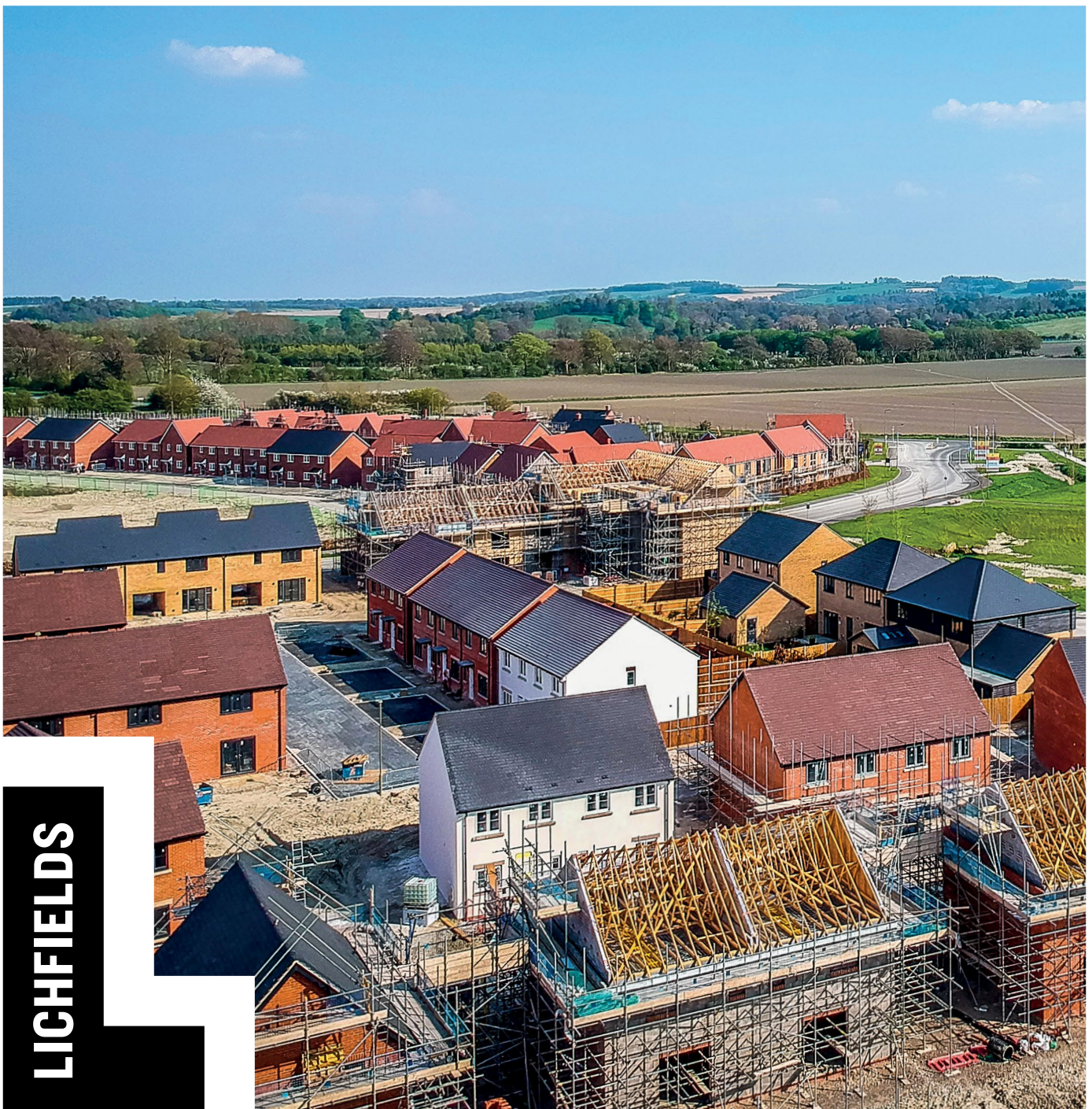


INSIGHT
SEPTEMBER 2024

Start to Finish

How quickly do large-scale housing sites deliver?

**THIRD EDITION - POST 2024 ELECTION
AND NPPF CONSULTATION 2024**



LICHFIELDS

Lichfields is the pre-eminent planning and development consultancy in the UK

We've been helping create great places for over 60 years.

Some minor amendments have been made to the data since the March 2024 published version.

Executive summary

This is the third edition of Start to Finish. The purpose of this research remains to help inform the planning system and policy makers in considering the approach to planning for new homes. The empirical evidence we produced in the first two versions has informed numerous local plan examinations, S.78 inquiries and five-year land supply statements.

Things have moved on notably since the second edition in 2020. Plan making and decision taking have slowed, the housing market no longer benefits from Help to Buy or cheap mortgage rates and the perennial concern about perceived land banking has been comprehensively rebutted by the Competition and Markets Authority (CMA). In addition, a recently-elected Labour government with a substantial majority is committed to the delivery 1.5m homes within the current parliamentary term. Less than a month after taking office it has launched a consultation on changes to the National Planning Policy Framework¹ and a new standard methodology for assessing local housing need. It is therefore timely to refresh the evidence on the delivery of large-scale housing sites. Our enlarged sample now considers the real-world implementation across 179 sites of over 500 dwellings.

We draw six key conclusions:

1. Only sites of 99 dwellings or fewer can, on average, be expected to deliver anything in a five-year period (or parliamentary term) from validation of a planning application, with delivery of the first dwelling on average taking 3.8 years. By comparison, sites of 1,000+ dwellings take on average five years to obtain detailed planning permission, then a further 1.3 to 1.6 years to deliver the first dwelling.

- 2. Mean annual build-out rates on large sites have dipped slightly for all site sizes compared to previous editions of this research but are broadly comparable.** The slight dip may capture characteristics of newly-surveyed sites, but also extra monitoring years since 2019 that reflect market changes, including COVID impacts.
- 3. Tough market conditions mean a likely slowing in build-out rates and house building overall.** The impact of the Help to Buy programme ending and higher mortgage rates is not yet showing in completions data, but the effect on transactions has already been significant and the OBR forecast they will fall further in 2024/25.
- 4. Demand is a key driver of build-out rates.** The absorption rate of the local housing market dictates the number of homes a builder will sell at a level that is consistent with the price they paid for the land. Areas with a higher demand for housing (measured by higher affordability ratios, of house prices to earnings) had higher average annual build-out rates than lower demand areas.
- 5. Variety (of housing type and tenure) is the spice of life.** Schemes with 30% or more affordable housing had faster average annual build-out rates than schemes with a lower percentage, but schemes with no affordable housing at all delivered at a faster pace than schemes with 10 to 29% affordable units. Having additional outlets on site also has a positive impact on build-out rates.
- 6. Large-scale entirely apartment schemes can achieve significant annual build-out rates, but delivery is not always consistent, with 'lumpy' delivery of blocks of apartments and a higher susceptibility to market downturns and other development constraints.** These schemes can also have protracted planning to delivery periods compared to conventional housing schemes of the same size.

¹ <https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system>



Key figures

297

sites assessed, with a combined yield of 387k+ dwellings; 179 of the sites delivering 500+ dwellings

9

solely apartment schemes in urban areas assessed, with a combined yield of 5,300+ units

6.6

mean years from validation of the first planning application to the first dwelling being completed on schemes of 2,000 or more dwellings

100-188 dpa

average annual build-out rate range for schemes of 2,000+ dwellings²

44-83 dpa

average annual build-out rate range for scheme of 500-999 dwellings³

34%

quicker⁴ to deliver greenfield sites of 500 or more units than their brownfield counterparts

69 dpa

mean completion per outlet on sites with one outlet, dropping to 62 dpa for two outlets, and 55 dpa for three outlets

3x longer

planning to delivery periods for brownfield apartment schemes of 500-999 units compared to their conventional housing counterparts

² Range is from the lower quartile to upper quartile figures

³ As above

⁴ This is based on the median metric

O1 Introduction

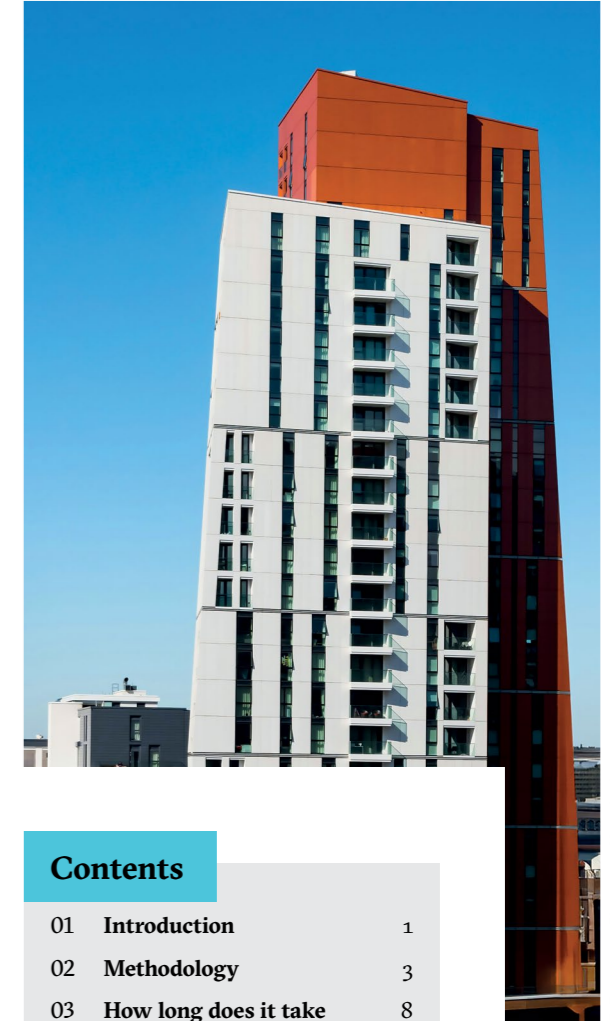
This is the third edition of Lichfields' award winning⁵ research on the build out of large-scale residential development sites.

First published in 2016 and then updated in 2020, the report is established as an authoritative evidence base for considering housing delivery in the context of planning decisions, local plans and public policy debates.

In this update, we have expanded the sample size (with an extra 82 large sites delivering 500 or more dwellings, taking our total to 179 large sites, equivalent to over 365,000 dwellings). Small sites data has also been updated with 118 examples totalling over 22,000 dwellings in this third edition. We have used the latest monitoring data⁶ where available, up to 1st April 2023.

The context for considering the delivery of development sites has evolved since our last edition and this has shaped the focus of our analysis.

In 2020 a recently re-elected Conservative government was gearing up for radical planning reform⁷ including proposals aimed at boosting rates of on-site delivery following Sir Oliver Letwin's independent review of build out⁸. As of February 2024⁹, the Competition and Markets Authority (CMA) freshly examined allegations of perceived 'land banking' and found that this is a symptom of the planning system rather than a cause of under delivery of housing. We have cross referenced our latest findings with the CMA's work.



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⁵ The first edition was the winner of the 2017 RTP1 Planning Consultancy Research Award

⁶ Some sites have not been updated due to lack of publicly available data. The appendices make clear to which sites this relates

⁷ Leading in due course to the August 2020 Planning White Paper: Planning for the Future

⁸ Published October 2018

⁹ https://assets.publishing.service.gov.uk/media/65d8baed6efa83001ddcc5cd/Housebuilding_market_study_final_report.pdf

We now have radical political change nationally. A new Labour government swept to power in July 2024 off the back of a manifesto¹⁰ seeking to deliver 1.5m homes in its first parliamentary term, including through the delivery of a new generation of new towns¹¹. Less than a month after taking power the National Planning Policy Framework (NPPF) consultation was also launched with the expressed objective to “get Britain building again”¹². As part of this consultation, the proposed new standard methodology to the assessment of local housing need has significantly increased the level of housing that should be planned for in many local authorities, with the total housing need figure nationwide increasing from 305,000 under the current approach to over 375,000. This research gives clear evidence to demonstrate if, and how, these figures might possibly be achieved in the context of strategic scale housing delivery examples.

Our research continues to focus exclusively on what has happened on the ground, how long things took and what has been built. We do not include forecasts of future delivery. Our aim is to provide real-world benchmarks to inform consideration of housing delivery trajectories.



This can be particularly relevant in locations with few contemporary examples of strategic-scale development. It also provides some context for when Government considers the recommendations of the CMA.

The research excludes London because of the distinctive characteristics of housing development in the capital. However, our sample does include apartment schemes on brownfield land in regional urban centres. These are particularly useful in the context that the NPPF consultation (2024) takes a “brownfield first approach”.

