

BROWNFIELD

THE HOUSING CRISIS SOLVED?



The Gracechurch Group has examined the data included in Brownfield Registers compiled by 307 Local Planning Authorities in England. The Government has stated that “Brownfield registers will provide up-to-date, publicly available information on brownfield land that is suitable for housing. This will improve the quality and consistency of data held by local planning authorities which will provide certainty for developers and communities, encouraging investment in local areas. Brownfield registers should include all brownfield sites that are suitable for housing development irrespective of their planning status.”

This report examines the Brownfield Registers and compares them to the government’s proposed new standardised methodology for calculating housing need. By doing so we can estimate how much of England’s housing need can be met through brownfield development.

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SUMMARY

In December 2017 we published results from the pilot brownfield registers. This paper updates that note to cover the whole of England. 338 of England's Local Planning Authorities ('LPAs') were required to publish brownfield registers by 31 December 2017. As of 14 February 2018, 321 (95 per cent) of LPAs had produced a register, with 17 still to produce complete registers. We have examined the 307 of these for which we have accompanying data on housing need.

This report examines the brownfield registers and compares it to the government's proposed new methodology for calculating housing need. By doing so we can estimate how much of England's housing need can be met through brownfield.

Brownfield across the 307 LPAs has the potential for 670,000 homes net of normal planning attrition. This is contrasted against a five year housing demand for the same LPAs of 1,250,000 homes.

In fact, the housing shortfall from brownfield is likely to be greater than these numbers suggest. Brownfield is spread unevenly across the country and most brownfield is not in areas of high housing need - so the headline numbers present a less accurate picture than the regional analysis. Only one of England's nine regions (the North West) has sufficient capacity on brownfield to accommodate their five year housing demand once attrition has been factored in.

Brownfield can make a contribution to the housing crisis, but it is not a sufficient solution on its own.

We share the view of government and many lobby groups that brownfield should be exploited for housing as far as possible. The brownfield registers are a useful part of the brownfield debate and their existence alone will be valuable to communities in understanding the opportunities and limitations of brownfield development, and to forming evidence-based housing policy.

We put forward the following recommendations:

1. Brownfield is an issue of concern to local communities. Local people and interest groups should be encouraged to put forward sites for inclusion on brownfield registers and if sites are not to be included on those registers then an explanation should be given.
2. Organisations with underutilised estates, such as local authorities or the NHS, should be encouraged to add sites they own to the brownfield registers.
3. The registers as currently conceived contemplate sites that could start to be developed for housing over a 15 year time horizon. We think that that some assessment of likely time horizon for the development to be completed should be included in the registers - at least for sites over 200 homes.
4. The registers take no account of the attrition rate between grant of planning permission and the start of development which, according to the Department for Communities and Local Government, is about one-third. We think that LPAs should publish total brownfield housing numbers from the register alongside total expected (i.e. after normal attrition) numbers.
5. Reduction of the attrition rate is crucial. As it is not understood why there is such a significant drop-off rate from permission being granted to homes being constructed, commissioning research into this matter is of the utmost importance. We therefore welcome Sir Oliver Letwin's review into this matter.

6. The planning rules for brownfield could be changed:
 - The definition of brownfield could be widened, making it easier for developers. For example, gardens were classified as brownfield, before being changed to greenfield.
 - Permitted Development Rights, such as those granted to light industrial buildings on 1 October 2017, could be expanded (for example to some kinds of retail property).
7. Small sites (15 dwellings or fewer) make up over half of all sites, but only 7 per cent of the total housing capacity on brownfield. These sites are suited to small house builders, and the Home Building Fund has been significant in backing them, and expansion of it should be considered.
8. The small size of most brownfield sites limits the density at which they can be built if the existing streetscape and neighbourliness are to be preserved. Where greater density is possible this is best left as a matter for local communities through the LPA.
9. Some very large brownfield sites should be looked at on a national basis to ascertain sustainability and to see whether they could serve housing need outside of their LPA.

INTRODUCTION

On 10 March 2016, Communities Secretary Greg Clark announced the creation of pilot brownfield registers. 73 LPAs¹ were chosen to pilot the scheme².

On 3 April 2017, Gavin Barwell (Housing and Planning Minister) announced that all LPAs will be required to produce and maintain brownfield registers, commencing on 31 December 2017.³

In 'Planning for the Right Homes in the Right Places' (14 September 2017), the government announced consultation proposals for a new formula for assessing housing demand. This proposes a standard method for calculating local authorities' housing need based on both household growth forecasts and affordability.⁴

Across the 307 LPAs, the proposed standard method calculates that 250,886 dwellings will be required every year for the next ten years. This figure will likely see adjustment during consultation.⁵

This figure almost certainly understates housing need because no individual LPA will have its housing need increased by the new approach by more than 40 per cent compared to their current assessment, and some LPAs (e.g. Manchester) have policies in place to substantially increase economic growth, and are planning for a higher level of housing need than the formula proposes.

This paper puts both data sets together to assess how far brownfield land can go towards meeting the housing demand as calculated by the new methodology – using the brownfield registers of 307 LPAs. Appendix One lists which LPAs have not produced complete registers, as well as the 14 which have but which are not included in this paper due to lack of figures on housing need.

¹These LPAs are: district councils; London borough councils; metropolitan district councils; county councils in relation to any area in England for which there is no district council; the Broads Authority; a National Park authority and a Mayoral Development Corporation where it is the local planning authority for the purposes of Part 2 of the 2004 Act.

²<https://www.gov.uk/government/news/first-areas-to-push-for-faster-brownfield-land-development>

³<https://www.gov.uk/government/news/new-measures-to-unlock-brownfield-land-for-thousands-of-homes>

⁴The proposed formula is that each 1 per cent increase in the ratio of house prices to earnings above four results in a 0.25 per cent increase in need above projected household growth.

⁵'This achieves the overall level of delivery that most external commentators believe we need, while ensuring it is delivered in the places where affordability is worst.' ('Planning for the right homes in the right places: consultation proposals', p. 11).

WHAT IS BROWNFIELD LAND?

