INSIGHT
FEBRUARY 2020

Start to Finish

What factors affect the build-out rates of large scale housing sites?

SECOND EDITION

LICHFIELDS

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Executive summary

Lichfields published the first edition of Start to Finish in November 2016. In undertaking the research, our purpose was to help inform the production of realistic housing trajectories for plan making and decision taking. The empirical evidence we produced has informed numerous local plan examinations, S.78 inquiries and five-year land supply position statements.

Meanwhile, planning for housing has continued to evolve: with a revised NPPF and PPG; the Housing Delivery Test and Homes England upscaling resources to support implementation of large sites. Net housing completions are also at 240,000 dwellings per annum. With this in mind, it is timely to refresh and revisit the evidence on the speed and rate of delivery of large scale housing sites, now looking at 97 sites over 500 dwellings. We consider a wide range of factors which might affect lead-in times and build-out rates and have drawn four key conclusions.

In too many local plans and five-year land supply cases, there is insufficient evidence for how large sites are treated in housing trajectories. Our research seeks to fill the gap by providing some benchmark figures - which can be of some assistance where there is limited or no local evidence - but the averages derived from our analysis are not intended to be definitive and are no alternative to having a robust, bottom-up justification for the delivery trajectory of any given site.

We have drawn four key conclusions:

1 Large schemes can take 5+ years to start

Our research shows that if a scheme of more than 500 dwellings has an outline permission, then on average it delivers its first home in c.3 years. However, from the date at which an outline application is validated, the average figures can be 5.0-8.4 years for the first home to be delivered; such sites would make no contribution to completions in the first five years.

2 Lead-in times jumped post recession

Our research shows that the planning to delivery period for large sites completed since 2007/08 has jumped compared to those where the first completion came before 2007/08. This is a key area where improvements could be sought on timeliness and in streamlining pre-commencement conditions, but is also likely impacted by a number of macro factors.

3 Large greenfield sites deliver quicker

Large sites seem to ramp up delivery beyond year five of the development on sites of 2,000+ units. Furthermore, large scale brownfield sites deliver at a slower rate than their greenfield equivalents: the average rate of build out for greenfield sites in our sample is 34% greater than the equivalent brownfield.

4 Outlets and tenure matter

Our analysis suggests that having additional outlets on site has a positive impact on build-out rates. Interestingly, we also found that schemes with more affordable housing (more than 30%) built out at close to twice the rate as those with lower levels of affordable housing as a percentage of all units on site. Local plans should reflect that – where viable – higher rates of affordable housing supports greater rates of delivery. This principle is also likely to apply to other sectors that complement market housing for sale.

Key figures

180 sites assessed, with combined yield of 213k+ dwellings; 97 sites had 500+ homes

c.3yrs average time taken from outline decision notice to first dwelling completions on sites of 500+ homes

8.4yrs the average time from validation of the first planning application to the first dwelling being completed on schemes of 2,000+ dwellings

160 dpa the average annual build-out rate for a scheme of 2,000+ dwellings (median: 137)

68 dpa the average annual build rate of a scheme of 500-999 dwellings (median: 73)

+34% higher average annual build-out rate on greenfield sites compared with brownfield sites

61 dpa average completions per outlet on sites with one outlet, dropping to 51 for sites of two outlets, and 45 for sites with three outlets

01
Introduction

This is the second edition of our review on the speed of delivery on large-scale housing development sites. The first edition was published in November 2016 and has provided the sector with an authoritative evidence base to inform discussions on housing trajectories and land supply at planning appeals, local plan examinations and wider public policy debates.

Over this period, housing delivery has remained at or near the top, of the domestic political agenda: the publication of the Housing White Paper, the new NPPF, an emboldened Homes England, a raft of consultations on measures intended to improve the effectiveness of the planning system and speed up delivery of housing. Of particular relevance to *Start to Finish* was the completion of Sir Oliver Letwin's independent review of build out ("the Letwin Review"), the inclusion within the revised NPPF of a tighter definition of 'deliverable' for the purposes of five-year housing land supply (5YHLS) assessment, and the new Housing Delivery Test which provides a backward looking measure of performance. The policy aim is to focus more attention on how to accelerate the rate of housing build out, in the context of the NPPF (para 72) message that the delivery of a large numbers of new homes can often be best achieved through larger scale development such as new settlements or significant extensions to existing villages and towns, but that these need a realistic assessment of build-out rates and lead in times of large-scale development.

This second edition of *Start to Finish* is our response to the latest policy emphasis. It provides the planning sector with real-world benchmarks to help assess the realism of housing trajectory assumptions, particularly for locations where there have been few contemporary examples of strategic-scale development. The first edition looked in detail at how the size of the site affected build-out rates and lead in times, as well as other factors such as the value of the land and whether land was greenfield or brownfield. We have updated these findings, as well as considering additional issues such as how the affordability of an area and the number of outlets on a site impacts on annual build-out rates.

We have also expanded the sample size (with an extra 27 large sites, taking our total to 97 large sites, equivalent to over 195,000 dwellings) and updated with more recent data to the latest monitoring year (all data was obtained at or before the 1st April 2019).

Our research complements, rather than supplants, the analysis undertaken by Sir Oliver Letwin in his Review. The most important differentiation is that we focus exclusively on what has been built, whereas each of the sites in the Letwin Review included forecasts of future delivery. Additionally, the Letwin Review looked at 15 sites of 1,500+ homes, of which many (including the three largest) were in London. By contrast, the examples in this research sample include 46 examples of sites over 1,500 homes across England and Wales, the majority of which are currently active. As with the first edition of our research, we have excluded London because of the distinct market and delivery factors in the capital.

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180
sites

97
large sites of 500 units or more

27
additional sites compared with our 2016 research

8
sites also included in Sir Oliver Letwin's review

02 Methodology

The evidence presented in this report analyses how large-scale housing sites emerge through the planning system, how quickly they build out, and identifies the factors which lead to faster or slower rates of delivery.

We look at the full extent of the planning and delivery period. To help structure the research and provide a basis for standardised measurement and comparison, the various stages of development have been codified. Figure 1 sets out the stages and the milestones used, which remain unchanged from the first edition of this research. The overall 'lead-in time' covers stages associated with gaining an allocation, going through the 'planning approval period' and 'planning to delivery period', finishing when the first dwelling is completed. The 'build period' commences when the first dwelling is completed, denoting the end of the lead-in time. The annualised build-out rates are also recorded for the development up until the latest year where data was available at April 2019 (2017/18 in most cases). Detailed definitions of each of these stages can be found in Appendix 1. Not every site assessed will necessarily have gone through each component of the identified stages as many of the sites we considered had not delivered all dwellings permitted at the time of assessment, some have not delivered any dwellings.

Information on the process of securing a development plan allocation (often the most significant step in the planning process for large-scale schemes, and which – due to the nature of the local plan process - can take decades) is not easy to obtain on a consistent basis across all examples, so is not a significant focus of our analysis. Therefore, for the purposes of this research the lead-in time reflects the start of the planning approval period up to the first housing completion.

The 'planning approval period' measures the validation date of the first planning application on the site (usually an outline application but sometimes hybrid), to the decision date of the first detailed application to permit dwellings in the scheme (either full, hybrid or reserved matters applications). It is worth noting that planning applications are typically preceded by significant amounts of pre-application engagement and work, plus the timescale of the local plan process.

The 'planning to delivery' period follows immediately after the planning approval period and measures the period from the approval of the first detailed application to permit development of dwellings and the completion of the first dwelling.

Development and data

Whilst our analysis focuses on larger sites, we have also considered data from the smaller sites for comparison and to identify trends. The geographic distribution of the 97 large sites and comparator small sites is shown in Figure 2 and a full list can be found in Appendix 2 (large sites) and Appendix 3 (small sites).

Efforts were made to secure a range of locations and site sizes in the sample, but there is no way of ensuring it is representative of the housing market in England and Wales as a whole, and thus our conclusions may not be applicable in all areas or on all sites. In augmenting our sample with 27 additional large sites, new to this edition of our research, we sought to include examples in the Letwin Review that were outside of London, only excluding them

Box I: Letwin Review sites

1. Arborfield Green (also known as Arborfield Garrison), Wokingham
2. Ledsham Garden Village, Cheshire West & Chester
3. Great Kneighton (also known as Clay Farm), Cambridge (included in the first edition of this research)
4. Trumpington Meadows, Cambridge
5. Graven Hill, Cherwell
6. South West Bicester, Cherwell
7. Great Western Park, South Oxfordshire
8. Ebbsfleet, Gravesham and Dartford (included in the first edition of this research)

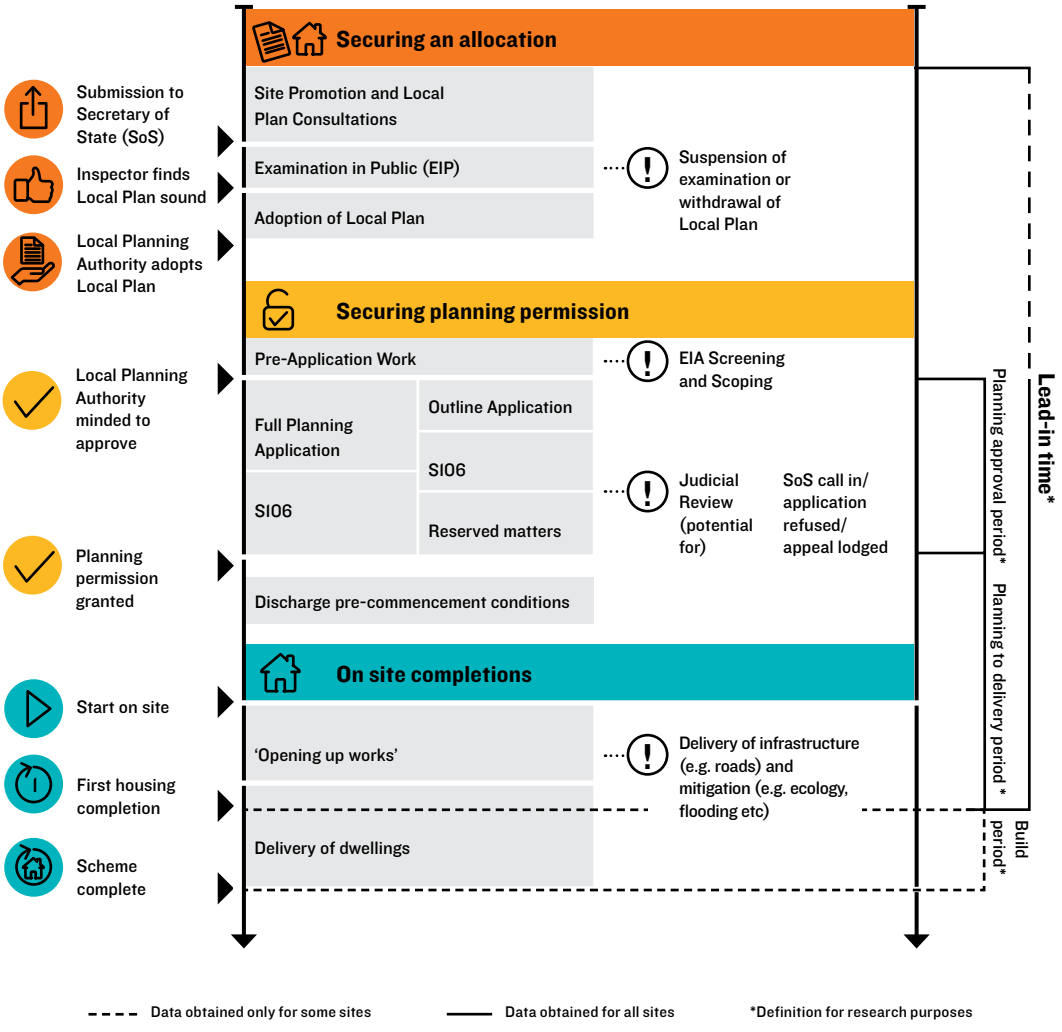
when it was difficult to obtain reliable data. The study therefore includes the Letwin Review's case studies listed in Box 1.

