

Policy Report Series

Townscapes

A Universal Basic Infrastructure for the UK

By Diane Coyle, Stella Erker and Andy Westwood

FUTURE



This report is authored by:

Prof Diane Coyle

Bennett Institute for Public Policy

Stella Erker

Bennett Institute for Public Policy

Prof Andy Westwood

The University of Manchester

Acknowledgements

Coyle and Westwood acknowledge funding from The Productivity Institute, Grant Number ES/V002740. They are grateful to our colleagues Michael Kenny and Owen Garling for their comments on an earlier draft.

About the Bennett Institute for Public Policy

The Bennett Institute for Public Policy is one of the UK's leading public policy institutes, achieving significant impact through its high-quality research. Our goal is to rethink public policy in an era of turbulence and inequality. Our research connects the world-leading work in technology and science at the University of Cambridge with the economic and political dimensions of policymaking. We are committed to outstanding teaching, policy engagement, and to devising sustainable and long-lasting solutions.

More information: www.bennettinstitute.cam.ac.uk

Contents

List of tables and figures	2
1. Introduction	3
2. Methodology	7
3. Findings	8
3.1 Levels of universal basic infrastructure across local authorities and over time	8
3.2 Levels of universal basic infrastructure in different types of places	20
3.3 Comparing universal basic infrastructure availability in Germany and England	26
4. Implications	30
4.1 Universal basic infrastructure in 'left behind' places	30
4.2 Universal basic infrastructure in growing places	31
5. Funding and governing universal basic infrastructure	34
6. Conclusion	41
References	42
Appendices	46
Appendix 1. Description of data sources used for England	46
Appendix 2. Description of data sources used for Germany	48
Appendix 3. Comparison of richer vs. poorer places (per 100,000 population)	50
Appendix 4. Comparison of higher vs. lower population density places (per 100,000 population)	55
Appendix 5. Comparison of higher vs. lower population growth places (per 100,000 population)	60

List of tables and figures

List of tables

Table 1. Characteristics of selected places in England	21
Table 2. Characteristics of selected places in England and Germany	26
Table 3. Top 20 local authorities by debt	35
Table 4. Gap between relative funding and relative need (%) between 2022 and 2023	37

List of figures

Figure 1. Percentage of premises capable of receiving download speeds of at least 30 Mbps in England in 2023	5
Figure 2. Change in physical infrastructure availability between 2014 and 2023 (per 100,000 population)	8
Figure 3. Change in social infrastructure availability between 2014 and 2023 (per 100,000 population)	10
Figure 4. Change in private infrastructure availability between 2014 and 2023 (per 100,000 population)	13
Figure 5. Availability of infrastructure between 2014 and 2023 (per 100,000 population)	16
Figure 6. Comparison of richer vs. poorer places between 2014 and 2023	22
Figure 7. Comparison of higher vs. lower population density places between 2014 and 2023	24
Figure 8. Comparison of higher vs. lower population growth places between 2014 and 2023	25
Figure 9. Availability of infrastructure in England and Germany (per 100,000 population)	27
Figure 10. Pharmacy closures and openings in England between 2014 and 2023	30
Figure 11. Percentage of homes sold in 2022 with following services within quarter mile radius	33
Figure 12. Gap between relative funding and relative need (%) by socioeconomic deprivation in England between 2022 and 2023	36
Figure 13. Gap between relative funding and relative need (%) for all services between 2022 and 2023	36

1. Introduction

There are too many people in the UK living in places where their economic opportunities and quality of life have fallen far behind the more prosperous parts of the country. Whether in terms of transport links or well-paying jobs or local amenities, they have been ‘left behind’. The phenomenon is both entrenched and politically significant, with the votes expressing discontent with extreme spatial inequalities described as ‘the revenge of places that don’t matter’.¹ It has prompted an extended political debate, including the publication of the 2022 Levelling Up White Paper.² But the fortunes of the ‘left behind’ places have not improved in the face of headwinds from the pandemic or the energy shock and cost of living crisis. Whatever policy interventions have been implemented in recent years – or for that matter further in the past – have not narrowed the gaps between thriving and declining parts of the UK, whose geographic inequalities are extreme among OECD countries.

Geography is not destiny. Although it does not happen often, growth trajectories of regions or towns do change. Places cannot change overnight, and may be starting from an undesirable position, but they can build out from their existing capabilities.³ This report explores how that might happen through adequate investment in universal basic infrastructure (UBI). The term is an obvious analogy with the popular idea of a universal basic income but is a more effective and less contentious intervention: individual incomes cannot buy a good bus service or a better school locally, and while higher income means people can spend more, the money will not be invested for the future and may not stay local. By contrast, universal basic infrastructure builds on existing policies and is by construction rooted in localities.

We take an expansive view of infrastructure to include what is increasingly termed social infrastructure. In a discussion of the way the Indian state of Kerala had gone from being among the poorest to the richest in the country, Amartya

Sen observed that its government’s focus on quality health and education provision was key, given the “critical importance of social infrastructure in facilitating economic growth”. He added: “The role of infrastructure – physical and social – in economic performance has been a neglected subject in policymaking”.⁴ The problems places face are collective, not (only) individual. Our focus on infrastructure is because its collective provision is a cost-effective and high impact way to support individuals. What’s more, it is redistributive, as public assets are more important to people who own few private assets. Spending on public services in the UK is more redistributive than taxation.⁵

However, a recent NIESR (National Institute of Economic and Social Research) study highlights the low levels of public investment in infrastructure in the UK, where it tends to be lower than in comparator countries such as Germany, France and the US.⁶ The authors note that the UK as a whole suffers from chronic underinvestment, but that long-term average net public investment fell from an average of 4.5% of GDP between 1949 and 1978 to just 1.5% between 1979 and 2019. This has had a significant, long-term effect on the state of local public infrastructure and has exacerbated regional inequality and poor productivity.

The National Infrastructure Commission has also highlighted the need for greater investment in infrastructure overall as well as for more local control over it. In its 2023 Progress Review it stated that “part of the reason for the UK’s slow growth is low levels of investment”, and that “since 1980, the UK has invested, as a share of GDP, less than comparator countries such as France, Germany, and the United States”.⁷

The Levelling Up White Paper acknowledged the importance of long-term investments in human capital, infrastructure and R&D (or knowledge capital) alongside the importance of improving social infrastructure.⁸ It used

1. Andrés Rodríguez-Pose, ‘The Revenge of the Places That Don’t Matter (and What to Do about It)’, *Cambridge Journal of Regions, Economy and Society* 11, no. 1 (March 2018): 189–209, doi:<https://doi.org/10.1093/cjres/rsx024>.

2. The Department for Levelling Up, Housing and Communities, ‘Levelling Up the United Kingdom’, 2022, <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>.

3. Penny Mealy and Diane Coyle, ‘To Them That Hath: Economic Complexity and Local Industrial Strategy in the UK’, *International Tax and Public Finance* 29, no. 2 (April 2022): 358–377, doi: <https://doi.org/10.1007/s10797-021-09667-0>.

4. Amartya Sen, *The Country of First Boys: And Other Essays* (Oxford: Oxford University Press, 2015).

5. Kate Ogden and David Phillips, ‘The Distribution of Public Service Spending’, 2023, <https://ifs.org.uk/publications/distribution-public-service-spending>.

6. Jagjit S Chadha and Issam Samiri, ‘Macroeconomic Perspectives on Productivity’, Working Paper No. 030, 2022, <https://www.productivity.ac.uk/research/macroeconomic-perspectives-on-productivity/>.

7. National Infrastructure Commission, ‘Infrastructure Progress Review 2023’, 2023, <https://nic.org.uk/studies-reports/infrastructure-progress-review-2023/>.

8. Michael Kenny and Tom Kelsey, ‘Townscapes: The Value of Social Infrastructure’, 2021, <https://www.bennettinstitute.cam.ac.uk/publications/social-infrastructure/>.

the 'six capitals'⁹ framework to help identify the institutions and assets characterising thriving places, and for supporting the communities that do not have these assets. But the White Paper stops short of identifying specific institutions and services places need if they are to turn around their fortunes. This report contributes to filling the gap. It asks, what are the public and private sector infrastructure, both physical and social, that will help struggling places turn around, and thereby contribute to national economic prosperity? What is the minimum offer that everyone in every place should have, in terms of the investments that create opportunities for them to lead the lives they want, whether that is getting into a job in the next town, or caring for family in a place with clean air and nice parks?

A universal basic infrastructure would require a per capita formula below which services may not fall: core local services and facilities could not be closed or reduced below minimum standards. It is an ambitious aim, going beyond basic services¹⁰ and rights¹¹. But it builds on these ideas of collective services and infrastructure and the importance of providing them not just for individuals but also for improving local and national economic growth and connecting communities to wider economic and industrial strategies.¹²

In this report we explore what UBI would mean in terms of public services, such as a minimum number of General Practitioners (GPs) and health centres given population or distance to a local police station (and a specified number of local police officers). Other public services to consider include schools, technical education and libraries. Private provision needs to be in scope too. We look at bank branches, cash machines and post offices, at specified and affordable bus and rail services. Broadband (fixed or mobile) connectivity is fundamental now that government services and indeed education are online. We set out how the different levels of government might approach, specify and deliver basic infrastructure, which would need to align to existing administrative boundaries; and how they might

begin to determine the relevant thresholds and populations of places where different elements might apply. We do not set out the exact formula or specific thresholds here but rather a framework through which others in central and local government might do so.

The universality is key: a minimum offer everywhere. There is obviously a trade-off with narrow economic efficiency in public provision. But we argue that public services must serve all of the public even if a strict Treasury efficiency calculus argues against it. Private companies providing utility-type services such as transport or broadband similarly should be required by their regulators to deliver minimum universal standards as part of their social licence to operate. School Multi Academy Trusts and merged further education college groups might similarly need to be required to take a 'place first' approach based on a certain level of provision in any given location.

The private sector provides some other community assets that form part of the social infrastructure, contribute to the health or otherwise of the high street and help shape people's identity and pride in their communities. Department stores, pubs and cinemas, theatres or sports clubs are examples. In coastal towns, we might add piers or funfairs and in post-industrial towns, it might be the iconic factory or mill buildings that still dominate local environments. These are often facilities where people come together. They are anchor assets with benefits that spill over into social and institutional capital, and they also bring footfall and spending to other businesses and services nearby. We and others have advocated for a power for all local authorities to establish a Community Asset Register, so they can identify and help fund certain specific important local assets that play a distinctive role for the community, and whose loss would contribute to a spiral of decline.¹³ If their owners fail to meet the required standards, the local authority could raise a supplementary business rate to fund maintenance, and in the last resort compulsory purchase powers at the declared rateable value. The Government's

9. Diane Coyle et al., 'Measuring Wealth, Delivering Prosperity', 2019, <https://www.bennettinstitute.cam.ac.uk/publications/measuring-wealth-delivering-prosperity/>.

10. Jonathan Portes, Howard Reed, and Andrew Percy, 'Social Prosperity for the Future: A Proposal for Universal Basic Services', 2022, <https://www.ucl.ac.uk/bartlett/igp/publications/2022/feb/social-prosperity-future-proposal-universal-basic-services-2017>.

11. Labour Party, 'A New Britain: Renewing Our Democracy and Rebuilding Our Economy', 2022, <https://labour.org.uk/wp-content/uploads/2022/12/Commission-on-the-UKs-Future.pdf>.

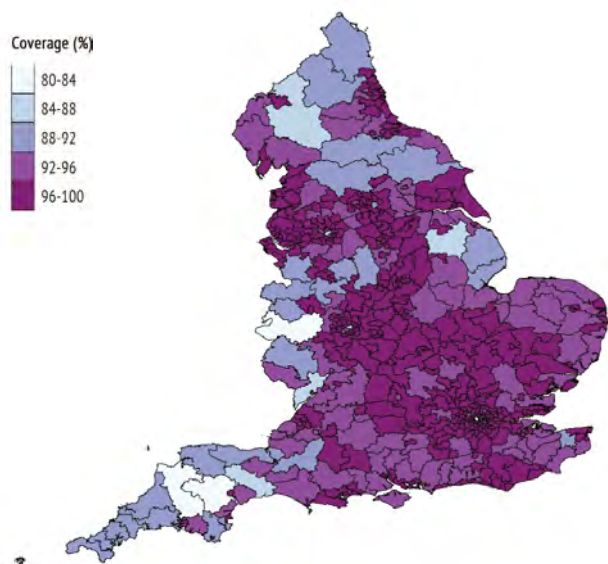
12. Industrial Strategy Commission, 'The Final Report of the Industrial Strategy Commission', 2017, <https://industrial-strategy-commission.sites.sheffield.ac.uk/>.

13. Plunkett Foundation, 'Keep It in the Community', 2023, <https://plunkett.my.site.com/keepinitinthecommunity/s/>.

current £150m over four years Community Ownership Fund recognises the merits of this approach.¹⁴ It needs scaling up.

In this report we set out the context for the introduction of universal basic infrastructure in the UK. We have had to be selective so have focused on regions we know well to help us interpret the findings, the North West and East of England, and on certain places within them. We selected some struggling places in each – and also looked at a few thriving places being held back by inadequate infrastructure. We look at how access to key hard and soft infrastructure assets compares among them, and also how it has been changing over time. We also identified some similar places in Germany (in the former East and in the Ruhr) for comparison. This follows the analysis set out in the Levelling Up White Paper, where Germany as a whole and specifically East Germany and the Ruhr are picked out as case studies.¹⁵ We are also interested in how infrastructure and the provision of certain services compare between a very centralised country (England) and a federal one (Germany).

Figure 1. Percentage of premises capable of receiving download speeds of at least 30 Mbps in England in 2023 ¹⁶



The headlines are that there is a very variable provision across the UK (represented by one indicator in Figure 1 below), that some key UK infrastructure has deteriorated significantly over time, and that on many measures, places in the UK compare unfavourably to similar places in Germany. There has been a noticeable decline in access to many elements of universal basic infrastructure in the places we explored; and there is an even more dramatic variation in the levels of access between places. Broadly speaking, provision is worse in poorer than richer areas, but it is also inadequate in more prosperous places that could grow and where housebuilding would have to occur for government policy targets to be achieved. The English locations also compare badly in terms of most of the elements of infrastructure with similar German locations. While these findings might not surprise, the size of the shortfalls in some places in England in terms of access to assets that will enable growth and jobs is perhaps startling. So too is the existence of a real 'postcode lottery' despite the supposed political aversion to large differences in provision across the country. This contrasts sharply to the selected places in Germany where, overall, there is not only greater provision of infrastructure but also greater consistency in provision across places, despite a more decentralised governance system.

After setting out the basic findings, we discuss the implications for policy in the UK: why do the differences matter? How would better infrastructure and services contribute to the local and national economy? What are the different needs of struggling and thriving places? What are the policy levers that can make a difference? Our argument is rooted in the need for productivity to increase across the UK, bringing with it higher living standards and faster potential growth that are essential to fund public services in the future.

14. The Department for Levelling Up, Housing and Communities (DLUHC), 'Community Ownership Fund', 2023, <https://www.gov.uk/government/publications/community-ownership-fund-prospectus>.

15. Department for Levelling Up, 'Levelling Up the United Kingdom'.

16. Ofcom, 'Connected Nations Update: Spring 2023', 2023, <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/spring-2023>.

Finally, we consider the vital issues of governance and funding. Whose responsibility is provision of UBI? What is the role of the private sector, and of national, devolved and local government? What are the mechanisms for delivery and for accountability? Where does the money come from?

Achieving a minimum level everywhere will obviously take some time, so it will require far more patience in policy delivery than is usual in the UK.^{17 18} More important will be the commitment to a profound change in the distribution of decision-making power and to significant capital spending in places where the gap is the greatest between what people can access now and what is an acceptable minimum wage to enable places to grow. Growth trajectories of places can and do change, but require serious intent on the part of policymakers.

17. Diane Coyle and Adam Muhtar, 'Levelling up Policies and the Failure to Learn', *Journal of the Academy of Social Sciences*, 2022, doi: <https://doi.org/10.1080/21582041.2023.2197877>.

18. Emma Norris et al., 'Making Policy Stick: Tackling Long-Term Challenges in Government', 2016, <https://www.instituteforgovernment.org.uk/publication/report/making-policy-stick>.

2. Methodology

Universal basic infrastructure matters for people's quality of life, their economic opportunities, and the prosperity of the places they live in. We selected the component assets described in this report by considering their economic and social impact as documented in the academic literature.

To explore the availability of UBI, we selected three key indicators (see Box 1 below for their description).

Box 1.

Key indicators of universal basic infrastructure:

- **Physical infrastructure:** railway stations, bus stops and broadband connectivity.
- **Public/social infrastructure:** clinics and health centres; GP practices; hospitals; mental health centres and practitioners; dental care; first, primary and infant schools; state secondary state schools; further education establishments; police stations; libraries; and municipal parks and gardens.
- **Private infrastructure:** banks and building societies; cash machines; post offices; chemists and pharmacies; convenience stores and independent supermarkets; supermarket chains; museums; gymnasiums, sports halls and leisure centres; swimming pools; cinemas; theatres and concert halls; shopping centres and retail parks; restaurants; and pubs, bars and inns.

Public transport is essential to connect people to work, education, friends and family, cultural and leisure activities; it reduces congestion and greenhouse gas emissions;

and can stimulate growth and productivity locally.^{19 20 21} Moreover, evidence suggests that bus use is concentrated amongst lower household income groups, ethnic minorities, women and people aged 17 to 20 years and those over 70.²² Public transport infrastructure therefore also plays a vital role in tackling social exclusion and inequality. **Broadband connectivity** is key for facilitating economic growth and enabling access to critical public services like healthcare and education.²³ **Education** is critical for individual earnings, health, promoting social mobility and enhancing economic growth.^{24 25 26} **Health services** are needed to create the conditions people need to thrive physically and mentally;²⁷ health is an important component of human capital and poor health plays a role in long-term absence from the labour force. **Police stations** matter for crime outcomes as the visibility of police infrastructure deters criminal behaviour.²⁸ **Recreational and cultural services** are central to bringing people together and building meaningful relationships.²⁹

We also focused on a few places (Bedford, Blackpool, Bolton, Cambridge, Central Bedfordshire, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent) in two regions (North West and East of England) for reasons of tractability. We compared these places to a few areas in Germany (including Bautzen, Cottbus, Erfurt, Hagen, Halle (Saale) and Rostock) to illustrate how England performs against its European counterparts. Even this small sample enables some clear conclusions about the provision of UBI across time and place. The data series we used are available for locations across the UK, so it would be feasible to assemble a map of universal basic infrastructure for the whole country.

19. James Blagden and Will Tanner, 'Network Effects: Why Levelling up Demands a New Approach to Connectivity', 2021, <https://www.ukonward.com/reports/network-effects/>

20. Campaign for Better Transport, 'New Research Reveals 1 in 4 Bus Services Have Disappeared in a Decade – Urgent Action Needed', April 2022, <https://bettertransport.org.uk/media/04-April-2022-1-in-4-bus-services-cut/>.

21. Kate Ogden, David Phillips, and Max Warner, 'How Much Public Spending Does Each Area Receive? Local Authority Level Estimates of Health, Police, School and Local Government Spending' (London, 2023), doi: 10.1920/re.ifs.2023.0269.

22. National Audit Office, 'Improving Local Bus Services in England Outside London', 2020, <https://www.nao.org.uk/reports/improving-bus-services-in-england/>.

23. Jessica Dine, 'Enabling Equity: Why Universal Broadband Access Rates Matter', 2023, <https://itif.org/publications/2023/08/14/enabling-equity-why-universal-broadband-access-rates-matter/>.

24. Eric A. Hanushek and Ludger Woessmann, 'The Role Of Education Quality For Economic Growth', Policy Research Working Papers, 2013, doi:<https://doi.org/10.1596/1813-9450-4122>.

25. Helena Holmlund and Martin Nybom, 'Education and Social Mobility', Working Paper Series, 2023, https://ideas.repec.org/p/hhs/ifauwp/2023_018.html.

26. Michael Marmot et al., 'Health Equity in England: The Marmot Review 10 Years On', 2020, <https://www.health.org.uk/publications/reports/the-marmot-review-10-years-on>.

27. Ogden, Phillips, and Warner, 'How Much Public Spending Does Each Area Receive? Local Authority Level Estimates of Health, Police, School and Local Government Spending'.

28. Sebastian Blesse and André Diegmann, 'The Place-Based Effects of Police Stations on Crime: Evidence from Station Closures', Journal of Public Economics 207 (2022), doi: <https://doi.org/10.1016/j.jpubeco.2022.104605>.

29. Kenny and Kelsey, 'Townscapes: The Value of Social Infrastructure'.

3. Findings

In this chapter, we examine the distribution of key infrastructure in 11 local authorities in England between 2014 and 2023. These are: Bedford, Blackpool, Bolton, Cambridge, Central Bedfordshire, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent. In the **first section**, we illustrate how the availability of UBI assets varies across local authorities and over time. In the **second section**, we examine how UBI varies based on the characteristics of local authorities, including population density, population growth and economic prosperity. Finally, in the **third section**, we discuss how struggling places in England compare to similar places in Germany.

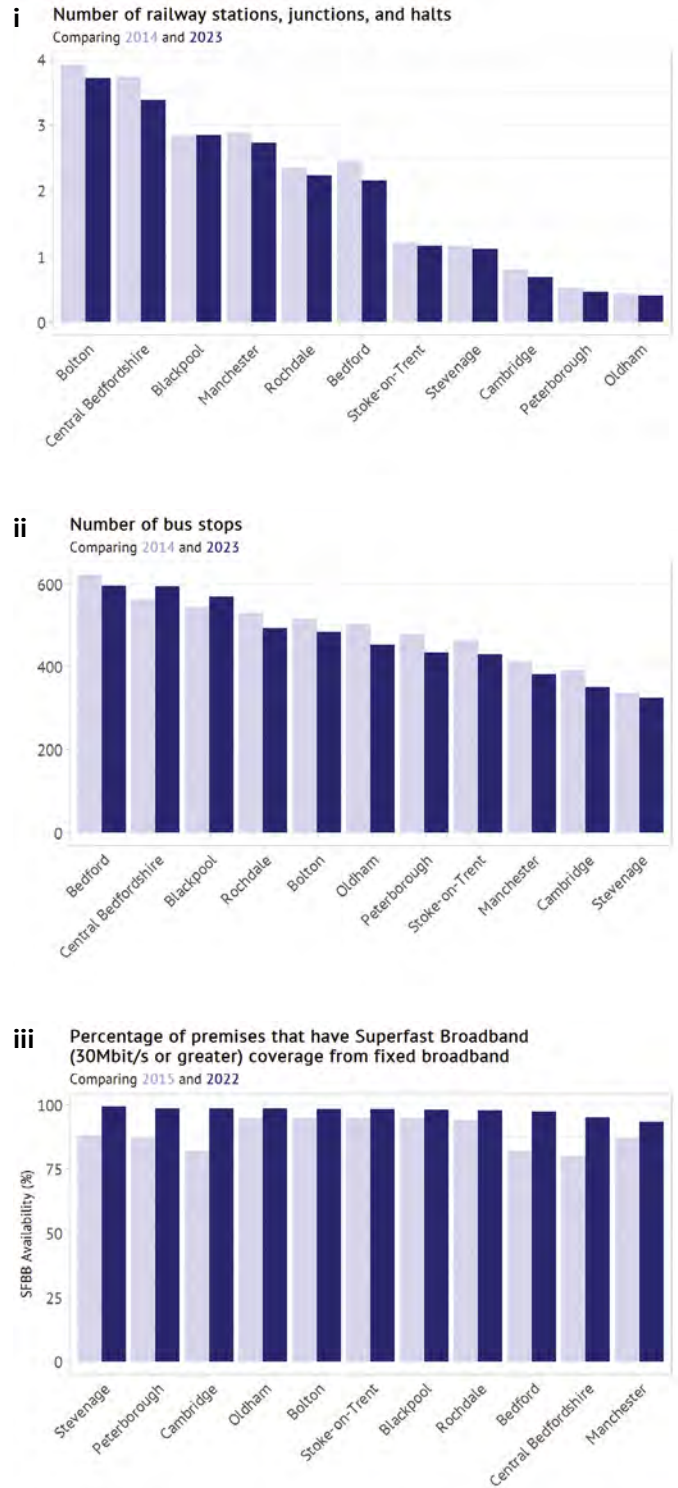
3.1 Levels of universal basic infrastructure across local authorities and over time

In this section, we examine the distribution of UBI across different local authorities between 2014 and 2023.

Physical infrastructure

Between 2014 and 2023, the availability of **public transport** has decreased across all the selected places (see Figure 2). Moreover, there is a striking variation in the availability of public transport which is discussed further below. On average, availability of public transport has been the highest in Central Bedfordshire, Bolton, Blackpool and Bedford, and the lowest in Cambridge and Stevenage (see Figure 5). For example, while Bedford, Central Bedfordshire and Blackpool, on average, have over 558 bus stops per 100,000 population, Stevenage and Cambridge, on average, have less than 382 bus stops available. Similarly, while Bolton and Central Bedfordshire, on average, have at least 3.51 railway stations per 100,000 population, this amounts to less than 1.14 in Cambridge and Stevenage.

Figure 2. Change in physical infrastructure availability between 2014 and 2023 (per 100,000 population) ^{30 31 32}



30. Ordnance Survey, 'Points of Interest', 2023, <https://www.ordnancesurvey.co.uk/products/points-of-interest#technical>.

31. Ofcom, 'Connected Nations Update: Spring 2023'.

32. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age', 2023, <https://www.nomisweb.co.uk/datasets/pestsyoala>.

Social infrastructure

Between 2014 and 2023, all local authorities reduced the availability of at least one type of **health service** (see Figure 3, panels 1–5). For instance, Blackpool, Central Bedfordshire, Stevenage and Stoke-on-Trent decreased their number of clinics and health centres, GP practices, hospitals and dental care treatments³³. Despite some improvements, substantial differences between places persist. Residents living in Cambridge, on average, have more access to basic health infrastructure than residents living in Blackpool, Bolton, Central Bedfordshire and Oldham (see Figure 5). For example, while there are, on average, 23.74 clinics and health centres per 100,000 population in Cambridge, there are just 7.66 in Central Bedfordshire. Similarly, while there are, on average, 3.81 hospitals per 100,000 population in Cambridge, there is less than one per 100,000 in Oldham, Central Bedfordshire and Bolton. Likewise, while there are, on average, 13.81 mental health centres per 100,000 population in Cambridge, there are less than 2.62 in Oldham, Bolton and Blackpool. Given the steep social gradient in life expectancy – the more deprived the area the shorter the life expectancy³⁴ – the paucity of health service infrastructure in poorer places is concerning.

Between 2014 and 2023, the availability of **education facilities** decreased across most local authorities under investigation (see Figure 3, panels 6–8). For instance, Oldham, Stevenage and Stoke-on-Trent saw a decrease in the number of primary, secondary and further education facilities over this period. Moreover, there are stark spatial differences in the provision of the different types of education providers. While Cambridge has the highest number of further education facilities (12.24 on average per 100,000 population), it is comparatively lacking in primary and secondary state schools. For instance, while Bedford, Bolton, Central Bedfordshire, Oldham and Rochdale have, on average, at least 30.22 first, primary and infant schools per 100,000 population, this amounts to only 19.32 in Cambridge. Similarly, Bedford and Central Bedfordshire have a comparatively high number of secondary state schools.

The number of **police stations** declined between 2014 and 2023 across all places, with Bolton being the only exception to this trend (see Figure 3, panel 9). Moreover, police infrastructure varies considerably across places. On average, the number of police stations has been the highest in Bedford and Stoke-on-Trent, with more than two police stations per 100,000 population, and the lowest in Bolton, Cambridge, Manchester, Oldham, Peterborough and Rochdale, with less than one police station per 100,000.

Perhaps surprisingly, the number of **libraries** has increased across most of the local authorities under investigation (see Figure 3, panel 10). Contrary to the prevailing notion of widespread closures, the Ordnance Survey data reveals that over the past decade, there have been more openings than closures in the UK: 160 local authorities have opened libraries, 77 local authorities closed libraries and 101 local authorities remained unchanged.

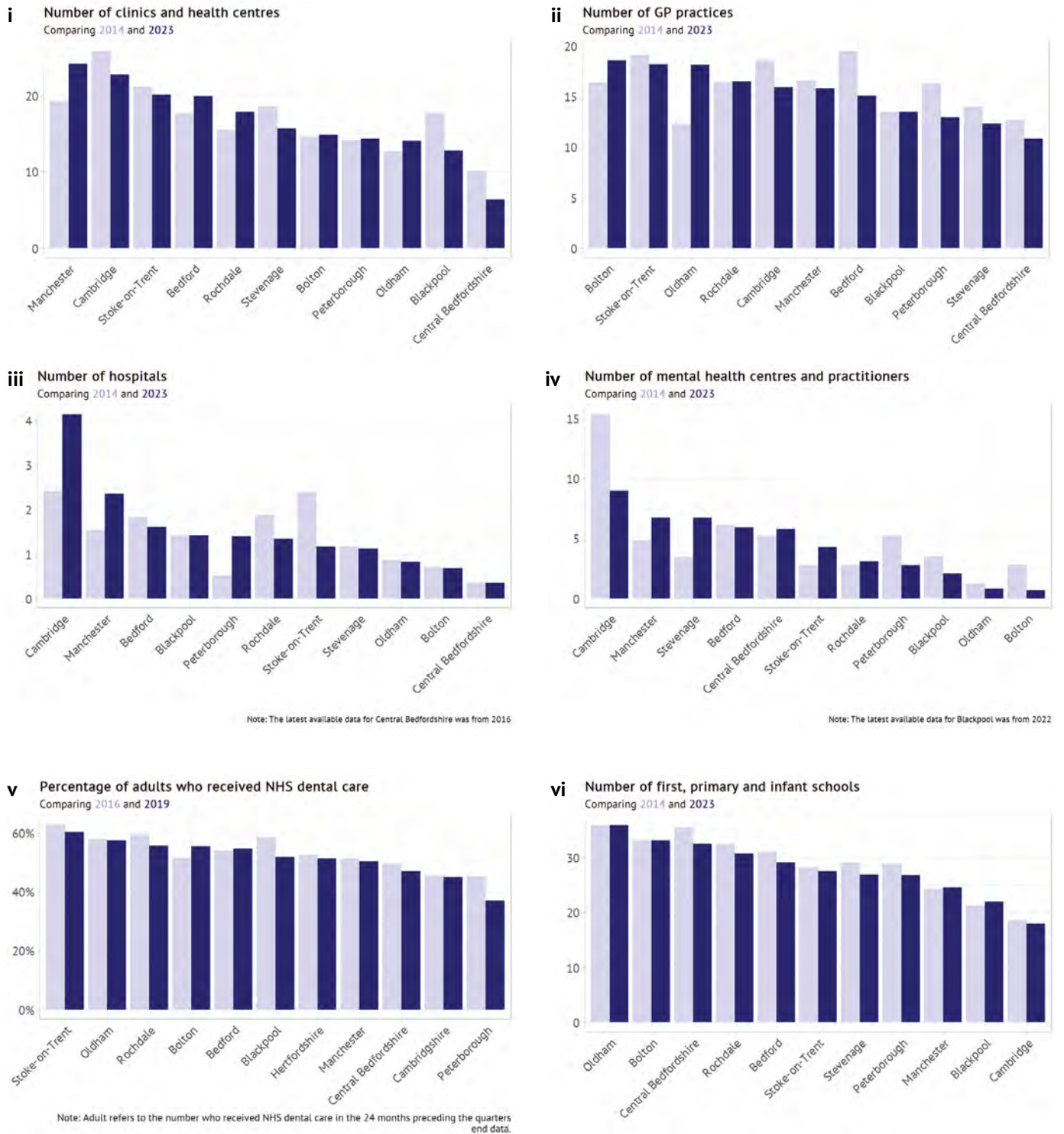
Finally, the number of **municipal parks and gardens** has decreased across all places under investigation, with Blackpool being the only exception to this trend (see Figure 3, panel 11).