In the minds of many members of the public the term 'Brownfield Land' conjures images of derelict, vacant buildings or plots that are an eyesore. However, previously developed (or Brownfield Land) is defined in the National Planning Policy Framework ('NPPF') glossary as (with certain exceptions)⁶, 'Land which is or was occupied by a permanent structure, including the surrounding land attached to the structure, and any associated fixed surfaces.'⁷

Therefore, under the NPPF's definition almost every currently developed site could be defined as brownfield. There is nothing about the generic definition of brownfield that limits the term to the urban environment or cities, and brownfield can have a high ecological and environmental value (for example, ex-MoD land in the Hoo Peninsula, which is one of the most important sites in the UK for nightingales).

In compiling a brownfield register the government's concern is not with all brownfield but brownfield that is suitable and available for housing.⁸

The specific criteria set out for land to be entered onto the register are:

- The land has an area of at least 0.25 hectares or can support at least five dwellings.⁹
- The land is suitable for residential development (it has been allocated in a local development plan document for residential development; has planning permission for residential development; has a grant of permission in principle for residential development; or is, in the opinion of the LPA, appropriate for residential development).
- The land is available for residential development (the relevant owner has expressed an intention to sell or develop the land, and in the opinion of the LPA there are no issues relating to the ownership of the land or other legal impediments which might prevent residential development of the land taking place).¹⁰
- Residential development of the land is achievable ('achievable' meaning that development is likely to start within 15 years of entry into the register).

The brownfield registers therefore aim to catalogue land which is both suitable and available to help meet the nation's housing shortfall.

⁶The NPPF makes clear that the following are not classified as brownfield land: land that is or has been occupied by agricultural or forestry buildings; land that has been developed for minerals extraction or waste disposal by landfill purposes where provision for restoration has been made through development control procedures; land in built-up areas such as private residential gardens, parks, recreation grounds and allotments; land that was previously-developed but where the remains of the permanent structure or fixed surface structure have blended into the landscape in the process of time.

⁷National Planning Policy Framework, p. 55.

⁸http://spatial-economics.blogspot.co.uk/2013_04_01_archive.html

⁹Some LPAs, however, have included sites creating less than five units.

¹⁰It is not clear how closely LPAs have followed this criterion. Several LPAs put 'Unknown' for the ownership status of every brownfield site in their register.

THE PURPOSE OF THE BROWNFIELD REGISTERS

Brandon Lewis (Housing and Planning Minister 2014 – 2016):

‘We want to help hard working families and first time buyers to own their home and to achieve this by building on brownfield land wherever possible to help protect our valued countryside. The register helps deliver both of these at a stroke.’¹¹

Gavin Barwell, Lewis’s successor as Housing and Planning Minister, confirmed on 3 April 2017 in launching the brownfield sites registers that:

‘We need to build more homes in this country so making sure that we re-use brownfield land is crucial. We want to bring life back to abandoned sites, create thousands more homes and help protect our valued countryside.’¹²

In 2014, the government claimed that 200,000 homes could be built on brownfield sites, and committed to getting planning permission for 90 per cent of those sites by 2020.¹³

The intention behind the brownfield registers is to provide up-to-date, publicly available information on brownfield land that is suitable for housing. This will help developers identify suitable sites, and allow communities to draw attention to additional local sites for listing.

It is intended that the registers will be combined with ‘Permission in Principle’ (‘PiP’), as provided for in the Housing and Planning Act 2016. Brownfield sites granted this status will have the most important points of a development settled (use, location, amount of development). However, developers will still need to obtain a full planning consent.

¹¹ <https://www.gov.uk/government/news/first-areas-to-push-for-faster-brownfield-land-development>

¹² <https://www.gov.uk/government/news/new-measures-to-unlock-brownfield-land-for-thousands-of-homes>

¹³ <https://www.theguardian.com/business/2014/jun/13/200000-homes-brownfield-land-2020-george-osborne>

COMPILING THE BROWNFIELD REGISTERS

The brownfield registers have been compiled by the LPAs. The sites in the registers have come from two main sources: existing Strategic Housing Land Availability Assessments ('SHLAAs')¹⁴ and calls for sites.¹⁵

LPAs will have to maintain their registers, updating them annually.

Part 1 of the brownfield registers, which is all that has been published to date, will be a comprehensive list of all brownfield sites in a local authority area that are suitable for housing, irrespective of their planning status.

The completed registers will include a Part 2 (though no LPAs have yet produced this section) which will list all sites that have been granted PiP. Sites may enter Part 2 of the register once the local planning authorities have followed the consultation and publicity requirements.¹⁶

Outputs to Date

17,283 brownfield sites have been identified, covering 28,066 hectares. The sites have the potential to provide 1,008,354 homes (a density of 36 per hectare).

The average site is 1.62 hectares in size and can support an estimated 58 dwellings. However, the average is a misleading measure as most sites are quite small, while a few very large sites drag the average up. For example, Northstowe in South Cambridgeshire is 1,381 hectares and can accommodate 10,000 dwellings.

A better measure is the median size, which is only 0.29 hectares supporting 14 dwellings.

A regional breakdown of the results is set out in Appendix Two.

¹⁴ The SHLAA is an annual review of potential housing sites; LPAs with such an established view process have transferred sites across to their brownfield registers, if those sites were on brownfield, and met the criteria above.

¹⁵ Most LPAs have undertaken a 'call for sites', where developers, landowners, and other interested parties put forward brownfield sites for housing development.

¹⁶ A site may not be included on Part 2 of the register if its development: would fall within schedule 1 of the Environmental Impact Assessment Regulations; has been screened as Environmental Impact Assessment development; would be prohibited under habitat protection legislation.

CAN BROWNFIELD SOLVE THE HOUSING CRISIS?

Using the government's proposed formula for calculating housing need, the 307 LPAs will require 1,254,430 dwellings over the next five years, and 2,508,860 over the next ten. If this is contrasted with the capacity for 1,008,354 homes on brownfield land, we can see there is sufficient supply for only four years.

The reality is worse, for three reasons:

1. Location of the Sites

The registers show that there is significant regional variation in brownfield supply vs. housing need.

Figure 1 below compares the five and ten year housing needs of the different regions of England against the estimated number of houses that could be built on brownfield in each.

