

# HEARING STATEMENT FOR MATTER 2: THE HOUSING REQUIREMENT AND ITS DELIVERY

ON BEHALF OF DAVIDSONS  
DEVELOPMENTS LTD

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## 1.0 Introduction

- 1.1 These representations are prepared by Bidwells LLP on behalf Davidsons Developments Ltd in response to the updated Matters and Issues set out by the Inspector on 24th August 2018. The Statement should be read in conjunction with our representations to the pre-submission Local Plan consultation dated 17th November 2017.

## 2.0 Matter 2: The housing requirement and its delivery

### Issue 2.1 - Is the uplift of 25 dpa associated with growth at Magna Park appropriate?

- 2.1 The uplift of 25 dwellings per annum is based on the desire to reduce the need to commute to work and to seek an increase in the self-containment of the population from 19% to 25%. The modest uplift in the housing target is therefore seen as providing opportunities for those working at Magna Park to live nearby, reducing the need to travel. In principle, this is a logical aspiration and including an uplift in housing numbers on top of the OAN is an approach our client would support.
- 2.2 However, 25 dwellings per year is not seen as a sufficient uplift. Magna Park is proposed to deliver 700,000 sqm of new employment floorspace over than plan period. Using the latest HCA Employment Density Guide (November 2015), (see Appendix 1), assuming 80% net floorspace, this level of development would generate around 7,250 new jobs over the plan period (based on figures on page 29 and assuming floorspace will be for regional distribution – 1 worker per 77sqm of floorspace).
- 2.3 The uplift of 25 dwellings per annum will deliver 500 additional homes within Harborough over the Plan period. In our view, this is not a proportionate uplift given the scale of employment growth which is likely to take place at Magna Park. It would be more appropriate to aim for at least the 55 dpa scenario set out in the Magna Park Employment Growth Sensitivity Study (2017), which would positively address the opportunity to increase self-containment, and the chance of meeting objective 2 of the Plan. This would lead to an increase of 600 homes on the overall housing requirement.
- 2.4 As is covered below in relation to issues 2.3 and 2.5, it is noted that this additional housing land is not designated to a particular area of Harborough. Whilst growth is planned nearby at Lutterworth, this is within a Strategic Development Area (SDA) and, in our view, is unlikely to be delivered in a timely manner. It would be appropriate to spatially 'ring fence' this additional growth to an area within easy access of Magna Park, which logically would lead to an increase in growth proposed at Broughton Astley, which currently relies only on existing Neighbourhood Plan allocations, and as covered in our Hearing Statement on Matter 6, should be the focus of additional growth given the village's position in the settlement hierarchy.

## **Issue 2.2 - What are the risks to the achievement of the plan's housing delivery, in terms of infrastructure or other impediments to delivery?**

- 2.5 The over reliance on large strategic sites is likely to be an impediment to delivery. Whilst the need to plan for strategic scale development to meet the overall level of housing need is understood, it is important that this is supported by a range of other small, medium and large sites which provide flexibility and can support the consistent delivery of housing numbers over the plan period.
- 2.6 Focusing development on a limited number of main settlements is also likely to be an impediment to delivery. The current spatial strategy and proposed allocations limits scope for sustainable settlements, such as Broughton Astley, to make an important contribution to delivering housing requirements.
- 2.7 The reliance on Neighbourhood Plans to meet identified need is also a concern. 16% of the housing target is proposed to be delivered on unallocated sites, including in Neighbourhood Plans. Given there is no requirement for Parish Councils, Town Councils or Neighbourhood Plan Bodies to prepare Neighbourhood Plans, there is a risk that a proportion of the identified housing need will not be delivered.

## **Issue 2.3 - Are the assumptions about delivery start dates and rates from the SDAs reasonable?**

- 2.8 The revised Housing Trajectory provided by the Local Planning Authority shows that lead-in periods have been allowed for both of the SDAs. Lutterworth East is programmed to show first completions from 2023, Scraftoft North in 2021.
- 2.9 The NLP publication, From Start to Finish – How Quickly Do Large-Scale Housing Sites Deliver (November 2016), (see Appendix 2) is regularly used at examination as a guide to reasonable lead-in times and delivery rates.
- 2.10 The publication (see figure 4 on page 8) identifies a lead in time (from plan submission to first completions) of approximately 5.5 years for sites of 1,000 to 1,499 homes (equivalent to Scraftoft North) and 6.5 years for sites of 1,499 to 2,000 homes (equivalent of Lutterworth East).
- 2.11 This research would indicate that the lead-in times for both SDAs are insufficient. Scraftoft North has a current lead in period of around 3 years, which is at least 2 years too short. Lutterworth East has a lead-in time of around 5 years, which is 1.5 years too short.
- 2.12 The effect of this is to lose the last 1.5 -2 years delivery from the back end of the trajectory, which (not withstanding further comments on delivery rates below) equates to around 570 homes.
- 2.13 The NLP report also addressed delivery rates (see page14). It suggests a delivery rate for a site the scale of Scraftoft North of around 110 homes per year. For a site the scale of Lutterworth East, it suggests a deliver rate of around 140 homes per year. Both of these rates are exceeded in the trajectory.
- 2.14 Based on the guidance provided by the NLP publication, it is our view that over the plan period, Scraftoft North will deliver in the order of 880 dwellings (320 less than forecast) and Lutterworth East 840 dwellings (374 less than forecast).

## **Issue 2.4 - Is it sound to rely on the headroom provided by the currently calculated supply of 12,948 dwellings (IC3) to cater for both unmet need from Leicester and any contingency allowance for slower than anticipated delivery from allocated and committed sites?**

- 2.15 The Plan as submitted provides head room of 1,808 homes over the identified OAN. In our view this is insufficient to ensure delivery of the housing requirement over the plan period.
- 2.16 As noted in relation to issue 2.4, our assessment is that 694 of the homes in the SDA's will not be delivered within the plan period. Once the 15% allowance is added to what would be the realistic delivery rate, this would account for a further 258 of the headroom. This leaves headroom of just 856 homes (c.7.5% of the identified OAN) to take account of the other factors listed in paragraph 5.1.10 of the plan.
- 2.17 As drafted, this includes the need to cater for the unmet need from elsewhere in the HMA (with significant unmet need from Leicester likely), under-delivery on other major sites and the need to allow flexibility in supply. In our view, the headroom provided is insufficient and the plan has not been prepared in a positive manner to ensure housing need is delivered.
- 2.18 This issue is particularly pertinent given the reliance on strategic scale sites already acknowledged. As referenced in the interim findings of the Sir Oliver Letwin report on housing delivery, large scale sites can be delayed by numerous factors, and were just one or two of the proposed allocations delayed for any reason, this would put delivery of the overall strategy at risk. We would suggest an increase in the buffer to at least 20% to ensure housing need can be delivered.

## **Issue 2.5 - Given that the housing requirement would be the basis for the calculation of the five-year housing land supply, should it be increased beyond 11,140 dwellings or 557 dpa now in order to allow for a proportion of unmet need for Leicester, or should there be a trigger in the plan which increases the requirement once the amount of unmet need has been quantified?**

- 2.19 The submitted Local Plan effectively acknowledges that there is a need to cater for unmet need from elsewhere in the HMA by stating it is one of the reasons for including a 16% allowance on top of the OAN requirement. However, no allowance is made in the housing requirement to cater for unmet need and, as drafted, the Plan does not make specific provision to meet any need from elsewhere.
- 2.20 Since the publication of the SHMA in 2014, it has been known there will be unmet need from Leicester. Since this time, although the Inspector acknowledges that he has no concerns regarding the Duty to Co-operate, there has been no agreement on the specific level of unmet need and how this should be accommodated elsewhere in the HMA.
- 2.21 Leicester City, in a letter to other authorities in the HMA in February 2017, set out that they understood the unmet need was in the order of 8,834 dwellings. This is a significant shortfall which Harborough District, and the other HMA Authorities have effectively deferred for future consideration.



- 2.22 The NPPF (2012) sets out at paragraph that to be positively prepared *'the plan should be prepared based on a strategy which seeks to meet objectively assessed development and infrastructure requirements, including unmet requirements from neighbouring authorities where it is reasonable to do so and consistent with achieving sustainable development'* (Bidwells' emphasis underlined).
- 2.23 Given that the unmet need from Leicester has been known since 2014 and Leicester City have provided a guide to the shortfall since 2017, it is our view that it would have been 'reasonable' for the Local Plan to make specific provision to meet this need within the plan.
- 2.24 Whilst the level of need to be accommodated in Harborough is a matter of judgement, to be positively prepared, the plan should be clear as to how it has made some contribution to the unmet need.
- 2.25 Our view is that this should be in the form of an increase to the housing requirement and specific additional allocations to achieve the additional completions. This would be preferable to other mechanisms, such as including a reserve site(s) in the Plan, particularly given that the level of unmet need is unknown and the plan will require an early review irrespective of the approach adopted in the current Plan.
- 2.26 The advantage of planning for what would be a modest increase in the housing requirement now would be that it would avoid further delay in delivering at least part of the unmet need from Leicester. Whilst a full review of the Plan will still be likely in due course once there is agreement on the level of unmet need, provision now would be a positive step to ensure this need is met in a timely manner.
- 2.27 For clarity, this provision would be in addition to any buffer allowance in the plan. This buffer is required for under performance and other matters – it is not a clear mechanism for dealing with unmet need from elsewhere.

**Appendix 1: HCA Employment Density Guide (November 2015)**



Homes &  
Communities  
Agency

# EMPLOYMENT DENSITY GUIDE

3<sup>rd</sup> edition

November 2015

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If you have any questions on the Guide, please contact: Simon Dancer, Economist at **Simon.Dancer@hca.gsi.gov.uk**

November 2015

**For and on behalf of GVA Grimley Ltd**

### **Disclaimer:**

This Guide has been prepared with the utmost care and due diligence by Bilfinger GVA and the Homes and Communities Agency in partnership with a range of industry experts. It provides a strategic view of general employment and economic trends and their influence on employment density. It is intended to provide a general guide to employment density and a robust and consistent base for the HCA and its partners to assess the potential local employment benefits of impacts of changes to the size and use of commercial floorspace in an area.

The Guide is not intended to replace detailed development-specific information or analysis but provide a consistent benchmark to assess local employment density changes. Its contents should not be relied upon for property, investment or financing valuation or economic appraisals requiring central government approval. The authors accept no liability for the use of the Guide beyond its stated aims and objectives.

## 1. Introduction

- 1.1 This report provides the latest version of the Employment Density Guide (“the Guide”). The previous version of the Guide was published in 2010 and represented the second edition following publication of the original research report in 2001. In the 14 years since the first Guide was published, it has become the ‘go to’ resource for a range of property, planning, regeneration and economic development professionals underpinning a range of impact assessments and appraisals, policy development and strategy production.
- 1.2 Whilst the Density Guide is an important tool in the decision making process there are a range of guides that should be used for specific appraisal purposes. For example, for economic appraisals, the primary source of guidance is HM Treasury’s Green Book, which sets out the appraisal techniques required for an economic appraisal requiring central government approval.
- 1.3 The Guide’s ever increasing role at the centre of a range of property related activities requires that its density metrics remain as up to date as possible, reflecting the latest industry ‘norms’ of how space is planned, developed and utilised to ensure it provides a robust and reliable basis for its ongoing use.
- 1.4 It is against this backdrop of increasing prominence and utilisation that an update to the existing Guide has been prepared. Much has changed since the production of the 2010 Edition, which drew on data and information from earlier years. These changes have had profound effects on not just the shape of the economy but also the way businesses operate and use their premises and the very types of property that now support economic activity.
- 1.5 The core focus of this update has been the identification of the factors influencing the use of employment generating property within the UK and understanding what impact this has on how floorspace supports employment in order to ensure that the Guide remains accurate and relevant in the densities it provides. At the core of the commission is the task of testing the 2010 density matrix against current usage trends and making appropriate modifications to the matrix where necessary.

- 1.6 In order to provide a robust update to the Guide, a number of research approaches have been utilised to understand how use of employment generating floorspace has changed. At the Scoping Stage an extensive literature and research review was completed, drawing on both academic and industry information to set the context.
- 1.7 Consultation was then undertaken to test the findings of the literature review and support the development of the employment density matrix. These consultation 'interviews' were held with a range of property advisors, including planners, property agents, investment advisors and property managers in order to gain a rounded view of industry specific behaviour (See Appendix I).
- 1.8 Finally, draft findings were tested with property occupiers, operators and representative bodies in order to ensure the final matrix aligned with the most up to date trends in property utilisation. This exercise was primarily focused on testing assumptions within the Guide that were subject to the greatest change.

## 2. Calculating employment densities

- 2.1 This section provides details on the method and issues that must be considered when calculating densities.

### Employment densities

- 2.2 Employment density refers to the average floorspace (in m<sup>2</sup>) per full-time equivalent (FTE) member of staff. It is used as a measure of intensity of building use and an indicator of how much space each person occupies within the workplace.
- 2.3 Calculating the jobs generated by a particular use or building using employment densities relies upon a consistent understanding of floorspace. We provide a simple, introductory guide to floorspace measurement and employment below.
- 2.4 More detailed analysis and guidance is provided on calculating floorspace is provided in the RICS Code of Measuring Practice (6<sup>th</sup> Edition) which was updated in May 2015 to reflect and incorporate the new International Property Measuring Standards, which currently only apply to offices.

### Average employment density figures

- 2.5 Historically average employment densities have been derived from surveys of a large number of buildings; this has provided the baseline understanding of the relationship between floorspace and jobs. Since 2001, a number of industry bodies have continued to survey specific sectors and we draw on this research to inform the Guide, as considered in Section 3 in more detail.
- 2.6 With a robust understanding of employment density, it is also important to ensure the floorspace estimates are as accurate as possible.

### *Measuring floorspace*

- 2.7 The Royal Institution of Chartered Surveyors (RICS) recognises 3 principal measurements of floorspace: gross external, gross internal and net internal. In summary these are:

- Gross External Area (GEA) – this measurement includes walls, plant rooms and outbuildings, but excludes external space such as balconies and terraces. It has a narrow field of use mostly limited to calculating building costs for large industrial and warehouse buildings, planning applications and approvals, council tax banding, and rating in Scotland for industrial buildings
- Gross Internal Area (GIA) – this refers to the entire area inside the external walls of a building and includes corridors, lifts, plant rooms, service accommodation (e.g. toilets). It is a widely used metric used in calculating building costs, marketing, valuation, property management and rating (in England and Wales) of industrial buildings (including ancillary offices), warehouses and leisure units and also the valuation of new residential developments
- Net Internal Area (NIA) – this is commonly referred to as the net lettable or ‘usable’ area of offices and retail units. It includes entrance halls, kitchens and cleaners’ cupboards, but excludes corridors, internal walls, stairwells, lifts, WCs and other communal areas. It is a widely used metric and is the recognised method for marketing, valuation, property management and rating for offices, shops and supermarkets.

### *Floorspace metrics*

- 2.8 In Section 4, the Table of Employment Densities gives the measurement basis for each use class. It is recommended that the relevant floorspace metrics are used consistently throughout a project’s development, appraisal and evaluation.
- 2.9 **It is important to understand the basis of floorspace measurement and to use it consistently.** If necessary, a given figure on one basis can be converted to the appropriate basis for the employment density type.

### *Converting gross internal to net internal area*

- 2.10 Gross internal to net internal ratios can vary significantly according to use:
- For office space the gross figure is typically 15-20% higher than net internal space. However, this will be dependent upon building design and configuration, in particular relating to heights, number of cores and building servicing



- for all multi-tenanted buildings the range may be higher than 15-20% given the space allocated for shared or common areas. More often job estimates will be based on the 'let-able' area which exclude common parts such as meeting spaces
- for larger warehouses, the net area can be as much as 95% of the gross area
- for retail units the net to gross internal area relationship can be in the region of 90%

2.11 As a general benchmark, 15-20% acts as a suitable assumption for converting gross to net areas in non-industrial properties.

2.12 It is worth noting that figures for notional or proposed schemes may be presented as a GEA measurement. To convert these to a GIA, the general benchmark is a reduction of 5%.

**Table 1 - Worked Example, Converting GIA to NIA**

	Approach
Example Development	1,000sqm GIA development of B1a office used by the Finance & Insurance sector
Appraisal	<p>NIA is calculated using the benchmark in Paragraph 2.10 above:</p> <p><math>1,000 \times (100-15)\% = 850\text{sqm NIA}</math></p> <p>Or</p> <p><math>1,000 \times (100-20)\% = 800\text{sqm NIA}</math></p>

2.13 The figure used will be dependent on the level of space efficiency anticipated at the building. For more efficient buildings, use a lower conversion percentage of 15%.

*Vacant space*

2.14 When evaluating actual densities, only the occupied floorspace should be used in the evaluation. Appraisers should include a note on the amount of unoccupied space in the building at the time of calculation so that the basis of the calculations are clear. This mitigates the risk of the vacant area distorting the employment density figure.

