

Fast Growth Cities — 2021 and beyond

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About the sponsor

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Executive summary

The Fast Growth Cities group, comprising Cambridge, Milton Keynes, Norwich, Oxford, Peterborough and Swindon encompasses some of the most successful and innovative places in the UK. This briefing – an update of the first Centre for Cities report on this topic in 2016 – investigates the development of the Fast Growth Cities as places to live and to work between 2015 and 2018.¹ It gives insights on the additional challenges posed by the pandemic, as well as exploring how an increase in investment can unlock further growth and future success for the cities in the group.

The report focuses on six key areas:

Labour markets, skills and education

In recent years, a majority of the Fast Growth Cities were able to further strengthen their already robust labour markets by adding more high-performing jobs as well as seeing strong employment growth. The focus on higher education and research in the group is reflected in the rise and development of higher education institutes. While Cambridge, Oxford and Norwich already have established universities, in recent years the other Fast Growth Cities have developed their higher education sectors with plans to open their own campus-based higher education facilities. It will also be crucial to further work on skills shortages and increase the basic skills of the workforce in some cities.

Businesses and growth

The majority of the Fast Growth Cities have strong economies with large shares of employment in highly productive companies, and the group together has a disproportionately large contribution to GDP. However, cities in the group differ when it comes to their industrial profile and innovative capacity and further efforts should focus on attracting high-skilled exporting businesses and building on existing strengths to increase the innovative capacity in some cities.

High streets and city centres

The city centres of most of the Fast Growth Cities are relatively weak as they are more reliant on retail than office space. For some of the cities, this is due to their historic city centres and attractiveness as tourist destinations. New, non-retail commercial space is difficult to develop, which is why economic activity in these places is often clustered in peripheral locations. But for other cities, further investment must support turning their city centres into more attractive places to do business.

Housing and planning

One consequence of a place generating more and better paid jobs is more people moving to the city to access them. The Fast Growth Cities' economic and population growth in recent years has increased the strain on local housing markets, creating growing challenges of affordability. If unaffordability continues to rise at a pace similar to the past, most Fast Growth Cities will face problems to meet the needs of both their economies and their residents.

The increase in housing stock in recent years shows a commitment to growth by the majority of the Fast Growth Cities and it will be important to continue with this commitment in the future. For the most unaffordable cities in the group, although increasing the supply of houses will help prevent affordability from worsening further in the longer term, shorter-term solutions will also be needed, particularly around the building of affordable homes.

Transport

In 2016, the increased pressure on transport and infrastructure was identified as a key barrier to continued growth in the group and it remains a central topic for most Fast Growth Cities. This is particularly because of the role that the Fast Growth Cities play as employment hubs for their region – seeing daily influxes of thousands of workers. The group currently relies predominantly on cars for their commutes, which is in line with the wider national trends.

This dependence will likely rise as a result of the pandemic, which may cause challenges in the long term for congestion, pollution and city centre parking if left unchecked. It is therefore important to build upon existing strengths by further investing in alternative modes of transport to allow the group to grow quickly in a way that is sustainable.

Economic impact of the pandemic

The pandemic has left all Fast Growth Cities with a significant share of their labour forces either on furlough or claiming unemployment benefits. But most of them are less affected than other UK cities, likely reflective of their higher share of jobs in higher-skilled activities that can be done from home. The key challenge to recovery in some of the cities will therefore instead be the significant drop in footfall. As is the case elsewhere in the country, the Fast Growth Cities have seen sharp falls in footfall, with implications for jobs and profits of their high street businesses. A focus for recovery should be to encourage people out to spend again once it is safe to do so.

The Fast Growth Cities group contains some of the UK's most successful cities, many of which have a significant impact beyond their administrative boundaries. It is important that policymakers support these cities to reach their potential and to ensure that they continue to function as regional employment hubs and innovation centres post-pandemic. The immediate focus for the group and of government support needs to be on economic recovery. In the long run, support must address more strategic challenges raised in the five policy areas.

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Introduction

The Fast Growth Cities (FGCs) group, comprising Cambridge, Milton Keynes, Norwich, Oxford, Peterborough and Swindon encompasses some of the most successful and innovative places in the UK.² The group was formed because of their joint commitment to knowledge-driven growth. This commitment is reflected in their high rates of population and employment growth during the last decade.

At the launch of the FGCs group in 2016, Centre for Cities produced a first report on the opportunities and challenges the cities faced and their positioning in the UK economy. Now, five years on, this briefing updates the original research from 2016 and looks at the most recent developments.

Why these cities matter – strengths and opportunities of the Fast Growth Cities

Each city has a strong labour market that not only benefits the local population but also the whole region by offering high-quality jobs to their surrounding towns and hinterland. The cities also host some of the most important universities and research organisations in the UK, which contribute to the wider economy both through their education of a high-skilled workforce as well as their research and innovation.

In recent years, members of the FGCs group have made progress in a variety of different fields linked to their joint commitment to knowledge-driven growth:

- With more than 60 per cent of its workers coming from outside the city, **Cambridge** is one of the most important research and innovation-led employment hubs in the UK. In recent years, the city started from a strong, well-educated employment base and moved from strength to strength. Between 2014 and 2018, Cambridge has seen an increase in its employment rate and the number of jobs in knowledge-intensive business services (KIBS), above the UK average. Since 2014, Cambridge has also seen the share of people without basic qualifications fall by 2 percentage points.

- **Milton Keynes** has a favourable industrial structure with a large share of productive businesses selling beyond the local market. This has translated into growth, and the city has seen a large increase in its productivity: Gross Value Added (GVA) per worker increased by five percentage points between 2015 and 2018 which is above the UK average of two percentage points. Due to its attractiveness as a workplace, Milton Keynes is also facing an increased demand for housing. The city's pro-development response has meant that the city has seen one of the largest increases in houses built between 2008 and 2018.
- **Norwich** has seen improvements in the skill levels of its residents in recent years. Despite its renowned university, the city was lagging behind the national average share of highly skilled people. But between 2014 and 2018, the city increased its share of highly skilled people by six percentage points – which is around two times higher than the rest of the UK. At the same time, Norwich was successful in reducing the number of people with no skills by two percentage points.
- Between 2014 and 2018, **Oxford** saw a strong increase in its employment rate by more than seven percentage points. That is almost double the increase seen in other places in Great Britain and puts Oxford in the top spot as the city with the highest employment rate. This is accompanied by other positive labour market outcomes, including Oxford being among the 10 cities with the highest growth in private sector jobs and the highest wages in the UK.
- In recent years, **Peterborough** has emerged as a city with increasing innovation dynamics and is now among the 15 cities with the highest number of business start-ups and patents in the UK. The move towards more knowledge-intensive industries can also be observed when looking at the make-up of its industrial structure. Between 2014 and 2018, Peterborough saw an increase in the share of jobs in private KIBS by around four percentage points – one of the strongest increases in Great Britain over this period.
- **Swindon**'s key strengths are its high share of businesses selling beyond the local market, high share of jobs in private KIBS and its strong labour market. The city's low reliance on the public sector has proven to be another advantage. Swindon was already among the cities with the highest productivity in 2015 but has seen a further increase of three percentage points by 2018.

Constraints on future growth

Despite these positive developments over recent years, there are a number of factors which threaten to limit success in the FGCs.

- One key challenge that the group faces is rising housing unaffordability in some cities, despite increases in housing. Not addressing this, risks pricing workers out.
- While most of the cities were able to improve the skills of their workforce, some are still struggling with skills shortages or high shares of less- skilled people, which is likely to be preventing them from developing to their full potential.
- For some cities in the group there is also still room to improve their attractiveness as places to do business. Stronger investments in their city centres (or other emerging business districts such as the CB1 development around Cambridge station and the West End Innovation District and redevelopment of Oxford station) will be vital for their future success.
- Building upon the strengths that the cities have from their connections with London as well as their strong interlinkages with the surrounding hinterlands is also important to ensure the benefits of the growth in the group are felt more widely.

While a lot of these issues are shared amongst the group and require common effort and solutions, there are certain areas where challenges are felt more strongly in some than others. For these policy areas, solutions to address these issues will not be the same in every city in order to be the most effective for each place.

The pandemic puts further pressure on future ambitions for further growth. Each of the cities has seen a large increase in the number of people claiming unemployment benefits and has had at least 20 per cent of their workforce furloughed. In addition, some FGCs have industrial structures which make them particularly exposed to the economic impacts of the pandemic, such as dependencies on high numbers of tourists and students who are unlikely to quickly flock back to the cities. This will have knock-on effects for city centre spending.

If not addressed, all these challenges have the potential to constrain growth – not only in the FGCs themselves but, due to the nationally-significant activities that take place in them, for the UK as a whole.

Investment in and government support for the FGCs must focus first on economic recovery. To directly address the impact of the pandemic, any support should recognise the particular challenges the cities face. Looking longer term, government investment and support must address the fundamental barriers to the cities' continued success particularly in the areas of skills and education, productivity, infrastructure and housing.

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Fast Growth Cities before the pandemic

The following five areas are looked at in detail:

1. Labour markets, skills and education
2. Businesses and growth
3. High streets and city centres
4. Housing and planning
5. Transport

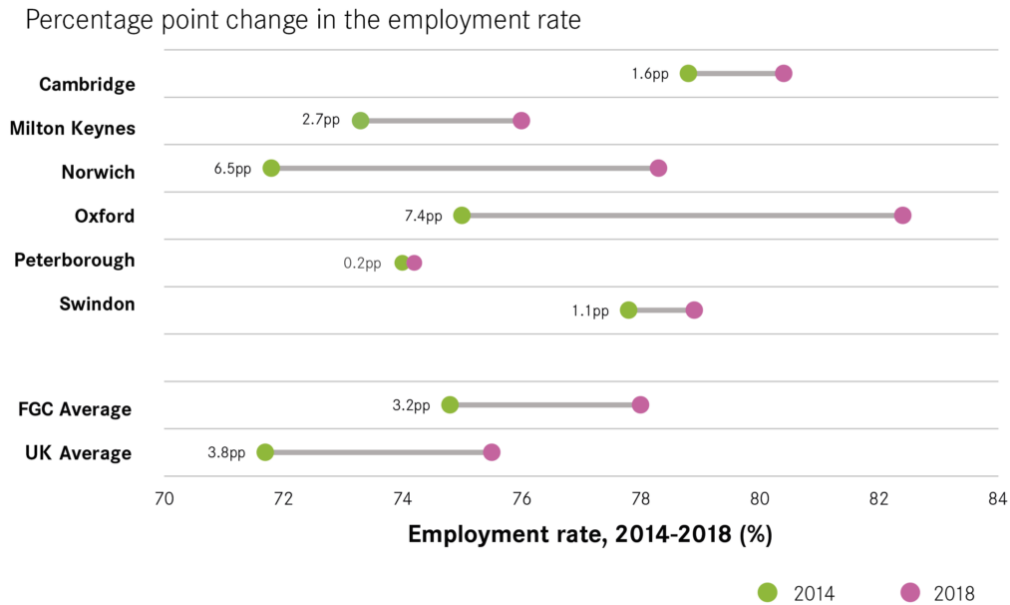
1. Labour markets, skills and education

Fast Growth Cities' common strength is their robust labour markets

The main strength that the Fast Growth Cities share is their strong labour markets. This applies to both the quantity and quality of the jobs available as well as the ability of the cities within the group to attract workers from their surrounding areas.