Finally, the housing market has taken a turn. In 2020, net housing additions in England peaked at 248,500. But in 2024, the market has stuttered with downward pressures on values and sales rates: Help to Buy closed in March 2023, mortgage rates more than doubled in 2022 and remain high and Registered Providers face challenges that limit their ability to invest in new stock. Our report considers how these headwinds may affect annual build-out rates.

02 Methodology

This report focuses analysis on the pace at which large-scale housing sites of 500 dwellings or more emerge through the planning system and how quickly they are built out. It identifies the factors which lead to faster or slower rates of delivery, including those impacting specifically on apartment schemes on brownfield sites in urban areas.

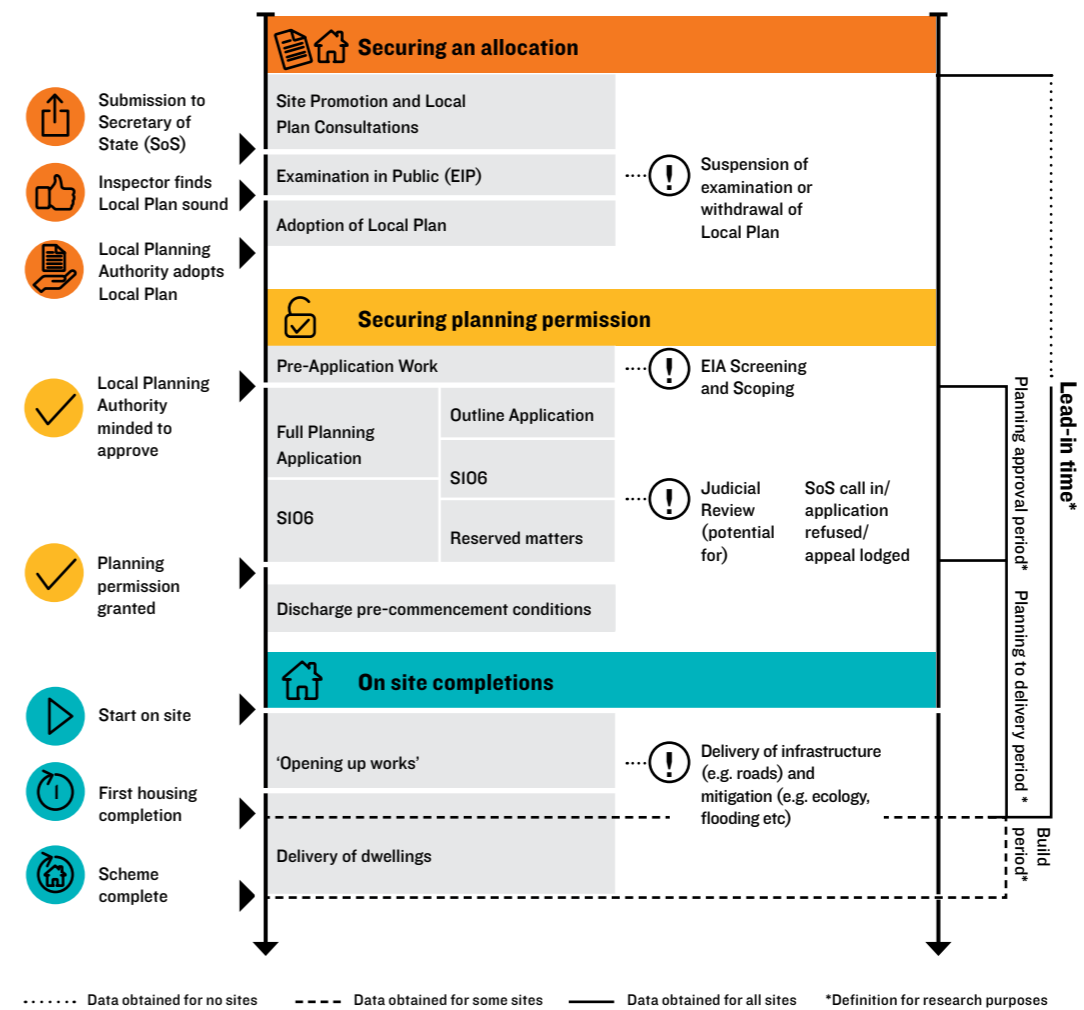
Definitions

For all sites, 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 development stages have been codified as illustrated in Figure 2.1, which remain unchanged from the previous editions of this research.

The overall ‘lead-in time’ covers stages associated with securing a local plan allocation, going through the ‘planning approval period’ and ‘planning to delivery period’, and ending when the first dwelling is completed. The ‘build period’ commences when the first dwelling is completed, denoting the end of the lead-in time.

Figure 2.1: Timeline for the delivery of large-scale housing sites



Source: Lichfields analysis

¹⁰ <https://labour.org.uk/change/kickstart-economic-growth/#get-britain-building-again>

¹¹ <https://www.gov.uk/government/news/expert-taskforce-to-spearhead-a-new-generation-of-new-towns>

¹² <https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system>

Lead-in time

Securing a development plan allocation is an important stage in the delivery of most large-scale housing sites. However, it is not possible to obtain information on a consistent basis for this process – which can often take decades across multiple plan cycles – and so we have not incorporated it in our analysis. For the purposes of this research the lead-in time reflects only the time from the start of the planning approval period up to the first housing completion.

Planning approval period

The 'planning approval period' begins with the validation date of the first planning application on the site (usually an outline application but sometimes hybrid or full) and extends until the date of the first detailed approval for dwellings on the site (either full, hybrid or reserved matters applications). It is worth noting that applications are typically preceded by significant amounts of (so-called) 'pre-app' engagement and evidence work, but due to a lack of data on these matters, it is not possible to establish a reliable estimate of the time taken on these activities (including through the local plan and pre-application). But the time taken to achieve an implementable planning permission will be markedly longer than we have identified in this study because work inevitably begins prior to the date the planning application is validated.



Planning to delivery period

The 'planning to delivery period' follows the planning approval period and measures the time from the date of the first detailed permission for construction of homes (usually reserved matters but could be a hybrid or full application) to the completion of the first dwelling. The use of the 'completion of the first dwelling' rather than 'works on site' reflects the availability of data: housing completions are routinely publicly recorded by LPAs but the commencement of work on site tends not to be. This allows for a consistent basis for measurement.

We can mostly only identify the monitoring year in which the completion took place, so the mid-point of the monitoring year has been used to calculate the end date of the planning to delivery period. For example, a scheme delivering its first unit in 2014/15 would be recorded as delivering its first unit on 1 October 2014.

For solely apartment schemes this will be slightly different as developers will typically complete an entire block on a single day. This will often mean the 'planning to delivery period' is longer as the first recorded completion for multiple apartments in a newly constructed multi-storey block would require more on-site work than required to complete a single house.

Build period

The annualised build-out rates are recorded for the development up to the latest year where data was available as of April 2023 (2022/23 in most cases). Not every site assessed will have completed its build period as many of the sites we considered had not delivered all dwellings permitted at the time of assessment; some have not delivered any dwellings.

We anticipate multi-phased apartment schemes will have more 'lumpy' completions data as entire blocks are recorded as having been completed on the same day. This could mean years with high delivery preceded and/or followed by more fallow years.

Detailed definitions of each of these stages can be found in Appendix 1.



Development and data

Our analysis focuses on larger sites of 500 or more dwellings, but we have also considered data from smaller sites ranging from 50-499 dwellings for comparison and to identify trends. The geographic distribution of sites assessed is shown in Figure 2.2 and a full list can be found in Appendix 2 (large sites) and Appendix 3 (small sites).

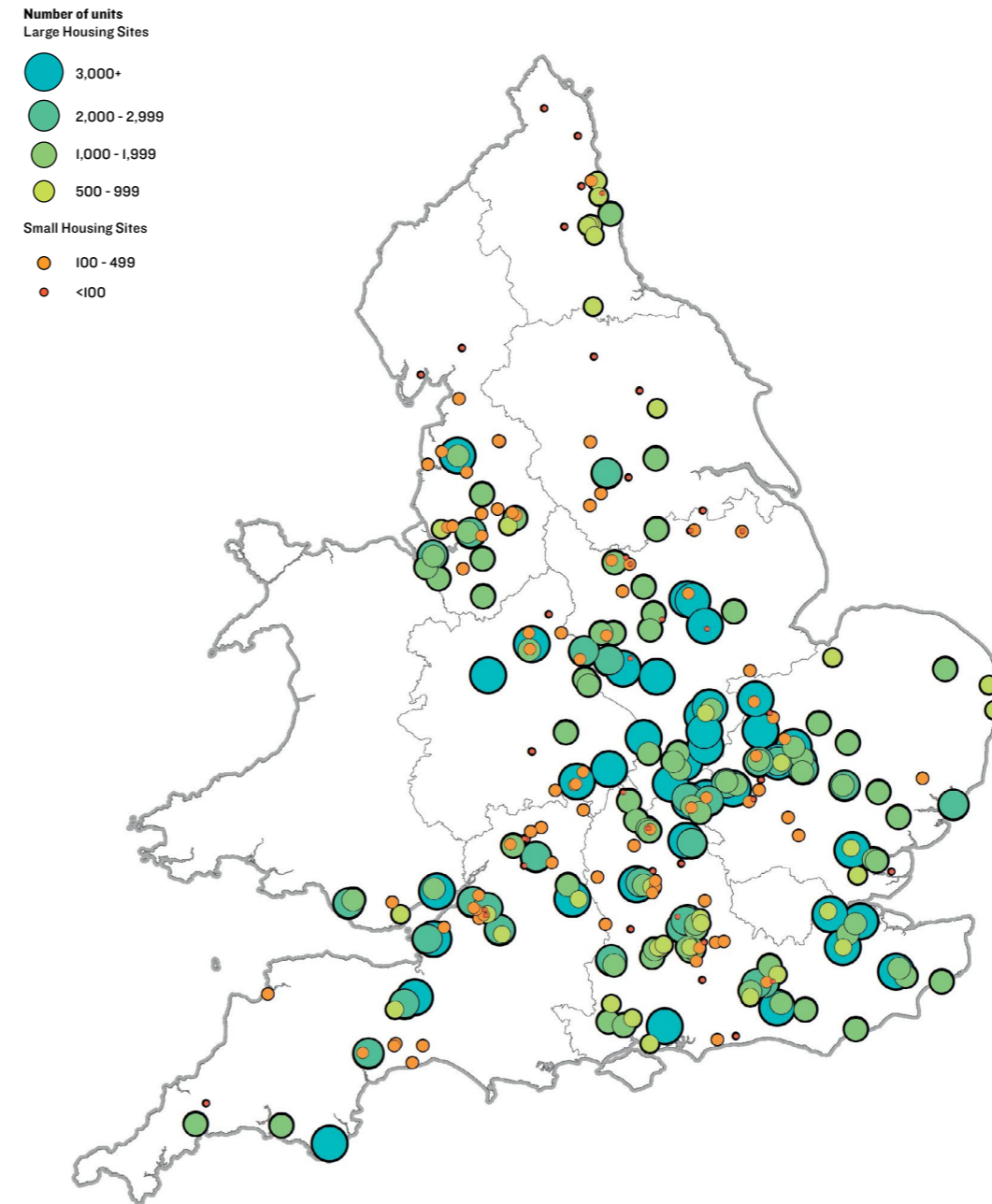
Efforts were made to cover a range of locations and site sizes in the sample, but we cannot say it is representative of the housing market throughout England and Wales. Our conclusions may not be applicable in all areas or on all sites. Our sample size has increased significantly: we now have 179 large sites (the second edition had 97) and 118 small sites (the second edition had 83). We have endeavoured to include more recent examples to ensure that the latest trends in planning determination and build-out rates for housing sites are picked up proportionally through the analysis of housing sites of all sizes.



The sources on which we have relied to secure delivery data on all sites in this research include:

1. Annual Monitoring Reports (AMRs) and other planning evidence base documents produced by LPAs¹³;
2. Contacting the relevant LPA, and in some instances the relevant County Council, to validate or update the data; and
3. In a handful of instances obtaining/confirming the information from the relevant house builders.

Figure 2.2: Map of sites assessed, by size of site (dwellings)



Source: Lichfields analysis

¹³ Monitoring documents, five-year land supply reports, housing trajectories (some in land availability assessments), housing development reports and newsletters

03 How long does it take to get started?

In this section we look at lead-in times; the time it takes for large housing sites to get planning permission and begin to deliver homes on site. This includes both the 'planning approval period' and the 'planning to delivery period'.

