

Hard Choices

How much should the nation
spend on building new homes?

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1 Executive summary

The affordability crisis and the need to build more homes

- 1.1 This report's starting point is that England needs to build 300,000 new homes a year, a commitment made by the Chancellor at the 2017 Budget. **Delivering this quantum of homes is equivalent to a 72% increase** compared to average historic housing delivery levels over the past decade.

“The housing market in this country is broken, and the cause is very simple: for too long, we haven't built enough homes.”

Source: Fixing our broken housing market, DCLG, 2017

- 1.2 Looking at the capital, the new London Plan sets a target of building 65,000 new homes a year until 2028/29. Based on recent historic delivery levels, **housebuilding in London will need to more than double** to meet this target.

“To achieve these housing targets the overall average rate of housing delivery on both large and small sites will need to approximately double compared to current average completion rates. The Mayor recognises that development of this scale will require not just an increase in the number of homes approved but also a fundamental transformation in how new homes are delivered.”

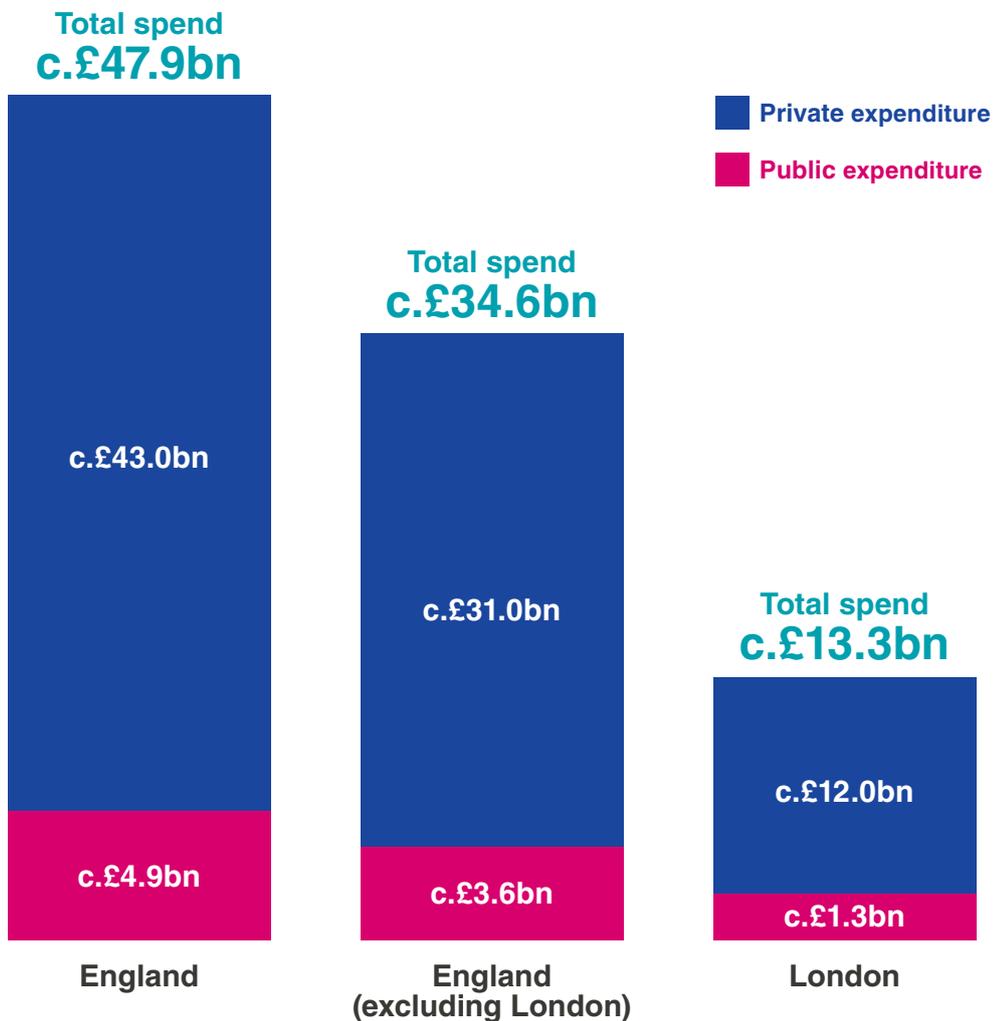
Source: The Draft New London Plan, GLA, 2018

- 1.3 Housing is prohibitively expensive for people across a range of income levels, but particularly for those living in London. In England, the median house price to income ratio increased from 5.1 in 2002 to 7.9 in 2017 and in London, over the same period, from 6.9 to 13.2. Over the past fifteen years **this affordability ratio has therefore increased by over 90% in London and almost 55% nationally**, meaning incomes have not kept pace with rising house prices.

Total capital cost of housing delivery

1.4 Volterra estimates that the total capital expenditure by both the public and private sector on delivering new housing in England in 2016/17 was c. £47.9bn, of which c. £4.9bn was government spending (Figure 1)¹. This is equivalent to **c. £1 in every £10 being public expenditure and £9 in every £10 being private expenditure**. In terms of the geographical distribution, c. £13.3bn (c. £1.3bn public and c. £12.0bn private) of capital expenditure was spent in London.

Figure 1: Estimated Capital expenditure on housing delivery in England and London (2016/17), split into public and private sector expenditure



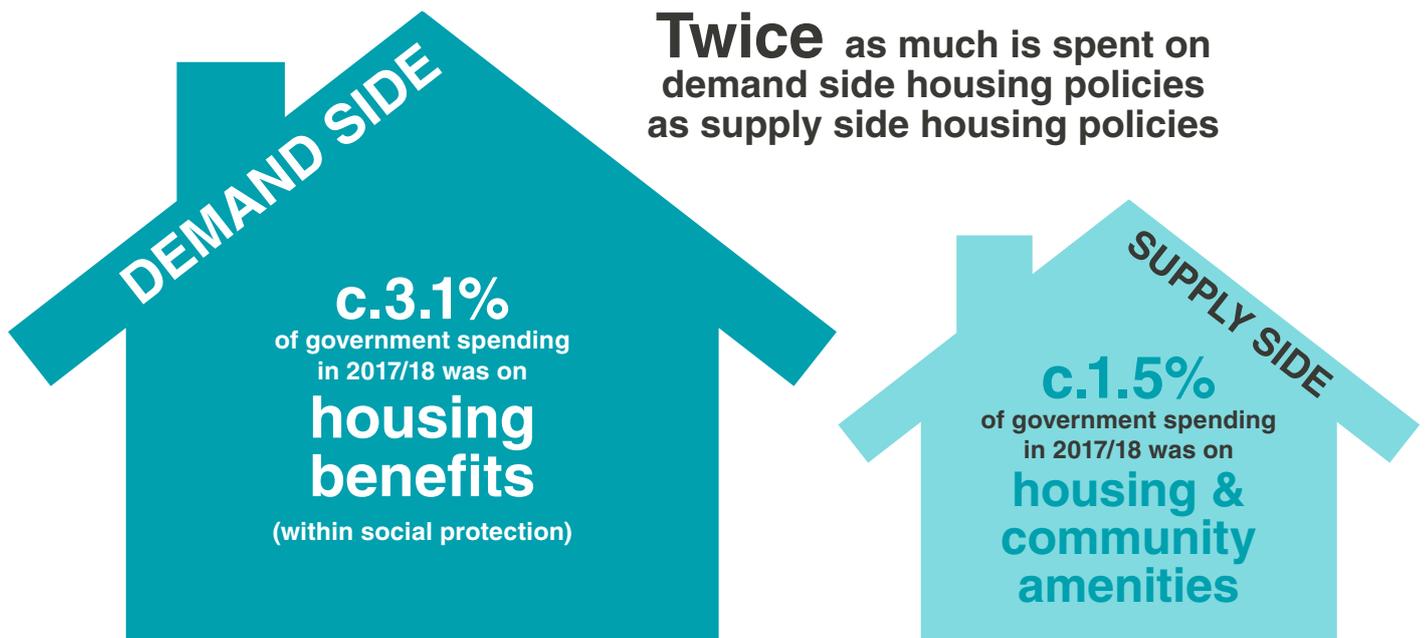
Source: Public Expenditure Statistical Analyses (PESA) 2018 and Volterra calculations

¹ 2016/17 is used as the baseline for assessing current spending on housing and the baseline for assessing the gap in housebuilding compared to the government's target as this period provides the most up-to-date official data on spending and housebuilding. See chapters 5 and 6 for further information.

Government spending

- 1.5 To put the capital expenditure on housing delivery in context, over the past decade the government spent approximately £760bn a year on managed public expenditure, which is over 40% of the UK's GDP. **The largest component of this spending was on social protection**, which accounted for around a third of total government spending, in contrast to just c. 1.5% allocated to housing and community amenities (largely capital expenditure).
- 1.6 Social protection spending covers expenditure on benefit payments, tax credits and pensions, amongst other things. Of the one third spent on social protection, around 10% of this was spent on housing benefit.
- 1.7 This means that in the UK in 2017/18 the **government spent twice as much on demand side housing policy (housing benefit) – expenditure to help households with their housing costs – than it spent on supply side policy – expenditure to help build more homes** (Figure 2). From 2007 to 2017, spending on housing delivery fell c. 30% (the largest fall in spending across all categories) while expenditure on social protection increased by over 20% (the largest rise in spending in real terms after health). However, there are signs this is changing, as in 2017/18 capital spending on housing and community amenities increased by 20%, which is a positive sign.

Figure 2: Comparison of demand side versus supply side government spending on housing, 2017/18

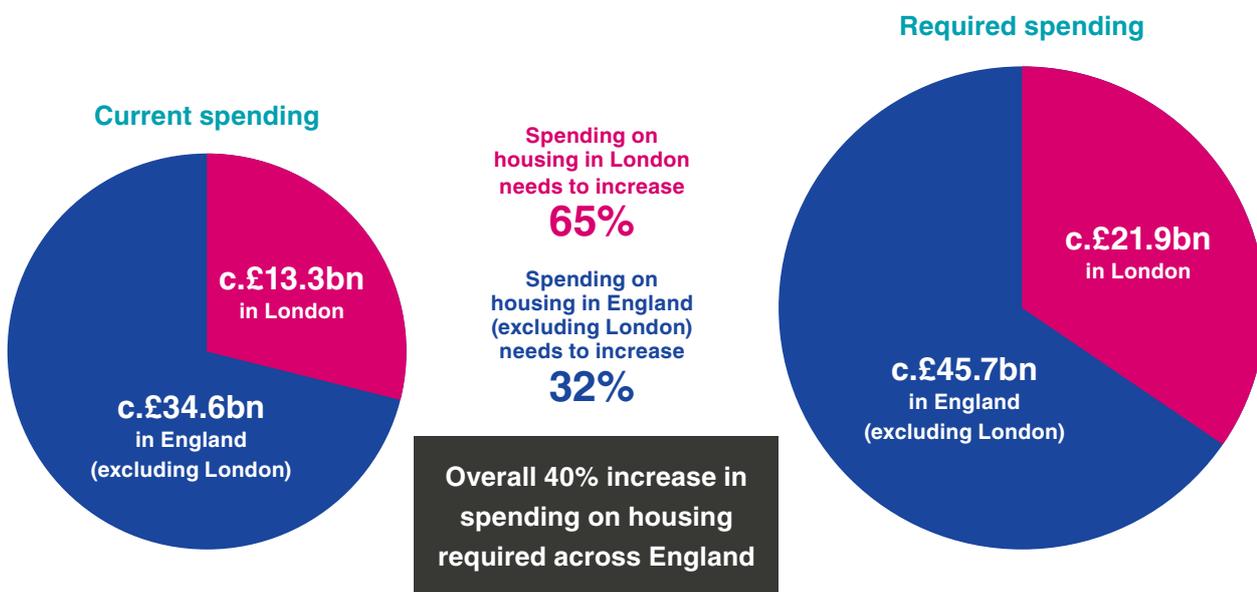


Source: PESA 2018

The cost of bridging the housing gap

- 1.8 Looking at the current capital cost of delivering new housing in England and taking a central projection (see Chapter 7 for details of the approach), **Volterra estimates that the current cost of delivering 300,000 homes a year in England is c. £67.6bn.** Compared to current investment of c. £47.9bn, this is a c. £19.7bn increase, or 40%. In London, the investment in housing needs to rise by even more than the England average, by 65% from £13.3bn to £21.9bn.