The consistent pattern for each component of social infrastructure is general decline in provision between 2014 and 2023 (with exceptions) and huge variation across the selected places. Libraries are an interesting exception, as the number increased in most of our selected locations, contrary to the popular impression of large-scale closures. It is hard to think of a rationale for the wide differences in provision in most cases. Although there has been a shift to centralise hospital treatment in urban centres to provide high quality specialised treatments, one would expect this to be accompanied by more or at least no change in provision of clinic and/or GP surgeries in smaller places.

33. The decrease in the proportion of adults receiving NHS (National Health Service) dental treatment in our selected cases is consistent with the declining trend across England. Overall, in England, the number of adult patients who received NHS dental care decreased from 51.4% in December 2016 to 49.6% in December 2019 (NHS Dental Statistics for England).

34. Marmot et al., 'Health Equity in England: The Marmot Review 10 Years On'.

Figure 3. Change in social infrastructure availability between 2014 and 2023 (per 100,000 population) ^{35 36 37}



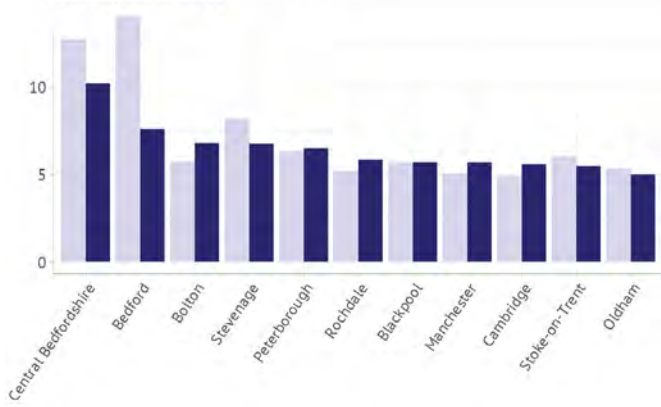
35. Ordnance Survey, 'Points of Interest'.

36. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age'.

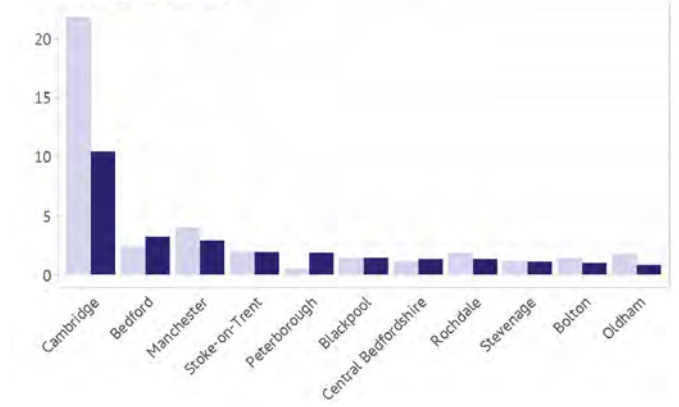
37. NHS Dental Statistics for England, 'NHS Dental Statistics for England Dashboard', 2022, <https://app.powerbi.com/view?r=eyJrljoiYTRIMzJiYTEtMTgwMi00ZTdiLTgzMWUtZGM5Y2NmMTI5MGE4IiwidCI6IjUwZjYwNzFmLWJiZmUtNDIxYS04ODAzLTY3Mzc0OGU2MjJlMmI0j0h9>.

Figure 3. continued

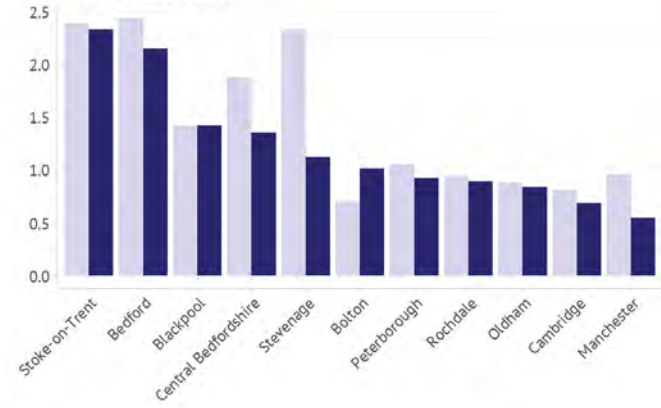
vii Number of secondary state schools
Comparing 2014 and 2023



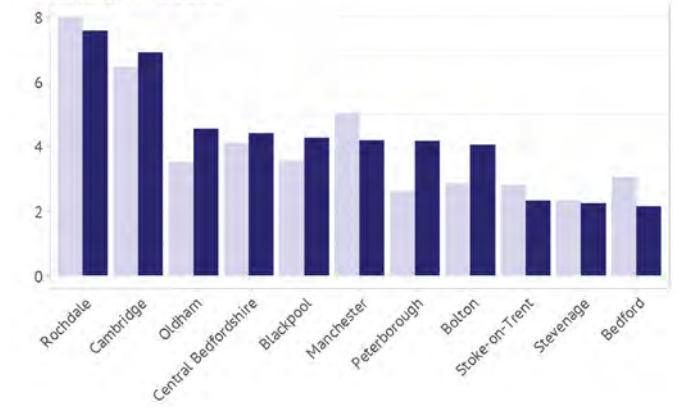
viii Number of further education establishments
Comparing 2014 and 2023



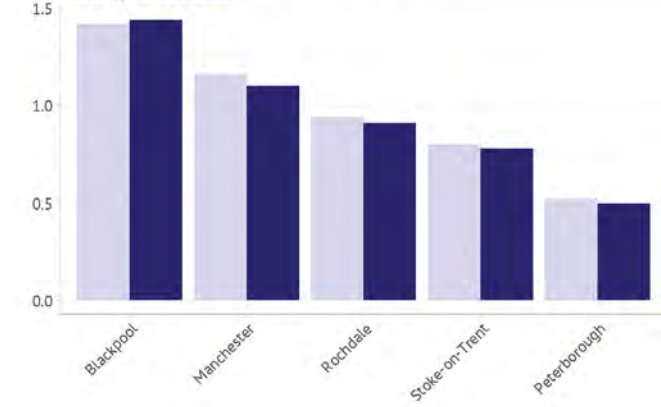
ix Number of police stations
Comparing 2014 and 2023



x Number of libraries
Comparing 2014 and 2023



xi Number of municipal parks and gardens
Comparing 2014 and 2018



Private infrastructure

Between 2014 and 2023, the availability of **banks and building societies, cash machines, post offices, pharmacies, supermarket chains, museums, swimming pools, cinemas, theatres and concert halls, and shopping centres and retail parks** have decreased across most places under investigation (see Figure 4). At the same time, the number of **convenience stores and independent supermarkets, gymnasiums, sports halls and leisure centres, restaurants and pubs, bars and inns** has increased for the most part. The removal of local access to bank branches and cash machines has been widely noted; although privately-run, these are an essential facility. Online banking is not enough for all people or occasions. There is also a large overlap between locations, especially rural ones, where bank branches have closed and those where either adequately fast broadband is unavailable or low-income populations do not have fast broadband and laptops at home. There have been pilot shared banking hubs in some locations³⁸ but this initiative has been slow to get off the ground; with only a handful operating across the whole country.

The decline in cultural amenities is also striking; although museums and leisure centres are both places where people can encounter each other during leisure time, they are not complete substitutes for each other. Beyond providing spaces for connection, the collections of physical objects that museums curate can be particularly important in connecting their local communities to the local, national and international stories that are important in creating and maintaining people's sense of belonging and pride in place.³⁹ Therefore, access to culture should not be a luxury good available in major urban locations only.

Figure 5 highlights both the variation across the selected places and the change over the decade in each of the different universal basic infrastructure indicators. It is worth noting that the impact of levels of access in some will depend on access to other assets; in particular, there will be a strong interaction between physical transport infrastructure and others. We collected data on bus stops, but bus timetables and reliability are also relevant. There has long been concern about rural bus routes⁴⁰ but suburban routes are also an issue. In a 2021 report Onward documented the large differences in transport provision (including cars) across the whole of the UK, evaluating transport in terms of the number of jobs that people in every area could reach.⁴¹ As Tom Forth of Data City has observed, there may be a trade-off between the number of bus stops in a given place and the number and frequency of services using them.⁴² Comparing services between different cities in England and the Netherlands, Forth finds that within 10km of Manchester there are 1.2 million people and 5,000 bus and rail stops but in Amsterdam there are similar numbers of people within a similar radius but only 2,000 stops. Comparing Manchester to London, he also finds that within 40km, per person there are 100% more bus stops and 30% more rail stations in the latter, suggesting that frequency and efficiency of such public transport also depends on focusing more services on fewer stops. Our data from Germany, discussed in section 3.3, appears to chime with his findings.

38. LINK, 'Eight New Banking Hubs Confirmed Following Closures', March 2023, <https://www.link.co.uk/about/news/eight-new-banking-hubs-confirmed-following-closures/>.

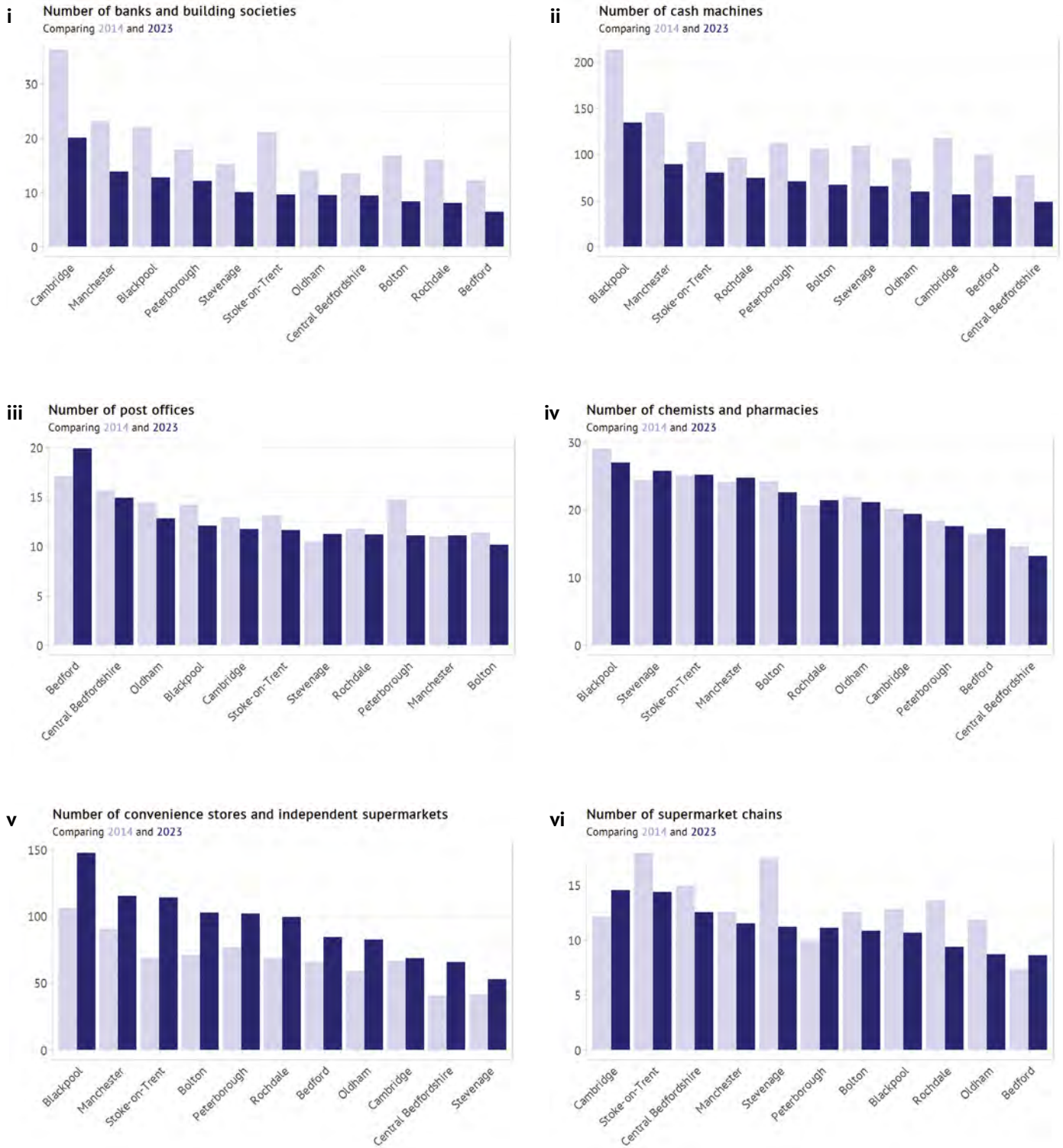
39. Steph Coulter, Owen Garling, and Rosa Marks, 'Townscapes: The Value of Museums' (Bennett Institute, Cambridge, forthcoming).

40. County Councils Network, 'Rural Bus Services at a "Historic Low", as New Report Reveals Urban Locations Received Two-Thirds of Flagship Government Funding', July 2023, <https://www.countycouncilsnetwork.org.uk/rural-bus-services-at-a-historic-low-as-new-report-reveals-urban-locations-received-two-thirds-of-flagship-government-funding/>.

41. Blagden and Tanner, 'Network Effects: Why Levelling up Demands a New Approach to Connectivity'.

42. Tom Forth [@thomasforth], 'Within 40km of Manchester, 5m People, 24k Bus Stops, 420 Rail Stops.', Twitter, August 2023, https://twitter.com/thomasforth/status/1687102102152318976?s=61&t=qkfD6DA_v-ZA02GiD8Ykhg.

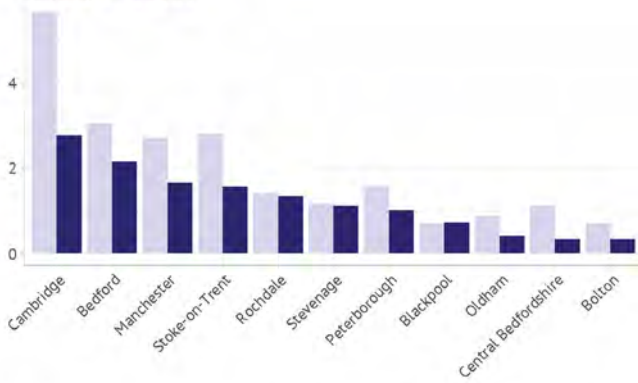
Figure 4. Change in private infrastructure availability between 2014 and 2023 (per 100,000 population)^{43 44}



43. Ordnance Survey, 'Points of Interest'.
44. Ordnance Survey.

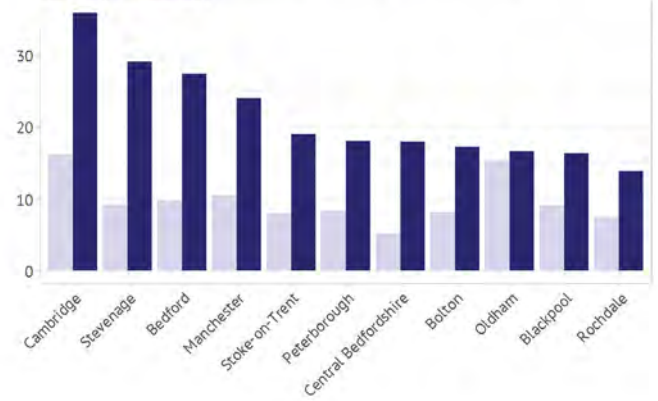
Figure 4. continued

vii Number of museums
Comparing 2014 and 2023

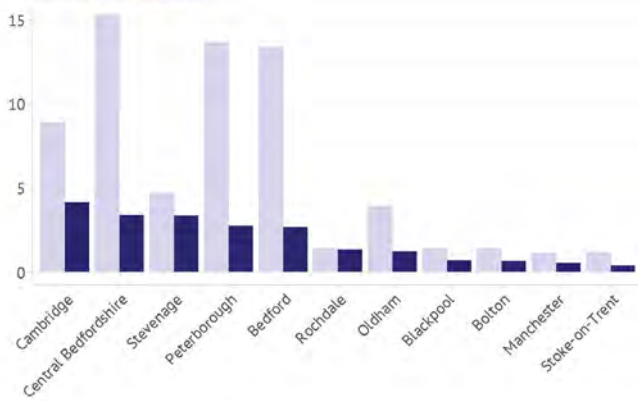


Note: The latest available data for Blackpool was from 2019 and for Peterborough from 2017

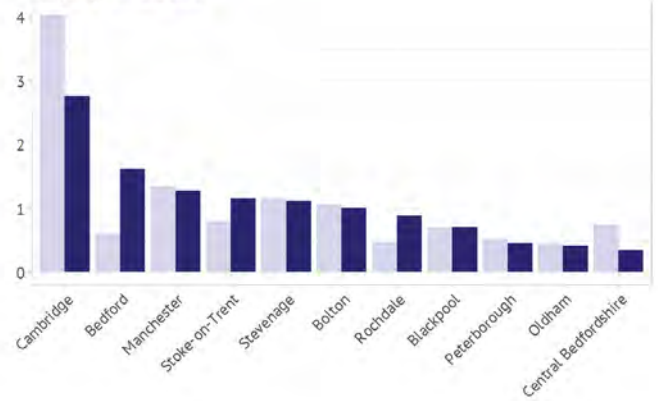
viii Number of gymnasiums, sports halls and leisure centres
Comparing 2014 and 2023



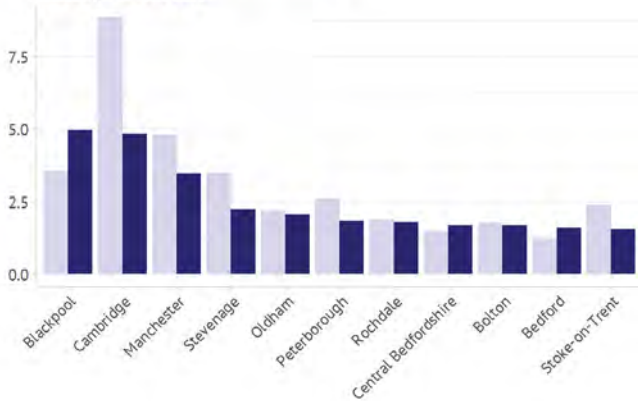
ix Number of swimming pools
Comparing 2014 and 2023



x Number of cinemas
Comparing 2014 and 2023



xi Number of theatres and concert halls
Comparing 2014 and 2023



xii Number of shopping centres and retail parks
Comparing 2014 and 2023

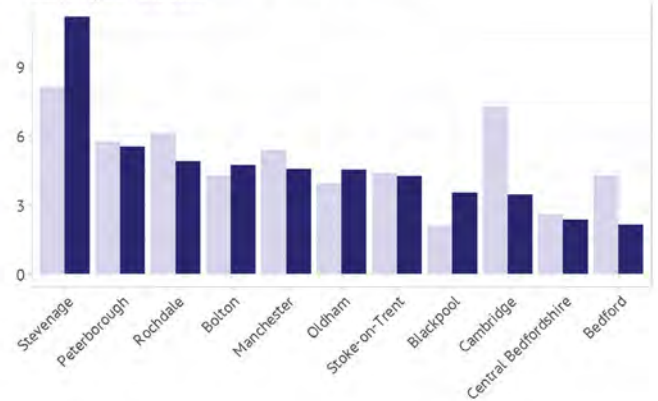
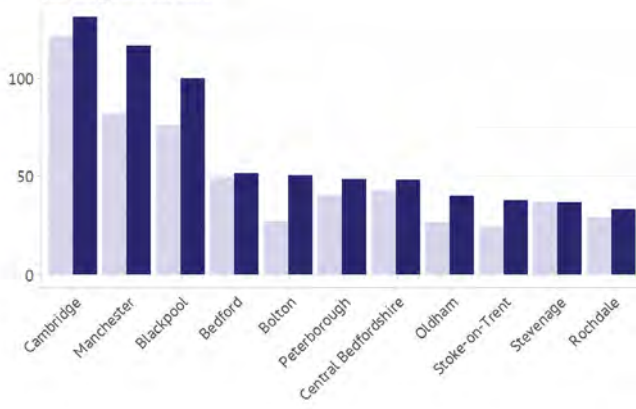


Figure 4. continued

xiii Number of restaurants
Comparing 2014 and 2023



xiv Number of pubs, bars and inns
Comparing 2014 and 2023

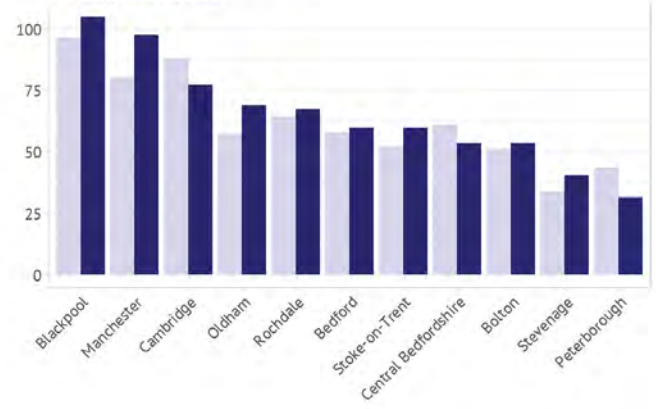
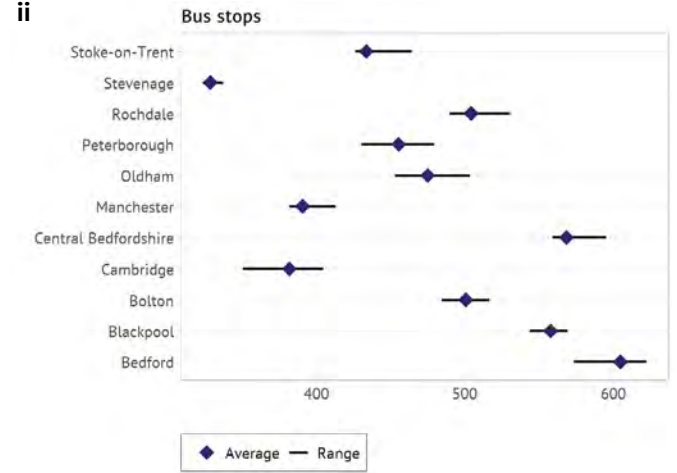
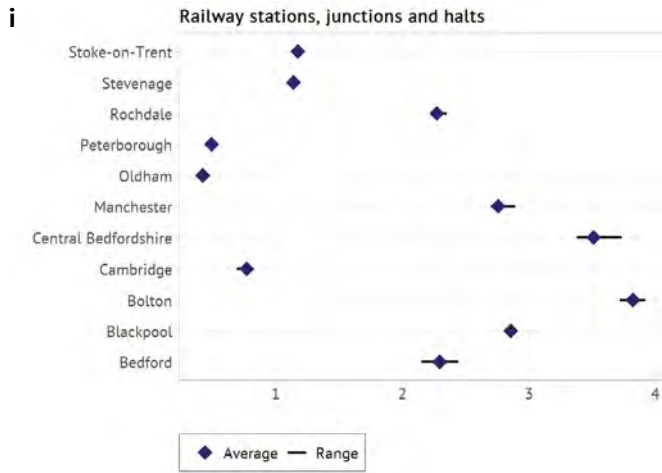
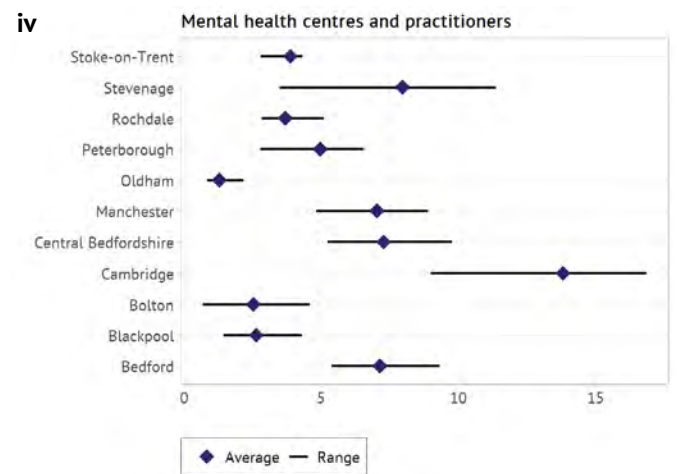
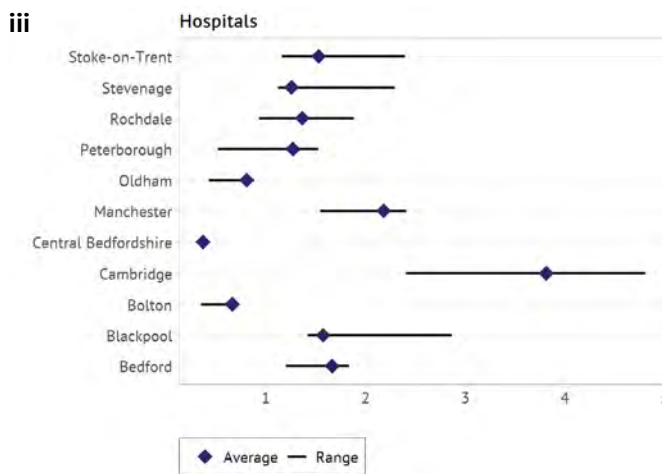
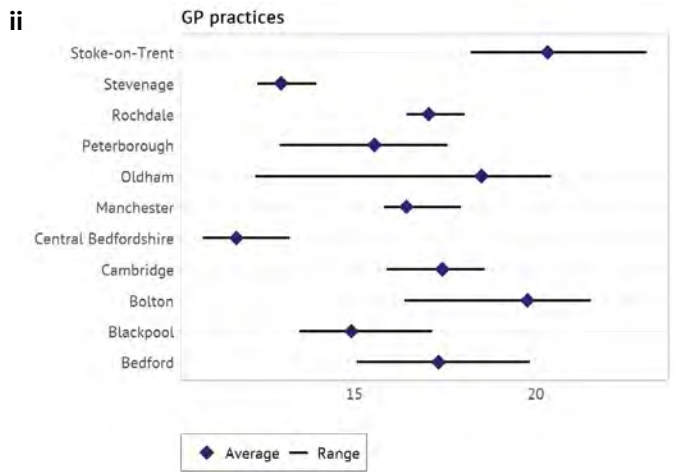
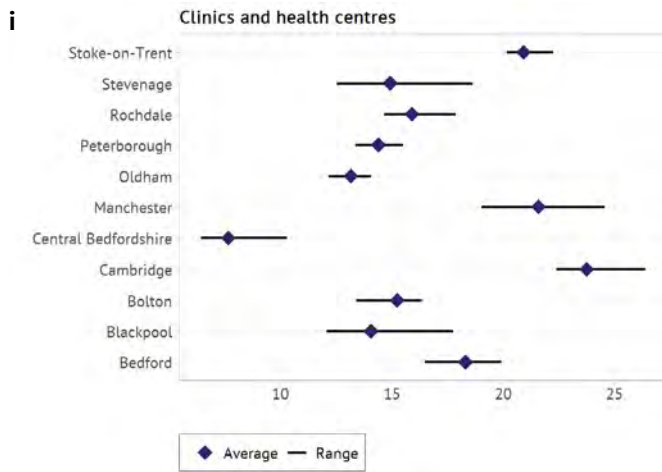


Figure 5. Availability of infrastructure between 2014 and 2023 (per 100,000 population) ^{45 46}

a) Physical infrastructure



b) Social/public infrastructure



45. Ordnance Survey.

46. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age'.