In most instances, we were unable to secure the precise completion figures for these sites that matched those cited in the Letwin Review. Sources for data Lichfields has obtained on completions for those sites that also appear in the Letwin Review are included at the end of Appendix 2.

The sources on which we have relied to secure delivery data on the relevant sites include:

1. Annual Monitoring Reports (AMRs) and other planning evidence base documents[1] produced by local authorities;
2. By contacting the relevant local planning authority, and in some instances the relevant County Council, to confirm the data or receive the most up to date figures from monitoring officers or planners; and
3. In a handful of instances obtaining/ confirming the information from the relevant house builders.

Figure I: Timeline for the delivery of strategic housing sites



Source: Lichfields analysis

[1] Monitoring documents, five-year land supply reports, housing trajectories (some in land availability assessments), housing development reports and newsletters

196,714

units on large sites of 500 or more homes

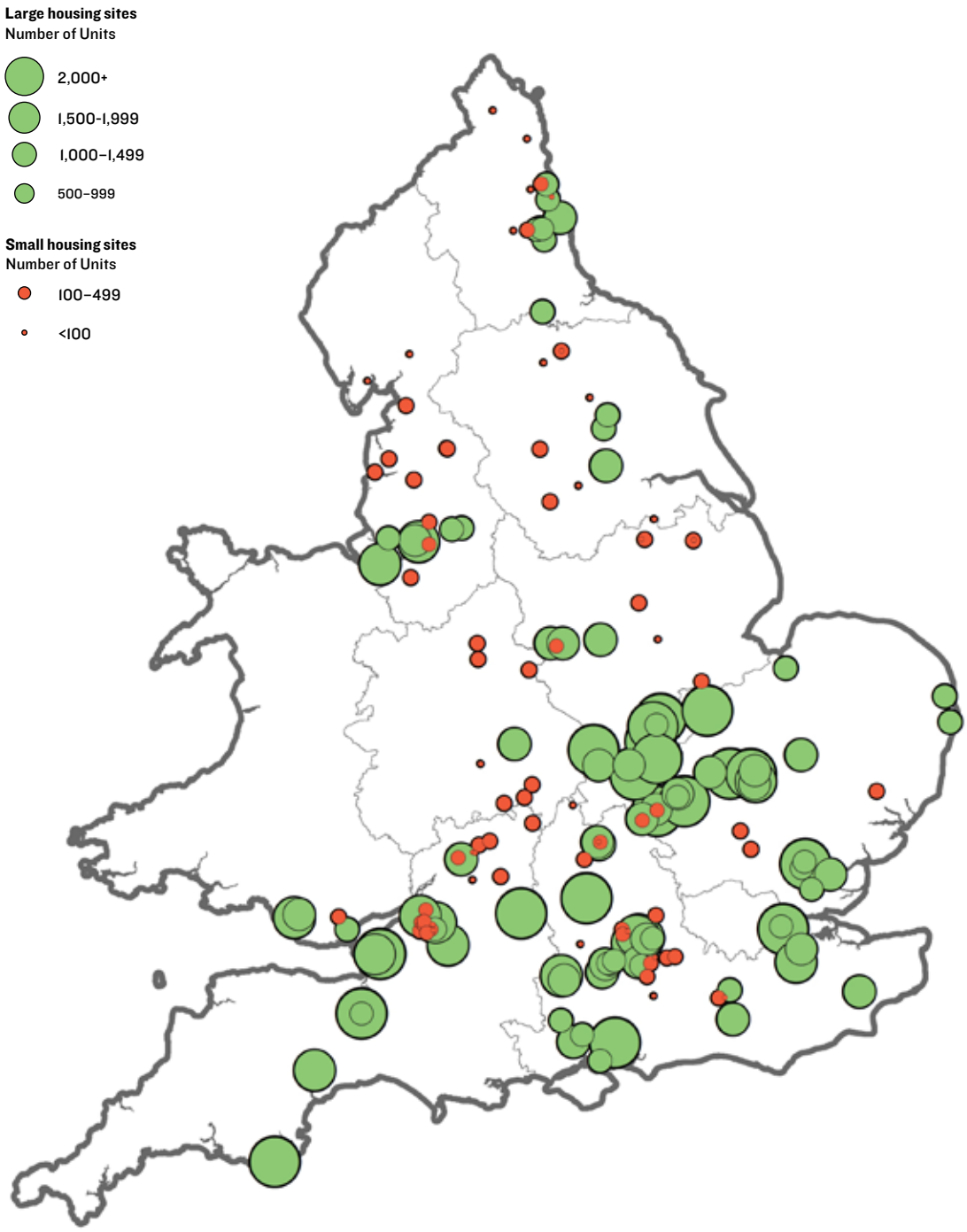
16,467

units on small sites under 500 homes

35

sites of 2,000 homes or more

Figure 2: Map of site sample by size of site (total dwellings)



Source: Lichfields analysis

03
Timing is everything: how long does it take to get started?

In this section we look at lead in times, the time it takes for large sites to get the necessary planning approvals. Firstly, the changing context of what 'deliverable' means for development. Secondly, the 'planning approval period' (the time it takes for large sites to get the necessary planning approvals). And thirdly, the 'planning to delivery period' (the time from approval of the first detailed application to permit development of dwellings to the completion of the first dwelling).

The new definition of 'Deliverable'

The question of how quickly and how much housing a site can begin delivering once it has planning permission, or an allocation, has become more relevant since the publication of the new NPPF with its new definition of deliverable. Only sites which match the deliverability criteria (i.e. suitable now, available now and achievable with a realistic prospect that housing will be delivered on the site within five years) can be included in a calculation of a 5YHLS by a local authority. This definition was tightened in the revised NPPF which states that:

"sites with outline planning permission, permission in principle, allocated in the development plan or identified on a brownfield register should only be considered deliverable where there is clear evidence that housing completions will begin on site within five years". (emphasis added)

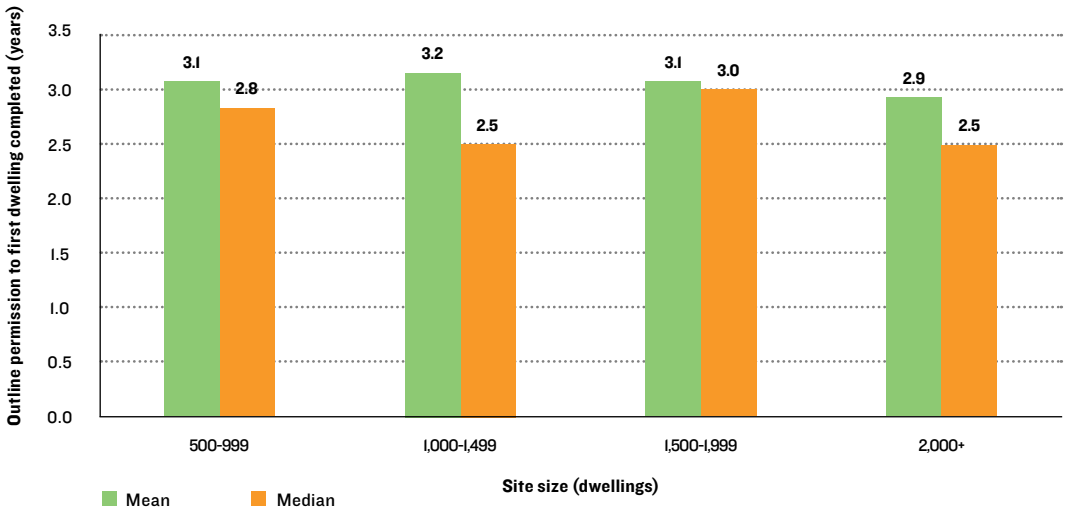
What constitutes 'clear evidence' was clarified in a number of early appeal decisions and in the Planning Practice Guidance[2] and can include information on progress being made towards submission of a reserved matters application, any progress on site assessment work and any relevant information about site viability, ownership constraints or infrastructure provision. In this context, it is relevant to look at how long it takes, on average, for a strategic housing site to progress from obtaining outline permission to delivering the first home (or how long it takes to obtain the first reserved matters approval, discharge pre-commencement conditions and open up the site), and then how much housing could be realistically expected to be completed in that same five-year period.

Based on our sample of large sites, the research shows that, upon granting of outline permission, the time taken to achieve the first dwelling is – on average c.3 years, regardless of site size. After this period an appropriate build-out rate based on the size of the site should also be considered as part of the assessment of deliverability (see Section 4). Outline planning permissions for strategic development are not

c.3 years

average time from obtaining outline permission to first dwelling completion on sites of 500+ homes

Figure 3: Average time taken from gaining outline permission to completion of the first dwelling on site (years), compared to site size



Source: Lichfeilds analysis

[2] Planning Practice Guidance Reference ID: 68-007-20190722

Only sites of fewer than 499 dwellings are on average likely to deliver any homes within an immediate five year period.

always obtained by the company that builds the houses, indeed master developers and other land promoters play a significant role in bringing forward large scale sites for housing development[3]. As such, some of these examples will include schemes where the land promoter or master developer will have to sell the site (or phases/parcels) to a housebuilder before the detailed planning application stage can commence, adding a step to the planning to delivery period.