Figure 3: The cost of bridging the housing gap



Source: Volterra calculations

Hard choices

- 1.9 The government has hard choices to make if the nation is to find the c. £67.6bn a year needed to hit the 300,000 homes target. It means bridging a funding gap of c. £19.7bn in England, of which c. £8.6bn is needed in London. Essentially, the government has three options:
- The government fills the gap** (from private expenditure of c. £43bn in 2016/17 and the total required expenditure of c. £67.6bn): This would mean government spending c. £24.6bn a year on capital expenditure to deliver new homes, five times its 2016/17 spending of c. £4.9bn. In London, this would mean government spending rising from c. £1.3bn in 2016/17 to c. £9.9bn – an increase of c. £8.6bn, or more than sixfold. This approach brings certainty, in that government can commit and build. But it also creates substantial challenges, notably over public expenditure at a time of constrained public finances – although it is worth noting that, over time, lower housing occupancy costs would lead to reductions in social security spending on housing.
 - The private sector fills the gap** (from government expenditure of c. £4.9bn in 2016/17 and the total required expenditure of c. £67.6bn): This would mean the private

sector spending c. £62.7bn a year on capital expenditure to deliver new homes, an increase of over 45%. In London, this would mean private sector spending rising from c. £12.0bn in 2016/17 to c. £20.6bn – an increase of c. £8.6bn, or more than 70%. The government could support such an increase through reviewing and reforming a wide range of development policies: for example, requiring new homes to be built at significantly higher density levels than is currently permitted, or removing or significantly relaxing restrictions on building in the greenbelt. This is an inherently unpredictable approach, because although it is likely that such changes would lead to increased private investment, there is no certainty that it would do so sufficiently.

- **A mixed economy:** The government increases its capital spending on housing delivery while also creating a more enabling policy framework to encourage greater levels of private sector investment. In this approach, the policy choices could be less stark: for example, rather than removing restrictions on greenbelt development, the ability to build in certain parts of it, such as brownfield sites close to tube or train stations, might be permitted. It is difficult to predict how policy change and increased government investment would feed through into private sector investment. However, two hypothetical scenarios based on Volterra estimates for government capital spending on housing doubling and tripling would mean that public sector capital spending could rise from c. £4.9bn in 2016/17 to between c. £9.8bn-£14.7bn, meaning private sector spending would need to rise from c. £43.0bn in 2016/17 to between c. £52.9bn-£57.8bn. In London, this would mean public sector spending rising from c. £1.3bn in 2016/17 to between c. £2.6bn-£3.9bn and private sector spending rising from c. £12.0bn in 2016/17 to between c. £18.0bn-£19.3bn.
- 1.10 If government is going to fill the gap, it must be prepared to embark on a new era of investment and delivery not seen since the 1960s and 1970s. This will pose a whole range of challenges around the public finances and concomitant skills within the public sector needed to support such a substantial increase in housebuilding. If the private sector is to fill the gap, the government must be prepared to undertake radical reform of the policies that govern development, putting it on both an uncertain and potentially politically challenging course. If the mixed economy option is chosen, far greater coordination is required between government investment and policy reform and much greater partnership is required with the private sector.
- 1.11 In the last year (2017/18), capital expenditure by government on housing delivery has risen by 20%, but there is more work to do to secure the investment that is required. Total capital spending across the public and private sector would need to increase by approximately one percentage point of UK GDP (2016/17) to hit the 300,000 homes target. This is a substantial increase but, with careful planning, an achievable goal.
- 1.12 There are hard choices to be made but the nation, through its elected representatives, needs a solution to the country's housing crisis. Now is the time to move from rhetoric to delivery. Whatever option is pursued, the government must pursue an option – if not the ones outlined above then what else?

2 Introduction

- 2.1 A consensus exists across all the major political parties about the extent of, and challenge presented, by the housing crisis. There is agreement that more homes must be built, but a divergence of views as to how this might be achieved.
- 2.2 The Conservative manifesto for the 2017 general election made a clear commitment to build more homes.

“We have not built enough homes in this country for generations, and buying or renting a home has become increasingly unaffordable. If we do not put this right, we will be unable to extend the promise of a decent home, let alone home ownership, to the millions who deserve it.

We will fix the dysfunctional housing market so that housing is more affordable and people have the security they need to plan for the future. The key to this is to build enough homes to meet demand. That will slow the rise in housing costs so more ordinary, working families can afford to buy a home and bring the cost of renting down.”

Source: Conservative Party Manifesto 2017

- 2.3 Likewise, the Labour manifesto in 2017 also contained a strong commitment to build more homes.

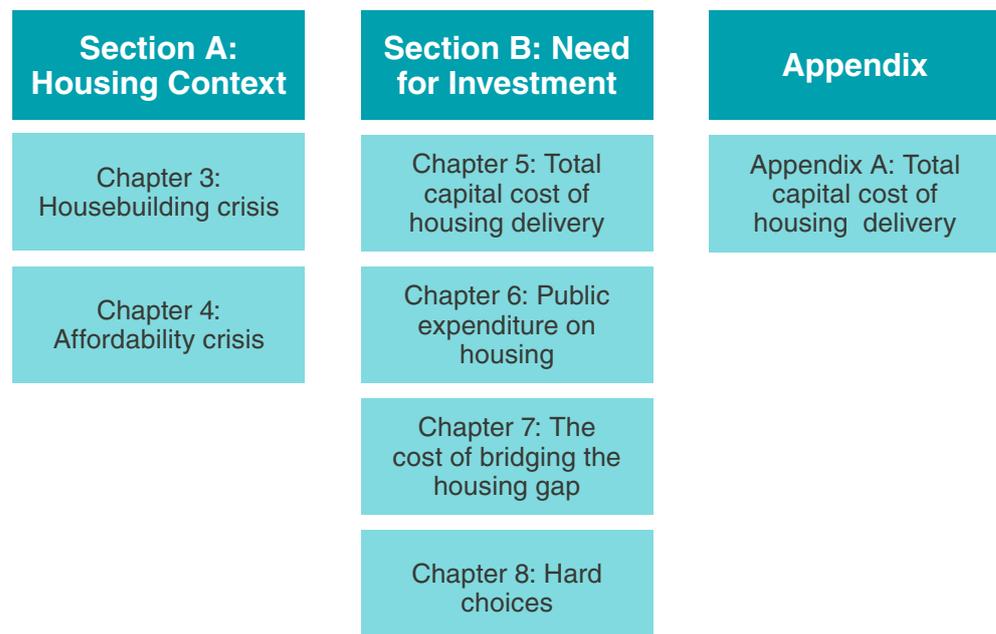
“Labour will invest to build over a million new homes. By the end of the next Parliament we will be building at least 100,000 council and housing association homes a year for genuinely affordable rent or sale.”

“Labour will establish a new Department for Housing to focus on tackling the crisis and to ensure housing is about homes for the many, not investment opportunities for the few.”

Source: Labour Party Manifesto 2017

- 2.4 Following the election, the Prime Minister made it clear that housing is a domestic priority for the government stating that, 'we cannot bring about the kind of society I want to see, unless we tackle one of the biggest barriers to social mobility we face today: the national housing crisis'².
- 2.5 A significant amount of work has already been undertaken exploring the different ways to increase housebuilding. This report does not replicate that focus. Instead, it asks the question: 'how much should the nation spend on building new homes?'
- 2.6 The geographic focus of this report is England – as housebuilding is largely a devolved matter – with a spotlight on London, given its acute housing shortage and extremely high house prices. Its analytical focus is the capital expenditure, including the cost of purchasing land, required to meet the government's housebuilding target. Other important costs associated with housebuilding such as the social and physical infrastructure that is necessary to deliver a completed development have been excluded. By its very nature, the analysis is high level and based on reasonable assumptions. The report does not comment on the tenure of the homes that should be built nor the type of developer that should build them.
- 2.7 The report is split into two main sections:
- Section A covers the context of the housing market, looking at historic rates of delivery and the affordability of housing; and
 - Section B sets out the total level of capital investment that is currently being spent by both the public and private sectors on delivering new homes; how much investment is needed to meet housing targets; and the choices facing government about how to bridge the funding gap.

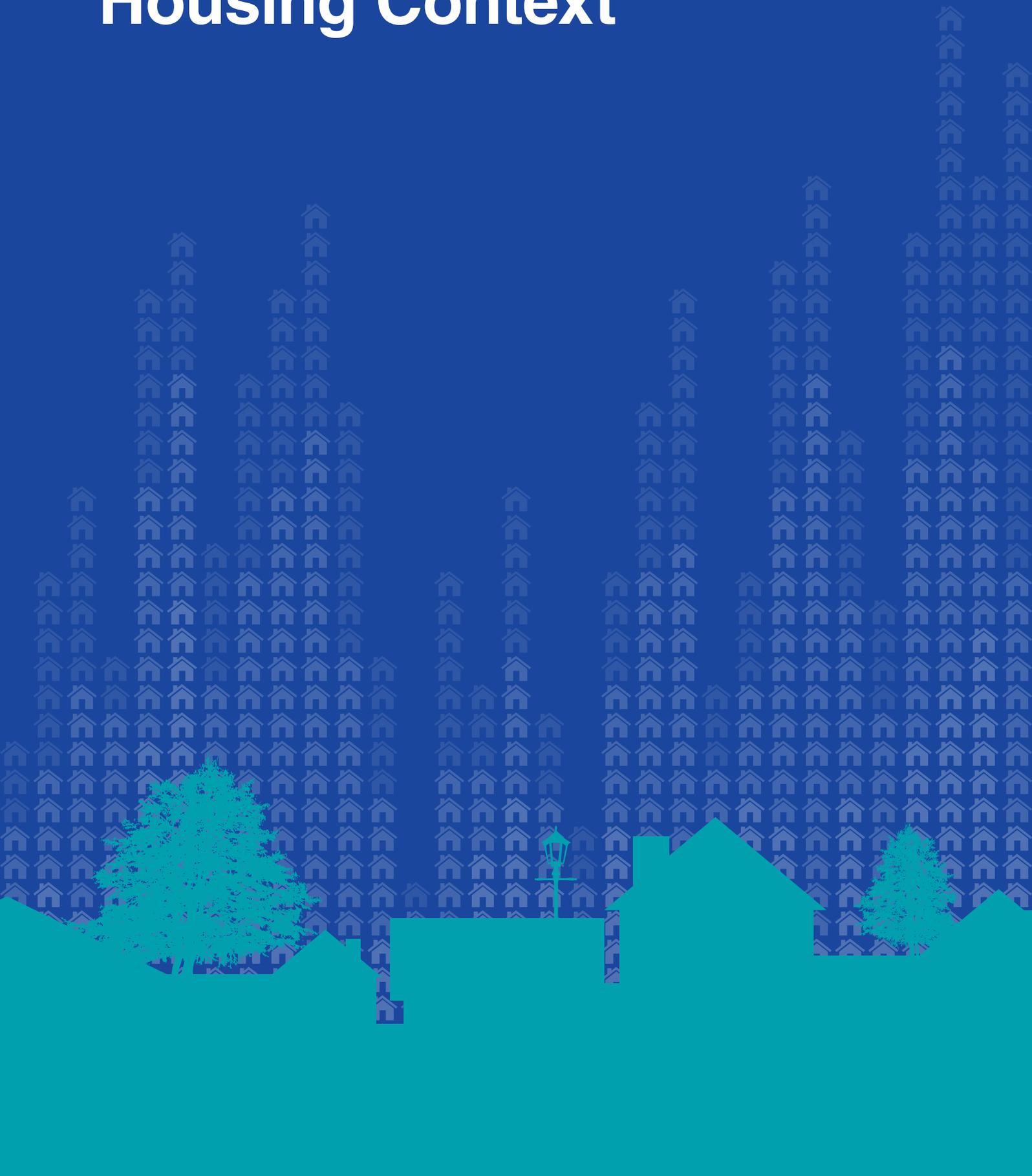
Figure 4: Report structure



² PM speech on making housing fairer, 5 March 2018 - <https://www.gov.uk/government/speeches/pm-speech-on-making-housing-fairer-5-march>

