in 2009[12]. The average deposit paid by the first-time buyer in London has approximately doubled in the last year even as prices have fallen and is now equal to more than the average annual first time buyer income. Falling prices have not added up to affordability – it is still harder to get on the ladder in London than in any other region. Buyers are moving into the market despite the average first time buyer in London paying a deposit of almost £90,000 this year, nearly all relying on help from parents[13]. New build starts have fallen and the gap between the number of starts and the rate of household formation is widening.

6.4 Further details regarding the current conditions of UK economy and the activity of the housing market in London are summarised below.

6.5 Figure 6.1 shows that economic output in the UK stopped growing in mid-2008 and dropped sharply in the first half of 2009. The latest GDP figures indicate the onset of a recession, with GDP growth currently at an annualised rate of minus 4 per cent.

[10] GLA Economics. Joint Strategy Evidence Base. GLA, 2009
[11] Knight Frank. London Residential Development Review, 2009.
[12] GLA. London Housing Market Report. GLA. March 2009
[13] Communities and Local Government. Housing Market Live Tables. CLG September 2009

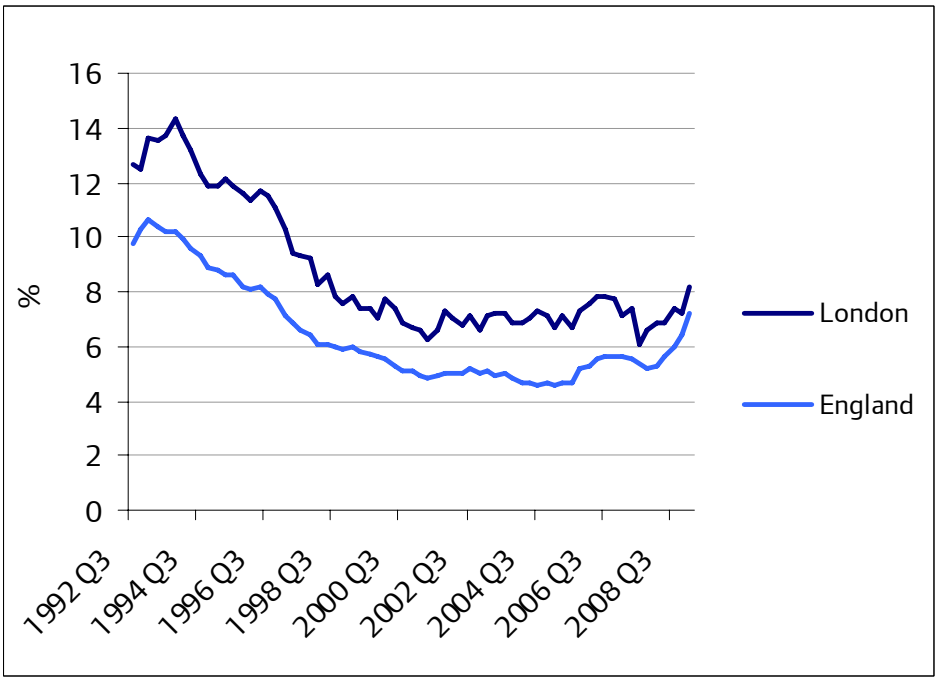
Figure 6.1 Real GDP growth (UK)



Source: Office for National Statistics (ONS)

6.6 Figure 6.2 shows that London's unemployment rate began to rise in 2007, earlier than in the rest of England, and has risen over the last year from 6.9 to 8.9 per cent by September 2009. ONS data suggests that unemployment may have risen slightly faster in England in the last six months. The rate of growth in the number of unemployed has slowed and it expected to stay below 3 million over the course of 2009.

Figure 6.2 Unemployment rate (ILO definition), London and England

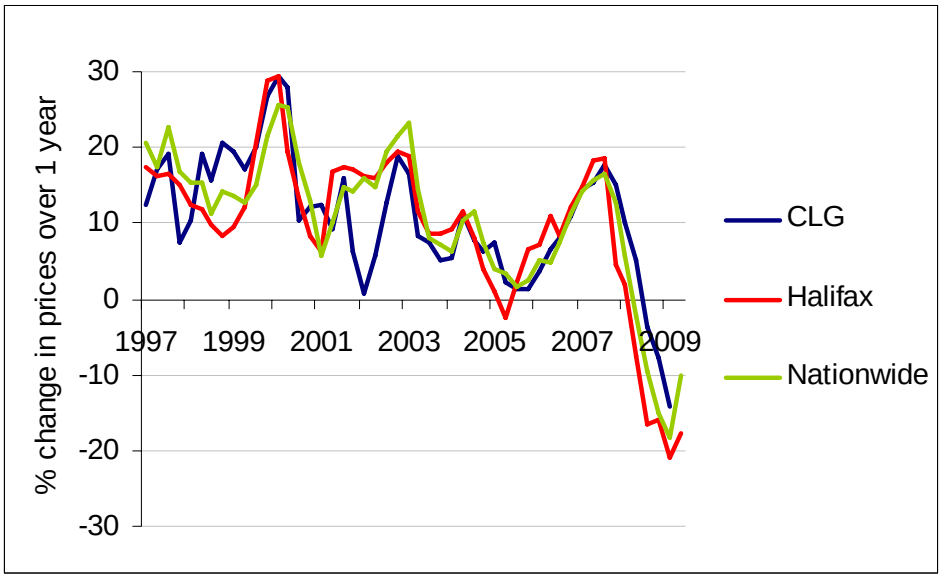


Source: ONS

6.7 Figure 6.3 shows the London house price indices of the Halifax and Nationwide, which show a similar trend, with prices in the first quarter of 2009 around 20 per

cent down on early 2008 before bouncing back in the second quarter, with Nationwide showing a striking 4.8 percent quarter-on-quarter rise. CLG's index is based on completed sales rather than mortgage approvals, so there is a built-in time lag, but the overall trend has been similar through to Q1 2009.

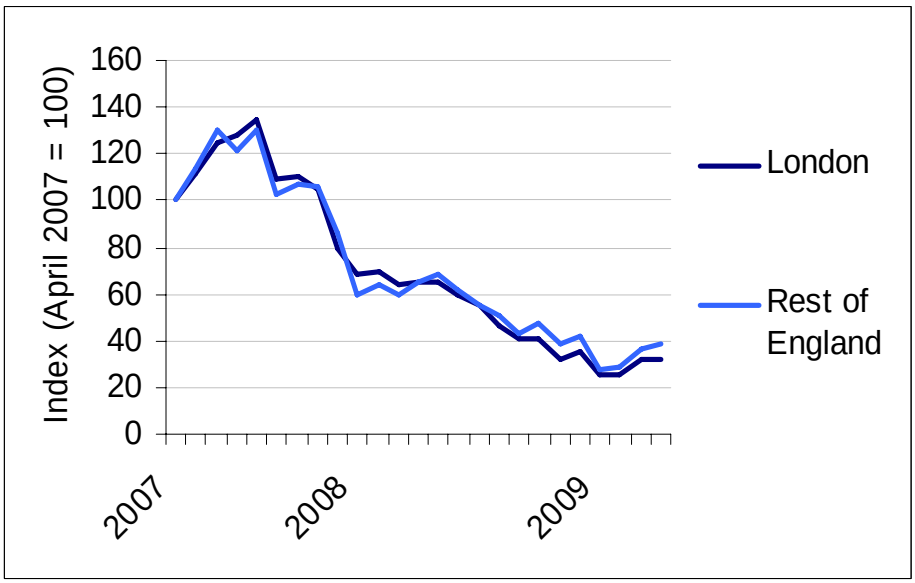
Figure 6.3 Annual changes in house prices in London - comparison of indices



Source: GLA calculations based on quarterly CLG, Halifax and Nationwide data

6.8 Figure 6.4 shows that the level of monthly sales recorded by the Land Registry fell by three quarters between January 2007 and April 2009 in London. A similar trend was seen in the rest of England, indicating the national extent of this downturn. Consistent with the trend in mortgage lending, the number of new mortgage purchases has been rising since the end of 2008, even though volume re-mortgaging is still down.

Figure 6.4 Recorded monthly home sales (London)



Source: Land Registry

Prospects for the future

6.9 The National Housing and Planning Advice unit (NHPAU)[14] suggest that the recession has not solved the problem of affordability which some suggested it would. Generally, falling house prices should be good for first time buyers but tighter mortgage markets and increased deposit requirements have made it increasingly difficult to access the property market.

6.10 NHPAU suggest that the recession has not had a big impact on household formation but has led to a sharp drop in the number of homes being built. Estimates suggest between 750 and 800 thousand households will be formed over the next 25 years in London. This equates to an average increase of 30-34 thousand households a year[15].

6.11 According to NHPAU, major steps need to be taken to close the gap between supply and demand or the consequence for individuals and families will become increasingly severe, with wider social impacts .The longer it takes for house building to recover, the higher the build rate will need to settle at if affordability is to be stabilised at 2007 levels by 2026.

6.12 The Homes and Communities Agency's (HCA) monthly housing market bulletin[16] provides up to date information on housing market trends. July 09 Bulletin suggests that house prices have begun to see relative stability over the past few months and consequently development land values have begun to stabilise after seeing substantial falls from their 2007 peaks. According to the HCA, housebuilders' recent trading statements have generally reported recent stability in the housing market, reductions in cancellation rates and debt levels and largely due to this their share prices have continued to recover from the lows seen in 2008 and mortgage approvals are now starting to rise.