**Table 2 - Worked Example, Calculating Vacant Space**

	Approach
Example Development	1,000sqm GIA development of B1a Finance & Insurance Sector office space as per Table 1, resulting in 800sqm NIA
Appraisal	Apply benchmark of 12sqm per FTE as per guidance in Section 4 to NIA floorspace.  $800 \div 10 = 80$ FTE
Evaluation	Despite a floor area of 800sqm only 700sqm is occupied, therefore employment is calculated as:  $700 \div 10 = 70$ FTE
Note:	<i>The building has remaining vacant floorspace of : <math>800 - 700 = 100</math>sqm Equating to potential additional capacity of: <math>100 \div 10 = 10</math> FTE</i>

- 2.15 The FTE and employment density figures in Section 4 are based on 100% occupation of a building.
- 2.16 Vacancy rates in buildings can vary significantly. There is no ‘rule of thumb’ to allocate a vacancy rate for any specific reason such as use type, scale, timing or location. It is recommended that in carrying out a project appraisal, sensitivity analysis is used to generate a number of vacancy rate scenarios (e.g. 50%, 70%, 90%) for, say, 12 months after first occupation of the building to assess the impact on the forecast gross jobs figure.
- 2.17 This sensitivity analysis would also enable an allowance to be made for any ‘void’ periods, i.e. periods when a property is unoccupied and unable to be re-let. These often occur at lease expiry where a property requires refurbishment prior to a new tenant taking up occupancy. Void periods will be directly influenced by the age and condition of the property and the strength of the local market. Estimates should be based (where possible) on these localised trends.

## Measuring employment

- 2.18 Employment can be measured in several ways:
- Actual – the number of employees who are full-time, part-time, or on contract
  - Full-time equivalent (FTE) – the number of total hours worked as a proportion of the average annual hours worked in a like-for-like full-time job
    - 1 FTE means the person works full-time

- 0.5 FTE means the person works half-time. Thus 2 part-time staff who work half-time each will equal 1 FTE

2.19 In evaluating completed projects it is recommended that FTE numbers are used to measure employment achieved. These figures should be compared with the employment forecast made as part of the project appraisal. Where there is a significant variance (i.e. +/- 10%) between ex ante appraisal and ex post evaluation, an explanation for the difference should be provided in the evaluation.

### Trends in full and part - time working

2.20 The ONS Annual Survey of Hours and Earnings (ASHE), provides data on the proportion of employees working full or part-time in different occupations:

- Service industries: part-time employment ranges between a low of 40% (found in the financial services sector) and a high of 63% (found in the leisure and recreation sector – reflecting shift patterns in bars, pubs and restaurants and seasonal working)
- Manufacturing: less than 10% are part-time

2.21 With regard to the proportion of hours worked by part-time staff to FTE, the majority of part-time staff work between 45% - 55% of full-time hours, with an overall average of 50% for all services and industry.

2.22 A ratio of 2:1 part-time staff to FTE should therefore be applied.

### Calculating employment densities for redevelopment projects

2.23 Predicting employment density figures during the project appraisal stage is most accurate for new build (or recently constructed) properties and less accurate for older properties. This is because new buildings are usually designed with regular shaped floors and capable of servicing the employment densities set out in Section 3. See also Section 4 for guidance on density variances in older buildings.

2.24 When an occupied building is to be redeveloped, care needs to be taken in the application of employment density metrics when calculating the **additional** new jobs created by the project (i.e. the gross number of jobs accommodated in the redeveloped building less the previous number of jobs in the original building). If firm

data sets are not available on employment in the original building and employment density ratios are used to determine employment levels, appraisers should adjust for the type and age of the building(s) concerned and the businesses within them.

### 3. Influences on employment density

- 3.1 As noted within the introduction, there have been significant changes within the property industry and economy more generally that have had a direct influence on how commercial property is planned and utilised since the publication of the previous Guide in 2010.
- 3.2 However, these changes have resulted in more than just a shift in occupier and operational density. Rather than focusing on the buildings themselves, employment density is increasingly more closely aligned to the *nature* of the business or sector which they accommodate. This means that an understanding of the occupier is equally as important as knowing the planning use class. It should be recognised that this can be challenging without an identified ‘pre-let’ occupier.
- 3.3 As such, it is clear that changes to the economic context have driven a fundamental shift in how many types of property can be categorised and therefore considered in employment density terms.
- 3.4 Within this section we provide an overview of the key drivers of change and the broad nature of their influence across property, full details of which are contained within Appendix 1 to this report. This section also provides definitions of the new property classifications used within the density matrix to ensure users can apply the new approach to employment densities effectively.

#### Key influences on employment density

- 3.5 Based on an initial scoping exercise to identify the key factors influencing employment density, the research has sought to consider the implications of:
- advances in technology
  - the evolution of new forms of workspace
  - changing trading formats
  - sector and sub-sector activity
- 3.6 This list is clearly not exhaustive but these factors appear to have the strongest influence on the design and utilisation of employment space. They reflect
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fundamental changes in the way businesses can and do operate and therefore have different influences on different types of businesses or economic sectors. Their influence is not only changing employment density per se, but also more closely aligning levels of employment with the nature of business activity as much as the 'category' of property they occupy. This is explored in more detail below.

- 3.7 Our engagement and consultation with industry representatives, operators and occupiers confirmed these were the key factors they had experienced that were changing the way property was utilised and the level of employment a given quantum of floorspace would support.
- 3.8 The influence and effect of these factors on the full range of property types contained within the 2010 Guide were considered. Impacts were considered in terms of broad effects and classified as having no discernable influence, an *upward* influence (i.e. they enable people to use space more densely) or a *downward* influence (i.e. they result in a 'less dense' use).
- 3.9 The assessment of broad effects has principally been informed by a mixture of desktop research, which has considered sector-specific and use class-specific information on development delivery and interviews with senior property advisors who are engaged in advising property developers across the full range of property use classes.
- 3.10 The majority of the influencing factors served to have some impact on employment densities and, therefore, necessitate an update to the employment densities within the matrix. However, as set out below, the effects from any single factor are not uniform across all property types or even within a single use; as such some level of judgement has had to be applied in determining the final Density Matrix.

### **Advances in Technology**

- 3.11 The advances in technology made in recent years are having a broad range of impacts on the way employment floorspace is used and, therefore, the level of jobs it supports. However, the impacts of technology on employment density are not linear and have contributed to a complex set of relationships that on the one hand serve to reduce density by making existing processes more efficient. On the other they create

new servicing and employment requirements, placing upward pressure on employment density.

- 3.12 These upward and downward pressures are felt across a range of activities in different ways. From 'high street' activities (such as banking and retailing) through to large scale distribution the effects of new technology are influencing how much employment an activity supports.

#### High street

- 3.13 Technology is having a major impact on the 'retail' sector in terms of how goods and services are sold to customers and how these are then supplied. Clearly the impact of internet retailing is a major factor and we consider this later in this section.
- 3.14 Technology is also improving the manner in which transactions are completed, increasing the usage of new point of service (POS) technology such as 'self-scan' checkouts and also introducing online terminals in stores for customers to 'self-order' products that the stores do not carry.
- 3.15 Both of these trends impact the level of employment within a store, however they do so in different ways. Increased use of POS reduces the number of cashiers required to deliver sales levels however the relatively new experience has required a number of staff to fill 'customer service' roles, helping customers familiarise themselves with the technology. This has protected some employment however still resulted in a lower density overall.
- 3.16 Increasing use of online ordering within stores has been a major factor for many larger department and other comparison goods stores. This has not appeared to have a significant impact on employment levels, with the focus still retained on customer service, as such employment densities has remained static.
- 3.17 Outside of the retail environment technology has also impacted on the nature of activity undertaken within high street banks and building societies. Branches now provide a much higher level of self-service machines allowing basic banking tasks to be undertaken without the need for a cashier.
- 3.18 However, similar to the retail sector, high street banks have increased the presence of 'customer service' staff who provide much more of a host role, helping customers
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themselves or providing support in using self-service machines. Clearly, the nature of high street banking and the range of financial and mortgage advice provided limits the scope for decreasing employment levels substantially as specialist employees are still required.

### *Office*

- 3.19 Generally technology is having an upward influence on employment density within office properties through the increased flexibility it provides for space planning/usage and the decreasing space requirements of physical infrastructure.
- 3.20 For example, the shift towards flexible working is driven by enhancements to wireless connectivity, which is now much more reliable and able to provide much higher bandwidths. This allows more agile working, lessening the need for many workers to have a 'fixed desk' and therefore reducing under-utilisation of space.
- 3.21 More agile forms of working have also been supported by (and driven) innovations in hardware and office fit outs. The increasing use of laptops and the advent of flat screen monitors have allowed actual desks sizes to be reduced by as much as 10% meaning it is possible to fit a greater number of desks within a fixed area. Taken with greater utilisation of these desks employment density enhancements could be significant.
- 3.22 Similarly increased usage of 'Cloud' computing and the growth in datacentre provision (supported by improvements to the UK's fibre infrastructure) has resulted in less office space being turned over to large server rooms. This reduces the level of non-active spaces within an office, again enhancing the potential employment generated by a particular building.
- 3.23 This has decreased the relative proportion of a business's cost base which is dedicated to property costs, providing an even greater focus on labour costs as a much more significant cost component. This has also begun to change the way offices are designed with greater flexibility and agility allowing new work areas such as breakout and collaboration spaces to be delivered. This creates a more diverse and interesting environment for workers and reduces the employment density of the office to some degree.



- 3.24 Ultimately, through greater electronic storage of information, more flexible working (including hot-desking and increased working from home) and the adoption of open plan space rather than cellular offices businesses are able to make better use of the space they occupy.
- 3.25 However, these trends are not universal, with their impact limited by sectoral activity, floorspace supply and job role. The nature of some activities where there is a high reliance on personal interaction, a need to use specialist equipment or provide call centre services will prevent the introduction of increased flexible working. As such, the influence of technology and changing working practices is likely to be more keenly felt in office-based sectors.
- 3.26 There may be some limitations to increased utilisation in some professional service activities (such as legal and accounting practices) which are unlikely to be able to achieve high space efficiencies through higher occupational density as they need to accommodate greater provision of cellular offices and meeting spaces. However, these would enable some degree of flexible, remote working, raising potential efficiency levels.
- 3.27 Through our research and in consultation with key industry bodies such as the BCO the differing impacts across sectors have been confirmed and have directly influenced both the revised structure of the Guide, which for the first time suggests different densities based on occupier activity.

#### *Automation and Production*

- 3.28 Increased automation has had a particularly significant effect on the manufacturing and distribution sector. It is most marked within the UK's automotive sector where much more significant elements of production are automated, reducing the need for production line staffing.
- 3.29 The impact of automation within the distribution sector is not uniform. Whilst widely used in the clothing sector, others are yet to fully embrace new technology, albeit some systems are being developed by industry leaders which are likely, in time, to be adopted by others. Much of the drive towards greater automation is to increase the speed and efficiency of multi-product order picking, which at present is largely

undertaken manually. However, as racking techniques and stock management software advance there may be reductions in the employment requirement.

- 3.30 These factors have had a downward pressure on employment density within units; however there are other factors which are offsetting this trend. With greater automation comes a greater level of servicing and support of the machinery. This has seen an increase in skilled employment within these sectors, particularly for maintenance engineers and computer programmers.
- 3.31 Furthermore, ongoing requirements to improve operating efficiencies are introducing new activities into manufacturing plants and distribution centres in particular. Costs of shipping and reducing margins are driving operators to do more 'final assembly' within units rather than store completed products, which often occupy more space. This reduces the amount of 'pure' warehousing space and increases employment density.
- 3.32 Similarly, facilities are integrating greater levels of office floorspace to enable complete business operations to be accommodated under one roof, reducing property costs. These increase levels of employment within units and hence serve to increase overall employment density.

### **The evolution of new forms of workspace**

- 3.33 There has been a significant shift in business practices in the last 2 decades. The growth in information and digital technology has transformed the way companies organise and communicate. This has also made office functions more complicated.
- 3.34 The economic shift towards knowledge intensive sectors has brought a shift in work practices and the way businesses communicate. Workforce productivity in the UK has stalled since the recession, with some estimates placing it at c.16% below pre-recession levels (Source: Bank of England Quarterly Bulletin, Q2 2014). Given the UK has continued to see employment growth at its highest in the 'knowledge economy' (i.e. professional services, technology and digital/media firms) there is no clear, singular explanation of this apparent 'puzzle' within the UK economy. Economists believe a number of factors are contributing to this weaker than anticipated performance, including: potential mis-management of resources; latent capacity within existing businesses; reduced capital investment driven by tightening

lending and even potentially 'artificially high' productivity in key sectors such as finance in the pre-recession era.

- 3.35 Despite these potentially structural challenges in the UK economy as a whole the growth in knowledge based economic activity has seen firms demand and require new functions from their office space compared to more traditional firms. Digital media firms often need multi-functional spaces in which dedicated desks can combine with collaborative areas to create a communal space to increase creativity. Emerging companies require more flexibility in terms of both office space and rental lease.
- 3.36 Home working in the UK has seen a significant rise over recent years. Data produced by the ONS in June 2014<sup>1</sup> suggests that almost 14% of the UK's working population now work from home, the highest rate since comparable data collection began in 1998, growing at an average rate of 1.2% per annum. The analysis suggests homeworkers tended to be higher skilled, with approximately two thirds self-employed.
- 3.37 Although all regions in England have seen growth in the proportion of people working from home this has been strongest in the South East and North West of England and London, where there has been a percentage point increase of c.2% since 2008. The proportion of the population working from home is highest in the South East and South West, with 16% and 17% of the working population respectively working from home.
- 3.38 This increase has been driven by a range of factors including growth in self-employment, improved broadband connectivity, property prices, commuting distances and efficiency and cost savings. This increase has been present in previously office reliant sectors i.e. consultancy and accountancy. Businesses are adapting to the varying lifestyles of modern employees. Increased flexibility allows for a balance between work, family and other commitments.
- 3.39 There has also been an increasing preference towards the major urban centres with more businesses preferring to re-locate closer to the urban core services. This

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<sup>1</sup> <http://www.ons.gov.uk/ons/rel/lmac/characteristics-of-home-workers/2014/rpt-home-workers.html>

process has in part been driven by market and lifestyle choices with workers wanting to be in close proximity to urban amenities.

- 3.40 Affordability is also one of the determining factors for the shift away from more traditional workspace models. With the increasing rental values in the urban core and increasing demand for residential property, affordability is the key factor for many micro and small businesses. New forms of workspace provide a more sharing based option which helps businesses with offsetting some of their operational costs.

### **Changing trading formats**

- 3.41 When the 2010 update of the employment densities guide was undertaken, the retail sector was experiencing considerable challenges as a consequence of the rapid deterioration in the national economy into a prolonged period of economic recession. Much has changed during and since this period of economic instability and recession, with significant implications for retail and town centre growth, which in turn can have influence on the use of floorspace and density levels observed within the sector.
- 3.42 Our engagement with the retail sector suggests that, broadly, the trend identified within the 2010 Guide that employment aligns more closely with a retail unit's turnover rather than its typology remains true. However, a diversification in the way retail is serviced and the way in which it interacts with its customers suggest that the nature of activity within the retail unit is also critical.
- 3.43 The most significant impact and influence lies within the growth of internet retailing, which has increased significantly over the past decade as a share of overall consumer spending. However, recent data suggests that internet shopping has begun to plateau and the days of rapid growth may be over which, in turn, suggests that current practices are likely to be the new normal for the foreseeable future.
- 3.44 The rise in internet shopping has brought new occupiers to the high street. Some retailers were initially 'internet only' but have now sought a shop front on the high street. These tend to be very selective in their locations, focusing on retail centres with high levels of footfall in order to maximise exposure.
- 3.45 Such stores seek to provide a customer 'experience' allowing them to interact with products or whole brands prior to purchase. This activity has a significant focus on customer service and hence tends to provide a high level of employment compared to
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the unit size. However, this is partly offset by the range of goods displayed within the unit, which require larger floorplate units without necessarily requiring increased staffing.

- 3.46 Technology and internet shopping has also changed the nature of activity within stores. The 'Click and Collect' market is the largest on-line growth sector in the UK at the current time and is now recognised as providing a reason for retailers to retain a network of stores to service local markets.
- 3.47 This has 2 opposing influences on employment density within retail units. The provision of click and collect services requires a greater level of customer service provision to enable goods to be collected in an efficient manner by the consumer. Within stores employees are required to staff specific collection points, with further needs for staff within storerooms to sort deliveries and retrieve them for customers. As such, there is a potential uplift in staffing as the storerooms become more active and staff cannot cover the whole 'shop floor'.
- 3.48 Further employment demand has resulted from other specialist click and collect package 'holding' services that occur outside of major retail stores. A range of small and medium sized retailers (including independent convenience stores and firms such as Argos) now offer collection services. These may result in a need for additional staffing to manage deliveries and also serve customers. A further recent trend is the growth in specific collection 'kiosks' in range of locations (such as Duddle who locate within or close to transport hubs). These new entrants to the 'high street' again require staffing.
- 3.49 Depending on the nature of the click and collect goods, a greater level of storage space may be required within retail units, shifting the focus away from active 'trading space'. This may decrease overall density if the relationship is considered solely as one of active floorspace to employment. However, given click and collect have a positive impact on turnover and trading levels this is likely to be offset by increased needs to 'service' customers.
- 3.50 The other major sector that has been heavily influenced by changing customer needs is foodstores. Recent trends show a shift towards more repetitive top-up shopping rather than single large bulk shopping trips. These have been driven by (and also
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influenced) the shift in focus from convenience retailers away from the development of new large superstores towards smaller metro style provision.