Section A

Housing Context



3 Housebuilding crisis

Housing delivery in England

3.1 The government's housing white paper, 'Fixing our broken housing market', states that 225,000 to 275,000 new homes are needed each year in England to 'keep up with population growth and start to tackle years of under-supply'. In the 2017 Budget the Chancellor Phillip Hammond committed to building 300,000 homes a year in England by the mid-2020s, a commitment further reiterated by the then Secretary of State for Housing, Communities and Local Government at the formation of Homes England in January 2018. Therefore, the housebuilding target this report adopts is 300,000 new homes a year.

3.2 Housebuilding is a cyclical industry. Gradual increases in supply can be followed by steady decline, with the cycle often linked to the wider performance of the economy. Looking at recent housebuilding statistics, between 2004/05 and 2016/17, as shown in Figure 5, an average of 174,000 homes were built a year; this includes a high of 224,000 in 2007/08, just before the financial crisis, and a low of 125,000, in 2012/13. To reach the government's 300,000 homes target, housebuilding will need to increase by 72% compared to recent historic average delivery.

Figure 5: Historic housing delivery in England



Source: Net additional dwellings and all dwellings estimates by local authority district, MHCLG 2018

Housing delivery in London

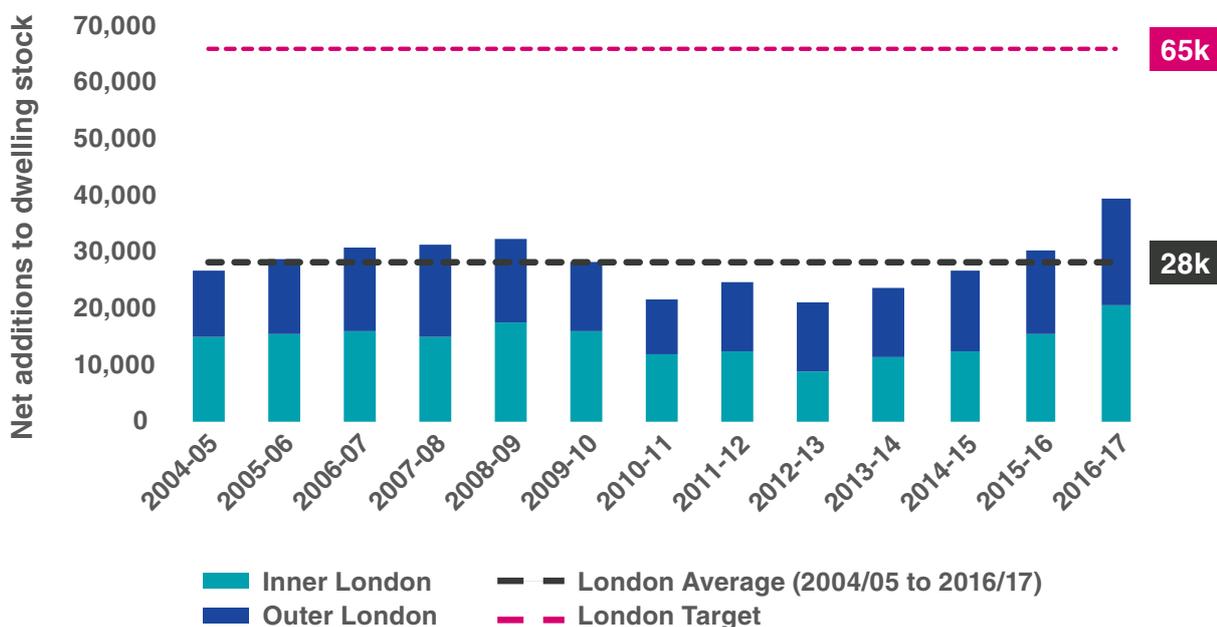
3.3 The new draft London Plan, the statutory London-wide planning framework prepared by the Mayor, was published in December 2017 for public consultation and will undergo an Examination in Public in early 2019. The Plan's housebuilding target has increased to 65,000 homes a year to 2028/29. This represents a significant challenge, since between 2004/05 and 2016/17, as shown in Figure 6, on average 28,000 homes were built a year in London.

3.4 As with the national picture, there were higher levels of housebuilding prior to the recession, with a high of 32,000 homes built in 2008/09, and fewer homes delivered towards the end of the recession, with only 21,000 homes built in 2012/13. To reach the London Plan's 65,000 homes target, housebuilding in London would need to more than double in comparison to recent historic delivery rates. The scale of this challenge is shown in percentage uplift terms for all boroughs in Figure 7.

“To achieve these housing targets the overall average rate of housing delivery on both large and small sites will need to approximately double compared to current average completion rates. The Mayor recognises that development of this scale will require not just an increase in the number of homes approved but also a fundamental transformation in how new homes are delivered.”

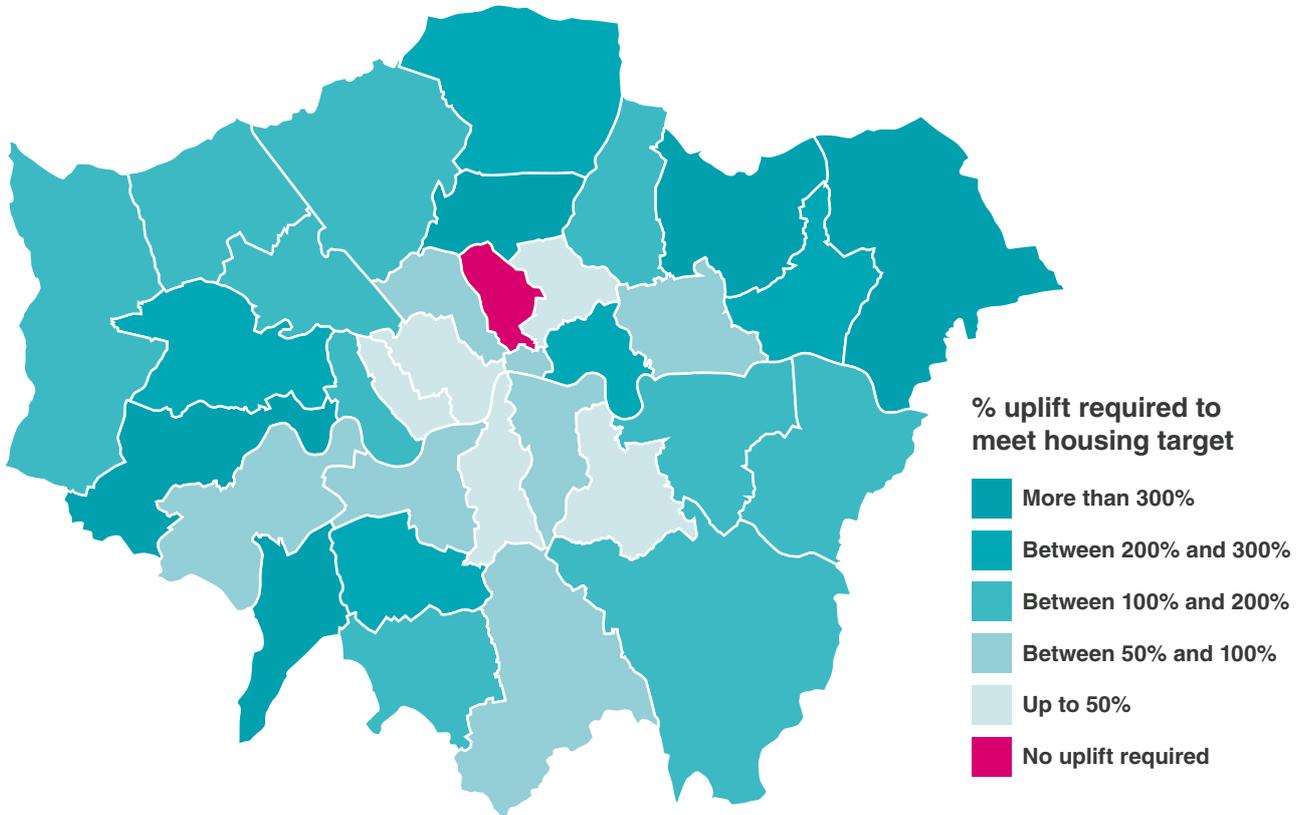
Source: The Draft New London Plan, GLA, 2018

Figure 6: Historic housing delivery in London



Source: Net additional dwellings and all dwellings estimates by local authority district, MHCLG 2018

Figure 7: Proportion uplift required by borough to meet the new London Plan target compared to average of last five years' delivery

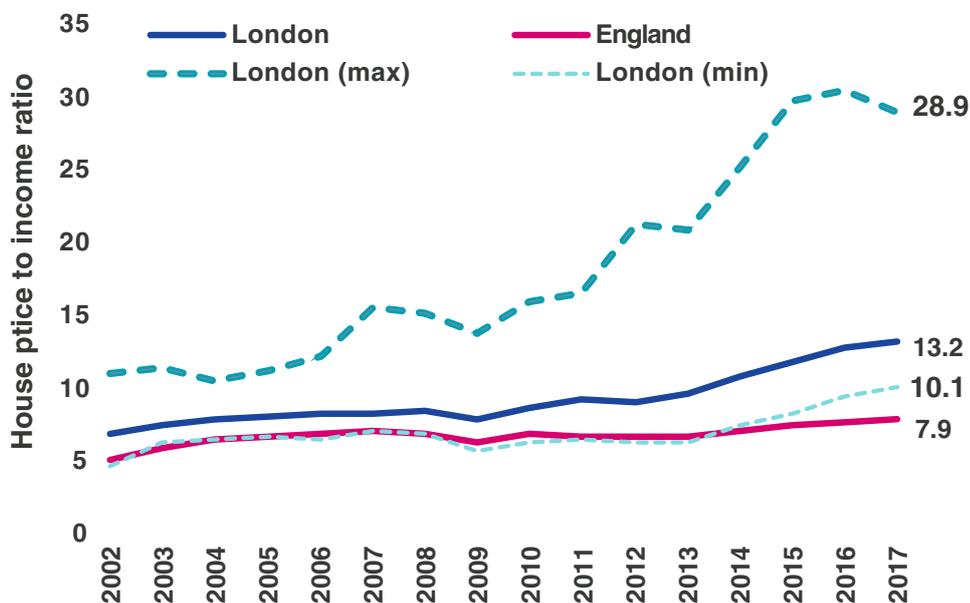


Source: Housing targets from new London Plan compared to historic housing delivery rates from MHCLG 2018