Figure 4 considers the average timescales for delivery of the first dwelling from the validation of an outline planning application. This demonstrates that only sites comprising fewer than 499 dwellings are – on average - likely to deliver anything within an immediate five year period. The average time from validation of an outline application[4] to the delivery of the first dwelling for large sites ranges from 5.0 to 8.4 years dependent on the size of the site, i.e. beyond an immediate five-year period for land supply calculations.

Comparison with our 2016 findings

Planning Approval Period

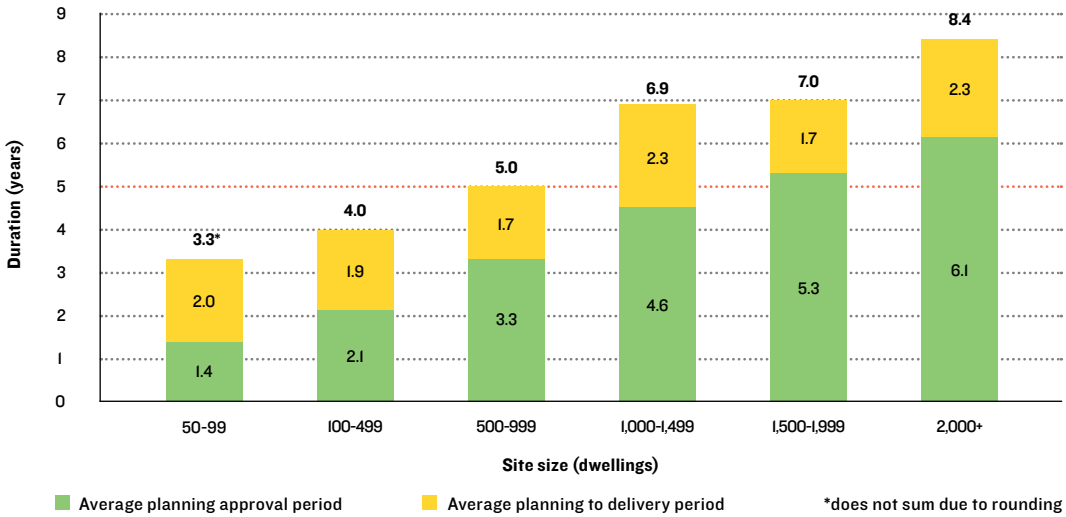
Our latest research reveals little difference between the average planning approval period by site size compared to the same analysis in the first edition (see Table 1). However, it is important to remember that these are average figures which come from a selection of large sites. There are significant variations within this average, with some sites progressing very slowly or quickly compared to the other examples. This is unsurprising as planning circumstances will vary between places and over time.

Table 1: Average planning approval period by size of site (years)

Site Size	1st edition research (years)	This research (years)
50-99	1.1	1.4
100-499	2.4	2.1
500-999	4.2	3.3
1,000-1,499	4.8	4.6
1,500-1,999	5.4	5.3
2,000+	6.1	6.1

Source: Lichfields analysis

Figure 4: Average timeframes from validation of first application to completion of the first dwelling



Source: Lichfields analysis

[3] Realising Potential - our research for the Land Promoters and Developers Federation in 2017 - found that 41% of homes with outline planning permission were promoted by specialist land promoter and development companies, compared to 32% for volume house builders.

[4] The planning approval period could also include a hybrid or full application, but on the basis of our examples this only impacts a small number of sites

Planning to Delivery Period

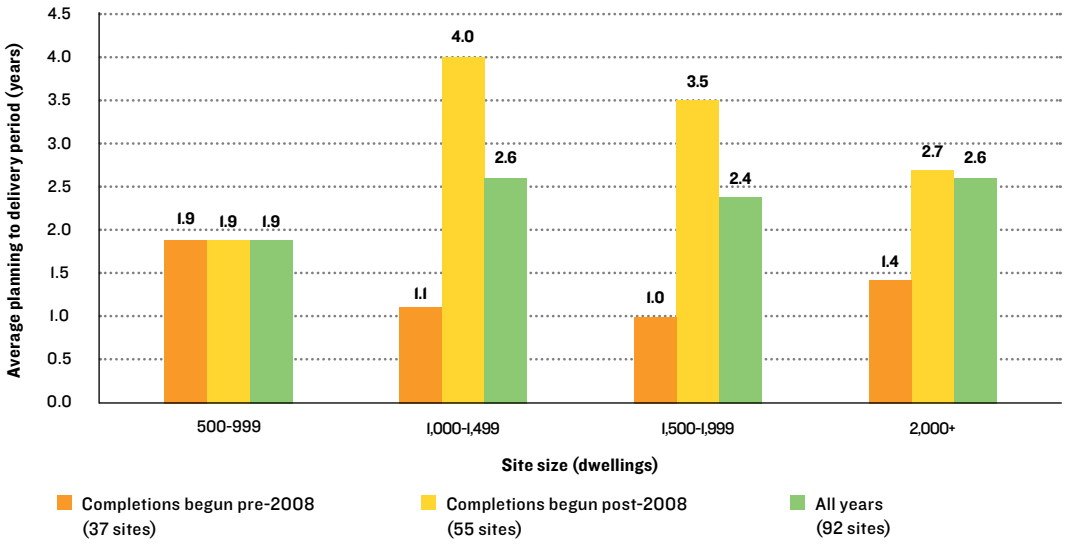
Although there is little difference between the average planning approval periods identified in this research compared to our first edition findings, the average lead-in time after securing planning permission is higher (Figure 5). It is this period during which pre-commencement planning conditions have to be discharged as well as other technical approvals and associated commercial agreements put in place.

This is likely due to the inclusion of more recent proposed developments in this edition. Of the 27 new sites considered, 17 (63%) completed their first dwelling during or after 2012; this compares to just 14 (20%) out of 70 sites in the first edition of this research (albeit at the time of publication 8 of these sites had not delivered their first home but have subsequently). This implies that the introduction of more recent examples into the research, including existing examples which have now commenced delivery[5], has seen the average for planning to delivery periods lengthening.

A similar trend is apparent considering the 55 sites that delivered their first completions after 2007/08. These have significantly longer planning to delivery periods than those where completions began prior to the recession. The precise reasons are not clear, but is perhaps to be expected given the slowdown in housing delivery during the recession, and the significant reductions in local authority planning resources which are necessary to support discharge of pre-commencement conditions. However, delays may lie outside the planning system; for example, delays in securing necessary technical approvals from other bodies and agencies, or market conditions.

Sites that delivered their first completion during or after the 2007/08 recession have significantly longer planning to delivery periods than sites which began before.

Figure 5: Planning to delivery period, total average, pre and post-2008



Source: Lichfeilds analysis

Figure 5: Five of the large sites examples do not have a first dwelling completion recorded in this research

[5] Priors Hall has been amended since the first edition based on more recent data

In demand: how quickly do high pressure areas determine strategic applications for housing?

Using industry-standard affordability ratios, we found that areas with the least affordable places to purchase a home (i.e. the highest affordability ratios) tended to have longer planning to delivery times than areas that were more affordable. This is shown in Figure 6, which splits the large site sample into national affordability quartiles, with the national average equating to 8.72.

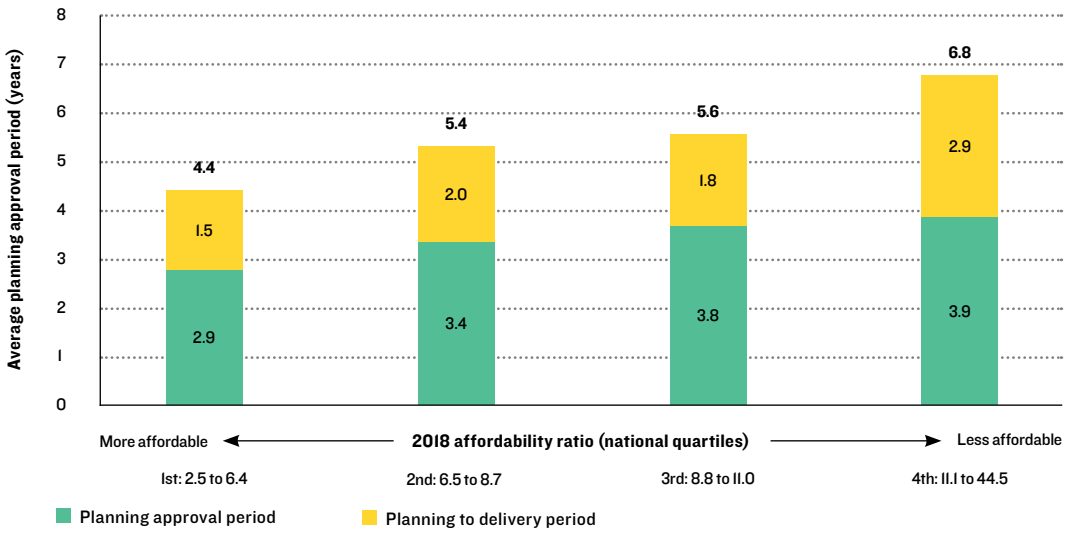
The above analysis coincides with the fact (Table 2) that sites in the most affordable locations (lowest quartile) tend to be smaller than those in less affordable locations (an average site size of c.1,150 compared to in excess of 2,000 dwellings for the three other quartiles). Even the least affordable LPAs (with the greatest gap between workplace earnings and house prices) have examples of large schemes with an average site size of 2,000+ dwellings. It may be that the more affordable markets do not support the scale of up-front infrastructure investment that is required for larger-scale developments and which lead to longer periods before new homes can be built. However, looking at the other three quartiles, the analysis does also suggest that planning and implementation becomes more challenging in less affordable locations.

Table 2: Site size by 2018 affordability ratio

Affordability ratio (workplace based)	Average site size
2.5 – 6.4	1,149
6.5 – 8.7	2,215
8.8 – 11.0	2,170
11.1 – 44.5	2,079

Source: Lichfields analysis

Figure 6: Planning approval period (years) by 2018 affordability ratio



Source: Lichfields analysis

04
How quickly do sites build out?

The rate at which new homes are built on sites is still one of the most contested matters at local plan examinations and planning inquiries which address 5YHLS and housing supply trajectories. The first edition of this research provided a range of 'real world' examples to illustrate what a typical large-scale site delivers annually. The research showed that even when some schemes were able to achieve very high annual build-out rates in a particular year (the top five annual figures were between 419-620 dwellings per annum), this rate of delivery was not always sustained. Indeed, for schemes of 2,000 or more dwellings the average annual completion rate across the delivery period was 160 dwellings per annum.

