

Restarting housebuilding III

New towns and land value capture

Maurice Lange
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Executive summary

The Government understands that it can increase housebuilding rates by expanding cities and towns. The New Towns Taskforce is planning for large urban extensions, and proposed changes to the National Planning Policy Framework set new parameters for green belt release and higher housebuilding targets for suburban local planning authorities.

But questions remain about **how to fund the transport infrastructure, environmental improvements, affordable homes**, and other public assets, needed for these developments.

One tool could be land value capture – a mechanism which allows the public sector to capture the value uplift on land that is created when it is developed. This report asks – is this possible, where is it possible, and what are the trade-offs involved?

This report identifies possible locations for large-scale urban extensions around 15 major cities across the UK and models the potential land value capture in these locations. It finds that **across viable sites, the total potential land value capture is £193 billion, or £6.4 billion a year assuming a 30-year development period**. To illustrate what this means, dedicating half of this to cross-subsidising social housing would deliver half a million social homes, or approximately 18,500 per year. Half is also equivalent to funding at least 50 miles of tram network, every year.

But this **potential is distributed very unevenly across the country**. The model finds that nearly 80 per cent of potential land value capture is on sites around London. Land around cities where house prices are lower generate far lower potential, and some sites would generate deficits. It is possible that those areas that generate a surplus are used to cross subsidise the sites that would make a loss. This though would undermine a strength of the tool – to provide infrastructure in the place where development happens.

These estimates are underpinned by **the price paid for the land**. Moving from paying five times agricultural value to 40 times makes one-fifth of locations unviable and eats into the money generated on other sites. For example, around London, it results in £29 billion of lost land value capture, equivalent to cross-subsidising 166,000 social homes.

These estimates are also **impacted by the green belt**. The report identifies space for 5 million homes within commuting distance of 15 major cities. But nearly two-thirds of the land is in the green belt. Around London, it is 88 per cent. Developing these urban expansions would have little impact on the green belt though - building on all the land identified would result in total English and Scottish green belt shrinking by less than 5 per cent. Failing to release some of the green belt would prevent public goods being realised through land value capture.

Given this, Centre for Cities recommends that the Government should:

- **Pursue development, including new towns, in southern England, where potential land value capture is greatest.**
- **Encourage and fund more widespread land assembly by public bodies,** including development corporations, to maximise land value capture.
- Clarify the conditions in which compulsory purchase at existing use value is allowable in the ‘public interest’ and simplify the compulsory purchase process.
- Invest in the capacity of planning authorities to put together compulsory purchase cases.
- **Designate green belt land that has good existing or future public transport links for development,** with measures in place to maximise land value capture on that land.

01

Introduction

The current Government's plans for new towns and green belt development understand the need for effective land value capture¹ to help pay for new public infrastructure, to the benefit of new developments, and to the Treasury. This paper explores exactly how and where land value capture can do this.

But first, what is land value capture and what does it have to do with the Government's plans for expanding urban areas?

1.1. What is land value capture and why do Governments care about it?

The monetary value of land can change for many reasons. The local economy might be growing. A new road or train line might make the land more accessible, or a new park might make the area more desirable. **The planning system also creates situations in which land values change – sometimes dramatically.** For example, if residential development is allowed where it previously wasn't, the land often immediately becomes far more valuable.

In each of these scenarios, the existing landowner would be the beneficiary of a windfall increase in wealth and/or income.² **'Land value capture' is the securing of all or part of the windfall from increased land values for the public benefit.**

When land is publicly owned, the windfall accrues to the public purse. When land is privately owned, some kind of intervention is required to secure the windfall toward direct public benefit.

Changing land values therefore present both a challenge and an opportunity for governments. Successfully capturing the uplift can help pay for the infrastructure needed for high quality developments, easing the burden on the public purse and making development more palatable.

1 As Governments throughout time have realised: 'Betterment' charges following public provision of infrastructure were first discussed in the UK in 1427. Falk, N (2020), Sharing the uplift in land values. A fairer system for funding and delivering housing growth. London: Town & Country Planning Association.

2 Commonly called an 'unearned increment', given that the landowner is unlikely to be responsible for all (or any) of the increase in land value. Suzuki, H. et al. (2015), Financing Transit-Oriented Development with Land Values. Washington: The World Bank

But securing land value uplift isn't straightforward. For example, fixed-rate charges on development can render some developments unviable and/or fail to gather much of the uplift. Methods that involve direct involvement by public bodies require the capacity to do so, acceptance of their role, and incentives for them to make best use of the land. Box 1 briefly discusses the different land value capture instruments used across the world.

1.2. Why this Government cares about land value capture

So far, the current Government has proposed two significant changes of approach to land value capture.

First, it is proposing **a new generation of new towns**.³ While the exact form they take is yet to be decided, the expectation is that at least the largest will be orchestrated by development corporations. The development corporation would take on planning powers from local authorities and play an active role in buying land and masterplanning the new development. The land value uplift would be captured by the development corporation as it assembles land at close to existing use value, prepares plots with planning permission, and then sells them to housebuilders at market value.

Any difference between the revenue from sold plots and the cost of assembling land, preparing it with basic infrastructure and running the development corporation, would be used to help fund the rest of what the new town would need – schools, GPs, major transport infrastructure upgrades, environmental improvements, and affordable housing.

The success of any such projects, and the extent to which they are appealing to the Treasury, therefore rests on their ability to generate revenue through land value capture.

Second, the Government is consulting⁴ on a set of **'golden rules' for development in the green belt**.⁵ The 2024 National Planning Policy Framework (NPPF) consultation recognises that new housebuilding targets will require some local authorities to allow development in the green belt and proposes establishing fixed expectations about what those schemes should deliver. These include 50 per cent affordable housing; necessary infrastructure improvements, including schools and GP surgeries; and new or improved local green spaces.

The Government has also consulted on introducing benchmark land prices – set somewhere between 3- and 40-times agricultural price. Developers that paid more than the benchmark price would have to deliver on the golden rules. Only those that paid less than the benchmark could ask for a viability negotiation on the grounds that the obligations rendered the development not viable.

The aim of the golden rules is to try to balance speed of development approval by removing the need for viability negotiations if the rules are delivered on and achieving substantial public benefits through land value capture. It is unclear whether the Government also intend to direct development toward the highest value areas, but, as this paper discusses, this would certainly

3 Ministry of Housing, Communities and Local Government (2024), Policy statement on new towns.

4 Ministry of Housing, Communities and Local Government (2024), Proposed reforms to the National Planning Policy Framework and other changes to the planning system.

5 Lange, M (2024), 'Golden rules' for the green belt: what is the Government proposing and will it work? London: Centre for Cities.

be the outcome of the policy, unless the golden rules were more golden in some places than in others.

1.3. The scope of this paper

In the context of these proposed policies, and wider discussions about how the UK should pay for the affordable housing and infrastructure it needs, the key aim of this paper is to understand the geography of potential land value capture in the UK. If it varies in space, which it does, policies that rely on it, and those that try to guide it, must understand this.

This paper also considers other important parameters, including land purchase price, development density, social housing requirements, and the geography over which any uplifts are shared. Each determine how much land value capture could occur and what its impact could be as a result.

This paper focusses on the potential for land value capture on greenfield development only. The paper does not look at land value changes within existing urban areas, or on changes which occur because of specific infrastructure interventions. But the key intuitions and trade-offs explored are relevant in those situations.

The findings are especially relevant as the New Towns Taskforce develops its framework for deciding on the location of new towns. The findings are also relevant to how the Government thinks about incentivising local and mayoral authorities to pursue growth, and for planning authorities wanting to understand potential returns to pursuing growth through land assembly and greenfield development.

The paper does not focus on reviewing which of the variety of land value capture instruments would be best, though some details are provided and discussed in Box 1 and Box 3.

The paper proceeds as follows:

Section 2 briefly describes the land value capture model used in this report. More detail is available in Appendix I.

Section 3 describes the spatial analysis which identifies possible locations for urban extensions around 15 major cities. It discusses the impact of the green belt on these developments.

Section 4 describes the results in detail, discussing the scale and geography of land value capture, and the impact of changing different parameters: land price, social housing requirements, density, and redistribution.

Section 5 reflects on these findings in light of historical data on housebuilding in post-war new towns.

Section 6 concludes and offers policy recommendations.

Box 1: Instruments for capturing land value uplifts

Policies and strategies used to capture land value uplifts vary around the world, according to land market conditions, institutional capacities and legal frameworks. Land value capture is a different challenge in countries with a state leasehold system, such as Singapore and Hong Kong, than it is in countries with widespread private freeholds, such as in Japan or the UK.

A comprehensive review of the merits of various land value capture instruments and their history in the UK is outside the scope of this paper, but five common instruments can be characterised⁶ as follows:

Development charges and infrastructure levies. A charge based on a percentage of the cost or end value of developments, or on the uplift in land value. They are commonly applied to help pay for transport infrastructure improvements (including London’s Crossrail),⁷ levied on developments within the relevant catchment area. They can also be applied across entire planning authorities, or across whole countries.

If levied on costs or end values, they can be straight forward to administer but are often insufficient or inaccurate in their approximation of the value uplift. The **Community Infrastructure Levy** has been criticised on both counts. It is levied at a fixed rate per square meter on different types of developments, variable between areas within and across planning authorities. It is currently used by about half of local authorities in England.⁸

Charges can also be levied on a percentage, or all, of the land value uplift – the difference between start and end land values. But this presents other challenges. Obtaining accurate valuations of land before and after development can be administratively complicated, especially if open to challenge.⁹ If the percentage levied is too high and the landowner doesn’t see any benefit to selling or developing their land,¹⁰ levies can (in the absence of accompanying compulsory land assembly by a public body) serve to limit land coming forward for development.

Charges for development rights. These are cash or in-kind contributions, payable in exchange for rights to develop beyond what is usually permitted – for example, building a taller building. When land becomes more valuable due to permission to build more on it, a proportion of that uplift is captured by the charge. This is made possible by pre-defined land use regulations, usually through a zoning system.

6 Following: Cho, J. et al. (2022) *Land Value Capture Across the Globe*. Washington: Cityscape

7 Greater London Authority (2024) *Mayoral Community Infrastructure Levy*. London: Greater London Authority.

8 The now-abandoned Infrastructure Levy introduced by the last Government in 2023 was a levy on the total value of a development.

9 A charge equivalent to a proportion, potentially 17.5 to 20 per cent, of the land value uplift was also nearly re-introduced as the Planning Gain Supplement in the mid-2000s. It was criticised by some as being difficult to operate. It was ultimately abandoned in 2007, in favour of greater reliance on Section 106 agreements.

Communities and Local Government Committee (2006), *Planning Gain Supplement*. Fifth Report of Session 2005-06. London: House of Commons.

10 This was a criticism made of previous charges in the UK, especially the Betterment Levy, introduced at a rate of 100 per cent, in 1947. It was removed in 1954, before being introduced again at a lower rate 1967, and then removed again in 1970. A more limited Development Land Tax was introduced in 1976 and abolished again in 1985.

Developer obligations. Private developers are required to provide specific public benefits, often in kind, but sometimes in cash, as a condition of securing planning permission. This is the most common land value capture instrument in the UK – operated through **Section 106 agreements**.¹¹

Developer obligations allow planning authorities to request benefits specific to the scheme, as opposed to collecting money into a generic pot through a development charge. Where development is reliant on private developers and especially on large schemes, this site-specificity is seen as a key positive of the approach.

Developer obligations rely on ‘viability assessments’ so planning authorities can understand how much they can ask from developers without compromising the profitability of the scheme. In principle, this makes sense, but in practice they can be an imprecise science which introduce uncertainty and delays,¹² without necessarily effectively capturing land value uplifts.¹³

Land readjustment. Where landownership is fragmented, landowners pool land required for a larger-scale infrastructure, urban regeneration or urban extension project. They then receive a part of the original land (or part of a developed building), equivalent to the value of their land pre-development, while a portion is reserved for public use and/or sold to realise the value uplift. Landowners may be compelled to enter into the scheme, or a certain threshold of local landowners may be required to agree for the project to proceed. Readjustment mechanisms are common in Japan and Germany.¹⁴

Strategic land management. Involves more direct intervention by public authorities as they buy land anticipating future development, often in conjunction with spatial planning or zoning processes. Commonly, the public authority would subsequently re-zone and prepare plots for development, securing the value uplift by selling these plots at market rate to housebuilders.

In some countries, land purchase prices are assembled at close to existing use values. English compulsory purchase laws currently make this possible in some but not all situations.¹⁵ In other countries, this is not allowed, and land is bought at market prices, limiting overall value capture, but public ownership still ensures that the benefits of public investment accrue to the public purse. In some countries, such as Denmark,¹⁶ local authorities frequently buy land many years ahead of the anticipated urban development, such that land is bought at market value and the value uplift accrues to the public as the land is developed.

¹¹ The limitations of relying on Section 106 agreements to deliver affordable housing and other infrastructure are discussed later in this paper, and the second paper in this series.