In recent years, most FGCs have seen an increase in their employment rates. This was led by Oxford which had an 82.4 per cent employment rate (2018), an increase of 6.5 percentage points compared to the UK average of 3.8 percentage points between 2014 and 2018. Employment rates in Cambridge and Norwich also grew at a pace that was above the national average. Milton Keynes' employment rate also increased and is above the national average. These overall positive developments over the last few years have meant that with an average employment rate of 78 per cent, the group has a higher share of people in work than the rest of the country, which had an employment rate of 75.5 per cent.

Figure 1: Nearly all Fast Growth Cities have more people in employment than the national average



Source: ONS, Annual population survey resident analysis 2014 and 2018

Case study 1: Addressing a low employment rate with job creation through inward investments

Challenge: Peterborough has a comparatively low employment rate, which is lagging behind the national average. This is partly attributed to the limited job offer in the area.

Solution: The city started to focus on securing additional inward investment to create new jobs. The increased inward investment has been coupled with encouraging land development and creating investment sites attractive to foreign direct investment (FDI).

Peterborough’s inward investment company Opportunity Peterborough, which is wholly owned by the Council, coupled its inward investment services with encouraging place-based growth as well as working with private sector developers in creating Gateway Peterborough, a distribution and manufacturing park. This led to significant ‘landing’ sites for foreign investors. So far, it has attracted FDI from countries like Spain, the US and Germany. The attracted businesses are expected to have created more than 1,000 jobs.

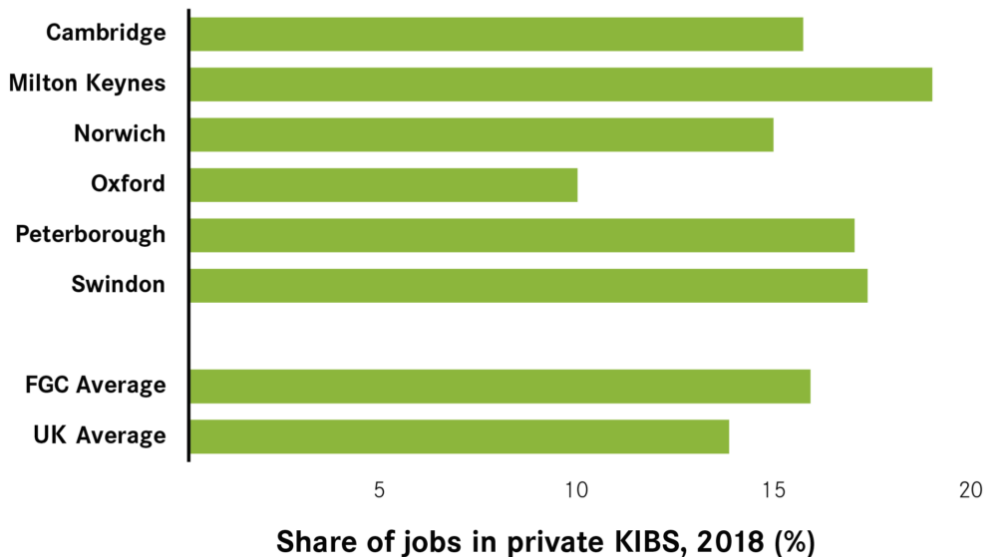
After a business has ‘landed’, Opportunity Peterborough provides support in terms of identifying the skills of the workforce, helping to engage with local communities and local supply chains as well as acting as a broker for knowledge and technology development partnerships.

But it is not only the sheer number of jobs which characterises the strength of the FGCs’ labour markets. It is also the types and quality of jobs they provide. FGCs have high shares of jobs in private KIBS – these are high-quality jobs with high salaries and job security that tend to be very productive. These are often in growing industries such as software engineering or research and experimental development. Swindon, Milton Keynes and Peterborough are all among the

top 10 UK cities for share of private KIBS jobs, having at least 16 per cent of their workforce in these industries compared to the national average of 14 per cent. The share of jobs in KIBS for Oxford, 9.9 per cent, is significantly below the national average, although this is offset to some extent by its large higher education sector.³

Figure 2: The share of people employed in high-quality sectors in the Fast Growth Cities is above average

Share of jobs in private knowledge intensive business services (KIBS)



Source: ONS, Business register and employment survey 2018

Note: Cities like Cambridge and Oxford have considerably higher shares of employment in higher education which is also a knowledge intensive sector.

The FGCs provide jobs not only to their own residents but also to their surrounding areas. The share of their workers living outside of the boundaries of the city is on average 40.2 per cent across the group (Figure 3). That is above the national city average of 26.1 per cent and illustrates the role that the FGCs play as employment hubs for their region. This is particularly true in Cambridge and Oxford. At least one in two workers in these cities commutes from outside, compared to the UK city average of around one in four. Swindon has the lowest share of workers coming from outside but is still in line with the urban average.⁴

Figure 3: Fast Growth Cities are employment hubs for their surrounding regions



Source: Census, 2011

When it comes to skills, there is a larger variation across the Fast Growth Cities

Growth in employment and the composition of jobs by industry paints a picture of the static strength of the labour market but these indicators do not describe the flexibility and resilience of the labour market to shocks such as the pandemic.

The skills levels of the labour force are an important factor in determining the long-term success of a city. High shares of skilled people make a place more attractive for productive businesses and can influence their investment decisions. These high-skilled businesses can pay higher wages which boost the wider prosperity of the local economy through spill-overs. Higher-wage jobs generate higher demand for, and employment in, local services such as restaurants and retail but also in public services such as schools and nurseries.

The previous Centre for Cities report from 2016 identified skills shortages and the share of residents with low skills levels as a key barrier that needed to be overcome. The most recent analysis shows that the majority of cities made progress in this regard.

Looking at the share of the population with NVQ4+ qualifications, which is equivalent to a degree-level qualification, Cambridge and Oxford perform extremely well with more than 61 per cent of their populations having degree-level qualifications in 2018. Milton Keynes and Norwich started from a lower base but made strong progress between 2014 and

2018 with the share of the population in this group increasing faster than the national average. Peterborough and Swindon still have levels of high-skilled population which are below the national average.

Although high-level skills are important for a city, basic skills are also crucial to improve the quality of the workforce because low skills prevent those that live in the cities from benefiting from the jobs growth that the cities have experienced.

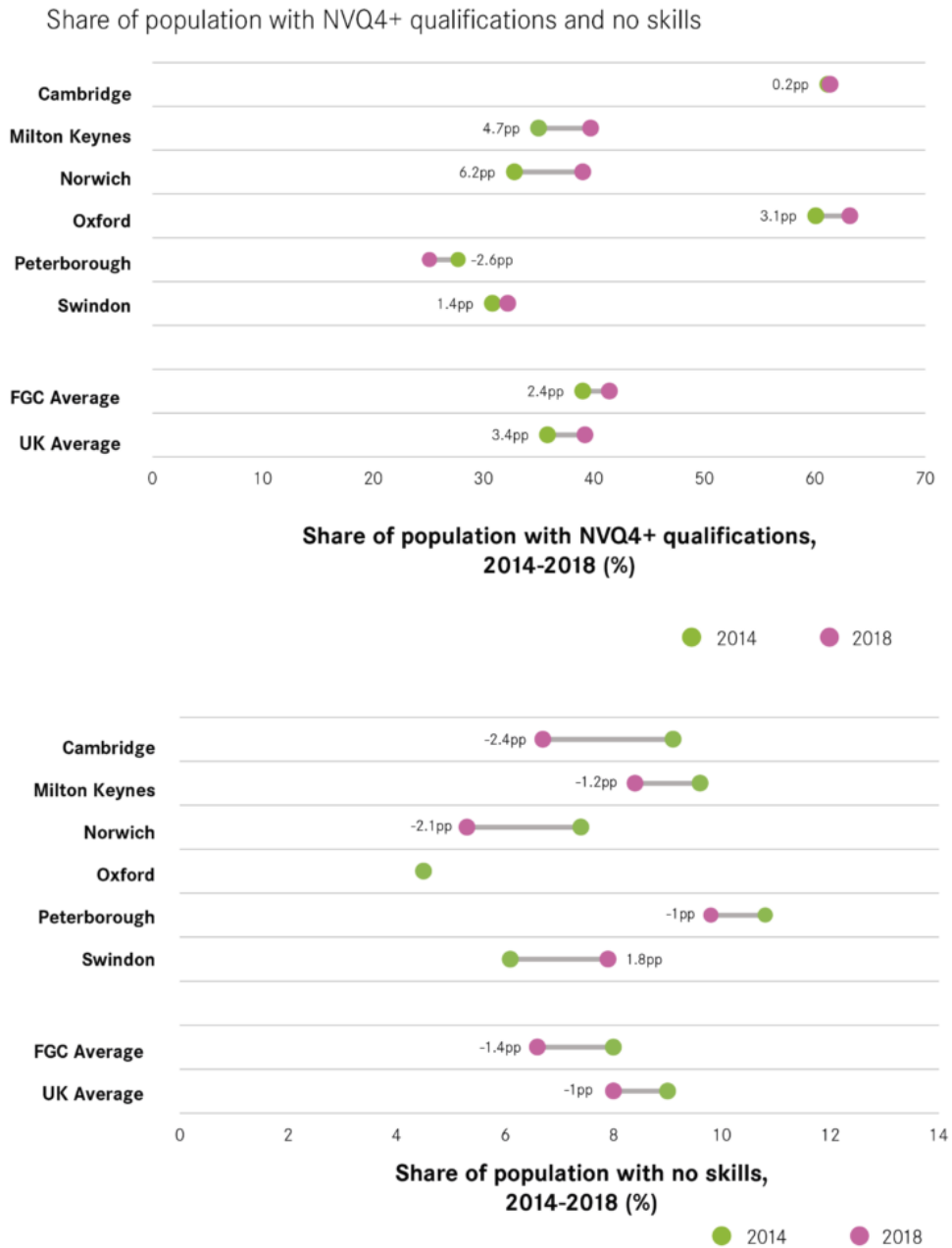
The FGCs perform well on this measure, with four out of the six having shares of their populations with no qualifications that were lower than the national average in 2018. Not only this, but the decrease in this measure is the same as or larger than the national average between 2014 and 2018 for all FGCs apart from Swindon.

Case study 2: Coping with a lack of degree-level workers

Challenge: One of Swindon's biggest challenges is its low share of residents with degree-level education, which is below the Great Britain average. The city identified particular challenges within the sectors of construction, digital and advanced manufacturing sector and science, technology, engineering and mathematics (STEM) sectors more generally.

Solution: To improve the skill levels of its population, Swindon is about to establish an Institute of Technology, due to open in September 2021, which aims to provide programmes to support young people into better careers. The institute's aim is to become a centre of excellence for higher-level technical skills, with employers playing a key role in its leadership, curriculum design and delivery. There is a target of 1,800 students by its fifth year, to include 50 per cent of the learner cohort as apprenticeships, in addition to full- and part-time study programmes. This partnership between local education providers and employers will provide higher education provision from Level 4 to Level 6 in advanced manufacturing, engineering, digital technologies, and life sciences, meeting the demand of businesses for higher-level STEM skills to drive future innovation and productivity.