4 Affordability crisis

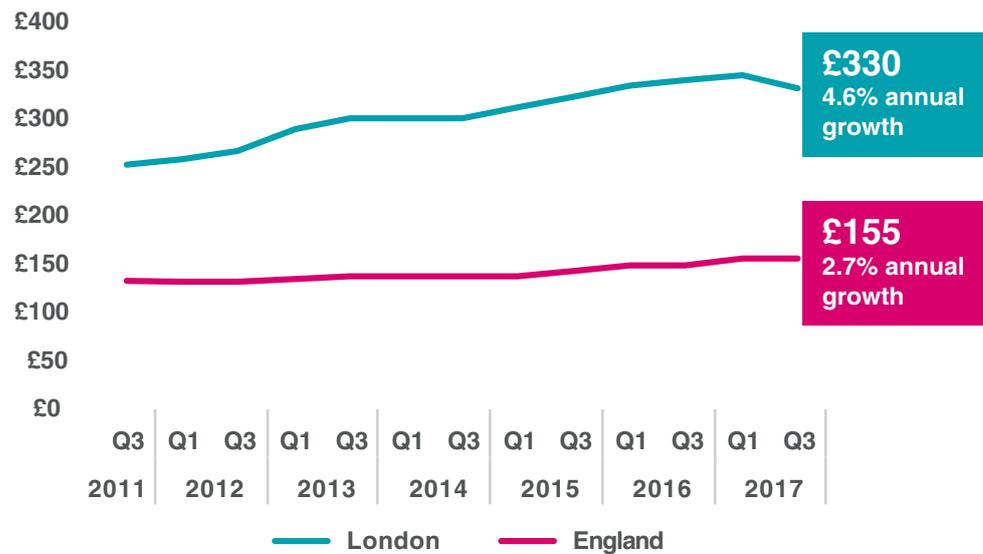
- 4.1 The historic under supply of housing, as set out in the previous chapter, has placed significant upward pressure on the cost of housing, which has led to the current affordability crisis. The impacts of the crisis are evident across England but are felt most acutely in major cities – and particularly in London.
- 4.2 Figure 8 shows that the median house price to income ratio in England has increased from 5.1 in 2002 to 7.9 in 2017. The ratio in London has increased even more rapidly from 6.9 in 2002 to 13.2 in 2017.
- 4.3 This means the median house in London costs over 13 times the median earnings of a London resident. Given that banks typically lend up to four times the average earnings of an applicant, a couple both earning average incomes would need a deposit of over twice their joint average earnings to buy a median-priced home in London. A single person would require a deposit of almost nine times their earnings. This is prohibitive to the majority of first-time buyers.
- 4.4 The house price to income ratio is even higher in some London boroughs. For example, it is 28.9 in Kensington and Chelsea, 24.1 in Westminster, and 19.2 in Hammersmith and Fulham. The blue dashed line in Figure 8 shows the maximum house price to income ratio of a London borough in a given year (Kensington and Chelsea in 2017). The blue dotted line shows the lowest house price to income ratio of a London borough in a given year (10.1 in Bexley and Barking and Dagenham in 2017, which was still above the England average of 7.9).

Figure 8: Median house price to income ratio (residence-based)



- 4.5 The affordability crisis also affects the private rental market. Figure 9 shows that median weekly private sector rent in England is now c. £155, and this has increased by 2.7% each year on average over the last six years (from Q3 2011 to Q3 2017)³. Rents in London have increased at a faster rate, 4.6% on average each year, and are more than double the England average at c. £330 per week, equivalent to £17,000 per year.
- 4.6 The Office of National Statistics⁴ found that on average across the UK, households spend 27% of their gross (i.e. before tax) salary on rent. However, this varies hugely across the country, with Londoners spending nearly half (49%) of their salary on rent. Allowing for average taxes paid, this would equate to average households across the UK spending 39% of net income on rent and Londoners spending 70% of their net incomes on rent. Research⁵ found that this rose to be as high as 89% for single-earner households in London, leaving just 11% of disposable income left to live on after housing costs.

Figure 9: Median private weekly rents



Source: Average private rents by local authority, VOA, 2017

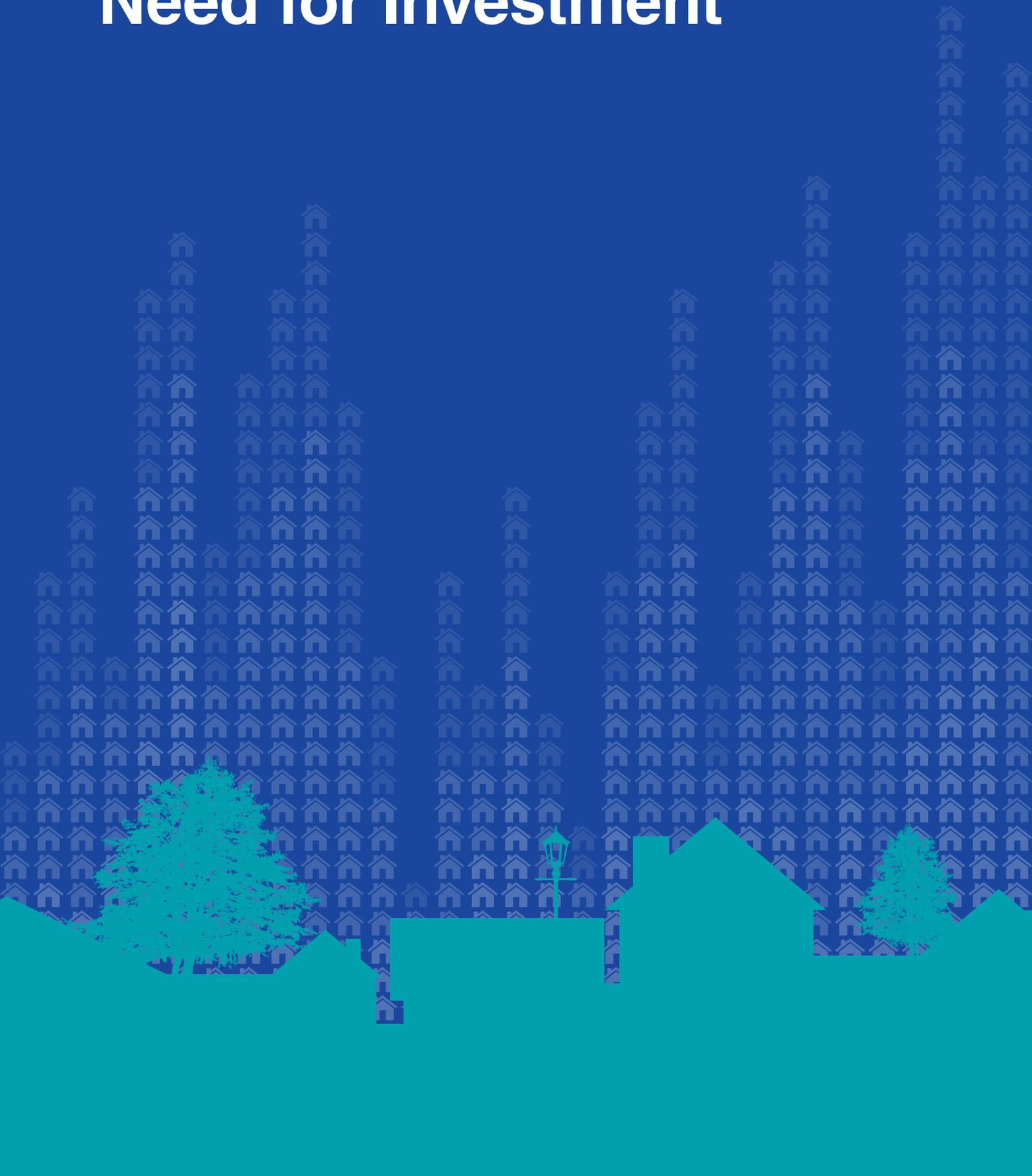
³ Note that this is the longest period for which this data is available.

⁴ ONS, as reported by the BBC in December 2017.

⁵ As reported by PropertyWire in April 2018 based on data by Landbay.

Section B

Need for Investment



5 Total capital cost of housing delivery

- 5.1 To assess what the nation needs to spend to build 300,000 new homes a year it is necessary to first quantify what is currently being spent by both the public and private sector on delivering new homes.
- 5.2 Data on private expenditure in the housing market is not readily available. It is therefore necessary to estimate the total investment in housing delivery, which is covered in this chapter, and then disaggregate this between private and public expenditure (there is data on public expenditure, and this is discussed in more detail in chapter 6 below)⁶.
- 5.3 Volterra has used two approaches, and three methods, to estimate the total capital expenditure on housing delivery across England. First, a top-down approach (the construction output method) and second, a bottom-up approach (the building costs and the affordable homes methods).
- 5.4 The top-down approach (construction output method) takes the total construction output relating to housing in London and England as a whole, which is available from the Office of National Statistics and considers how this relates to the number of homes delivered. The bottom-up approach (building costs and affordable homes methods) uses data on the costs of constructing an individual home in London and England, and scales up for the number of homes built.
- 5.5 In all three approaches, appropriate adjustments have been made to ensure that the cost of land is included within the estimated total cost of delivering new homes.
- 5.6 The most up-to-date national housebuilding statistics are for 2016/17⁷, so this is also the period used to estimate historic total spending on delivering new housing. More detail on these approaches and the sources of information used can be found in Appendix A.

⁶ At this high level of analysis, the estimates have not sought to delineate the money spent by a housing association from that which it raises privately and that which it receives via government grant.

⁷ MHCLG Live tables on housing supply: Table 122: net additional dwellings, by local authority, England 2001-02 to 2016-17. Released 16 Nov 2017.