Figure 5. continued

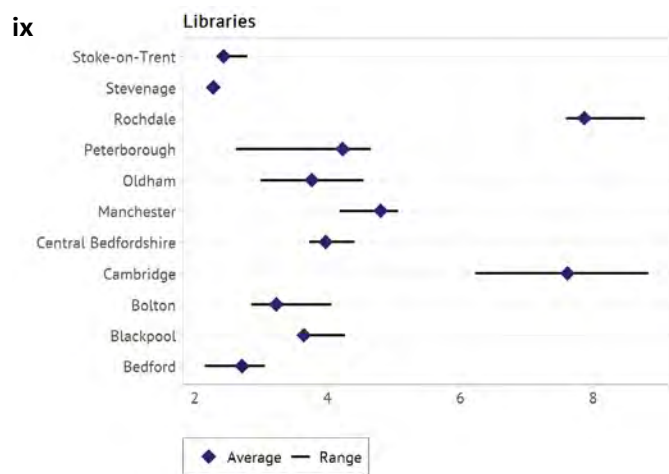
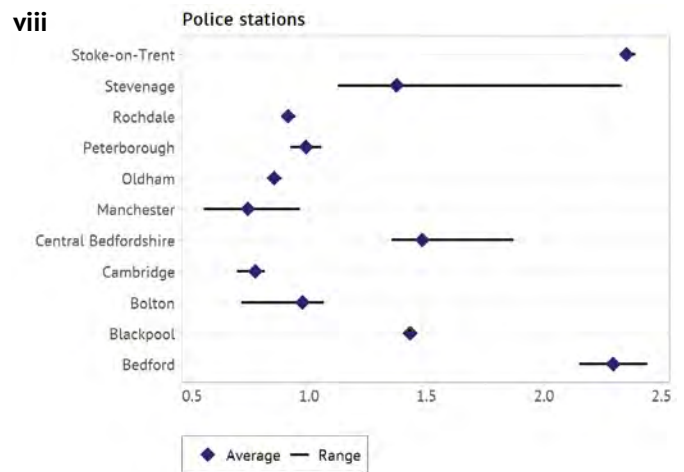
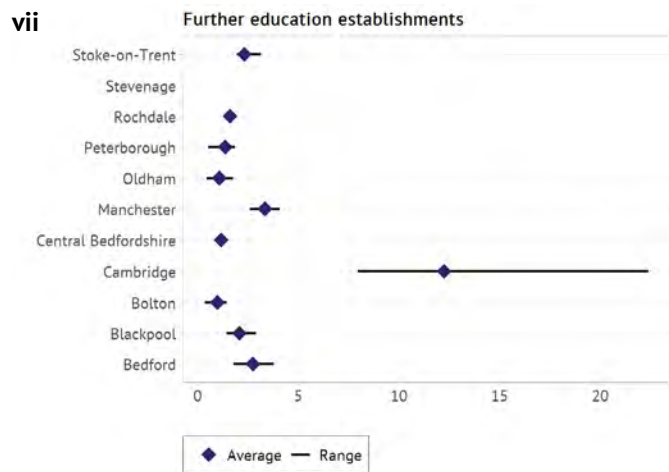
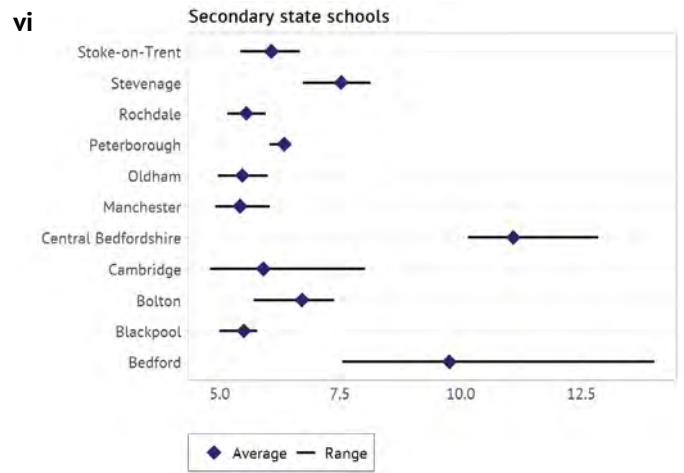
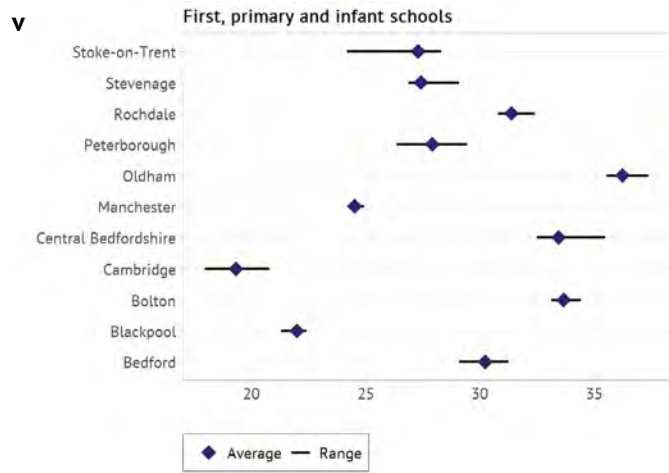


Figure 5. continued

c) Private infrastructure

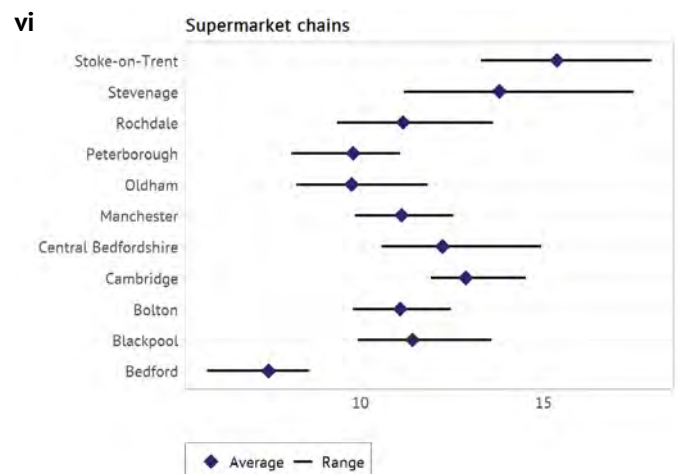
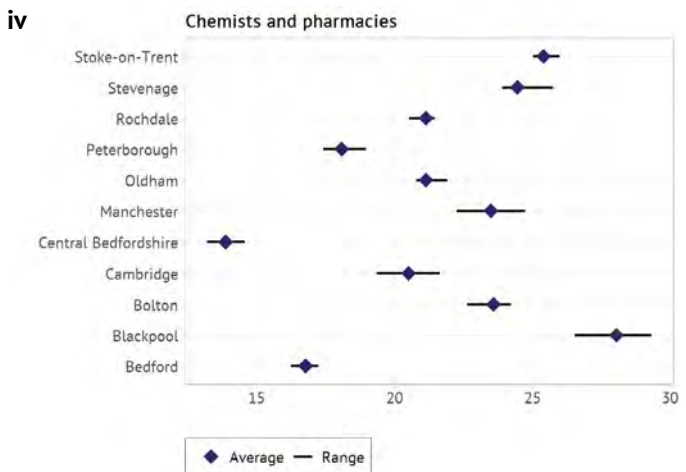
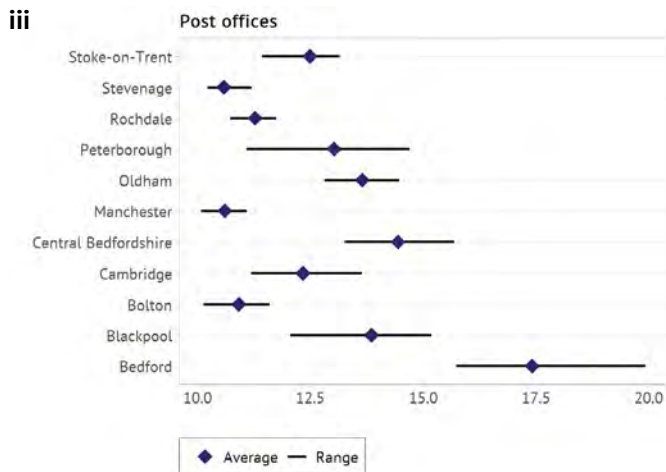
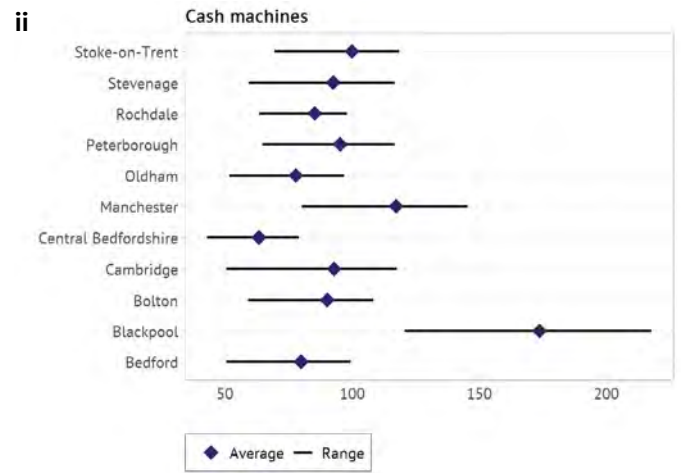
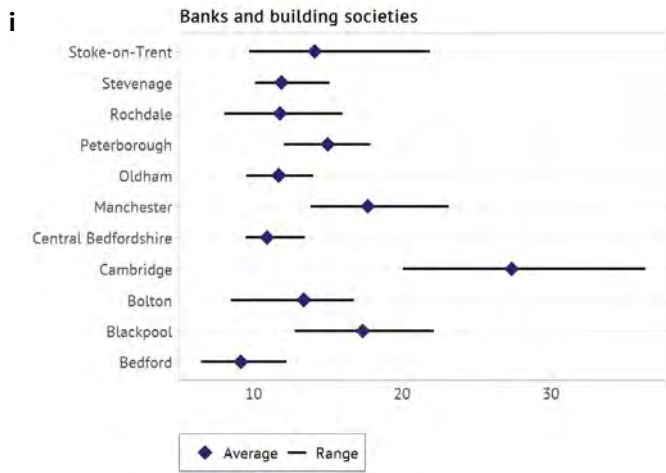


Figure 5. continued

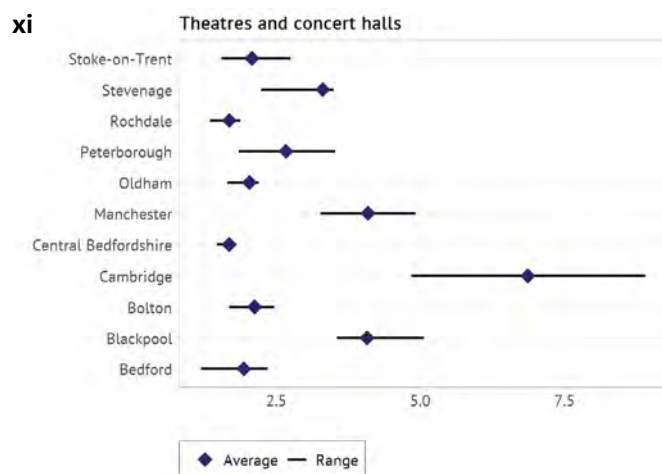
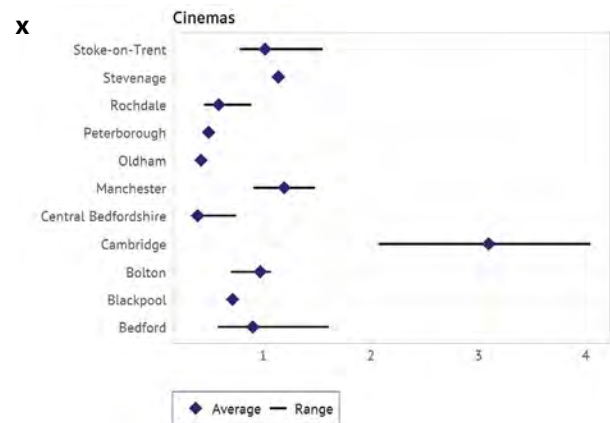
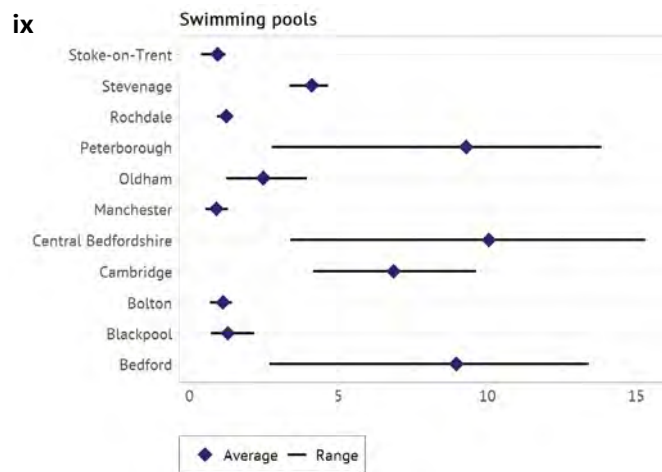
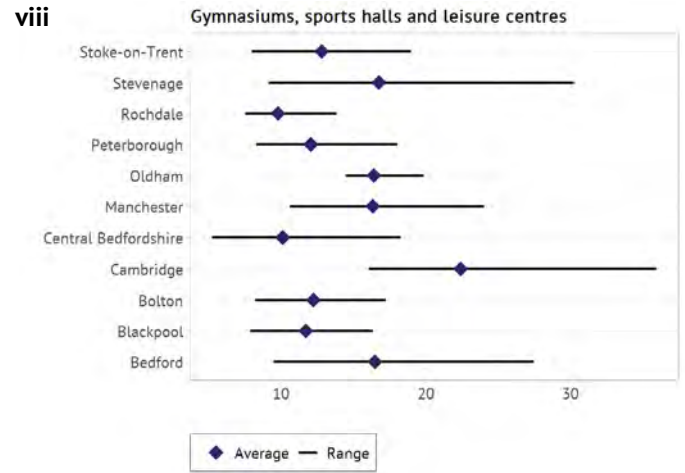
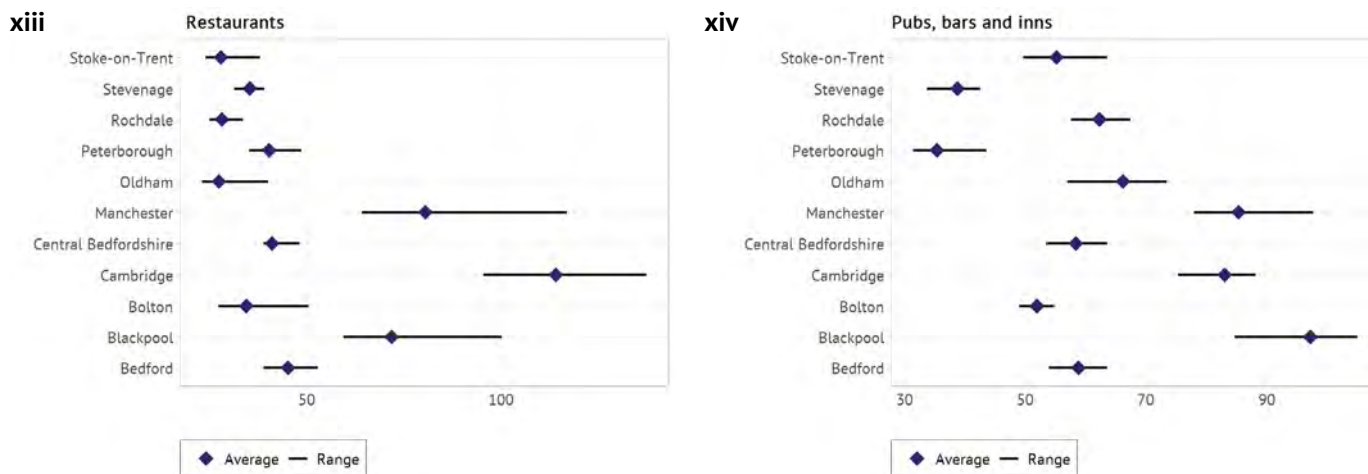


Figure 5. continued



3.2 Levels of universal basic infrastructure in different types of places

In this section, we examine which types of areas have more or less access to UBI assets. Here we focus on economic prosperity, population density and population growth (see Table 1 for area characteristics).

We classified Cambridge and Manchester as ‘richer places’ as they had the highest gross domestic product per head at current market prices in 2019.⁴⁷ The remaining Local authorities in our sample had values at or below Peterborough’s £36,513 (slightly above the UK national average of £32,904) and were therefore grouped as ‘poorer places’.

In locations across England in 2019, the population density was 432 people per square kilometre.⁴⁸ We classified Bedford and Central Bedfordshire as ‘lower population places’ as they fall below this value. The ‘higher population places’ consisted of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent, as they are above this value.

Between 2014 and 2021, the median population growth rate across all English local authorities was 3.86%.⁴⁹ We grouped Blackpool and Stoke-on-Trent as ‘lower population growth places’ as they fall below this value. We grouped the remaining places (Bedford, Bolton, Cambridge, Central Bedfordshire, Manchester, Oldham, Peterborough, Rochdale and Stevenage) as ‘high population growth places’ as they are above this value.

47. ONS, ‘Population Profiles for Local Authorities in England’, 2021, <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/populationprofilesforlocalauthoritiesinengland/2020-12-14>.

48. ONS.

49. Nomis, ‘Population Estimates - Local Authority Based by Single Year of Age’.

Table 1. Characteristics of selected places in England ^{50 51 52}

Area	GDP per head at current market prices per capita (£), 2019	Population density (people per km ²), 2019	Population growth rate (%) between 2014 and 2021
Bedford	28,926	364	13.27
Blackpool	23,099	3,999	0.04
Bolton	23,623	2,057	5.43
Cambridge	54,174	3,066	16.95
Central Bedfordshire	25,242	403	10.34
Manchester	47,891	4,781	5.98
Oldham	20,380	1,666	6.09
Peterborough	36,513	589	13.57
Rochdale	20,093	1,407	5.22
Stevenage	34,899	3,383	3.87
Stoke-on-Trent	26,788	2,743	2.82

Note: purple shading indicates 'higher' GDP per head at current prices, population density and population growth

Richer vs. poorer places

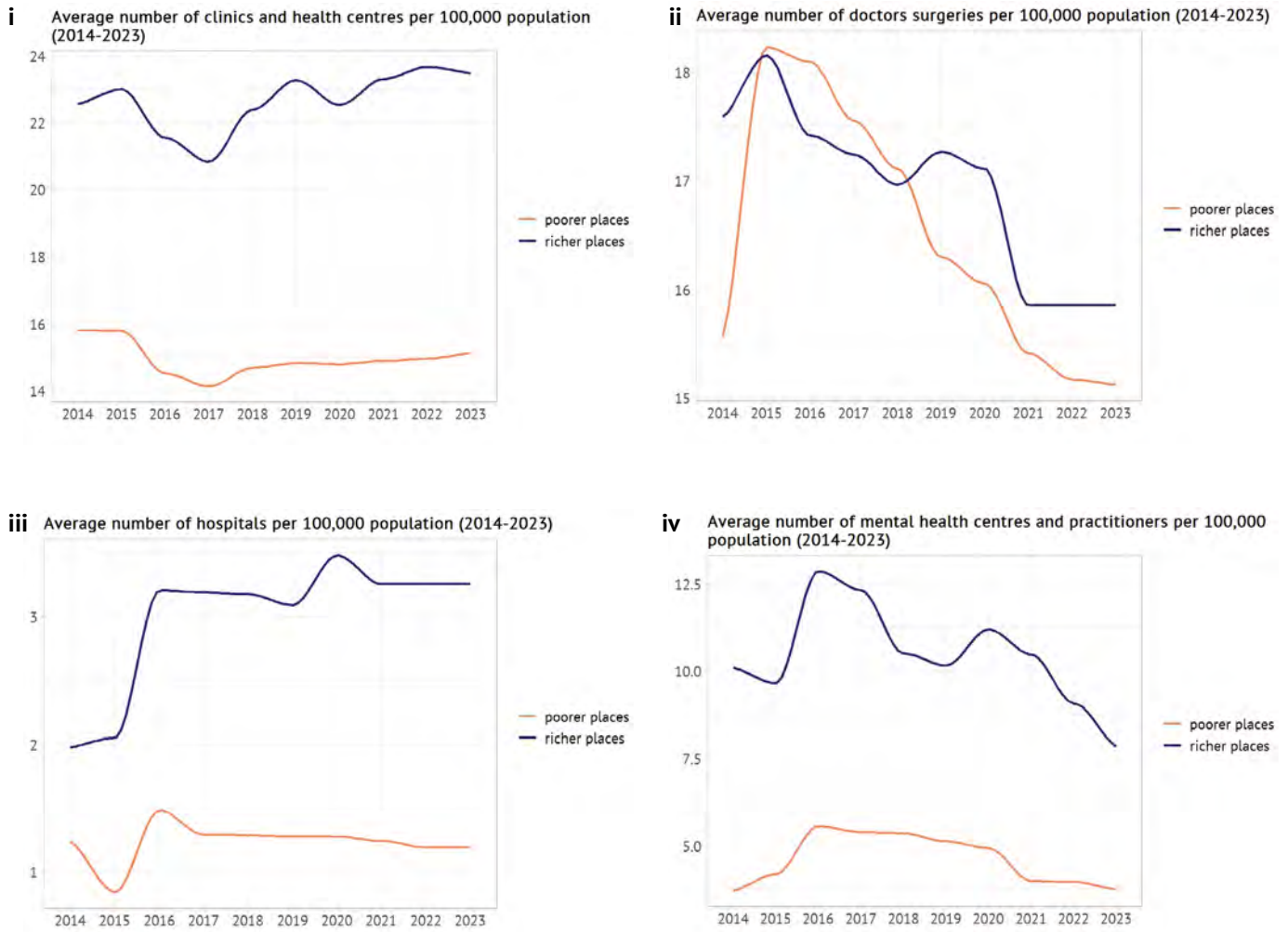
In the comparison of **richer and poorer places**, the availability of public transport, police stations and primary and secondary education facilities is, on average, lower in richer places (see also Appendix 3). In contrast, health service infrastructure (including clinics and health centres, GP practices, hospitals and mental health centres), further education and libraries are more prevalent in richer places (see Figure 6). Some services, such as the number of GP surgeries, have declined over the period, but more rapidly in poorer areas (see Figure 6).

50. ONS, 'GDP by Local Authority', 2021, <https://www.ons.gov.uk/datasets/gdp-by-local-authority/editions/time-series/versions/2>.

51. ONS, 'Population Profiles for Local Authorities in England'.

52. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age'.

Figure 6. Comparison of richer vs. poorer places between 2014 and 2023 ^{53 54}



Note: 'richer places' consist of Cambridge and Manchester; 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

53. Ordnance Survey, 'Points of Interest'.

54. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age'.

Within our sample, richer places unsurprisingly tend to benefit from a higher availability of private infrastructure. For instance, richer places have a higher availability of banks and building societies, cash machines, chemists and pharmacies, supermarket chains, museums, gymnasiums, sports halls and leisure centres, swimming pools, cinemas, theatres and concert halls, restaurants and pubs, bars and inns. However, across some indicators, poorer places perform better; these are post offices, convenience stores and independent supermarkets and shopping centres. This pattern matters as the different types of community infrastructure are not perfect substitutes. For example, some evidence points to the potential role of supermarkets in unlocking social capital: they provide opportunities for daily face-to-face interactions; offer spaces for local groups to meet; enable volunteering opportunities; provide greater access to healthy food options; and enable the possibility to tackle persistent problem of 'food deserts'.^{55 56 57} Convenience stores will have a smaller range, less fresh food, and less call to spend time there.⁵⁸

In the Netherlands, the critical role of supermarket chains in providing social value has long been recognised. As part of the Health Ministry's initiative 'one against loneliness' (een tegen eenzaamheid), Jumbo supermarkets have opened up chat checkouts ('klets-kassa') and chat corners ('klets-hoek') to enable clients to stop for a chat in their local supermarket and subsequently tackle loneliness.⁵⁹ As such, supermarket chains have the potential to implement initiatives like 'chat checkouts' across the country to facilitate spaces for social connections in ways that independent convenience stores cannot.

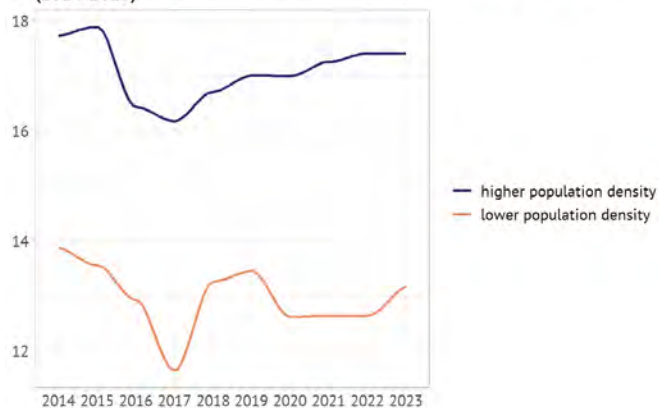
-
55. Caroline Lee, 'Supermarkets and Community Well-Being: Developing a Framework to Guide Investment, Implementation, and Impact of Community Actions.', Working Paper (Cambridge, 2022), <https://www.cisl.cam.ac.uk/resources/publications/supermarkets-and-community-well-being-developing-framework-guide-investment>.
56. Benjamin Chrisinger, 'A Mixed-Method Assessment of a New Supermarket in a Food Desert: Contributions to Everyday Life and Health', *Journal of Urban Health* 93, no. 3 (2016): 425–437, doi:10.1007/s11524-016-0055-8.
57. Neil Wrigley, Daniel Warm, and Barrie Margetts, 'Deprivation, Diet, and Food-Retail Access: Findings from the Leeds "Food Deserts" Study', *Environment and Planning A: Economy and Space* 31, no. 1 (2003), doi:https://doi.org/10.1068/a35150.
58. Association of Convenience Stores, 'The Local Shop Report 2023', 2023, <https://www.acs.org.uk/research/local-shop-report>.
59. Een tegen eenzaamheid, 'Onze Winkels Zijn Meer Dan Alleen Een Plek Om Boodschappen Te Doen', 2023, <https://www.eentegeneenzaamheid.nl/deelnemer/onze-winkels-zijn-meer-dan-alleen-een-plek-om-boodschappen-te-doen/>.

Higher vs. lower population density places

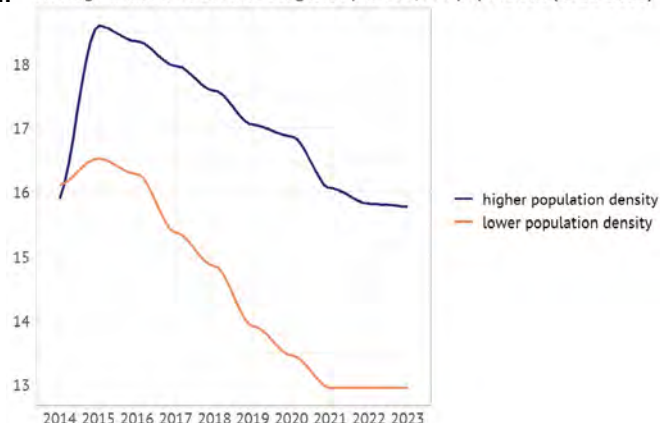
When comparing **higher and lower population density places**, we find that higher population density places on average have less availability of public transport and police stations (see Appendix 4; note we have few low density places). In terms of health infrastructure, higher population density places tend to offer greater access to clinics and health centres and GP practices; less access to mental health centres; and broadly similar access to hospitals as lower population density places (see Figure 7). Higher education establishments are more prevalent in higher population density places, while primary and secondary education facilities are less prevalent in these places. Private infrastructure – with the exception of post offices, gymnasiums, sports halls and leisure centres and swimming pools – is more available in higher population density areas than lower population density areas.

Figure 7. Comparison of higher vs. lower population density places between 2014 and 2023 ^{60 61}

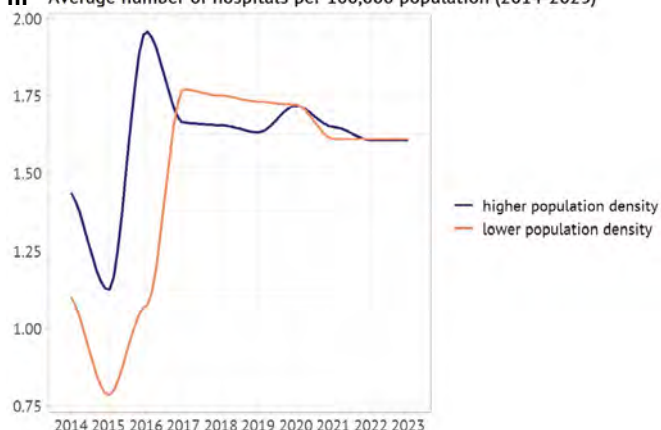
i Average number of clinics and health centres per 100,000 population (2014-2023)



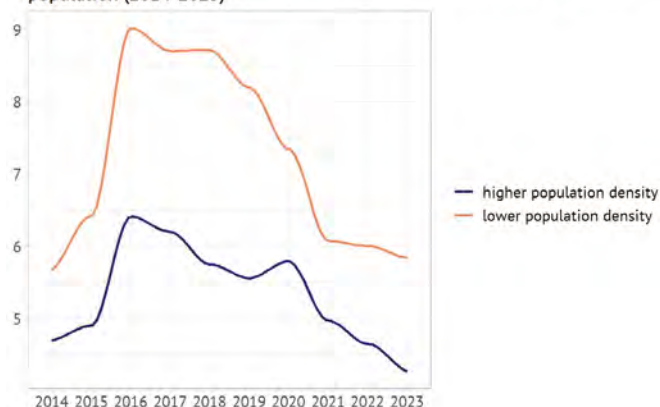
ii Average number of doctors surgeries per 100,000 population (2014-2023)



iii Average number of hospitals per 100,000 population (2014-2023)



iv Average number of mental health centres and practitioners per 100,000 population (2014-2023)



Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent; 'lower population density' places consist of Bedford and Central Bedfordshire

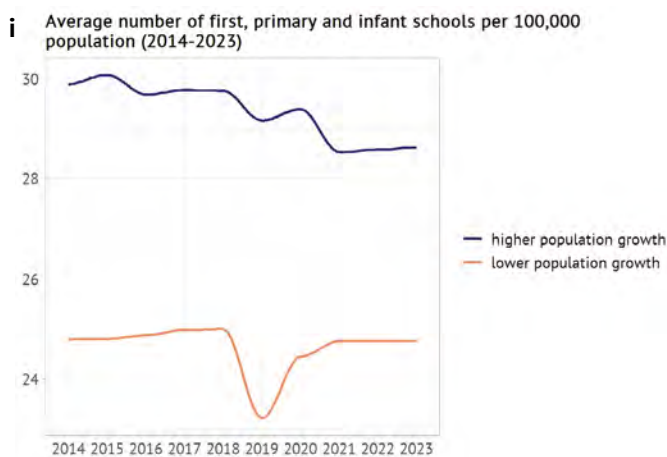
60. Ordnance Survey, 'Points of Interest'.

61. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age'.