Lange, M (2024) *Restarting Housebuilding I: social housing and the public sector*. London: Centre for Cities

¹² Cheshire, P (2018) *Broken market or broken policy? The unintended consequences of restrictive planning*. Cambridge: National Institute Economic Review

¹³ Eve, P & Kehoe, D (2024) *The challenges of unlocking Section 106 delivery*. London: Savills

¹⁴ Cho, J. et al. (2022) *Land Value Capture Across the Globe*. Washington: Cityscape.

¹⁵ Following the 2023 Levelling Up and Regeneration Bill, the Secretary of State can now issue a direction that for housing, health and education related developments, public bodies should only have to pay compensation equivalent to existing value. The Government has indicated it wants to introduce further clarity on when and how such directions will be used.

House of Commons (2024) *Compensation for the compulsory purchase of land*. London: House of Commons.

¹⁶ Falk, N. *Applying land value capture tools: lessons from Copenhagen and Freiburg*. Urban Maestro.

These different instruments are more or less applicable, depending on the development type, and the country's land market rules and planning system.

The latter two instruments are only possible when urban development is guided by public authorities, for example through large-scale masterplanning activities and direct involvement in the land market. This can help join up development with other objectives such as developing public transport systems. Where development proposals are mostly initiated by private developers, charges and obligations negotiations are the usual mechanisms for land value capture.

02

How to model potential land value capture

2.1. Costs and revenue streams – the basic model

To understand how potential land value capture varies across the UK, Centre for Cities has built a model which incorporates the basic costs and revenue streams for a large housing development. **Subnational data is used where available such that costs and revenues are different in different places.**

To make this modelling relevant to current debates on new towns and the green belt, land suitable for development is identified around 15 British cities (see Section 3). The model is applied to this land to give realistic estimates of the potential land value capture around each city.

The logic of the model is simple. As shown in Figure 1, it calculates the difference between the total costs of a proposed project, given a fixed land cost, and the total value of houses built if all are sold at market value.

If the difference is positive – there is a surplus – there is potential land value capture. If it costs more to build the project than the houses could be sold for, there is a deficit. The public sector would need to bridge the viability gap with direct investment, and there is no potential land value capture.

Figure 1: The components of the basic model. If costs are less than potential sale value, then there is potential for land value capture.



Development densities: different scenarios for 25, 35, 55, and 75 housing units per hectare are modelled. **Different densities require different types of houses** – detached, semi-detached, terraces, and apartments. The denser the development, the more terraces and apartments are required.

Costs

Land costs: the model assumes that land is bought at a fixed land price, reflecting what would happen if either the land was assembled by a public body with compulsory purchase powers, or obligations placed on private developers worked effectively to suppress the land value. Scenarios are run in which the **land is purchased at 5, 20, and 40 times its agricultural value to reflect the range of 'benchmark' values proposed in the September 2024 NPPF consultation.**

Infrastructure costs: the model includes a set cost per hectare for major infrastructure costs. This reflects the cost of sewerage, electricity, water, and primary and secondary roads.

Housing construction costs: the model incorporates data on how much different types of houses costs to build per square metre. Apartments cost the most, followed by detached, then semi-detached and finally terraced houses. A 15 per cent uplift is applied to represent the cost of external works and tertiary roads.

Project development costs: the model incorporates basic costings for services, applied at a set percentage on top of base build costs: Marketing (3 per cent); Professional (planning, legal, architectural) services (8 per cent).

Regional cost variations: labour costs vary across the country. The model therefore adjusts for this by multiplying all labour related costs by a regional adjustment factor.

Developer profits: the model assumes that developer profits required are 12 per cent on base and project development costs. This is less than included in some other viability modelling, but greater than typically realised by housebuilders that operate in countries with greater public sector intervention in the land market.

Contingency: The model assumes that the development needs to set aside 5 per cent on base build costs and project development costs.

Finance costs: the model assumes that financing costs are equivalent to 7 per cent of the total of the above costs.

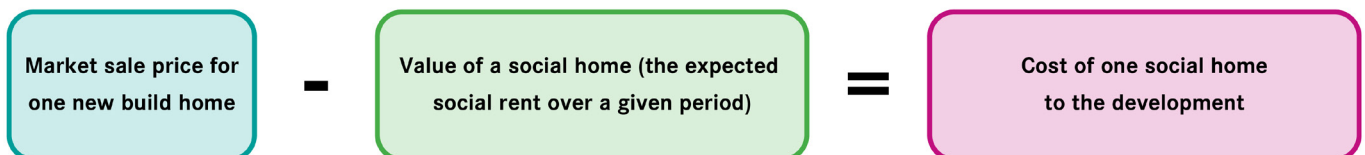
Revenues

House sale prices: New build sale values per house vary between local authorities and between house types – so the overall development values vary across the country and depending on the density scenario.

Social housing: one possible use of the surplus would be to cross-subsidise the construction of social housing in the same location, just as happens in many Section 106 agreements currently. The model assumes to build a social house you switch it for a market value house – the total number of houses remains the same. **The cost of building a social house is the difference between the value of a market rate property and the rents received if it were a social house,** as shown in Figure 2.

Where the difference between the social and market values are greater, the cost of building a social house is therefore also larger.

Figure 2: The cost of cross-subsidising social housing



2.2. Example costs and revenues in London, Oxfordshire, and Manchester

Table 1 provides more information on how costs and values are estimated and shows how they vary between three locations: One high value location on the outskirts of London; a middle value location near Oxford; and a lower value location near Manchester.

These examples show how much the total value of projects differ across the country, and the impact this has on the surplus or deficit generated in each case.

Table 1: Example costs and values in three locations across the UK

	Unit	Knockholt - London	Islip - Oxford	Handforth - Manchester
Costs				
Land (5x agricultural price)	£ / hectare	£150,000	£138,000	£138,000
Site infrastructure (utilities + primary and secondary roads)	£ / hectare	£842,108	£797,787	£731,305
House building				
Flat 6 storeys plus	£ / m ²	£1,981	£1,879	£1,721
Flat 3-5 storeys	£ / m ²	£1,954	£1,853	£1,697
Terraced	£ / m ²	£1,747	£1,656	£1,517
Semi-detached	£ / m ²	£1,779	£1,687	£1,545
Detached	£ / m ²	£1,832	£1,737	£1,591
Base build total (model hectare with 21 flats, 26 terraced, 8 semi-detached)	£ / unit	£170,999	£161,999	£148,499
Externals (basic public realm + tertiary roads)	£ / unit	£25,650	£24,300	£22,275
Professional services (masterplanning; architects; lawyers)	£ / 55 unit hectare	£865,253	£819,714	£751,404
Marketing	£ / 55 unit hectare	£297,431	£281,777	£258,295
Contingency	£ / 55 unit hectare	£598,917	£567,395	£520,112
Developer profits	£ / 55 unit hectare	£1,437,402	£1,361,749	£1,248,270
Finance	£ / 55 unit hectare	£1,039,974	£1,125,987	£1,032,155
Total cost	£ / 55 unit hectare*	£16,046,750	£15,338,828	£14,072,092
Revenue				
Market rate housing				
Flat	£ / unit	£423,055	£249,342	£269,263
Terraced	£ / unit	£627,410	£328,651	£218,925
Semi-detached	£ / unit	£601,454	£316,213	£213,190
Detached	£ / unit	£874,619	£409,904	£320,498
Total value of housing if all market rate (model hectare with 21 flats, 26 terraced, 8 semi-detached)	£ / 55unit hectare	£30,008,447	£16,310,800	£13,052,073
Social housing	£ / week	£115.82	£111.41	£92.75
Total value of housing if all social rented (55 units)	£ / 55 unit hectare	£9,367,509	£9,010,829	£7,501,610

Surplus or deficit				
Assuming 100% market rate housing	£ / 55 unit hectare	£13,961,697	£971,972	-£1,020,018
Assuming 30% social housing	£ / 55 unit hectare	£7,769,416	-£1,218,019	-£2,685,157
% of development that could be social housing, supported through cross-subsidy via sale of market-rate housing		66%	12%	0%

Note: *These costs are a slight simplification of how the model actually calculates costs. In the model, land costs are applied to the whole development area, site infrastructure to 80 per cent of it, and building occurs over 67 per cent of the land identified. This increases costs relative to revenues compared to what is shown here.

Limitations of the model:

First, it is static, meaning it doesn't provide insights into how costs and revenues might change as a result of building the proposed developments.

Second, the model doesn't account for local idiosyncrasies in costs and revenue streams – the figures should be taken as a first step toward understanding the viability of development in the given locations.

A more detailed discussion of the limitations is provided in Appendix II.

A more detailed description of how the model works and data sources is in Appendix I.

03

Identifying sites for urban extensions

3.1. How to identify land for urban extensions or new towns

The model assumes that development is occurring on greenfield land – likely as an urban extension or a new town development. This section explains how suitable land is identified.

1. Land should be within commutable distance of a major urban area

Cities are at the centre of the UK’s economy – they are the largest labour pools and are home to the most innovative and productive firms.¹⁷ While the extent to which housing and transport are bottlenecks to growth varies between places (the former to a greater degree in the South, the latter most significantly in larger cities outside London), they are certainly the places where urban expansion is most easily justified – as a means to grow local labour markets and reap the benefits of agglomeration economies.¹⁸

The spatial model selects 15 of the UK’s largest and least affordable cities: London, Edinburgh, Cardiff, Birmingham, Manchester, Leeds, Sheffield, Newcastle, Nottingham, Bristol, Brighton, Bournemouth, Exeter, Oxford and Cambridge.¹⁹

The model works on the assumption that new settlements need to have good access to jobs and should therefore be within commutable distance by public transport. Train stations within a 30-minute travel time (45-minutes for London) from an ‘entry station’ in the centre of the city are identified.²⁰ Land within a 2-kilometre radius (roughly a 15-minute cycle) of the train station is considered commutable.

This approach takes a static view of the UK’s public transport system. There may be other locations which could be made commutable if train or metro networks were expanded. It also doesn’t account for what train line upgrades may be required in each place to cope with increased demand created by additional housing.

17 Evans, J (2023) Innovation hotspots: Clustering the New Economy. London: Centre for Cities

18 Swinney, P & Enekel, K (2020) Why big cities are crucial to ‘levelling up’. London: Centre for Cities

19 Glasgow should have been included but was omitted as an oversight.

20 Source: ONS UK Travel Area Isochrones (2022)

The New Towns Commission and Mayoral authorities should conduct further work to refine the process of selecting suitable land on the basis of existing and future transport capacity.

2. Land should not have an existing planning designation that would make development unsuitable

Land with an existing marker of public benefit is excluded:

- Areas of Outstanding Natural Beauty
- National Parks
- Natural importance designations (local and national nature reserves; SSSIs; ancient woodland; tree preservation areas)
- Green spaces (including cemeteries, public parks and playing fields, but excluding golf-courses)
- Heritage areas (world heritage sites and buffer zones; battlefields; conservation areas; historic parks and gardens; heritage at risk)
- Other planning designations (certificates of immunity; special protection areas; special conservation areas).²¹

Green belt land is considered developable. It is an urban containment designation, and its public benefit has long been questioned.²² The impact of considering green belt as non-developable is discussed later.

3. Land should not be in a flood risk area or of an inappropriate land type

Suitable land cover types²³ are farmland, improved grassland and woodland (excluding ancient woodland). Unimproved and neutral grassland, unsuitable rock types, bogs, marshes, swamps are all excluded.

Flood Risk Level 3 areas²⁴ (those with greater than 1 per cent annual probability of flooding) are also excluded. Currently all types of development on this land require flood assessments as part of the planning process.²⁵

4. Land should not already be developed

Land identified as being in an existing built-up area by the Ordnance Survey²⁶ or as built-up land cover type is excluded.

21 Source: Planning Data, Ministry of Housing, Communities and Local Government.

22 Hall, P (1974) The Containment of Urban England. London. The Geographical Journal

23 Source: Morton, R. D., Marston, C. G., O'Neil, A. W., & Rowland, C. S. (2024). Land Cover Map 2023 (25m rasterised land parcels, GB) [Data set].

NERC EDS Environmental Information Data Centre. <https://doi.org/10.5285/ab10ea4a-1788-4d25-a6df-f1aff829dfff>

24 Source: Environment Agency.

25 Source: Ministry of Housing, Communities and Local Government.

26 Source: Ordnance Survey.

3.2. Results of the spatial analysis

Figure 3 shows the results of this analysis on a map of the UK. The identified land represents 135,000 hectares – a lot of land, but also just 0.5 per cent of the UK’s land area.