6.13 RICS Economics published its latest housing market analysis in August 2009[17], which revised its previous prediction for house prices to fall by 10 per cent in 2009. The market update suggests the average house price in 2009 Q4 will be slightly higher than in 2008 Q4.

6.14 RICS Economics have also observed a significant shift in sentiment with increasing buyer interest and improving mortgage approvals despite tight credit conditions, low transaction levels and a further deteriorating employment picture. Explanations for this increased demand include the drop in prices and the fall in the interest base rate. Despite these signs of a recovery, RICS conclude that a recovery remains uncertain. Any recovery will be from a historically low level of market activity and challenges will need to be overcome in the coming quarters.

6.15 Savills Research released its Residential Property Focus report in August 2009[18]. Drawing similar conclusions to the RICS report, the property consultants suggest there is a noticeable shift in sentiment among buyers.

[14] NHPAU. 'More homes for more people: building the rights homes in the right places'. 2009
[15] NHPAU. 'More homes for more people: building the rights homes in the right places'. 2009
[16] Homes and Communities Agency. Monthly Housing Market Bulletin. HCA July 2009
[17] RICS Economics 'UK Housing market: Caution Still the watchword. RICS August 5th 2009
[18] Savills Research - Residential. Residential Property Focus. Savills August 2009

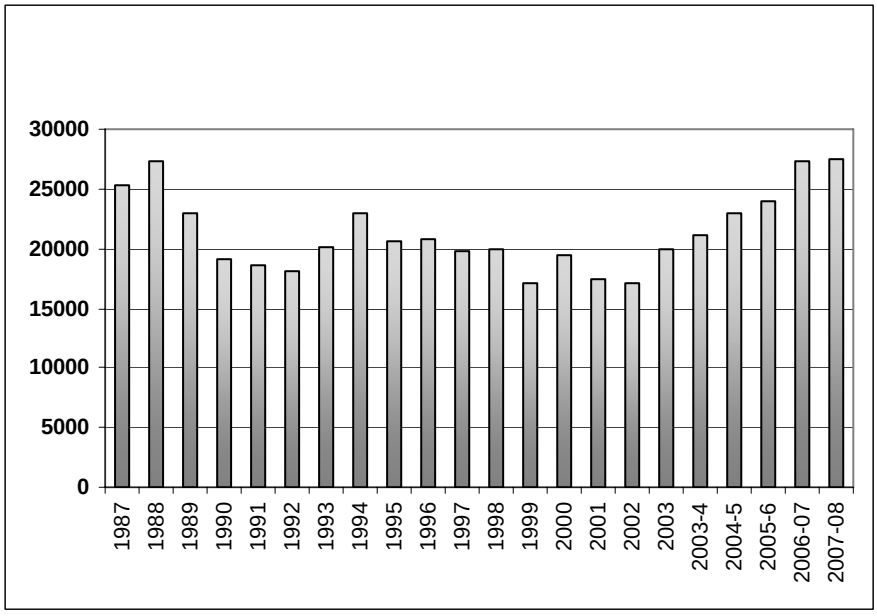
6.16 Savills Research suggests once the incentives for landowners to release land have sufficiently recovered, residential development will progress. However some sites with high infrastructure and remediation costs may take longer to come forward for development. This has implications for the deliverability and achievability of such sites.

6.17 The Home Builders Federation's (HBF) July 2009 regional survey of home builders reported a very slight rise in site visitors in July compared with a year ago (+3%) and net reservations were up quite strongly on a year ago (+28%)[19].

6.18 Most accept that markets operate in cycles and are affected by swings in the national economy. Throughout recent history there have been several periods of economic growth and decline which have impacted on housing completion rates in England.

6.19 The graph below (figure 6.5) shows the trend in net conventional completions from 1987 – 2007 in London.

Figure 6.5 Net conventional housing completions 1987-2007



Source: LPAC / GLA

6.20 The last major correction in the housing market was in 1991[20]. Between 1991 and 1994 the economy slowed dramatically. It was not until 1994 that sustained house price growth was seen and the recovery began. In that year the UK economy registered 4.2% GDP growth, the highest in six years. This economic growth and associated rising incomes meant people could afford bigger mortgages and so demand for housing increased once more. The 2000/01 downturn in the market was fuelled by the end of the 'Dot Com' boom which had a particular effect on those who had speculated a continuation of the boom.

[19] Homes Buildings Federation. Regional Survey of Homes builders July 2009, found in Housing Market Report. No.206, August 2009
[20] GLA Economics. Joint Strategy Evidence Base. GLA 2009

6.21 The difference between this and previous recessions is that it is largely caused by a lack of available financing. As mentioned above, demand has not disappeared, household growth rates are continuing despite a depression in new housing supply.

6.22 A key question is therefore when will the market recover? Predictions vary but some suggest that after a period of re-adjustment, underlying activity will return to recent levels and potentially to a period of sharp growth as a result of the accumulated unmet demand, whilst others suggest any recovery from low levels of activity is likely to be weak and clouded[21]. Knight Frank's assessment is that land values will reach their floor probably later this year[22]. This should result in a new willingness to lend to investors as banks realise the bottom of the market has been reached. This they believe will spur on purchases and bolster confidence levels. The general consensus seems to suggest a full recovery by 2011-2012.

The London SHLAA/HCS approach

6.23 The London SHLAA/HCS methodology has taken account of the current downturn in the market by ensuring the phasing of large sites over the 20-year study period is realistic. The phasing assessment allows conclusions to be reached about the period in time a site is likely to be developed.

6.24 The agreed approach to assuming a small site capacity has been based on the assumption that the number of new homes built in the previous four years was a sufficient trend to extrapolate into the future. However, given the very significant difference in the rate of house building in recent years compared to the long-run average, it has been decided that calculating the trend rate over a longer time span is more appropriate for this long-term assessment of housing capacity in London. The new estimate uses the average number of small site completions in the seven-year period 2000 to 2007. The previous methodology used the average over the previous four years. This new method better reflects the ups and downs of the housing market.

6.25 This amendment has resulted in an overall reduction in housing capacity of 2,624 units per annum across London. The amendment is considered to take account of deliverability of the capacity estimated at a time of highly problematic economic uncertainty. The SHLAA/HCS figures will underpin the proposed targets in the draft replacement London Plan which need a sound basis for estimating housing delivery from 2011-2021. Further explanation of this amendment, including a justification for the translation of the SHLAA/HCS figures to housing provision targets, can be found in the conclusion section of this report and the method used for this longer small sites trend can be found in Appendix 2 including a break down of the new total housing capacity figures by borough.

[21] RICS Economics 'UK Housing market: Caution Still the watchword. RICS August 5th 2009
[22] Knight Frank. London Residential Development Review, 2009.

Conclusion

6.26 The position London currently finds itself in is a situation where levels of building have notably fallen, whilst projections of future housing requirements are rising. If housing pressures are to be relieved and long-term market volatility addressed, what is not delivered now will need to be delivered at a later date.

6.27 There is no doubt that development in London has significantly slowed down as the economy waits for signs of stability and/or recovery. The signs of increasing market confidence and mortgage approvals do appear to signal a positive shift in the housing market and could provide the necessary stimulus for a recovery by 2011-2012.

6.28 The economic data used for this section was sourced in July 2009. Since then the rate of decline seems to be abating which could signal a possible bottom has been reached. Forecasts now expect the market to stabilise and begin to slowly climb. However in the absence of certainty it is too early to draw an absolute conclusion and predict when the economy will recover. It is likely that any recovery will be from a low level and will be slow and gradual.

6.29 The SHLAA/HCS approach has sufficient flexibility built in to take account of the current downturn in the economy. The results section of the report clearly shows that boroughs have been phasing potential developments to reflect realistic delivery expectations. The proposed amendment to the small sites assumption, to look at a longer development trend, is intended to address concerns that the four-year assumption was based on four years of boom. The boroughs will need to monitor the housing market over the coming years in order to respond in whatever way is appropriate to assist in the provision of housing across the market area.

Section Seven: Conclusion

7.1 The SHLAA /HCS does not itself produce London's housing targets – it only provides a robust process and authoritative evidence base for deriving them. This section of the report summarizes the work that went into the London SHLAA/HCS to inform an outline of the subsequent process which underpinned the recommendations to the Mayor on the housing targets in the replacement London Plan.

Getting there… the SHLAA/HCS process

7.2 The 2009 SHLAA/HCS is a comprehensive study into London's potential housing capacity and the land available to meet it. The Assessment has considered all sites which may come forward from approved schemes, allocation sites and potential 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.

7.3 The study has effectively built on the experience of the 2004 LHC study, tailoring the approach to reflect Mayoral priorities and to address PPS3 requirements. The methodology employed is an advance on previous housing capacity studies and makes effective use of the latest information technology as well as providing a cost effective mechanism for generating and coordinating 33 individual borough targets on a consistent basis.