- 3.51 This shift is only possible thanks to improvements in the stores supply and logistics chain, which allows efficient stock delivery and management and, in turn, reduces the level of stock held on site. This allows convenience retailers to reduce storage requirements and therefore the size of unit they occupy whilst still providing a full retail offer. This also requires greater stock replenishment activity, with dedicated staff required to deal with more regular deliveries and ensure these are quickly on the shelf for sale. This is critical in stores which provide greater levels of fresh produce or pre-made meals and snacks.
- 3.52 As a result of this shift employment densities within smaller, high street convenience stores have been slightly enhanced, albeit with no actual increase in staff numbers. However, what has happened is that these improved efficiencies have offset any potential reductions from other technology advances such as self-scan.

### **Sector and sub-sector activity**

- 3.53 The nature of activity across all parts of the economy has changed significantly in recent years, with new sectors emerging and existing sectors diversifying or radically changing the way in which they operate. These changes have a significant impact on how space is used and needs to be understood in order to estimate the employment density of particular property types.

#### *Office*

- 3.54 The 2010 Guide split the office sector into General Office use (B1a), Call Centres use (B1a), IT / Data Centres use (B1a), Business Park use (B1a) and Serviced Office use (B1a).
- 3.55 However, our analysis of more recent research into office trends suggests that the current categorisation of floorspace in the office sector based on 'typologies' does not capture the nuances of the way floorspace is used by different office sub-sector occupiers. They do not acknowledge the different types and scales of uses undertaken by the varied occupiers within them. This was tested further through consultation with key stakeholders, who confirmed a much closer relationship existing between employment and activity rather than the location or type of property.
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**3.56 Employment density is much more closely aligned to the type of activity undertaken within the property rather than its location or building type.** Our understanding of occupier density (informed by the BCO Occupier Density Study (2013)) suggest that there are five sub-sectors which have identifiable occupancy trends:

- Corporate
- professional services
- public sector
- technology, media and telecoms (TMT)
- financial and insurance.

3.57 It should be noted that many of these sub-sectors fall into more than one office typology, which suggests a more nuanced approach towards understanding office employment density.

3.58 Engagement with both the BCO and BPF has confirmed the differences in density are now more closely aligned to the occupier activity rather than building typology.

#### *B1b uses and the R&D sector*

3.59 Within the 2010 Guide B1b uses are not included. In the practical application of the Guide research and development of products and processes have tended to fit within the industrial category of uses. However, more detailed analysis of trends in the sector suggests they do not fit neatly within the current B2 and B1c classification.

3.60 The R & D sector is a dynamic and broad sector, which reflects the significant technological and scientific advances which are shaping the evolution of the industrial sector. The sector can be considered to be split into two key directions; an innovation and science focussed direction which is associated with the knowledge economy and life sciences activity, and a more traditional industrial focussed direction which fits alongside manufacturing.

3.61 The more traditional industrial focussed R&D sector, which sits alongside manufacturing uses, bears similarity with the Light Industry (Business Park) use types within the current density guide, however further analysis into the alignment of

floorspace use will identify the level of alignment with the 47sqm FTE figure from the 2010 report.

- 3.62 The nature of business parks has changed, with a lower presence of light industry activity and a greater focus on space for research and development and office activity. This is much more pronounced than suggested by previous guides with the growth of major new campus based research activities across the UK which tend towards the provision of B1a and B1b floorspace.
- 3.63 The more innovation and science focussed R&D sector, associated with the knowledge economy and life sciences activity, incorporates pharmaceuticals, biotechnology, industrial technologies, creative industries, and technology, media and telecoms (TMT). This sector benefits significantly from agglomeration and the clustering of activity with similar uses and higher education institutions.

#### *Distribution*

- 3.64 The 2010 Density Guide identifies two forms of distribution activity: the General Warehousing and Distribution category and the Large Scale and High Bay Warehousing category, both falling within the B8 use class. The 2010 Guide suggested that *“technological developments and restructuring in most industrial sectors is setting a trend for an increase in floorspace per head so that average density is likely to become lower over time”*.
- 3.65 However, our analysis suggests that whilst some factors have decreased the density of employment (such as increased automation within the order picking activity) these have been more than offset by the wider range of job roles required to ensure the distribution facility functions. Similarly changing shift patterns towards 24 hour working as distribution needs increase are also offsetting reductions in the number of workers per shift.
- 3.66 The rise in zero-hours contracts has been a recent trend in the employment conditions of the distribution sector, particularly where activity is linked to the retail sector and therefore staffing requirements more seasonal. However, consultation with the industry has suggested that the impact on total staffing levels has been relatively small to date, and certainly outweighed by wider drivers of change



considered below. These contracts represent a relatively new shift for businesses and therefore the full effects are not yet understood or quantified.

3.67 The warehouse and distribution sector provides a range of employment opportunities at a range of skill levels, which is supported by research by Prologis<sup>2</sup> undertaken with occupiers of their own sites, indicating the following activities:

- warehouse staff (including forklift drivers)
- drivers
- admin
- managerial
- other (inc. ICT, customer service, sales and engineering).

3.68 This increasingly diverse range of employment opportunities within the distribution sector was supported by research undertaken by Skills for Logistics on behalf of the South East Midlands Local Enterprise Partnership (SEMLEP)<sup>3</sup>.

3.69 The Prologis research was originally completed in 2010 and benchmarked findings against a similar study by Cranfield University in 2003, allowing some degree of objectivity in the data and research approach. Comparing the two studies shows a number of trends that suggest employment densities have changed within the sector.

3.70 Firstly, the data shows a broadening of activity types between the two surveys, with a greater range of activities in the 'other' category, most notably ICT support. Furthermore, the data shows a reduction in the proportion of workers employed at the lowest levels of 'warehouse staff' decreasing from 68% to 43% of the total workforce. This fall has been offset by increases in the share of workers within admin, managerial and 'other' roles.

3.71 Given the shifts in the sector's occupational profile it is unsurprising that actual employment densities have risen in recent years. When calculated by Prologis in 2006 they estimated distribution activity employed one person per 95sqm, however by

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<sup>2</sup> Prologis: Technical Notes 2011 – Do Distribution Warehouses Deliver Jobs? (<http://www.prologis.co.uk/pdfs/technical-notes-1.pdf>)

<sup>3</sup> [http://www.semlep.com/resources/uploads/SEMLEP\\_LOGISTICS\\_REPORT\\_2013\\_final.pdf](http://www.semlep.com/resources/uploads/SEMLEP_LOGISTICS_REPORT_2013_final.pdf)

2010 this had increased to one person per 77sqm. This is a significant increase in employment density for the distribution sector, highlighting the increasing number of employees that can be supported by new, modern high quality distribution floorspace, even with significant increases in the scale of floorspace. Despite increased mechanisation and deployment of technology the data suggests that as logistics becomes more specialised both a greater number of employees and range of skills are required to operate a modern distribution facility.

3.72 A later update to the Prologis research was published in May 2015<sup>4</sup> suggests that densities have increased even further to around 69sqm per employee, largely driven by an increased share of jobs within office-based activities. Despite this research having tested this through consultation with others involved in the industry and based on our own understanding of the sector through a range of agency and employment land projects it would appear this level of density is not yet the 'norm'.

### New Categorisation Definitions

3.73 Our review of the influences on property planning and utilisation list above has suggested that the density matrix needs to consider a new approach to classifying employment generating spaces. This involves the identification of different 'categories' of space that sit within the use class framework. Below we provide a short definition of each new category.

3.74 These categorisations have been tested with a range of stakeholders through the consultation process informing this update to the Guide. They have also increasingly formed the basis of other research undertaken by both industry bodies (such as the BCO) and public sector agencies (such as the Greater London Authority or Local Planning Authorities).

### Office

3.75 The **Corporate sub-sector** is defined as including the following business types; energy, engineering, food, manufacturing, mining, property and retail. The nature of the corporate sub-sector, which incorporates a proportion of space designated for

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<sup>4</sup> Technical Insight from Prologis UK - Distribution Warehouses Deliver More Jobs  
(<http://www.prologis.co.uk/downloads/technical-insights/prologis-technical-insight-jobs.pdf>)

client meetings and functions, reception space, and internal meeting and break out space, means that there is a requirement for additional floorspace which cannot accommodate any additional full time employees. This has the effect of reducing the efficiencies of the floorspace occupation for this sub-sector, despite space efficiencies achieved through flexible working approaches.

- 3.76 The **Professional Services sub-sector** is defined as including the following business types; lawyers, accountants, management consultants and property companies. This sub-sector has a wide distribution of employment densities depending on specific uses, more so than for other sectors. Two key business types which exemplify this distribution are management consultants, which commonly adopt flexible working practices facilitating the achievement of relatively high densities, compared with legal firms, which adopt a more structured, less flexible approach to space allocation with many more client meeting rooms and therefore achieve relatively lower densities.
- 3.77 The **Public Sector** is self-explanatory in its inclusion of central government, local authorities and the third sector. This sub-sector again has a requirement for cellular offices and meeting spaces and, for local government 'civic' buildings, public spaces in order for the full range of services to be provided. These tend to drive lower densities. However, increasing requirements for public sector efficiency are increasing densities through the introduction of more flexible working and shared services across previously separate entities.
- 3.78 The **Technology, Media and Telecoms (TMT)** sector is very diverse and incorporates a wide range of tech, media and telecoms businesses ranging from small start-ups to large corporates. This diversity is identified as being contributed to by the way in which some large scale tech and media firms have large corporate environments adopting flexible working and a dense use of floorspace, where other more creative firms (which include significantly smaller firms and start-ups) have much more creative space consuming approaches to their working environment.
- 3.79 The **Financial & Insurance sub-sector** is self-explanatory in its inclusion of banks, building societies and insurance companies etc. This sub-sector tends to have high employment densities given the provision of trading floors and, to a lesser extent, more open plan floorspace with fewer requirements for client meeting and breakout space. There has been little change in the nature of office occupation in this sector

beyond the more general impacts of improved technology allowing more flexibility and efficient desk sizes, as discussed elsewhere.

### Workspace

- 3.80 Our analysis has suggested there is a need to include a broader definition of workspaces that seek to provide a base for small and start-up businesses. The sector is becoming increasingly diverse, and our current understanding of the most common typologies is set out below.
- 3.81 **Incubator** – There is no set definition of an incubator in property terms as their form will be developed in a bespoke manner to meet the needs of the particular business activity or sector they are seeking to support. In essence incubators are high specification managed workspaces that provide a high level of service in terms of technology, equipment and business support. Within scientific sectors incubators will often provide shared laboratory space alongside cellular offices.
- 3.82 **Studio** - Studio workspaces are usually artist spaces that can be operated as standalone, individually occupied units within a range of settings or as part of a more managed collection of spaces. Traditionally these have come forward in locations with an industrial heritage given the building types these locations provide; they tend to be similar to 'light industrial' units in their specification but are likely to include some integrated desk space.
- 3.83 **Maker Spaces** – These spaces provide an 'open workshop' within a light industrial type unit. They provide a single shared space for working which provides a range of tools and machinery aimed at reducing costs for small and start up production businesses. Maker Spaces tend to be run on a membership model where businesses rent time within the space and time using the large equipment separately.
- 3.84 **Co-Working Spaces** - Co-working space tends to consist of a large open plan office area offering shared desks where businesses work alongside one another. They often provide small meeting rooms and conference facilities alongside shared workspace. Operationally they tend to work on a membership basis with businesses having access for a pre-determined amount of time per month, although many do rent desk space on a permanent basis to provide an anchor tenant.
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3.85 **Managed Workspace** - A managed workspace is commercially rented serviced premises from which small businesses can trade. The delivery of managed workspace could potentially accommodate a range of spaces, from small office suites through to workshop and light industrial units. The principal focus of these spaces is on providing more formal, individual spaces for small and start-up businesses with a number of shared facilities such as meeting rooms and reception services with an on-site management. These tend to be orientated towards meeting 'general' business needs rather than target specific sectors or activities.

### Distribution

3.86 Greater importing of both finished products and production components from a range of global locations (most notably China and the 'Far East') has driven the demand for a new network of distribution spaces within the sector generally. These tend to focus on two distinct offers:

- **National Distribution Centres** - where bulk loads of imported goods are processed, sub-divided and shipped (largely via road freight)
- **Regional Distribution Centres** – these centres play the role of distributing goods to end users, either in terms of retailers or manufacturers or, increasingly, direct to clients.

3.87 A third distinct offer, which is a newly emerging type of space relating specifically to the retail sector is **local / 'final mile' distribution centres**. This accommodates 'final mile' parcel distribution companies who move goods from RDCs to individual consumers. These tend to focus on meeting the distribution needs of online retailers who lack the scale to have their own distribution networks, and are known as fulfilment centres.

### Data Centres

3.88 Our consultation with leading industry advisors suggests that datacentres have a completely different employment impact than other storage facilities and therefore require their own classification within the matrix.

3.89 There are also different types of datacentre currently operating and being developed within the UK, which generate different employment levels, these are:

- **Wholesale Datacentres** - where 1 or 2 corporate businesses occupy a dedicated data centre
- **A Dark Site Data Centre** - which is managed remotely, so there are considerably fewer staff
- **A Co-location Facility** - where a customer leases a smaller space within a data centre, which could have up to 15 occupiers, with the site managed on site by a service provider.

3.90 Whilst the size of datacentres can vary significant, with ranges from 4,000 sq m to 30,000 sq m (NIA) there is very little difference in employment generation from size, with operational model the key driver. Even within each classification there are wide variations in density:

- wholesale: 200 to 950 sqm
- wholesale dark site: 440 to 1,400 sq m
- colocation facility: 180 to 540 sq m

3.91 To further complicate matters data centre space is not always quoted in terms of floor area, they may be quoted in terms of the cooled IT equipment area, which often only accounts for circa 50% of the total floorspace.

## Hotels

3.92 The hotel sector has become highly differentiate on the basis of quality, with the star rating system failing to capture significant differences in the levels of service provided within the sector. As the market has become more segmented in the UK new categorisations have become common which reflect international categorisations.

3.93 These terms can broadly be explained as:

- **Limited Service / Budget** – low cost hotels within the 1, 2 and 3 star category, providing little or no services or amenities to guests. Examples include Travelodge, Premier Inn, Ibis
- **Mid-Scale** – usually a part of a chain and can relate to 3 or 4 star properties that target both leisure and business travellers, providing some dining and leisure facilities. Examples include Hilton Garden Inn, Holiday Inn Express, Park Inn

- Upscale – 4 or 5 star properties providing a range of services for leisure and business travellers, often also include conferencing facilities. Examples include Marriott, Grand Mercure, Crowne Plaza
- Luxury – 5 star plus hotels that provide full, high quality services to guests, most often including restaurant, spa and other leisure facilities. Examples include Sofitel, Inter-Continental, Ritz Carlton.

3.94 These figures assume employment within an individual standalone hotel, not supported by a head office.

### **Cinemas**

3.95 The cinema industry has been through major restructuring in recent years, which on the one hand has seen consolidation of larger multiplex offers into larger centres whilst also seen increased differentiation of offer (such as arthouse or formats aimed at adults).

3.96 The introduction of more adult orientated or arthouse facilities has also diversified the range of facilities within the cinema and often includes a bar and potentially restaurant. With less automation and a greater range of facilities employment densities within this market segment tend to be higher, however it is only a relatively small part of the market.

3.97 Within larger mainstream cinemas improving technology has had an impact on employment levels. The introduction of digital projection has removed the need for specialist projectionists to be employed. Much of the cinema ticketing has now moved online, reducing the need for cashiers and ticket sales staff within the cinema itself, replacing them with self-service collection machines.

3.98 As a result there has been a significant reduction in staffing levels within the mainstream cinema sector which, alongside a move towards larger multi-screen facilities, has greatly reduced employment density.

### **Implications for the density matrix**

3.99 Given the factors considered above it is clear there is a need to revisit both the densities within the matrix and also the way spaces are categorised and considered in the future.

- 3.100 Some of the factors considered clearly require new forms of workspace to be added to the matrix to enable it to be useful as the workspace environment changes. Others confirm that there are nuances within the office, distribution, retail and hotel markets that suggest an alternative characterisation is required that moves beyond a general typology approach.
- 3.101 In the next section we set out the new density matrix which draws all of the research together to provide a guide for future employment assessment. It should be noted that this is a Guide only and that many factors beyond the scope of this Guide will influence how space is delivered and used in the future. Some of these considerations are set out in Section 4 of this report, but this is not intended to be a definitive list.
- 3.102 Any use of the Guide and its density matrix will require the user to exercise their professional judgement to identify any specific factors that may result in a different employment output than is shown in the general trends within the matrix.