Figure 4: Skill levels vary across the Fast Growth Cities



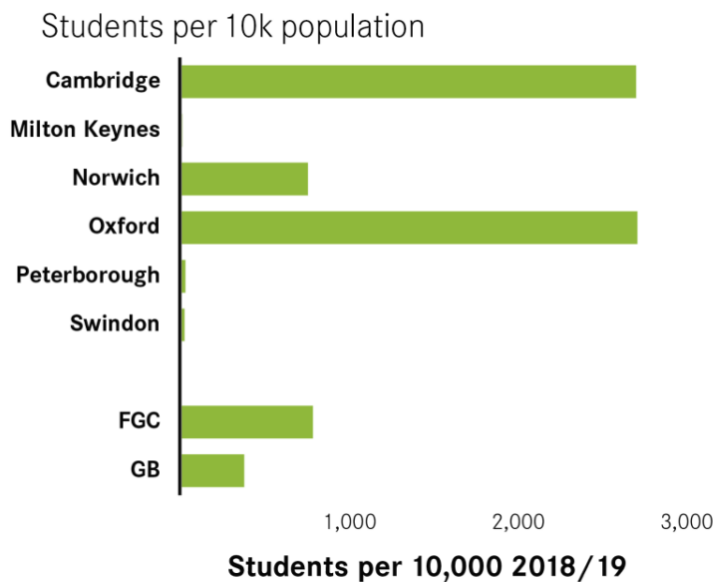
Source: ONS, Annual population survey resident analysis 2014 and 2018

All Fast Growth Cities recognise the importance of higher education as a driver for economic growth

The ambition to use higher education to spur the growth of their economies is a key attribute that unites the Fast Growth Cities. Universities in Cambridge, Oxford and Norwich all contribute to the strong higher education sector in the UK. Each of these cities has large numbers of students and university personnel who contribute to the economy by living in the city, consuming local services as well as potentially working in the labour market in these places after completing their studies (Figure 5). At the same time, these cities contribute to the wider prosperity of the UK by upskilling students to work in higher-skilled sectors across the country (and outside of the UK).

Milton Keynes, Peterborough and Swindon have plans to soon open their own campus-based higher education facilities. Milton Keynes will open a university to address urgent technological and skills gaps and Anglia Ruskin University is partnering with Peterborough and the Cambridgeshire and Peterborough Combined Authority to establish a new employment-focused university, due to open in September 2022. Swindon’s Institute of Technology is due to open in September 2021 with the aim to become a centre of excellence for higher-level technical skills.

Figure 5: Cambridge, Norwich and Oxford make strong contributions to the higher education sector in Great Britain



Source: HESA, Higher education student data 2018/19.

Note: Data for Milton Keynes is for 2015 as data for the University of Bedfordshire campus there is unavailable for 2018/19.

Summary

FGCs have seen strong employment growth in recent years and were able to establish robust labour markets with high-performing jobs. The focus on higher education and research in the FGCs is reflected in the rise and development of higher education institutes. But to maintain further growth, for some cities it will be vital to further work on skills shortages or increase the basic skills of their workforce.

2. Business and growth

Fast Growth Cities have strong industrial profiles with different strengths and weaknesses

One way to assess the health of a city's economy is to look at the types of businesses that it can attract. A healthy city has lots of businesses that are exporting and highly skilled, and these types of businesses are important for a number of reasons. They tend to be more productive and so are the drivers of increased productivity in a place. They generate income that is independent of the local economy because they export their products and services to places beyond their city borders. And most importantly they have a multiplier effect on jobs in local services – the better they perform, the higher the local disposable income in the economy and so the higher the demand for services from local businesses such as shops and restaurants.

On average, the FGCs perform well by this measure, with a higher share of people employed in high-skilled exporting industries than the national average. In Cambridge, Milton Keynes and Swindon, the share of people employed in high-skilled exporting industries far exceeds the national average. Oxford, Peterborough and Norwich in contrast have lower shares of jobs in exporting businesses, which is likely to act as a drag on future economic growth in these cities. The size of the education sector in Oxford goes some way to accounting for the smaller high-skilled exporting base. The ability to attract international students into Oxford and Cambridge can be thought of as a type of exporting industry, as the attraction of international students contributes to the wider economic success of the country.

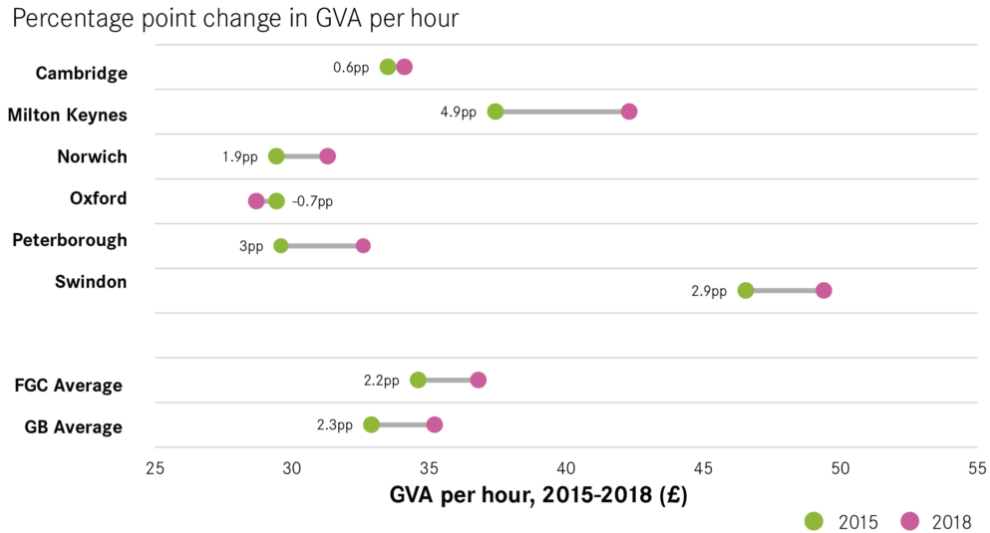
Figure 6: Most Fast Growth Cities have higher than average shares of people employed in more productive industries



Source: ONS, Business register and employment survey, 2018

The industrial structure is also reflected in the productivity of the FGCs. In 2018, they collectively accounted for 2.6 per cent of the national GDP despite being home to just 2 per cent of national jobs. When looking at the GVA per hour for single cities in Figure 7, it is clear that the strong productivity is mainly driven by Swindon and Milton Keynes, which have higher than average productivity due to their large shares of high-skilled exporting workers. Despite Norwich and Peterborough having made strong improvements towards catching up, they are still lagging behind the national average. Productivity in Cambridge and Oxford seems to have stagnated in recent years, and easing the constraints that have caused this indicator to see little improvement should be the key aim of local and national government.

Figure 7: Milton Keynes and Swindon drive productivity growth within the Fast Growth Cities



Source: ONS, Subregional productivity data, 2015 and 2018

The Fast Growth Cities have different innovation systems – building on their different strengths will be crucial for achieving future growth

While the industrial composition tells us about the current strength of a place, it does not say much about the potential of a place to reinvent itself or about the resources available to adapt to change.

This can be measured by looking at the innovative capacity of a place which shows its ability to absorb shocks and to absorb and develop new innovations. This is a combination of business dynamics, skilled labour and innovative output such as patents. Innovative places are likely to be the first places to benefit from the ongoing change in the economy – either because they are directly involved in the development of solutions (such as Cambridge’s life sciences cluster and Oxford’s lead in the development of a Covid vaccine as well as the development of ‘track and trace’ apps) or have the right dynamics to quickly adapt their business models.

Box 1: Measuring innovative capacity

Innovative capacity is the ability “to produce and commercialise a flow of innovative technology over the long term”.⁵ This means that innovative capacity is less about single innovative players and more about a network and a critical mass of innovators. To capture the innovative capacity of different places across Great Britain, Centre for Cities has analysed a set of indicators for each place.⁶ These included skills and knowledge indicators (i.e. highly skilled workforce), physical infrastructure (i.e. accessibility or office space), business innovation (i.e. innovative firms), university innovation (i.e. spin-offs from universities) and innovative output such as patents or trademarks. Altogether, they describe the innovative capacity of a place.

Centre for Cities has previously assessed the innovative capacity of 62 cities and large towns across Great Britain based on a selection of different indicators (see Box 1). Among the FGCs are some of the most innovative cities in the UK: Cambridge and Oxford have mature innovation systems in place with different strengths and the capacity to benefit the entire UK. Cambridge has the highest level of patent applications among UK cities followed by Oxford in the third place. Milton Keynes has one of the highest start-up rates of UK cities. Peterborough and Milton Keynes have a particular strength in business innovation.

Although they are home to successful and innovative flagship institutions, such as UK Research and Innovation in Swindon and the university in Norwich, both cities have lower innovative capacity, as shown in Figure 8. This may stem from, for example, a lack of business dynamics and innovation suggested by low start-up numbers.⁷

Table 8: There is a strong variation in innovation systems across the Fast Growth Cities

	Patent strength	Trademarks strength	University innovation strength	Business innovation strength	Innovation city type
Cambridge	VERY STRONG	VERY WEAK	VERY STRONG	VERY STRONG	super city
Milton Keynes	WEAK	VERY STRONG	VERY WEAK	STRONG	commercialiser
Norwich	WEAK	VERY WEAK	STRONG	VERY WEAK	disjointed innovation system
Oxford	VERY STRONG	VERY STRONG	VERY STRONG	STRONG	super city
Peterborough	STRONG	STRONG	VERY WEAK	STRONG	business-led
Swindon	VERY WEAK	VERY WEAK	VERY WEAK	WEAK	disjointed innovation system

Source: Centre for Cities (2020), Identifying potential growth centres across Great Britain, London: Connected Places Catapult

Case study 3: Completing the local innovation system

Challenge: Milton Keynes scores strongly when it comes to different innovation metrics but the city felt that its full potential has been limited by the lack of undergraduates. Milton Keynes is now the largest urban area in the UK without a university, something the council and its partners are working hard to address.

Solution: To address the lack of undergraduates, Milton Keynes Council and Cranfield University partnered in establishing the Milton Keynes University (MK:U). The project is focused on stimulating growth within the Oxford-Cambridge Arc, and challenging traditional delivery models of higher education institutions. It is planned that MK:U will work in partnership with businesses to produce a long stream of STEM and digital graduates equipped with the technical, entrepreneurial and commercial skills required to drive the future local economy.

MK:U is supported by a range of international businesses who will co-design and co-deliver the curriculum and ensure that employer needs are incorporated from the beginning. The curriculum will focus both on the city's existing strengths, for example in 'smart city' innovation, and on delivering much needed skills such as cyber security. MK:U is intended to become a core anchor institution for the city, addressing a key issue within the MK economy and strengthening the skills pipeline. Funding has been secured to establish an early MK:U presence in the city centre. This will see four degree apprenticeship courses launched in 2021 and the opening of an innovation hub and living lab in 2022, focusing on smart city technology companies.

