

Redefining Density

Making the best use of London's
land to build more and better homes



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Summary

1

London's population is growing rapidly and could reach over 11 million people in 2050. As a result, the Mayor's housebuilding targets have been increased to a minimum of 42,000 homes a year. While this increase is welcome, the Greater London Authority's own calculations suggest that London needs between 49,000 and 62,000 new homes every year. In practice, Savills estimates that an average of only 32,000 homes a year will be built over the next five years.

Redefining Density is one of a series of reports looking in greater depth at the set of recommendations made in London First's housing report, Home Truths. This argued that there is no silver bullet to building more homes; rather a set of interventions is required. Redefining Density focuses on making better use of London's land, with policies that enable more homes to be built in a given area to accommodate the city's rising population.

This must be done in a way that keeps London an attractive place to live and work. Higher housing densities can be an emotive subject – particularly amongst local communities – that are understandably concerned about the legacy of past mistakes in urban regeneration.

But now things are different. Firstly, lessons have been learned and design, in its broadest sense, can help to support a better use of land to deliver more, and critically, high-quality homes. Secondly, higher density is often seen as synonymous with high-rise, but this is simply not the case. Victorian terraced housing or Edwardian mansion blocks can have a higher density than modern tower blocks surrounded by empty space. And thirdly, higher density areas also deliver many benefits to local residents, by creating the critical mass to support more shops, better and more diverse local services, and improved social and transport infrastructure.

Strategic Planning

Strategic planning policy, through the London Plan – the Mayor's spatial development plan for the capital – can help the city make better use of its land. Recent amendments to the London Plan have been positive, giving greater policy support to densification in areas such as town centres, opportunity and intensification areas, and housing zones. But this report makes the case for going further.

A new Mayor must prioritise making better use of London's land, particularly through increasing still further the support in strategic planning policy for higher densities, where this is appropriate. London's planning policies need simultaneously to give strategic support to meeting the city's housing needs through better use of land – building at higher density – while being clear that the density of any particular development must be the output from a set of planning policies which ensure that development is fit for purpose for its location.

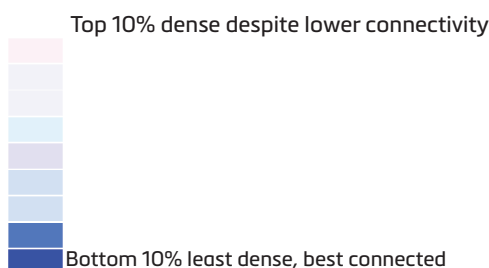
As part of this process, the London Plan's density matrix should be reviewed. The density matrix has served a useful purpose to date by providing planners with a density benchmark when considering particular schemes. However, as it stands, the matrix fails to capture the complexity of London; it implies a ceiling to densities in certain areas which are now in practice achieving higher density. These densities are being achieved without compromising design or quality, which suggests that sensitive reform of the matrix could help deliver more, and better, homes across London.

Seizing the opportunity

Through better use of land, London can accommodate its rising population. Meaningful comparisons between cities' housing density are difficult, as definitions and boundaries vary. But it is clear that London's densest boroughs, such as Islington with a 200,000 population living at an average of 138 people per hectare, have low densities compared to other international cities such as Madrid's Centro district, with 150,000 people living at an average of 286 people per hectare. Similarly, the Haussmann boulevards of Paris give that city a much higher level of housing density than London.

The lowest density,
best connected
areas

Relationship between
density and connectivity



Source: Savills analysis; PTAL data; Census 2011

The opportunity is considerable. As the map on page 2 shows, having stripped out green space, the Green Belt and water, there are many parts of London that have good transport links but low housing density.

If well-connected areas with a low housing density were to match the density of similarly connected but higher density areas, this would – in principle – create approximately 1.4 million new homes across London. This is around one million more than the current ten year London Plan housebuilding target.

Of course it would not be practicable for all of these areas to see such a change. The calculation does not take into account actual local circumstances such as the urban realm (including local infrastructure) and whether, or how, new homes might be built. It is ultimately down to the planning system and the market to assess this. But it does show the scale of what is possible: if land could be identified and housing delivery expanded to build just 10 per cent of these one million additional homes over the next 10 years, then London would be able to increase its housebuilding target to 52,000 new homes a year. At this level, delivery would be much more closely aligned with housing need.

A priority for a new Mayor

Solving London's housing crisis will no doubt be at the top of the new Mayor's in-tray in May 2016. One of the solutions is making better use of London's land. Opportunities for densification will vary, reflecting the context of the local area. This report recommends focussing initially on town centres, suburbs and public land, including housing estates in need of renewal. The new Mayor must use all the tools at their disposal including, strategic planning powers (both plan making and decision taking) and housing investment decisions, to support higher densities in appropriate locations to deliver more and better homes for Londoners.

Introduction

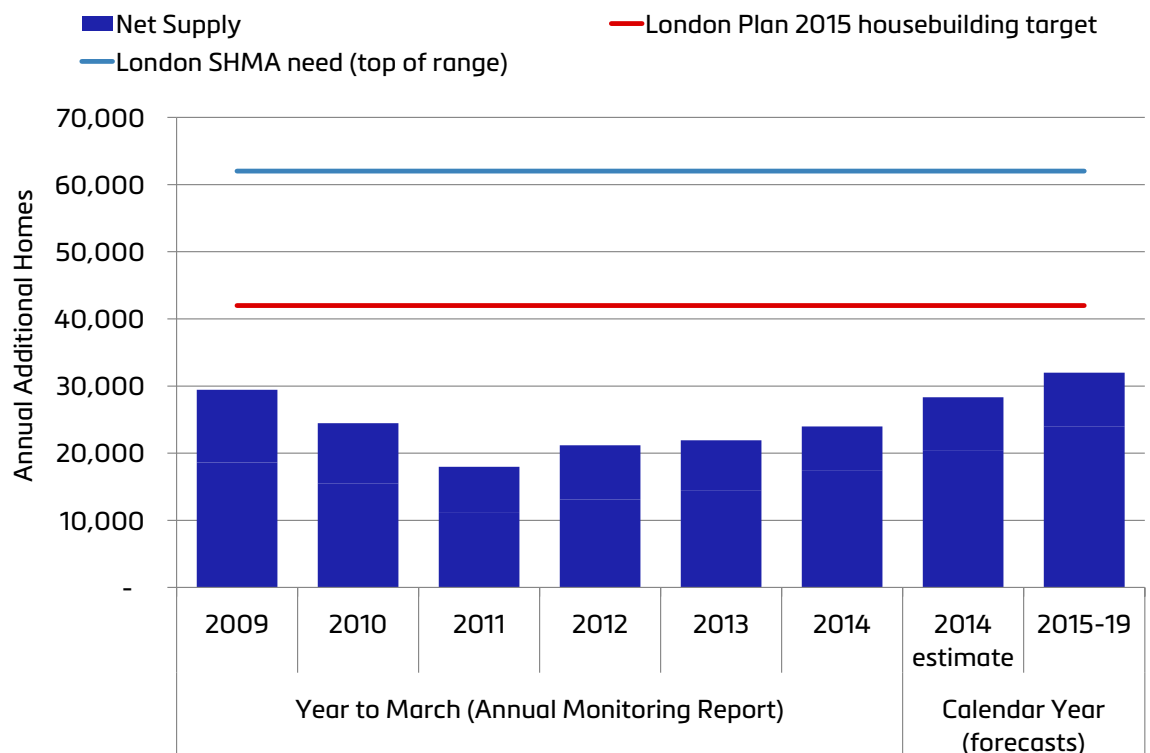
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London's housing need