## 4. Employment density matrix

Use Class	Sub-Category	Sub-Sector	Density (sqm)	Notes	
<b>B1a Offices</b>	General Office	Corporate	13	NIA	
		Professional Services	12	NIA	
		Public Sector	12	NIA	
		TMT	11	NIA	
	Finance & Insurance	10	NIA		
	Call Centres		8	NIA	
<b>B1b</b>	R&D Space		40-60	NIA lower densities will be achieved in units with higher provision of shared or communal spaces	
<b>B1c</b>	Light Industrial		47	NIA	
<b>B2</b>	Industrial & Manufacturing		36	GIA	
<b>B8</b>	Storage & Distribution	National Distribution Centre	95	GEA	
		Regional Distribution Centre	77	GEA	
		'Final Mile' Distribution Centre	70	GEA	
<b>Mixed B Class</b>	Small Business Workspace	Incubator	30-60	B1a, B1b – the density will relate to balance between spaces, as the share of B1a increases so too will employment densities.	
		Maker Spaces	15-40	B1c, B2, B8 - Difference between 'planned space' density and utilisation due to membership model	
		Studio	20-40	B1c, B8	
		Co-Working	10-15	B1a - Difference between 'planned space' density and utilisation due to membership model	
		Managed Workspace	12-47	B1a, b, c	
<b>B8 / Sui Generis</b>	Data Centres	Wholesale	200-950		
		Wholesale Dark Site	440-1,400		
		Co-location Facility	180-540		
<b>A1</b>	Retail	High Street	15-20	NIA	
		Foodstore	15-20	NIA	
		Retail Warehouse	90	NIA	
<b>A2</b>	Finance & Professional Services		16	NIA	
<b>A3</b>	Restaurants & Cafes		15-20	NIA	
<b>C1</b>	Hotels	Limited Service / Budget	1 per 5 beds	FTE per bed	
		Mid-scale	1 per 3 beds	FTE per bed	
		Upscale	1 per 2 beds	FTE per bed	
		Luxury	1 per 1 bed	FTE per bed	
<b>D2</b>	Fitness Centres	Budget	100	GIA	
		Mid Market	65	GIA – both types tend to generate between 40-50 jobs per gym	
		Family			
		Cinema		200	GIA
		Visitor & Cultural Attractions		30-300	The diversity of the cultural attraction sector means a very wide range exists
		Amusement & Entertainment Centres		70	Potential range of 20-100sqm

## 5. Further considerations & guidance

- 5.1 It is clear from the research that the relationship between economic activity, property development and employment generation is changing rapidly. It has been impossible to capture all of these complexities and nuances within a Guide that is intended for more generalised use and needs to remain accessible to a wide audience.
- 5.2 Therefore, within this section we provide some strategic guidance and consideration of other factors which influence employment density but are, as yet, not sufficiently established or robustly evidenced to form generalised assumptions from.

### **Difference between space planning and space utilisation**

- 5.3 The advent of new forms of workspace and the changes to office sector explored in previous sections have meant that the way space is planned and the way in which occupiers ultimately use it are increasingly diverging.
- 5.4 The regulatory framework for the design and construction of commercial buildings within the UK sets firm guidelines for the provision of key emergency and servicing infrastructure which relate directly to the level of employment within any one building or floor within it. Whilst these apply across the commercial property sector they have their strongest influence within the office sector.
- 5.5 At the basic level there is a difference between the current typical fit out assumptions and the built specification of new office development. Whilst typical fit-out specification has now moved towards 10 sqm/per person for a standard office they are actually built to meet the regulatory requirements of a building that is being occupied at 8 sqm/per person. Many developers are delivering buildings in this manner in order to 'future proof' their buildings and ensure they have sufficient flexibility to continue to accommodate changing working practices.
- 5.6 The regulatory framework, however, ultimately limits how efficient a building can become with the 8 sqm per person level currently the maximum a standard office could achieve (although this would be significantly different for a 'trading floor'). The core reason for this is the requirements for the provision of emergency escapes and toilet facilities, which are based on the headcount of each floor within a building.

- 5.7 Therefore, whilst it is potentially possible in occupation terms to achieve a density above 8 sqm it would be uneconomic to construct a building that allows this and meets all the safety regulations. This is partly a cost issue in terms of the infrastructure required but also relates to the impact this has on the scale of servicing cores and therefore the overall efficiency of the building these requirements create. It is likely to deliver compromised floorplates which, in turn, are unlikely to prove attractive to occupiers.
- 5.8 Therefore other methods of driving efficiency are being explored as occupiers seek to reduce costs and there is a greater divergence in how different sectors function and therefore utilise space. In some sectors and property types this is beginning to see a move away from using the amount of space as basis for employment creation and, in the future may require further changes to the approach of the density guide, however at this point no firm conclusions can be drawn.
- 5.9 Hot desking and agile working have already driven up the effective density of office spaces, albeit with some offset for increased provision of breakout spaces. The efficiencies gained from these are exacerbated by further shifts towards greater flexibility in workplace location, resulting in even greater acceptance of home working. The prevalence of home working has continued to rise since the publication of the 2010 Guide, with 2014 ONS data indicating that almost 14% of the workforce now works from home at least some of the time, up from 11% in 1998.
- 5.10 Increasing the utilisation space is particular high on the public sector agenda as cost savings are sought as a result of austerity measures. Typically public sector agencies are seeking a 20% increase in space efficiency, effectively making provision for 8 desk spaces for every 10 employees. This would bring occupation broadly in line much of the private sector, albeit the BCO now report that businesses are moving towards a 7:10 ratio of workstations to FTEs.
- 5.11 The establishment of membership based club rooms and co-working spaces has also driven up the level of employment supported by a given amount of office space. The flexibility of co-working memberships and the lack of fixed workstations mean a much greater number of employees and businesses can be supported from a single workstation.
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- 5.12 However, there are inter-relationships between agile working and co-working spaces. Early indications are that some co-working provision is being used by those working flexibly away from their base office. As such it is important not to over-state the employment potential of co-working and to understand the make-up of members as part of employment density calculations.
- 5.13 Essentially, these efficiencies mean that employment generation may be significantly higher than a simple density calculation may suggest. However, this is not uniform within, let alone between, occupier sectors and whilst the Matrix seeks to make allowances for increased efficiencies as best it can further research is required on a case by case basis, particularly where co-working spaces are proposed.

### Approach to leisure/cultural attractions

- 5.14 The diversity of the cultural attraction sector indicates that providing a single density is impossible, and even the range provided requires significant levels of specific understanding to ensure employment estimations are accurate.
- 5.15 The complexity is increased further by the use of volunteers within some sectors such as small theatres and museums, who enable the facility to function but are not actually employed. Heritage attractions and zoos also add complexity as their staffing requirements are intrinsically aligned with their offer and the intensity of management this requires; as such they do not demonstrate any clear relationship between 'space' and employment levels.
- 5.16 Based on our understanding of the sector it is possible to provide some benchmark proxies which can be used to calibrate where within the matrix range a particular use may lie. However it is important to stress these should not be used as the basis for specific calculations themselves. **Given the specificity of these uses and their employment it is vital primary research is undertaken to provide robust employment estimates.**

Attraction Type	Effective Density per FTE
Small Theatre	350 sq m
Arts / Conference Venue	260 sq m
Mixed Use Venue	125 sq m
Commercial Visitor Attraction	120 sq m
Concert Venue	100 sq m
Large Museum	50 sq m

## Shift working and contracting

- 5.17 As consumer and customer demands increase and businesses are seeking greater operational efficiencies there have been some shifts in working hours and patterns in the past decade. This has affected a number of sectors but most notably has changed the way distribution and retailers operate. Many of these influences had been addressed by the 2010 Guide and our research has not discovered major differences in the assumptions made at the time.
- 5.18 The introduction of more flexible employment contracts has also made employment more fluid within operations, with the level of 'active' workers able to be more easily adjusted in line with required output. However, this has not really impacted the overall level of employment and hence employment density of an operation, but may impact how and when these jobs are deployed.
- 5.19 We have consulted with the operators and property industry representatives to test how these changes have influenced employment and have based the Matrix on their advice on total employment requirements. This has enabled us to understand the staffing requirement (in terms of FTEs) that enables the particular activity to function under industry standard operating patterns.
- 5.20 As such the density figures presented allow for usual hours of operation, such as 24 hour working within many distribution activities, and therefore do not require adjustment to allow for these trends. However, at an operator or development specific level it may be necessary to adjust the figures if they propose a significantly different operating approach.

- 5.21 At present it would appear that any changes to the shift working patterns have been outweighed by other changes in sectors which have affected the relationship between floorspace and FTE employment.
- 5.22 As discussed elsewhere in this report the recent shifts in contracting towards zero hours contracts is yet to have a noticeable impact on employment density. Whilst it may mean employment activity fluctuates over time our conversations with industry stakeholders suggests that it hasn't altered the overall level of staffing for a property but provided more 'flexibility' for their utilisation.

### **Other types of employment generating spaces**

- 5.23 The density guide focuses on the core commercial property typologies within the UK as a basis for understanding how private sector development and potential public support for commercial property delivery can support wider economic and regeneration aims.
- 5.24 However, it is clear that these are not the only sources of employment, with a much wider range of education, health, institutional and infrastructure related activities also providing a considerable scale of jobs.
- 5.25 These are very complex development types and encompass a wide range of building types, operational models and services which do not have a clear or identifiable relationship between floorspace and employment levels and hence no 'general' employment density.
- 5.26 Rather than a space driven employment requirement jobs in these sectors are much more closely related to the type of offer that the individual facility makes. As such two identically sized spaces within the same sector can have significantly different levels of employment.
- 5.27 As an example, employment levels within a hospital can vary based on any particular specialisms in treatment, teaching and surgery they may have. Where they require higher numbers of operating theatres or specialist care facilities these will have much higher staffing levels than a hospital with more 'general' ward space.

- 5.28 Similarly a school with a particular focus towards vocational courses may have a lower employment density as the teaching spaces are larger than those for classroom based more academically orientated activities.
- 5.29 In all of these sectors it is important to understand that employment is not necessarily the primary driver of space design and utilisation. Spaces are designed and constructed to meet a specific activity's requirements with the level of jobs then determined by what is required for that facility to function.
- 5.30 Some research has been undertaken previously into this field<sup>5</sup> however no consistent approach has been identified that can be more broadly applied. Given the bespoke nature of property and then the specialised nature of activities within them identifying simple density proxies would require significant primary research and would require a separate Guide where each operation (or mix of operations) could be to be considered on its own merits.

### Changes to measuring practices

- 5.31 The RICS has launched new professional guidelines on property measurement, the International Property Measurement Standards (IPMS), which aim to bring transparency and consistency to the global commercial property sector. Initially, this updates the Code of Measuring Practice for office space, and will be further updated to include residential, industrial and retail properties.
- 5.32 IPMS will become mandatory for chartered surveyors from January 2016. Whilst this may potentially impact how density is measured in the future, we have found no evidence of any impact to date on the way space is planned or utilised.
- 5.33 Clearly as use of the new standards becomes common place and is deployed across all property types there may be a need to revisit or reframe the way the relationship between floorspace and employment is described.

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<sup>5</sup> For example see "Planning for Prosperous Economies", Bilfinger GVA, 2009, [www.gva.co.uk/WorkArea/DownloadAsset.aspx?id=2147488578](http://www.gva.co.uk/WorkArea/DownloadAsset.aspx?id=2147488578)

## 6. Comparison of densities 2015 to 2010

Use Class	Sub-Category	Sub-Sector	2015 Density (sqm)	2010 Density (sqm)
<b>B1a Offices</b>	General Office (NIA)	Corporate	13	12
		Professional Services	12	
		Public Sector	12	
		Tech	11	
		Finance & Insurance	10	
	Call Centres (NIA)		8	8
<b>B1b</b>	R&D Space (NIA)		40-60	n/a
<b>B1c</b>	Light Industrial (NIA)		47	47
<b>B2</b>	Industrial & Manufacturing (GIA)		36	36
<b>B8</b>	Storage & Distribution (GEA)	National Distribution Centre	95	General: 70  Large Scale & High Bay Warehousing: 80
		Regional Distribution Centre	77	
		'Final Mile' Distribution Centre	70	
<b>Mixed B Class</b>	Small Business Workspace	Incubator	30-60	Serviced Office: 10  <i>Detailed explanation for the changes in this category are provided in Section 3 Para's 3.77-3.82</i>
		Maker Spaces	15-40	
		Studio	20-40	
		Co-Working	10-15	
		Managed Workspace	12-47	
<b>B8 / Sui Generis</b>	Data Centres	Wholesale	200-950	47  <i>Detailed explanation for the changes in this category are provided in Section 3 Para's 3.85-3.88</i>
		Wholesale Dark Site	440-1,400	
		Co-location Facility	180-540	
<b>A1</b>	Retail (NIA)	High Street	15-20	19
		Foodstore	15-20	17
		Retail Warehouse	90	90
<b>A2</b>	Finance & Professional Services (NIA)		16	16
<b>A3</b>	Restaurants & Cafes (NIA)		15-20	18
<b>C1</b>	Hotels	Limited Service / Budget	1 per 5 beds	Budget: 1 per 3 beds General: 1 per 2 beds 4/5 Star: 1 per 1.beds
		Mid scale	1 per 3 beds	
		Upscale	1 per 2 beds	
		Luxury	1 per 1 bed	
<b>D2</b>	Fitness Centres	Budget	100	Sports Centres & Private Clubs: 65
		Mid Market	65	
		Family		
	Cinema (GIA)		200	90  <i>Detailed explanation for the changes in this category are provided in Section 3 Para's 3.92-3.95</i>
	Visitor & Cultural Attractions (GIA)		30-300	36  <i>Further Guidance is provided in Section 5 Para's 5.14-5.16</i>
	Amusement & Entertainment Centres (GIA)		70	70



## Appendix I – Consultation and Engagement

To inform the development of the 2015 Density Guide one to one interviews were undertaken with a cross section of occupiers, developers, investors and consultants from within Bilfinger GVA and the wider industry.

To test draft findings and refine our understanding key representative bodies were invited to review and comment on the study, including the:

- British Property Federation (BPF)
- British Council of Offices (BCO)
- British Council of Shopping Centres (BCSC)
- Royal Institute of Chartered Surveyors (RICS)
- Royal Town Planning Institute.

All interviews and other feedback has been incorporated into the analysis presented within Section 3 of the Guide and used to inform the density assumptions used within Section 4.

homesandcommunities.co.uk  
mail@homesandcommunities.co.uk  
0300 1234 500



# Homes & Communities Agency

**Homes and Communities Agency**  
Fry Building  
2 Marsham Street  
London SW1P 4DF

The Homes and Communities Agency is committed to providing accessible information where possible and we will consider providing information in alternative formats such as large print, audio and Braille upon request.

**Appendix 2: NLP, From Start to Finish – How Quickly Do Large-Scale Housing Sites Deliver (November 2016)**



TRIP  
Targeted Research  
& Intelligence Programme



Nathaniel Lichfield  
& Partners  
Planning. Design. Economics.

# Start to Finish

How Quickly do Large-Scale Housing Sites Deliver?

November 2016



# Executive Summary

There is a growing recognition that large-scale housing development can and should play a large role in meeting housing need. Garden towns and villages – planned correctly – can deliver sustainable new communities and take development pressure off less sustainable locations or forms of development.

However, what looks good on paper needs to deliver in practice. Plans putting forward large sites to meet need must have a justification for the assumptions they make about how quickly sites can start providing new homes, and be reasonable about the rate of development. That way, a local authority can decide how far it needs to complement its large-scale release with other sites – large or small – elsewhere in its district.

This research looks at the evidence on speed and rate of delivery of large-scale housing based on a large number of sites across England and Wales (outside London). We draw five conclusions:

1. If more homes are to be built, more land needs to be released and more planning permissions granted. There is no evidence to support the notion of systemic 'land banking' outside London: the commercial drivers of both house builders and land promoters incentivises rapid build out of permissions to secure returns on capital.
2. Planned housing trajectories should be realistic, accounting and responding to lapse rates, lead-in times and sensible build rates. This is likely to mean allocating more sites rather than less, with a good mix of types and sizes, and then being realistic about how fast they will deliver so that supply is maintained throughout the plan period. Because no one site is the same – and with significant variations from the average in terms of lead-in time and build rates – a sensible approach to evidence and justification is required.
3. Spatial strategies should reflect that building homes is a complex and risky business. Stronger local markets have higher annual delivery rates, and where there are variations within districts, this should be factored into spatial strategy choices. Further, although large sites can deliver more homes per year over a longer time period, they also have longer lead-in times.
4. Plans should reflect that – where viable – affordable housing supports higher rates of delivery. This principle is also likely to apply to other sectors that complement market housing for sale, such as build to rent and self-build (where there is demand for those products). This might mean some areas will want to consider spatial strategies that favour sites with greater prospects of affordable or other types of housing delivery.
5. For large-scale sites, it matters whether a site is brownfield or greenfield. The latter come forward more quickly.

In our conclusions we identify a check list of questions for consideration in exploring the justification for assumed timing and rates of delivery of large-scale sites.



An aerial photograph of a residential development. The top half of the image is dominated by a semi-transparent white overlay containing text. Below the overlay, the image shows a mix of completed houses with red-tiled roofs and a central area under construction with exposed wooden frames and scaffolding. The surrounding area includes green spaces and other residential buildings.