Figure 3: Developable land around 15 major primary urban areas

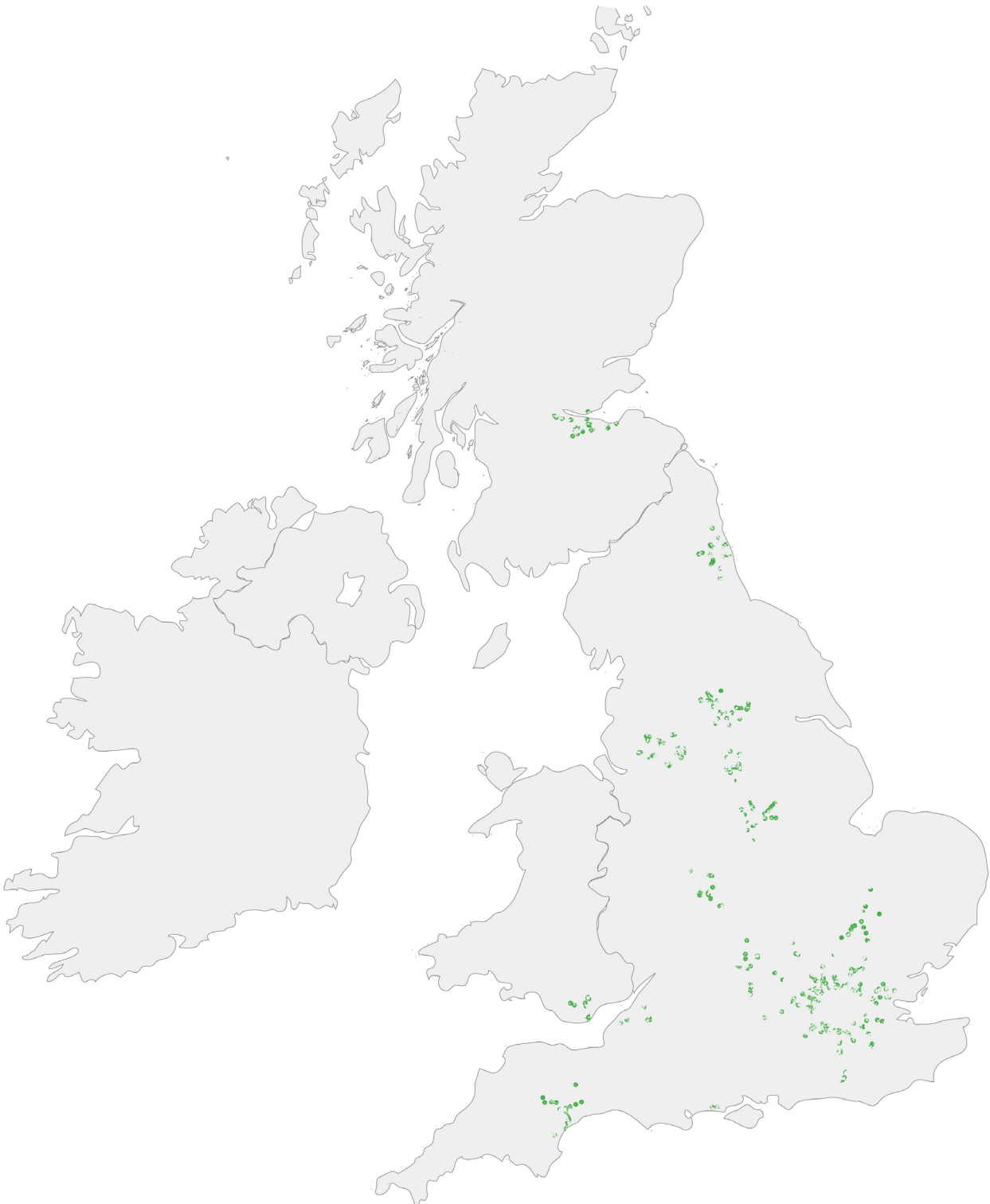


Table 2 breaks this area down into the land identified around each city. The model assumes that one third of the land would be used for major transport infrastructure, open spaces, schools, GPs, commercial or industrial uses, while the remaining two thirds is used for residential development.

Table 2 also shows how many homes could be built around each city, building at the medium-density scenario of 55 units per hectare. If all sites were built out, there is enough space for 5 million homes – enough to clear the UK’s backlog of 4.3 million homes²⁷ with room to spare.

Table 2: Land for 5 million homes is identified within commutable distance of 15 primary urban areas

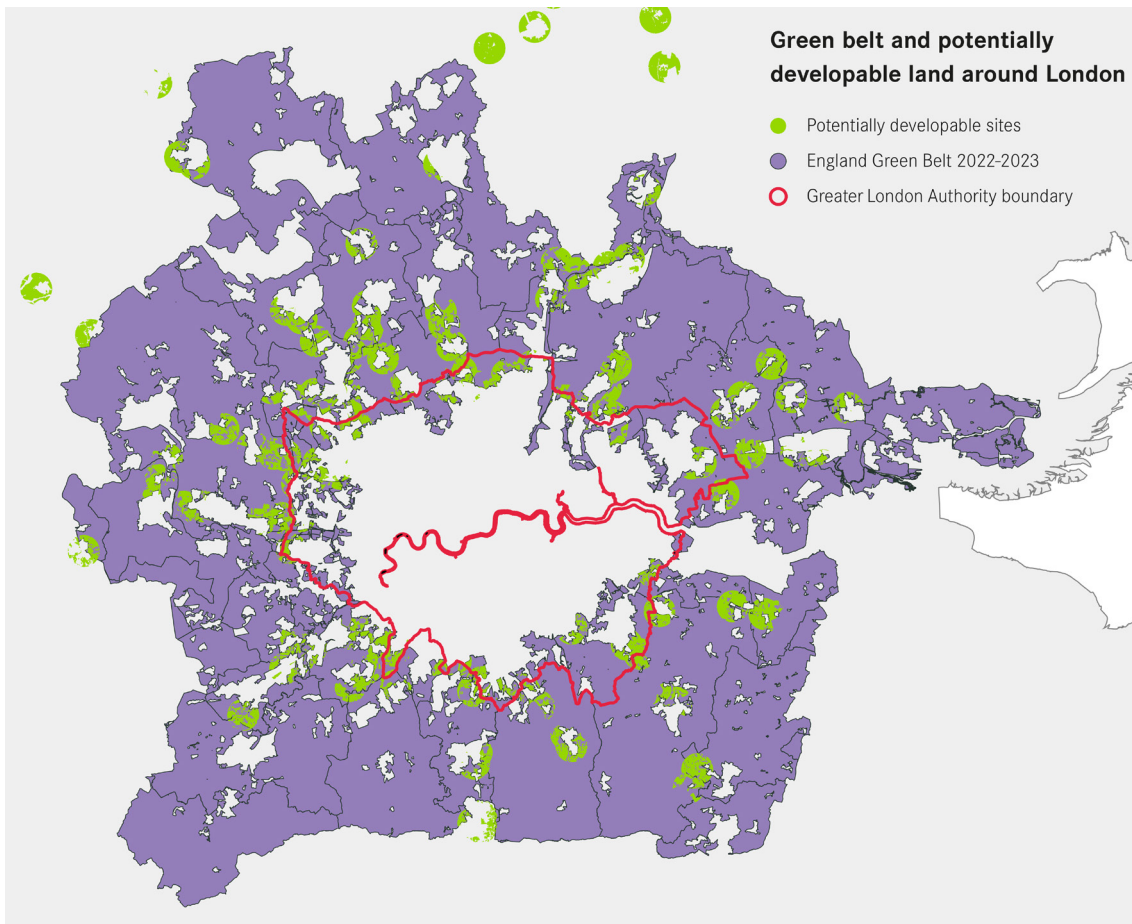
City	Total area (hectares)	Woodland	Farmland	Grassland	Buildable area (hectares)	Number of homes
Birmingham	6,525	7%	35%	58%	4,350	239,253
Bournemouth	742	22%	31%	47%	495	27,213
Brighton	1,151	10%	14%	76%	768	42,213
Bristol	2,024	6%	21%	73%	1,350	74,228
Cambridge	11,273	3%	73%	24%	7,515	413,343
Cardiff	4,823	34%	4%	57%	3,215	176,831
Edinburgh	10,754	16%	42%	41%	7,169	394,317
Exeter	10,679	5%	34%	60%	7,120	391,581
Leeds	12,096	9%	33%	58%	8,064	443,534
London	38,673	10%	29%	60%	25,782	1,417,993
Manchester	8,418	14%	24%	62%	5,612	308,656
Newcastle	7,952	11%	42%	47%	5,302	291,585
Nottingham	9,541	7%	55%	36%	6,360	349,827
Oxford	6,789	4%	55%	41%	4,526	248,940
Sheffield	4,028	16%	26%	58%	2,685	147,695
Total	135,469	10%	53%	37%	90,313	4,967,210

Note: Assumes 55 units per hectare and two thirds of land identified is built on

3.3. Green belt stops sensible development; sensible development doesn’t stop green belt

Figure 4 shows that nearly all the identified land around London sits within the green belt. Building at 55 units per hectare, there is space for 1.4 million homes, but current green belt policies make this impossible, even though doing so would leave 93 per cent of the current green belt untouched.

27 Breach, A & Watling, S (2023) The UK’s housebuilding crisis. London: Centre for Cities

Figure 4: 93 per cent of London's green belt could remain untouched

And Figure 5 shows that this is a finding replicated across the country: the **green belt is a major impediment to development in the proposed locations, but the proposed developments are not a major threat to the green belt.**

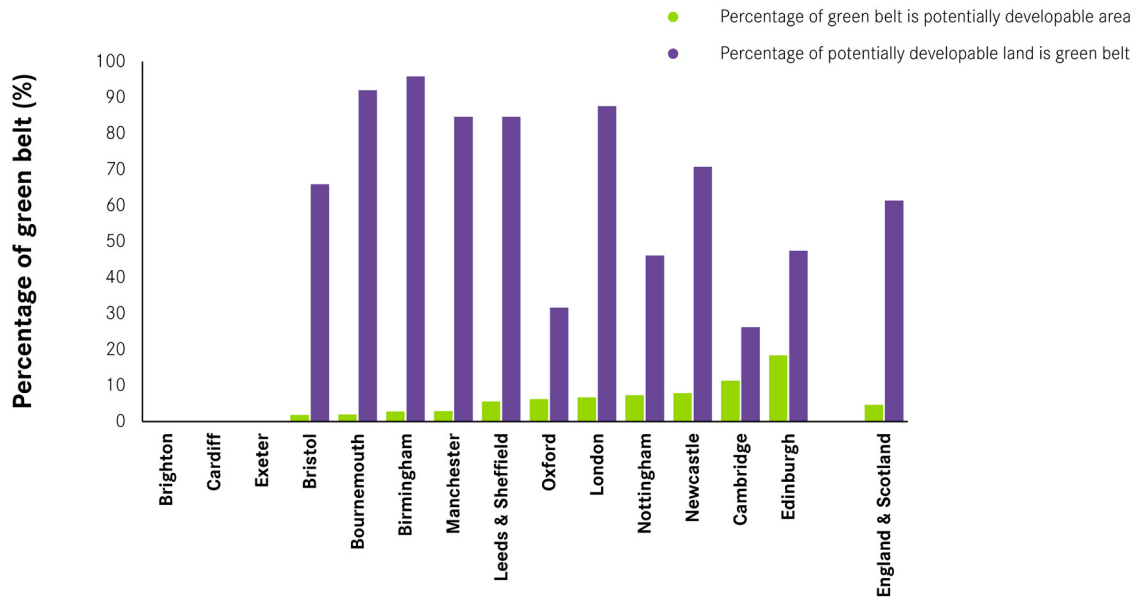
Of all the land identified around cities with green belt, 70 per cent is currently development restricted by the policy. Around Birmingham, it is 96 per cent. The green belt is doing what it is supposed to and acting as a major impediment to urban expansion in these locations.

The land identified represents less than 5 per cent of the total area of English and Scottish green belts. This percentage is slightly higher in some locations, but never requires building on more than one fifth of the green belt area.

This is an important finding. **Of the 5 million homes that could be built on the identified land, 3 million of them are currently made impossible by green belt restrictions.** The area of land designated as undevelopable by green belt policies is enormous – over 1.8 million hectares across England and Scotland. Keeping most of it and building millions of new homes are not irreconcilable policy goals.

Figure 5: Green belt stops development, development doesn't stop green belt²⁸

Percentage of green belt around each city that is also identified as potentially developable land; percentage of potentially developable land identified that is also in the green belt



Source: Ministry of Housing, Communities and Local Government.

²⁸ Wales has a green wedge policy, rather than a green belt policy. These wedges are smaller and more fragmented than typical English or Scottish green belts. Green wedges are not included in the analysis as up to date shapefiles are not available to download. A small but significant proportion of the identified land is in green wedge designated land. See: <https://www.gov.wales/sites/default/files/publications/2019-08/maps-02-green-wedges-and-environmental-designations.pdf>

04

Results of land value capture modelling

But what is possible on the identified land? This section presents the results and discusses the impact of changing parameters in the model - land price, social housing requirements, density, and the geography over which any surplus is distributed. Each of these parameters represents a choice available to public authorities and the results in this model help think through the trade-offs involved.

Unless stated otherwise, the reported figures assume building at 55 units per hectare and land assembly at 5 times agricultural price. The impact of changing these parameters are discussed in Sections 4.2 and 4.3

4.1. The size and geography of land value capture

The potential for land value capture is considerable. If all surplus-generating sites were built out, they would generate a total surplus of £193 billion.²⁹ Assuming that it would take 30 years³⁰ to build out, the total potential land value capture would be **£6.4 billion per year.**

If captured effectively, this could be used to fund social housing, transport upgrades, and other public benefits, or cross-subsidise building new towns which are not self-sustaining. Or any combination of these things. For example, if half the total surplus were dedicated to cross-subsidising social housing, it is enough to deliver 18,500 per year (discussed in detail below). If the other half were used to fund tram lines, 50 miles could be added to the network, every year.³¹

Behind this headline, **there is significant variation in the potential surplus generated between different sites.** Figure 6 shows the identified land grouped into 159 potential areas, each with between 207 and 2,437 hectares. They are coloured according to the surplus or deficit generated if they were developed as stand-alone projects.