London's population is growing rapidly. Following decades of post war decline, the city's population began to grow in the 1980s and surpassed its 1939 historic peak, of 8.6 million people, in early 2015. The Greater London Authority's (GLA) central projection is for London's population to reach 11.3 million in 2050¹.

To accommodate this growth, London's housebuilding target set in the London Plan – the Mayor's spatial development plan for the capital – has been increased to a minimum of 42,000 new homes a year with the plan requiring boroughs to identify additional capacity to hit 49,000 homes a year. While this is a step in the right direction, it is still not enough. The GLA's London Strategic Housing Market Assessment (SHMA)² indicates that London, depending on the timeframe used, will require between approximately 49,000 (2015-2036) and 62,000 (2015-2026) more homes a year. Actual housebuilding remains well below the new target. Savills estimates that 28,000 new homes were built in London in 2014 and forecasts an average of 32,000 new homes will be built over the next five years.

Figure 1
London's housing need and historic and projected delivery



Source: Savills analysis; Molior data; London SHMA

1. London Infrastructure Plan 2050: A consultation, Greater London Authority: July 2014.

2. The London Strategic Housing Market Assessment 2013, Greater London Authority: January 2014. This SHMA is part of the evidence base for the London Plan.

Home Truths

In 2014, London First published Home Truths³ which called for a bold approach to increasing housebuilding in London. The report made 12 recommendations including:

- using new transport infrastructure as a catalyst to unlock more housing development;
- introducing a 'Domesday Book' for surplus public land in London to register and coordinate the release of this land for housing;
- giving London's boroughs a real financial incentive to help them accommodate new homes and, where boroughs consistently fail to meet their housebuilding target, giving the Mayor discretionary power to step in and determine a greater number of applications for residential development; and
- providing more support to boroughs that want to start building again by abolishing restrictions on local authorities' borrowing against the value of their housing stock, where this would be within prudential rules.

Home Truths makes clear there is no simple solution to London's lack of housebuilding – increasing supply requires action on multiple fronts. The main focus of this Redefining Density report is exploring how London can make better use of the land within its boundary to build more well-designed and high-quality new homes.

Making better use of land

In the London Plan 2015⁴, policies have been amended to give more support to town centres, opportunity and intensification areas, and other large sites being used as locations to deliver more new homes. The Plan also encourages boroughs to exceed their share of the annual 42,000 housebuilding target through better use of land, particularly in areas which are well connected by public transport.

3. Home Truths: 12 Steps to Solving London's Housing Crisis, London First: March 2014.

4. The Further Alterations to the London Plan were published in March 2015.

Part of using land better is about supporting higher density development in appropriate areas. Housing density – the number of homes in a defined area – can be an emotive subject, with local communities sometimes seeing higher density as a synonym for low quality, poorly designed flats which might place a strain on local facilities. This view is understandable. Mistakes have been made in the past but equally lessons have now been learned. This report makes the case that housing density should be viewed simply as a means to an end – using land better to deliver more and better homes – not as an end itself; and that higher density development can, and must be, of high-quality, while supporting the delivery of better local services.

The next section looks at how density is measured, followed by Section 4 which compares London's density to other international cities. Section 5 highlights how high-quality design is integral to making better use of London's land and Section 6 considers how planning policy in London should evolve to support this aim. Finally, Section 7 reflects on the scale of the opportunity for London to make the best use of its land and the ways this can be delivered.

Defining density

3

Density is the degree to which an area is filled or occupied. In the context of housing and planning policy, it generally refers to the quantity of people or buildings in an area. It is useful to understand and measure density both as a way of gauging how land is used and to help make informed decisions about new development and what physical and social infrastructure is required to support it.

Measuring housing density

There are many ways of measuring housing density, none of which is perfect. The London Plan (see below) relies on two principal measures: the number of homes (units) per hectare (u/ha) and the number of habitable rooms per hectare (hr/ha).

The way in which a site area is measured for planning purposes is not always consistent and without a consistent approach it is hard to make meaningful comparisons. For example, the same location can have very different housing densities if the number of homes is measured according to gross site area (including land used for surrounding shops, services, roads and public realm) as opposed to the net built area (which restricts the calculation only to the land on which the residential buildings stand).

Choosing what site area to measure is particularly important when it comes to larger and mixed-use schemes. Open spaces, roads, parking and non-residential uses are generally an integral part of these developments. The London Plan convention of stripping out non-residential uses for the purposes of the density calculation, produces higher housing densities than the unadjusted alternative.

Housing density policy in London

The London Plan contains a number of policies that relate to housing density, including: where certain densities are more acceptable than others; how density should manifest itself architecturally; and how a scheme should fit in with its surroundings. At the heart of this approach sits the London Plan's density matrix (table 1) which is based on homes per hectare and habitable rooms per hectare. It sets out indicative density ranges suitable for areas with different levels of public transport accessibility (PTAL) according to three neighbourhood types - suburban, urban and central. The matrix is intended as guidance and the London Plan makes clear that it should not be applied mechanistically when making planning decisions.

Table 1
The London
Plan sustainable
residential quality
density matrix

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/h	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/h	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/h	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

Source: London Plan 2015

While the density of an application for residential development provides a measurement of how intensively a piece of land is being used, it says nothing about the quality of the homes being built or how the type of homes meets the housing need of an area. The density matrix is a useful cross-check for planners when looking at particular schemes but, as discussed later in Section 6, it currently fails to capture the complexity of London's settings, and has no regard to other factors which are relevant to determining how many homes there should be in a development.

How London compares

4

As definitions of density vary, getting reliable comparative data can be difficult. Comparing cities' density is further complicated by the different definitions of, and boundaries for, a city. For example, some cities' administrative boundaries have a substantial undeveloped hinterland which significantly reduces the average density even if the core, which most would regard as the true city, is very highly developed. Accordingly, London's density ranking compared to other cities depends in part on the definitions of the area studied.

The GLA's boundary accommodates 55 people per hectare on average, a total of 8.6 million people in 3.4 million homes⁵. In inner London⁶ this figure is 101 people per hectare, which equates to 37 per cent of the population (3.2 million people) in just 20 per cent of London's total land area.

