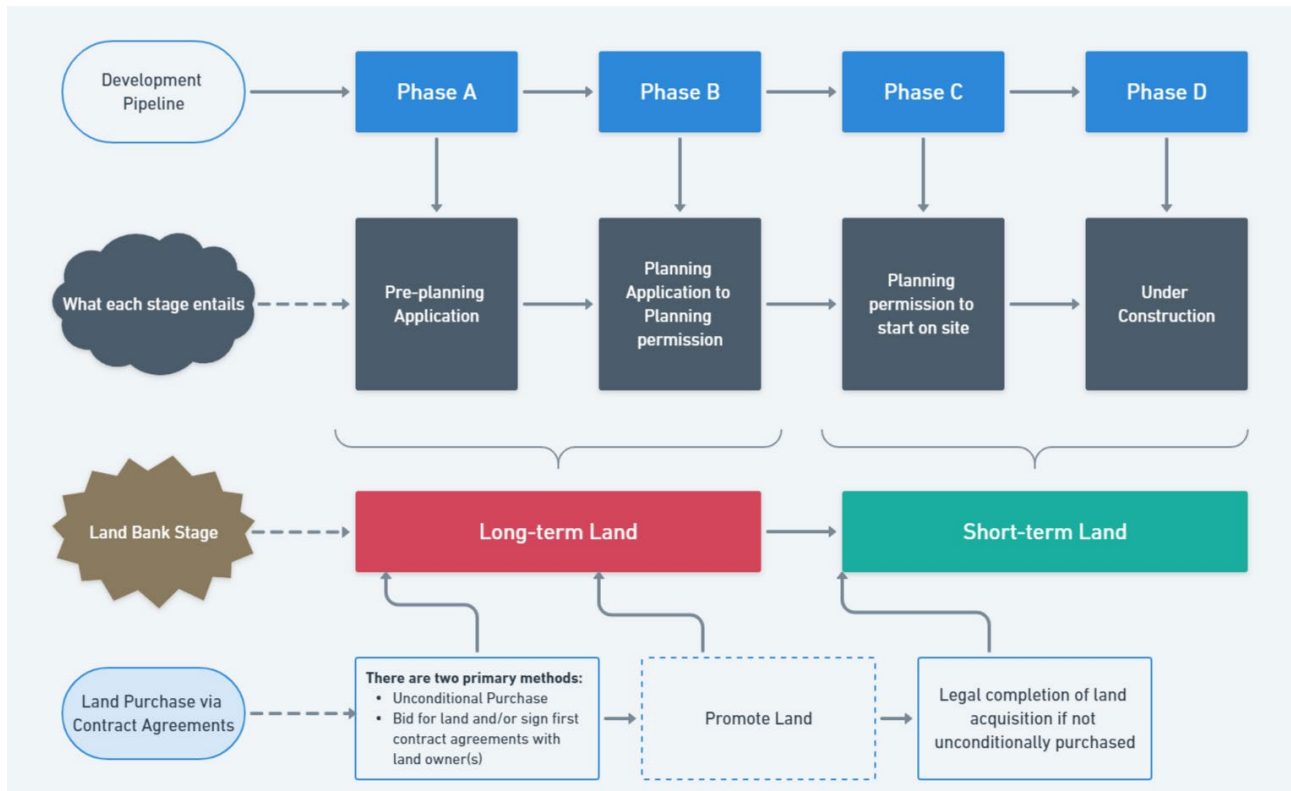


Appendix F: Estimating the development timeline

F.1 We use the permissions data and the land banks data to estimate the Phases of the development pipeline. These phases are described further in Section 2 of our Final Report, and how these phases relate to land banks is discussed in Section 8 of the supporting evidence document. Figure F.1 shows the relationship between the four phases of the development pipeline and how they relate to the short- and long-term land banks.

Figure F.1: Development pipeline and its relationship with the land bank stage and land purchase



Source: CMA analysis of the development pipeline presented in *CWEconomics (2017¹, 2019²)* and responses received from RFI requests.