²⁹ Figures reported are discounted for Social Time Preference as per Treasury Green Book 2022 guidelines.

³⁰ UK Government, Local Housing Statistics annual reports, 1946-2001 record the average post-war new town development corporation building houses for 26 years.

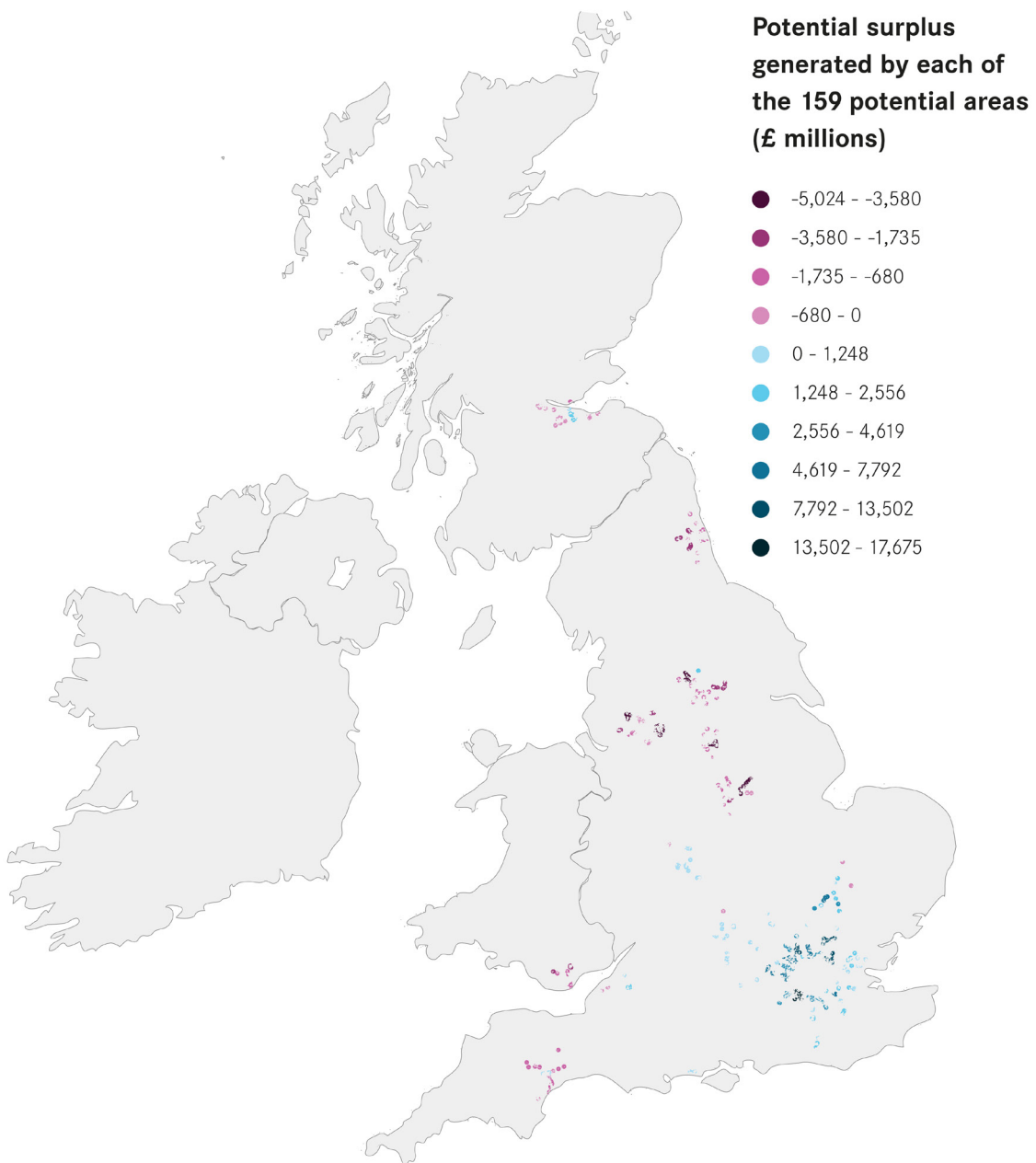
³¹ Based on per mile cost estimates for the Phase 2 Nottingham Tram. This is the cheapest recent tram system built in Britain but is much more expensive than European equivalents.

Dumitriu, S & Hopkinson, B (2023) Britain's infrastructure is too expensive. Railways, Trams, and Roads all cost more to build in Britain.

In the Greater South East, there are huge potential surpluses. In the North, almost all projects would produce deficits.

The size of the surpluses also varies between places around the same city. Surrey and Hertfordshire are expected to generate larger surpluses than those to the east of London. Locations nearest to Edinburgh could generate a surplus, while those across the Firth of Forth would certainly be deficit generating.

Figure 6: Most of the potential land value capture is generated in the Greater South East



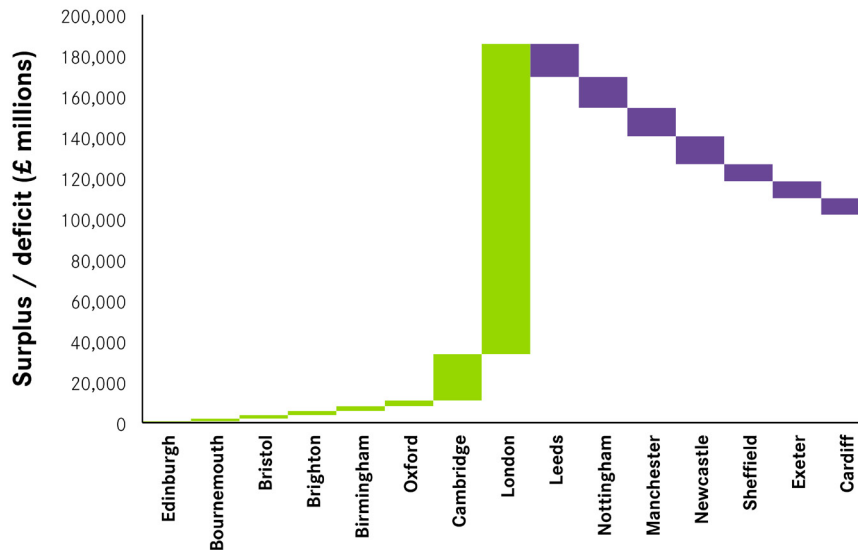
Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes building at 55units/hectare, land assembly at 5x agricultural price, all identified land being built out by location specific development corporation (N=159).

The key reason for these geographic differences is the amount you can sell a house for in each place. **Costs vary far less than market sale value does.** Where strong local economies generate higher prices, there is far greater potential for land value capture at the point of changing land use designation.

This means that the area around London is the main source of potential revenue from land value capture, as Figure 7 shows. London generates 82 per cent of the value uplift on only 29 per cent of land identified. The other cities the model identifies as surplus-generating are Bournemouth and Brighton (where all potential sites are surplus-generating), Cambridge, Oxford, and Bristol (where most potential sites are surplus-generating), and Edinburgh and Birmingham (where there are fewer surplus-generating sites than deficit-sites, but the total surplus exceeds the total deficit).

Figure 7: Building around London is the main source of value

Potential land value capture by city



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes building at 55units/hectare, land assembly at 5x agricultural price, all identified land being built out by City-wide development corporation.

In all, just over half of the identified sites generate a surplus if developed at 55 units per hectare. In Cardiff, Exeter, Sheffield, Newcastle, Nottingham, Manchester, and Leeds, building out all identified land would generate a net deficit, according to the model.

The total deficit across these places is £84bn. This is clearly less than the surplus generated, so it would be possible to cross-subsidise their development with proceeds from developments in higher value locations. This would enable the building of all 5 million homes, rather than ‘only’ 2.5 million, but would involve trade-offs discussed further in Section 4.5.

Box 2: Building urban extensions in some places requires subsidy

One reason that the above model returns deficits is that the costs included in the model are relatively conservative.

However, there are some places where greenfield development of any kind just isn't viable without public subsidy. Even in a 'relaxed' version of the model, costs exceed market value revenues in 24 out of the 159 potential locations. The relaxed version of the model has land assembled at agricultural price, uses lower cost estimates³² and builds at a lower density of only 25 units per hectare, including only semi-detached and detached houses.

Even if there were no developer obligations and complete certainty regarding the planning process, private housebuilding would be unlikely to happen in these places. If the Government wants to ensure that more houses are built all across the UK, it must do more than just permit houses. This could mean building social housing in these locations. It could also mean subsidising private housebuilding, as was done in the 1920s and 1930s³³ (and elsewhere in Europe during the post-war period).³⁴

The stark geography of potential land value capture is the key finding in this paper, but there are a range of other choices facing the Government when it comes to capturing land values on urban extensions. The following sections explore the trade-offs involved in these choices.

4.2. Choice 1 – The land price

The above findings assume that the price paid for the land is five times the local agricultural price. This is more than a public authority could potentially pay – if they were to use compulsory purchase orders they could buy land for existing use value plus additional compensation, on the basis that the project is in the public interest.

Doing so would likely be traded-off against the speed of assembling the land. To incentivise the landowner to sell, the developing authority might be willing to pay a premium above the compulsory purchase price, holding back compulsory purchase as a last resort.

Given that landowners, on average, are probably more likely to sell if the prices are higher, it is therefore worth looking at the impact of paying different prices. Would paying more to the landowner jeopardise land value capture?

The following explores the impact of the range of land assembly prices mooted in the Government's September 2024 NPPF consultation – 5 to 40 times. It is worth noting that, in the highest-value locations, land for residential development would often transact for more than 40 times agricultural price, with the landowner capturing the windfall.

³² Based on costs in BNP Paribas' viability testing in the Test Valley report, regionally adjusted.

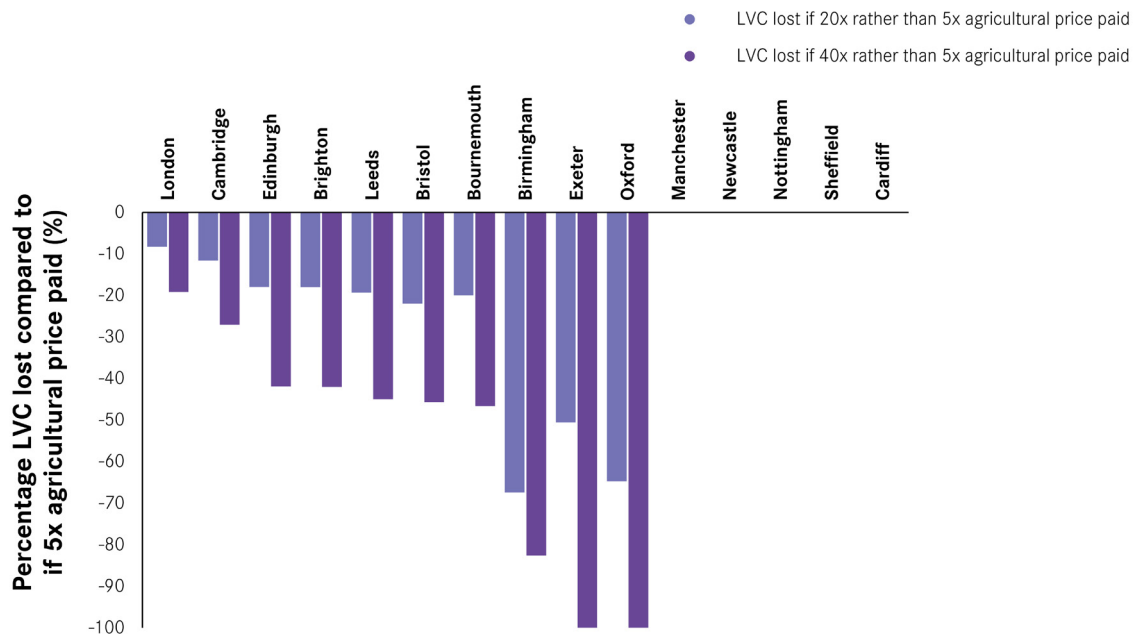
³³ Holmans, A. (2005) "Historical Statistics of Housing in the UK"; Cambridge University Housing and Planning statistics.

³⁴ Balchin, P. (1996), 'Housing Policy in Europe', Routledge, p9. See pp 25-35 for an overall summary of private rental subsidies in Western European countries in the post-war period – most were weakened or dismantled in the 1980s and 1990s.

Figure 8 shows, unsurprisingly, that land assembly prices matter most where the potential for land value capture is already lower. In Oxford and Exeter, paying 40 times agricultural price pushes all potential sites from being surplus producing to deficit producing.

Figure 8: Land prices matter most in marginal areas

Percentage potential land value capture lost if land is assembled at higher prices



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes 55 units per hectare, building out viable areas only with location specific development corporation.

Meanwhile, in higher value locations, paying more for the land matters relatively less. In Cambridge, paying eight times more for the land only reduces potential land value capture by a quarter. In London, it's by less than one fifth.