While densities in inner London are high compared to the Greater London average, they are not high compared to other city centres⁷. For example, the Department de Paris has a population of 2.2 million people and a population density of 213 people per hectare. Madrid's Centro district has a population of 150,000 people, which works out at 286 people per hectare. This is almost double the population density of London's densest boroughs such as Islington, which has a population of 200,000 at 138 people per hectare, and Kensington and Chelsea which has a population of 159,000 people at 130 people per hectare.

Central Paris is seen as one of the most desirable locations in the world, characterised by its mid-rise mansion blocks along grand tree-lined Haussmannian boulevards. Likewise, Centro Madrid is exemplified by mid-rise mansion blocks and quality streetscapes that support its vibrant cafe culture. Both examples show that higher density does not have to mean high-rise and the way in which a place is designed is more important to its desirability than the measurement of its density.

Current land use in London

Figure 2 looks at how London's 157,000 hectares of land is utilised. It shows that the highest proportions of land are taken not by buildings but by green space and domestic gardens: 62% overall⁸. This proportion is higher in the outer boroughs: more than half of all land in Havering and Bromley is green space while about a third of all land in Sutton, Harrow and Croydon is domestic gardens.

5. Census 2011

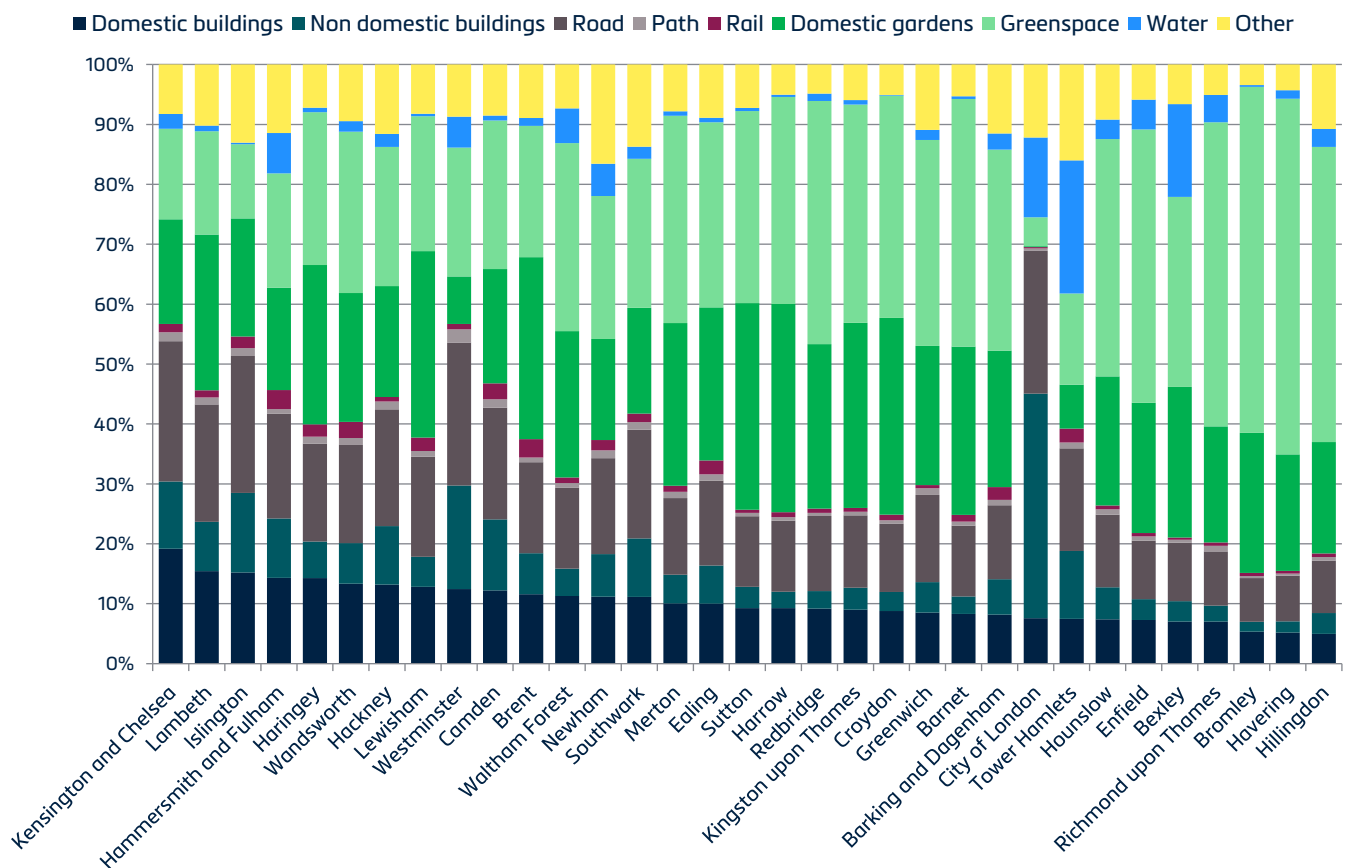
6. Office of National Statistics definition of inner London (Hackney, Kensington and Chelsea, Islington, City of London, Hammersmith and Fulham, Wandsworth, Tower Hamlets, Haringey, Camden, Lambeth, Southwark, Westminster, Lewisham and Newham).

7. World and London, Savills: 2015.

8. Generalised Land Use Database Office of National Statistics 2005.

The interaction between London's green space and the built environment is what gives much of the city its character. Even in the densest boroughs, there is still considerable green space. In Kensington and Chelsea, high density but well-designed mid-rise 19th century mansion blocks are interspersed by garden squares and parks which provide space and light. Measured density and perceived density are not necessarily aligned.

Figure 2
Land use in London



The challenge for London is to make better use of its brownfield land while enhancing the city's urban fabric and green spaces that define the character of the capital. Higher densities can be accommodated by different building forms and do not rely solely on high-rise development – a point that is discussed further in the next section.

The importance of design

5

Concerns over higher density development are often an understandable legacy of past mistakes in urban regeneration, where monolithic tower blocks were built unsympathetically within their surroundings. Yet higher density does not have to mean high-rise: indeed tower blocks surrounded by sterile empty space can be lower density than Victorian terraced housing. The issue is how London can use land more efficiently to build more and better homes; and the quality of design is clearly central to this. Design, in its broadest sense, must therefore take the lead to support the more intensive use of land.

Benefits of density

A local community may worry about densities increasing in their area due to the effect on surrounding social and physical infrastructure, local amenities, the size of homes, and adequate open space, both public and private. As noted above, these are reasonable concerns – not least because of past mistakes – but they can all be addressed.

These issues are already subject to planning policies which have a bearing on the resulting size and shape of a development. What is sometimes lost in the debate about densification is that, done properly, a higher density environment can deliver many benefits. Intensifying land use delivers the people to support more shops, better and more diverse local services, and better social infrastructure. Combining a balance of commercial, leisure and retail activity with residential space can also deliver a more vibrant environment.