Fig. 1: Regional Brownfield Housing Supply/Need

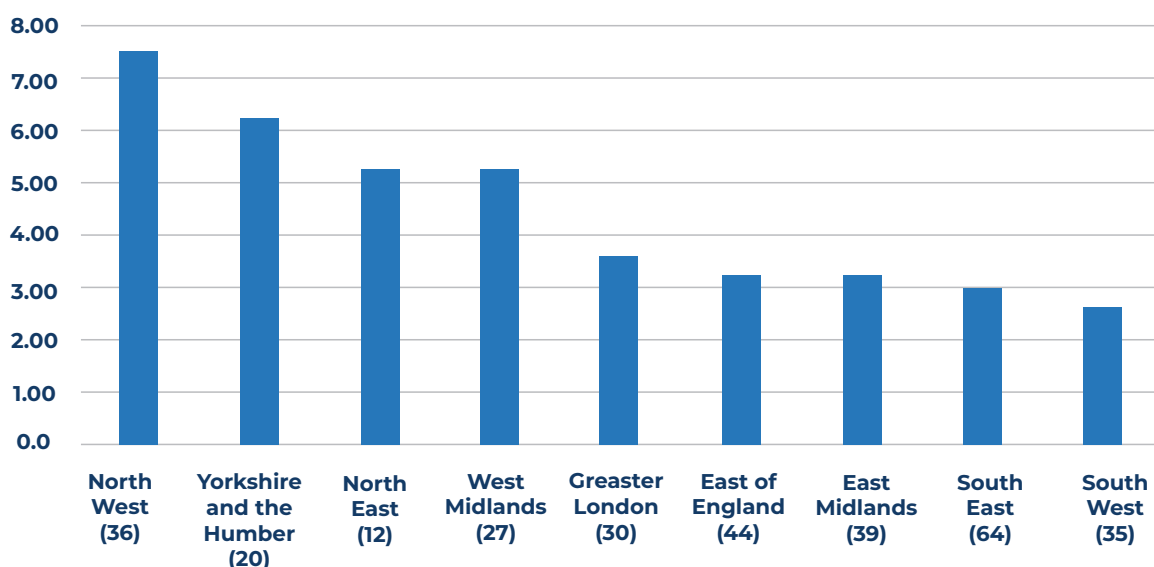


The number in brackets after each region is the number of LPAs in that region for which we have both registers and data on housing need.

The number of LPAs is different for each region, so a clearer guide to the amount of housing that could be built on brownfield is provided by Figure 2, which shows the years of supply each region

possesses, from 7.5 years of brownfield housing supply in the North West to 2.7 years of supply in the South West.

Fig. 2: Years of Supply from Housing on Brownfield



- 74 per cent of LPAs have fewer than five years of housing supply from brownfield.
- 90 per cent have fewer than ten years of supply.
- 97 per cent have fewer than 15 years of supply.

In Appendix Three, Figures 5 to 8 present the same analysis, but using the current assessment of housing need, instead of the government's proposed new methodology. The results are broadly similar.

2. Timescales for Delivery

To be added to the brownfield register a site must be deliverable within 15 years. This means that construction should be started but not necessarily finished. If we compare the 15 year housing need to the registers, then brownfield can meet only 26 per cent of housing need.

The 15 year horizon for the registers is an impediment to their utility. It is only necessary for a site to be capable of commencing development within the next 15 years for it to be added to the register. This means that difficult brownfield, needing massive remediation and public money, can be added to the register because 15 years is such a long event horizon that almost anything is possible.

Members of the public may then be presented with a picture where there is plenty of brownfield land, and yet it is still necessary for an LPA to build on greenfield – because the brownfield cannot meet the immediate housing need.

It would be more helpful to the public if for large sites over (for example) 200 homes, a realistic estimate of the delivery timeframe was included in the registers.

We discuss this issue further in the section on the following page, on very large sites - where remediation is most problematic.

3. Attrition

Many brownfield sites will not be built on even if they are theoretically capable of adding to the housing stock and even if they have a planning consent.

This issue is understood by the government, which has established the Letwin review on the point. The issue is explored further in the section on the following page.

CAN ALL IDENTIFIED BROWNFIELD LAND BE BUILT ON?

The analysis on the previous page assumes a 100 per cent success rate in developing brownfield identified as suitable for housing. However, it is reasonable to assume that there will be an attrition rate, and that not all sites will be redeveloped.

A guide to the probable attrition rate is provided by Isobel Stephen, Director for Housing Supply at the Department for Communities and Local Government, who said that the 'drop-out rate' between planning permissions being granted and homes being built was 'around a third'.¹⁷ This drop-out rate applies to all planning permissions, not just those on brownfield. It would be reasonable to assume that, for brownfield land, the drop-out rate may be even higher, due to the difficulties and expense of remediating some brownfield sites so they can be built on safely.

In the Autumn Budget 2017 the government has established a review under Sir Oliver Letwin of the attrition rate between grant of planning consent and construction (generally and not just in relation to brownfield). A government press release states that 'Currently, after planning permission is granted a variety of factors can prevent development from starting and slow down delivery and the review wants to determine why. As of July 2016, just over half the 684,000 homes with planning permission had been completed.'¹⁸

We recommend that the Letwin Review specifically considers whether brownfield sites typically have a higher drop-out rate than greenfield sites and, if so, what sorts of brownfield sites are least likely to come forward for development.

Most of the dwellings on the registers have planning consent, but many do not (43 per cent of the total). There will probably be an additional dropout rate for land without a consent because there are so many factors which could lead to a consent being refused. However, as we have no basis on which to estimate this additional drop-out rate we ignore it in our analysis on the following page.

It is not known precisely why there is such a high attrition rate. John Stewart, of the Home Builders Federation, has said that, 'virtually all' sites with a permission that had not been started were owned by non-developers: 'we need to understand properly...whether there are non-developers who get permission for reasons where they never intended selling for development.'¹⁹

On the following page we have redrawn Figures 1 and 2 but factoring in an attrition rate of one-third: the results are shown in Figures 3 and 4 (Figures 7 and 8 in Appendix Three show the effects of attrition when using the current assessment of housing need instead).

¹⁷Select Committee on Economics Affairs, 'Oral and written evidence: The Economics of the UK Housing Market' (15 July 2016), p. 23.