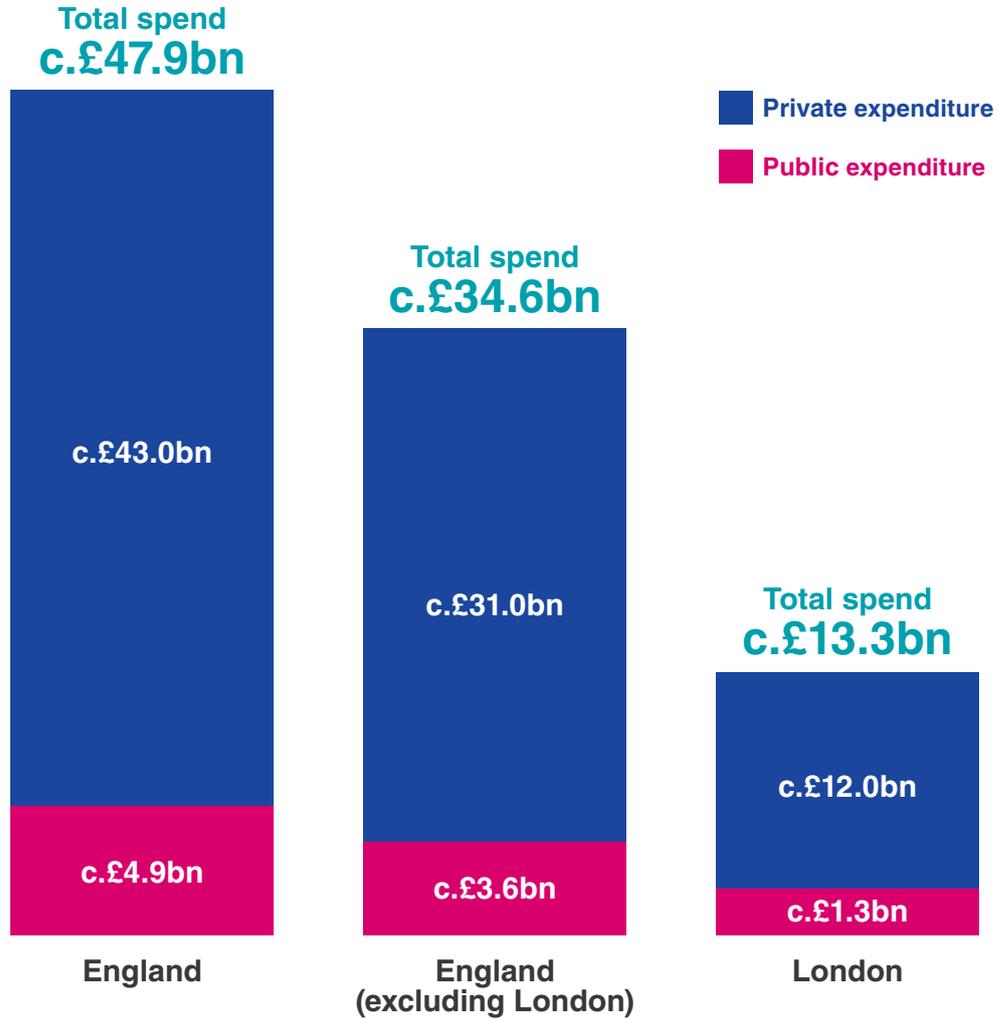
Table 1: Summary of approaches

Approach used	Average cost per dwelling		Total expenditure in 2016/17		
	London	England excluding London	London	England excluding London	TOTAL
Building costs method	£327k	£213k	£12.9bn	£37.8bn	£50.7bn
Affordable homes method	£330k	£184k	£13.1bn	£32.7bn	£45.8bn
Construction output method	£353k	£188k	£14.0bn	£33.3bn	£47.3bn
AVERAGE	£336k	£195k	£13.3bn	£34.6bn	£47.9bn

Source: Volterra calculations 2018 (see Appendix A for detail of individual sources and approaches used)

- 5.7 Table 1 summarises the estimates arising from the three methods and shows that they are all of a similar magnitude. The affordable homes method results in the lowest overall cost estimate, which is unsurprising given it is based on estimated delivery costs for affordable rather than market housing. All three methods estimate a higher cost per dwelling in London (53%–88% higher) in comparison to the rest of England.
- 5.8 Based on averaging these three approaches, Volterra estimates that the total capital cost of housing delivery in England in 2016/17 was c. £47.9bn, of which c. £13.3bn was in London and c. £34.6bn in the rest of England.
- 5.9 Figure 10 highlights this estimated breakdown of capital expenditure on housing delivery in 2016/17 by location. It shows that of the estimated c. £47.9bn, c. £4.9bn was government spending and c. £43bn was private sector spending. This is equivalent to c. £1 in every £10 being government expenditure and £9 in every £10 being private sector expenditure. In terms of the geographical distribution, c. £13.3bn (c. £1.3bn government and c. £12.0bn private) of capital expenditure was spent in London.

Figure 10: Capital expenditure on housing delivery in England and London (2016/17), split into public and private sector expenditure



Source: PESA 2018; Volterra calculations

5.10 The private sector component of the c. £47.9bn estimate is calculated by subtracting the public sector component, which is analysed in detail in chapter 6 below, from the total capital expenditure estimate.

6 Public expenditure on housing

6.1 Public expenditure on housing falls into several different categories. It can be: capital or current expenditure; supply side (supporting construction) or demand side (helping people with housing costs) expenditure. The analysis below looks at how the government allocates its spending and the share that housing gets of the total spend. It then sets out how much capital expenditure the government spends on building new homes in England and in London.

Government expenditure by category and relative to GDP

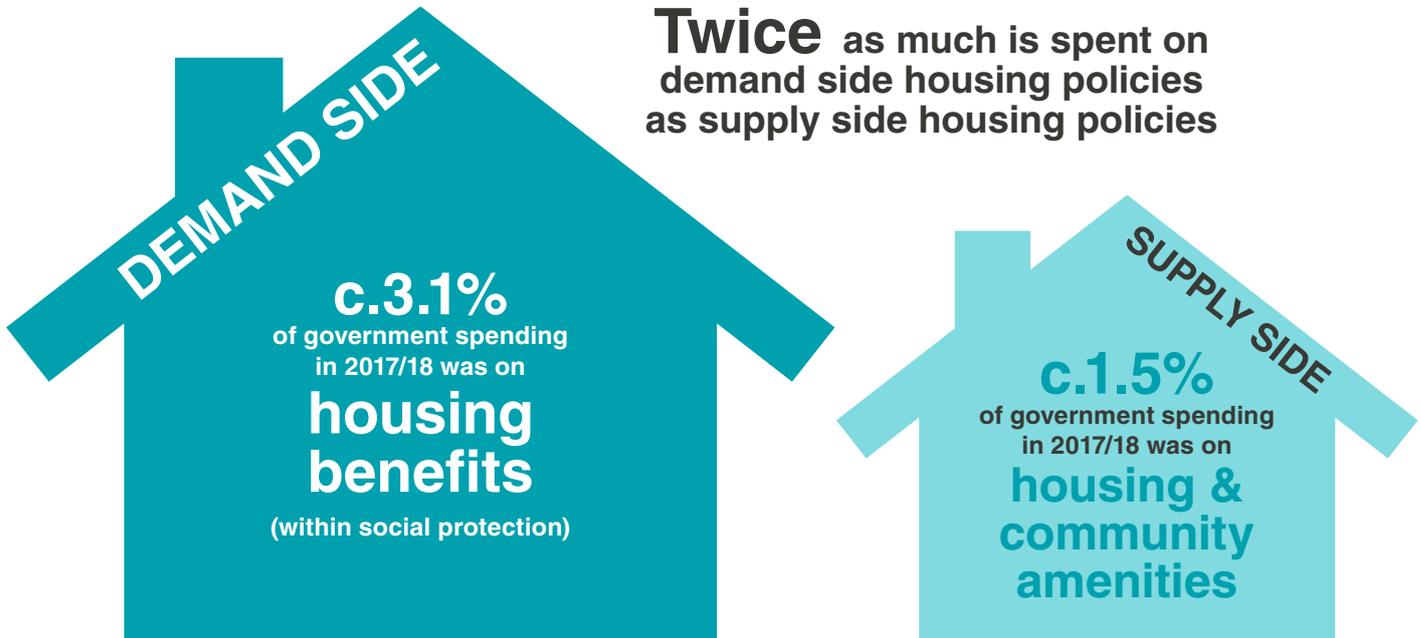
- 6.2 In 2017/18, the government spent c. £790bn⁸. In real terms this total expenditure rose fairly consistently from 1993/94 to 2009/10 (rising from a minimum of c. 34% of GDP to a peak of just under c. 45%) and since then has been broadly static at c. £790bn. As GDP has risen, spending has fallen back from the peak of c. 45% to under c. 40% of GDP.
- 6.3 By far the largest component (34% or £268bn in 2017/18) of government spending is allocated to social protection⁹. Of this money spent on social protection, c. 10% (or c. £24bn in 2017/18) was on housing; this is demand side housing expenditure, helping households with their housing costs. The capital spending allocated to housebuilding (as well as a small amount of revenue spending) is contained within the housing and community amenities category of government spending. This received less than c. 1.5% of government spending (c. £12.1bn in 2017/18).
- 6.4 Figure 11 highlights the substantial difference between government demand side spending on housing (via the social protection budget) and supply side spending (via the housing and community amenities budget). In 2017/18, demand side spending was more than double supply side (this is actually the lowest differential for the past five years during which time it averaged 2.5 times)¹⁰.

8 This spending is labelled by the government as total managed expenditure.

9 Social protection is the financial assistance and services provided to those in need or at risk of hardship. It covers a range of benefit payments, tax credits, pensions, payments in kind and the provision of services. The largest component of the social protection budget (over 45%) goes on old age (pensions), followed by sickness and disability benefits (20%), other benefits (family benefits, Income Support, universal credit and tax credit) (12%), housing and family and children each then account for around 9-10%.

10 Help to buy equity loans fall within MHCLG's capital budget which is in turn ascribed to the Housing and Community Amenities category of spending and are therefore included within our supply side figures. MHCLG's capital spending in relation to Help to Buy equity loans, and various other housing packages, is planned by HM Treasury to rise from £1.6bn in 2017/18 to £2.2bn in 2018/19 to £4.7bn in 2019/20.

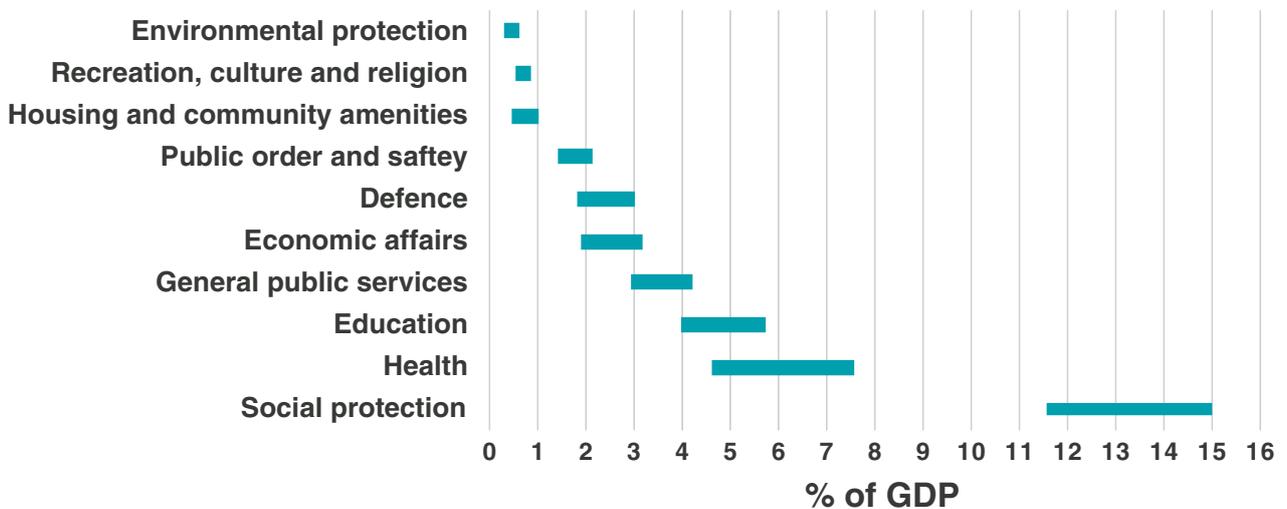
Figure 11: Comparison of demand side v supply side government spending on housing, 2017/18



Source: PESA 2018

6.5 Figure 12 shows that since 1993/94, the proportion of GDP spent on 'housing and community amenities' has never been higher than 1.1%. To put this in context, over this same period the total expenditure on defence has always been above 2%, education and health both above 4%, and social protection above 11%.