Making better use of land can also help deliver more and better transport infrastructure, which denser urban neighbourhoods require, by creating increases in land value. Harnessing this increased value through different forms of taxation – not only on developers but future council tax and business rates – can help support the improvements the city needs.

Different forms of building can be used

Intensifying land use does not automatically mean building swathes of high-rise buildings. Tall buildings have a place in the urban landscape, particularly clustered around transport nodes and close to employment centres. Well designed towers can add interest to the cityscape, deliver choice to residents and are an effective way of increasing housing numbers and supporting a mix of different tenures and size of home. However, this is not the only way to intensify land use and other building forms will be more appropriate in other areas, particularly in outer boroughs. A mix of mid-rise buildings, mansion blocks and terraced housing along more traditional street patterns can be a very efficient use of land. London's central neighbourhoods provide a good example of such development and are amongst the most sought-after housing.

Denser urban environments require a generous streetscape and investment in the public realm to counterbalance higher concentrations of people, particularly if there are no local parks. Great design can deliver this. Street width, paths and pavements all need to be considered. Planting, grass verges, and trees soften hard edges, improve the outlook from a resident's window and can help with issues of privacy.

Set out below are some case studies which put these design ideas into practice.

Embassy Gardens, Nine Elms

1,982 homes/6.07 hectares (326 homes/ha)



Source: Farrells

Building heights on this scheme vary considerably as a way of deliberately creating variety. Most blocks are designed to have a two-storey podium (or base) containing car parking. Above that, buildings are typically 8 to 11 storeys. The tallest buildings will be corner 'towers' of 21 to 23 storeys, with a few mid-rise blocks of 14 to 16 storeys. While most homes are flats, the car parking podiums are fronted by single aspect duplex apartments with individual ground floor entrances, which resemble individual terraces of houses.

In addition to the new homes, one of the key features of the Nine Elms redevelopment is a linear park, enabling an east-west pedestrian and cycle link between Vauxhall Cross and Battersea Park. In a part of London otherwise poorly served by public realm, the linear park is intended to provide a landscape corridor throughout the area, containing a variety of 'rooms' and green spaces and framed by cafes, community and leisure facilities.

Chelsea Waterfront

711 homes/4.58 ha (155 homes/ha)



Source: Farrells

The masterplan for Chelsea Waterfront includes two residential towers of 37 and 25 storeys, seven medium rise buildings of 5-10 storeys and the refurbishment of Lots Road Power Station (pictured). The massing – that is, the overall shape and size of the new development – relates to the height of the historic power station.

About a third of the scheme is public realm with buildings arranged around landscaped gardens. The development will also include shops, restaurants and a health and fitness club.

Edgware Green, Edgware

937 homes/11.5 hectares (81 homes/ha)



Source: Barratt London

Edgware Green is a regeneration scheme of over 30 acres which will create 937 homes, offering a choice of one, two and three bedroom apartments along with three and four bedroom houses.

At the heart of the development, a tree-lined boulevard and network of paths and green spaces cleverly link the properties, creating a community feel. New streets and squares have been included to successfully connect the scheme into the surrounding area.

As part of the masterplan, Barratt London is developing a new community facility and church, all housed in one building, with areas dedicated to different uses such as a large hall, cafe, covered play area and office space. All homes at Edgware Green feature their own outdoor space; apartments come with a balcony or terrace, while houses feature a terrace, patio or garden.

Silchester (More West), Kensington and Chelsea

112 homes and 852sqm of non-residential space/0.9 hectares (122 homes/ha)



Source: Peabody

Peabody acquired the Silchester Garages site from the Royal Borough of Kensington and Chelsea with a brief to address issues connected with the existing 1960s estate site – poor public realm, tower-blocks poorly integrated into urban realm, perceived lack of security and underused land. The scheme needed to respond to adjacent listed buildings and engage with and improve the existing context.

Over three-quarters of this tenure blind development is affordable homes. The scheme has reinstated a traditional street layout with active frontages. A new mews street has been built alongside the adjoining railway viaduct with the railway arches being redeveloped for retail uses. All of the apartments and townhouses are dual aspect and have individual balconies or terraces which overlook a central private communal garden. A limited number of car parking spaces are accommodated in a basement car park. The scheme was formulated in consultation with the local community and this close relationship has been maintained throughout the construction. The scheme is due to be completed in 2016.

St John's Hill, Wandsworth

528 homes/2.29ha (231 homes/ha)



Source: Peabody

St John's Hill is a 1930's Peabody estate which requires significant improvements to make it fit for the needs of the residents. The regeneration involves replacing 351 homes with 528 new ones to create a mixed-use and mixed tenure neighbourhood. All the homes will be highly insulated with heating and hot water provided by a combined heat and power district heating system.

The new development recreates the existing street pattern and new blocks respect the existing building heights. Five storey blocks will be replaced with a series of new buildings ranging in height from four storeys to twelve. The masterplan of the new development has evolved through extensive consultation with the current residents, local people and the planning authority.

It seeks to reintegrate the site with the surrounding streets, pedestrian routes and Wandsworth Common and create a new public square drawing people into the scheme to a new community hub. High-quality landscaping will be present throughout the scheme including a wildflower garden, play areas and a central open space.