7.4 A key to the achievement of this assessment has been the engagement and participation of the London boroughs and the SHLAA/HCS steering group which over the course of the study evolved into a provisional Strategic Housing Market Partnership. The confidentiality agreement between the GLA and the boroughs enabled boroughs to take into account with confidence the theoretical potential of sites currently in different uses to contribute to future housing provision. By translating this into aggregate borough-wide probabilities, the methodology provided a more robust appreciation of capacity likely to come forward over the term of the Assessment.

7.5 A guidance note is provided in the next section (Section 8) of this report, outlining how the SHLAA/HCS outputs should contribute to Local Development Framework preparation, how the study system can be used to inform specific site allocations and how small sites assumptions can be used to support LDFs.

7.6 In line with PPS3 and the Government's overall ambitions to improve affordability and increase housing supply, the 2009 SHLAA/HCS has also taken account of advice from NHPAU on the impacts of the identified capacity on affordability in London and has carried out a comparative analysis of the new London Plan draft housing target against the new NHPAU July 2009 supply range for London. Details of this analysis are set out in Appendix 3.

From the SHLAA/HCS to housing targets

7.7 As the preceding sections of this report show, PPS3 sets out a broad range of factors and agencies which must be taken into account in the 'strategic,

evidence based approach' it requires when determining levels of housing provision. This essentially calls for the Mayor to come to a view on the balance to be struck between these factors when setting the housing targets in his London Plan.

7.8 The SHLAA/HCS provides evidence that London probably has the physical capacity to accommodate an average of some 37,000 homes per annum. Sensitivity and scenario testing suggest that if the Mayor was willing to compromise other planning policies then this capacity figure might be even higher. Experience of identifying capacity in the planning world of LDFs (especially Opportunity Area Planning Frameworks) and development proposals (rather than the methodology set by the SHLAA) would tend to support this, as also would NHPAU's position on addressing affordability in the market sector.

7.9 However, in his consultations that informed the draft replacement London Plan, the Mayor made clear his policy priorities, and in particular the emphasis he places on sustaining and improving the quality of London's neighbourhoods and homes, including support for boroughs in protecting back-gardens. As Section 5 makes clear, the new design standards that he proposes may also have a bearing on land take, though the extent of this is still being quantified. He also wants policy for managing industrial capacity to be implemented more effectively, which will tend to constrain a historically important source of housing capacity. The targets are also required to take account of deliverability; something the market, much less the planning profession, finds challenging at the best of times and highly problematic in current economic conditions. So simply rolling forward small sites assumptions based on trends recorded during what is now seen to have been the top of a housing boom cannot be accepted as a sound basis for estimating delivery of a key component of provision over the 10 years from 2011.

7.10 All these factors suggest that if the housing targets are to be squared with the Plan's wider policy agenda, and are to be deliverable, then it is not realistic to base them simply on physical capacity – a point which is recognised as fundamental to the concept of a SHLAA. Which does not mean that the targets should serve as caps on provision - the Mayor is adamant in his wish to address London's housing needs and also wants to work towards minimising house price inflation (though many of the levers which could bear on this are not in his gift).

7.11 In view of these tensions, consideration has been given to government's suggestion that the level of housing provision should be 'broadly illustrated in a housing delivery trajectory'. If the best guide to the form that such a trajectory might take is history, then as Section 4 shows, the early part of the trajectory would be very low and the latter part very high (and in the light of historic delivery, probably unrealistic), and multiplied 33 times across London this could produce an outcome of such complexity and uncertainty that it might compromise the basic purpose of government and the Mayor in setting targets to increase housing output to meet Londoners' housing needs.

7.12 If need is to be addressed in coming to a view on targets (a key concern of PPS3), then a pan-London target in the order of 33,000 would be appropriate – this would be in line with the GLA's own needs assessment and near the bottom of the range suggested by NHPAU if the latter's national methodology was

refined to take account of the contribution of non-self contained accommodation in the distinct circumstances of London.

7.13 In aggregate supply side terms this reduction of 4,000 from the 37,000 estimate for physical capacity would provide a realistic discount to enable all boroughs to protect garden land if they wish. It would also accommodate a sounder basis for rolling forward historic small sites contributions as an estimate of future provision, and it would not entail greater loss of industrial land than was suggested by boroughs in contributing to the SHLAA (or as anticipated by the replacement Plan's industrial policies). As an aggregate figure it also provides some flexibility to address the consequences of introducing strategic housing design standards. However, in view of the scale of housing need in London, the importance of abating house price inflation, and the potential further capacity across London over and above 33,000, it is recommended that this should be regarded as a minimum target subject to the Mayor's other objectives and policies.

7.14 In view of economic uncertainties over the period to 2021, and especially those associated with the current recession, it is more robust to express the 33,000 as an annual average for the period (rather than a trajectory), noting the need for the consequences of these uncertainties to be taken into account in local Annual Monitoring Reports, LDFs and planning decisions i.e. boroughs should not be penalised at points in time when the market depresses housing output for having contributed to a higher, long-term target than was proposed in the 2008 Consolidated London Plan. To further address these uncertainties, and in line with the 'plan, monitor and manage' approach which is essential to address the unique circumstances of the London land market, the Mayor is also recommended to commit to updating the SHLAA/HCS no later than 2015/16.

Borough Housing Provision Targets

7.15 The mechanical translation of this pan London target to borough level is on the basis of combining the discount for protecting garden land outlined in Section 3 and that for taking more sensitive account of the contribution of small sites outlined in Section 6 and Appendix 2. Cumulatively these two reductions represent a reasonable discount on overall physical capacity, and in light of a strategic commitment to 'plan, monitor and manage', and to review the SHLAA within five years, they should provide the flexibility to address constraints on capacity occasioned by future planning policy such as the new design standards.

7.16 The sum of the resultant borough targets should enable London to provide an average of 33,380 homes per annum in the decade to 2021. Given the robustness of the underlying SHLAA methodology, the reasonableness of the discount to its physical capacity results (outlined above), and the suggestions on how the borough targets might be supplemented at LDF EiPs with additional information (see Section 8), the targets should be sufficiently robust to be rolled forward until replaced by new targets no later than 2015/16.

7.17 The 2009 London Plan Annual Monitoring Targets have been annualised and rounded to the nearest 5 in Table 7.1 below. A comparison with the existing London Plan targets is also included in tables 7.1 and 7.2.

Table 7.1 Borough annual housing targets for 2011/12 to 2020/21

BOROUGH	Sub region	New –Annual Monitoring Target 2011-2021 (to be used in new London Plan)	Current London Plan Annual Monitoring Target 2007-2017	Change	% Change
Barking & Dagenham	East	1,510	1,190	320	27
Barnet	North	2,255	2,055	200	10
Bexley	East	335	345	- 10	- 3
Brent	West	1,065	1,120	- 55	- 5
Bromley	South	565	485	80	16
Camden	Central	665	595	70	12
City of London	Central	110	90	20	22
Croydon	South	1,330	1,100	230	21
Ealing	West	890	915	- 25	- 3
Enfield	North	560	395	165	42
Greenwich	East	2,595	2,010	585	29
Hackney	East	1,160	1,085	75	7
Hammersmith & Fulham	West	615	450	165	37
Haringey	North	820	680	140	21
Harrow	West	350	400	- 50	- 13
Havering	East	1,235	535	700	131
Hillingdon	West	620	365	255	70
Hounslow	West	475	445	30	7
Islington	Central	1,170	1,160	10	1
Kensington & Chelsea	Central	585	350	235	67
Kingston	South	375	385	- 10	- 3
Lambeth	Central	1,255	1,100	155	14
Lewisham	East	1,105	975	130	13
Merton	South	320	370	- 50	- 14
Newham	East	2,500	3,510	- 1,010	- 29
Redbridge	East	760	905	- 145	- 16
Richmond	South	245	270	- 25	- 9
Southwark	Central	2,005	1,630	375	23
Sutton	South	210	345	- 135	- 39
Tower Hamlets	East	2,885	3,150	- 265	- 8
Waltham Forest	East	760	665	95	14
Wandsworth	South	1,280	745	535	72
Westminster	Central	770	680	90	13
London Total		**33,380**	**30,500**	**2,880**	**9.4**

Table 7.2 Sub regional housing targets for 2011/12 to 2011/12 to 2020/21

Sub region.	New –Annual Monitoring Target 2011-2021 (to be used in new London Plan)	Current London Plan Annual Monitoring Target 2007-2017	Change	% Change
North	2,230	1,955	275	16.13
South	6,560	7,515	-955	16.89
East	10,175	7,935	2,240	3.31
West	7,910	7,215	695	8.66
Central	6,505	5,880	625	17.04
Total	**33,380**	**30,500**	**2,880**	**9.44**

Section Eight: Borough Guidance

Contribution of SHLAA/HCS to LDF preparation

8.1 Once adopted the London Plan will provide new housing targets for borough LDFs. In addressing land supply for housing, boroughs will need to demonstrate that relevant DPDs are based on local evidence of capacity, which is deliverable and developable[23]. Currently this information is provided by the London-wide SHLAA/HCS for each borough as data on approvals, allocations, potential sites, and small sites assumptions, plus non-conventional capacity, but over time it may require updating. Additional, local studies are not required, but the SHLAA/HCS results may be supplemented by other relevant evidence available locally[24].

