

# A tale of two cities (part 1)

## A plausible strategy for productivity growth in Birmingham and beyond

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This is one of a pair of linked reports about how to improve productivity in the UK's twin second cities. Some of the text is common to both reports.

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## The Economy 2030 Inquiry

The Economy 2030 Inquiry is a collaboration between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics, funded by the Nuffield Foundation. The Inquiry's subject matter is the nature, scale, and context for the economic change facing the UK during the 2020s. Its goal is not just to describe the change that Covid-19, Brexit, the Net Zero transition and technology will bring, but to help the country and its policy makers better understand and navigate it against a backdrop of low productivity and high inequality. To achieve these aims the Inquiry is leading a two-year national conversation on the future of the UK economy, bridging rigorous research, public involvement and concrete proposals. The work of the Inquiry will be brought together in a final report in 2023 that will set out a renewed economic strategy for the UK to enable the country to successfully navigate the decade ahead, with proposals to drive strong, sustainable and equitable growth, and significant improvements to people's living standards and well-being.

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## Centre for Cities

The cities project within the Economy 2030 Inquiry has been run in partnership with Centre for Cities, a think tank dedicated to improving the economies of the UK's largest cities and towns. Visit [www.centreforcities.org](http://www.centreforcities.org).

## Contents

Acknowledgements	2
Executive Summary	5
Section 1	
<b>Introduction</b>	<b>18</b>
Section 2	
<b>A plausible strategy for a higher- productivity Birmingham urban area</b>	<b>25</b>
Section 3	
<b>The role of the city centre in a higher-productivity Birmingham urban area</b>	<b>43</b>
Section 4	
<b>Transport in a higher-productivity Birmingham urban area</b>	<b>60</b>
Section 5	
<b>Housing in a higher-productivity Birmingham urban area</b>	<b>76</b>
Section 6	
<b>Living standards in a higher-productivity Birmingham urban area</b>	<b>92</b>
Section 7	
<b>Conclusion</b>	<b>106</b>
Annex 1 : Explaining productivity differences across place	110
Annex 2 : Income modelling	121

## Executive summary

After the success of the Commonwealth games in 2022, Birmingham is now in the news for the wrong reasons. Financial difficulties facing the City Council culminated in a formal declaration on 5 September 2023 that Britain's largest local authority was, in effect, bankrupt. But the understandable short-term focus on the council's financial woes must not distract from the wider deficits – not least on productivity and employment – which confront the urban area that Birmingham sits at the heart of. From the perspective of the UK's economic strategy, and in a much broader sense than one council's finances, Britain cannot afford Birmingham to be bust.

Few would disagree that Britain has a significant productivity problem, and few would fail to recognise the contribution of the poor performance of the UK's largest cities outside the capital to that situation. Bucking the global trend for bigger urban areas to be more productive, most of our largest cities' productivity lags the UK average. The country as a whole is poorer as a result.

At the centre of this problem lie the UK's 'twin second cities': Greater Manchester and Birmingham. Their weak economic performance has its long roots in the rapid deindustrialisation of the second half of the 20th century, but the fact that this situation persists today reflects more recent failures. Their sheer size (a combined population of 5.6 million) and central role in their regional economies (there is no route to a prosperous Black Country or wider West Midlands that does not run through a more

productive Birmingham) means they should be centre-stage in our attempts to boost aggregate growth, and to close regional productivity and income gaps.

But understanding the case for change is different from setting out a plausible path for making it happen. As part of the Economy 2030 Inquiry, this report on the Birmingham urban area (an area which includes the conurbations of Birmingham and Wolverhampton but excludes Coventry; hereafter, 'the BUA'), and a twin paper on Greater Manchester, provide grounded answers to the difficult question of what it would take to achieve a higher-productivity future for these two great, but different, cities. Rooted in local realities and sharpened through conversations with local policy makers and residents alike, we set out here what a higher-productivity future would really entail for the BUA: a place with a crucial role to play in a more prosperous Britain.

### Britain needs a more prosperous Birmingham

As recently as the 1960s, worries that Birmingham's economy was too strong (with incomes well above, and unemployment below, national averages) were so widespread that national government legislated to limit its growth. The BUA is not in such a position today, with productivity (output per job) 14 per cent, and employment rates a full 5 percentage points, below the national average. In 2019, average gross value added (GVA) per worker in the city region stood at £50,505, above that of smaller cities such as Newcastle, Liverpool and Sheffield but below Greater Manchester, Glasgow and Cardiff. Moreover, the BUA was 37 per cent less productive than London, a much greater gap than that between France's third city, Toulouse, and Paris, which stood at just 27 per cent in the same year.

But the Birmingham urban area is also the UK's third most populous city region after London and Greater Manchester, highlighting the potential – given that, globally, larger cities tend to be more productive – for, and national importance of, progress. A markedly higher-productivity BUA would be game-changing for the country, the region, and its many residents. Closing the productivity gap between the BUA and London to, for example, that observed between Toulouse and Paris would increase total GVA by £6.9 billion a year (in 2019 prices), a 0.3 per cent boost to national productivity. This would reduce the UK's gross value added per worker gap with Australia by 12 per cent, and the gap with Germany by 7 per cent.

## It is crucial to move beyond wishful thinking or distractions to understand the likely path to a higher-productivity city region

Moving the economy of the BUA toward a higher-productivity equilibrium is, of course, far easier said than done. It is all the harder if we are distracted by wishful thinking about the scale of change required, ideas that might be attractive but do not offer credible routes to a higher-productivity future, or are confused about the roles that different parts of the city region should play.

This report is far from alone in recognising the importance of a more prosperous BUA, but it is different in spelling out the scale of change that is likely to be required to make it a reality. Modelling suggests reducing the productivity gap with London by one-third (from the current 37 per cent to 25 per cent) could require change equal to increasing Birmingham's business capital by 20 per cent (amounting to a £25 billion aggregate increase) and its population by 165,000. That population growth reflects what it would take to raise the graduate share of employment in the BUA (currently, at 30 per cent, the lowest of all the UK's large cities) by 9 percentage points (or 165,000 graduates), bringing it in line with the likes of Greater Manchester and Coventry. Greater higher education participation and upskilling of existing residents could support a small rise in the graduate share, but an increase on this scale required will not happen without significant inflows of graduates from elsewhere in the country and abroad.

But clarity about the nature, not just scale, of change is needed too: despite popular claims to the contrary, prosperity for the BUA will not come from a focus on raising productivity in local service sectors, such as hospitality, retail and care, or from reindustrialisation. Local (i.e. non-tradeable) services sectors are important, not least because they employ more than half (57 per cent) of the BUA's workforce and deliver valuable services. But they do little to explain the poor performance of the BUA compared to highly productive cities, because there are minimal differences in the productivity of these sectors between places.

That does not hold true, however, for tradeable sectors – whether producing goods or services. Here, there is much more room for improvement. And, with its proud history of metal working and the automotive industry, it is understandable that many view



manufacturing as the central source of future growth in the Birmingham urban area. But it is not plausible that it can play that role.

Although there is scope to improve productivity in local manufacturing – given that manufacturing productivity in the BUA is middle-of-the-pack relative to other UK cities – the sector is too small to make a difference. Even if all manufacturing firms in the city region operated at their sector’s current productivity frontier, the total GVA per worker across the BUA would rise by just 2 per cent. Manufacturing is, and will likely remain, a more prominent feature of the BUA’s economy than most other UK cities, and keeping existing high-quality manufacturing firms and attracting others are important, but, only one-in-ten workers are employed in the sector today, and no major European city has seen the share of manufacturing jobs in its economy increase over the past twenty years. Re-industrialisation cannot be the centrepiece of a plausible strategy for making Birmingham great again.

### The future of a significantly richer Birmingham urban area is as a high-value tradeable services centre

It would be a mistake, then, to expect the foundational economy or manufacturing to drive a step-change in productivity. But what is the plausible engine for growth in the city region? The city region’s sheer scale, and the nature of the UK’s comparative advantages, gives us the answer.

Across the UK as whole, our comparative advantage is in high-value tradeable services: the UK is the second biggest exporter of services globally. This should be good news for the BUA, given that service sectors – such as law, design, accountancy and creative industries – benefit considerably from dense locations with a large pool of labour to draw upon. The home of high value-added service activity, including that linked to the region’s historic manufacturing strengths such as engineering or automotive marketing, is in large cities.

The BUA has made strides in this direction: the share of employment in firms providing knowledge-intensive business services has grown from 5 per cent in 1991 to 13 per cent in 2021. But this lags behind higher-productivity cities such as Greater Manchester and London (where the shares in 2021 were 15 and



25 per cent respectively). And this share will need to rise in a more prosperous BUA: the productivity gap between the BUA and London would narrow by 5 percentage points (from 37 per cent to 32 per cent) if the sector composition in both cities were the same today.

But there is a danger of focusing too much on the relative size of different sectors rather than the productivity within sectors. If we instead assume that the BUA retains its current sector composition but the productivity of firms within these sectors improves to the level of those in London, then the productivity gap between the city region and the capital would close by a staggering 26 percentage points.

Given the much larger scale of London and the benefits this brings, it is unrealistic to assume that policy could completely close the gap between the two cities. But the thought experiment illustrates an important lesson: although local economic strategies tend to be sector-focused, the central task for such a large economic unit is better thought of as one of place. The task is to make the BUA function as an effective city region, with different parts successfully playing different roles that, put together, support and attract high-value firms and higher-skilled workers.

### The city region is not currently working effectively enough to utilise or attract high-value firms and higher-skilled workers

So, the scale of change required in the BUA is bigger than many pretend, and its path to a higher-productivity future will be service-led. Furthermore, the key to achieving that is to focus on geography, not particular sectors: the city region must function effectively as an economic unit that can support high-value firms and higher-productivity workers. But there is ample evidence that is not happening today.

First, in the decade leading up to the pandemic, investors in the BUA saw a lower rate of return than those in any other major UK city region. Second, although we expect graduates' wages to be higher in cities that are able to make better use of their skills than their surrounding regions, they are only slightly (0.8 per cent) higher in the West Midlands Combined Authority (the crucial political unit with responsibility for economic strategy in and

beyond the BUA) than in the broader West Midlands. It's also the case that the graduate premium is low in the BUA (as it is in other UK cities, apart from London), indicating that action is needed to drive up both the demand for and supply of graduates. The city region is not able to make effective use of the graduates it has, nor attract large numbers of others.

In the 21st century, successful large cities that are able to make effective use of investment and human capital have clear features, with different parts of cities playing distinct roles (in the same way that different places fulfil different roles in the national economy). They provide locations (usually the city centre) where large volumes of high-value activity can cluster, delivering high rates of return on capital, underpinned by access to a deep pool of skilled labour in the wider city region, which provides attractive places to live and fast connections to those productive areas. But unlike similar-sized cities on the Continent, the BUA is currently not effectively doing this. Making this a reality in the BUA will require action to improve many different aspects throughout the whole city region. Along with attracting a higher-skilled workforce, it will mean tough decisions about how land is best used; stepping up improvements to the intra-city transport system; and decisive planning when it comes to housing. In turn, these changes will benefit firms: improved office space and a larger pool of high skilled workers will encourage them to invest, increasing capital per worker, and driving up productivity.

### The city centre is simply too small

There are signs that Birmingham's city centre can provide this growth engine. Just as we see in prosperous cities, tradable services do cluster there (one-fifth of employment in the BUA is in knowledge-intensive services or finance, but that rises to more than two-fifths in central Birmingham) and productivity is significantly higher than the rest of the city region (a worker in central Birmingham produces vastly more – 27 per cent – than one based elsewhere in the city region). There are other distinct centres of production (particularly around Wolverhampton and the Jaguar Land Rover plant in Solihull), but the centre of Birmingham stands out as the place where high value-added service firms want to base themselves.

But, although the city centre shows signs of being a knowledge-intensive services-based growth engine, it is currently too small to make the BUA as a whole prosperous: central Birmingham accounts for only 11 per cent of total employment in the city region, far lower than we see in richer cities (34 per cent of employment is accounted for by the city centre in London, for example). A more productive BUA will not only need the 165,000 increase in higher-skilled workers discussed above, but will need a greater proportion of higher-skilled workers overall to be able to work in central Birmingham, and significant investment by the high-value added firms that will employ them. This ambition will need to drive choices over land use, and policy on transport and housing, because it needs to integrate questions of where firms locate and where people work, where people will live, and how transport connects home and work.

Employing all of these additional workers in central Birmingham workplaces would require an additional 165 hectares of office floor space. If rents rocket as soon as the city centre starts to grow, this would lower returns on investment and prevent the growth in high-productivity tradable sector firms. Expanding office space in the city centre would help prevent this, and the increase needed is achievable, but will require choices to be made. Central Birmingham does have a reasonably large area (24 hectares) of vacant land in its midst, but there would also need to be a reduction in the outsized share of commercial land currently devoted to industrial activity (this would continue the current trend, with the old Typhoo Tea Factory in Digbeth, for example, being converted to a new regional headquarters for the BBC). But other margins of adjustment are available: Birmingham has a relatively low-rise city centre – an average of 3.3 storeys compared to 5.4 in Manchester city centre and 5.8 in the very centre of London – suggesting building up is a very real option for the future. And new approaches to development may also be needed, given the relatively slow rate of city centre office development over the past two decades.

Boosting the central district to act as a more powerful engine of growth is not to discount the importance of other parts of the BUA (or indeed the wider West Midlands, such as Coventry) as economic hubs in a higher-productivity future. An innovation strategy should be focused on moving the BUA's manufacturing sector (which is, for example, likely to remain significant in Dudley,

Sandwell and Walsall) towards higher-tech activities. But there is no route to that future that does not include more highly-skilled workers employed by city centre firms.

### The transport network in the BUA needs significant improvement, with a hefty price tag attached

An enhanced central district requires more than office space: firms will not locate there without knowing that the BUA has a deep pool of skilled labour within reasonable commuting distance of the most productive part of Birmingham, and workers will not fill those offices if the transport networks make doing so impossible.

The BUA is a city region of ardent car-users: three-quarter (74 per cent) of commutes are made by private vehicle, and an outsize share of journeys into the city centre are undertaken in this way too. This is likely to continue across the BUA as a whole, but the question is whether a significant increase in commuting to the city centre can plausibly be achieved with that current reliance on cars.

There are examples of highly productive cities (specifically, in the US) that do see a large share of their workforce commute to the central district by car. But there are three reasons why we do not think this can plausibly be the case for Birmingham. First, it is already more congested than London, all the other combined authorities in the UK, and several similar-size US cities like Denver, Dallas and Portland. Second, matching the car infrastructure of such US cities would require bulldozing large chunks of central Birmingham to deliver a 90 per cent increase in land area allocated to roads, and at least a doubling of that available for car parks, which would work directly against the push to devote more space to offices. Third, even if it were feasible, such a strategy is clearly undesirable: the air quality in the BUA is already worse than many comparable US cities.

So public transport will have to provide the route to the BUA having a larger, high-skilled workforce better connected to firms and jobs located in its (already congested) city centre. The BUA is currently very poorly-served in this respect: despite welcome recent tram investment, half of the BUA's highly-skilled workers cannot reach the central employment district within a reasonable 45-minute commute (including those in most of Wolverhampton

and Dudley). Economically, Birmingham acts like a far smaller city than it is as a result.

The silver lining to this low connectivity and weak public transport provision is that significant progress can be made. We estimate that a package of intra-city public transport improvements that combined buses running to schedule (supported by congestion charging and existing plans for bus franchising) with an accelerated metro expansion (doubling current plans to reach 77 stations), would increase the number of well-connected graduates by one-third (from 51 to 68 per cent) or 93,000.

Connecting these workers to better job opportunities, and deepening the potential labour pool for firms thinking of growing in or locating to the city, in this way is crucial, but does not come cheap. In total, we estimate the costs of ongoing improvements and our modelled expansion would total around £5.4 billion by 2040 (we estimate this is £1.3 billion over current plans in the Government's City Region Sustainable Transport Settlements to 2040). Intercity improvements, such as HS2, are valuable for other reasons, but will not materially deepen the labour pool to substitute for investment in intracity connections.

But the transport improvements set out above would boost the footprint of well-connected areas in the city region by 52 per cent (or roughly 178 square kilometres), significantly more than the one-third increase in the number of well-connected high-skilled workers. This mismatch speaks to an important element of a future economic strategy: that the returns to public transport investment are maximised if they are integrated with decisions on housing.

### **A higher-productivity future will require more houses built, and built in the right places**

There is no economic strategy without a housing strategy. The number and location of homes that are built shapes the ability of workers to access employment in the city centre in the same way that public transport investments do, but also help determine the housing costs faced by current and prospective residents. But steering housing policy so that it can play its part in a more productive BUA will bring some real challenges.

We estimate that housing 165,000 new high-skilled workers in the BUA will require the city region's housing stock to expand by 116,000 homes over the next 15 years, if this greater population is not to exacerbate existing housing pressures (over 54,000 households are on social housing waiting lists already, and only Wolverhampton and the two Staffordshire local authorities in the BUA are currently meeting their house-building targets). This would amount to a doubling of current building rates.

And that building needs to be in the right places. Focusing new homes in well-connected areas will put particular pressure on Birmingham, Sandwell and Solihull, and the density of dwellings in the 'urban core' might rise by more than one-third (although it would remain half as dense as Inner London). Competition for land in well-connected parts of the city region means that 'building up' will likely be a necessity. Moreover, an expansion on this scale will not come cheap: the viability of building even in some well-connected areas is far from assured, and up to £380 million in central government support could be required to accelerate house building in the city region.

But it should not be all about the new. Improving the quality of the existing housing stock in the BUA is not tangential to a productivity-boosting strategy, because it helps attract higher-skilled workers and improves energy efficiency for existing residents, a central part of the net zero transition. But the scale of this challenge is considerable: half of the BUA's housing stock has walls rated as having poor energy efficiency. Improving the energy efficiency of the housing stock, as well as achieving other aspects of the net zero transition (such as an ambitious rollout of heat pumps), amounts to a significant challenge that will require coordination by local and regional authorities, as well as significant subsidy from national government.

Wider public policy will also need to support an agenda to make the BUA a more attractive place to live. A denser BUA will also be one where green spaces are highly-prized, a further pressure on finite land. And the quality of local schools also deserves attention: six of the eight local authorities in the BUA are in the worse half of urban local authorities in England when it comes to the proportion of state secondary schools ranked 'requires improvement' or below.

## A higher-productivity BUA will boost incomes and cut poverty, but could bring higher housing costs and inequality

Housing is central to enabling a higher-productivity BUA, but it is also central to another question – who benefits from that growth? This report has been grounded by a simple thought experiment: what has to change to enable productivity in the BUA to reach a substantially higher level (where GVA per worker is 25 per cent lower than London's, as opposed to the 37 per cent we observe today)? But if all this was done, and the BUA could retain or attract the high-value firms and high-skilled workers it needs to become a higher-productivity city region, what would the impact on living standards be?

Britain needs a more successful BUA, but so do its existing residents: those of working-age have seen income rise by just 4.6 per cent over the past 15 years. We estimate that the higher wages and more extensive job opportunities that are part-and-parcel of a more productive city region would boost typical working-age household incomes by an additional 7 per cent over a fifteen-year timeframe. Moreover, although wages are likely to grow faster for higher- as opposed to lower-earners (which are largely determined by national decisions over the level of the minimum wage), we estimate there would be more than 115,000 new jobs for lower-qualified workers in a higher-productivity BUA. This would benefit those on lower incomes the most, counteracting the increased risk of rising income inequality in a higher-productivity city region.

There is a sting in the tail, however: a more affluent BUA will mean higher housing costs too. If the city region manages to build only half of the additional homes our modelling suggests are required, around 30 per cent of the income gains to the typical household from a higher-productivity BUA could be wiped out. The downward pressure of higher housing costs is particularly large for those on lower incomes.

## Action is needed to ensure the gains from growth are shared

Policy action can, and should, also impact the scale of income gains that follow in a higher-productivity BUA. The estimated drag of housing costs on income gains nearly halves if sufficient homes



are built to accommodate the larger population. That would need to include 26,000 sub-market homes if the BUA was to hold constant the share of households in social rented homes, requiring a subsidy that could total £2.1 billion. National policy makers need to ensure Local Housing Allowances rise in line with actual rents (it is currently frozen), which would do much to protect the living standards of lower-income households. Moreover, if local authorities or the West Midlands Combined Authority were to gain stronger revenue raising powers in the future, there would be more scope for choices about redistributing the gains generated in a higher-productivity city region.

Our deliberations with residents of the BUA showed us that concerns about rising inequality in a higher-productivity city region are very real. And it is important to recognise that the city region having more higher earners in it might make it feel more unequal in some ways. But if our focus is on the actual living standards of the poorest households, the case for a higher-productivity BUA is clear: if all the changes we have laid out in this report were in place today, we estimate working-age poverty in the BUA would be five percentage points lower, and child poverty would be six percentage points lower, equivalent to 38,000 fewer children growing up in poverty in the city region.

## Conclusion

A higher-productivity future for England's 'twin second cities' should be a central objective of Britain's economic strategy. It is how we boost aggregate growth, close regional gaps, and improve the living standards of local people. This paper has shown that a plausible route to a significantly more productive BUA exists. This would mean tough decisions about how land is best used throughout the city; invigorated action to improve the intra-city transport system so that firms can access workers at scale (and workers can access city-centre jobs); and decisive planning when it comes to housing to maximise its productivity-boosting potential and minimise higher housing costs.

The scale of this challenge is significant, requiring vision from both local and national leaders. But, making changes across multiple domains requires more than just a plan. First, it needs time: a

plausible strategy for productivity growth is one that is realistic about the enduring nature of the task, and is able to keep the long-term objectives firmly in sight over years or even decades.

Second, it needs money. Birmingham City Council's financial woes are currently front-page news, but it is important not to let recent events undermine the longer-term case for investing in the BUA. This and future UK governments must step up when it comes to public investment to support growth: we estimate that that a higher-productivity BUA could require around at least £1.7 billion of additional public investment up to 2040 – assuming no rolling back on existing capital spending plans. To put that figure into context, in the past four years combined, local authorities and projects within the BUA have received just over £150 million from the Levelling-Up Fund.

Third, a higher-productivity BUA demands strong and empowered local leadership. Policy uncertainty reduces firms' perceived returns to investment, choking off the supply of private capital that a more productive city region so desperately requires. The newly announced 'Trailblazer' devolution deal for the West Midlands Combined Authority is clearly a significant step in the right direction. But real local economic leadership requires fiscal devolution, empowering the mayor, Andy Street, and other local leaders to drive forward a strategy for productivity growth without constantly seeking central government permission.

A higher-productivity future for the BUA beckons. But the scale of change needed to reach that end is large, and the breadth of issues that require simultaneous attention is wide. It can be done – if national politicians concentrate their efforts, and local politicians are empowered to embrace the disruption involved. It's time Britain put its 'twin second cities' centre-stage.

## Section 1

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### Introduction

Britain has a significant productivity problem, and the poor performance of the largest cities outside the capital are far too large a part of it. Bucking the global trend for bigger urban areas to be more productive, our largest cities' productivity lags the UK average. The country as a whole is poorer as a result. But understanding the need for change is different to setting out a plausible path for making it happen. As part of the Economy 2030 Inquiry, this report on the Birmingham urban area (BUA), and a twin paper on Greater Manchester, provide a grounded answer to the difficult question of what it would take to make a higher productivity future for these two great cities a reality.

At the heart of the UK's productivity problem are the country's 'twin second cities': the urban areas centred on Birmingham and Manchester.<sup>1</sup> These city regions face different challenges and opportunities, but share a weak economic performance with its long roots in the rapid de-industrialisation of the second half of the 20th century.<sup>2</sup> Their sheer scale (a combined population of 5.6 million) and the pivotal role they play in their regional economies (there is no route to a prosperous West Midlands that does not run through a more productive Birmingham, for example) means they should be centre stage in our national, not just local, economic strategy. That scale means these cities are key places where we can plausibly achieve high productivity, of the kind we see in similar-sized cities across our international competitors.<sup>3</sup>

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<sup>1</sup> P Brandily et. al., [Bridging the gap: What would it take to narrow the UK's productivity disparities?](#), Resolution Foundation and Centre for Economic Performance, June 2022.

<sup>2</sup> See: P Rice & A Venables, [The persistent consequences of adverse shocks: How the 1970s shaped UK regional inequality](#), Oxford Review of Economic Policy, Vol. 37, 2021; J Muellbauer & D Soskice, [The Thatcher Legacy: Lessons for the future of the UK economy](#), Resolution Foundation, November 2022.

<sup>3</sup> P Swinney & K Enenkel, [Why big cities are crucial to 'levelling up'](#), Centre for Cities, February 2020.

After the success of the Commonwealth games in 2022, Birmingham has been in the news for the wrong reasons more recently. Financial difficulties facing the City Council culminated in a formal declaration that Britain's largest local authority was in effect bankrupt on 5 September 2023.<sup>4</sup> But the understandable short-term focus on the City Council's financial deficit must not distract from wider deficits, not least on productivity and employment, facing the Birmingham urban area (BUA). From the perspective of the UK's economic strategy, and in a broader sense than one council's finances, Britain cannot afford Birmingham to be bust. (See Box 1 for further details of the geographies we use in this report).

## BOX 1: Beyond Birmingham

This report is about the economy not politics, and so we largely use geographic boundaries that relate to the economic unit that the city of Birmingham sits within.

### The core 'functional urban area'

For the most part, we make use of the 'Functional Urban Area' (FUA) boundaries developed by the OECD and Eurostat.<sup>5</sup> FUAs are intended to describe cities (the 'core' FUA) and their commuting zones (the rest of a FUA). Unless stated otherwise in this report, the area we describe as the 'Birmingham urban area' (BUA) should be understood as the core FUA in and around Birmingham. This comprises the following local authority districts: Birmingham, Dudley, Sandwell, Solihull, Walsall, Wolverhampton, Cannock Chase, and Tamworth. Wolverhampton is, of course, a city in its own right (it

had a population of 263,700 in 2021) but is grouped into the same functional urban area as Birmingham based on the numbers of workers who cross-commute between areas. When we compare the BUA to other city regions, we are using the equivalent core FUA boundary for those cities. For London, for example, the core FUA includes all the local authority districts in Greater London as well as ten additional local authority districts from surrounding areas.

### The 'metropolitan area'

Due to the availability of local capital stock data, for a modelling exercise in Section 2 we make use of a different geographic unit: Eurostat's 'metropolitan regions'.<sup>6</sup> Metropolitan regions are generally larger than core FUAs (for example, the metropolitan region of London includes 76 local

<sup>4</sup> Birmingham City Council, [Section 114 notice](#), September 2023.

<sup>5</sup> L Dijkstra et al., [The EU-OECD definition of a functional urban area](#), OECD, 2019.

<sup>6</sup> Eurostat, [Metropolitan regions: background](#), undated webpage.

authority districts). In the case of Birmingham, however, the metropolitan region is actually slightly smaller than the boundary (the core FUA): it covers all the BUA local authority districts apart from Cannock Chase and Tamworth.

Because the London core FUA is much smaller than the London metropolitan region, and because productivity in central London is higher than in its outskirts, the productivity gap between Birmingham and London is larger when comparing core FUAs than when comparing metropolitan regions. When using this boundary, we refer to the 'Birmingham metro area'.

### The 'combined authority'

Neither the FUA nor the metro areas we employ above match perfectly with the key administrative unit within which Birmingham is situated: the West Midlands Combined Authority (WMCA). The WMCA includes Coventry – a distinct, richer, economic unit from the BUA. Our decision to use the FUA as our primary unit of analysis is not to downplay the collective identity of the local authorities comprising the WMCA or its importance as a local decision-making body – indeed many of our recommendations in this report relate directly to WMCA's important role in housing and transport planning. There are also a small number of occasions in this report where for reasons of data availability we use the WMCA.

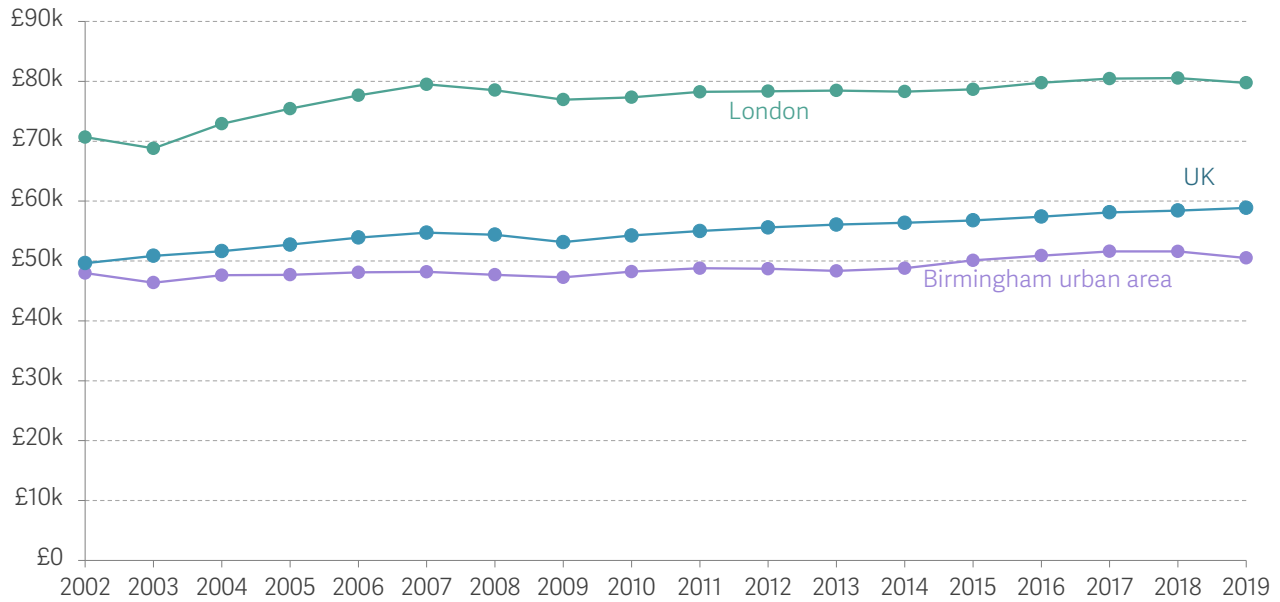
## The starting point today

As recently as the 1960s, worries that Birmingham's economy was too strong (with incomes well above and unemployment below national averages) were so widespread that controls aimed at limiting its growth were introduced: measures restricting industrial development from the 1940s were extended in 1965 to block further office development. The BUA is not in such a position today. Figure 1 shows that productivity measured by GVA per worker in the BUA economy was £50,505 in 2019. This was lower than the UK average (£58,871), although this largely reflects the large gap to productivity in London (£79,745). But in 2019, the BUA was 37 per cent less productive than London. Moreover, 'business as usual' will do little to improve the city's relative position even in the medium term: if GVA per worker in the BUA grew at the same rate as it has over the last fifteen years (0.4 per cent per year), it would take 26 years for the productivity gap between the BUA and London to close to that observed between Toulouse and Paris (assuming productivity in London continues to stagnate at its current level).<sup>7</sup>

<sup>7</sup> UK data is from ONS [regional economic activity dataset](#) (2019) and the French data is from OECD, [productivity by functional urban area dataset](#) (2019). The BUA-London gap is based on core FUA boundaries (see Box 1) whereas the Toulouse-Paris gap is based on whole FUAs. Using whole FUAs, the Birmingham-London productivity gap was 38 per cent in 2019 (OECD).

**FIGURE 1: The Birmingham urban area’s productivity still lags the UK average, and the gap with London remains large**

Gross value added per worker (2019 prices), by core functional urban area: UK, London and Birmingham urban area



SOURCE: Analysis of ONS, Regional economic activity by gross domestic product dataset.

The BUA languishes on other measures too: the city region is notable for having a low employment rate. In 2021 the 16-64-year-old employment rate in the BUA was 70 per cent, significantly lower than the 75 per cent across the UK as a whole, but also lower than any of the UK’s other large cities.<sup>8</sup> For example, the employment rate in 2021 was 72 per cent in Manchester, 76 per cent in London, and 78 per cent in Bristol (the large city with the highest employment rate). Two-thirds of the 5 percentage-point employment rate gap between Birmingham and rest of the UK is associated with differences in characteristics of Birmingham residents compared to the wider UK, as opposed to a Birmingham effect (see Box 2 for more details about the BUA’s population).<sup>9</sup>

### BOX 2: A snapshot of the Birmingham urban area

Birmingham stands alongside Manchester as one of England’s ‘twin second cities’. Using the core functional urban area boundaries (see

Box 1), the BUA has a population of 2.8 million in 2021, compared to 2.9 million in Manchester and 10.2 million in London.<sup>10</sup>

<sup>8</sup> Source: Analysis of ONS, Annual Population Survey, via Nomis.

<sup>9</sup> Section 6 gives more details of this analysis.

<sup>10</sup> Source: ONS 2021 census.

Compared to other large cities in the UK, the BUA stands out in a number of ways:

- The BUA has a lower share of working age residents with a degree-level qualification than any other large UK city.<sup>11</sup> In 2021, 36 per cent of residents of the BUA had a degree-level qualification. This compares to 39 per cent in Manchester, 41 per cent in Liverpool, 49 per cent in Glasgow, and 57 per cent in London and Bristol.
- Finally, BUA is notable for its ethnic diversity. 42 per cent of the population have an ethnic background which is not White British.<sup>12</sup> This is lower than London (58 per cent), the UK's most ethnically diverse city, but higher than other large cities such as Greater Manchester (29 per cent), Leeds (29 per cent), and Cardiff (26 per cent), and significantly higher than Liverpool (13 per cent) and Newcastle (14 per cent). Compared to other large English cities, BUA has notably larger shares of residents of Pakistani ethnicity (10 per cent of the population, compared to 4 per cent across other large English cities), and Indian ethnicity (7 per cent of the population, compared to 5 per cent across other large English cities).
- Manufacturing comprises a larger share of BUA employment than in other large UK cities. In 2017-19, 12 per cent of employment in the BUA was in manufacturing, compared to 8 per cent across Great Britain, and 4 per cent in London, and 9 per cent in Manchester (manufacturing's share of employment is above the national average in Leeds, Sheffield and Newcastle, but still lower than the share in BUA ).<sup>13</sup>

## A higher-productivity future has much to recommend

In this report, we consider what it would take to drive up productivity in the BUA to the point where the gap between the Birmingham metro area and London has closed to 25 per cent (an approximation of the Paris-Toulouse gap we have just discussed). The impact of this would be game-changing for the country, region and the city alike. Improving productivity on this scale would boost total gross value added (GVA) by £6.9 billion a year (in 2019 prices), a 0.3 per cent boost to national productivity.<sup>14</sup> This is a sizeable increase:

<sup>11</sup> Source: Analysis of ONS, Annual Population Survey, via Nomis.

<sup>12</sup> Source: Analysis of 2021 census, via Nomis. 'Other large English cities' here includes London, Leeds, Liverpool, Greater Manchester, Cardiff, Sheffield, Bristol, and Newcastle.

<sup>13</sup> Source: analysis of ONS, Annual Population Survey, via Nomis.

<sup>14</sup> This assumes that BUA would host an extra 165,000 high-skilled workers, whose productivity level would increase from the UK average. It also assumes a significant increase in capital per worker which we assume is added to the economy rather than displaced from elsewhere, consistent with our wider argument in the Economy 2030 Inquiry that raising investment is central to improving UK productivity and living standards. See: P Brandily et al., [Beyond Boosterism: realigning the policy ecosystem to unleash private investment for sustainable growth](#), Resolution Foundation, June 2023. See Section 2 and Annex 1 for further details of our modelling.



it would narrow the UK's GVA per worker gap with Australia by 12 per cent, and the gap with Germany by 7 per cent, for example.

As well as being good for the country overall, boosting productivity in the BUA would contribute to narrowing regional gaps. More than four-in-ten workers (45 per cent) in the West Midlands region already work in the BUA, and the larger the share of people who work in the BUA, the more prosperous their town or village tends to be. This relationship would likely strengthen if the city offered more and higher-value opportunities.<sup>15</sup>

Even if we hold the city's share of the region's workforce constant, we estimate that a hypothetically more-productive BUA would increase the West Midlands' GVA per worker by 5 per cent. This would lower the productivity gap between the West Midlands and UK average by a third (from 13 per cent to 9 per cent).

Finally, a higher-productivity BUA is not desirable because of abstract measures like productivity. No-one should look at the level of living standards in the BUA today and think the status quo is defensible in economic or moral terms: more than one-quarter (26 per cent) of neighborhoods within the BUA are among the most deprived in England.<sup>16</sup> Employment is simply far too low, and inequalities, including by ethnicity, too wide. So in this report we look not just at the plausible path to a higher productivity urban area, but also what that would mean for residents' incomes, inequality and poverty.

It is clear, then, that the UK, the West Midlands and the city's residents themselves all need the Birmingham urban area to be great again – but that, of course, is far easier said than done. Recognising the scale of the challenge, this report takes a different approach to aspects of the current debate that can sometimes smack of wishful thinking. 'If only more powers were devolved, a productivity step-change would automatically follow'<sup>17</sup> or 'there is no need to prioritise public investment because a 'global city' in every single region of the UK is easy to achieve'<sup>18</sup> are not arguments you will see in what follows.

Instead, we do something quite different: we present a plausible strategy for productivity growth for the BUA, rooted in reality and sharpened through conversations with local policy makers and residents alike.<sup>19</sup> The scale of change needed is large, and the breadth of issues that require simultaneous attention is wide, and our approach is to be upfront about the tough decisions that are required if this endpoint is to be reached.

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<sup>15</sup> P Swinney, [Does trickle out work? How cities help their surrounding towns](#), Centre for Cities, September 2023.

<sup>16</sup> Source: Analysis of MHCLG, [English indices of deprivation, 2019](#) which shows over a quarter (26.4 per cent) of Lower Super Output Areas (LSOAs) in BUA are in the most-deprived ten percent of LSOAs.

<sup>17</sup> This is not to dispute that further devolution of powers, especially when it comes to raising tax at the local level, will have a critical role to play in economic development, and we will address this in a future Economy 2030 report; see: A Breach, S Bridgett & O Vera, [In Place of Centralisation: A Devolution Deal for London, Greater Manchester and the West Midlands](#), Resolution Foundation, forthcoming.

<sup>18</sup> DLUHC, [Levelling Up the United Kingdom](#), DLUHC, February 2022.

<sup>19</sup> The findings of this report were discussed at a two-day deliberative workshop in June 2023, where 30 residents from all parts of BUA debated its implications with each other. For more details, see: T Burchardt, T Goatley & L Judge, [Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas](#), Resolution Foundation, forthcoming.

To this end, this report is structured as follows:

- In Section 2 we show how current debates about the scale or nature of change required to move us towards a higher-productivity BUA fall short of the mark, before outlining a more plausible way forward;
- Section 3 then turns to consider land use, a key strategic issue for the BUA if it is to attract high-value firms and workers alike;
- Section 4 explores how transport in the BUA needs to change to deliver the deep labour pool a high-productivity city requires;
- Section 5 investigates what must change when it comes to housing to attract the necessary workers and ensure the city can use them to best effect;
- Section 6 considers how productivity growth of the scale envisaged would feed through to household incomes across the distribution in the BUA and the broader region; and,
- Section 7 concludes, drawing together lessons from our analysis and summarising a plausible strategy that would truly set the BUA on a higher-productivity path.
- Two annexes contain further detail on the modelling contained in this report.

## Section 2

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# A plausible strategy for a higher- productivity Birmingham urban area

A higher-productivity Birmingham urban area (the BUA) is necessary to boost national economic performance, reduce spatial disparities and improve living standards in the city and beyond. But what fundamentally has to change for this to become the case? It is crucial that any strategy builds on the city region's existing strengths, but also acknowledges and addresses its considerable weaknesses. We show that the scale of change required is large, and wishful thinking about the nature of that change is distracting. Instead, the task is to make the BUA function as an effective place, with different parts of the city region successfully playing different roles that, put together, support and attract the high-value firms and higher-skilled workers that a more productive city requires.

No one could dispute that Birmingham urban area (the BUA) has changed radically in recent years: think of the regeneration around Broad Street, the Palisades and New Street station; the introduction of a metro system; and the huge expansion of the BUA's world-class universities to begin. But despite these and many other positive developments in the city region, the productivity in the BUA remains stubbornly below UK average. So, what has to change to set the city region onto a radically different growth trajectory? In a sense, the answer to that question is straightforward: the BUA needs more high-value firms and highly-skilled workers, and these and existing resources need to be brought together in a much more effective way. But given the starting point of the city, the nature of the UK's wider economy and the lessons to be drawn from successful cities elsewhere, how could this plausibly be achieved?

## A higher-productivity Birmingham urban area requires change on a significant scale

Our earlier work showed there are a number of key determinants of productivity in a local area: other than the size of the local economy, the key ones are levels of business capital, whether physical or intangible, and human capital (the skills of the workforce).<sup>20</sup> Figure 2 shows the strong positive relationship between productivity (measured by gross valued added (GVA) per job) and capital intensity (i.e. the amount of business capital per worker).<sup>21</sup> But it also reveals that capital per job in the Birmingham city region is relatively low compared to that of many other UK cities.<sup>22</sup> In part, this is because of its size: the top-ranked city regions for business capital per worker tend to be small and highly-specialised in a handful of capital-intensive industries (for example: Aberdeen, West Cumbria and Swindon). But even among the UK's metro areas with a population of one million-plus, the BMA still ranks relatively poorly: with total capital of £106,200 per job, it ranks eighth out of 11 (ahead of only Stoke-on-Trent, Newcastle and Leicester).