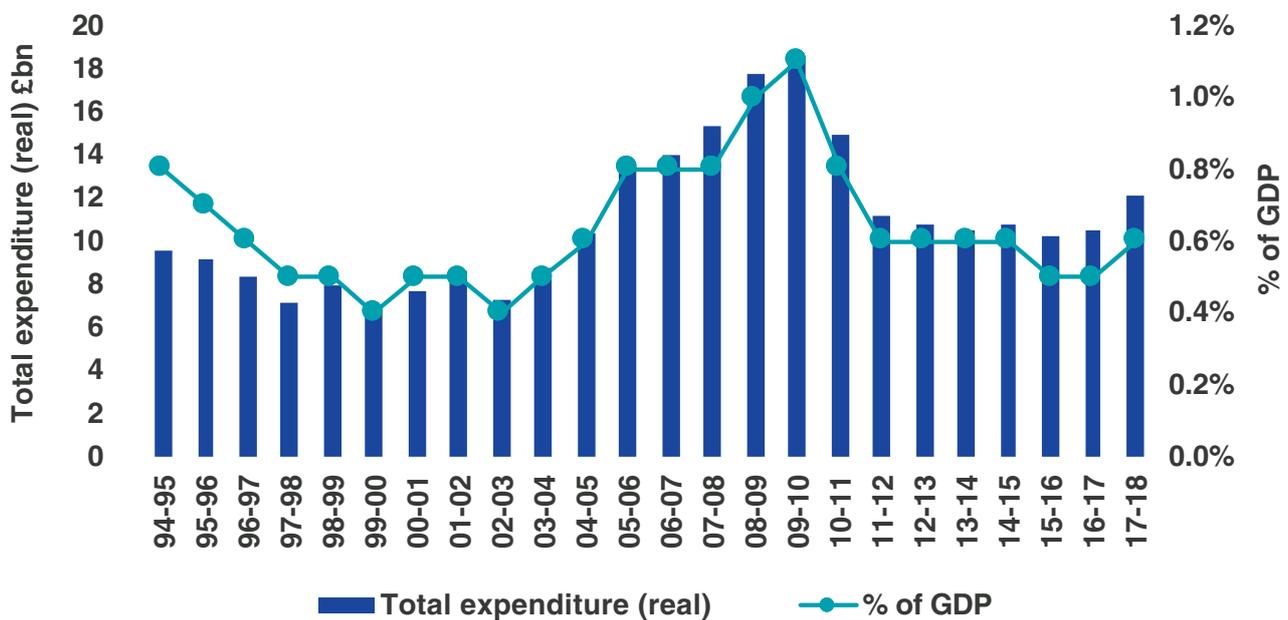
Figure 12: Public sector expenditure as % of GDP in the UK (range between 1993/4 to 2017/18)



Source: PESA 2017; PESA 2018

- 6.6 As shown in Figure 13, the peak of government expenditure on 'housing and community amenities' over the last 20-plus years was in 2009/10, when expenditure was £16bn. This also represents the largest proportion of GDP (1.1%) that has been spent on 'housing and community amenities' over the same period, and the only time where it has been over 1%. For the past seven years it has been consistently low, at just 0.5% or 0.6% of GDP, although there has been a slight increase over the past three years.

Figure 13: Total (real) expenditure on 'housing and community amenities' and % of GDP in the UK

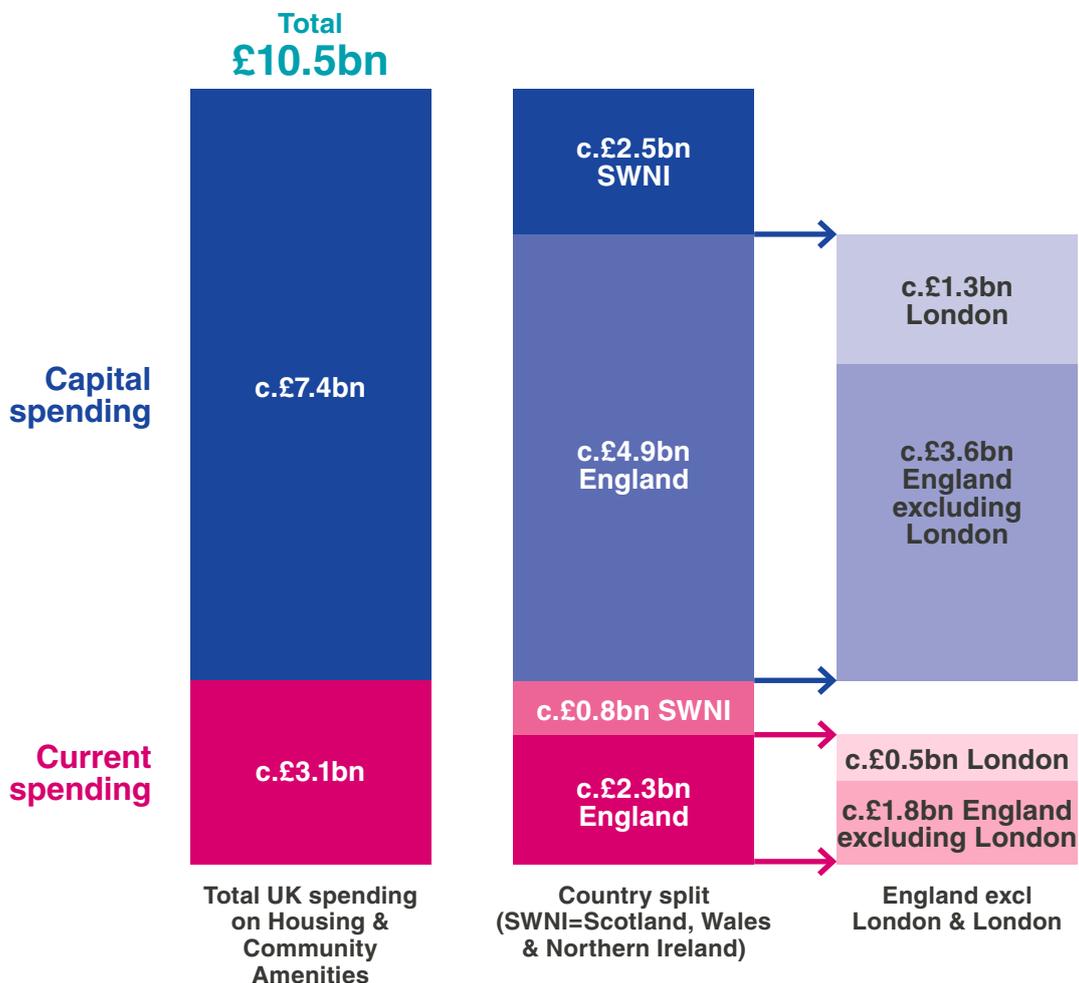


Source: PESA 2018

Expenditure on housing delivery in England and London

- 6.7 The government spending data release provides a breakdown of current and capital expenditure by category and by region, including London. This geographical breakdown is only available up to the year prior to the latest data release, making 2016/17 the most up-to-date spending data that includes a London breakdown. This period is also the latest year for which the government's housing delivery data is available, so the analysis below and in chapter 7 is based on 2016/17 data and ensures a consistent approach timewise.
- 6.8 In 2016/17, government spending on housing and community amenities was c. £10.5bn. Of this spending, c. £7.4bn (70%) was capital and c. £3.1bn (30%) was current. England received the largest share of capital spending at c. £4.9bn and of current spending at c. £2.3bn, of which London received c. £1.3bn of capital spending and c. £0.5bn of current spending. The full breakdown of spending is shown in Figure 14.

Figure 14: 2016/17 Expenditure on Housing and Community Amenities disaggregated into current/capital, and for England and London



7 The cost of bridging the housing gap

- 7.1 Chapter 5 estimated the total capital cost of housing delivery in England in 2016/17 was c. £47.9bn, of which c. £13.3bn was spent in London and c. £34.6bn in the rest of England. This spending built 217,000 homes in England, of which just under 40,000 were in London. But if the government is to hit its housing target and bridge the housing gap, how much capital expenditure is required to help deliver 300,000 homes a year?
- 7.2 Volterra estimates that the cost of delivering 300,000 homes a year in England, of which 65,000 (the new London Plan target) are in London, is c. £67.6bn (see Table 2). This calculation is an estimate based on a pro-rata approach, which simply uplifts the total capital expenditure cost estimate for 2016/17 to adjust for the cost of delivering more homes. Total capital expenditure on housing delivery in England in 2016/17 is estimated to be c. £47.9bn. This supported the delivery of 217,000 homes, of which c. 40,000 were in London. If the same cost per home estimate is used (split by inside and outside of London), then capital expenditure would need to increase to £67.6bn to deliver 300,000 homes a year, of which £21.9bn would need to be spent in London to deliver 65,000 homes.

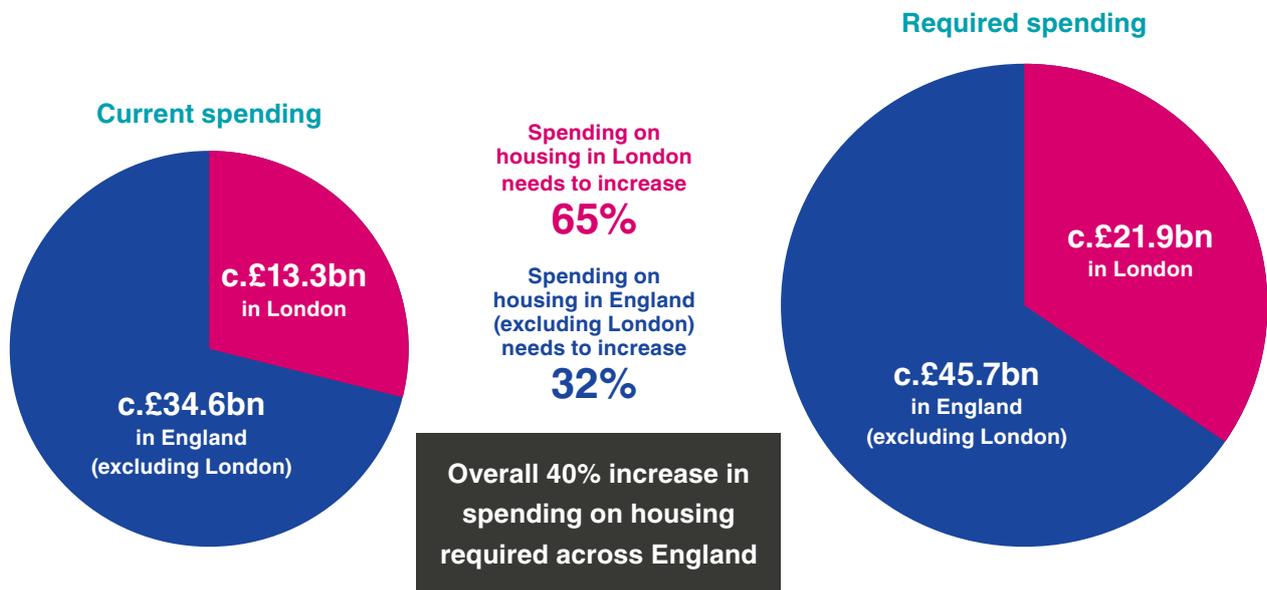
Table 2: Total estimated capital cost of delivering 300,000 homes

	London	England excluding London	England
Homes	65,000	235,000	300,000
Cost per home	£336k	£195k	£225k
Volterra estimates	£21.9bn	£45.7bn	£67.6bn

Source: Volterra calculations

- 7.3 As Figure 15 shows, this means an increase in capital expenditure is required of: c. £19.7bn or 40% in England; c. £11.1bn or 32% in England excluding London; and c. £8.6bn or 65% in London. The significant increase required in London reflects the higher cost of delivering new homes in London and the substantial increase in the capital's housing target.