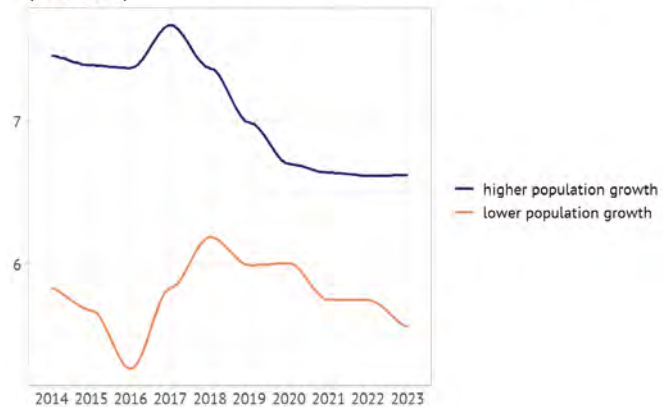
Higher vs. lower population growth rate places

With respect to **population growth**, we find that public transport and police stations are, on average, less available in higher population growth places (see Appendix 5). In contrast, health, education and library infrastructure tends to be more readily available in higher population growth places (see Figure 8). With regard to private infrastructure, higher population growth places benefit from more post offices, gymnasiums, sports halls and leisure centres, swimming pools, cinemas and shopping centres. Conversely, lower population growth places tend to have more banks and building societies, cash machines, chemists and pharmacies, independent supermarkets, supermarket chains, museums, theatres and concert halls, restaurants and pubs, bars and inns. This comparison is interesting because of the concern that thriving places may also lack the minimum infrastructure needed to enable continuing economic success, as well as adequate quality of life. Also of interest to such places are types of basic infrastructure that we have not been able to document on the same spatial basis, including water and electricity utilities.

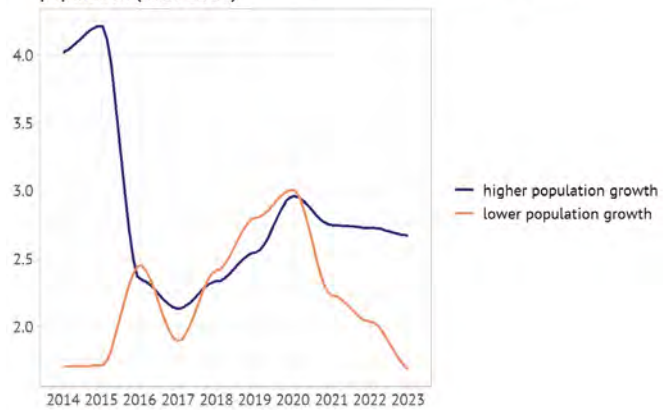
Figure 8. Comparison of higher vs. lower population growth places between 2014 and 2023 ^{62 63}



ii Average number of secondary state schools per 100,000 population (2014-2023)



iii Average number of further education establishments per 100,000 population (2014-2023)



Note: 'higher population growth' places consist of Bedford, Bolton, Cambridge, Central Bedfordshire, Manchester, Oldham, Peterborough, Rochdale and Stevenage; 'lower population growth' places consist of Blackpool and Stoke-on-Trent

62. Ordnance Survey, 'Points of Interest'.

63. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age'.

3.3 Comparing universal basic infrastructure availability in Germany and England

In this section, we analyse how the availability of infrastructure of the struggling places in England (Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent) compares to similar places in Germany. We selected five places from former Eastern Germany (Bautzen, Cottbus, Erfurt, Halle (Saale) and Rostock) and one from the Ruhr area (Hagen). The places in England and Germany are similar in terms of population size and GDP per head at current market prices and therefore warrant comparison (see Table 2).

Table 2. Characteristics of selected places in England and Germany ^{64 65 66 67}

Area	Population size (2019)	GDP per head at current market prices (2019) per capita, £
Bedford	173,292	28,926
Blackpool	139,446	23,099
Bolton	287,550	23,623
Central Bedfordshire	288,648	25,242
Oldham	237,110	20,380
Peterborough	202,259	36,513
Rochdale	222,412	20,093
Stevenage	87,845	34,899
Stoke-on-Trent	256,375	26,788
Bautzen	299,758	24,324
Cottbus	99,678	32,091
Erfurt	213,981	36,581
Hagen	188,686	30,397
Halle (Saale)	238,762	28,453
Rostock	209,191	34,885

Due to the availability of data on a sufficiently similar basis, we have limited our comparison to the following indicators:

- **Physical infrastructure:** railway stations and bus stops
- **Public/social infrastructure:** GP practices; hospitals; mental health centres and practitioners; primary and secondary schools; further education establishments; police stations; and libraries
- **Private infrastructure:** chemists and pharmacies; and cinemas

Comparisons were made for which there was the latest available data across all the places. For the number of hospitals, GP practices, mental health providers, schools, further education providers and pharmacies this was 2021; for train and bus stops this was 2020; for police stations, it was 2019; and for cinemas and libraries, it was 2017.

From the comparison, it becomes apparent that areas in Germany generally outperform those in England across most indicators (see Figure 9).

This contrast is particularly pronounced in the availability of **social and public infrastructure**. It is most striking in the realm of healthcare services, where Germany outperforms England with a higher availability of hospitals, GP practices and mental health providers per 100,000 population. For instance, in 2021, the German places had, on average, 72 GPs per 100,000 population, while in England, there were 15 GP practices per 100,000 population. Similarly, the availability of mental health providers in German places is markedly higher, with an average of 45 providers per 100,000 population, as opposed to four providers in English places in the same year. The trend remains consistent across other forms of social and public infrastructure.

In **further – or technical – education**, the gaps in local provision are also stark. Many commentators in the UK have admired the German technical education system for a long time, but it is not just the quality of the German

64. ONS, 'Population Profiles for Local Authorities in England'.

65. ONS, 'GDP by Local Authority'.

66. Statistisches Bundesamt, 'Bevölkerung: Kreise, Stichtag', 2023, <https://www-genesis.destatis.de/genesis/online?operation=table&code=12411-0015&bypass=true&levelindex=0&levelid=1689852473766#abreadcrumb>.

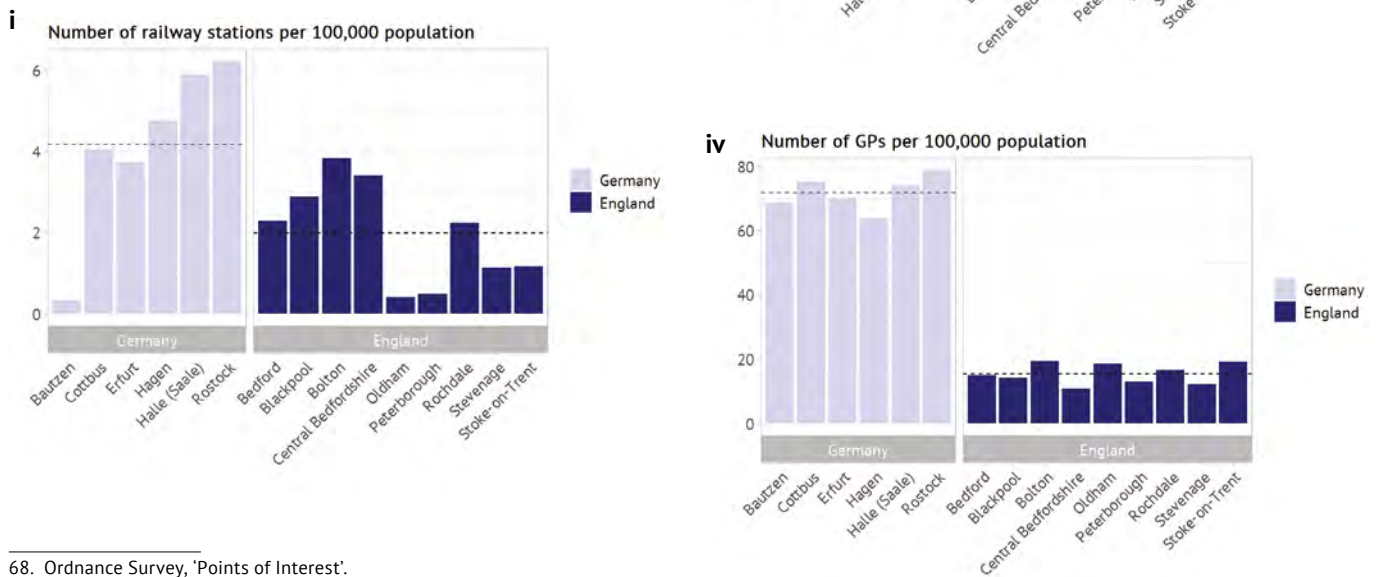
67. Statistische Ämter des Bundes und der Länder, 'Bruttoinlandsprodukt, Bruttowertschöpfung in Den Kreisfreien Städten Und Landkreisen Der Bundesrepublik Deutschland 1992 Und 1994 Bis 2021, Berechnungsstand August 2022', 2022, <https://www.statistikportal.de/de/veroeffentlichungen/bruttoinlandsprodukt-bruttowertschoepfung-0>.

institutions, instruction and curriculum that stands out, but also their sheer quantity and accessibility.

As for **private infrastructure**, Germany, on average, has a higher prevalence of pharmacies and cinemas than England. For example, in 2021, the German regions had an average of 44 pharmacies per 100,000 population, while their English counterparts averaged at 21. Although the English places had a higher average number of libraries than Germany in 2017, this is largely driven by the comparatively high prevalence of libraries in Rochdale.

Finally, the availability of **physical infrastructure** is more mixed. German places, on average, have twice as many railway stations as English areas, with an average of four railway stations per 100,000 population in Germany compared to two in English places. Conversely, English places, have almost four times as many bus stops as German places, averaging 491 bus stops per 100,000 population in English locations versus 135 in German locations.

Figure 9. Availability of infrastructure in England and Germany (per 100,000 population) ^{68 69 70 71 72 73 74 75 76}



68. Ordnance Survey, 'Points of Interest'.

69. Nomis, 'Population Estimates - Local Authority Based by Single Year of Age'.

70. Statistisches Bundesamt, 'Bevölkerung: Kreise, Stichtag'.

71. Statistische Ämter des Bundes und der Länder, 'Statistik Der Allgemeinbildenden Schulen', 2022, <https://www.regionalstatistik.de/genesis/online?operation=statistic&levelindex=0&levelid=1692806020433&code=21111#abreadcrumb>.

72. Statistische Ämter des Bundes und der Länder, 'Statistik Der Beruflichen Schulen', 2022, <https://www.regionalstatistik.de/genesis/online?operation=statistic&levelindex=0&levelid=1692798120798&code=21121#abreadcrumb>.

73. Statistische Ämter des Bundes und der Länder, 'Krankenhäuser Nach Fachabteilungen - Stichtag 31.12. - Regionale Ebenen (Ab 2018)', 2022, <https://www.regionalstatistik.de/genesis/online?operation=statistic&levelindex=0&levelid=1692798120798&code=23111#abreadcrumb>.

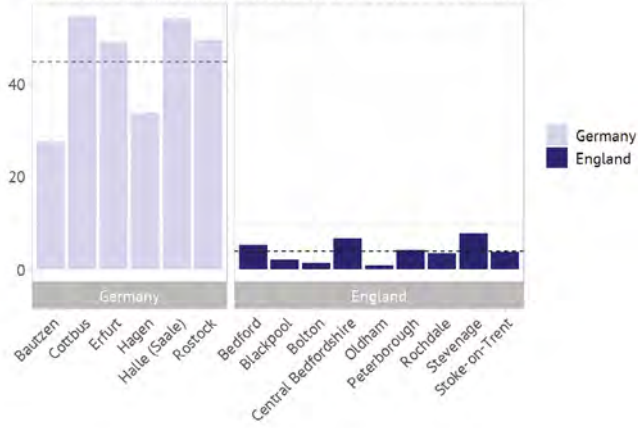
74. Kassenärztliche Bundesvereinigung, 'Regionale Verteilung Der Ärztinnen Und Ärzte in Der Vertragsärztlichen Versorgung', 2022, <https://gesundheitsdaten.kbv.de/cms/html/16402.php>.

75. INKAR, 'Indikatoren Und Karten Zur Raum- Und Stadtentwicklung', 2020.

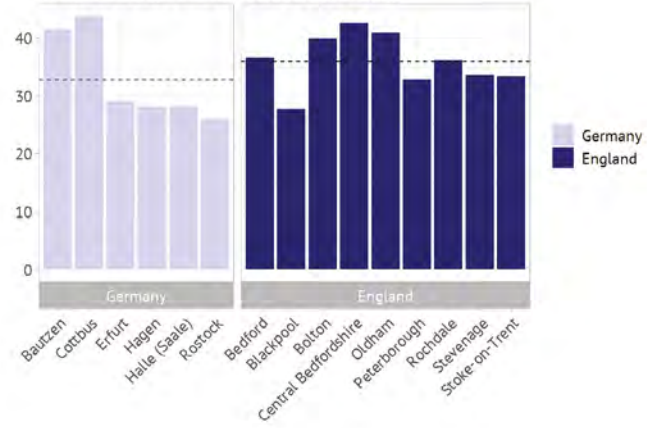
76. GPs in England refers to the number doctors surgeries per 100,000 population and in Germany to the number of general practitioners per 100,000 population.

Figure 9. continued

v Number of mental health providers per 100,000 population



vi Number of schools per 100,000 population



vii Number of further education establishments per 100,000 population

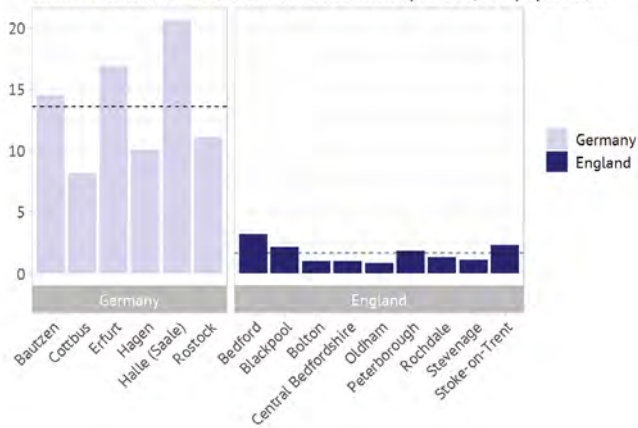
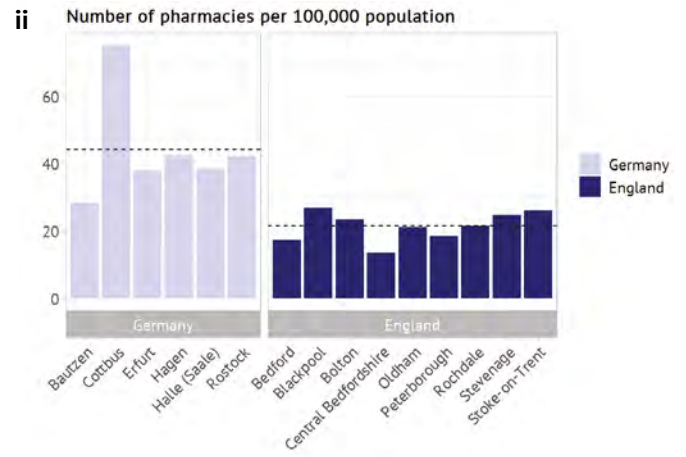
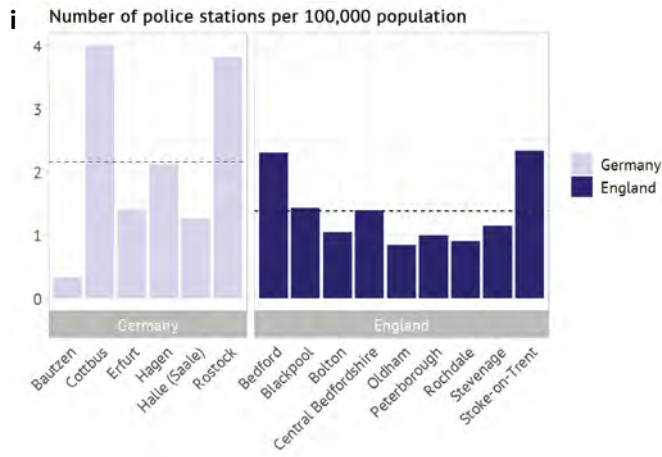
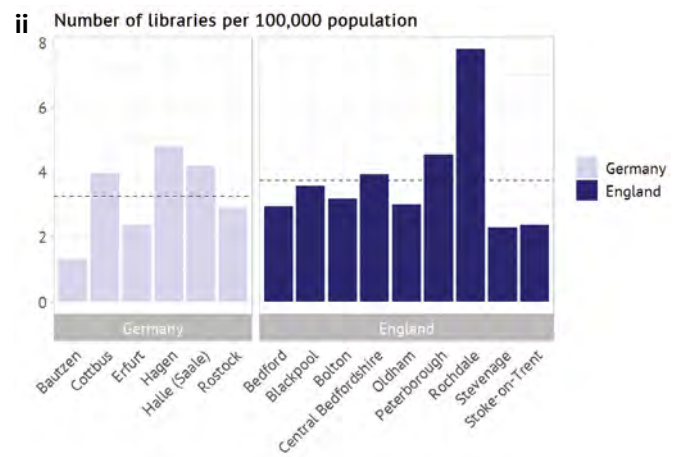
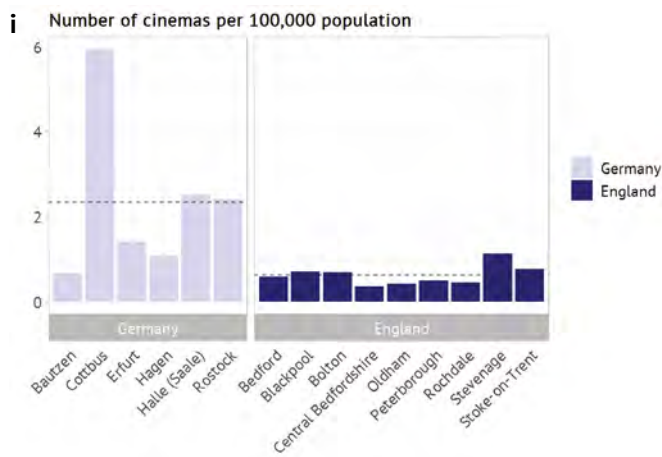


Figure 9. continued

b)



c)



4. Implications

4.1 Universal basic infrastructure in 'left behind' places

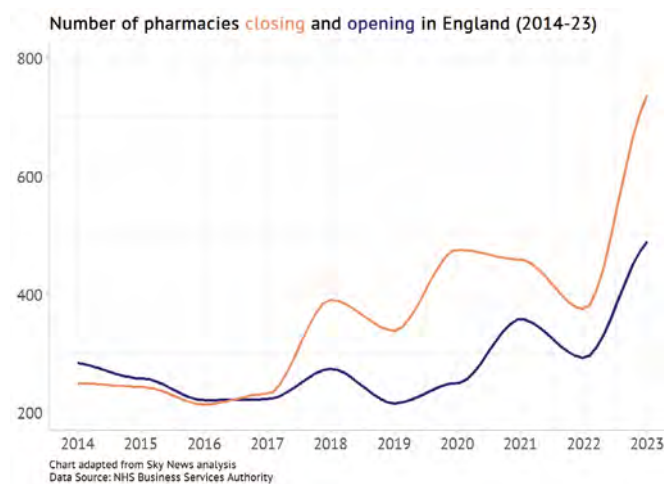
Why does the broad decline and large variation that is documented in the previous section matter? Unequal access to services limits people's opportunities including access to jobs and constrains economic growth. The picture for the whole range of infrastructure in the UK – 'hard' and social, public and private – is a story of decline and inequality, especially between poorer and richer places. Any effective policy to 'level up' the country – and while the language to describe the aim might change, the imperative to tackle gross spatial inequalities will not – must comprise of policies to improve the level and reduce the variation in the various universal basic infrastructure assets. Yet we have been going backwards. The provision to poorer places has, broadly, declined. The various policies tried in recent years, such as the Towns Fund or the latest announcement of a "Long Term Plan for Towns"⁷⁷ (which amounts to £2m a year for each of the next 10 years for 55 towns identified by their Index of Multiple Deprivation), have merits but do not begin to match the scale of the need for investment in basic infrastructure across the whole spectrum of essential assets.

This is very marked in healthcare, a core component of social infrastructure.⁷⁸ One in five GP practices in England and Wales have closed since 2013. In March 2023, the local GP practices for more than three in five people living in England's most deprived neighbourhoods (62%) saw over 25 patients per day on average, while the nearest practice for over a quarter (28%) saw more than 35 - almost twice the rate than across England as a whole (16%). The average GP is now responsible for some 2,337 patients - up from 2,014 patients in 2015. A Sky News analysis found that the average local GP serving people living in the most deprived 10% of neighbourhoods is even more

stretched, with 3,453 patients on their list and an average caseload of around 61% higher than those in better off areas.⁷⁹ According to a recent study from the University of Manchester, the turnover of GPs increased in almost all NHS regions between 2007 and 2019.⁸⁰ The proportion of GP practices with high turnover - where between 10% and 40% of GPs leave a practice within a year - almost doubled over a decade, rising from 14% in 2009 to 27% in 2019.

The decline in GP practices observed in section 3.1 is in line with national trends: an analysis by GPonline shows a 3.1% drop in GP practices over the year to June 2021, following higher falls in the two years before.⁸¹ A similar trend can be seen with the numbers of local pharmacies, despite government hoping to use them more for some health services and relieve pressure on GPs. Here, the Sky News analysis shows that since 2017, nearly 1,000 pharmacies have closed since 2017 (see Figure 10).⁸² Deprived communities have seen the biggest decline. Over one in ten pharmacies in the poorest quintile of areas have been closed over the last six years.

Figure 10. Pharmacy closures and openings in England between 2014 and 2023⁸³



77. GOV.UK, 'Prime Minister Puts Local People in Control of More than £1 Billion with Long-Term Plan for Left-behind Towns', September 2023, <https://www.gov.uk/government/news/prime-minister-puts-local-people-in-control-of-more-than-1-billion-with-long-term-plan-for-left-behind-towns>.

78. Diane Coyle, 'Healthcare as Social Infrastructure' in *Cambridge Handbook of Productivity, Efficiency & Effectiveness in Health Care*, ed. Shawna Grosskopf, Vivian Valdmán, and Valentin Zelenyuk (Cambridge University Press, 2024).

79. Ben van der Merwe and Saywah Mahmood, 'GPs at "breaking Point" in England's Most Deprived Areas', Sky News, May 2023, <https://news.sky.com/story/gps-at-breaking-point-in-englands-most-deprived-areas-12889054>.

80. Rosa Parisi et al., 'Rates of Turnover among General Practitioners: A Retrospective Study of All English General Practices between 2007 and 2019', *BMJ* 11 (2021), doi:10.1136/bmjopen-2021-049827.

81. Nick Bostock, 'General Practice Lost One in 30 Partners Last Year, Official Data Show', GPonline, August 2021, <https://www.gponline.com/general-practice-lost-one-30-partners-last-year-official-data-show/article/1724274>.

82. Saywah Mahmood and Joely Santa Cruz, 'Community Pharmacies Closing at a Rapid Rate with Deprived Areas Worst Affected', Sky News, August 2023, <https://news.sky.com/story/community-pharmacies-closing-at-a-rapid-rate-with-deprived-areas-worst-affected-12949684>.

83. Mahmood and Santa Cruz.

Similar declines hitting the poorest places the hardest have occurred in other types of basic infrastructure. A recent analysis by the Guardian found that the collective annual park budget in England – which includes local authority play provision – has fallen by more than £350m, adjusted for inflation, since 2011.⁸⁴

Similarly, while 90% of survey respondents wanted a bus stop nearby (and reliable, regular services), there has been a similar decline in bus services in England. In 2020, the National Audit Office found a 10% overall decline in bus use between 2010-11 and 2018-19 and a 38% reduction in local authorities' financial support for bus services over the same period.⁸⁵ In 2018-19, 112 million vehicle miles were travelled on local authority-supported service routes, down from 243 million in 2010-11. Over the same period there has been an 18% fare increase in real terms.

4.2 Universal basic infrastructure in growing places

A further dimension to a universal basic infrastructure deserves highlighting. That is its potential contribution to places growing rapidly as new housing is built, in part to help stimulate additional economic activity and growth. In England the low rates of housebuilding – when compared to successive governments' own targets as well as to the records of other countries – are rightly seen as a barrier to growing local economies. England's complex planning system is often seen as a major cause of low growth and productivity in general, and many politicians and commentators are calling for wholesale reform. This has also become a key political battleground

as the next general election approaches. Under the Conservative party, housebuilding targets were first set and then abandoned⁸⁶ as unpopular local development plans – initially determined by a formula described as a 'mutant algorithm'⁸⁷ – were put to the test in a series of by-elections and local elections. This began with Chesham and Amersham in the South-East where the Liberal Democrats overturned a Conservative majority of over 16,000⁸⁸ and continued with a poor Conservative electoral performance in areas such as Hertfordshire, Oxfordshire and Surrey in the 2023 local elections. Alongside national issues, these defeats were partly blamed on widespread local opposition to planned housing developments.

Furthermore, recent government plans to ease environmental restrictions on housebuilding⁸⁹ have been defeated in the House of Lords following Labour, Liberal Democrat and some Conservative opposition.⁹⁰ This is despite Labour promising to reintroduce housebuilding targets and to build a series of new towns if they win power at the next General Election.⁹¹ So, in the context of these disagreements about the supply of housing in England, and the inability of government to set and meet high housebuilding targets, we should consider how a UBI might also apply in higher performing local areas where population numbers and the numbers of new homes are increasing rapidly – such as in Northstowe near Cambridge, Wixams near Bedford or the expansion of existing towns such as Leighton Buzzard, Didcot and Wantage. In each of these places there have been reports of inadequate infrastructure of different kinds including a lack of community facilities, shops and essential services such as GP surgeries and schools.^{92 93 94}

84. Harriet Grant and Pamela Duncan, 'England's Playgrounds Crumble as Council Budgets Fall', *The Guardian*, August 2023, <https://www.theguardian.com/environment/2023/aug/04/england-playgrounds-crumble-council-budgets-fall>.

85. National Audit Office, 'Improving Local Bus Services in England Outside London'.

86. Reuters, 'UK Government Backtracks on Housebuilding Targets after Lawmakers Threaten Rebellion', December 2022, <https://www.reuters.com/world/uk/government-backtracks-housebuilding-targets-after-lawmakers-threaten-2022-12-05/>.

87. Gabriel Pogrud, 'Robert Jenrick Backs Housing Algorithm as Tory MPs Fear Threat to Suburbs', *The Times*, August 2020, <https://www.thetimes.co.uk/article/robert-jenrick-backs-housing-algorithm-as-tory-mps-fear-threat-to-suburbs-20s7c9stk>.

88. BBC, 'Chesham and Amersham By-Election Defeat a Warning Shot, Says Tory Co-Chairman', June 2021, <https://www.bbc.co.uk/news/uk-politics-57535928>.

89. Ione Wells and Sam Francis, 'Ministers Propose Scrapping Pollution Rules to Build More Homes', BBC, August 2023, <https://www.bbc.co.uk/news/uk-politics-66642878>.

90. BBC, 'Lords Sink Plan to Axe Homebuilding Pollution Rules', September 2023, <https://www.bbc.co.uk/news/uk-politics-66804160#>.

91. Tom Lowe, 'Labour Will Bring Back Mandatory Housing Targets, Says Starmer', *Housing Today*, May 2023, <https://www.housingtoday.co.uk/news/labour-will-bring-back-mandatory-housing-targets-says-starmer/5122977.article>.

92. Rosa Silverman and Alex Clark, 'A Lot of People Are Quite Angry': Life in a Town with 10,000 New Homes and Little Else', *The Telegraph*, August 2023, <https://www.telegraph.co.uk/news/2023/08/04/northstowe-cambridgeshire-new-homes-housing-crisis-nimby/>; Ben Schofield, 'Northstowe: The Broken-Promise New Town Built "with No Heart"', BBC, July 2023, <https://www.bbc.co.uk/news/uk-england-cambridgeshire-66156561>.

93. Schofield, 'Northstowe: The Broken-Promise New Town Built "with No Heart"'.
94. Thomas Aubrey, 'The Chancellor's Impossible Task', Bennett Institute for Public Policy, University of Cambridge, 2023, <https://www.bennettinstitute.cam.ac.uk/?p=11553>.

The idea of a UBI should go hand in hand with any centrally driven targets and for specific plans for new towns and major developments. As many essential local services are run by central government departments such as the Home Office (police stations and number of police officers), the Department of Health (local GP practices and number of GPs) or the Department of Education (local schools and colleges and number of teachers and lecturers), any central targets for expanding housing should be linked to provision of adequate basic infrastructure assets in the control of the public sector.

A further question is whether a commitment to UBI could form a key element of new developments and new towns, given the need to build more homes. For example, given recent proposals by Michael Gove to expand Cambridge⁹⁵ and further development in the so called 'Ox-Cam Arc', as well as Labour's commitments to build new towns, there should be a clear link between new housebuilding and the planning and provision of basic infrastructure. There are related questions: would UBI improve the contribution of growing populations and new communities to higher economic performance, for instance by connecting them better to nearby job opportunities or by providing childcare or health services? Would UBI make it easier to attract skilled people to such places, and would guarantees of minimum service provision and infrastructure also reduce opposition from existing residents who might otherwise fear overloading of services such as for schools, GPs or dentists?

We can consider some of the data in section 3, where the availability and pressure on some services in Central Bedfordshire, Bedford and Cambridgeshire is relatively clear. Our analysis shows that growing places can suffer from worse infrastructure and services than the most deprived. This may create a false trade-off between reducing infrastructure requirements so that more housing is built but creates more local opposition and sub optimal economic outcomes in the medium term. This is a significant problem and should be considered more fully in current housebuilding debates for three reasons – firstly, because more people will be attracted

to new places; secondly, because it is only with adequate services and infrastructure that they will be able to access nearby job opportunities and contribute to economic growth; and thirdly, because reducing pressure on existing infrastructure will reduce local opposition to housing developments in the first place. Inadequate infrastructure holds back large numbers of communities and the people living in them, restricts the jobs they are able to do and denies them the amenities available to others elsewhere. Overall, it constrains the capacity for new housing developments to help drive growth and productivity both locally and nationally.