In the Annex, we build on previous Economy 2030 analysis to quantify what would be required to narrow the productivity gap between the BMA and London from its current level to 25 per cent.<sup>23</sup> In the 'balanced' scenario – where higher productivity comes from higher levels of capital, as well as a more-highly-skilled workforce – our hypothetically higher-productivity BMA requires capital per job to increase by 20 per cent, from £106,200 to £127,400.<sup>24</sup> This would bring the city region into line with Sunderland when it comes to capital intensity (Sunderland is a good example of a small, highly-specialised city), and move it ahead of a number of city regions today, including Bristol and Liverpool (as well as Manchester, although the companion report to this argues that capital intensity needs to rise in Manchester too). This would be a significant increase in business capital – amounting to £25 billion of additional capital in the city.

<sup>20</sup> P Brandily et al., [Bridging the gap: What would it take to narrow the UK's productivity disparities?](#), Resolution Foundation, 2022.

<sup>21</sup> Here, 'capital' refers to the stock of physical (e.g. buildings, machinery, ICT equipment) and intangible (e.g. R&D, computer software) assets that are available for use in the area. We construct stock measure from investment data. For more details on methodology, see: P Brandily, M Distefano, H Donnat, I Feld, H Overman & K Shah, [Bridging the gap: What would it take to narrow the UK's productivity disparities?](#), Resolution Foundation, June 2022. For more details on data definitions, see: ONS, [Experimental regional gross fixed capital formation \(GFCF\) estimates by asset type: 1997 to 2020](#), May 2022.

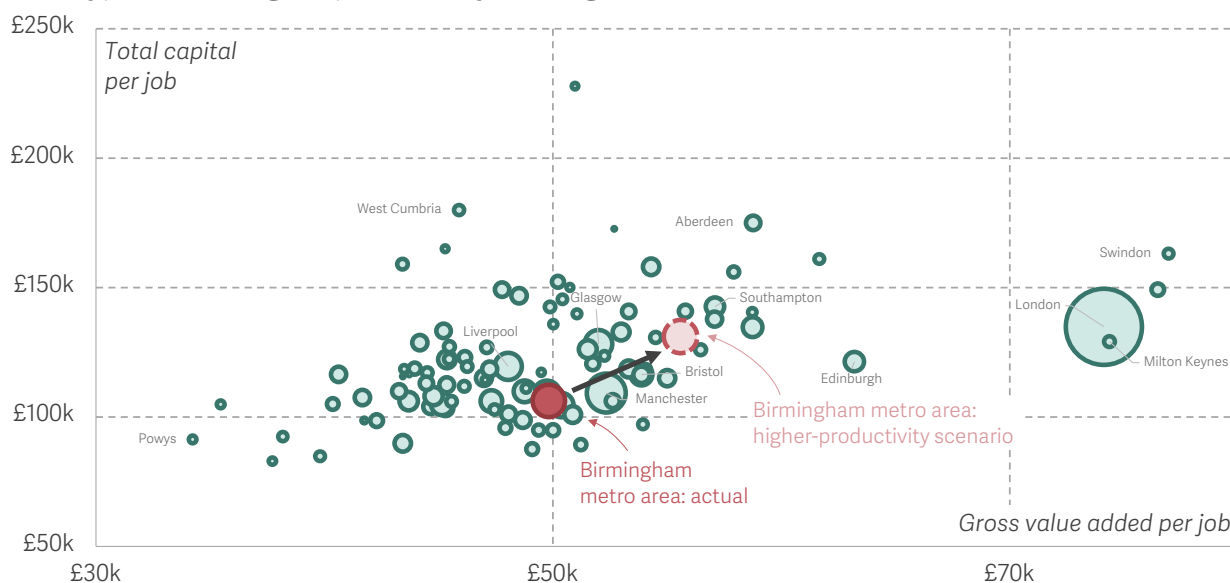
<sup>22</sup> In the first part of this section, for reasons of data availability we are using the 'Birmingham metro area' boundary for our unit of analysis rather than the 'Birmingham urban area'. The BMA excludes Cannock Chase and Tamworth and is therefore slightly smaller than the BUA. In the latter part of the Section, we apply the results of this modelling to our favoured geography, the BUA. See Box 1 in Section 1 for a description of the differences between functional urban areas and metropolitan areas.

<sup>23</sup> See: P Brandily et al., [Bridging the gap: What would it take to narrow the UK's productivity disparities?](#), Resolution Foundation, June 2022. We choose Toulouse and Paris as a sensible benchmark here for a number of reasons. First, France is a comparable economy to the UK when it comes to overall size as well as specialism in high-value-added service activities. Second, Toulouse is not dissimilar in size nor rank to the BUA. See Annex 1 for full details of our modelling.

<sup>24</sup> There are, of course, a multitude of scenarios combining increases in labour and capital in different degrees that close the productivity gap between the city region and London in our model to 25 per cent. Throughout this report, we present a 'balanced scenario', i.e. one that does not overly depend on an extreme and therefore unrealistic change to either factor.

## FIGURE 2: There is a strong positive relationship between capital intensity and productivity

Gross value added per job and total capital per job: UK cities (metro areas), 2017-19 and hypothetical higher-productivity Birmingham metro area



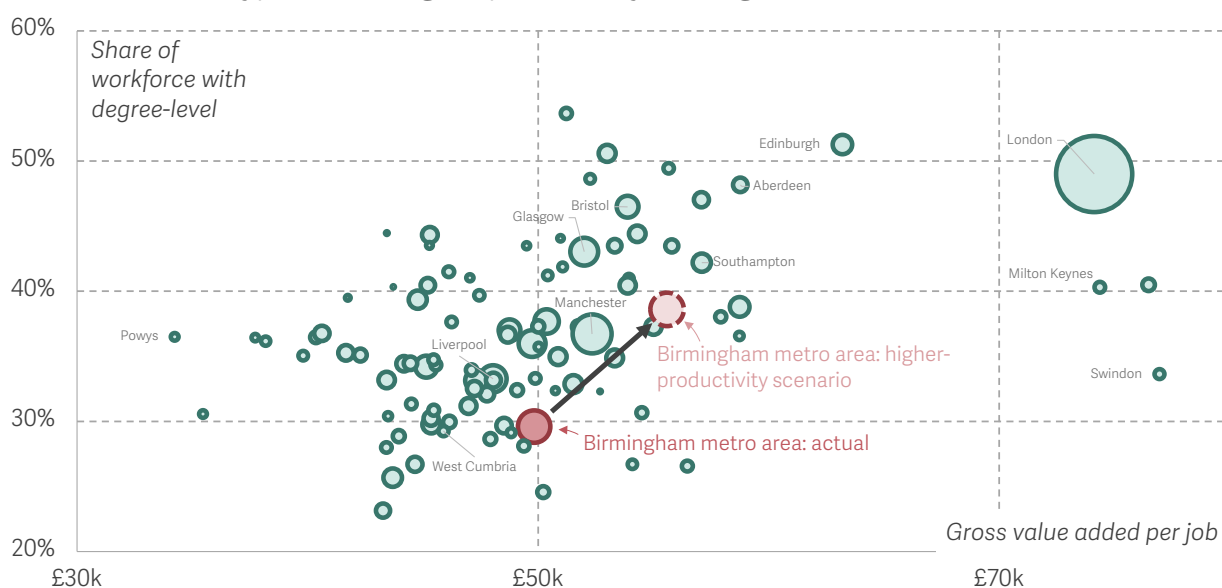
NOTES: Bubble size represents size of population. The Birmingham city region higher-productivity scenario shown involves raising output per job in the metro area to 75 per cent of London's, via greater capital intensity alongside a higher graduate share. This analysis builds on work in: P Brandily et al, Bridging the gap: What would it take to narrow the UK's productivity disparities?, Resolution Foundation, June 2022. SOURCE: Analysis of ONS, Subregional productivity; ONS, Annual Population Survey; ONS, Experimental regional gross fixed capital formation estimates by asset types; EUKLEMS, Capital input data.

Moreover, alongside a significant increase in capital, our hypothetically higher-productivity the BMA also requires a big change in its workforce. This is in part because the Birmingham city region does not start from a strong position: across the 11 cities with a population of at least 1 million, the BMA has the lowest graduate workforce share—our proxy throughout for high-skilled workers—at just 30 per cent (see Figure 3, which also shows the importance of skills for productivity by plotting GVA per job against the share of workers who have degree level-education).<sup>25</sup> Closing the productivity gap to London to 25 per cent would require a rise in the graduate share of 9 percentage points on top of the increase in capital per worker. A rise in the graduate share of this size would place it alongside the likes of Manchester and Coventry, although still behind many other areas, such as Edinburgh and Bristol (as well as London).

<sup>25</sup> In practice, high-skilled workers will also include those who have taken routes other than a degree such as technical education pathways. See: H Overman & X Xu, *Spatial disparities across labour markets*, IFS, February 2022 for further confirmation of the strong link between the graduate share in a place and its productivity.

### FIGURE 3: Boosting the Birmingham metro area's productivity will require a 9-percentage point increase in its workforce graduate share

Gross value added per job and graduates as share of workforce: UK cities (metro areas), 2017-19 and hypothetical higher-productivity Birmingham metro area



NOTES: Bubble size represents size of population. The Birmingham metro area higher-productivity scenario shown involves raising output per job in the metro area to 75 per cent of London's, via greater capital intensity alongside a higher graduate share. This analysis builds on work in: P Brandily et al., *Bridging the gap: What would it take to narrow the UK's productivity disparities?*, Resolution Foundation, June 2022. SOURCE: Analysis of ONS, Subregional productivity; ONS, Annual Population Survey; ONS, Experimental regional gross fixed capital formation estimates by asset types; EUKLEMS, Capital input data.

## A more highly-skilled workforce will likely mean a larger population in the Birmingham urban area

So (turning back to our favoured geography – the Birmingham urban area), how can the BUA increase the share of its workforce who are highly qualified – and importantly, do so at the significant scale required?

Arguably the most attractive proposition to politicians and residents alike would be to 'home-grow' all the new high-skilled workers so that a higher-productivity BUA could directly benefit some of its existing residents, who could enjoy the higher wages that tertiary education confers.<sup>26</sup> There are two potential ways this could be achieved.

The first route would be to raise the rate of participation in higher education of the school leavers in the BUA. In the West Midlands as a whole, 45 per cent of students who left school in 2015/16 went on to study at university by age 20.<sup>27</sup> Like all other English regions outside the capital, this is significantly lower than in London, where this share was 59 per

<sup>26</sup> Residents of the BUA who participated in a two-day deliberative workshop discussing the trade-offs a higher-productivity city region would entail were vocal about their desire that current residents be able to benefit from new opportunities. For further details, see: T Burchardt, T Goatley & L Judge, *Talking trade-offs: Deliberations on a higher-productivity future in the BUA and Greater Manchester*, Resolution Foundation, forthcoming.

<sup>27</sup> Figures are from Higher Education Statistics Authority, *Create your own tables*. HESA does not provide data below regional level.

cent.<sup>28</sup> If the West Midlands halved the participation rate gap with London (i.e. increased higher education participation to 52 per cent), and assuming that the BUA's participation rate is the same as the wider West Midlands, then this would result in an additional 2,000 school leavers from the BUA going on to university per year.<sup>29</sup> But of course not all of this talent will then work in the area: current retention rates suggest around 1,000 of these additional graduates would eventually join the workforce of the city each year.<sup>30</sup>

The second way the city could 'home-grow' more high-skilled workers is to upskill its existing adult residents. Although important in its own right, this strategy is also unlikely to result in the significant increases in the size of the BUA's high-skilled workforce that are needed.<sup>31</sup> In 2022-23 across England as a whole, for example, just over 20,000 adults aged 25-plus achieved a higher-level apprenticeship (equivalent to a Level 4 qualification – above A-levels but below a degree).<sup>32</sup> Assuming these adults are spread equally across the country, this would equate to just over 1,000 adults aged 25-plus attaining a higher-level apprenticeship per year in the BUA.

Both of these 'home grown' routes to a more highly-skilled workforce are worth pursuing, and over a long-enough time frame would raise the skills profile of the workforce. But it's worth stressing that the time frame to raise the skills profile (and thereby raise productivity) through these routes alone would be very long. Adding 2,000 high-skilled workers per year (which is what we roughly estimate might be the combined result of the two routes described) would raise the share of the area's workforce with high-level skilled by only 0.13 percentage points per year. At this rate it would take 80 years to close the 9 percentage-point gap we describe above.

So, although there are important steps that the local authorities in the BUA should take to boost the qualification levels of children, young people and the current workforce, many of the additional high-skilled workers that our hypothetical higher-productivity city demands will have to come from elsewhere. The alternative route to raising the BUA's workforce graduate share from 30 to 39 per cent is to add 165,000 graduates to the city's workforce. If all these workers lived in the BUA (an assumption we revisit later in this

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<sup>28</sup> The participation rate gap between London and other regions is actually growing – the participation gap between the West Midlands and London is up from 8 percentage points for the 2001/02 cohort to 14 percentage points for the 2015/16 cohort.

<sup>29</sup> This estimate is based on applying a 52 per cent participation rate to the West Midlands (the average of the rates in the West Midlands and London). Based on the 2015/16 cohort this would raise the number of West Midlands' school leavers attending university by 4,300, from 27,400 to 31,700). We then assume the BUA's share of this number is in line with its share of secondary school students age 16 within the wider West Midlands as a whole (which in 2022-23 was 48 per cent), giving a BUA participation uplift of 2,070). This is using Department for Education data tables on student population by age and location, accessed [here](#).

<sup>30</sup> This is applying a city-university-city retention rate of 52.6 per cent, as published from 2013/14-2014/15 HESA destination of leavers survey data by Centre for Cities. See Box 1 in: P Swinney & M Williams, *The Great British Brain Drain*, Centre for Cities, November 2016. 'Retention rates' more commonly refers to the proportion of graduates studying in an area who remain in the area to work after graduating. According to the Centre for Cities report just cited, these are relatively high in Birmingham (in 2014/15, 49 per cent of graduates studying in the city were working in the city six months after graduating) and Manchester (52 per cent) compared to other large UK cities, albeit still significantly below London's 77 per cent.

<sup>31</sup> Future papers in the E2030 project will address how we can improve our skills policy, both to provide high-value sectors with the skills they need, but also ensure all adults have a chance to build their human capital and boost their labour market prospects.

<sup>32</sup> Department for Education, *Apprenticeships and traineeships, academic year 2022-23*, July 2023 release.

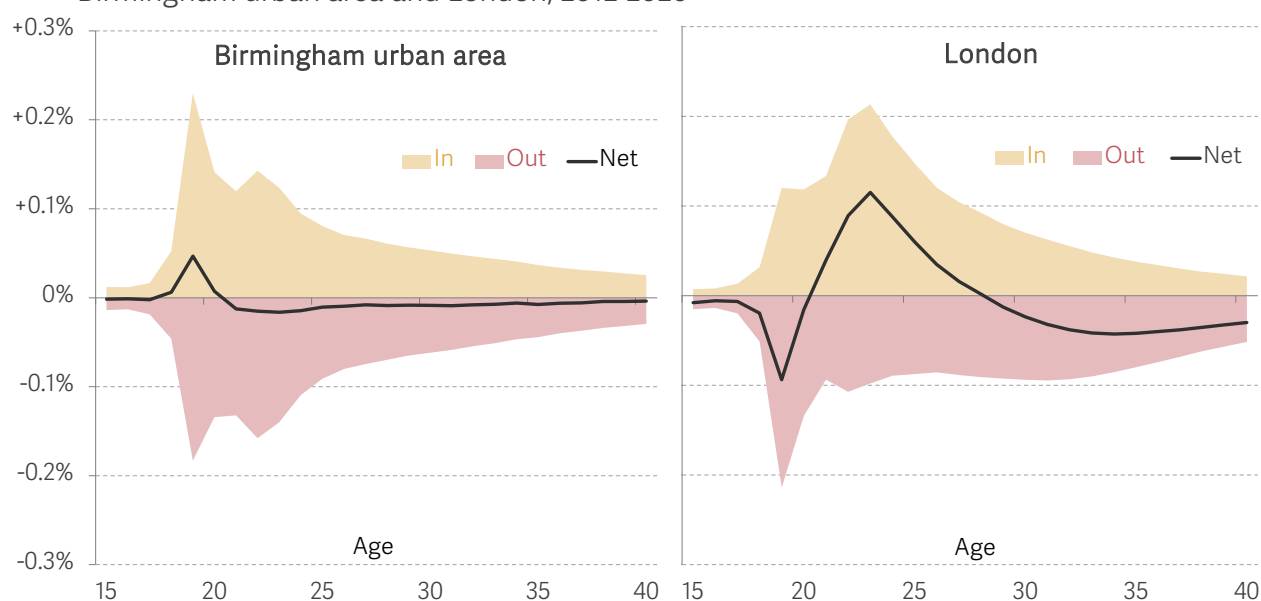


report), they alone (absent of any partners or children) would boost the population of the city region by 6 per cent.

Such a change in the population would require a step-change in internal migration patterns, as we show in Figure 4. The left-hand panel shows migration into and out of the BUA for each year of age: strikingly, the BUA is a net loser of young people to other parts of the country (2,300 people age 22-29 per year).<sup>33</sup> But if the BUA had the same internal migration profile as London (shown in the right-hand panel), it would (adjusting for its size) add 12,000 people age 22-29 per year. If all these young people were university graduates, at this rate of addition it would take around 14 years for the BUA to add 165,000 high-skilled residents.

**FIGURE 4: The BUA currently loses more people in their 20s than it gains from the rest of the UK**

Internal migration within UK by age, expressed as a proportion of local population: Birmingham urban area and London, 2012-2020



SOURCE: Analysis of ONS, Internal Migration Statistics.

## Tradeable sectors are key to increasing productivity, but manufacturing can take the city region only so far

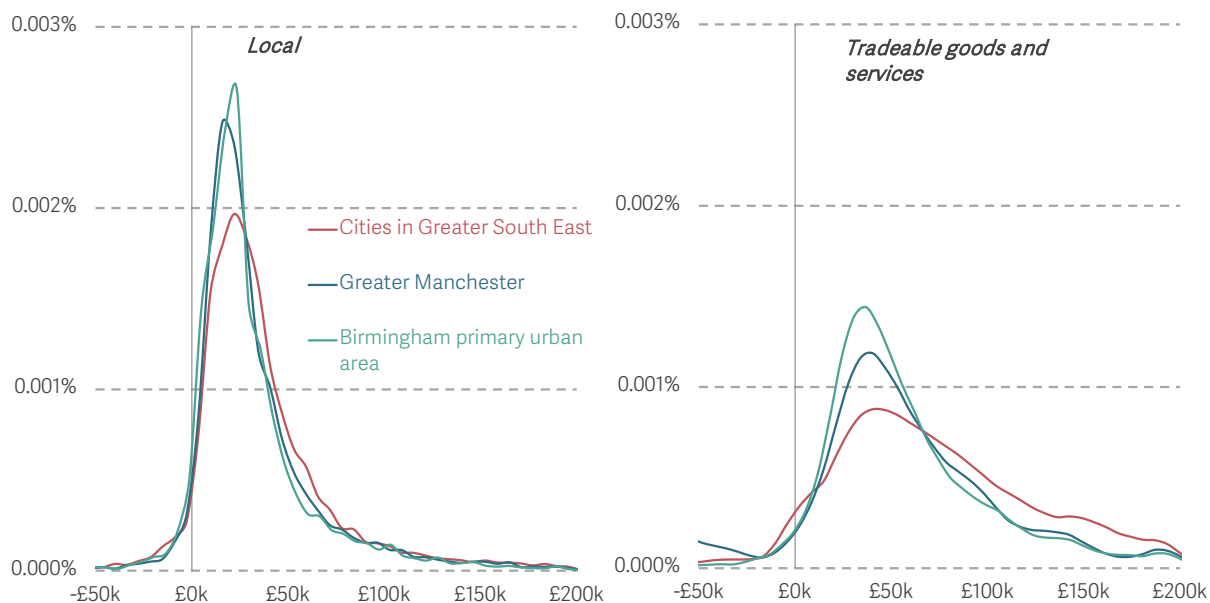
So far, we have argued that higher productivity will require more capital per worker, and more skilled workers. But what goods and services will the firms that employ this capital

<sup>33</sup> This data is only broken down by age, so we cannot directly infer that these movers are the high-skilled workers the city needs. But we know from other data that young people with higher-level qualifications comprise the majority of net population flows between places. For example, 2011 census data shows that among people age 22-30, 80 per cent of net population moves in and out of Greater Manchester are accounted for by those with degree level qualifications. See Figure 6 in: R. McDonald, [The Great British Brain Drain: An analysis of migration to and from Manchester](#), Centre for Cities, March 2019.

and labour produce? And what does this imply for the type of activities that are likely to generate the required productivity gains?

### FIGURE 5: Tradeable sectors are responsible for the differences in productivity between UK cities

Distribution of gross value added per job by sector category and city: UK, 2017-2019



NOTES: Unit of analysis is primary urban area for Birmingham and Cities in Greater South East, and GMCA for Greater Manchester. Estimated kernel densities from a pooled sample of firms from the Annual Business Survey for the years 2017-2019. Analysis excludes financial services firms and insurers. Cities in the Greater South East include London, Oxford, Brighton, Southampton, Portsmouth, Reading, Milton Keynes, Slough, Chatham, Crawley, Aldershot, Worthing, Cambridge, Luton, Peterborough, Norwich, Ipswich, Basildon and Southend. Tradeable goods and services sectors are defined in the Appendix in Centre for Cities' 2018 report *The Wrong Tail*. 'Local services' are all sectors except those sectors and except education, health, and public administration. Chart originally published in: P Swinney, *What the West Midlands' local industrial strategy means for other places*, Centre for Cities, May 2019. SOURCE: Analysis of ONS, Annual Business Survey Regional dataset.

Figure 5 shows that local services – the part of the economy that produces and distributes the everyday goods and services on which we all rely – will struggle to achieve game-changing productivity gains. Although local services firms account for more than half (58 per cent) of total employment in the BUA and across Britain (58 per cent) as a whole, there is little variation in the productivity of these firms across different parts of the country.<sup>34</sup> As the left-hand panel of the chart shows, productivity across local services firms in Birmingham, Greater Manchester and London and the South East is similarly distributed (after all, the number of haircuts, pints pulled, or tables served in an hour will be broadly the same everywhere).<sup>35</sup> Instead, it is in the tradeable sector – a short-hand for

<sup>34</sup> Source: ONS, Business Register and Employment Survey, 2019. Here we define as 'local services' those sectors which are *not* included in Centre for Cities' list of tradeable sectors, and which are not the mainly-public sector industries of public administration, education, and health. This leaves the following 2-digit SIC codes: 33, 36, 37, 38, 39, 41, 42, 43, 45, 46, 47, 49, 50, 53, 55, 56, 58, 68, 69, 71, 75, 77, 78, 79, 80, 81, 82, 87, 88, 90, 91, 92, 93, 94, 95, 96.

<sup>35</sup> Data limitations mean that Figure 4 shows results for the West Midlands primary urban area rather than functional urban area, a subtly different geography but one that is highly unlikely to affect these results.

those goods and services that can be exported – where the productivity problem in the BUA is clearly visible.

Of course, local services firms will continue to be a hugely important source of income for many people in the BUA and elsewhere, and action to improve pay, conditions and progression in these sectors is essential for improving living standards.<sup>36</sup> But the right-hand panel of Figure 5 suggests that tradeable sectors, not the local services, must be at the heart of a strategy that seeks significant productivity gains for the BUA economy. This is because, when we look at the productivity profile of firms in the BUA serving national or international markets, there are too many low-productivity firms (the peak on the left), in contrast to the mass of high-productivity firms located to the right for London and cities in the South East of the UK. (Box 3 explores, and mostly debunks, some of the suggested explanations of the low productivity of firms in the BUA).

### BOX 3: The nature of firms in the Birmingham urban area

One plausible reason why the BUA has lower productivity than many other comparator cities could be that the types of firms in the city are different from elsewhere. But both the panels in Figure 6 suggest this is not the case.

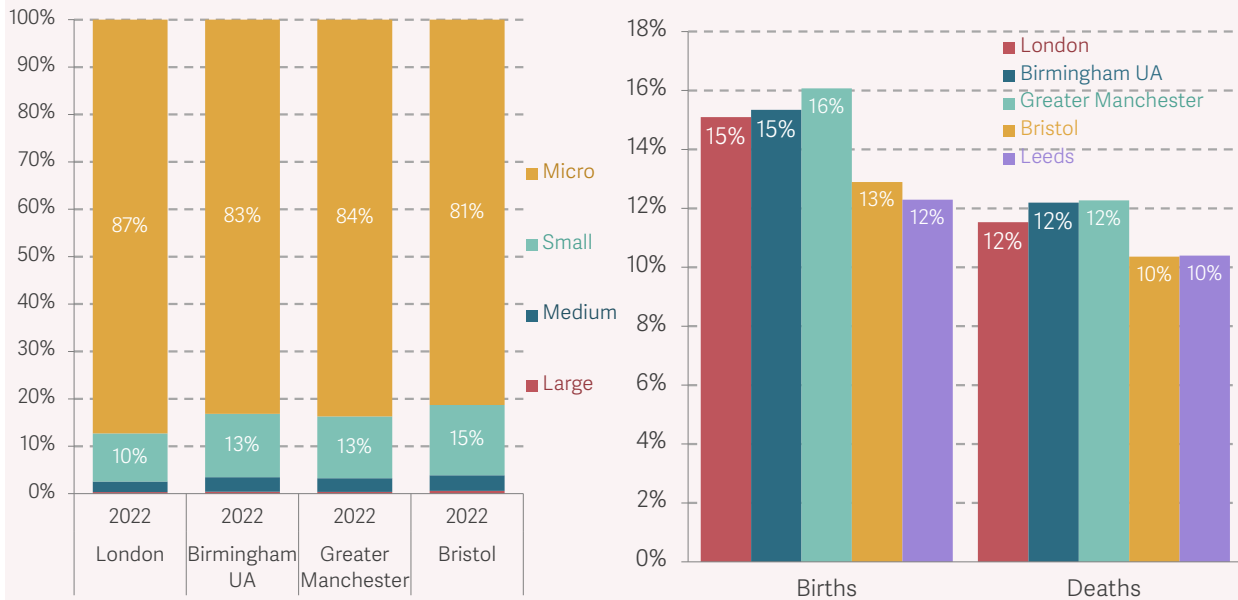
First, the left-hand panel shows that the city region has similar size distribution of firms to several other cities in the UK. This pattern holds within sectors too – suggesting that firm size alone cannot account for much of the within sector productivity differences across UK cities.

Second, the right panel shows that firm dynamism – proxied here by average firm birth and death rates over the four-year period from 2016 to 2019 - in Greater Manchester, London and the Birmingham urban area has been broadly similar, with slightly higher levels of churn than the UK's smaller cities. Although dynamism is associated with higher overall productivity at the level of the aggregate economy, it does not appear to help explain the BUA's low productivity.

<sup>36</sup> For a programme of action to do just that, see: N. Cominetti et al, [Low Pay Britain 2023: Improving low-paid work through higher minimum standards](#), Resolution Foundation, April 2023.

**FIGURE 6: Variation in firm size and firm creation and exits does not explain productivity differences**

Proportion of firms by size bracket (left-hand panel) and average firm birth and death rates (right-hand panel), by functional urban area: 2012 & 2022 and 2016-2019



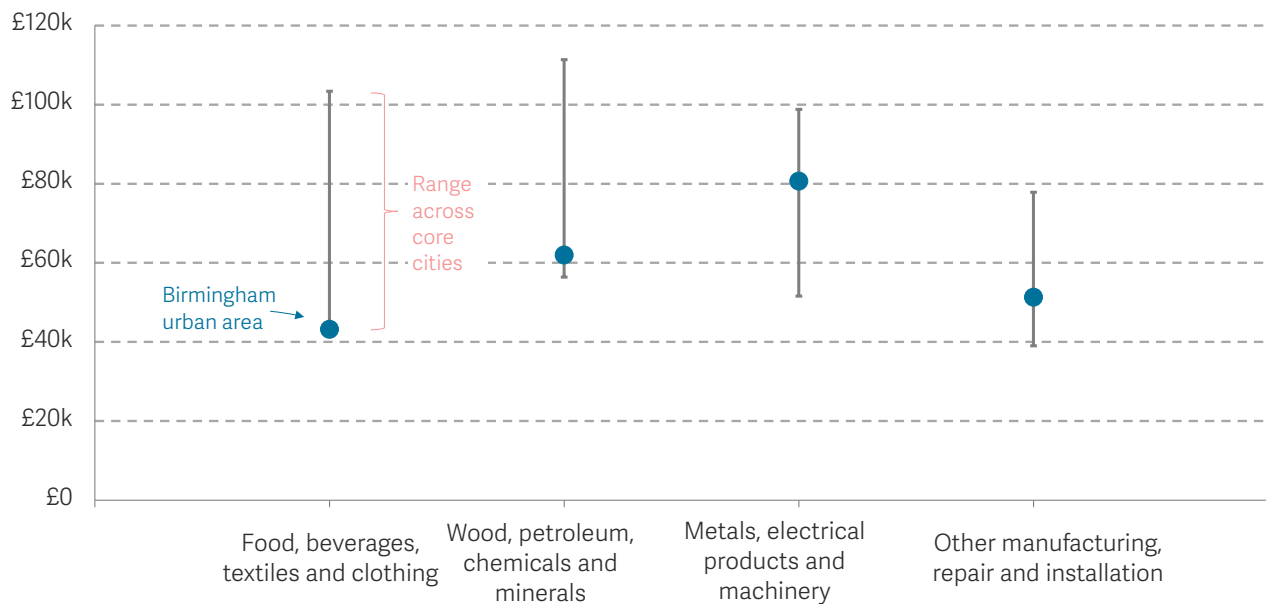
NOTES: Micro firms have 9 or fewer employees, small firms are defined as having 10 to 49 employees, medium firms have between 50 to 249 employees and large firms have 250 or more employees.  
 SOURCE: Analysis of ONS, Business Demography Tables, 2021 and UK Business, activity, size and location, 2022.

Having narrowed our focus to the tradeable sector, it is natural to look to goods manufacturing as a key source of productivity growth in the BUA today, given the area’s long history as a centre of excellence for manufacturing.<sup>37</sup> As Figure 7 highlights, there is indeed scope for real improvements in this space. With the exception of the ‘metals and machinery’ sector – where the city region performs close to the frontier – manufacturing activities in the BUA are towards the bottom of the productivity pack relative to other core cities in the UK. There is clearly scope, then, to boost manufacturing performance, and Box 4 considers how additional R&D spending in the city region may help this happen.

<sup>37</sup> Reinvigorating manufacturing has been a key plank of previous strategies, such as the West Midlands Local Industrial Strategy, which identified the development and deployment of autonomous vehicles and the complex supply chains required for battery production for electric vehicles (EVs) as the most important area of potential growth. See: *West Midlands Local Industrial Strategy*, May 2019 for further details.

**FIGURE 7: There is considerable scope to raise manufacturing productivity in the BUA**

Gross valued added per job by manufacturing subsector: Birmingham urban area, 2019



NOTES: Core cities considered include London, Greater Manchester, Birmingham urban area, Leeds, Sheffield, Newcastle, Bristol, Glasgow and Cardiff (other Core cities not included in this analysis are Nottingham and Belfast).

SOURCE: Analysis of ONS, Business Register and Employment Survey and Regional Gross Value Added Balanced by Industry and Local Authority.

### BOX 4: Boosting R&D spending in the BUA

In 2021, public research and development (R&D) expenditure amounted to £14 billion in the UK, mostly spent by UKRI and Higher Education Funding bodies (62 per cent of the total).<sup>38</sup> However, funding is currently skewed toward London and the South-East: in 2021, UKRI’s total spending per capita stood at £184 in London, £169 in the South East but just £102 in the West Midlands.<sup>39</sup> Moreover,

several recent studies have shown that the gap between public and private R&D spending is greater in the UK than elsewhere, possibly indicative of an inefficient allocation of funding.<sup>40</sup>

There is large and growing evidence about the multiplier effects that R&D spending has on local activity and innovation; at the extreme, one could hope that public support could create new innovative clusters. Importantly,

<sup>38</sup> The other 38 per cent was spent by government departments such as the Ministry of Defence, the NHS and BEIS. See: ONS, [R&D expenditure by the Government](#), 2023 for further details.

<sup>39</sup> UKRI, [Geographical Distribution of UKRI spending Financial Year 2020-2021](#), 2023.

<sup>40</sup> See, for example: Forth and Jones, [The Missing £4 Billion: Making R&D Work for the Whole UK](#), Nesta, May, 2020. A Stansbury, D Turner & E Balls, [Tackling the UK’s regional economic inequality: Binding constraints and avenues for policy intervention](#), Harvard Kennedy School, 2023.

new commitments from public spending also set private expectations, meaning that there is a role for the public sector to move first to reduce uncertainty and incentivize the private sector to crowd-in.<sup>41</sup> Given this, the commitment to increase R&D spending outside of the Greater South-East in the Government's Levelling up White Paper was very welcome.<sup>42</sup>

However, shifting R&D spending from one place to another alone does not amount to a strategy for growth. First, from a national perspective, redistributing within a fixed budget

may involve spending less in places where the return to innovation spend is higher. Second, note that the total amount of public expenditure in R&D is small relative to the gap in capital stock between the BUA and London we noted in Figure 2. Third, agglomeration forces make it hard to generate new clusters and even strengthening existing clusters requires the private sector to respond to changes in public sector R&D spending. Central government R&D funding may stimulate innovation and further private investment, but it is not a substitute for an effective city.

However, a strategy driven by high-value manufacturing can only take the city as whole so far for one obvious reason: although manufacturing is a more significant share of the BUA's economy than it is in many other cities, its share is still small. In 2021, 10 per cent of jobs in the city were in manufacturing, a figure that has declined consistently since 1980 (see Figure 8).<sup>43</sup> As a result, even if all manufacturing activity in the city region operated at the UK manufacturing productivity frontier, this would increase GVA per job in the BUA by just 2.1 per cent (from £50,500 per job to £51,600 per job).

Alongside what we observe in the BUA, it is also striking that no major European city has seen the share of manufacturing jobs in its economy increase over the past twenty years. As a result, it seems reasonable to conclude that although manufacturing will likely continue to play more of a role in the BUA economy than in many other large cities in the UK, re-industrialisation is not the way to achieve the increased productivity that the city region and the nation so urgently require.

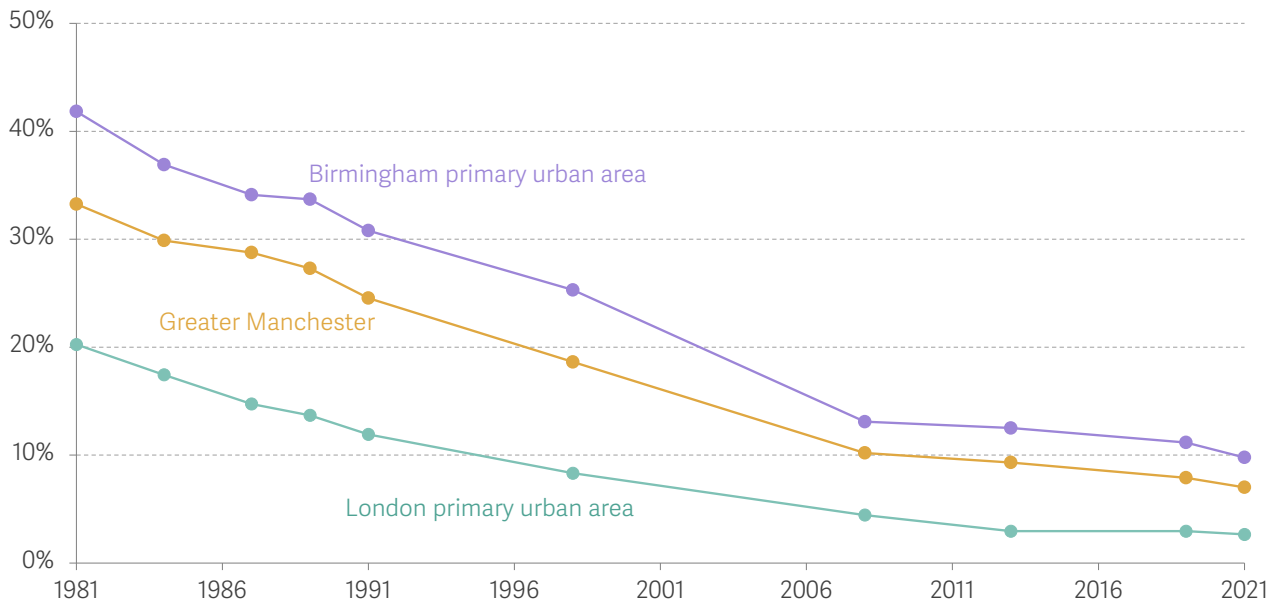
<sup>41</sup> G Duranton & A J Venables, [Place-based policies for development](#), NBER, 2018.

<sup>42</sup> DLUHC, [Levelling Up the UK](#), 2022.

<sup>43</sup> This fraction may well fall further, especially with the difficulties that Brexit has caused for trade in goods. For policies to address that, see: S Bhalotia et al., [Trading Up: The role of the post-Brexit trade approach in the UK's economic strategy](#), Resolution Foundation, June 2023.

## FIGURE 8: Like other UK cities, manufacturing is only a small share of employment in the Birmingham primary urban area today

Proportion of employment in manufacturing: primary urban areas of Birmingham, London and Greater Manchester



Note: For reasons of data availability, this chart refers to the Birmingham 'primary urban area' (and comparator primary urban area in London) and Greater Manchester) rather than the functional urban area. The Birmingham PUA comprises the following local authority districts: Birmingham, Dudley, Sandwell, Solihull, Walsall, Wolverhampton. This is the same as the BUA apart from the omission of Cannock Chase and Tamworth.

SOURCE: Analysis of ONS, Census of Employment, Annual Business Inquiry, Business Register of Employment Survey.

## The Birmingham urban area needs to speed up its transition to a high value service-led economy

But what, then, is the plausible engine for growth in the BUA?

When we look at the UK as whole, we note that the country's comparative advantage is in high-value tradeable services.<sup>44</sup> This should be good news for large city regions: firms that provide services in sectors such as law, design, accountancy and finance all benefit considerably from dense locations with a large labour pool to draw upon, making places such as the BUA their natural home. (Box 5 provides more details as to why this is the case.)

<sup>44</sup> J De Lyon et al., *Enduring strengths: Analysing the UK's current and potential economic strengths and what they mean for its economic strategy, at the start of the decisive decade*, Resolution Foundation, 2022.



## BOX 5: The benefits of 'agglomeration'

There is a large evidence base that points to the existence of 'agglomeration economies' – the catch-all term used to describe the productivity benefits that accrue when firms cluster in specific places – and especially city centres – rather than spreading themselves equally around the country.<sup>45</sup>

There are broadly three main benefits that cities offer to a business. First, it enables them to reduce costs by sharing indivisible facilities (e.g. roads, streetlights), intermediate suppliers, workers, and consumers. Sharing also encourages specialisation and allows firms to pool risks. Second, large cities make it easier for different types of worker and different types of employers to find each other, and more productive job-worker matches therefore occur at a faster rate.<sup>46</sup> And third, the spatial

concentration of firms and workers facilitates the transfer of information, knowledge and skills and the creation of unconventional ideas.<sup>47</sup> Even in a world of fast communication technologies, close connections between large groups of people and firms provide more opportunities for learning and the sharing of tacit knowledge through face-to-face contact, facilitating knowledge exchange and transfer of skills.<sup>48</sup>

The result of these effects is that different parts of a country play different roles in the national economy: big cities should be more productive than the hinterlands, although areas beyond the city still benefit as those firms demand goods and services from the broader region and as workers who commute in to the city for work spend their incomes in their neighbourhoods.

So it is hard not to conclude that more activity of this type is also the key for a higher-productivity the BUA. Indeed, a change of this nature is already evident: the BUA's location has already led some services firms to locate regional, or even national, headquarters there: Barclays, KPMG, PwC, BT and Goldman Sachs have all moved to, or expanded their headcount in, the city region over the past decade. More generally, the share of employment in knowledge-intensive business services in the BUA has more than doubled over a forty-year period, from just over 5 per cent in 1981 to 13 per cent today (see Figure 9). But the chart also makes plain that the transition to high-value

<sup>45</sup> G Duranton & D Puga, *Micro-foundations of urban agglomeration economies*, Handbook of Regional and Urban Economics, 2004.

<sup>46</sup> T Papageorgiou, *Occupational Matching and Cities*, American Economic Journal: Macroeconomics, 2022. A Stoyanov & N Zubanov, *Productivity Spillovers across Firms through Worker Mobility*, American Economic Journal: Applied Economics, 2021.