Case study 4: Generating spillovers from the university to the business sector

Challenge: The city of Norwich performs strongly when it comes to university innovation but lags behind when it comes to business innovation. The lack of innovation in the private sector is shown by the low number of innovation outputs such as patents and trademarks.

Solution: One way to foster more innovation in the private sector is to create spillover effects between the universities and local businesses. Norwich has two universities, the University of East Anglia and Norwich University of the Arts. Both institutions were integral to the development of the economic strategy and local industrial strategy with recognition of the need to integrate spin-out programmes with the finance and support offers of other key stakeholders. To date, significant investment has been made and the offer continues to evolve for research consultancy, internship and business start-up/incubation in partnership with the city, local enterprise partnership (LEP), local businesses and technology networks such as SyncNorwich, Hot Source and Norfolk Developers.

Refinement of this offer in close collaboration with local partners includes the development of local accelerator coaching programmes and stronger integration with a comprehensive package of funding options from both private equity and LEP innovation capital seed funding. So far, this has led to spin-offs located in the local area and are considered to have high growth potential such as Syrinix, which is developing intelligent pipeline monitoring solutions, or Rainbird, which provides automated decision-making platforms powered by artificial intelligence.

Summary

The FGCs have strong economies with large shares of employment in highly productive companies. Together, they have a disproportionately large contribution to GDP. But there is a difference between the cities when it comes to their industrial profile and innovative capacity. Further efforts should focus on attracting high-skilled exporting businesses as they are associated with higher levels of productivity. In Swindon and Norwich, further efforts should also focus on increasing the innovative capacity in these places by taking into account possible spillover effects of the existing flagship institutions there.

3. High streets and city centres

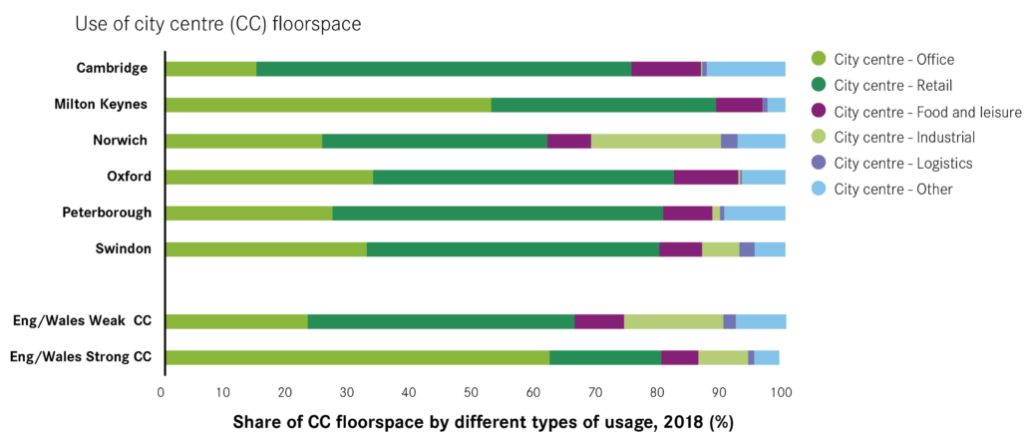
Discussion on the high street tends to focus on retail and its current struggles. But city centres do not only consist of local services such as shops, cafés and restaurants. In strong city centres, the majority of commercial space is made up of offices. This is the case because of the benefits that city centres offer to businesses. This includes access to lots of workers, access to shared infrastructure (such as public transport or supply chains) and access to knowledge through the ability to share tacit information face to

face, particularly in very dense city centres. City centres with a strong offering of office space as well as food, drink and leisure amenities attract high-skilled workers to an area which in turn provides higher footfall and spending on the high street.

The majority of Fast Growth Cities have high shares of retail space in their city centres

Looking only at the footprint of commercial properties in the city centre, the city centres of most FGCs do not have the attributes of other strong city centre economies in Britain. Milton Keynes stands out as an exception with high shares of office space in its core, while Cambridge, Norwich and Peterborough have very low shares. Cambridge is an exception as, due to its urban structure, much of the economic activity lies outside of its city centre, with much of this focused in the CB1 development located near the railway station and in a set of science and business parks on the city fringes.

Figure 9: The majority of Fast Growth Cities have high shares of retail space in their city centres



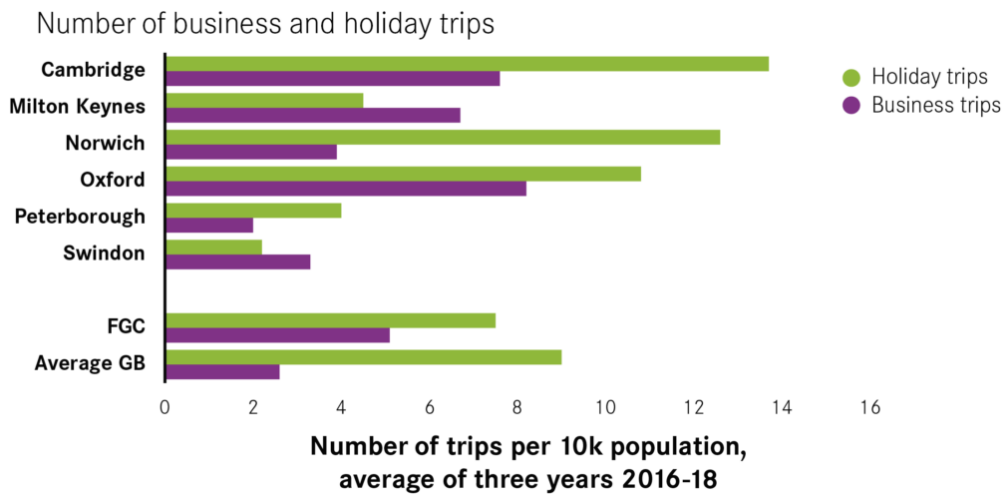
Source: Valuation Office Agency, 2018

Cambridge, Norwich and Oxford usually see high levels of visits from tourists

Oxford, Cambridge and Norwich are special cases in this context. Their historic centres and attractiveness as tourist destinations skew how their city centres are used. New, non-retail commercial space is difficult to develop within the centre. The popularity of the three as visitor destinations is reflected in the fact that on the weekend, more than 80 per cent of all visitors to the city centre in both Cambridge and Oxford come from outside of the city.⁸

This is also evident when looking at the number of visitors to each city: proportional to their populations, Cambridge, Oxford and Norwich all see higher than average influxes of visitors from outside the city coming for holiday trips (Figure 10). Nearly all of the FGCs also see higher than average shares of people coming for business trips, which is in line with their stronger economies. Milton Keynes, Cambridge and Oxford score particularly highly by this measure which shows their attractiveness as hubs for business both within their local area and more widely, while Peterborough and Swindon, in contrast, have low numbers of visitors for both business and holiday visits.

Figure 10: Many Fast Growth Cities are attractive places for holiday and business trips



Source: Visit Britain 2016-2018. ONS population estimates 2018

Summary

The city centres of most of the FGCs are more reliant on retail than cities with strong city centre economies. The demand for retail and other local services in Norwich, Oxford and Cambridge is also driven by people coming from outside the city as they are important tourist destinations. Milton Keynes is an exception as it is mainly a business-destination which is reflected in the high share of city centre office space and the high share of people visiting for business. For cities with high shares of retail in their city centres, further investment should focus on turning these places into more attractive places to do business. Where city centre space is unavailable, investment should focus on the districts where economic activity is already clustered such as Oxford’s West End Global Innovation District and Cambridge’s CB1 development, the new North East Cambridge district and other business and research parks.

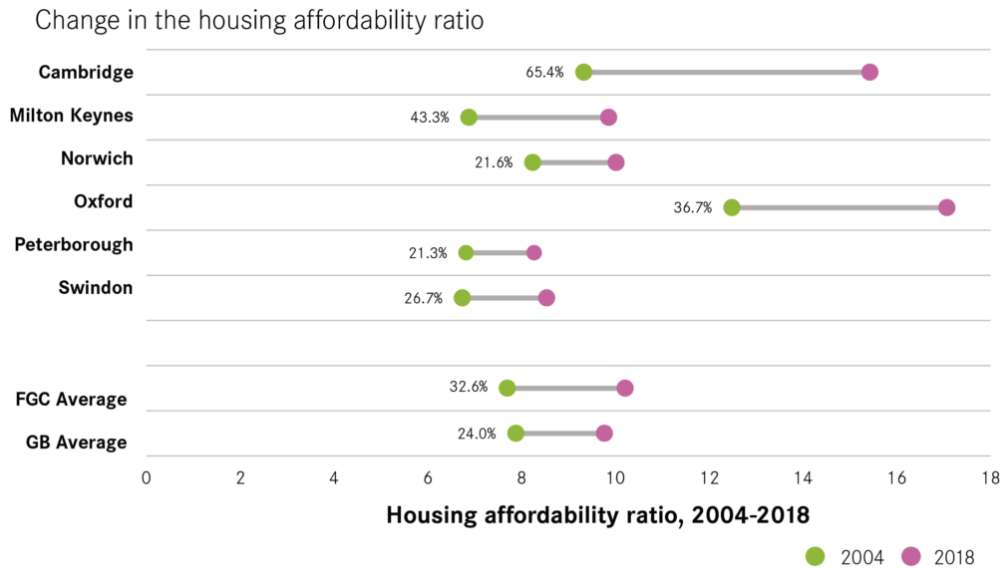
4. Housing and planning

One consequence of a place generating more and better paid jobs is more people moving to the city to access them. The FGCs' economic and population growth has increased the strain on the local housing markets. Housing availability and affordability is a key limiting factor for more people who would like to move into or stay in an area for work. If an area is too expensive relative to the wages available, residents will be pushed out, which is likely to have a particular effect on reducing the pool of young and less skilled people. These people are often employed in sectors which are crucial for a city to run effectively such as many of the key workers highlighted by the pandemic.

Most Fast Growth Cities have built a lot — but there is room for more

In the first Centre for Cities report on the Fast Growth Cities group, the high demand for housing and increasing unaffordability were highlighted as key constraints to allow further growth. In 2018, housing affordability was on average roughly similar to or cheaper than the national average in four of the six Fast Growth Cities with Oxford and Cambridge being strong outliers with extremely high levels of unaffordability (Figure 11). But the majority of Fast Growth Cities saw a stronger increase in the housing affordability ratio between 2004 and 2018 than the national average which indicates a high demand for housing in these places.