¹⁸<https://www.gov.uk/government/news/independent-review-to-tackle-barriers-to-building>

¹⁹Select Committee on Economics Affairs, 'Oral and written evidence: The Economics of the UK Housing Market' (15 July 2016), p. 23.

With an attrition rate of one-third, the number of dwellings that could be built on brownfield in the LPAs drops from 1,008,354 to 672,236.

This would lower the years of supply from brownfield from four to just 2.7 years.

Fig. 3: Regional Brownfield Housing Supply/Need (with Attrition)

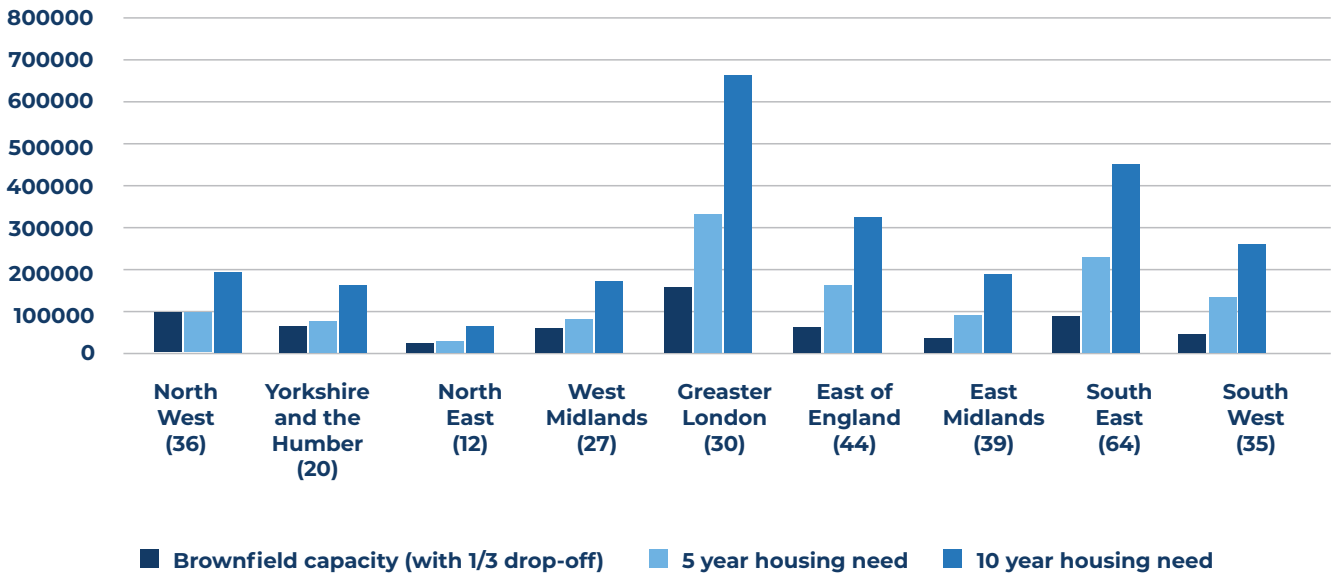
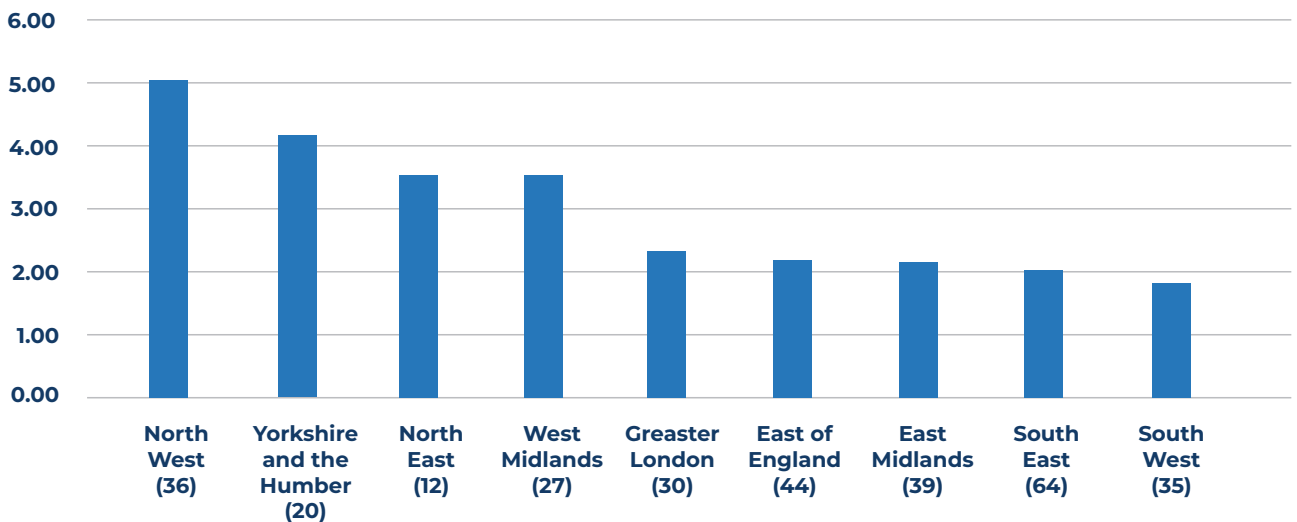


Fig. 4: Years of Supply from Housing on Brownfield (with Attrition)



IS THERE MORE BROWNFIELD LAND?

There may be more brownfield that is currently in active use and therefore not on the registers, but where part of the site could be released for housing:

- Profit maximising commercial enterprises regularly review their stock of buildings for just such opportunities. Many businesses employ a director of property or third-party consultants to ensure that they make efficient use of their estates.
- The situation may be different for non-market orientated organisations such as the NHS or local authorities. Recent government initiatives have encouraged public sector organisations to bring previously developed land forward for development, but it could be that more needs to be done in this area, and that the public sector should be more actively encouraged to add sites to the brownfield registers.

It is our impression that the public in general and some lobby groups believe that there is a large amount of brownfield that could be exploited for housing. One claim which has been made is that there is enough hidden brownfield for another 190,000 homes. The claim is examined in Appendix Four and we believe it is without merit. The evidence from the brownfield registers does not support this the idea of plentiful hidden brownfield.