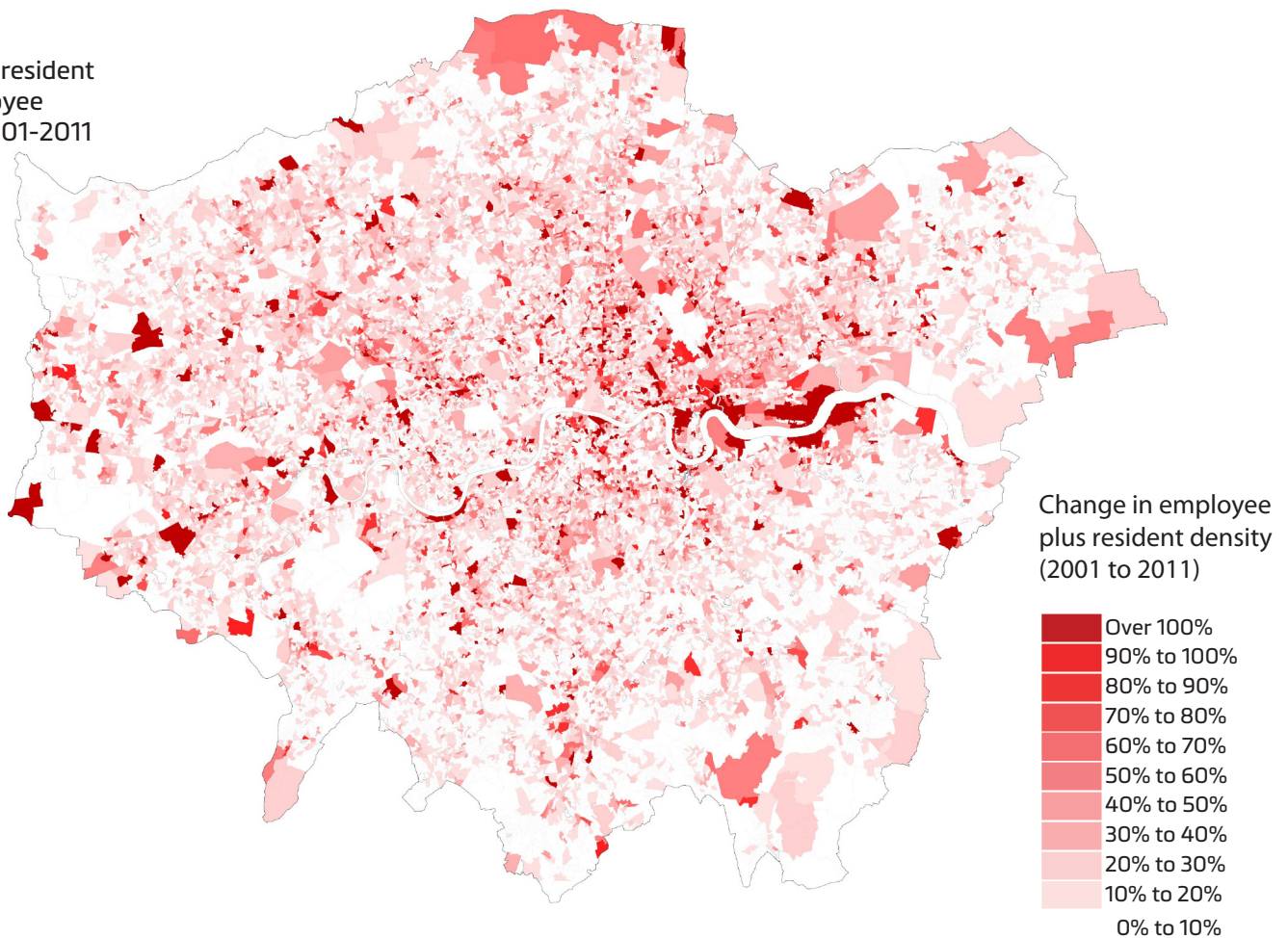
Planning policy

6

The evolution of London

As London has grown and developed, its physical make-up has evolved. While central London still remains a strong focal point, clusters of significant population and employment densities have developed beyond the city's centre. Figure 3 shows the change between 2001 and 2011 in where residents and employees are concentrated in the capital.

Figure 3
Change in resident
and employee
density 2001-2011



Source: 2001 and 2011 Census

London's continuing evolution is both a challenge and an opportunity. The challenge is to accommodate and manage significant population growth, and in doing this, there is also an opportunity to improve the fabric of London and enhance Londoners' quality of life. Making better use of the capital's constrained supply of land is essential if the challenge is to be met and the opportunity seized.

Reforming planning policy

Planning policy in London needs to support and manage the city's growth. Reforming density policy, and in particular the density matrix, in the London

Plan is an important part of this process. This point has already been recognised in the recent Further Alterations to the London Plan which have given greater policy support to densification in specific locations, namely town centres, opportunity and intensification areas, and on large sites. Likewise, the proposed changes to the Mayor's Housing Supplementary Planning Guidance (SPG)⁹ make positive changes in this area. Furthermore, the Mayor's Outer London Commission¹⁰ is currently exploring different scenarios for how London can accommodate its population growth and asks whether the density matrix should be reviewed.

There will always be parts of London which have specific constraints – over high-rise buildings or the conservation of heritage assets, for example. But any particular proposal for development should be judged on a broad set of criteria, including: its location; the characteristics of the development; the strategic context of the development; transport accessibility and social infrastructure needs.

Recent data show a substantial proportion of schemes approved for residential development in London do not fall within the ranges suggested in the London Plan 2015 density matrix. As table 2 shows, 50% of all homes permitted in 2013/14 were above the indicative density matrix range and this percentage is slightly higher still for schemes of more than 15 homes (table 3). The percentage of approvals above the suggested density ranges was even higher during the last property boom in the mid 2000s.

Table 2
Residential approvals compared to the London Plan density matrix – all schemes

Financial Year	% of units approvals		
	Within range	Above range	Below range
2006/07	36%	60%	4%
2007/08	40%	55%	2%
2008/09	41%	53%	2%
2009/10	39%	56%	2%
2010/11	37%	58%	1%
2011/12	40%	55%	3%
2012/13	58%	37%	2%
2013/14	43%	50%	4%

Source: London Plan Annual Monitoring Report 11, 2013-14

9. Draft interim housing supplementary planning guidance, Greater London Authority: May 2015

10. See <http://www.london.gov.uk/olc/2015/fullreviewoflondonplan.jsp>

Table 3
Residential
approvals compared
to the London Plan
density matrix
– schemes of 15
homes or more

Financial Year	% of units approvals schemes 15+		
	Within range	Above range	Below range
2006/07	30%	69%	1%
2007/08	36%	63%	2%
2008/09	36%	62%	2%
2009/10	35%	63%	2%
2010/11	31%	68%	1%
2011/12	37%	60%	3%
2012/13	59%	39%	2%
2013/14	40%	56%	4%

Source: London Plan Annual Monitoring Report 11, 2013-14

Accordingly, the density matrix should be revised to be a more useful tool for planners. A more sophisticated set of typologies than central, urban and suburban is required to help support better use of land in a city as complex as London. A review of the matrix should, at the very least, update the base data to reflect actual development levels but should go further to consider if other measures around connectivity to employment, transport capacity and local facilities could be introduced. Thought should also be given to measuring density within the context of the wider area rather than a development's net site area.

Rethinking the density matrix and density policies in general must be an important task in the next full review of the London Plan. The aim should be to ensure that strategic planning policy supports the best use of London's land through higher densities in appropriate locations, while ensuring that when applied to individual sites, density policy is regarded as the output of a set of planning policies which help ensure a development fits into its location.

To accompany this policy change, the London Plan Key Performance Indicator (KPI) on density, one of 24 KPIs used to measure the success of the policies in the Plan, should also be refined. The density KPI states that over 95% of development should comply with the density matrix for that location¹¹. As the tables above show, this target is being missed, but it is a strange target in the first place when the Plan explicitly states that the matrix is merely a guide. Any future KPI relating to density should assess its impact, not as a series of thresholds that shouldn't be exceeded, but as part of a broader assessment about the quality of place and as a conduit to making better use of London's land to deliver more and better homes.