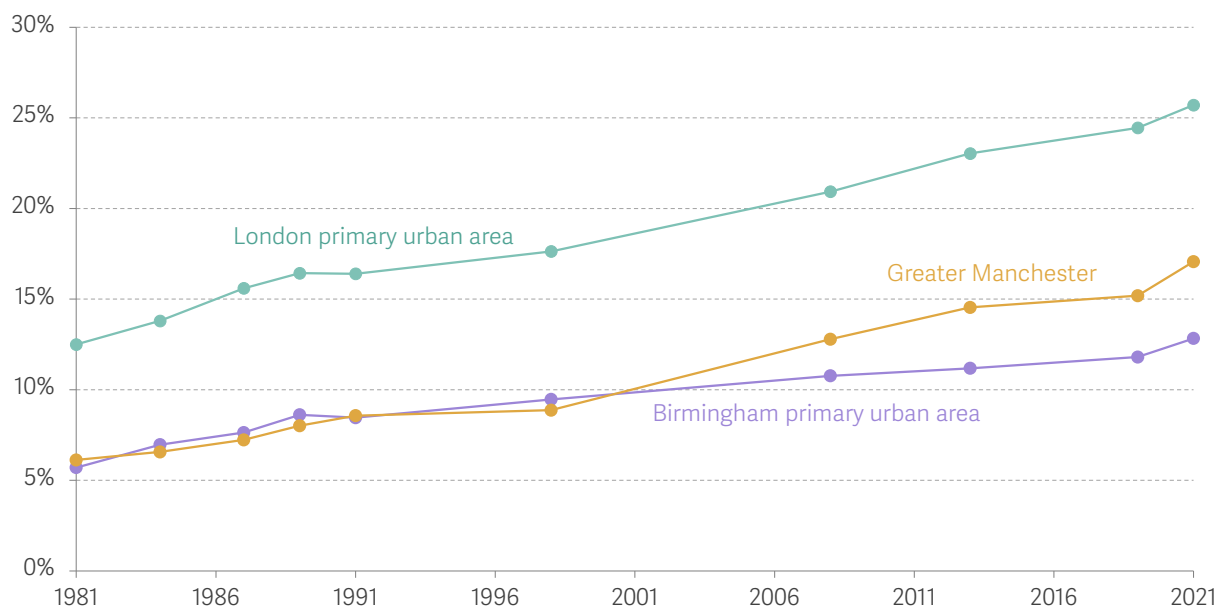
<sup>47</sup> E Berkes & R Gaetani, *The Geography of Unconventional Innovation*, The Economic Journal, 2021.

<sup>48</sup> See for example I Ganguli, J Lin & N Reynolds, *The Paper Trail of Knowledge Spillovers: Evidence from Patent Interferences*, American Economic Journal: Applied Economics, 2020; M Andrews, *Bar Talk: Informal Social Interactions, Alcohol Prohibition, and Invention*, SSRN Working Paper, 2020; D Atkin, K Chen & A Popov, *The returns to face-to-face interactions: Knowledge spillovers in Silicon Valley*, NBER working paper, 2022.

services employment has been slower in the BUA than it has been in both Greater Manchester and London, where knowledge-intensive business services amount to over 15 per cent and 25 per cent of total employment respectively.

**FIGURE 9: The BUA has been slower to transition from manufacturing to high-value services jobs than other core cities**

Proportion of employment in knowledge-intensive business services: Birmingham urban area, Greater Manchester and London



Note: For reasons of data availability, this chart refers to the Birmingham 'primary urban area' (and comparator primary urban area in London) and Greater Manchester) rather than the functional urban area. The Birmingham PUA comprises the following local authority districts: Birmingham, Dudley, Sandwell, Solihull, Walsall, Wolverhampton. This is the same as the BUA apart from the omission of Cannock Chase and Tamworth.

SOURCE: Analysis of ONS, Census of Employment, Annual Business Inquiry, Business Register of Employment Survey.

However, although growing the share of employment in knowledge-intensive business services has to be a core element of any productivity strategy in the BUA, the city region needs to be equally, if not more, mindful of improving the productivity within sectors. In particular, Figure 10 shows that if the BUA had the same employment mix as London, its GVA per job would raise from £49,965 to £53,568 – an increase of 8 per cent. But if the BUA retained its current sector composition and the productivity of firms within these sectors were boosted to the level of those in London, GVA per worker in the city region would increase to £70,079, or a staggering 26 per cent.

### FIGURE 10: Changing sector composition alone would not deliver the improvements in productivity that the BUA needs

Gross value added per job (excluding agriculture, mining and utilities): Birmingham urban area and London, 2019



NOTES: Allocations done at a range of 1-digit and 2-digit SIC codes. Results hold when excluding imputed rent.

SOURCE: Analysis of ONS, Regional Productivity Statistics and Business Register and Employment Survey.

## The Birmingham urban area is not currently functioning effectively enough to attract the investment and high-skilled workers it requires

A common approach to industrial strategies is to identify specific narrowly-defined sectors with strong local base or a clear growth potential, and focus attention on those. This is not the approach we favour: not only would a highly-sector specific strategy be insufficient in scale to address the productivity challenge we have set out, it would also be a strategy that has not been successful to date.<sup>49</sup>

Instead, a plausible strategy to drive up productivity in the BUA should focus on attracting and retaining the high-value firms and highly-skilled workers that will deliver growth, regardless of sector. This is particularly true in an economy that will flourish by growing and improving its tradeable services capabilities. Firms operating in high-value services sectors are multifarious and engage in a great variety of activities, yet they also are reliant on similar underlying skills and capital. For example, an accountancy firm and an architecture firm will both require office space (ideally centrally located), IT equipment and support, as well as access to a deep pool of skilled labour. In contrast, a textiles firm

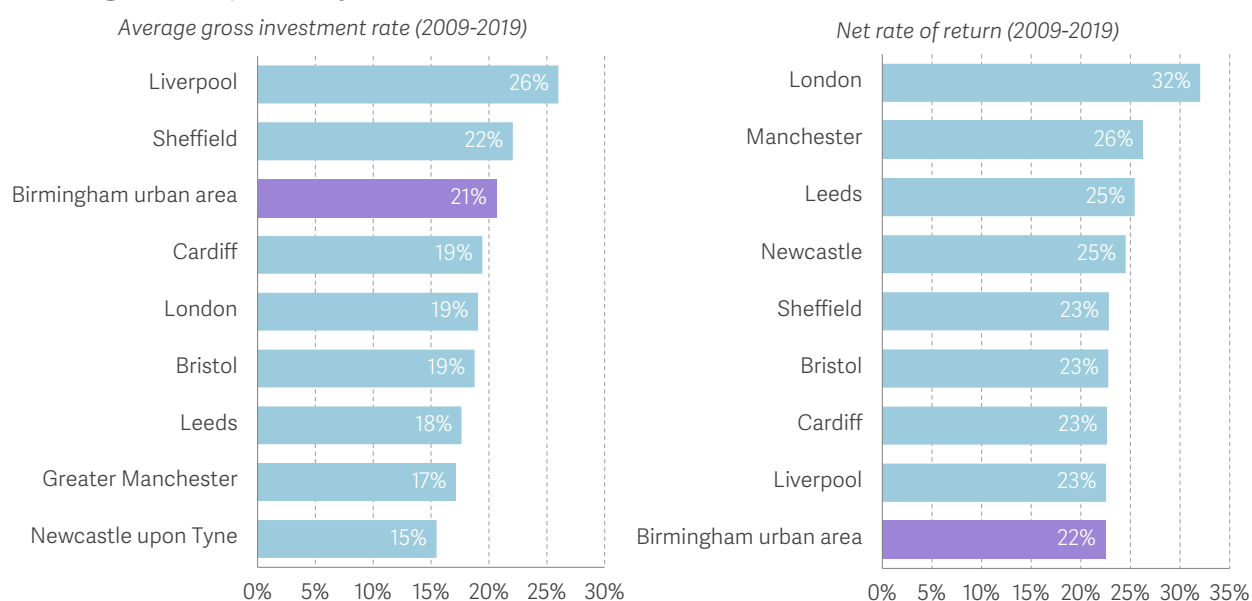
<sup>49</sup> UK cities which lack a diversity of firms or attempted to 'double-down' on existing sector-specific strengths have often seen a decline in their productivity over the long term. See, for example, G Rodrigues & A Breach, *What levelling up really means: changing the geography of knowledge*, Centre for Cities, September 2021; S Heblich et al., *The Death and Life of Great British Cities*, NBER Summer Institute 2023.

requires very different machinery and commercial space to an electronics manufacturing business.

There is, however, much to suggest that the BUA today is not functioning as an effective city system. In the left-hand panel of Figure 10, we plot the average gross investment rate for different cities between 2009 and 2019. At first glance, this looks like a positive story: the BUA had similar investment levels to Liverpool and Sheffield over this time period, and investment was even higher than London and Manchester over the decade. But this relatively strong investment performance appears to have grown the capital stock from a low base given, as Figure 11 shows, current levels of capital per worker are low in Birmingham relative to other major cities. And worryingly, given the need to significantly increase capital per worker, when we look at the returns on investment (in the right-hand panel) we note that the BUA currently has the lowest level of any equivalently large UK city.<sup>50</sup> Put simply, there is something about the BUA that means it is not currently an attractive place to invest.

**FIGURE 11: The returns to capital are lower in the BUA than in any other UK city**

Aggregate gross investment rate (left-hand panel) and net rate of return on capital (right-hand panel), by functional urban area: 2009-2019



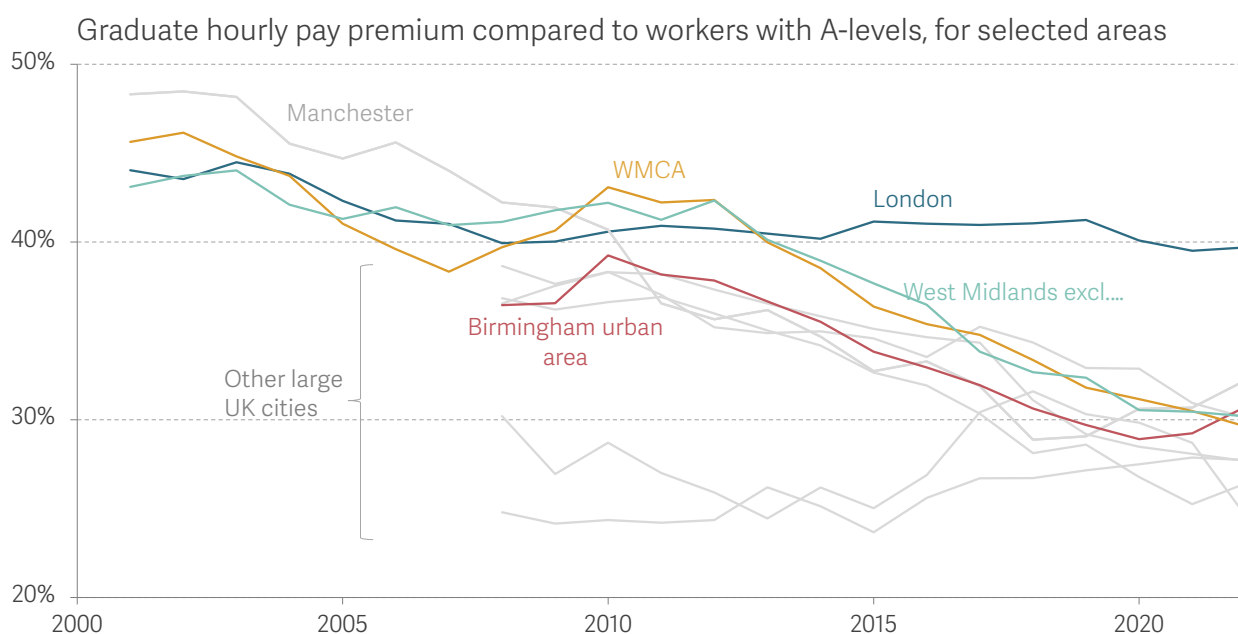
NOTES: Net return on capital is measured as gross value add less the wage bill and depreciation; this is divided by the total capital stock to produce a rate of return. Gross investment rate is Gross Fixed Capital Formation as a proportion of gross value added.

SOURCE: Analysis of ONS, Annual Survey of Hours and Earnings, Regional gross value added, by industry, Experimental regional gross fixed capital formation estimates by asset types; and EUKLEMS, Capital statistical module.

<sup>50</sup> Some of London’s higher rate of return is the result of returns to intangible capital such operating models and market research and branding, which are not included in national definitions of business capital, and which are likely to be more intensively used by high value services businesses located in the city.

And there is further evidence that the BUA is not currently functioning as the highly effective city it needs to be to attract and retain the resources it requires. Cities with high performing services-led economies should – on the basis of the agglomeration effects described above – be making better use of workers’ skills than elsewhere. But wages for graduates in the WMCA (using this boundary for reasons of data availability) are only 0.8 per cent higher than the rest of the West Midlands.<sup>51</sup> Given that the WMCA boundary includes the West Midlands’ three major cities (Birmingham, Coventry and Wolverhampton), we would expect this gap to be higher. Graduate wages in London, meanwhile, are 25 per cent higher than in the WMCA.

**FIGURE 12: the BUA’s graduate premium is lower than London and has fallen over the past 20 years**



NOTES: Chart shows the five-year moving average of within-period estimates of the coefficients on having a degree versus having A-level qualifications in a standard Mincerian wage equation. Regressions also include age and gender. Approach is based on that used in: A Stansbury, D Turner & E Balls, Tackling the UK’s regional economic inequality: Binding constraints and avenues for policy intervention, Harvard Kennedy School, 2023. Identification of core functional urban areas other than London and Manchester (GMCA) is only possible in Annual Population Survey, for which data is only available 2004 onwards (and a five-year average from 2009 onwards). In the Labour Force Survey, it is possible to identify WM metro area, hence why this is shown in earlier years, as well as WM urban area in the later years. Other cities shown in grey are Liverpool, Bristol, Leeds, Cardiff, Glasgow, Sheffield and Newcastle.

SOURCE: Analysis of ONS, Labour Force Survey and Annual Population Survey.

Second, the gap between graduates’ wages and those of workers with lower-level qualifications is lower in BUA than it is in London (this is also the case in all other large cities outside the capital). Although the quality of graduates in the BUA is not observably different from that of London (for example, a similar share has a first-class degree or

<sup>51</sup> Source: Analysis of ONS, Labour Force Survey, 2018-2022. These results are based on a regression of log hourly pay of 20-69-year-olds, with year dummies, and a dummy for the relevant area comparison mentioned based on workplace location.

a STEM subject qualification)<sup>52</sup>, the ‘graduate wage premium’ is around 30 per cent, compared to 40 per cent in London (see Figure 12).<sup>53</sup> This indicates that in the BUA, even its relatively small number of graduates (compared to other cities) are in insufficient demand to drive up their wages relative to other workers.<sup>54</sup> As we discuss in Section 3, this could be linked to the current constraints the city faces in terms of the expansion of activity in, and workers’ ability to access, the city centre.

## A strategy for productivity growth must create a virtuous circle of demand for firms and workers alike

A strategy for a higher-productivity BUA should build on the city’s existing strengths, but also must acknowledge and address its considerable weaknesses. It needs to do more to accelerate the transition to high-value services; to attract and retain far more high-skilled workers; and to boost its low rates of return on investment. And the change required to move to a higher-productivity equilibrium is huge. As our analysis in this section has shown, this could mean increasing the graduate share of the workforce by 9 percentage points; boosting capital per worker by £21,000; and enabling the population to increase by as much as 165,000 (10 per cent more workers).

As we have shown, business as usual is not going to achieve the necessary change. Instead, the BUA must take heed of the lessons from other successful service-led cities, and change so it is fit to host (and connect) both high-value firms and highly-skilled workers at scale. In the following three sections, we explore what needs to change with respect to three key domains that have a vital role to play in an effective city, and over which local policy makers have control. First, in Section 3, we look at the strategic challenges the BUA faces when it comes to developing a suitable city centre. Second, in Section 4 we then turn to what more needs to be done to ensure the BUA’s transport system is fit-for-purpose in a higher-productivity city. Third, in Section 5, we consider what the city must do with respect to housing to support prosperity and growth.

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<sup>52</sup> For example, the proportion of graduates working in the WMCA area with a first-class degree is 17 per cent, slightly lower than the 19 per cent in London but similar to the 16 per cent in the rest of the UK. Source: analysis of ONS, Labour Force Survey, 2017-2022, graduates age 20-59.

<sup>53</sup> The approach is based on that used in: A Stansbury, D Turner & E Balls, [Tackling the UK’s regional economic inequality: Binding constraints and avenues for policy intervention](#), Harvard Kennedy School, 2023.

<sup>54</sup> Recent research from the US concludes that: “Estimating separate place effects for college and non-college workers, we find that the college wage gap is bigger in larger and higher-wage places, but that two-thirds of this variation is attributable to differences in the relative skills of the two groups in different places. Most of the remaining variation reflects the enhanced sorting of more educated workers to higher-paying industries in larger and higher-wage C[ommuting] Z[ones]”. See: D Card, J Rothstein & M Yi, [Location, location, location](#), mimeo, August 2023.

## Section 3

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# The role of the city centre in a higher-productivity Birmingham urban area

In the previous section we concluded that a higher-productivity Birmingham urban area (BUA) has to be fit to host (and connect) both high-value firms and highly-skilled workers. In this section, we consider the first part of this task and begin to establish what is needed to attract additional capital into the city region. In the same way that different places play different roles in the national economy (which is why this report focusses on the BUA), so too different places within the BUA have different roles to play in the city region's overall economic strategy.

We assess what a productivity strategy driven by tradeable services means for the economic geography of the BUA, highlighting the critical role that the city centre plays given it is disproportionately attractive to high-skilled services activities, and how this can be reinforced. We show that city leaders must make strategic choices when it comes to land use in the central district of Birmingham, and need a policy framework to help them achieve this. Finally, we reflect on the role that other parts of the wider city region have to play in a higher-productivity BUA.

## Boosting the size of the city centre is crucial to delivering a higher-productivity Birmingham urban area

Different types of businesses benefit to differing extents from the 'agglomeration economies' we discussed in Section 2, and this can have a strong effect on location decisions. For example, non-tradable businesses that sell goods or services to a local market will situate themselves wherever their consumers are. In contrast, exporting businesses that sell internationally could, in principle, locate anywhere, but will choose to be based in the places where the benefits of agglomeration outweigh the costs. For



manufacturing firms with large plants, issues such as supply chains and logistics, cheap land and proximity to transport will drive location decisions.

But, as we argued in Section 2, the BUA is unlikely to become more productive without increasing its focus on high-value tradeable services. And firms providing knowledge-intensive business services, such as technology providers or financial and legal firms, strongly benefit from the sharing, matching and learning that agglomeration brings. As a result, they tend to cluster in locations where there are good facilities and access to a large effective labour pool – and that place is usually the central district of a city.<sup>55</sup> This should be good news for large city regions.

### [Boosting the size of the city centre is crucial to delivering a higher-productivity Birmingham urban area](#)

That may be the theory – but do we witness agglomeration at work in the BUA? Figure 13 suggests this is indeed the case by providing a snapshot of the share of employment by broad sector classifications across the BUA and a selection of its local authorities. Around one-fifth (18 per cent) of employment in the BUA is in finance or other knowledge-intensive services, slightly less than for Great Britain as a whole (20 per cent) and significantly lower than the 33 per cent seen in London. However, the city centre is much more specialised in knowledge-intensive activities than the city as a whole: more than two-fifths (42 per cent) of employment in central Birmingham is in finance or other knowledge-intensive services.<sup>56</sup> Looking across the city region, in contrast, there remain areas where manufacturing is a much more important source of jobs – in Wolverhampton, for example, it contributes 10 per cent of jobs, and in Sandwell this figure is 16 per cent.

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<sup>55</sup> There are, of course, some exceptions to this rule, such as when commercial confidentiality is at a premium, a category that includes pharmaceutical companies.

<sup>56</sup> Throughout this report we use the term ‘city centre’ to denote an area within a given radius of the central point of the city. The central point is identified by studying aerial views of the city and using location of commercial amenities and road patterns. The radius is adjusted for population size of the city region, with a 2 mile radius for London, and 0.8 mile radius for cities with a population between 600,000 and 2.5 million based on 2011 Census numbers. These definitions have been provided by Centre for Cities, see P Swinney & D Sivaev, [Beyond the High Street: Why our city centres really matter](#), 2013.

**FIGURE 13: The sector share of employment varies considerably across the Birmingham urban area**

Share of employment by jobs type: GB, selected city regions and local authorities, 2021



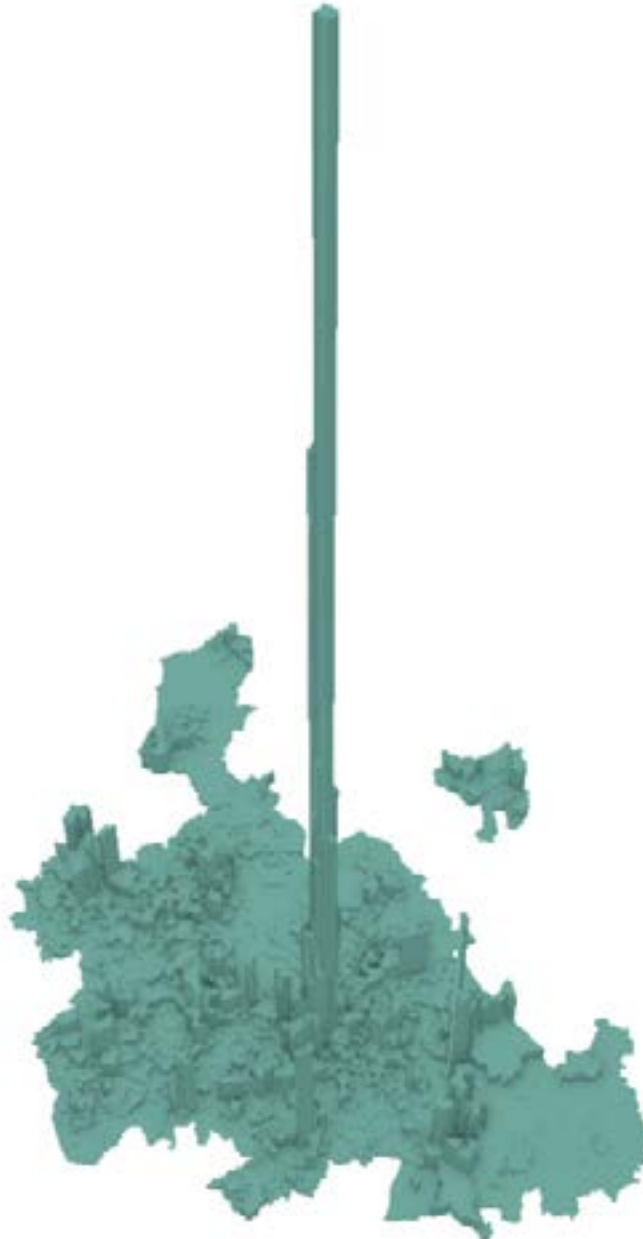
NOTES: Based on SIC 2-Digit employment shares. Sector designation by ONS: ‘Other production’ includes agriculture, forestry and water supply. Public KIS includes arts, entertainment and public services. Less KIS includes retail, transportation and hospitality. Finance includes financial and insurance activities. KIS includes professional, technical and administrative activities, communication and scientific R&D. Low tech Manufacturing includes textiles, food, tobacco, paper and wood products. High-tech manufacturing includes pharmaceuticals and electronics. City centres reflect definitions provided by Centre for Cities; see P Swinney & D Sivaev, Beyond the High Street: Why our city centres really matter, 2013 for more explanation.

SOURCE: Analysis of ONS, Business Register and Employment Survey.

The strong role that the city centre plays in hosting high-value firms, as opposed to other parts of the BUA, is confirmed by the picture in Figure 14. This shows the share of the city’s GVA generated in each square kilometre, with the large bars at the city centre indicating how much more value is already generated in that part of Birmingham (accounting for over 13 per cent of the total city area’s GVA). That is not to deny that there are other areas of high value added – particularly around Wolverhampton and the Jaguar Land Rover plant in Solihull – but the dominance of the city centre is striking. Some, of course, might look at this figure and argue that we should aim to spread business activity out across the city region. But the evidence that we present below suggests this would be a perilous strategy that ignores the roles that different parts of the city region play in the overall economic strategy, with market forces already driving high-value firms to concentrate in the central district, resulting in the demonstrable benefits that the BUA already enjoys as a result of agglomeration.

**FIGURE 14: A huge share of the value generated in the Birmingham urban area is produced in the city centre**

3D map of gross value added per square kilometre, by LSOA: Birmingham urban area, 2019



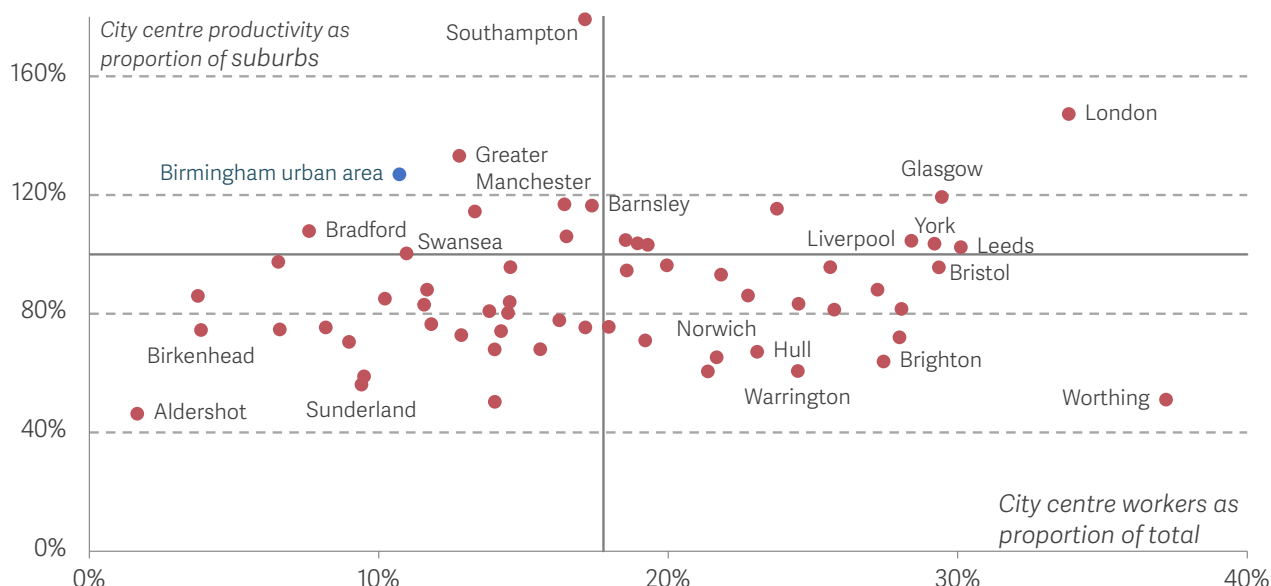
SOURCE: Analysis of ONS, Small area gross value added estimates.

It is good news, then, that the centre of Birmingham already shows signs of the advantages that come from the dense concentration of human and business capital. Figure 15 illustrates the relative productivity of the city centre compared to the suburbs of UK cities, as well as the proportion of total workers employed in the city centre area. As the vertical axis of Figure 15 shows, firms in the city centre have significantly higher productivity than firms located elsewhere in the BUA (by 27 per cent), albeit with a lower uplift than firms located in central London have over their suburban counterparts

(47 per cent).<sup>57</sup> The bad news is that, as the horizontal axis shows, the city centre accounts for only 11 per cent of total employment in the city region, far lower than 34 per cent of employment accounted for by the city centre in London. Raising the share of employment in the city centre to London levels would achieve 60 per cent of the productivity improvement that our hypothetical BUA requires in the scenario set out in Section 2.<sup>58</sup> More firms and jobs in the city centre seems very much the way to go.

**FIGURE 15: Agglomeration is playing out in Birmingham, but the city centre is too small as a share of employment**

Gross value added per job in the city centre as a proportion of suburbs (vertical axis) and city centre employment as a proportion of total city region employment, by city region: 2019



NOTES: City regions are defined as primary urban areas, apart from Birmingham (Birmingham urban area), Greater Manchester and London which are defined as core functional urban areas. City centres reflect definitions provided by Centre for Cities; see P Swinney & D Sivaev, *Beyond the High Street: Why our city centres really matter*, 2013 for more explanation.

SOURCE: Analysis of ONS, Small area gross value added statistics, and Business Register and Employment Survey.

## The working from home revolution may not be the game-changer some think it will be

The Covid-19 pandemic brought about a wholesale change in working patterns, as lockdowns forced a large share of (at least office-based) employees to work from home (WFH), and the proportion of working days undertaken remotely remains at a higher level

<sup>57</sup> Of course, BUA's city centre productivity uplift is from a much lower average than London.

<sup>58</sup> Delivering the rest of the improvement to narrow the gap between BUA and London requires productivity improvements within the city centre too. It is plausible that some, albeit not all, of this increased productivity would be generated by the agglomeration benefits that an even more dynamic city centre would bring.

today than pre-2020.<sup>59</sup> Moreover, the popularity of remote working among employees is well documented, with studies estimating that the ability to work from home is a valued perk equivalent to 6 per cent of earnings.<sup>60</sup>

Some argue that post-Covid-19 working patterns have profound implications for cities, urban structure and productivity. In particular, evidence emerging from the US shows that the impact of hybrid working has been to alter the gradient of real-estate prices with respect to distance from the city centre – boosting house prices in suburbs relative to the city centre.<sup>61</sup> These changes in residential real estate values are likely to reflect a change in demand for housing as workers commute into city centre office less frequently.

But does this mean that city centres will be less important for delivering high productivity employment going forwards?

Theory would suggest that the extent to which central areas of cities have become less important will be determined by the balance between the relative benefits of office working (i.e. the productivity-enhancing face-to-face interactions within businesses and between firms), relative to the costs of renting office space (for firms) and commuting (for workers).<sup>62</sup> Empirical evidence from the US suggests that the costs of commuting are important: in larger cities where the costs of commuting are large, remote working is more commonplace, whereas small cities have seen workers return to offices at pre-pandemic rates.<sup>63</sup>

Applying sector-level remote working averages to the BUA economy suggests that just over two days per week are worked remotely: not suggestive of a significant drop in office need, as hybrid firms will need to retain their office presence.<sup>64</sup> Regional data suggests that the proportion of workers either home working or hybrid working in the West Midlands is among the lowest at 40 per cent, compared to an average of 44 per cent for Great Britain as a whole.<sup>65</sup> It is possible this share might rise in a BUA with a larger tradable services sector (where working from home is more commonplace than, for example, in the manufacturing sector). But the scale of the demand for additional office space in our hypothetical BUA set out above is likely to be much larger than the relatively small reductions in demand for office space we've seen related to working from home. This is especially the case if effective and convenient transport networks make commuting into the centre a more attractive prospect, as Section 4 discusses.

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<sup>59</sup> ONS, [Characteristics of homeworkers, Great Britain: September 2022 to January 2023](#), February 2023.

<sup>60</sup> P Mizen, S Taneja & N Bloom, [Working from home is revolutionising the UK labour market](#), VoxEU CEPR, 2021.

<sup>61</sup> A Ramani & N Bloom, [The Donut Effect of Covid-19](#), NBER Working Paper 28876, 2021. A Gupta et al., [Flattening the Curve: Pandemic-Induced Revaluation of Urban Real Estate](#), NBER Working Paper 28675, 2021.

<sup>62</sup> Studies have found that WFH can reduce innovation and idea generation, suggesting continued benefits from office working, see: M Brucks & J Levav, [Virtual communication curbs creative idea generation](#), *Nature*, 2022. Evidence also suggests impacts on long-term career progression and productivity, for example N Emanuel, E Harrington & A Pallais, [The Power of Proximity to Coworkers: Training for Tomorrow or Productivity Today](#), Working Paper, 2023.

<sup>63</sup> F Monte, C Porcher & E Rossi-Hansberg, [Remote Work and City Structure](#), NBER Working Paper, 2023.

<sup>64</sup> Using data from the Global Survey of Working Arrangements (G-SWA). C G Aksoy et al., [Working from home around the world](#), Brookings Working Paper, 2022.

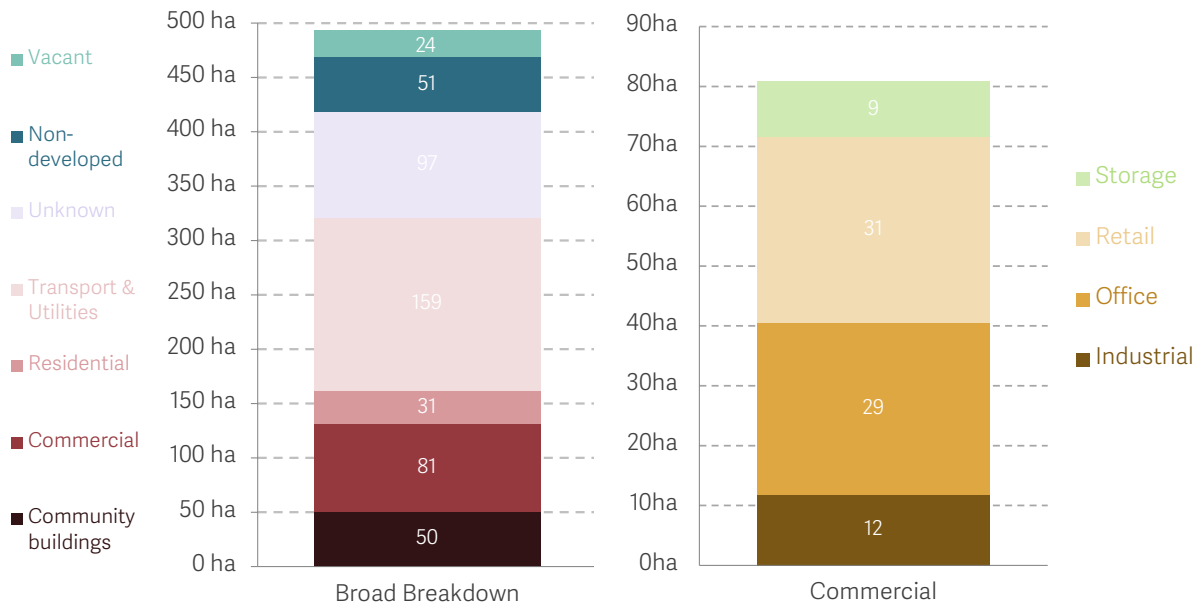
<sup>65</sup> ONS, [Characteristics of homeworkers, Great Britain: September 2022 to January 2023](#), February 2023. [economy2030.resolutionfoundation.org](http://economy2030.resolutionfoundation.org)

## Policy makers need to think hard about the best use of land in the city centre

A higher-productivity BUA, then, requires a central district that is fit-for-purpose and provides high-value firms with the facilities they need. One obvious requirement is the office space in which to operate.<sup>66</sup> So how much additional office space would our hypothetical higher-productivity BUA require? If the number of people working in Birmingham city centre were to increase by the full 165,000 high-skilled workers that our modelling suggests must join the BUA workforce to narrow the productivity gap to London, then an extra 165 hectares of office floor space would be required.<sup>67</sup> In order to deliver on the benefits from agglomeration, it would be most beneficial if this extra office floor space could be delivered within the city centre. But is this possible?

**FIGURE 16: Reallocating land in the city centre away from industrial use to offices is likely a sensible strategy**

Proportion of land in the city centre by use (left panel) and proportion of commercial land by use (right panel): Birmingham city centre, 2022



NOTES: Unknown land includes carparks and courtyards. Vacant land is land which has been previously developed but is now vacant and could be developed without further demolition or treatment. City centres reflect definitions provided by Centre for Cities; see P Swinney & D Sivaev, *Beyond the High Street: Why our city centres really matter*, 2013 for more explanation.

SOURCE: Analysis of Department for Levelling Up, Housing and Communities, *Land use in England, 2022*.

<sup>66</sup> In Section 4, we consider what transport connections are required to connect up the necessary workers with high-value firms located in the central districts.

<sup>67</sup> Based on the assumption of 10 square metres per person as recommended by the British Council for Offices. See: *The Future of UK Office Densities*, British Council of Offices, September 2022. In reality, it is likely some of the 165,000 additional workers from our modelling would work elsewhere in BUA, but an upper bound is here used to illustrate the land use challenges faced in an expansion of this scale.

Figure 16 provides a snapshot of how land in the centre of Birmingham is currently used.<sup>68</sup> Of the 493 hectares we define as the city centre, 81 hectares (16 per cent) is used for commercial purposes, of which 38 per cent is used for retail purposes, while 36 per cent is used for office space and 15 per cent is used for industrial purposes. The 16 per cent of land used for commercial purposes is close to the 13 per cent in London city centre, but in London far more of this land (65 per cent) is used for offices.

One potential margin of adjustment could be to use some of the 75 hectares of vacant and non-developed land, or the 97 hectares of 'unknown' developed land.<sup>69</sup> However, converting some of this space into office space would come with some sharp trade-offs. First, land designated as 'non-developed' in Figure 15 often represents important amenities including parks, playing fields and residential gardens which are key for the liveability (and even sustainability) of a city.<sup>70</sup> This non-developed land constitutes a fairly low proportion of land in central Birmingham (10 per cent), at least relative to central London where this figure is closer to 20 per cent, underlying its importance in making a city liveable. Second, land designated as 'unknown' likely reflects courtyards and other large paved areas around the city which are not adjacent to roads and enable people to congregate, as well as carparks. It is likely that the majority of this land should be maintained in its current use, although carparks could be reduced, and, indeed, are already being converted into office space in some important strategic sites such as Snow Hill. This leaves the 24 hectares of vacant land: if three-quarters of this land was used to generate office floor space at current average densities (a point we will return to shortly) this would could produce enough new space for almost 60,000 new office workers (though much of what it is plausible to develop has likely already been allocated under current strategic land plans).

A second possible margin for adjustment to increase the supply of office space may be to convert industrial land to office use. Some of this conversion is already in motion, with major development underway in Digbeth to convert the old Typhoo Tea Factory into a new regional headquarters for the BBC. Shrinking the footprint of industrial land in the city centre is crucial, as these manufacturing firms tend to benefit less from their

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<sup>68</sup> As discussed in footnote 2, the city centre is defined as a circle with a radius of 0.8 miles around the central point of Birmingham.

<sup>69</sup> Unknown land refers to "unidentified man-made surfaces", discussions with Department for Levelling Up, Housing and Communities suggests that this is largely carparks and courtyards.

<sup>70</sup> See Section 5 for a further discussion of this issue. See also, J Marshall, [It's getting hot in here: How ever-warmer UK summer temperatures will have an outsized impact on low-income households and low-paid workers](#), Resolution Foundation, 2023.



geographic position in the centre of the city than tradeable services firms.<sup>71</sup> If 75 per cent of this land was used for office space, this would provide roughly 9 hectares of land, enough additional space to accommodate an additional 29,000 workers in the city centre at current densities.

In short, the current footprint in Birmingham's city centre suggests that roughly half the land needed for new office space could be developed – although this will also come with tough choices about land use if the economic potential of the centre is to be harnessed to the full. One clear tension exists between building residential homes in the central districts of Birmingham rather than commercial properties, for example (a topic we return to in Section 5).<sup>72</sup> But, as Box 6 discusses, there are also strategic decisions to be made about what types of commercial activity to foster in the city centre, with evidence that over-reliance on tourism can crowd out more productive uses of finite city centre land.

### BOX 6: The pitfalls of a tourism-led economic strategy

Given the scarcity of land in Birmingham's city centre, policy makers must think carefully about competing uses of land. In recent years, Birmingham has promoted itself as a tourist destination. As we argued in Section 2, such a strategy will not bring improvements in productivity, as evidenced by the similarity in the productivity distribution of firms in these sectors across cities in the UK. Furthermore, such a strategy may even

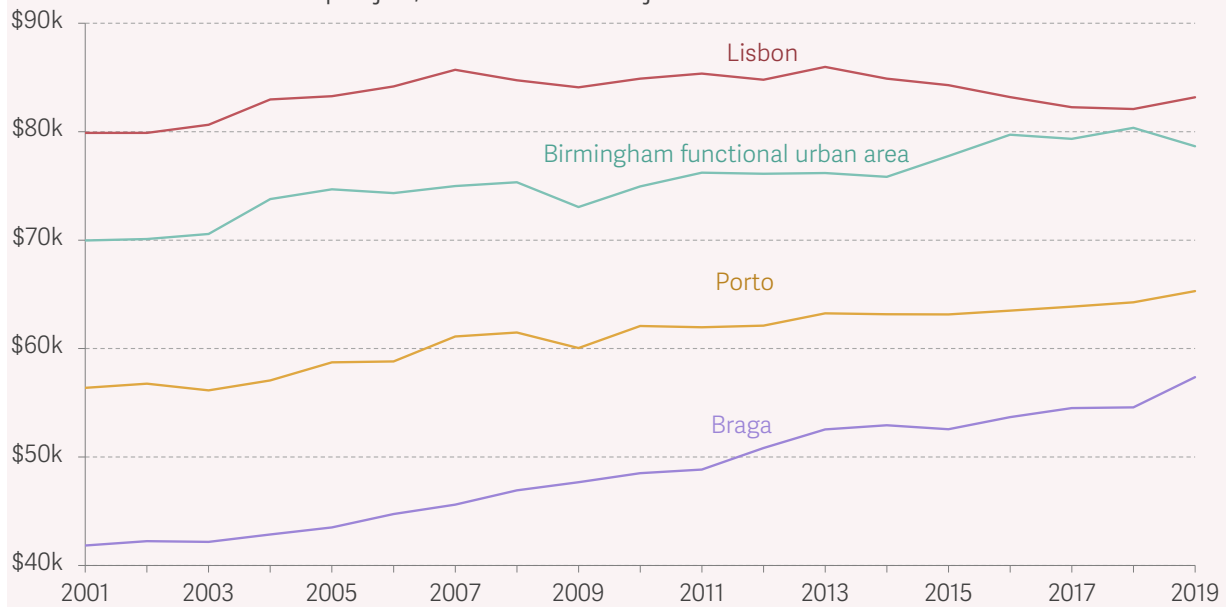
have negative impacts for the city economy by increasing the competition for scarce space in the city centre. Figure 17 provides the cautionary tale of in Lisbon, where a strategy to increase the tourism sector has led to productivity stagnation, with output per worker 4 per cent lower than in 2013. This has occurred while the second and third cities in Portugal, Porto and Braga, have continued to see productivity improvement.