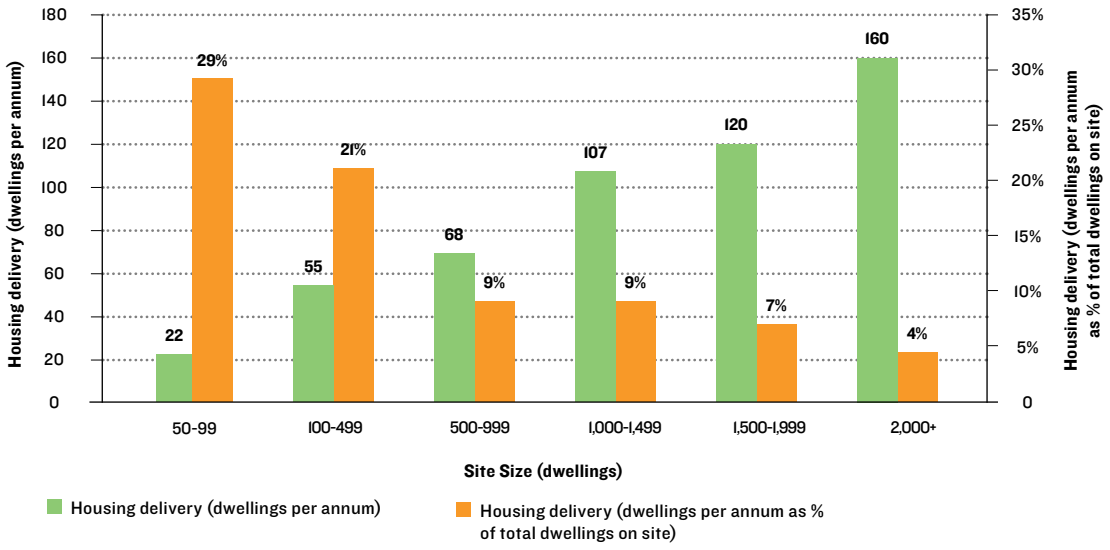
Average Annual Build-out rates

Figure 7 presents our updated results, with our additional 27 sites and the latest data for all sites considered. The analysis compares the size of site to its average annual build-out rate. Perhaps unsurprisingly, larger sites deliver on average more dwellings per year than smaller sites. The largest sites in our sample of over 2,000 dwellings, delivered on average more than twice as many dwellings per year than sites of 500-999 dwellings, which in turn delivered an average of three times as many units as sites of 1-99 units. To ensure the build-out rates averages are not unduly skewed, our analysis excludes any sites which have only just started delivering and have less than three years of data. This is because it is highly unlikely that the first annual completion figure would actually cover a whole monitoring year, and as such could distort the average when compared to only one other full year of delivery data.

160 dpa

the average annual build rate for schemes of 2,000+ dwellings

Figure 7: Build-out rate by size of site (dpa)



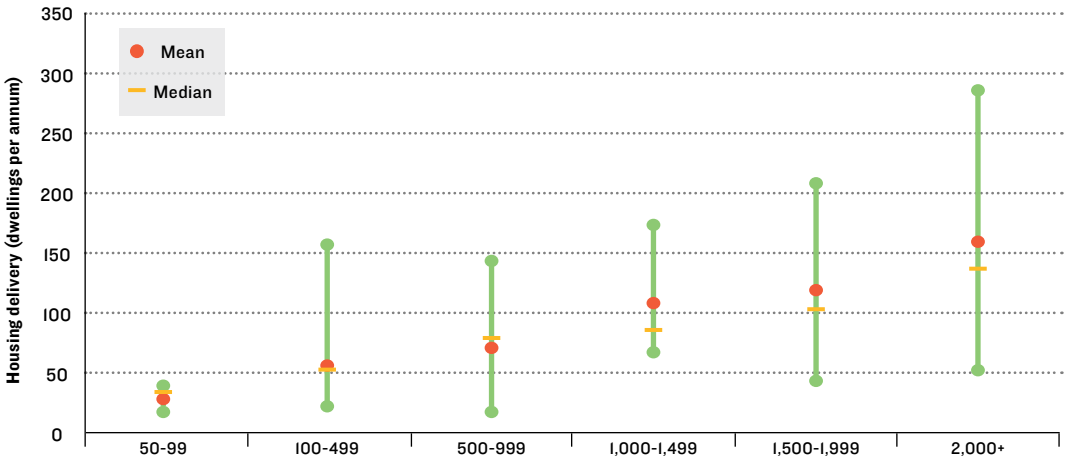
Source: Lichfields analysis

In most cases the median annual delivery rate is lower than the mean for larger sites.

We include the relevant percentage growth rates in this edition's analysis; this shows that the proportion of a site's total size that is build out each year reduces as site size increases.

Our use of averages refers to the arithmetic mean across the sample sites. In most cases the median of the rates seen on the larger sample sites is lower, as shown in Figure 8; this reflects the small number of sites which have higher delivery rates (the distribution is not equal around the average). The use of mean average in the analysis therefore already builds in a degree of optimism compared with the median or 'mid-point scheme'.

Figure 8: Minimum, mean, median and maximum build-out rates by size of site (dpa)



Source: Lichfields analysis

Table 3: Median and mean delivery rates by site size

Site Size	Number of sites	Median housing delivery (dwellings per annum)	Median delivery as % of total on site	Mean annual delivery (dwellings per annum)	Mean annual delivery as % of total units on site
50-99	29	27	33%	22	29%
100-499	54	54	24%	55	21%
500-999	24	73	9%	68	9%
1,000-1,499	17	88	8%	107	9%
1,500-1,999	9	104	7%	120	7%
2,000+	27	137	4%	160	4%

Source: Lichfields analysis

Comparison with our 2016 findings

Comparing these findings to those in the first edition of this research, there is very little difference between the averages observed (median was not presented) for different site sizes, as set out below. The largest difference is a decrease in average annual build-out rates for sites of 1,000-1,499 dwellings, but even then, this is only a reduction of 10 dpa or 9%.

As with the first edition of the research, these are averages and there are examples of sites which deliver significantly higher and lower than these averages, both overall and in individual years. Figure 8 shows the divergence from the average for different site size categories. This shows that whilst the average for the largest sites is 160 dpa and the median equivalent 137 dpa, the highest site average was 286 dpa and the lowest site average was 50 dpa for sites of 2,000+ dwellings. This shows the need for care in interpreting the findings of the research, there may well be specific factors that mean a specific site will build faster or slower than the average. We explore some of the factors later in this report.

Variations for individual schemes can be marked. For example, the 2,605 unit scheme South of the M4 in Wokingham delivered 419 homes in 2017/18, but this was more than double the completions in 2016/17 (174) and the average over all six years of delivery so far was just 147 dwellings per annum.

Even when sites have seen very high peak years of delivery, as Table 5 shows, no sites have been able to consistently delivery 300 dpa.

Site build-out rates for individual years are highly variable. For example, one scheme in Wokingham delivered more than twice as many homes in 2017/18 as it did in the year before.

Table 4: Mean delivery rates by site sizes, a comparison with first edition findings

Site size (dwellings)	2016 edition research (dpa)	2020 edition research (dpa)	Difference
50-99	27	22	-5 (-19%)
100-499	60	55	-5 (-8%)
500-999	70	68	-2 (-3%)
1,000-1,499	117	107	-10 (-9%)
1,500-1,999	129	120	-9 (-7%)
2,000+	161	160	-1 (-0.62%)

Source: Lichfields analysis

Table 5: Peak annual build-out rates compared against average annual delivery rates on those sites

Site	Site size (dwellings)	Peak annual build-out rate (dpa)	Average annual build-out rate (dpa)
Cambourne, South Cambridgeshire	4,343	620	223
Oakley Vale, Corby	3,100	520	180
Eastern Expansion Area, Milton Keynes	4,000	473	268
Clay Farm, Cambridge	2,169	467	260
South of M4, Wokingham	2,605	419	147
Cranbrook, East Devon	2,900	419	286

Source: Lichfields analysis

Table 5: Please note The Hamptons was included as an example of peak annual delivery in the first edition with one year reaching 520 completions. However, evidence for this figure is no longer available and as it was not possible to corroborate the figure it has been removed. The analysis has been updated to reflect the latest monitoring data from Peterborough City Council.

Longer term trends

This section considers the average build-out rates of sites which have been delivering over a long period of time. This is useful in terms of planning for housing trajectories in local plans when such trajectories may span an economic cycle.

In theory, sites of more than 2,000 dwellings will have the longest delivery periods. Therefore, to test long term averages we have calculated an average build-out rate for sites of 2,000+ dwellings that have ten years or more of completions data available.

For these sites, the average annual build-out rate is slightly higher than the average of all sites of that size (i.e. including those only part way through build out), at 165 dwellings per annum[6]. The median for these sites was also 165 dwellings per annum.

This indicates that higher rates of annual housing delivery on sites of this size are more likely to occur between years five and ten, i.e. after these sites have had time to 'ramp up'.

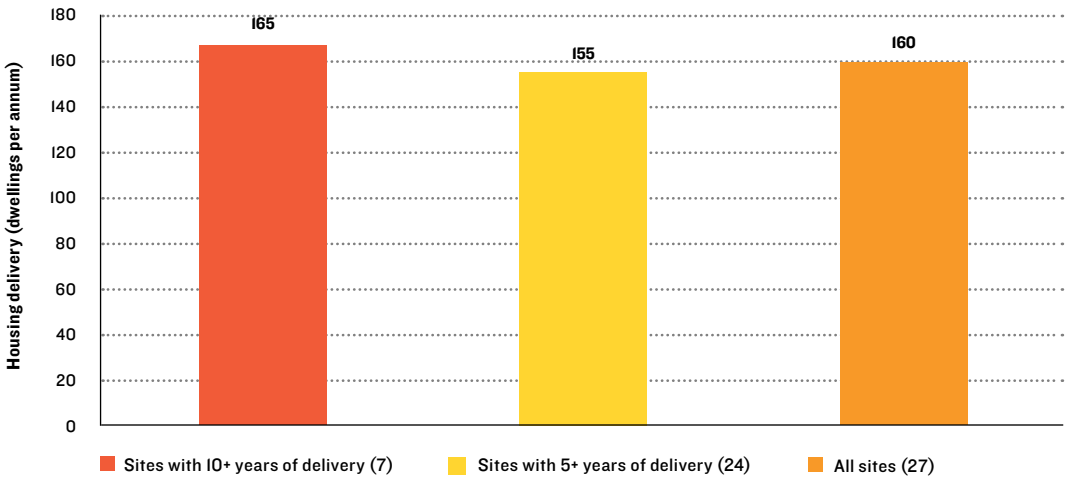
It might even relate to stages in delivery when multiple phases and therefore multiple outlets (including affordable housing) are operating at the same time. These factors are explored later in the report.