Figure 11: The high demand for housing in many Fast Growth Cities has led to high house prices



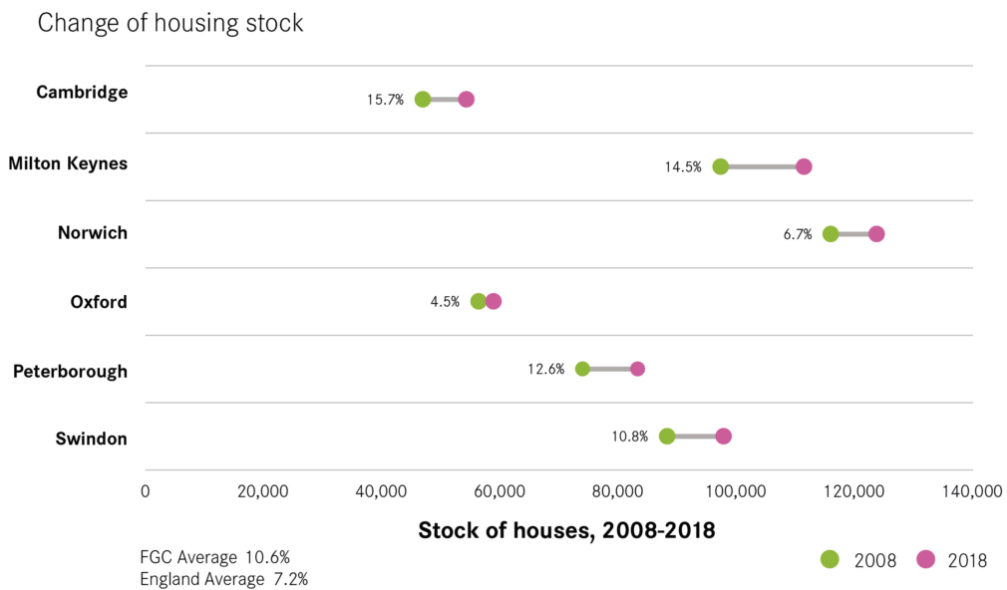
Source: Land Registry, Market Trend Data 2004 and 2018. ONS, Annual Survey of Hours and Earnings (ASHE), average gross weekly workplace-based earnings 2004 and 2018

Supplying more homes in high-demand cities is essential to mitigate the negative effects of the housing shortage. By this measure, the FGCs perform well with an average increase in the housing stock of 10.6 per cent. Four of the six cities have increased their housing stock at a pace far exceeding the national average (Figure 12). This includes Cambridge, the third least affordable city in the UK which increased its housing stock in the decade up to 2018 by 15.7 per cent, more than double the average increase in England and the highest increase nationally. Milton Keynes follows closely behind, with growth in housing stock of 14.5 per cent. In contrast, Oxford saw an increase of only 4.5 per cent, despite its ongoing issues with affordability, although it has made some positive strides (see Case Study 5).

To deal with the ongoing affordability problems, the FGCs and neighbouring places in their travel-to-work areas should continue to increase the number and types of homes available. The types of housing will also be important within this – it will be key to ensure that there are a range of new homes of mixed tenure types available. This should include expanding the amount of affordable housing in the cities. The cities are aware of this, through the Cambridgeshire and Peterborough devolution deal, as well as additional funding from the council, Cambridge will deliver a further 900 sustainable homes, 546 of which will be council-owned for rent in line with the local housing allowance.

In addition, Oxford City Council has housing investment plans including delivering 560 affordable homes by 2022 through funding from the Oxfordshire Housing and Growth Deal and investment from the council. While, ultimately, more houses overall will be needed to help rebalance prices with incomes, this is not sufficient to solve the issues the cities face and so an increase in affordable houses will be needed to help people of all incomes to access the economic opportunities that the FGCs provide.

Figure 12: Most Fast Growth Cities made strong efforts to deliver more housing



Source: Department for Communities and Local Government (DCLG), Dwelling stock estimates by local authority district 2008 and 2018

Case study 5: Reducing unaffordability and increasing the stock of houses

Challenge: Oxford stands out as having both high levels of unaffordability as well as low housing stock growth. This is driven in part by the limited land available for development as a result of constraints including the green belt, historic conservation areas as well as environmental constraints on the city.

Solution: To create more housing, particularly affordable homes, Oxford has taken a multi-faceted approach. The council set up a housing company in 2016 to build on existing council-owned land, seek out partners and to acquire further land for development. The company has plans to develop over 2,000 homes over the next 10 years, and the council plans to buy 1,000 of these homes from the company with nearly 800 of these being for social rent.

The city also worked with other Oxfordshire authorities to secure the Oxfordshire Housing and Growth Deal in 2017 providing £60m to deliver over 1,300 affordable homes and £150m for infrastructure to help accelerate the delivery of some of the 100,000 homes planned across the county. Nearly 30,000 of these homes are to meet Oxford's housing needs.

This year, Oxford adopted a new local plan allowing for a further 11,000 homes to be built within the city limits, which requires balancing the demands for student housing as well as targeting the provision of affordable homes for certain employers including key hospital workers. Even with these solutions in place, the number of houses in the city remains short of needs and so the council worked with neighbouring councils to ensure needs were met in locations that had a strong relationship to Oxford. Land has now been allocated to meet the remaining need in neighbouring authorities including around 7,000 homes in urban extensions to the city.

Box 2: How energy efficient is the domestic building stock in the FGCs?

Energy performance certificates (EPCs) show how energy efficient a building is on a scale from A to G. While the rating A means that a house is running at very low cost and is very energy efficient, G means the opposite

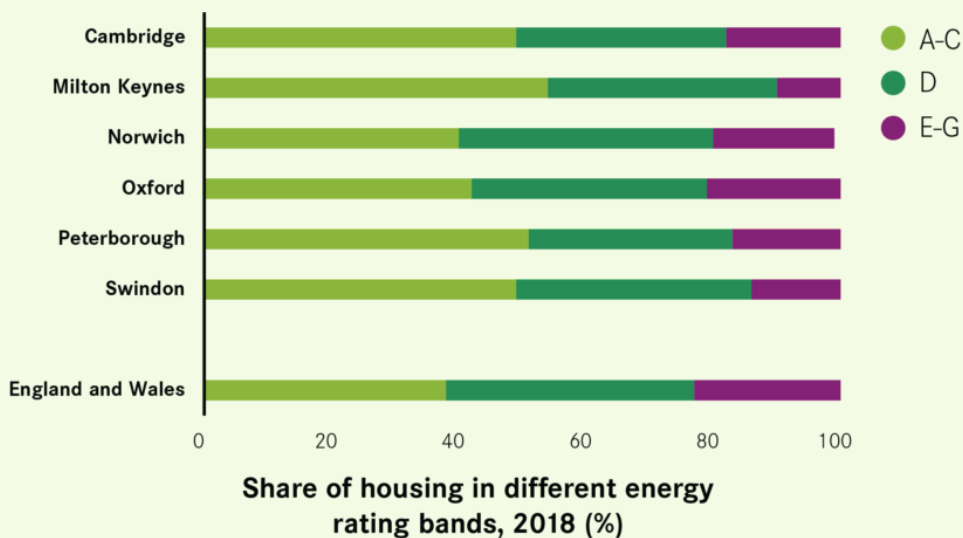
- that the house is not energy efficient and has higher running costs. This has implications for the environmental footprint of a property. A move towards net-zero would require large shares of properties to be in the upper ratings of energy efficiency.

Overall, FGCs have higher shares of buildings in the categories A to C than the average domestic building stock in England and Wales (see Figure 13).

Peterborough and Milton Keynes both have more than 50 per cent of their buildings classified as A, B or C which represents very high energy efficiency. In addition, the FGCs have lower shares of housing stock in the least energy efficient category than average.

Figure 13: Fast Growth Cities have a higher stock of energy-efficient houses than the average level for England and Wales

Energy efficiency of domestic buildings



Source: MHCL, Energy Performance of Buildings Certificates 2018

Summary

If the affordability ratio continues to develop at a similar pace as in the past, most FGCs will face problems in meeting the needs of both their economies and their populations. As they attract a greater pool of workers, those with lower incomes will face particular challenges in affording to live in these places. The increase in housing stock in recent years shows a commitment for growth by the majority of the group to meet the demand for affordable housing. It is important to continue with this commitment in the future. For the most unaffordable, Cambridge and Oxford, although increasing the supply of houses will help reduce unaffordability, it is likely to be insufficient to fully address the root problem, given the extremely high house prices in these places. In these cities and other places in the group, there will continue to be a role for the FGCs to play in providing social and affordable housing to give immediate relief to low-income families, alongside market-rate housing.

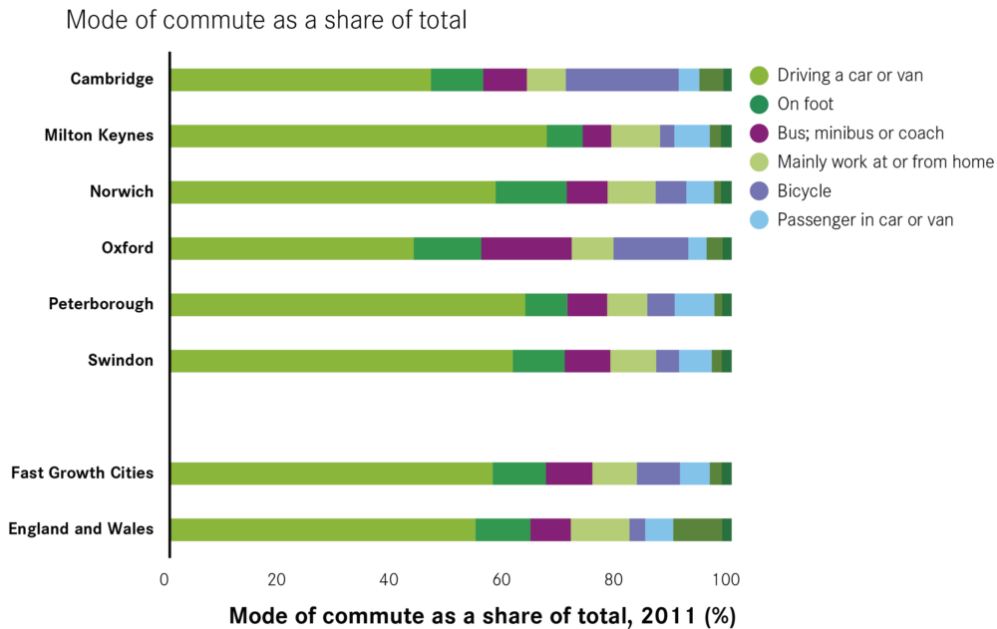
5. Transport

In 2016, the increased pressure on transport and infrastructure was identified as a key barrier to continued growth and it remains a central topic for most FGCs. Transport both within and between places is important for several reasons, including connecting workplaces with homes. The strength of the transport system determines the size of the labour force that can work in a city as well as being a determinant in how attractive a place is to live. As outlined above, FGCs are employment hubs attracting more workers from outside their boundaries than other cities in the UK, making transportation a particularly important condition for their success.

In general, for all the FGCs, the car is the most common mode of transport – with higher than average shares of commutes taken by this mode in all cities other than Oxford and Cambridge, where car use is high but below average due to the higher rates of cycle commuting.

This can be explained by the relative ease of using the car over other forms of transport, measured by how quickly different modes of transport can access the city centre (Figure 15). Public transport accessibility is broadly in line with or above the urban average across the FGCs.⁹ The largest gaps between accessibility by public transport and car are in Milton Keynes where the public transport system is not developed and accessibility by car is very high meaning that a switch towards public transport may be challenging.