## The Research in Figures

**70** number of large sites assessed

**3.9** years the average lead in time for large sites prior to the submission of the first planning application

**6.1** years the average planning approval period of schemes of 2,000+ dwellings. The average for all large sites is circa 5 years

**161** the average annual build rate for a scheme of 2,000+ dwellings

**321** the highest average annual build rate of the schemes assessed, but the site has only delivered for three years

**40%** approximate increase in the annual build rate for large sites delivering 30%+ affordable housing compared to those delivering 10%-19%

**50%** more homes per annum are delivered on average on large greenfield sites than large brownfield sites







# Introduction

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When it comes to housing, Government wants planning to think big. With its Garden Towns and Villages agenda and consultation on proposed changes to the National Planning Policy Framework (NPPF) to encourage new settlements, planning authorities and developers are being encouraged to bring forward large-scale housing development projects, many of them freestanding. And there is no doubt that such projects will be necessary if England is to boost supply and then consistently deliver the 300,000 new homes required each year<sup>1</sup>.

Large-scale sites can be an attractive proposition for plan-makers. With just one allocation of several thousand homes, a district can – at least on paper – meet a significant proportion of its housing requirement over a sustained period. Their scale means delivery of the infrastructure and local employment opportunities needed to sustain mixed communities.

But large-scale sites are not a silver bullet. Their scale, complexity and (in some cases) up-front infrastructure costs means they are not always easy to kick start. And once up and running, there is a need to be realistic about how quickly they can deliver new homes. Past decades have seen too many large-scale developments failing to deliver as quickly as expected, and gaps in housing land supply have opened up as a result.

So, if Local Plans and five year land supply assessments are to place greater reliance on large-scale developments – including Garden Towns and Villages – to meet housing needs, the assumptions they use about when and how quickly such sites will deliver new homes will need to be properly justified.

*“Local planning authorities should take a proactive approach to planning for new settlements where they can meet the sustainable development objectives of national policy, including taking account of the need to provide an adequate supply of new homes. In doing so local planning authorities should work proactively with developers coming forward with proposals for new settlements in their area.”*

**DCLG consultation on proposed changes to national planning policy (December 2015)**

The Planning Practice Guidance (PPG) offers little guidance other than identifying that timescales and rates of development in land availability assessments should be based on information that “*may include indicative lead-in times and build-out rates for the development of different scales of sites. On the largest sites allowance should be made for several developers to be involved. The advice of developers and local agents will be important in assessing lead-in times and build-out rates by year*”<sup>2</sup>. It also requires housing land availability assessments to include: “a reasonable estimate of build out rates, setting out how any barriers to delivery could be overcome.”<sup>3</sup>

This research provides insights to this topic – which has become a perennial discussion at Local Plan examinations and Section 78 appeals in recent years – by focusing on two key questions:

1. what are realistic lead-in times for large-scale housing developments?; and
2. once the scheme starts delivering, what is a realistic annual build rate?

NLP has carried out a desk-based investigation of the lead-in times and build-out rates on 70 different strategic housing sites (“large sites”) delivering 500 or more homes to understand what factors might influence delivery. For contrast 83 “small sites” delivering between 50 and 499 homes have been researched to provide further analysis of trends in lead in times and build rates at varying scales.

As well as identifying some of the common factors at play during the promotion and delivery of these sites it also highlights that every scheme has its own unique factors influencing its progress: there can be significant variations between otherwise comparable developments, and there is no one ‘typical scheme’. This emphasises the importance of good quality evidence to support the position adopted on individual projects.

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<sup>1</sup> House of Lords Select Committee on Economic Affairs (2016) Building more homes: 1st Report of Session 2016-17 - HL Paper 20

<sup>2</sup> PPG ID: 3-023-20140306

<sup>3</sup> PPG ID: 3-028-20140306

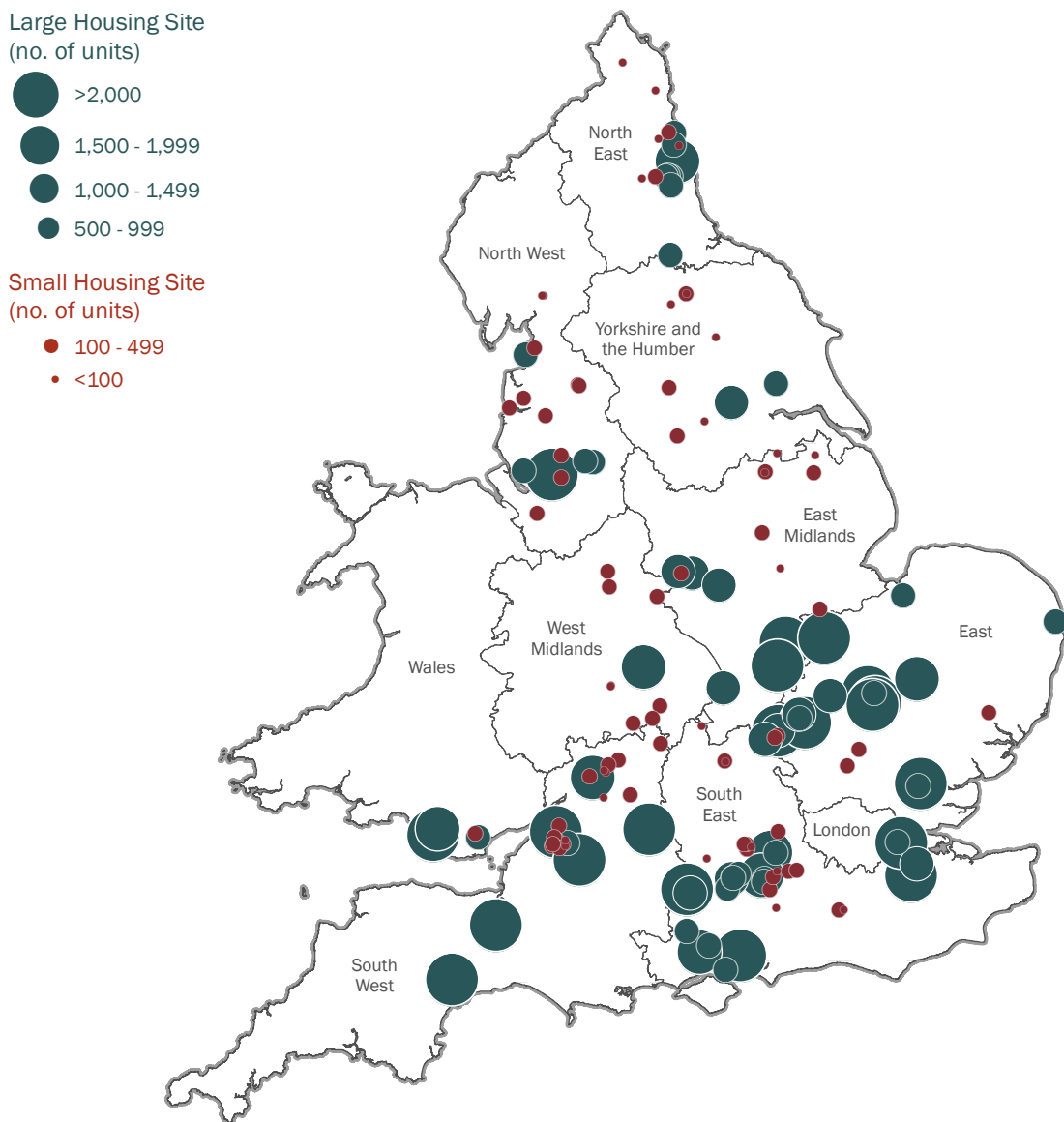


# Data Sources and Methodology

In total NLP reviewed 70 strategic sites (“large sites”) which have delivered, or will deliver, in excess of 500 dwellings. The sites range in size from 504 to 15,000 dwellings. The geographic distribution of the 70 large sites and comparator small sites is set out below in Figure 1. A full list of the large sites can be found in Appendix 1 and the small sites in Appendix 2. NLP focused on sites outside London, due to the distinctive market and delivery factors applicable in the capital.

Efforts were made to secure a range of locations and site sizes in the sample, but it may not be representative of the housing market in England and Wales as a whole and thus conclusions may not be applicable in all areas or on all sites.

Figure 1: Geographic Distribution of the 70 Large Sites and 83 Small Sites Assessed



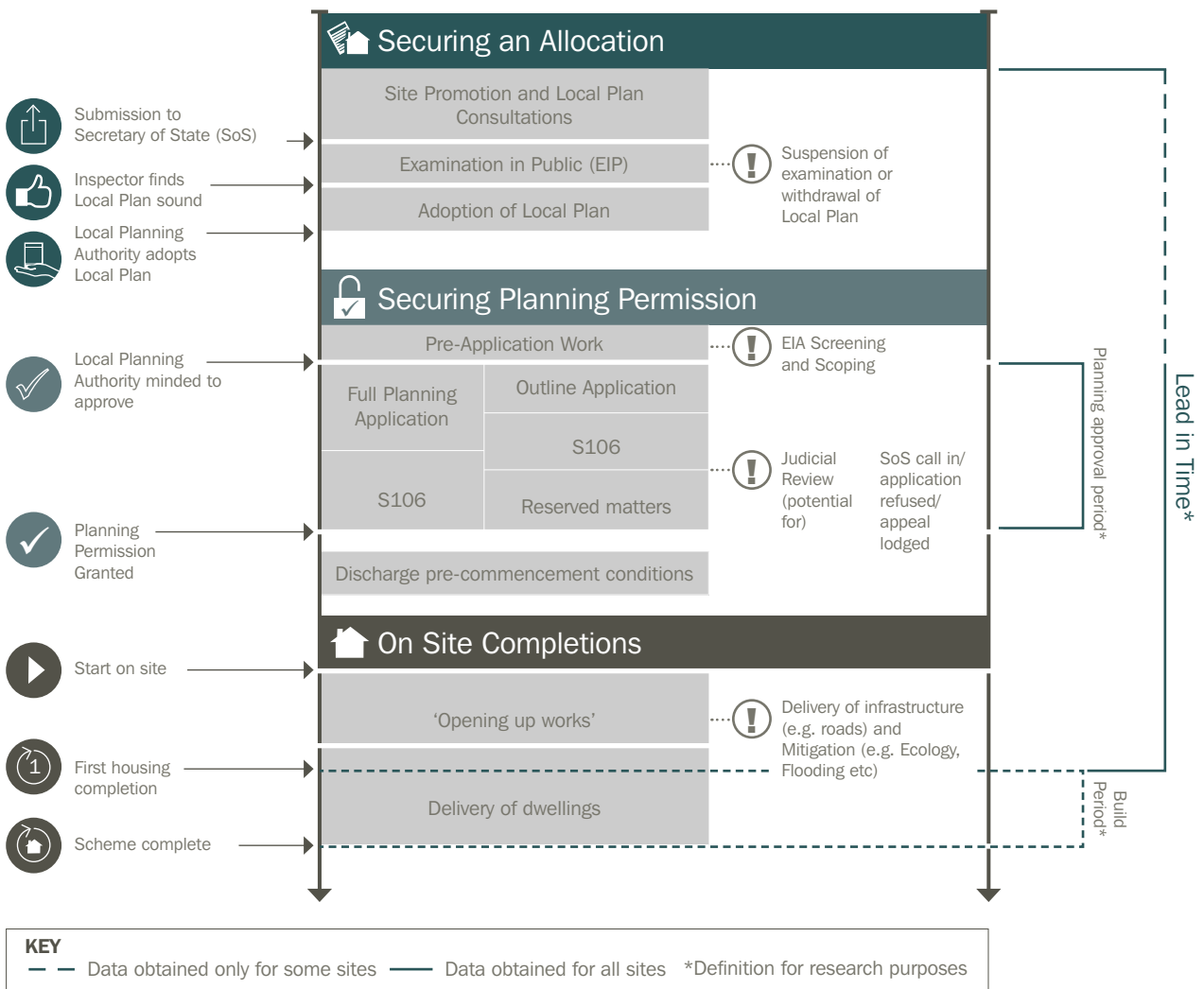
Source: NLP analysis

## Methodology

The research aims to cover the full extent of the planning and delivery period. So, wherever the information was available, the data collected on each of the 70 sites covers the stages associated with the total lead-in time of the development (including the process of securing a development plan allocation), the total planning approval period, starting works on site, delivery of the first dwelling and the annualised build rates recorded for the development up until to the latest year where data is available (2014/15). To structure the research and provide a basis for standardised measurement and comparison, these various stages (some of them overlapping) have been codified.

Figure 2 sets out the stages and the milestones used to measure them. These are assumed to fall under what are defined as 'lead-in times', 'planning approval periods' and 'build periods', with 'first housing completion' denoting the end of the lead-in time and start of the build period. Not every site assessed will necessarily have gone through each component of the identified stages sequentially, or indeed at all (for example, some sites secure planning permission without first being allocated).

Figure 2: Timeline for the Delivery of a Strategic Housing Site



Source: NLP

Start to Finish

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The approach to defining these stages for the purposes of this research is set out below:

- The **'lead-in time'** – this measures the period up to the first housing completion on site from either a) the date of the first formal identification of the site as a potential housing allocation (e.g. in a LPA policy document) or where not applicable, available or readily discernible – b) the validation date of the first planning application made for the scheme.
- The **'planning approval period'** is measured from the validation date of the first application for the proposed development (be that an outline, full or hybrid application). The end date is the decision date of the first detailed application which permits the development of dwellings on site (this may be a full or hybrid application or the first reserved matters approval which includes details for housing). The discharge of any pre-commencement and other conditions obviously follows this, but from a research perspective, a measurement based on a detailed 'consent' was considered reasonable and proportionate milestone for 'planning' in the context of this research.
- The date of the **'first housing completion'** on site (the month and year) is used where the data is available. However, in most instances the monitoring year of the first completion is all that is available and in these cases a mid-point of the monitoring period (1st October, falling halfway between 1st April and the following 31st March) is used.
- The **'annual build rate'** falls within the overall 'build period'. The annual build rate of each site is taken or inferred from the relevant Local Planning Authority's Annual Monitoring Reports (AMR) or other evidence based documents where available. In some instances this was confirmed – or additional data provided – by the Local Planning Authority or County Council.

Due to the varying ages of the assessed sites, the implementation of some schemes was more advanced than others and, as a function of the desk-based nature of the research and the vintage of some of the sites assessed, there have been some data limitations, which means there is not a complete data set for every assessed site. For example, lead-in time information prior to submission of planning applications is not available for all sites. And because not all of the sites assessed have commenced housing delivery, annual build rate information is not universal. The results are presented accordingly.







# Getting Started: What are Realistic Lead-in Times?

How long does it take for large-scale sites to get up and running? This can be hard to estimate. Understandably, those promoting sites are positive about how quickly they can deliver, and local authorities choosing to allocate large-scale sites in their plans are similarly keen for these sites to begin making a contribution to housing supply. This leads some local housing trajectories to assume that sites can be allocated in Local Plans and all detailed planning approvals secured in double-quick time. However, the reality can prove different.

Our main focus here is on the average 'planning approval period' and the subsequent period from receiving a detailed planning approval to delivery of the first house on site. However, another important metric is how long it takes from the site being first identified by the local authority for housing delivery to getting started on site. Unfortunately, getting accurate data for this on some of the historic sites is difficult, so this analysis is focused on a just 18 of the sample sites where information was available.

## Lead-in Times

The lead-in time prior to the submission of a planning application is an important factor, because many planning issues are flushed out in advance of planning applications being submitted, not least in terms of local plan allocations establishing the principle of an allocation. In a plan-led system, many large-scale sites will rely on the certainty provided by Local plans, and in this regard, the slow pace of plan-making in the period since the NPPF<sup>4</sup> is a cause for concern.