11. These KPI's are assessed annually by the London Plan Annual Monitoring Report (AMR). The latest AMR - number 11 - covering 2013-14 was published in March 2015

The opportunity

7

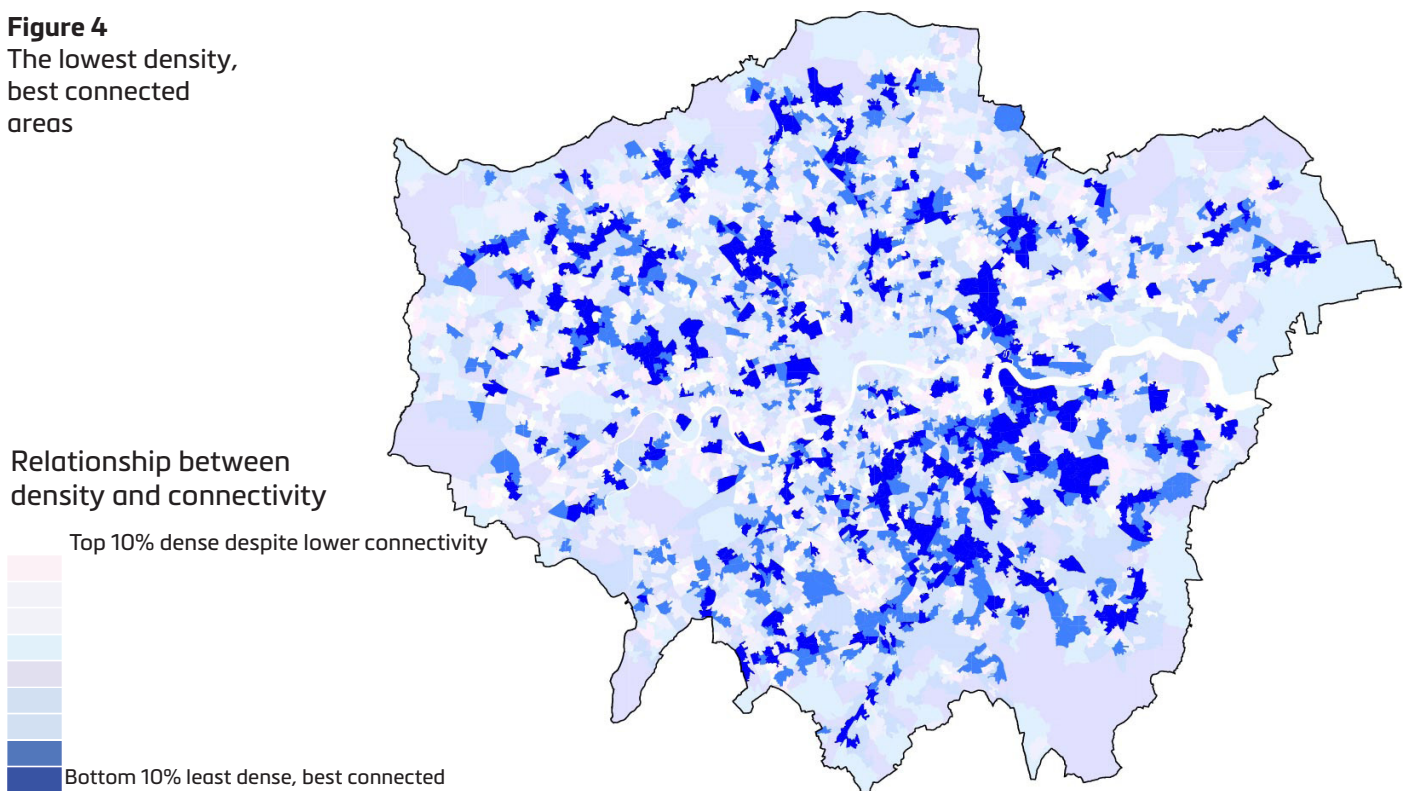
The opportunity for London is to make better use of its land to deliver more and better homes which, in turn, are better places for Londoners to live. The London Plan's policies are evolving to address the capital's housing crisis with positive changes already being made - this must continue. The impending Mayoral Election in May 2016 and subsequent full review of the London Plan provide the ideal opportunity for London government to prioritise this issue.

The scale of the opportunity

The London Plan encourages boroughs to exceed their share of the capital's annual 42,000 new homes target through more intensive use of land, particularly in areas which are well connected by public transport. The current targets have been set based on the capacity of identified available developable land, but they sit well below calculations of housing need (49,000 – 62,000 homes per year). Clearly making better use of London's scarce land is a key priority. The analysis below shows there is plenty of scope to achieve this.

A picture of how well land is being used in London can be established by looking at existing housing densities across the capital and public transport connectivity¹². As figure 4 below shows¹³, having removed green spaces, the Green Belt and water, there are many areas that are well connected but have low densities.

Figure 4
The lowest density,
best connected
areas



Source: Savills analysis; PTAL data; Census 2011

12. Transport connectivity is commonly assessed by PTAL which ranks all locations in London on a scale of 1 to 6 according to their access to buses, trains, and trams, including walk times and frequency of services.

It would potentially help deliver more and better homes if a well-connected area with low housing density were to conservatively increase its overall density, including through better use of vacant and underused land, to match the average housing density of an equally well-connected area that has a higher housing density.

Applying this approach to the whole of London produces the results shown in table 4. The table shows the number of new homes that could be supported, all other things being equal, within inner and outer London by conservatively increasing densities, in addition to the homes already present in each area. These figures have been compared to the current London Plan 10 year housebuilding targets.

Table 4
Master planning capacity for additional homes in London compared to GLA 10 year housebuilding target

	Number of homes (based on an increase to average density)	GLA 10 year housebuilding target
Total across inner London	373,300	231,150 ¹⁴
Total across outer London	1,089,600	192,730
Total across London	1,462,900	423,880

Source: Savills analysis using TfL PTAL and Census 2011

Table 4: how the calculation has been done

- Average densities have been calculated based on transport connectivity, which is banded across the capital from high to low using Public Transport Accessibility Levels (PTALs);
- Where an area is low density compared to the average for that band, once green space, Green Belt and rivers, lakes and canals have been excluded, the difference between the average density for that band and the existing density in the area has been calculated;
- The difference between these two numbers for each area across the capital adds up to the total number of homes shown.

It is important to be clear about what this table shows. The figures are based on only building on brownfield land – all green space such as the Green Belt, squares and commons has been stripped out, as have rivers, canals and lakes. The calculation does not take into account actual local circumstances; such as the urban realm (including local infrastructure) and whether, or how, new homes might be built. It is ultimately down to the market and the planning

13. The data is based on the Census 2011 so clearly there will be some parts of London where the map shows the correct level of low density at the time but development has subsequently taken place which has increased the density of the area.