The impact of the recession on build-out rates

It is also helpful to consider the impact of market conditions on the build-out rate of large scale housing sites. Figure 10 overleaf shows the average delivery rate of sites of 2,000 or more dwellings in five-year tranches back to 1995/96. This shows that although annual build-out rates have improved slightly since the first half of the 2010's, they remain 37% below the rates of the early 2000's. The reasons for the difference are not clear and are worthy of further exploration – there could be wider market, industry structure, financial, planning or other factors at play.

In using evidence on rates of delivery for current/historic schemes, some planning authorities have suggested that one should adjust for the fact that rates of build out may have been affected by the impact of the recession. We have therefore considered how the average rates change with and without including the period of economic downturn (2008/09 – 2012/13). This is shown in Table 6 and it reveals that average build-out rates are only slightly depressed when one includes this period, but may not have fully recovered to their pre-recession peaks. We know that whilst the recession – with the crunch on mortgage

Figure 9: Average build-out rate for sites over 2,000 homes by length of delivery period (dpa)



Source: Lichfields analysis

[6] This is based on the completions of seven examples, Chapelford Urban Village, Broadlands, Kings Hill, Oakley Vale, Cambourne, The Hamptons and Wixhams

availability – did have a big impact and led to the flow of new sites slowing, there were mechanisms put in place to help sustain the build out of existing sites.

However, setting aside that stripping out the recession has a modest impact on the statistical averages for the sites in our sample, the more significant point is that – because of economic cycles - larger sites which build out over five or more years are inherently likely to coincide with a period of economic slowdown at some point during their build out. It therefore makes sense for housing trajectories for such sites to include an allowance for the prospect that, at some point, the rate of build out may slow due to a market downturn, albeit the effect may be smaller than one might suspect.

Table 6: Impact of recession on build-out rates

	Build-out rates in all years		Build-out rates excluding recession years (2008/9-2012/13)		Build-out rates pre-recession	
	Average rate	Sample size	Average rate	Sample size	Average rate	Sample size
All large sites 500+	115	77	126	68	130	21
All large sites 2,000+	160	27	171	25	242	6
Greenfield sites 2,000+	181	14	198	12	257	3

Source: Lichfields analysis

Figure 10: Average build-out rate by five year period for sites over 2,000 dwellings (dpa)

Source: Lichfields analysis

05
What factors can influence build-out rates?

+34%

higher average annual build-out rates on greenfield land compared with brownfield

Having established some broad averages and how these have changed over time, we turn now to look at what factors might influence the speed at which individual sites build out. How does housing demand influence site build out? What is the impact of affordable housing? Does it matter whether the site is greenfield or brownfield? What about location and site configuration?

In demand: do homes get delivered faster in high pressure areas?

One theory regarding annual build-out rates is that the rate at which homes can be sold (the 'absorption rate') determines the build-out rate. This is likely to be driven by levels of market demand relative to supply for the product being supplied.

This analysis considers whether demand for housing at the local authority level affects delivery rates by using (industry-standard) affordability ratios. Higher demand areas are indicated by a higher ratio of house prices to earnings i.e. less affordable. Whilst this is a broad-brush measure, the affordability ratio is a key metric in the assessment of local housing need under the Government's standard methodology. Figure 11 shows the sample of 500+ unit schemes divided into those where the local authority in which they are located is above or below the national median affordability ratio (8.72) for sites which have delivered for three years or more. This analysis shows that sites in areas of higher demand (i.e. less affordable) deliver on average more dwellings per annum.

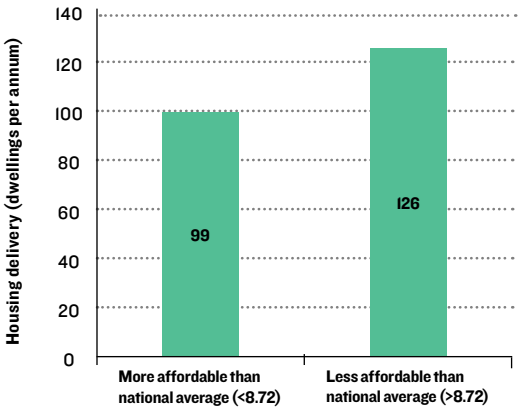
Our analysis also coincides with the fact that sites in less affordable areas are on average c.17% larger than those in more affordable areas. The average site size for schemes in areas where affordability is below the national average is 1,834 dwellings. For those delivered in areas where the affordability is greater than the national average, average site size is 2,145 dwellings. So, it is possible that the size of site – rather than affordability *per se* – is a factor here.

Do sites on greenfield land deliver more quickly?

The first edition of this research showed that greenfield sites on average delivered quicker than their brownfield counterparts. In our updated analysis this remains the case; large greenfield sites in our sample built out a third faster than large brownfield sites.

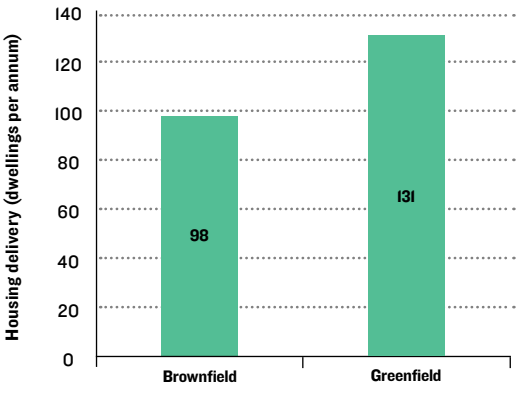
In the life cycle of a site, our data also shows that greenfield sites had shorter planning to delivery periods (2.0 years compared to 2.3 for brownfield sites), although on average, longer planning approval periods (5.1 years compared to 4.6 for brownfield sites).

Figure 11: Build-out rates by level of demand using national median 2018 workplace based affordability ratio (dpa)



Source: Lichfields analysis

Figure 12: Build-out rates on brownfield and greenfield sites (dpa)



Source: Lichfields analysis

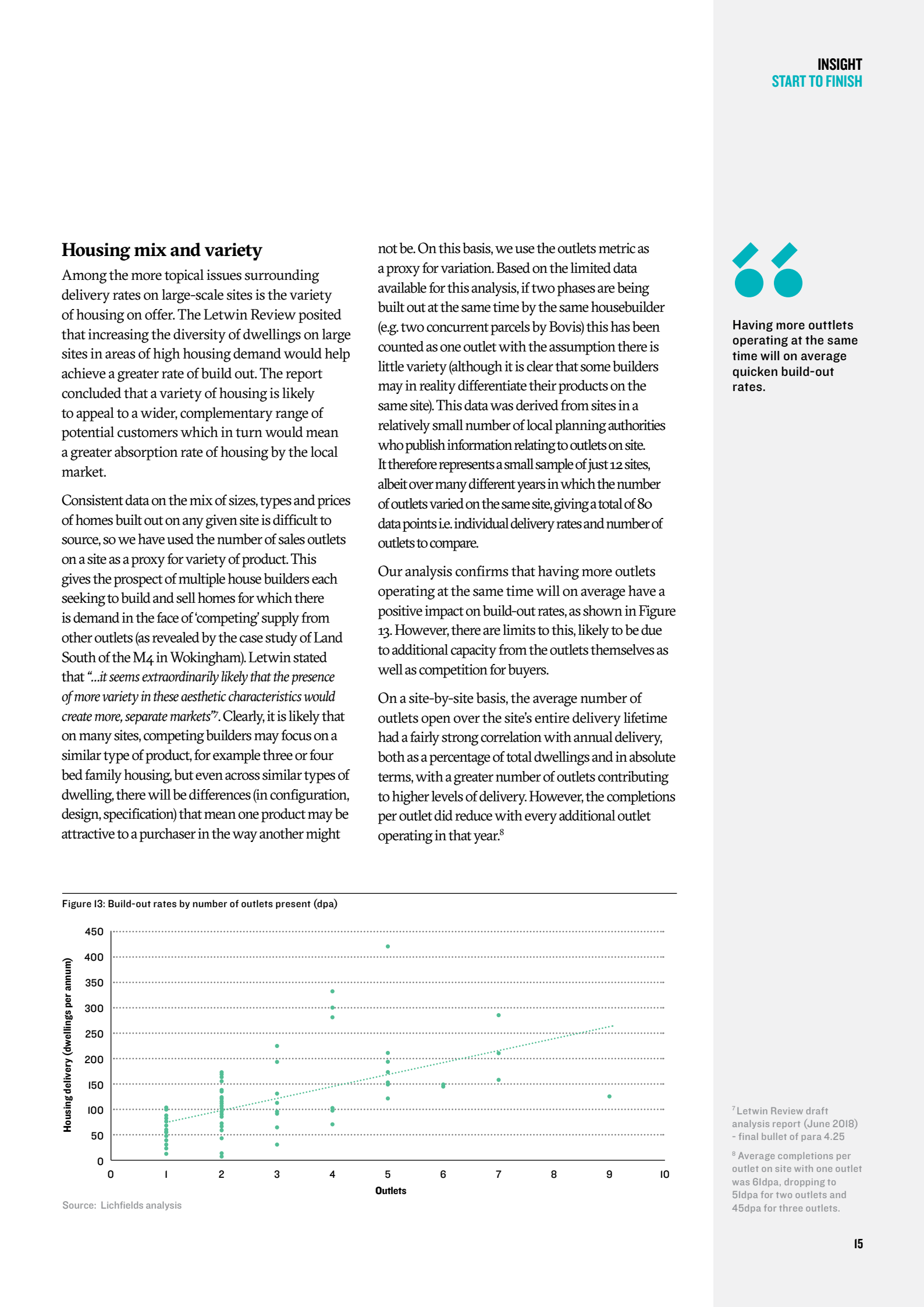
Housing mix and variety

Among the more topical issues surrounding delivery rates on large-scale sites is the variety of housing on offer. The Letwin Review posited that increasing the diversity of dwellings on large sites in areas of high housing demand would help achieve a greater rate of build out. The report concluded that a variety of housing is likely to appeal to a wider, complementary range of potential customers which in turn would mean a greater absorption rate of housing by the local market.