Planning approval period

The first stage is the planning approval period: the time taken from the validation of the first application to the first detailed permission. For large sites, this period typically comprises the determination of an outline application, and then a reserved matters application (but in some cases, it may refer to a single full/ hybrid application). Our data shows that the average (mean) planning approval period generally increases in accordance with site size; for small sites of less than 100 dwellings, this is on average 1.5 years, but for sites of 1,000 dwellings or more, it takes an average of five years to obtain detailed planning permission, with minimal change in this period as site size increases above this point.

Although it takes longer to achieve a detailed planning permission on larger sites, there is not a linear relationship between size of site and time taken to secure the detailed permission. This might be because the largest sites are more likely to be allocated in adopted local plans and so the principle of development would have already been established by the time an application is submitted. In theory this would help to speed up the planning approval process but end-to-end timescales are dependent on a timely local plan system.

Table 3.1 Lower quartile, median and upper quartile timeframe from validation of the first application to completion of the first dwelling (years) by site size

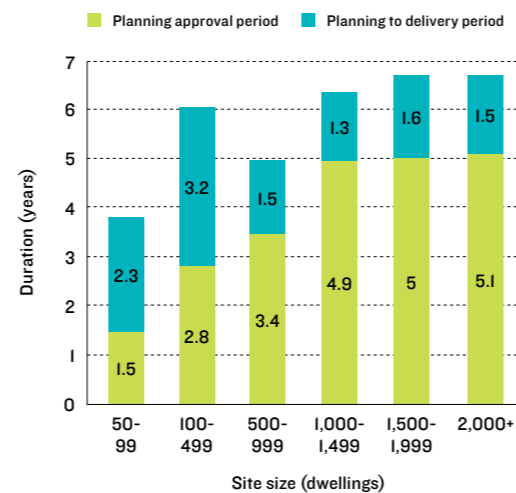
	50-99 dwellings	100-499 dwellings	500-999 dwellings	1,000-1,499 dwellings	1,500-1,999 dwellings	2,000+ dwellings
Lower Quartile	1.4	2.6	2.7	3.7	3.7	4.0
Median	2.7	5.2	4.0	5.4	5.3	6.3
Upper Quartile	5.9	9.0	6.6	8.3	6.9	7.9

Source: Lichfields analysis

In Wales, the restrictive policy towards speculative applications makes an allocation almost essential.

The CMA has also undertaken analysis of the time it takes land promoters and house builders to obtain outline planning permission. Using data obtained from land promoters, the CMA found that of the outline permissions obtained in 2022, 43.4% of them were obtained within five years or less, with 97.4% in nine years or less. These periods are significantly longer than the figures in our analysis because this includes pre-application promotion work, which is not captured in our data which starts with submission of the first application.

Figure 3.1 Average (mean) timeframes from validation of the first application to completion of the first dwelling



Source: Lichfields analysis

The CMA go on to say in footnote 111 that “in estimating the development timeline, our estimate for the most comparable element of the process is, on average, 3 to 4.5 years”. This is more closely aligned to our findings on securing planning permission on a large site.

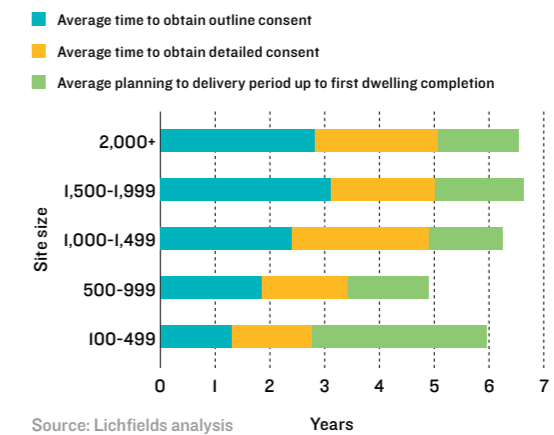
The CMA also found that the time required to make planning decisions is increasing (paragraph 4.27). However, its analysis considered developments of all sizes; we found no discernible difference in the time it takes schemes of 500 dwellings to achieve detailed approval since 2012/13 compared to older schemes. This could be because large-scale housing applications have always been more complex and so inevitably took longer to determine. They would, likely, also only be pursued by those with significant experience in this sphere. However, we did find an increase in the planning to delivery period which we discuss later in the report.

Outline permission to completion of the first dwelling

Our 2020 research was published in the aftermath of the February 2019 revisions to the NPPF which raised the bar on the definition of 'deliverable' for determining whether a site could be assumed to supply completions within the five-year housing land supply period. This definition is now well-established with the requirement for local planning authorities to provide 'clear evidence' to demonstrate the deliverability of sites that do not benefit from detailed permission.

We have updated our findings on the average time taken from gaining outline permission to the completion of the first dwelling on site, as shown in Figure 3.2. This indicates that it takes on average around 3 to 4.6 years from the grant of outline planning permission to deliver the first dwelling. This means at the time of its granting, an outline permission will deliver limited housing in a five-year period.

Figure 3.2 Overall lead-in times for sites of 100 dwellings or more including time taken for outline consent by site size



Source: Lichfields analysis

Planning approval period: What is going on?

Larger sites are often complex and require outline permissions to set the framework for future phases or staged delivery before bringing forward a detailed scheme through reserved matters and detailed permissions.

Outline planning permissions for strategic development are often not obtained by the company that builds the houses. Master developers and land promoters play a significant role in bringing forward large-scale sites that are subsequently implemented by house builders.

Promoters will typically obtain outline planning permission and then sell the site to a house builder that will secure the detailed approvals.

The CMA explains that land promoters are contractually obligated to begin the sale of land as soon as practically possible after receiving outline planning permission. The CMA found that whilst in 2022 65% of sites sold by promoters were sold within 12 months of obtaining planning permission, their data implied a large variation in the time taken to sell a site¹⁴. Reasons included low interest in the site, protracted price negotiations, withdrawal from a sale, and multi-phased sales.

¹⁴ CMA Housebuilding Market Report paragraphs 4.53 and 4.66-4.69

1.6 years

time taken to build the first dwelling following detailed consent on a 1,500+ dwelling scheme

Planning to delivery period

Figure 3.1 demonstrates that smaller sites in this research take longer to deliver their first dwelling than large sites, measuring the time from detailed approval being secured. Sites of 500+ dwellings take 1.3 - 1.6 years to deliver the first dwelling. By contrast sites for 50 to 99 dwellings take 2.3 years, whilst sites of 100 - 499 dwellings takes 3.2 years.

Planning to delivery period: What is going on?

There are typically complex site-specific issues such as securing statutory approvals, signing-off details, resolving land ownership and legal hurdles prior to the commencement of development.

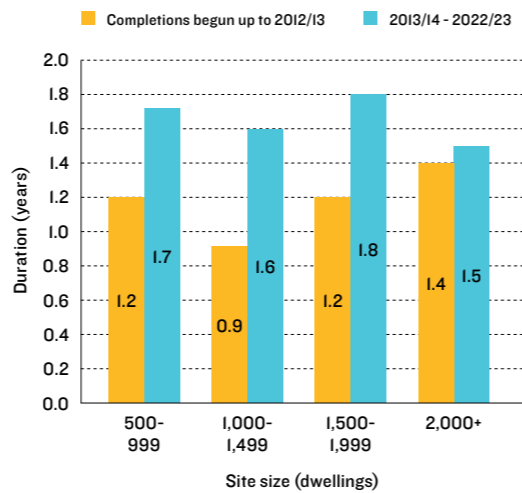
House builders must discharge pre-commencement planning conditions before constructing a home. These should be tailored to tackle specific problems but can be used broadly, for example relating to drainage, soil surveys, ecology, environmental health, materials samples, highways/ traffic plans and formalise any CIL liability.

Our 2021 research¹⁵ provided a deep dive into five local authority case studies, using their monitoring data to look at what is happening to individual planning permissions at the local level once granted. Some permissions require re-working or replanning to improve a scheme. Often these reworks – undertaken at a point at which the principle of development has already been established – will help ensure the most efficient use of land and the right scheme for the market, while also reducing planning risk for the developer. Detailed permissions are more likely to be reworked, likely reflecting their relative inflexibility compared to outline permissions. The extent of re-plans reflects the limited scope to quickly amend permitted schemes without needing to submit a new application.

Planning to delivery period over time

The planning-to-delivery period is longer for sites of all sizes in the part of our sample that started in the last decade. Figure 3.3 splits the planning to delivery analysis in Figure 3.1 by time. It shows that up until 2012/13 (just after the NPPF was first introduced), the planning to delivery period ranged between 0.9 and 1.4 years, with schemes of 2,000+ dwellings taking the longest to get started. In the period since the NPPF replaced PPG/PPS3, the planning to delivery period has extended up to 1.5 to 1.8 years, a figure that is relatively consistent across all site sizes. The reasons for the change are not identified in the data, but may reflect the increased complexity of planning requirements as well as resourcing pressures in LPAs.

Figure 3.3 Planning to delivery period by site size



Source: Lichfields analysis

The overall lead-in time

The average time from validation of an outline application to the delivery of the first dwelling for large sites of 500 dwellings or more ranges from 4.9 to 6.6 years depending on site size, i.e. beyond an immediate five-year period for land supply calculations.

When combining the planning approval period and planning to delivery period only sites comprising 99 dwellings or less will – on average – deliver anything within an immediate five-year (or parliamentary) period. Interestingly, sites of between 100 and 499 dwellings and all sites of 1,000 dwellings or more have a very similar combined planning approval and planning to delivery period of 6 to 7 years, despite significant variation in 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).



¹⁵ Lichfields, 2021 Tracking Progress

O4 How quickly do sites build out?

The rate at which homes are to be built on sites – and the realism of housing land supply and trajectories – is often contested at local plan examinations and planning inquiries where five-year housing land supply is a factor. The NPPF consultation (2024) seeks to reverse the December 2023 changes to the calculation of five year housing land supply and restore the requirements for LPAs to demonstrate this level of supply even when the adopted plan is less than five years old. In this context, a good understanding of real-world examples and evidence on absorption rates (see Section 5) remains essential.

Our analysis of build rate averages excludes any sites which have less than three years of completions data. This is because it is unlikely the completion figure in year one would cover a whole monitoring year, and so could distort the average for that site when considered alongside only one full year of completion data.

Some schemes do achieve very high rates of build-out in particular years (the top five annual figures were 520 to 620 dwellings per annum [dpa]) but this rate of delivery is not sustained (see Table 4.1). Apart from Ebbsfleet¹⁶, the peak build-out rates were anomalous. That said, the five examples in Table 4.1 remain at the upper end of (or above) the range of our overall sample: for schemes of 2,000 or more dwellings the average annual completion rate throughout build-out ranges from 100 to 188 dpa (see Figure 4.1).

Table 4.1 Peak annual build-out rates compared against average annual build-out rates on these sites

Site	Local Planning Authority	Site size (dwellings)	Peak annual build-out rate (dpa)	Average annual build-out rate (dpa)
Cambourne (original new settlement ¹⁷)	South Cambridgeshire	3,300	620	188
Ebbsfleet	Dartford	15,000	619	255
Berryfields Major Development Area (Aylesbury Garden Town)	Buckinghamshire	3,254	562	251
Great Kneighton (Clay Farm)	Cambridge	2,188	539	219
Oakley Vale	North Northamptonshire	3,100	520	162

Source: Lichfields analysis

¹⁶ Ebbsfleet has delivered a series of high annual buildout rates in the most recent five-year period: 2018/19 = 613, 2019/20 = 553, 2020/21 = 347, 2021/22 = 533 and 2022/23 = 619

¹⁷ The second edition of this research included Cambourne as an example with a total site size of 4,343 dwellings. However, in this iteration we have separated out the sites into Cambourne the original new settlement (3,300 dwellings), Upper Cambourne (950 dwellings) and Cambourne West (2,350 dwellings)