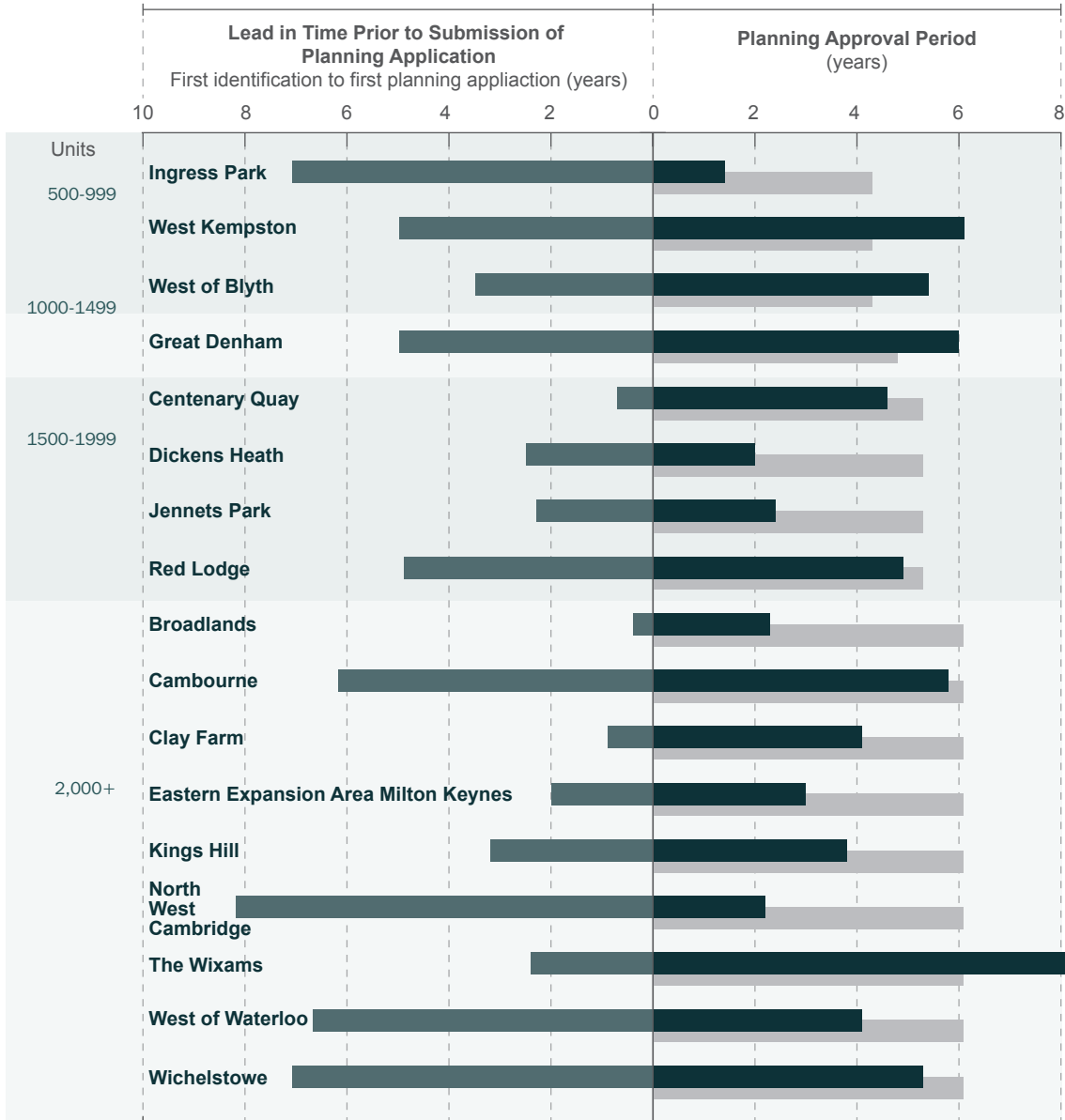
If the lead-in time prior to submission of an application is able to focus on addressing key planning issues, it can theoretically help ensure that an application – once submitted – is determined more quickly. Our sample of sites that has lead-in time information available is too small to make conclusions on this theory. However, there is significant variation within these sites highlighting the complexity of delivering homes on sites of different sizes. Of this sample of sites: on average it was 3.9 years from first identification of the site for housing to the submission of the initial planning application.

Moreover, a substantial lead-in time does not guarantee a prompt permission: 4 of the 18 sites that took longer to gain planning permission than the average for sites of comparable size and also had lead-in times prior to submission of a planning application of several years<sup>5</sup>.

<sup>4</sup> As at September 2016, just 34% of Local Authorities outside London have an up-to-date post-NPPF strategic-level Local Plan. Source: PINS / NLP analysis.

<sup>5</sup> The sites in question were The Wixams, West Kempton, West of Blyth, and Great Denham.

Figure 3: Average lead-in time of sites prior to submission of the first planning application



**KEY**  
 ■ Lead in time prior to submission of planning application  
 ■ Planning approval period  
 ■ Average planning application period for site of that size

Source: NLP analysis

## The Planning Approval Period: Size Matters

The term ‘planning approval period’ in this report measures the period from the validation date of the first planning application for the scheme to the decision date of the first application which permits development of dwellings on site (this could be a full, hybrid or reserved matters application). Clearly, in many cases, this approval will also need to be followed by discharge of pre-commencement conditions (a focus of the Government’s Neighbourhood Planning Bill) but these were not reviewed in this research as a detailed approval was considered an appropriate milestone in this context.

The analysis considers the length of planning approval period for different sizes of site, including comparing large-scale sites with small sites. Figure 4 shows that the greater the number of homes on a site, the longer the planning approval period becomes. There is a big step-up in time for sites of in-excess of 500 units.

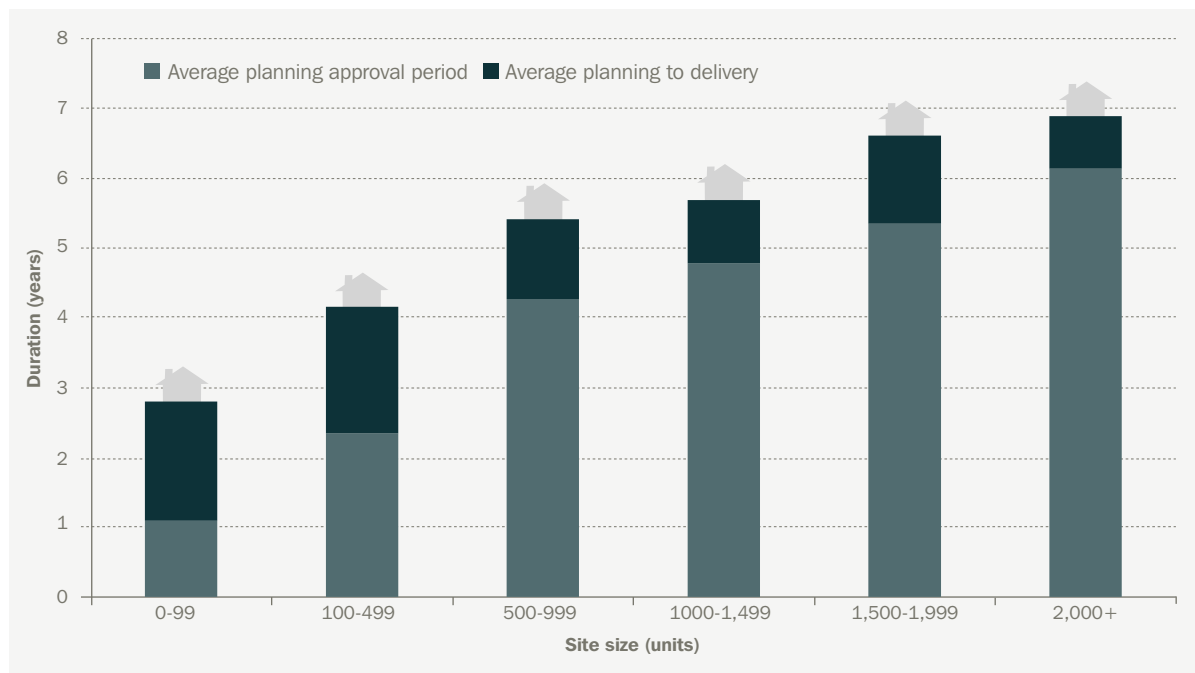
## Time Taken for First Housing Completion after Planning Approval

Figure 4 also shows the time between the approval of the first application to permit development of dwellings on site and the delivery of the first dwelling (during which time any pre-commencement conditions would also be discharged), in this analysis this is the latter part of the lead in time period. This reveals that the timescale to open up a site following the detailed approval is relatively similar for large sites.

Interestingly, our analysis points to smaller sites taking longer to deliver the first home after planning approval. This period of development takes just over 18 months for small sites of under 500 units, but is significantly quicker on the assessed large-scale sites; in particular, on the largest 2,000+ dwelling sites the period from receiving planning approval to first housing completion was 0.8 years.

In combination, the planning approval period and subsequent time to first housing delivery reveals the total period increases with larger sites, with the total period being in the order of 5.3 – 6.9 years. Large sites are typically not quick to deliver; in the absence of a live planning application, they are, on average, unlikely to be contributing to five year housing land supply calculations.

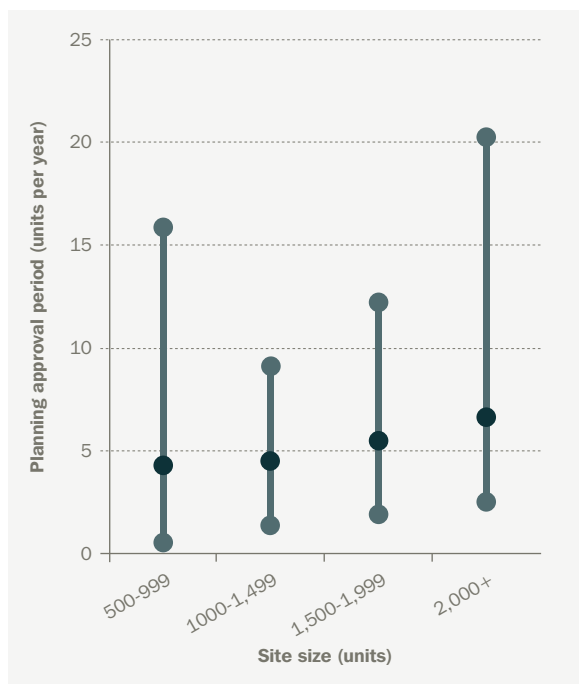
Figure 4: Average planning approval period and delivery of first dwelling analysis by site size



Source: NLP analysis

Of course, these are average figures, and there are significant variations from the mean. Figure 5 below shows the minimum and maximum planning approval periods for sites in each of the large size categories. This shows even some of the largest sites coming forward in under two years, but also some examples taking upwards of 15-20 years. Clearly, circumstances will vary markedly from site to site.

Figure 5: Site size and duration of planning



Source: NLP analysis

## Case Studies

If some sites are coming forward more quickly than the average for sites of that size, what is it that is driving their rapid progress? We explored this with some case studies. These suggest that when schemes are granted planning permission significantly faster than the above averages, it is typically due to specific factors in the lead-in time prior to the submission of a planning application.

### Gateshead – St James Village (518 dwellings): Planning approval period 0.3 years<sup>6</sup>

This site was allocated as a brownfield site in the Gateshead UDP (2000) prior to the submission of a planning application for the regeneration scheme. A Regeneration Strategy for East Gateshead covered this site and as at 1999 had already delivered high profile flagship schemes on the water front. Llewelyn Davis were commissioned by the Council and English Partnerships to prepare a masterplan and implementation strategy for the site which was published in June 1999. Persimmon Homes then acquired the site and it was agreed in autumn 1999 that they should continue the preparation of the masterplan. East Gateshead Partnership considered the masterplan on the 08th March 2000 and recommended approval. Subsequently, the outline application (587/00) with full details for phase 1 was validated on the 6th September 2000 and a decision issued on the 9th January 2001.

It is clear that although it only took 0.3 years for the planning application to be submitted and granted for a scheme of more than 500 units, the lead in time to the submission of the application was significant, including an UDP allocation and a published masterplan 18 months ahead of permission being granted. By the time the planning application was submitted most of the site specific issues had been resolved.

<sup>6</sup> St James Village is excluded from the lead-in time analysis because it is unclear on what date the site was first identified within the regeneration area



### **Dartford – Ingress Park (950 dwellings): Planning approval period 1.4 years**

This site was initially identified in a draft Local Plan in 1991 and finally allocated when this was adopted in April 1995. The Ingress Park and Empire Mill Planning Brief was completed in three years later (November 1998).

The submission of the first planning application for this scheme predated the completion of the Planning Brief by a few months, but the Council had already established that they supported the site. By the time the first application for this scheme was submitted, the site had been identified for development for circa seven years.

The outline application (98/00664/OUT) was validated on the 10th August 1998 and permission granted on the 21st Nov 2000, a determination period of 1 year and 3 months). A full application for the First Phase for 52 dwellings (99/00756/FUL) was validated and approved in just two months, prior to approval of the outline. Clearly, large-scale outline permissions have to wrap up a wide range of other issues, but having first phase full applications running in parallel can enable swifter delivery, in situations where a 'bite sized' first phase can be implemented without triggering complex issues associated with the wider site.

### **Cambridge and South Cambridgeshire – North West Cambridge (3,000 dwellings and 2,000 student bed spaces): Planning approval period 2.2 years**

Cambridge University identified this area as its only option to address its long-term development needs, and the Cambridgeshire and Peterborough Structure Plan 2003 identified the location for release from the Green Belt. The site was allocated in the 2006 Cambridge Local Plan, and the North West Cambridge Area Action Plan was adopted in October 2009. The Area Action Plan established an overall vision and set out policies and proposals to guide the development as a whole.

As such, by the time the first application for this scheme was submitted, there had already been circa eight years of 'pre-application' planning initially concerning the site's release from the Green Belt, but then producing the Area Action Plan which set out very specific requirements.. This 'front-loaded' consideration of issues that might otherwise have been left to a planning application.

The outline application (11/1114/OUT – Cambridge City Council reference) for delivery of up to 3,000 dwellings, up to 2,000 student bed spaces and 100,000 sqm of employment floorspace was validated on the 21st September 2011 and approved on the 22nd of February 2013. The first reserved matters application for housing (13/1400/REM) was validated on the 20th September 2013 and approved on the 19th December 2013. Some ten years from the concept being established in the Structure Plan.

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## Summary on Lead-in Times

1. On average, larger sites take longer to complete the planning application and lead-in processes than do smaller sites. This is because they inevitably give rise to complex planning issues related to both the principle of development and the detail of implementation.
2. Consideration of whether and how to implement development schemes is necessary for any scheme, and the evidence suggests that where planning applications are determined more quickly than average, this is because such matters were substantially addressed prior to the application being submitted, through plan-making, development briefs and/or master planning. There is rarely a way to short-circuit planning.
3. Commencement on large sites can be accelerated if it is possible to 'carve-out' a coherent first phase and fast track its implementation through a focused first phase planning application, in parallel with consideration of the wider scheme through a Local Plan or wider outline application.
4. After receiving permission, on average smaller sites take longer to deliver their first dwelling than do the largest sites (1.7-1.8 years compared to 0.8 years for sites on 2,000+ units).

# Lapse Rates: What Happens to Permissions?

Not every planning permission granted will translate into the development of homes. This could mean an entire site does not come forward, or delivery on a site can be slower than originally envisaged. It is thus not realistic to assume 100% of planning permission granted in any given location will deliver homes. Planning permissions can lapse for a number of reasons:

1. The landowner cannot get the price for the site that they want;
2. A developer cannot secure finance or meet the terms of an option;
3. The development approved is not considered to be financially worthwhile;
4. Pre-commencement conditions take longer than anticipated to discharge;
5. There are supply chain constraints hindering a start; or
6. An alternative permission is sought for the scheme after approval, perhaps when a housebuilder seeks to implement a scheme where the first permission was secured by a land promoter.

These factors reflect that land promotion and housebuilding is not without its risks.

At the national level, the Department for Communities and Local Government has identified a 30-40% gap between planning permissions granted for housing and housing starts on site<sup>7</sup>. DCLG analysis suggested that 10-20% of permissions do not materialise into a start on site at all and in addition, an estimated 15-20% of permissions are re-engineered through a fresh application, which would have the effect of pushing back delivery and/or changing the number of dwellings delivered.

This issue often gives rise to claims of 'land banking' but the evidence for this is circumstantial at best, particularly outside London. The business models of house builders are generally driven by Return on Capital Employed (ROCE) which incentivises a quick return on capital after a site is acquired. This means building and selling homes as quickly as possible, at sales values consistent with the price paid for the land. Land promoters (who often partner with landowners using promotion agreements) are similarly incentivised to dispose of their site to a house builder to unlock their promotion fee. Outside London, the scale of residential land prices has not been showing any significant growth in recent years<sup>8</sup> and indeed for UK greenfield and urban land, is still below levels last seen at least 2003<sup>9</sup>. There is thus little to incentivise hoarding land with permission.

The LGA has identified circa 400-500,000 units of 'unimplemented' permissions<sup>10</sup>, but even if this figure was accurate, this is equivalent to just two years of pipeline supply. More significantly, the data has been interpreted by LGA to significantly overstate the number of unimplemented permissions because 'unimplemented' refers to units on sites where either the entire site has not been fully developed or the planning permission has lapsed<sup>11</sup>. It therefore represents a stock-flow analysis in which the outflow (homes built) has been ignored.

Insofar as 'landbanking' may exist, the issue appears principally to be a London – rather than a national – malaise, perhaps reflecting that land values in the capital – particularly in 'prime' markets – have increased by a third since the previous peak of 2007. The London Mayor's 'Barriers to Housing Delivery – Update' of July 2014 looked at sites of 20 dwellings or more and reported that only about half of the total number of dwellings granted planning permission every year are built (Table 3); a lapse rate of circa 50% across London.

Clearly, the perceived problem of landbanking is seeing policy attention from Government, but caution is needed that any changes do not result in unintended consequences or act as a disincentive to secure planning permissions.

A more practical issue is that Plans and housing land trajectories must adopt sensible assumptions, based on national benchmarks, or – where the data exists – local circumstances, to understand the scale of natural non-implementation.