Figure 14: For all Fast Growth Cities, the car is the most common mode of transport



Source: Census, 2011

As the pandemic continues, high accessibility by car will likely be an advantage as people switch away from public transport to access city centre jobs and leisure more easily. But if this continues in the long run, it is likely to lead to issues such as elevated levels of air pollution and increased congestion as well as placing a greater strain on city centre parking. Looking further ahead, enhancing alternative modes of transport in the FGCs will be important given the speed and scale of their growth. In recognition of this, major schemes such as the mass rapid transit system in Milton Keynes, redevelopment of Oxford station and reopening the Cowley branch line, and the Cambridge metro are important examples of the cities' commitment to future growth.

Case study 6: Greater Cambridge transport strategy

Challenge: A challenge for all cities is how to secure sustainable long-term growth, tackle significant transport congestion and ensure ease of movement between key economic hubs. Cambridge also faces a particular spatial challenge. With key employment sites growing mainly to the south, and key residential sites to the north and west of the city, the challenge is how to address this and retain the connectivity that has been a critical factor for Cambridge's success.

Solution: The Greater Cambridge Partnership (incorporating the three local authorities in the area, plus the academic and business communities) has a strategy and funding to efficiently and sustainably connect key employment and residential sites in the area, easing congestion, improving air quality and reducing carbon emissions. A City Deal agreed with Government in 2014 is providing up to £500m alongside local match funding.

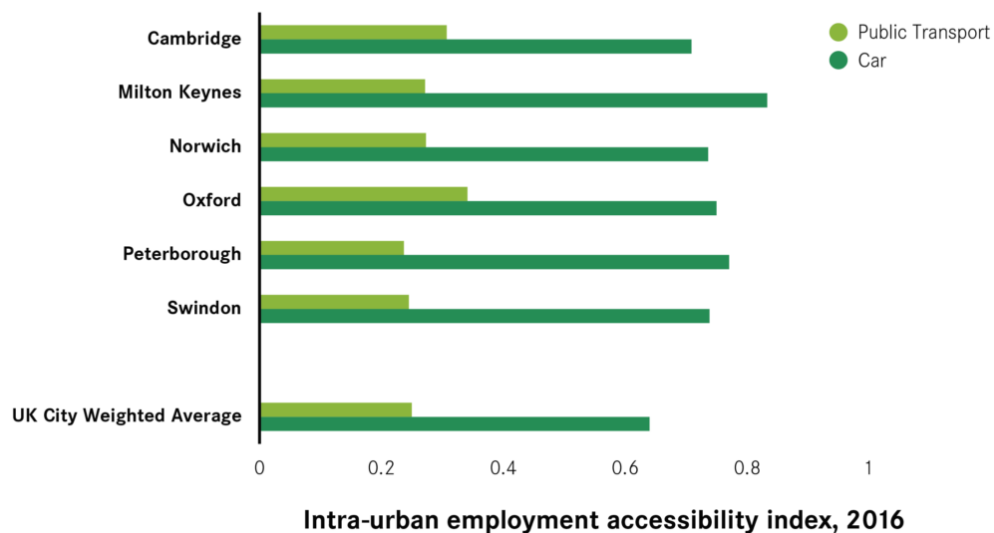
Over the coming decade, the partnership's transport strategy seeks to deliver dedicated, rapid, high-quality public transport routes on four key arterial corridors into Cambridge (intended as a first phase to the Mayor of Cambridgeshire and Peterborough's Cambridgeshire autonomous metro), complemented by a wider step-change in public transport services, an enhanced cycle network and a range of smaller interventions.

In the wider area, the partnership's City Access project is developing a package of measures to improve public transport, create more active travel options and offer people better choices for their journeys in and around Cambridge city centre. The strategy is underpinned by a comprehensive and growing base of evidence and engagement, including the 2019 Greater Cambridge citizens' assembly on transport and air quality.

The other alternative to public transport in light of the pandemic is active travel such as cycling or walking. These modes make up a higher share of commutes than average in all FGCs other than Milton Keynes. This is particularly true in Oxford and Cambridge where more than four times as many people commute by bike than the national average. This strength in offering active travel will provide a strong base on which the FGCs might build, including implementing the second tranche of the Emergency Active Travel Fund to effectively enhance the active travel offering in these places.¹⁰

Figure 15: Accessibility by car is higher than by public transport for all Fast Growth Cities

Intra-urban employment accessibility by car and public transport



Source: National Infrastructure Commission 2016

Summary

The FGCs currently rely predominantly on cars for commuting, which is in line with wider national trends. This dependence will likely rise as a result of the pandemic, which may cause challenges in the long term for congestion, pollution and city centre parking if left unchecked. This is a particular challenge for cities that previously saw large shares of their workforces coming from outside of the city boundaries such as Cambridge and Oxford. Looking ahead, it is therefore important that the group builds upon existing strengths by further investing in alternative modes of transport to allow the group to grow quickly in a way that is sustainable. The FGCs are also better placed than many others to take further advantage of any potential shift towards active travel.

Conclusion

The cities all perform well when it comes to population and employment growth. Their strong labour markets act as hubs for their local areas and wider regions. As a result, they significantly contribute as a group to both the national economy and the research base of the country. All the cities have made strong commitments to supporting further growth in the future but face different barriers to their continued success, which underlines the case for further investment, given the contribution these places make to the UK's economy. While some can already see constraints on their growth, other members of the group will need more support to fully reach their potential. Their different strengths and weaknesses must be considered when thinking about ways to unlock further growth in these places.

03

The impact of the pandemic on FGCs

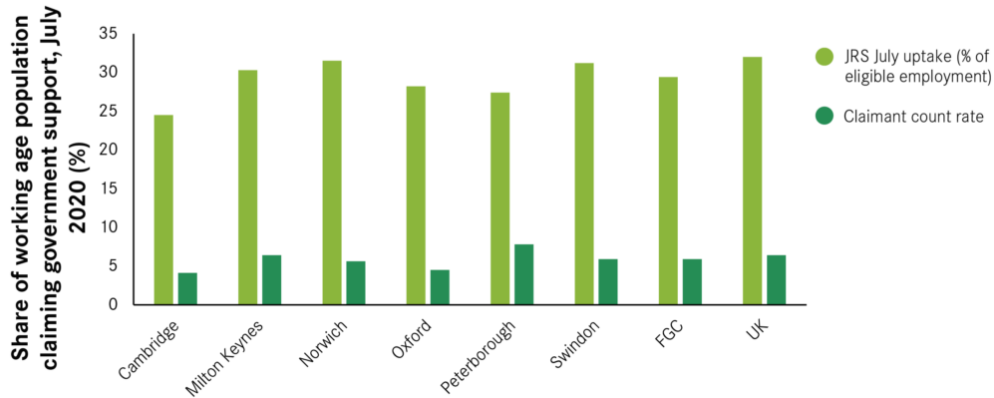
The Fast Growth Cities were affected significantly by the pandemic, but most of them were less affected than other UK cities

The pandemic has left all FGCs with a significant share of their labour force on furlough or claiming unemployment benefits. Each FGC saw an increase in the number of people claiming unemployment benefits and has had at least 20 per cent of their workforce furloughed, although for all cities these numbers are lower than the UK average (furlough uptake until August 2020).¹¹ Four of the six FGCs also have slightly lower shares of people claiming unemployment benefits than the UK average. Cambridge and Oxford are among the cities with the lowest shares of people on furlough and unemployment benefits across all 63 of the UK's largest urban areas. Nevertheless, the figures remain significant with even these cities facing an unprecedented increase in unemployment.

This mainly results from the industrial structure of the FGCs. Oxford and Cambridge for instance have high shares of their workforce in jobs which were not directly affected by the pandemic and can be done from home, such as managerial or research jobs.¹² However, Oxford and Cambridge are also highly reliant on footfall from tourists, students and office workers which will impact significantly on city centre economies.

Figure 16: The Fast Growth Cities are strongly affected by the crisis, but most of them are less affected than other UK cities

Share of working age population claiming government support, July 2020



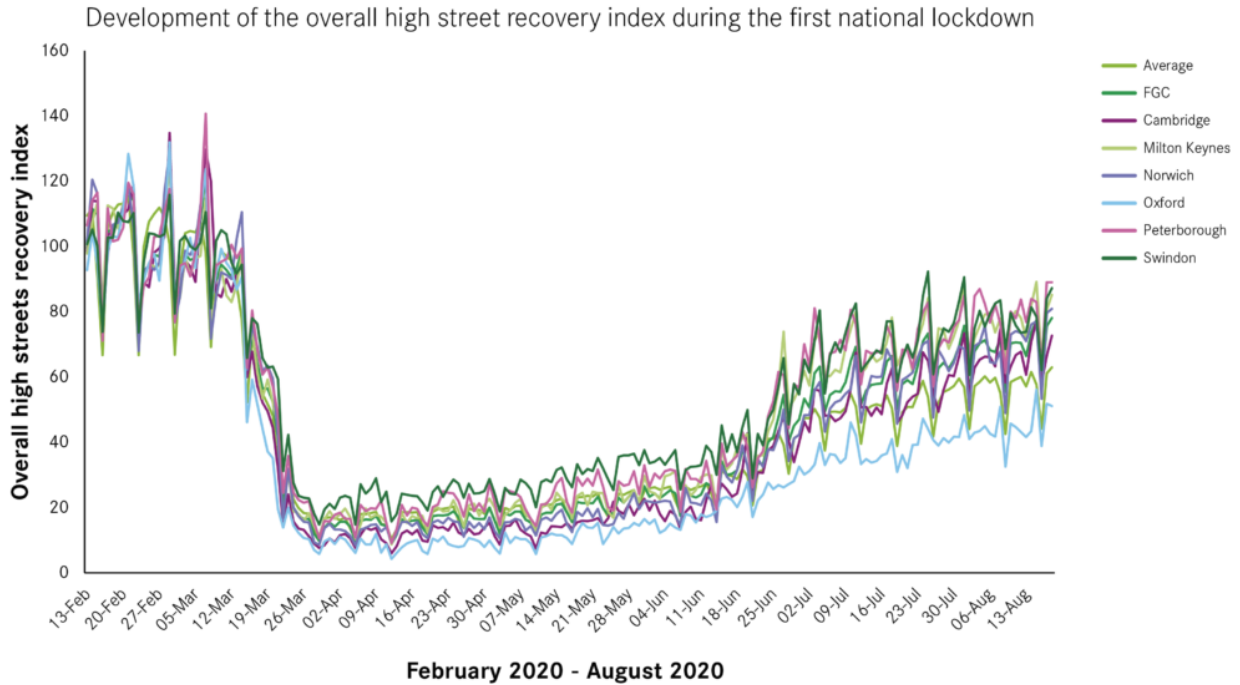
Source: HMRC data on take-up of the Coronavirus Job Retention Scheme by local authority, claims received up to July 2020, ONS, Claimant Count, ONS, Population Estimates 2019.

High streets all over the country are seeing a slow recovery when it comes to footfall, but some Fast Growth Cities are catching up faster than others

The Centre for Cities High Streets Recovery Tracker shows how quickly high streets in the UK’s largest cities and towns are returning to their previous levels of activity, and the drivers behind it. It uses anonymised mobile phone data which is updated monthly. Figure 17 and 18 look at the impact of the first national lockdown, which may give some indication of how places will respond when restrictions can finally be removed. Figure 17 shows that, for all cities across the UK, there was a sharp decrease in city centre activity after the lockdown was introduced.