<sup>71</sup> D Graham, *Agglomeration Economies and Transport Investment, The Wider Economic Benefits of Transport: Macro-, Meso- and Micro-Economic Transport Planning and Investment Tools*, OECD, 2008.

<sup>72</sup> The land required for more efficient transport services (as set out in the next Section) may also be a competing priority in the centre of a higher-productivity BUA, although much of this could likely come from more efficient use of the 38 per cent of developed land in the city centre already used for 'transport and utilities'.

**FIGURE 17: Productivity in Lisbon has stagnated as tourism has crowded out higher-value business**

Gross value added per job, constant PPP adjusted: selected functional urban areas



SOURCE: Analysis of OECD, Functional urban areas and Cities database.

## A higher-productivity BUA may need to expand the city centre up – or out

So we have shown that there is some scope to change the use of land in the city centre of Birmingham to create roughly half the office space needed, but how else could the office space that high-value firms will require in order to locate in the city be created? Rough calculations of the density of commercial space in central Birmingham (illustrated in Figure 18) suggest 3.3 hectares of office floor space for every hectare of land allocated to offices – this ratio is 5.8 in central London and 5.4 in central Manchester, suggesting increases in density are likely to be a margin through which more office space could be created.<sup>73</sup> Maintaining current densities, and assuming each worker needs 10 square metres of office space, would mean that up to 50 more hectares of land would be required to create the 165 hectares of office floor space in central Birmingham for 165 thousand new workers. However, if the density of total office stock could be increased such that 5 hectares of floor space were produced in each hectare of land, then the land need would fall to 33 further hectares, something that could be found by using industrial and vacant land, as outlined above.

<sup>73</sup> This analysis was repeated including the half mile band around the city centre and the same pattern holds with Birmingham having significantly lower office density than Manchester.

### FIGURE 18: It is plausible for Birmingham city centre to build upwards in its quest for floor space

Ratio of total commercial floor space to land used in the city centre, by land use: selected cities, 2022



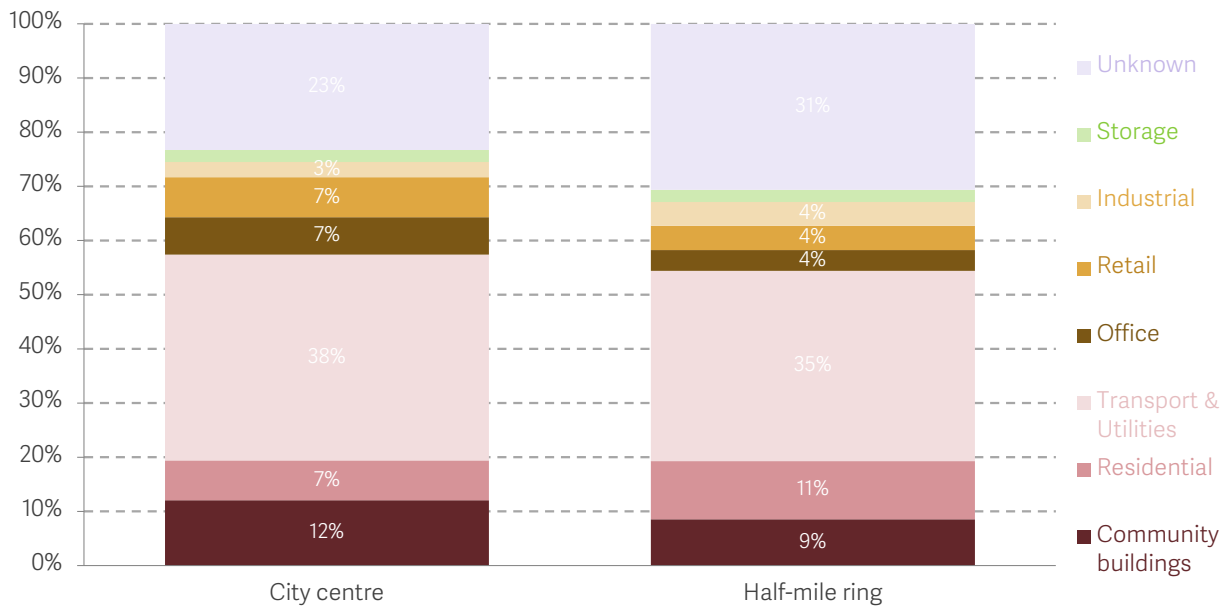
NOTES: Industrial category for London is not shown due to data issues. City centres reflect definitions provided by Centre for Cities; see P Swinney & D Sivaev, *Beyond the High Street: Why our city centres really matter*, 2013 for more explanation.

SOURCE: Analysis of Department for Levelling Up, Housing and Communities, *Land use in England, 2022* and Valuation Office Agency, *Non-domestic rating business floor space statistics, 2022*.

Densifying office space in the city centre is a clear priority, although, given the challenging scale of change required, it is also prudent to look beyond the immediate city centre into the areas adjacent for development land. A greater proportion of total land is undeveloped in this adjacent ring, with around 27 per cent of the land within a half mile loop of the city centre designated as 'non-developed' (relative to 10 per cent within). However, the bulk of this is residential gardens and is therefore important for delivering a housing stock capable of attracting and retaining high-skilled workers (we return to this point in Section 5). If we instead focus on the use of developed land in the half-mile ring around the city centre (Figure 19), then we can see that a smaller share of land is used for office space in this ring than in the city centre (4 per cent versus 7 per cent), but that a much larger section is designated 'unknown' (31 per cent versus 23 per cent). This land is much more likely to represent car parks rather than courtyards, and so offers an option for office development: converting as little as 5 per cent of these 158 hectares would make a significant contribution to delivering new office space.

**FIGURE 19: There is ample land adjacent to Birmingham city centre that could be better used for new office development**

Proportions of developed land by use in Birmingham city centre and in a half-mile ring around the city centre: 2022



NOTES: City centres reflect definitions provided by Centre for Cities; see P Swinney & D Sivaev, Beyond the High Street: Why our city centres really matter, 2013 for more explanation. Total developed land is equal to 418 hectares in the city centre and 635 hectares in the half-mile ring.

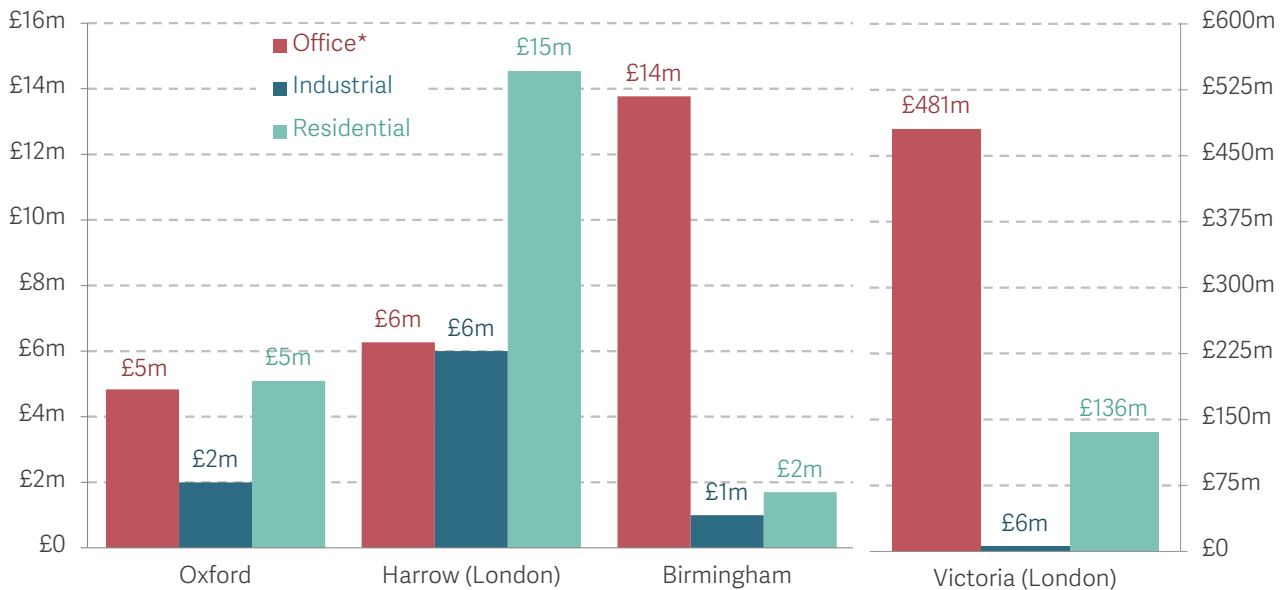
SOURCE: Analysis of Department for Levelling Up, Housing and Communities, Land use in England, 2022.

Further evidence that local leaders should be prioritising office space over and above industrial or residential use is provided in Figure 20, which presents the residual land value per hectare in Birmingham local authority compared to a number of others. This is an indication of the overall development value of the land in the city for various uses, deducting an assumption of developer costs and profit margins. The differences in residual land values between using land for office space in the BUA and other uses suggests high demand relative to supply for this type of development. This contrasts with other parts of the country, such as the highly productive city of Oxford, where housing and office needs appear to be roughly balanced, and the Outer London borough of Harrow, where the high relative price of land for residential is providing a clear signal of the need for relatively more residential development. Moreover, it is striking just how high residual land values are for commercial builds in Birmingham, even compared to Oxford or Harrow. Of course, land use plans need to consider more than just market values, and the best use may vary by site, but these price signals indicate the high economic value of using land in the city centre for office space even when the construction costs are taken into account. Moreover, the uplift between land for office space and other uses also suggests (at first glance at least) that viability should be less of an issue for the

development of new office floor space than for other uses. Taken together, this suggests that it's not just theory that tells us more office space is required in central Birmingham, but the market agrees too.

**FIGURE 20: Land values suggest that expanding office space should be the priority in central Birmingham**

Residual land value per hectare, by use and local authority: 2019



NOTES: Office space values are estimated as the value of the land on the edge of the central business district while all other values are a local-authority level average. Differences in land values provide a sense of the incentives that exist in the market to use land for one purpose over another.

SOURCE: Analysis of Department for Levelling Up, Housing and Communities, Land value estimates for policy appraisal 2019.

## Local leaders need a policy framework to support good land use decisions

The previous sub-section set out some sizeable land-value uplifts, but overall office floor space in Birmingham city centre has grown modestly at only 11 per cent in total over the past two decades.<sup>74</sup> Why might this be the case?

One possible explanation is that the planning system in the city prevents or disincentivises viable developments, by raising capital costs and increasing uncertainty, thus lowering expected returns. This is not immediately obvious: evidence from planning rejection rates does not suggest that Birmingham is notably more restrictive in decisions on proposed commercial buildings with annual planning rejection rates for office space

<sup>74</sup> Analysis of Valuation Office Agency, *Non-domestic ratings business floor space statistics*, 2022.

were close to 8 per cent in Birmingham over the past twenty years, similar to rates of 9 per cent in Camden and Westminster in London, as well as in Manchester.<sup>75</sup>

However, these statistics only look at decisions on planning applications and do not consider the impacts of the planning system on the likelihood of developers filing proposals in the first place. One way to think about this issue is to compare the price of office rents relative to the costs of construction: this can be thought of as a measure of the effective 'tax' from planning regulations. Researchers have previously suggested that this 'tax' makes commercial development more expensive in UK cities (including Birmingham), compared to their European counterparts, such as Amsterdam, Paris and Brussels.<sup>76</sup> Of course, these values could have changed since then, although the lack of significant planning reform and the fact that overall office floor space has only grown marginally suggests this is unlikely. As well as updating these figures, progress should be made (whether by local or central government) in reducing the cost of regulatory constraints on commercial building. This is difficult, but, as outlined in other Economy 2030 work on turnaround cities, setting the correct institutional framework at the right geographic level is crucial for driving economic growth.<sup>77</sup>

It is clear that Birmingham City Council has thought carefully about the way in which it would like land in its central areas to function in Our Future City Plan: the plan identifies a need for densification in the centre, and improved connectivity.<sup>78</sup> But further moves towards a zone-based plan, as called for in other Economy 2030 work, could help reduce uncertainty in the planning process.<sup>79</sup> And development could be made easier if strategic planning included other local authorities in the functional urban area, so that decisions around utilities and logistics – which have benefits for the city region as a whole but more concentrated and localised costs – are not vetoed by the local authorities surrounding Birmingham.

A second explanation for the low growth in office floor space in Birmingham could be that planning applications do not come forward in the first instance because landowners (whether private or public) are unable to align their actions to maximise the return from a set of sites. It could be that the building ecosystem in Birmingham is just not as responsive to incentives from land value uplifts than theory suggests it should: fragmented land ownership can make agreement around development difficult to attain, and uninterested landowners are unlikely to be forthcoming with new development

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<sup>75</sup> Analysis of Department for Levelling Up, Housing and Communities, [Live tables on planning applications](#), June 2023. Looking at the core functional urban area there are similarly only small differences in planning applications over this period.

<sup>76</sup> P Cheshire & C Hilber, [Office Space Supply Restrictions In Britain: The Political Economy of Market Revenege](#), *The Economic Journal*, 2008.

<sup>77</sup> S Frick et al., [Lessons from successful 'turnaround' cities for the UK](#), Resolution Foundation, May 2023.

<sup>78</sup> Birmingham City Council, [Our Future City Plan – Central Birmingham 2040](#), January 2021.

<sup>79</sup> P Brandily et al., [Beyond boosterism: Realigning the policy ecosystem to unleash private investment for sustainable growth](#), Resolution Foundation, June 2023.

plans. In major regeneration developments, such as that done in King Cross, this coordination failure was overcome by consolidating land ownership through the creation of a single entity which united landowners and developers.<sup>80</sup> In the Birmingham context, it may be possible to issue Mayoral Development Orders (MDOs) to reduce planning uncertainty.<sup>81</sup> Moreover, central Government proposals to streamline and speed up the process of providing compulsory purchase orders (CPOs) in the Levelling Up and Regeneration Bill could clearly help.

## Areas outside the city centre also have a role to play in a more productive Birmingham urban area

A strategy that emphasises increasing the employment size of the city centre and prioritising its use of high-value services firms sometimes raises concerns about the strategy's ability to deliver widespread and shared prosperity.<sup>82</sup> However, a strategy of this kind should not be seen as one which will choke off industrial activity taking place elsewhere in the city region, or hoard wealth in the central districts. Figure 21 begins to show why. It shows that there are areas of successful services-led cities where manufacturing still plays an outsized role. For example, Woking, Ealing and Dagenham (all part of or close to London) all have around 9 per cent of their jobs in manufacturing industries. It is true that this is a smaller share than found in Dudley, Sandwell and Walsall, which have nearer to 15 per cent of jobs in these industries, but it is reasonable to think that these jobs will continue to exist in a more productive BUA and these areas of the city will continue to be manufacturing hubs.

But Figure 21 also makes clear that where the comparator local authorities have the edge is when it comes to high-tech, as opposed to low-tech manufacturing – something that lies behind the fact that the manufacturing sector overall in London is over 15 per cent more productive than that in the BUA.<sup>83</sup> Given the importance of manufacturing for employment in the local authorities around the BUA, policy needs to support innovation in these areas – with the hope of boosting productivity of manufacturing jobs and upgrading the currently low-tech manufacturing base into higher-tech activities that invest more intensively in intangible capital, such as operational and management assets.<sup>84</sup>

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<sup>80</sup> S Bridgett, T Leeman & A Breach, [Making places: The role of regeneration in levelling up](#), Centre for Cities, October 2022.

<sup>81</sup> Mayoral Development Orders (MDOs) refer to tools available to mayors of combined authorities to grant automatic outline or full planning consents for developments which comply with the terms set out in the order within a combined authority.

<sup>82</sup> T Burchardt, T Goatley & L Judge, [Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas](#), Resolution Foundation, forthcoming.

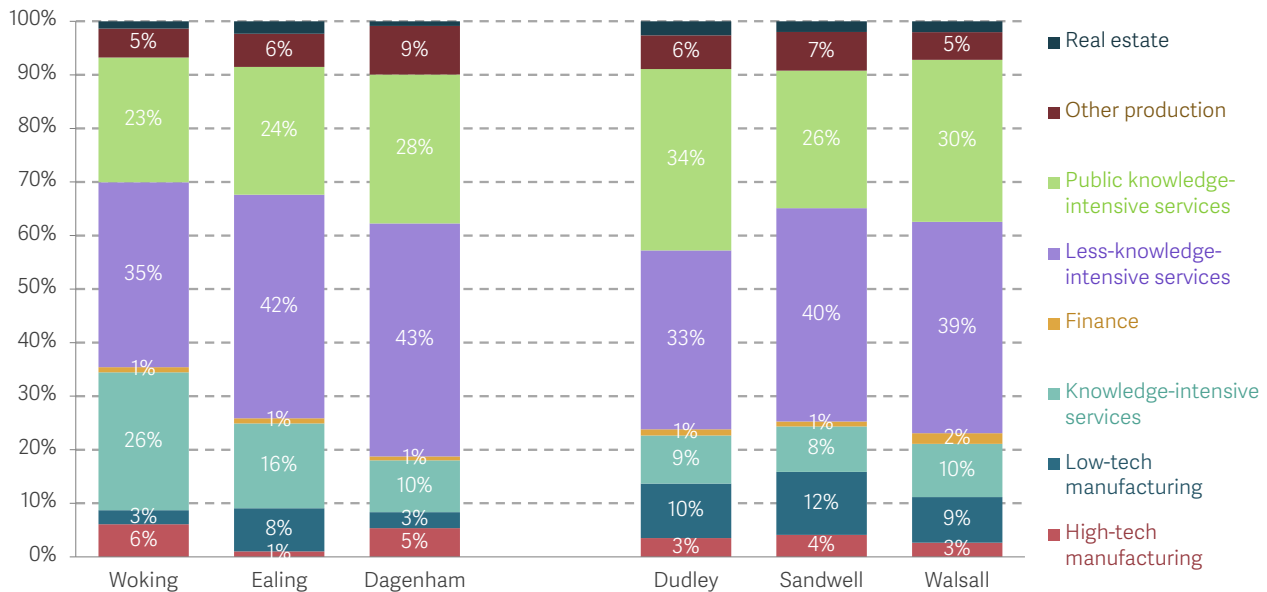
<sup>83</sup> Based on analysis of ONS, Regional Productivity Statistics and Business Register and Employment Survey, as used in Section 2.

<sup>84</sup> Evidence from the US suggests that manufacturing companies which develop these assets in-house are better able to adapt to shocks and enjoy a productivity advantage over competitors. X Ding et al., [Structural change within versus across firms: Evidence from the United States](#), NBER Working Paper, 2022.



**FIGURE 21: Manufacturing employment is important in areas of both the Birmingham urban area and London**

Share of employment by job type and local authority: UK 2021



NOTES: Based on SIC 2-Digit employment shares. Sector designation by ONS: High-tech manufacturing includes pharmaceuticals and electronics. Low-tech manufacturing includes textiles, food, tobacco, paper and wood products. Other KIS includes publishing and public services. Less KIS includes retail, transportation and hospitality.

SOURCE: Analysis of ONS, Business Register and Employment Survey.

Furthermore, privileging the city centre for high-value services activities is not at odds with the benefits from productivity growth being broadly shared geographically throughout the city region, for one simple reason: those who produce value in the city centre often do not live in the city centre. The rise of a larger and richer resident commuter population in places such as Sandwell or Solihull would bring money into those local areas, boosting local demand and benefiting local businesses.

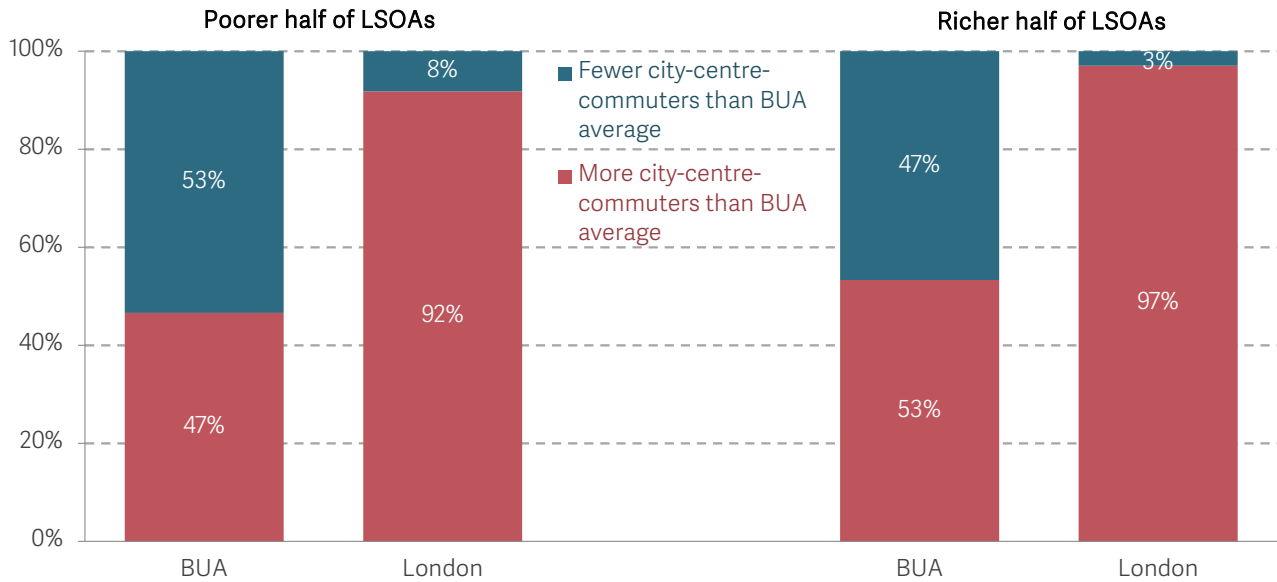
However, further policy interventions are likely to be needed if a more productive city centre is going to deliver these benefits. Figure 22 looks at areas of the BUA as categorized by both their position in either the top or bottom half of the city region’s income distribution, and whether these areas have above or below the median proportion of residents that commute into Birmingham city centre.<sup>85</sup> It shows far lower levels of commuting into Birmingham city centre compared to London, among both high and low-income residents. This limits the extent to which a more productive city centre will result in shared benefits across the city region, particularly given that many of the areas with lower levels of commuting are geographically concentrated around the edges of the city region.<sup>86</sup> Section 4 deals with how transport policy can help to broaden the areas over which the benefits of a productive city centre are shared.

<sup>85</sup> This is based on Census 2011 data, which while outdated avoids the issue of limited commuting during the covid lockdown conditions when Census 2021 was conducted.

<sup>86</sup> P Swinney, *Does ‘trickle out’ work? How cities help their surrounding towns*, Centre for Cities, September 2023

**FIGURE 22: Improving the ease of commuting to the city centre would help spread the gains from a higher-productivity Birmingham urban area across the city region**

Share of Lower Layer Super Output Areas, by whether above or below median proportion of residents commuting into the city centre, and median income bracket: Birmingham and London core functional urban areas, 2011



NOTES: 'Poorer half' and 'Richer half' of LSOAs is categorised as LSOAs above or below median LSOA-level income in the core functional urban area for the BUA and London respectively. City centres reflect definitions provided by Centre for Cities; see P Swinney & D Sivaev, *Beyond the High Street: Why our city centres really matter*, 2013 for more explanation.  
 SOURCE: Census 2011; ONS, *Income estimates for small areas, England and Wales, Financial year ending 2018* edition.

In this section, we have seen that local and national policy makers need to build on the city centre as a site of high-skilled and high-value-added employment in order to deliver a higher-productivity BUA. Although Birmingham city centre is currently performing well and delivering agglomeration benefits, it is undersized, and needs to attract more workers. This has implications for the location of new office space in the city region, and the use of land around in and around the city centre. But such a strategy also needs to ensure that workers can get into the centre – and this has important implications for both the city’s transport system as well as the decisions taken around housing, and we discuss those in the following two sections.

## Section 4

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### Transport in a higher-productivity Birmingham urban area

The previous section highlighted that the city centre will need to provide more space for employment, particularly office workers, if it is to increase its productivity. This section considers the critical role that transport has to play in a higher-productivity city region. The objective of transport in a strategy that aims to grow high-value services (mainly in the city centre) is to increase the effective size of skilled labour available that highly productive firms can benefit from. We begin by showing that private transport is expected to continue to be the dominant mode of transport in the BUA, but it is not plausible to increase the size of its labour pool by relying on private cars as much as today. Public transport will have to play a central role in connecting workers, especially to the city centre, where most of the high-value services should be expected to be. We analyse the impact and costs of significant improvements to the public transport network as well as the benefits that would stem from improved inter-city links.

Connectivity, via private or public transport, is key to generating economic value. The transport network allows workers to commute to their workplaces; facilitates business-to-business interactions; and enables residents to access public services and leisure activities. For a higher-productivity BUA, it is the first of these that is likely to be most

important.<sup>87</sup> The objective of transport in a strategy that aims to grow high-value services (mainly in the city centre) should be to increase the size of skilled labour available (i.e. deepening the pool of skilled labour) that highly productive firms can benefit from; this in turn leads to higher-productivity outcomes. If connectivity is weak, the effective size of the skilled labour market may be much smaller than what headline figures would suggest, which will have negative implications around productivity and returns to investment by firms. Additionally, high-skilled labour will not live in the city region and its environs if job opportunities are not easily accessible.

This section analyses the connectivity of the current workforce in the BUA, with a focus on graduates. Doing so shows the limitations of the current transport system and how it needs to change in order to deepen the BUA's pool of skilled labour. The connectivity-related implications for a larger BUA (as developed in the scenarios in Section 2) will be analysed in the housing section.

### [The private vehicle is likely to remain the main mode of transport in a more productive Birmingham urban area](#)

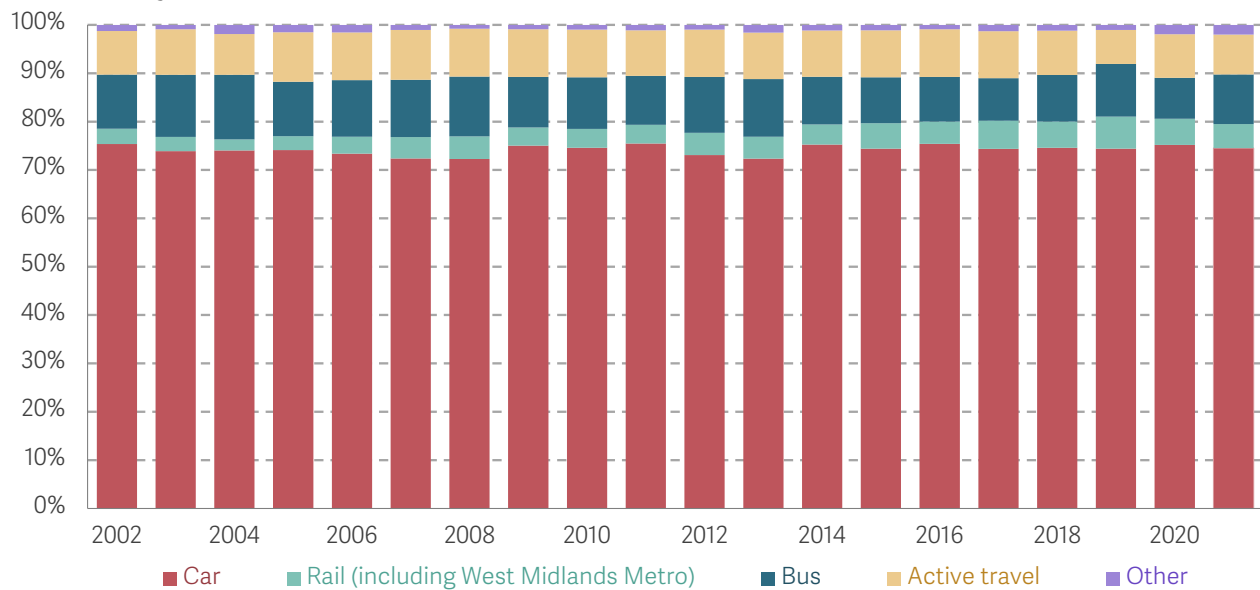
Analysing current commuting flows helps understand the potential constraints in the BUA and define the role of transport in a credible growth strategy. The car is currently the most common mode of transport: around three-quarters of workers in the West Midlands Metropolitan County drove to work in 2021, a share that has remained largely stable since 2002 (see Figure 23). This could be related to the fact that, during this period of stable car use, the city's public transport network remained mostly unchanged, with only five extra stations added to the West Midlands Metro; this is in stark contrast, for example, to the expansion of the Metrolink in Greater Manchester.

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<sup>87</sup> For manufacturing firms, transport's role in enabling business-to-business interactions can be as important as its role in allowing workers to get to work, if not more so. For high-value added service firms, however, transport's primary role is to connect workers and jobs. See, for example, T McKillop et al., [Understanding labour markets, skills and talent](#), Manchester Independent Economic Review, March 2009.

**FIGURE 23: Despite a small decline in recent years, the car remains the dominant mode of transport in the West Midlands metro area**

Proportion of commutes, by usual method of travel: West Midlands Metropolitan County

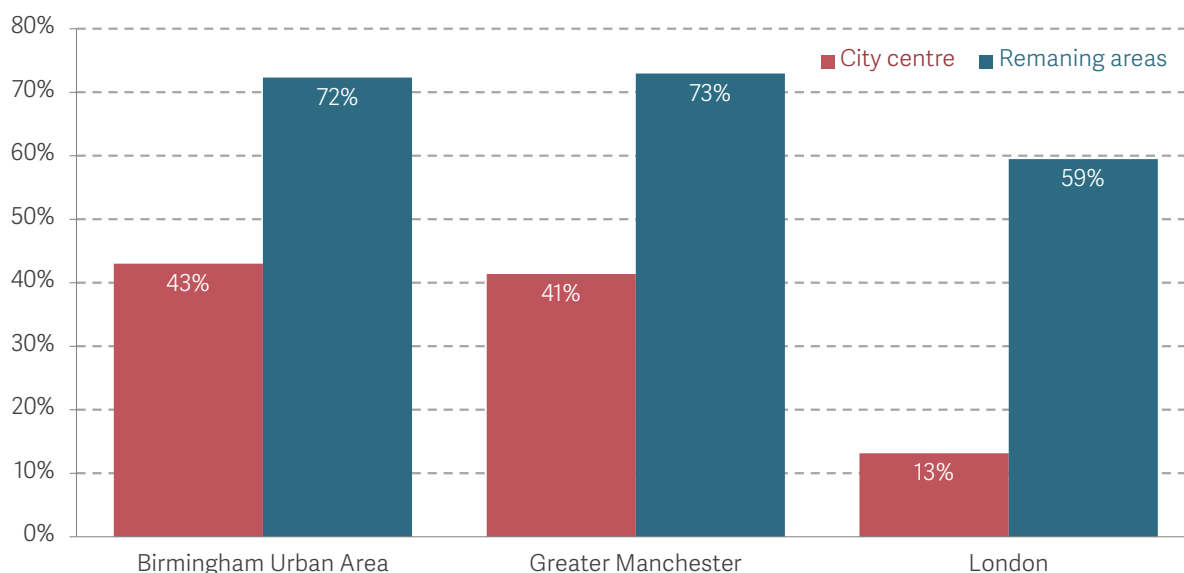


SOURCE: Analysis of Department for Transport, Modal Comparisons Statistics.

Furthermore, the car dependency in Birmingham is evidenced by the fact that around 40 per cent of commutes to the city centre were done by car in 2011 (with Figure 23 suggesting that there is little reason to expect this to have fallen sharply since). The BUA is not unusual in this regard with a similar share of car commutes to that in better-connected Greater Manchester, as shown in Figure 24. But London's performance hints at how a large and productive city region, with a large concentration of highly productive firms in a small area, can operate: only 13 per cent of commutes into London's central district are done by car, even though car commutes are dominant outside the central London areas (where 59 per cent of commutes are by car). This is a strong indication that a productivity strategy for the BUA is likely to require changes to how workers are connected to jobs, but cars should be expected to remain the main mode of transport for many, particularly outside its central district.

### FIGURE 24: In the Birmingham urban area, four-in-ten commutes into the centre are done by car, significantly more than in London

Proportion of commutes by car, by workplace area: Birmingham urban area, Greater Manchester, and London, 2011



NOTES: City centres reflect definitions provided by Centre for Cities; see P Swinney & D Sivaev, *Beyond the High Street: Why our city centres really matter*, 2013 for more explanation. London's Central Area are TfL's Zones 1-2.

SOURCE: Analysis of ONS, Census 2011, Location of usual residence and place of work by method of travel to work, November 2014.

## Public transport will have to play a central role in connecting workers to the city centre

The BUA is, of course, not London, so is it plausible that a productivity strategy can increase the effective size of its labour pool by mostly relying on private cars as it does today? Based on the connectivity patterns within the BUA and comparing them with US cities, there are three reasons why we do not think this could be the case.

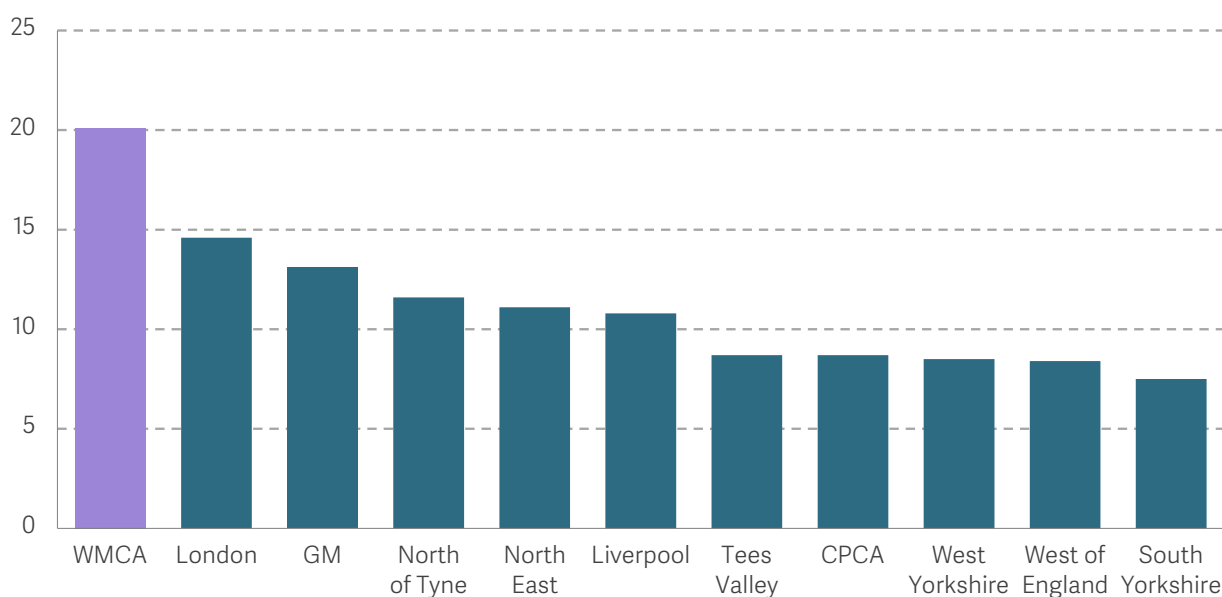
First, by some metrics, the West Midlands Combined Authority is already congested, although the picture depends on what metric is used. In terms of the the average delay on the Strategic Road Network, then the WMCA is more congested than London (as shown in Figure 25). Other congestion-related metrics, like the number of hours drivers lose in congestion, put the BUA behind London and Greater Manchester, but still more congested than several similar-sized US cities like Denver, Dallas and Portland.<sup>88</sup> This degree of car congestion suggests that economic activity is already constrained, and so a strategy that relies both on keeping current commuting patterns and existing

<sup>88</sup> The number of hours lost per driver, on average, in Birmingham (geography defined by the data provider, which not necessarily matches the BUA) was 73 hours in 2022, up from 53 hours in 2021. There are only eleven US cities that are more congested, based on hours lost per driver. They are: Chicago (155 hours), Boston (134 hours), New York City (117 hours), Philadelphia (114 hours), Miami (105 hours), San Francisco (97 hours), Los Angeles (95 hours), Washington DC (83 hours), New Orleans (77 hours), Houston (74 hours) and Atlanta (74 hours). See: 2022 Global Traffic Scorecard, INRIX, January 2023.

infrastructure is likely to limit the ability of the BUA to deepen its pool of high-skilled workers.

### FIGURE 25: The West Midlands Combined Authority has higher levels of congestion on its main roads than London

Average delay on the Strategic Road Network, seconds per vehicle per mile: Combined Authorities and London, 2022



NOTES: WMCA = West Midlands Combined Authority; CPCA = Cambridgeshire and Peterborough Combined Authority.

SOURCE: Analysis of Department for Transport, Road Congestion Statistics.

Second, if the BUA wanted to connect more workers to city centre jobs by enabling more commuters to come into the central districts by car without even higher levels of congestion, then this would entail expanding the road network and making additional parking available.

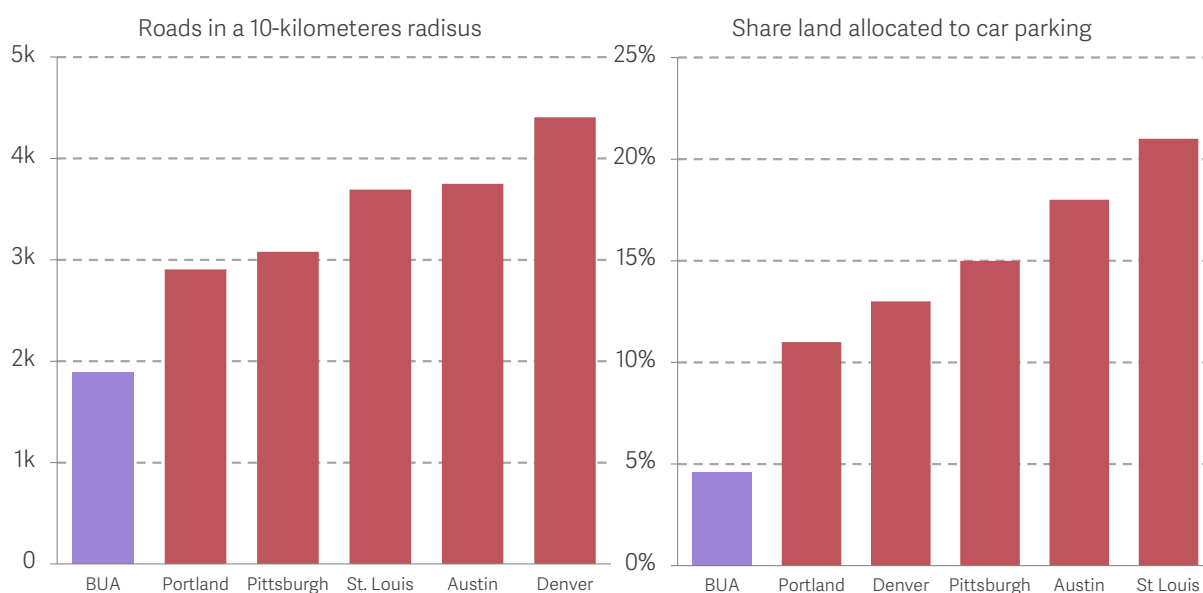
Figure 26 suggests this is not a very plausible scenario: it would require significant amounts of additional land be dedicated to car-related infrastructure. As the left-hand panel shows, replicating the model of car-based US cities with similar populations – such as Denver, Portland or Pittsburgh – would require a 90 per cent increase in land area allocated to roads.<sup>89</sup> Second, the right-hand panel suggests the area allocated to parking in central BUA would need to almost treble. In short, a strategy that aims to achieve improved connectivity through more road infrastructure use requires massive changes around the built form of the BUA. This is likely to be incompatible with land use pressures discussed in Section 3, which suggests that some car park space may need to be turned into other forms of commercial space like offices.

<sup>89</sup> Similar findings were found using a smaller urban radius (3 kilometres and 5 kilometres from the city centre).



**FIGURE 26: If commuting patterns don't change, car-related infrastructure would need to expand significantly in the Birmingham urban area to enable a larger workforce to access the city centre**

Length of roads (km) in a 10-kilometre radius from the centre (left-hand panel) and share of city centre land allocated to parking infrastructure (right-hand panel): Birmingham urban area and US peers, 2023



NOTES: City Centre areas in US cities already defined by Parking Reform Network (source of car parking data), the BUA's defined as the areas within its ring road (approximately 6 square kilometres). Road infrastructure considers the length of roads in the Open Street Map excluding the ones classified as 'path', 'pedestrian', 'steps', 'cycleway and 'footway'. Parking data based on most recent the Google Maps satellite imagery. Road data from Open Street Map data.

SOURCE: Analysis of Open Street Map, road length in each in each city; Analysis of Parking Reform Network, Central City Devoted to Parking.

Third, even if it was feasible to increase the effective size of the labour market by having more cars on the roads, such a strategy is clearly undesirable given the associated environmental and health impacts. Transport-related emissions per capita in the BUA are twice as high as in London,<sup>90</sup> and, as Figure 27 makes plain, Birmingham's PM2.5 concentration is already higher than many comparably US cities,<sup>91</sup> and significantly above the level recommended by the World Health Organisation.<sup>92</sup> The switch towards electric vehicles will likely reduce the scale of both problems, but will not eliminate them.<sup>93</sup>

<sup>90</sup> V Quinio & G Rodrigues, *Net zero: decarbonising the city*, Centre for Cities, July 2021.