Notes:

[1] Contract agreements include but are not limited to the following contract types as land can be purchased with one or many different types of contracts (see background on methods of acquiring land in Section 7 of the supporting evidence document):

- [a] Option agreements
- [b] Conditional contracts
- [c] Hybrid agreements
- [d] Promotion agreements

Using the permissions data to estimate how long the planning process takes

F.2 We have used the permissions data for completed projects to estimate how long it took for projects to go through the planning process. At Table F.1, we show that

¹ ChamberlainWalker (2017) *The Role of Land Pipelines in the UK Housebuilding Process*.

² Chamberlain, P., and Walker, C., (2019) *An Investigation into Land Banking in Scotland, Scottish Land Commission, Commissioned Report*.

the average development timeline for land that requires outline planning permission (Phase B to post Phase D) is between 6.3 and 6.6 years. Splitting this total duration into the amount of time a site would spend in a housebuilder’s short- and long-term land bank, we find that:

- (a) The average time land remains in the long-term land bank while progressing through the planning system (ie before moving into the short-term land bank) is 2.2 years.
- (b) The average time land remains in the short-term land bank while progressing through the planning system is between 4.1 and 4.4 years.³

Table F.1: Average development timeline for land that requires outline planning permission

	Years
Application to obtain outline planning permission	2.2
Obtain detailed planning/reserved matters	0.7 to 1.1
Time to implementable planning approval to start of construction	0.8
Time from start of construction to end of construction	2.5
Overall development timeline	6.3 to 6.6

Source: CMA analysis using the permissions data

Notes:

[1] Sample relates to the top 11 housebuilders.

[2] Analysis relates to projects that are completed in years 2020, 2021, 2022 and 2023.

F.3 For long-term land, our estimate is similar to those reported by other published research and reports (albeit these were carried out some time ago), but this is a lower bound estimate. A top 11 housebuilder told us that the average time taken to promote land for a 200-home site, from the point at which an option is obtained to achieving outline planning permission is roughly 4 years. The Callcutt review (2006)⁴ review into housing delivery and research by ChamberlainWalker Economics for Barratts (2017)⁵ note that Phase A is estimated to take on average between 1.2 and 2.1 years.⁶ If we incorporate these estimates for Phase A with the estimate presented at Table F.1, the new revised estimates for the average time land stays in long-term land banks may be between 3 and 4.5 years. And for short-term land, our estimates are similar to those reported by ChamberlainWalker (2017); although the paper was published some time ago, they found the average

³ These estimates align with an estimate reported by a top 11 housebuilder: this housebuilder told the CMA that it will actively promote the long-term land with the intention to secure planning permission and to convert the long-term land into the short-term land and then to start building on it. From this point, a site that has zero units completed is expected to take [x] to complete on average, at a build rate of approximately [x] homes per site per year with an average site size of [x] units.

⁴ Callcutt (2007) Callcutt Review of Housebuilding Delivery, p37.

⁵ ChamberlainWalker (2017) The Role of Land Pipelines in the UK Housebuilding Process.

⁶ Although land only becomes part of a housebuilder land bank once some form of contract is signed, other evidence suggests that these estimates are lower bound estimates as they do not account fully for the time taken to identify sites, bid for sites or to carry out due diligence for sites in Phase A. A housebuilder told us that, as part of the long-term land timeline for a typical 200-home site, the average time taken to search for and bid for a site can be up to or more than one year.

post-planning development pipeline (that is Phases C and D) to be around 4 years.⁷

- F.4 These numbers are average estimates across schemes of different sizes. The time taken by schemes that consist of more plots will likely take longer to complete compared to schemes that have a smaller number of plots to complete if we assume there are no delays at any phase of the development pipeline. In addition, in Section 6 of the supporting evidence document, we report research undertaken by Lichfields, which highlights that planning application lapses due to technical and viability reasons and lags between planning permissions being granted to the build-out of units not only cause land to stay in long- and short-term land banks for longer, but these delays also cause build-out rates to take longer which in turn has an impact on housing delivery.