But paying more for land still substantially erodes the windfall captured by the public purse. Paying 40 times rather than 5 times agricultural value, London would capture £29 billion less, or cross-subsidise 166,000 fewer social houses.

As shown in Figure 9, if all areas - high and low value - were all built out, and land was purchased at the same multiple of agricultural price everywhere, the ability for high value areas to pay for low value areas is almost completely eroded if higher land prices were paid. This would leave no additional windfall to help pay for anything else.

Figure 9: High value areas can't subsidise low value ones if higher land prices are paid everywhere

Net of surplus and deficits generated by development of all identified land



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes 55 units per hectare.

Box 3: Capturing land values through public-led land assembly

The most straightforward way to maximise the potential land value capture is for a public authority to assemble the land directly. This is typically how development corporations building new towns and local authorities building public housing have operated. It is also how urban expansion is managed in many European countries.

Case study: Montpellier, France

Montpellier has been one of France's fastest growing cities for multiple decades.³⁵ It has achieved housebuilding rates well over 2 per cent per year while managing a rapid reduction in car use with a growing and thriving tram network.³⁶

Key to the functioning of this system has been Mayoral-led spatial planning, developed through the 1990s and finalised in 2001. This involves a cross-commune 15-year spatial development plan covering housing and transport infrastructure, stipulating expected densities and growth areas.³⁷

At the centre of the development process has been a multi-decade programme of public land assembly and a development company co-owned by the municipality and the state investment bank, called SERM. SERM plays multiple roles but is mostly focussed on

³⁵ Insee (2019) Tableaux de l'économie française

³⁶ Falk, N. (2016) *Postcard from Montpellier*. London: Academy of Urbanism.

³⁷ Tosics, I (2013) 'Sustainable Land Use in Peri-Urban Areas: Government, Planning and Financial Instruments.' in Nilsson, K. et al., (2013) *Peri-urban futures: Scenarios and models for land use change in Europe* London: Springer.

coordinating and promoting development in a series of priority development areas or ZACs (Zones d'Aménagement Concerté) located inside and on the outskirts of the city. Where land isn't already owned, the municipality has the power to acquire it within these zones,³⁸ and it has built up a further twenty years of land reserves in addition to existing ZACs.³⁹

A key advantage of public-led land assembly is that SERM has been able to generate competition between housebuilders for pre-determined delivery contracts. Housebuilders compete for secure, low-risk opportunities, and they do so by building high-quality, architecturally interesting buildings for a relatively low return. The uplift in land values also helps support high proportions of public housebuilding. While across France, there is a requirement to build 20 per cent social housing, these zones achieve even more – one third market sale, one third sold at a discount with repayment requirements when sold, and one third social rented.⁴⁰

Financing the upfront costs

Projects in the right locations might be self-financing or even revenue generating in the medium term, but they do require up-front financing to pay for land and infrastructure. Transport, electricity, water, sewerage and public amenities such as schools and GPs are all needed before houses can be sold. And these costs are substantial – the cost of land and standard infrastructure costs (assuming no extraordinary transport costs) around London would be £83 billion.

In the past, new towns and large urban extensions by local authorities were typically funded by loans from the Public Works Loan Board. Today, local authorities continue to borrow from the PWLB (or the not dissimilarly functioning Municipal Bonds Agency), but their fixed basic rates have been criticised as not sufficiently tailored to the credit risk related to specific projects.⁴¹

Another option available to development corporations or public authorities would be borrowing on capital markets. The least risky projects (those in higher value locations) could secure lower rates than available through the PWLB. This is the approach taken regularly for funding infrastructure and urban development projects in Europe, including currently for the Grand Paris Express, a massive metro expansion and housing development project around the French capital. If a project can secure over 50 per cent of its financing from the private sector, it can also be considered off balance sheet for net public debt financing purposes.⁴²

Given the scale of the costs and diversity of types of project necessary to build out the identified land, it is likely that a mix of funding sources, public and private, will be required.

38 Falk, N. (2016) [Postcard from Montpellier](#). London: Academy of Urbanism.

39 Midi Libre (2019) L'aménagement urbain à Montpellier : le défi des zac

40 Falk, N. (2016) [Postcard from Montpellier](#). London: Academy of Urbanism.

41 Aubrey, T (2024) Avoiding the pitfalls of private finance initiatives and departmental budgets to fund the next wave of sustainably new towns and urban extensions. Cambridge: Bennet Institute for Public Policy.

42 Office for National Statistics (2023) [Monthly statistics on the public sector finances: a methodological guide](#).

4.3. Choice 2 - Cross-subsidising social housing

The Government has said that it wants to see a generational increase⁴³ in social housebuilding.⁴⁴ While it hasn't yet set out what it thinks this means in numbers, housing charities like Crisis have called for 90,000 social homes to be built every year.⁴⁵ Returning to building rates seen in the last period of high public housebuilding would mean building over 200,000 social homes every year.⁴⁶

Currently, about half of all 'affordable' housing is delivered through land value capture – a requirement of Section 106 agreements made with private developers as a condition of receiving planning permission. As discussed in the second paper in this series, the numbers are currently small (in 2022, subsidy was equivalent to roughly 12,000 social homes),⁴⁷ and they aren't being delivered where they are needed most.

But could more effective land value capture on the proposed urban extensions increase the numbers delivered? And should surpluses be channelled toward delivering social housing?

If development corporations built out only in viable locations, structured to maximise social housing,⁴⁸ and all surpluses were directed toward social housebuilding, over 1.1 million social homes could be delivered. An additional 36,700 social homes per year wouldn't get near to historic building rates, but it would represent a marked improvement on the status quo.

But the first complication with relying on land value capture for social housing delivery is the resulting geography. As Figure 10 shows, **around London, the surpluses are great enough that over half of the homes built could be for social rent.** 71 per cent of the social homes that could be delivered through cross subsidy are around London. Reasonably high percentages of social housing could also be achieved in other cities, but the geography of the absolute numbers delivered is stark.⁴⁹

On sites around Cardiff, Manchester, Newcastle, Nottingham or Sheffield, the model finds that no social houses could be built through cross-subsidy. While it might be sensible to weight social housebuilding toward the least affordable locations,⁵⁰ building none in lower value locations would be sub-optimal both politically and in terms of delivering where social housing is needed (there are long council waiting lists in Coventry, Huddersfield and outer Manchester for example).⁵¹

43 The Municipal Journal (2024) Rayner promises 'biggest increase in affordable housebuilding in a generation'.

44 In this section, the model assumes the only type of affordable housing is true social rented housing. The subsidies are therefore significantly greater than if building affordable rented, shared ownership, or other forms of intermediate subsidy housing.

45 Bramley, G (2018) Housing supply requirements across Great Britain: for low-income households and homeless people. Edinburgh: Heriot-Watt University

46 See Lange, M (2024) Restarting Housebuilding II: social housing and the public sector. London: Centre for Cities

47 See Box 3 in the second paper in this series for a full discussion of the contemporary forms of 'affordable' housing and the effective subsidy they represent. The second paper in this series discusses this in the context of a history of data on public housebuilding from the last 100 years and outlines the steps that need to be taken to achieve a generational increase in building. Additional to making the most of urban extensions, as outlined in this paper, these steps include a substantial increase in direct capital expenditure on social housebuilding, reforming Right to Buy, securing the Housing Revenue Account, and greater involvement by all Metro Mayors in building and managing demand.

48 Some managed at City-wide level, some site-specific. Site-specific when the existence of deficit generating locations elsewhere in the city reduces the potential social housing cross-subsidy as the surplus is used to make the deficit generating location viable in the City-wide model.

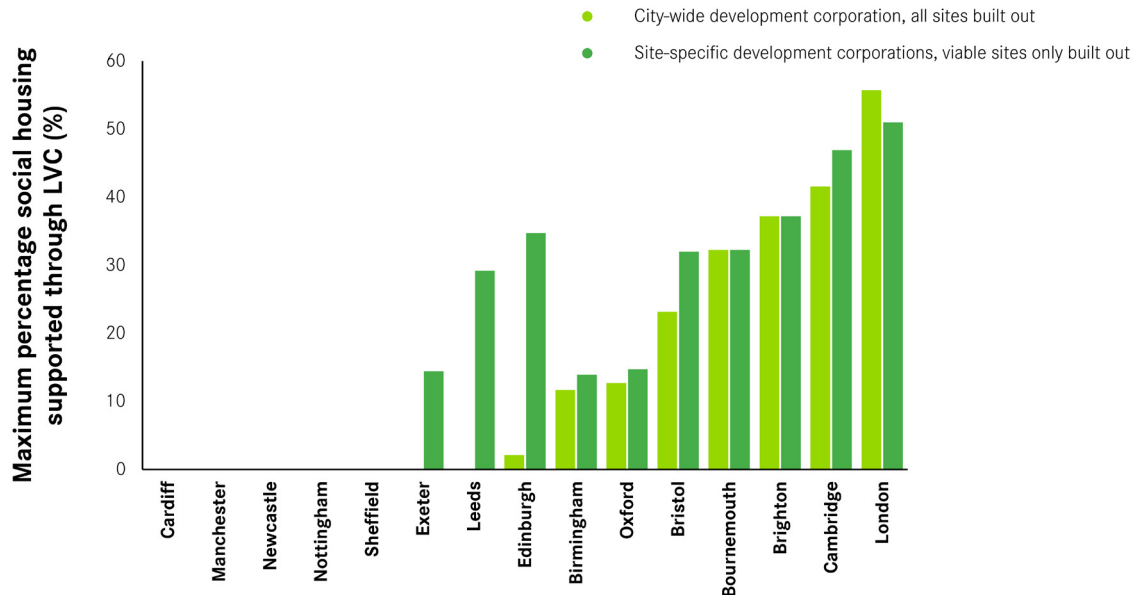
49 Leeds is likely an overestimate – the model assumes that, on one site, it is possible to sell housing replicating prices of Harrogate local authority (one of the wealthiest towns in Yorkshire).

50 The rationale for prioritising social housebuilding in particular locations is discussed further in Section 4 of Lange, M (2024) Restarting Housebuilding II: social housing and the public sector. London: Centre for Cities.

51 See Figure 21 in Lange, M (2024) Restarting Housebuilding II: social housing and the public sector. London: Centre for Cities.

Figure 10: Viable locations can support a range of social housing percentages through cross-subsidy

Maximum percentage social housing that could be supported through land value capture, by city and by site-specific development corporations



Source: Centre for Cities modelling. See Appendix for all data sources. • Note: Assumes building at 55units/hectare, land assembly at 5x agricultural price, all identified land being built out by City-wide development corporation.

The second issue is that dedicating all the surpluses to social housing would leave nothing for other things such as improving transport infrastructure, building schools and healthcare facilities, public parks and other amenities. These are both needed and more likely to make urban extensions more politically acceptable. What exactly is needed will vary site to site, so it is difficult to say what a more reasonable expectation for social housing delivery would be. If half the surpluses were used to cross-subsidise social housebuilding, 554,000 social houses could be built, equivalent to **18,500 social houses per year**. This is a significant number, but not one that represents a ‘generational’ increase.

This is not to say that the Government shouldn’t maximise the potential of this balance sheet-friendly way of financial social housebuilding – it should – but it will have to rely on increasing direct grant subsidy if it is to achieve the goals it has set itself and ensure needs are met across the country.

4.4. Choice 3 – Development density

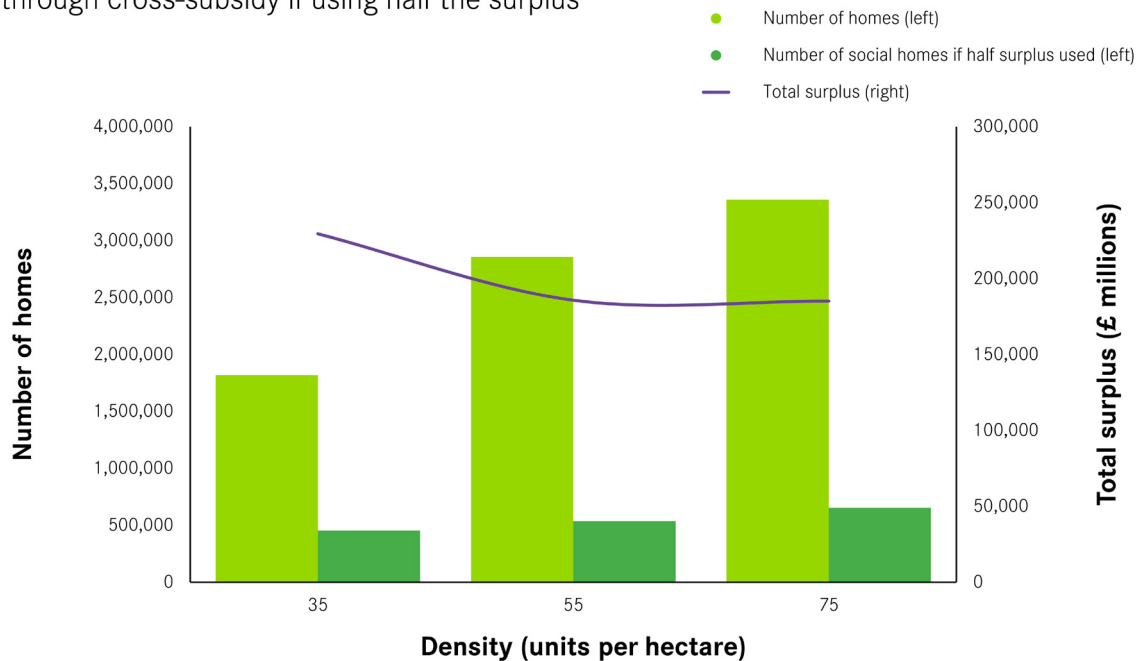
Higher urban densities are good for the economic performance of cities and for the environment.⁵² Density generally increases the viability of public transport systems, encourages walking and cycling, and minimises the amount of land needed to build a given number of homes.