14. The housing targets for the London Legacy Development Corporation have been allocated here.

system to assess this. However, it highlights the extent to which there is the potential to make better use of land in London by moderately increasing housing densities in well-connected areas. Such areas include, for example, large brownfield sites, opportunity areas and housing zones, which the GLA has already indicated as areas that have the potential to support higher densities. Some scenarios about how this could be implemented are set out below, recognising that in every case the opportunities for how densification is achieved will be different, but must always take into account the context of the local area (see p23).

Table 4 is a useful starting point to think about how London might meet and exceed its housing target. In total this exercise identifies notional space for approximately an additional 1.46 million new homes, approximately one million more than the current 10 year London Plan housebuilding target. For the reasons stated above, this report is not suggesting that this figure is deliverable. If, however, land could be identified and housing delivery expanded to build just 10 per cent of these one million notional additional homes over the next 10 years, then London would be able to increase its housebuilding target to 52,000 new homes a year. At this level, delivery would be much more closely aligned with housing need.

Challenges and constraints

In the analysis above TfL public transport accessibility levels (PTALs) are used to estimate the capacity within London to intensify land use. PTALs are however only one measure of connectivity. This measurement tells us nothing about train capacity, for example. A place can be well-connected but local train services may be overcrowded at peak times. Likewise, a well-connected location may not necessarily have sufficient social infrastructure such as school places or doctors' surgeries to accommodate significantly more housing.

These issues are not insurmountable. Upgrades have already taken place on some parts of the Tube network, such as the Northern and Victoria lines. More are underway, for example on the District, Circle and Hammersmith & City lines, with improvements planned elsewhere, such as the Piccadilly line upgrade. Over the medium term, additional transport infrastructure will be added such as Crossrail and over the longer term potentially Crossrail 2. And where housing densities are significantly increased, this is likely to be done as part of a mixed-use development, delivering commercial as well as residential space. Where there is a substantial commercial offering this will help to generate local jobs and could, in some instances, draw a flow of commuters away from other busy areas of the transport network.

In terms of social infrastructure, intensifying land use can help fund better provision. Developer contributions, subject to the viability of a development, can play a part in delivering this infrastructure. More significantly, more intense land use will also generate greater tax intake in the shape of business rates and council tax contributions.

Scenarios for making better use of land

Set out below are three ways for London to make better use of its land¹⁵. The options are not mutually exclusive; indeed in parts they overlap and a new Mayor must devise a strategy to undertake action on all three fronts.

A) Town centres

Town centre is a general term applied to areas that are the focal points of a community, accessible by public transport and a key location for a range of activities including retail and leisure, as well as providing space for social infrastructure, offices and housing. The London Plan defines a network of town centres in the capital of varying sizes from an international centre at the top to a district centre at the bottom¹⁶.

There is great scope to make better use of land in town centres, particularly given the evolving nature of local demands. Changes in consumer expenditure and behaviour, driven in part by the impact of the internet and multi-channel shopping, as well as by the growth of large shopping centres, pose a number of challenges to many town centres, especially the mid-sized centres¹⁷. In some instances there is surplus retail space and/or the space needs to be reconfigured. Well-designed housing, complemented by leisure and community facilities, can breathe fresh life into many of these centres.

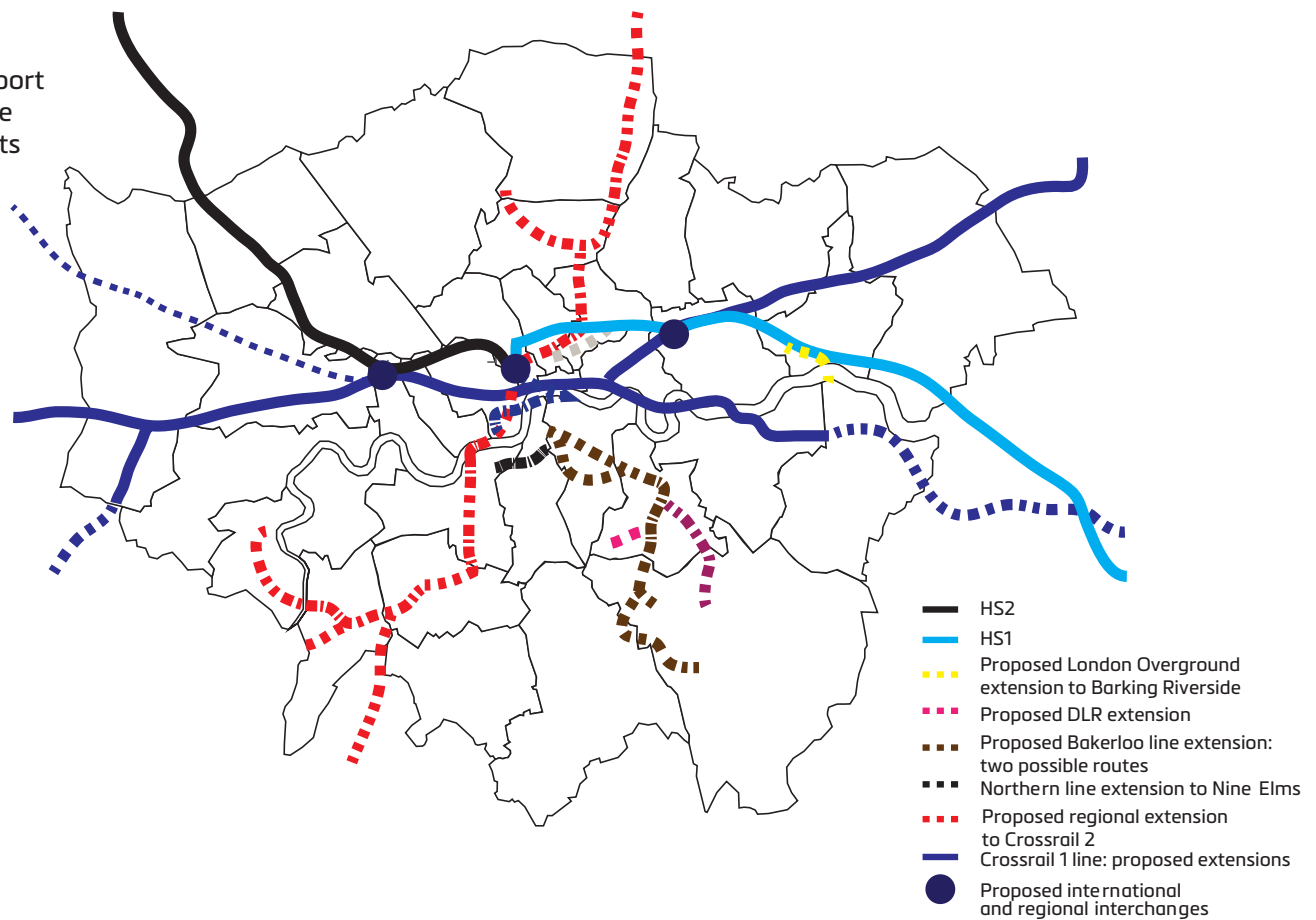
This is particularly the case where these town centres are also transport hubs. Figure 5 shows some of the key transport schemes that will help to shape London's future growth.