100-188 dpa
average annual build-out rate on 2,000+ dwelling scheme

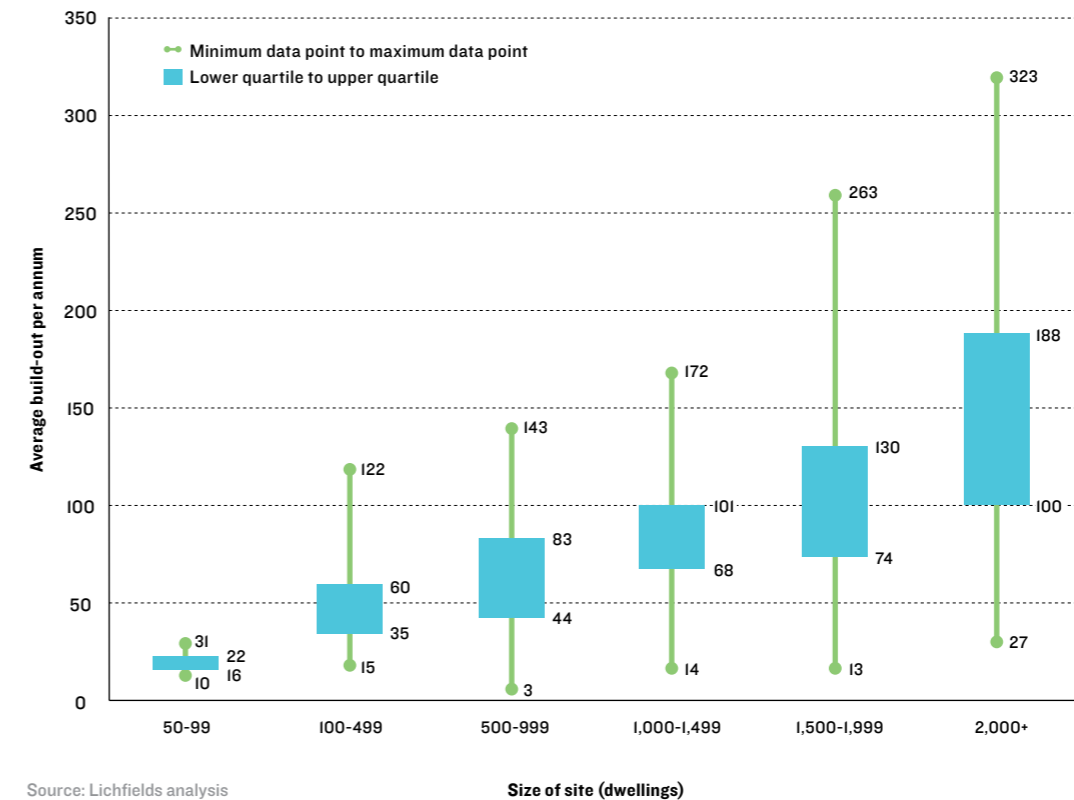
Average annual build-out rates

Figure 4.1 presents our updated results for average annual build-out rates by site size for all sites in our sample. Unsurprisingly, larger sites deliver on average more per year than smaller sites. Those of 2,000 dwellings or more, delivered on average more than twice the rate of sites of 500 - 999 dwellings.

In this third iteration of the research, we have identified the average (mean and median) build rate, but also the lower and upper quartiles to illustrate a range.

This avoids too much focus on a singular figure, recognising the wide range of factors that influence build-out rates as set out in Section 5. For sites of 2,000 or more dwellings, the lower to upper quartile range for build-out rates is 100 to 188 dpa. The highest average build-out rate in our analysis is 323 dpa, at Great Western Park, in the Vale of White Horse.

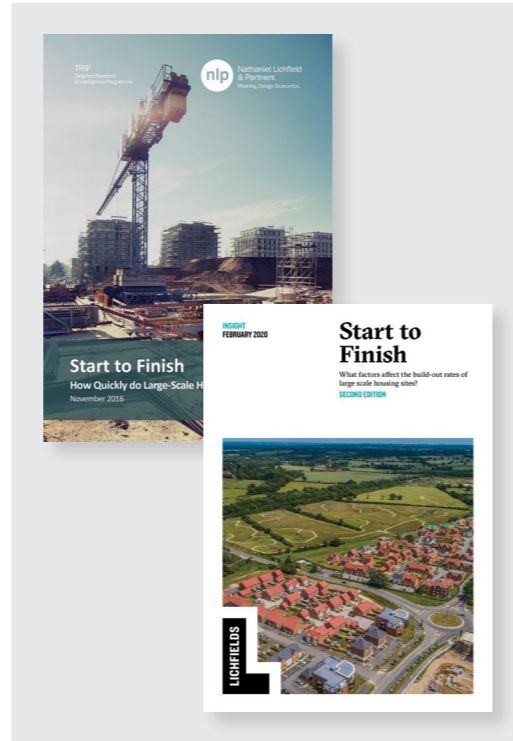
Figure 4.1: Average build-out rate by size of site (dwellings)



Source: Lichfields analysis

Comparison with our previous editions

The number of sites we have assessed is significantly increased in this edition of the research, but particularly for the largest sites (2,000+ dwellings) where we have 43 extra examples. Over the three editions of our research, the mean build-out rate has decreased marginally, whilst the median rate is also lower for sites under 999 dwellings but broadly static for sites of 1,000 dwellings or more. Overall, there is limited difference in the average build-out rates across all three editions which gives us confidence in the findings. However, it does show there a reduction in the presented build-out rates overall. We explore whether this is a function of our sample size or the addition of new years of monitoring data in Section 5.



05 What factors can influence build-out rates?

In this section we explore some of the factors that can influence the pace at which sites are built out. This includes site and location-specific factors, such as the strength of local market, the amount of affordable housing and whether a site is greenfield or brownfield. In this third edition, we also consider the potential impact of economic and housing market cycles.

Economy and market impacts

The housing market appears to be at the start of a new economic cycle. After around a decade of generally favourable market conditions (with cheap finance and policy support) potential home purchasers and builders are facing different circumstances.

Figure 5.1 looks at how average build-out rates on our sampled sites have correlated with net additional dwellings in England and recent economic events and interventions over our study period.

Economic and policy context for house building and build-out rates

Government support for new home buyers was available before the Global Financial Crisis (GFC), (i.e. "First Buy" in 2006/7) but more robust support was introduced subsequently, firstly with Homebuy Direct, then Help to Buy which was introduced in 2013 and lasted until October 2022. It supported almost a third of new home sales over this period¹⁸. COVID-19 prompted a further stimulus in the form of a stamp duty holiday (July 2020 - July 2021).

Alongside these policy measures, mortgage rates were historically and consistently low, falling to 0.5% in March 2009 and 0.1% in March 2020 before rising again from December 2021.

Combined, this provided favourable conditions for home buyers and house builders.

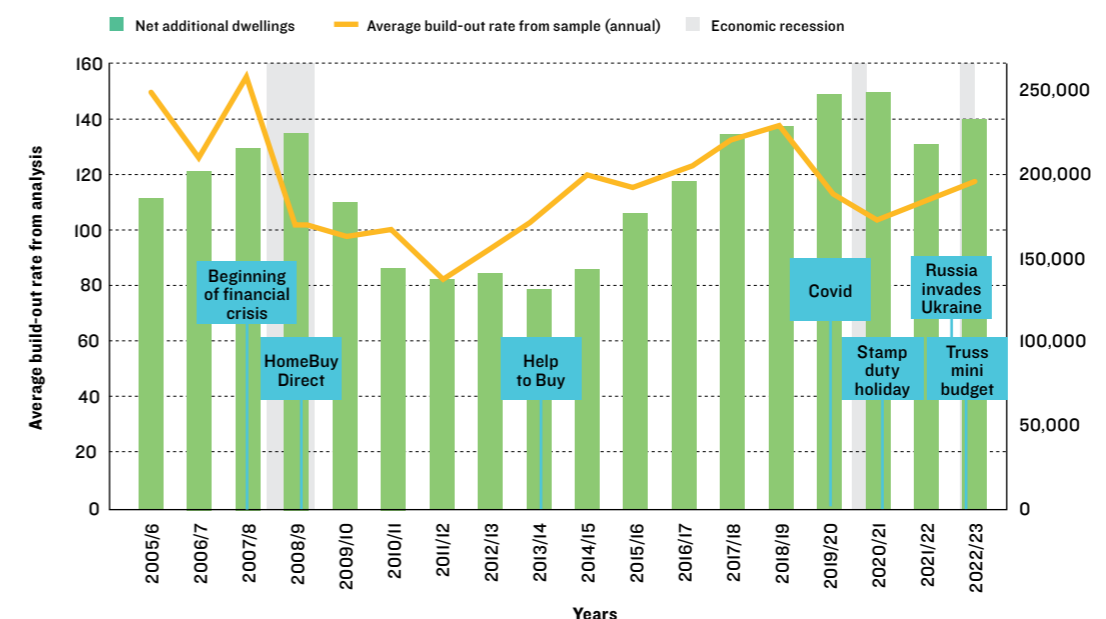
The end of Help to Buy in 2022 was compounded by dramatically increased mortgage rates, reaching 5.25% in August 2023. The effect to transactions has already been significant and the OBR forecast (in March 2024) that transactions in 2024 will be 14% below pre-pandemic levels (2017-2019) and will not return to this level until 2027.

Table 4.2 Average build-out rates by size of site (dwellings) compared with the first and second editions of the research

Site Size (dwellings)	Mean build-out rate (dpa)				Median build-out rate (dpa)		
	First Edition	Second Edition	Third Edition		Second Edition	Third Edition	
50-99	27	22	20		27	18	
100-499	60	55	49		54	44	
500-999	70	68	67		73	68	
1,000-1,499	117	107	90		88	87	
1,500-1,999	129	120	110		104	104	
2,000+	161	160	149		137	136	

Source: Lichfields analysis

Figure 5.1: Net Additional Dwellings (England) and build-out rates (England and Wales) in economic context



Sources: Lichfields analysis of build-out rates, DLUHC 2024, Increase in Dwelling stock Table I04

¹⁸ <https://www.gov.uk/government/statistics/help-to-buy-equity-loan-scheme-data-to-30-september-2021/help-to-buy-equity-loan-scheme-data-to-30-september-2021#about-the-help-to-buy-equity-loan-scheme>

Looking ahead

The Bank of England estimates that (due to the increased share of fixed rate mortgages now being 85% compared to closer to 50% in 2007) “over half the impact from two years of interest rate increases is still to be felt”. This leads to the OBR forecasting a drop in housing transactions, and in housebuilding from an already low rate, to just 213,600 in 2025/26.

Worsening market conditions will likely markedly reduce build-out rates. Savills research for the LPDF ‘A New Normal for Housebuilding’ forecast fewer sales outlets (with fewer consented sites) and lower sales by outlet, dropping from the 0.73 average homes sold per week between 2015 and 2021 (and 0.67 before the 2008 recession) to 0.5 - 0.6 over the medium term, taking into account the low and falling number of consented sites in developer pipelines, and the size of each site increasing. As we show (see Figure 5.6 later in this section), a lower number of outlets is correlated with slower build-out rates. The post-2022 conditions are yet to be fully captured in monitoring data, but we would expect this to arise in future years.

There is some room for optimism. The February 2024 RICS residential survey shows sales expectations improving over the next year and a positive sentiment for new instructions of sales for the first time in three years. This is likely at least partly due to a consensus that interest rates have peaked, with UK Finance forecasting mortgage affordability is plateauing, and will improve in 2025¹⁹.

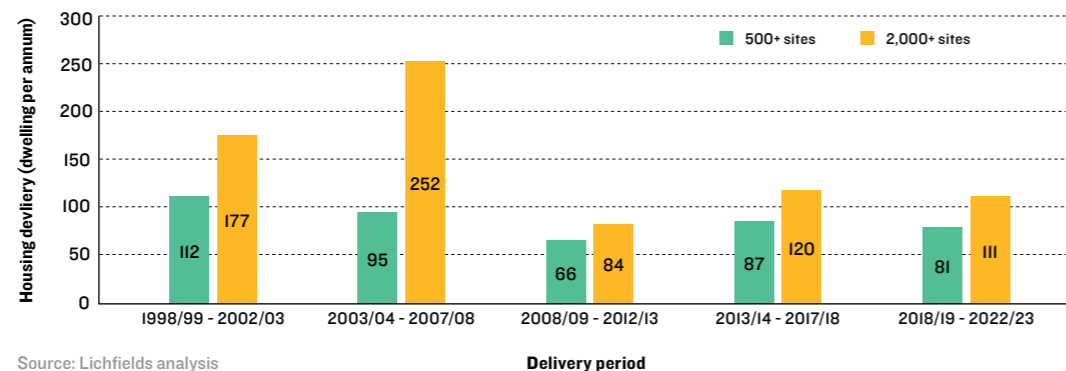
Looking back

The average build-out rates achieved on large sites (Figure 5.2) has fallen over time since before the GFC. The drop-off is most considerable for large sites starting development in the period directly after the GFC. Build out picked up slightly for projects that started in the five years to 2017/2018 taking in the impact of the 2012 NPPF. The COVID-19 pandemic and the rise in interest rates in the 2018/19 to 2022/23 period shows in the slight dip in build-out rate.