52 Rodrigues, G and Breach, A (2021) Measuring up: Comparing public transport in the UK and Europe’s biggest cities. London: Centre for Cities

But Figure 11 shows that the relationship between density and land value capture isn't straightforward. Building at higher densities obviously delivers more homes on the same amount of land, but it doesn't necessarily increase the total potential value capture.

Figure 11: Increasing density equals more houses, but not necessarily greater land value capture

Total buildable homes; potential land value capture; potential social homes delivered through cross-subsidy if using half the surplus



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes land assembled at 5x agricultural price, and all land in surplus-generating cities is built out.

This is because, in the UK currently, apartments⁵³ cost more to build than detached houses, which in turn cost more than semi-detached and terraced houses. Conversely, apartments usually sell for less than houses. Because higher densities require more apartments, the difference between costs and market value narrows as densities increases. **In marginal locations, increasing the density can be the difference between a location producing a surplus and producing a deficit.**

This means that, according to the model, the potential land value capture per new home decreases as density increases. As Figure 12 shows, the extent to which this is the case varies by city. Around Cambridge, for example, potential land value capture per home is 19 per cent lower in the 75 unit scenario than the 35 unit scenario, while around Oxford it is 57 per cent lower, and around London, 63 per cent lower.

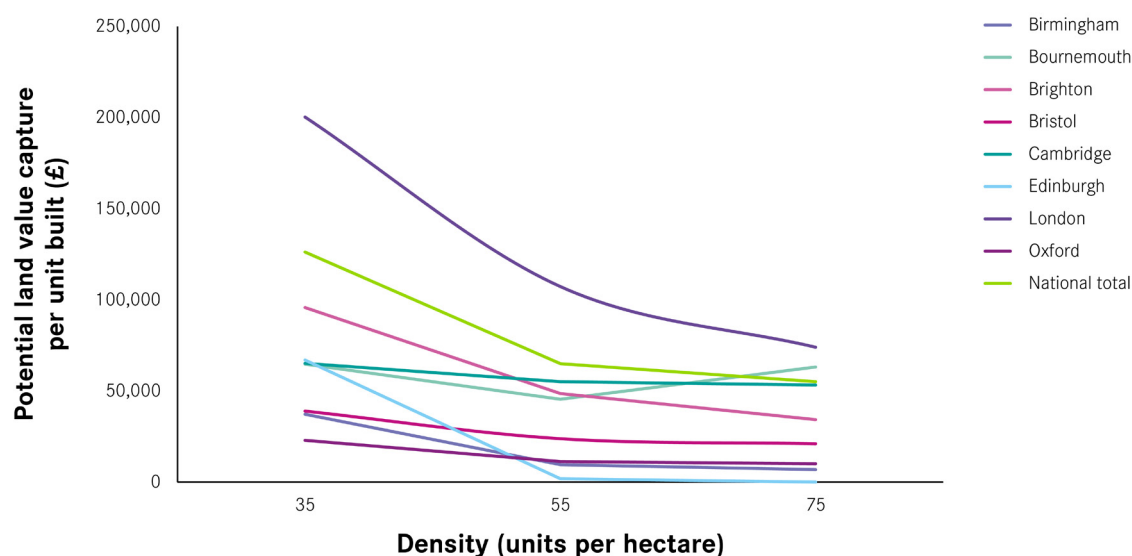
If the results of the model are borne out in reality, and if the extent to which a project is accepted locally (or simply enjoyed by those who move in) is a function of potential land value capture per house, then building at higher densities could create challenges.

⁵³ Apartment build costs in the UK cities are significantly higher than those in other Northern European countries, like Belgium or the Netherlands, and even higher than in Ireland when accounting for differences in VAT rates. Society of Chartered Surveyors Ireland (2024) Building Homes: Apartment construction costs in Europe with a focus on Dublin. Dublin: SCSl

Pursuing higher densities is highly desirable, especially in the best-connected locations, but the Government should be cognisant of the impact on potential land value capture. The number of GPs and schools needed in a new development will increase in a broadly linear manner with increased density, but the money available to pay for it may not.

Figure 12: If apartments sell for less than houses, land value capture per house decreases with increasing density

Potential land value capture per house built, three density scenarios



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes land is assembled at 5x agricultural price and all land in surplus-generating cities is built out.

The accuracy of these results should be taken with some caution – the price difference between houses and apartments is likely somewhat exaggerated and probably varies less between locations than is suggested because the sale price data available to model this is not very high quality.⁵⁴

But the fact that the return on apartment building is lower than it is for houses is a problem for increasing densities. Compelling more widespread apartment building, for example by only granting planning permission for developments with high densities, would likely drive down costs over time, but if the Government wants to support building at higher densities, it will need to understand that in some places this will require subsidy, while building at lower densities might not.

⁵⁴ The data does not allow distinction between sale prices of different types of property with different numbers of rooms. Given apartments are usually smaller than houses sold, even with the adjustment made to draw prices back toward the median price, the difference is probably overstated.

Box 4: Implications for the green belt ‘golden rules’:

As discussed earlier, in its September 2024 NPPF consultation, the Government mooted placing a fixed expectation for the percentage of affordable housing delivered on any released green belt land. This would, in theory, make negotiations between developers and planning authorities more straight forward. But it would also preclude development where delivering that level of affordable housing through cross-subsidy is not viable.

Using the model, it is possible to look at the impact of setting this threshold at different levels, also with different target densities. In this scenario, the model assumes that half of the ‘affordable housing’ delivered is social rented and half is 80 per cent of market value – such that the average affordable home represents less of a subsidy than modelled in Section 4.3. This is, however, a higher proportion of houses built for social rent than is standard in most Section 106 agreements currently⁵⁵ but is in line with what many expect the Government to pursue moving forward.⁵⁶

Affordability requirements

Figure 13 shows that **higher affordable housing requirements lead to more affordable homes, but only up to a point.** Depending on the density and cost assumptions, there is a threshold above which higher affordability requirements lead to lower affordable housing delivery as there are fewer places that can support the given level of cross-subsidy.

For all density scenarios, forty per cent affordable housing requirement delivers more affordable homes than thirty per cent. If the Government’s goal is to maximise affordable housebuilding while relying on cross-subsidy alone, and assuming that 75 units per hectare is denser than would be accepted in most locations, the model suggests that an affordable housing requirement of 50 or even 60 per cent could be appropriate.

⁵⁵ In 2022, only 12 per cent of the ‘affordable housing’ delivered through Section 106 agreements were for social rents. See Box 3 in the second paper in this series for more discussion of what ‘public housing’ means these days. Lange, M (2024) Restarting Housebuilding II: social housing and the public sector. London: Centre for Cities

⁵⁶ Nationwide Foundation (2024) Building and retaining social homes sits high on the government housing agenda

Figure 13: Affordable housing requirements can be high, but not too high

Number of affordable homes deliverable and total homes delivered at different percentage affordable housing requirements and densities



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes land assembled at 5x agricultural price, all viable identified land being built out by location specific development corporations.

However, higher affordable housing requirements also come at the expense of total housebuilding. Between ten and forty per cent, the total number of houses built doesn't drop that much, but after this point, increasing affordable housebuilding significantly reduces the total number of homes built.

From an economic growth perspective and assuming that increased overall housing supply would lead to lower house prices, **the Government will want to balance these two imperatives.**

If they are to achieve higher affordable housebuilding requirements than 40 per cent and high total housebuilding, the Government will have to rely on more than just cross-subsidy.

As observed above, higher densities deliver more houses, but given the narrower cost margins, fewer sites can support cross-subsidised affordable housing, and as affordability requirements rise, this drops off more quickly. If the model is correct, higher density requirements would require lower affordability requirements.

Benchmark land prices

The Government have also proposed setting 'benchmark' prices for land released in the green belt. The intention is to set expectations around the market price of land, with

benchmarks set at levels above which the planning authority feels confident their golden rules could be delivered on. If private developers paid more than the benchmark price they would be unable to enter into viability negotiations, while those who paid less than the benchmark would be allowed to ask the planning authority for lower obligations on viability grounds.

The implication of the model is, as discussed earlier, the lower the benchmark land value, the higher the potential land value capture. Figure 14 shows the model’s predictions, working on the assumption that the Government adopts its 50 per cent affordable housing target, and only viable locations are developed.

Figure 14: Combined with affordability targets, higher benchmark land values lead to fewer homes and fewer affordable homes

Total houses and total affordable houses (50% social, 50% intermediate rents)



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assuming land assembled at 5x agricultural price, 55 units per hectare, all viable identified land being built out by location specific development corporation.

But lower prices would also likely reduce the number of willing sellers. Authorities wanting to achieve the lowest prices will have to use compulsory purchase powers, at least until landowners accept that compulsory purchase is to be more widely used. Doing so would require greater capacity in legal and planning teams, and clarity from central government on what ‘public interest’ means.⁵⁷

⁵⁷ Lange, M (2024) What do new Compulsory Purchase reforms mean for the housing crisis? London: Centre for Cities

4.5. Choice 4 – Redistributing the windfall

This section considers the potential benefits and drawbacks of sharing the windfall between sites versus keeping it local. Setting aside the practicalities of capturing land value uplifts through development charges, developer obligations, or direct land assembly, how widely should windfalls be shared and benefits spread?

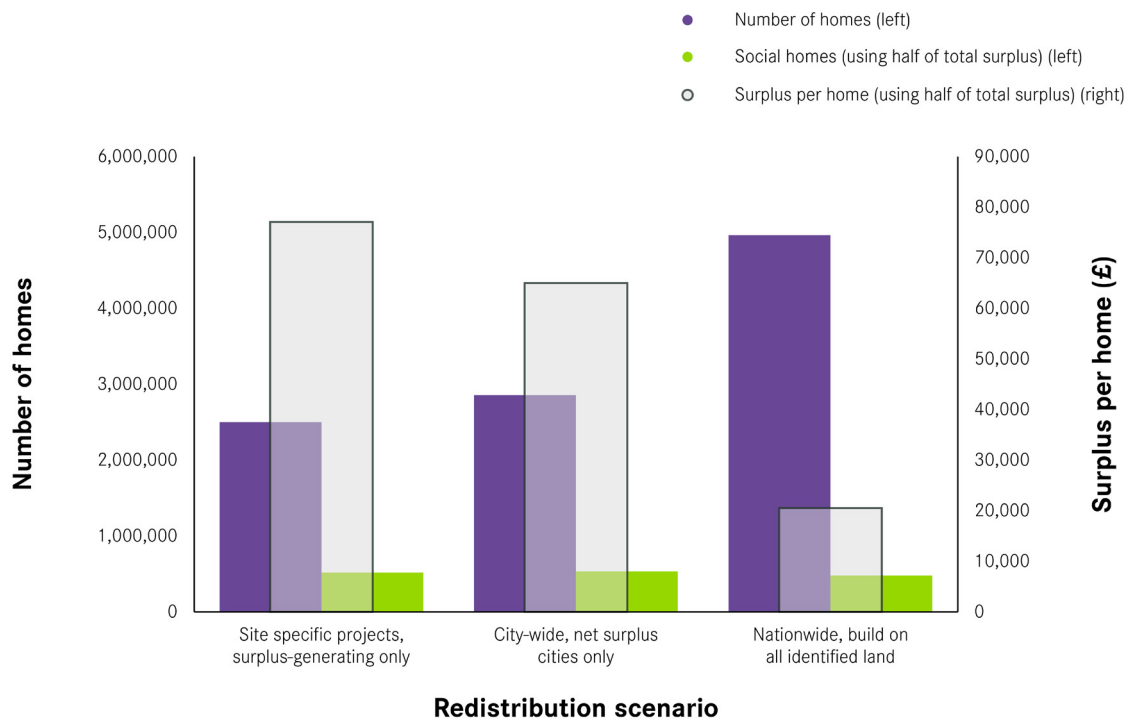
Different geographies change the incentives facing planning authorities. They also change what can be delivered. To take a high-level look at the impact of managing developments across sites, the model looks at three scenarios:

- Each of the 159 **sites are managed independently** and windfalls captured are used for that site only. Surpluses and affordable housing percentages are site-specific.
- All land available around each **city** is managed together. Surpluses or deficits are calculated across the city and the affordable housing requirement is the same for every site.
- All land across the **country** is managed together. A country-wide surplus is used to make deficit sites viable, and the affordable housing requirement is the same for every site.

Figure 15 shows the key trade-off: more homes or greater concentration of the windfall?