It is, however, entirely possible that there is some previously developed land available that has not been registered, including sites suitable for fewer than five dwellings, which are not required to be placed on the registers. It is also possible that what the public sees as brownfield is not suitable or available for housing - but might suit some other use. There is also land that appears to be derelict but serves a strategic purpose or is being assembled into a larger regeneration project. Lastly, there is contaminated land where the clean-up costs are so large that they destroy the economics of new construction.

The registers could encourage individuals and organisations to suggest brownfield to be added to them. This may result in more brownfield housing and we think it is helpful to the debate about housing need if the public can see why sites are not suitable for housing.

Finally, we note that the public can be capricious about brownfield. Low grade and decrepit industrial buildings which could be used for housing can suddenly become a thriving artistic community, a valued part of local heritage and a cue for a planning battle. This is part of the reason that developers let buildings stand empty, increasing the optical impression of large amounts of brownfield.

DO DEVELOPERS WANT TO BUILD ON BROWNFIELD?

There is a widespread perception that house builders avoid brownfield sites because they are less profitable.

We have found no evidence to support this. In simple terms the house builder has two kinds of costs. Those associated with building the dwellings (raw materials and labour) and those associated with the site (buying the land and preparing it).

There may be some instances where the cost of materials is higher on brownfield because, for example, it is necessary to match an existing streetscape; but in general, the cost of raw materials and labour are unlikely to vary between greenfield and brownfield.

This leaves the costs associated with the land. But in buying land developers work backwards from a target profit to calculate the price they are willing to pay for the land. If a brownfield site has costs associated with it that would not apply to a greenfield site (such as clean up or difficult site access) then the developer will take those costs into account when bidding for the site.

To put it crudely, if there is money to be made from developing a brownfield site someone will be willing to develop it to extract that money. And moreover, provided there are lots of developers they will bid in competition to get the land so maximising the price to the seller. It is possible that the owner of the site refuses to sell, because they have a different view of value - but that's how markets work.

We agree that most brownfield sites are not of interest to the major UK house builders. The combined stock market capitalisation of the top five quoted house builders is £30bn. Their scale makes it extremely unlikely that they would be interested in most brownfield sites which, as shown on the previous page, can only accommodate 15 dwellings or fewer.

They are interested, and are often seen on, large brownfield sites where their financial muscle and in-house expertise give them an advantage.

The government is helping to overcome this problem through the Land Assembly Fund, which has been given £1.1 billion to assemble fragmented pieces of land into sites suitable for developers. This principle has been successful in Leeds, where Keepmoat have worked with the local council to combine eight different brownfield sites into one 971 home project. Combining sites in such a way makes development more efficient and means that land with a negative value (due to the high cost of remediation) can be subsidised by positive value land.²⁰

However, most brownfield sites will be developed by small house builders, as 53 per cent of sites can accommodate 1-15 dwellings. But although small sites make up the majority, their capacity is for only 69,933 dwellings (7 per cent of the total capacity on brownfield). Focusing on small sites cannot solve the housing crisis.

²⁰ <https://www.constructionnews.co.uk/data/industry-barometer/building-on-brownfield-how-new-register-can-drive-growth/10014713.article>

One-third of small house builders ceased building homes between 2007 and 2009 due to the credit crunch.²¹ Moreover, the more cautious banking sector post 2007 makes it harder for new entrants to this sector.

The government has recognised this problem and has initiated a £3 billion Home Building Fund. Savills sold 89 per cent more plots to small housebuilders in the year to June 2017 compared to the previous year, and this fund almost certainly contributed to that trend.²² If the Home Building Fund is working (as it seems to be) then it should be increased in size.

Finally, there will be some brownfield sites which are so polluted that they have a negative value - meaning that the clean-up costs exceed the value of the site. In 2015, Savills used the National Land Use

Database to estimate that 40 per cent of the potential homes that could be built on brownfield would be financially difficult to develop, if not financially unviable.²³

In these situations, the free market model we have described above will fail to redevelop the site. It follows that if society wants these sites redeveloped then the clean-up costs, or part thereof, will have to be met by government. We therefore welcome the £630 million announced in the Autumn Budget that the government is channeling to remediate small sites and deliver on-site infrastructure.

²¹ Home Builders Federation, 'Reversing the Decline of Small Housebuilders' (2017), p. 20

²² Savills, 'UK residential development land' (July 2017), p. 2.

²³ http://www.savills.co.uk/research_articles/186866/191200-0

HOW HELPFUL IS PERMISSION IN PRINCIPLE?

51 per cent of the brownfield housing capacity already has some sort of permission and will therefore not be significantly affected by the principle of PiP.

As with housing estimates, there is regional variation in how much of the estimated housing has permission. For most regions, the figure is close to 50 per cent, with the exceptions of the Greater London, which has an unusually high number of permissioned homes (65 per cent) and the North East, which has an unusually low figure (39 per cent). We would expect PiP to have the greatest impact there.

PiP confirms the location, use, and number of homes to be built. All technical details must still be granted permission by the LPA. This is a substantial undertaking and it remains to be seen how much PiP will encourage developers, especially as PiP does not differ enormously from Outline Planning Permission.

Some LPAs have already objected to PiP, as it centralises planning powers away from them and 'undermines the plan led system.'²⁴

It could be that PiP has an adverse effect on market conditions by driving up the asking prices of brownfield. Owners of brownfield sites may feel that PiP makes their land more marketable and more valuable, whereas developers may not place the same certainty value on PiP. This could lead to fewer deals and fewer homes being built on brownfield land. On balance, however, markets work better with more information and we expect the market to continue to find clearing prices for brownfield.

²⁴Select Committee on Economics Affairs, 'Oral and written evidence: The Economics of the UK Housing Market' (15 July 2016), pp. 785-86.

HOUSING DENSITY ON BROWNFIELD

The registers include an estimate of the number of homes that can be built on each brownfield site.