<sup>7</sup> DCLG Presentations to the HBF Planning Conference (September 2015)

<sup>8</sup> Knight Frank Residential Development Land Index Q1 2016 <http://content.knightfrank.com/research/161/documents/en/q1-2016-3844.pdf>

<sup>9</sup> Savills Development Land Index <http://www.savills.co.uk/research/uk/residential-research/land-indices/development-land-index.aspx>

<sup>10</sup> Glenigan data as referenced by Local Government Association in its January 2016 media release (a full report is not published) [http://www.local.gov.uk/web/guest/media-releases/-/journal\\_content/56/10180/7632945/NEWS](http://www.local.gov.uk/web/guest/media-releases/-/journal_content/56/10180/7632945/NEWS)

<sup>11</sup> This would mean that a site which has built 99% of homes will still show up as 100% of units being 'unimplemented'



## Size Matters

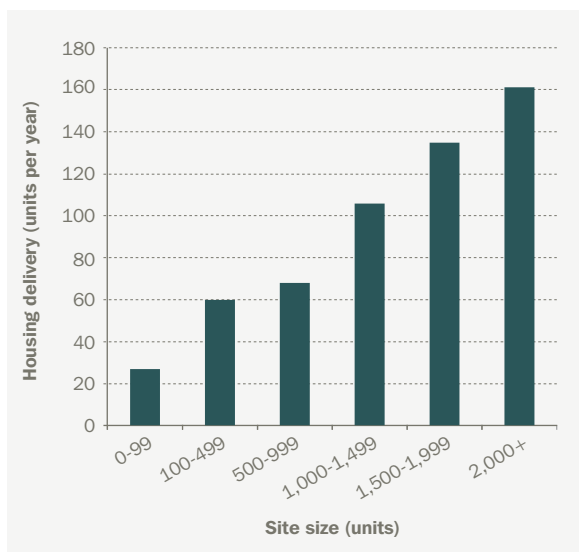
A key metric for build rates on sites is the number of sales outlets. Different housebuilders will differentiate through types or size of accommodation and their brands and pricing, appealing to different customer types. In this regard, it is widely recognised that a site may increase its absorption rate through an increased number of outlets.

Unfortunately, data limitations mean that the number of outlets is not readily available for the large sites surveyed within this research, and certainly not on any longitudinal basis which is relevant because the number of outlets on a site may vary across phases.

However, it is reasonable to assume that larger sites are likely to feature more sales outlets and thus have greater scope to increase build rates. This may relate to the site being more geographically extensive: with more access points or development ‘fronts’ from which sales outlets can be driven. A large urban extension might be designed and phased to extend out from a number of different local neighbourhoods within an existing town or city, with greater diversity and demand from multiple local markets.

Our analysis supports this concept: larger sites deliver more homes each year, but even the biggest schemes (those with capacity for 2,000 units) will, on average, deliver fewer than 200 dwellings per annum, albeit their average rate – 161 units per annum – is six times that of sites of less than 100 units (27 units per annum).

Figure 7: Average annual build rate by site size



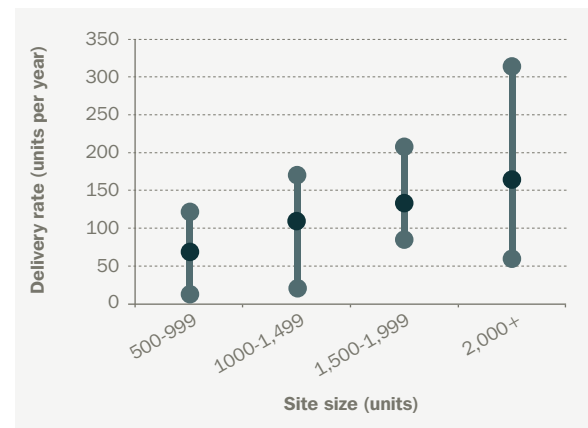
Of course, these are average figures. Some sites will see build rates exceeding this average in particular years, and there were variations from the mean across all categories (see Figure 8), suggesting that higher or lower rates than this average may well be possible, if circumstances support it.

Nevertheless, it is striking that annual average delivery on sites of up to 1,499 units barely exceeds 100 units per annum, and there were no examples in this category that reached a rate of 200 per annum. The highest rate – of 321 units per annum – is for the Cranbrook site, but this is a short term average. A rate of 268 per annum was achieved over a longer period at the Eastern Expansion Area (Broughton Gate & Brooklands) site in Milton Keynes. The specific circumstance surrounding the build rates in both these examples are explored as case studies opposite. It is quite possible that these examples might not represent the highest rate of delivery possible on large-scale sites in future, as other factors on future sites might support even faster rates.

Our analysis also identifies that, on average, a site of 2,000 or more dwellings does not deliver four times more dwellings than a site delivering between 100 and 499 homes, despite being at least four times the size. In fact it only delivers an average of 2.5 times more houses. This is likely to reflect that:

- it will not always be possible to increase the number of outlets in direct proportion to the size of site – for example due to physical obstacles (such as site access arrangements) to doing so; and
- overall market absorption rates means the number of outlets is unlikely to be a fixed multiplier in terms of number of homes delivered.

Figure 8: Average annual build-out rate by site size, including the minimum and maximum averages within each site size



Source: NLP analysis

## Cranbrook: East Devon

The highest average annual build out rates recorded in this analysis comes from the Cranbrook site in East Devon where an average of 321 dwellings per annum were delivered between 2012/13 and 2014/15. Delivery of housing only started on this site in 2012/13, with peak delivery in 2013/14 of 419 dwellings.

Cranbrook is the first new standalone settlement in Devon for centuries and reportedly – according to East Devon Council – the result of over 40 years of planning (this claim has not been substantiated in this research). It is the circumstances surrounding its high annual delivery rate which is of most interest, however.

Phase 1 of the development was supported by a £12 million repayable grant from a revolving infrastructure fund managed by the Homes and Communities Agency. The government also intervened again in the delivery of this site by investing £20 million for schools and infrastructure to ensure continuity of the scheme, securing the delivery of phase 2. The government set out that the investment would give local partners the confidence and resources to drive forward its completion.

The Consortium partnership for Cranbrook (including Hallam Land, Persimmon Homes (and Charles Church) and Taylor Wimpey) stated the following subsequent to the receipt of the government funding<sup>15</sup>.

*“Without this phase 2 Cranbrook would have been delayed at the end of phase 1, instead, we have certainty in the delivery of phase 2, we can move ahead now and commit with confidence to the next key stages of the project and delivering further community infrastructure and bringing forward much needed private and affordable homes”.*

Clearly, the public sector played a significant role in supporting delivery. The precise relationship between this and the build rate is unclear, but funding helped continuity across phases one and two of the scheme. More particularly, the rate of delivery so far achieved relates just to the first three years, and there is no certainty that this high build-out rate will be maintained across the remainder of the scheme.

## Eastern Expansion Area (Broughton Gate & Brooklands): Milton Keynes

The second highest average build out rates recorded in this analysis comes from the Eastern Expansion Area (Broughton Gate & Brooklands) site in Milton Keynes where an average of 268 dwellings per annum were delivered between 2008/09 and 2013/14. As is widely recognised, the planning and delivery of housing in Milton Keynes is distinct from almost all the sites considered in this research.

Serviced parcels with the roads already provided were delivered as part of the Milton Keynes model and house builders are able to proceed straight onto the site and commence delivery. This limited the upfront site works required and boosted annual build rates. Furthermore, there were multiple outlets building-out on different serviced parcels, with monitoring data from Milton Keynes Council suggesting an average of c.12 parcels were active across the build period. This helped to optimise the build rate.

<sup>15</sup> <https://www.gov.uk/government/news/government-funding-to-unlock-delivery-of-12-000-new-homes>

## Peak Years of Housing Delivery

Of course, rates of development on sites will ebb and flow. The top five peak annual build-out rates achieved across every site assessed are set out in Table 1 below. Four of the top five sites with the highest annual peak delivery rates are also the sites with the highest annual average build out rates (with the exception of Broughton & Atterbury). Peak build rates might occur in years when there is an overlap of multiple outlets on phases, or where a particular phase might include a large number of affordable or apartment completions. It is important not to overstress these individual years in gauging build rates over the whole life of a site.

Table 1: Peak annual build-out rates compared against average annual delivery rates on those sites

Scheme	Peak Annual Build-Out Rate	Annual Average Build-Out Rate
Cambourne	620	239
Hamptons	548	224
Eastern Expansion Area	473	268
Cranbrook	419	321
Broughton	409	171

Source: NLP analysis and various AMRs

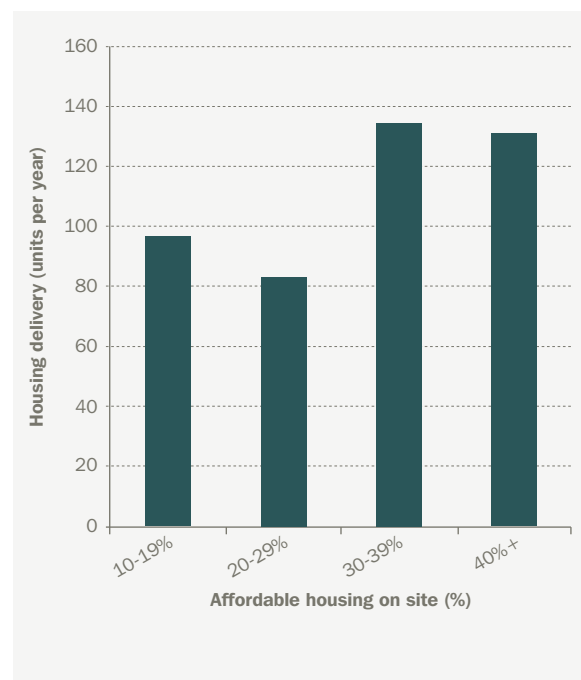
## Affordable Housing Provision

Housing sites with a larger proportion of affordable homes (meeting the definition in the NPPF) deliver more quickly, where viable. The relationship appears to be slightly stronger on large-scale sites (500 units or more) than on smaller sites (less than 500 units), but there is a clear positive correlation (Figure 9). For both large and small-scale sites, developments with 40% or more affordable housing have a build rate that is around 40% higher compared to developments with 10-19% affordable housing obligation.

The relationship between housing delivery and affordable (subsidised) housing is multi-dimensional, resting on the viability, the grant or subsidy available and the confidence of a housing association or registered provider to build or purchase the property for management. While worth less per unit than a full-market property, affordable housing clearly taps into a different segment of demand (not displacing market demand), and having an immediate purchaser of multiple properties can support cash flow and risk sharing in joint ventures. However, there is potential that starter homes provided in lieu of other forms of affordable housing may not deliver the same kind of benefits to speed of delivery, albeit they may support viability overall.

This principle – of a product targeting a different segment of demand helping boost rates of development – may similarly apply to the emergent sectors such as ‘build-to-rent’ or ‘self build’ in locations where there is a clear market for those products. Conversely, the potential for starter homes to be provided in lieu of other forms of affordable housing may overlap with demand for market housing on some sites, and will not deliver the kind of cash flow / risk sharing benefits that comes from disposal of properties to a Registered Provider.

Figure 9: Affordable housing provision and housing output



Source: NLP analysis

## The Timeline of the Build-out Period

Many planners' housing trajectories show large sites gradually increasing their output and then remaining steady, before tailing off at the end. In fact, delivery rates are not steady. Looking at the first eight years of development – where the sample size of large sites is sufficiently high – NLP's research showed that annual completions tended to be higher early in the build-out period before dipping (Figure 10).

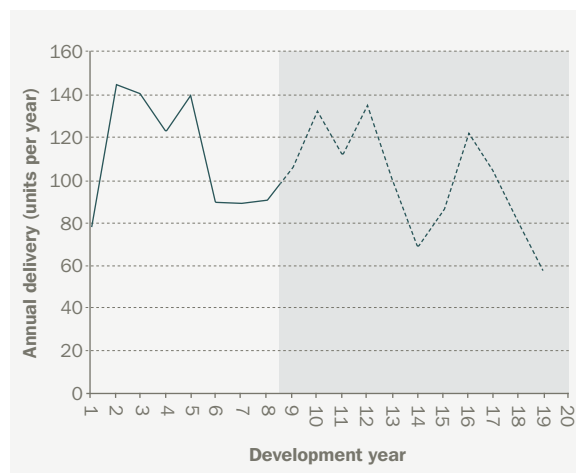
For sites with even longer build out periods, this pattern of peaks and troughs is potentially repeated again (subject to data confidence issues set out below). This surge in early completions could reflect the drive for



rapid returns on capital in the initial phase, and/or early delivery of affordable housing, with the average build rate year by year reducing thereafter to reflect the optimum price points for the prevailing market demand. Additionally, the longer the site is being developed, the higher the probability of coinciding with an economic downturn – obviously a key factor for sites coming forward over the past decade – which will lead to a reduction in output for a period.

Our sample of sites where the development lasted for more than eight years is too small to draw concrete findings, but it does flag a few other points. On extremely large sites that need to span more than a decade, the development will most likely happen in phases. The timing and rate of these phases will be determined by a range of factors including: the physical layout of the site, the ability to sell the homes; trigger points for payment for key social and transport infrastructure obligations; the economic cycle; and local market issues. Predicting how these factors combine over a plan period is self-evidently difficult, but plan makers should recognise the uncertainty and build in flexibility to their housing trajectories to ensure they can maintain housing supply wherever possible.

Figure 10: Average annual build-out rate per year of the build period



Source: NLP analysis

## Summary

1. There is a positive correlation between the strength of the market (as measured by residential land values) and the average annual build rates achieved.
2. The annual average build-rate for the largest sites (of 2,000 or more units) is circa 161 dwellings per annum
3. The rate of delivery increases for larger schemes, reflecting the increased number of sales outlets possible on large sites. However, this is not a straight line relationship: on average, a site of 2,000 units will not, deliver four times as fast as a site of 500. This reflects the limits to number of sales outlets possible on a site, and overall market absorption rates.
4. There is significant variation from the average, which means some sites can be expected to deliver more (or less) than this average. However, the highest average build-out rate of all the assessed sites is 321 dwellings per annum in Cranbrook. But this relates to just three years of data, and the scheme benefitted from significant government funding to help secure progress and infrastructure. Such factors are not be present in all schemes, and indeed, the data suggests sites tend to build at a higher rate in initial years, before slowing down in later phases.
5. Build rates on sites fluctuate over their life. The highest build rate recorded in a single year is 620 units at Camborne, but for the duration of the development period the average annual build rate is 239 dwellings.
6. There is a positive correlation between the percentage of affordable homes built on site and the average annual delivery of homes with sites delivering 30% or more affordable housing having greater annual average build rates than sites with lower affordable housing provision. The introduction of different tenures taps into different market segments, so a build to rent product may similarly boost rates of delivery – where there is a market for it – but starter homes may have the opposite effect if they are provided in lieu of other forms of affordable homes, and displace demand for cheaper market homes.



# A Brownfield Land Solution?

The NPPF encourages the effective use of previously-developed land, and recent Government announcements suggest increased prioritisation of development for brownfield sites. Efforts to streamline the planning process for brownfield sites may also speed up their delivery. But, is there a difference in how quickly brownfield sites can come forward compared to greenfield sites?

Research produced by CPRE and Glenigan in March 2016<sup>16</sup> suggested that the time between planning permission being granted and construction work starting is generally the same for brownfield and greenfield sites, but suggested that work on brownfield sites is completed more than six months quicker. However, it was not clear if this finding was because the greenfield sites were larger than the equivalent brownfield sites surveyed in that study. We therefore looked at how lead in times and build rates compared for large-scale sites of 500+ dwellings on greenfield and brownfield sites.

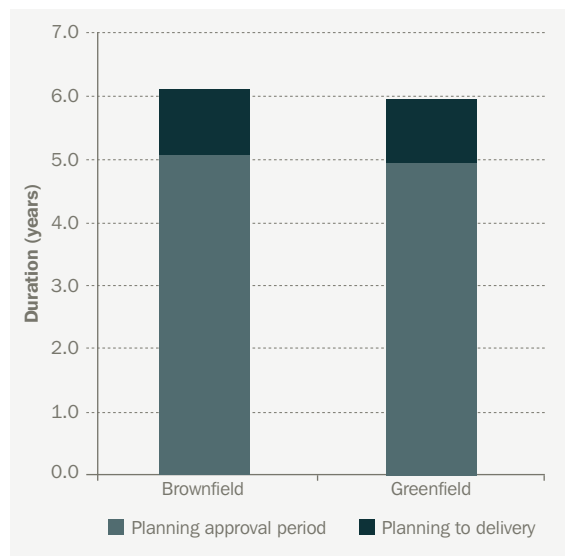
## The Planning Approval Period

Whether land is brownfield or greenfield does not impact on the planning approval period. On average, for all sites, the planning approval period for the sites delivering 500 dwellings or more is almost identical at 5.1 years for brownfield and 5.0 years for greenfield – see Figure 11, although this is skewed by the very largest sites of 2,000+ units (see Table 2), with brownfield sites in the smaller-size bands being on average slightly quicker than their greenfield counterparts (albeit caution is required given the small sample size for some size bandings).

What the analysis tends to show is that it is the scale of development – rather than the type of land – which has the greatest impact on the length of planning process, and that despite government prioritisation on brownfield land in the NPPF, this is unlikely to result in significant further improvements in timescales for delivery.