Figure 15: Nationwide cross-subsidy or localised benefits?

Average surplus per home, total number of homes and maximum social housing cross-subsidy in each redistribution scenario



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes 55 units per hectare and land assembled at 5x agricultural value.

If the Government wants to see major urban extensions across the country and maximise housebuilding, it could capture the surpluses from high value locations and use them to fund non-viable locations. There would still be an overall surplus, but it would be a quarter of the amount per home than in the site-specific scenario.

The total number of social houses delivered would drop only slightly – social houses effectively cost less where the difference in value with a market value house is lower, so including lower-value areas reduces the average cost of building a social house. However, this could fund only up to 10 per cent social housing in all places. This is likely less than desired by the Government and doesn't prioritise places with greatest issues with affordability.

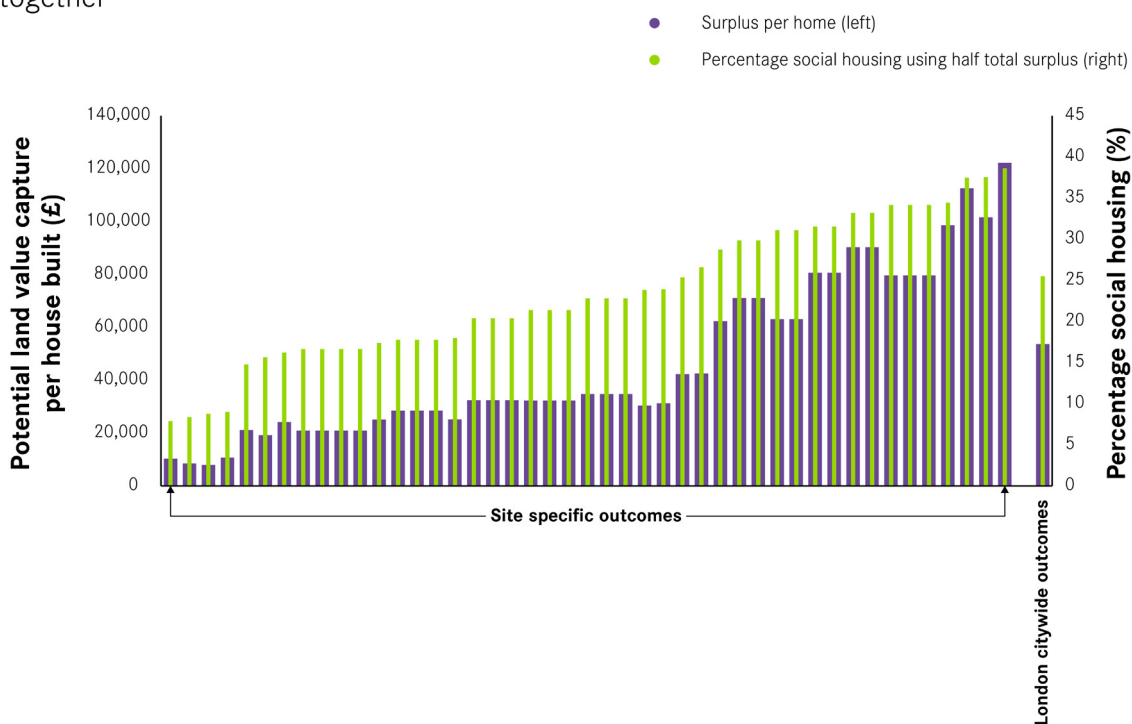
Concentrating the windfall locally, either at a city-wide or site-specific level, would do two things: Firstly, projects would be more Treasury-friendly – there is a higher likelihood that they would be fully self-financing in the long run.

Secondly, public benefits could be concentrated locally, likely making the project more palatable to existing and future communities. Projects could be managed by a local or mayoral authority (or an associated development corporation), who, if they were able to keep the rewards, would be incentivised to pursue urban growth. In places with potential to generate very large surpluses, money could even be used to help fund other local government projects that aren't related to the site, further incentivising the authority to pursue growth.

The trade-off is similar when looking at the difference between managing projects at the site-level, or city-wide. Figure 16 shows that even around London, there is significant variation in potential land value capture per home between locations.

Figure 16: Potential land value capture varies significantly between sites around London

Total surplus per home and social housing percentage deliverable through cross-subsidy using half the surplus in locations around London, and if all land around London managed together



Source: Centre for Cities modelling. See Appendix I for all data sources. • Note: Assumes 55 units per hectare and land assembled at 5x agricultural value.

Managing the land city-wide could achieve high public benefit all around the city, and the enable the balancing of cost idiosyncrasies between sites. The view could also be taken that it would be better to achieve 25 per cent social housing in developments all around the capital, rather than achieving a range of between 8 and 38 per cent. The very highest value areas are also unlikely to want the highest proportion of social housing, and some of the longest social housing waiting lists are in lower value parts of the city.⁵⁸

58 Lange, M (2024) Restarting Housebuilding II: social housing and the public sector. London: Centre for Cities

05

Haven't we done all this before? Insights from New Towns past

The post-war period saw a lot of publicly coordinated housebuilding on greenfield land. Overspill estates, expanded towns and, most famously, new towns all involved public-led land assembly.

While the data to understand the costs and returns on these projects isn't available, looking at data on housebuilding can help understand which were most successful in achieving high rates of growth.

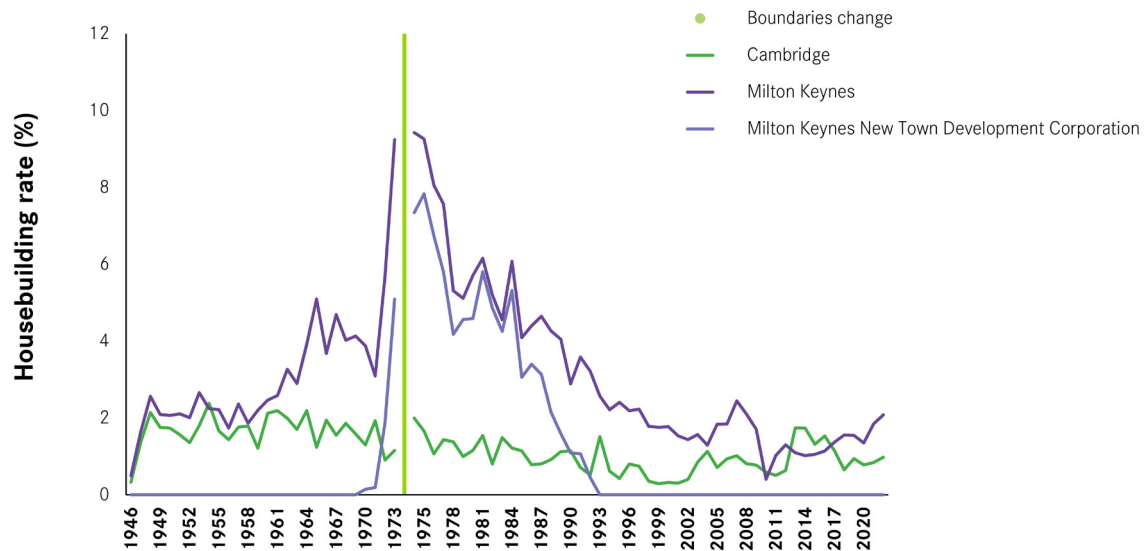
The first thing to understand is that places with **new towns and expanded towns built houses quickly**. The fastest 14 growing local authorities in England between 1950 and 1973 all contained new towns or expanded towns programmes. Between 1974 and 2000, the fastest 10 all contained new towns or expanded towns.⁵⁹

Some new towns experienced incredibly high rates of housebuilding. Figure 17 compares the housebuilding rates in Milton Keynes and in Cambridge since 1946. Clearly, incredibly high rates of housebuilding by the new town development corporation drove a period of extraordinary growth in Milton Keynes. Cambridge, lacking a pro-expansion development vehicle, experienced comparatively low housebuilding rates.

⁵⁹ Local government boundaries changed in the 1973. In England, there were roughly 1200 authorities before and roughly 300 after. Fastest growing list excludes the City of London because it is very small.

Figure 17: The difference between places with and without a successful new town development corporation

Annual housebuilding rates in Milton Keynes and Cambridge local authorities, 1946-2022



Source: UK Government, Local Housing Statistics annual reports, 1946-2001; Ministry of Housing, Communities and Local Government, Table 253.

But not all new towns were built the same. Milton Keynes was a relative outlier – building more and faster than any other new town.⁶⁰ Milton Keynes was started in 1967, after lots of new town building experience had built up over the preceding two decades. But most importantly, it was well located. On a train line between London and Birmingham, and located near the already growing town of Bletchley, it was well positioned to absorb London out-movers and firms looking to locate where they could find workers.⁶¹

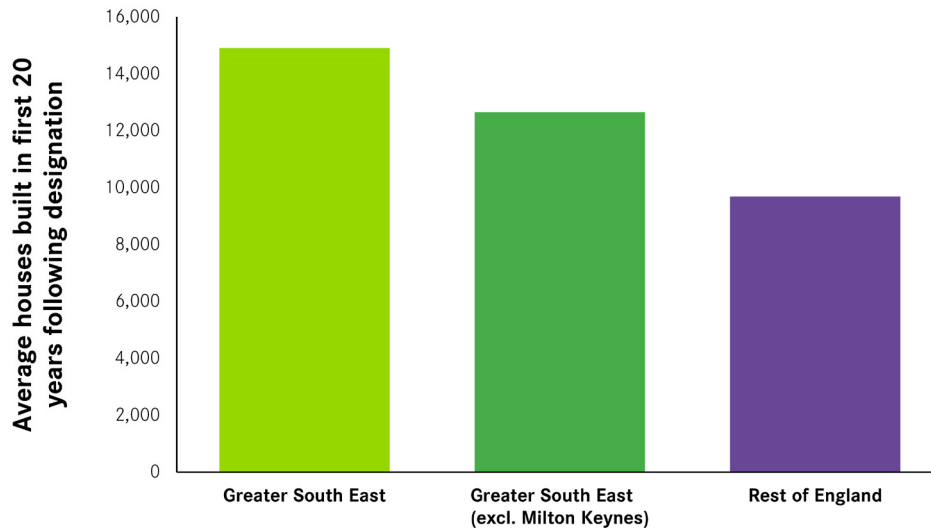
The importance of economic geography is underlined by the growth rate of new towns in the Greater South East more generally. As Figure 18 shows, on average, new towns in the Greater South East built 5,200 more homes in their first 20 years after designation than those in the rest of England. Excluding Milton Keynes, they still built 3,000 more on average.

⁶⁰ Lange, M (2024), [Are new towns the answers to the UK's housebuilding crisis?](#) London: Centre for Cities

⁶¹ The Independent (1992) Special Report on Company Relocation: Mercury's flight from London was 'expensive but worth it': Changing workplace affects people as well as business. Martin Whitfield examples how one firm coped with their move.

Figure 18: Greater South East new towns built faster

Average number of houses built by New Town Development Corporations in their first 20 years following designation, Greater South East and rest of England.



Source: UK Government, Local Housing Statistics annual reports, 1946-2001

Evidence from the past therefore leads us to similar conclusions as modelling the present does. **Where there is demand, growth is easier to achieve.** Not only do places with higher current house prices offer greater opportunities to capture land value uplifts, but, as prices reflect higher demand, they are more likely to serve a wider economic purpose.

06

What needs to change

This report highlights the stark geographical differences in the potential for land value capture to fund public goods like transport infrastructure and social housing. Where the market value of developments is high, there is strong evidence that large-scale urban expansions can self-fund infrastructure and public amenities. Pursuit of effective land value capture would be a Treasury-friendly way of delivering these goods. In weaker local economies, economic development requires direct public investment and can't rely on land value capture.

The report cannot speak to the particulars of individual projects and therefore does not provide recommendations regarding specific potential new town or urban extension locations. However, clear recommendations to the Government result:

Regarding new towns, to maximise potential land value capture and minimise cost to the public purse, **the best locations are in the Greater South East**. Projects around London and Cambridge especially can be developed with both high percentages of affordable housing and large additional surpluses to fund transport improvements and other public benefits. If the Government wants to pursue more ambitious public transport expansions in the Greater South East, it should be able to fund a significant proportion by pursuing residential developments in tandem.

Following this advice, the Government can be bold in what they expect a new generation of New Towns to achieve – their impact will be a direct function of how many new towns and urban extensions they designate. **The more 'new towns' the Government designates the better.**

Other places, near Edinburgh, Bristol and Bournemouth also offer promising locations but will likely need additional support if accompanied by public transport improvements.

If locations are chosen where house prices are currently lowest, the projects are very unlikely to be self-financing and any additional benefits will need to be directly funded. In these locations, the Government should not fund urban extensions for the sake of it, but instead focus on infrastructure that will grow weaker economies, such as improving transport connectivity and urban densities within the existing city boundaries.

Realising the maximum potential land value capture will require the strategic redesignation of green belt land around cities with higher house prices. This does not mean building on all of the green belt – the land for potential urban extensions identified represents less than 5 per cent of current green belt land. But, most of the proposed projects, in locations near public transport, are rendered impossible by current green belt boundaries. Affordable homes, new public parks, money for environmental improvements – could all be funded if projects with high potential land value capture were permitted and coordinated.