Using the land banks data to estimate how long land remains in land banks

- F.5 We asked the top 11 housebuilders to provide data on the total number of months the land in their short- and long-term land banks has been under their ownership and/or control, for the calendar year to December 2022. Given that this is a snapshot of the housebuilders' land banks as of 2022, it will likely give an underestimate of the average length of time a given site remains within their land bank (as the land has not yet completed the development journey). Nevertheless, it gives us an indication of how long land tends to remain in land banks for.
- F.6 The housebuilders gave us the information presented in different ways, based on how they record information on their land holdings. For short-term land, a few of the top 11 housebuilders provided the number of months from the date of legal acquisition of land that has planning permission. We interpret this point to be where the land enters short-term land from long-term land once the land has achieved outline planning permission. At this point, the housebuilders can exercise their right to legally purchase the land from the landowner via their contract agreement. We understand this data is equivalent to Phases C and D of the development pipeline. Most of the top 11 housebuilders provided the number of months from the date the first relevant contract for an unconditional purchase or other types of contract agreements were signed. We interpret this point to be in Phase A of the development pipeline and land that is in long-term land. This latter data overestimates the time the land is held in short-term land as this data not only includes the number of months the land had no form of planning permission (Phases A and B of the development pipeline), but it also includes the number of

⁷ We note that we have estimated how long land promoters take to obtain planning permission which indicates that land promoters obtained planning permission for most housing units in fewer than 5 years and almost all in fewer than 9 years. However, we note the stages in the development process measured by this data are not entirely aligned with that we are considering for land banks, and the form in which we have the data is not easily comparable.

months the land is in Phases C and D where the land has some form of planning permission.

F.7 For long-term land, all top 11 housebuilders provided the number of months from the date the relevant first contract for an unconditional purchase and/or option/conditional contract/promotion/other types of agreements were signed. This data accounts for Phases A and B of the development pipeline.

F.8 We discuss the estimates for short-term and long-term land below.

Short-term land

F.9 At Table F.2, overall across GB, we find using all the data we have been provided from the top 11 housebuilders and if we do not account for the differences in the reporting of this data, short-term land had been held on average for 5.8 years. As we explained at paragraph F.6, this figure is an overestimate for the average number of years land stays in short-term land.

Table F.2: Average time in years land had been held in short-term land by when land is acquired

	<i>Not Adjusted</i>	<i>Adjusted</i>
Legal acquisition date	3.5	-
First contract signed	6.5	2.7
Overall	5.8	-

Source: CMA analysis using the land banks data

Notes:

[1] Legal acquisition date: a few of the top 11 housebuilders provided data from the date the land was legally acquired with planning permission.

[2] First contract signed: most of the large house builders provided data based on the date the relevant contract for unconditional purchase and/or option/conditional contract/promotion/other types of agreements were signed.

[3] Figure in the 'Adjusted' column for row entry 'First contract signed' has had 3.8 subtracted from 6.5.

F.10 If we re-recalculate the average number of years land had been in short-term land based on how the top 11 housebuilders provided their data as explained at paragraph F.6:

- (a) Based on a few of the top 11 housebuilders providing the data from the date the land was legally purchased, we estimate that the average number of years land had been held in short-term land is 3.5 years. We find that this estimate aligns with the average number of years reported for short-term land at paragraph F.2(b) using the permissions data, if not being a slightly lower bound estimate.
- (b) Next, based on most of the top 11 housebuilders providing the data based on the date the first contract was signed, we estimate the average number of years land is held in short-term land is 6.5 years. We note that this estimate is considerably higher than the estimates we report using the permissions data (see paragraph F.2(b) and Table F.1) and using a subset of this data reported in the paragraph above. We have attempted to reconcile this estimate. We know from paragraph F.3 that Phase A is estimated to take on

average between 1.2 and 2.1 years. And from paragraph F.2(a) using the permission data, we estimate for Phase B that land stays in long-term land on average for 2.2 years. Using these figures as estimates for Phases A and B of the development pipeline (see Figure F.1), we surmise that land stays in long-term land on average between 3.4 and 4.3 years. If the average of these numbers⁸ is subtracted from our initial estimate at 6.5 years, the adjusted estimate is 2.7 years. We note that this estimate is lower than the estimate of 3.5 years discussed at paragraph F.10(a) and lower than the permission data estimate at between 4.1 and 4.4 years (see paragraph F.2(b)).