Consistent data on the mix of sizes, types and prices of homes built out on any given site is difficult to source, so we have used the number of sales outlets on a site as a proxy for variety of product. This gives the prospect of multiple house builders each seeking to build and sell homes for which there is demand in the face of 'competing' supply from other outlets (as revealed by the case study of Land South of the M4 in Wokingham). Letwin stated that *"...it seems extraordinarily likely that the presence of more variety in these aesthetic characteristics would create more, separate markets"*[7]. Clearly, it is likely that on many sites, competing builders may focus on a similar type of product, for example three or four bed family housing, but even across similar types of dwelling, there will be differences (in configuration, design, specification) that mean one product may be attractive to a purchaser in the way another might not be. On this basis, we use the outlets metric as a proxy for variation. Based on the limited data available for this analysis, if two phases are being built out at the same time by the same housebuilder (e.g. two concurrent parcels by Bovis) this has been counted as one outlet with the assumption there is little variety (although it is clear that some builders may in reality differentiate their products on the same site). This data was derived from sites in a relatively small number of local planning authorities who publish information relating to outlets on site. It therefore represents a small sample of just 12 sites, albeit over many different years in which the number of outlets varied on the same site, giving a total of 80 data points i.e. individual delivery rates and number of outlets to compare.

Our analysis confirms that having more outlets operating at the same time will on average have a positive impact on build-out rates, as shown in Figure 13. However, there are limits to this, likely to be due to additional capacity from the outlets themselves as well as competition for buyers.

On a site-by-site basis, the average number of outlets open over the site's entire delivery lifetime had a fairly strong correlation with annual delivery, both as a percentage of total dwellings and in absolute terms, with a greater number of outlets contributing to higher levels of delivery. However, the completions per outlet did reduce with every additional outlet operating in that year.[8]



Having more outtlets operating at the same time will on average quicken build-out rates.

Figure 13: Build-out rates by number of outlets present (dpa)

Source: Lichfields analysis

[7] Letwin Review draft analysis report (June 2018) - final bullet of para 4.25

[8] Average completions per outlet on site with one outlet was 61dpa, dropping to 51dpa for two outlets and 45dpa for three outlets.

Geography and Site Configuration

An under-explored aspect of large-scale site delivery is the physical opportunity on site. For example, some schemes lend themselves to simultaneous build out of phases which can have the impact of boosting delivery rates in that year, for example, by having access points from two alternative ends of the site. Other sites may be reliant on one key piece of infrastructure which make this opportunity less likely or impractical. In the first edition of this research we touched on this point in relation to Eastern Expansion Area (Broughton Gate & Brooklands) of Milton Keynes. As is widely recognised, the planning and delivery of housing in Milton Keynes is distinct from almost all the sites considered in this research as serviced parcels with the roads already provided were delivered as part of the Milton Keynes delivery model. Multiple house builders were able to proceed straight onto the site and commence delivery on different serviced parcels, with monitoring data from Milton Keynes Council suggesting an average of c.12 parcels were active across the build period. In this second edition of this research the Milton Keynes examples remain some of the sites with the highest annual build-out rates.

Table 7: Parcels at Land South of M4, Wokingham

Parcel reference	Developers (active outlets)	Completions in 2017/18
SP1	Bellway (1)	59
SP2w	Bellway and Bovis (-)	None - parcel completed
SP3	Crest Nicholson (1)	47
SP4	Taylor Wimpey and David Wilson Homes (2)	140
SP9_1	Bloor, Bovis and Linden (3)	169
SP10	Darcliffe Homes (-)	None - parcel completed
SP11	Taylor Wimpey (1)	4

Source: Lichfields analysis

Figure 14: Map of parcels at Land South of M4, Wokingham

Source: © Google Earth 2020/ Wokingham Local Plan

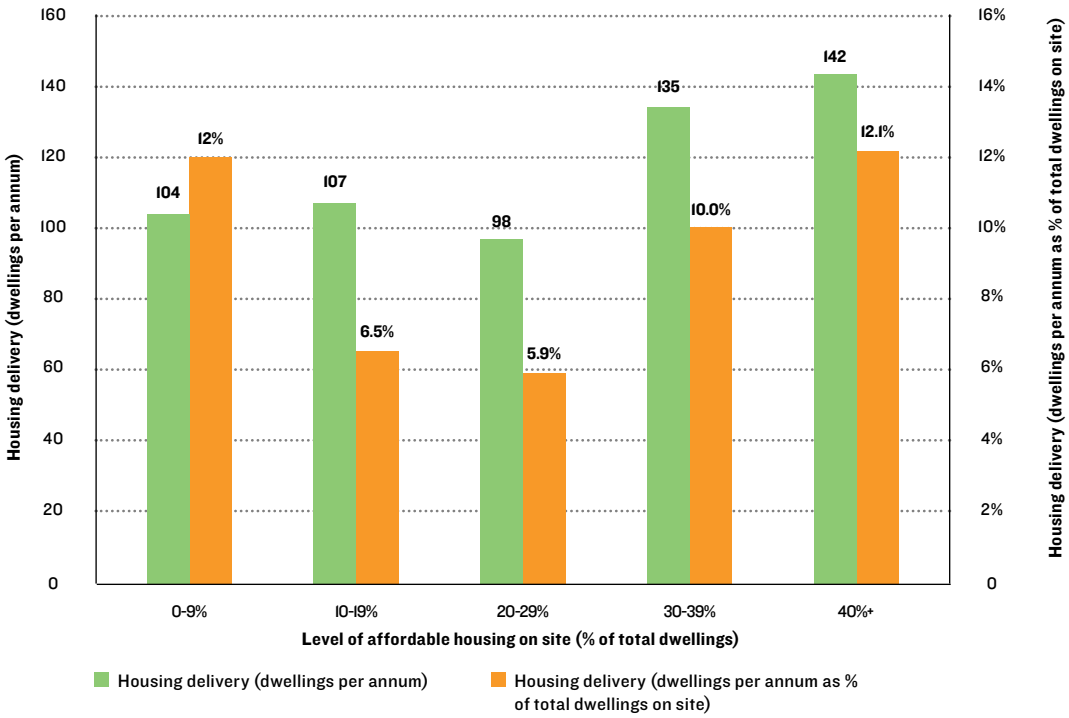
In this edition we look at the case study of Land South of the M4 in Wokingham. In 2017/18 the site achieved a significant 419 completions. Using the local authority's granular recording of delivery on the site to date, we have been able to consider where these completions were coming forward from within the wider 2,605 dwelling scheme. As shown in Figure 14, in that year new homes were completed on five separate parcels with completions ranging from 4 to 169 dwellings. On some of these parcels (SP9_1 and SP4) there were two or three separate housebuilders building out, and in total on the site there were seven different house building companies active (the impact of multiple outlets on build-out rates is explored later in this report). The parcels are located in separate parts of the site and each had their own road frontages and access arrangements which meant they are able to come forward in parallel. This can enable an increased build rate.

Affordable choices: do different tenures provide more demand?

Our findings on tenure, another form of 'variety' in terms of house building products, are informed by data that is available on about half the sites in our large site sample. From this the analysis shows schemes with more affordable housing built out at close to twice the rate as those with lower levels of affordable housing as a percentage of all dwellings on site. However this is not always the case. Schemes with 20-29% affordable housing had the lowest build-out rates, both in terms of dwellings and proportionate to their size.

Schemes with more affordable housing built out at close to twice the rates as those with lower levels.

Figure 15: Build-out rates by level of affordable housing (dpa and percentage)



Source: Lichfields analysis

06
Conclusions

Recent changes to national planning policy emphasise the importance of having a realistic expectation of delivery on large-scale housing sites, whilst local authorities now find themselves subject to both forward and backward-looking housing delivery performance measures. A number of local plans have hit troubles because they over-estimated the yield from some of their proposed allocations. Meanwhile, it is no longer sufficient for a 5YHLS to look good on paper; the Housing Delivery Test means there are consequences if it fails to convert into homes built.

To ensure local authorities are prepared for these tests, plan making and the work involved in maintaining housing land supply must be driven by realistic and flexible housing trajectories, based on evidence and the specific characteristics of individual sites and local markets. For local authorities to deliver housing in a manner which is truly plan-led, this is likely to mean allocating more sites rather than less, with a good mix of types and sizes, and being realistic about how fast they will deliver so supply is maintained throughout the plan period. Equally, recognising the ambition and benefits of more rapid build out on large sites, it may mean a greater focus on how such sites are developed.

Our research provides those in the public and private sector with a series of real-world benchmarks in this complex area of planning for large scale housing, which can be particularly helpful in locations where there is little recent experience of such strategic developments. Whilst we present some statistical averages, the real relevance of our findings is that there are likely to be many factors which affect lead-in times and build-out rates, and that these - alongside the characteristics of individual sites - need to be considered carefully by local authorities relying on large sites to deliver planned housing.

In too many local plans and 5YHLS cases, there is insufficient evidence for how large sites are treated in housing trajectories. This research seeks to fill the gap with some benchmark figures - which can be of some assistance where there is limited or no local evidence. But the average derived from our analysis are not intended to be definitive and are no alternative to having a robust, bottom-up justification for the delivery trajectory of any given site. It is clear from our analysis that some sites start and deliver more quickly than the average, whilst others have delivered much more slowly. Every site is different. Therefore, whilst the averages observed in this research may be a good starting point, there are a number of key questions to consider when estimating delivery on large housing sites, based around the three key elements in the three-tier analytical framework at Figure 16.

Key findings:

1 Large schemes can take 5+ years to start

In developing a local plan, but especially in calculating a 5YHLS position, it is important to factor in a realistic planning approval period dependent on the size of the site. Our research shows that if a scheme of more than 500 dwellings has an outline permission, then the average time to deliver its first home is two or three years. However, from the date at which an outline application is validated it can be 5.0 - 8.4 years for the first home to be delivered dependent on the size of the site. In these circumstances, such sites would make no contribution to completions in the first five years.

2 Lead-in times jumped post-recession

Whilst attention and evidence gathering is often focused on how long it takes to get planning permission, the planning to delivery period from gaining permission to building the first house has also been increasing. Our research shows that the planning to delivery period for large sites completed since 2007/08 has jumped compared to those where the first completion came before 2007/08. This is a key area where improvements could be sought on timeliness and in streamlining pre-commencement conditions, but is also likely impacted by a number of macro factors including the recession and reductions in local authority planning resources.

3 Large greenfield sites deliver quicker

Large sites can deliver more homes per year over a longer time period, with this seeming to ramp up beyond year five of the development on sites of 2,000+ units. However, on average these longer-term sites also have longer lead-in times. Therefore, short term boosts in supply, where needed, are likely to also require a good mix of smaller sites. Furthermore, large scale greenfield sites deliver at a quicker rate than their brownfield equivalents: the average rate of build out for greenfield sites in our sample was 34% greater than the equivalent figure for those on brownfield land. In most locations, a good mix of types of site will therefore be required.