8.2 In keeping with a key principle of government guidance on SHLAA preparation, boroughs are strongly advised, in presenting their evidence, to minimise dependence on 'windfall' capacity (in the SHLAA/HCS these are small sites, NSC and vacants) 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/HCS with evidence of further identified capacity where available, for example, from some sites previously regarded as 'potential' and confidential during the SHLAA/HCS 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. Government policy in PPS3 provides flexibility to include windfall contributions, where justified, providing authorities have maximised the likely contribution of identified sites.

8.3 As far as possible, evidence from the SHLAA/HCS based should be presented in a way that demonstrates that a borough has sought to address the principles of national guidance. The evidence should be set out in a way that addresses government objectives, showing:

- specific deliverable sites to deliver housing in the first five years of a DPD,
- specific, developable sites for years 6-10 and, where possible,
- specific developable sites for years 11-15. Where it is not possible to identify specific sites for years 11-15, the SHLAA/HCS database can help boroughs outline broad locations for future growth in line with government guidance[25]. This might be done by aggregating the capacity of 'potential', confidential sites at, say, ward level.

8.4 Boroughs will wish to consider how the SHLAA/HCS results impact on the preparation of their DPDs. In cases where the SHLAA/HCS and the DPDs are coordinated and broadly contemporaneous, the SHLAA/HCS results are unlikely

[23] Communities and Local Government. Planning Policy Statement 3: Housing. CLG 2006. Para 53 to 56.
[24] Communities and Local Government. Planning Policy Statement 3: Housing. CLG 2006. Para 54
[25] Communities and Local Government. Planning Policy Statement 3: Housing. CLG 2006. Para 52 to 61

to indicate the need for significant changes to plan preparation. In such cases, making this point in supporting text is advised.

8.5 Where the SHLAA/HCS indicates that a significant change in housing land availability may occur and where this is sufficient to have a significant impact on future policy and delivery, the Boroughs' LDFs should have regard to this new information. Where specific DPDs are moving towards publication, and earlier public participation has already been completed, boroughs are advised that the SHLAA/HCS outcome does not delay publication but supporting text should have regard to the possibility of changed housing delivery and the implications of this for the Core Strategy. The SHLAA/HCS is part of the evidence base for the review of the London Plan, which sets housing targets for London boroughs. These are minimum targets with which LDFs must be in general conformity following formal publication of the new London Plan in 2011.

8.6 Where boroughs are at an early stage of plan preparation and have yet to undertake public participation under Regulation 25, there may be scope and time to consider more fully the outcome of the SHLAA/HCS and draft London Plan targets for the LDF. While the LDF will need to be in general conformity with existing London Plan policies until they are replaced, it should be noted that PPS3 states that "In circumstances where RSS [including the London Plan] are in development, or subject to review, Local Planning Authorities should also have regard to the level of housing provision as proposed in the relevant emerging RSS".

Using the study system to inform specific site allocations

8.7 Information on individual sites in the public domain has been published in the report. Site information on all 'potential' housing sites has been kept confidential by the GLA. It is for boroughs to assess whether their key housing sites are able to provide for at least the first 10 years of housing supply, taking into account robust evidence of any anticipated contribution from small sites, NSC and long-term vacants returning to use, in light of the above. Boroughs in assessing their land supply may wish to consider releasing information on 'potential' housing sites, if it is not possible to identify sufficient supply from their approved or allocated housing sites to meet their London Plan target.

8.8 Boroughs may wish to draw on the SHLAA/HCS notional 'unconstrained' capacities to estimate broad yields from the individual potential housing sites. The unconstrained capacities assume a site, once developed, has overcome the identified constraints. However, where constraints have been identified, which are possible permanent constraining factors and are anticipated to reduce the net developable area of a site, boroughs may wish to draw on the information in the study system to inform their site allocations.

8.9 The SHLAA/HCS systems provides for the phasing of sites over a 20-year period. Borough should use this information to identify realistic housing sites in accordance with the required time periods in PPS3. All the data from the SHLAA/HCS study system has been provided to the boroughs including site boundary information (GIS layers) and site capacity information for all individual sites. This information can assist boroughs in the preparation of their LDFs and to cross-reference individual sites to maps. The study system, accessible to each

borough, will be kept live and can be regularly updated and reviewed by the boroughs.

Appendix One: SHLAA/HCS 2009 Approvals and Allocations

AP 1.1 This site list provides information on approved and allocated sites, which have been identified in the study as future housing sites.

AP 1.2 Approved housing sites are sites which already have planning permission for development. Allocated housing sites have been allocated in development plans or publicly identified by the boroughs as sites for housing. The capacity identified for allocated sites is based on the outputs of the SHLAA/HCS system and may not reflect the exact yield of a site, should it come forward for development. The identified capacity on Approved sites has been taken from the London Development Database (LDD). Further information on any of the sites listed should be sought from the relevant borough.

AP 1.3 Appendix one can be found at:

http://www.london.gov.uk/shaping-london/london-plan/strategy/download.jsp

Or

http://www.london.gov.uk/mayor/planning/housing-capacity/index.jsp

Appendix Two: The Small Site Amendment

Methodology

AP 2.1 The original small site capacity estimate has been amended to reflect a longer range of small site completions from 2000-2007. The initial approach, using data from 2004-2007, was based on the most up to date information contained in the London Development Database (LDD) which only runs from 2004/05. The use of data earlier than 2004/05 has to be sourced from the old London Development Monitoring System (LDMS). Unfortunately the LDMS monitored sites using a site threshold of more than 10 units rather than area. In the absence of comprehensive completions information on sites <0.25ha for 2000-2003, it was necessary to use approvals data for which more information is available. The average completions on sites <0.25ha for 2000-2003 was calculated using the average number of units on sites <0.25ha for completions from 2004-2007 and applying this to the 2000-2003 data, and assuming a 47% approval to completion rate for the 2000-2003 data (based on past trends). This data was combined with the pre-garden land small sites assumption for 2004-2007 to give an annual capacity from small sites of 8,431 dwellings (84,311 from 2011-2021). To account for the garden land adjustment, 1,074 units per year were removed from the figure, rolling the 90% of 2004-07 completions on garden land back to 2000. The annual assumed capacity from small sites was reduced to 73,572 from 2011-2021 or expressed annually, to 7,358. This approach is considered to represents most robust available method for estimating housing capacity from small sites prior to 2004.

AP 2.2 Before this reduction, the 2004-2007 data assumed an annual capacity from small sites of 11,056 or 110,558 over 10 years (including contribution from garden land). This was adjusted to 9,982 or 99,818 over 10 years, after removing an annual garden land figure of 1,074.

AP 2.3 Table AP2.1 below outlines the impact of the reduction on individual boroughs small sites capacities, comparing the use of 2000-2007 data and the originally agreed 2004-2007 data. Table AP2.2 shows the impact of the small site reduction on the overall London housing targets by borough.

Table AP2.1 Small sites capacity 2011-2021 (using 2000-2007 data)

BOROUGH	Small sites total 2011-2021 (using 2000-2007 data), post garden land adjustment	Small sites total 2011-2021 (using 2004-2007 data), post garden land adjustment
Barking & Dagenham	608	884
Barnet	1,957	2,714
Bexley	520	812
Brent	1,387	1,904
Bromley	1,948	3,130
Camden	2,198	3,360
City of London	402	350
Croydon	3,256	5,110
Ealing	1,691	2,170
Enfield	1,638	2,340
Greenwich	1,322	1,598
Hackney	5,364	6,140
Hammersmith & Fulham	975	1,330
Haringey	2,611	3,613
Harrow	1,728	2,569
Havering	1,272	2,025
Hillingdon	702	1,200
Hounslow	878	1,234
Islington	5,442	6,970
Kensington & Chelsea	1,113	1,260
Kingston	1,368	1,705
Lambeth	5,173	7,225
Lewisham	3,174	4,520
Merton	1,560	2,273
Newham	1,919	2,653
Redbridge	1,227	1,541
Richmond	961	1,330
Southwark	6,576	8,625
Sutton	749	1,355
Tower Hamlets	4,559	5,663
Waltham Forest	2,086	3,240
Wandsworth	4,118	4,880
Westminster	3,089	4,100
Total	**73,572**	**99,819**

Table AP2.2 Annual Monitoring Target 2011-2021 (using 2000-2007 data)

BOROUGH	Total Annual capacity 2011-2021 (Using 2004-2007 small sites assumption)	Annual Monitoring Target 2011 - 2021 (Using 2000-2007 small sites assumption)
Barking & Dagenham	1,535	1,510
Barnet	2,331	2,255
Bexley	366	335
Brent	1,117	1,065
Bromley	684	565
Camden	780	665
City of London	103	110
Croydon	1,516	1,330
Ealing	938	890
Enfield	630	560
Greenwich	2,622	2,595
Hackney	1,236	1,160
Hammersmith & Fulham	649	615
Haringey	921	820
Harrow	436	350
Havering	1,312	1,235
Hillingdon	672	620
Hounslow	510	475
Islington	1,325	1,170
Kensington & Chelsea	599	585
Kingston	408	375
Lambeth	1,461	1,255
Lewisham	1,240	1,105
Merton	389	320
Newham	2,575	2,500
Redbridge	791	760
Richmond	282	245
Southwark	2,211	2,005
Sutton	272	210
Tower Hamlets	2,997	2,885
Waltham Forest	876	760
Wandsworth	1,354	1,280
Westminster	870	770
London Total	**36,006**	**33,380**

Appendix Three: National Housing and Planning Advice Unit Supply Ranges

Introduction

AP3.1 The National Housing and Planning Advice Unit (NHPAU) is a non-departmental public body sponsored by Communities and Local Government. The Unit was set up in 2006 to provide independent advice on improving housing market affordability, particularly by strengthening the housing market evidence base and analysis available to the regional planning bodies. This is to help ensure that new homes identified in regional plans have a positive impact on improving housing affordability.