The largest sites (2,000+ dwellings) seem to have been hardest hit, falling from a peak average annual build-out of 252 dpa prior to the GFC to just 84 dpa during the recession and early recovery, before increasing again to 112 dpa in the most recent five-year period. However, the drop following 2007/8 may not be solely economically-driven; changes in the type of sites allocated, the structuring of delivery, and relying on s.106 for funding affordable housing and infrastructure may be determinative factors.



Figure 5.2: Average annual build-out rates for large sites (500 or more and 2,000 or more dwellings) by five-year interval



Source: Lichfields analysis

Site specific factors

Do homes get delivered faster in high pressure areas?

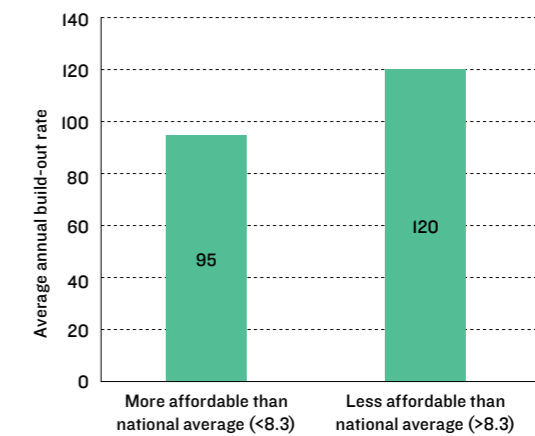
The rate at which homes can be sold (the ‘absorption rate’) determines the build-out rate. The CMA report found that there is strong evidence - from studies (including the second edition of this research) and engagement with stakeholders - that housebuilders (typically buying consented land using the residual land value method) generally respond to the incentive to sell at prevailing market value by building homes at a rate that is consistent with the local absorption rates. This avoids capital being tied up in partly finished or finished but unsold homes.

We have considered whether housing demand at the local authority level affects build-out rates. For the purposes of this research, higher demand areas are assumed to be those with a higher ratio of house prices to earnings, utilising the same measure as that applied in the Government’s standard method for assessing local housing need. Figure 5.3 shows the sample of 500 or more dwelling schemes (that have delivered for at least three years) divided between whether they are located in a local authority above or below the national median affordability ratio (8.3). It shows higher demand areas appear to absorb 26% higher annual build-out rate than lower demand areas²⁰.

Of the five sites identified at Table 4.1 with the highest peak rates of delivery, all but Oakley Vale in North Northamptonshire are in local authority areas with workplace-based affordability ratios more than the national average when those rates were achieved²¹.



Figure 5.3 Build-out rates by level of demand using national median 2022 workplace based affordability ratio (dpa)



Source: Lichfields analysis

26%

greater average annual build-out rate in higher demand areas

²⁰ This is in line with the findings of the second edition of the research, albeit both averages are lower this time. The previous research showed the large sites in LPAs which were ‘more affordable than the national average (<8.72) delivered on average 99 dpa versus those large sites in LPAs which were ‘less affordable than the national average (>8.72) at 126 dpa

²¹ Using ONS long term affordability data <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingaffordabilityinenglandanddwales/2022#:~:text=ln%202022%2C%20full%2Dtime%20employees,6.2%20times%20their%20annual%20earnings>

¹⁹ <https://www.ukfinance.org.uk/news-and-insight/press-release/mortgage-lending-fall-in-2024>

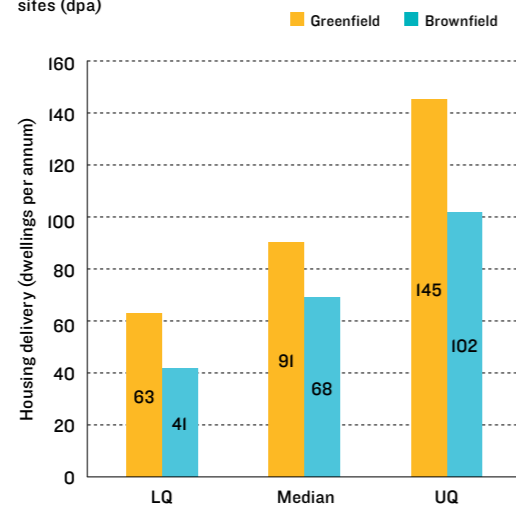
34%

greater annual average build-out rate on greenfield sites

Do sites on greenfield land deliver quicker?

Both previous editions of this research found that greenfield sites have, on average, delivered more quickly than brownfield sites. This remains the case in our updated cohort of sites. The median figures show greenfield sites delivering 34% higher average annual build-out rates. Using lower and upper quartiles to set a range, Figure 5.4 shows that brownfield sites are seen to deliver between 41 to 102 dpa compared with greenfield sites delivering 63 to 145 dpa. This is likely to reflect the fact that brownfield sites are more complex to deliver, can carry extra cost (e.g. for remediation) which reduces the scale of contribution they make to infrastructure and affordable housing provisions, which as shown in Figure 5.5, can boost build-out rates. We consider issues related to apartment-led brownfield schemes in Section 6.

Figure 5.4 Average build-out rates on greenfield and brownfield sites (dpa)



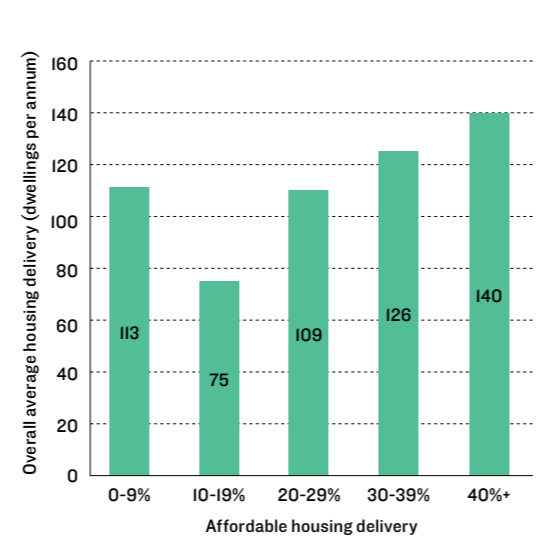
Source: Lichfields analysis

Housing mix and variety

The Letwin Review²² 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. It 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 tested this hypothesis by using affordable housing delivery percentages on site as a marker of a different tenure and the number of sales outlets on a site as a proxy for variety of product types.

Figure 5.5 Average build-out rates by level of affordable housing (dpa)



Source: Lichfields analysis

Affordable housing

Large amounts of affordable housing on a site can boost delivery, if viable, because it taps into an additional source of demand. This is supported by our findings: schemes with the highest proportions of affordable housing (30%+) have the highest average annual build-out rates. However, there is not a direct correlation for those providing lower percentages; indeed, those providing 10-19% affordable housing had the lowest average build-out rates whereas rates on schemes delivering the lowest levels of affordable housing (i.e. less than 10% and some providing zero) were on average higher than those providing 10-29% affordable homes.

Whilst schemes with the highest rates of affordable housing achieve the highest rates, these are likely to be located in the strongest markets for homes to buy and there will, in most cases, be a cap on the proportion of affordable homes that can be achieved on sites without compromising overall viability.

Key worker housing

Among our sample of sites was a scheme delivering significant quantities of key worker housing. This specific type of housing was excluded from our wider research to avoid distorting the data.

Delivery data obtained for North West Cambridge includes annual build-out rates by the University of Cambridge and Hill Residential (Table 5.1). This suggests a specific type of product may yield high annual build-out rates with the peak year of delivery reaching 409 dwellings. The average annual build-out rate for this site is 178 dpa which is significantly higher than other schemes in the 500-999 dwellings category. However, North West Cambridge also comprises apartments which have specific delivery circumstances which make them not be readily compared to the wider research. We consider urban apartment developments on brownfield sites in Section 6.

Table 5.1 Annual build-out rates at North West Cambridge by phase

North West Cambridge	2016/17	2017/18	2018/19	2019/20	2020/21	Average Build-out Rate
Lot 1 (University of Cambridge) KEY WORKER UNITS		117				
Lot 2 (University of Cambridge) KEY WORKER UNITS			264			
Lot 3 (University of Cambridge) KEY WORKER UNITS		232				
Lot 8 (University of Cambridge) KEY WORKER UNITS	73					
Lot M1 (University of Cambridge And Hill Residential)		3	109	7	2	
Lot M2 (University of Cambridge And Hill Residential)		1	36	15	33	
Totals	73	353	409	22	35	178

Source: Lichfields analysis

²² <https://www.gov.uk/government/publications/independent-review-of-build-out-final-report>

Outlets

Across the years in which the number of outlets varied on the same site we have a total of 114 data points from 15 sites. The data is limited to those local authorities that publish information relating to outlets on site. It is a small sample, but larger than that available in our second edition (12 sites, and 80 data points).

We consider the number of outlets delivering dwellings each year. For example, if two phases are being built out in parallel by the same housebuilder this has been counted as one outlet with the assumption there is little variety (although some builders may in reality differentiate their products on the same site, particularly if dual branded). However, if two phases are being built out in parallel by different housebuilders this is counted as two outlets, with the assumption that there would be some variation in the product on offer.

Figure 5.6 shows a clear relationship between the number of outlets on site and the annual build-out rate achieved. Table 5.2 also shows that, although the quantum of completions in a year increases with every additional outlet, the average delivered per outlet increases slightly with four and five outlets.

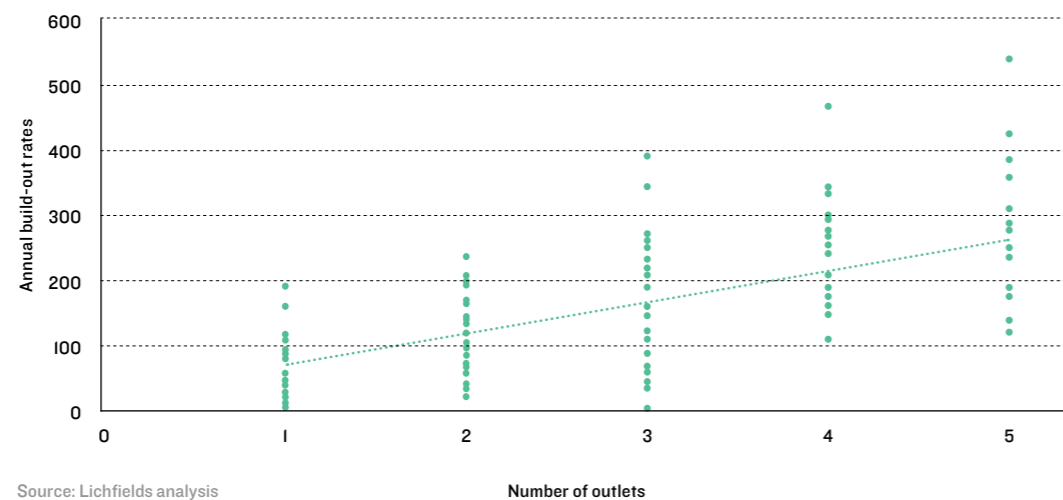
Table 5.2 Average annual completions per outlet

No of outlets	Average annual completions	Average completions per outlet
1	69	69
2	123	62
3	164	55
4	230	57
5	286	57

Source: Lichfields analysis



Figure 5.6: Build-out rates by number of outlets present (dpa)



Source: Lichfields analysis

Number of outlets

06 Delivery of brownfield, urban apartment schemes

The NPPF (2024) consultation is seeking to increase the emphasis on brownfield residential development through a brownfield-first approach and strengthens expectations that local plans should promote an uplift in density in urban areas. In all likelihood, more apartment schemes are likely to be a consequence of this policy approach. What contribution can these sites make to housing trajectories?

We have identified data for nine examples of solely apartment schemes in excess of 250 units on urban brownfield sites (all outside London). This is a reasonable number of units to differentiate sites from lower density suburban apartment developments that

might appear in the research. These have been considered separately from the other large sites in the research and include no other types of dwelling (i.e. no townhouses, semis or detached properties). Some of the large sites analysis already considered will include apartments, potentially for significant proportions of their schemes, but they will also include some conventional houses.

Appendix 4 contains a short explanation of the planning history and build-out rates for each of the examples which have informed the analysis in this section. Their locations are shown on Figure 6.1.

Figure 6.1: Map of sites



Source: Lichfields analysis

Lead-in times

Whilst a modest sample size, it is immediately apparent that there is a significant extension in the time it takes for these sites to progress from planning to delivery (Table 6.1 and Figure 6.2).