The time period between gaining a planning approval and the first delivery of a dwelling is also similar overall.

Figure 11: Previous land use and duration of planning



Source: NLP analysis

Table 2: Previous land use and duration of planning approval period

	Site Size (dwellings)	Number of sites in this group	Average Planning Approval Period
Greenfield Sites	500-999	14	4.5
	1,000-1,499	9	5.3
	1,500-1,999	7	5.5
	2,000+	13	5.0
	<b>Total/Average</b>	<b>43</b>	<b>5.0</b>
Brownfield Sites	500-999	16	4.1
	1,000-1,499	3	3.3
	1,500-1,999	1	4.6
	2,000+	7	8.6
	<b>Total/Average</b>	<b>27</b>	<b>5.1</b>

Source: NLP analysis

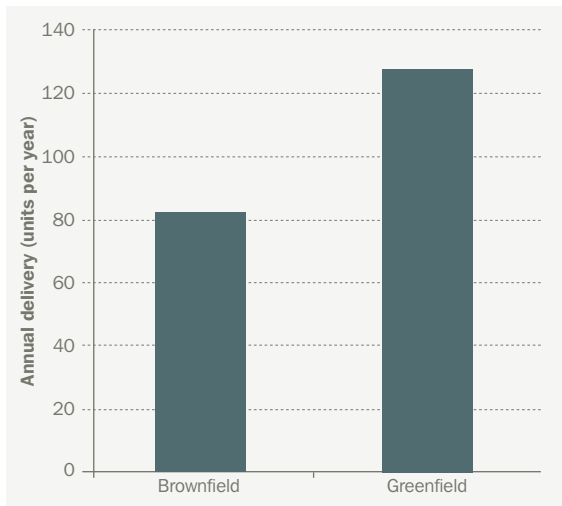
<sup>16</sup> Brownfield comes first: why brownfield development works CPRE, March 2016

## Build-out Rates

There is a more discernible difference between brownfield and greenfield sites when it comes to the annual build out rates they achieve, with the analysis in Figure 12 suggesting that brownfield sites on average deliver at lower rates than their greenfield counterparts, both overall and across the different size bandings (see Table 3) albeit recognising the small sample size for some sizes of site. On average, the annual build-out rate of a greenfield site is 128 dwellings per annum, around 50% higher than the 83 per annum average for brownfield sites.

This may reflect that brownfield sites carry extra costs (e.g. for remediation) which reduces the scale of contribution they make to infrastructure and affordable housing provision (which as shown can boost rates of delivery).

Figure 12: Previous land use and housing delivery



Source: NLP analysis

Table 3: Previous land use by size and average annual build out rate

	Site Size (dwellings)	Number of sites in this group	Average Annual Build-out Rate
Greenfield Sites	500-999	14	86
	1,000-1,499	9	122
	1,500-1,999	7	142
	2,000+	13	171
	<b>Total/Average</b>	<b>43</b>	<b>128</b>
Brownfield Sites	500-999	16	52
	1,000-1,499	3	73
	1,500-1,999	1	84
	2,000+	7	148
	<b>Total/Average</b>	<b>27</b>	<b>83</b>

Source: NLP analysis

## Summary

1. Brownfield and greenfield sites come forward at broadly similar rates, although at the smaller end of the scale, there does appear to be some 'bonus' in speed of decisions for previously-developed land. For the largest sites (of 2,000+ units) the sample of brownfield sites suggests an extended time period (3.6 years longer) compared to their equivalent greenfield sites;
2. Once started, large-scale greenfield sites do deliver homes at a more rapid rate than their brownfield equivalents, on average 50% quicker.

# Conclusion

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There is a growing recognition that large-scale housing development can and should play a large role in meeting housing need. Garden towns and villages – planned correctly – can deliver sustainable new communities and take development pressure off less sustainable locations or forms of development.

However, if planners are serious about wanting to see more homes built each year and achieve the government’s target of one million by 2020 (or indeed, deliver the 300,000 per annum that are needed), simply allocating a site or granting a permission is not enough. The Government recognises this: the Minister for Planning has been quoted as saying that *“you cannot live in a planning permission”*.

Part of the debate has focused on perceptions of ‘land banking’ – the concept that developers are hoarding land or slowing down development. Equally, suggestions have been made that proposals for large-scale development should be ‘protected’ from competition from smaller sites or from challenge under five year land supply grounds. The evidence supporting these propositions appears limited.

In our view the real concern – outside London, at any rate – is ensuring planning decisions (including in plan-making) are driven by realistic and flexible housing trajectories in the first place, based on evidence and the specific characteristics of individual sites and local markets.

Based on the research in this document, we draw five conclusions on what is required:

1. If more homes are to be built, more land needs to be released and more planning permissions granted. Confidence in the planning system relies on this being achieved through local plans that must be sufficiently ambitious and robust to meet housing needs across their housing market areas. But where plans are not coming forward as they should, there needs to be a fall-back mechanism that can release land for development when it is required.
2. Planned housing trajectories should be realistic, accounting and responding to lapse rates, lead-in times and sensible build rates. This is likely to mean allocating more sites rather than less, with a good mix of types and sizes, and then being realistic about how fast they will deliver so that supply is maintained throughout the plan period. Because no one site is the same – and with significant variations from the average in terms of lead-in time and build rates – a sensible approach to evidence and justification is required.
3. Spatial strategies should reflect that building homes is a complex and risky business. Stronger local markets have higher annual delivery rates, and where there are variations within districts, this should be factored into spatial strategy choices. Further, although large sites can deliver more homes per year over a longer time period, they also have longer lead-in times. To secure short-term immediate boosts in supply – as is required in many areas – a good mix of smaller sites will be necessary.
4. Plans should reflect that – where viable – affordable housing supports higher rates of delivery. This principle is also likely to apply to other sectors that complement market housing for sale, such as build to rent and self-build (where there is demand for those products). Trajectories will thus need to differentiate expected rates of delivery to respond to affordable housing levels or inclusion of other market products. This might mean some areas will want to consider spatial strategies that favour sites with greater prospects of affordable or other types of housing delivery. This plays into the wider debate about support for direct housing delivery for rent by local government and housing associations and ensuring a sufficient product mix on sites.
5. Finally, in considering the pace of delivery, large-scale brownfield sites deliver at a slower rate than do equivalent greenfield sites. The very largest brownfield sites have also seen very long planning approval periods. Self-evidently, many brownfield sites also face barriers to implementation that mean they do not get promoted in the first place. In most locations outside our biggest cities, a good mix of types of site will be required.

## A Checklist for Understanding Large-scale Site Delivery

In setting or assessing reasonable housing trajectories for local plans or five year housing land supply, the lead-in times and average rates of housing delivery identified in this research can represent helpful benchmarks or rules of thumb, particularly in situations where there is limited local evidence.

However, these rules of thumb are not definitive. It is clear from our analysis that some sites start and deliver more quickly than this average, whilst others have delivered much more slowly. Every site is different.

In considering the evidence justifying the estimated time and rate of delivery, the questions listed in Table 4 below represent a checklist of questions that are likely to be relevant:

Table 4: Questions to consider on the speed of housing delivery on large-scale sites

Lead-in times to getting started on site	Factors affecting the speed of build out rate
<input checked="" type="checkbox"/> Is the land in existing use?	<input checked="" type="checkbox"/> How large is the site?
<input checked="" type="checkbox"/> Has the land been fully assembled?	<input checked="" type="checkbox"/> Will the scale, configuration and delivery model for the site support more sales outlets?
<input checked="" type="checkbox"/> If in multiple ownership/control, are the interests of all parties aligned?	<input checked="" type="checkbox"/> How strong is the local market?
<input checked="" type="checkbox"/> To what extent is there any challenge to the principle of development?	<input checked="" type="checkbox"/> Does the site tap into local demand from one or more existing neighbourhoods?
<input checked="" type="checkbox"/> Is the site already allocated for development? Does it need to be in order for release?	<input checked="" type="checkbox"/> Is the density and mix of housing to be provided consistent with higher rates of delivery?
<input checked="" type="checkbox"/> Does an SPD, masterplan or development brief help resolve key planning issues?	<input checked="" type="checkbox"/> What proportion of affordable housing is being delivered?
<input checked="" type="checkbox"/> Is the masterplan/development brief consistent with what the developer will deliver?	<input checked="" type="checkbox"/> Are there other forms of housing – such as build to rent – included?
<input checked="" type="checkbox"/> Is there an extant planning application or permission?	<input checked="" type="checkbox"/> When will new infrastructure – such as schools – be provided to support the new community?
<input checked="" type="checkbox"/> Are there significant objections to the proposal from local residents?	<input checked="" type="checkbox"/> Are there trigger points or phasing issues that may affect the build rate achievable in different phases?
<input checked="" type="checkbox"/> Are there material objections to the proposal from statutory bodies?	
<input checked="" type="checkbox"/> Are there infrastructure requirements – such as access – that need to be in place before new homes can be built?	
<input checked="" type="checkbox"/> Are there infrastructure costs or other factors that may make the site unviable?	
<input checked="" type="checkbox"/> Does the proposal rely on access to public resources?	
<input checked="" type="checkbox"/> If planning permission is secured, is reserved matters approval required?	
<input checked="" type="checkbox"/> Does the scheme have pre-commencement conditions?	
<input checked="" type="checkbox"/> Is the scheme being promoted by a developer who will need time to dispose of the site to a house builder?	







# Appendix 2: Small Sites Reviewed

Site Name	Local Planning Authority	Site Size
Holme Farm, Carleton Road, Pontefract	Wakefield	50
Part Sr3 Site, Off Elizabeth Close, Scotter	West Lindsey	50
Former Downend Lower School, North View, Staple Hill	South Gloucestershire	52
Fenton Grange, Wooler	Northumberland	54
Land at the Beacon, Tilford Road, Hindhead	Waverley	59
Land To Rear Of 28 - 34 Bedale Road, Aiskew	Hambleton	59
Hanwell Fields Development, Banbury	Cherwell	59
Land at Prudhoe Hospital, Prudhoe	Northumberland	60
Oxfordshire County Council Highways Depot	Cherwell	60
Clewborough House School, St Catherines Road	Cherwell	60
Land south of Pinchington Lane	West Berkshire	64
Land Off Cirencester Rd	Stroud	66
Springfield Road Caunt Road	South Kesteven	67
Land off Crown Lane	Wychavon	68
Former Wensleydale School, Dent Street, Blyth	Northumberland	68
Land at Lintham Drive, Kingswood	South Gloucestershire	68
Hawthorn Croft (Off Hawthorn Avenue Old Slaughterhouse Site), Gainsborough	West Lindsey	69
Land to the North of Walk Mill Drive	Wychavon	71
Watermead, Land At Kennel Lane, Brockworth	Tewkesbury	72
North East Area Professional Centre, Furnace Drive, Furnace Green	Crawley	76
Land at Willoughbys Bank, Clayport Bank, Alnwick	Northumberland	76
The Kylins, Loansdean, Morpeth	Northumberland	88
MR10 Site, Caistor Road, Market Rasen	West Lindsey	89
OS Field 9972 York Road Easingwold	Hambleton	93
Land At Green Road - Reading College	Reading	93
North East Sandylands	South Lakeland	94
Auction Mart	South Lakeland	94
Parcel 4, Gloucester Business Park, Brockworth	Tewkesbury	94
Former York Trailers Yafforth Road Northallerton Scheme 1/2	Hambleton	96
Poppy Meadow	Stratford-on-Avon	106
Weeton Road/Fleetwood Road	Fylde	106
Land South of Station Road	East Hertfordshire	111
Former Bewbush Leisure Centre Site, Breezehurst Drive, Bewbush	Crawley	112
Land West Of Birchwood Road, Latimer Close	Bristol, City of	119
Land Between Godsey Lane And Towngate East	South Kesteven	120
Bibby Scientific Ltd	Stafford	120
Kennet Island Phase 1B - E, F, O & Q, Manor Farm Road	Reading	125
Primrose Mill Site	Ribble Valley	126
Land Rear Of Mount Pleasant	Cheshire West and Chester	127
Land to the east of Efflinch Lane	East Staffordshire	130
North of Douglas Road, Kingswood	South Gloucestershire	131
Land at Farnham Hospital, Hale Road, Farnham	Waverley	134
Bracken Park, Land At Corringham Road, Gainsborough	West Lindsey	141
Doxey Road	Stafford	145
Former York Trailers Yafforth Road Northallerton Scheme 2/2	Hambleton	145



Site Name	Local Planning Authority	Site Size
London Road/ Adj. St Francis Close	East Hertfordshire	149
MR4 Site, Land off Gallamore Lane, Market Rasen	West Lindsey	149
Queen Mary School	Fylde	169
Sellars Farm, Sellars Road	Stroud	176
Land South of Inervet Campus Off Brickhill Street, Walton	Milton Keynes	176
Notcutts Nursery, 150 - 152 London Road	Cherwell	182
Hoval Ltd North Gate	Newark and Sherwood	196
Hewlett Packard (Land Adjacent To Romney House), Romney Avenue	Bristol, City of	242
128-134 Bridge Road And Nos 1 - 4 Oldfield Road	Windsor and Maidenhead	242
GCHQ Oakley - Phase 1	Cheltenham	262
Land off Henthorn Road	Ribble Valley	270
Land Between A419 And A417, Kingshill North, Cirencester	Cotswold	270
Hortham Hospital, Hortham Lane, Almondsbury	South Gloucestershire	270
Land At Canons Marsh, Anchor Road	Bristol, City of	272
M & G Sports Ground, Golden York and Middle Farm, Badgeworth	Tewkesbury	273
Long Marston Storage Depot Phase 1	Stratford-on-Avon	284
Land at Brookwood Farm, Bagshot Road	Woking	297
Land at, Badsey Road	Wychavon	298
Land At Fire Service College, London Road, Moreton in Marsh	Cotswold	299
Land At Dorian Road	Bristol, City of	300
Kennet Island Phase 1 - H, M, T, U1, U2 Manor Farm Road	Reading	303
Chatham Street Car Park Complex	Reading	307
Former NCB Workshops, Ellington Rd, Ashington (aka Portland Park)	Northumberland	357
Former Masons Cerement Works and Adjoining Ministry of Defence Land, Gipping Road, Great Blakenham	Mid Suffolk	365
Woolley Edge Park Site	Wakefield	375
Luneside West	Lancaster	403
Radyr Sidings	Cardiff	421
New World House, Thelwall Lane	Warrington	426
Land at former Battle Hospital, 344 Oxford Road	Reading Borough Council	434
New Central (Land at Guildford Road and Bradfield Close including Network House, Merrion House, Bradford House and Coronation House	Woking Borough Council	445
Kingsmead South	Milton Keynes Council	450
Bleach Green, Winlaton	Gateshead	456
Farington Park, East of Wheelton Lane	South Ribble	468
Bickershaw Colliery, Plank Lane, Leigh	Wigan	471
Farnborough Business Park	Rushmoor	476
Horfield Estate, Filton Avenue, Horfield	Bristol City Council	485
Stenson Fields	South Derbyshire	487
Cookridge Hospital	Leeds	495

# About NLP

Nathaniel Lichfield & Partners (NLP) is an independent planning, economics and urban design consultancy, with offices in Bristol, Cardiff, Edinburgh, Leeds, London, Manchester, Newcastle and Thames Valley.

We are one of the largest independent planning consultancies in the UK and we offer the broadest range of skills of any specialist planning firm. This includes services in economics, spatial analytics, heritage, sustainability, urban design, graphics and sunlight and daylight, as well as a full range of planning skills. NLP was RTPI Planning Consultancy of the Year for three years running to 2014.

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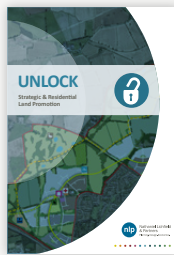
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## Contacts

For more information, please contact us:

<b>Bristol</b>	Andy Cockett	0117 403 1980	<a href="mailto:acockett@nlplanning.com">acockett@nlplanning.com</a>
<b>Cardiff</b>	Gareth Williams	0292 043 5880	<a href="mailto:gwilliams@nlplanning.com">gwilliams@nlplanning.com</a>
<b>Edinburgh</b>	Nicola Woodward	0131 285 0670	<a href="mailto:nwoodward@nlplanning.com">nwoodward@nlplanning.com</a>
<b>Leeds</b>	Justin Gartland	0113 397 1397	<a href="mailto:jgartland@nlplanning.com">jgartland@nlplanning.com</a>
<b>London</b>	Matthew Spry	0207 837 4477	<a href="mailto:mspry@nlplanning.com">mspry@nlplanning.com</a>
<b>Manchester</b>	Michael Watts	0161 837 6130	<a href="mailto:mwatts@nlplanning.com">mwatts@nlplanning.com</a>
<b>Newcastle</b>	Michael Hepburn	0191 261 5685	<a href="mailto:mhepburn@nlplanning.com">mhepburn@nlplanning.com</a>
<b>Thames Valley</b>	Daniel Lampard	0118 334 1920	<a href="mailto:dlampard@nlplanning.com">dlampard@nlplanning.com</a>

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