In the 'Ox-Cam Arc' we have seen smaller towns like Leighton Buzzard and Bedford grow rapidly over recent census points, with further population growth planned in the coming decade. The 2021 census showed that Leighton Buzzard had grown by some 16% and Bedford by nearly 18% in the decade since the previous exercise - around three times the national average growth rate and double that in the East of England region. But at the same time local services have weakened - GP surgeries with increasing workloads, fewer local police stations and the steady disappearance of local post offices, banks and bus services. Many of the services in our focus are declining in these kinds of potentially growing places. For example, in 2023, The Times reported that Bedfordshire has the lowest rate of police officers attending burglaries in England (38.4%) with 77% of cases unresolved (third lowest) and Cambridgeshire had the third lowest rate of attendance at 46.6% and the second lowest rate for unresolved burglaries (78.5%). The House of Commons Library estimates that around 600 police stations across England and Wales were shut between 2010 and 2018.⁹⁶

There are similar problems in access to local health services. In Peterborough 14 out of 19 GP surgeries have above average caseloads with the highest at over 4,000 per GP. In Leighton Buzzard, four out of five GP surgeries had an above average caseload with the busiest caseload at over 6,000 patients. In Bedford, 16 out of 18 surgeries had an above average caseload with the highest two at 10,002 and 8,964. In Leighton Buzzard, four out of five GP

95. Harry Yorke, 'Cambridge to Become Europe's Silicon Valley – with 250,000 Extra Homes', The Sunday Times, July 2023, <https://www.thetimes.co.uk/article/michael-gove-cambridge-silicon-valley-levelling-up-v27nmnttc>.

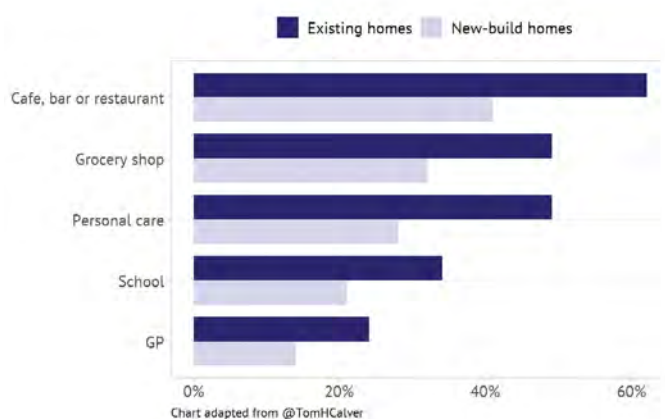
96. Jon Ungeod-Thomas, Tom Harper, and Krystina Shveda, '600 Police Stations Shut in Eight Years', The Times, September 2018, <https://www.thetimes.co.uk/article/600-police-stations-shut-in-eight-years-nvjdwjwmw>.

surgeries had an above average caseload with the busiest caseload at over 6,000 patients and in Bedford 16 out of 18 surgeries had an above average caseload with the highest two at 10,002 and 8,964.

A recent data investigation in The Times reports pressures on services in new build estates in other parts of the 'Ox-Cam Arc' – in fast growing parts of Oxfordshire including Didcot and Wantage.⁹⁷ According to Calver, between the 2011 and 2021 censuses, the constituency of Wantage grew by 9,390 households, a rise of 21% – more than any other in Britain. In one estate a new GP surgery was promised in original plans submitted over a decade ago, but nothing has materialised. Another example is Northstowe, a new development near Cambridge, expected to house some 26,000 people where over five years after the first residents moved in, it still does not have a shop, cafe or GP surgery.⁹⁸

Inevitably these developments build pressure on existing capacity and creates tensions for both new residents and those in nearby places where infrastructure and services become overloaded. In turn this is likely to reinforce opposition to further development in the nearby area. This is a particular problem in many 'new build' estates, where access to services significantly underperforms that in more established communities (see Figure 11).

Figure 11. Percentage of homes sold in 2022 with following services within quarter mile radius⁹⁹



But what do people expect from infrastructure in such places and how should this help shape planning permission for new developments along with the provision of UBI in all places? Perhaps unsurprisingly, people are most keen on transport, health (pharmacies as well as GPs), nurseries and primary schools and some convenience shops close to their home.

However, the budgets for many elements of what we think might form parts of a universal basic infrastructure have been under pressure or cut back in recent years.

In the case of both places needing levelling up and those needing additional services and infrastructure because of growing populations, the provision and coordination of services is best met by local government with adequate resources, powers and capacity. Local authorities understand their high streets and town centres as well as the needs of local businesses and people; national agencies and departments cannot possibly have such detailed information. Local authorities are also better placed to coordinate and convene efforts at a local level.

But it will take time to rebuild the capacity and resources available to local government and in any case change still requires an active and supportive central government too; departments of state will always oversee at least some aspects of education and schools, health services and GPs, R&D, benefits and more. A universal basic infrastructure will therefore require effective coordination between national and local levels of government. It is more than reasonable for local councils enacting centrally determined housebuilding targets or planning reforms to expect national government and its departments and agencies to play their part and for UBI to be seen as an opportunity to codify that partnership. In the academic jargon, this is how 'multi-level governance' should work and how the relationships and partnerships in other countries such as in France and Germany already do.

97. Tom Calver, 'Inside Newbuild City: We Love Our Homes but We're Crying out for Schools and GPs', The Times, July 2023, <https://www.thetimes.co.uk/article/inside-newbuild-city-we-love-our-homes-but-were-crying-out-for-schools-and-gps-0rh50jhg>.

98. Silverman and Clark, "A Lot of People Are Quite Angry": Life in a Town with 10,000 New Homes and Little Else'.

99. Calver, 'Inside Newbuild City: We Love Our Homes but We're Crying out for Schools and GPs'.

5. Funding and governing universal basic infrastructure

No matter how compelling the idea of a universal basic infrastructure, some of the most significant challenges that need to be addressed are:

1. **Cost** - is it expensive and who should pay?
2. **Governance** - who should have the responsibility for different types of infrastructure?
3. **Coordinate** - what is its identification and provision?

Local infrastructure is already funded but poorly planned and coordinated

Our working definition of UBI (see Box 1) includes a range of services and activities that exist and are already funded in a range of different ways – some through Whitehall departments and their agencies and others through local government budgets. Capital and revenue allocations – including for local government and also for building and maintaining hospitals, schools and colleges, police stations and for many local health centres and facilities – are agreed in regular spending reviews. In addition, there is spending agreed for local and regional transport infrastructure and for the maintenance of public buildings, parks and playgrounds. In each of these cases, ministers will make decisions about which places and which buildings and services receive priority for these budgets and then, depending on the service or programme, similar decisions over priority will be cascaded to local Councils, NHS trusts, Local Police Forces, Multi Academy Trusts, Further Education Colleges and so on. From time to time, some will attract additional funding if they are considered a policy priority, but these investments are rarely coordinated from the perspective of a local place. For example, those for schools or health services will depend on existing but entirely separate formula establishing levels of existing or estimated need. Here, the assessment of demand for school places is based on forecast demand from local authorities and through a regular Department for Education (DfE) school capacity survey. This is reviewed and approved every five years by the DfE which then informs a basic capital allocation and then a required consultation with providers including Multi Academy Trusts and others seeking to set up new schools. Likewise in health, NHS England is formally responsible for commissioning primary care services – in conjunction with local Clinical Commissioning Groups

(CCGs) – through a process of assessing need and through funding rates and agreements set at the national level and then implemented locally by CCGs and Primary Care Organisations (PCOs) including GP partnerships. So, adopting UBI will not necessarily mean completely new funding (though as noted above some of these budgets have been cut significantly or provision has declined in recent years) but rather a prioritisation of how existing funds are allocated and, importantly, coordinated; and where relevant, how some are then passed on to various councils, public services, agencies and regulators.

Some other services are already funded wholly or in part by the private sector, including broadband connectivity, and some road and rail transport such as bus services. Here maintaining a UBI could become a condition of the franchise (as the buses are becoming in Greater Manchester and other Mayoral Combined Authorities) or a regulatory requirement, rather than an added burden to local or national taxpayers. This debate about regulatory obligations is already being played out in the case of water and waste services, for example, which we have not considered here. Other services and infrastructure must be built as communities expand and new housing is built. Here there are already mechanisms in place where these costs can be jointly shared by the public and private sectors.

Local government funding in England

Unfortunately, however, the track record for both governance and funding in England is poor. Policymaking capacity and resources have been centralised in Westminster and Whitehall institutions while local government has been starved of both funding and power. Seven English councils have issued Section 114 notices (of bankruptcy) in the last three years: Nottingham (2020), Croydon (2020), Slough (2021), Thurrock (2022), Northumberland (2022), and most recently Woking and Birmingham – the latter being one of Europe's largest in 2023. Many more councils are in financial difficulty or operating with high levels of debt (see Table 3 below) and even amongst those not reporting such immediate pressures, discretionary budgets have been squeezed as funding has been cut and statutory spending requirements have increased.

Table 3. Top 20 local authorities by debt ¹⁰⁰

Local authority	Total borrowing	Borrowing to income ratio
1. Spelthorne	£1.1bn	86.9
2. Woking	£2.0bn	62.0
3. Eastleigh	£522m	41.1
4. Runnymede	£643m	23.4
5. Worthing	£204m	14.4
6. Surrey Heath	£170m	13.7
7. Rushmoor	£120m	10.6
8. Cherwell	£188m	10.3
9. Uttlesford	£302m	10.0
10. Warrington	£1.8bn	9.9
11. Brentwood	£226m	9.7
12. Mole Valley	£103m	9.6
13. East Hampshire	£120m	9.5
14. Thurrock	£1.5bn	7.5
15. Adur	£165m	7.1
16. Epsom and Ewell	£64m	6.8
17. Broxbourne	£58m	6.3
18. Guildford	£295m	6.0
19. Chorley	£78m	5.9
20. Warwick	£268m	5.9

Many authorities have faced difficulties because of rising demand for social care, even though they have been allowed to increase council tax rates in order to allocate more resources to it. Like other aspects of care and education, social care is a statutory responsibility and local authorities are therefore legally obliged to provide it. This has meant that spending has been protected, often at the expense of other services,¹⁰¹ such as libraries and local transport connections, that we would consider part of a universal basic infrastructure offer. Wholesale reform to the governance and funding of local councils will be necessary if we are to avoid further deterioration and move towards UBI.

Local authority budgets are made up of three main elements – government grants, council tax and business rates. According to the Institute for Government (2020), in 2019–2020 (the last year before emergency Covid-19 funding), local authorities in England received 22% of their funding from government grants, 52% from council tax, and 27% from retained business rates.¹⁰² However, local authority ‘spending power’ – the amount of money authorities have to spend from government grants, council tax and business rates – fell by 17.5% between 2009–2010 and 2019–2020. With more recent settlements, this has since slowed, although in 2021–2022 it was still 10.2% below 2009–2010 levels.

100. Richard Partington, ‘More English Councils Expected to Fail Owing Billions, Warns Moody’s’, The Guardian, September 2023, <https://www.theguardian.com/society/2023/sep/11/more-english-councils-expected-to-fail-owing-billions-warns-moodys>.

101. Graham Atkins and Stuart Hoddinott, ‘Neighbourhood Services under Strain: How a Decade of Cuts and Rising Demand for Social Care Affected Local Services’ (London, 2022), <https://www.instituteforgovernment.org.uk/publication/neighbourhood-services-under-strain>.

102. Partington, ‘More English Councils Expected to Fail Owing Billions, Warns Moody’s’.

Cuts have also fallen more heavily on the most disadvantaged local authorities because the grant funding element tends to make up a greater proportion of local authorities' funding in these areas. This is because council tax and business rate receipts tend to be lower in proportion (and overall value) where housing stock is cheaper and local economies are weaker.

In research from the Institute for Fiscal Services (2023) on local government funding we can already see that that there are significant gaps between allocation by existing formulae and assessed 'relative' need in a series of places.¹⁰³ These assessments show underfunding on a series of key services that would form a part of UBI (as well as the possibility of existing formulae 'overfunding' some places too). See, for example, the data on Oldham and Manchester in Figure, 12, Figure 13 and Table 4.

Figure 12. Gap between relative funding and relative need (%) by socioeconomic deprivation in England between 2022 and 2023¹⁰⁴

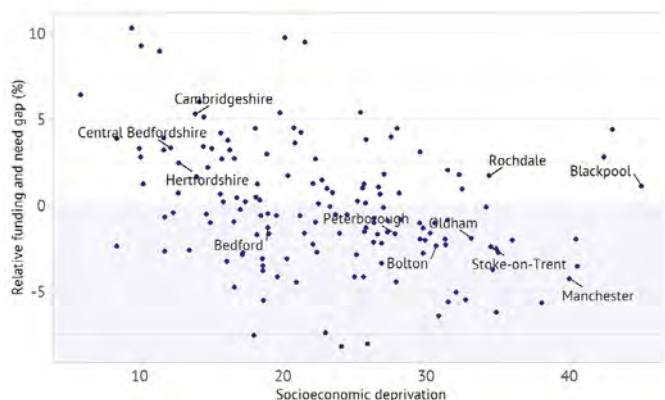
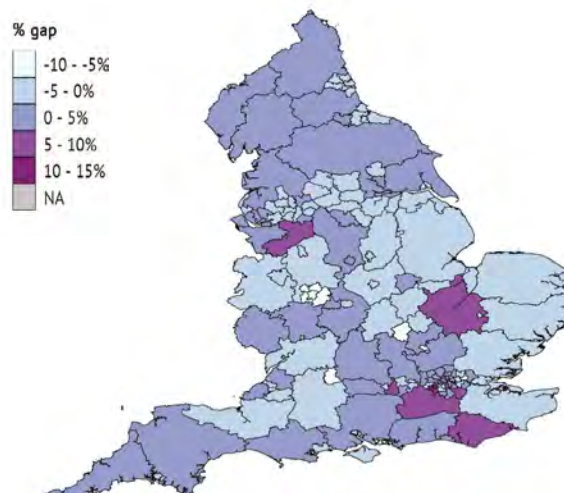


Figure 13. Gap between relative funding and relative need (%) for all services between 2022 and 2023¹⁰⁵



For both Oldham and Manchester, the assessment of relative need shows gaps in funding for services including police and public health and also for local government as a whole, though interestingly not for NHS funding. However, in areas such as Central Bedfordshire and Cambridgeshire this assessment shows a different effect, with underfunding in some areas e.g. police and public health and overfunding for local government.

More positively, the 'levelling up' agenda adopted in the wake of the EU referendum and the 2019 General Election, has focused policy thinking on spatial inequality and on some of the causes and solutions set out in the Levelling Up White Paper in 2022 (such as the 'six capitals' framework focusing specifically on access to key assets). Interest in towns and 'left behind' places has also increased.^{106 107 108}

103. Ogden, Phillips, and Warner.

104. Ogden, Phillips, and Warner, 'How Much Public Spending Does Each Area Receive? Local Authority Level Estimates of Health, Police, School and Local Government Spending'.

105. Ogden, Phillips, and Warner.

106. Local Trust, 'Left behind? Understanding Communities on the Edge', 2019, <https://localtrust.org.uk/insights/research/left-behind-understanding-communities-on-the-edge/>.

107. Philip McCann, 'Perceptions of Regional Inequality and the Geography of Discontent: Insights from the UK', *Regional Studies* 54, no. 2 (2020): 256–267, <https://doi.org/10.1080/00343404.2019.1619928>.

108. Ron Martin et al., *Levelling Up Left Behind Places: The Scale and Nature of the Economic and Policy Challenge* (Routledge, 2022).

Table 4. Gap between relative funding and relative need (%) between 2022 and 2023 ¹⁰⁹

Place	All services excluding schools	NHS	Local govt.	Police	Public health
Bedford	-1.30%	-3.30%	7.40%	-7%	-26.70%
Blackpool	1.10%	1.60%	-3.90%	-0.10%	46.60%
Bolton	-2.40%	0.60%	-8.30%	-8.40%	-4.30%
Cambridgeshire	5.30%	2.90%	14.60%	-2%	-9.40%
Central Bedfordshire	3.30%	-3.20%	26.50%	-7%	-8.80%
Manchester	-4.30%	4.50%	-22.60%	-8.40%	-3.90%
Oldham	-1.90%	1.40%	-8.30%	-8.40%	-0.70%
Peterborough	-1.70%	3%	-10%	-2%	-28%
Rochdale	1.70%	0.90%	6.30%	-8.40%	3.80%
Hertfordshire	2.40%	0.90%	9.90%	-4%	-16.20%
Stoke-on-Trent	-2.40%	-2.40%	-5.60%	6%	5.30%

Note: An area with a positive value receives a higher share of funding than their share of estimated need. This does not necessarily mean they receive more funding than their absolute level of need.

But there remains a very long way to go in delivery, not least in rebuilding the capacity and financial health of local government. Part of delivering UBI would involve adjusting the grant funding formula to take account of gaps in the infrastructure and remedy them over time (say a three to five year period). In addition, current competitions for funds should also be consolidated and allocated in a similar way.

Identifying social and cultural infrastructure

Lead departments for social or cultural infrastructure assets must help local communities identify and support key institutions, services and infrastructure. For example, culture spending including culture recovery, levelling up and community ownership funds all have a role to play here and demonstrate the need for coordination between different levels of government.

Capacity in the voluntary sector and the 'social fabric' of places is also crucial. This has been highlighted by thinkers across the political spectrum including Lisa Nandy, Will Tanner, Danny Kruger and Andy Haldane (as well as in the Levelling Up White Paper (2022)).

¹⁰⁹. Ogden, Phillips, and Warner.

“The economic and social progress that followed the Industrial Revolution came courtesy of a three-way partnership among the private, public and social sectors. The private sector provided the innovative spark; the state provided insurance to the incomes, jobs and health of citizens; and the social sector provided the support network to cope with disruption to lives and livelihoods”.¹¹⁰

Andy Haldane, FT (2022)

The private sector and private individuals must also play a role, as infrastructure provides the foundation for successful business activity and profit. Typically, their financial contributions would come via local business rates and from council tax income. In growing areas, the need for improved infrastructure and services can be required via the planning process, such as through Section 106 and Community Infrastructure Levies (CIL) but also through Business Improvement Districts (BIDs) after the construction and planning phase. Similar mechanisms are currently being explored in the creation of ‘Community Innovation Districts’ where organisations such as Power to Change are piloting community led approaches to regenerating town centres and high streets.¹¹¹

Each of these approaches could incorporate the identification and maintenance of buildings such as pubs or iconic buildings through community asset registers. The private sector is more directly involved when it comes to businesses or buildings that are key to the health of local high streets and to people’s identity and pride in their communities. Department stores, pubs and cinemas, theatres or sports clubs are examples. In coastal towns it might be to add piers or funfairs and in post-industrial towns it might be the iconic factory or mill buildings that still dominate local environments.

How to preserve these privately owned assets and institutions is unfamiliar territory for public policy. But the health of many places – economic success, local identity and pride, civic participation – depends on them. Too many of them, from football clubs to iconic department stores,

have been closed or left to decline. We have previously proposed local authorities should have powers and capacity to intervene before these types of amenities close or are asset stripped.¹¹² Local government should have powers to establish community asset registers, with a requirement that designated assets are adequately maintained and invested to minimum standards. If their owners fail to meet the required standards, the local authority could raise a supplementary business rate to fund maintenance, and in the last resort compulsory purchase powers at the declared rateable value.

But in the identification of such assets, it will be crucial for local authorities to work with local people and involve them in both the specification and delivery of this and other aspects of UBI. If as we set out in the introduction of this report UBI offers a better method of redistribution and advancement than individualised income-based models, then its efficacy will depend on how it is designed, delivered and monitored in local areas. Consultation and evaluation will be essential and should be incorporated into dialogue with residents in the same way as the planning system. Furthermore, robust evaluation of use and benefit must take place regularly involving all services and their funders. Citizen panels and assemblies may also be useful in testing as well as in the identification of essential local assets and as with UBI more broadly may help to increase local support for the building of both housing as well as infrastructure.

Lastly, both local and national government must prioritise place-based policy and aim to better coordinate the provision of services locally. This includes bringing regulators and funding agencies together in the development of place-based policies such as for example the Office for Students and its responsibility for oversight and regulation of universities, and UKRI (UK Research and Innovation) in respect of its research funding allocations. Other examples might include Ofcom for local broadband access and the Financial Services Authority (FSA) over local bank branches and banking activity (including cashpoints) and so on.

110. Andy Haldane, ‘Reweaving the Social Fabric after the Crisis’, Financial Times, April 2020, <https://www.ft.com/content/fbb1ef1c-7ff8-11ea-b0fb-13524ae1056b>.

111. Julian Dobson, Kate Swade, and Kim Graham, ‘Community Improvement Districts Pilot Programme: Emerging Learning from the First Phase of the CID Programme’, 2023, https://www.powertochange.org.uk/wp-content/uploads/2023/03/PTC-Community-Improvement-Districts-Interim-Report_-.pdf.

112. Diane Coyle and Andy Westwood, ‘Policies for Places as Well as People’, Bennett Institute for Public Policy, University of Cambridge, 2022, <https://www.bennettinstitute.cam.ac.uk/blog/policies-for-places-as-well-as-people/>.

The scale of the challenge to ensure there is adequate investment in infrastructure is significant. Funding increased investment in infrastructure - and the associated essential services - is a wider problem for the UK (and England) than just considering the costs of UBI here. Low investment is a general problem in the public and private sectors and one of the major causes of our poor productivity, characterised by chronic 'short termism' in the private sector as well as in different areas of government. As infrastructure investment is long-term, it is an area of economic strategy that sits least comfortably with short-term political ambitions and pressures.

New financing possibilities may need to be considered. An Infrastructure Bank is probably desirable in itself but a key role may be to help fund some of the larger elements of UBI, e.g. major transport links. There are similar institutions in many countries, such as Infrastructure Australia, KfW (Credit Institute for Reconstruction) in Germany, NTMA (National Treasury Management Agency) in Ireland, and Canada having just established one. It is hard to believe a country like the UK with a sophisticated financial sector could not operate a public infrastructure bank just as well. There should also be a wider range of local tax instruments to increase the tax base and fiscal capacity of local and combined authorities (such as land value tax, tourist taxes, local income tax); and extending appropriate discretion for local fiscal incentives for investment (such as tax reliefs or capital allowances).

Many of these will be an anathema to national politicians and the Treasury alike; but there is no economic case against duly limited local borrowing for investments delivering a stable utility-like return or against limited local tax powers. For instance, it is hard to see why UK cities attractive to tourists and business visitors are unable – almost uniquely in the western world – to set a local tourist tax. There will always need to be substantial flows of tax revenues from richer to poorer areas, and there are limits to how much local tax bases can expand but given the extreme centralisation of UK government finances compared to other countries, the economic and political case for further fiscal devolution will build.¹¹³

Most of the responsibility for identifying and managing UBI should be devolved to local government (and to combined authorities and mayors in devolution deals where they exist). This fits into the spirit and direction of both the Conservative Government's Levelling Up White Paper (and its 'six capitals' framework) as well as the Labour Party's promise of a 'Take Back Control' bill. In any approach there will be a requirement for 'multi-level governance' and for much improved coordination between various departments, agencies and services. Much of this responsibility will fall to the Department for Levelling Up, Housing and Communities (DLUHC) as the primary funder and policymaker for local government in England. But successful delivery of UBI – and hence of improved productivity and long-term economic growth in the UK – will require strategic intent and coordination at the centre as well as through more empowered and better funded local government. As a mid-ranking Whitehall department that task is likely to be beyond DLUHC alone, so a cabinet committee run from the Cabinet Office and Number 10 would be required. This broadly follows the approach set out in the Levelling Up White Paper, including the formation of a Levelling Up Advisory Council and Cabinet Committee. It is highly likely that an incoming Labour government would have to set up similar machinery and processes if it wants to deliver on its missions and implement a 'take back control' bill. Two areas from Labour's previous period in office may be worth revisiting. The first is the Local Area Agreements and Local Strategic Partnership frameworks introduced in 2008-9, which provided a framework and process for bringing together a series of locally and nationally managed services and agencies to support a place-based (and place-led) approaches. The second initiative was the 'Total Place' initiative which attempted to consider and better coordinate all services and infrastructure in places.

These new arrangements at local and national levels will require effective coordination. We think there will need to be a framework for planning and implementing UBI, overseen by a Cabinet Committee.

Below is our first attempt at setting out what such a framework might look like including some of the key principles that might drive it. It is suggested as a start to

113. Philip McCann, 'The Fiscal Implications of "Levelling Up" and UK Governance Devolution', Productivity Insights Paper No. 008, 2021, <https://www.productivity.ac.uk/research/the-fiscal-implication-of-levelling-up-and-uk-governance-devolution/>.

establishing such a framework, rather than a definitive or exhaustive list.

As we have acknowledged, this is likely to be a lengthy and complex process, as it outlines a radically different approach to the provision and governance of local public services and infrastructure. Nevertheless, we believe it is ultimately a better approach than the haphazard and inefficient one that currently exists as a real 'postcode lottery'. There are also major challenges due to the lack of consistent geographical areas and boundaries for a range of different services

and management or policy possibilities.¹¹⁴ Ensuring that key elements of UBI can be managed consistently at the appropriate spatial levels by the right local and regional institutions is a major undertaking and beyond our scope here. The shortcomings of governance in the UK go beyond those specific to universal basic infrastructure but – like any approach aiming to improve the UK's weak economic performance over many years and tackle its related spatial inequalities – it will not succeed without institutional reforms of the kind we propose.

Seven key principles for universal basic infrastructure

- 1.** In setting UBI plans and thresholds, local authorities (and DLUHC) – overseen by a coordinating Cabinet Committee – should monitor population and population forecasts within a distance/density and set out indicative levels where different services will be required (including for regional needs when towns/cities are serving a wider rural catchment area(s)).
- 2.** For UBI, there should be a 'preservation presumption' especially in existing towns, smaller cities (i.e. that key services should not be closed/reduced).
- 3.** In expanding places there should be a 'provision presumption' and a triggered planning process in larger developments of, say, over 10-20,000 additional population (for illustration, Northstowe is expected to have 26,000 residents). As 'new-towns' and other major extensions to existing towns and cities are being proposed this might be in the form of planning for 'neighbourhood centres' (which were typically planned into post-war new towns).
- 4.** UBI would need a new duty for public departments/bodies to regularly assess need and provide as a priority in all capital/revenue spending as agreed in spending reviews.
- 5.** UBI would need to establish similar duties for relevant market regulators to make a 'place-based' focus a required feature of regulatory compliance (and helping to drive appropriate levels of private sector funding for UBI).
- 6.** The range of existing processes that support key services and infrastructure (including funding and governance) should be mapped out. For example, in the Department for Education (DfE) this would be the process for assessing needs and building/procuring new school provision including post 16 and adult further education (FE). For NHS and CCGs, it would be setting out thresholds for GP provision/patient-load, dentistry and other medical/health services and facilities and payments/incentives for commissioning new provision.
- 7.** Establishing clear accountability processes for each service, element of infrastructure so that residents can see who – from local government, combined authority or national departments and agencies is responsible for each – as well as for their local and national coordination. NB, this might also link to media regulation and role/funding of local media organisations.

114. Jack Newman and Michael Kenny, 'Devolving English Government', 2023, <https://www.bennettinstitute.cam.ac.uk/publications/devolving-english-government/>.

6. Conclusion

Our argument for universal basic infrastructure in the selected places is formed of three interlocking elements.

First, that in the interests of fairness and democracy everybody deserves access to a minimum level of services and infrastructure and to live in places that have them. This is a principle of fair taxation and the contract between people and the state both locally nationally and locally.

Second, such infrastructure forms the essential platform for economic activity and fulfilling lives of individuals and communities – from the provision of childcare and transport that allows people to work, to the infrastructure and institutions that help build social capital and quality of lives. UBI is not just a platform of institutions and activities; it represents sustained investment in services with a significant return, and subsequently jobs that help generate local income and wealth that will kick-start growth.

Third, having regard for building and supporting existing and new communities by thinking in terms of the assets they need embeds sustainability (in place of policy short-termism) and makes for healthier, more fulfilling lives. It can also offer a good deal to those in existing places when new housing is being proposed, for if the growth in local population triggers a new school, GP surgery or police station, then more people are likely to accept than reject such local plans. Overall, this represents good politics by improving local economic growth and livelihoods, rebuilding trust and creating strong incentives for people to support local developments. It also reduces resentment from people who otherwise might feel that they or their community are being ignored or left behind in favour of others.

Finally, it is worth reiterating why our recommendation of a universal basic infrastructure deliberately takes a place-based – not an individual – approach. An adequate level of individual benefits – especially Universal Credit – is vital, but individuals will benefit from a community approach to local infrastructure and the services and institutions that help support it. Universal Credit (or even a Universal Basic Income) will not help people access a decent education system or a functional bus network. Effective policy for places requires a much deeper understanding of the links between public and private sectors, civic institutions and the value of the networks in communities. To successfully address the stubbornly high levels of local and regional inequality in England as well as the needs of rapidly growing places elsewhere, the basic services and institutions that all places – and the people in them – need must be at the core. These are the foundations on which people can build livelihoods and local economies can grow. But it demands a shift in the way we think about infrastructure, institutions and people and about the government's role in supporting them.