When compared with comparably sized sites of conventional housing, our sample of apartment schemes have similar planning approval periods but then progressed to delivery much more slowly. This is particularly the case with the larger apartment schemes (500+ units) where the planning to delivery period for those considered was more than three times longer than the benchmarks for large conventional housing sites. For X1 Media City which is 1,100 units, it was more than seven times longer than conventional housing counterparts. Whilst one should be cautious drawing conclusions on a small sample, what might these findings imply?

1. Firstly, when recording the completion of an apartment, this will be alongside others in one or more blocks that are completed in one go, rather than an individual dwelling that can be built and sold as the site progresses. Because it is likely to take longer to complete a block of apartments than a single house. As such, the period over which we are measuring planning to completion of the first apartment will likely be longer.
2. Secondly, as set out in Appendix 4, there can be considerable time spent in 'optimising' a planning permission once the 'original' detailed consent is granted. For example:
 - **X1 Media City:** This scheme was granted detailed consent in 2007. An extension of time application for the original consent was submitted in April 2010 and approved in November 2012.

A further amendment to previously approved planning permission was approved in May 2016. First completions were recorded in 2017/18.

- **University Campus (Chelmsford):** Outline planning permission was granted at appeal in October 2003. Following a public inquiry for Stopping Up Orders and their confirmation in October 2005, the site was sold in 2007. A further process of exploring land use and design solutions to resolve commercial and planning objectives followed. Another outline and full application were approved in November 2012. First completions were recorded in 2014/15.

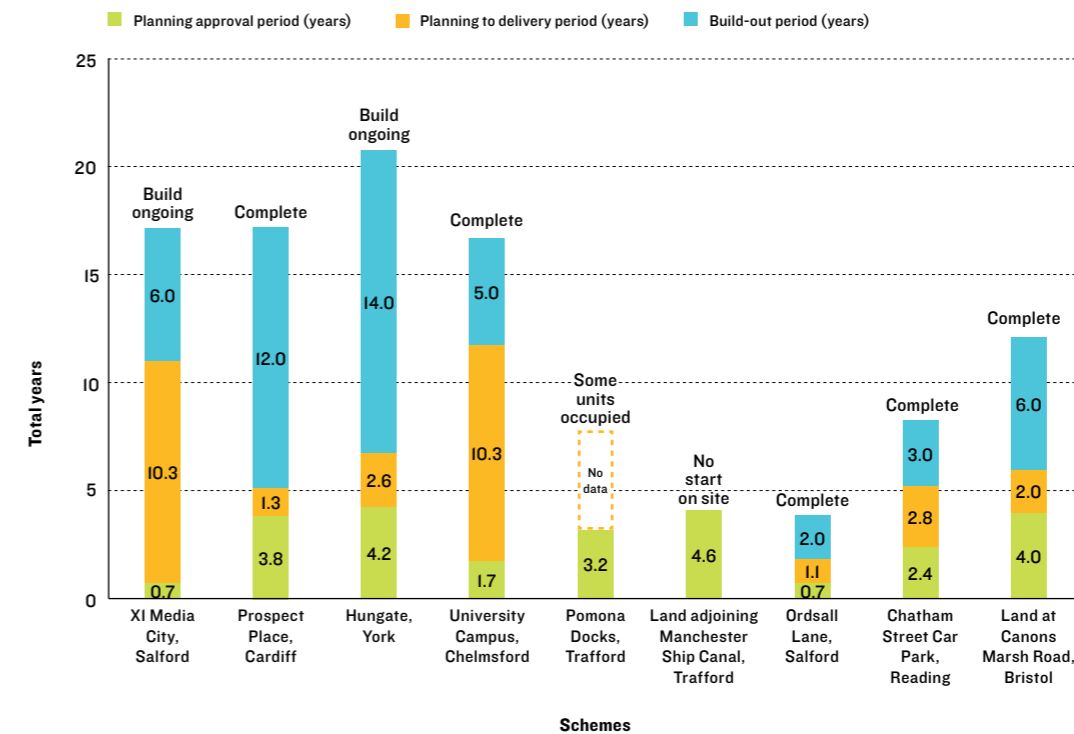
3. Thirdly, brownfield sites at scale can be complex with unusual issues to resolve. For example, Prospect Place (Cardiff) required extensive land reclamation. Further, the viability of delivering brownfield sites of this scale can be finely balanced with schemes susceptible to changes in the costs and values, necessitating redesigns prior to commencement of development.

Table 6.1 Lead-in time analysis for 9 example brownfield apartment schemes

	Site	Site Size (units)	Brownfield apartment schemes		Sites considered in sections 3 & 4	
			Planning approval period (years)	Planning to delivery period (years)	Planning approval period (years)	Planning to delivery period (years)
> 500 units	X1 Media City, Salford	1,100	0.7	10.3	4.9	1.3
	Prospect Place, Cardiff	979	3.8	1.3	3.4	1.5
	Hungate, York	720	4.2	2.6		
	University Campus, Chelmsford	645	2.7	9.0		
	Pomona Docks, Manchester	526	3.2	Unknown		
	AVERAGE			3.5	4.3	
< 500 units	Land adjoining Manchester Ship Canal, Manchester	449	4.4	Unknown	2.8	3.2
	Ordsall Lane, Salford	394	0.7	1.1		
	Land at Canons Marsh Road, Bristol	307	4.0	2.0		
	Chatham Street Car Park, Reading	272	2.4	2.8		
	AVERAGE			2.9	2.0	

Source: Lichfields analysis

Figure 6.2: Lead-in time analysis for brownfield apartment schemes



Source: Lichfields analysis

07 Conclusions

Build-out rates

As explained, the nature of apartment schemes means that annual build-out rates can be lumpy, as homes delivered can only be recorded when a block is completed. Figure 6.3 shows Prospect Place, Hungate, University Campus Chelmsford and X1 Media City with years when many units were completed with subsequent fallow periods of no delivery. Table 6.2 further illustrates this by comparing the peak year of delivery with the average rate.

Apartment schemes may also be more susceptible to downturns in the market – the ‘all or nothing’ requirement (to complete whole blocks before units can be released to prospective purchasers) ties up capital and makes them higher risk for conventional sale. For example, LPAs told us that both Prospect Place and Hungate were significantly impacted by the GFC: each having more than five years in which there were no new completions.

From our sample of nine sites, there is (perhaps unsurprisingly) much variety in the pace at which brownfield apartment schemes obtain planning permission (as there can be with greenfield sites), but more notable is how long it takes some sites to turn that consent into homes

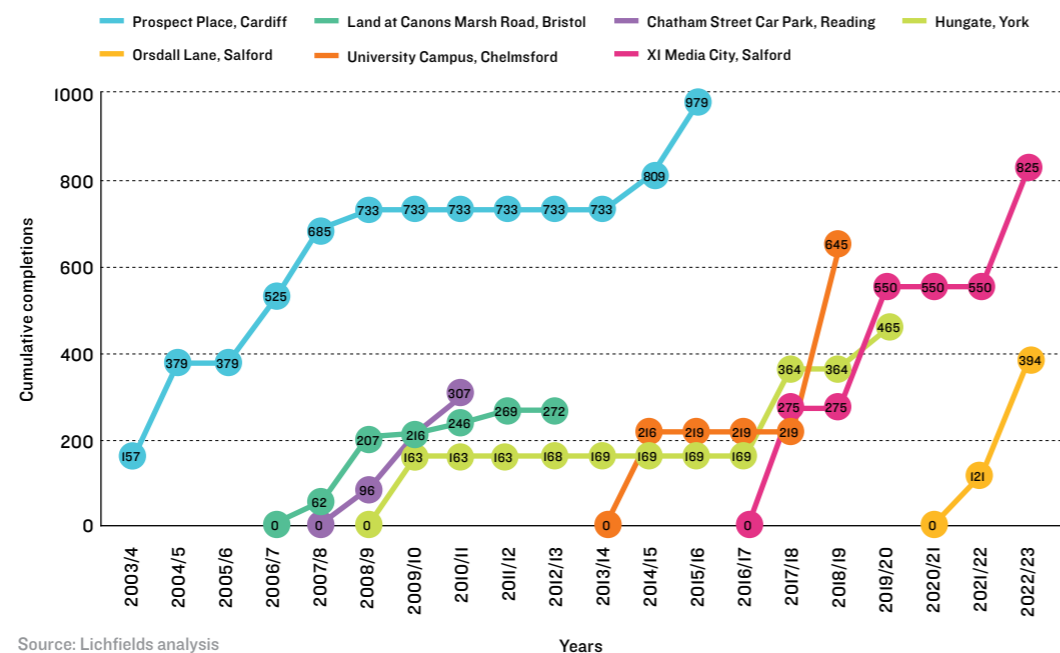
Table 6.2 Peak annual build-out rates compared against average annual build-out rates on the example urban apartment schemes

Site	Average annual build-out	Peak years build-out
Prospect Place, Cardiff	75	222
Hungate, York	33	195
University Campus, Chelmsford	129	426
X1 Media City, Salford	138	275
Chatham Street Car Park, Reading	102	120
Land at Canons Marsh Road, Bristol	45	145
Ordsall Lane, Salford	197	273

Source: Lichfields analysis

available for sale and occupation. Furthermore, while some significant ‘peak’ annual build-out rates can be achieved on these sites, delivery is lumpy and we found the GFC stalled completions on some schemes. Local authorities relying on higher density apartment schemes on brownfield sites to secure their five-year land supply or local plan housing trajectory will need to incorporate more flexibility if they are to be confident in achieving housing requirements.

Figure 6.3: Annual build-out rates for the urban apartment scheme examples (years)



Source: Lichfields analysis

Our research provides real-world benchmarks to assist planning for the effective delivery of large-scale housing sites. These benchmarks can be particularly helpful in locations where there is limited experience of such developments to inform housing trajectories and land supply assessments. It augments the debate on build-out rates stimulated by the work of the CMA. We present some statistical averages to assist the debate, but 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 it is these – alongside the characteristics of individual sites – that need to be considered carefully by local authorities relying on these projects to deliver planned housing.

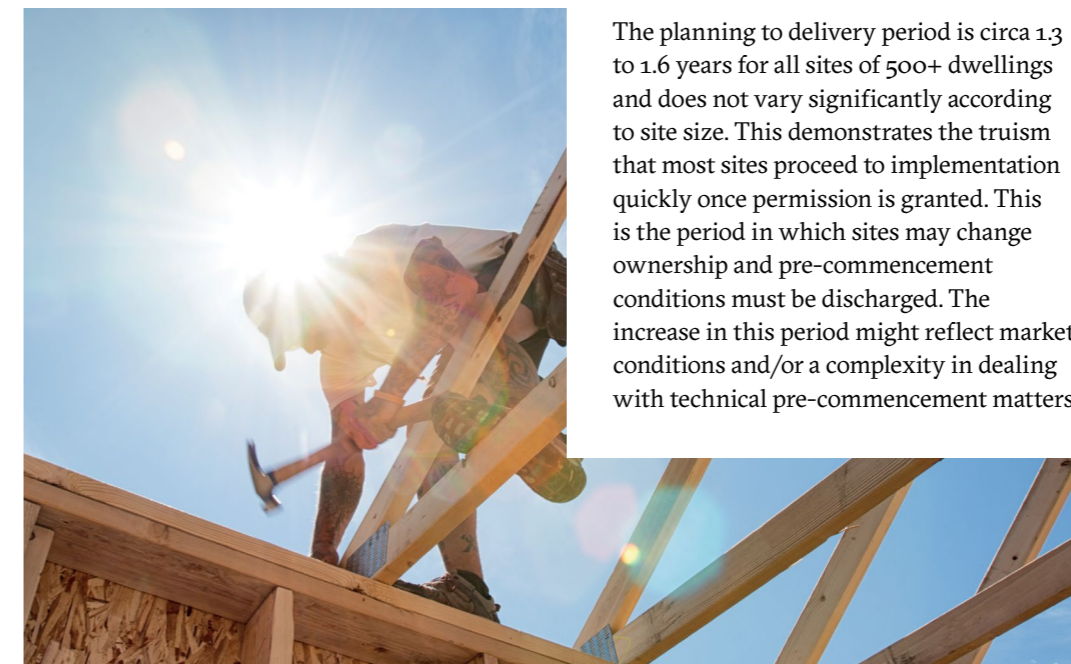
The averages presented in our analysis are not intended to be definitive or a substitute for a robust, bottom-up justification for the delivery trajectory of any given site factoring in local absorption rates. It is clear from our analysis that some sites start and deliver more quickly than the average, whilst others have delivered much more slowly. Every site is different and the range in our lower and upper quartile figures for build-out rates illustrates the risk of relying on a singular estimate.