AP3.2 The NHPAU was launched in response to one of the key recommendations of Kate Barker's review of housing supply, which highlighted that during the last 30 years of the twentieth century house building rates halved whereas demand for new homes increased by a third. Barker considered that this has led to a shortage of homes in some areas and corresponding increases in house prices. London is considered to have experienced this effect more than anywhere else, and therefore concerns regarding housing affordability should be an important consideration for this SHLAA.

AP3.3 Planning Policy Statement 3 (Housing) states that in determining local, sub-regional and regional levels of housing provision, Local Planning Authorities and Regional Planning Bodies, working together, should take into account the advice from the NHPAU on the impact of the proposals for affordability in the region. The Government's Housing Green Paper (2007) also stated that the NHPAU should provide independent advice to Government and the regions to form the basis of the supply ranges to be tested in regional spatial strategies. Subsequently, the Housing Minister wrote to the Chairs of the Regional Planning Authorities to ensure that the Unit's housing supply range advice, published in June 2008 and updated in July 2009, is tested in future regional strategy reviews (including the London Plan).

AP3.4 NHPAU's proposed supply ranges for all regions from 2008-2031 are set out in Table 7.1 below. For London, the supply range identified by NHPAU is between 33,100 and 44,700 units per annum. The top end of the range is considered to stabilise affordability at 2007 levels by 2026 and to address the backlog of existing housing need. The lower end of the range is considered to address the needs arising from demographic trends but not to address the backlog.

Table 7.1. NHPAU Housing Supply Ranges (including comparison of new and old housing supply ranges)

England regions				**Average annual net additions**		
	June 08 minima, average 2008-26	New 2009 minima, average 2008-31	% Change	June 08 maxima, average 2008-26	New 2009 maxima, average 2008-31	% Change
North East	6,700	7,200	7%	7,500	8,200	9%
North West	26,600	26,400	-1%	29,500	29,900	1%
Yorkshire & Humber	23,800	26,400	11%	26,400	29,400	11%
East Midlands	23,400	25,100	7%	24,600	26,800	9%
West Midlands	19,000	19,600	3%	22,600	23,200	3%
East of England	30,600	31,600	3%	39,200	40,000	2%
London	**33,800**	**33,100**	**-2%**	**42,600**	**44,700**	**5%**
South East	37,800	38,000	1%	49,700	53,800	8%
South West	29,800	30,400	2%	34,800	34,500	-1%
England	**231,500**	**237,800**	**3%**	**276,900**	**290,500**	**5%**

AP3.5 A separate assessment of housing target options has been undertaken through the Integrated Impact Assessment of the draft replacement London Plan. This Appendix to the SHLAA/HCS report compares the SHLAA/HCS outputs against the new NHPAU July 2009 supply range for London, and tests the policy implications of the Unit's advice.

The SHLAA/HCS vs. NHPAU outputs

AP3.6 The SHLAA/HCS has identified physical capacity for approximately 37,000 homes in London annually, which was reduced to 36,000 homes to take account of the potential consequences of the draft Plan's support for local presumptions against back garden development being implemented across London. Following testing of this capacity in line with the SHLAA process further reductions were made to provide the new London wide target of 33,380 proposed for the draft replacement London Plan.

AP3.7 The NHPAU methodology does not take account of non-self contained units. However, in the distinct circumstances of London, these have historically been an important source of housing, freeing up properties in multiple occupancy for families and other types of household. Omitting them would produce misleading results for the purposes of setting housing targets here. Thus, on the basis of the standard, national NHPAU methodology, London's proposed target would be discounted for non-self contained and would be slightly below the bottom of the NHPAU range, but by taking proper account of their contribution to provision in London, the Plan's target is slightly above the bottom of the NHPAU range. Moreover, to address affordability the target is expressed as a minimum, as well as representing an increase on the existing Plan's target of 30,500 homes annually.

AP3.8 In relation to how these targets have been derived, the SHLAA/HCS is based on a methodology that is consistent with government policy and the London Plan's wider policies. In order to identify the level of housing supply suggested by the top end of the NHPAU supply range, an addition of at least 8,000 units per annum would need to be found over and above the capacity already identified in this report. However, the results of the SHLAA/HCS process suggests that such an increment would effectively be arbitrary given the constraints, market conditions and wider policy concerns which must be reflected in the Assessment.

AP3.9 It is important to note London's unique circumstances mentioned earlier in the report. London has limited opportunities for growth through the urban extensions or new settlements which may be possible in other regions, and almost all housing comes from the reuse of previously developed land. Therefore, to identify additional housing provision in line with the NHPAU's suggestions, a different planning policy approach is likely to be required in London. In essence this would effectively seek to increase house building in London in a manner that has not been experienced since the post war reconstruction programmes of the 1950s and 60s. Capacity to deliver higher levels of house building in London is also likely to be a key consideration[26].

Policy Implications

AP3.10 The following suggests some of the planning policy positions within the Plan that would need to be reconsidered in order to increase capacity in London to reach the top end of NHPAU's suggested supply range. For example:

1. Increase assumed densities
2. Increase growth assumptions in the London Plan's Opportunity Areas and Areas for Intensification.
3. Reassess the phasing of large housing capacity sites to bring forward delivery.
4. Relax industrial land release policy.
5. Relax open space protection policy.

1. Increase assumed densities

AP3.11 As shown in Chapter 5 of this report, the assumed densities for each identified housing site over 0.25ha could be increased to yield higher capacity. The analysis shows if potential housing sites are recalculated at the top of the London Plan density matrix for a given location (in relation to local public transport accessibility levels and character) overall capacity is increased to 41,154 dwellings per annum (this figure also includes a higher trend for establishing a small site contribution and no discount for garden land development). Overall, if the assumed density for all identified large sites were increased to the top of the London Plan density matrix for a given location, approximately 145,000 units of additional housing capacity could be provided (or approximately 14,500 units annually over the ten year target period).

AP3.12 The SHLAA/HCS methodology is predicated on using the mid point of the London Plan density matrix to ensure the housing potential of an identified site

[26] Mayor of London. 'Delivering increased housing output'. GLA 2006

is robustly estimated, without overestimation or placing undue pressure on available infrastructure. Assuming higher densities will require the maximisation rather than optimisation of each site's housing potential and this could lead to a number of negative impacts on infrastructure and transport capacity, local character and heritage, and diminish overall quality of life. Maximising densities would significantly increase the capacity estimate, but this would be at the expense of other London Plan policy concerns (character, accessibility, provision of infrastructure, etc) and it is considered that this approach would not address the broader spectrum of government and the Mayor's planning objectives.

2. Increase Growth Area assumptions

AP3.13 Opportunity Areas are the capital's major reservoir of brownfield land with significant capacity to accommodate new housing, commercial and other development, linked to existing or potential improvements to public transport accessibility. The threshold for an Opportunity Areas is an area that can accommodate at least 5,000 jobs and/or 2,500 new homes. Areas for Intensification are typically built up areas with good existing or potential public transport accessibility, which can accommodate and support redevelopment at higher densities.

AP3.14 The growth assumptions for these areas could be increased by maximising densities (as above), allocating more land to residential uses (at the expense of other uses), and/or widening the size of these areas by amalgamating other surrounding sites. London could also seek to influence growth corridors and areas that extend beyond London to accommodate more growth (however this would not increase London's regional capacity).

AP3.15 However, these areas already provide a significant contribution to London's housing capacity. 66% of future large site capacity or 46% of total capacity in the capital is likely to come from these areas. This equates to 15,491 out of the identified large site capacity of 23,426 units per annum between 2011-2021. The expectation of more capacity from these areas, without a major reappraisal of their potential and supporting infrastructure requirements, is likely to generate adverse impacts upon surrounding areas and neighbourhoods, and place stress on existing infrastructure. This could also destabilise the distribution of infrastructure investment across London by concentrating too much growth in particular areas. It is therefore unrealistic to assume further capacity from these areas without undoing many planning initiatives that are underway or are currently being implemented.

3. Rephasing the large site capacity

AP3.16 The market assessment section of this report has highlighted the uncertainty around predicting the economic recovery. The evidence suggests that any recovery is likely to be gradual. The SHLAA/HCS accounts for the market conditions by realistically phasing the identified large sites in accordance with expected timeframes for delivery and assumed build out rates.

AP3.17 At least 80,000 units predicted to be delivered after 2021 (phases 4 and 5) would need to be moved into an earlier phase before 2021 (phases 2 and 3) in order to achieve the top end of the NHPAU supply range over the Plan's target

period. This equates to an approximate percentage shift of at least 37% of identified capacity between these phases in order to reach the top of the supply range of 44,700 dwellings per year. Based on the total capacity identified in the study, and ignoring the phasing of this capacity, this would provide 13 years of capacity at a rate of 44,700 per year. After this period (the year 2024) additional capacity would need to be identified to carry forward this rate to 2031 as suggested by the NHPAU.