Figure 15: The increase in spending required to deliver 300,000 homes



Source: Volterra calculations

7.4 These are high level estimates designed to give a reasonable indication of the scale of the challenge that the nation faces to find the expenditure required to build more homes. The pro-rata approach outlined above is very broad brush and might underestimate the potential cost for four reasons:

- such a large increase in housebuilding could reasonably be expected to contribute to material and labour cost inflation;
- similarly, as land is a finite resource, and the cost of land is a significant component of the cost of delivering new homes, it may be expected that the cost of land per home would also rise;
- average site quality/location/type could be different when delivering more homes, with more sites potentially being complex and thus requiring more remediation or investment; and
- cross-subsidy from housing associations, and other components of grant funding and investment that enable borrowing to facilitate investment, might not be capable of increasingly linearly, which could in turn mean that the overall cost of investment rises.

7.5 There are of course policy choices the government could make, as discussed more broadly in the next chapter, that could counteract some of the points above. To give one example, to help address material and labour costs a significant government drive to support the growth of modern methods of construction could be undertaken. Either way, it was not within the scope of this report to undertake dynamic modelling, rather to provide a point in time estimate given current cost estimates. Therefore, the figures should be viewed as a minimum level given today's per-home costing estimates.

8 Hard choices

- 8.1 There is clear agreement from the UK's major political parties that as a nation we are failing to build enough homes to adequately house the population. But as a nation we have yet to reach a consensus about the steps that must be taken to address this problem. Central to any long-term and comprehensive approach to increasing housing supply is the role of government and, in particular, the amount of capital spending it allocates to housing delivery. This report estimates that delivering 300,000 homes in England, of which 65,000 would be in London, costs c. £67.6bn – an increase of c. £19.7bn in total, of which c. £8.6bn is needed in London. So how as a nation do we want to pay for this?
- 8.2 If the government is serious about addressing the housing crisis, bridging the gap between current housing supply and demand, and therefore also helping to tackle the high cost of housing, it must: look at how much money it spends on housing delivery; the policy framework for housebuilding; and how these two factors relate to private sector investment in housing delivery. Action is being taken; the 2017 Budget allocated more money to housebuilding, and the planning system continues to be reformed, with a new version of the National Planning Policy Framework published in July 2018. However, as matters stand, only a supreme optimist would conclude these actions amount to a long-term plan to consistently deliver 300,000 homes a year for the foreseeable future.
- 8.3 Essentially, the government has three options as to how it could bridge the funding gap. It could step in and fund the entire gap; this would require a fivefold increase in public sector investment in new housing. Alternatively, it could rely entirely on the private sector to fill the gap, expecting it to increase spending by over 45%. Or, more plausibly, a blended approach between the two extremes of the government and private sector-led approaches could be pursued to bridge the gap. The three options are summarised below:
- **The government fills the gap** (from private expenditure of c. £43bn in 2016/17 and the total required expenditure of c. £67.6bn): This would mean government spending c. £24.6bn a year on capital expenditure to deliver new homes, five times its 2016/17 spending of c. £4.9bn. In London, this would mean government spending rising from c. £1.3bn in 2016/17 to c. £9.9bn – an increase of c. £8.6bn, or more than sixfold. This approach brings certainty, in that government can commit and build. But it also creates substantial challenges, notably over public expenditure at a time of constrained public finances – although it is worth noting that, over time, lower housing occupancy costs would lead to reductions in social security spending on housing.
 - **The private sector fills the gap** (from government expenditure of c. £4.9bn in 2016/17 and the total required expenditure of c. £67.6bn): This would mean the private sector spending c. £62.7bn a year on capital expenditure to deliver new homes, an increase of over 45%. In London, this would mean private sector spending rising from

c. £12.0bn in 2016/17 to c. £20.6bn – an increase of c. £8.6bn, or more than 70%. The government could support such an increase through reviewing and reforming a wide range of development policies: for example, requiring new homes to be built at significantly higher density levels than is currently permitted, or removing or significantly relaxing restrictions on building in the greenbelt. This is an inherently unpredictable approach, because although it is likely that such changes would lead to increased private investment, there is no certainty that it would do so sufficiently.

- **A mixed economy:** The government increases its capital spending on housing delivery while also creating a more enabling policy framework to encourage greater levels of private sector investment. In this approach, the policy choices could be less stark: for example, rather than removing restrictions on greenbelt development, the ability to build in certain parts of it, such as brownfield sites close to tube or train stations, might be permitted. It is difficult to predict how policy change and increased government investment would feed through into private sector investment. However, two hypothetical scenarios based on Volterra estimates for government capital spending on housing doubling and tripling would mean that public sector capital spending could rise from c. £4.9bn in 2016/17 to between c. £9.8bn-£14.7bn, meaning private sector spending would need to rise from c. £43.0bn in 2016/17 to between c. £52.9bn-£57.8bn. In London, this would mean public sector spending rising from c. £1.3bn in 2016/17 to between c. £2.6bn-£3.9bn and private sector spending rising from c. £12.0bn in 2016/17 to between c. £18.0bn-£19.3bn. Table 3 provides the full range of figures for the hypothetical scenarios.

Table 3: Scenarios for capital spending on housing delivery in London and rest of England under the mixed economy option

	Spending 2016/17			Mixed economy (2x)			Blended option (3x)		
	London	England excluding London	TOTAL	London	England excluding London	TOTAL	London	England excluding London	TOTAL
Public	£1.3bn	£3.6bn	£4.9bn	£2.6bn	£7.2bn	£9.8bn	£3.9bn	£10.8bn	£14.7bn
Private	£12.0bn	£31.0bn	£43.0bn	£19.3bn	£38.5bn	£57.8bn	£18.0bn	£34.9bn	£52.9bn
Total	£13.3bn	£34.6bn	£47.9bn	£21.9bn	£45.7bn	£67.6bn	£21.9bn	£45.7bn	£67.6bn

Source: Volterra calculations

8.4 In the 2017 Budget, the Chancellor described his action on housing as a ‘substantial down payment’¹¹. Yet viewed within the context of government spending on housing over the last ten years, the present picture does not look quite so healthy. In 2016/17, government spending on housing and community amenities across the whole of the UK was 0.5% of GDP; by contrast, in 2009/10 it was 1.1% of GDP. This means that in real terms the amount spent in 2009/10 was almost double that spent in 2016/17¹².

11 Autumn Budget 2017: Philip Hammond's speech, 22 November 2017 <https://www.gov.uk/government/speeches/autumn-budget-2017-philip-hammonds-speech>

12 Covered in detail in chapter 6.

- 8.5 However, the Chancellor's statement was not without merit. In the last year (2017/18), capital expenditure by government on housing delivery has risen by 20%. Nevertheless, as Table 4 shows, there is more work to do to secure the investment that is required. Total capital spending on housing delivery in England alone (across both the public and private sector) would need to increase by approximately one percentage point of UK GDP (2016/17) to hit the 300,000 homes target in England. This is a substantial increase but, with careful planning, an achievable goal.

Table 4: Total capital spending on housing delivery in London, England (excluding London) and England as a percentage of UK 2016/17 GDP

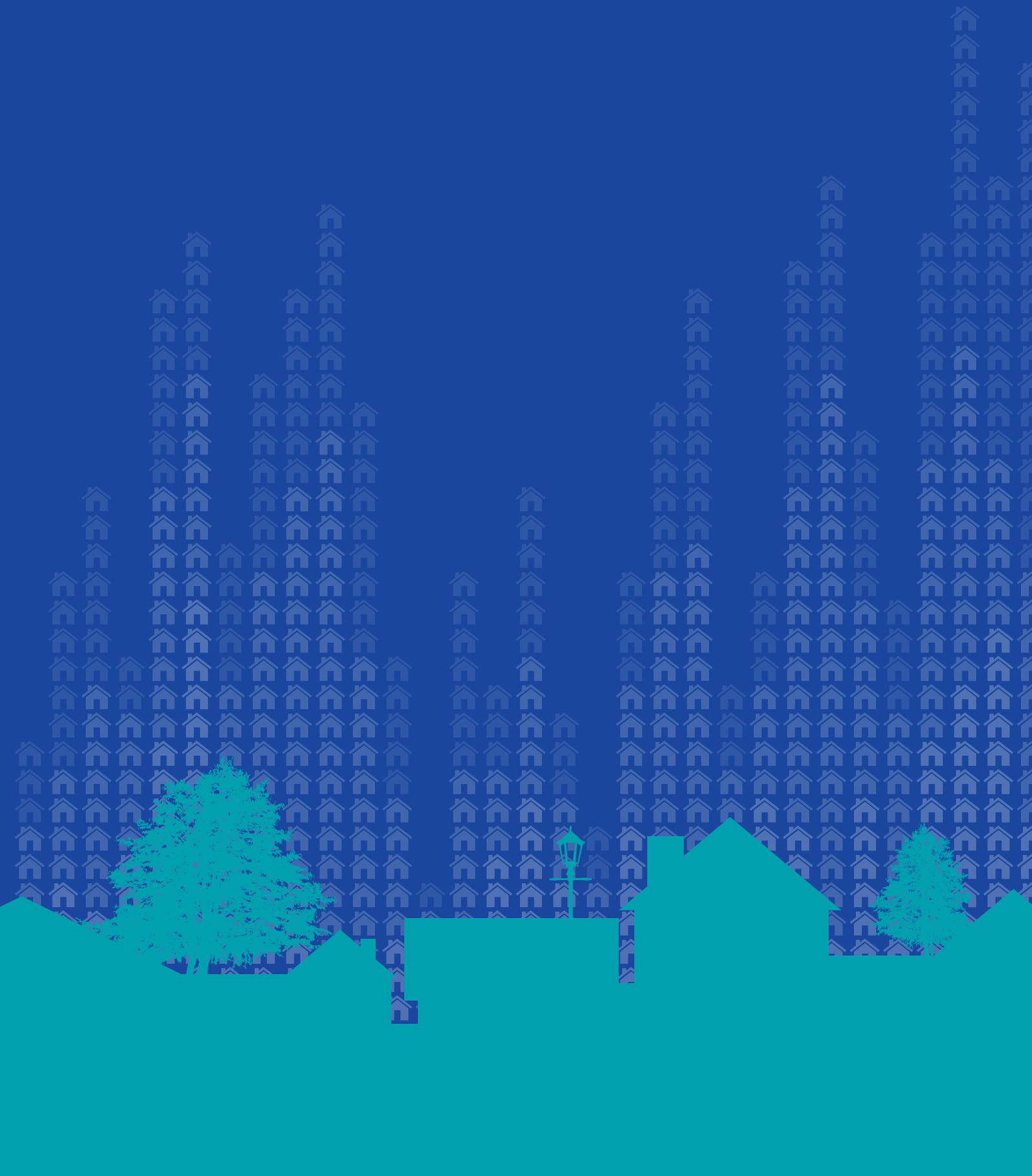
	London	England (excluding London)	England
2016/17 total public and private capital spending on housing delivery	0.6%	1.7%	2.3%
Gap in funding	0.4%	0.5%	1.0%
Total required public and private capital spending on housing delivery to hit 300,000 homes a year, of which 65,000 homes in London	1.1%	2.2%	3.3%

Source: Volterra calculations (totals do not sum due to rounding)

- 8.6 It remains unclear what the government's investment strategy is for meeting its 300,000 homes a year target. Is government going to build on the Chancellor's upfront financial commitment – or is there an expectation that the private sector will step in to carry the remaining costs?
- 8.7 This report has analysed: what the public and private sectors currently spend on delivering new homes; the cost of bridging the housing gap; and three options for how the gap could be bridged. But there are no easy options.
- 8.8 If government is going to fill the gap, it must be prepared to embark on a new era of investment and delivery not seen since the 1960s and 1970s. This will pose a whole range of challenges around the public finances and concomitant skills within the public sector needed to support such a substantial increase in housebuilding. If the private sector is to fill the gap, the government must be prepared to undertake radical reform of the policies that govern development, putting it on both an uncertain and politically challenging course. If the mixed economy option is chosen, far greater coordination is required between government investment and policy reform¹³ and much greater partnership is required with the private sector.
- 8.9 There are hard choices to be made but the nation, through its elected representatives, needs a solution to the country's housing crisis. Now is the time to move from rhetoric to delivery. Whatever option is pursued, the government must pursue an option – if not the ones outlined above then what else?