Key findings

1. **Only sites below 100 dwellings on average begin to deliver within a five-year period (or a parliamentary term) from validation of an outline application**

When considering our updated data on lead-in times, it shows only smaller sites with 99 dwellings or fewer will typically deliver any homes within a five-year period (or parliamentary term) from the date that the first application is validated. In this research the lead-in time comprises the planning approval period and the planning to delivery period. Even small sites make a modest contribution within five years as the lead in time is on average 3.8 years. Larger sites of 1,000 dwellings or more on average take five years to obtain detailed planning permission (the planning approval period), meaning at the time the first application is validated, no homes from that site might be expected to be delivered in the forthcoming five-year period. This indicates if the new Labour government is going to delivery 1.5m homes in its first parliamentary term, approval for a significant number of schemes of less than 100 homes will be needed.

The planning to delivery period is circa 1.3 to 1.6 years for all sites of 500+ dwellings and does not vary significantly according to site size. This demonstrates the truism that most sites proceed to implementation quickly once permission is granted. This is the period in which sites may change ownership and pre-commencement conditions must be discharged. The increase in this period might reflect market conditions and/or a complexity in dealing with technical pre-commencement matters.



2. Average annual build-out rates on large scale sites are lower than previous editions of this research

The build-out rates for schemes of 2,000 dwellings or more is 100 to 188 dpa using the lower and upper quartiles of our analysis. The lower and upper quartiles for every size of site category increase as they get larger. Bigger sites deliver more homes each year.

This third iteration of the research has increased our sample size, especially for the largest sites of 2,000+ dwellings (with 43 new examples). Whilst our findings remain comparable, the average rates of build out are slightly lower. The mean build-out rate has marginally decreased for every site size over the three editions of our research. For sites of 2,000+ dwellings the mean has decreased from 161 dpa to 149 dpa. For sites of under 1,000 homes, the median build-out rate is also lower decreasing from 73 dpa to 68 dpa for schemes of 500-999 dwellings. This may capture characteristics of newly surveyed sites, but also extra monitoring years since 2019 that reflect a market impacted by COVID-19 and the Russian invasion of Ukraine. Our additional sites in the sample are also ones that tended to commence development more recently.



3. Tough market conditions mean a likely slowing in build-out rates and house building overall

Market conditions have a clear effect on house building and the build-out rates of individual schemes. It is in this context that, ceterus paribus, one might expect to see a drop in build-out rates over the next few years. Recent research for the LPDF forecast fewer sales outlets (with fewer consented sites) and lower sales by outlet. Our research shows that a lower number of outlets is likely to lead to slower build-out rates.

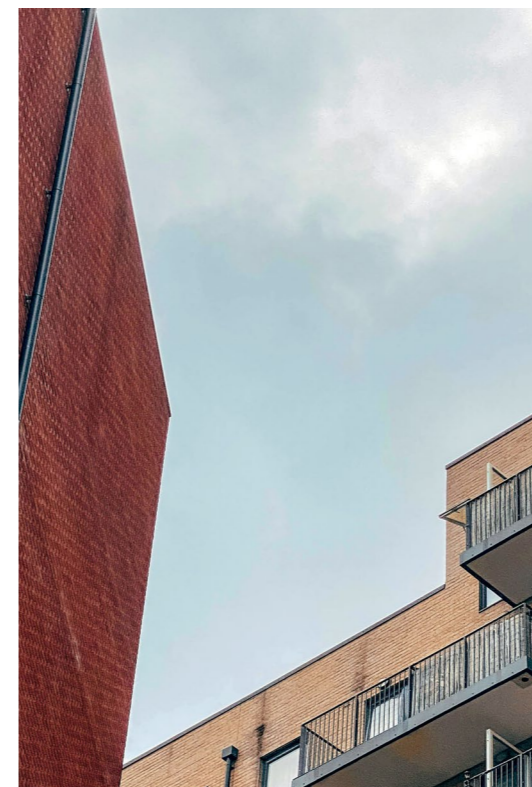
There is some room for optimism with the February 2024 RICS residential survey showing sales expectations improving over the next year and for the first time in three years, a positive sentiment for new instructions of sales. This is likely at least partly due to a common belief that interest rates have peaked – reflected in the reduction in the base rate to 5% in July 2024 – and mortgage affordability will improve in 2025.



4. Demand is key to maximising build-out rates

The rate at which homes can be sold (the 'absorption rate') at a market value consistent with the price paid for the land determines the build-out rate. The CMA found there is strong evidence from studies and its own engagement with stakeholders, that housebuilders generally respond to the incentive to maximise prices by building homes at a rate that is consistent with the local absorption rates.

Our analysis found that areas with a higher ratio of house prices to earnings had an average 26% higher annual build-out rates on schemes of 500+ dwellings than lower demand areas. The top four highest individual years of delivery in this research (see Table 4.1) are in local authority areas with workplace-based affordability ratios greater than the national average at the time those build-out rates were achieved.



5. Variety is the spice of life

Additional outlets on site have a positive impact on build-out rates, although there is not a linear relationship. Schemes with most affordable housing (30% or more) built out faster, i.e. with higher average build-out rates than those with lower levels of affordable housing delivery; but those delivering between 10 and 19% of their units as affordable had the lowest build-out rates of all. One case study example – in Cambridge – was a predominantly key worker scheme that was able to deliver at an average of 178 dpa, significantly higher than other similar sized schemes included in this research. This points to the principle – identified by the Letwin Review – that, where there is a demand, a mix of homes, complementing market housing for sale, could have a positive impact on build rates.



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6. Large-scale apartment schemes on brownfield land are less predictable forms of supply

The largest apartment schemes delivered on brownfield sites appear susceptible to elongated planning-to-delivery periods compared to the benchmark averages for conventional houses on sites of similar scale. There can be protracted periods of redesign and site sale which means implementation can take longer. They can also be more susceptible to downturns in the market; two of the considered examples stalled after the financial crash of 2008.

Furthermore, the nature of apartment schemes – built in blocks rather than individual dwellings – also means that annualised build-out rates can be lumpy.

Combined, these factors mean any local authority relying on brownfield apartment developments to meet its housing needs, will likely need to incorporate flexibility in its approach when arriving at a realistic housing trajectory.



Looking forward

The CMA report states at paragraph 4.138:

“While we consider that measures to speed up the pace at which new build housing is supplied to the market may be beneficial (and we set out options for some in the chapter on addressing the problems we have found), these would need to be accompanied by planning reform if they were to deliver increases in housing delivery of the size needed to bring GB housing completions significantly closer to 300,000 per year.”

The CMA concludes that achieving the necessary step-change in housing output is likely to be reliant on measures to improve the efficiency of the planning system: increasing the speed at which sites progress through the planning system, and then from planning to delivery; in increasing the number of sites granted planning permission for residential development; and increasing the pace and number of development plans being prepared and reviewed.

As set out earlier in this report, the new government is seeking to deliver 1.5m homes in their first parliamentary term, equivalent to 300,000 homes per year. In reality, any homes being delivered in the first year or two of this new parliamentary term will already have planning permission. This research shows us that the quickest planning to delivery period (i.e. from gaining detailed consent to building the first house) is 1.3 years. On the basis that this year has seen some of the lowest levels of housing consents for a decade²³, if anything close to 1.5m homes is to be delivered in the next five years, delivery well in excess of 300,000 homes a year will be necessary to make up for years one and two of the parliamentary terms. These homes can only be delivered by decisions made on planning applications almost immediately.

The publication of the draft NPPF consultation suggests the government understands planning applications will be key, not least through some developments in the Green Belt no longer being ‘inappropriate’ where certain criteria are met and updating ‘the presumption’. It is possible that a more positive national policy environment for the delivery of housing, especially in the absence of a local plan, could speed up the planning approval period if, for example, fewer planning are appeals necessary. Only time will tell.

Whilst the slow moving local plan process will not yield results as quickly as immediate planning applications, the combination of a significantly increased standard method figure, the expectation to review Green Belt to meet housing needs, the pacy transitional arrangements proposed for plan making under the NPPF 2024 and potential updating of local plan intervention policy criteria means the Government is taking full local plan coverage seriously.

Even then, this research indicates that the largest strategic sites of 2,000+ homes would be unlikely to submit applications, determine them and build out homes in a five-year parliamentary term. As we know from the announcement of the Expert Taskforce for New Towns, they will not even report on the appropriate locations for new towns for a year²⁴.

In the current market, even with strong national policy backing, delivery of homes at rates not seen since the post war housing boom led by local authorities is a herculean task. To deliver anywhere close to 1.5m homes, sites of all sizes, but especially those of less than 100 homes, will need to be delivered at scale.

²³ HBF Housing Pipeline report <https://www.hbf.co.uk/news/housing-pipeline-report-q4-2023-published-march-2024/>

²⁴ <https://www.gov.uk/government/news/expert-taskforce-to-spearhead-a-new-generation-of-new-towns>

Appendices

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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 also includes 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 approval 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 dwelling/s 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. However, this need not be the detailed scheme which is built out. Many large-scale developments are re-designed over multiple iterations before work starts on site. This can be reflected in a protracted 'planning to delivery period'.

The 'planning to delivery period'

This includes any amended or extension of time planning applications, the discharge of any pre-commencement planning conditions 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'

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 midpoint 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 (AMRs) and other planning evidence base documents produced by local authorities, contacting the LPA monitoring officers or planners where necessary and in a handful of instances obtaining the information from housebuilders.

Appendix 3: Small sites tables

Site Name	Local Planning Authority	Size
Cookridge Hospital	Leeds	495
Stenson Fields	South Derbyshire	487
Farnborough Business Park	Rushmoor	476
Bickershaw Colliery, Leigh	Wigan	471
Farington Park	South Ribble	468
Kingsmead South	Milton Keynes	450
New Central	Woking	445
Former Masons Cerement Works and Adjoining Ministry of Defence Land	Mid Suffolk	437
Land at former Battle Hospital	Reading	434
Hazelwalls Uttoxeter	East Staffordshire	429
New World House	Warrington	426
Pinn Court Farm	East Devon	426
Radyr Sidings	Cardiff	421
Halifax Road	Barnsley	414
Luneside West	Lancaster	403
Campden Road	Stratford-upon-Avon	400
Chard Road, Axminster	East Devon	400
Woolley Edge Park Site	Wakefield	375
Former NCB Workshops (Portland Park)	Northumberland	357
Hampton Heights	Peterborough	350
Cholsey Meadows	South Oxfordshire	341
Dunston Lane	Chesterfield	300
Land At Dorian Road	Bristol	300
Ryebank Gate	Arun	300

Site Name	Local Planning Authority	Size
Land At Fire Service College, Moreton in Marsh	Cotswold	299
Land at Badsey Road	Wychavon	298
Land at Brookwood Farm	Woking	297
Land west of Hayne Lane, Honiton	East Devon	291
Long Marston Storage Depot Phase I	Stratford-upon-Avon	284
Land South of Park Road, Faringdon	Vale Of White Horse	277
M & G Sports Ground, Golden Yolk and Middle Farm, Badgeworth	Tewkesbury	273
Hortham Hospital	South Gloucestershire	270
Land Between A419 And A417, Kingshill North	Cotswold	270
Land off Henthorn Road	Ribble Valley	270
GCHQ Oakley - Phase I	Cheltenham	262
I28-I34 Bridge Road and Nos 1 - 4 Oldfield Road	Windsor and Maidenhead	242
Hewlett Packard (Land Adjacent To Romney House) Romney Avenue	Bristol	242
Hale Road, Wallingford	South Oxfordshire	240
Land adjacent to Tesco, Harbour Road, Seaton	East Devon	230
Hilton Lane, Worsley	Salford	209
Saxon Drive, Biggleswade	Central Bedfordshire	200
Great North Road, St. Neots	Huntingdonshire	199
Hoval Ltd North Gate	Newark and Sherwood	196
Bookbinder Lane, Prescot	Knowsley	191
Biggin Lane, Ramsey	Huntingdonshire	188
Notcutts Nursery	Cherwell	182
Land South of Inervet Campus off Brickhill Street	Milton Keynes	176