AP3.18 A minimum shift of 37% of the identified capacity is significant. The achievement of this would require significant government funding and the right economic conditions to stimulate the market to bring forward development and to deliver it earlier than anticipated. In the absence of any robust evidence on the timing and extent of an economic recovery, the approach taken in the SHLAA/HCS represents the best estimate of future housing capacity in London. Predicating a housing target for London on bringing forward capacity from the later phases is not considered to be a robust approach, especially at a time of economic uncertainty.

4. Relaxing industrial land release policy

AP3.19 A significant amount of land use in London is allocated to industrial and employment uses. In 2006, London had an estimated 5,500 hectares of industrial land. Approximately 40% of this land lies within allocated Strategic Industrial Locations (SILs). More than two-thirds of land in SILs is comprised of Preferred Industrial Locations (PILs) to meet the needs of industries, which to be competitive, do not place a high premium on an attractive environment, though they may require infrastructure and other qualitative improvements. The remaining third of land in SILs is comprised of Industrial Business Parks offering a higher quality environment[27].

AP3.20 In planning for industrial land, boroughs are required to provide for sufficient and premises to meet local needs. Having regard to the net reduction in industrial land demand in London and the careful management of vacancy rates, the London Plan indicates that there is scope to release 41 hectares per year (or 820 ha in total) between 2006-2026. The higher release of industrial land to housing or mixed-use development could theoretically provide an opportunity for increasing the capacity of housing development in London.

AP3.21 In addition to the industrial land release provided for by the London Plan, a large number of sites initially identified for the study were located on land that is classified as strategic industrial use. In each case these sites were excluded and approximately 1,015 potential housing sites were excluded. These sites equate to an unconstrained capacity of approximately 196,000 units over the twenty-year period of the study.

AP3.22 Over the past three decades, London's employment in manufacturing has declined. The reasons for the historic decline in manufacturing employment reflect structural change and macro economic factors exacerbated in London by higher costs and competition for land from other users. The process of change

[27] Mayor of London, 'Industrial Capacity Supplementary Planning Guidance' (SPG). GLA, March 2008

has enabled some restructuring among the manufacturing industries that still find London a competitive location.

AP3.23 Over the next twenty years there will be increasing demand from a range of other important users of industrial land[28]. These include an efficient and evolving logistics system, which is essential for the health and function of London and the wider regional economy. The imperative to manage waste sustainably in London will place additional demands on the existing stock of industrial land in London. Land is also required to support a growing need for public transport functions and utilities infrastructure to meet the needs of London's growing population. In addition there is a wide range of often smaller scale activities, providing 'services for the service sector'. These play a key role in the London economy and require relatively low cost land to perform these essential functions.

AP3.24 The Mayor's approach to plan, monitor and manage the release of surplus industrial land takes into account the future needs and functional requirements of different types of industry and related uses, as well as contributing to strategic and local planning objectives, to provide more housing and, in appropriate locations, to provide social infrastructure and to contribute to town centre renewal. Therefore it would be unreasonable to assume a loss of industrial land beyond the London Plan benchmarks for industrial land release. There would be significant opportunity costs of releasing more industrial land to housing which could affect the overall liveability and economic competitiveness of London.

5. Relaxing open space policy

AP3.25 In a similar proposition to the above, a significant amount of land in London is allocated to open space, either green belt or metropolitan open space. Two thirds of London's 1,600 square kilometers are occupied by green space or water. The Green Belt accounts for 22 per cent of London's land and London is unique in designating nearly 10 per cent of its area as Metropolitan Open Land within the built environment (some 107,000 hectares)[29]. The reallocation of open space to housing could theoretically provide a significant opportunity for increasing the capacity of housing development in London, but at a major cost to London's important green infrastructure network. A large number of sites identified in the study were excluded due to their location within green belt or metropolitan open space. Approximately 914 sites were excluded, as they were located on designated open space. Theses sites equate to a notional capacity of approximately 167,000 units over the twenty period of the study.

AP3.26 Open spaces provide good opportunities for improving health and wellbeing through informal recreation, a place for congregating and for holding community events. They also define and separate urban areas, provide opportunities to address deficiencies in open space for Londoners and provide havens and habitats for flora and fauna. The Mayor strongly supports the protection, promotion and enhancement of London's open spaces and the

[28] Mayor of London 'Demand and supply for logistics in London', 'London Wholesale markets review', London Industrial land release benchmarks', North East and South East London Industrial Land baseline'. GLA, April 2007.
[29] Mayor of London, State of Environment Report for London. GLA 2007

SHLAA/HCS was designed not to seek or predict any potential housing capacity from Green Belt, Metropolitan Open Land, Areas of Outstanding Natural Beauty, Sites of Special Nature Conservation Interest, or any public or private open space. National planning policy [30] and the London Plan provide strong protection for these spaces from development. Using this land for housing would have severe implications for the quality of London's environment and would severely harm the quality of life in the region. It is very unlikely that housing capacity would ever come from London's open space.

Conclusions

AP3.27 The capacity identified in the SHLAA/HCS and the housing provision target proposed for the London Plan are at the mid to lower end of the NHPAU's suggested supply range for London respectively. It is clear from the points above that it is unlikely that overall capacity in London could be increased beyond what has been identified in the SHLAA/HCS unless a very different policy approach was taken. However, this could have significant adverse impacts and could undermine the promotion and development of sustainable communities in London. The SHLAA/HCS has followed an agreed methodology, consistent with London Plan policy, and past studies have been commended for the way they have identified capacity whilst balancing other policy requirements. It would seem unreasonable to alter the premises for this study to increase potential housing capacity. Furthermore, it is considered that this study is the best estimate of housing supply in London and should be the basis for the London Plan's housing target.

AP3.28 Notwithstanding the fact that the proposed target is an increase on the current London Plan target for housing provision, the NHPAU range suggests that affordability will remain an issue for London unless the proposed target is exceeded. It is therefore proposed that to reflect the intent of NHPAU's advice, the new housing provision target for London should be expressed as a minimum and boroughs should be encouraged to exceed their individual targets.

[30] Communities and Local Government. Planning Policy Guidance 2: Green Belts. CLG 1995

Annex One: Non - Self Contained Allowance

Non-C3 Residential units – Annual trends by borough

Borough	Non-self contained rooms 2004/05	Non-self contained rooms 2005/06	Non-self contained rooms 2006/07	Non-self contained rooms 2007/08	Average non self contained completions	
Barking and Dagenham	91	0	0	0	23	
Barnet	617	0	4	-112	127	
Bexley	0	0	0	0	0	***
Brent	7	0	140	-32	29	
Bromley	0	-12	0	0	0	***
Camden	0	154	77	428	165	
City of London	96	0	14	0	28	
Croydon	45	30	8	-4	20	
Ealing	19	-75	-76	-10	0	***
Enfield	0	13	-2	16	7	
Greenwich	948	0	-18	0	100	*
Hackney	0	12	0	0	3	
Hammersmith and Fulham	11	-33	11	-16	20	*
Haringey	259	-325	0	0	0	***
Harrow	0	0	10	0	3	
Havering	0	0	0	0	0	
Hillingdon	559	105	1,262	0	207	**
Hounslow	0	6	843	0	21	*
Islington	169	8	214	1165	250	**
Kensington and Chelsea	-4	-11	65	-15	9	
Kingston upon Thames	0	-20	17	-8	45	*
Lambeth	48	-4	-36	426	68	**
Lewisham	62	7	0	0	17	
Merton	0	0	0	0	0	
Newham	0	0	6	0	2	
Redbridge	0	0	-50	0	0	***
Richmond upon Thames	-10	168	-20	2	35	
Southwark	323	10	187	0	130	
Sutton	-27	0	0	0	0	***
Tower Hamlets	919	259	-29	380	382	
Waltham Forest	23	0	0	-8	4	
Wandsworth	132	333	-443	224	62	
Westminster	4	-15	389	0	95	
Total	**4,291**	**610**	**2573**	**2,436**	**1,849**	

Notes

*** Figure confirmed at borough meeting**

**** Use of 1996-2007 data due to anomaly in one or more years**

- **Hillingdon 1996-2003 total completions 562**
- **Islington 1996-2003 total completions 1,441**
- **Lambeth 1996-2003 total completions 381**