The estimated average density is:

- 36 dwellings per hectare across all sites
- 26 dwellings per hectare for sites of 15 dwellings or fewer
- 37 dwellings per hectare for sites of 16 to 999 dwellings
- 35 dwellings per hectare for sites of over 1,000 dwellings

30 dwellings per hectare was the minimum target density in the now defunct Planning Policy Guidance 3. This was replaced by the Planning Policy Statement 3, which removed the requirement for a national minimum density.

The small size of most brownfield sites of 15 dwellings or fewer makes increasing density difficult for them. There will be issues of the preservation of the urban landscape, rights of light and the quality of space being built.

There are many advocates for increased densities in new housing developments but there are also many commentators who deride high density schemes for producing 'rabbit hutches' instead of homes. The appropriate density for a site inevitably depends upon the nature of that site and the community it is part of. This suggests to us that density on brownfield is a local matter, best addressed through the current system of plan-making.

VERY LARGE BROWNFIELD SITES

The registers identify 103 very large (over 1,000 dwellings) brownfield sites. While this is only 0.6 per cent of identified sites, they make up 19 per cent of the estimated housing potential (193,565 dwellings).

Some of these are consented and being built out, but some are in parts of the country where they are not essential to meet housing need.

Very large sites take many years to complete; for example, in Huntingdonshire, the Alconbury Weald site will accommodate 5,000 homes, but the project will be rolled out over 20 years.²⁵

Very large sites could make a significant contribution to meeting housing need and we think there is a case for taking them out of purely local plan making. The argument for involving central government in such sites is twofold:

1. LPAs are under a duty to consider brownfield first. In general, this makes sense and produces a sustainable solution. But some very large brownfield sites will almost by definition be in areas away from existing communities and their transport, schools, services and infrastructure. It might be a more sustainable solution to build on greenfield and return the brownfield back to nature. A central government input to considering these sites could speed up the process of analysing their sustainability and hence speed up housing delivery.
2. Many very large sites are in LPAs that do not need to build on them to meet their own housing need. However, they might be suitable to meet demand in other parts of the country where housing need is greater, but only if transport infrastructure, and especially rail links, can be improved. For example, Thurrock is part of the London commuter belt and has enough brownfield for 7,889 homes. At present, it takes approximately an hour to get to central London from Thurrock by car or public transport, but if transport links were improved, Thurrock's brownfield sites would be better able to help meet demand for housing in London, as well as local housing need. Central government can identify very large brownfield sites where new or upgraded rail links would help meet national housing need in a way that LPAs cannot. The profits from building on this scale can contribute to national transport improvements if a national approach is taken.

²⁵ <http://www.alconbury-weald.co.uk/what-is-happening/development>

APPENDICES

APPENDIX ONE

Local Planning Authorities

17 LPAs have not published their registers (or published incomplete ones), and so were not included in this paper. These are:

- Ashford
- Barking and Dagenham
- Burnley
- Coventry
- Elmbridge
- Epping Forest
- Exeter
- Havering
- Melton
- North Warwickshire
- Ribble Valley
- Rochford
- Selby
- Solihull
- Sutton
- Swale
- Tendring

Two LPAs do not have a housing need calculation based on the proposed formula. These are:

- Warrington
- West Somerset

The brownfield registers for the ten National Parks and two Mayoral Development Corporations have been published, but because these have no accompanying figures on housing need, they have not been included in this paper.

If we include the 14 LPAs for whom we have brownfield registers, but no housing need data, then we have a total brownfield capacity of 1,041,777 (instead of 1,008,354 for the 307 LPAs – a difference of 33,333). The majority of this (22,260 dwellings) comes from the Old Oak and Park Royal Development Corporation in London.

APPENDIX TWO

Table of Regional Breakdowns

Region (number of LPAs)	Number of sites	Total area (ha)	Housing minimum (net)	Years supply (using current assessment of housing need)	Years supply (using proposed formula for housing need)
East Midlands (39)	1138	2149	61660	2.7	3.2
East of England (44)	1677	6399	105786	3.6	3.2
Greater London (30)	2659	2297	233242	5	3.5
North East (12)	689	1921	35255	4.9	5.2
North West (37)	2709	3396	161064	6.1	7.5
South East (64)	2766	4375	135339	3.1	3
South West (36)	1862	2207	70957	2.9	2.7
West Midlands (27)	2034	2896	88905	4.4	5.2
Yorkshire and the Humber (20)	1787	2562	101981	4.9	6.2

APPENDIX THREE

Graphs using the current assessment of housing need, as opposed to the government's methodology

The sample size for the current assessment of housing need is smaller than that of the government's methodology, as not all LPAs had data on their housing need, meaning these regions cannot be compared like-for-like with Figures 1-4. Note that the regions have been reordered so that they are still in descending order of years of supply.