Site Name	Local Planning Authority	Size
Sellars Farm	Stroud	176
Queen Mary School	Fylde	169
Littleton Road	Salford	158
North End Road	North Somerset	154
Benson Lane, Wallingford	South Oxfordshire	150
Ottery Moor Lane (former industrial estate), Honiton	East Devon	150
London Road/ Adj. St Francis Close	East Hertfordshire	149
MR4 Site, Land off Gallamore Lane	West Lindsey	149
Doxey Road	Stafford	145
Shefford Road, Meppershall	Central Bedfordshire	145
Cornborough Road, Bideford	Torridge	143
Alfreton Road, South Normanton	Bolsover	142
Bracken Park, Land At Corringham Road	West Lindsey	141
Land at Farnham Hospital	Waverley	134
Astley Road, Huyton	Knowsley	131
North of Douglas Road, Kingswood	South Gloucestershire	131
Land to the east of Efflinch Lane	East Staffordshire	129
Land Rear Of Mount Pleasant	Cheshire West and Chester	127
Shuttlewood Road & Oxcroft Lane	Bolsover	127
Primrose Mill Site	Ribble Valley	126
Bibby Scientific Ltd	Stafford	120
Bluntisham Road, Needingworth	Huntingdonshire	120
Land Between Godsey Lane And Towngate East	South Kesteven	120
Land West Of Birchwood Road	Bristol	119

Site Name	Local Planning Authority	Size
Former Bewbush Leisure Centre Site	Crawley	112
Land South of Station Road	East Hertfordshire	111
Canon Green Drive	Salford	108
Poppy Meadow	Stratford-upon-Avon	106
Weeton Road/Fleetwood Road	Fylde	106
Salisbury Road, Hungerford	West Berkshire	100
Auction Mart	South Lakeland	95
North East Sandylands	South Lakeland	94
Parcel 4 Gloucester Business Park Brockworth	Tewkesbury	94
Land At Green Road, Reading College	Reading	93
OS Field 9972 York Road Easingwold	Hambleton	93
Land off Lower Icknield Way, Chinnor	South Oxfordshire	89
MRIO Site, Caistor Road	West Lindsey	89
The Kylins, Morpeth	Northumberland	88
Dappers Lane, Littlehampton	Arun	84
St Marys Road, Ramsey	Huntingdonshire	82
Broad Street, Clifton	Central Bedfordshire	80
Southminster Road, Burnham-On-Crouch	Maldon	80
Land at Willoughbys Bank, Alnwick	Northumberland	76
North East Area Professional Centre	Crawley	76
Cranleigh Road, Chesterfield	Chesterfield	75
Watermead, Land At Kennel Lane, Brockworth	Tewkesbury	72
Land to the North of Walk Mill Drive	Wychavon	71
Hawthorn Croft, Gainsborough	West Lindsey	69

Site Name	Local Planning Authority	Size
Former Wensleydale School, Blyth	Northumberland	68
Land at Lintham Drive, Kingswood	South Gloucestershire	68
Land off Crown Lane	Wychavon	68
Springfield Road/Caunt Road	South Kesteven	67
Land Off Cirencester Rd	Stroud	66
Land to the east of Newington Road, Stadhampton	South Oxfordshire	65
Land south of Pinchington Lane	West Berkshire	64
Iveshead Road, Shepshed	Charnwood	63
Mill Lane, Potton	Central Bedfordshire	62
Clewborough House School	Cherwell	60
Land at Prudhoe Hospital	Northumberland	60
Oxfordshire County Council Highways Depot	Cherwell	60
Hanwell Fields Development, Banbury	Cherwell	59
Land at the Beacon, Tilford Road	Waverley	59
Land To Rear Of 28 - 34 Bedale Road	Hambleton	59
Thorley Drive, Stoke-on-Trent	Staffordshire Moorlands	57
Shelford Road, Nottingham	Rushcliffe	55
Fenton Grange, Wooler	Northumberland	54
Former Downend Lower School	South Gloucestershire	52
Holme Farm	Wakefield	50
Launceston Road, Bodmin	Cornwall	50
Part SR3 Site, Off Elizabeth Close, Scotter	West Lindsey	50
Oxcroft Lane	Bolsover	50

Appendix 4: Solely apartment scheme details

XI Media City, Salford (1,100 units)	
Planning approval period	Planning Approval Period = 0.7 years 06/53636/FUL - Erection of four-26 storey buildings comprising 1036 apartments and 58,475 sq.ft of commercial space for A1,A2,A3,A4,A5,B1,D1 and D2 use together with associated car parking and alteration to existing and construction of new vehicular access Validated - 09/10/2006 Decision issued - 28/6/2007
Extended planning period	10/58887/FUL - Extension of time for implementation of planning permission 06/53636/FUL. Validated - 30/4/2010 Decision issued - 05/11/2012 15/66481/FUL - Amendment to previously approved planning permission 10/58887/FUL. Validated - 11/6/2015 Decision issued - 13/5/2016
Planning to delivery period	Planning to delivery period = 10.3 years
Build period	First completion in 2017/18. 2017/18 - 275 2018/19 - 0 2019/20 - 275 2020/21 - 0 2021/22 - 0 22/23 - 275 Works still ongoing
Notes from LPA	N/A

Prospect Place, Cardiff (979 units)	
Planning approval period	Planning Approval Period = 3.8 years Original outline application 98/425/R Validated - 14/09/1998 Decision issued - 01/03/2001 The first reserved matters application 02/00516/R Validated - 11/03/2002 Decision issued - 21/06/2002
Extended planning period	03/724/R - Reserved Matters for 99 units 03/725/R - Reserved Matters for 58 units 02/1252/R - Full application including 677 apartments 03/01973/R - Full application including 222 residential units 04/2474c - Full changes, increasing the number of flats to 931, reduced to 927 during determination and granted in Feb 2006 06/00613/c - 394 units - granted in Oct 2006
Planning to delivery period	Planning to delivery period = 1.3 years
Build period	First completion in 2003/04 2003/04 - 157 2004/05 - 222 2005/06 - 0 2006/07 - 146 2007/08 - 160 2008/09 - 48 2009/10 - 0 2010/11 - 0 2011/12 - 0 2012/13 - 0 2013/14 - 0 2014/15 - 76 2015/16 - 170
Notes from LPA	The site was 'mothballed' for some years following the financial crash/recession with the principal Tower and another waterfront block not completing until several years later. Initially, this site required extensive and fairly unique land reclamation prior to commencement.

Hungate, York (720 units)	
Planning approval period	Planning Approval Period = 4.2 years Outline application 02/03741/OUT for 720 units Validated - 6/12/02 Decision Issued - 18/07/06 The first approved reserved matters 06/02384/REMM for Phase I erection of 163 units Validated - 27/11/2006 Decision Issued - 26/02/07
Extended planning period	07/01901/REM - Phase II - 154 unit 10/02534/REMM - variation of conditions to increase from 154 to 175 flats 10/02646/FULM - Phase I conversion to 7 townhouses to 14 flats 12/02216/FULM - Phase I conversion to 6 townhouses to 12 flats 12/02282/OUTM - outline to redevelop for 720 units - extension of time to 02/03741/OUT 13/03015/FULM - Phase II 195 units 15/01709/OUTM - Outline for Blocks G and H, 86 and 101 units 17/03032/REMM - Block G 196 units 18/02946/FULM - Increasing Block D to 196 units (increase of 10 units)
Planning to delivery period	Planning to delivery period = 2.6 years
Build period	2009/10 to present. 2009/10 - 163 2010/11 - 0 2011/12 - 0 2012/13 - 5 2013/14 - 1 2014/15 - 0 2015/16 - 0 2016/17 - 0 2017/18 - 195 2018/19 - 0 2019/20 - 101 2020/21 - 0 2021/22 - 0 2022/23 - 0 Blocks D, G and H not developed out yet
Notes from LPA	Build figures provided by York Council. The Council confirmed that there has been a significant complexity in delivering this site and consequently monitoring of delivery.

Pomona Docks II, Trafford (526 units)	
Planning approval period	Planning Approval Period = 3.2 years Full application for 546 apartments (H/58948) Validated - 10/03/2004 Decision Issued - 09/05/2007
Extended planning period	The above scheme was never implemented. 93779/FUL/18 for 526 dwellings across three apartment blocks Validated - 13/03/2018 Decision Issued - 11/04/2019 This has been subject to a number of DoC/NMAs since.
Planning to delivery period	Unknown - unable to obtain completions data to identify year of first completion
Build period	Ongoing - unable to obtain completion data from the Council.
Notes from LPA	As of October 2023 advised that the first 2 towers are complete and construction is underway on the 3rd tower.

University Campus, Chelmsford (645 units)	
Planning approval period	Planning Approval Period = 1.7 years Outline 02/02073/EIA for redevelopment of 692 residential units Validated - 05/02/2003 Decision Issued (appeal) - 17/10/2003 This outline consent was subsequently varied by 04/01825/FUL, principally to provide for a phased discharge of conditions. A reserved matters application was submitted for most of the southern part of the site (04/00865/REM). Validated - 19/04/2004 Decision Issued - 08/10/2004
Extended planning period	Following a public inquiry relating to Stopping Up Orders to paths between Victoria Road South and Park Road and Parkway and Park Road and the confirmation of the Orders (October 2005 FPS/W1525/5/1 refers), the site was sold to Genesis Housing Group in 2007. A long process of exploring land use and design solutions to resolve commercial and planning objectives followed. Another outline application (11/01360/OUT) and a full application (11/01360/FUL) were both submitted for the Part full (Phase I), part outline (Phase 2) Validated - 31/08/2011 Decision Issued - 02/11/2012 A further full application (14/01470/FUL) for Phase 2 - mixed-use redevelopment including residential Validated - 09/09/14 Decision Issued - 06/02/15
Planning to delivery period	Planning to delivery period = 10 years
Build period	First completions in 2014/15 2014/15 - 216 2015/16 - 3 2016/17 - 0 2017/18 - 0 2018/19 - 426
Notes from LPA	N/A

Land adjoining Manchester Ship Canal - Trafford (449 units)	
Planning approval period	Planning Approval Period = 4.4 years Outline application for up to 550 dwellings (APP: H/OUT/68617) Validated - 24/12/2007 Decision Issued - 30/07/2010 First reserved matters application (78681/RM/2012) Validated - 12/05/2012 Decision Issued - 27/07/2012
Extended planning period	86160/OUT/15 - Application to extend the time limit for the implementation of H/OUT/68617 Validated - 09/07/2015 Decision Issued - 26/09/2019 The overall area was split between two separate sites- 'Land off Hall Lane' and 'Lock Lane'. The reserved matters application for Lock Lane concluded that only 298 dwellings would be included within the development (APP: 100110/RES/20). Validated - 17/02/2020 Decision Issued - 27/01/2021 Meanwhile, a full planning application was submitted for 151 dwellings relating to the Land off Hall Lane part of the site (APP: 100109/FUL/20) Validated - 17/02/2020 Decision Issued - 24/03/2021
Planning to delivery period	N/A - No delivery to date
Build period	None to date
Notes from LPA	N/A

Ordsall Lane, Salford (394 units)	
Planning approval period	Planning Approval Period = 0.7 years Full planning application 19/74531/FUL Validated - 13/12/2019 Decision Issued - 12/08/2020
Extended planning period	N/A
Planning to delivery period	Planning to delivery period 1.1 years
Build period	First completions in 2021/22 2021/22 - 121 2022/23 - 273 Complete in 2 years
Notes from LPA	N/A

Chatham Street Car Park, Reading (307 units)	
Planning approval period	Planning Approval Period = 2.4 years Outline application 03/00825/OUT Validated - 17/07/2003 Decision Issued - 12/10/2004 Full application 05/00849/FUL/JL for phase I comprising a mixed use development including 307 residential units Validated - 27/07/2005 Decision Issued - 29/11/2005
Extended planning period	N/A
Planning to delivery period	Planning to delivery period 2.8 years
Build period	First completions in 2008/09 2008/09 - 96 2009/10 - 120 2010/11 - 91 Complete in 3 years
Notes from LPA	N/A

Land at Canons Marsh Road, Bristol (272 units)	
Planning approval period	Planning Approval Period = 4 years Outline planning permission 01/00986/F was first resolved to be approved in October 2001 and the s.106 agreement signed in February 2003. Validation - 01/10/2001 (we do not have a validation date for 01/00986/F so we have used the committee date, as the earliest date we can obtain) Decision Issued - 01/02/2003 Phase 2 - Section 73 Permission Ref: 04/03230/X which encompassed Building 9 for residential development Validated - 30/07/2004 Decision Issued - 03/10/2005
Extended planning period	N/A
Planning to delivery period	Planning to delivery period 2 years
Build period	First completions in 2007/08 2007/08 - 62 2008/09 - 145 2009/10 - 6 2010/11 - 33 2011/12 - 23 2012/13 - 3
Notes from LPA	N/A

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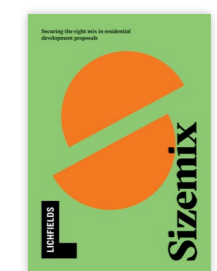
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