***** Boroughs with a minus average figure were given a 0 contribution from this source**

Annex Two: Reductions in Vacant Housing Stock

Borough	Private Sector stock 1 April 2008	1% Private Sector stock	Empty for longer than 6 months 1 April 2008*	Amount under/over 1%	Applied 10 year Vacancy target	Applied Annual Vacancy Target
Barking & Dagenham	47,491	475	380	under	0	0
Barnet	117,341	1,173	1,967	794	794	79
Bexley	81,645	816	811	under	0	0
Brent	81,763	818	1,426	608	608	61
Bromley	115,013	1,150	573	under	0	0
Camden	63,900	639	491	under	0	0
City of London	5,043	50	36	under	0	0
Croydon	117,797	1,178	2,085	907	907	91
Ealing	100,050	1,001	1,470	470	470	47
Enfield	100,352	1,004	1,223	219	219	22
Greenwich	65,583	656	1,307	651	651	65
Hackney	50,543	505	815	310	310	31
Hammersmith & Fulham	53,480	535	832	297	297	30
Haringey	72,382	724	1,008	284	284	28
Harrow	75,638	756	484	under	0	0
Havering	85,139	851	656	under	0	0
Hillingdon	84,136	841	577	under	0	0
Hounslow	72,384	724	473	under	0	0
Islington	54,790	548	164	under	0	0
Kensington & Chelsea	67,032	670	1,121	451	451	45
Kingston	56,417	564	169	under	0	0
Lambeth	80,967	810	1,270	460	460	46
Lewisham	78,789	788	392	under	0	0
Merton	68,326	683	565	under	0	0
Newham	68,724	687	421	under	0	0
Redbridge	88,293	883	995	112	112	11
Richmond	70,959	710	598	under	0	0
Southwark	66,611	666	494	under	0	0
Sutton	66,311	663	579	under	0	0
Tower Hamlets	58,159	582	1,007	425	425	43
Waltham Forest	75,393	754	1,444	690	690	69
Wandsworth	103,281	1,033	774	under	0	0
Westminster	92,962	930	1,737	807	807	81
Total	**2,486,694**	**24,867**	**28,344**	**7,486**	**7,486**	**749**

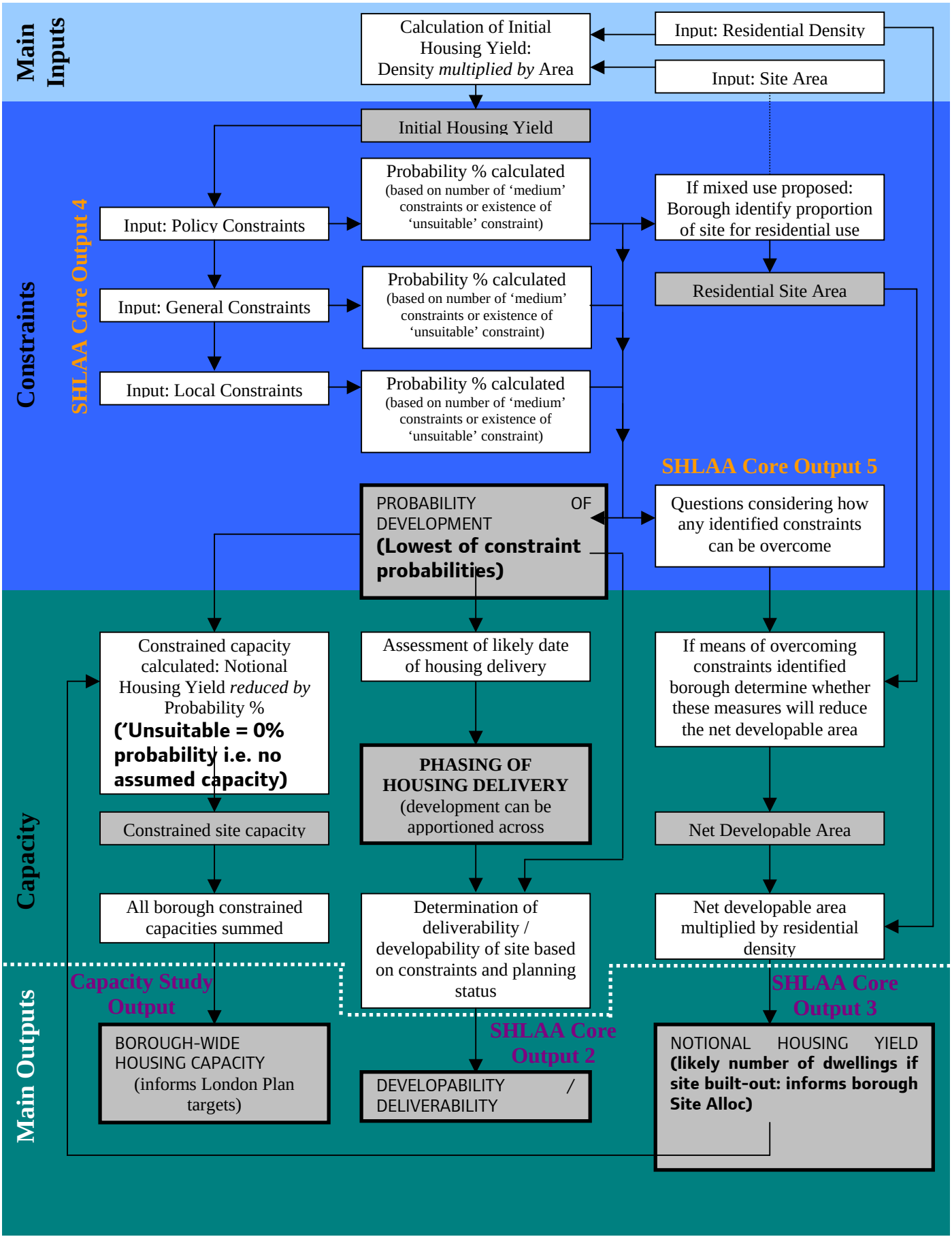
Annex Three: Garden Land Adjustment

Borough	Total all Garden Land Completions FY2004-2007	90% of Total all Garden Land Completions FY2004-2007	90% of total garden land completions for garden land FY2004-2007 -Annualised	Annual small sites adjustment for garden land 2011-2021
Barking & Dagenham	65	59	15	15
Barnet	234	211	53	53
Bexley	136	122	31	31
Brent	74	67	17	17
Bromley	471	424	106	106
Camden	25	23	6	6
City of London	0	0	0	0
Croydon	517	465	116	116
Ealing	129	116	29	29
Enfield	212	191	48	48
Greenwich	63	57	14	14
Hackney	58	52	13	13
Hammersmith & Fulham	29	26	7	7
Haringey	70	63	16	16
Harrow	147	132	33	33
Havering	211	190	47	47
Hillingdon	263	237	59	59
Hounslow	136	122	31	31
Islington	66	59	15	15
Kensington & Chelsea	10	9	2	2
Kingston	100	90	23	23
Lambeth	180	162	41	41
Lewisham	133	120	30	30
Merton	221	199	50	50
Newham	101	91	23	23
Redbridge	93	84	21	21
Richmond	218	196	49	49
Southwark	118	106	27	27
Sutton	300	270	68	68
Tower Hamlets	61	55	14	14
Waltham Forest	120	108	27	27
Wandsworth	178	160	40	40
Westminster	34	31	8	8
Total	**4,773**	**4,296**	**1,074**	**1,074**

Annex Four: Example Scenarios

Scenario	Scenario Testing Assumptions		Annual Capacity
A	*Large Sites:*	All potential sites recalculated at the bottom of density matrix	31,344
	Small Sites:	Garden land reduction, and conversions reduction (100%)	
B	*Large Sites:*	Increase the impact of the site constraints	33,893
	Small Sites:	Garden land reduction, and conversions reduction (75%)	
C	*Large Sites:*	Default	34,694
	Small Sites:	Garden land reduction, and conversions reduction (75%)	
D	*Large Sites:*	PTALs decreased by 1 level	35,291
	Small Sites:	Garden land reduction	
Default	*Large Sites:*	Default values	36,006
	Small Sites:	Garden land reduction	
E	*Large Sites:*	Decrease the impact of the site constraints	36,389
	Small Sites:	Garden land reduction	
F	*Large Sites:*	Densities increased for Town Centre sites (top of density matrix)	36,538
	Small Sites:	Garden land reduction	
G	*Large Sites:*	PTALs increased by 1 level	36,952
	Small Sites:	Garden land reduction	
H	*Large Sites:*	All potential sites recalculated at the top of density matrix	41,154
	Small Sites:	Default	

Annex Five: Flow Diagram – Constraints and their impact on the large potential housing sites (Not including allocated and approved sites)