Fig. 5: Regional Brownfield Housing Supply/Need

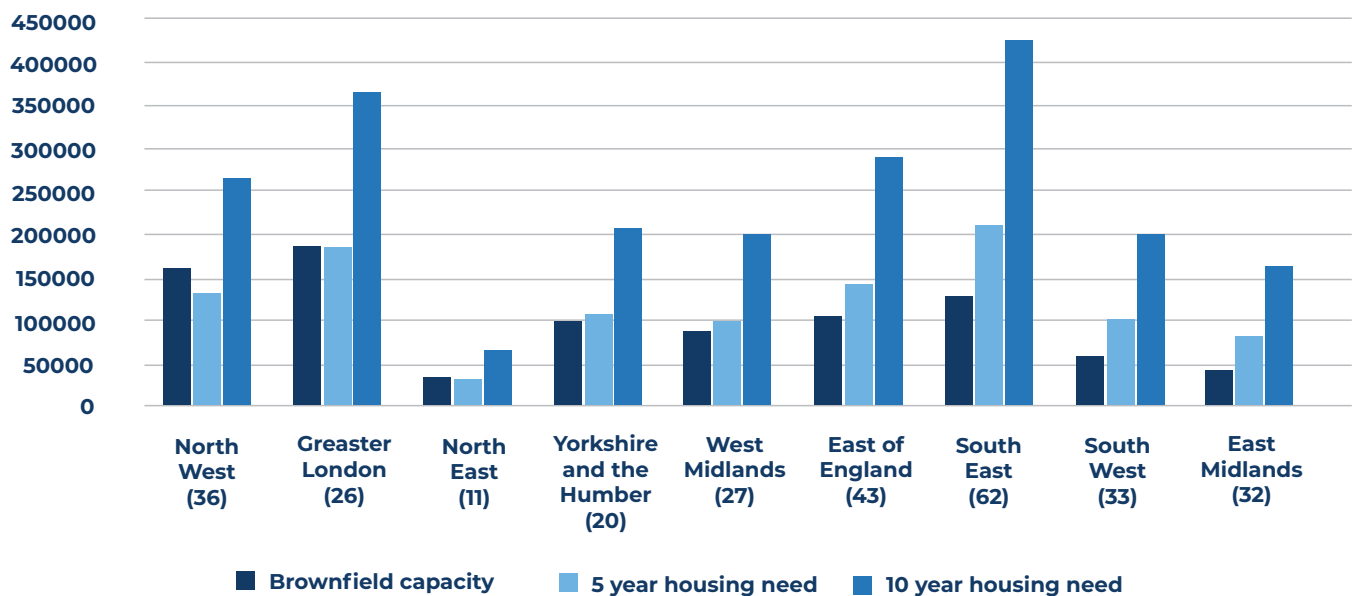


Fig. 6: Years of Supply from Housing on Brownfield

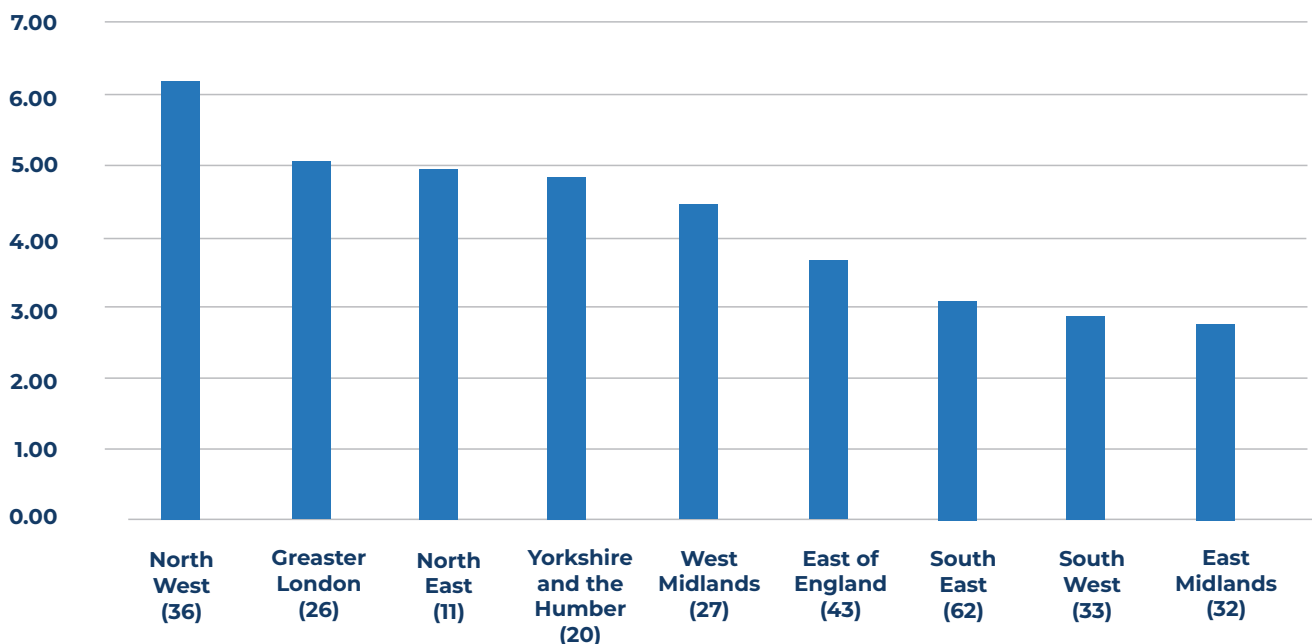


Fig. 7: Regional Brownfield Housing Supply/Need (with Attrition)