- (c) If we reconcile the estimates at paragraphs (a) and (b), we surmise the average time land had been in short-term land to be 3.1 years.⁹

F.11 At Table F.3, we estimate how long land had been in short-term land by nation. Using all the data available and making no adjustments based on how this data has been provided, we find there is some variation by nations – see estimates reported in the ‘Not Adjusted’ column:

- (a) For Scotland, short-term land had been held on average for 5.7 years, slightly below the overall average at 5.8 years.
- (b) For England and Wales, the average number of years is slightly above the overall average, at 5.9 years and 6.6 years respectively.

F.12 We repeat the steps outlined at paragraph F.10 for each nation, we surmise the reconciled estimates align with the permissions data at paragraph F.2(b).

Table F.3: Average time in years land had been held in short-term land in GB and by nation

	<i>Not Adjusted</i>	<i>Reconciled Estimates</i>
England	5.9	3.1
Scotland	5.7	3.1
Wales	6.6	4.4
GB	5.8	-

Source: CMA analysis using the land banks data

Notes:

[1] Figures in the ‘Reconciled Estimates’ column repeats the steps outlined at paragraph F.10.

F.13 We provide further results on how long land is held in land banks by site size.

F.14 At Table F.4, using all the data, and making no adjustments, we do not find a positive relationship between the average time land had been held in short-term land and site size, but a ‘U’ shaped relationship.

F.15 Accounting for how the data has been provided, we repeat the steps outlined at paragraph F.10 for each category. The re-calculated average estimates are

⁸ The average of 3.4 + 4.3 = 3.8 reported to one significant figure.

⁹ This figure is the simple average of 3.5 years and 2.7 years.

reported in the 'Reconciled Estimates' column and range between 2 years and 4.5 years. We still find a 'U' shaped relationship which suggests that a site with up to 50 plots and sites with more than 500 plots are likely to remain in short-term land for a similar amount of time on average. One possible explanation for this is that sites with a large number of plots take longer to build-out as they are often built-out in phases. Small sites as at December 2022 may have been part of a large site, but most plots may have been built-out. The remaining plots on these sites represent the tail end of completions and thus, these plots remain in the land bank until the sites are built-out.

Table F.4: Average time in years land is held in short-term land by site size

	<i>Not Adjusted</i>	<i>Reconciled Estimates</i>
0 to 50	6.9	4.4
51 to 100	5.8	3.2
101 to 500	4.8	2.1
More than 500	7.2	2.9

Source: CMA analysis using the land banks data

Notes:

[1] Figures in the 'Reconciled Estimates' column repeats the steps outlined at paragraph F.10.

[2] Site size is proxied by the number of plots on each site at the end of December 2022.

Long-term land

F.16 At Table F.5, using all the data available, we find long-term land had been held on average for 7 years in GB. By nation, we find there is some variation. For England, long-term land had been held on average for 6.8 years, slightly below the overall average. For Scotland and Wales, the average number of years is slightly above the overall average, at 8.6 years and 7.3 years respectively.

Table F.5: Average time in years land had been held in long-term land in GB and by nation

	<i>Not Adjusted</i>	<i>Adjusted</i>
England	6.8	4.3
Scotland	8.6	4.9
Wales	7.3	4.3
GB	7.0	4.3

Source: CMA analysis using the land banks data.

[1] Data in column 'Not Adjusted' presents the average number of years land is owned or controlled in long-term land with all data points.

[2] Data reported in column 'Adjusted' presents the average number of years land is owned or controlled with the removal of sites that have been owned for more than 132 months (11 years).

F.17 We understand that not all land is equally likely to be developable. If we assume that land that has been controlled/owned for more than 132 months¹⁰ (ie more than 11 years) has a low probability of progressing towards achieving planning permission and into short-term land, we estimate this equates to c.15 per cent of long-term land. We show with the removal of these data points, land had stayed in

¹⁰ We take the figure of more than 132 months, as this relates to land that has been owned/controlled before the introduction of NPPF in 2012 in England.

long-term land banks on average for just over 4 years.¹¹ By nation, we do not see much variation for England and Wales, but for Scotland, land had stayed in long-term land for about 5 years on average.