References

- Association of Convenience Stores. 'The Local Shop Report 2023', 2023. <https://www.acs.org.uk/research/local-shop-report>.
- Atkins, Graham, and Stuart Hoddinott. 'Local Government Funding in England' (London, 2020). <https://www.instituteforgovernment.org.uk/explainer/local-government-funding-england>.
— — —. 'Neighbourhood Services under Strain: How a Decade of Cuts and Rising Demand for Social Care Affected Local Services' (London, 2022). <https://www.instituteforgovernment.org.uk/publication/neighbourhood-services-under-strain>.
- Aubrey, Thomas. 'The Chancellor's Impossible Task'. Bennett Institute for Public Policy, University of Cambridge, 2023. <https://www.bennettinstitute.cam.ac.uk/?p=11553>.
- BBC. 'Chesham and Amersham By-Election Defeat a Warning Shot, Says Tory Co-Chairman', June 2021. <https://www.bbc.co.uk/news/uk-politics-57535928>.
— — —. 'Lords Sink Plan to Axe Homebuilding Pollution Rules', September 2023. <https://www.bbc.co.uk/news/uk-politics-66804160#>.
- Blagden, James, and Will Tanner. 'Network Effects: Why Levelling up Demands a New Approach to Connectivity', 2021. <https://www.ukonward.com/reports/network-effects/>.
- Blesse, Sebastian, and André Diegmann. 'The Place-Based Effects of Police Stations on Crime: Evidence from Station Closures'. *Journal of Public Economics* 207 (2022). <https://doi.org/https://doi.org/10.1016/j.jpubeco.2022.104605>.
- Bostock, Nick. 'General Practice Lost One in 30 Partners Last Year, Official Data Show'. GPonline, August 2021. <https://www.gponline.com/general-practice-lost-one-30-partners-last-year-official-data-show/article/1724274>.
- Calver, Tom. 'Inside Newbuild City: We Love Our Homes but We're Crying out for Schools and GPs'. The Times, July 2023. <https://www.thetimes.co.uk/article/inside-newbuild-city-we-love-our-homes-but-were-crying-out-for-schools-and-gps-0rh-50jhgm>.
- Campaign for Better Transport. 'New Research Reveals 1 in 4 Bus Services Have Disappeared in a Decade – Urgent Action Needed', April 2022. <https://bettertransport.org.uk/media/04-April-2022-1-in-4-bus-services-cut/>.
- Chadha, Jagjit S, and Issam Samiri. 'Macroeconomic Perspectives on Productivity' Working Paper No. 030, 2022. <https://www.productivity.ac.uk/research/macroeconomic-perspectives-on-productivity/>.
- Chrisinger, Benjamin. 'A Mixed-Method Assessment of a New Supermarket in a Food Desert: Contributions to Everyday Life and Health'. *Journal of Urban Health* 93, no. 3 (2016): 425–437. <https://doi.org/10.1007/s11524-016-0055-8>.
- Coulter, Steph, Owen Garling, and Rosa Marks. 'Townscapes: The Value of Museums' (Cambridge, n.d.).
- County Councils Network. 'Rural Bus Services at a "Historic Low", as New Report Reveals Urban Locations Received Two-Thirds of Flagship Government Funding', July 2023. <https://www.countycouncilsnetwork.org.uk/rural-bus-services-at-a-historic-low-as-new-report-reveals-urban-locations-received-two-thirds-of-flagship-government-funding/>.
- Coyle, Diane. 'Healthcare as Social Infrastructure' in *Cambridge Handbook of Productivity, Efficiency & Effectiveness in Health Care*. Edited by Shawna Grosskopf, Vivian Valdmánis, and Valentin Zelenyuk (Cambridge University Press, 2024).
- Coyle, Diane, and Adam Muhtar. 'Levelling up Policies and the Failure to Learn'. *Journal of the Academy of Social Sciences*, 2022. <https://doi.org/https://doi.org/10.1080/21582041.2023.2197877>.
- Coyle, Diane, and Andy Westwood. 'Policies for Places as Well as People'. Bennett Institute for Public Policy, University of Cambridge, 2022. <https://www.bennettinstitute.cam.ac.uk/blog/policies-for-places-as-well-as-people/>.
- Coyle, Diane, Dimitri Zenghelis, Matthew Agarwala, Marco Felici, Saite Lu, and Julia Wdowin. 'Measuring Wealth, Delivering Prosperity', 2019. <https://www.bennettinstitute.cam.ac.uk/publications/measuring-wealth-delivering-prosperity/>.
- Department for Levelling Up, Housing and Communities. 'Levelling Up the United Kingdom', 2022. <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>.
- Department for Levelling Up, Housing and Communities, and Communities & Local Government Ministry of Housing. 'Community Ownership Fund', 2023. <https://www.gov.uk/government/publications/community-ownership-fund-prospectus>.
- Dine, Jessica. 'Enabling Equity: Why Universal Broadband Access Rates Matter', 2023. <https://itif.org/publications/2023/08/14/enabling-equity-why-universal-broadband-access-rates-matter/>.

- Dobson, Julian, Kate Swade, and Kim Graham. 'Community Improvement Districts Pilot Programme: Emerging Learning from the First Phase of the CID Programme', 2023. https://www.powertochange.org.uk/wp-content/uploads/2023/03/PTC-Community-Improvement-Districts-Interim-Report_.pdf.
- Een tegen eenzaamheid. 'Onze Winkels Zijn Meer Dan Alleen Een Plek Om Boodschappen Te Doen', 2023. <https://www.eentegeeneenzaamheid.nl/deelnemer/onze-winkels-zijn-meer-dan-alleen-een-plek-om-boodschappen-te-doen/>.
- Forth [@thomasforth], Tom. 'Within 40km of Manchester, 5m People, 24k Bus Stops, 420 Rail Stops.' Twitter, August 2023. https://twitter.com/thomasforth/status/1687102102152318976?s=61&t=qkFD-6DA_v-ZAO2GiD8Ykhg.
- GOV.UK. 'Prime Minister Puts Local People in Control of More than £1 Billion with Long-Term Plan for Left-behind Towns', September 2023. <https://www.gov.uk/government/news/prime-minister-puts-local-people-in-control-of-more-than-1-billion-with-long-term-plan-for-left-behind-towns>.
- Grant, Harriet, and Pamela Duncan. 'England's Playgrounds Crumble as Council Budgets Fall'. The Guardian, August 2023. <https://www.theguardian.com/environment/2023/aug/04/england-playgrounds-crumble-council-budgets-fall>.
- Haldane, Andy. 'Reweaving the Social Fabric after the Crisis'. Financial Times, April 2020. <https://www.ft.com/content/fbb1ef1c-7ff8-11ea-b0fb-13524ae1056b>.
- Hanushek, Eric A., and Ludger Woessmann. 'The Role Of Education Quality For Economic Growth' Policy Research Working Papers, 2013. <https://doi.org/https://doi.org/10.1596/1813-9450-4122>.
- Holmlund, Helena, and Martin Nybom. 'Education and Social Mobility' Working Paper Series, 2023. https://ideas.repec.org/p/hhs/ifauwp/2023_018.html.
- Industrial Strategy Commission. 'The Final Report of the Industrial Strategy Commission', 2017. <https://industrial-strategy-commission.sites.sheffield.ac.uk/>.
- INKAR. 'Indikatoren Und Karten Zur Raum- Und Stadtentwicklung', 2020.
- Kassenärztliche Bundesvereinigung. 'Regionale Verteilung Der Ärztinnen Und Ärzte In Der Vertragsärztlichen Versorgung', 2022. <https://gesundheitsdaten.kbv.de/cms/html/16402.php>.
- Kenny, Michael, and Tom Kelsey. 'Townscapes: The Value of Social Infrastructure', 2021. <https://www.bennettinstitute.cam.ac.uk/publications/social-infrastructure/>.
- Labour Party. 'A New Britain: Renewing Our Democracy and Rebuilding Our Economy', 2022. <https://labour.org.uk/wp-content/uploads/2022/12/Commission-on-the-UKs-Future.pdf>.
- Lee, Caroline. 'Supermarkets and Community Well-Being: Developing a Framework to Guide Investment, Implementation, and Impact of Community Actions.' Working Paper (Cambridge, 2022). <https://www.cisl.cam.ac.uk/resources/publications/supermarkets-and-community-well-being-developing-framework-guide-investment>.
- LINK. 'Eight New Banking Hubs Confirmed Following Closures', March 2023. <https://www.link.co.uk/about/news/eight-new-banking-hubs-confirmed-following-closures/>.
- Local Trust. 'Left behind? Understanding Communities on the Edge', 2019. <https://localtrust.org.uk/insights/research/left-behind-understanding-communities-on-the-edge/>.
- Lowe, Tom. 'Labour Will Bring Back Mandatory Housing Targets, Says Starmer'. Housing Today, May 2023. <https://www.housing-today.co.uk/news/labour-will-bring-back-mandatory-housing-targets-says-starmer/5122977.article>.
- Mahmood, Saywah, and Joely Santa Cruz. 'Community Pharmacies Closing at a Rapid Rate with Deprived Areas Worst Affected'. Sky News, August 2023. <https://news.sky.com/story/community-pharmacies-closing-at-a-rapid-rate-with-deprived-areas-worst-affected-12949684>.
- Marmot, Michael, Jessica Allen, Tammy Boyce, Peter Goldblatt, and Joana Morrison. 'Health Equity in England: The Marmot Review 10 Years On', 2020. <https://www.health.org.uk/publications/reports/the-marmot-review-10-years-on>.
- Martin, Ron, Ben Gardiner, Andy Pike, Peter Sunley, and Peter Tyler. *Levelling Up Left Behind Places: The Scale and Nature of the Economic and Policy Challenge* (Routledge, 2022).
- McCann, Philip. 'Perceptions of Regional Inequality and the Geography of Discontent: Insights from the UK'. *Regional Studies* 54, no. 2 (2020): 256–267. <https://doi.org/10.1080/00343404.2019.1619928>.
- — —. 'The Fiscal Implications of "Levelling Up" and UK Governance Devolution' Productivity Insights Paper No. 008, 2021. <https://www.productivity.ac.uk/research/the-fiscal-implication-of-levelling-up-and-uk-governance-devolution/>.

- Mealy, Penny, and Diane Coyle. 'To Them That Hath: Economic Complexity and Local Industrial Strategy in the UK'. *International Tax and Public Finance* 29, no. 2 (April 2022): 358–377. <https://doi.org/https://doi.org/10.1007/s10797-021-09667-0>.
- Merwe, Ben van der, and Saywah Mahmood. 'GPs at "breaking Point" in England's Most Deprived Areas'. Sky News, May 2023. <https://news.sky.com/story/gps-at-breaking-point-in-englands-most-deprived-areas-12889054>.
- National Audit Office. 'Improving Local Bus Services in England Outside London', 2020. <https://www.nao.org.uk/reports/improving-bus-services-in-england/>.
- National Infrastructure Commission. 'Infrastructure Progress Review 2023', 2023. <https://nic.org.uk/studies-reports/infrastructure-progress-review-2023/>.
- Newman, Jack, and Michael Kenny. 'Devolving English Government', 2023. <https://www.bennettinstitute.cam.ac.uk/publications/devolving-english-government/>.
- NHS Dental Statistics for England. 'NHS Dental Statistics for England Dashboard', 2022. <https://app.powerbi.com/view?r=eyJrIjoiYTRlMzJiYTEtMTgwMi00ZTdiLTgzMWUtZGM5Y2NmMTI5MGE4IiwidCI6IjUwZjYwNzFmLWJiZmUtNDAxYS04ODA4LTY3Mzc0OGU2MjllMmI0j9>.
- Nomis. 'Population Estimates - Local Authority Based by Single Year of Age', 2023. <https://www.nomisweb.co.uk/datasets/pepsyoala>.
- Norris, Emma, Joe Randall, Oliver Illott, and Alex Bleasdale. 'Making Policy Stick: Tackling Long-Term Challenges in Government', 2016. <https://www.instituteforgovernment.org.uk/publication/report/making-policy-stick>.
- Ofcom. 'Connected Nations Update: Spring 2023', 2023. <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/spring-2023>.
- Ogden, Kate, and David Phillips. 'The Distribution of Public Service Spending', 2023. <https://ifs.org.uk/publications/distribution-public-service-spending>.
- Ogden, Kate, David Phillips, and Max Warner. 'How Much Public Spending Does Each Area Receive? Local Authority Level Estimates of Health, Police, School and Local Government Spending' (London, 2023). <https://doi.org/10.1920/re.ifs.2023.0269>.
- ONS. 'GDP by Local Authority', 2021. <https://www.ons.gov.uk/datasets/gdp-by-local-authority/editions/time-series/versions/2>.
- . 'Population Profiles for Local Authorities in England', 2021. <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/populationprofilesforlocalauthoritiesinengland/2020-12-14>.
- Ordnance Survey. 'Points of Interest', 2023. <https://www.ordnancesurvey.co.uk/products/points-of-interest#technical>.
- Parisi, Rosa, Yiu-Shing Lau, Peter Bower, Kath Checkland, Jill Rubery, Matt Sutton, Sally J Giles, Aneez Esmail, Sharon Spooner, and Evangelos Kontopantelis. 'Rates of Turnover among General Practitioners: A Retrospective Study of All English General Practices between 2007 and 2019'. *BMJ* 11 (2021). <https://doi.org/10.1136/bmjopen-2021-049827>.
- Partington, Richard. 'More English Councils Expected to Fail Owing Billions, Warns Moody's'. The Guardian, September 2023. <https://www.theguardian.com/society/2023/sep/11/more-english-councils-expected-to-fail-owing-billions-warns-moodys>.
- Plunkett Foundation. 'Keep It in the Community', 2023. <https://plunkett.my.site.com/keepitinthecommunity/s/>.
- Pogrud, Gabriel. 'Robert Jenrick Backs Housing Algorithm as Tory MPs Fear Threat to Suburbs'. The Times, August 2020. <https://www.thetimes.co.uk/article/robert-jenrick-backs-housing-algorithm-as-tory-mps-fear-threat-to-suburbs-20s7c9stk>.
- Reuters. 'UK Government Backtracks on Housebuilding Targets after Lawmakers Threaten Rebellion', December 2022. <https://www.reuters.com/world/uk/uk-government-backtracks-housebuilding-targets-after-lawmakers-threaten-2022-12-05/>.
- Rodríguez-Pose, Andrés. 'The Revenge of the Places That Don't Matter (and What to Do about It)'. *Cambridge Journal of Regions, Economy and Society* 11, no. 1 (March 2018): 189–209. <https://doi.org/https://doi.org/10.1093/cjres/rsx024>.
- Schofield, Ben. 'Northstowe: The Broken-Promise New Town Built "with No Heart"'. *BBC*, July 2023. <https://www.bbc.co.uk/news/uk-england-cambridgeshire-66156561>.
- Sen, Amartya. *The Country of First Boys: And Other Essays* (Oxford: Oxford University Press, 2015).

- Silverman, Rosa, and Alex Clark. "A Lot of People Are Quite Angry": Life in a Town with 10,000 New Homes and Little Else'. *The Telegraph*, August 2023. <https://www.telegraph.co.uk/news/2023/08/04/northstowe-cambridgeshire-new-homes-housing-crisis-nimby/>.
- Statistische Ämter des Bundes und der Länder. 'Bruttoinlandsprodukt, Bruttowertschöpfung in Den Kreisfreien Städten Und Landkreisen Der Bundesrepublik Deutschland 1992 Und 1994 Bis 2021, Berechnungsstand August 2022', 2022. <https://www.statistikportal.de/de/veroeffentlichungen/bruttoinlandsprodukt-bruttowertschoepfung-0>.
- — —. 'Krankenhäuser Nach Fachabteilungen - Stichtag 31.12. - Regionale Ebenen (Ab 2018)', 2022. <https://www.regionalstatistik.de/genesis/online?operation=statistic&levelindex=0&levelid=1692798120798&code=23111#abreadcrumb>.
- — —. 'Statistik Der Allgemeinbildenden Schulen', 2022. <https://www.regionalstatistik.de/genesis/online?operation=statistic&levelindex=0&levelid=1692806020433&code=21111#abreadcrumb>.
- — —. 'Statistik Der Beruflichen Schulen', 2022. <https://www.regionalstatistik.de/genesis/online?operation=statistic&levelindex=0&levelid=1692798120798&code=21121#abreadcrumb>.
- Statistisches Bundesamt. 'Bevölkerung: Kreise, Stichtag', 2023. <https://www-genesis.destatis.de/genesis/online?operation=table&code=12411-0015&bypass=true&levelindex=0&levelid=1689852473766#abreadcrumb>.
- Ungoed-Thomas, Jon, Tom Harper, and Krystina Shveda. '600 Police Stations Shut in Eight Years'. *The Times*, September 2018. <https://www.thetimes.co.uk/article/600-police-stations-shut-in-eight-years-nvjdwjmwj>.
- Wells, Ione, and Sam Francis. 'Ministers Propose Scrapping Pollution Rules to Build More Homes'. *BBC*, August 2023. <https://www.bbc.co.uk/news/uk-politics-66642878>.
- Wrigley, Neil, Daniel Warm, and Barrie Margetts. 'Deprivation, Diet, and Food-Retail Access: Findings from the Leeds "Food Deserts" Study'. *Environment and Planning A: Economy and Space* 31, no. 1 (2003). <https://doi.org/https://doi.org/10.1068/a35150>.
- Yorke, Harry. 'Cambridge to Become Europe's Silicon Valley – with 250,000 Extra Homes'. *The Sunday Times*, July 2023. <https://www.thetimes.co.uk/article/michael-gove-cambridge-silicon-valley-levelling-up-v27nmnttc>.

Appendices

Appendix 1. Description of data sources used for England

Indicator	Description	Data source	Time
Population estimates	Estimates of population are based on results from the latest Census of Population with allowance for under-enumeration	Nomis (2023) <i>Population estimates - local authority based by single year of age</i>	2014-21
Population density	People per sq. km	Office for National Statistics (2021) <i>Population profiles for local authorities in England</i>	2019
Gross domestic product per head at current market prices	Gross domestic product (GDP) in current market prices and as chained volume measures, plus GDP per capita, for each local authority district, metropolitan district, London borough and Scottish Council area in the UK.	Office for National Statistics (2021) <i>GDP by local authority</i>	2019
Railway stations, junctions and halts (10570738)	Number of railway stations, junctions and halts	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Bus and coach stations, depots and companies (10570731)	Number of bus and coach stations, depots and companies	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Clinics and health centres (05280365)	Number of clinics and health centres	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Doctors surgeries (05280369)	Number of GP practice providers	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Hospitals (05280371)	Number of hospitals	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Mental health centres and practitioners (05280372)	Number of mental health centres and practitioners	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
First, primary and infant schools (05310375)	Number of first, primary and infant schools	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Broad age range and secondary state schools (05310379)	Number of broad age range and secondary state schools	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Further education establishments (05310376)	Number of education establishments	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Police stations (06330422)	Number of police stations	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Banks and building societies (02090138)	Number of banks and building societies	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Cash machines (02090141)	Number of cash machines	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23

Indicator	Description	Data source	Time
Post offices (09480763)	Number of post offices	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Chemists and pharmacies (05280364)	Number of chemists and pharmacies	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Convenience stores and independent supermarkets (09470699)	Number of convenience stores and independent supermarkets	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Supermarket chains (09470819)	Number of supermarket chains	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Museums (03170248)	Number of museums	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Gymnasiums, sports halls and leisure centres (04240293)	Number of gymnasiums, sports halls and leisure centres	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Swimming pools (04240304)	Number of swimming pools	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Cinemas (04250308)	Number of cinemas	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Theatres and concert halls (04250315)	Number of theatres and concert halls	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Libraries (06340458)	Number of libraries	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Shopping centres and retail parks (09480708)	Number of shopping centres and retail parks	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Restaurants (01020043)	Number of restaurants	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Pubs, bars and inns (01020034)	Number of pubs, bars and inns	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Municipal parks and gardens (03180814)	Number of municipal parks and gardens	Ordnance Survey (2023) <i>Points of Interest</i>	2014-23
Superfast Broadband Availability	Percentage of premises capable of receiving download speeds of at least 30 Mbps	Ofcom (2023) <i>Connected Nations</i>	2015-22
NHS dental care treatment	Adults refers to the % of adults who received NHS dental care in the preceding 24 months of the quarters end date.	NHS Dental Statistics for England	Jun 2016 – Jun 2022

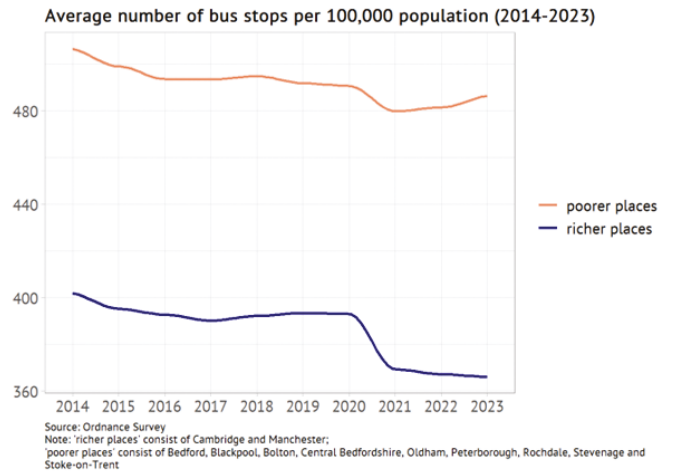
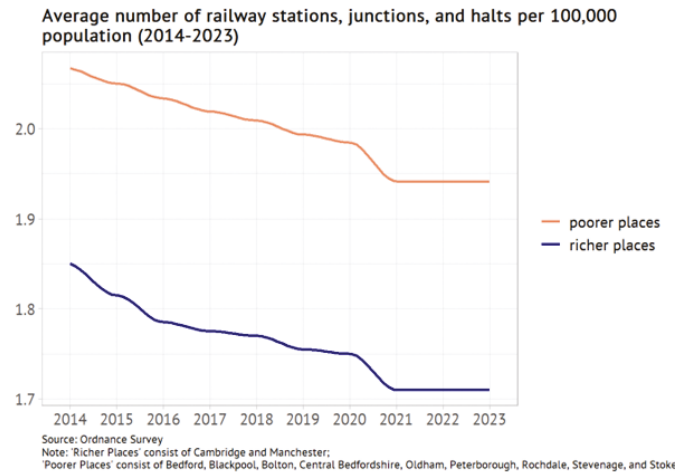
Appendix 2. Description of data sources used for Germany

Indicator	Description	Data source	Time
Population estimates	The basis for the population estimates are the results of the last census (2011)	Statistisches Bundesamt (2023) <i>Bevölkerung: Kreise, Stichtag</i>	2019
Gross domestic product per head at current market prices	Gross domestic product per head at current market prices	Statistische Ämter des Bundes und der Länder (2022) <i>Bruttoinlandsprodukt, Bruttowertschöpfung in den kreisfreien Städten und Landkreisen der Bundesrepublik Deutschland 1992 und 1994 bis 2021, Berechnungsstand August 2022</i>	2019
Train stops (154,020)	Number of stops for ICE, IC, EC, regional traffic	INKAR (2020) <i>Indikatoren und Karten zur Raum- und Stadtentwicklung</i>	2020
Bus stops (154,030)	Number of stops for public transport buses	INKAR (2020) <i>Indikatoren und Karten zur Raum- und Stadtentwicklung</i>	2020
Police stations	Number of police stations	INKAR (2020) <i>Indikatoren und Karten zur Raum- und Stadtentwicklung</i>	2019
Pharmacies (155,100)	Proportion of inhabitants with a maximum linear distance of 1 km to the nearest pharmacy	INKAR (2020) <i>Indikatoren und Karten zur Raum- und Stadtentwicklung</i>	2021
Cinemas (156,250)	Number of cinemas	INKAR (2020) <i>Indikatoren und Karten zur Raum- und Stadtentwicklung</i>	2017
Libraries (156,200)	Number of public and private libraries	INKAR (2020) <i>Indikatoren und Karten zur Raum- und Stadtentwicklung</i>	2017
GPs	Number of GPs	Kassenärztliche Bundesvereinigung (2022) <i>Regionale Verteilung der Ärztinnen und Ärzte in der vertragsärztlichen Versorgung</i>	2021
Mental health providers	Number of medical psychotherapists, child and youth psychiatrists, psychological psychotherapists	Kassenärztliche Bundesvereinigung (2022) <i>Regionale Verteilung der Ärztinnen und Ärzte in der vertragsärztlichen Versorgung</i>	2021
Hospitals	Number of hospitals	Statistische Ämter des Bundes und der Länder (2022) <i>Krankenhäuser nach Fachabteilungen - Stichtag 31.12. - regionale Ebenen (ab 2018)</i>	2021

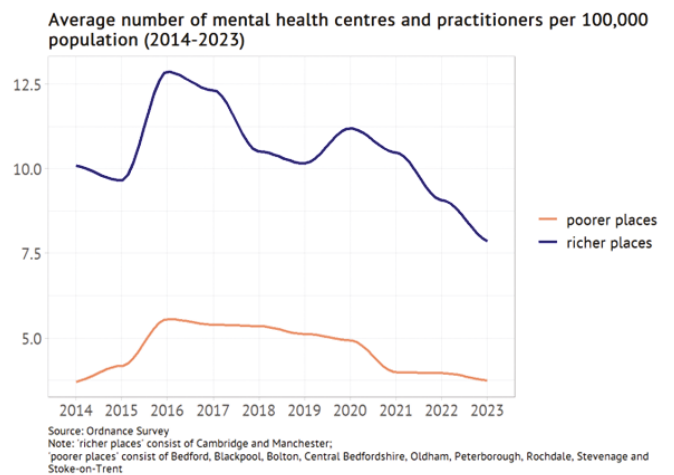
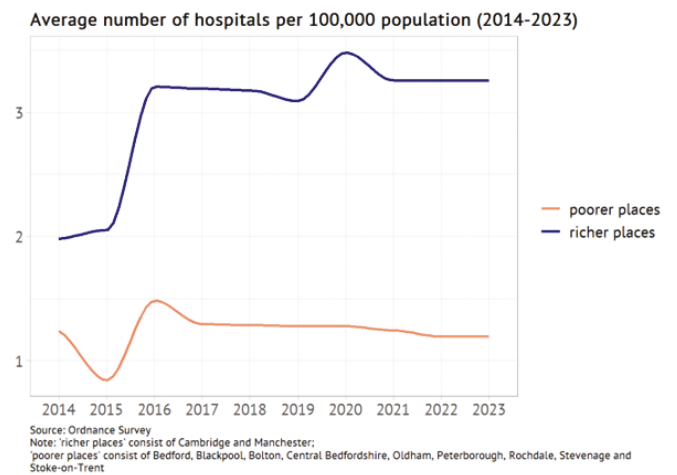
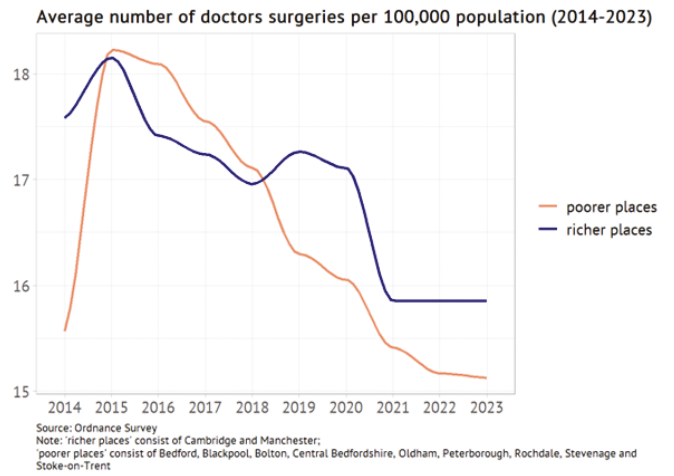
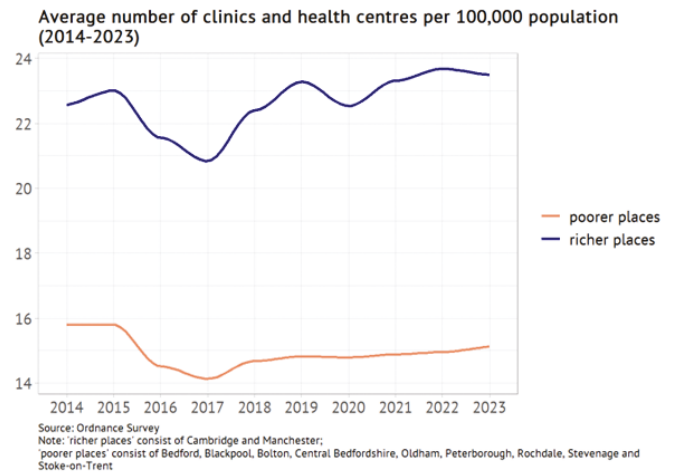
Indicator	Description	Data source	Time
Primary and secondary schools	Number of Elementary schools, School type-independent orientation level, Secondary schools, Schools with several courses of education, Grammar schools, Integrated comprehensive schools, Free Waldorf schools, Evening schools and colleges	Statistische Ämter des Bundes und der Länder (2022). <i>Statistik der allgemeinbildenden Schulen</i>	2021
Further education establishments	Number of Vocational schools, Secondary technical schools, Technical high schools, Vocational high schools / technical high schools Technical schools, Technical academies / vocational academies	Statistische Ämter des Bundes und der Länder (2022) <i>Statistik der beruflichen Schulen</i>	2021

Appendix 3. Comparison of richer vs. poorer places (per 100,000 population)

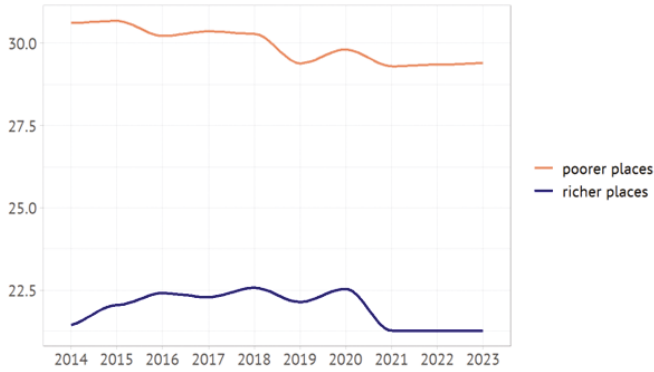
i) Physical infrastructure



ii) Social infrastructure

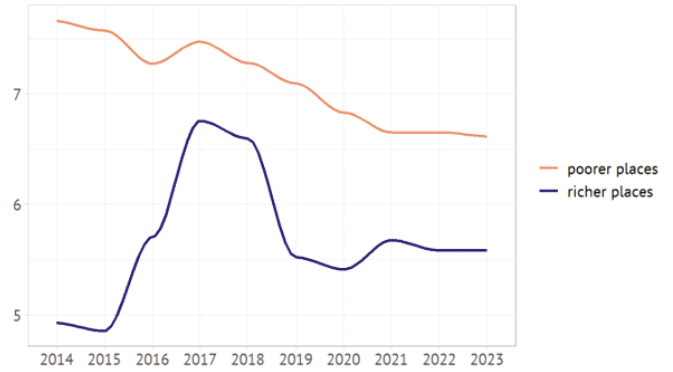


Average number of first, primary and infant schools per 100,000 population (2014-2023)



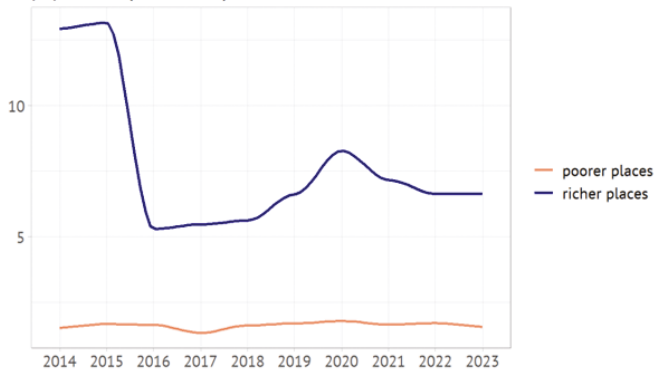
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of secondary state schools per 100,000 population (2014-2023)