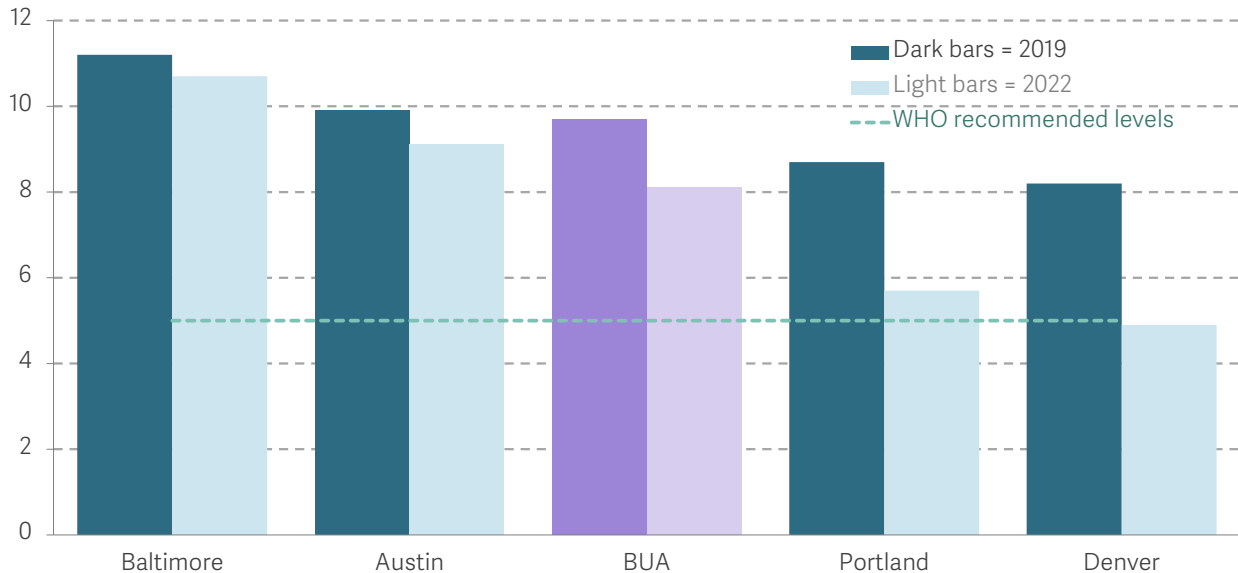
<sup>91</sup> Particulate matter is one of several measures of air quality. Particulate matter concentrated is caused by chemical compounds and materials, instead of gases. Driving is one of the activities that cause this type of air pollution, due to dust generated by the burning of fuels and from brake pads being applied to wheels. Electric cars do contribute to PM2.5 concentration.

<sup>92</sup> In 2017, more than 1,000 annual deaths were attributed to PM2.5 in Birmingham's urban area (i.e. excluding Tamworth and Cannock local authorities). See: K Enenkel, V Quinio & P Swinney, *Cities Outlook 2020*, Centre for Cities, January 2020 for further details.

<sup>93</sup> A Corlett & J Marshall, *Where the rubber hits the road: Reforming vehicle taxes*, Resolution Foundation, June 2023.

**FIGURE 27: Air quality in the Birmingham urban area is already worse than some comparable cities in the US**

Annual average PM2.5 concentration (microgrammes per cubic metre): Birmingham and US peers, 2019 and 2022



NOTES: Definition of cities from the data provider, which means they may not exactly match the boundaries defined in most of the analysis.  
 SOURCE: Analysis of IQAir, City ranking based on annual average PM2.5 concentration.

**Public transport accessibility into Birmingham’s central district is relatively low**

The previous sub-section gave a number of compelling reasons, then, why deepening the BUA’s labour pool – as a way of growing high-valued services in the city centre – either cannot or should not rely as much on car commutes to city centre as it does today. As a result, public transport will have to play a critical role in facilitating tens of thousands more journeys to the central areas of Birmingham, where high-value service firms are more likely to be located.

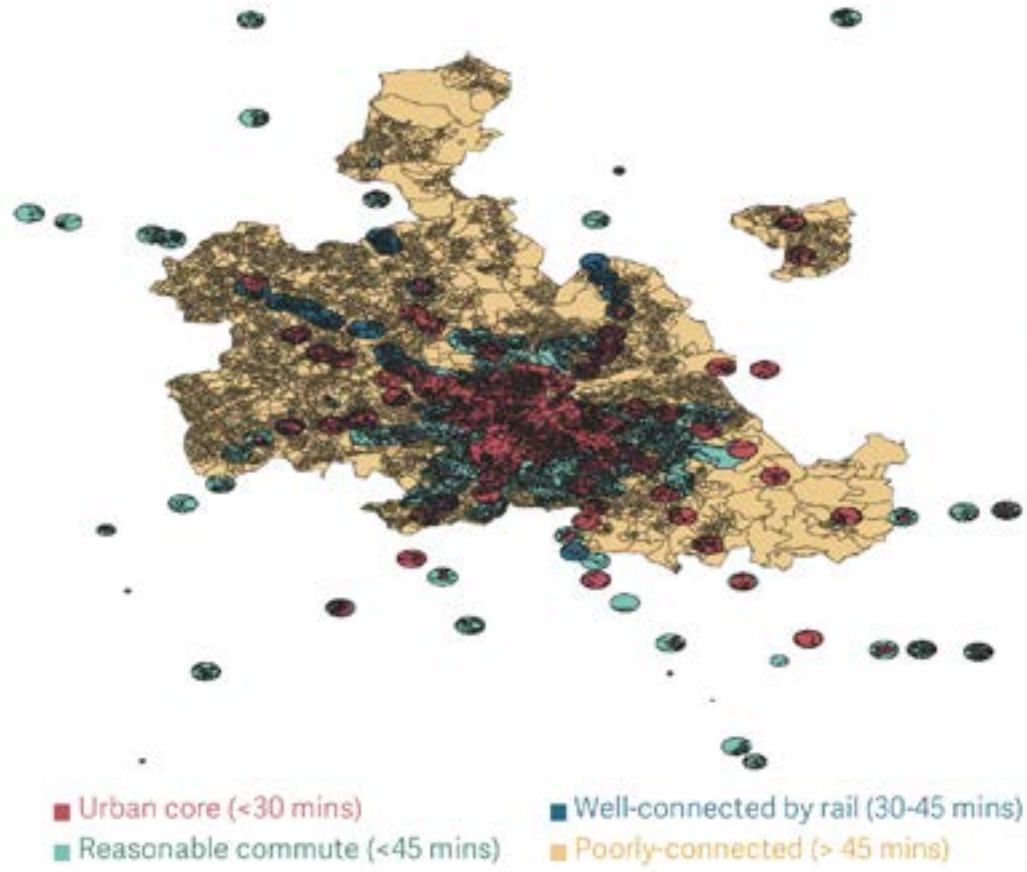
The BUA has invested somewhat in its public transport infrastructure over the last two decades, most visibly through the introduction of a tram system.<sup>94</sup> Unfortunately, as we show below, the effective labour market size by public transport is significantly lower than the headline BUA numbers would suggest, despite those investments.

To measure the size of the labour pool with public transport access to the central areas, we first classify the BUA (and, where appropriate, some of its surrounding areas) into four zones: ‘urban core’, ‘well-connected by rail’, ‘reasonable commute’ and ‘poorly connected’. Figure 28 provides a graphic depiction, and Box 7 provides further details.

<sup>94</sup> Department for Transport, [Light rail and tram statistics](#), August 2022.

**FIGURE 28: Using both real-time and scheduled data, we can classify the Birmingham urban area into four connectivity zones**

Birmingham urban area and surrounding areas divided into four connectivity zones: 2021



NOTES: Public transport catchment areas are measured using real-time bus data (DfT) and schedule rail data for light and heavy rail (TfWM and DfT, respectively).  
 SOURCE: Analysis of DfT, TfWM and ONS, Census 2021.

### BOX 7: Classifying the Birmingham urban area connectivity zones

We begin dividing the BUA into connectivity zones by identifying three key central hubs: Birmingham New Street, Birmingham Snow Hill and Birmingham Moor Street. These hubs were selected due to the following features: total number of jobs, job

concentration and productivity levels. The three areas (defined by the LSOA they are in) account for 0.2 per cent of the land in the BUA,<sup>95</sup> but 7 per cent of jobs and 10 per cent of GVA.<sup>96</sup>

Next, using real-time data for buses and scheduled data for rail (including

<sup>95</sup> ONS, Census 2011, Usual resident population (land area), February 2012.

<sup>96</sup> ONS, Business Register and Employment Survey, November 2022. ONS, UK small area gross value added (GVA) estimates, January 2023.

West Midlands Metro), we first classify the BUA (and, where appropriate, some of its surrounding areas) into four zones: 'urban core', 'well-connected by rail', 'reasonable commute' and 'poorly connected'.

First, we identify areas that can reach at least one of the main economic hubs in 30 minutes by public transport or less, classified as the urban core. We consider these to be the best-connected areas within the BUA. This includes places like Stechford, Tyseley, and around Wolverhampton station, among others.

Second, we identify areas that sit outside the urban core described above but are located within an 800 metres radius of rail stations (either West Midlands Metro or Heavy Rail). Most of these places are between 30 and 45 minutes away from at least one economic hub. Proximity to rail stations often means close access to buses and the ability to reach areas other than the three main economic hubs relatively easily. The residents within this group are considered to be in the second-best areas in terms of connectivity. These areas include those near the West Midlands Metro line (e.g. Bilston Central, Moxley), and some around heavy rail that are more distant from Birmingham's centre, like Sutton and Bloxwich.

Third, we focus on areas that can still be regarded as reasonably connected because they can reach at least one of the three main economic hubs within 30 and 45 minutes, but are not near a rail station. Their accessibility either depends on longer buses or a combination of modes (i.e. a bus or a longer walk or bike ride to a rail station). Some of these areas are outside the city region, and include Kings Heath, Winton, Moss Side and Haughton Green, but also, small pockets in Coventry, Lapworth, and Codsall that are outside the BUA.

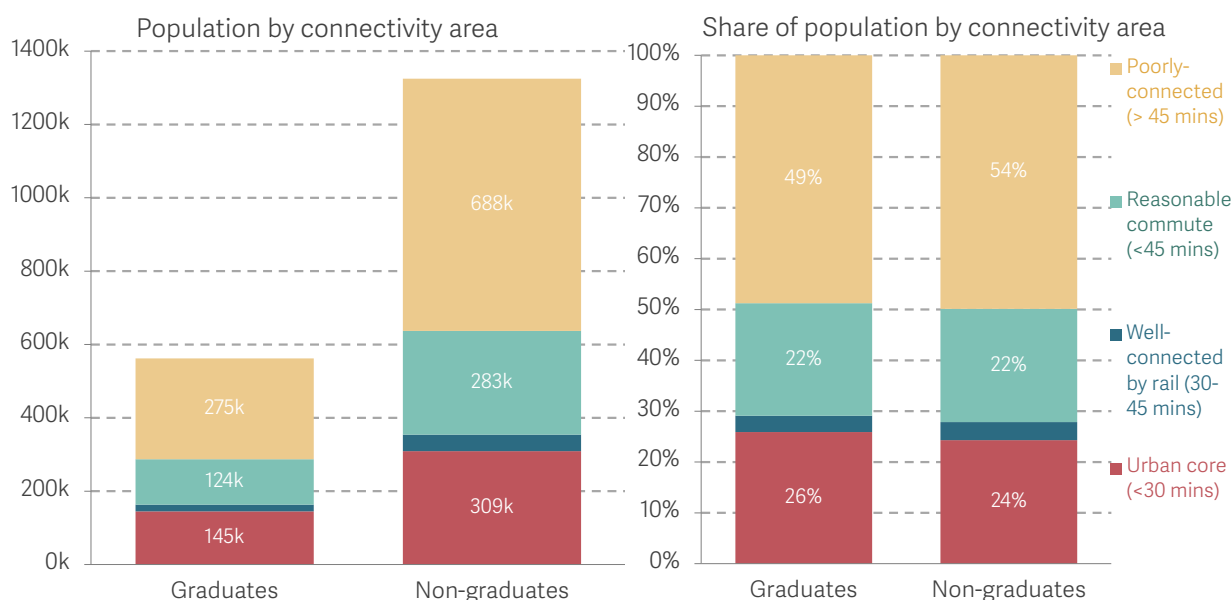
Finally, we classify any remaining parts of the BUA as poorly-connected, where a commute to one of the city region's main economic hubs by public transport would take more than 45 minutes. This includes vast parts of suburban BUA, such as most of Wolverhampton and Dudley local authorities.

The connectivity analysis in this section looks at how current residents are distributed between these connectivity zones, and does not consider the population growth scenarios defined in Section 2. The interactions between population growth and connectivity zones will be analysed in the housing section.

In Figure 29, we now use our four zones to examine how easy it is for current residents in the BUA and beyond to access the most productive parts of Birmingham. Currently, as the chart shows, the existing stock of graduates in the the BUA – which we use as a proxy for high-skilled workers that will need to be able to access the city centre – are somewhat more likely to live in well-connected areas than non-graduates: 51 per cent compared to 46 per cent.<sup>97</sup> But more pertinent, given the strategic objective of expanding the size of the effective labour market for the BUA’s high-value service sector, is the fact that close to half (49 per cent) of current graduates cannot use public transport to easily access the parts of the city that produce the greatest value.

**FIGURE 29: Around half of the graduates in the Birmingham urban area live in areas poorly connected to the city centre by public transport**

Number (left-hand panel) and proportion (right-hand panel) of working-age population, by qualification level and connectivity areas: Birmingham urban area, 2021



NOTES: Public transport catchment areas are measured using real-time bus data (DfT) and schedule rail data for light and heavy rail (TfWM and DfT, respectively). Estimates of the population are based on the public transport catchment areas and the numbers living in those Output Areas.

SOURCE: Analysis of DfT, TfWM and ONS, Census 2021.

## A significant expansion of public transport is needed to increase the pool of skilled labour and it will provide additional benefits around land use

To make sure public transport is able to expand the effectiveness of the BUA’s labour market, a combination of public transport interventions will be needed. Some, like

<sup>97</sup> This is not surprising given that connectivity is capitalised into higher housing costs, and therefore all things being equal, a higher income is required to live in better-connected places. See, for example, J. Nellthorp et al., *Land Value and Transport Modelling and Appraisal*, University of Leeds’ Institute for Transport Studies, August 2019

expanding the West Midlands Metro and introducing more bus lanes, are underway.<sup>98</sup> But improving public transport connectivity significantly will require more than this, including policies like bus franchising (which would make modal integration more effective) and congestion charging (this can incentivise city centre commuters with good public transport alternatives away from driving, releasing road capacity for drivers without a credible transport alternative<sup>99</sup>). Bus franchising is being investigated,<sup>100</sup> but congestion charging is not being discussed at the moment.<sup>101</sup>

Below, we consider what might happen if the changes described above – both the ones ongoing and other like bus franchising and congestion charging – are introduced. If increased bus lanes, bus franchising and a congestion charge allowed the existing bus network to run on schedule, this would at a stroke increase the areas that are within 45 minutes of Birmingham’s main economic hubs. Let us assume that on top of the reopening of the rail stations of Moseley, Kings Heath and Stirchley, the West Midlands Metro will develop twice the number of stations being built now (reaching a total of 77 stations), and that all of these additional stations will add to our ‘well-connected by rail’ category (as defined in Box 7).<sup>102</sup> How would an ambitious set of interventions of this nature change the size of the labour pool of skilled labour with good access to Birmingham’s main economic hubs? Figure 30 shows the results of this thought experiment – and Box 8 gives our estimate of costs of these transport improvements. We estimate transport improvements on this scale would increase the number of well-connected graduates today (i.e. the effective graduate size of the city centre) by one-third, from 51 per cent to 68 per cent. As a result, the size of the skilled labour pool with public transport access to the main economic hubs of the BUA would increase by 93,000. This would be a very significant improvement that would go in line with the objective of growing high-value services in the city centre by expanding the size of the effective high-skilled labour market. Nonetheless, it would still leave more than 30 per cent of the BUA’s current graduates unable to access the most productive parts of the city with ease.

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<sup>98</sup> See: Transport for West Midlands, [West Midlands Metro tram extensions](#), accessed August 2023, and: Transport for West Midlands, [West Midlands Bus Service Improvement Plan](#), November 2021.

<sup>99</sup> [Introduction to Congestion Charging: A Guide for Practitioners in Developing Cities](#), Asian Development Bank, May 2015.

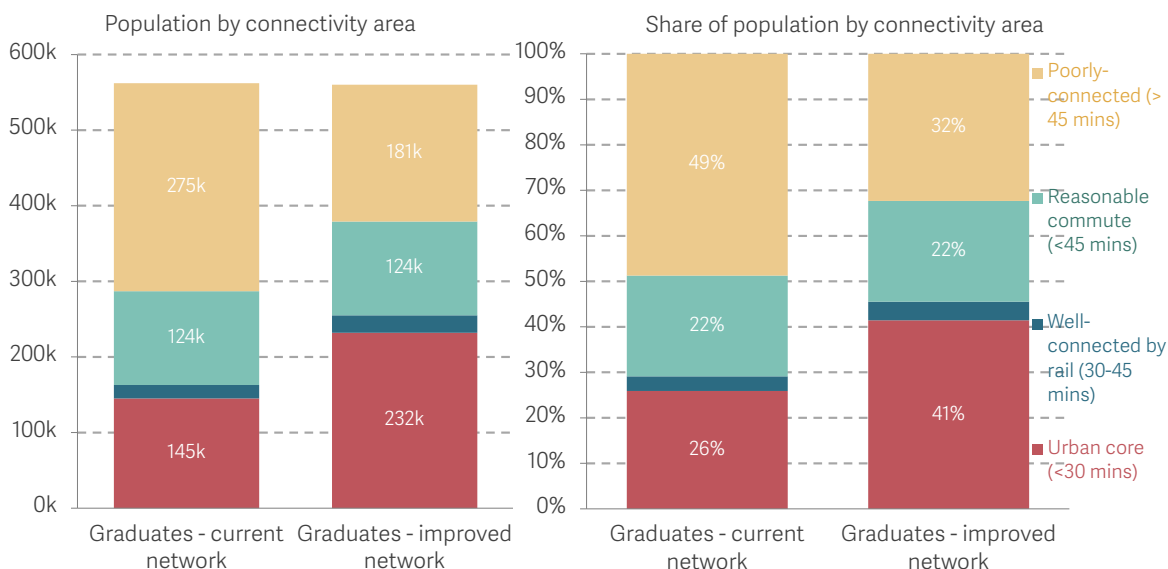
<sup>100</sup> Birmingham Live, [Bus companies speak out about being brought under public control](#), June 2023.

<sup>101</sup> Birmingham City Council introduced a clean air zone in its central area, but this is not the same as a congestion charge, as most vehicles are expected to be compliant. Birmingham City Council, [Clean Air Zone Six Month Report](#), March 2022.

<sup>102</sup> Transport for West Midlands, [West Midlands Metro tram extensions](#), accessed August 2023.

**FIGURE 30: Ambitious connectivity improvements would increase the Birmingham urban area’s pool of skilled labour**

Distribution of graduates by connectivity areas, current and hypothetical improved network: Birmingham urban area, 2021



NOTES: Public transport catchment areas are measured using real-time bus data (DfT) and schedule rail data for light and heavy rail (TfWM and DfT, respectively). Estimates of the graduate population are based on the public transport catchment areas and the number of graduates living in those Output Areas. SOURCE: Analysis of DfT, TfWM and ONS, Census 2021.

### BOX 8: Estimating the capital costs of expanding intra-city public transport in the Birmingham urban area

As previously mentioned, some of the public transport improvements modelled in this section are ongoing, such as expanding the West Midlands Metro and some bus-related investments. The current tram expansion is expected to cost around £1.3 billion and is expected to be ready by 2024.<sup>103</sup>

In the next decade, the WMCA will get two tranches of the City Region Sustainable Transport Settlements: around £1.1 billion in the first round (2022 to 2027),<sup>104</sup> if the combined authority gets the same share in the second tranche, it would be an extra £1.7 billion for the following 5 years (2028 to 2032).<sup>105</sup>

<sup>103</sup> Transport for West Midlands, [West Midlands Metro tram extensions](#), accessed July 2023.

<sup>104</sup> Department for Transport, [City Region Sustainable Transport Settlements: confirmed delivery plans and funding allocations](#), July 2022

<sup>105</sup> The Chancellor announced a second round of the City Region Sustainable Transport Settlements of £8.8 billion: HM Treasury, [Spring Budget 2023](#), March 2023.



Assuming that the modelled rail expansion is completed by 2040, and the costs are similar to the ongoing one, it would cost at least another £1.3 billion.<sup>106</sup> In total, the estimated costs with transport (ongoing allocation and modelled expansion) are around £5.4 billion until 2040. The annual cost is around 0.5 per cent of the BUA's GDP in 2021.

The Government's City Region Sustainable Transport Settlements are a step in the right direction, but the scale of investment needed cannot stop there. The amounts committed are still below the £30 billion for transport-related infrastructure projects in 'priority cities' until 2040 recommended by the National Infrastructure Commission.<sup>107</sup>

However, shifting commuter behaviours away from driving towards public transport clearly requires a more expansive and efficient network, but it may also require other changes. In our conversations with residents of the BUA conducted as part of this project, two key issues arose.<sup>108</sup> First, many reported currently experiencing public transport as, at best, unpleasant (in terms of cleanliness and anti-social behaviour), and at worst unsafe (especially when travelling at night). As

a result, even those who disliked driving because of congestion, and the costs associated with driving, still chose to do so because their car was seen as a safe space. As the transport system improves, increased ridership may in itself address some of these issues, but this is also clearly food for thought for Transport for West Midlands (TfWM).

Second, perhaps unsurprisingly given the cost of living crisis, residents were anxious about the price of public transport and especially that a new, glossy system would be out of reach for many. They were strong supporters of existing plans to integrate fares and the network, and wanted to see fares kept low (or at least subsidised for those on low incomes) and with a daily cap. Doing that, however, would potentially pose the city region with a challenge in terms of operational costs for the public transport system, and may require central subsidy or cross-subsidy from other parts of the city's revenue. With the introduction of the Clean Air Zone in 2021 and the 2030 ban on new petrol and diesel cars, most residents expect further car use restrictions in the city region. Residents feel that those policies should not be introduced without tackling the main issues with today's public transport network.

<sup>106</sup> Transport for West Midlands, [West Midlands Metro tram extensions](#), accessed July 2023..

<sup>107</sup> National Infrastructure Commission, [Annual Monitoring Report 2021](#), February 2021.

<sup>108</sup> T Burchardt, T Goatley & L Judge, [Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas](#), Resolution Foundation, forthcoming.

Critically, the reason why one-third of the graduates remain outside well-connected areas in our modelled expansion is the relatively low density of graduates in those areas that are better connected. The modelled expansion boosts the number of well-connected graduates' by 31 per cent, but it comes from a 52 per cent increase (roughly 178 square kilometres) in the footprint of well-connected areas. Of course, these figures may represent a lower bound in the medium-term if, as seems likely, better-connected areas then mean that more graduates want to live there. But the current low housing density in the areas that could see improved connectivity puts a limit on how much connectivity can increase the size of the effective labour pool. The role of densification, and the link between public transport connectivity and the location of new residents in the BUA, will be discussed in Section 5 which discusses housing.

### Inter-city improvements should not be expected to expand the skilled labour pool to a significant degree, and raise the risk that the Birmingham urban area's skilled workforce will be employed elsewhere in the UK

The discussion so far has focused on the intra-city transport network. What about inter-city connections that could be unlocked by HS2 and the Integrated Rail Plan (IRP)? When these are complete, Birmingham will become much better connected to cities like Derby, Nottingham, Manchester and London – might these help expand the size of the BUA labour market?

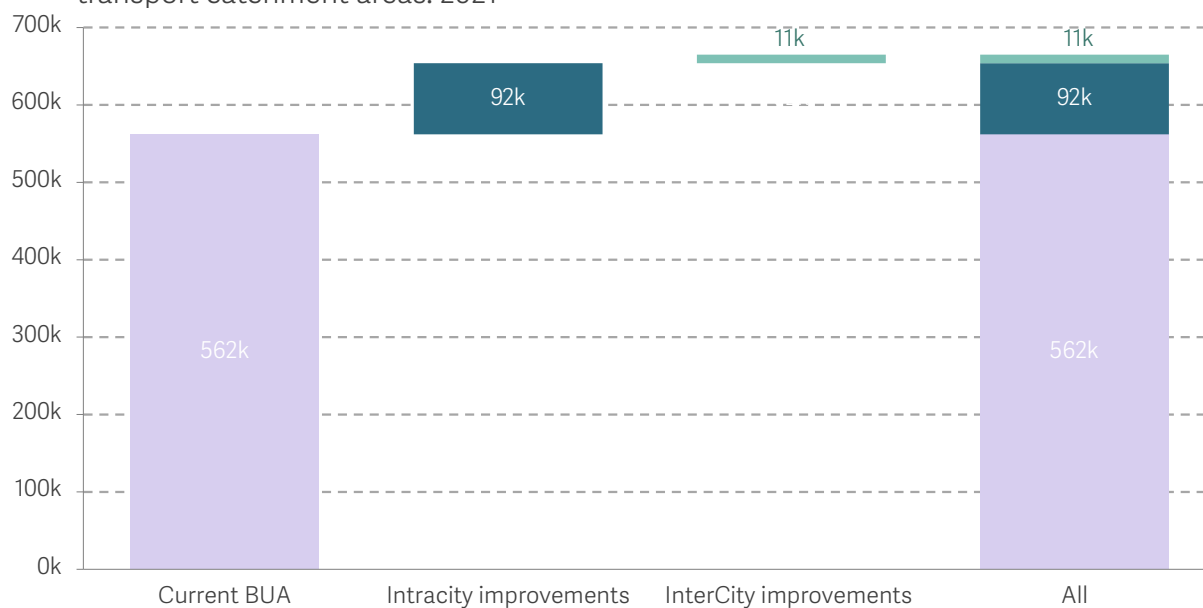
Our analysis, set out in Figure 31, suggests these investments are unlikely to be an effective way of increasing the BUA's pool of skilled workers. We estimate that around 10,600 graduates in Nottingham and Derby currently live close to rail stations that will have a fast connection to Birmingham's city centre: but this is far lower than the numbers that improvements to public transport within the BUA that we discussed above would bring. Moreover, these graduates now living within commuting distance from the BUA might not necessarily want to do so, as the associated costs may be prohibitive.<sup>109</sup>

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<sup>109</sup> In terms of attracting commuters, London seems to be an unlikely candidate as wages in the capital are higher and housing costs higher. Manchester also will remain distant for daily commutes: according to the IRP, Manchester to and Birmingham connection would will take at least 41 minutes, and potentially 51 minutes. For further details, see: Department for Transport, [Integrated Rail Plan for the North and Midlands](#), March 2022.

### FIGURE 31: Inter-city connectivity improvements will have a limited impact on the Birmingham urban area's pool of skilled labour

Actual and potential number of graduates in the Birmingham urban area's public transport catchment areas: 2021



NOTES: Public transport catchment areas are measured using real-time bus data (DfT) and schedule rail data for light and heavy rail (TfWM and DfT, respectively). Estimates of the graduate population are based on the public transport catchment areas and the number of graduates living in those Output Areas. Inter-city improvements count the number of graduates living 15 minutes by public transport, using UK Travel Area Isochrones by Public Transport and 2021 output areas, from the main rail station of Derby and Nottingham.

SOURCE: Analysis of DfT, TfWM and ONS, Census 2021.

On top of that, a fast rail connection between the BUA and London could end up reducing the skilled labour pool available in the city region: reducing the time for inter-city commutes would mean that BUA residents living near Curzon Street Station could commute to London in the same way that the IRP plan could allow graduates living in Nottingham and Derby to go to Birmingham. We estimate that the potential commuting inflows (from Nottingham and Derby) are very similar to the potential outflows from inter-city rail connections.

All this means that inter-city rail improvements should not be expected to expand the skilled labour pool to a significant degree. Of course, it is true that being within the commuting belt of London can be part of a city's job strategy (because local services will form to serve those London-bound commuters), but it cannot form part of a credible long-term productivity strategy. And this is not to say there might not be other benefits to these investments, such as dealing with capacity constraints in the rail network or reducing transport-related carbon emissions.<sup>110</sup> But increasing the pool of skilled labour

<sup>110</sup> Department for Transport, *Integrated Rail Plan for the North and Midlands*, March 2022. High-speed rail can potentially reduce demand for short flights, which have higher carbon emissions; see, for example: F Dobruszkes C Dehon & M Givoni, *Does European high-speed rail affect the current level of air services? An EU-wide analysis*, November 2014.

available for the BUA does not seem likely to be a major benefit of HS2 expansion or the IRP.

This section has shown that the existing public transport connectivity in the BUA means that half of the BUA's graduates are poorly connected with the main economic hubs of the city region. A plausible growth strategy needs to improve public transport connectivity, both in terms of infrastructure (i.e. expanding West Midlands Metro) and how it functions (i.e. bus franchising and reducing congestion). Those changes would increase the pool of skilled labour, which would make the BUA a more attractive place for high-value firms and high-skilled workers alike. However, although the public transport improvements we have modelled are clearly necessary, they are unlikely to be enough to deepen the current and future graduate labour pool to the extent required to close the productivity gap between the BUA and London to 20 per cent (our thought experiment in Section 2). As a result, it is critical that alongside these considerable investments in transport, there is a housing strategy which seeks to densify the population living around transport hubs. And it is to the topic of housing that we now turn.

## Section 5

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# Housing in a higher-productivity Birmingham urban area

In this section, we turn to the critical role that housing policy has to play in a higher-productivity Birmingham urban area (BUA). We highlight a number of key strategic decisions that will need to be taken if the BUA is to attract the high-skilled workers it needs.

Our modelling suggests that the housing supply in the BUA must increase far beyond current plans, and be concentrated in areas well-connected to the most productive areas of Birmingham, entailing tough choices when it comes to land use and housing density. Furthermore, the existing housing stock in the BUA also requires investment if it is to be attractive enough to entice new high-skilled workers to the city region, and benefit existing residents alike.

Like many cities in the UK, the BUA shows the signs of housing pressure: house prices have more than doubled in the last 20 years,<sup>111</sup> there are over 54,000 households on waiting lists for social housing,<sup>112</sup> and poorly regulated exempt accommodation (or 'HMOs') of dubious quality have proliferated in Birmingham.<sup>113</sup> There are existing challenges in building enough homes to meet housing need over the coming years, and in finding the land supply to enable this. However, a more productive BUA will also likely require a non-negligible increase in its population over and above current population trends: our modelling in Section 2 suggests an upper-bound estimate of 165,000 additional high-skilled workers will be required to increase the effective size of the high-

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<sup>111</sup> Source: Analysis of HM Land Registry, [UK House Price Index](#), June 2023. Prices in West Midlands metropolitan county (unlike our analysis this includes Coventry and excludes Tamworth and Cannock Chase local authorities) have increased by 123 per cent between June 2003 and June 2023, broadly in line with the UK average of 124 per cent.

<sup>112</sup> Source: DLUHC, Local Authority Housing Statistics data returns, England 2021-22.

<sup>113</sup> J Simpson, [Exempt accommodation claimants in Birmingham double to 22,000 in three years](#), Inside Housing, 4 June 2021.

skilled labour market, in order to narrow the productivity gap between the BUA and London. So, what does this mean for housing policy makers in the city region in light of their current plans and challenges?

## A higher-productivity BUA needs nearly 80 per cent more than the number of currently-planned homes, and twice as many as are currently being built

Our starting point is that ‘do nothing’ is not an option: failing to plan for the bigger workforce necessary to boost productivity will just increase housing cost pressures further. Higher housing costs would reduce the incentive for the much-needed additional high-skilled workers to locate in the BUA, with firms required to provide higher real wages to compensate them for more expensive housing or longer commutes.<sup>114</sup> This is clearly at odds with a strategy to maximise the effective pool of high-skilled workers that can access Birmingham city centre as the most productive part of the BUA. Crucially, further increases in house prices would also risk the displacement of lower-paid residents, excluding many local residents from the benefits of a higher-productivity city region, and in Section 6 we quantify how housing cost pressure can remove much of the gain from being in a higher-productivity city region, especially for lower-income households, if housing supply does not keep pace with population growth.<sup>115</sup>

To understand the consequences of an expansion of the high-skilled labour market for housing supply, we begin by translating the 165,000 additional workers into households. We do this by making the simple assumption that some of these new workers will be part of couples or families, or choose to share a home, in line with the proportion of high-skilled workers in the West Midlands region currently forming shared households.<sup>116</sup> The results of this exercise are that our hypothetical higher-productivity BUA would require 121,000 more homes, on top of existing housing need, to avoid the size of the population expansion putting further upward pressure on housing costs; this means building an additional 8,000 homes per year for 15 years.

## So how plausible is an expansion of this scale?

To assess how feasible this is, below we compare the latest local authority plans for future house building that take account of existing housing need (as calculated using

<sup>114</sup> For examples of research that examines these effects, see: L Judge, *Moving matters: Housing costs and labour market mobility*, Resolution Foundation, June 2019; P Cheshire, C Hilber & H Koster, *Empty homes, longer commutes: The unintended consequences of more restrictive local planning*, *Journal of Public Economics*, 158, 2018.

<sup>115</sup> This was a very strong theme in our deliberative work. See: T Burchardt, T Goatley & L Judge, *Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas*, Resolution Foundation, forthcoming.

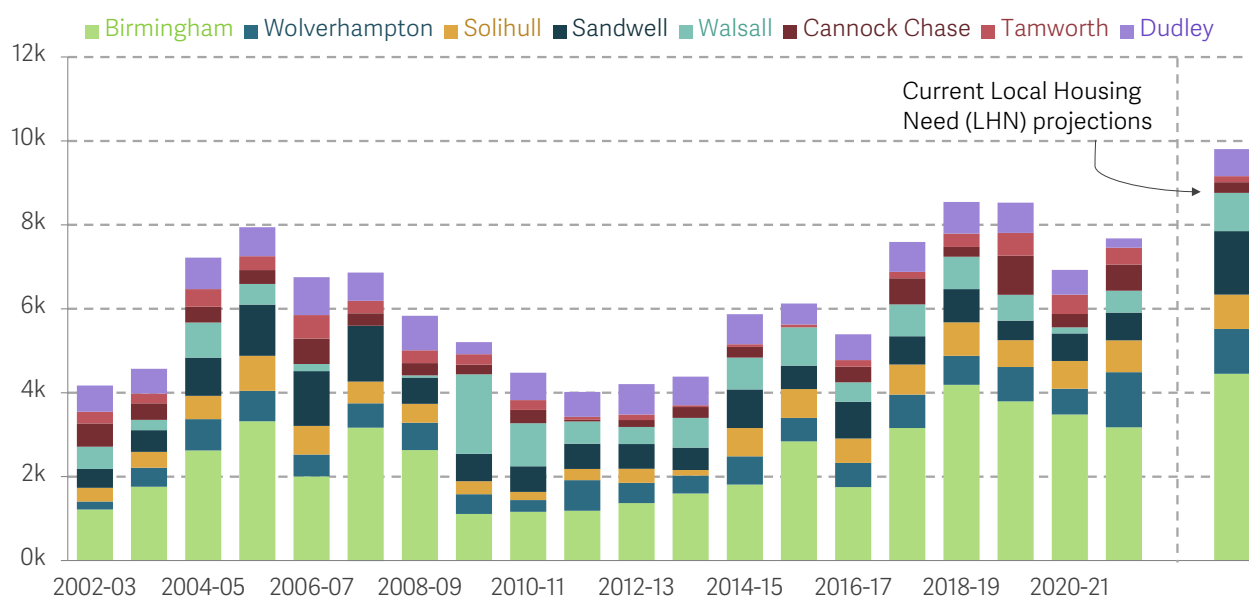
<sup>116</sup> This ratio is based on analysis of the Labour Force Survey. As discussed in Section 2, the evidence suggests relatively few of the additional graduates that a higher-productivity BUA requires will come from upskilling of the existing population. Throughout this section we therefore assume all the additional 165,000 workers will move to the city and neighbouring areas from elsewhere.

DLUHC’s ‘standard method’<sup>117</sup> to the level of housebuilding required to deliver an additional 116,000 new homes in the BUA over 15 years (assuming a small proportion of the 121,000 set out above are built outside the BUA).<sup>118</sup> This comparison reveals that our scenario would involve an increase of nearly 80 per cent per year, or nearly 7,800 more homes a year than is currently planned.

However, such a large rise in house-building is made more challenging by current shortfalls in housebuilding against existing housing plans: in 2021-22, the number of net additional homes built in the BUA was around 2,100 homes short of local authorities’ projections of their combined annualised need for housing.

**FIGURE 32: Only Wolverhampton and the Staffordshire local authorities are currently meeting local housing need targets**

Net additions to housing stock, by local authority: Birmingham urban area, actual and projected, 2002-03 to 2021-22



SOURCE: Analysis of DLUHC, Live Table 122, 2022; Birmingham City Council, Birmingham Development Plan, January 2017; City of Wolverhampton Council, Wolverhampton Strategic Housing Land Availability Assessment (SHLAA), January 2023; Solihull Council, Solihull Local Plan – Draft Submission Plan, October 2020; Sandwell Metropolitan Borough Council, Strategic Housing Land Availability Assessment 2020/21 Update, November 2022; Cannock Chase Council, Strategic Housing Land Availability Assessment, 2022; Walsall Council, Strategic Housing Land Assessment and Statement of Housing Land Supply, 2022; Tamworth Borough Council, Five-year housing land supply 2022-2027; Dudley Metropolitan Borough Council, Strategic Housing Land Availability Assessment, 2021/22.

<sup>117</sup> Standard method for assessing local housing need: For each local authority, this uses ONS household projections (2014-based) as a baseline for the increase in homes required, which is scaled upwards to reflect ‘affordability’ in the area, by a quarter of a per cent for each percentage point the median house price to workplace-based earnings ratio is above four. A 35 per cent uplift is included on top of this for Birmingham and Wolverhampton local authorities (due to their inclusion on a list of core local authorities for the top twenty cities and urban centres by population size).

<sup>118</sup> The spatial allocation of these skilled workers within and outside BUA is set out in Figure 34.

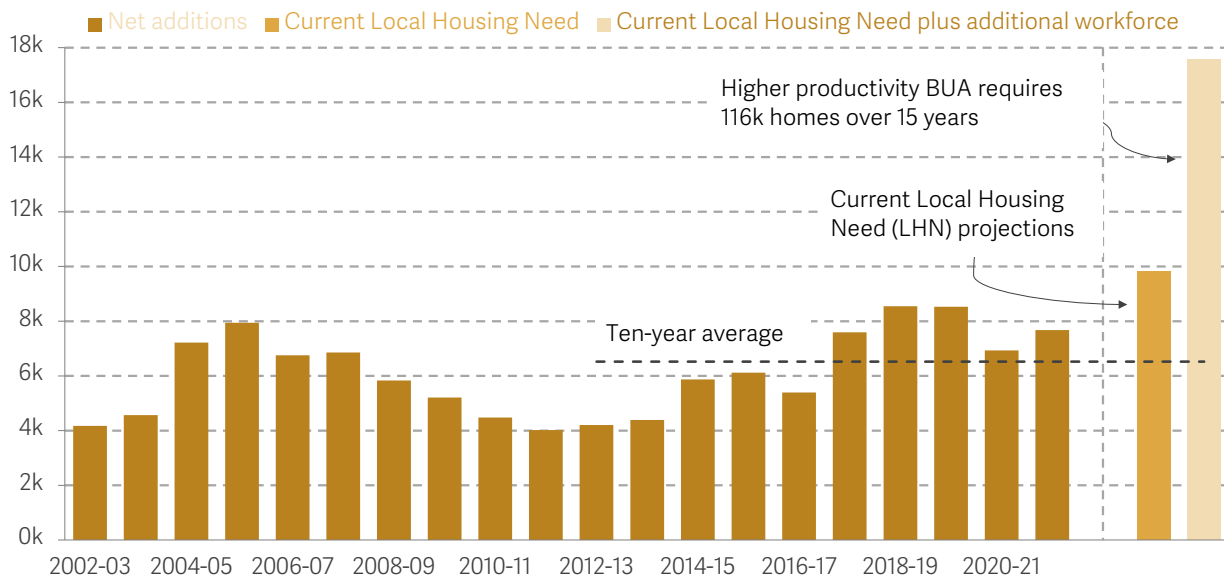


Figure 32 presents the net additions to the housing stock in the BUA over the last two decades, broken out by local authorities. The majority of net additions to the housing stock (including changes of use from, for example, office or industrial buildings to residential) have been in Birmingham, which has built 45 per cent of the BUA’s net additional homes in the past five years. However, relative to the number of homes required to meet current housing need, in 2021-22 Birmingham underperformed by nearly 30 per cent (or over 1,000) homes, with only Wolverhampton and the Staffordshire local authorities (Cannock Chase and Tamworth) meeting this goal. This means that, to build 116,000 new homes over the next 15 years, more than double the 2021-22 levels of housebuilding would be required, or a near tripling of the average annual build over the last ten years.

Although housing supply across the BUA has been on an upward trend since 2016-17, with nearly 7,700 net additional homes built in 2021-22 (see Figure 33), a further doubling would be ambitious. But we note that similar changes have already been achieved in some areas of the city region: for example, over the past five years, Birmingham has built almost double the level of new homes than the five years before.