- F.18 We provide further results by estimating the average time, in years, long-term land had remained in land banks by site size and by land that is allocated in a Local Plan.
- F.19 From Table F.6, we find using all the data that there is no difference between the average time land is held in long-term land by Local Plan allocation:
- (a) Land that is allocated as part of a Local Plan and land that is not allocated as part of a Local Plan had remained in long-term land on average for 7.1 years.
 - (b) Land that is draft allocated as part of a Local Plan had remained in long-term land on average for 5.4 years; and
 - (c) Land that has no allocation status had remained in long-term land on average for 1.3 years.
- F.20 Removing sites that have been controlled/owned for more than 132 months, and recalculating the duration, we find slight differences in the average duration. Long-term land that is allocated or draft allocated had been held on average for just over 4 years. For land that is not part of a Local Plan allocation had been held on average for closer to 4.5 years.

Table F.6: Average time in years land is held in long-term land by local plan allocation

	<i>Not Adjusted</i>	<i>Adjusted</i>
Allocated	7.1	4.2
Not Allocated	7.1	4.4
Draft Allocated	5.4	4.1
No Status	1.3	1.3

Source: CMA analysis using the land banks data.

Notes:

[1] Data in column 'Not Adjusted' presents the average number of years land is owned or controlled in long-term land with all data points.

[2] Data reported in column 'Adjusted' presents the average number of years land is owned or controlled with the removal of sites that have been owned for more than 132 months (11 years).

- F.21 At Table F.7, using all the data and separately recalculating the average time with the removal of sites that have been controlled/owned for more than 132 months, we find that land that is part of smaller sites had remained in long-term land for longer than larger sites. As with short-term land, we observe a 'U' shape

¹¹ We performed a sensitivity analysis on our assumption by removing data points where land had been owned/controlled for more than 204 months (that is more than 17 years and equates to c.8 per cent of the data), recalculating the average number of years land stays in long-term land increases to just over 5 years.

relationship between the average time land had been held in long-term land and site-size.

Table F.7: Average time in years land is held in long-term land by site size

	<i>Not Adjusted</i>	<i>Adjusted</i>
0 to 50	10.1	4.8
51 to 100	7.4	4.2
101 to 500	6.4	4.3
More than 500	6.6	4.6

Source: CMA analysis using the land banks data.

[1] Site size is proxied by the estimated number of plots on each site.

[2] Data in column 'Not Adjusted' presents the average number of years land is owned or controlled in long-term land with all data points.

[3] Data reported in column 'Adjusted' presents the average number of years land is owned or controlled with the removal of sites that have been owned for more than 132 months (11 years).

F.22 At Table F.8, we combine the elements from Tables F.6 and F.7. We continue to observe a 'U' shaped relationship as noted in the paragraph above.

Table F.8: Average time in years land is held in long-term land by local plan allocation and site size

<i>Local Plan Status</i>	<i>Size</i>	<i>Not Adjusted</i>	<i>Adjusted</i>
Allocated	0 to 50	6.8	3.8
Allocated	51 to 100	7.7	3.8
Allocated	101 to 500	6.7	4.4
Allocated	More than 500	8.0	4.8
Not Allocated	0 to 50	11.1	5.2
Not Allocated	51 to 100	7.4	4.3
Not Allocated	101 to 500	6.4	4.3
Not Allocated	More than 500	6.6	4.8
Draft Allocated	51 to 100	4.9	4.9
Draft Allocated	101 to 500	5.3	3.8
Draft Allocated	> 500	6.2	4.8
No Status	51 to 100	1.9	1.9
No Status	101 to 500	1.6	1.6
No Status	More than 500	1.0	1.0

Source: CMA analysis using the land banks data.

[1] Site size is proxied by the estimated number of plots on each site.

[2] Data in column 'Not Adjusted' presents the average number of years land is owned or controlled in long-term land with all data points.

[3] Data reported in column 'Adjusted' presents the average number of years land is owned or controlled with the removal of sites that have been owned for more than 132 months (11 years).