Annex Six: How Constraints affect the probability of development

HCS Ref	Constraint	Where From	Options	Default	Borough Editable	Impact of Yes	Impact of No	Impact of Low	Impact of Medium	Impact of Unsuitable	Reductions
Strategic Constraints											
1	**Air Pollution (NO2 & PM10)**	GLA GIS	Low Medium	Read from GIS	No	NA	NA	None	See Reductions	0% Probability	4 mediums = 50% 3 mediums = 66% 2 mediums = 75% 1 medium = 90%
2	**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	NA	NA	5% additnl redctn (to max 50%)	See Reductions	0% Probability	
FLOOD RISK WILL ALSO REQUIRE AN ADDITIONAL MEDIUM/HIGH CONSTRAINT OF AN ADDITIONAL 10% REDUCTION IN ADDITION TO FINAL REDUCTIONS MEDIUMS											
3	**Noise Pollution (Aircraft) and (Road)**	GLA GIS	Low Medium Unsuitable	Read from GIS	No	NA	NA	None	See Reductions	0% Probability	
6	**Pylons**	GLA GIS	Low Medium Unsuitable	Read from GIS	Yes	NA	NA	None	See Reductions	0% Probability	
Local Constraints											
7	**Ownership**	Borough Knowledge	Low Medium Unsuitable	Low	Yes	NA	NA	None	See Reductions	0% Probability	4 mediums = 60% 3 mediums = 70% 2 mediums = 80% 1 medium = 90%
8	**Local Infrastructure**	Borough Knowledge	Low Medium Unsuitable	Low	Yes	NA	NA	None	See Reductions	0% Probability	
9	**Environmental Setting**	Borough Knowledge	Low Medium Unsuitable	Low	Yes	NA	NA	None	See Reductions	0% Probability	
10	**Contamination**	Borough Knowledge	Low Medium Unsuitable	Low	Yes	NA	NA	None	See Reductions	0% Probability	
Planning Policy Constraints											
11	**Designated Open Space**	From borough UDP/DPD or knowledge.	Yes No	Read from GIS	Yes	0% Probability	0% Probability	NA	NA	NA	0%
12	**Strategic Industrial Location**	GLA – for discussions with boroughs.	Yes No	Read from GIS	No - but capacity estimates can be adjusted in light of local circumstances & views on their release to other uses	0% Probability	Borough asked if the site is a locally designated significant employment site	NA	NA	NA	0%
13	**Designated employment site protected by borough UDP policies (LSILs)**	Borough knowledge	Yes No	No	Yes	assumed capacity: 60% 'Restricted' 50% 'Limited' 40% 'Managed'	Borough asked if the site is a locally designated significant employment site	NA	NA	NA	60%, 50% or 40%
14	**None designated employment site that borough UDP policies would wish to retain in industrial or warehousing use ('Other' sites)**	Borough knowledge	Yes No	No	Yes	assumed capacity 45% 'Restricted 55% 'Limited' 60% 'Managed'	Site carried forward with no constraint	NA	NA	NA	60%, 55% or 45%
Housing Development Probability											
15	**Strategic Constraints**	1, 2, 3 & 6	System Generated	System Generated	No	NA	NA	NA	NA	NA	As above
16	**Planning Policy Constraints**	11, 12, 13 & 14	System Generated	System Generated	No	NA	NA	NA	NA	NA	Lowest of 11,12,13,14
17	**Local Constraints**	7, 8, 9 & 10	System Generated	System Generated	No	NA	NA	NA	NA	NA	As above
Overall Probability Used											
18	**Potential Housing Capacity - Phases 1-3**	15, 16, & 17	System Generated	System Generated	No	NA	NA	NA	NA	NA	Lowest of 15,16,17

Annex Seven: The London Plan Density Matrix

AN7.1 The London Plan Density Matrix is based on both the **setting** of an area and the **public transport accessibility**. The Matrix is copied below:

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/ha*	*100-240 u/ha*	*215-405 u/ha*

Indicative Average Dwellings Size

source GLA

Setting Definitions

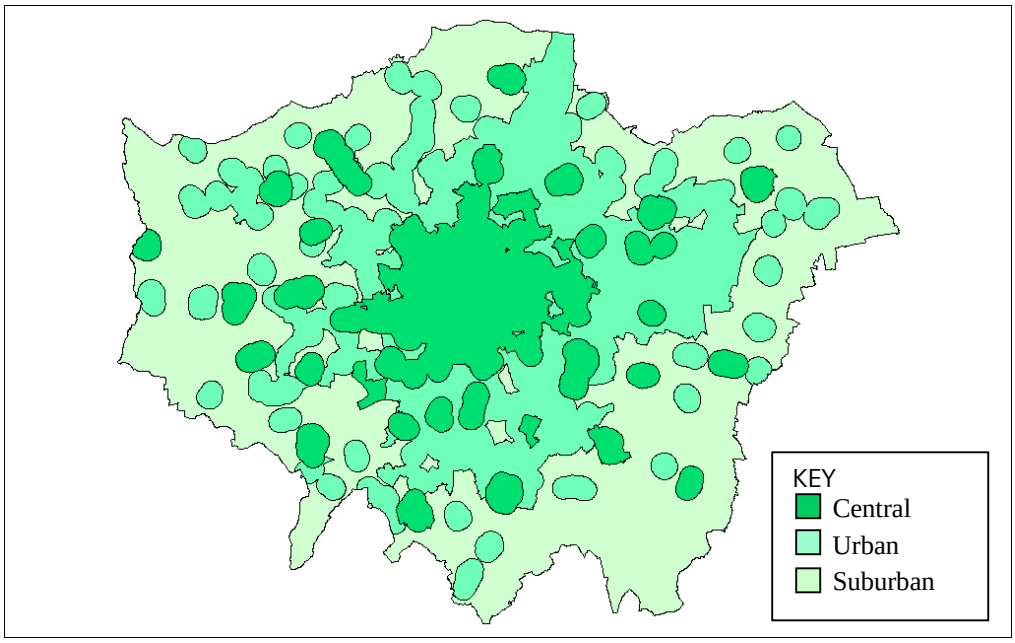
AN7.2 The London Plan outlines how the three 'Settings' (Central, Urban, Suburban) can be defined:

- **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 a International, Metropolitan or Major town centre

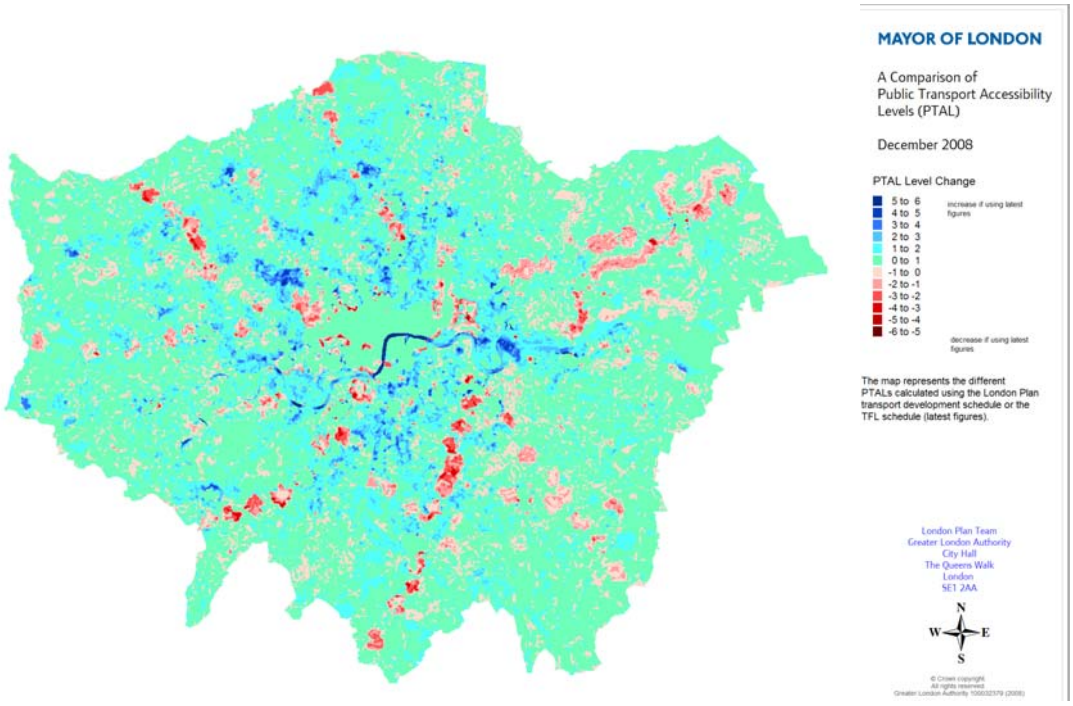
- **Urban** – areas with predominantly dense development such as for example terraced houses, mansion blocks, a mix of different uses, medium building footprints and typically buildings of two to four storeys, located within 800 metres walking distance of a District centre or, along main arterial routes

- **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.

Character Areas



PTAL changes from 2004 Capacity Study dataset and latest proposed dataset



TfL updated PTAL assumptions used in the SHLAA/HCS

Future Year – 2011
– Bus frequencies: Includes an overall increase in bus frequencies of 4% in Central London and 2.5% in all other areas. In terms of PTALs this will have little impact on Central London, as the majority of the area is already PTAL 6b. In outer London a 2.5% increase in frequencies will translate to only a small change in PTAL values raising an area by one PTAL level only where the index value is already near the threshold. – Transit schemes: ELT – Phase 1, GWT Phase 1. As these schemes will operate in areas currently poorly served by PT, PTALs will rise between 1 and 2 levels. – DLR – Extension to Stratford International – significant changes to PTALs at Stratford International.
Future Year – 2016
– Cross Rail – included in the 2016 scenario but scheduled for opening in 2017. Impact in Central London is small as all stations are located at existing transport hubs and in areas of PTAL 6. In outer London values will rise by one PTAL level. – HLOS enhancements and LUL PPP will result in some increases in PTALs at locations near the affected stations though the majority of changes relate to capacity increases rather than increases in service frequency.
Future Year – 2026
– Bakerloo Post 2016 – this is the only scheme beyond 2026 that will have an impact on PTALs, though frequency changes are relatively small (overall 2 additional 2vph).

Other formats and languages

For a large print, Braille, disc or audio-tape summary 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 văn 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 নীচের ফোন্ 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 ταχυδρομικά στην παρακάτω διεύθυνση.

Urdu

اگر آپ اِس دستاویز کی نقل اپنی زبان میں چاھتے ھیں، 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 ਫ਼ੋਨ 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.

MoL/Oct09/CJ D&P/GLA1347