**FIGURE 33: Net additions would need to more than double 2021-22 levels to match the scale of population growth in our scenario**

Net additions to housing stock, actual and projected: Birmingham urban area, 2002-03 to 2021-22



SOURCE: Analysis of DLUHC, Live Table 122, 2022; Birmingham City Council, Birmingham Development Plan, January 2017; City of Wolverhampton Council, Wolverhampton Strategic Housing Land Availability Assessment (SHLAA), January 2023; Solihull Council, Solihull Local Plan – Draft Submission Plan, October 2020; Sandwell Metropolitan Borough Council, Strategic Housing Land Availability Assessment 2020/21 Update, November 2022; Cannock Chase Council, Strategic Housing Land Availability Assessment, 2022; Walsall Council, Strategic Housing Land Assessment and Statement of Housing Land Supply, 2022; Tamworth Borough Council, Five-year housing land supply 2022-2027; Dudley Metropolitan Borough Council, Strategic Housing Land Availability Assessment, 2021/22.

However, a further constraint could be that housebuilding on this scale across several areas of the city region at the same time could require a significant scaling up of the construction sector and workforce within the city region. This is a potential challenge, given that around 25,000 additional workers in the construction sector are thought to be required to meet existing needs in the West Midlands over the next five years, according to latest industry forecasts.<sup>119</sup> This has implications for a skills strategy for the West Midlands, but is also likely to mean a significant number of additional job opportunities for existing residents of the city region.

### New homes need to be built in well-connected areas to maximise their impact on productivity

It's not just the number of homes that is crucial; if the additional homes are to support the wider economic strategy by increasing the effective size of the skilled labour market, then it also matters where these homes are located.

In Section 4, we highlighted the need for more workers to live in places that are well-connected to the most productive areas of the city region to achieve this objective. But how feasible is this? In

Figure 34, we set out what we view as a theoretically plausible allocation of the additional new homes required in a higher-productivity BUA across these four transport zones (see Box 7 for further details of these classifications). In particular, we assume that new high-skilled workers are half as likely to live in the least well-connected areas of the city region (i.e. those with a 'reasonable commute' or a commute of 45 minutes or more) than existing graduates are currently.<sup>120</sup> As a result, this focuses new housing in areas that are well-connected to the city centre: i.e. those within a 30-minute travel time (the 'urban core') or within 500m of a rail station ('well-connected by rail'). In this thought experiment, 5,000 of the new homes in well-connected areas are outside of the BUA (but largely near rail stations), leaving nearly 87,000 to be built in the best-connected areas of the BUA, with an additional 29,000 elsewhere, to make up to the target of 116,000.

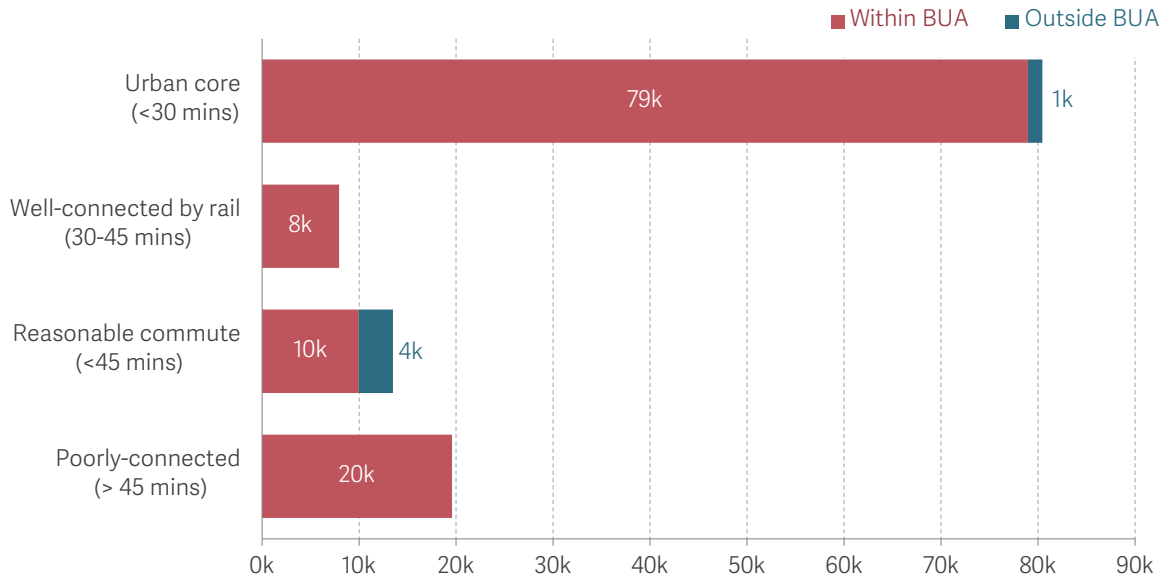
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<sup>119</sup> Construction Industry Training Board, *Construction Skills Network: West Midlands Five Year Outlook 2023-2027*, January 2023.

<sup>120</sup> The rest of the new high-skilled workers are allocated between the urban core and areas well-connected by rail, in line with the current ratio of the number of graduates between the two areas.

**FIGURE 34: New housing should be concentrated in well-connected areas of the city region to enhance productivity**

Location of hypothetical new housing for a more productive Birmingham urban area, by travel area



NOTES: Public transport catchment areas are measured using real-time bus data (DfT) and schedule rail data for light and heavy rail (TfWM and DfT, respectively).  
 SOURCE: Analysis of DfT; TfWM; ONS, Census 2021.

Breaking this down by local authority reveals that this would require Birmingham to nearly double the number of new homes planned, and other central or well-connected local authorities such as Sandwell, Solihull and Dudley would need to significantly ramp up their current plans for housebuilding (by 64 per cent, 147 per cent and 75 per cent respectively).

**Achieving this spatial plan is likely to require much denser housing**

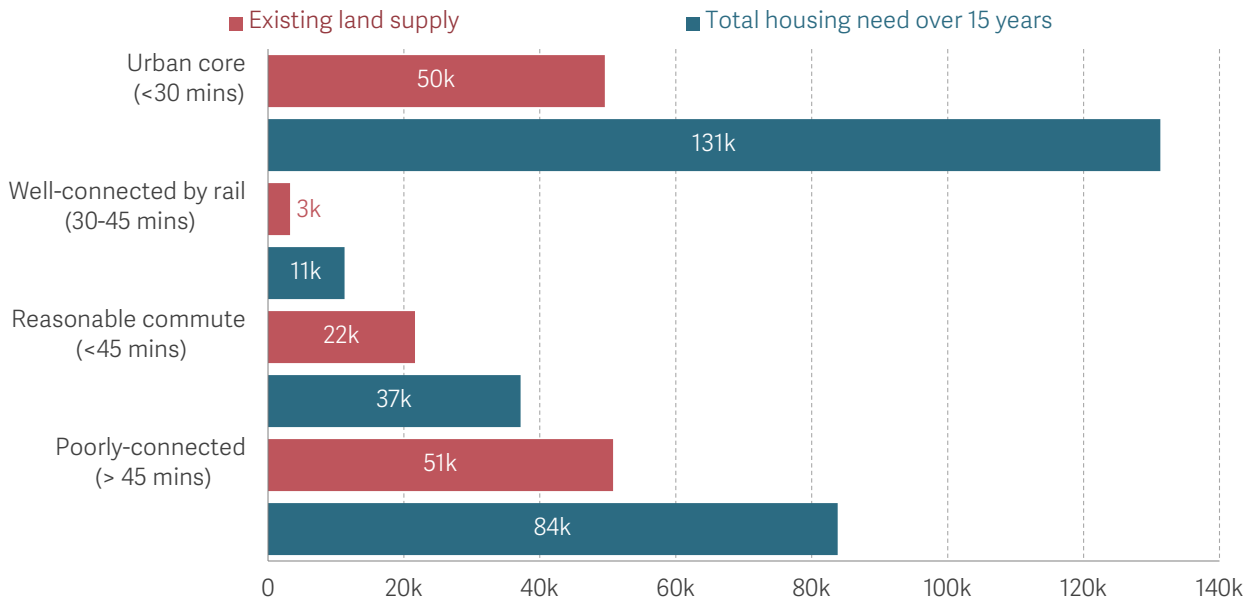
The numbers in Figure 34 might be a plausible spatial allocation in theory, but how practical are they? Building homes in areas that are well-connected requires a sufficient land supply in those areas. We explore whether this is plausible in

Figure 35, where we map (broadly) the sites set out in local authority land availability assessments to our four travel zones. As the chart makes clear, there are shortfalls across all four zones, but most significantly in the ‘urban core’. This shortfall amounts to land for around 82,000 dwellings (requiring more than double the amount of currently available land), with land for another 8,000 required in areas close to rail stations. At current housing density (and assuming no further brownfield windfalls), that would

require new building on an undeveloped area of 54 square kilometres, or over 7 per cent of ‘undeveloped’ land in the relevant areas; put differently, it would be more than three-quarters of the size of Wolverhampton.<sup>121</sup>

**FIGURE 35: Land supply is a significant strategic challenge to building housing in well-connected areas**

Current land supply projections and total housing need over 15 years, by travel area: Birmingham urban area



NOTES: The blue bars illustrate the combined total of existing local housing need (as set out in each local authority’s latest housing publications), and the additional homes in our hypothetical scenario set out in Figure 33.

SOURCE: Analysis of DfT; TfWM; ONS, Census 2021; Birmingham City Council, Birmingham Development Plan, January 2017; City of Wolverhampton Council, Wolverhampton Strategic Housing Land Availability Assessment (SHLAA), January 2023; Solihull Council, Solihull Local Plan – Draft Submission Plan, October 2020; Sandwell Metropolitan Borough Council, Strategic Housing Land Availability Assessment 2020/21 Update, November 2022; Cannock Chase Council, Strategic Housing Land Availability Assessment, 2022; Walsall Council, Strategic Housing Land Assessment and Statement of Housing Land Supply, 2022; Tamworth Borough Council, Five-year housing land supply 2022-2027; Dudley Metropolitan Borough Council, Strategic Housing Land Availability Assessment, 2021/22; Birmingham City Council; Housing and Economic Land Availability Assessment (HELAA), October 2022.

Using 7 per cent of undeveloped land might sound plausible, but ‘undeveloped land’ includes significant amounts of undevelopable land, including residential gardens and public green spaces. Furthermore, as we highlighted in Section 3, land in the city centre and its immediate environs are the most productive parts of the BUA, and will be where

<sup>121</sup> Current estimates are that there are just over 775 square kilometres of undeveloped land. Comparisons to Wolverhampton are based on a local authority area of nearly 70 square kilometers.

many of the additional high-value firms that a higher productivity city region requires will want to locate. Given this, there is a very strong case to prioritise city centre land for commercial rather than residential building. One way to square this circle, as Section 3 sets out, is to increase the density of commercial land usage, perhaps allowing for some limited residential land use in the centre of Birmingham.<sup>122</sup>

An additional constraint is that there are significant shortfalls in land supply across the BUA compared even to the existing targets for housebuilding required to meet existing population growth, let alone our scenario of a larger population. Only Birmingham, Solihull and Dudley currently have land supply identified to meet their projections for existing housing need – with the total shortfall of land against current projections of housing need in the BUA requiring land for an additional 22,000 dwellings (see Figure 36).

However, Birmingham and Solihull are also some of the local authorities that see the largest increase in the number of additional homes required in our scenario – with Birmingham seeing its housing need over the next 15 years roughly double, while Solihull requires an increase of more than 150 per cent. As a result, our scenario would require significant increases in land across BUA, with enough for an additional 56,000 dwellings required in Birmingham, and another 56,000 required across the rest of the BUA. Given these shortfalls, land supply is likely to be an extremely challenging constraint on housebuilding – requiring a pro-active approach from local authorities in identifying opportunities to bring forward land for development, and more effective use of national policy levers.<sup>123</sup>

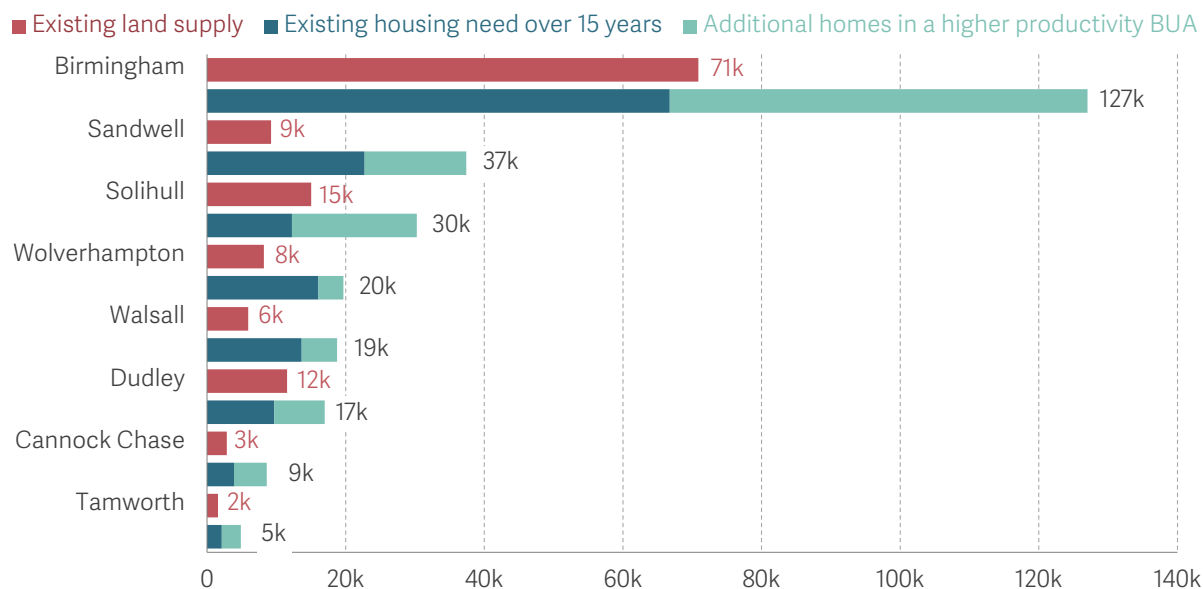
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<sup>122</sup> We said in Section 3 that if the density of total office stock could be increased such that 5 hectares of floorspace were produced in each hectare of land, then the land needed for the additional office space would fall to 33 further hectares, something that could be found by using industrial and vacant land.

<sup>123</sup> An example of a pro-active approach to identifying potential sites for residential development was carried out by Birmingham City Council as part of the Birmingham Development Plan, using digital tools to identify sites, and then reaching out to existing landowners. See Birmingham City Council, [Using digital tools to proactively identify potential development sites](#), Local Government Association. For further discussion of changes to the planning system at a national level to incentivise investment, see P Brandily et al., [Beyond Boosterism: Realigning the policy ecosystem to unleash private investment for sustainable growth](#), Resolution Foundation, June 2023.

### FIGURE 36: There are already shortfalls in land supply compared to housing need

Current land supply projections, existing housing need projections over the next 15 years and extra dwellings required, by local authority: Birmingham urban area, latest data



SOURCE: Analysis of DfT; TfWM; ONS, Census 2021; Birmingham City Council, Birmingham Development Plan, January 2017; City of Wolverhampton Council, Wolverhampton Strategic Housing Land Availability Assessment (SHLAA), January 2023; Solihull Council, Solihull Local Plan – Draft Submission Plan, October 2020; Sandwell Metropolitan Borough Council, Strategic Housing Land Availability Assessment 2020/21 Update, November 2022; Cannock Chase Council, Strategic Housing Land Availability Assessment, 2022; Walsall Council, Strategic Housing Land Assessment and Statement of Housing Land Supply, 2022; Tamworth Borough Council, Five-year housing land supply 2022-2027; Dudley Metropolitan Borough Council, Strategic Housing Land Availability Assessment, 2021/22; Birmingham City Council; Housing and Economic Land Availability Assessment (HELAA), October 2022.

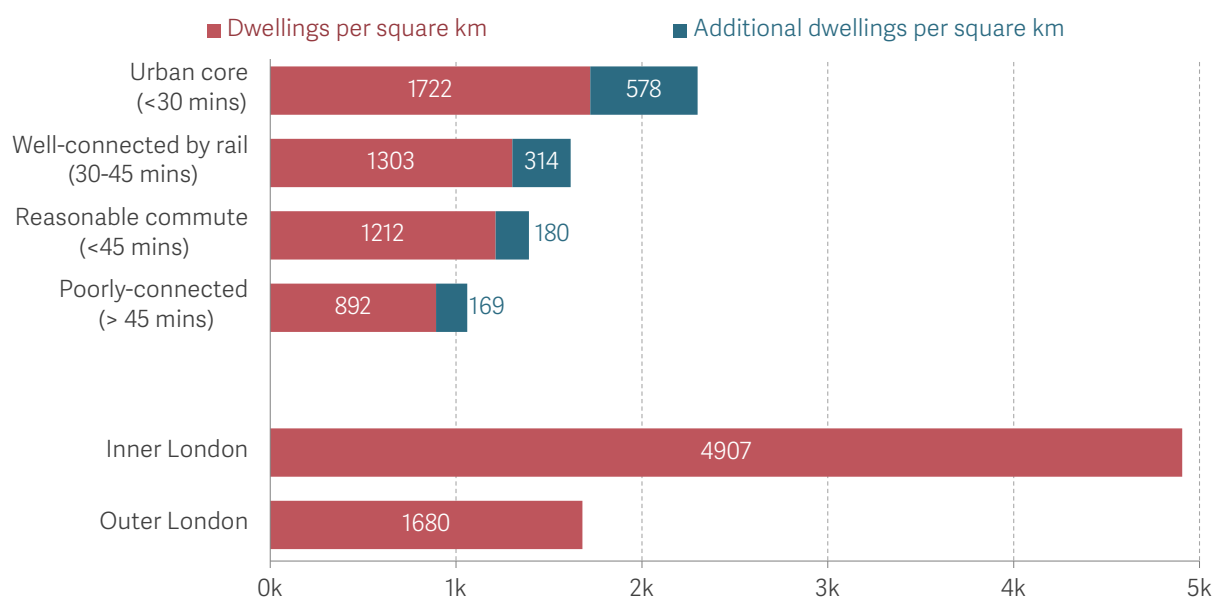
But if ‘building outwards’ is constrained, ‘building up’ is the alternative. If we take the total number of houses involved (as set out in Figure 34), and the prioritisation of housebuilding within well-connected areas, then we can calculate what this would mean for the the number of dwellings per square kilometer. Figure 37 has the answer: it shows that housing density would need to increase by nearly 580 dwellings per square kilometre in areas within the urban core, and by nearly 315 dwellings per square kilometre in areas that are well-connected by rail.<sup>124</sup> These changes might seem big – requiring the number of dwellings per square kilometre to increase by more than a third in the ‘urban core’, and

<sup>124</sup> These calculations use Census data for existing dwelling stock density, calculating additional dwelling stock density by dividing total housing stock increases over the next 15 years (from local housing need projections and our hypothetical scenario) by the existing land area of each ‘travel area’.

nearly a quarter in areas well-connected by rail.<sup>125</sup> But it would still leave the urban core less than half as dense as Inner London (and even less dense for the ‘well-connected by rail’ parts of the BUA).<sup>126</sup>

### FIGURE 37: There is more scope to densify well-connected areas of the city region

Current dwelling stock density and implied additional dwellings per square kilometre, by travel area: Birmingham urban area and Inner and Outer London, 2021



SOURCE: Analysis of DfT; TfWM; ONS, Census 2021; Birmingham City Council, Birmingham Development Plan, January 2017; City of Wolverhampton Council, Wolverhampton Strategic Housing Land Availability Assessment (SHLAA), January 2023; Solihull Council, Solihull Local Plan – Draft Submission Plan, October 2020; Sandwell Metropolitan Borough Council, Strategic Housing Land Availability Assessment 2020/21 Update, November 2022; Cannock Chase Council, Strategic Housing Land Availability Assessment, 2022; Walsall Council, Strategic Housing Land Assessment and Statement of Housing Land Supply, 2022; Tamworth Borough Council, Five-year housing land supply 2022-2027; Dudley Metropolitan Borough Council, Strategic Housing Land Availability Assessment, 2021/22.

Overall, then, given the already tough constraints on land supply, the main way that the BUA is likely to find 116,000 more homes than currently planned is through densification and higher-rise developments, rather than developing on greenfield land, although some level of both is likely to be necessary.<sup>127</sup>

<sup>125</sup> This suggestion aligns relatively closely with DLUHC’s recent announcement of a long-term plan for housing, which emphasised densification in urban centres, and the redevelopment of existing brownfield sites. However, as set out above, any expansion of residential development in the city centre should also be consistent with wider economic strategies for the city and the prioritisation of commercial land use, with residential development likely to be better placed in well-connected areas outside of the city centre. See: DLUHC and The Rt Hon Michael Gove MP, [Long-term plan for Housing: Secretary of State’s speech](#), July 2023.

<sup>126</sup> An additional challenge for policy makers is whether both existing and new residents would be happy to live in ‘denser’, taller properties. The deliberative work carried out alongside this project suggested local residents often dislike the idea of higher-rise housing, but found it more acceptable if it was well-designed with access to communal green space; see: T Burchardt, T Goatley & L Judge, [Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas](#), Resolution Foundation, forthcoming.

<sup>127</sup> The feasibility of building a taller or denser housing stock is dependent on specific developments meeting local guidelines around planning (see, for example: Birmingham City Council, [Healthy Living and Working City Manual](#), September 2022), and has interactions with the viability calculations below which we have not quantified.



## Kickstarting residential building at the scale required may require substantial public funds

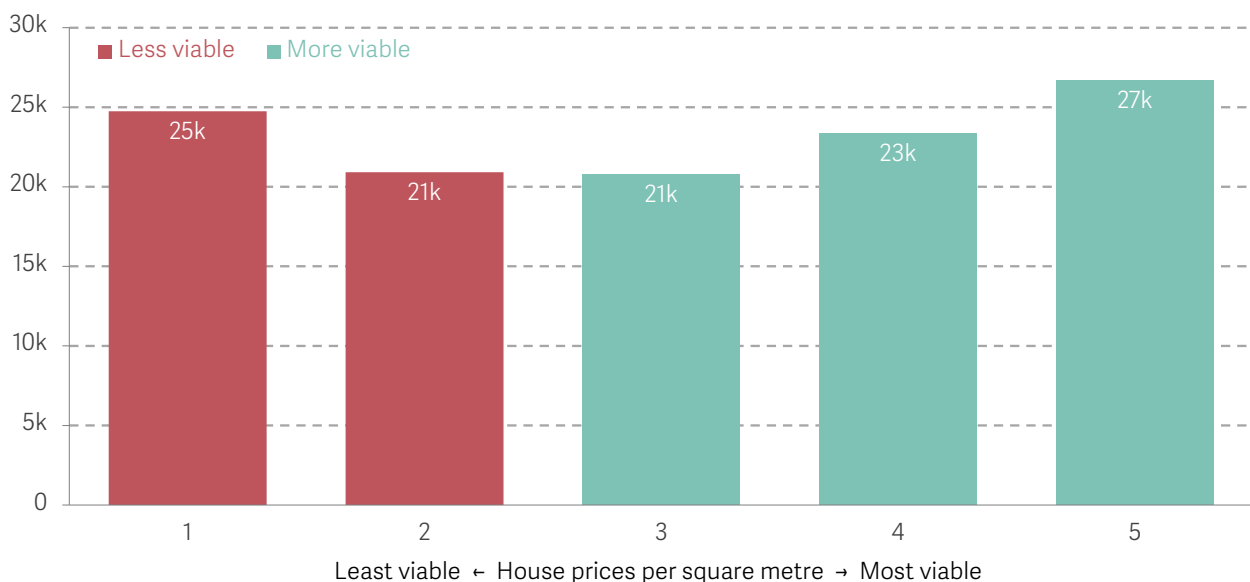
Identifying land supply for an additional 116,000 homes over and above existing plans while also balancing land use in the city centre for commercial use and ensuring new homes are in well-connected areas would be no mean feat. But there is one further strategic question that needs to be considered: is it viable to deliver all the development required through the market? Whether a plot is considered ‘viable’ for private-sector development is highly site-specific, dependent on land costs, house prices, as well as construction and remediation costs.

To think about whether this would be a constraint, we mapped our hypothetical housing increases and their location (as set out in Figure 33) to LSOA-level house prices per square metre, and

Figure 38 illustrates this variation, across the city region. This calculation suggests that over 45,000 of the additional homes in our scenario would need to be built in areas that are currently ‘less viable’ (here proxied as being in the lowest two quintiles of house prices per square metre).<sup>128</sup>

**FIGURE 38: Some areas targeted for development may not currently be viable**

Number of total additional homes by quintile of LSOA-level house prices per square metre: Birmingham urban area, May 2023



SOURCE: Analysis of DfT; TfWM; ONS, Census 2021; DLUHC, Energy Performance Register; HM Land Registry, House Price Index.

<sup>128</sup> The majority of these (29,000) are in the ‘urban core’, which contains a lower proportion of ‘less viable’ areas than other areas of BUA (37 per cent, compared to 40 per cent average) but has many more homes assigned to it in our spatial modelling. The other key driver is a high proportion of ‘less viable’ areas that are ‘well-connected by rail’ in our modelling (nearly 75 per cent), which adds another nearly 6,000 homes to the total.

If the private sector is unlikely to deliver the total number of homes required in our hypothetical scenario, some level of support from the state would likely be required to subsidise building on the scale required to set the BUA on a higher-productivity course. It is likely that the viability of many of these areas would improve over time: as more development takes place, the area becomes a more attractive place to live, and the benefits of being well-connected to a more productive city centre improve with the growth of the city.<sup>129</sup> But if the private sector does not deliver the total number of homes required in our hypothetical scenario, some level of support from the state would likely be required to subsidise building on the scale required to set the BUA on a higher-productivity course, especially in the early years of housebuilding, and these costs could be considerable. To calculate a ballpark figure, we assume similar unit costs to those used in the recent Trailblazer deal, which offered £100 million of brownfield funding over the next two years to support regeneration and the delivery of 4,000 homes.<sup>130</sup> Assuming subsidy was required for the 'less viable' proportion of the homes built in our hypothetical scenario, and that subsidies would likely be concentrated in the first five years of development, this could look like an annual cost of £76 million over the first five years, or just over £380 million to build 15,200 dwellings. This assumes the entirety of the stock of additional homes in our scenario are private sector homes (and not affordable or social housing), with unit costs for affordable housing generally higher – we revise this assumption in Section 6.

## The existing housing stock in the Birmingham urban area also requires investment to make it fit for current and future residents

So far, we have focused only on the strategic challenges that will have to be addressed to build the additional new housing stock required for a higher-productivity city region. But if completed, that house building programme would still only comprise around 10 per cent of the total stock of dwellings in the city area; what of the other 90 per cent of the stock? Much of the housing in the BUA was built during the Birmingham's industrial heyday and, as a result, is older than the national average,<sup>131</sup> and not up to modern quality standards.<sup>132</sup> Tackling the existing housing quality challenge is not tangential from a productivity-boosting strategy for two key reasons. First, better quality housing is

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<sup>129</sup> For example, one estimate is that house prices in areas neighbouring large-scale regeneration over the regeneration period rise by over 2 per cent more than local averages: CBRE, [The effect of regeneration on local residential property values](#), March 2023.

<sup>130</sup> DLUHC, [West Midlands Combined Authority Trailblazer deeper devolution deal](#), March 2023. These costings relate to housebuilding within the geographical boundaries of WMCA, rather than BUA, but have been used as a broad metric of unit costs in the area.

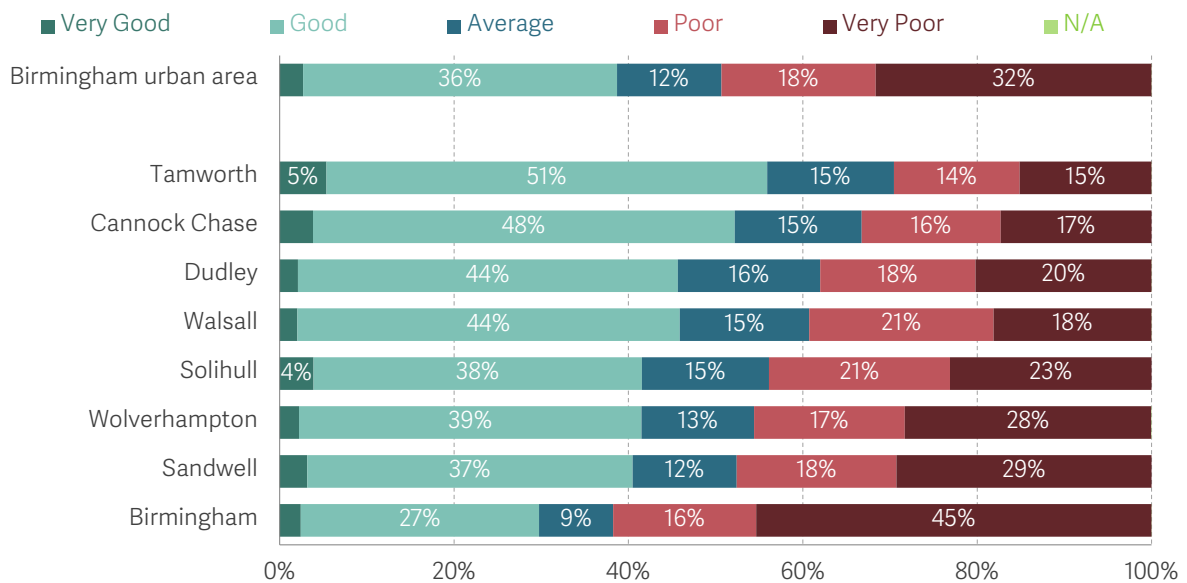
<sup>131</sup> Based on Valuation Office Agency data from Council Tax administrative data, 57 per cent of homes in BUA were built before the mid-1960s, as compared to an average of 52.5 per cent across England and Wales: Valuation Office Agency, [Number of properties by Council Tax band, property build period and administrative area 1993-2022](#), March 2022.

<sup>132</sup> 17.0 per cent of homes in BUA were below the Decent Homes Standard (i.e. free from Category 1 hazards, in a reasonable state of repair, providing a reasonable degree of thermal comfort and with reasonable modern facilities and services), compared to an average of 16.7 per cent across England. And a much higher proportion of these non-decent homes were in the social rental sector than the national average (19 per cent, compared to 13 per cent). DLUHC, [English Housing Survey Local Authority Stock Condition Modelling – Decent Homes Standard](#), June 2023.

crucial for attracting higher-skilled workers and improving energy efficiency for existing residents as the central part of the net zero transition (ensuring adequate capacity for electricity transmission and rolling out electric vehicle charging also stand out as challenges in that regard).<sup>133</sup> Second, improving the quality of the existing stock is a key way to share the gains from productivity growth with existing residents.

**FIGURE 39: A large share of the housing stock in the the Birmingham urban area has very poor energy efficiency**

Proportion of residential properties by wall energy efficiency rating, by local authority: Birmingham urban area, 2021



NOTES: Figures are weighted using latest Census data, grossing to totals by property type and tenure. SOURCE: Analysis of DLUHC, EPC Register; DLUHC, English Housing Survey; ONS, Census 2021.

But the scale of the challenge is considerable. In Figure 39, for example, we show the current wall energy efficiency ratings of homes in the constituent local authorities in the BUA. Half of these homes are reported as having walls with a poor or very poor energy efficiency rating. Zooming in on Birmingham reveals an even worse picture, with over 60 per cent of homes rated poor or below. Even in Dudley and Walsall, which have a much lower proportion of homes rated poor or below, the numbers of homes with poor or very poor walls is significant: 54,000 and 49,000 respectively. Across the BUA as a whole, we estimate there are nearly 570,000 homes with poor or very poor walls. Improving the energy efficiency of the housing stock, as well as achieving the speed and scale of the

<sup>133</sup> H Scammell, Understanding the costs and impacts of potential approaches to providing electric vehicle charging for households without private off-street parking, Ricardo Energy & Environment for the Climate Change Committee, May 2022.

rollout of heat pumps required as a key part of the UK's net zero transition,<sup>134</sup> amounts to a significant challenge that will require coordination by local and regional authorities, as well as significant subsidy from national government.<sup>135</sup>

## Neighbourhood amenities also have a key role to play in a higher-productivity BUA

Finally, it is worth also considering the role that neighbourhood amenities may need to play in a higher-productivity BUA. Below, we highlight the role played by quality of housing, access to urban green spaces, and the quality of public services, where we focus on schools.

As discussed above, building sufficient homes for a larger population in well-connected places is most likely to require densification. But denser housing presents challenges not just in terms of the visual environment,<sup>136</sup> but also the comfort of new residents as the UK experiences climate change, with denser and smaller properties being much more vulnerable to over-heating.<sup>137</sup> This could be mitigated by ensuring that new builds align with, or exceed, the Government's recently introduced standards to reduce overheating in new homes, but doing this might make some of the new building projects less viable, potentially requiring additional public funds which we have not allowed for in our earlier calculations.<sup>138</sup>

However, one benefit of denser housebuilding, and particularly higher-rise, is that it would allow more land to be used as urban green space. This will have benefits for the local environment, reducing the extent to which urban areas become 'heat islands'.<sup>139</sup> And, as Figure 40 illustrates, public green spaces become more important as a city densifies. In general, across the BUA, denser areas of the city perform much better on metrics of proximity to local parks. Indeed, Birmingham sits just outside the top third of urban areas in England – reflecting, perhaps, that residents are much less likely to have their own private green space (86 per cent of homes in Birmingham have gardens, the lowest score in the BUA). But across the BUA overall, the picture is one of a scarcity

<sup>134</sup> Climate Change Committee, *Independent Assessment: The UK's heat and buildings strategy*, March 2022.

<sup>135</sup> See structure of means-tested subsidies set out in A Anis-Alavi et al, *Hitting a brick wall: How the UK can upgrade its housing stock to reduce energy bills and cut carbon*, Resolution Foundation, December 2022. Here it was assumed that roughly a tenth of homes would require full state subsidy for remediation work, with further 38 per cent receiving half subsidy. Given that incomes in the BUA are lower than national average across, this is likely to be an underestimate of the scale of homes requiring subsidy. An alternative to retrofitting is to rebuild the existing stock of homes, as newer homes are built with relatively high energy efficiency ratings (due to improved building standards). Here, there is some good news, in that Birmingham ranks 1<sup>st</sup> out of 150 urban local authorities in England when it comes to total demolitions over the past five years (DLUHC, Live Table 123). But the current rate of demolition, if continued for 15 years, would only be enough to replace 0.9 per cent of the housing stock in Birmingham.

<sup>136</sup> Concerns about the effect of higher-rise housing on the visual environment of the city were a feature of our discussions with residents in the deliberative workshop that accompanied this project; see: T Burchardt, T Goatley & L Judge, *Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas*, Resolution Foundation, forthcoming.

<sup>137</sup> J Marshall, *It's getting hot in here: How ever-warmer UK summer temperatures will have an outsized impact on low-income households and low-paid workers*, Resolution Foundation, August 2023.

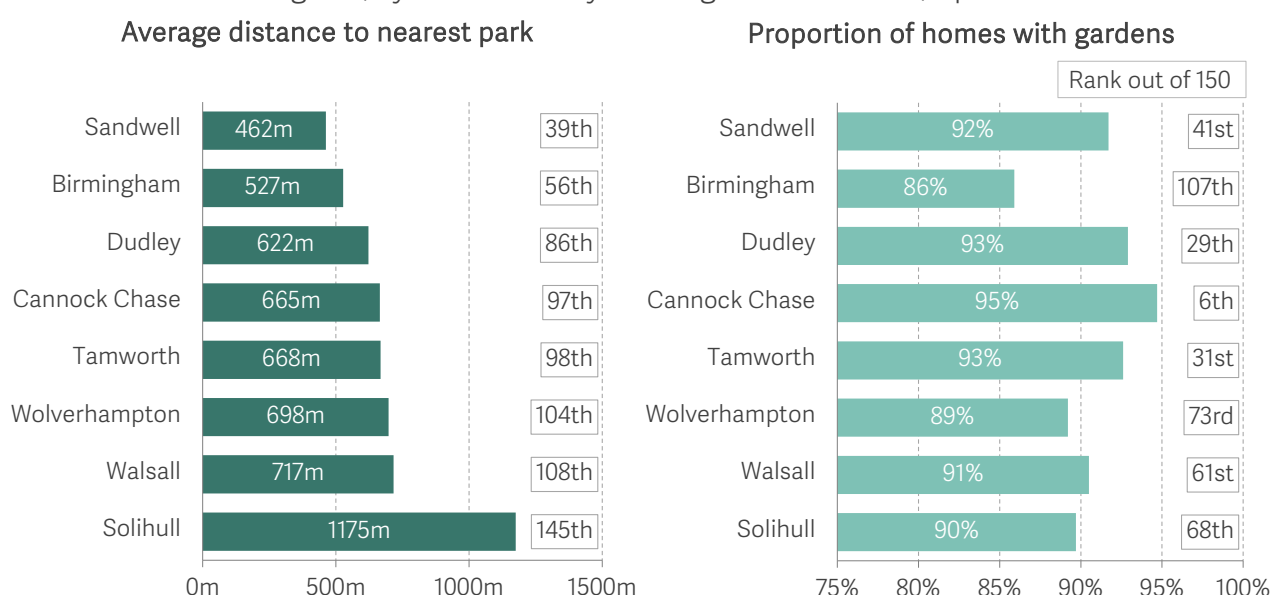
<sup>138</sup> DLUHC, *Overheating: Approved Document O*, June 2022.

<sup>139</sup> Royal Meteorological Society, <https://www.rmets.org/metmatters/urban-heat-islands>, October 2017.

of green space, with Wolverhampton, Walsall and Solihull scoring poorly in terms of proximity to parks, and sitting in the middle third of urban local authorities by access to gardens. If future builds are both denser and spread more equally across the city region, as our preceding analysis suggests should be the case, then fewer homes in future are likely to have private gardens. This makes prioritising the retention – and creation – of urban green spaces much more important.<sup>140</sup>

**FIGURE 40: Public green spaces are likely to become more important if the city region becomes denser**

Average distance from homes to nearest park (left-hand panel) and proportion of homes with private outdoor space (right-hand panel) with rank within 150 urban local authorities in England, by local authority: Birmingham urban area, April 2020



NOTES: Rankings reflect the local authority's position compared to the 150 local authorities within core functional urban areas in England (excluding City of London and West Northamptonshire due to data issues).

SOURCE: Analysis of ONS, Access to gardens and public green space in Great Britain, May 2020.

Finally, it is important to note that the quality of public services likely matter for attracting new (high-skilled) residents, as well as improving the lives of existing residents.<sup>141</sup> For example, compared to other urban areas, the BUA performs poorly in terms of the quality of its secondary schools. As Figure 41 shows, six of the eight BUA local authorities (including Birmingham) are in the worse half of urban local authorities in England when it comes to the proportion of state secondary schools ranked 'requires improvement' or

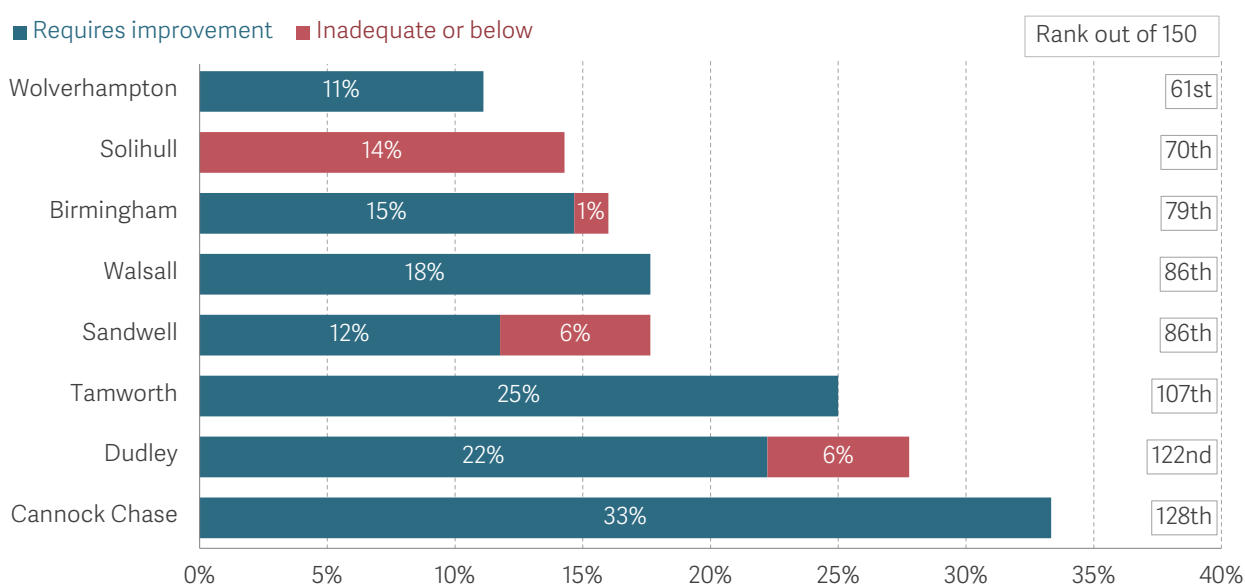
<sup>140</sup> The premium placed on green spaces in dense urban environments was highlighted by residents of BUA in the deliberative workshop (see: T Burchardt, T Goatley & L Judge, *Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas*, Resolution Foundation, forthcoming).