4 Outlets and tenure matter

Our analysis suggests that having additional outlets on site has a positive impact on build out rates, although there is not a linear relationship. Interestingly, we also found that schemes with more affordable housing (more than 30%) built out at close to twice the rate as those with lower levels of affordable housing as a percentage of all units on site, but those with 20-29% had the lowest rates of all. Local plans should reflect that – where viable – higher rates of affordable housing supports greater 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).

Figure I6: Key questions for assessing large site build-out rates and delivery timelines

Planning Approval

- Is the site already allocated for development? If it is in an emerging Plan, does it need to be adopted before the site can be brought forward?
- Is an SPD, masterplan or development brief required and will it help resolve key planning issues?
- Is there an extant planning permission or live planning application submitted?
- If outline permission is granted, when will reserved matters be submitted?
- Is the proposal of the promoter consistent with local policy and/or SPD/Masterplan?
- Are there significant objections to the proposal from local residents?
- Are there material objections to the proposal from statutory bodies?
- If planning permission is secured, is reserved matters approval required?

Lead In

- Does the scheme have pre-commencement conditions?
- Is the land in existing use?
- Has the land been fully assembled?
- Are there any known technical constraints that need to be resolved?
- If in multiple ownership/control, are the interests of all parties aligned?
- Is there up-front infrastructure required before new homes can be built?
- Has the viability of the proposal been established and is the feasibility consistent with known infrastructure costs and the likely rate of development?
- Does the proposal rely on access to public resources and what evidence is there on when those will be available?
- Is the scheme led by a promoter or master developer who will need to dispose of phases to a house builder before completions begin?

Build Out

- How large is the site?
- How strong is the local market?
- Does the site tap into local demand from one or more existing neighbourhoods?
- Will delivery be affected by competing sites?
- How many sales outlets will be supported by the scale, configuration and delivery model for the site?
- What is the track record of the promoter/master developer in delivery of comparable sites?
- How active are different housebuilders in the local market?
- What proportion of affordable housing is being delivered?
- Are there policy requirements for a specific mix of housing types and are there other forms of housing – such as build to rent?
- When will new infrastructure – such as schools – be provided to support the new community?
- Are there trigger points or phasing issues that may affect the build-out rate achievable in different phases?

Appendices

Contents

Appendix 1: Definitions and notes

The 'lead in'

Measures the period up to first completion of a house on site from the validation date of the first planning application made for the scheme. The lead-in time covers both the planning approval period and planning to delivery periods set out below. The lead-in time does also include the date of the first formal identification of the site as a potential housing allocation (e.g. in a LPA policy document), but consistent data on this for the sample is not available.

The 'planning period'

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). A measurement based on a detailed 'consent' was considered reasonable and proportionate milestone for 'planning' in the context of this research.

The 'planning to delivery period'

Includes the discharge of any pre-commencement and any opening up works required to deliver the site. It finishes on completion of the first dwelling.

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-out rate'

Each site is taken or inferred from a number of sources. This includes Annual Monitoring Reports (AMR's) and other planning evidence base documents produced by local authorities (see footnote 1), contacting the local planning authority monitoring officers or planners and in a handful of instances obtaining the information from housebuilders.

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 age 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 the vast majority of sites. And because not all of the sites assessed have commenced housing delivery, build-out rate information is not universal. The results are presented accordingly.

Appendix 2: Large sites tables

Site name	Local Planning Authority	Site size	Year of first housing completion	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22
				Dwellings per annum																					
Ebbsfleet	Gravesham/ Dartford	15,000	2009/10	127	79	55	50	44	40	60	141	312													
The Hamptons	Peterborough	6,320	1997/98	290.3	290.3	290.3	290.3	290.3	290.3	290.3	290.3	290.3	290.3	290.3	224	224	154	157	71	67	101	34	54	100	
Rugby Radio Station	Rugby	6,200	N/A																						
East of Kettering	Kettering	5,500	2016/17	43	93																				
Sherford	Plymouth	5,500	2016/17	7	106																				
Priors Hall	Corby	5,200	2011/12	56	21	59	87	170	155	273															
Wichelstowe	Swindon	4,500	2008/09	158	93	195	64	100	61	44	60	57													
Monkton Heathfield	Taunton Deane	4,500	2012/13	22	76	220	191	222	148																
The Wixams	Bedford	4,500	2008/09	8	190	160	138	113	109	109	44	37	47												
Cambourne	South Cambridgeshire	4,343	1999/2000	42	361	213	337	620	151	377	267	219	190	162	206	154	151	129	239	201	95	126			
Eastern Expansion Area (Broughton Gate & Brooklands)	Milton Keynes	4,000	2008/09	154	359	371	114	473	138																
Locking Parklands	North Somerset	3,700	2011/12	23	45	97	75	10	21	86															
Stanton Cross	Wellingborough	3,650	N/A																						
Beaulieu Park	Chelmsford	3,600	2015/16	40	110	262																			
Northampton North SUE	Daventry	3,500	2017/18	50																					
Great Western Park	South Oxfordshire	3,300	2011/12	110	204	232	392	237	274	78															
Oakley Vale	Corby	3,100	2001/02	35	89	289	258	346	487	520	233	174	159	107	96	103	51	40	9	70					
Kings Hill	Tonbridge and Malling	3,024	1996/97	140	140	140	140	140	126	219	104	237	166	281	300	224	93	55	90	84	108	91	74	41	31
North West Cambridge	Cambridge and South Cambridgeshire	3,000	2016/17	73																					
West of Waterloo	Havant and Winchester	3,000	2009/10	38	71	30	82	112	135	196	241														
Cranbrook	East Devon	2,900	2012/13	187	419	356	299	214	241																
West of Kempston	Bedford	2,760	2010/11	52	102	144	167	124	175	103	93														
South of the M4	Wokingham	2,605	2012/13	37	175	56	29	166	419																
Winterstoke Village	North Somerset	2,550	2014/15	132	185	242	161																		
Emersons Green East	South Gloucestershire	2,550	2014/15	274	197	318	280																		

Site name	Local Planning Authority	Site size	Year of first housing completion	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22
				Dwellings per annum																					
Land East Icknield Way	Test Valley	2,500	2009/10	184	257	103	181	135	229	146	184														
South Wokingham	Wokingham	2,490	2013/14	6	104	120	135	118																	
North Wokingham	Wokingham	2,391	2010/11	28	99	23	0	95	112	66	154														
Broadlands	Bridgend	2,309	1999/2000	288	331	307	193	204	156	64	104	91	28	81	50	147	11								
Western Riverside	Bath and North East Somerset	2,281	2011/12	59	147	93	61	163	154	45															
Arborfield Garrison	Wokingham	2,225	2016/17	57	114																				
Charlton Hayes, Northfield	South Gloucestershire	2,200	2010/11	83	87	163	333	281	193	301	168														
Clay Farm/ Showground Site (Great Kneighton)	Cambridge	2,169	2012/13	16	265	399	153	467																	
Chapelford Urban Village	Warrington	2,144	2004/05	211	214	166	262	224	141	180	183	247	60	160	66	30									
Ledsham Garden Village	Cheshire West and Chester	2,000	2016/17	41	90																				
Graven Hill	Cherwell	1,900	2016/17	1	28																				
Elvetham Heath	Hart	1,869	2000/01	192	300	297	307	287	238	103	139	6													
Hunts Grove	Stroud	1,750	2010/11	2	87	106	80	58	7	2	22														
Dickens Heath	Solihull	1,672	1997/98	2	179	196	191	207	88	124	64	249	174	16	96	110	4	0	0	13	10	26	12	96	
Red Lodge	Forest Heath	1,667	2004/05	65	93	181	79	57	79	61	101	213	101	78	23	75	111								
South West Bicester (Phase 1 Kingsmere)	Cherwell	1,631	2011/12	40	107	133	179	210	231	196															
Centenary Quay	Southampton	1,620	2011/12	102	58	103	137	257	8																
Northumberland Park	North Tyneside	1,513	2003/04	54	194	171	93	179	100	69	117	96	53	82	64	86									
Parc Derwen	Bridgend	1,500	2010/11	8	103	134	201	199	197	157	186														
Jennet's Park	Bracknell Forest	1,500	2007/08	153	154	145	168	136	179	235	93	37	0	28											
Melton Road	Rushcliffe	1,500	2016/17	40	126																				
Great Denham	Bedford	1,450	data only avalibale from 2009/10	92	150	159	71	122	150	125	211	168													
Love's Farm, St Neots	Huntingdonshire	1,438	2007/08	34	186	336	302	216	60	108	59	85													
South Maldon Garden Suburb	Malden	1,428	2017/18	1																					

Site name	Local Planning Authority	Site size	Year of first housing completion	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22
				Dwellings per annum																					
Bolnore Village	Mid Sussex	1,358	2012/13	30	54	88	73	36	124																
Park Prewett Hospital	Basingstoke and Deane	1,341	1998/99	58	82	37	102	0	0	0	0	0	307	214	219	146	33	34	56	7	30	16			
Ashford Barracks (Repton Park)	Ashford	1,300	2005/06	83	0	124	14	64	58	155	103	49	70	67	138	90									
Oxley Park (East & West)	Milton Keynes	1,300	2004/05	52	166	295	202	115	91	75	163														
Kempshott Park	Basingstoke and Deane	1,252	2000/01	78	310	229	213	281	84	33	24														
Holborough Quarry	Tonbridge and Malling	1,211	2006/07	85	137	91	47	18	100	59	12	43	64	60	101										
Staynor Hall	Selby	1,200	2005/06	12	141	115	10	43	62	46	59	79	162	79	34	50									
Picket Twenty	Test Valley	1,200	2011/12	147	178	180	176	164	145	175															
Trumpington Meadows	Cambridge and South Cambridgeshire	1,200	2012/13	141	143	67	100	94																	
Broughton (Broughton & Atterbury)	Milton Keynes	1,200	2003/04	114	105	170	409	204	180	18															
Orchard Park	Cambridge	1,120	2006/07	100	290	148	103	95	56	34	15	75	39	30	2										
Velmead Farm	Hart	1,112	1989/90	1	104	193	89	101	52	101	113	130	74	102	48	4									
Cheeseman's Green (Finberry)	Ashford	1,100	2014/15	59	47	102	157																		
Zones 3 to 6, Omega South	Warrington	1,100	2017/18	15																					
Boulton moor	South Derbyshire	1,058	2014/15	22	96	96	116																		
Highfields Farm	South Derbyshire	1,056	2016/17	141	204																				
Monksmoor Farm	Daventry	1,000	2013/14	6	65	98	128	122																	
Northampton North of Whitehills SUE	Daventry	1,000	2016/17	108	100																				
Taylors Farm/Sherfield Park	Basingstoke and Deane	991	2004/05	56	79	81	86	88	51	143	141	88	91	75	0	12									
Queen Elizabeth II Barracks	Hart	972	2012/13	56	165	110	228	213	96																
Little Staniton	Corby	970	2009/10	106	116	74	121	102	93	89	86	26													
North of Popley	Basingstoke and Deane	951	2007/08	65	57	16	28	0	0	15	118	84	60												
Ingress Park	Dartford	950	2002/03	184		275	100	74	0	119	0	0													
Nar Ouse Millenium Commuity	Kings Lynn and West Norfolk	900	2007/08	32	77	0	0	0	0	30	22.5	22.5	68	0											
West Park	Darlington	893	2004/05	60	104	98	66	69	19	35	10	16	51	35	28	14	42								
South Bradwell	Great Yarmouth	850	2015/16	60.3	60.3	60.3																			