At the height of the pandemic, footfall in most city centres dropped to less than 20 per cent of pre-pandemic levels. Since the restrictions were loosened in May, centres have started to recover but in August 2020, most were still below their pre-lockdown levels.

Figure 17: Not all high streets recovered at the same speed after the first national lockdown was relaxed

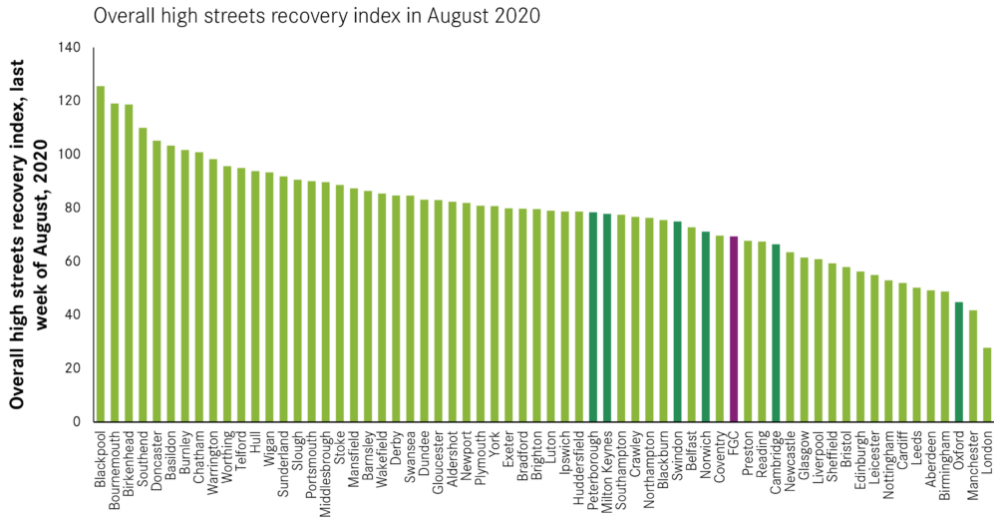


Source: Locomizer, 2020. Daily footfall on the high street from February 13 until August 13

For the FGCs, Figure 18 shows a range in how quickly city centres have returned to their previous levels, shown in the latest overall weekly score for each city.

Cities more dependent on visitors from outside the city centre (e.g. students and tourists) such as Norwich, Oxford and Cambridge were seeing slower recoveries. Oxford was particularly hit, as in August 2020, footfall was still below 50 per cent of its pre-pandemic levels. Swindon, Peterborough and Milton Keynes were less frequently visited by tourists and have comparatively fewer workers coming from outside their cities. While this is a sign of lower performance in normal times, more local catchment allowed them to recover more quickly towards their pre- lockdown levels.

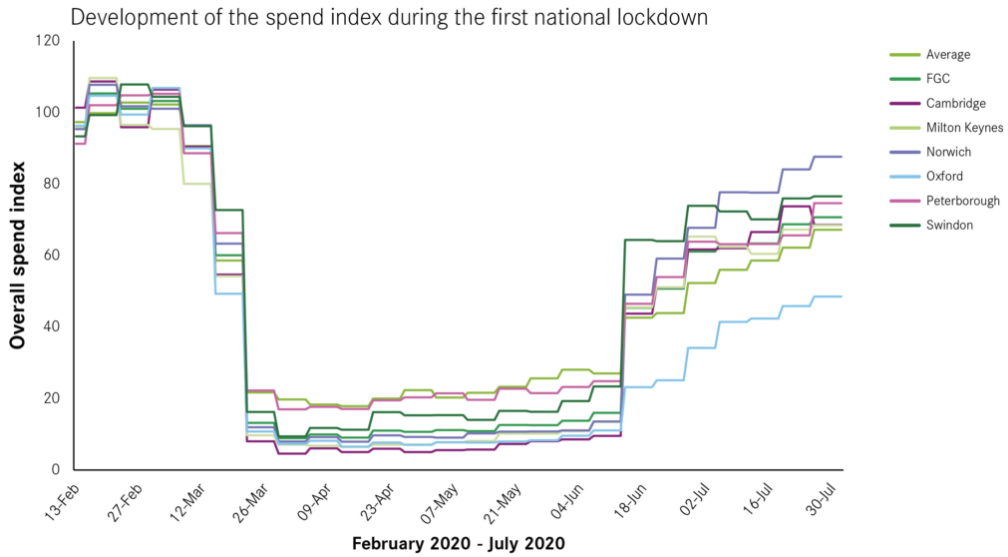
Figure 18: Cities such as Norwich, Oxford and Cambridge that are more dependent on visitors from outside the city centre, such as students and tourists, saw slower recoveries



Source: Locomizer, 2020

The drop in footfall had consequences for the spending in the city centre as illustrated in Figure 19. The spend index looks at relevant offline sales made in the city centre since February 2020. After a sharp drop in spending when lockdown restrictions were at their highest, most cities were on their way to recovery by the end of July 2020. On average, spending in FGCs bounced back to 70 per cent of pre-pandemic levels. But there are stark differences between cities in the group. While Norwich in July was already back on almost 90 per cent of spending compared to the pre-pandemic levels, Oxford was still struggling to catch up. At the end of July 2020, the index was below 50 per cent of the pre-pandemic spending in the city.

Figure 19: After the first national lockdown was relaxed, spending in the Fast Growth Cities did not return to pre-lockdown levels



Source: Locomizer, 2020

04

What needs to change

As a group, the FGCs entered the pandemic in a stronger position than many other cities in the UK. This is mainly due to their strong labour markets but is also a result of their individual and combined strengths in research and education, as well as their industrial structures. The challenge now is to weather the storm, offsetting the impact on longer-term growth prospects, while addressing other potential limitations on growth that existed before the pandemic.

The FGCs group contains some of the UK's most successful cities, many of which have a significant impact beyond their administrative boundaries. So, it is important that policymakers support these cities to reach their potential and to ensure that they continue to function as regional employment hubs and innovation centres.

The immediate focus of the FGCs and of government support to them needs to be on the economic recovery. This could be in the form of supporting the high street to both deal with ongoing social distancing restrictions by allowing them to use outside space around their premises, as well as providing support and guidance to make the most of the financial support such as business support loans that are available.

In the long run, support must address more strategic challenges. While each city has requirements that will need individual interventions tailored to their local economies, including addressing shifts in commercial property and uses in city centres, this analysis has identified policy areas that are common and relevant for all in the group. These areas should be the focus when thinking about how best to support the FGCs in their commitment to future growth.

Skills and education – Since the previous report, most of the FGCs have been able to make progress when it comes to developing the skilled labour force in their cities. In particular, Milton Keynes and Norwich made large positive steps in improving the share of high-skilled people who live there.

The establishment of higher education institutes in Milton Keynes, Peterborough and Swindon will certainly help towards targeting and fostering the development of skilled

labour that these cities need, with employer-led provision meeting the needs of business. However, these efforts are no guarantee that newly trained students, both residents and those who moved to the city for university will remain in the local labour market. Highly skilled people will only stay in the area if there are enough well-paid job opportunities. This highlights the need for authorities to continue making their cities attractive places for productive businesses to locate.

In addition to their focus on high-skilled people, cities must also support those with no or few qualifications as the share of people lacking basic education is still a challenge in several FGCs. A central challenge too will be re-training adults for new careers and ensuring schools provide up-to-date training and careers advice.

Despite not having many formal powers on skills, the FGCs should use their position to act as conveners. This could take the form of bringing together local education providers, employers and other local organisations in a ‘skills compact’ to help better coordinate the money and expertise in their cities to target the particular challenges they face in improving the skills of this cohort.¹³

The **Department for Education** should work more closely with the FGCs to assist them in creating these skills compacts, and give further support where required to help the cities address skills challenges they identify.

FGCs should also consider championing take-up of the Government’s new Life Skills Guarantee for their residents with few or no qualifications. While the scheme covers the costs of college courses for adults without A-level or equivalent qualifications, there are a number of other barriers the cities can help address, such as lack of awareness, building confidence around learning, and maximising the local support available to learners.

Productivity and innovation – The continued growth of the FGCs depends on the ability of their economies to develop and absorb new innovations that spur further productivity growth. Previous research by Centre for Cities has shown that a key factor of this is the presence of high-skilled ‘exporting’ businesses that determine how productive a place is.¹⁴

As well as having access to a large number of high-skilled workers, having a city centre or other central business area that facilitates sharing of ideas and information between employees and businesses appears to be important for services-exporting businesses in particular. The challenge for the group is that relative underperformance of their city centre economies – albeit for very different reasons – is a common theme among them.

To address this, as part of a broader focus to improve the performance of Britain’s city centres in the long run, **the Government** should create a City Centre Productivity Fund to provide capital investment that makes city centres more attractive places to locate and do business. This, in turn, will boost demand for cafés, bars and restaurants, benefiting the high street.

Individually, **the FGCs** should draw city centre plans tailored to the specific challenges that their city centre economies face. For Oxford and Cambridge, the historic nature of their city centres, dominated by their universities, may not make them best suited for a 21st Century central business district. Cambridge may look instead to the Government to help it build on the investments that have been made in the CB1 development around Cambridge station, Cambridge Bio-Medical Campus and North-East Cambridge.

Housing – Over recent years, the majority of **the FGCs** have been successful in building housing at a rate that far exceeds the national average. Building more homes to higher energy standards will help bring about a greener recovery as well as contributing to the UK's targets of reducing carbon emissions. The creation of more homes has meant that more people were able to benefit from the fast growth of these cities and contribute towards helping these places grow further.

However, affordability in some of the FGCs fell much faster than the national average, which reflects the high demand to live in these places but is also likely to have an impact on the attractiveness of these places to live in the future. To limit the rising unaffordability in the **FGCs**, further increases in housing supply of a variety of affordable types and tenures must be a central part of future strategy.

Government should work with the FGCs to explore the particular challenges faced by the cities, ensuring planning and housing policy does not have a detrimental impact on delivery of affordable housing and that the planning system unlocks and supports sustainable, inclusive and green growth. One way to do so would be for **the Government** to give the cities greater flexibility over the use of Right-to-Buy receipts, which would create an income stream that local authorities can use to finance the construction of new, replacement council homes.

Devolution – A key governance challenge in England is the limited powers urban local government has despite the outsized contribution of cities to the wider economy. The devolution deals put in place in recent years do go some way to address this, but are still limited in their scope and coverage. Among the FGCs, this has benefited Cambridge and Peterborough, but so far not the other cities in the group. The Government's has said it wants to extend devolution deals to other parts of England. Every **FGC** should be at the centre of constructive conversations to work with neighbouring district, county and unitary partners to work out how any future devolution deals could bring the greatest benefit to the people who live in and around them.