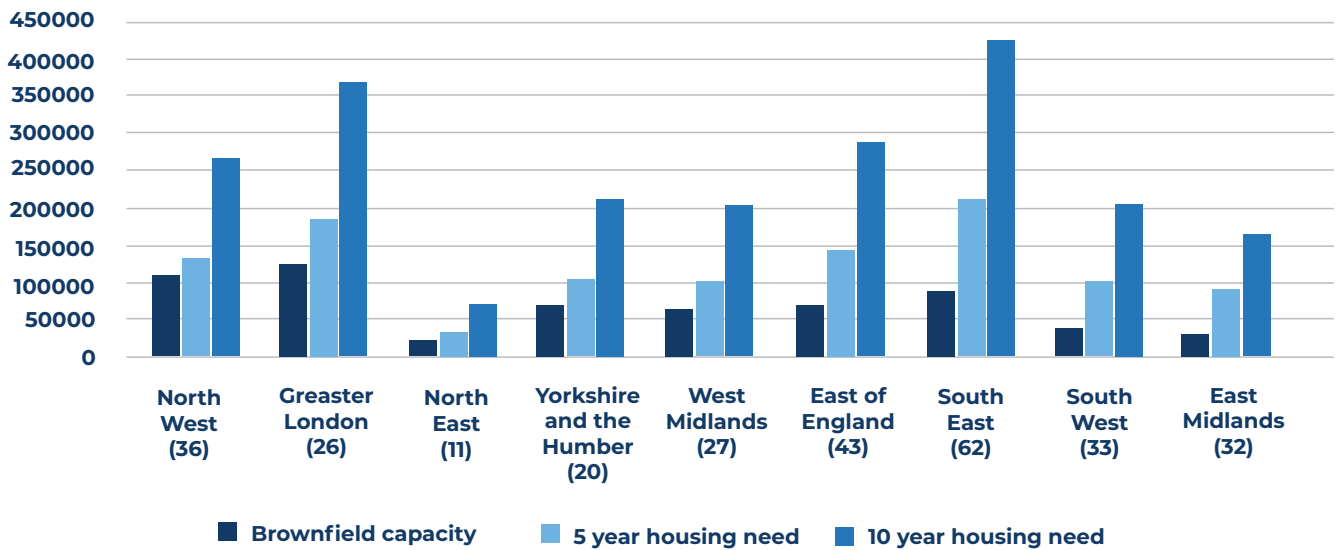
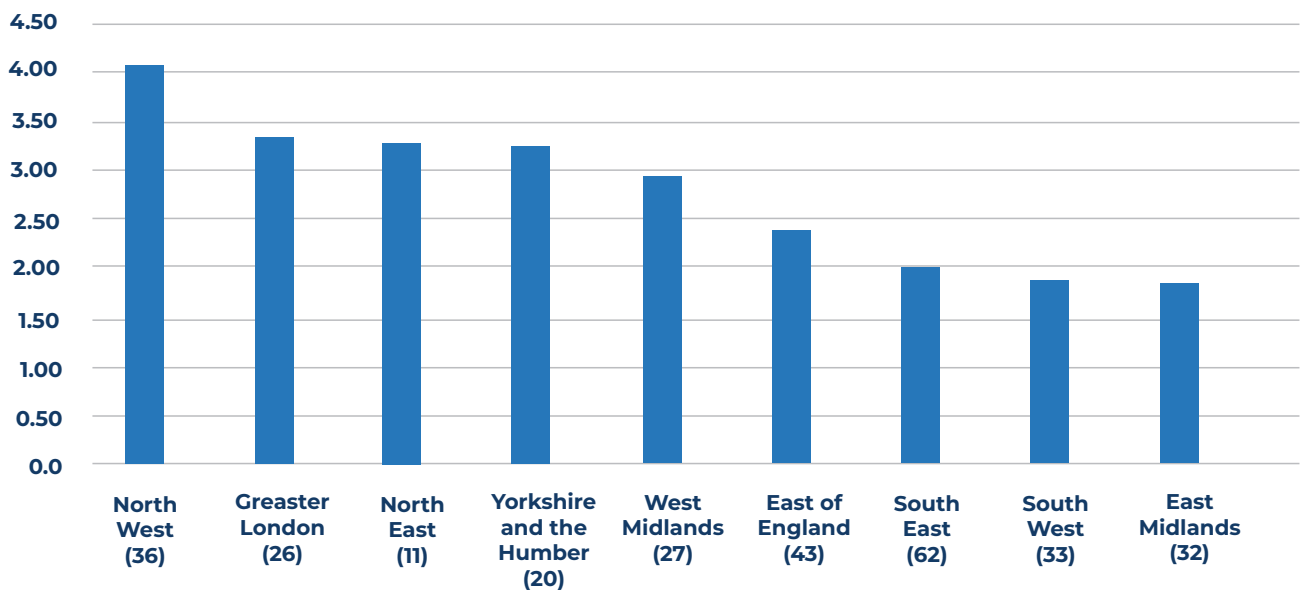


Fig. 8: Years of Supply from Housing on Brownfield (with Attrition)



APPENDIX FOUR

Missing Brownfield Sites

On 11 December 2017, the Campaign for the Protection of Rural England ('CPRE') issued a press release claiming that the brownfield registers were missing land for 189,000 homes.²⁶ The CPRE's arithmetic goes as follows:

1. The budget announced consultation on a target of 20 per cent of all new homes being built on small sites. Small sites were not defined in the budget and the official budget document does not include any reference to brownfield in connection with small sites – they can be greenfield.
2. The CPRE defines small sites as 10 homes or fewer. The registers exclude sites for 5 homes or fewer.
3. In a CPRE study of 43 brownfield registers, they found that 4,481 homes could be built on small brownfield sites, or 4 per cent of the total number of houses that could be built on brownfield land in the study areas (although as we say in our report, sites for 15 homes or fewer make up over 50 per cent of the total number of sites).
4. The CPRE then go on to speculate that if small sites made up 20 per cent of the total rather than 4 per cent then 24,894 homes could be built on small brownfield sites in the study areas. In our view this is logical sleight of hand, conflating the government's proposed target to build 20 per cent of homes on small sites with speculation about small sites making up 20 per cent of all brownfield. As we note on the previous page small sites does not just mean brownfield and the size of small sites has not been defined by the government.
5. The CPRE has extrapolated from the 43 authorities in its sample to a national picture by multiplying up from 43 regions to 326. Since England is highly regionalised we don't think this is a useful or accurate way of generating national statistics. However, the CPRE say this gives a total of 188,734 homes that could be built on small brownfield sites. It is wrong to say, as the CPRE does, that an extra 188,734 can be built on small brownfield sites. This is because the CPRE national estimate already records 33,972 of these homes as being on the registers, so that the number of extra homes should have been stated as 154,762.

It is possible that there is more brownfield land suitable for housing than the registers show, and, as noted on the previous page, sites suitable for under five homes are not on the registers at present. However, the CPRE analysis would mean that the registers have missed 80 per cent of all small sites, which doesn't seem likely. Put another way the CPRE's missing 189,000 homes need 40 square miles of land – net of planning attrition. It is inconceivable that this could be found from small brownfield plots alone.

²⁶ <https://www.cpre.org.uk/media-centre/latest-news-releases/item/4727-council-brownfield-registers-miss-land-that-could-provide-an-extra-200-000-homes>

The CPRE have since updated their claim. In February 2018, they released a paper entitled, 'State of Brownfield 2018: An analysis demonstrating the potential of brownfield land for housing'. In it, they claim that there are 220,000 potential homes missing from the brownfield registers that could be accommodated on small sites.²⁷ However, it is not explained how the CPRE reached this precise figure.

One further thing that confuses the numbers is that Ministers have said we need 1 million new homes in total over five years and at the same time the government has said that 20 per cent of housing need must come from small sites – so 200,000 crops up again. But the two numbers are not related.

The CPRE conclude from their analysis that local authorities compiling the registers have missed thousands of brownfield sites.

Our conclusion remains that housing need cannot be met from brownfield alone. Regarding the government's target for small sites, it is our understanding that these include greenfield sites as well as brownfield and that the definition of small sites is not yet known.

²⁷ CPRE, "State of Brownfield 2018: An analysis demonstrating the potential of brownfield land for housing" (February, 2018).



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