The Government should encourage and fund more widespread land assembly at close to existing use values by public bodies, to maximise land value capture. It should invest in the capacity of planning authorities and development corporations to put together compulsory purchase cases in order to achieve this. This is commonplace in Europe and is currently being used to fund urban expansions everywhere from Paris to Copenhagen. By preparing plots and masterplanning growth areas, thereby reducing risks to developers, competition between housebuilders can also be shifted from land speculation to delivering housing quality and quantity.

Existing compulsory purchase powers currently make this possible, but **circumstances in which development is considered in the ‘public interest’ should be clarified by the Secretary of State.** This would benefit a range of project types – from fully public developments to circumstances in which local authorities simply prepare to buy developable land to ensure private developers secure it at a price they can deliver public benefits at.

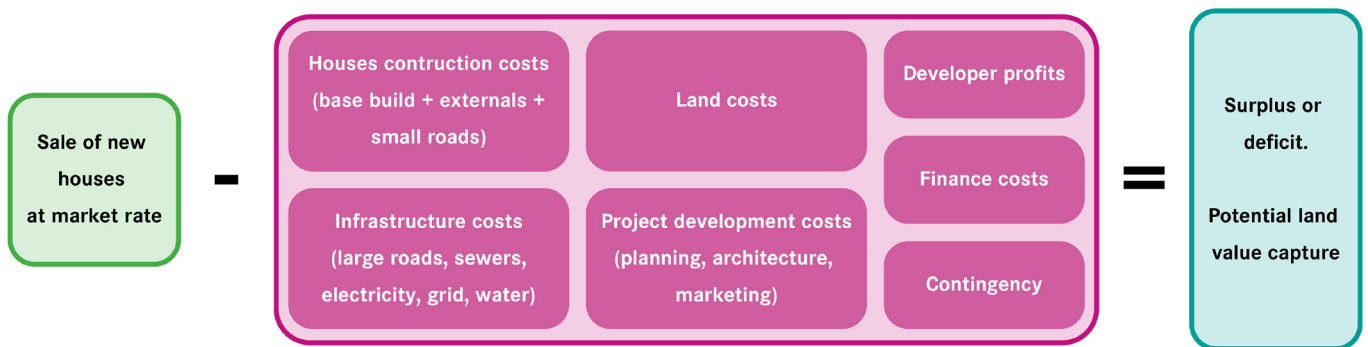
A key issue for the Government will be turning these possibilities into realities. While there could be benefits to capturing windfalls in high value areas and using them to fund projects in lower-value areas, **enabling local or mayoral authorities to retain the receipts from successful land value capture would likely improve the incentives to pursue urban extensions.**

07

Appendix I: More detail on the model used in this report and data sources

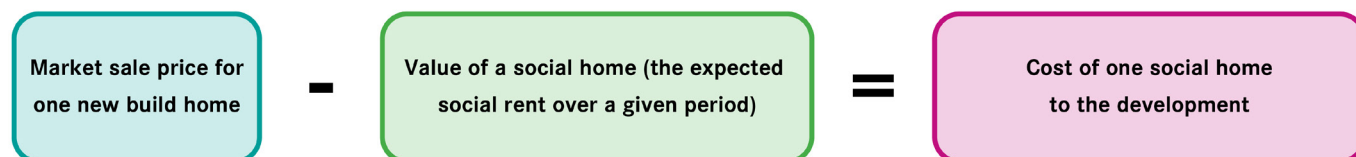
The model is straightforward – it calculates the difference between total costs and total sale value of market rate housing in that local area, as per Figure 19 – replicated here.

Figure 19: The components of the basic model. If costs are less than potential sale value, then there is potential for land value capture.



The cost of cross subsidising social housing in the development is the difference between the value of social housing and market rate housing. The larger the difference, the greater the cost of replacing a market value house with a social house.

Figure 20: The cost of cross-subsidising social housing



Full information on the data sources used can be found in Table 3:

Table 3: Data sources and calculations used in cost and revenue modelling

Data and information	Calculation	Geography	Source
Agricultural land prices 2019 Government estimates, inapartmention adjusted so in 2024 prices.	The model assumes that all land identified can be bought at a given multiple of agricultural price. Modelled at 1x, 5x, 20x, and 40x.	Local Enterprise Partnerships; Average English price used for Scotland and Wales	Ministry of Housing, Communities and Local Government, Land value estimates for policy appraisal 2019.
Major infrastructure Set cost per hectare	£1,235,000 per hectare, applied over 80 per cent of identified land.	Adjusted by regional cost index	Expert advice
Housebuilding costs Vary according to house type, number of bedrooms, and density scenario.	Cost per square meter: Apartments 6+ storey: £1,860 Apartments 3-5 storey: £1,835 Terraced: £1,640 Semi-detached: £1,670 Detached: £1,720 Full calculation per density scenario see Model Hectares below	Adjusted by regional cost index	Expert advice; costmodelling.com Rough midpoint between estimates provided taken.

House sizes	Dwelling size (m ²): None	Ministry of Housing, Communities and Local Government
Minimum square meters or just above for given dwelling type and bedroom number. Small increase with dwelling type: apartments < terraces < semi-detached < detached.	Apartments:	
	4 bed: 120	
	3 bed: 100	
	2 bed: 72	
	1 bed: 50	
	Terraced:	
	3 bed: 104	
	2 bed: 80	
	Semi-detached:	
	4 bed: 130	
	3 bed: 108	
	2 bed: 84	
	Detached:	
4 bed: 135		
3 bed: 112		
Externals costs	15 per cent on base build cost	None directly. Multiple on regionally adjusted build costs
		BNP Paribas viability testing in the Test Valley; ⁶² Expert advice
Professional services	8 per cent on build + externals	None directly. Multiple on regionally adjusted build costs
		BNP Paribas viability testing in the Test Valley; Expert advice
Regional cost index	North East: 0.86 North West: 0.93 Yorkshire & The Humber: 0.91 West Midlands: 0.90 East Midlands: 0.92 East of England: 0.97 South West: 0.93 South East: 1.00 London: 1.07 Scotland: 0.92 Wales: 0.91	England regions; Scotland; Wales
		Costmodelling.com <i>Adjusted for costs base being based on estimates for the South East.</i>

⁶² BNP Paribas Real Estate (2023) Test Valley Borough Council: Strategic Sites Viability Testing.

Marketing	2.75 per cent on build + externals	None directly. Multiple on regionally adjusted build costs	BNP Paribas viability testing in the Test Valley; Expert advice
Contingency	5 per cent on build, externals, professional services + marketing	None directly. Multiple on above costs	Expert advice
Developer profits	12 per cent on build, externals, professional services + marketing	None directly. Multiple on above costs	Expert advice with reference to BNP Paribas viability testing in the Test Valley
Finance	8 per cent on all above costs	None directly. Multiple on above costs	Expert advice; With reference to BNP Paribas viability testing in the Test Valley
New build house prices by type - England and Wales	<p>5-year average median new build sale price for detached, semi-detached, terraced and apartments.</p> <p>Adjustment made to draw prices toward mean price for the area, according to the proportion of sales that were of that type of house and the difference in price. For example, if 5 per cent of sales were apartments and apartments sold for 75 per cent of mean price, estimated apartments sale price would be:</p> <p>Real apartments price + (mean - real apartment price) * ((1 - 0.05) * (1 - 75/100))</p>	Local authority districts	Office for National Statistics
New build house prices by type - Scotland	<p>5-year average median new build sale price for detached, semi-detached, terraced and apartments.</p> <p>Same adjustment made as for England and Wales.</p>	Local authority districts	Land and Property Data Team, Registers of Scotland

Social letting weekly values – England 2024 local average.	Value of social home calculated by assuming 20 years of rent, increasing by CPI+1 annually. This is clearly fewer years rent than would be paid in reality, but roughly aligns the value of a social house with the values reported in the BNP Paribas viability testing in the Test Valley, and enables regional adjustment. Maintenance costs aren't taken into account, another reason that valuing 20 years of rent only seems reasonable.	Local authority districts	Ministry of Housing, Communities and Local Government
Social letting weekly values – Scotland 2024 local average.	Value of social home calculated by assuming 20 years of rent, increasing by CPI+1 annually. See note above.	Local authority districts	Scottish Housing Regulator
Social letting weekly values – Wales 2024 local average.	Value of social home calculated by assuming 20 years of rent, increasing by CPI+1 annually. See note above.	Local authority districts	Stats Wales

Model hectares

The model is built from model hectares. Four density scenarios are modelled: 75 housing units per hectare; 55 per hectare; 35 per hectare and 25 per hectare. In each hectare there is a given number of housing units of different types and number of bedrooms. The cost of building the model hectares required therefore varies depending on the density scenario, based on the cost per square meter given in Table 3.

Between the 3 main density scenarios, the average number of bedrooms per unit and proportion of the development that is one or two bedrooms is held relatively consistent – around 2.6 and 40 per cent respectively. In the low-density scenario, only used for modelling the highest-margin development (see Box 2), the average number of bedrooms increases to 3.1 and 24 per cent of developments have 2 bedrooms.

75-unit scenario

Dwelling type	Bedrooms	Units
6+ storey apartment	4	6
6+ storey apartment	3	6
6+ storey apartment	2	8
6+ storey apartment	1	8
3-5 storey apartment	3	12
3-5 storey apartment	2	8
3-5 storey apartment	1	7
3 storey terrace	4	12
3 storey terrace	3	8
Total	197	75
Average per house	2.626666667	
% Apartments		73%
% 1-2 beds		41%

55-unit scenario

Dwelling type	Bedrooms	Units
3-5 storey apartment	3	7
3-5 storey apartment	2	7
3-5 storey apartment	1	7
2 storey terrace	3	6
2 storey terrace	2	8
3 storey terrace	4	12
Semi-detached	3	8
Total	148	55
Average per house	2.69090909	
% Apartments		38%
% 1-2 beds		40%

35-unit scenario

Dwelling type	Bedrooms	Units
3-5 storey apartment	2	4
3-5 storey apartment	1	4
Semi-detached	3	10
2 storey terrace	2	6
3 storey detached	4	6
2 storey detached	3	5
Total	93	35
Average per house	2.6571429	
% Apartments		23%
% 1-2 beds		40%

25-unit scenario

Dwelling type	Bedrooms	Units
2 storey semi-detached	2	6
3 storey detached	4	8
2 storey detached	3	11
2 storey detached	2	0
Total	77	25
Average per house	3.08	
% Apartments		0%
% 1-2 beds		24%

08

Appendix II: Limitations of the model

The key findings resulting from the model are robust. This notwithstanding, the model is limited in three ways:

The model can't account for local idiosyncrasies in costs, values and buildable land. While the model uses relatively conservative cost estimates, it can't take into account factors which might make it more expensive (or impossible) to build in some locations. The transport infrastructure required in one place may be less than is estimated because much of it is already in place. In another area, major infrastructure might be required and cost far more than the model accounts for. The model also does not account for any extraordinary land remediation costs.

It is also possible that the model doesn't capture the true value of a new development. In some locations, especially lower-value locations, but also some locations near Oxford and Bristol, values may be underestimated, as current new build house prices are the average across the whole local authority, rather than the average for places within real commuting distance of the relevant city. In locations close to London, the model might slightly overestimate values as recent new build house prices in some locations may reflect a higher-than-normal proportion of luxury developments which would not be replicated in the model hectares.

The model assumes that two thirds of the identified land is used for residential development, with the rest set aside for major infrastructure, public open spaces and other land uses. This threshold is arbitrary – in some places more of the identified land might be suitable for residential development, in others, less might be.

The model is static. Monetary values are discounted to account for social time preference – things in the future are valued less than those occurring in the present⁶³. However, the model remains static – it can't account for how pursuing the given project may change the costs and values in that place over time. It also can't account for how pursuing a project in one place may impact the costs and values in another place.

⁶³HM Treasury (2022) The Green Book.

This is a significant limitation because it seems reasonable to assume that average house prices would fall (or at least attenuate) if a significant proportion of the identified land were built out. Assuming construction costs would not fall by the same degree, the potential land value capture may therefore be an overestimate. Conversely, the model also cannot account for any positive impacts on the local economy which would put an upward pressure on house prices.

These limitations notwithstanding, the geographical insights from the model likely remain robust. It may actually be that the impact of a market being flooded by lots of new housing supply would have a larger impact in weaker local economies, such that the difference between high and low value locations is underestimated by the model.

The model doesn't offer insights into how money really flows around the system.

The model does not offer insights into how real-world developments should be structured and financed. In reality, the fact that costs come before the revenue streams are realised is one of the largest challenges to capturing land values in the manner described. See Box 3 for a very brief discussion.

The model also doesn't reflect on the exact point at which the land value should be captured and where development risk would sit as a result. The standard in many European countries is that value is captured when plots of land are sold to private housing developers. The price they pay could be set before building is completed, with a knock-on negative effect on the plot price to account for the risk taken on by the developer, or it could be set at the point the houses are sold, meaning the developer profit margin could be lower, with the benefit/risk of rising/falling house prices taken on by the development corporation. The latter structure could also incentivise faster build out rates.



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