<sup>141</sup> In addition to the quality of local amenities, a further challenge will be ensuring the scale and availability of access to existing public services and utilities in BUA keeps pace with population growth. This is in addition to the existing challenge within Birmingham of maintaining public services given the financial difficulties of the local authority, culminating in the recent [Section 114 notice](#) issued by the council.

below.<sup>142</sup> Boosting the performance of the schools in the BUA may, then, be a necessary prerequisite to attract and retain high-skilled workers with children, as well as ensuring all children in the BUA have good chances of benefiting from job opportunities in the future.<sup>143</sup> A further challenge will be ensuring the scale and availability of access to existing public services and utilities in the BUA keeps pace with population growth.

**FIGURE 41: The Birmingham urban area does not perform well in terms of secondary school ratings relative to other urban areas**

Proportion of state secondary schools (left-hand side) and rank within 150 urban local authorities in England (right-hand side), by Ofsted rating: Birmingham urban area, 2021/22



NOTES: Rankings reflect the local authority's position compared to the 150 local authorities within core functional urban areas in England (excluding City of London and West Northamptonshire). Inadequate or below = schools ranked inadequate, serious weaknesses or special measures.

SOURCE: Analysis of DfE, Ofsted ratings.

To conclude, housing will likely play a critical role in setting the BUA on a higher-productivity trajectory. The ability of the city region to attract and retain up to 116,000 additional high-skilled households means building more homes that are in well-connected areas, on top of the challenge of meeting existing housing need; trading off preferences for (and, as the climate warms, the need for) green space with residents' concerns about densification; and improving neighbourhood amenities and public services. This is a challenging programme, demanding local leadership and, at least in the short-term, significant public funds – but it is an agenda that must be pursued if a higher-productivity BUA is to be achieved.

<sup>142</sup> Given the relatively small numbers of secondary schools in each local authority, a change in one or two schools can make a significant difference to these rankings. However, the overall picture is not an attractive one for current or prospective parents.

<sup>143</sup> The equalising and opportunity-enhancing effect of good public services was a theme that ran through all our discussions with residents for this project.

## Section 6

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# Living standards in a higher-productivity Birmingham urban area

We showed at the outset of this report that a more successful Birmingham urban area (BUA) is necessary to boost incomes nationwide, within the broader West Midlands region and in the city region too. In this final section, we look beneath the averages and examine how current and future residents of the BUA are likely to see their living standards change in a higher-productivity city region. We explore how higher wages and new job opportunities could benefit households across the income distribution; show the scale of the downside risk when it comes to higher housing costs; and examine how policy change at both the national and local level will be necessary to ensure the gains from productivity growth are widely shared.

Higher productivity is not an end in and of itself: it is the necessary condition for living standards improvements.<sup>144</sup> And the need for stronger living standards growth could not be more pressing. This is true across the UK as a whole, where since the financial crisis living standards growth has been extremely slow: average working-age household incomes have risen just 9 per cent in real terms over the past 15 years. But the need is even greater in the West Midlands, where average working-age household incomes have risen just 5 per cent over the past 15 years.<sup>145</sup>

So, what difference could a higher-productivity city region make to the incomes of the current and future residents of the BUA – and how might this vary across the income distribution? In this section, we model the impact on working-age incomes that we

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<sup>144</sup> See: M Brewer et al., [Sharing the benefits: Can Britain secure broadly shared prosperity?](#), Resolution Foundation, July 2023.

<sup>145</sup> Source: Analysis of DWP, Households Below Average Income, 1994/95 to 2021/22. Unless otherwise stated, all income figures in this section are equivalised working-age household incomes on an after-housing costs (AHC) basis. Detailed data on the distribution of household incomes is not available for geographies lower than the region (as discussed in: L Judge & C McCurdy, [Income outcomes: Assessing income gaps between places across the UK](#), Resolution Foundation, June 2022).



should expect from the BUA becoming a more effective city region – as well as the impact of the important policy choices facing local and national decision makers. We consider what the impact might be in 2040, so after approximately 15 years, but it is important to stress that the figures we show do not represent the total income growth over the next 15 years, but rather the change in household incomes over and above any underlying change in incomes over the next 15 years that would exist without the improvements in the city region’s effectiveness that we have outlined in previous sections.<sup>146</sup>

As previous sections have made clear, a core part of the changes that need to happen is an increase in the number of skilled workers, where our working assumption is that this means an additional 165,000 graduates in an additional 120,000 households, above and beyond any ‘business as usual’ population changes. In what follows, we first consider how a higher-productivity BUA might affect incomes for the population of the BUA excluding these new residents. We then show how income in the BUA would be different from ‘a do-nothing’ scenario including the incomes of the newcomers.

### Higher wages in a more productive Birmingham urban area would give a much-needed boost to incomes, but drive up inequality too

We start by modelling how the wage effect of a higher-productivity city region would change incomes across the distribution for the BUA’s current population – by which we mean the people who would live in the BUA over the next 15 years absent the 165,000 extra workers mentioned above. We should be confident that higher productivity will feed through to higher average earnings, but our analysis suggests that at the local level at least the relationship between the two is not perfect. Instead, we estimate that for every 1 per cent of productivity growth in the city region, the typical worker’s wage rises by 0.8 per cent.<sup>147</sup>

The impact on wages of higher productivity is not likely to be consistent across the wage distribution. In recent years in the UK, for example, pay growth for middle and higher earners has been closely tied to growth in productivity, while pay growth for the lowest earners has been more driven by minimum wage increases.<sup>148</sup> We therefore expect that higher productivity would have a larger impact on the wages of middle- and high-earners

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<sup>146</sup> Annex 2 gives more details of our methodology.

<sup>147</sup> This is based on observing the strength of the correlation between hourly labour productivity and hourly pay across UK cities. Source: Analysis of ONS, Sub-regional productivity estimates; ONS, Annual Survey of Hours and Earnings.

<sup>148</sup> For example, between 2015 and 2022, output per hour worked rose by 5 per cent, and gross hourly pay adjusted for CPI inflation rose 8 per cent at the median and 22 per cent at the 10<sup>th</sup> percentile. Source: analysis of ONS, Labour productivity; ONS, Annual Survey of Hours and Earnings, ONS, Consumer Price Index.

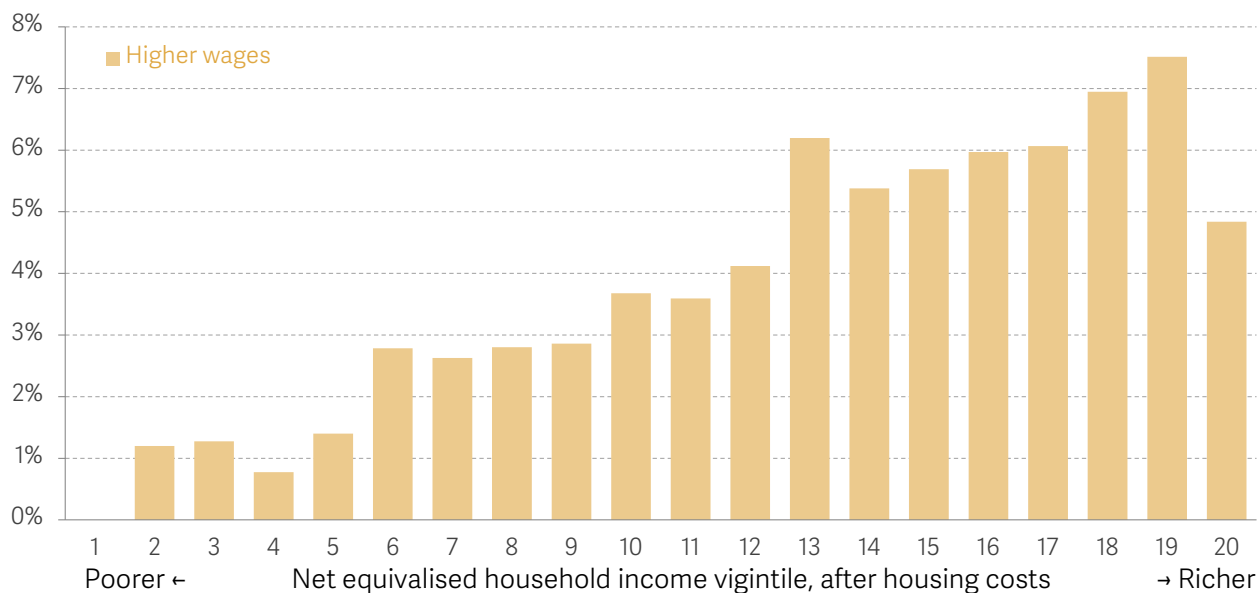


than lower-earners. In practice, we model how household incomes would change if graduate workers experienced an average pay increase of 11.2 per cent, and non-graduate workers see a boost of 4.3 per cent.<sup>149</sup>

Figure 42 presents the results of this exercise. The £2.6 billion total earnings uplift (in 2024-25 prices) that a higher-productivity city region would bring would raise the typical working-age household incomes of the BUA’s current residents by 4 per cent.<sup>150</sup> This would be a very welcome development after a long period of weak pay growth in the city region.<sup>151</sup> However, although all parts of the income distribution would see higher earnings in a higher-productivity BUA, an earnings boost – and particularly one that is skewed towards graduates – would be stronger for higher earners, meaning that inequality would rise. In particular, we expect that such a change would lead to a rise in incomes in the poorest vigintiles of around just 1 per cent (above secular income growth), compared to 6 to 7 per cent for households at the top of the income distribution.

**FIGURE 42: Earnings growth looks set to lift incomes across the distribution, but give an especially large boost to higher-income households**

Change in net equivalised working-age household income (after housing costs), by income vigintile (higher wages scenario): Hypothetical higher-productivity Birmingham urban area, 2040



NOTES: Chart shows effect on resident population excluding 165,000 additional high-skilled workers required by a higher-productivity city region. We exclude the bottom 5 per cent due to concerns about the reliability of data for this group.  
 SOURCE: Analysis of DWP, Family Resources Survey, using the IPPR Tax Benefit Model.

<sup>149</sup> These specific wage growth figures were chosen such that growth in average earnings equals 80 per cent of the city’s productivity growth, consistent with the compositional effects of adding high-skilled workers and raising employment among lower-skilled workers through spillover effects. See Annex 2 for more details.

<sup>150</sup> Typical household income figures present the average change for those in vigintiles 10 and 11.

<sup>151</sup> See, for example: C D’Arcy, *Midlands engine trouble: The challenges facing the West Midlands Combined Authority*, Resolution Foundation, December 2016 for a discussion of pay stagnation in the Birmingham city region over the last two decades.

In part, of course, this is an artefact of our assumption that earnings rise more for higher-skilled workers than for those with lower skills. But this also hints at how policy could potentially recalibrate who benefits from the earnings uplift in a more productive city region: by increasing the minimum wage. The 'National Living Wage' (the adult rate minimum wage) is on course to reach its target 'bite' of two-thirds of the median hourly wage by 2024,<sup>152</sup> and it is clearly possible that (national) policy makers could go further after that point.<sup>153</sup> Setting the minimum wage 'bite' on an upward trajectory could certainly help more equitably redistribute the earnings gains that are intrinsic to a higher-productivity BUA, but we do not model its impact here, as this lies outside the control of local politicians.

### There will be more job opportunities for all in a higher-productivity Birmingham urban area, disproportionately benefiting lower-income households

The fact that there is only a small income boost for lower quintile households in a higher-wage BUA speaks to another key reason why the gains from growth are not spontaneously shared: fewer adults in poorer households are working than in richer households, meaning many such households will see either no (if workless) or smaller (if not all adults are working) gains from higher wages. In addition, for those lower-income households in receipt of means-tested benefits, some of the income gains from higher wages are lost as benefits are 'tapered' away.<sup>154</sup>

However, in addition to changes in earnings, we would also expect employment to rise in a higher-productivity BUA. That is because the presence of additional high-skilled workers in the city region would likely lead to positive employment for existing residents. There is strong evidence for an employment 'multiplier effect' when a city sees growth of high-paid jobs, thought to arise through workers spending locally, and through additional demand via the supply chains of the firms employing the high-paid workers. These processes boost demand for local goods and services and generate additional jobs in the process. As a result, new job opportunities open up in a higher-productivity city region not just for those with higher skills, but across the board.

Drawing on previous analysis, we make the (conservative) assumption that for every ten additional high-skilled workers a further seven lower-skilled roles are created in the city region – equivalent to more than 115,000 new jobs for lower-qualified workers in a

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<sup>152</sup> Low Pay Commission, [The national minimum wage in 2023](#), March 2023.

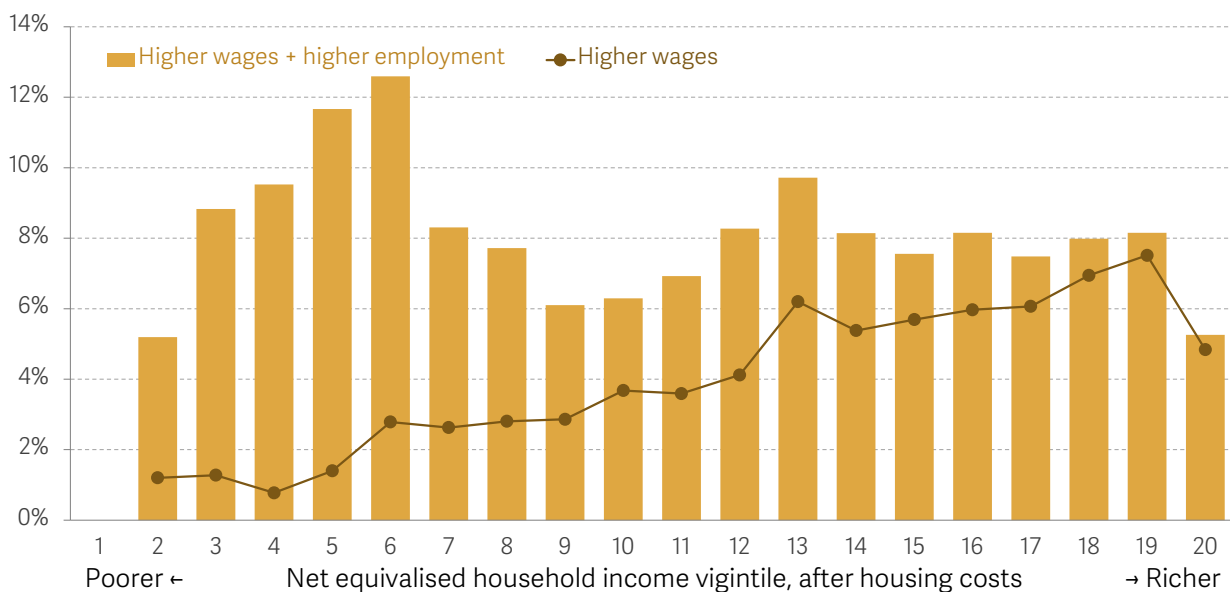
<sup>153</sup> We make recommendations on future levels of the minimum wage in: N Cominetti et al., [Low Pay Britain 2023: Improving low-paid work through higher minimum standards](#), Resolution Foundation, April 2023.

<sup>154</sup> There is a longer discussion of this in: M Brewer et al., [Sharing the benefits: Can Britain secure broadly shared prosperity?](#), Resolution Foundation, July 2023.

higher-productivity BUA.<sup>155</sup> We now bring this employment effect into our modelling in Figure 43. Employment effects make a material difference to working-age household incomes (the line shows the results we presented in Figure 41, the income boost from higher wages alone). Over a 15-year period, we expect the higher wages and higher employment that are part and parcel of a higher-productivity city region to boost typical household incomes by 7 per cent. But as the chart makes plain, employment effects will benefit households in the lowest income brackets to a greater extent than higher-income households, spreading the gains of a more prosperous city region more equally than the boost to wages alone.<sup>156</sup>

**FIGURE 43: New job opportunities will boost incomes across the board, but benefit those at the bottom of the distribution the most**

Change in net equivalised working-age household income (after housing costs), by income vigintile (higher wages and higher employment scenario): Hypothetical higher-productivity Birmingham urban area, 2040



NOTES: Chart shows effect on resident population excluding 165,000 additional high-skilled workers required by a higher-productivity city region. We exclude the bottom 5 per cent due to concerns about the reliability of data for this group  
 SOURCE: Analysis of DWP, Family Resources Survey, using the IPPR Tax Benefit Model.

This finding has important implications for local policy makers. As we discuss more in Box 9, the BUA currently has the lowest employment rate of any city region within the UK: the working-age employment rate in the BUA was 70 per cent in 2021, compared

<sup>155</sup> Our 0.7 multiplier is taken from S Clarke & N Lee, *Do low-skilled workers gain from high-tech employment growth? High technology multipliers, employment and wages in Britain*, SPRU Working Paper series, July 2017. See also: What works centre for local economic growth, *Toolkit: Multiplier effects*, March 2019, which suggests this is at the low end of the observed range.

<sup>156</sup> Some of the apparently large percentage gains in income at lower vigintiles are an artefact of our decision to measure incomes after housing costs. A given percentage increase in before housing costs income automatically translates into a larger percentage increase in after housing costs income, because the denominator is (usually) smaller – and especially so for those with low after housing costs income.

to the national average of 75 per cent.<sup>157</sup> This means that developing and expanding support for workless individuals and households is especially important in the BUA to ensure these new opportunities are real opportunities. Back-to-work programmes, adult education and action to tackle underlying health issues that limit participation clearly have a crucial part to play in a strategy to spread the gains from growth – for the purpose of this exercise, we assume that enough is done to allow the extra labour demand for lower-skilled workers to turn into new jobs.<sup>158</sup>

### BOX 9: Understanding the low employment rate in Birmingham and beyond

Birmingham is not unique in having lower employment among some groups – in particular among certain ethnic minority groups and people with lower-level qualifications. In 2017-2022, for example, the employment rate in the city region was 54 per cent for Pakistani and Bangladeshi residents.<sup>159</sup> But the fact that Birmingham has more of these ‘low employment’ groups in its population than the rest of the UK does help explain why its employment rate is low. In fact, this ‘compositional effect’ – the fact that, for example, the ethnic minority share of the working-age population in Birmingham is more than twice the share in the UK as a whole (34

per cent versus 15 per cent) – explains two-thirds of the employment rate gap between Birmingham and the rest of the UK (see the dark blue bar in Figure 44).

However, even allowing for this compositional effect, employment in Birmingham is still lower than in other parts of the country: for example, the employment rate among working-age Pakistani and Bangladeshi residents is higher in London (60 per cent) and the wider UK (58 per cent) than in Birmingham (54 per cent).

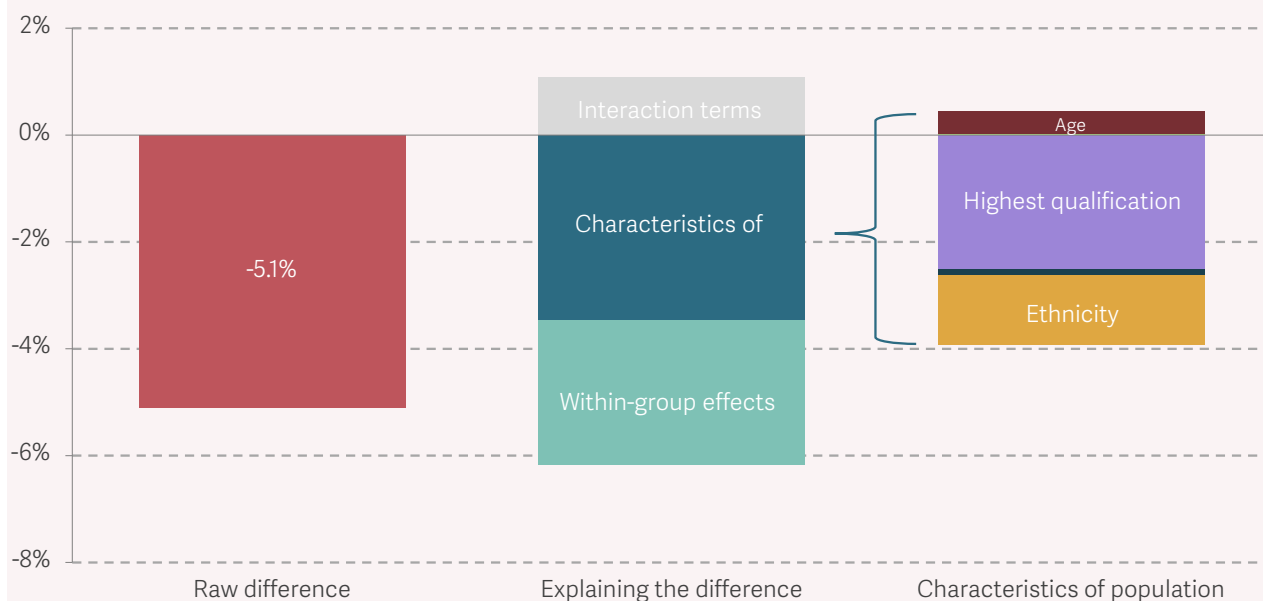
<sup>157</sup> Source: Analysis of ONS, Annual Population Survey, accessed via Nomis.

<sup>158</sup> Poor health can affect not just short-term ability to flourish in the labour market, but also potentially the longer-term. For example, recent work has shown that 79 per cent of 18-24-year-olds who are out of work because of ill-health only have qualifications at GCSE level or below. See: L Murphy, [Left behind: Exploring the prevalence of youth worklessness due to ill health in different parts of the UK](#), Resolution Foundation, June 2023.

<sup>159</sup> Source: Analysis of ONS, Annual Population Survey, accessed via Nomis. Due to low sample sizes and availability of the appropriate geographic breakdown in the published data, throughout this box ‘Birmingham’ refers to the West Midlands Combined Authority rather than the functional urban area.

**FIGURE 44: Lower employment in Birmingham compared to the rest of the UK is partly explained by the characteristics of Birmingham's population**

Difference between working-age employment rate in Birmingham and the rest of the UK, and decomposition of this difference into composition and other effects: 2017-2023



NOTES: The results are from an Oaxaca-Blinder decomposition of the difference in the employment rate between Birmingham and the rest of the UK. Sample is 20-59-year-olds excluding full-time students. Due to limited availability of fine-grained geographic data in the Labour Force Survey, this analysis was undertaken using the West Midlands Combined Authority boundary (i.e. including Coventry and excluding Cannock Chase and Tamworth) rather than with the functional urban area boundary as used elsewhere in this report.

SOURCE: Analysis of ONS, Labour Force Survey.

## Higher housing costs will act as a drag on living standards in a more successful city region

So far, our modelling has only considered the beneficial impacts of a higher productivity city region on incomes, by thinking about how it might change earnings and employment. But as average incomes rise, so does something else – housing costs – and this will provide a living standards headwind.<sup>160</sup> A sensible starting assumption is that housing costs will rise in line with average earnings.<sup>161</sup> But housing supply is also a determinant of housing costs, and achieving a higher-productivity BUA requires a larger population. Therefore, it is possible that housing costs would increase in a higher-productivity BUA over and above the growth of earnings, with this depending on whether enough homes are built to keep up with the higher number of households a more productive city region requires.

In Section 5, we showed how challenging (though not impossible) it will be for the housing stock in the BUA to expand beyond that required by business-as-usual

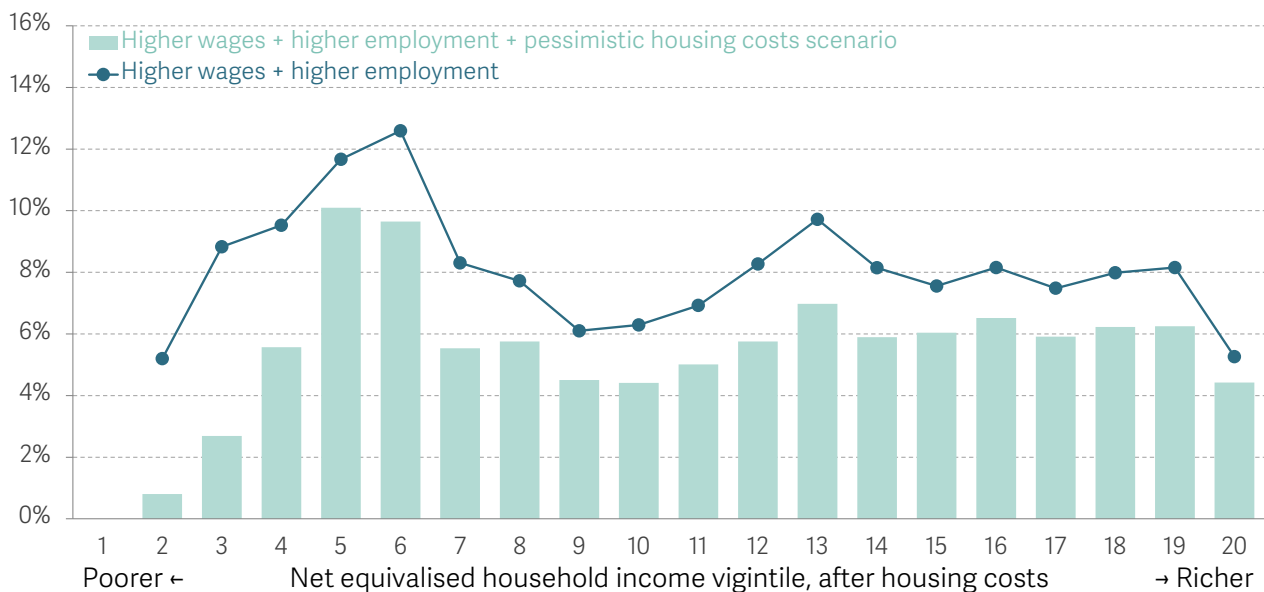
<sup>160</sup> Throughout this section, housing costs are private rents and mortgage interest unless otherwise stated.

<sup>161</sup> A link between the level of rental prices and the level of average wages at the local level is shown in: H Overman & X Xu, [Spatial disparities across labour markets](#), IFS Deaton Review of Inequalities, February 2022.

demographic and population changes. Given this, in Figure 45 we first model a pessimistic scenario where not only have housing costs risen in line with earnings but also it has not been possible to build sufficient homes in the city region given the population expansion (in other words, the number of houses has fallen relative to the size of the population).<sup>162</sup> The effect of higher housing costs in this scenario is significant: around 30 per cent of typical households’ income gains in a higher-productivity BUA would be absorbed by higher housing costs. But the effect is even stronger for those in the lowest income households. For example, the 9 to 10 per cent income growth that households in vigintiles 3 and 4 would enjoy from higher wages and employment reduces dramatically when higher housing costs are taken into account.

**FIGURE 45: Higher housing costs could absorb a large part of poorer households’ income gains in a more successful city region**

Change in net equivalised working-age household income (after housing costs), by income vigintile (higher wages, higher employment and pessimistic housing cost scenario): Hypothetical higher-productivity Birmingham urban area, 2040



NOTES: Chart shows effect on resident population excluding 165,000 additional high-skilled workers required by a higher-productivity city region. We exclude the bottom 5 per cent due to concerns about the reliability of data for this group. Pessimistic scenario assumes city region builds half of the new homes required by a larger population.

SOURCE: Analysis of DWP, Family Resources Survey, using the IPPR Tax Benefit Model.

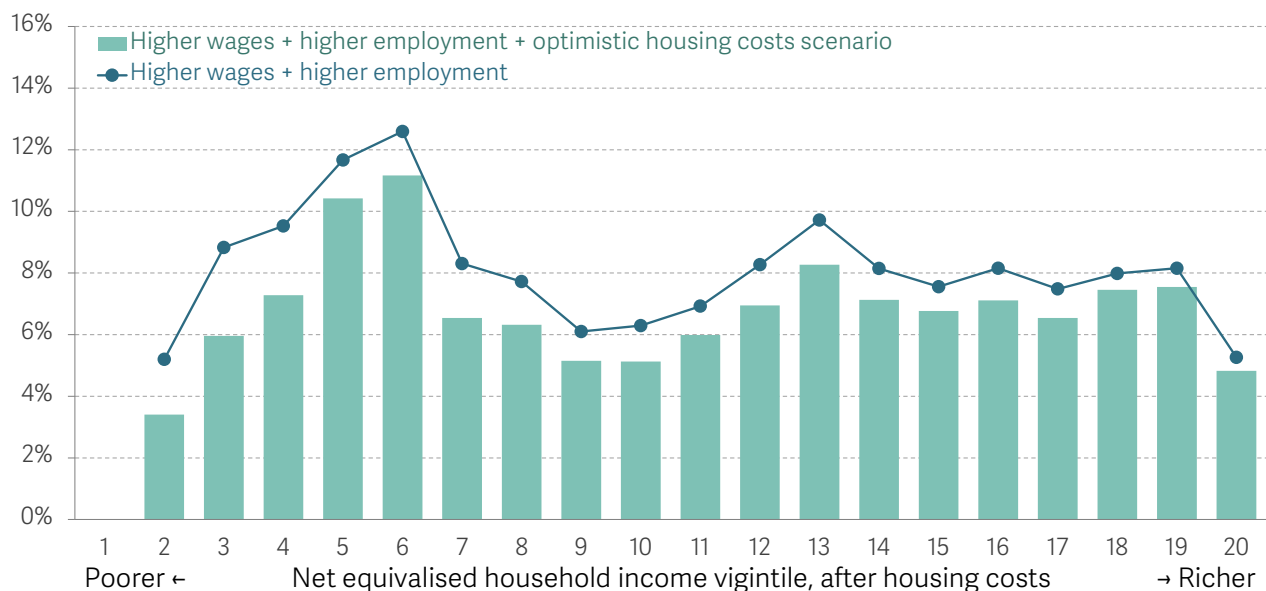
Of course, this scenario could be overly pessimistic: with strong local leadership and suitable support from national government, it is plausible that the housing stock in

<sup>162</sup> We assume half the 116,000 additional homes have been built, reducing the housing stock to household ratio by 4.9 per cent. We then assume that for every 1 percentage point fall in this ratio, private rents rise by 1.8 per cent, consistent with the findings of: Oxford Economics, *Forecasting UK house prices and home ownership: A report for the Redfern Review into the decline of home ownership*, Oxford Economics, June 2016. But we may be understating the rise in housing costs in this scenario; other sources suggest a 1 per cent increase in housing stock to households would decrease house prices by 2 per cent (MHCLG, *Analysis of the determinants of house price changes*, MHCLG, April 2018).

the BUA could expand to the extent required. In Figure 46, we set out how household incomes would change if, alongside earnings and employment growth, housing supply was raised to fully keep up with population growth. Here, the downward effect of higher housing costs on household incomes is, naturally, more muted. But it is still material: typical households would see around one-sixth (16 per cent) of their income gain absorbed by higher housing costs under this scenario. And once again, the downward pressure housing costs place on living standards is more acute for lower-income households.

**FIGURE 46: Building homes for all is key to minimising housing cost pressures**

Change in net equivalised working-age household income (after housing costs), by income vigintile (higher wages, higher employment and optimistic housing costs scenario): Hypothetical higher-productivity Birmingham urban area, 2040



NOTES: Chart shows effect on resident population excluding 165,000 additional high-skilled workers required by a higher-productivity city region. We exclude the bottom 5 per cent due to concerns about the reliability of data for this group. Optimistic housing costs scenario assumes city region builds all the new homes required by a larger population.

SOURCE: Analysis of DWP, Family Resources Survey, using the IPPR Tax Benefit Model.

### Additional social housing could help ease housing costs pressures, but would require significant subsidy from central government

In addition to ensuring that housing supply keeps up with population growth, the negative impact of housing costs on incomes could be ameliorated through the right policy choices. One key way the state can help low-income households manage high housing costs is by offering them a below-market rent and a stable home in the form of social housing. We estimate that to hold constant the share of households in the BUA in social rented homes would require a further 26,000 sub-market homes to be built, over

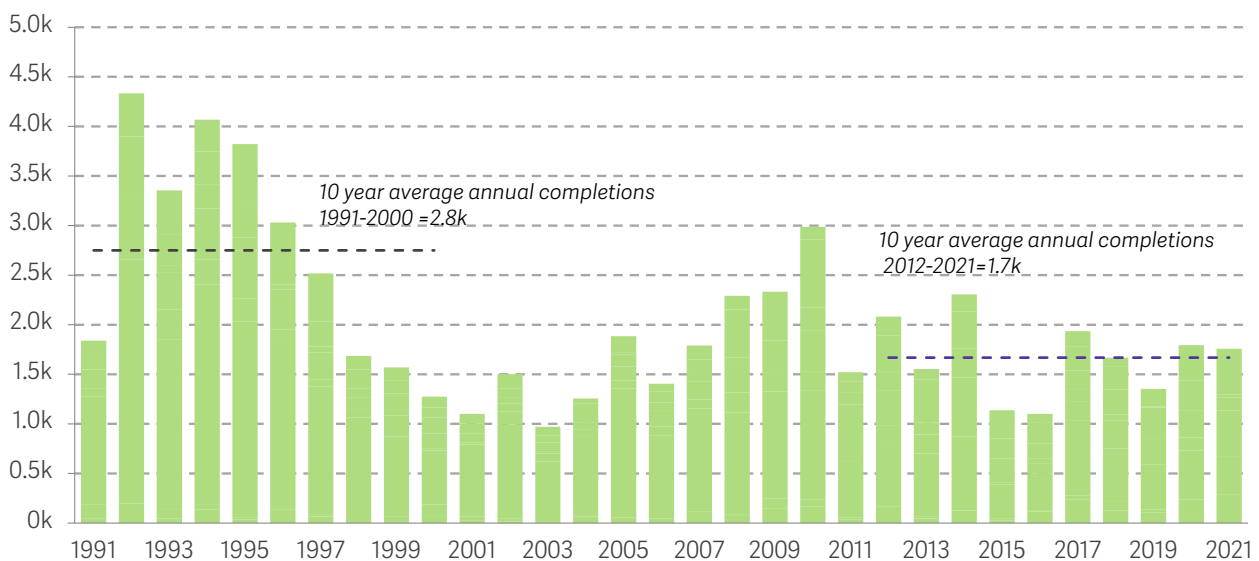


and above those currently planned across the urban area (these would be a subset of, and not additional to, the 120,000 additional homes we identified in Section 5 as being required by the population expansion in a higher-productivity BUA).

But as Figure 47 shows, in the past ten years, local authorities in the BUA have built an average 1,700 additional sub-market homes every year simply to cope with existing need. We estimate that the local authorities in the BUA would need to double the (overall) rate of social rent build over a 15-year period in order to ensure the extra 26,000 homes required over and above current plans. Moreover, this would also likely require additional grant finance from central government. Assuming a subsidy of £80,000 for each social rent unit built, this could total £2.1 billion over a 15-year period.<sup>163</sup>

**FIGURE 47: Building more sub-market homes in the Birmingham urban area may be a challenge, but rates have been higher in the past**

Affordable housing completions: Birmingham urban area, 1991-92 to 2021-22



NOTES: This chart presents affordable housing completions – the net additions to the affordable housing stock may be lower taking into account sales and demolitions.

SOURCE: Analysis of DLUHC, Live Table 1011.

But getting affordable housing right is not just about how many homes are built; equally important is where those homes are located and how they are dispersed throughout the city region. Currently there exists an unequal distribution of affordable housing units among local authorities within the BUA: there tend to be higher proportions of social housing among authorities in the BUA with lower house prices (including

<sup>163</sup> Building social rent homes at this scale with central government subsidy would, however, reduce our estimate of the cost of subsidising private sector building to deal with issues relating to viability in Section 5, by £85 million (£296 million instead of £380 million), given this initial estimate was assuming all 121,000 additional homes were being provided through the private sector.

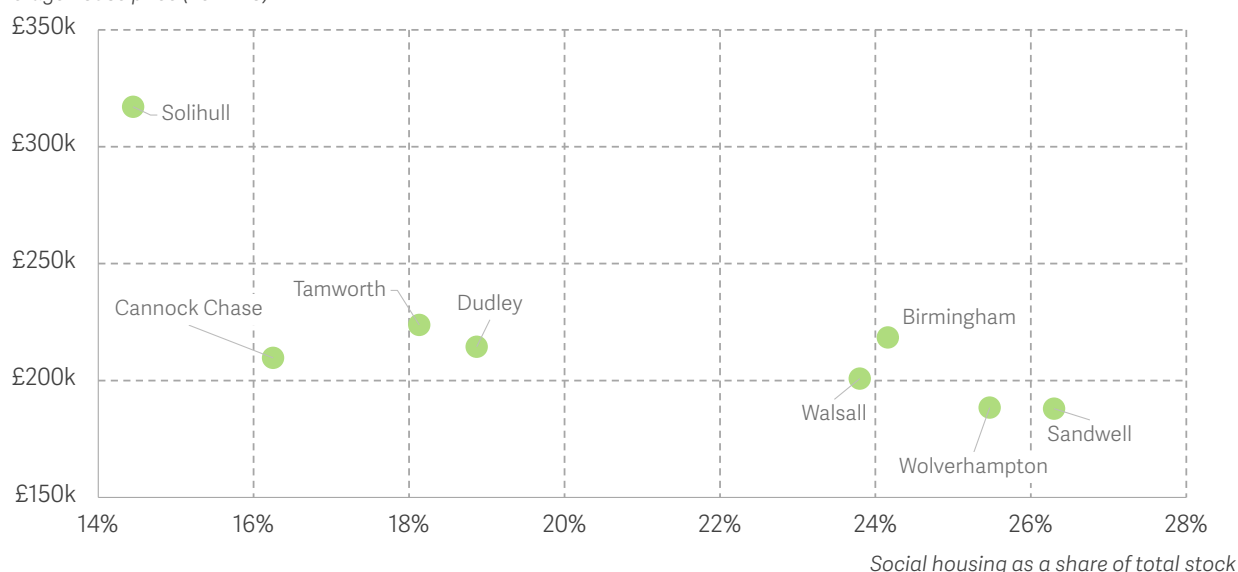


Wolverhampton and Sandwell), and low proportions of social housing in areas with more expensive housing, such as Solihull (see Figure 48). Significantly expanding social housing supply, while fostering mixed communities, will require a significant boost in affordable housebuilding across the BUA, particularly in local authorities where the current share of social housing is low.

### FIGURE 48: Affordable housing is currently concentrated in less-affluent local authorities

Social housing as a share of total dwelling stock (2021) and average house prices (March 2023), by local authority: Birmingham urban area

Average house price (2022-23)



SOURCE: Analysis of ONS, Subnational estimates of dwellings by tenure, England and HM Land Registry.

### Policy change at both national and local levels could protect low-income households from the housing costs headwind

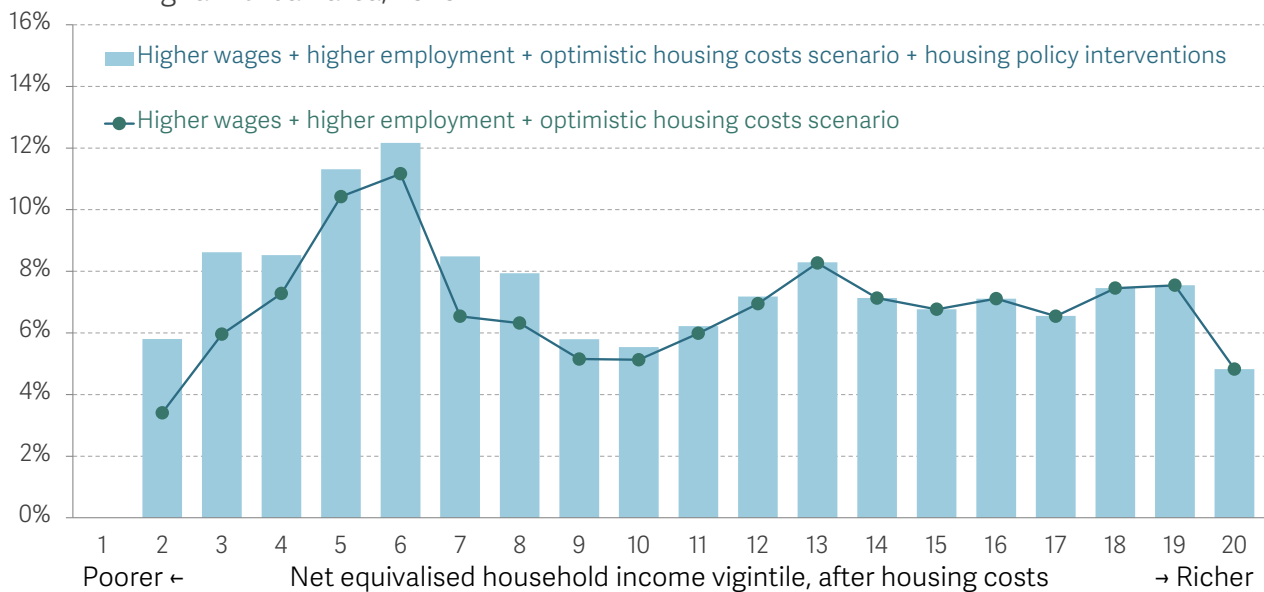
In addition to building adequate social housing, another way policy makers can minimize the impact of higher housing costs on incomes is by providing proper support for housing costs in the benefits system. Many lower-income households receive support with their housing costs through the national benefits system in the form of Local Housing Allowance (LHA) for private renters. LHA is currently frozen at 2019 rent levels, which erodes the amount of support renters receive, but our view is that it is infeasible for this policy to continue indefinitely, and so earlier charts in this section have assumed that it is linked to inflation, which was the approach from 2013 to 2019. In the final scenario, though, we set out the impact of re-pegging LHA to the 30th percentile of local rents, as was the original intention of the Government's reform in 2012, and what

happened again in 2020. This would protect poorer households from one of the major pressures on their incomes in a wealthier BUA.<sup>164</sup>

The powerful impact that different policy choices can make when it comes to supporting low income households with their housing costs through both ‘bricks’ and ‘benefits’ is brought home in Figure 49. The effect is material: the incomes of poorer households would be around 2.5 percentage points higher if LHA is re-pegged to local rents (as opposed to uprated in line with earnings) and sufficient social homes were built to hold the share of social renters constant in a larger city region.