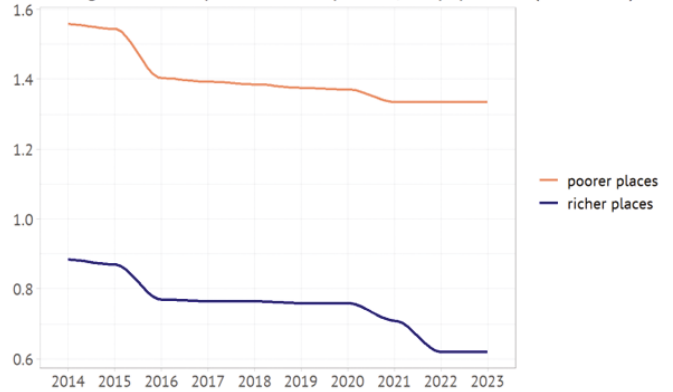
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of further education establishments per 100,000 population (2014-2023)



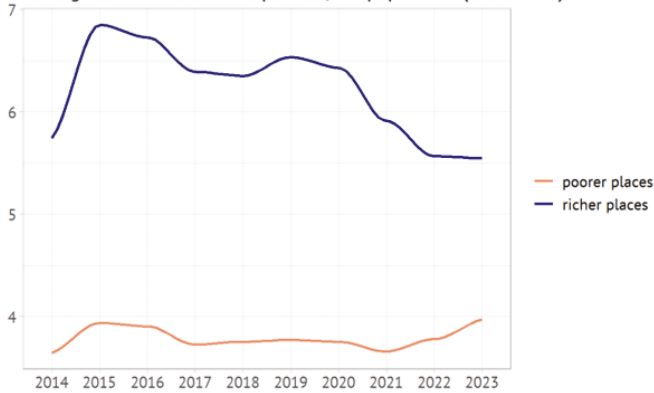
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of police stations per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

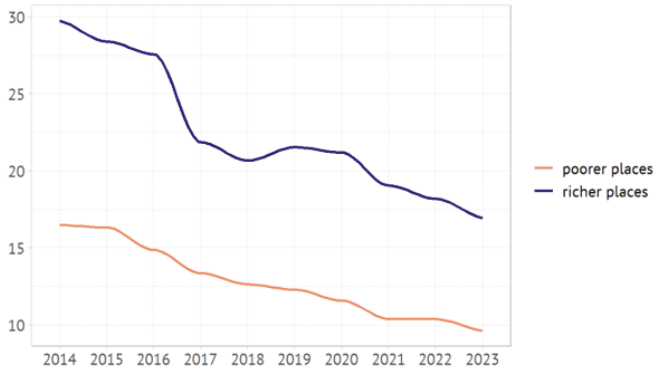
Average number of libraries per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

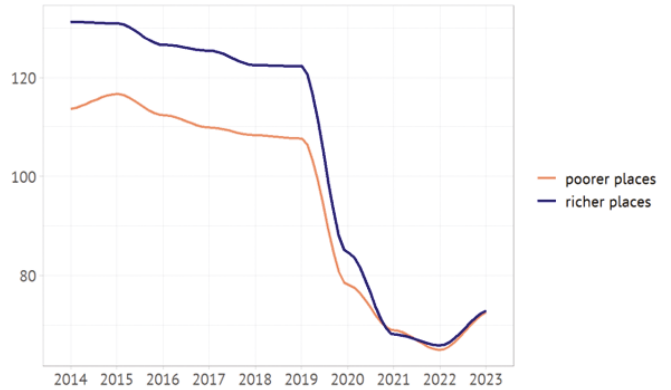
iii) Private infrastructure

Average number of banks and building societies per 100,000 population (2014-2023)



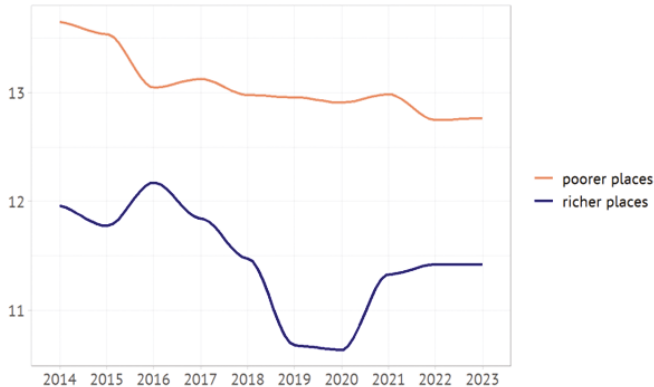
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of cash machines per 100,000 population (2014-2023)



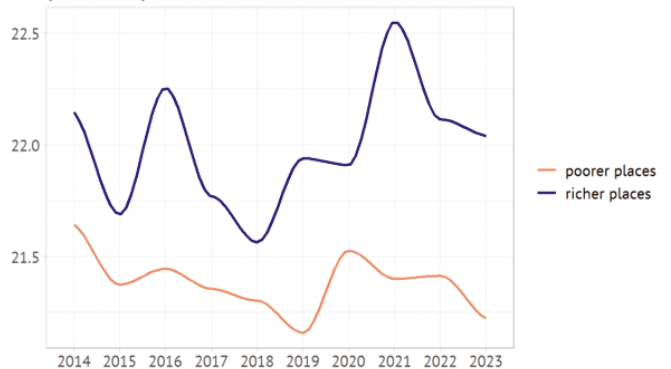
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of post offices per 100,000 population (2014-2023)



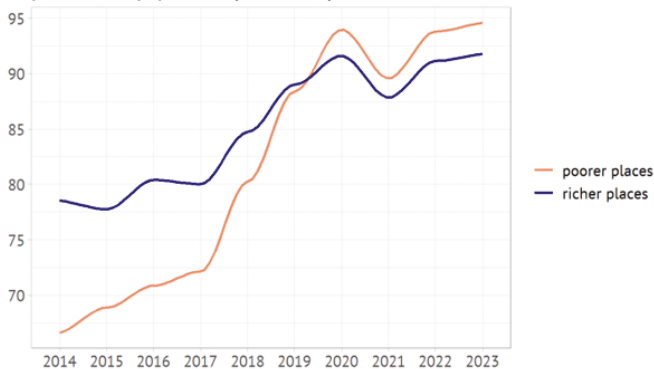
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of chemists and pharmacies per 100,000 population (2014-2023)



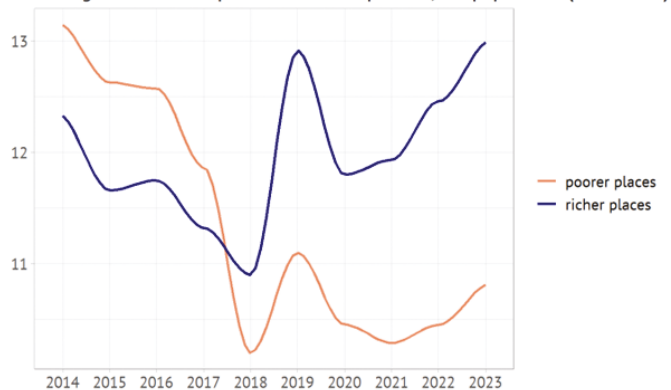
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of convenience stores and independent supermarkets per 100,000 population (2014-2023)



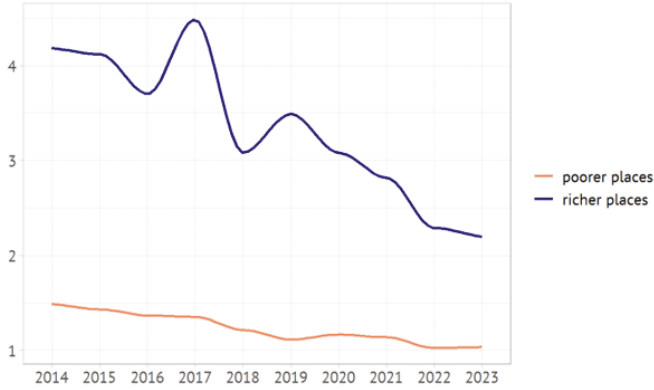
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of supermarket chains per 100,000 population (2014-2023)



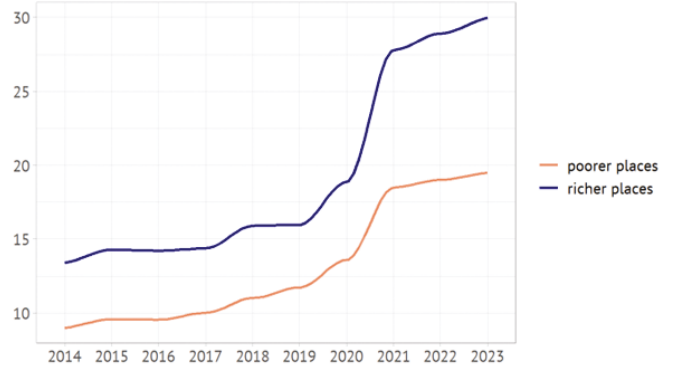
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of museums per 100,000 population (2014-2023)



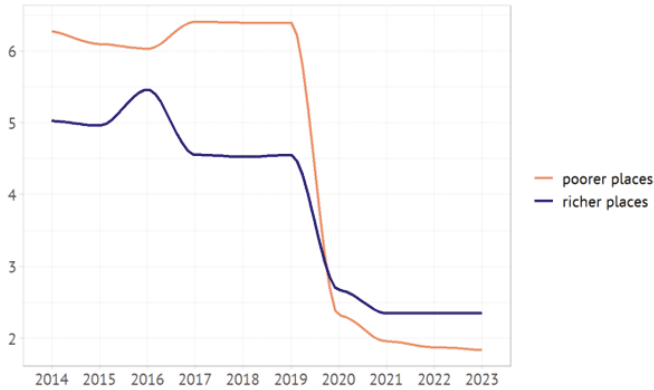
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of gymnasiums, sports halls and leisure centres per 100,000 population (2014-2023)



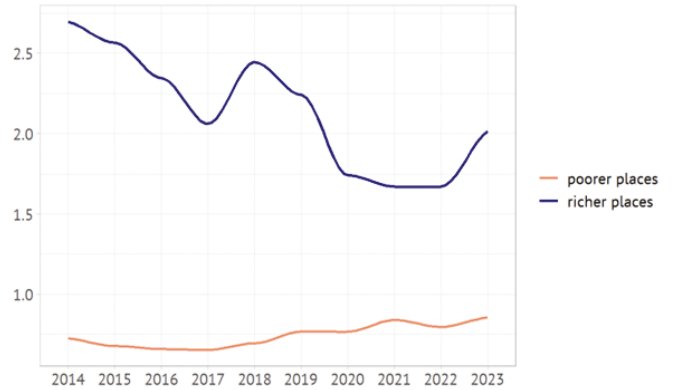
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of swimming pools per 100,000 population (2014-2023)



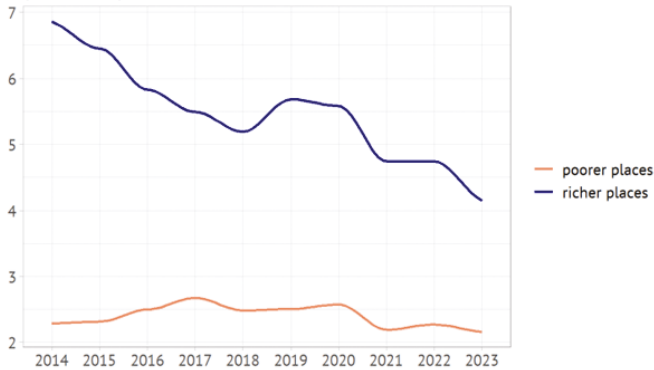
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of cinemas per 100,000 population (2014-2023)



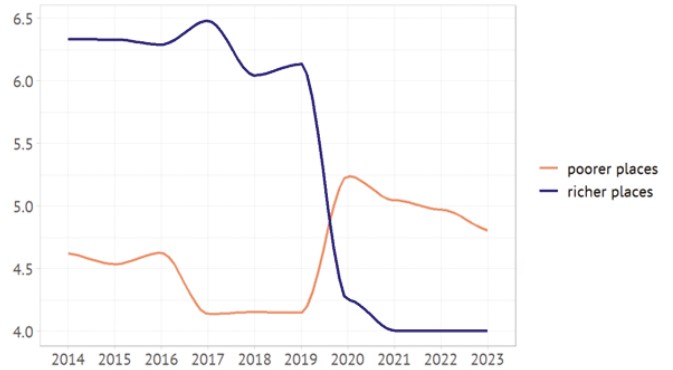
Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of theatres and concert halls per 100,000 population (2014-2023)

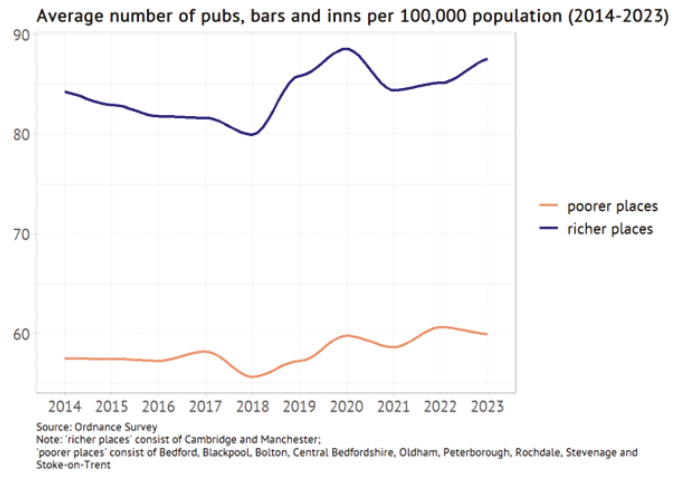
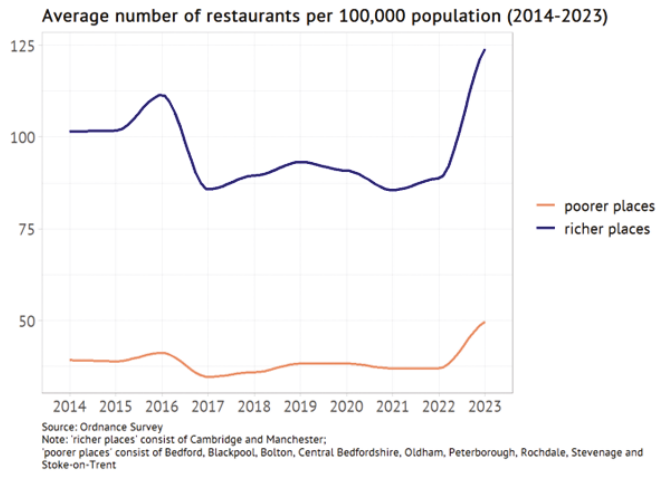


Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

Average number of shopping centres and retail parks per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'richer places' consist of Cambridge and Manchester;
 'poorer places' consist of Bedford, Blackpool, Bolton, Central Bedfordshire, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent

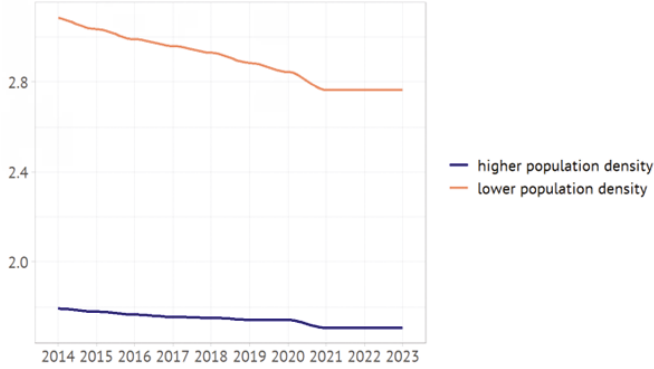


Source: Nomis (2023); Ordnance Survey (2023)

Appendix 4. Comparison of higher vs. lower population density places (per 100,000 population)

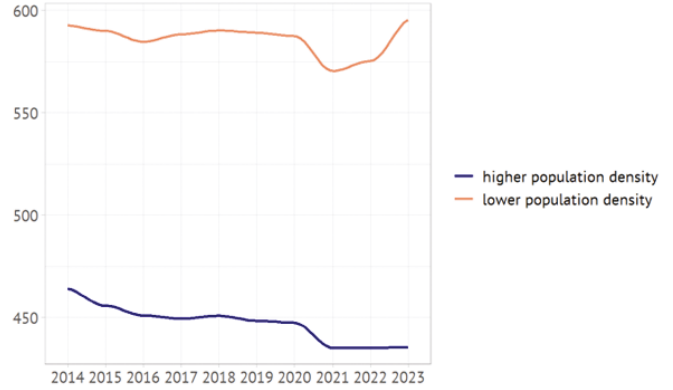
i) Physical infrastructure

Average number of railway stations, junctions and halts per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

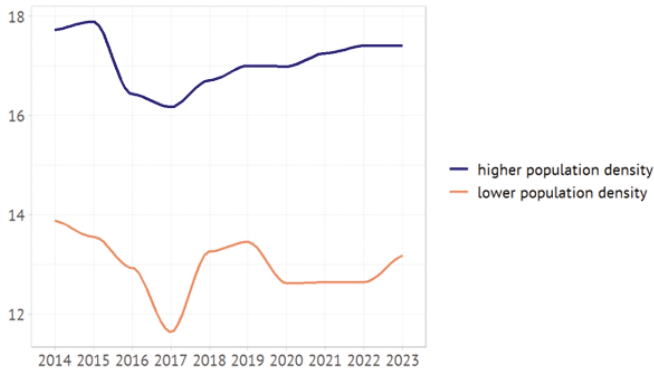
Average number of bus stops per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

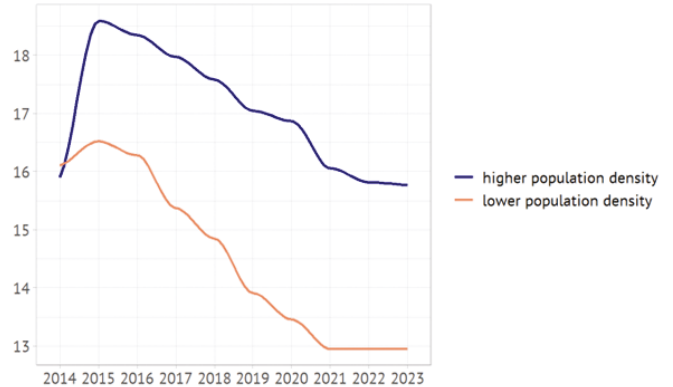
ii) Social infrastructure

Average number of clinics and health centres per 100,000 population (2014-2023)



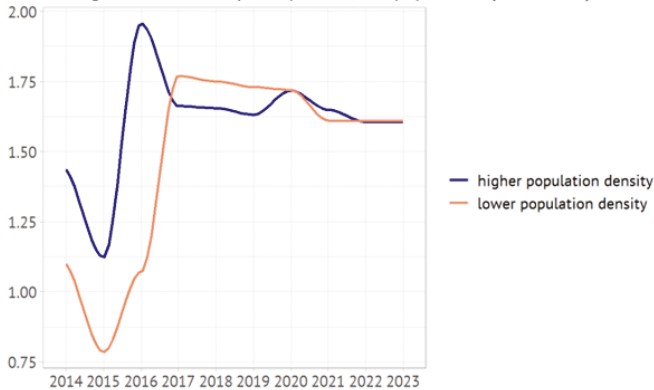
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of doctors surgeries per 100,000 population (2014-2023)



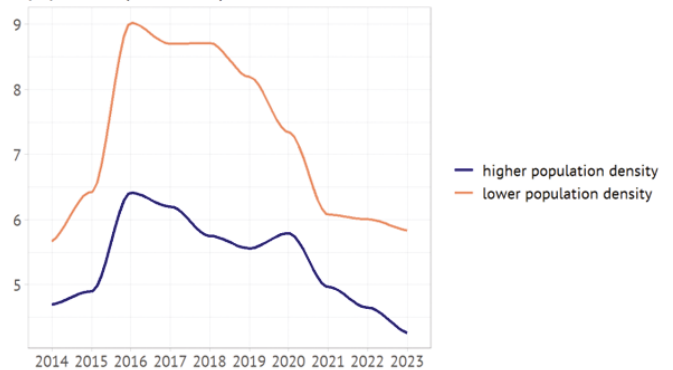
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of hospitals per 100,000 population (2014-2023)



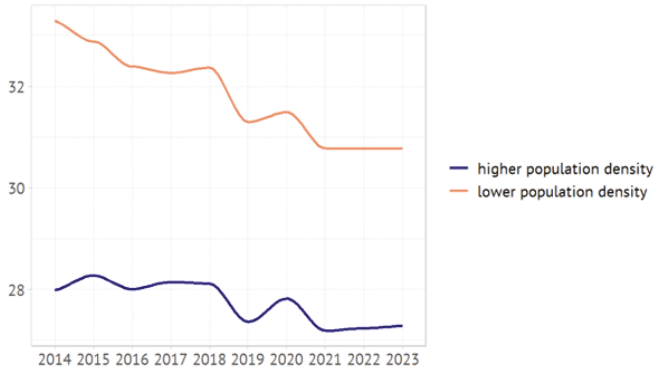
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of mental health centres and practitioners per 100,000 population (2014-2023)



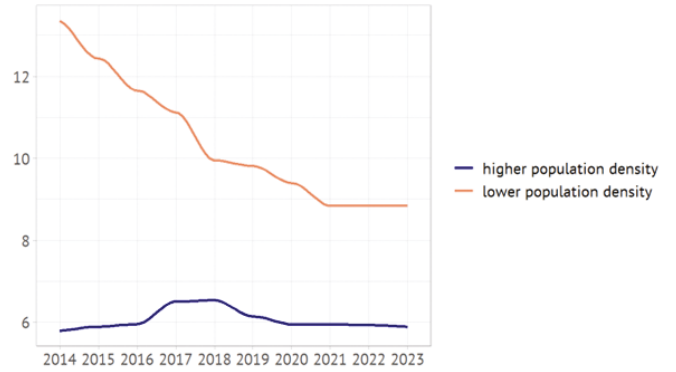
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of first, primary and infant schools per 100,000 population (2014-2023)



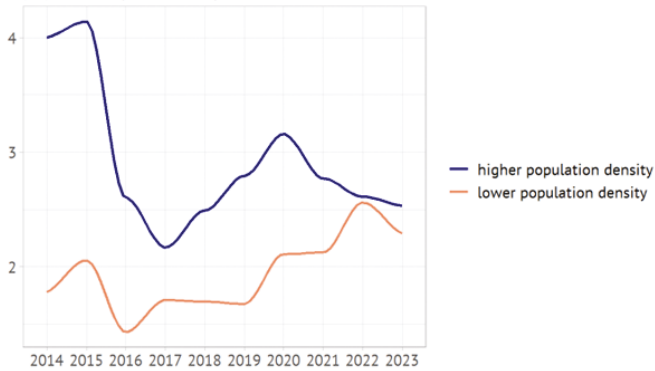
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of secondary state schools per 100,000 population (2014-2023)



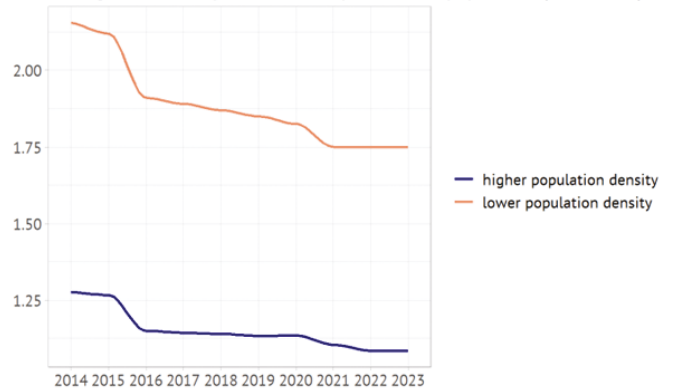
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of further education establishments per 100,000 population (2014-2023)



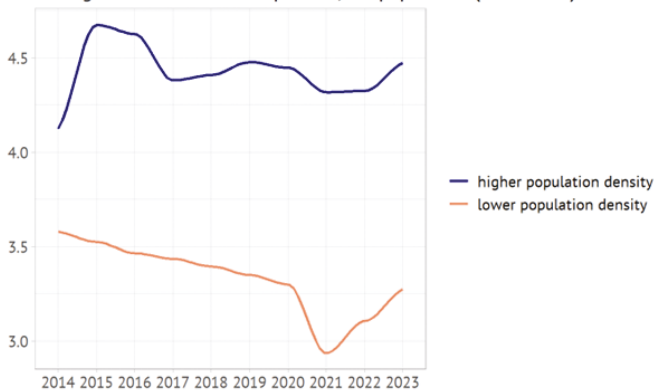
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of police stations per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

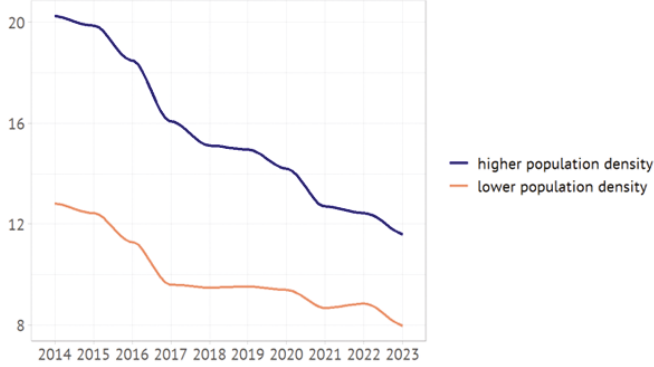
Average number of libraries per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

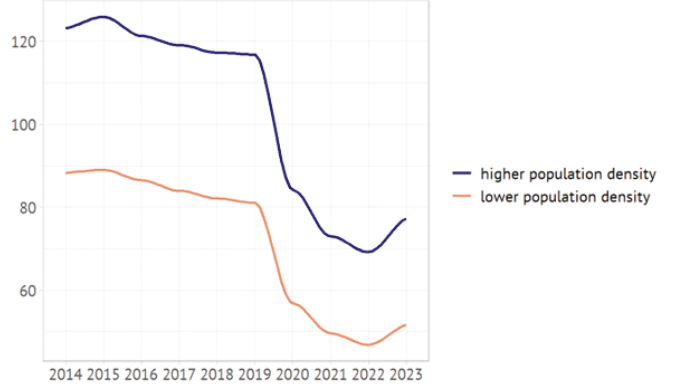
iii) Private infrastructure

Average number of banks and building societies per 100,000 population (2014-2023)



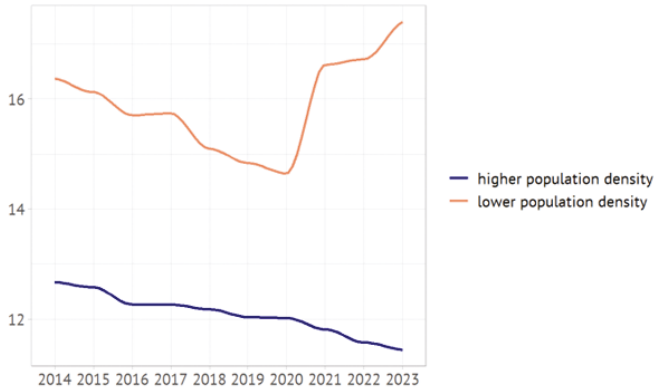
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of cash machines per 100,000 population (2014-2023)



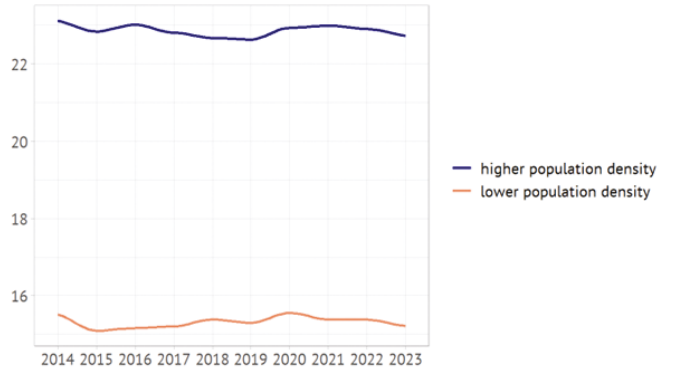
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of post offices per 100,000 population (2014-2023)



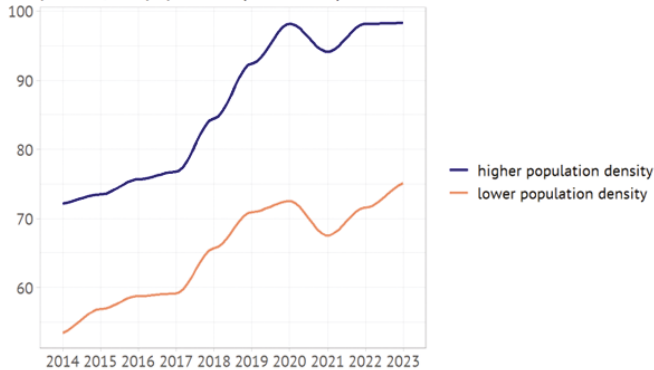
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of chemists and pharmacies per 100,000 population (2014-2023)



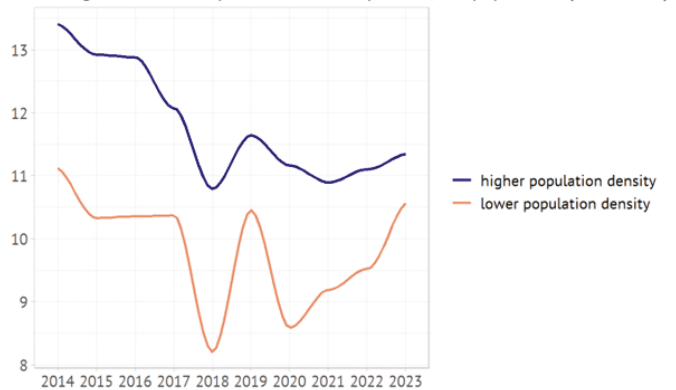
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of convenience stores and independent supermarkets per 100,000 population (2014-2023)



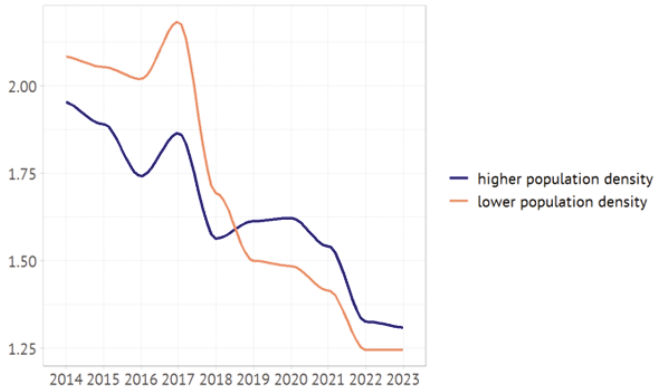
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of supermarket chains per 100,000 population (2014-2023)