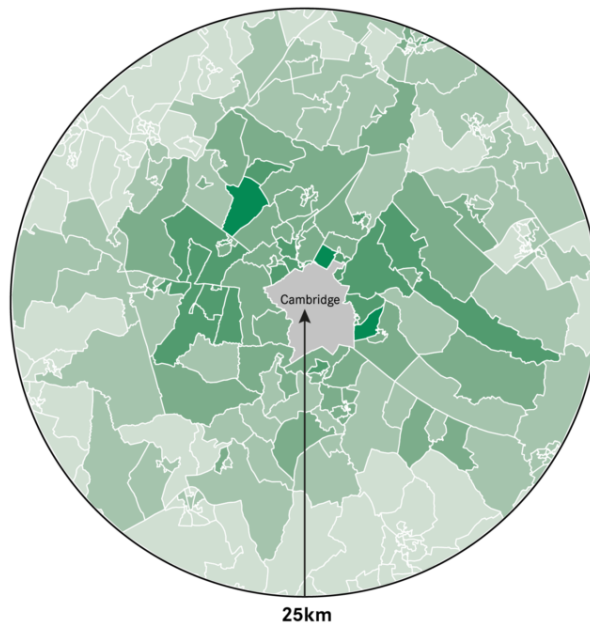
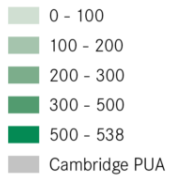
This would put the cities in a strong position to talk to the Government about its devolution plans, when the pandemic subsides. It is important that any future devolution deals ensure that urban areas have a strong voice in decisions that are made.

In general, the FGCs are likely to face significant costs associated with their further growth, both in terms of accommodating extra housing, utilities and amenities for new residents and transport and amenities for new commuters. Further devolution to the cities should include financial and strategic support that the cities in the group need to continue to grow quickly and sustainably. This should particularly focus on interventions with the potential to benefit people who live both in the cities and the wider regions in areas such as transport, housing and jobs, in line with the long-term vision of the group's members.

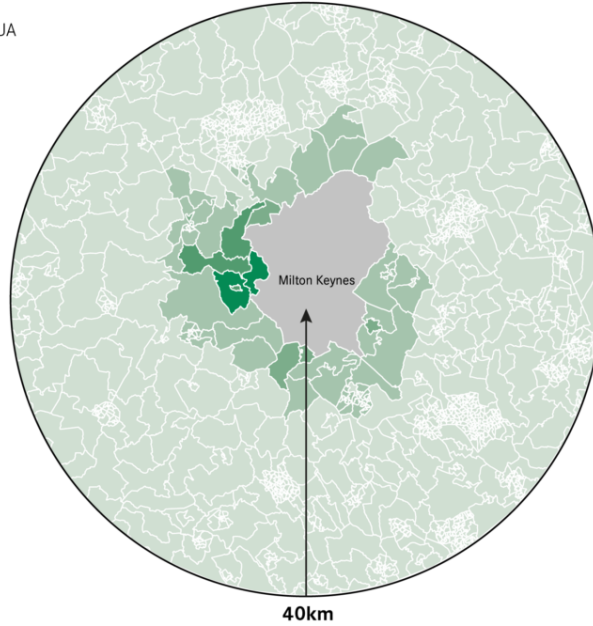
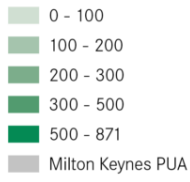
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Appendix

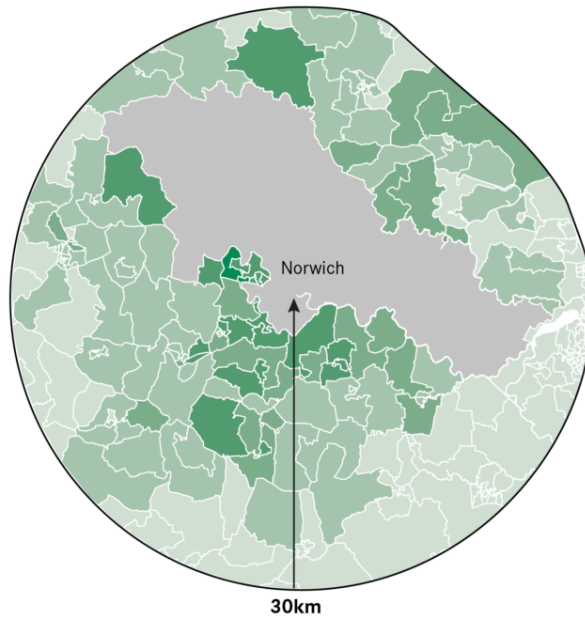
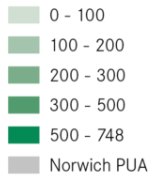
Number of employed residents who work in Cambridge by LSOA



Number of employed residents who work in Milton Keynes by LSOA

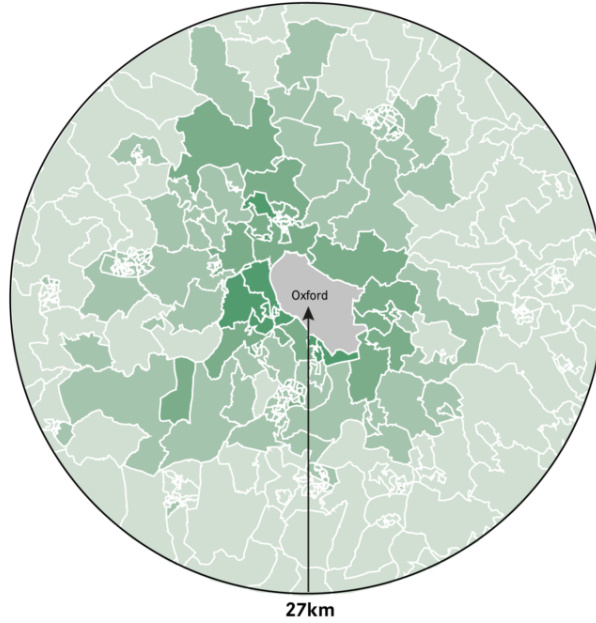


Number of employed residents who work in Norwich by LSOA



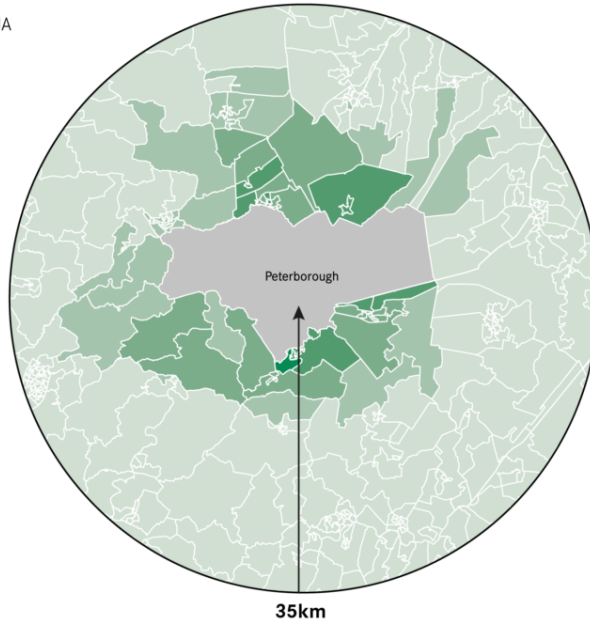
Number of employed residents working in Oxford by LSOA

- 0 - 100
- 100 - 200
- 200 - 300
- 300 - 500
- 500 - 702
- Oxford PUA



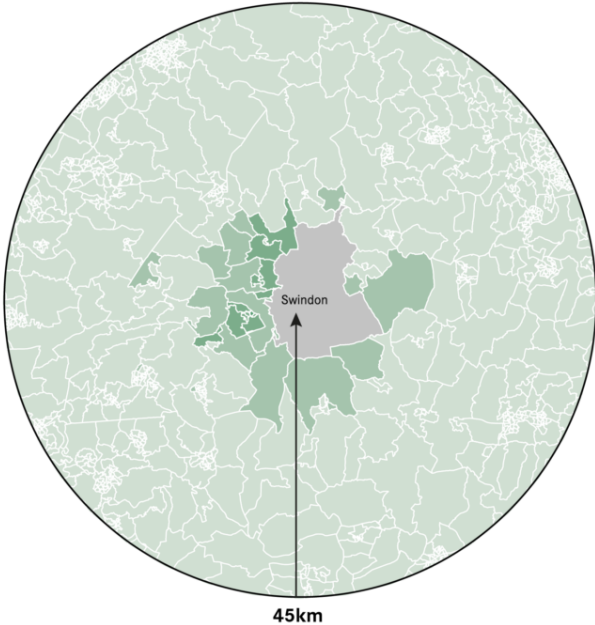
Number of employed residents who work in Peterborough by PUA

- 0 - 100
- 100 - 200
- 200 - 300
- 300 - 500
- 500 - 877
- Peterborough PUA



Number of employed residents working in Swindon by LSOA

- 0 - 100
- 100 - 200
- 200 - 300
- 300 - 500
- 500 - 574
- Swindon PUA



Endnotes

- 1 Williams M (2016), Fast Growth Cities – The opportunities and challenges ahead, London: Centre for Cities
- 2 Data for each city is based on the administrative boundaries of Primary Urban Areas (PUAs). PUAs measure the built-up space of different places across the country and by its definition give a clear and comparable picture of where economic activity is. For each of the Fast Growth Cities other than Norwich, the primary urban area is the local authority. In Norwich, this is the local authorities of Broadland and Norwich. It must be considered that the economic and political impact of each PUA may go beyond these borders. See commuter flows in Appendix 1.
- 3 Some cities such as Cambridge have some of their knowledge intensive industries just outside of the city boundaries. These businesses consequently do not appear in the data.
- 4 Figure A1 in the appendix shows in addition the number of people commuting into the Fast Growth Cities from their hinterlands which is the average distance commuted into the cities from their surrounding areas.
- 5 <https://www.isc.hbs.edu/research-areas/pages/innovation-and-innovative-capacity.aspx>
- 6 Centre for Cities (2020), Identifying potential growth centres across Great Britain, London: Connected Places Catapult
- 7 Source: Centre for Cities (2020), Identifying potential growth centres across Great Britain, London: Connected Places Catapult
- 8 Detailed data on this indicator can be found in the Centre for Cities High Streets Recovery Tracker: <https://www.centreforcities.org/data/high-streets-recovery-tracker/>
- 9 Urban connectivity (connectivity within places) is calculated using the average of 2016 travel times between each point in the place and its centre, weighted by demand (population or employment) at each point. This is normalised by the measure for these journeys at 50km/hr. A score of 1 = an average speed of 50km/hr for the journey from point to point.
- 10 The fund is intended to support the creation of longer-term projects.
- 11 These are agglomerated data – that means that there is a chance that some people are counted twice – for instance if they have been on furlough first but are now unemployed.
- 12 Magrini, E. (2020), Where are the workers that can work outside the home? <https://www.centreforcities.org/blog/where-are-the-workers-that-can-work-outside-the-home/>

- 13 Magrini E & Clayton N (2018), Can cities outsmart the robots? The future of skills in the UK, London: Centre for Cities
- 14 Swinney P (2018), The Wrong Tail?, London: Centre for Cities

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