13 London First has previously outlined several areas of housing and planning policy that should be reformed to help increase housebuilding in London. See, Home Truths, 12 Steps to Solving London's Housing Crisis, London First: March 2014 and several accompanying reports that provide further detailed proposals. All the reports can be accessed at <https://www.londonfirst.co.uk/news-publications/publications?tid%5B0%5D=39>

Appendix



Appendix A: Total capital cost of housing delivery

- 9.1 Data on the level of private sector capital spending to build new homes is not readily available. Therefore, it is necessary to estimate the total capital spending on new housebuilding and subtract the government capital spending in order to arrive at an estimate of private sector capital spending. Many of these build costs (both public and private) exclude the cost of land, which is often owned for some time prior to the building of new homes, and thus is sometimes treated as a sunk cost. Volterra has combined several approaches in order to estimate the total likely cost of housebuilding across England and, specifically, within London, and to include land costs within these estimates.
- 9.2 Further detail on the methodology is set out below, but essentially the total capital spending on housebuilding has been calculated via a top-down approach (the construction output method) and a bottom-up approach (the building costs and the affordable homes methods). None of these methods fully capture land costs (some exclude it completely and some implicitly include it to some extent), so they have all then been adjusted by land cost factors, which are also explained below. Averaging these methods gives an estimated total cost of capital expenditure on housing delivery in England in 2016/17 of c. £47.9bn, of which c. £13.3bn was spent in London, as shown in Table 5.

Table 5: Summary of approaches

Approach used	Average cost per dwelling		Total expenditure		
	London	England excluding London	London	England excluding London	TOTAL
Building costs method	£326k	£213k	£12.9bn	£37.8bn	£50.7bn
Affordable homes method	£330k	£184k	£13.1bn	£32.7bn	£45.8bn
Construction output method	£353k	£188k	£14.0bn	£33.3bn	£47.3bn
AVERAGE	£336k	£195k	£13.3bn	£34.6bn	£47.9bn

Source: Volterra calculations 2018

Land costs

9.3 The three sets of housebuilding estimates set out in this section have been adjusted based upon the assumption that land equates to 30% of total development costs in London, and 20% of total development costs across the rest of England. This assumption is based on the following sources:

- The GLA found that land costs equated to 30% of total development costs¹⁴. The London and value factor is therefore based on this.
- This is consistent with the Savills' rule of thumb that land accounts for approximately one third of costs¹⁵. However, Savills also found that this can vary considerably across the country, depending upon many factors, including planning constraints and tenure mixes.
- Volterra's analysis of the Ministry for Housing, Communities and Local Government's estimates of residential land values per hectare across the country showed that within London the price of land per hectare can vary from fivefold to fifteenfold when compared to the rest of England. However, this is countered to some extent by the number of dwellings per hectare in London, with London rising from c. twice as dense to three times as dense in terms of dwellings per hectare compared to the rest of the country. Research¹⁶ by the Department for Communities and Local government, as it was then called, showed that dwelling density has always been higher in London but has also risen at a faster rate. This study found that in 2000 there were c. 55 dwellings per hectare in London, rising to c. 120 by 2008. In contrast, across the rest of England there were c. 25 dwellings per hectare in 2000 rising to c. 45 dwellings per hectare in 2008.

Building costs approach

9.4 Turner & Townsend's 'International construction market survey' sets out the cost of building (per m²) different types of dwellings by region. Based on this information, Volterra has calculated an upper and a lower bound for the cost of building a dwelling¹⁷ in London and the rest of England.

9.5 Averaging the upper and lower bounds for each geography gives a cost per dwelling of £214,000 in London and £169,000 in the rest of England.

9.6 The Turner & Townsend costs explicitly exclude all land costs. The figures are therefore adjusted based on the assumption that land equates to 30% of total development costs in London, and 20% of total development costs across the rest of England.

¹⁴ GLA Homes for Londoners: Building Council Homes for Londoners. "The costs assume a 70:30 split between work-only and acquisition and works projects."

¹⁵ Savills: The value of land, June 2015.

¹⁶ CLG: Land Use Change Statistics (England) 2009 – provisional estimates.

¹⁷ Values taken from Turner & Townsend's 2017 study in order to be consistent with this report's base-model year of 2016/17. Note that prestige housing has not been included, as these are deemed to be rarer. Cost per dwelling was calculated assuming an average dwelling size of between 80m² and 100m². While average new homes in London were 80sqm in 2017 and 95sqm across the rest of England, an average across both sizes is taken because the lower and upper build costs also vary by type of home, with the highest cost being for high-rise apartments, which represent a larger proportion of the new-build market within London than elsewhere.

9.7 Based on the housebuilding statistics for 2016/17, this gives a total of c. £50.7bn, of which c. £12.9bn is spent in London, as shown in Table 6.

Table 6: Turner & Townsend building cost method

	T&T - London		T&T - Rest of England	
	Lower	Upper	Lower	Upper
Average build cost per sqm	£1,865	£3,080	£1,345	£2,330
Average sqm	80	100	80	100
Average build cost per dwelling	£149k	£308k	£108k	£233k
	£229k		£170k	
Average cost per dwelling including land	£327k		£213k	
Total cost implied for latest year	£12.9n		£37.8bn	
	£50.7bn			

Source: International construction market survey 2017, Turner & Townsend; Volterra calculations

Affordable homes approach

9.8 In January 2014, the Homes and Communities Agency (HCA), now called Homes England, announced that 165,000 affordable homes would be built using a mix of £3.3bn of public funds and approximately £20bn from the private sector¹⁸. This implies an approximate cost per affordable home of £141,000 (in 2014 prices), which is equivalent to £147,000 in 2017 prices.

9.9 The HCA funding prospectus that outlines these figures aimed to attract the most advantageous funding bids to evidence that significant private sector funds were being leveraged by the available public sector funds. In many places therefore, it refers to local authorities, partnerships or developers being encouraged to bring forward schemes with land at nil cost – either through conversions of existing stock or building new stock on existing owned land. The approach taken is a sensible way to allocate government funds, but it implicitly means that the resulting per home cost estimate is likely to exclude almost entirely the sunk cost that those land owners (either public or private) have already incurred in acquiring the land on which to build the proposed affordable homes. For this reason, this estimate of average cost per affordable home has also been adjusted upwards based on the assumption that land costs account for 20% of costs across England, excluding London.

9.10 In 2018, the GLA estimated ¹⁹ that the cost, including land, of delivering an affordable home in London is £330,000. This average cost has therefore been used for the London element of this calculation.

9.11 Applying these costs per dwelling to the number of dwellings built in London and the rest of England in 2016/17 gives a total expenditure of c. £45.8bn, of which c. £13.1bn would have been in London, as shown in Table 7. It is acknowledged that this is the cost of building an affordable home, which is likely to be lower than the cost of an average dwelling.

Table 7: Affordable homes approach

	London	Rest of England
Total cost	n/a	£23.3bn
Affordable dwellings	n/a	165,000
Average cost per dwelling (2015) Adjusted to 2017 prices Including land costs	£330k	£141k (2015 prices) £147k (2017 prices) £184k (2017, including land)
Total cost implied for latest year (2017 prices)	£13.1bn	£32.7bn
	£45.8bn	

Source: HCA, GLA; Volterra calculations

Construction output method

9.12 In 2017, the construction output ²⁰ for new housing in England was £36.4bn, of which £31.3bn was spent on private housing and £5.1bn was spent on public housing. In London the total construction output for new housing was £9.7bn, of which £7.8bn was private and £1.9bn was public.

9.13 This implies an output per home of c. £168,000 in England. This is skewed by the higher figure in London (£247,000) compared to the rest of England (£150,000). These figures also exclude land costs and so have been adjusted by the same factors as described previously. Table 8 shows the final figures.

¹⁹ GLA Homes for Londoners: Building Council Homes for Londoners.

²⁰ Construction output is defined by the Office of National Statistics as 'the amount charged by construction companies to customers for the value of work (produced during the reporting period) excluding VAT and payments to sub-contractors'.

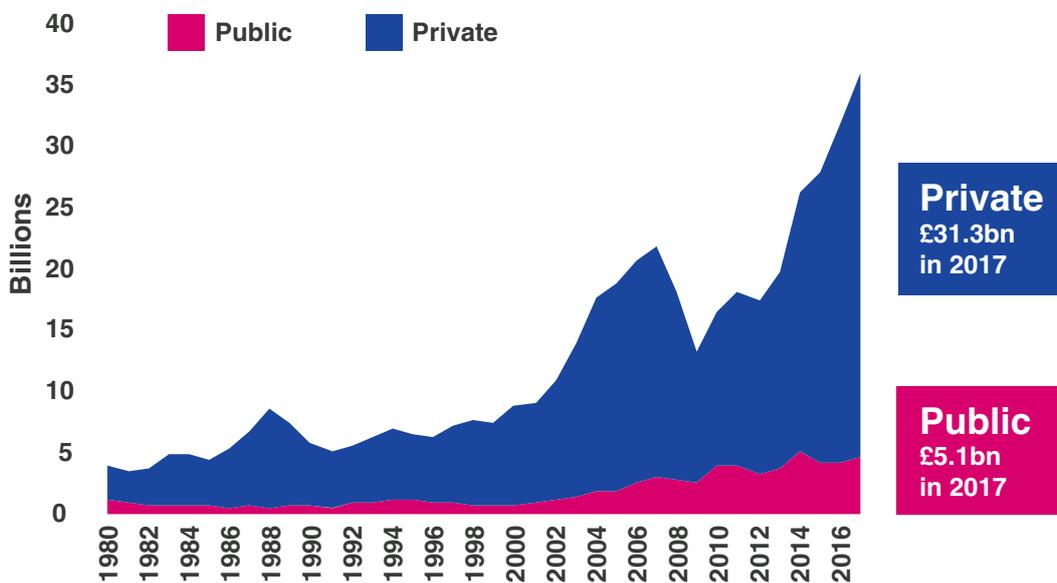
Table 8: Construction output per dwelling

	London	England excluding London	England (total)
Construction Output 2017	£9.7bn	£26.7bn	£36.4bn
of which: private	£7.8bn	£23.5bn	£31.3bn
of which: public	£1.9bn	£3.2bn	£5.1bn
Dwellings	40k	178k	217k
GVA /dwelling	£247k	£150k	£168k
Cost per dwelling including land	£353k	£188k	£218k
Total cost (£bn)	£14.0bn	£33.3bn	£47.3bn

Source: Output in the Construction Industry, Reference Tables, 10 August 2018, Office of National Statistics; Volterra calculations

9.14 Figure 16 shows how the output of the construction sector on new homes has grown since 1980. There has been significant growth overall, largely driven by growth in investment in private dwellings.

Figure 16: Construction output on housing, seasonally adjusted (current prices)



Source: Output in the Construction Industry, Reference Tables, 10 August 2018 (combined with previous publications), Office of National Statistics

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