Site name	Local Planning Authority	Site size	Year of first housing completion	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22
				Dwellings per annum																					
Prospect Place	Cardiff	826	2007/08	185	48	0	0	0	0	0	76	170													
Abbotswood	Test Valley	800	2011/12	30	190	157	114	152	90	20															
Dowds Farm	Eastleigh	795	2006/07	54	189	187	44	102	47	66	76		30												
Land at Popley Fields/ Marnell Park	Basingstoke and Deane	751	2006/07	105	172	118	186	126	44																
Hungate	York	720	2009/10	90	52	11	9	7			187	8													
Northside	Gateshead	718	1999/2000	46.8	46.8	46.8	46.8	46.8	56	46.8	46.8	46.8	46.8	46.8	16	30	31	33	25	43					
Land at West Blyth	Northumbeland	705	2008/09	6.25	6.25	6.25	6.25	32	66	51	127	78	90												
Rowner Renewal Project	Gosport	700	2010/11	4	100	70	45	89	101	79	97														
Channels - North Chelmsford	Chelmsford	700	2015/16	31	172	110																			
The Parks, formally Staff College	Bracknell Forest	697	2006/07	-94	104	88	101	54	47	72	59	94	78												
Staiths South Bank	Gateshead	667	2003/04	24	58		44		48																
Land south of Wansbeck General Hospital	Northumberland	644	2005/06	18.7	18.7	18.7	18.7	18.7	18.7	18.7	17	24	37	60	57	54									
Former Pontins Holiday Camp	Lancaster	626	2006/07	16	22	4	5																		
Ochre Yards	Gateshead	606	2004/05	83	68.2	68.2	68.2	68.2	68.2			46	4	52	2										
Former Runwell Hospital	Chelmsford	575	2016/17	91	90																				
Land adjoining Manchester Ship Canal	Trafford	550	N/A																						
Pamona Docks	Trafford	546	N/A																						
Thingwall Lane	Knowlsey	525	2013/14	79																					
St. James Village	Gateshead	518	2000/01	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	14	13	18	15								
University Campus Chelmsford	Chelmsford	507	2014/15	216	3																				
Land at Siston Hill	South Gloucestershire	504	2006/07	77	211	96	63	57																	
Land West of Copthorne	Mid Sussex	500	N/A																						

Sources for sites also found in the Letwin Review

Arborfield Green (Arborfield Garrison)		Five Year Housing Land Supply Statement and appendix on Strategic Development Locations at 31st March 2018 published 9th October 2018 http://www.wokingham.gov.uk/planning-policy/planning-policy-information/evidence-topics/
Ledsham Garden Village		Various Housing Land Monitor Reports https://consult.cheshirewestandchester.gov.uk/portal/cwc_ldf/mon/
Great Kneighton (Clay Farm)		Partly provided by Cambridgeshire County Council and included in numerous AMR's https://www.cambridge.gov.uk/annual-monitoring-reports
Trumpington Meadows		Included in numerous AMR's for Cambridge and South Cambridgeshire (site crosses boundaries) https://www.cambridge.gov.uk/annual-monitoring-reports and https://www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/annual-monitoring-report/
Graven Hill		Various Annual monitoring reports https://www.cherwell.gov.uk/info/33/planning-policy/370/monitoring-reports
South West Bicester (Kingsmere Phase I)		Various Annual monitoring reports https://www.cherwell.gov.uk/info/33/planning-policy/370/monitoring-reports
Great Western Park		Housing Land Supply Statement April 2018 http://www.southoxon.gov.uk/sites/default/files/30.04.2018%20Housing%20Land%20Supply%20Statement%20FINAL%20(2)%20combined.pdf
Ebbsfleet:		First phase at Springhead Park and Northfleet South from Gravesham AMR's 2009/10 to 2012/13
	2009-10:	127 completions https://www.gravesham.gov.uk/__data/assets/pdf_file/0010/69823/AMR2010.pdf
	2010-11:	79 completions https://www.gravesham.gov.uk/__data/assets/pdf_file/0010/69814/AMR2011.pdf
	2011-12:	55 completions https://www.gravesham.gov.uk/__data/assets/pdf_file/0009/92448/Gravesham-Authority-Monitoring-Report-2011-12-May-2013.pdf
	2012-13:	50 completions https://www.gravesham.gov.uk/__data/assets/pdf_file/0010/92449/Gravesham-Authority-Monitoring-Report-2012-13-interim-May-2013.pdf
	2013/14:	87 dwellings, based on total completions form Gravesham to 2012/13 of 311 and total completions to the start of 2014/15 in the Ebbsfleet Garden City Latest Starts and Completion Figures totalling 398.
	2014/15 to 2017/18:	Ebbsfleet Garden City Latest Starts and Completion Figures: https://ebbsfleetdc.org.uk/tracking-our-performance/

Appendix 3: Small sites tables

Site Name	Local Planning Authority	Size
Cookridge Hospital	Leeds	495
Stenson Fields	South Derbyshire	487
Horfield Estate Phase I	Bristol City Council	485
Farnborough Business Park	Rushmoor	476
Bickershaw Colliery	Wigan	471
Farington Park, east of Wheelton Lane	South Ribble	468
Bleach Green	Gateshead	456
Kingsmead South	Milton Keynes Council	450
New Central	Woking Borough Council	445
Land at former Battle Hospital	Reading Borough Council	434
New World House	Warrington	426
Radyr Sidings	Cardiff	421
Luneside West	Lancaster	403
Woolley Edge Park	Wakefield	375
Former Masons Cerement Works and Adjoining Ministry of Defence Land	Mid Suffolk	365
Former NCB Workshops (Portland Park)	Northumberland	357
Chatham Street Car Park Complex	Reading	307
Kennet Island Phase I - H, M, T, UI, U2	Reading	303
Land at Dorian Road	Bristol, City of	300
Land at Fire Service College, London Road	Cotswold	299
Land at Badsey Road	Wychavon	298
Land at Brookwood Farm	Woking	297
Long Marston Storage Depot Phase I	Stratford-on-Avon	284
M & G Sports Ground, Golden Yolk and Middle Farm	Tewkesbury	273
Land at Canons Marsh	Bristol, City of	272
Land off Henthorn Road	Ribble Valley	270
Land Between A419 And A417	Cotswold	270
Hortham Hospital	South Gloucestershire	270
GCHQ Oakley - Phase I	Cheltenham	262
Hewlett Packard (Land Adjacent To Romney House)	Bristol, City of	242
128-134 Bridge Road And Nos 1 - 4 Oldfield Road	Windsor and Maidenhead	242
Hoval Ltd North Gate	Newark and Sherwood	196
Notcutts Nursery, 150 - 152 London Road	Cherwell	182
Sellars Farm	Stroud	176
Land South of Inervet Campus Off Brickhill Street, Walton, Milton Keynes	Milton Keynes	176
Queen Mary School	Fylde	169
London Road/ Adj. St Francis Close	East Hertfordshire	149
Land off Gallamore Lane	West Lindsey	149
Doxey Road	Stafford	145
Former York Trailers (two schemes - one Barratt, one DWH)	Hambleton	145
Bracken Park, Land At Corringham Road	West Lindsey	141
Land at Farnham Hospital	Waverley	134
North of Douglas Road	South Gloucestershire	131
Land to the east of Efflinch Lane	East Staffordshire	130
Land to the rear of Mount Pleasant	Cheshire West and Chester	127
Primrose Mill Site	Ribble Valley	126
Kennet Island Phase IB - E, F, O & Q	Reading	125
Land between Godsey Lane and Towngate East	South Kesteven	120
Bibby Scientific Ltd	Stafford	120
Land west of Birchwood Road	Bristol, City of	119
Former Bewbush Leisure Centre Site	Crawley	112
Land south of Station Road	East Hertfordshire	111
Poppy Meadow	Stratford-on-Avon	106
Weeton Road/Fleetwood Road	Fylde	106
Former York Trailers (two schemes - one Barratt, one DWH)	Hambleton	96
North East Sandylands	South Lakeland	94
Auction Mart	South Lakeland	94
Parcel 4 Gloucester Business Park	Tewkesbury	94
York Road	Hambleton	93
Land At Green Road - Reading College	Reading	93
Caistor Road	West Lindsey	89
The Kylins	Northumberland	88
North East Area Professional Centre, Furnace Drive	Crawley	76
Land at Willoughbys Bank	Northumberland	76
Watermead, Land At Kennel Lane	Tewkesbury	72
Land to the North of Walk Mill Drive	Wychavon	71
Hawthorn Croft (Off Hawthorn Avenue Old Slaughterhouse Site)	West Lindsey	69
Land off Crown Lane	Wychavon	68
Former Wensleydale School	Northumberland	68
Land at Lintham Drive	South Gloucestershire	68
Springfield Road	South Kesteven	67
Land off Cirencester Rd	Stroud	66
Land south of Pinchington Lane	West Berkshire	64
Land at Prudhoe Hospital	Northumberland	60
Oxfordshire County Council Highways Depot	Cherwell	60
Clewborough House School	Cherwell	60
Land at the Beacon, Tilford Road	Waverley	59
Land to Rear Of 28 - 34 Bedale Road	Hambleton	59
Hanwell Fields Development	Cherwell	59
Fenton Grange	Northumberland	54
Former Downend Lower School	South Gloucestershire	52
Holme Farm, Carleton Road	Wakefield	50
Land off Elizabeth Close	West Lindsey	50

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