**FIGURE 49: Higher Local Housing Allowance and more social rented homes could blunt the impact of higher housing costs in a more productive city region**

Change in net equivalised working-age household income (after housing costs), by income vigintile (higher wages, higher employment, optimistic housing costs scenario and housing policy interventions scenario): Hypothetical higher-productivity Birmingham urban area, 2040



NOTES: Chart shows effect on resident population excluding 165,000 additional high-skilled workers required by a higher-productivity city region. We exclude the bottom 5 per cent due to concerns about the reliability of data for this group. Optimistic housing costs scenario assumes city region builds all the new homes required by a larger population. Housing policy interventions = linking LHA to actual rents; building 26,000 additional social rent homes over and above PfE plan.

SOURCE: Analysis of DWP, Family Resources Survey, using the IPPR Tax Benefit Model.

## A higher-productivity Birmingham urban area would be less equal but with far fewer children growing up in poverty

So far, we have presented results that show how the incomes of the resident population of the BUA in 2040 could be different in a higher-productivity city absent the additional

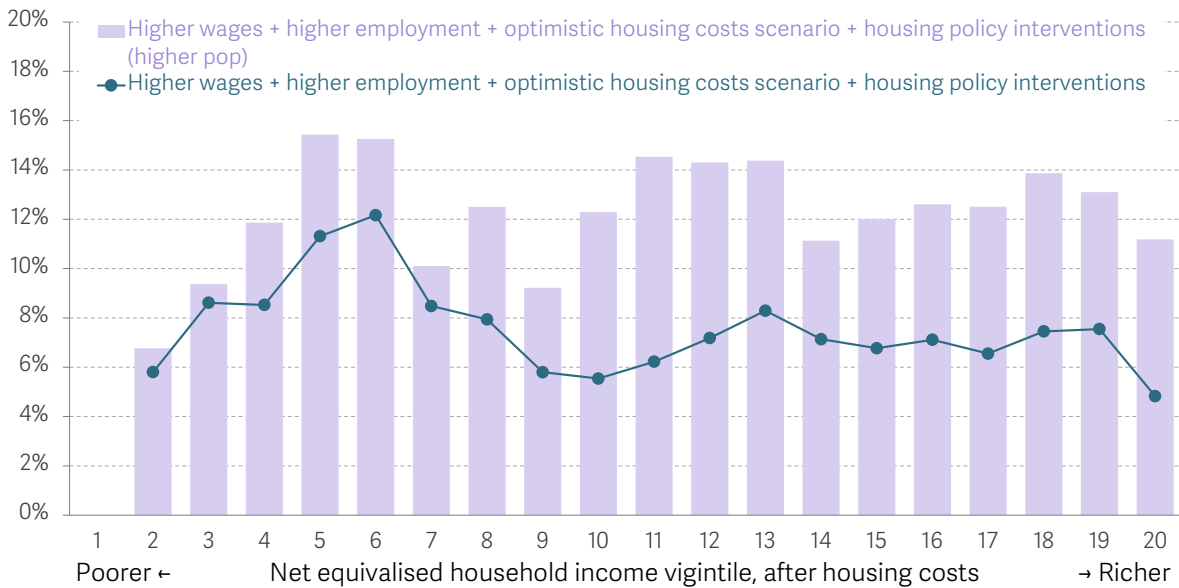
<sup>164</sup> The impact of this policy at a national level was shown in: M Brewer et al., *Sharing the benefits: Can Britain secure broadly shared prosperity?*, Resolution Foundation, July 2023. We do not include the cost of doing this in the discussion in Section 7, as this is a policy under the control of the Westminster government that would apply to all parts of Great Britain.

165,000 high-skilled workers required. In Figure 50, we present the impact that a higher-productivity BUA could have on the distribution of household incomes in the BUA once we also include the additional high-skilled residents that we think the city region will need, and if all the changes described above – higher wages, higher employment, higher housing costs and housing policy interventions – were to come to pass.

To begin, the chart shows that the boost to household incomes is larger when we factor in the new population of the BUA than it is when we focused on the ‘business as usual’ population (the blue line). This is simply a compositional effect: as we bring in high-skilled, mostly well-off, households to the BUA, this pushes some (existing) households down the income rankings, lifting the average income in their new vigintile as a result.

**FIGURE 50: A higher-productivity Birmingham urban area would be richer but more unequal than today**

Change in net equivalised working-age household income (after housing costs), by income vigintile (higher population, higher wages, higher employment, higher housing costs and housing policy interventions scenario): Hypothetical higher-productivity Birmingham urban area, 2040



NOTES: Chart shows effect on resident population including 165,000 additional high-skilled workers required by a higher-productivity city region. We exclude the bottom 5 per cent due to concerns about the reliability of data for this group. Higher population = additional 130,000 households over current population, each of which contain at least one graduate in employment. Optimistic housing costs scenario assumes city region builds all the new homes required by a larger population. Housing policy interventions = linking LHA to actual rents; building 26,000 additional social rent homes over and above PFE plan. SOURCE: Analysis of DWP, Family Resources Survey, using the IPPR Tax Benefit Model.

More materially, Figure 49 shows that if all the changes we have modelled came to pass, then households across the board in a more productive city region would be significantly better off. We estimate that, by 2040, the typical household in the BUA would have an income that was about 13 percentage points higher than that expected after secular

growth in living standards, a staggering improvement given (as stated at the outset), over the past 15 years incomes in the West Midlands have risen by just 4 per cent. In monetary terms, this is equivalent to the typical household being £1,700 richer a year.

But the chart also makes plain that higher-income households could see their incomes increase to a greater extent than those on lower incomes (around 13 per cent compared to around 9 per cent respectively), increasing income inequality in the process. Put simply, a higher-productivity BUA would likely be a richer, but more unequal, city region than it currently is.

If that seems like an undesirable conclusion, perhaps consider this. If household incomes in the BUA were to rise as we have modelled here (because high-value firms and high-skilled workers flock to the city region in response to strategic choices local leaders make around land use, public transport and housing), this could bring about a five percentage point fall in the working-age poverty rate, and a six percentage-point fall in child poverty.<sup>165</sup> That would be equivalent to 38,000 fewer children growing up in poverty in the Birmingham urban area today.<sup>166</sup> And the future could be even brighter still: if the city region were to gain stronger revenue-raising powers under new devolution deals, it could harness more of the wealth of a more productive city region for redistribution locally, and truly ensure the gains from growth are shared.<sup>167</sup>

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<sup>165</sup> Poverty figures show relative poverty rates.

<sup>166</sup> It is worth noting that residents who participated in the two-day deliberative workshop we ran as part of this project were less offended by inequality per se, and more by poverty and destitution which they feared would rise in a more productive city. See: T Burchardt, T Goatley & L Judge, *Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas*, Resolution Foundation, forthcoming.

<sup>167</sup> We will be making proposals that achieve this in: A Breach, S Bridgett & O Vera, *In place of centralisation: A devolution deal for London, Greater Manchester and the West Midlands*, Resolution Foundation, forthcoming.

## Section 7

### Conclusion

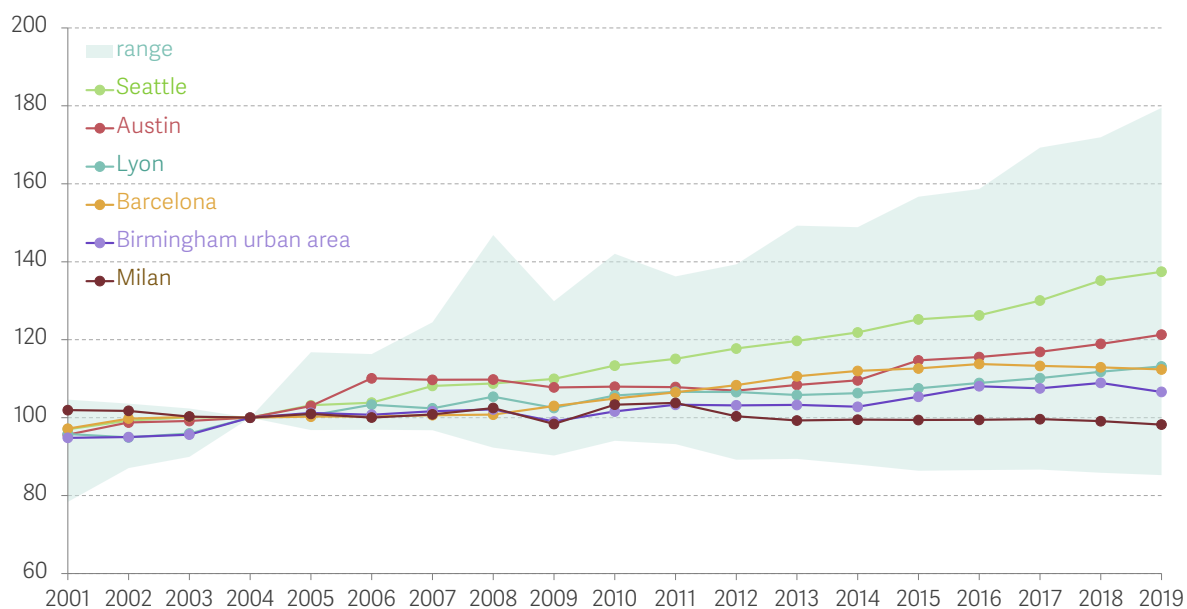
A higher productivity future for England's 'twin second cities' should be a central objective of Britain's economic strategy. It is how we boost aggregate growth, close regional gaps and improve the living standards of local people too. This paper has shown that a plausible route map to a significantly more productive Birmingham urban area (BUA) exists, and what it might (and might not) look like. It has highlighted the scale and nature of change, and the difficult decisions, required for a higher-productivity endpoint to be reached. But, making changes across multiple domains requires more than just a vision. A higher productivity BUA needs time, money and strong local leadership, including from a West Midlands Combined Authority (WMCA) that has the powers to drive and shape the change to come.

Different parts of Britain inevitably play different roles in our national economy. In service-led advanced economies of the 21st Century, the largest cities should be productive centres that underpin national prosperity. Over the course of this report, we have shown that the BUA is not fulfilling that role today. But becoming a higher-productivity city requires action on many different fronts. It means tough decisions about how land is best used throughout the city; invigorated action to improve the intra-city transport system so that firms can access workers at scale (and workers can access jobs); and decisive planning when it comes to housing to maximise its productivity-boosting potential, and minimise higher housing costs. The scale of this challenge is significant, requiring vision and commitment from both local and national leaders.

## A step change in productivity will take time...

To begin, as this report has made clear, there are no quick fixes when it comes to boosting city-wide productivity. Creating a city centre that will attract and retain high-value services firms; expanding the public transport system at scale; and building new homes, as well as retrofitting old housing stock, all demand long-term, complex interventions. As a result, a plausible strategy for productivity growth is one that is realistic about the enduring nature of the task, and able to keep these objectives firmly in sight over years or even decades.

Figure 51 drives home this point by plotting the productivity trajectory of comparably-sized city regions in OECD countries over the past 15 years. It shows there is definitely scope for cities to make real progress over such a time period, although there is nothing automatic about that. In the 15 years up to 2019, for example, Seattle's real GDP per worker grew by 37 per cent; in contrast, Milan's productivity fell by almost 2 per cent. With a tepid 6.6 per cent growth in real GDP per worker over the same time period, the Birmingham city region clearly has room to improve.<sup>168</sup> And the city region does not have to move right to the productivity frontier for serious gains to be made: matching the 15-year growth performance of mid-range cities such as Austin (21 per cent), Lyon (13 per cent) or Barcelona (12 per cent) would be a significant change. Solid, sustained progress, year after year is what success looks like.



**FIGURE 51: The productivity performance of city regions across the OECD has varied dramatically in the last 15 years**

Index of real GDP per worker, OECD metro areas with >750k+ workforce (100=2004)

<sup>168</sup> Results shown here are for metro areas. See Box 1 for further details.

NOTES: GDP per worker measured in in US dollars, constant prices, constant PPP. City workforce over 750,000 in 2019. Results are shown for the 93 cities for which data was available for all years.  
SOURCE: Analysis of OECD GDP per worker dataset, accessed through OECD.stat.

## ...money..

However, the findings of this report also show vividly that staying power alone will not be enough. Birmingham City Council's financial woes might currently be front-page news, but it is important not to let events of recent weeks undermine the longer-term case for investing in the BUA if we are serious about a higher-productivity future. As we have argued elsewhere, this and future UK governments must step up when it comes to public investment to support growth.<sup>169</sup> But what does that mean specifically for the BUA?

In this report, we have identified changes in three critical and interlocking domains to set the BUA onto a different productivity trajectory. When it comes to commercial development in the city centre (our first domain), our analysis suggests the market should largely be able to deliver (albeit with some tricky sites with very high costs for remediation). But that is not the case when it comes to expanding public transport in the city region (our second domain). Here, we estimate an additional £1.3 billion of public funding is required up to 2040 over and above that already committed to date.<sup>170</sup> And there is also a price tag when it comes to residential housing (our third domain). We estimate it would cost up to £380 million to kickstart house-building in parts of the city region where viability is a challenge, but where increasing the housing stock is also crucial to deepen the labour pool and keep housing costs manageable in a bigger city.<sup>171</sup>

As a result, even in just these areas we estimate that a higher-productivity BUA could require around £1.7 billion of additional public investment up to 2040 – on top of assuming no rolling back on existing capital spending plans. To put that figure into context, consider this: in the past four years combined, local authorities and projects within the BUA have received just over £150 million from the Levelling-Up Fund.<sup>172</sup> The scale of sustained investment required should give the Government pause for thought when it comes to their ambition of supporting a globally-competitive city in every region.<sup>173</sup> But this also points to the need to leverage institutional investment such as pensions funds more effectively for places like the BUA, and to 'power up' the British Business Bank so it, too, can help turbo-charge the city region.<sup>174</sup>

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<sup>169</sup> F Odamtten & J Smith, [Cutting the cuts: How the public sector can play its part in ending the UK's low-investment rut](#), Resolution Foundation, March 2023.

<sup>170</sup> See Section 4 for further details.

<sup>171</sup> See Section 5 for details of this estimate. This would be reduced to £296 million over five years for subsidies for private sector development if funding was also made available to build sufficient social rented housing stock to hold the share of households in that tenure constant in a larger city region. However, expansion of that scale would require £2.1 billion of additional capital grant. We make no estimate here of funding required to retrofit BUA's existing poor-quality housing stock, nor to fund repegging Local Housing Allowance to local rents.

<sup>172</sup> Relevant local authorities were awarded £92.6 million in Round 1 (source: DLUHC, [Levelling up fund: Round 1 successful bidders](#), October 2021), and £59.8 million in Round 2 (source: DLUHC, [Levelling up fund round 2: Successful bidders](#), January 2023).

<sup>173</sup> DLUHC, [Levelling Up the United Kingdom](#), DLUHC, February 2022.

<sup>174</sup> P Brandily et al., [Beyond Boosterism: Realigning the policy ecosystem to unleash private investment for sustainable growth](#), Resolution Foundation, June 2023.



## ...and empowered local leadership

Time and money are clearly necessary to set the BUA on a higher productivity course, but are they sufficient? We point to one final, critical condition for success: strong local leadership. There is ample evidence that policy uncertainty reduces firms' perceived returns to investment, choking off the supply of private capital that a more productive city region so desperately requires.<sup>175</sup> But alongside this, local leadership is also required to bring the public onside by presenting a clear vision for growth, and providing demonstrable gains for local people that convince them of the case for change.<sup>176</sup>

In part, this is linked once again to funding modalities: local authorities have faced uncertainty around their finances for an extended period of time. Central government makes extensive use of grants, for example: local authorities in Birmingham city region were in receipt of at least 42 distinct grants for current and capital spending in 2022-23 alone.<sup>177</sup> Moreover, the approach to Levelling Up taken so far – where local government competes for several small pots – has continued adding uncertainty to capital budgets. The newly announced 'Trailblazer' devolution deal for the West Midlands Combined Authority (WMCA) is clearly a significant step in the right direction, treating them in the same way as government departments for the purposes of the next Spending Review.

Devolution, however, must extend beyond how spending decisions are taken to more extensive power to raise revenue: real local economic leadership requires fiscal devolution. The importance of that for local leadership is shown in numerous examples of 'turnaround cities' globally, where it enables areas to drive forward a strategy without constantly seeking central-government permission.<sup>178</sup> A future paper in the Economy 2030 project will set out what form of fiscal devolution would be needed to accompany our vision for making Britain's twin cities great again.<sup>179</sup>

A higher-productivity future for the BUA beckons. But the scale of change needed to reach that end is large; the breadth of issues that require simultaneous attention is wide. It can be done – if national politicians concentrate their efforts, and local politicians are empowered to embrace the disruption involved. It's time Britain put its 'twin second cities' centre-stage.

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<sup>175</sup> See, for example: S Baker, N Bloom & S Davis, [Measuring Economic Policy Uncertainty](#), The Quarterly Journal of Economics, November 2016; N Bloom et al., [Investment and Subjective But Uncertainty](#), BFI Working Paper Series, 2022; T Hassan et al., [Firm-Level Political Risk: Measurement and Effects](#), Quarterly Journal of Economics, 2019. S Kumar, Y Gorodnichenko & O Coibion, [The Effect of Macroeconomic Uncertainty on Firm Decisions](#), Econometrica, forthcoming, provides evidence of the causal impact of uncertainty on investment using a survey of firms and randomised informational treatments.

<sup>176</sup> T Burchardt, T Goatley & L Judge, [Talking trade-offs: Deliberations on a higher-productivity future for the Birmingham and Greater Manchester urban areas](#), Resolution Foundation, forthcoming.

<sup>177</sup> See also: Local Government Association, [Fragmented funding: The complex local authority funding landscape](#), LGA, September 2020.

<sup>178</sup> S Frick et al., [Lessons from successful 'turnaround' cities for the UK](#), Resolution Foundation, 2023.

<sup>179</sup> A Breach, S Bridgett & O Vera, [In Place of Centralisation: A Devolution Deal for London, Greater Manchester, and the West Midlands](#), Resolution Foundation, forthcoming.

## Annex 1

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### Explaining productivity differences across place

This annex summarises analysis that explains productivity gaps between areas in the UK, and the changes that might be needed to narrow the productivity gap between Birmingham and London. We also include similar analysis for Manchester – the subject of a companion piece to this Birmingham report. More details of the analysis can be found in an earlier Economy 2030 report, “Bridging the Gap” (hereafter: BTG).<sup>180</sup>

We use data for metro areas and non-metro NUTS3 regions. Our metro areas are based on the Eurostat-OECD definition which combines Functional Urban Areas and their commuting zone.<sup>181</sup> The Birmingham (or West Midlands) Metro Area covers Birmingham, Dudley, Sandwell, Solihull, Walsall and Wolverhampton boroughs (and notably excludes Coventry). The Manchester metro area includes the territory of the Greater Manchester Combined Authority as well six neighbouring local authorities in Cheshire and Derbyshire. We use these definitions to make consistent comparisons across space for functional economic areas based on economically meaningful flows of workers and because of data constraints. In the text below, all references to ‘Manchester’, ‘Birmingham’, and ‘London’ designate the respective Eurostat-OECD metro area.

#### The productivity performance of Manchester and Birmingham metro areas

One commonly used measure for comparing economies is labour productivity: the amount of output produced per worker. As explained in more detail in Box 10, we use a version of this measure – Gross Value Added (GVA) per job – and refer to it as ‘productivity’.

Despite their size – across the metro and non-metro areas of the UK, Manchester has the 2nd largest number of jobs after London, and Birmingham the 3rd largest – the two metro areas have relatively low productivity levels. As shown in Table A1, in terms of GVA per job (averaged over 2017-2019), Manchester ranks 28th out of the 98 UK metro areas in our dataset, with productivity 30 per cent lower than in London. Birmingham ranks 47th, with productivity 33 per cent lower than in London. As discussed in Section 1, this is surprising given the UK’s strong comparative advantage in tradeable services that should benefit bigger cities, where those productive industries usually cluster. This is also surprising by

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<sup>180</sup> P Brandily et al., *Bridging the gap: What would it take to narrow the UK’s productivity disparities?*, Resolution Foundation, 2022.

<sup>181</sup> A Moreno-Monry, M Schiavina & P Veneri, *Metropolitan areas in the world. Delineation and population trends*, Journal of Urban Economics, 2021.

international standards, with other large European cities usually performing well relative to their own countries.<sup>182</sup>

TABLE 1: An overview of the economies of Manchester, Birmingham and London

Metro area	(1) GVA/job [Rank]	(2) Relative to London [Gap]	(3) Number of jobs [Rank]	(4) Graduate share [Rank]	(5) Capital/job [Rank]	(6) TFP
Manchester	£52,337 [28]	70.6% [30%]	1,882,661 [2]	36.7% [42]	£109,250 [75]	-£391
Birmingham	£49,825 [47]	67.2% [33%]	1,193,078 [3]	29.6% [86]	£106,199 [79]	£2,567
London	£74,120 [4]	100% [.]	8,631,014 [1]	49.0% [5]	£134,867 [31]	£1,989

NOTES: For all columns, rank is compared to the 98 (out of 106) metro and non-metro regions for which capital data is available.

SOURCE: GVA data is from ONS Subregional productivity, number of jobs and graduate share are from ONS Annual Population Survey, capital is from ONS experimental regional gross fixed capital formation and authors' calculations.

## The underlying factors of productivity

To account for these differences in productivity, BTG considered the role of five factors identified by the literature as key determinants of area level productivity: the size of the local economy, its levels of human, physical and intangible business capital, and its 'total factor productivity' (or TFP). All else equal, we expect each of these factors to have a positive effect on productivity. For example:

- A larger local economy generates agglomeration economies – a catch-all term for the productivity advantages that firms gain when they locate in places with lots of other firms and lots of workers.

<sup>182</sup> P Brandily et al., Bridging the gap: What would it take to narrow the UK's productivity disparities?, Resolution Foundation, 2022.

- Education and skills, often referred to as human capital, boost worker productivity.
- Physical capital (e.g. machinery, computers, buildings) and intangible capital (e.g. design, branding, R&D), also make labour more productive.
- TFP captures all the other factors that make labour more productive. TFP differences may arise for many reasons: for example, because firms use different technologies or organisational practices in different areas, or because specific local policies enhance the efficiency of factors of production).

### BOX 10: Data definition and sources

We need to have some way of measuring each of these concepts to analyse their role in explaining spatial differences in productivity. Our approach is as follows:

- We use total employment to capture the size of the local economy.
- We measure differences in human capital using the share of the working age population with a degree-level qualification.
- We measure differences in physical and intangible capital using estimates of local capital stocks constructed from newly available data on differences in investment across areas. (The data appendix in BTG describes how we construct these estimates.)
- Finally, TFP is defined as the difference between actual and predicted productivity, based on area size and levels of human and business capital. We explain how this is constructed below.

These measures come with caveats. Human capital can take many forms, including hard-to-measure aspects (such as talent), many of which are not captured by holding a formal degree. Our capital stock data relies on assumptions about the initial stock, depreciation rates in the economy and so on. In our main results, used to develop the scenarios used in this paper, we also focus on a measure of total capital stocks that ignores the difference between physical and intangible capital.

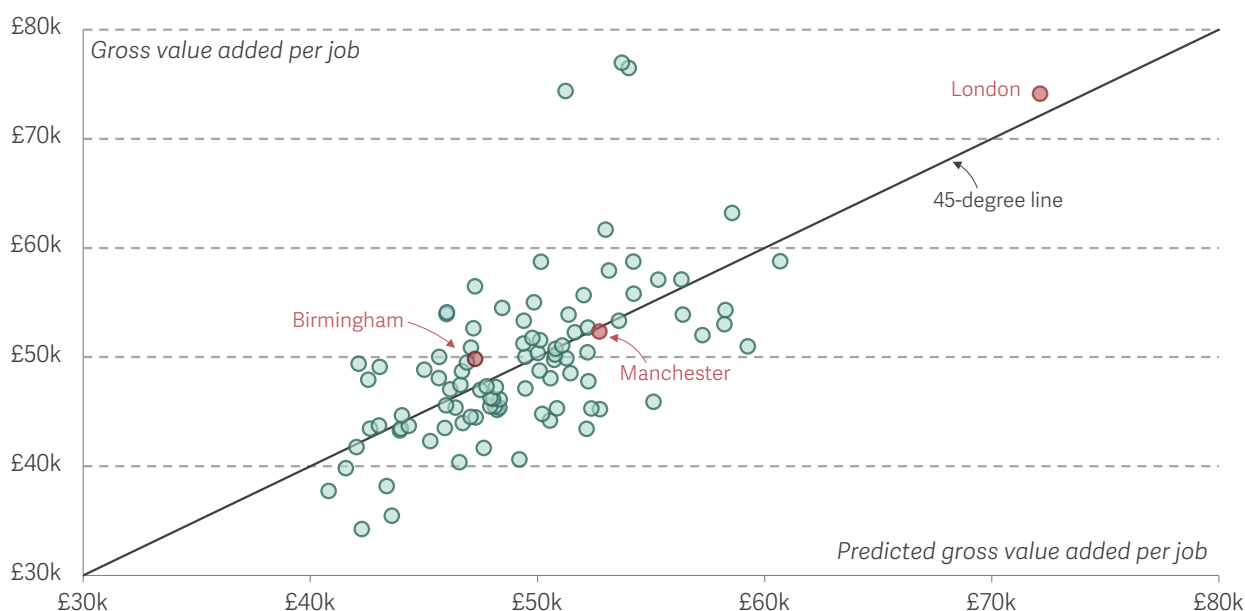
Despite these caveats, the literature has shown that the coarse measures we rely on are reasonable approximations and, as we show below, they go a long way in accounting for spatial disparities in productivity.

The exact definitions are as follows:

- Spatial units: 98 areas with data (out of 106 in total), defined as OECD metro areas or NUTS3 for non-metro areas.

- Productivity: GVA/job. 2017-2019 average. ONS, Subregional productivity in the UK.
- Size: number of jobs. 2017-2019 average. ONS, Annual Population Survey.
- Human capital: share of working age population holding a degree-level qualification. 2017-2019 average. ONS, Annual Population Survey.
- Capital stock: total or asset-specific capital stock in 2019. Asset type: buildings and structures, ICT equipment, transport equipment, intangible assets – including R&D – and other tangible assets. Consolidated from gross fixed capital formation using permanent inventory method over 1997-2019 (see the data appendix in BTG for details.). ONS, Experimental regional gross fixed capital formation (GFCF) estimates by asset type: 1997 to 2020, 2022.

Columns (3) to (6) in Table 1 summarise the size, the levels of human and business capital, and TFP. Despite being the 2nd and 3rd biggest areas in terms of number of jobs, Manchester and Birmingham rank 75th and 79th in capital intensity, and 42nd and 86th in graduate share, respectively, suggesting that both rank low in both 'human capital' and capital stock measures.



TFP is negative (–£392, to be precise) in Manchester indicating that, on average, we should expect an area the size of Manchester, and with its level of human and business capital to be slightly more productive than Manchester actually is – with a predicted GVA/job of £53,023 (101 per cent of measured). On the contrary, in Birmingham, TFP is +2,567 – Birmingham is more productive than we would predict, based on its size and levels of

human and business capital.

## A regression model

We used regression analysis to quantify the separate impacts of size and human and business capital (aggregating physical and intangible, as explained above) on productivity. This amounts to an accounting approach, where we seek to explain the measured productivity of a given place by its size and levels of each of the input factors summarised in columns (3) to (5) of Table A1.

We can also extend the model to include the three 1-by-1 interactions between these factors. Doing so tells us about how the change in one input (e.g. an increase in the graduate share) has different effects in areas with different levels of the other inputs (e.g. whether additional skills increase productivity more in a larger or smaller area, or in an area with a higher or lower capital intensity). The interaction of graduate share and size means we are also allowing for the total stock of human capital to affect productivity. Given the emphasis in this report on the importance of the size of the pool of graduates, and because this interaction model explains more of the variation in productivity, we use this extended version of the model to generate the numbers used in the text.

## The model's explanatory power and measuring TFP

Models using just the size of the economy and human and business capital explain 40 per cent of the variance in local productivity level, and up to 55 per cent if we break down the different types of capital stock (which we do in BTG, but we do not use in the analysis here). Figure A1 illustrates the explanatory power of our preferred specification by contrasting the actual level of productivity observed in each area – on the vertical axis – and the productivity level of the same area predicted by the local levels of each factor (i.e. number of jobs, graduate share, total capital per worker, and their interactions) – on the horizontal axis. The strong correlation indicates that the economic factors used in the regression can account for a large fraction of the actual gap in productivity across places.

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### FIGURE 52: Differences in size, human capital and capital stocks explain up to half of the differences in productivity across areas

Actual and fitted gross value add per job, by area: Great Britain, 2017-2019

NOTES: Unit of analysis are OECD metro areas and rural NUTS3 areas in Great Britain.

SOURCE: Analysis of ONS, Subregional productivity in the UK, Annual Population Survey and Experimental regional gross fixed capital formation.

As discussed above, we measure TFP as the difference between the predicted and observed productivity level. In Figure 52 this is represented by the vertical distance between the dot for the area and the 45-degree line. An area above the line – such as Birmingham – has a higher measured productivity than one would have expected (positive TFP). An area below the line – such as Manchester – has a lower measured productivity than one would have expected.

## The role of each factor

As well as looking at the overall explanatory power of the factors combined, we can also look at the role of individual factors using the estimated coefficients from the regression analysis. As explained above, these coefficients give an estimate for the effect of changing one input (e.g. size) holding the others constant. Table A2 reports the coefficients from two regressions (with and without the interactions).

We first consider the effect of each individual input in a simple model that excludes interactions (column (1)), before re-introducing our preferred specification (column (2)). The coefficients of the simple model imply the following:

A 1 per cent increase in total employment increases productivity by 0.05 per cent, all else being equal. Or, to put it another way, a doubling of total employment increases productivity by 5 per cent.

A 1 percentage point increase in graduate share increases productivity by 0.6 per cent, and a 1 per cent increase in capital stock increases productivity by 0.4 per cent. These estimates are broadly in line with existing research for the US that shows that a 1 per cent increase in the city share of college graduates is associated with a 0.5-0.7 per cent increase in output,<sup>183</sup> and that a 1 per cent increase in capital per job increases output by 0.3-0.7 per cent. It suggests, unsurprisingly, that areas with lots of graduates or with lots of capital per job are more productive.<sup>184</sup>

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<sup>183</sup> E Moretti, Worker's education, spillovers, and productivity: Evidence from plant-level production functions, *American Economic Review*, vol. 94(3), 2004.

<sup>184</sup> N Bloom et al., What drives differences in management practices? *American Economic Review*, vol 109 (5), 2019.

TABLE 2: Selected regression coefficients

	(1)	(2)
Coefficient associated with:	Base model	Interaction model
(A) Log number of jobs	0.0497*** (0.00936)	0.228 (0.873)
(B) Graduate share	0.558*** (0.159)	3.257 (14.97)
(C) Log capital per job	0.384*** (0.0831)	0.848 (0.766)
(A) * (C)		-0.0247 (0.0741)
(A) * (B)		0.281 (0.142)
(B) * (C)		-0.520 (1.261)
Constant	5.514*** (0.7597)	1.415 (10.823)
R <sup>2</sup>	42	43.6

## Interacting factors

As discussed above, our preferred specification introduces interactions between the three factors. This complicates the interpretation of each individual coefficient. For example, the first coefficient must now be interpreted as the effect of increasing the number of jobs by one percent in an area with no graduates and no capital per worker. Obviously, such an area does not exist, and the impact of increasing the number of jobs by one percent for an area such as Manchester is equal to the sum of the direct effect of Manchester's size (row 1 in column (2)), and its size interacted with the local capital per worker (row 4) and with the local graduate share (row 5).

The interaction of size and graduate share in column (2) of Table A1 is positive, which means that larger areas are more productive, and even more so if the are areas with a high graduate share. Conversely, the interaction with the capital stock is negative: this is indicative of the fact that areas with high capital per worker tend to be smaller and specialized (e.g. in car production).

In short, the interaction model gives a more detailed description of productivity across cities. It shows the importance of graduate workers for the productivity of big areas. This result is in line with the literature which shows how recent growth in cities has been



driven by high-skilled jobs in tradable service industries. Those very productive and fast-growing sectors tend to cluster in big areas.

## Change over time and robustness

In BTG, we compared the results at the end of the 2010s to those from the mid-2000s. Data limitations become more pronounced in the initial period, and results should be interpreted with caution. With this caveat in mind, the results showed that the same key factors matter over the whole period. Results also showed an increase over time in the importance of size and skills, as well as in the role of intangible capital. We think this is in line with the growing importance of high-skilled tradable services, which are concentrated in cities and have driven recent productivity gains.

## Closing the gap: scenarios for Birmingham

We can use the model to generate estimates of the changes needed to narrow the gap between Birmingham and London to 25 per cent. Table 3 below shows how this translates into changes in GVA/job. Starting from its initial level (column (1)), productivity in Birmingham metro area would need to increase to £55,600 GVA/job. This is equivalent to a productivity increase of 11.6 per cent in the Birmingham metro area.

TABLE 3: Target productivity increase for Birmingham

Metro area	(1) GVA/job	(2) Target GVA/job (change)	(3) Productivity increase
Birmingham	49,825	55,600 (+5,775)	11.6%

The regression analysis helps quantify what it would take to reach this target. In the regression, a rise in productivity can happen in one of three ways:

- changes in the local inputs (size, skills or capital) of the different places;
- changes in the part of productivity that is unexplained by size, skills or capital (TFP); and,
- changes to the importance of these different factors (e.g., graduate share may become more important due to technological change).

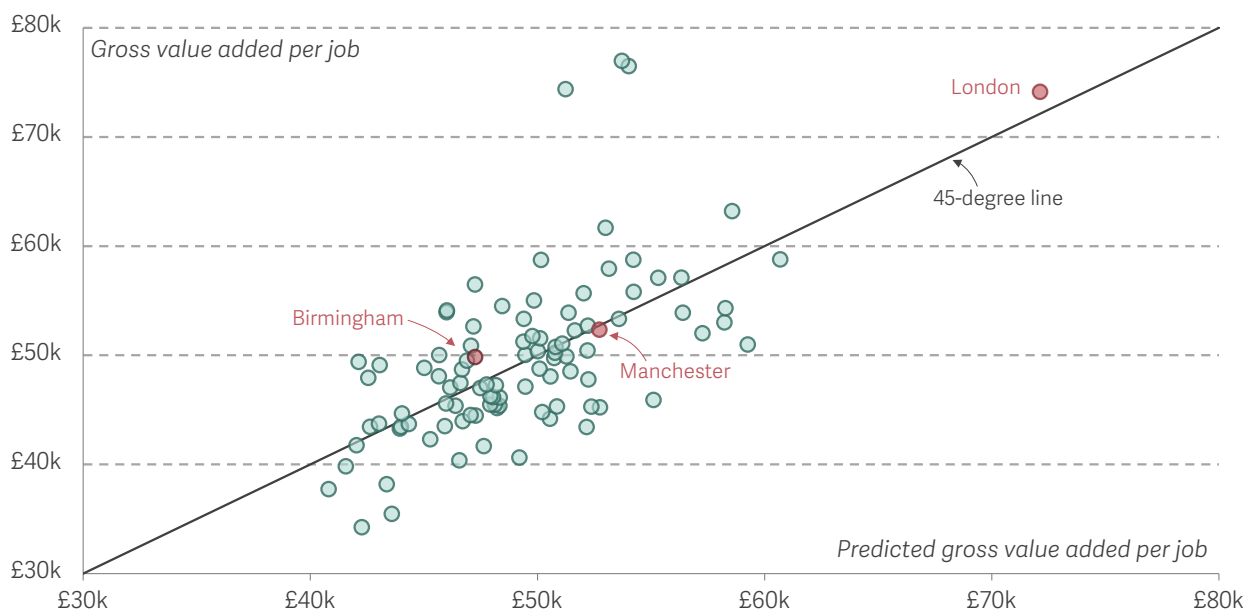
Here, we focus on what changes would be needed in terms of inputs (the first channel) assuming that structural change in Birmingham eliminates its TFP advantage. This simplification may overestimate the changes needed in Birmingham, but we think this conservative approach is justified because it recognizes the limitations of TFP measurement and abstracts from the need to take any stance about the future evolution of TFP in Birmingham. The sections of this report we discuss strategies that could increase TFP, and this would generate additional productivity benefits over and above our scenario. For example, if TFP post-structural transformation remained the same as current TFP (+£2,567 GVA per job) then our scenario would result in a 21.5 per cent gap to London. In a similar fashion, while recognising that the importance of size, skills and capital can change over time (the third channel), we ignore this in our analysis as we have no way of deciding what those changes might involve.

Focusing on changes in inputs, we can consider three scenarios for the city: capital only, capital plus graduate (intensive), and capital plus graduate (extensive). Graduate (intensive) assumes that any necessary increases in skills come from ‘upskilling’ of the current population (i.e. training people, or replacing current residents with degree holders). Graduate (extensive) assumes that this happens by attracting graduates from other areas in the UK. These two scenarios have different implications because the latter also involves an increase in the size of the economy, which will in itself increase productivity. In the report, we call the Graduate (extensive) scenario ‘balanced scenario’.

TABLE 4: **Scenarios**

Scenario: 25% gap	(1) Lever	(2) Change	(3) Population change	(4) Additional graduates
(1) Capital only	Capital/job	+60%	Zero	Zero
	Grad. Share	No change		
	Population	No change		
(2) Graduate (intensive)+ (1)	Capital/job	+20%	Zero	+108.4k
	Grad. Share	+9.5pp		
	Population	No change		

(3) Graduate (extensive)+ (1)	Capital/job Grad. Share Population	+20% +9pp +14.5%	+165.4k	+165.4k
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The first row of Table 4 considers changes needed in the capital-intensive strategy. In this scenario, the number of workers and the share of graduates in Birmingham remain the same. To achieve the desired change in productivity, our model predicts that capital per worker would need to increase by 60 per cent, reaching £169,918 per job. This is a huge increase, which would rank Birmingham in the top 5 most capital-intensive areas in the UK (up from 79th currently). This seems unrealistic, not only in terms of the extent of the increase, but also because areas with this level of capital intensity are usually smaller and specialised in specific capital-intensive sectors, such as in typically seen in Scottish regions. Large metropolitan areas, with their more diversified, services-orientated economies, rarely attain this level of capital intensity. London, for example, currently has only the 31st highest capital intensity.

The second row of Table 4 considers a scenario where both capital intensity and the share of graduate workers increase at the same time, but area size is held constant (so all the change in graduates comes from 'upskilling'). To achieve the desired change in productivity would involve a scenario where capital per worker increases by 'only' 20 per cent (to £127,438) and the graduate share increases by 9.5 percentage points from 29.6 per cent to 39.1 per cent. These magnitudes are more realistic, and would see Birmingham rise to 40th place in capital intensity (above Breckland, and below Perth and Kinross or Glasgow) and at the 32th rank in graduate share (just above Exeter and below Newport – 39.7 per cent – or Milton Keynes – 40 per cent).

As discussed in the main text, the most unrealistic thing about this scenario is the assumption that the graduate share in Birmingham can be increased sufficiently through the 'upskilling' of the local workforce, at least in the short to medium run. Hence, in the third row of Table A4 we alter the scenario by considering a case where all the new graduates move to Birmingham from elsewhere. As discussed above, a second key difference between the second and third scenario is that the population of Birmingham now increases, which in turn has a positive effect on productivity through the 'size' component of our model. In this scenario, because of that positive effect, the graduate share only needs to increase by 9pp. This would involve 165,400 new graduate workers moving to Birmingham.

Figure 53 represents the impact of the changes in inputs involved in this third scenario. The first bar on the left-hand side displays current productivity in Birmingham as measured in our data. As explained above, we assume that Birmingham has no TFP advantage after this structural change, so this in effect lowers productivity when this level of TFP is applied to current Birmingham productivity. This change is represented in the second bar, which accounts for this decline in TFP. The third, fourth and fifth bar represent the main channels through which Birmingham's productivity increases in

our model. The 20 per cent increase in capital intensity increases GVA/job by £3,104. Increasing the graduate share has two positive effects: a direct effect from a larger high-skilled labour market and an indirect effect from the positive interaction of high-skilled workers and more capital-intensive production process. In total, those add £5,029 GVA/job. Finally, the increase in Birmingham's size, due to increased numbers of graduates, adds an extra £349 GVA/job. These numbers suggest that the higher graduate share and the higher capital intensity generate 60 per cent and 36 per cent of the total change, respectively. These magnitudes show the importance of those two channels in an effective strategy, although the exact number here should not be over-interpreted (because it is subject to the order in which we change the inputs).

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**FIGURE 53: Greater capital intensity and more graduates are both important in raising Birmingham's productivity**

Contribution to change in GVA per worker from different input factors, under hypothetical scenario

SOURCE: Analysis of ONS, Subregional productivity in the UK, Annual Population Survey and Experimental regional gross fixed capital formation.

# THE ECONOMY 2030 INQUIRY

SHAPING A DECADE OF CHANGE

The UK is on the brink of a decade of huge economic change – from the Covid-19 recovery, to exiting the EU and transitioning towards a Net Zero future. The Economy 2030 Inquiry will examine this decisive decade for Britain, and set out a plan for how we can successfully navigate it.

The Inquiry is a collaboration between the Resolution Foundation and the Centre for Economic Performance at the London School of Economics. It is funded by the Nuffield Foundation.

**For more information on The Economy 2030 Inquiry, visit**  
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