15. The Mayor's Outer London Commission is currently looking at similar scenarios and more to consider how London can accommodate its growing population. See <http://www.london.gov.uk/olc/> for more information.

16. See Chapter 2, London's Places in the London Plan 2015

17. The Outer London Commission Third Report, Greater London Authority: July 2014.

Figure 5
Future transport
infrastructure
improvements



Source: Savills research (indicative routes, not all stations are labelled)

B) Suburban London

Much of suburban London is characterised by the uniformity of the archetypal semi-detached house on its own plot. However there is, as mentioned earlier, overlap between London's suburbs and London's town centres with many of the struggling mid-sized centres located in the suburbs. And the suburbs also contain surplus public land and council estates (see C below) which can present large scale opportunities for regeneration. There is therefore scope to intensify development on land in the outer boroughs without affecting their character.

For example, building low-to-medium rise blocks of flats around stations could offer more and better homes without fundamentally changing the character of a suburban area. Development of this nature would help sustain new shops and cafes, creating a more vibrant neighbourhood. Likewise, adding additional levels to blocks of flats offers a good way to make better use of existing stock in a manner that causes minimal disruption to the local community. Figure 6 is an excellent example of this type of development in an outer borough in

the heart of a suburb. It is hard to distinguish that the top floor of the block was not part of the original development and was only recently added. Small, incremental changes such as this, or increasing the extent to which a building can be developed by allowing homeowners to build extensions, convert loft space and even add an extra storey to their house, could all provide a welcome supply of additional living space.

Figure 6
Mill Hill, London
Borough of Barnet



Source: London First

London's suburbs blend into London's Green Belt. The Green Belt's important role is to prevent urban sprawl and parts provide important environmental or civic benefits – from areas of outstanding natural beauty to village greens. However, as London First's report on London's Green Belt shows, some parts have no civic or environmental value. Indeed much of London's Green Belt is already well-connected by public transport (or will be through future transport improvements) and some of this land is currently either scrub land or derelict sites. Greater thought should be given to how some of the land in London's Green Belt could better serve London's needs by supporting sustainable, high-quality, well-designed residential development that incorporates accessible green space for local people¹⁸.

18. See The Green Belt: A Place for Londoners? London First, Quod, SERC: February 2015.

C) Public land and estate regeneration

Public land

There is tremendous scope to bring forward substantial numbers of new homes in London by regenerating and making better use of public land. Identifying and co-ordinating the delivery of sites owned by different bodies will bring big opportunities for new homes. The launch of the London Land Commission (LLC) to co-ordinate efforts between the GLA, central government and boroughs to free up surplus public land in London is a welcome step forward.

Work is already underway to create the 'Domesday Book' database of all brownfield public land in the capital, which London First called for in 2014. The position of the GLA as a major landowner as well as the Mayoral powers to facilitate land assembly, set strategic planning and housing policy, determine strategic planning applications and distributing money to support affordable housing will be key to delivering more homes. Once the spread of sites across London is mapped out, the GLA will be able to identify the best opportunities, particularly where sites belonging to more than one public body adjoin.

The LLC will build on the process of public land disposal that the GLA has already begun. The GLA's asset database includes land belonging to Transport for London, the London Legacy Development Corporation, the London Fire Brigade and the Metropolitan Police Service. Assets not held by the GLA include central government holdings, NHS Trust land and local authority land.

While much of the disposal process is focused on underused or disused sites, the process of reallocating operations or intensifying use on sites should not be dismissed. Active public assets can also provide opportunities for development. Building over and around transport nodes is one example where more homes can be delivered through a better use of land.

Estate regeneration

The case for the renewal and intensification of housing estates is clear. Many housing estates are in a poor, sometimes very poor, condition and in need of renewal. Some of these estates are well-designed and well-built, but many were poorly designed and constructed in the first place, are expensive to maintain, and often through their design, fail to integrate with the wider city. For example, many post war estates are comprised of individual blocks and towers surrounded by a large amount of unused land which cuts the estate off from the surrounding neighbourhood.

It has been estimated that there are around 3,500 council estates across the capital. The majority of these estates are in inner London where, on average, councils own 25-30 per cent of land in their borough. This includes a large number of individual housing estates. Islington council alone owns about 150 council estates of 50 homes or more. Southwark council owns 43 per cent of the land in its borough, mostly on housing estates¹⁹. Over the past decade only around 50 former council estates across London have been granted planning permission for substantial regeneration including demolition and rebuilding of some homes²⁰. So while some boroughs are already taking steps to manage their assets more actively and build more and better homes others could follow suit.

This process must be about improving the quality of life for existing-residents as well as delivering more and better homes to make better use of land. For example, the number of homes on housing estate land could be increased if new streets that link into surrounding areas are incorporated into the design and a variety of types of home with different sizes including terraced housing and mid-rise blocks, as well as taller buildings, are used.

This approach would enhance London's urban form, increase space available for commercial and community use and integrate the estate with the surrounding neighbourhood, fostering a wider social mix. It is also likely to have an impact on the wider regeneration of a neighbourhood, triggering further development in surrounding areas. The challenge for London is to manage this regeneration process well. This means: putting existing communities at the heart of the process; ensuring that fair compensation is put in place where required; keeping disruption to minimum necessary levels and managing it sensitively; ensuring there is access to public and private space; and, most importantly, ensuring that the end product is a better place to live in.

19. City villages: More homes, better communities, IPPR, Andrew Adonis 2015

20. London Assembly: Knock it down or do it up? The Challenge of Estate Regeneration, Greater London Authority 2015

Conclusion

8

London needs to build more and better homes if it is to maintain its position as a leading global city. While there is no single solution to providing the number of homes the city needs, making better use of the capital's land through supporting higher levels of density in appropriate locations, must be at the heart of a multifaceted approach.

The density of development is the output of a broader range of factors such as transport connectivity, the location and characteristics of the site and social infrastructure requirements. Ensuring these factors are properly addressed and, in particular, that new homes (or a mixed-use development) are well-designed and of a high-quality, allows for higher densities to be achieved. The result is a better use of London's scarce land and ultimately more homes for Londoners.

A new Mayor must prioritise this issue by ensuring that planning policy in London simultaneously provides strategic support to meeting the city's housing needs through better use of land – building at higher density – while being clear that the density of any particular development – must be the output from a set of planning policies which ensure that development is fit for purpose in its location.

Many parts of London are well-connected but have low housing densities. Where redevelopment is taking place in these areas, there is a real opportunity to ensure that London is getting the most out of the development process by improving the fabric of the city and delivering more and better homes. Applying this approach to town centres, London's suburbs and public land, including housing estates in need or renewal, would be a good start to delivering the homes London needs to house its growing population and remain a competitive city.

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