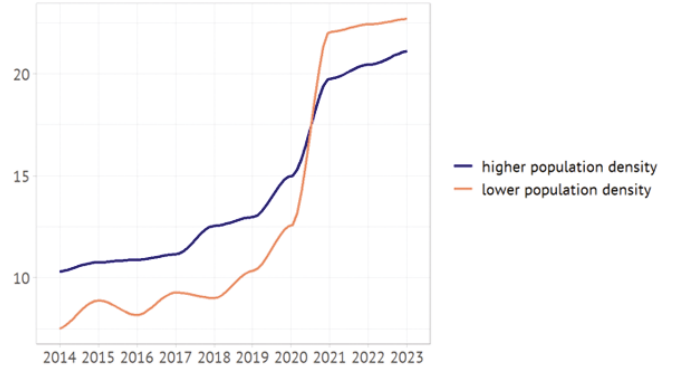
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of museums per 100,000 population (2014-2023)



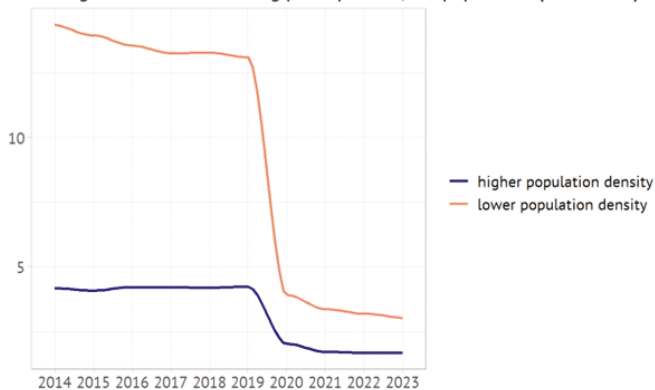
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent; 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of gymnasiums, sports halls and leisure centres per 100,000 population (2014-2023)



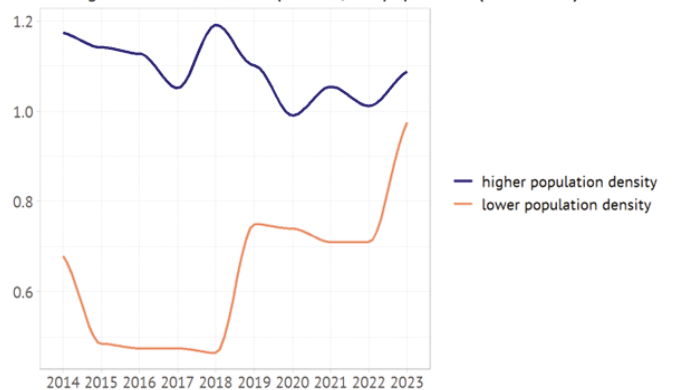
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent; 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of swimming pools per 100,000 population (2014-2023)



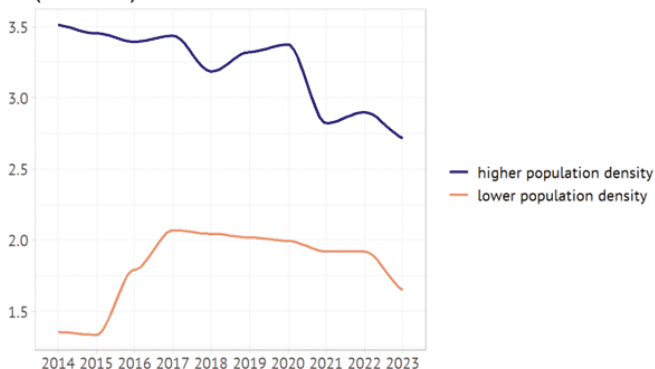
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent; 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of cinemas per 100,000 population (2014-2023)



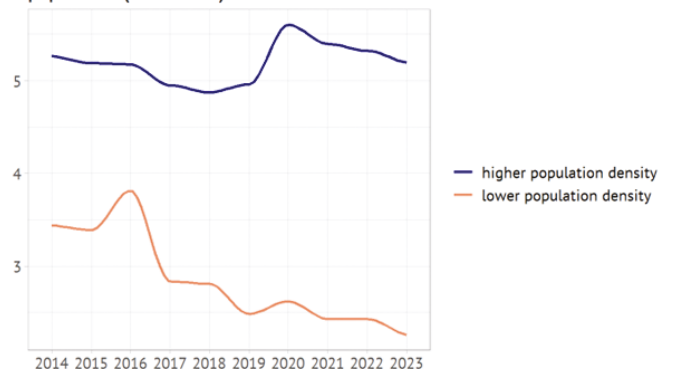
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent; 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of theatres and concert halls per 100,000 population (2014-2023)



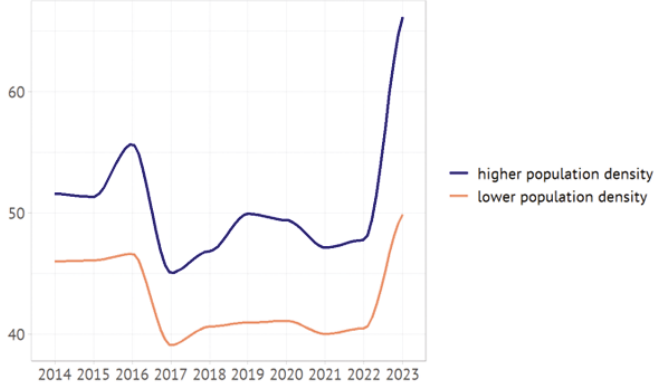
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent; 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of shopping centres and retail parks per 100,000 population (2014-2023)



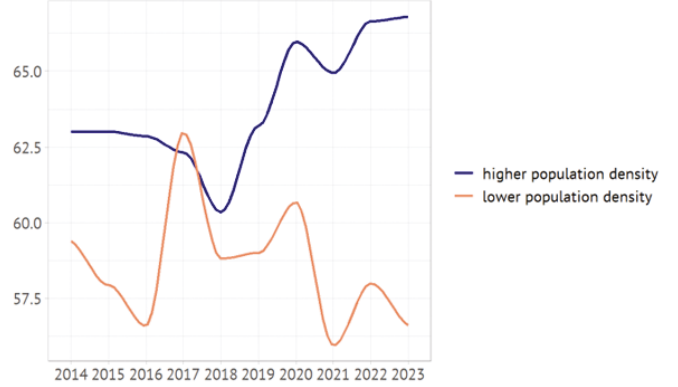
Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent; 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of restaurants per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Average number of pubs, bars and inns per 100,000 population (2014-2023)

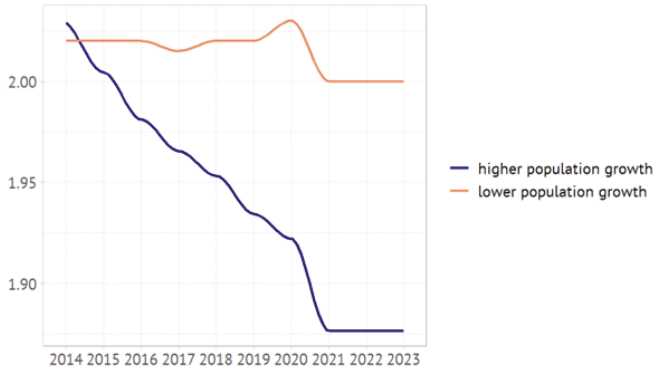


Source: Ordnance Survey
 Note: 'higher population density' places consist of Blackpool, Bolton, Cambridge, Manchester, Oldham, Peterborough, Rochdale, Stevenage and Stoke-on-Trent;
 'lower population density' places consist of Bedford and Central Bedfordshire

Appendix 5. Comparison of higher vs. lower population growth places (per 100,000 population)

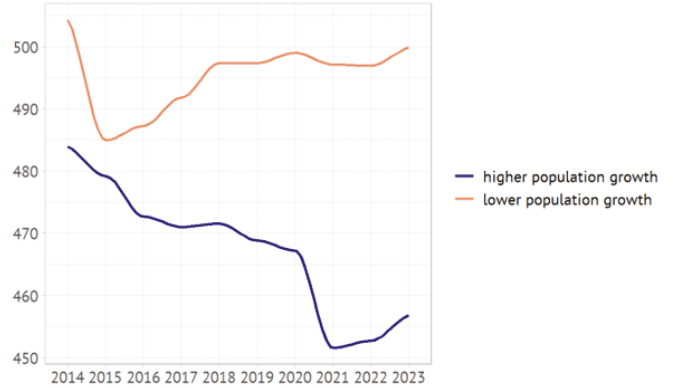
i) Physical infrastructure

Average number of railway stations, junctions and halts per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

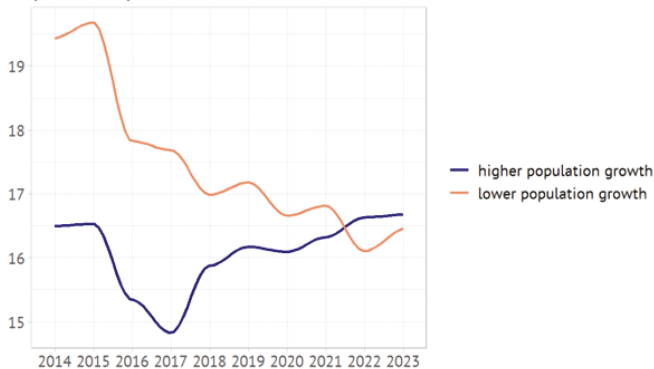
Average number of bus stops per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

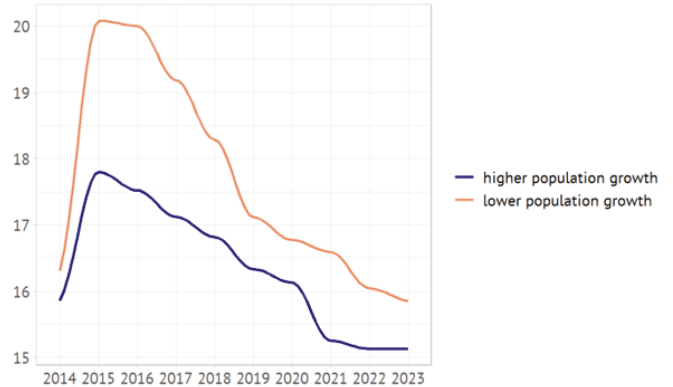
ii) Social infrastructure

Average number of clinics and health centres per 100,000 population (2014-2023)



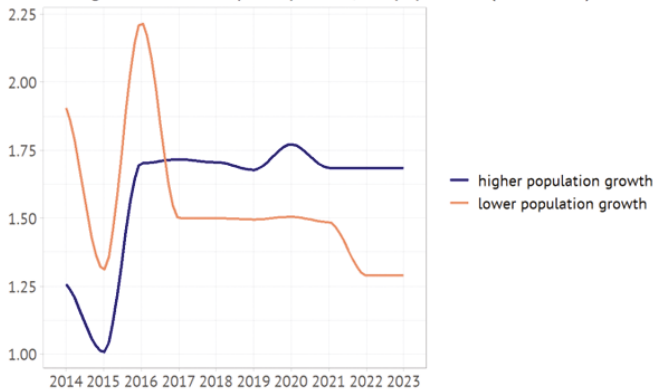
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of doctors surgeries per 100,000 population (2014-2023)



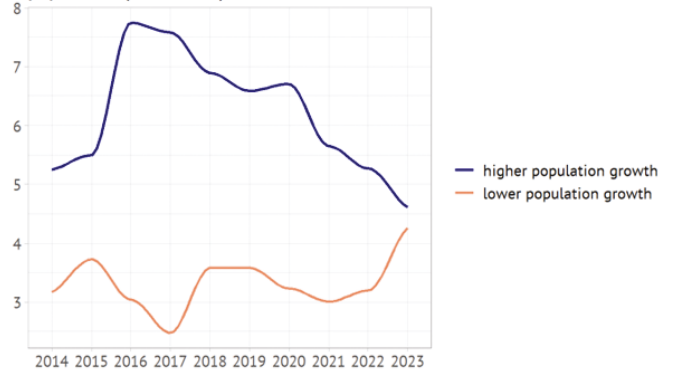
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of hospitals per 100,000 population (2014-2023)



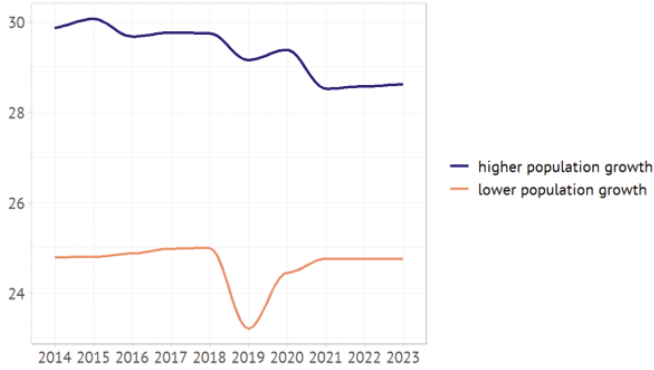
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of mental health centres and practitioners per 100,000 population (2014-2023)



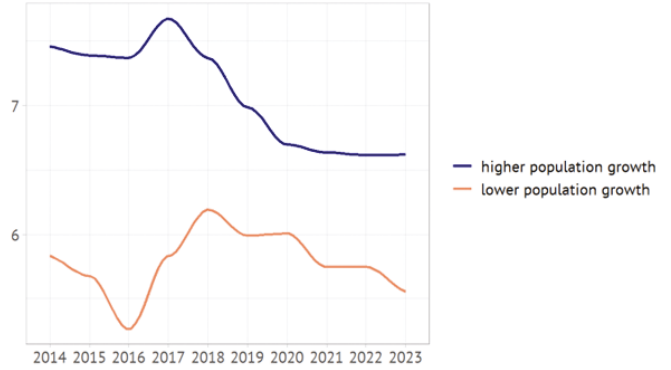
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of first, primary and infant schools per 100,000 population (2014-2023)



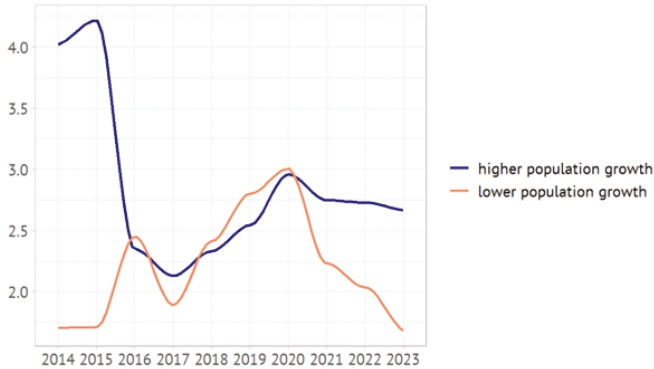
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of secondary state schools per 100,000 population (2014-2023)



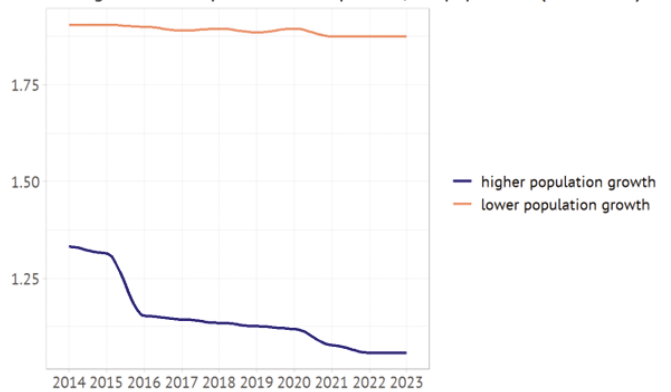
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of further education establishments per 100,000 population (2014-2023)



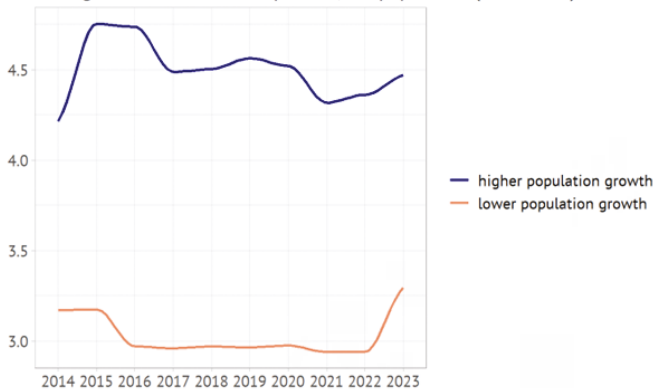
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of police stations per 100,000 population (2014-2023)



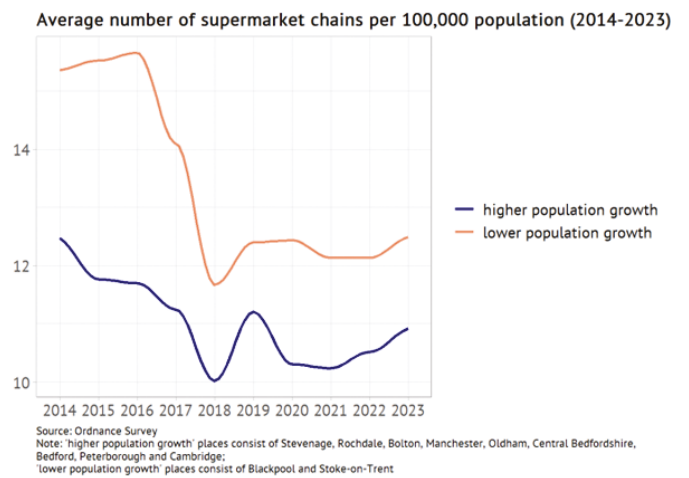
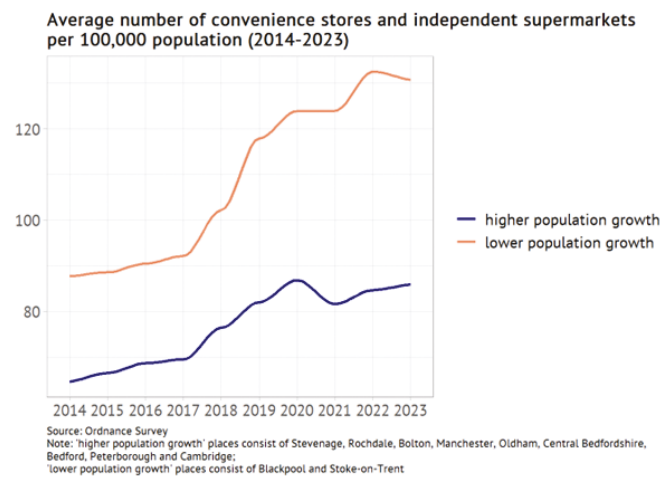
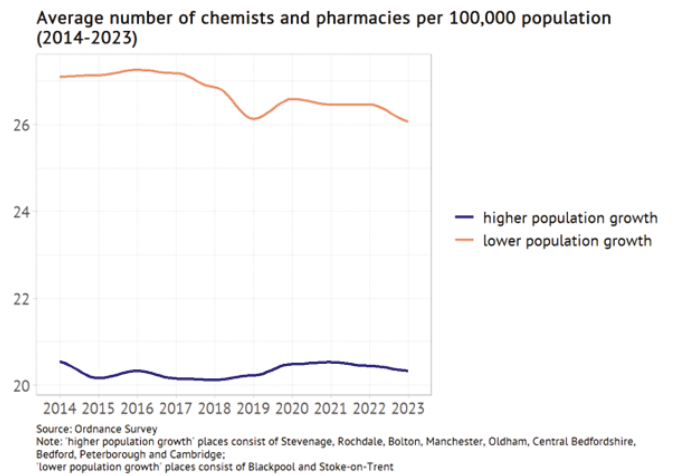
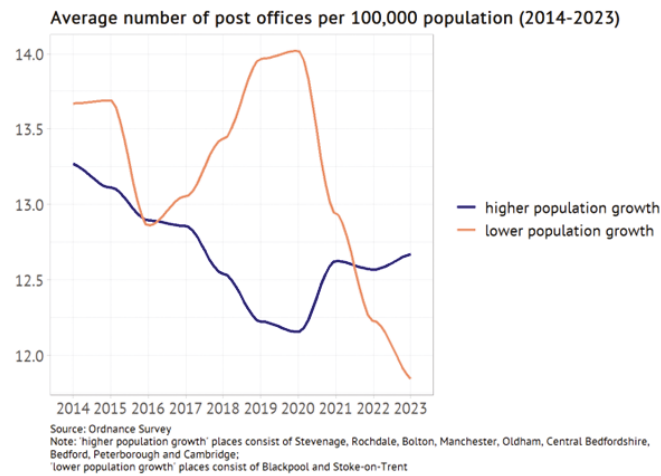
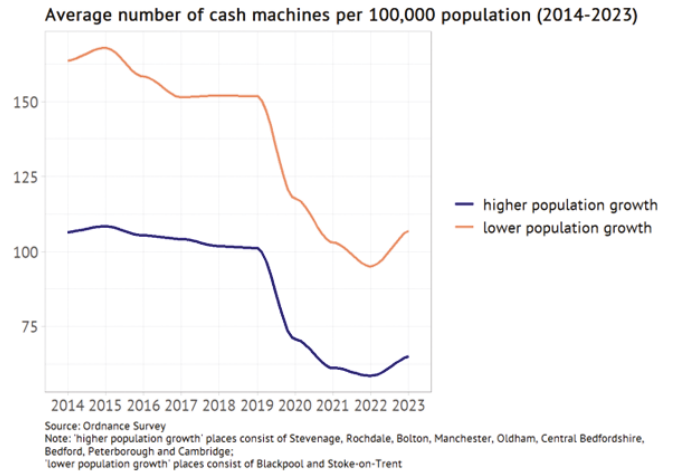
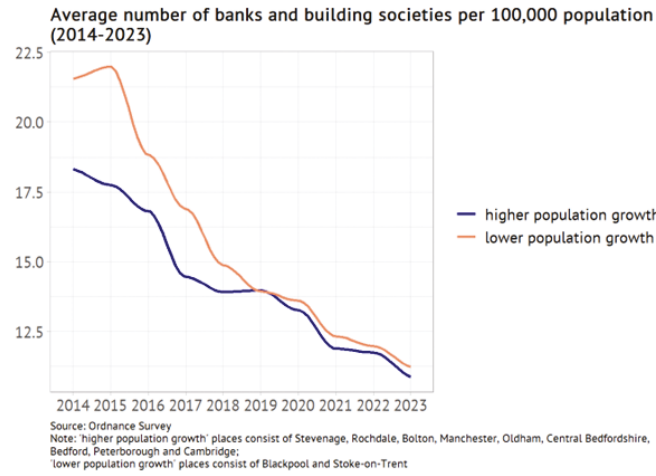
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of libraries per 100,000 population (2014-2023)

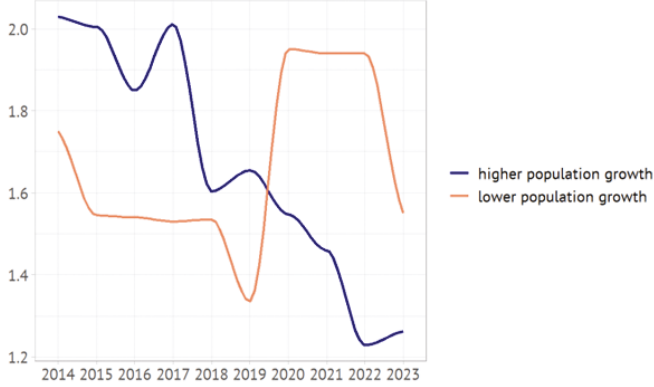


Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

iii) Private infrastructure

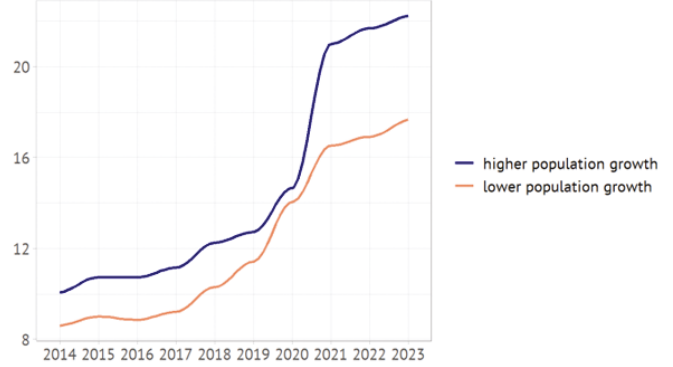


Average number of museums per 100,000 population (2014-2023)



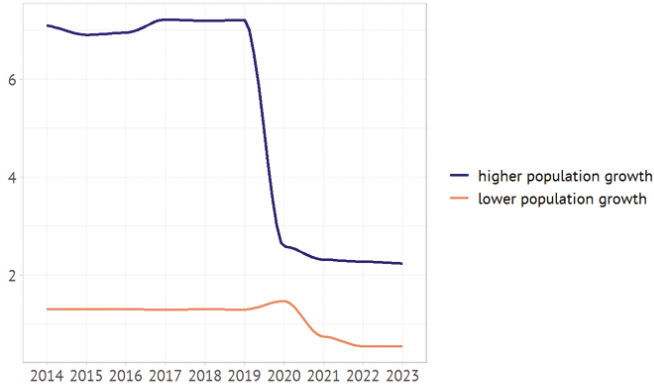
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of gymnasiums, sports halls and leisure centres per 100,000 population (2014-2023)



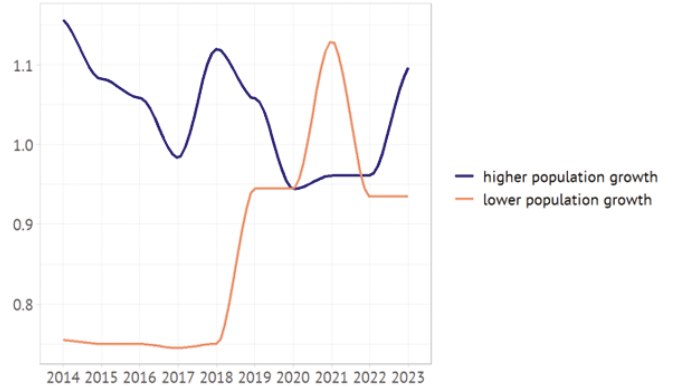
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of swimming pools per 100,000 population (2014-2023)



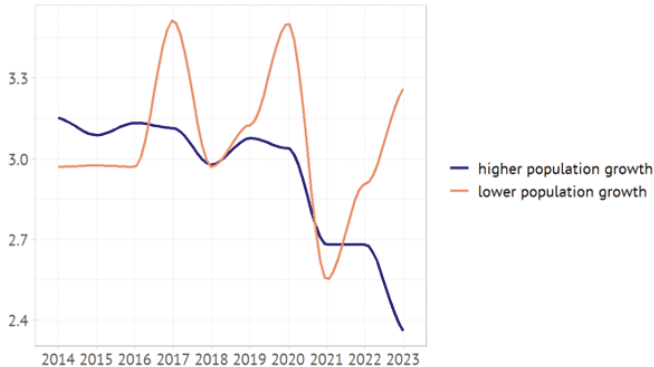
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of cinemas per 100,000 population (2014-2023)



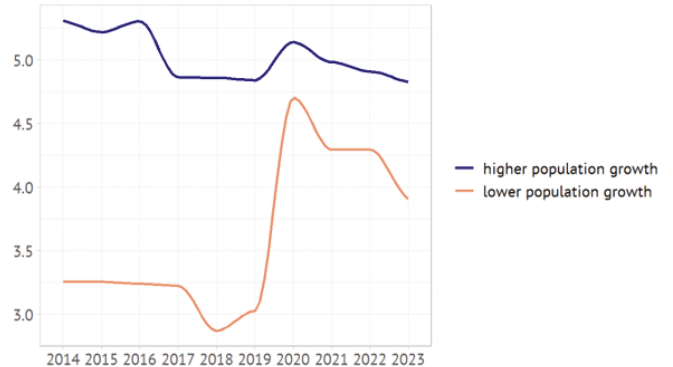
Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

Average number of theatres and concert halls per 100,000 population (2014-2023)

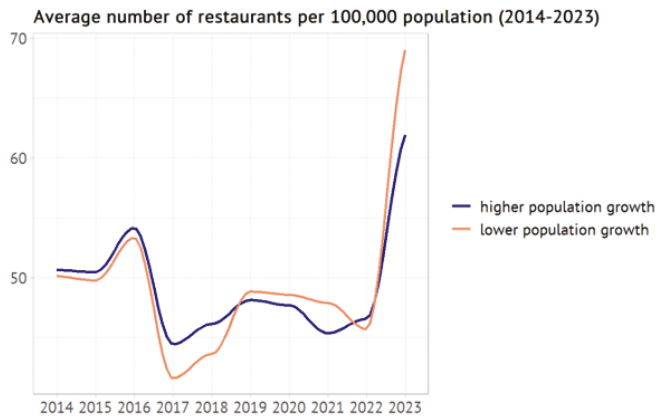


Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

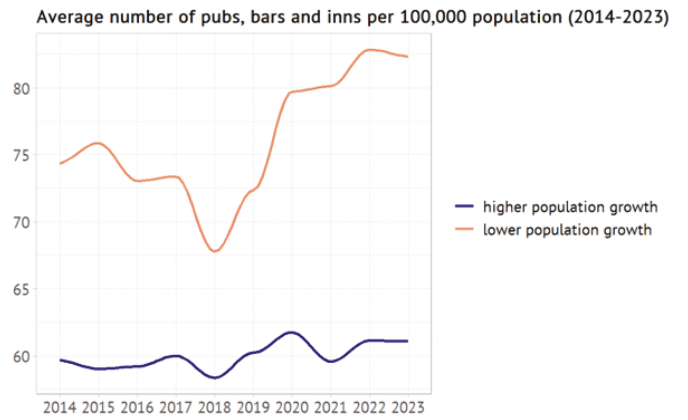
Average number of shopping centres and retail parks per 100,000 population (2014-2023)



Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent



Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent



Source: Ordnance Survey
 Note: 'higher population growth' places consist of Stevenage, Rochdale, Bolton, Manchester, Oldham, Central Bedfordshire, Bedford, Peterborough and Cambridge;
 'lower population growth' places consist of Blackpool and Stoke-on-Trent

